

# Michigan

# 1997

Issued May 2000

EC97M31A-MI

## 1997 Economic Census

*Manufacturing*

Geographic Area Series



# USCENSUSBUREAU

*Helping You Make Informed Decisions*

U.S. Department of Commerce  
Economics and Statistics Administration  
U.S. CENSUS BUREAU



## ACKNOWLEDGMENTS

The staff of the Manufacturing and Construction Division prepared this report. **Judy M. Dodds**, Assistant Chief for Census and Related Programs, was responsible for the overall planning, management, and coordination. **Robert Reinard**, Chief, Consumer Goods Industries Branch, assisted by **Suzanne Conard**, **Kaylene Hanks**, and **Robert Miller**, Section Chiefs, **Kenneth Hansen**, Chief, Investment Goods Industries Branch, assisted by **Mike Brown**, **Raphael Corrado**, and **Milbren Thomas**, Section Chiefs, **Nathaniel Shelton**, Chief, Primary Goods Industries Branch, assisted by **Renee Coley**, **Allen Foreman**, and **Joanna Nguyen**, Section Chiefs, and **Tom Lee**, **Robert Rosati**, and **Tom Flood**, Special Assistants, performed the planning and implementation. **Stephanie Angel**, **Brian Appert**, **Stanis Batton**, **Carol Beasley**, **Chris Blackburn**, **Larry Blumberg**, **Vera Harris-Bourne**, **Dana Brooks**, **Phillip Brown**, **Brenda Campbell**, **Vance Davis**, **Mary Ellickson**, **Matt Gaines**, **Merry Glascoe**, **Karen Harshbarger**, **Nancy Higgins**, **James Hinckley**, **Walter Hunter**, **Jim Jamski**, **Evelyn Jordan**, **Jacqueline Keller**, **Marc Klein**, **Robert Lee**, **John Linehan**, **Paul Marck**, **Keith McKenzie**, **Philippe Morris**, **Betty Pannell**, **Joyce Pomeroy**, **Cynthia Ramsey**, **Chris Savage**, **Arona Stovall**, **Sue Sundermann**, **Michael Taylor**, **Thanos Theodoropoulos**, **Dora Thomas**, **Ann Truffa**, **Ronanne Vinson**, **Keeley Voor**, **Denneth Wallace**, **Tempie Whittington**, **Lissene Witt**, **Phillip Woods**, and **Mike Yamaner** provided primary staff assistance.

**Brian Greenberg**, Assistant Chief for Research and Methodology Programs, assisted by **Stacey Cole**, Chief, Manufacturing Programs Methodology Branch, and **Robert Struble**, Section Chief, provided the mathematical and statistical techniques as well as the coverage operations. **Jeffrey Dalzell** and **Cathy Ritenour** provided primary staff assistance.

**Mendel D. Gayle**, Chief, Forms, Publications, and Customer Services Branch, assisted by **Julius Smith Jr.** and **Baruti Taylor**, Section Chiefs, performed overall

coordination of the publication process.

**Kim Credito**, **Patrick Duck**, **Chip Murph**, **Wanda Sledd**, and **Veronica White** provided primary staff assistance.

The Economic Planning and Coordination Division, **Lawrence A. Blum**, Assistant Chief for Collection Activities and **Shirin A. Ahmed**, Assistant Chief for Post-Collection Processing, assisted by **Dennis Shoemaker**, Chief, Post-Collection Census Processing Branch, **Brandy Yarbrough**, Section Chief, **Sheila Proudfoot**, **Richard Williamson**, **Keith Fuller**, **Andrew W. Hait**, and **Jennifer E. Lins**, was responsible for developing the systems and procedures for data collection, editing, review, correction, and dissemination.

The staff of the National Processing Center, **Judith N. Petty**, Chief, performed mailout preparation and receipt operations, clerical and analytical review activities, data keying, and geocoding review.

The Geography Division staff developed geographic coding procedures and associated computer programs.

The Economic Statistical Methods and Programming Division, **Charles P. Pautler Jr.**, Chief, developed and coordinated the computer processing systems. **Martin S. Harahush**, Assistant Chief for Quinquennial Programs, assisted by **Barbara Lambert** and **Lisa Draper** were responsible for design and implementation of the computer systems. **Gary T. Sheridan**, Chief, Manufacturing and Construction Branch, **Lori A. Guido** and **Roy A. Smith**, Section Chiefs, supervised the preparation of the computer programs.

Computer Services Division, **Debra Williams**, Chief, performed the computer processing.

**Kim D. Ottenstein** and **Cynthia G. Brooks** of the Administrative and Customer Services Division, **Walter C. Odom**, Chief, provided publications and printing management, graphics design and composition, and editorial review for print and electronic media. General direction and production management were provided by **Michael G. Garland**, Assistant Chief, and **Gary J. Lauffer**, Chief, Publications Services Branch.

---

# Michigan 1997

Issued May 2000

EC97M31A-MI

## 1997 Economic Census *Manufacturing* Geographic Area Series



**U.S. Department of Commerce**  
**William M. Daley,**  
Secretary  
**Robert L. Mallett,**  
Deputy Secretary

**Economics  
and Statistics  
Administration**  
**Robert J. Shapiro,**  
Under Secretary for  
Economic Affairs

**U.S. CENSUS BUREAU**  
**Kenneth Prewitt,**  
Director

---



**Economics  
and Statistics  
Administration**

**Robert J. Shapiro,**  
Under Secretary  
for Economic Affairs



**U.S. CENSUS BUREAU**

**Kenneth Prewitt,**  
Director

**William G. Barron,**  
Deputy Director

**Paula J. Schneider,**  
Principal Associate Director  
for Programs

**Frederick T. Knickerbocker,**  
Associate Director  
for Economic Programs

**Thomas L. Mesenbourg,**  
Assistant Director  
for Economic Programs

**William G. Bostic Jr.,**  
Chief, Manufacturing  
and Construction Division

## CONTENTS

---

Introduction to the Economic Census .....	1
Manufacturing .....	5
TABLES	
1. Industry Statistics for the State: 1997 .....	7
2. Industry Statistics for Metropolitan Areas: 1997 .....	22
3. Industry Statistics for Counties: 1997 .....	53
4. Industry Statistics for Places: 1997 .....	87
5. Detailed Statistics for the State: 1997 .....	124
APPENDIXES	
A. Explanation of Terms .....	A-1
B. NAICS Codes, Titles, and Descriptions .....	B-1
C. Coverage and Methodology .....	C-1
D. Geographic Notes .....	D-1
E. Metropolitan Areas .....	E-1

# Introduction to the Economic Census

---

## PURPOSES AND USES OF THE ECONOMIC CENSUS

The economic census is the major source of facts about the structure and functioning of the Nation's economy. It provides essential information for government, business, industry, and the general public. Title 13 of the United States Code (Sections 131, 191, and 224) directs the Census Bureau to take the economic census every 5 years, covering years ending in 2 and 7.

The economic census furnishes an important part of the framework for such composite measures as the gross domestic product estimates, input/output measures, production and price indexes, and other statistical series that measure short-term changes in economic conditions. Specific uses of economic census data include the following:

- Policymaking agencies of the Federal Government use the data to monitor economic activity and assess the effectiveness of policies.
- State and local governments use the data to assess business activities and tax bases within their jurisdictions and to develop programs to attract business.
- Trade associations study trends in their own and competing industries, which allows them to keep their members informed of market changes.
- Individual businesses use the data to locate potential markets and to analyze their own production and sales performance relative to industry or area averages.

## ALL-NEW INDUSTRY CLASSIFICATIONS

Data from the 1997 Economic Census are published primarily on the basis of the North American Industry Classification System (NAICS), unlike earlier censuses, which were published according to the Standard Industrial Classification (SIC) system. NAICS is in the process of being adopted in the United States, Canada, and Mexico. Most economic census reports cover one of the following NAICS sectors:

21	Mining
22	Utilities
23	Construction
31-33	Manufacturing
42	Wholesale Trade
44-45	Retail Trade
48-49	Transportation and Warehousing
51	Information

52	Finance and Insurance
53	Real Estate and Rental and Leasing
54	Professional, Scientific, and Technical Services
55	Management of Companies and Enterprises
56	Administrative and Support and Waste Management and Remediation Services
61	Educational Services
62	Health Care and Social Assistance
71	Arts, Entertainment, and Recreation
72	Accommodation and Foodservices
81	Other Services (except Public Administration)

(Not listed above are the Agriculture, Forestry, Fishing, and Hunting sector (NAICS 11), partially covered by the census of agriculture conducted by the U.S. Department of Agriculture, and the Public Administration sector (NAICS 92), covered by the census of governments conducted by the Census Bureau.)

The 20 NAICS sectors are subdivided into 96 subsectors (three-digit codes), 313 industry groups (four-digit codes), and, as implemented in the United States, 1170 industries (five- and six-digit codes).

## RELATIONSHIP TO SIC

While many of the individual NAICS industries correspond directly to industries as defined under the SIC system, most of the higher level groupings do not. Particular care should be taken in comparing data for retail trade, wholesale trade, and manufacturing, which are sector titles used in both NAICS and SIC, but cover somewhat different groups of industries. The industry definitions discuss the relationships between NAICS and SIC industries. Where changes are significant, it will not be possible to construct time series that include data for points both before and after 1997.

For 1997, data for auxiliary establishments (those functioning primarily to manage, service, or support the activities of their company's operating establishments, such as a central administrative office or warehouse) will not be included in the sector-specific reports. These data will be published separately.

## GEOGRAPHIC AREA CODING

Accurate and complete information on the physical location of each establishment is required to tabulate the census data for the states, metropolitan areas (MAs), counties, parishes, and corporate municipalities including cities, towns, villages, and boroughs. Respondents were

---

required to report their physical location (street address, municipality, county, and state) if it differed from their mailing address. For establishments not surveyed by mail (and those single-establishment companies that did not provide acceptable information on physical location), location information from Internal Revenue Service tax forms is used as a basis for coding.

## **BASIS OF REPORTING**

The economic census is conducted on an establishment basis. A company operating at more than one location is required to file a separate report for each store, factory, shop, or other location. Each establishment is assigned a separate industry classification based on its primary activity and not that of its parent company.

## **DOLLAR VALUES**

All dollar values presented are expressed in current dollars; i.e., 1997 data are expressed in 1997 dollars, and 1992 data, in 1992 dollars. Consequently, when making comparisons with prior years, users of the data should consider the changes in prices that have occurred.

All dollar values are shown in thousands of dollars.

## **AVAILABILITY OF ADDITIONAL DATA**

### **Reports in Print and Electronic Media**

All results of the 1997 Economic Census are available on the Census Bureau Internet site ([www.census.gov](http://www.census.gov)) and on compact discs (CD-ROM) for sale by the Census Bureau. Unlike previous censuses, only selected highlights are published in printed reports. For more information, including a description of electronic and printed reports being issued, see the Internet site, or write to U.S. Census Bureau, Washington, DC 20233-8300, or call Customer Services at 301-457-4100.

### **Special Tabulations**

Special tabulations of data collected in the 1997 Economic Census may be obtained, depending on availability of time and personnel, in electronic or tabular form. The data will be summaries subject to the same rules prohibiting disclosure of confidential information (including name, address, kind of business, or other data for individual business establishments or companies) that govern the regular publications.

Special tabulations are prepared on a cost basis. A request for a cost estimate, as well as exact specifications on the type and format of the data to be provided, should be directed to the Chief of the division named below, U.S. Census Bureau, Washington, DC 20233-8300. To discuss a special tabulation before submitting specifications, call the appropriate division:

Manufacturing and Construction Division 301-457-4673  
Service Sector Statistics Division 301-457-2668

## **HISTORICAL INFORMATION**

The economic census has been taken as an integrated program at 5-year intervals since 1967 and before that for 1954, 1958, and 1963. Prior to that time, individual components of the economic census were taken separately at varying intervals.

The economic census traces its beginnings to the 1810 Decennial Census, when questions on manufacturing were included with those for population. Coverage of economic activities was expanded for the 1840 Decennial Census and subsequent censuses to include mining and some commercial activities. The 1905 Manufactures Census was the first time a census was taken apart from the regular decennial population census. Censuses covering retail and wholesale trade and construction industries were added in 1930, as were some covering service trades in 1933. Censuses of construction, manufacturing, and the other business service censuses were suspended during World War II.

The 1954 Economic Census was the first census to be fully integrated: providing comparable census data across economic sectors, using consistent time periods, concepts, definitions, classifications, and reporting units. It was the first census to be taken by mail, using lists of firms provided by the administrative records of other Federal agencies. Since 1963, administrative records also have been used to provide basic statistics for very small firms, reducing or eliminating the need to send them census questionnaires.

The range of industries covered in the economic censuses expanded between 1967 and 1992. The census of construction industries began on a regular basis in 1967, and the scope of service industries, introduced in 1933, was broadened in 1967, 1977, and 1987. While a few transportation industries were covered as early as 1963, it was not until 1992 that the census broadened to include all of transportation, communications, and utilities. Also new for 1992 was coverage of financial, insurance, and real estate industries. With these additions, the economic census and the separate census of governments and census of agriculture collectively covered roughly 98 percent of all economic activity.

Printed statistical reports from the 1992 and earlier censuses provide historical figures for the study of long-term time series and are available in some large libraries. All of the census reports printed since 1967 are still available for sale on microfiche from the Census Bureau. CD-ROMs issued from the 1987 and 1992 Economic Censuses contain databases including nearly all data published in print, plus additional statistics, such as ZIP Code statistics, published only on CD-ROM.

---

## SOURCES FOR MORE INFORMATION

More information about the scope, coverage, classification system, data items, and publications for each of the economic censuses and related surveys is published in the *Guide to the 1997 Economic Census and Related Statistics* at [www.census.gov/econguide](http://www.census.gov/econguide). More information on the methodology, procedures, and history of the censuses will be published in the *History of the 1997 Economic Census* at [www.census.gov/econ/www/history.html](http://www.census.gov/econ/www/history.html).

## ABBREVIATIONS AND SYMBOLS

The following abbreviations and symbols are used with the 1997 Economic Census data:

A	Standard error of 100 percent or more.
D	Withheld to avoid disclosing data of individual companies; data are included in higher level totals.
F	Exceeds 100 percent because data include establishments with payroll exceeding revenue.
N	Not available or not comparable.
Q	Revenue not collected at this level of detail for multiestablishment firms.
S	Withheld because estimates did not meet publication standards.

V	Represents less than 50 vehicles or .05 percent.
X	Not applicable.
Y	Disclosure withheld because of insufficient coverage of merchandise lines.
Z	Less than half the unit shown.
a	0 to 19 employees.
b	20 to 99 employees.
c	100 to 249 employees.
e	250 to 499 employees.
f	500 to 999 employees.
g	1,000 to 2,499 employees.
h	2,500 to 4,999 employees.
i	5,000 to 9,999 employees.
j	10,000 to 24,999 employees.
k	25,000 to 49,999 employees.
l	50,000 to 99,999 employees.
m	100,000 employees or more.
p	10 to 19 percent estimated.
q	20 to 29 percent estimated.
r	Revised.
s	Sampling error exceeds 40 percent.
nec	Not elsewhere classified.
nsk	Not specified by kind.
–	Represents zero (page image/print only).
(CC)	Consolidated city.
(IC)	Independent city.



---

This page is intentionally blank.

# Manufacturing

---

## SCOPE

The 1997 Economic Census – Manufacturing covers all manufacturing establishments with one or more paid employees. Manufacturing is defined as the mechanical, physical, or chemical transformation of materials or substances into new products. The assembly of components into new products is also considered manufacturing, except when it is appropriately classified as construction.

Establishments in the manufacturing sector are often described as plants, factories, or mills and typically use power-driven machines and materials-handling equipment. Also included in the manufacturing sector are some establishments that make products by hand, like custom tailors and the makers of custom draperies. While manufacturers typically do not sell to the public, some establishments like bakeries and candy stores that make products on the premises may be included.

While logging and publishing are no longer in the scope of manufacturing, data for these industries are included in the manufacturing industry reports, but are not included in the manufacturing state, summary, and other reports.

## GENERAL

This report, from the 1997 Economic Census – Manufacturing, is one of a series of 480 industry reports and 51 geographic area reports, each of which provides statistics for individual industries or states, respectively. Seven of the industry reports are for industries no longer in the manufacturing sector but are included with manufacturing for the 1997 census year. Also included for this sector are General, Product, and Materials Consumed Summary reports, a special report on Concentration Ratios in Manufacturing, and data files on Location of Manufacturing Plants.

Each industry report presents data for a six-digit North American Industry Classification System (NAICS) industry. A description of the particular NAICS industry may be found in Appendix B. These reports include such statistics as number of establishments, employment, payroll, value added by manufacture, cost of materials consumed, value of shipments, capital expenditures, etc. Explanations of these and other terms may be found in Appendix A. The industry reports also include data for states with 100 employees or more in the industry.

State reports, which include the District of Columbia, present similar statistics at the “all manufacturing” level for each state and its metropolitan areas (MAs) with 250

employees or more, and for counties, consolidated cities, and places with 500 employees or more. The state reports also include six-digit NAICS level data for industries with 100 employees or more in the state.

The General Summary report contains industry and geographic area statistics summarized in one report. It includes higher levels of aggregation than the industry and state reports, as well as revisions to the data made after the release of the industry and state reports.

The Products and Materials Consumed reports summarize the products and materials data published in the industry reports. The Product Summary report also includes data from the Current Industrial Reports (CIR) and a special table with data for products that are primary to more than one industry, which are not in the industry reports.

The Concentration Ratios report publishes data on the percentage of value of shipments accounted for by the 4-, 8-, 20-, and 50-largest companies for each manufacturing industry. Also shown in this report are Hirschmann-Herfindahl Indexes for each industry.

The Location of Manufacturing data files contain statistics on the number of establishments for the three- and six-digit NAICS industry by state, county, place, and ZIP Code by employment-size of the establishment.

## GEOGRAPHIC AREAS COVERED

Statistics at the six-digit NAICS industry level are shown for states and the District of Columbia in both the state and industry reports for cells with 100 employees or more.

The state reports also include data at the “all manufacturing” level for a variety of geographies that meet the employment criteria.

Data are available for the metropolitan areas (MAs) with 250 employees or more. The term MA is a general term used to encompass all of the specifically defined metropolitan areas. A consolidated metropolitan statistical area (CMSA) is made up of two or more contiguous primary metropolitan statistical areas (PMSAs) with a combined population of at least 1 million. A PMSA is a subdivision of a CMSA that demonstrates very strong internal economic and social links separate from the ties to other portions of the CMSA. A metropolitan statistical area (MSA) is an integrated economic and social unit with a population of at least 50,000. An MA is made up of one or more counties meeting standards of metropolitan character. In New England, cities and towns, rather than counties, are the

---

component geographic units. Determination of the MAs was made by the Office of Management and Budget (OMB) as of June 30, 1997. The population estimates were from the 1990 Census of Population or a subsequent special census. When applicable, the make-up of an MA is included in Appendix E. Changes to geographical boundaries are noted in Appendix D.

The state reports include data for counties with 500 employees or more. These are the primary divisions of states, except in Louisiana where they are called parishes and in Alaska where they are called boroughs and census areas. Maryland, Missouri, Nevada, and Virginia have one or more places that are independent of county organizations. These places are treated as counties and places. The counties and places are defined as of January 1, 1997.

The state reports include data for places with 500 employees or more. Places are typically cities, towns, and villages. They may be incorporated municipalities, semi-independent municipalities, special economic urban areas (SEUAs), or other place equivalents.

The state reports also include data for consolidated cities with 500 employees or more. Consolidated cities are made up of separately incorporated municipalities.

## **COMPARABILITY OF THE 1992 AND 1997 CENSUSES**

The adoption of the North American Industry Classification System (NAICS) has had a major impact on the comparability of data between the 1992 and 1997 censuses. Approximately half of the industries in the manufacturing sector of NAICS do not have comparable industries in the Standard Industrial Classification (SIC) system that was used in the past. If industries are not comparable between the two censuses, historic data are not shown. When applicable, Appendix G shows the product class and product comparability between the two systems.

While most of the change affecting the manufacturing sector was change within the sector, some industries left manufacturing and others came into manufacturing. Prominent among those leaving manufacturing are logging and portions of publishing. Prominent among the industries coming into the manufacturing sector are bakeries, candy stores where candy is made on the premises, custom tailors, makers of custom draperies, and tire retreading. Data for the industries coming into manufacturing as well as those leaving manufacturing are included in the manufacturing industry report series for 1997. However, the state and summary reports only include data for industries in the NAICS definition of manufacturing.

Another change resulting from the conversion to NAICS is that data for central administrative offices (CAOs) associated with manufacturing are not included along side the manufacturing data. This change affects data in the state reports and the general summary.

## **DISCLOSURE**

In accordance with Federal law governing census reports (Title 13 of the United States Code), no data are published that would disclose the operations of an individual establishment or company. However, the number of establishments classified in a specific industry or geography is not considered a disclosure, and may be released even when other information is withheld.

The disclosure analysis for the industry statistics files is based on the total value of shipments. When the total value of shipments cannot be shown without disclosing information for individual companies, the complete line is suppressed except for capital expenditures. However, the suppressed data are included in higher-level totals. A separate disclosure analysis is performed for capital expenditures that can be suppressed even though value of shipments data are published.

## **AVAILABILITY OF MORE FREQUENT ECONOMIC DATA**

The Census Bureau conducts the Annual Survey of Manufactures (ASM) in each of the 4 years between the economic censuses. The ASM is a probability-based sample of approximately 58,000 establishments and collects many of the same industry statistics (including employment, payroll, value of shipments, etc.) as the economic census. However, there are selected statistics not included in the ASM. Among these are the number of companies and establishments, detailed product and materials data, and substate geographic data.

In addition to the ASM, the Census Bureau conducts a Current Industrial Reports (CIR) program. The CIR publishes detailed product statistics for selected manufacturing industries at the U.S. level annually and, in some cases, monthly and/or quarterly. For the 1997 Economic Census – Manufacturing, the annual CIR data are included in the Product Summary report.

The Census Bureau also conducts the monthly Manufacturers' Shipments, Inventories, and Orders (M3) program, which publishes detailed statistics for manufacturing industries at the U.S. level.

**Table 1. Industry Statistics for the State: 1997**

[Includes data for industry groups and industries with 100 employees or more. For information on geographic areas followed by \* and explanation of terms, see appendixes. For meaning of abbreviations and symbols, see introductory text]

NAICS code	Geographic area and industry	E <sup>1</sup>	All establishments		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expenditures (\$1,000)
			Total	With 20 employees or more	Number <sup>2</sup>	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
<b>MICHIGAN</b>													
<b>31-33</b>	<b>Manufacturing ....</b>	-	<b>16 045</b>	<b>5 753</b>	<b>833 429</b>	<b>34 418 934</b>	<b>630 390</b>	<b>1 305 619</b>	<b>23 485 989</b>	<b>93 809 468</b>	<b>121 029 520</b>	<b>214 900 655</b>	<b>9 240 449</b>
311	Food mfg.....	1	863	237	35 477	1 041 202	26 450	52 814	715 534	5 349 329	5 270 348	10 624 169	265 966
3111	Animal food mfg.....	1	25	4	386	9 175	269	373	6 023	40 636	108 227	148 734	2 256
31111	Animal food mfg.....	1	25	4	386	9 175	269	373	6 023	40 636	108 227	148 734	2 256
311111	Dog & cat food mfg...	1	3	1	155	3 728	138	138	2 903	14 598	18 207	32 858	1 012
311119	Other animal food mfg.....	1	22	3	231	5 447	131	235	3 120	26 038	90 020	115 876	1 244
3112	Grain & oilseed milling...	-	19	12	3 321	180 565	2 784	5 299	145 231	1 206 802	608 852	1 824 542	45 149
31121	Flour milling & malt mfg...	1	12	8	f	D	D	D	D	D	D	D	D
311211	Flour milling.....	-	11	8	f	D	D	D	D	D	D	D	D
31123	Breakfast cereal mfg....	-	4	4	2 581	156 431	2 240	4 285	130 625	1 147 441	364 636	1 517 679	37 228
311230	Breakfast cereal mfg..	-	4	4	2 581	156 431	2 240	4 285	130 625	1 147 441	364 636	1 517 679	37 228
3113	Sugar & confectionery product mfg.....	3	68	12	2 609	77 105	2 027	3 765	55 785	370 972	278 329	648 730	23 765
31131	Sugar mfg.....	6	5	5	f	D	D	D	D	D	D	D	D
311313	Beet sugar mfg.....	6	5	5	f	D	D	D	D	D	D	D	D
31133	Confectionery mfg from purchased chocolate...	3	34	4	490	9 289	290	419	3 935	24 715	16 531	41 110	1 138
311330	Confectionery mfg from purchased chocolate.....	3	34	4	490	9 289	290	419	3 935	24 715	16 531	41 110	1 138
31134	Nonchocolate confectionery mfg.....	-	23	2	g	D	D	D	D	D	D	D	D
311340	Nonchocolate confectionery mfg...	-	23	2	g	D	D	D	D	D	D	D	D
3114	Fruit & vegetable preserving & specialty food mfg.....	1	68	39	5 701	135 272	4 873	9 477	101 038	686 936	618 982	1 308 219	46 259
31141	Frozen food mfg.....	-	22	15	1 329	30 538	1 108	2 021	20 310	131 806	121 266	253 437	4 930
311411	Frozen fruit, juice, & vegetable mfg.....	-	12	11	844	18 295	681	1 323	11 941	94 086	82 814	177 224	3 381
311412	Frozen specialty food mfg.....	-	10	4	485	12 243	427	698	8 369	37 720	38 452	76 213	1 549
31142	Fruit & vegetable canning, pickling, & drying.....	1	46	24	4 372	104 734	3 765	7 456	80 728	555 130	497 716	1 054 782	41 329
311421	Fruit & vegetable canning.....	2	37	20	3 452	74 443	2 977	5 756	56 771	302 907	352 023	655 510	35 899
311422	Specialty canning.....	-	6	2	f	D	D	D	D	D	D	D	D
311423	Dried & dehydrated food mfg.....	-	3	2	c	D	D	D	D	D	D	D	D
3115	Dairy product mfg.....	1	57	38	4 715	145 048	3 024	6 394	92 128	1 047 920	1 256 765	2 304 126	50 031
31151	Dairy product (except frozen) mfg.....	1	41	29	4 092	132 770	2 693	5 825	84 980	1 007 768	1 189 987	2 197 481	46 539
311511	Fluid milk mfg.....	2	22	16	2 536	79 142	1 514	3 400	48 587	324 934	676 261	999 575	D
311513	Cheese mfg.....	-	9	4	399	12 160	267	526	7 545	64 590	121 965	186 163	D
311514	Dry, condensed, & evaporated dairy product mfg.....	-	10	9	1 157	41 468	912	1 899	28 848	618 244	391 761	1 011 743	23 442
31152	Ice cream & frozen dessert mfg.....	2	16	9	623	12 278	331	569	7 148	40 152	66 778	106 645	3 492
311520	Ice cream & frozen dessert mfg.....	2	16	9	623	12 278	331	569	7 148	40 152	66 778	106 645	3 492
3116	Meat product mfg.....	-	88	38	7 659	202 373	6 044	14 127	147 402	882 195	1 588 660	2 466 619	37 236
31161	Animal slaughtering & processing.....	-	88	38	7 659	202 373	6 044	14 127	147 402	882 195	1 588 660	2 466 619	37 236
311611	Animal (except poultry) slaughtering.....	-	42	13	2 725	64 289	2 372	5 013	52 967	368 825	899 149	1 265 669	13 610
311612	Meat processed from carcasses.....	1	36	17	g	D	D	D	D	D	D	D	D
311613	Rendering & meat byproduct processing.....	-	4	3	c	D	D	D	D	D	D	D	D
311615	Poultry processing.....	-	6	5	3 272	92 478	2 689	7 007	72 963	388 436	438 203	823 666	16 893
3118	Bakeries & tortilla mfg....	1	451	63	8 626	225 422	5 625	10 081	133 382	856 713	493 913	1 349 169	40 692
31181	Bread & bakery product mfg.....	2	420	53	6 790	164 335	4 268	7 452	92 800	590 386	287 800	876 625	29 830
311811	Retail bakeries.....	4	332	16	1 913	24 054	1 250	1 535	13 254	53 151	31 364	84 030	D
311812	Commercial bakeries...	2	81	32	3 995	113 244	2 214	4 271	55 361	383 210	151 786	534 840	13 501
311813	Frozen cakes, pies, & other pastries mfg...	-	7	5	882	27 037	804	1 646	24 185	154 025	104 650	257 755	D
31182	Cookie, cracker, & pasta mfg.....	1	28	10	1 815	60 848	1 340	2 607	40 413	265 779	205 529	471 401	10 819
311821	Cookie & cracker mfg..	-	8	2	g	D	D	D	D	D	D	D	D
311822	Flour mixes & dough mfg from purchased flour.....	6	12	6	620	21 563	327	708	8 539	46 124	73 203	119 210	2 811
311823	Dry pasta mfg.....	-	8	2	c	D	D	D	D	D	D	D	D

**Table 1. Industry Statistics for the State: 1997—Con.**

[Includes data for industry groups and industries with 100 employees or more. For information on geographic areas followed by \* and explanation of terms, see appendixes. For meaning of abbreviations and symbols, see introductory text]

NAICS code	Geographic area and industry	E <sup>1</sup>	All establishments		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expenditures (\$1,000)
			Total	With 20 employees or more	Number <sup>2</sup>	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
<b>31-33</b>	<b>MICHIGAN—Con. Manufacturing—Con.</b>												
<b>311</b>	<b>Food mfg—Con.</b>												
3119	Other food mfg.....	2	81	31	2 435	65 597	1 785	3 258	34 130	255 647	313 422	569 330	20 509
31191	Snack food mfg.....	—	16	8	922	30 452	655	1 278	15 339	127 978	134 607	263 116	5 428
311911	Roasted nuts & peanut butter mfg.....	1	5	2	131	4 393	44	84	838	13 596	15 157	29 245	409
311919	Other snack food mfg...	—	11	6	791	26 059	611	1 194	14 501	114 382	119 450	233 871	5 019
31194	Seasoning & dressing mfg.....	3	18	6	303	8 324	228	411	4 764	33 351	41 217	74 663	2 171
311941	Mayonnaise, dressing, & other prepared sauce mfg.....	3	11	3	190	4 338	155	272	2 877	20 461	30 185	50 757	1 484
311942	Spice & extract mfg...	2	7	3	113	3 986	73	139	1 887	12 890	11 032	23 906	687
31199	All other food mfg.....	4	39	16	1 140	24 857	875	1 518	13 440	85 911	116 904	202 708	12 693
311991	Perishable prepared food mfg.....	5	11	5	428	7 221	334	586	3 750	17 375	21 698	38 859	1 090
311999	All other miscellaneous food mfg.....	3	28	11	712	17 636	541	932	9 690	68 536	95 206	163 849	11 603
312	Beverage & tobacco product mfg.....	1	62	21	3 147	117 784	1 740	3 560	60 055	610 272	928 195	1 533 332	46 776
3121	Beverage mfg.....	1	62	21	3 147	117 784	1 740	3 560	60 055	610 272	928 195	1 533 332	46 776
31211	Soft drink & ice mfg.....	1	39	15	2 451	97 726	1 220	2 626	46 167	431 164	776 370	1 203 042	39 928
312111	Soft drink mfg.....	1	19	13	2 282	93 798	1 122	2 431	43 817	420 758	766 966	1 183 353	38 787
312113	Ice mfg.....	1	15	2	126	2 934	77	158	1 885	6 811	3 592	10 276	838
31212	Breweries.....	9	16	4	e	D	D	D	D	D	D	D	D
312120	Breweries.....	9	16	4	e	D	D	D	D	D	D	D	D
31214	Distilleries.....	—	1	1	e	D	D	D	D	D	D	D	D
312140	Distilleries.....	—	1	1	e	D	D	D	D	D	D	D	D
313	Textile mills.....	4	43	7	542	14 239	452	860	9 982	38 169	60 861	98 935	3 692
3132	Fabric mills.....	7	23	3	e	D	D	D	D	D	D	D	D
31321	Broadwoven fabric mills..	7	15	3	233	6 208	212	395	4 920	14 743	19 847	34 596	1 595
313210	Broadwoven fabric mills.....	7	15	3	233	6 208	212	395	4 920	14 743	19 847	34 596	1 595
3133	Textile & fabric finishing & fabric coating mills.....	1	19	4	256	6 922	206	399	4 401	20 771	37 584	58 326	1 905
31331	Textile & fabric finishing mills.....	2	11	2	129	3 355	105	209	2 228	10 252	14 780	25 005	727
313311	Broadwoven fabric finishing mills.....	2	11	2	129	3 355	105	209	2 228	10 252	14 780	25 005	727
31332	Fabric coating mills.....	1	8	2	127	3 567	101	190	2 173	10 519	22 804	33 321	1 178
313320	Fabric coating mills....	1	8	2	127	3 567	101	190	2 173	10 519	22 804	33 321	1 178
314	Textile product mills.....	1	205	27	2 519	54 242	2 034	3 783	33 449	100 725	136 363	236 886	6 427
3141	Textile furnishings mills....	3	77	2	406	7 241	342	552	4 397	12 156	13 151	25 492	461
31411	Carpet & rug mills.....	—	5	1	100	3 006	88	168	1 684	3 846	5 139	9 199	133
314110	Carpet & rug mills.....	—	5	1	100	3 006	88	168	1 684	3 846	5 139	9 199	133
31412	Curtain & linen mills.....	4	72	1	306	4 235	254	384	2 713	8 310	8 012	16 293	328
314121	Curtain & drapery mills.....	5	66	—	228	3 210	187	276	1 942	6 088	5 870	11 910	210
3149	Other textile product mills...	1	128	25	2 113	47 001	1 692	3 231	29 052	88 569	123 212	211 394	5 966
31491	Textile bag & canvas mills.....	1	68	10	672	14 721	555	967	8 711	29 765	30 220	60 082	951
314911	Textile bag mills.....	1	5	3	135	2 693	116	210	1 690	5 009	5 644	10 601	188
314912	Canvas & related product mills.....	1	63	7	537	12 028	439	757	7 021	24 756	24 576	49 481	763
31499	All other textile product mills.....	1	60	15	1 441	32 280	1 137	2 264	20 341	58 804	92 992	151 312	5 015
314991	Rope, cordage, & twine mills.....	4	5	3	111	2 591	79	140	1 299	5 390	4 336	9 303	200
314999	All other miscellaneous textile product mills..	—	55	12	1 330	29 689	1 058	2 124	19 042	53 414	88 656	142 009	4 815
315	Apparel mfg.....	3	118	17	1 573	30 052	1 268	2 445	19 417	89 506	128 277	220 195	17 123
3151	Apparel knitting mills.....	9	4	2	c	D	D	D	D	D	D	D	D
3152	Cut & sew apparel mfg.....	—	69	10	f	D	D	D	D	D	D	D	D
31521	Cut & sew apparel contractors.....	5	36	2	c	D	D	D	D	D	D	D	290
315212	Women's, girls', & infants' cut & sew apparel contractors..	6	31	2	172	2 035	149	267	1 663	3 250	1 228	4 464	247
31522	Men's & boys' cut & sew apparel mfg.....	—	13	5	325	5 961	256	479	3 665	21 703	61 217	84 651	D
315223	Men's & boys' cut & sew shirt (exc work shirt) mfg.....	—	5	2	c	D	D	D	D	D	D	D	51
31523	Women's & girls' cut & sew apparel mfg.....	2	13	2	160	3 178	123	256	2 134	4 545	5 249	9 623	D
31529	Other cut & sew apparel mfg.....	—	7	1	111	1 673	86	143	1 030	5 899	3 838	9 762	24

**Table 1. Industry Statistics for the State: 1997—Con.**

[Includes data for industry groups and industries with 100 employees or more. For information on geographic areas followed by \* and explanation of terms, see appendixes. For meaning of abbreviations and symbols, see introductory text]

NAICS code	Geographic area and industry	E <sup>1</sup>	All establishments		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expenditures (\$1,000)
			Total	With 20 employees or more	Number <sup>2</sup>	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
	<b>MICHIGAN—Con.</b>												
<b>31-33</b>	<b>Manufacturing—Con.</b>												
315	Apparel mfg—Con.												
3159	Apparel accessories & other apparel mfg . . . . .	6	45	5	657	15 066	523	1 111	9 225	49 799	53 566	104 211	D
31599	Apparel accessories & other apparel mfg . . . . .	6	45	5	657	15 066	523	1 111	9 225	49 799	53 566	104 211	D
315999	Other apparel accessories & other apparel mfg . . . . .	6	44	5	f	D	D	D	D	D	D	D	D
316	Leather & allied product mfg .	—	26	13	3 133	77 304	2 727	5 445	60 183	212 511	442 330	655 941	11 330
3161	Leather & hide tanning & finishing . . . . .	—	9	6	1 893	56 130	1 622	3 481	43 445	141 524	348 940	491 203	9 189
31611	Leather & hide tanning & finishing . . . . .	—	9	6	1 893	56 130	1 622	3 481	43 445	141 524	348 940	491 203	9 189
316110	Leather & hide tanning & finishing . . . . .	—	9	6	1 893	56 130	1 622	3 481	43 445	141 524	348 940	491 203	9 189
3162	Footwear mfg . . . . .	—	3	2	f	D	D	D	D	D	D	D	D
31621	Footwear mfg . . . . .	—	3	2	f	D	D	D	D	D	D	D	D
316213	Men's footwear (except athletic) mfg .	—	3	2	f	D	D	D	D	D	D	D	D
3169	Other leather & allied product mfg . . . . .	7	14	5	f	D	D	D	D	D	D	D	D
31699	Other leather & allied product mfg . . . . .	7	14	5	f	D	D	D	D	D	D	D	D
316991	Luggage mfg . . . . .	1	7	3	c	D	D	D	D	D	D	D	251
316999	All other leather good mfg . . . . .	8	7	2	e	D	D	D	D	D	D	D	D
321	Wood product mfg . . . . .	1	627	172	13 729	361 385	11 118	21 510	246 828	832 427	1 206 916	2 033 688	82 597
3211	Sawmills & wood preservation . . . . .	3	167	37	2 372	57 629	2 010	3 894	43 246	141 899	241 749	380 733	18 929
32111	Sawmills & wood preservation . . . . .	3	167	37	2 372	57 629	2 010	3 894	43 246	141 899	241 749	380 733	18 929
321113	Sawmills . . . . .	3	156	34	2 182	52 978	1 866	3 624	40 294	125 278	187 171	311 752	17 565
321114	Wood preservation . . . . .	1	11	3	190	4 651	144	270	2 952	16 621	54 578	68 981	1 364
3212	Veneer, plywood, & engineered wood product mfg . . . . .	1	66	41	4 086	126 714	3 257	6 518	82 118	304 642	387 764	690 101	37 358
32121	Veneer, plywood, & engineered wood product mfg . . . . .	1	66	41	4 086	126 714	3 257	6 518	82 118	304 642	387 764	690 101	37 358
321211	Hardwood veneer & plywood mfg . . . . .	—	14	10	1 117	30 835	976	2 043	22 148	60 145	91 601	153 168	D
321214	Truss mfg . . . . .	2	32	19	1 598	45 799	1 171	2 185	24 184	106 405	106 925	211 046	5 029
321219	Reconstituted wood product mfg . . . . .	—	17	11	1 323	49 183	1 067	2 192	35 092	136 988	186 056	322 030	27 363
3219	Other wood product mfg . . . . .	2	394	94	7 271	177 042	5 851	11 098	121 464	385 886	577 403	962 854	26 310
32191	Millwork . . . . .	2	135	34	2 766	70 320	2 234	4 408	49 626	165 972	293 826	457 281	14 285
321911	Wood window & door mfg . . . . .	1	41	13	891	24 887	699	1 399	17 785	55 314	95 615	150 675	2 551
321912	Cut stock, resawing lumber, & planing . . . . .	3	47	12	1 017	24 916	832	1 589	17 351	61 634	141 761	201 546	7 493
321918	Other millwork (including flooring) . . . . .	2	47	9	858	20 517	703	1 420	14 490	49 024	56 450	105 060	4 241
32192	Wood container & pallet mfg . . . . .	2	144	33	2 069	41 452	1 709	3 170	28 660	82 761	99 052	182 183	6 819
321920	Wood container & pallet mfg . . . . .	2	144	33	2 069	41 452	1 709	3 170	28 660	82 761	99 052	182 183	6 819
32199	All other wood product mfg . . . . .	1	115	27	2 436	65 270	1 908	3 520	43 178	137 153	184 525	323 390	5 206
321991	Manufactured home (mobile home) mfg . . . . .	—	4	2	f	D	D	D	D	D	D	D	193
321992	Prefabricated wood building mfg . . . . .	2	25	13	858	24 498	593	1 204	13 070	64 795	66 417	131 728	1 992
321999	All other miscellaneous wood product mfg . . . . .	1	86	12	g	D	D	D	D	D	D	D	3 021
322	Paper mfg . . . . .	—	224	161	19 660	799 099	14 769	31 977	534 177	2 262 681	2 577 299	4 878 245	209 489
3221	Pulp, paper, & paperboard mills . . . . .	—	33	33	8 838	443 155	6 743	15 543	313 069	1 368 536	1 446 448	2 859 336	129 790
32211	Pulp mills . . . . .	—	2	2	c	D	D	D	D	D	D	D	D
322110	Pulp mills . . . . .	—	2	2	c	D	D	D	D	D	D	D	D
32212	Paper mills . . . . .	—	19	19	6 179	318 687	4 712	10 671	220 113	984 785	1 048 930	2 073 533	87 741
322121	Paper (except newsprint) mills . . . . .	—	18	18	i	D	D	D	D	D	D	D	D
322122	Newsprint mills . . . . .	—	1	1	c	D	D	D	D	D	D	D	D
32213	Paperboard mills . . . . .	—	12	12	h	D	D	D	D	D	D	D	D
322130	Paperboard mills . . . . .	—	12	12	h	D	D	D	D	D	D	D	D

**Table 1. Industry Statistics for the State: 1997—Con.**

[Includes data for industry groups and industries with 100 employees or more. For information on geographic areas followed by \* and explanation of terms, see appendixes. For meaning of abbreviations and symbols, see introductory text]

NAICS code	Geographic area and industry	E <sup>1</sup>	All establishments		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expenditures (\$1,000)
			Total	With 20 employees or more	Number <sup>2</sup>	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
<b>31-33</b>	<b>MICHIGAN—Con.</b>												
	<b>Manufacturing—Con.</b>												
322	Paper mfg—Con.												
3222	Converted paper product mfg .....	1	191	128	10 822	355 944	8 026	16 434	221 108	894 145	1 130 851	2 018 909	79 699
32221	Paperboard container mfg .....	1	108	85	7 289	242 981	5 423	11 198	148 911	549 972	758 291	1 306 289	57 206
322211	Corrugated & solid fiber box mfg .....	1	73	62	5 264	177 690	3 816	7 776	104 246	393 845	550 755	944 682	44 570
322212	Folding paperboard box mfg .....	1	16	12	973	36 195	780	1 945	25 948	87 458	117 158	207 053	7 594
322213	Setup paperboard box mfg .....	5	6	2	100	3 052	74	141	1 508	6 141	3 998	10 128	110
322214	Fiber can, tube, drum, & similar products mfg .....	1	9	5	197	6 429	159	295	4 385	13 570	14 672	28 105	515
322215	Nonfolding sanitary food container mfg ...	—	4	4	755	19 615	594	1 041	12 824	48 958	71 708	116 321	4 417
32222	Paper bag & coated & treated paper mfg .....	3	21	13	1 412	50 202	1 012	2 157	32 225	140 102	171 005	309 686	7 908
322221	Coated & laminated packaging paper & plastics film mfg .....	1	6	4	404	11 880	306	653	8 061	39 697	65 471	103 818	2 126
322222	Coated & laminated paper mfg .....	7	9	5	574	21 957	371	786	12 490	68 721	60 594	130 319	3 692
322223	Plastics, foil, & coated paper bag mfg .....	—	1	1	c	D	D	D	D	D	D	D	D
322224	Uncoated paper & multiwall bag mfg .....	—	2	1	c	D	D	D	D	D	D	D	D
322226	Surface-coated paperboard mfg .....	—	2	2	c	D	D	D	D	D	D	D	D
32223	Stationery product mfg ...	2	29	9	859	25 885	640	1 169	15 471	84 925	65 871	148 965	2 073
322231	Die-cut paper & paperboard office supplies mfg .....	3	12	1	c	D	D	D	D	D	D	D	184
322232	Envelope mfg .....	3	11	6	422	13 928	307	610	7 758	27 913	30 235	57 598	1 539
322233	Stationery, tablet, & related product mfg ...	—	6	2	e	D	D	D	D	D	D	D	350
32229	Other converted paper product mfg .....	4	33	21	1 262	36 876	951	1 910	24 501	119 146	135 684	253 969	12 512
322291	Sanitary paper product mfg .....	9	6	2	177	5 271	146	210	3 741	20 154	40 001	57 999	D
322299	All other converted paper product mfg ...	3	27	19	1 085	31 605	805	1 700	20 760	98 992	95 683	195 970	D
323	Printing & related support activities .....	1	1 488	261	25 334	789 455	18 112	34 343	474 718	1 818 743	1 187 265	3 002 537	123 789
3231	Printing & related support activities .....	1	1 488	261	25 334	789 455	18 112	34 343	474 718	1 818 743	1 187 265	3 002 537	123 789
32311	Printing .....	1	1 321	231	23 168	711 696	16 505	31 210	426 244	1 654 681	1 148 120	2 799 539	112 698
323110	Commercial lithographic printing ..	1	660	131	12 484	399 969	8 916	17 495	242 903	973 409	694 537	1 665 119	68 370
323111	Commercial gravure printing .....	2	14	2	185	7 260	127	230	3 831	15 352	15 725	31 865	911
323112	Commercial flexographic printing .	1	26	12	831	31 879	504	1 004	15 634	67 711	48 225	115 879	6 509
323113	Commercial screen printing .....	4	141	11	1 758	45 472	1 113	2 121	22 595	92 934	66 642	158 577	6 601
323114	Quick printing .....	3	285	15	1 755	41 203	1 227	1 907	25 273	82 966	44 346	127 334	5 460
323115	Digital printing .....	1	10	2	113	2 763	68	118	1 333	6 829	4 676	11 511	215
323116	Manifold business form printing .....	2	38	21	1 472	43 850	1 001	1 684	24 061	115 565	79 143	195 161	3 659
323117	Book printing .....	—	26	18	2 938	91 547	2 349	4 454	62 108	170 625	128 212	297 258	14 679
323118	Blankbook, looseleaf binder, & device mfg .	2	11	7	601	20 249	433	786	11 684	69 198	31 813	101 543	2 538
323119	Other commercial printing .....	6	110	12	1 031	27 504	767	1 411	16 822	60 092	34 801	95 292	3 756
32312	Support activities for printing .....	1	167	30	2 166	77 759	1 607	3 133	48 474	164 062	39 145	202 998	11 091
323121	Tradebinding & related work .....	—	27	6	504	11 630	424	830	8 704	22 973	5 515	28 251	2 477
323122	Prepress services .....	1	140	24	1 662	66 129	1 183	2 303	39 770	141 089	33 630	174 747	8 614
324	Petroleum & coal products mfg .....	1	68	19	1 785	84 821	986	1 973	38 853	317 557	916 432	1 235 369	26 663
3241	Petroleum & coal products mfg .....	1	68	19	1 785	84 821	986	1 973	38 853	317 557	916 432	1 235 369	26 663
32411	Petroleum refineries .....	—	2	1	e	D	D	D	D	D	D	D	D
324110	Petroleum refineries ..	—	2	1	e	D	D	D	D	D	D	D	D
32412	Asphalt paving, roofing, & saturated materials mfg .....	—	33	6	e	D	D	D	D	D	D	D	D
324121	Asphalt paving mixture & block mfg .....	—	31	4	e	D	D	D	D	D	D	D	D
32419	Other petroleum & coal products mfg .....	4	33	12	1 138	51 096	539	982	18 172	145 446	236 917	383 860	13 467
324191	Petroleum lubricating oil & grease mfg .....	3	29	10	846	40 713	358	715	12 602	98 718	165 318	265 859	D
324199	All other petroleum & coal products mfg ...	8	4	2	292	10 383	181	267	5 570	46 728	71 599	118 001	D

**Table 1. Industry Statistics for the State: 1997—Con.**

[Includes data for industry groups and industries with 100 employees or more. For information on geographic areas followed by \* and explanation of terms, see appendixes. For meaning of abbreviations and symbols, see introductory text]

NAICS code	Geographic area and industry	E <sup>1</sup>	All establishments		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expenditures (\$1,000)
			Total	With 20 employees or more	Number <sup>2</sup>	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
	<b>MICHIGAN—Con.</b>												
<b>31-33</b>	<b>Manufacturing—Con.</b>												
325	Chemical mfg . . . . .	-	436	179	33 228	1 587 471	17 887	34 429	715 863	5 970 935	5 475 167	11 477 092	918 530
3251	Basic chemical mfg . . . . .	-	58	30	6 057	328 824	3 292	6 400	149 220	1 148 605	1 125 241	2 280 908	241 136
32512	Industrial gas mfg . . . . .	-	12	3	c	D	D	D	D	D	D	D	D
325120	Industrial gas mfg . . . . .	-	12	3	c	D	D	D	D	D	D	D	D
32513	Dye & pigment mfg . . . . .	-	5	4	587	26 201	328	825	15 183	108 875	158 062	268 609	8 751
325132	Synthetic organic dye & pigment mfg . . . . .	-	3	3	f	D	D	D	D	D	D	D	D
32518	Other basic inorganic chemical mfg . . . . .	1	15	6	577	28 928	384	652	16 452	119 643	47 112	160 137	21 515
325188	All other basic inorganic chemical mfg . . . . .	1	14	6	f	D	D	D	D	D	D	D	D
32519	Other basic organic chemical mfg . . . . .	-	25	16	4 636	264 945	2 452	4 639	113 806	865 665	879 111	1 757 190	204 472
325192	Cyclic crude & intermediate mfg . . . . .	-	3	3	e	D	D	D	D	D	D	D	D
325199	All other basic organic chemical mfg . . . . .	-	20	13	4 247	246 701	2 191	4 047	102 217	802 794	794 260	1 609 772	190 603
3252	Resin, syn rubber, & artificial & syn fibers & filaments mfg . . . . .	-	26	18	4 796	254 701	2 047	4 360	104 784	928 201	1 053 717	1 945 870	247 733
32521	Resin & synthetic rubber mfg . . . . .	-	26	18	4 796	254 701	2 047	4 360	104 784	928 201	1 053 717	1 945 870	247 733
325211	Plastics material & resin mfg . . . . .	-	21	17	h	D	D	D	D	D	D	D	D
325212	Synthetic rubber mfg . . . . .	-	5	1	f	D	D	D	D	D	D	D	D
3253	Pesticide, fertilizer, & other agricultural chemical mfg . . . . .	2	22	6	407	10 975	311	527	7 578	37 371	45 856	84 261	1 825
32531	Fertilizer mfg . . . . .	-	14	4	297	6 846	240	418	4 827	21 407	22 307	43 972	1 026
325314	Fertilizer (mixing only) mfg . . . . .	-	13	4	297	6 804	240	418	4 827	21 407	22 307	43 972	D
32532	Pesticide & other agricultural chemical mfg . . . . .	3	8	2	110	4 129	71	109	2 751	15 964	23 549	40 289	799
325320	Pesticide & other agricultural chemical mfg . . . . .	3	8	2	110	4 129	71	109	2 751	15 964	23 549	40 289	799
3254	Pharmaceutical & medicine mfg . . . . .	-	48	23	7 382	336 524	4 904	8 679	200 016	859 841	783 515	1 659 002	167 848
32541	Pharmaceutical & medicine mfg . . . . .	-	48	23	7 382	336 524	4 904	8 679	200 016	859 841	783 515	1 659 002	167 848
325411	Medicinal & botanical mfg . . . . .	-	6	3	505	29 965	261	502	13 282	78 784	82 742	157 992	12 852
325412	Pharmaceutical preparation mfg . . . . .	-	19	8	5 967	277 110	4 197	7 357	174 579	630 561	622 240	1 267 931	D
325413	In-vitro diagnostic substance mfg . . . . .	-	11	4	448	17 696	201	367	6 886	59 802	44 757	104 283	2 942
325414	Biological product (except diagnostic) mfg . . . . .	-	12	8	462	11 753	245	453	5 269	90 694	33 776	128 796	D
3255	Paint, coating, & adhesive mfg . . . . .	-	105	45	4 801	212 622	2 947	5 741	110 121	743 101	939 408	1 701 938	62 075
32551	Paint & coating mfg . . . . .	-	73	31	3 261	150 973	2 030	3 890	79 700	546 088	667 764	1 232 501	27 328
325510	Paint & coating mfg . . . . .	-	73	31	3 261	150 973	2 030	3 890	79 700	546 088	667 764	1 232 501	27 328
32552	Adhesive mfg . . . . .	1	32	14	1 540	61 649	917	1 851	30 421	197 013	271 644	469 437	34 747
325520	Adhesive mfg . . . . .	1	32	14	1 540	61 649	917	1 851	30 421	197 013	271 644	469 437	34 747
3256	Soap, cleaning compound, & toilet preparation mfg . . . . .	-	73	17	6 465	303 081	2 669	5 159	85 796	1 757 722	1 043 326	2 820 215	167 087
32561	Soap & cleaning compound mfg . . . . .	-	65	16	6 404	301 170	2 626	5 102	84 897	1 750 542	1 038 685	2 808 317	D
325611	Soap & other detergent mfg . . . . .	-	43	10	6 114	291 551	2 452	4 726	79 878	1 713 118	1 009 077	2 740 106	D
325612	Polish & other sanitation good mfg . . . . .	8	17	4	227	7 240	150	325	4 167	31 229	19 745	52 041	D
3259	Other chemical product mfg . . . . .	2	104	40	3 320	140 744	1 717	3 563	58 348	496 094	484 104	984 898	30 826
32591	Printing ink mfg . . . . .	1	9	3	c	D	D	D	D	D	D	D	D
325910	Printing ink mfg . . . . .	1	9	3	c	D	D	D	D	D	D	D	D
32599	All other chemical product & preparation mfg . . . . .	2	92	36	3 140	133 944	1 625	3 390	55 086	474 151	454 426	933 856	29 895
325991	Custom compounding of purchased resin . . . . .	1	42	13	1 029	38 912	575	1 129	15 410	138 162	181 692	319 977	8 912
325992	Photographic film, paper, plate, & chemical mfg . . . . .	-	6	3	164	8 335	70	158	2 062	16 602	25 902	43 066	574
325998	All other miscellaneous chemical product & preparation mfg . . . . .	2	44	20	1 947	86 697	980	2 103	37 614	319 387	246 832	570 813	20 409



**Table 1. Industry Statistics for the State: 1997—Con.**

[Includes data for industry groups and industries with 100 employees or more. For information on geographic areas followed by \* and explanation of terms, see appendixes. For meaning of abbreviations and symbols, see introductory text]

NAICS code	Geographic area and industry	E <sup>1</sup>	All establishments		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expenditures (\$1,000)
			Total	With 20 employees or more	Number <sup>2</sup>	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
<b>MICHIGAN—Con.</b>													
<b>31-33</b>	<b>Manufacturing—Con.</b>												
326	Plastics & rubber products mfg .....	1	943	537	67 666	1 938 441	52 260	104 136	1 240 817	4 867 963	4 664 082	9 546 730	473 528
3261	Plastics product mfg .....	1	841	493	61 661	1 768 549	47 595	94 111	1 130 286	4 359 937	4 260 947	8 638 315	440 144
32611	Unsupported plastics film, sheet, & bag mfg ..	1	44	27	2 492	101 405	1 637	3 267	60 236	257 321	275 486	537 017	36 861
326111	Unsupported plastics bag mfg .....	1	6	4	476	25 188	345	742	18 531	48 578	53 459	102 474	6 461
326112	Unsupported plastics packaging film & sheet mfg .....	1	3	3	259	9 264	173	327	5 422	20 136	26 952	46 066	3 540
326113	Unsupported plastics film & sheet (except packaging) mfg .....	2	35	20	1 757	66 953	1 119	2 198	36 283	188 607	195 075	388 477	26 860
32612	Plastics pipe, pipe fitting, & unsupported profile shape mfg .....	2	55	19	1 580	47 336	1 097	1 968	25 451	115 872	150 044	270 288	12 436
326121	Unsupported plastics profile shape mfg .....	2	41	15	1 211	38 439	846	1 502	19 574	86 184	102 874	191 780	5 935
326122	Plastics pipe & pipe fitting mfg .....	2	14	4	369	8 897	251	466	5 877	29 688	47 170	78 508	6 501
32613	Laminated plastics plate, sheet, & shape mfg .....	1	8	1	126	3 268	113	215	2 641	14 613	21 351	35 865	1 309
326130	Laminated plastics plate, sheet, & shape mfg .....	1	8	1	126	3 268	113	215	2 641	14 613	21 351	35 865	1 309
32614	Polystyrene foam product mfg .....	2	27	13	2 112	69 954	1 514	2 966	38 250	115 646	169 121	285 189	54 602
326140	Polystyrene foam product mfg .....	2	27	13	2 112	69 954	1 514	2 966	38 250	115 646	169 121	285 189	54 602
32615	Urethane & other foam product (except polystyrene) mfg .....	1	43	20	2 563	69 831	2 024	4 143	47 106	186 889	243 899	431 716	16 266
326150	Urethane & other foam product (except polystyrene) mfg .....	1	43	20	2 563	69 831	2 024	4 143	47 106	186 889	243 899	431 716	16 266
32616	Plastics bottle mfg .....	3	9	5	742	20 295	587	1 156	13 800	57 112	94 707	150 533	8 873
326160	Plastics bottle mfg .....	3	9	5	742	20 295	587	1 156	13 800	57 112	94 707	150 533	8 873
32619	Other plastics product mfg .....	1	655	408	52 046	1 456 460	40 623	80 396	942 802	3 612 484	3 306 339	6 927 707	309 797
326191	Plastics plumbing fixture mfg .....	—	17	8	f	D	D	D	D	D	D	D	D
326199	All other plastics product mfg .....	1	637	400	51 277	1 434 776	40 000	79 335	928 015	3 538 064	3 262 104	6 808 137	305 356
3262	Rubber product mfg .....	—	102	44	6 005	169 892	4 665	10 025	110 531	508 026	403 135	908 415	33 384
32621	Tire mfg .....	3	22	2	193	4 187	167	336	3 396	8 309	11 065	19 662	365
326212	Tire retreading .....	3	21	2	c	D	D	D	D	D	D	D	D
32622	Rubber & plastics hoses & belting mfg .....	1	8	4	1 258	35 226	906	2 126	22 604	93 404	63 772	157 088	8 279
326220	Rubber & plastics hoses & belting mfg ..	1	8	4	1 258	35 226	906	2 126	22 604	93 404	63 772	157 088	8 279
32629	Other rubber product mfg .....	—	72	38	4 554	130 479	3 592	7 563	84 531	406 313	328 298	731 665	24 740
326291	Rubber product mfg for mechanical use .....	—	37	25	3 466	96 619	2 773	5 901	64 224	277 904	267 782	543 055	22 043
326299	All other rubber product mfg .....	—	35	13	1 088	33 860	819	1 662	20 307	128 409	60 516	188 610	2 697
327	Nonmetallic mineral product mfg .....	1	569	177	18 012	715 003	13 175	27 845	466 475	2 118 551	1 693 434	3 821 310	213 272
3271	Clay product & refractory mfg .....	—	47	14	972	32 153	626	1 235	18 366	90 808	57 609	146 106	8 522
32711	Pottery, ceramics, & plumbing fixture mfg ..	—	28	6	418	12 313	254	517	5 935	30 338	17 708	46 281	1 510
327112	Vitreous china, fine earthenware, & other pottery product mfg ..	—	22	3	c	D	D	D	D	D	D	D	D
327113	Porcelain electrical supply mfg .....	1	5	2	135	6 217	74	141	2 283	8 647	8 080	16 803	463
32712	Clay building material & refractories mfg .....	—	19	8	554	19 840	372	718	12 431	60 470	39 901	99 825	7 012
327121	Brick & structural clay tile mfg .....	—	2	1	c	D	D	D	D	D	D	D	D
327125	Nonclay refractory mfg .....	—	9	5	351	13 951	225	466	8 285	44 506	30 421	75 035	6 140
3272	Glass & glass product mfg ..	1	73	29	7 313	323 843	5 577	11 973	216 611	751 469	623 019	1 381 858	107 304
32721	Glass & glass product mfg .....	1	73	29	7 313	323 843	5 577	11 973	216 611	751 469	623 019	1 381 858	107 304
327211	Flat glass mfg .....	4	2	2	g	D	D	D	D	D	D	D	D
327213	Glass container mfg ..	—	1	1	c	D	D	D	D	D	D	D	D
327215	Glass product mfg made of purchased glass .....	—	65	26	5 998	255 108	4 514	9 507	161 215	554 412	519 204	1 075 412	D

**Table 1. Industry Statistics for the State: 1997—Con.**

[Includes data for industry groups and industries with 100 employees or more. For information on geographic areas followed by \* and explanation of terms, see appendixes. For meaning of abbreviations and symbols, see introductory text]

NAICS code	Geographic area and industry	E <sup>1</sup>	All establishments		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expenditures (\$1,000)
			Total	With 20 employees or more	Number <sup>2</sup>	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
<b>31-33</b>	<b>MICHIGAN—Con.</b>												
	<b>Manufacturing—Con.</b>												
327	Nonmetallic mineral product mfg—Con.												
3273	Cement & concrete product mfg . . . . .	1	346	94	6 238	242 164	4 292	8 869	151 013	839 495	668 245	1 505 166	69 951
32731	Cement mfg . . . . .	—	18	5	857	40 326	651	1 450	29 052	305 483	191 087	496 078	24 824
327310	Cement mfg . . . . .	—	18	5	857	40 326	651	1 450	29 052	305 483	191 087	496 078	24 824
32732	Ready-mix concrete mfg.	1	205	56	3 043	117 699	2 094	4 061	76 042	319 713	311 436	631 378	29 914
327320	Ready-mix concrete mfg . . . . .	1	205	56	3 043	117 699	2 094	4 061	76 042	319 713	311 436	631 378	29 914
32733	Concrete pipe, brick, & block mfg . . . . .	1	53	21	1 332	50 834	922	2 089	28 341	132 238	115 259	245 453	8 857
327331	Concrete block & brick mfg . . . . .	2	41	10	641	25 995	373	772	11 498	57 269	62 315	119 027	6 045
327332	Concrete pipe mfg . . . . .	—	12	11	691	24 839	549	1 317	16 843	74 969	52 944	126 426	2 812
32739	Other concrete product mfg . . . . .	6	70	12	1 006	33 305	625	1 269	17 578	82 061	50 463	132 257	6 356
327390	Other concrete product mfg . . . . .	6	70	12	1 006	33 305	625	1 269	17 578	82 061	50 463	132 257	6 356
3274	Lime & gypsum product mfg . . . . .	—	9	6	512	21 521	410	1 025	16 257	114 742	93 402	207 075	7 602
32741	Lime mfg . . . . .	—	3	2	102	4 025	78	174	2 975	18 502	16 821	35 348	D
327410	Lime mfg . . . . .	—	3	2	102	4 025	78	174	2 975	18 502	16 821	35 348	D
32742	Gypsum product mfg . . . . .	—	6	4	410	17 496	332	851	13 282	96 240	76 581	171 727	D
327420	Gypsum product mfg . . . . .	—	6	4	410	17 496	332	851	13 282	96 240	76 581	171 727	D
3279	Other nonmetallic mineral product mfg . . . . .	1	94	34	2 977	95 322	2 270	4 743	64 228	322 037	251 159	581 105	19 893
32791	Abrasive product mfg . . . . .	2	41	21	1 169	40 409	844	1 758	24 844	123 471	100 794	228 445	7 118
327910	Abrasive product mfg . . . . .	2	41	21	1 169	40 409	844	1 758	24 844	123 471	100 794	228 445	7 118
32799	All other nonmetallic mineral product mfg . . . . .	—	53	13	1 808	54 913	1 426	2 985	39 384	198 566	150 365	352 660	12 775
327991	Cut stone & stone product mfg . . . . .	1	16	2	141	3 954	74	152	2 132	11 877	7 176	18 506	873
327992	Ground or treated mineral & earth mfg . . . . .	—	13	4	438	18 477	324	711	12 761	82 878	54 763	143 330	5 401
327993	Mineral wool mfg . . . . .	—	7	4	993	25 171	850	1 749	19 887	85 385	72 318	156 973	4 952
327999	All other miscellaneous nonmetallic mineral product mfg . . . . .	1	17	3	236	7 311	178	373	4 604	18 426	16 108	33 851	1 549
331	Primary metal mfg . . . . .	—	331	214	37 692	1 560 419	29 721	64 887	1 163 871	4 016 267	4 978 750	8 984 003	362 244
3311	Iron & steel mills & ferroalloy mfg . . . . .	—	16	12	8 208	479 778	6 332	15 307	365 791	1 260 122	2 039 919	3 298 567	135 178
33111	Iron & steel mills & ferroalloy mfg . . . . .	—	16	12	8 208	479 778	6 332	15 307	365 791	1 260 122	2 039 919	3 298 567	135 178
331111	Iron & steel mills . . . . .	—	14	11	i	D	D	D	D	D	D	D	D
331112	Electrometallurgical ferroalloy product mfg . . . . .	—	2	1	c	D	D	D	D	D	D	D	D
3312	Steel product mfg from purchased steel . . . . .	—	35	25	3 209	112 183	2 559	5 154	81 564	307 202	619 653	927 070	19 374
33121	Iron & steel pipes & tubes mfg from purchased steel . . . . .	—	13	13	1 690	54 833	1 331	2 663	37 378	117 202	195 774	311 303	5 983
331210	Iron & steel pipes & tubes mfg from purchased steel . . . . .	—	13	13	1 690	54 833	1 331	2 663	37 378	117 202	195 774	311 303	5 983
33122	Rolling & drawing of purchased steel . . . . .	—	22	12	1 519	57 350	1 228	2 491	44 186	190 000	423 879	615 767	13 391
331221	Cold-rolled steel shape mfg . . . . .	—	17	7	789	35 522	579	1 253	26 596	115 606	349 094	465 416	9 763
331222	Steel wire drawing . . . . .	—	5	5	730	21 828	649	1 238	17 590	74 394	74 785	150 351	3 628
3313	Alumina & aluminum production & processing . . . . .	—	16	14	2 075	72 634	1 501	3 284	47 924	180 241	283 030	471 572	22 968
33131	Alumina & aluminum production & processing . . . . .	—	16	14	2 075	72 634	1 501	3 284	47 924	180 241	283 030	471 572	22 968
331314	Secondary smelting & alloying of aluminum . . . . .	—	5	4	f	D	D	D	D	D	D	D	D
331316	Aluminum extruded product mfg . . . . .	—	10	9	1 446	51 381	1 068	2 193	31 636	99 703	137 026	236 108	16 873
3314	Nonferrous metal (except aluminum) production & processing . . . . .	—	41	24	3 873	120 324	3 029	6 849	88 550	448 857	765 558	1 200 102	51 429
33141	Nonferrous metal (except aluminum) smelting & refining . . . . .	—	8	5	1 973	55 255	1 536	3 616	43 366	255 691	263 462	510 578	36 289
331411	Primary smelting & refining of copper . . . . .	—	3	3	g	D	D	D	D	D	D	D	D
331419	Other nonferrous metal primary smelting & refining . . . . .	—	5	2	f	D	D	D	D	D	D	D	D
33142	Copper rolling, drawing, extruding, & alloying . . . . .	—	8	7	1 086	34 776	896	2 007	26 337	115 065	325 078	436 240	7 420
331421	Copper rolling, drawing, & extruding . . . . .	—	6	5	f	D	D	D	D	D	D	D	D

**Table 1. Industry Statistics for the State: 1997—Con.**

[Includes data for industry groups and industries with 100 employees or more. For information on geographic areas followed by \* and explanation of terms, see appendixes. For meaning of abbreviations and symbols, see introductory text]

NAICS code	Geographic area and industry	All establishments		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expenditures (\$1,000)	
		E <sup>1</sup>	Total	With 20 employees or more	Number <sup>2</sup>	Payroll (\$1,000)	Number	Hours (1,000)					Wages (\$1,000)
	<b>MICHIGAN—Con.</b>												
<b>31-33</b>	<b>Manufacturing—Con.</b>												
331	Primary metal mfg—Con.												
3314	Nonferrous metal (except aluminum) production & processing—Con.												
33149	Other nonferrous metal rolling, drawing, extruding, & alloying ...	2	25	12	814	30 293	597	1 226	18 847	78 101	177 018	253 284	7 720
331491	Other nonferrous metal rolling, drawing, & extruding .....	3	11	7	443	16 484	313	640	9 879	48 575	93 630	139 015	4 525
331492	Other nonferrous metal secondary smelting, refining, & alloying ...	—	14	5	371	13 809	284	586	8 968	29 526	83 388	114 269	3 195
3315	Foundries .....	—	223	139	20 327	775 500	16 300	34 293	580 042	1 819 845	1 270 590	3 086 692	133 295
33151	Ferrous metal foundries ..	—	101	63	11 743	504 322	9 842	21 269	399 260	1 190 333	700 485	1 885 260	69 332
331511	Iron foundries .....	—	56	39	8 760	407 992	7 333	16 282	326 897	945 515	579 521	1 523 526	46 937
331512	Steel investment foundries .....	—	18	10	1 629	57 868	1 391	2 834	46 035	160 648	69 581	224 996	6 961
331513	Steel foundries (except investment) .....	1	27	14	1 354	38 462	1 118	2 153	26 328	84 170	51 383	136 738	15 434
33152	Nonferrous metal foundries .....	—	122	76	8 584	271 178	6 458	13 024	180 782	629 512	570 105	1 201 432	63 963
331521	Aluminum die-casting foundries .....	—	31	20	2 725	83 895	1 949	3 876	52 504	191 232	160 278	350 928	22 533
331522	Nonferrous (except aluminum) die-casting foundries .....	—	34	26	3 051	94 073	2 294	4 713	62 069	233 480	260 748	497 672	17 031
331524	Aluminum foundries (except die-casting) ..	—	36	22	1 872	63 418	1 495	3 079	44 301	141 400	118 528	260 683	21 543
331525	Copper foundries (except die-casting) ..	—	9	4	459	13 380	358	712	10 523	25 170	16 565	41 739	D
331528	Other nonferrous foundries (except die-casting) .....	—	12	4	477	16 412	362	644	11 385	38 230	13 986	50 410	D
332	Fabricated metal product mfg .....	1	3 788	1 272	104 367	3 563 712	79 659	162 994	2 305 242	7 816 637	5 923 647	13 725 285	676 899
3321	Forging & stamping .....	1	207	97	7 908	277 467	5 875	11 892	175 961	631 472	656 541	1 290 045	63 510
33211	Forging & stamping .....	1	207	97	7 908	277 467	5 875	11 892	175 961	631 472	656 541	1 290 045	63 510
332111	Iron & steel forging ...	—	39	21	2 027	88 303	1 433	3 083	56 063	248 167	297 705	544 876	28 504
332112	Nonferrous forging ...	1	10	7	494	19 207	401	891	14 693	47 441	48 453	95 556	6 059
332114	Custom roll forming ...	—	24	6	457	14 961	329	702	8 918	32 504	25 629	57 397	D
332116	Metal stamping .....	1	123	54	4 460	140 219	3 352	6 504	87 586	273 109	262 116	539 304	24 360
332117	Powder metallurgy part mfg .....	—	10	9	e	D	D	D	D	D	D	D	3 017
3322	Cutlery & handtool mfg ....	2	126	39	2 927	118 085	2 114	4 503	68 868	246 548	125 989	370 901	16 500
33221	Cutlery & handtool mfg ..	2	126	39	2 927	118 085	2 114	4 503	68 868	246 548	125 989	370 901	16 500
332212	Hand & edge tool mfg .	2	111	39	2 832	115 513	2 040	4 378	67 208	240 146	122 623	361 153	15 971
3323	Architectural & structural metals mfg .....	1	448	140	11 091	373 688	8 150	16 941	230 630	834 263	734 888	1 569 957	39 501
33231	Plate work & fabricated structural product mfg ..	1	187	64	4 563	151 947	3 313	6 934	95 741	355 100	336 134	695 945	15 998
332311	Prefabricated metal building & component mfg .....	2	16	6	298	9 525	190	402	5 271	18 827	16 391	34 884	535
332312	Fabricated structural metal mfg .....	2	117	35	2 797	93 270	1 984	4 045	57 514	223 788	226 539	454 721	9 849
332313	Plate work mfg .....	—	54	23	1 468	49 152	1 139	2 487	32 956	112 485	93 204	206 340	5 614
33232	Ornamental & architectural metal products mfg .....	1	261	76	6 528	221 741	4 837	10 007	134 889	479 163	398 754	874 012	23 503
332321	Metal window & door mfg .....	1	48	22	1 636	50 485	1 158	2 474	28 199	108 666	155 564	264 632	3 218
332322	Sheet metal work mfg .	1	171	47	3 702	131 365	2 781	5 753	82 131	280 420	202 268	478 476	16 399
332323	Ornamental & architectural metal work mfg .....	—	42	7	1 190	39 891	898	1 780	24 559	90 077	40 922	130 904	3 886
3324	Boiler, tank, & shipping container mfg .....	2	53	18	1 499	44 804	1 142	2 260	28 563	94 802	81 090	173 906	4 400
33241	Power boiler & heat exchanger mfg .....	—	10	5	456	14 262	327	675	8 436	24 828	19 015	43 140	994
332410	Power boiler & heat exchanger mfg .....	—	10	5	456	14 262	327	675	8 436	24 828	19 015	43 140	994
33242	Metal tank (heavy gauge) mfg .....	1	11	6	353	11 593	268	556	7 735	30 022	18 735	48 553	875
332420	Metal tank (heavy gauge) mfg .....	1	11	6	353	11 593	268	556	7 735	30 022	18 735	48 553	875
33243	Metal can, box, & other metal container (light gauge) mfg .....	5	32	7	690	18 949	547	1 029	12 392	39 952	43 340	82 213	2 531
332439	Other metal container mfg .....	6	26	7	661	18 076	525	982	11 883	34 477	33 615	68 270	1 997
3325	Hardware mfg .....	—	73	39	5 326	210 605	4 190	8 686	144 466	462 353	462 852	924 215	33 404
33251	Hardware mfg .....	—	73	39	5 326	210 605	4 190	8 686	144 466	462 353	462 852	924 215	33 404
332510	Hardware mfg .....	—	73	39	5 326	210 605	4 190	8 686	144 466	462 353	462 852	924 215	33 404

**Table 1. Industry Statistics for the State: 1997—Con.**

[Includes data for industry groups and industries with 100 employees or more. For information on geographic areas followed by \* and explanation of terms, see appendixes. For meaning of abbreviations and symbols, see introductory text]

NAICS code	Geographic area and industry	E <sup>1</sup>	All establishments		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expenditures (\$1,000)
			Total	With 20 employees or more	Number <sup>2</sup>	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
<b>31-33</b>	<b>MICHIGAN—Con.</b>												
	<b>Manufacturing—Con.</b>												
332	Fabricated metal product mfg—Con.												
3326	Spring & wire product mfg .	1	109	42	4 021	112 428	2 952	5 798	67 994	251 506	197 701	446 760	26 231
33261	Spring & wire product mfg . . . . .	1	109	42	4 021	112 428	2 952	5 798	67 994	251 506	197 701	446 760	26 231
332611	Spring (heavy gauge) mfg . . . . .	—	11	5	485	16 421	375	761	9 659	30 554	17 636	47 891	3 643
332612	Spring (light gauge) mfg . . . . .	2	34	18	1 658	49 788	1 193	2 380	31 212	120 115	96 288	215 067	7 408
332618	Other fabricated wire product mfg . . . . .	—	64	19	1 878	46 219	1 384	2 657	27 123	100 837	83 777	183 802	15 180
3327	Machine shops, turned product, & screw, nut, & bolt mfg . . . . .	—	1 776	485	36 633	1 310 850	28 350	58 688	867 927	2 826 598	1 965 178	4 792 705	253 662
33271	Machine shops . . . . .	1	1 375	272	20 441	731 684	15 827	31 785	485 872	1 424 235	835 347	2 261 661	113 061
332710	Machine shops . . . . .	1	1 375	272	20 441	731 684	15 827	31 785	485 872	1 424 235	835 347	2 261 661	113 061
33272	Turned product & screw, nut, & bolt mfg . . . . .	—	401	213	16 192	579 166	12 523	26 903	382 055	1 402 363	1 129 831	2 531 044	140 601
332721	Precision turned product mfg . . . . .	—	278	144	10 276	363 377	8 160	17 698	241 223	792 666	505 409	1 298 701	85 722
332722	Bolt, nut, screw, rivet, & washer mfg . . . . .	—	123	69	5 916	215 789	4 363	9 205	140 832	609 697	624 422	1 232 343	54 879
3328	Coating, engraving, heat treating, & allied activities.	1	530	232	16 360	490 927	12 733	25 766	317 248	1 117 258	500 015	1 612 495	159 049
33281	Coating, engraving, heat treating, & allied activities . . . . .	1	530	232	16 360	490 927	12 733	25 766	317 248	1 117 258	500 015	1 612 495	159 049
332811	Metal heat treating . . . . .	1	123	67	3 936	145 604	2 991	6 104	95 347	343 366	109 758	453 703	39 272
332812	Metal coating/ engraving (exc jewelry/silverware)/ allied services . . . . .	1	155	75	5 097	139 100	3 984	7 783	88 996	332 209	170 295	498 094	86 099
332813	Electroplating, plating, polishing, anodizing, & coloring . . . . .	—	252	90	7 327	206 223	5 758	11 879	132 905	441 683	219 962	660 698	33 678
3329	Other fabricated metal product mfg . . . . .	—	466	180	18 602	624 858	14 153	28 460	403 585	1 351 837	1 199 393	2 544 301	80 642
33291	Metal valve mfg . . . . .	—	84	47	6 851	224 821	5 087	10 398	134 609	492 657	551 101	1 040 839	31 915
332911	Industrial valve mfg . . . . .	1	18	8	1 015	32 523	724	1 485	18 334	56 759	57 102	114 086	4 624
332912	Fluid power valve & hose fitting mfg . . . . .	—	48	27	4 809	163 930	3 587	7 466	98 256	345 276	409 295	751 479	23 058
332913	Plumbing fixture fitting & trim mfg . . . . .	—	6	4	505	13 393	392	662	7 982	57 124	54 389	112 413	D
332919	Other metal valve & pipe fitting mfg . . . . .	3	12	8	522	14 975	384	785	10 037	33 498	30 405	62 861	D
33299	All other fabricated metal product mfg . . . . .	—	382	133	11 751	400 037	9 066	18 062	268 976	859 180	648 292	1 503 462	48 727
332991	Ball & roller bearing mfg . . . . .	—	9	6	1 294	54 228	998	2 013	39 277	139 014	79 661	218 380	D
332996	Fabricated pipe & pipe fitting mfg . . . . .	—	74	35	2 628	73 640	2 027	3 710	48 018	165 929	152 549	318 596	7 336
332997	Industrial pattern mfg . . . . .	—	70	26	1 365	64 195	1 131	2 439	48 424	107 926	35 969	144 588	8 128
332999	All other miscellaneous fabricated metal product mfg . . . . .	—	217	64	6 378	205 669	4 841	9 797	131 873	439 053	377 389	812 230	20 039
333	Machinery mfg . . . . .	—	2 849	1 145	106 393	4 896 158	71 610	154 963	2 795 466	9 580 475	8 556 568	18 100 390	666 126
3331	Agriculture, construction, & mining machinery mfg . . . . .	1	75	23	2 109	66 742	1 481	2 942	38 661	172 932	222 627	397 184	9 577
33311	Agricultural implement mfg . . . . .	2	34	9	967	34 317	676	1 408	18 850	77 148	82 806	158 579	5 502
333111	Farm machinery & equipment mfg . . . . .	3	31	7	f	D	D	D	D	D	D	D	D
333112	Lawn & garden tractor & home lawn & garden equipment mfg . . . . .	—	3	2	e	D	D	D	D	D	D	D	D
33312	Construction machinery mfg . . . . .	—	31	11	781	22 697	507	999	13 518	65 732	99 299	167 075	2 974
333120	Construction machinery mfg . . . . .	—	31	11	781	22 697	507	999	13 518	65 732	99 299	167 075	2 974
33313	Mining & oil & gas field machinery mfg . . . . .	—	10	3	361	9 728	298	535	6 293	30 052	40 522	71 530	1 101
333131	Mining machinery & equipment mfg . . . . .	—	7	3	341	9 299	286	521	6 060	28 969	39 854	69 800	D
3332	Industrial machinery mfg . . . . .	1	262	82	7 645	346 401	4 334	9 110	165 563	688 767	804 435	1 533 662	39 450
33321	Sawmill & woodworking machinery mfg . . . . .	—	15	2	193	5 456	114	224	2 971	15 667	27 852	41 258	146
333210	Sawmill & woodworking machinery mfg . . . . .	—	15	2	193	5 456	114	224	2 971	15 667	27 852	41 258	146
33322	Plastics & rubber industry machinery mfg . . . . .	1	53	21	2 271	96 969	1 330	2 824	50 521	226 966	187 869	407 452	11 188
333220	Plastics & rubber industry machinery mfg . . . . .	1	53	21	2 271	96 969	1 330	2 824	50 521	226 966	187 869	407 452	11 188

**Table 1. Industry Statistics for the State: 1997—Con.**

[Includes data for industry groups and industries with 100 employees or more. For information on geographic areas followed by \* and explanation of terms, see appendixes. For meaning of abbreviations and symbols, see introductory text]

NAICS code	Geographic area and industry	E <sup>1</sup>	All establishments		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expenditures (\$1,000)
			Total	With 20 employees or more	Number <sup>2</sup>	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
	<b>MICHIGAN—Con.</b>												
<b>31-33</b>	<b>Manufacturing—Con.</b>												
333	Machinery mfg—Con.												
3332	Industrial machinery mfg—Con.												
33329	Other industrial machinery mfg .....	-	194	59	5 181	243 976	2 890	6 062	112 071	446 134	588 714	1 084 952	28 116
333291	Paper industry machinery mfg .....	3	10	3	159	5 747	94	224	3 041	10 166	9 476	20 471	2 256
333293	Printing machinery & equipment mfg .....	-	13	7	497	20 105	280	566	9 202	36 197	36 113	72 534	1 136
333294	Food product machinery mfg .....	4	14	3	172	5 701	102	200	2 868	11 853	5 721	17 746	1 119
333298	All other industrial machinery mfg .....	-	150	45	4 250	207 913	2 345	4 909	94 084	380 849	527 722	956 600	23 246
3333	Commercial & service industry machinery mfg ..	-	71	24	2 945	101 526	1 895	3 555	46 775	325 346	242 326	566 046	18 108
33331	Commercial & service industry machinery mfg .....	-	71	24	2 945	101 526	1 895	3 555	46 775	325 346	242 326	566 046	18 108
333314	Optical instrument & lens mfg .....	-	9	4	292	12 885	173	313	5 224	31 576	21 119	52 667	D
333315	Photographic & photocopying equipment mfg .....	-	5	2	e	D	D	D	D	D	D	D	D
333319	Other commercial & service industry machinery mfg .....	-	51	17	2 120	69 440	1 381	2 561	31 513	244 289	182 568	424 143	11 833
3334	Ventilation, heating, AC, & commercial refrigeration equip mfg .....	1	87	52	5 763	201 972	4 033	7 772	105 833	374 547	404 498	788 492	19 155
33341	Ventilation, heating, AC, & commercial refrigeration equip mfg ..	1	87	52	5 763	201 972	4 033	7 772	105 833	374 547	404 498	788 492	19 155
333411	Air purification equipment mfg .....	3	24	17	838	26 854	532	1 129	15 047	62 679	58 651	118 556	2 471
333412	Industrial & commercial fan & blower mfg .....	-	8	6	377	12 585	252	490	6 091	28 837	36 137	65 500	1 414
333414	Heating equipment (except warm air furnaces) mfg .....	-	21	5	607	17 718	323	625	8 190	51 062	34 440	85 880	699
333415	AC & warm air heating & commercial/ industrial refig equip mfg .....	-	34	24	3 941	144 815	2 926	5 528	76 505	231 969	275 270	518 556	14 571
3335	Metalworking machinery mfg .....	-	1 806	705	53 489	2 550 061	39 441	89 519	1 675 448	4 732 536	2 851 785	7 560 207	363 217
33351	Metalworking machinery mfg .....	-	1 806	705	53 489	2 550 061	39 441	89 519	1 675 448	4 732 536	2 851 785	7 560 207	363 217
333511	Industrial mold mfg ...	-	337	130	9 968	495 265	7 711	18 029	347 008	899 084	341 364	1 231 969	88 965
333512	Machine tool (metal cutting types) mfg ...	1	89	71	5 761	280 252	3 490	7 915	147 736	471 992	663 576	1 161 897	21 231
333513	Machine tool (metal forming types) mfg ...	1	44	25	1 998	85 139	1 384	2 914	50 811	188 220	132 048	317 711	10 973
333514	Special die & tool, die set, jig, & fixture mfg ..	1	889	303	22 320	1 109 011	17 711	40 109	800 176	1 969 168	783 223	2 700 065	175 872
333515	Cutting tool & machine tool accessory mfg ..	1	349	118	8 582	338 687	6 219	13 085	205 101	690 519	340 899	1 024 452	47 759
333516	Rolling mill machinery & equipment mfg ....	-	8	3	270	11 232	188	427	7 517	18 265	19 181	40 211	444
333518	Other metalworking machinery mfg .....	1	90	55	4 590	230 475	2 738	7 040	117 099	495 288	571 494	1 083 902	17 973
3336	Engine, turbine, & power transmission equipment mfg .....	-	62	40	8 505	437 091	5 541	11 736	237 779	866 197	1 467 293	2 332 025	96 536
33361	Engine, turbine, & power transmission equipment mfg .....	-	62	40	8 505	437 091	5 541	11 736	237 779	866 197	1 467 293	2 332 025	96 536
333612	Speed changer, industrial high-speed drive, & gear mfg ....	1	17	13	f	D	D	D	D	D	D	D	9 070
333613	Mechanical power transmission equipment mfg .....	-	21	11	1 415	56 223	1 018	2 149	36 853	137 231	94 295	230 576	D
333618	Other engine equipment mfg .....	-	22	15	6 335	350 314	4 040	8 571	185 019	649 234	1 338 554	1 986 455	80 332
3339	Other general-purpose machinery mfg .....	-	486	219	25 937	1 192 365	14 885	30 329	525 407	2 420 150	2 563 604	4 922 774	120 083
33391	Pump & compressor mfg .....	1	32	15	3 003	130 634	1 516	2 990	52 492	243 220	222 945	455 585	13 098
333911	Pump & pumping equipment mfg .....	-	14	6	g	D	D	D	D	D	D	D	D
333912	Air & gas compressor mfg .....	3	16	8	1 397	60 841	769	1 318	24 488	133 866	138 962	257 743	7 279
333913	Measuring & dispensing pump mfg .....	1	2	1	c	D	D	D	D	D	D	D	D

**Table 1. Industry Statistics for the State: 1997—Con.**

[Includes data for industry groups and industries with 100 employees or more. For information on geographic areas followed by \* and explanation of terms, see appendixes. For meaning of abbreviations and symbols, see introductory text]

NAICS code	Geographic area and industry	E <sup>1</sup>	All establishments		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expenditures (\$1,000)
			Total	With 20 employees or more	Number <sup>2</sup>	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
<b>31-33</b>	<b>MICHIGAN—Con.</b>												
	<b>Manufacturing—Con.</b>												
333	Machinery mfg—Con.												
3339	Other general-purpose machinery mfg—Con.												
33392	Material handling equipment mfg . . . . .	—	133	68	7 336	367 829	4 092	8 583	155 792	779 387	872 222	1 644 641	38 178
333922	Conveyor & conveying equipment mfg . . . . .	—	88	43	5 326	297 379	2 711	6 356	114 955	627 124	713 891	1 333 868	28 980
333923	Overhead traveling crane, hoist, & monorail system mfg .	—	16	9	759	24 476	481	474	14 273	67 102	56 525	123 618	D
333924	Industrial truck, tractor, trailer, & stacker machinery mfg . . . . .	—	26	14	1 155	43 922	861	1 671	25 659	77 717	96 997	174 986	6 016
33399	All other general-purpose machinery mfg . . . . .	1	321	136	15 598	693 902	9 277	18 756	317 123	1 397 543	1 468 437	2 822 548	68 807
333991	Power-driven handtool mfg . . . . .	8	12	3	c	D	D	D	D	D	D	D	D
333992	Welding & soldering equipment mfg . . . . .	—	44	30	4 325	238 516	3 134	6 411	132 593	317 818	462 036	783 700	21 271
333993	Packaging machinery mfg . . . . .	—	24	10	684	29 900	343	708	10 998	71 698	55 084	122 743	2 349
333994	Industrial process furnace & oven mfg . .	2	44	23	1 678	68 433	1 036	2 276	33 543	161 470	126 671	266 300	6 485
333995	Fluid power cylinder & actuator mfg . . . . .	—	21	11	1 028	35 966	597	1 250	18 314	106 694	84 115	190 802	7 061
333996	Fluid power pump & motor mfg . . . . .	—	12	5	1 320	55 467	794	1 649	26 404	81 224	124 179	217 836	6 839
333999	All other miscellaneous general-purpose machinery mfg . . . . .	—	161	52	6 274	254 696	3 228	6 145	89 424	635 217	604 073	1 206 013	23 092
334	Computer & electronic product mfg . . . . .	1	439	178	25 430	1 007 360	16 320	34 734	550 142	2 535 494	2 489 346	4 999 303	159 270
3341	Computer & peripheral equipment mfg . . . . .	4	36	12	1 454	68 349	519	981	16 147	150 080	143 658	293 926	8 204
33411	Computer & peripheral equipment mfg . . . . .	4	36	12	1 454	68 349	519	981	16 147	150 080	143 658	293 926	8 204
334111	Electronic computer mfg . . . . .	4	14	7	1 099	56 530	338	637	10 589	124 867	123 274	248 074	5 981
334119	Other computer peripheral equipment mfg . . . . .	2	15	4	288	9 870	143	254	4 180	21 493	15 993	37 648	1 638
3342	Communications equipment mfg . . . . .	1	35	19	1 493	55 240	719	1 504	18 289	123 595	92 258	216 309	7 707
33421	Telephone apparatus mfg . . . . .	—	5	4	240	11 167	53	115	1 844	13 652	9 791	23 803	904
334210	Telephone apparatus mfg . . . . .	—	5	4	240	11 167	53	115	1 844	13 652	9 791	23 803	904
33422	Radio & TV broadcasting & wireless communications equipment mfg . . . . .	4	19	10	576	20 349	281	523	6 814	39 119	26 915	67 194	2 827
334220	Radio & TV broadcasting & wireless communications equipment mfg . . . . .	4	19	10	576	20 349	281	523	6 814	39 119	26 915	67 194	2 827
33429	Other communications equipment mfg . . . . .	—	11	5	677	23 724	385	866	9 631	70 824	55 552	125 312	3 976
334290	Other communications equipment mfg . . . . .	—	11	5	677	23 724	385	866	9 631	70 824	55 552	125 312	3 976
3343	Audio & video equipment mfg . . . . .	3	12	7	1 112	34 095	710	1 433	19 056	131 208	112 499	243 476	5 353
33431	Audio & video equipment mfg . . . . .	3	12	7	1 112	34 095	710	1 433	19 056	131 208	112 499	243 476	5 353
334310	Audio & video equipment mfg . . . . .	3	12	7	1 112	34 095	710	1 433	19 056	131 208	112 499	243 476	5 353
3344	Semiconductor & other electronic component mfg . . . . .	—	146	51	6 577	187 132	4 701	9 456	100 462	476 502	670 503	1 110 651	44 534
33441	Semiconductor & other electronic component mfg . . . . .	—	146	51	6 577	187 132	4 701	9 456	100 462	476 502	670 503	1 110 651	44 534
334412	Bare printed circuit board mfg . . . . .	1	35	9	1 099	24 957	925	2 052	16 463	62 468	58 195	118 443	7 172
334413	Semiconductor & related device mfg . . .	5	15	6	331	11 171	188	259	3 709	21 157	15 122	35 905	5 591
334414	Electronic capacitor mfg . . . . .	—	3	1	c	D	D	D	D	D	D	D	D
334415	Electronic resistor mfg . . . . .	—	2	1	c	D	D	D	D	D	D	D	D
334416	Electronic coil, transformer, & other inductor mfg . . . . .	—	9	4	301	9 347	230	497	5 127	18 364	15 516	33 947	492
334417	Electronic connector mfg . . . . .	1	8	2	c	D	D	D	D	D	D	D	D
334418	Printed circuit assembly (electronic assembly) mfg . . . . .	—	22	15	2 700	75 345	2 108	4 214	47 968	190 631	334 383	528 509	21 751
334419	Other electronic component mfg . . . . .	1	52	13	1 680	52 015	1 015	1 903	22 754	106 099	80 281	170 626	7 369

**Table 1. Industry Statistics for the State: 1997—Con.**

[Includes data for industry groups and industries with 100 employees or more. For information on geographic areas followed by \* and explanation of terms, see appendixes. For meaning of abbreviations and symbols, see introductory text]

NAICS code	Geographic area and industry	E <sup>1</sup>	All establishments		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expenditures (\$1,000)
			Total	With 20 employees or more	Number <sup>2</sup>	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
	<b>MICHIGAN—Con.</b>												
<b>31-33</b>	<b>Manufacturing—Con.</b>												
334	Computer & electronic product mfg—Con.												
3345	Navigational, measuring, medical, & control instruments mfg . . . . .	—	192	80	13 105	595 691	8 350	18 273	354 104	1 477 750	1 322 775	2 809 959	84 066
33451	Navigational, measuring, medical, & control instruments mfg . . . . .	—	192	80	13 105	595 691	8 350	18 273	354 104	1 477 750	1 322 775	2 809 959	84 066
334510	Electromedical & electrotherapeutic apparatus mfg . . . . .	3	8	5	e	D	D	D	D	D	D	D	1 631
334511	Search, detection, navigation, & guidance instrument mfg . . . . .	—	13	7	1 841	82 049	1 045	3 131	54 231	169 203	86 649	256 842	4 031
334512	Automatic environmental control mfg . . . . .	—	14	6	772	21 757	506	1 059	11 363	68 359	70 944	140 487	3 533
334513	Industrial process control instrument mfg . . . . .	2	49	23	1 614	70 553	786	1 613	24 249	111 918	87 509	202 511	4 190
334514	Totalizing fluid meter & counting device mfg . . . . .	—	13	6	h	D	D	D	D	D	D	D	D
334515	Electricity measuring & testing instrument mfg . . . . .	4	19	7	392	12 983	225	452	5 536	31 311	18 838	50 370	2 652
334516	Analytical laboratory instrument mfg . . . . .	—	13	4	959	32 569	427	927	11 340	86 106	70 981	152 732	6 610
334518	Watch, clock, & part mfg . . . . .	—	9	5	800	27 101	606	1 218	15 577	59 171	46 647	107 604	D
334519	Other measuring & controlling device mfg . . . . .	1	52	16	1 442	63 755	655	1 240	18 144	139 337	78 615	217 545	8 906
3346	Mfg & reproducing magnetic & optical media . . . . .	—	18	9	1 689	66 853	1 321	3 087	42 084	176 359	147 653	324 982	9 406
33461	Mfg & reproducing magnetic & optical media . . . . .	—	18	9	1 689	66 853	1 321	3 087	42 084	176 359	147 653	324 982	9 406
334611	Software reproducing . . . . .	—	5	3	286	12 864	184	360	6 424	24 347	12 001	36 366	3 011
334612	Prerecorded CD (except software), tape, & record reproducing . . . . .	—	13	6	1 403	53 989	1 137	2 727	35 660	152 012	135 652	288 616	6 395
335	Electrical equipment, appliance, & component mfg . . . . .	—	246	104	14 242	476 675	10 672	21 575	276 355	1 198 278	1 337 199	2 553 903	63 384
3351	Electric lighting equipment mfg . . . . .	—	23	9	766	18 947	572	1 171	8 974	80 750	34 291	115 146	1 608
33512	Lighting fixture mfg . . . . .	—	23	9	766	18 947	572	1 171	8 974	80 750	34 291	115 146	1 608
335121	Residential electric lighting fixture mfg . . . . .	—	11	2	204	3 392	162	332	2 341	9 122	4 803	14 001	129
335122	Commercial/industrial/institutional electric lighting fixture mfg . . . . .	—	9	5	447	12 074	335	668	4 747	56 565	15 654	72 162	1 051
335129	Other lighting equipment mfg . . . . .	—	3	2	115	3 481	75	171	1 886	15 063	13 834	28 983	428
3352	Household appliance mfg . . . . .	—	16	7	4 409	153 361	3 579	7 657	107 348	500 807	694 216	1 208 748	15 530
33521	Small electrical appliance mfg . . . . .	—	10	3	1 551	55 985	1 073	2 127	26 697	214 688	321 679	544 562	D
335211	Electric housewares & household fan mfg . . . . .	1	8	1	c	D	D	D	D	D	D	D	D
335212	Household vacuum cleaner mfg . . . . .	—	2	2	g	D	D	D	D	D	D	D	D
33522	Major appliance mfg . . . . .	—	6	4	2 858	97 376	2 506	5 530	80 651	286 119	372 537	664 186	D
335222	Household refrigerator & home freezer mfg . . . . .	—	1	1	g	D	D	D	D	D	D	D	D
335224	Household laundry equipment mfg . . . . .	—	3	2	e	D	D	D	D	D	D	D	D
335228	Other major household appliance mfg . . . . .	—	2	1	f	D	D	D	D	D	D	D	D
3353	Electrical equipment mfg . . . . .	1	144	54	4 718	174 284	3 106	6 179	80 808	312 387	299 435	613 093	16 138
33531	Electrical equipment mfg . . . . .	1	144	54	4 718	174 284	3 106	6 179	80 808	312 387	299 435	613 093	16 138
335311	Power, distribution, & specialty transformer mfg . . . . .	3	5	3	285	7 928	170	314	3 530	17 959	16 204	35 061	482
335312	Motor & generator mfg . . . . .	1	26	7	1 140	31 029	983	1 994	23 345	48 065	66 840	114 818	4 963
335313	Switchgear & switchboard apparatus mfg . . . . .	1	32	14	1 017	43 101	628	1 363	17 443	79 409	71 724	151 462	2 875
335314	Relay & industrial control mfg . . . . .	1	81	30	2 276	92 226	1 325	2 508	36 490	166 954	144 667	311 752	7 818

**Table 1. Industry Statistics for the State: 1997—Con.**

[Includes data for industry groups and industries with 100 employees or more. For information on geographic areas followed by \* and explanation of terms, see appendixes. For meaning of abbreviations and symbols, see introductory text]

NAICS code	Geographic area and industry	E <sup>1</sup>	All establishments		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expenditures (\$1,000)
			Total	With 20 employees or more	Number <sup>2</sup>	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
	<b>MICHIGAN—Con.</b>												
<b>31-33</b>	<b>Manufacturing—Con.</b>												
335	Electrical equipment, appliance, & component mfg—Con.												
3359	Other electrical equipment & component mfg .....	-	63	34	4 349	130 083	3 415	6 568	79 225	304 334	309 257	616 916	30 108
33592	Communication & energy wire & cable mfg .....	-	6	6	1 148	32 461	926	1 816	22 680	72 704	74 719	148 315	7 095
335929	Other communication & energy wire mfg ...	-	6	6	1 148	32 461	926	1 816	22 680	72 704	74 719	148 315	7 095
33593	Wiring device mfg .....	-	20	12	1 888	54 545	1 541	3 070	34 561	140 315	161 357	301 418	17 819
335931	Current-carrying wiring device mfg .....	-	17	11	g	D	D	D	D	D	D	D	D
335932	Noncurrent-carrying wiring device mfg ....	-	3	1	c	D	D	D	D	D	D	D	D
33599	All other electrical equipment & component mfg .....	1	36	16	g	D	D	D	D	D	D	D	D
335991	Carbon & graphite product mfg .....	1	4	2	c	D	D	D	D	D	D	D	D
335999	All other miscellaneous electrical equipment & component mfg .....	1	32	14	1 089	35 474	774	1 376	17 585	71 529	66 868	140 954	4 211
336	Transportation equipment mfg .....	-	1 100	689	268 015	13 496 505	223 451	468 245	10 760 746	39 044 950	69 839 992	108 942 261	4 602 716
3361	Motor vehicle mfg .....	-	35	23	61 552	3 686 803	54 044	107 879	3 092 676	19 344 741	36 641 582	55 928 384	1 420 737
33611	Automobile & light duty motor vehicle mfg .....	-	31	22	61 431	3 682 799	53 967	107 705	3 090 360	19 332 504	36 608 398	55 884 009	1 420 581
336111	Automobile mfg .....	-	22	16	41 470	2 517 653	35 445	71 892	2 051 375	12 106 013	22 611 799	34 665 392	D
336112	Light truck & utility vehicle mfg .....	-	9	6	19 961	1 165 146	18 522	35 813	1 038 985	7 226 491	13 996 599	21 218 617	D
33612	Heavy duty truck mfg ...	1	4	1	121	4 004	77	174	2 316	12 237	33 184	44 375	156
336120	Heavy duty truck mfg .	1	4	1	121	4 004	77	174	2 316	12 237	33 184	44 375	156
3362	Motor vehicle body & trailer mfg .....	2	78	30	3 583	109 216	2 574	5 088	64 030	202 382	385 569	585 133	11 789
33621	Motor vehicle body & trailer mfg .....	2	78	30	3 583	109 216	2 574	5 088	64 030	202 382	385 569	585 133	11 789
336211	Motor vehicle body mfg .....	2	32	10	1 488	48 817	885	1 695	25 915	86 457	138 722	224 653	6 907
336212	Truck trailer mfg .....	4	15	5	290	6 330	241	438	4 652	10 378	23 037	33 138	499
336213	Motor home mfg .....	-	5	4	928	27 202	782	1 516	17 063	52 112	140 163	189 511	1 627
336214	Travel trailer & camper mfg .....	3	26	11	877	26 867	666	1 439	16 400	53 435	83 647	137 831	2 756
3363	Motor vehicle parts mfg ...	-	866	587	195 706	9 437 607	162 098	346 070	7 464 961	18 837 214	32 330 263	51 312 366	3 112 845
33631	Motor vehicle gasoline engine & engine parts mfg .....	-	120	67	30 977	1 685 358	26 229	58 544	1 378 767	3 102 690	7 693 091	10 880 442	763 132
336311	Carburetor, piston, piston ring, & valve mfg .....	-	13	8	3 847	211 542	3 210	7 752	176 949	537 410	583 256	1 131 574	78 267
336312	Gasoline engine & engine parts mfg ....	-	107	59	27 130	1 473 816	23 019	50 792	1 201 818	2 565 280	7 109 835	9 748 868	684 865
33632	Motor vehicle electrical & electronic equipment mfg .....	-	61	29	9 264	311 967	7 511	15 081	237 938	796 514	1 492 701	2 291 403	184 908
336321	Vehicular lighting equipment mfg .....	-	8	5	1 540	49 229	1 248	2 390	33 438	50 239	304 408	357 371	D
336322	Other motor vehicle electrical & electronic equipment mfg .....	-	53	24	7 724	262 738	6 263	12 691	204 500	746 275	1 188 293	1 934 032	D
33633	Motor vehicle steering & suspension component (except spring) mfg ...	-	32	22	13 670	788 623	10 878	24 097	616 506	1 686 896	1 428 982	3 096 675	115 290
336330	Motor vehicle steering & suspension component (except spring) mfg .....	-	32	22	13 670	788 623	10 878	24 097	616 506	1 686 896	1 428 982	3 096 675	115 290
33634	Motor vehicle brake system mfg .....	-	25	17	5 391	262 964	4 497	10 299	204 607	723 681	2 154 796	2 882 332	119 073
336340	Motor vehicle brake system mfg .....	-	25	17	5 391	262 964	4 497	10 299	204 607	723 681	2 154 796	2 882 332	119 073
33635	Motor vehicle transmission & power train parts mfg .....	-	59	44	30 730	1 755 816	26 309	61 215	1 464 671	3 403 251	6 387 644	9 826 004	789 376
336350	Motor vehicle transmission & power train parts mfg .....	-	59	44	30 730	1 755 816	26 309	61 215	1 464 671	3 403 251	6 387 644	9 826 004	789 376
33636	Motor vehicle seating & interior trim mfg .....	-	51	42	18 600	760 397	14 429	30 189	549 650	1 698 205	2 603 469	4 305 880	148 014
336360	Motor vehicle seating & interior trim mfg ...	-	51	42	18 600	760 397	14 429	30 189	549 650	1 698 205	2 603 469	4 305 880	148 014
33637	Motor vehicle metal stamping .....	-	316	236	52 964	2 485 764	44 094	92 906	1 943 486	4 506 285	5 365 248	9 908 966	612 542
336370	Motor vehicle metal stamping .....	-	316	236	52 964	2 485 764	44 094	92 906	1 943 486	4 506 285	5 365 248	9 908 966	612 542



**Table 1. Industry Statistics for the State: 1997—Con.**

[Includes data for industry groups and industries with 100 employees or more. For information on geographic areas followed by \* and explanation of terms, see appendixes. For meaning of abbreviations and symbols, see introductory text]

NAICS code	Geographic area and industry	E <sup>1</sup>	All establishments		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expenditures (\$1,000)
			Total	With 20 employees or more	Number <sup>2</sup>	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
	<b>MICHIGAN—Con.</b>												
<b>31-33</b>	<b>Manufacturing—Con.</b>												
336	Transportation equipment mfg—Con.												
3363	Motor vehicle parts mfg—Con.												
33639	Other motor vehicle parts mfg .....	—	202	130	34 110	1 386 718	28 151	53 739	1 069 336	2 919 692	5 204 332	8 120 664	380 510
336391	Motor vehicle air-conditioning mfg .....	—	2	1	f	D	D	D	D	D	D	D	D
336399	All other motor vehicle parts mfg .....	—	200	129	k	D	D	D	D	D	D	D	D
3364	Aerospace product & parts mfg .....	—	54	25	3 362	149 492	2 154	4 522	77 914	352 691	199 989	541 058	21 033
33641	Aerospace product & parts mfg .....	—	54	25	3 362	149 492	2 154	4 522	77 914	352 691	199 989	541 058	21 033
336411	Aircraft mfg .....	1	5	2	c	D	D	D	D	D	D	D	D
336412	Aircraft engine & engine parts mfg .....	1	16	12	1 718	66 575	1 213	2 540	38 345	196 681	92 967	290 028	10 829
336413	Other aircraft part & auxiliary equipment mfg .....	—	32	10	1 044	43 349	679	1 510	25 397	115 594	59 785	163 679	D
336415	Guided missile & space vehicle propulsion unit & parts mfg .....	—	1	1	e	D	D	D	D	D	D	D	D
3365	Railroad rolling stock mfg ..	—	5	3	593	21 534	348	748	12 317	77 713	32 436	99 108	D
33651	Railroad rolling stock mfg .....	—	5	3	593	21 534	348	748	12 317	77 713	32 436	99 108	D
336510	Railroad rolling stock mfg .....	—	5	3	593	21 534	348	748	12 317	77 713	32 436	99 108	D
3366	Ship & boat building .....	—	30	9	1 223	29 552	857	1 364	16 818	62 196	130 976	191 365	D
33661	Ship & boat building .....	—	30	9	1 223	29 552	857	1 364	16 818	62 196	130 976	191 365	D
336612	Boat building .....	—	22	8	1 159	28 027	803	1 283	15 629	59 515	128 978	186 686	D
3369	Other transportation equipment mfg .....	1	32	12	1 996	62 301	1 376	2 574	32 030	168 013	119 177	284 847	6 917
33699	Other transportation equipment mfg .....	1	32	12	1 996	62 301	1 376	2 574	32 030	168 013	119 177	284 847	6 917
336992	Military armored vehicle, tank, & tank component mfg .....	—	10	4	352	19 030	177	447	8 807	46 583	26 885	74 564	1 359
336999	All other transportation equipment mfg .....	1	17	8	1 631	42 989	1 187	2 107	23 013	120 756	91 707	209 024	5 497
337	Furniture & related product mfg .....	—	603	161	33 502	1 271 692	24 448	50 909	745 958	3 581 872	2 242 517	5 810 657	233 306
3371	Household & institutional furniture & kitchen cabinet mfg .....	1	378	65	7 720	207 429	6 092	11 491	139 075	497 472	404 259	899 203	18 214
33711	Wood kitchen cabinet & counter top mfg .....	1	169	11	1 647	40 600	1 334	2 375	29 468	99 429	88 855	188 098	2 884
337110	Wood kitchen cabinet & counter top mfg .....	1	169	11	1 647	40 600	1 334	2 375	29 468	99 429	88 855	188 098	2 884
33712	Household & institutional furniture mfg .....	—	209	54	6 073	166 829	4 758	9 116	109 607	398 043	315 404	711 105	15 330
337121	Upholstered household furniture mfg .....	2	33	3	371	6 569	329	588	5 321	13 744	15 911	29 591	423
337122	Nonupholstered wood household furniture mfg .....	1	101	23	2 184	54 273	1 770	3 355	38 664	118 345	113 378	231 346	5 369
337124	Metal household furniture mfg .....	—	16	5	730	15 807	577	1 116	10 422	48 883	31 306	79 436	930
337127	Institutional furniture mfg .....	—	49	20	2 677	88 164	1 987	3 907	53 872	213 171	150 365	362 296	8 515
3372	Office furniture (including fixtures) mfg .....	—	193	85	24 685	1 030 002	17 462	37 410	582 139	2 942 194	1 752 567	4 688 596	212 394
33721	Office furniture (including fixtures) mfg .....	—	193	85	24 685	1 030 002	17 462	37 410	582 139	2 942 194	1 752 567	4 688 596	212 394
337211	Wood office furniture mfg .....	—	35	16	1 984	58 155	1 528	3 217	40 545	148 497	88 941	237 095	7 789
337212	Custom architectural woodwork & millwork mfg .....	4	33	9	760	25 006	369	712	9 395	43 646	30 357	70 758	1 500
337214	Office furniture (except wood) mfg .....	—	26	21	18 858	854 314	13 221	28 780	473 205	2 524 838	1 457 625	3 983 253	192 564
337215	Showcase, partition, shelving, & locker mfg .....	1	99	39	3 083	92 527	2 344	4 701	58 994	225 213	175 644	397 490	10 541
3379	Other furniture related product mfg .....	1	32	11	1 097	34 261	894	2 008	24 744	142 206	85 691	222 858	2 698
33791	Mattress mfg .....	1	21	7	427	11 373	336	654	7 511	39 129	36 849	75 957	956
337910	Mattress mfg .....	1	21	7	427	11 373	336	654	7 511	39 129	36 849	75 957	956
33792	Blind & shade mfg .....	—	11	4	670	22 888	558	1 354	17 233	103 077	48 842	146 901	1 742
337920	Blind & shade mfg .....	—	11	4	670	22 888	558	1 354	17 233	103 077	48 842	146 901	1 742

**Table 1. Industry Statistics for the State: 1997—Con.**

[Includes data for industry groups and industries with 100 employees or more. For information on geographic areas followed by \* and explanation of terms, see appendixes. For meaning of abbreviations and symbols, see introductory text]

NAICS code	Geographic area and industry	E <sup>1</sup>	All establishments		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expenditures (\$1,000)
			Total	With 20 employees or more	Number <sup>2</sup>	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
<b>31-33</b>	<b>MICHIGAN—Con.</b>												
	<b>Manufacturing—Con.</b>												
339	Miscellaneous mfg.....	1	1 017	162	17 983	535 915	11 531	22 192	271 858	1 446 126	974 532	2 420 424	77 322
3391	Medical equipment & supplies mfg.....	1	454	63	7 178	231 621	4 384	8 236	106 747	679 301	374 026	1 056 995	36 070
33911	Medical equipment & supplies mfg.....	1	454	63	7 178	231 621	4 384	8 236	106 747	679 301	374 026	1 056 995	36 070
339111	Laboratory apparatus & furniture mfg.....	—	15	11	823	25 848	485	1 006	12 823	53 512	29 556	82 799	767
339112	Surgical & medical instrument mfg.....	—	37	13	1 555	55 204	902	1 835	21 365	164 823	59 962	224 274	12 839
339113	Surgical appliance & supplies mfg.....	—	62	20	2 465	83 757	1 274	2 422	31 013	259 582	207 335	469 592	16 951
339114	Dental equipment & supplies mfg.....	—	25	3	377	14 248	278	501	8 891	89 936	33 865	124 755	1 606
339115	Ophthalmic goods mfg.....	3	24	4	224	7 940	155	274	3 855	15 740	8 106	23 659	1 014
339116	Dental laboratories ...	5	291	12	1 734	44 624	1 290	2 198	28 800	95 708	35 202	131 916	2 893
3399	Other miscellaneous mfg ..	1	563	99	10 805	304 294	7 147	13 956	165 111	766 825	600 506	1 363 429	41 252
33991	Jewelry & silverware mfg.....	4	45	3	312	8 473	214	423	4 834	28 991	21 870	52 576	538
339911	Jewelry (except costume) mfg.....	7	27	2	214	5 199	137	251	2 762	14 928	16 183	30 637	322
33992	Sporting & athletic goods mfg.....	—	95	12	1 317	41 067	933	1 775	24 397	161 995	190 807	351 214	9 755
339920	Sporting & athletic goods mfg.....	—	95	12	1 317	41 067	933	1 775	24 397	161 995	190 807	351 214	9 755
33993	Doll, toy, & game mfg ...	1	23	5	1 046	25 182	786	1 459	13 151	69 423	54 008	121 202	4 671
339932	Game, toy, & children's vehicle mfg.....	1	22	5	g	D	D	D	D	D	D	D	4 671
33994	Office supplies (except paper) mfg.....	1	30	6	463	12 023	287	588	5 912	30 932	18 243	49 180	1 487
339942	Lead pencil & art good mfg.....	1	5	3	162	4 146	92	196	1 476	9 066	6 863	15 844	264
339943	Marking device mfg...	3	22	1	c	D	D	D	D	D	D	D	693
339944	Carbon paper & inked ribbon mfg.....	—	2	2	c	D	D	D	D	D	D	D	D
33995	Sign mfg.....	1	207	32	4 075	115 128	2 289	4 453	56 254	254 844	153 307	408 260	9 726
339950	Sign mfg.....	1	207	32	4 075	115 128	2 289	4 453	56 254	254 844	153 307	408 260	9 726
33999	All other miscellaneous mfg.....	2	163	41	3 592	102 421	2 638	5 258	60 563	220 640	162 271	380 997	15 075
339991	Gasket, packing, & sealing device mfg...	3	33	22	1 373	40 975	993	1 977	23 138	88 775	69 036	156 454	5 986
339992	Musical instrument mfg.....	1	23	3	446	13 163	381	897	9 679	21 093	19 531	41 028	794
339994	Broom, brush, & mop mfg.....	—	10	3	633	17 164	444	676	9 384	40 279	23 865	62 703	1 392
339999	All other miscellaneous mfg.....	1	84	13	1 060	29 304	760	1 583	17 051	66 309	45 494	112 342	6 277

<sup>1</sup>Some payroll and sales data for small single-establishment companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate statistics for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at the time data were tabulated. The following symbols are shown where estimated data based on administrative-record data account for 10 percent or more of the figures shown: 1—10 to 19 percent; 2—20 to 29 percent; 3—30 to 39 percent; 4—40 to 49 percent; 5—50 to 59 percent; 6—60 to 69 percent; 7—70 to 79 percent; 8—80 to 89 percent; 9—90 percent or more.

<sup>2</sup>Industries with 100 employees or more are shown. Some statistics are withheld to avoid disclosing data for individual companies. If employment is 100 or more, number of establishments is shown and employment-size range is indicated by one of the following symbols: c—100 to 249 employees; e—250 to 499 employees; f—500 to 999 employees; g—1,000 to 2,499 employees; h—2,500 to 4,999 employees; i—5,000 to 9,999 employees; j—10,000 to 24,999 employees; k—25,000 to 49,999 employees; l—50,000 to 99,999 employees; m—100,000 employees or more.

**Table 2. Industry Statistics for Metropolitan Areas: 1997**

[Includes data for industry groups and industries with 250 employees or more. For definitions of CMSAs, MSAs, and PMSAs, information on geographic areas followed by \*, and explanation of terms, see appendixes. For meaning of abbreviations and symbols, see introductory text]

NAICS code	Geographic area and industry	E <sup>1</sup>	All establishments		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expenditures (\$1,000)
			Total	With 20 employees or more	Number <sup>2</sup>	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
<b>31-33</b>	<b>BENTON HARBOR, MI MSA</b>												
	<b>Manufacturing . . . .</b>	<b>1</b>	<b>397</b>	<b>160</b>	<b>16 996</b>	<b>539 081</b>	<b>12 678</b>	<b>25 259</b>	<b>335 861</b>	<b>1 266 208</b>	<b>1 143 206</b>	<b>2 394 160</b>	<b>106 302</b>
311	Food mfg . . . . .	6	18	8	681	11 578	490	994	6 911	43 041	49 221	90 998	9 075
322	Paper mfg . . . . .	-	12	8	425	15 861	291	609	9 059	41 543	37 122	78 840	2 460
3222	Converted paper product mfg . . . . .	-	10	6	e	D	D	D	D	D	D	D	D
323	Printing & related support activities . . . . .	1	30	7	957	29 051	749	1 614	21 378	62 321	65 211	126 995	3 083
3231	Printing & related support activities . . . . .	1	30	7	957	29 051	749	1 614	21 378	62 321	65 211	126 995	3 083
32311	Printing . . . . .	1	27	7	943	28 661	737	1 593	21 084	61 532	65 065	126 060	3 002
323110	Commercial lithographic printing . . . . .	-	11	3	658	20 784	534	1 206	16 438	44 547	55 597	99 951	2 421
326	Plastics & rubber products mfg . . . . .	4	27	16	2 129	52 285	1 765	3 402	35 539	115 708	140 063	254 965	10 808
3261	Plastics product mfg . . . . .	5	24	13	1 810	42 184	1 514	2 815	29 142	91 915	113 907	204 744	10 263
32619	Other plastics product mfg . . . . .	4	18	12	1 751	40 428	1 467	2 721	27 929	86 770	106 373	192 041	9 684
326199	All other plastics product mfg . . . . .	4	17	12	g	D	D	D	D	D	D	D	D
3262	Rubber product mfg . . . . .	-	3	3	319	10 101	251	587	6 397	23 793	26 156	50 221	545
32629	Other rubber product mfg . . . . .	-	3	3	319	10 101	251	587	6 397	23 793	26 156	50 221	545
331	Primary metal mfg . . . . .	-	30	21	1 894	56 720	1 546	3 155	40 094	117 745	128 713	246 848	12 999
3312	Steel product mfg from purchased steel . . . . .	-	2	2	e	D	D	D	D	D	D	D	D
3315	Foundries . . . . .	1	27	19	g	D	D	D	D	D	D	D	D
33152	Nonferrous metal foundries . . . . .	1	24	16	1 469	42 623	1 182	2 410	28 991	81 866	88 929	171 447	10 231
331521	Aluminum die-casting foundries . . . . .	1	15	11	1 006	28 907	803	1 636	19 644	55 035	66 499	121 160	8 706
331522	Nonferrous (except aluminum) die-casting foundries . . . . .	-	6	4	e	D	D	D	D	D	D	D	D
332	Fabricated metal product mfg . . . . .	1	94	30	1 921	53 291	1 459	2 724	33 969	114 102	71 939	186 576	7 262
3323	Architectural & structural metals mfg . . . . .	3	16	6	276	8 839	208	420	5 794	17 129	12 095	29 265	1 206
3327	Machine shops, turned product, & screw, nut, & bolt mfg . . . . .	2	39	9	644	17 578	499	901	11 463	39 621	17 268	58 170	2 170
33271	Machine shops . . . . .	1	32	5	426	11 910	346	627	8 077	29 005	14 138	43 579	1 422
332710	Machine shops . . . . .	1	32	5	426	11 910	346	627	8 077	29 005	14 138	43 579	1 422
3328	Coating, engraving, heat treating, & allied activities . . . . .	1	18	9	564	12 267	448	791	8 152	24 494	9 130	33 666	2 162
33281	Coating, engraving, heat treating, & allied activities . . . . .	1	18	9	564	12 267	448	791	8 152	24 494	9 130	33 666	2 162
332812	Metal coating/engraving (exc jewelry/silverware)/allied services . . . . .	2	7	5	331	6 809	278	439	4 424	14 420	4 508	18 946	992
333	Machinery mfg . . . . .	2	81	39	3 726	146 840	2 650	5 369	80 625	308 212	226 662	522 314	18 656
3332	Industrial machinery mfg . . . . .	-	9	6	257	10 360	154	330	4 805	20 857	21 338	42 742	D
33329	Other industrial machinery mfg . . . . .	-	8	6	e	D	D	D	D	D	D	D	D
3334	Ventilation, heating, AC, & commercial refrigeration equip mfg . . . . .	-	6	5	860	26 899	641	1 247	17 013	65 548	58 076	124 803	3 683
33341	Ventilation, heating, AC, & commercial refrigeration equip mfg . . . . .	-	6	5	860	26 899	641	1 247	17 013	65 548	58 076	124 803	3 683
333415	AC & warm air heating & commercial/industrial refig equip mfg . . . . .	-	3	3	f	D	D	D	D	D	D	D	D
3335	Metalworking machinery mfg . . . . .	-	52	18	1 537	66 753	1 091	2 384	38 254	127 118	83 512	207 445	8 423
33351	Metalworking machinery mfg . . . . .	-	52	18	1 537	66 753	1 091	2 384	38 254	127 118	83 512	207 445	8 423
333511	Industrial mold mfg . . . . .	-	19	9	593	25 796	496	1 143	18 060	37 804	15 526	53 386	3 781
333514	Special die & tool, die set, jig, & fixture mfg . . . . .	3	27	7	e	D	D	D	D	D	D	D	D
333518	Other metalworking machinery mfg . . . . .	-	1	1	e	D	D	D	D	D	D	D	D
3339	Other general-purpose machinery mfg . . . . .	7	11	7	951	39 436	670	1 198	17 986	82 916	53 086	124 874	5 095
33391	Pump & compressor mfg . . . . .	9	4	3	655	28 099	455	719	10 186	51 148	33 949	81 936	D
333912	Air & gas compressor mfg . . . . .	9	4	3	655	28 099	455	719	10 186	51 148	33 949	81 936	D
33399	All other general-purpose machinery mfg . . . . .	3	5	4	e	D	D	D	D	D	D	D	D

**Table 2. Industry Statistics for Metropolitan Areas: 1997—Con.**

[Includes data for industry groups and industries with 250 employees or more. For definitions of CMSAs, MSAs, and PMSAs, information on geographic areas followed by \*, and explanation of terms, see appendixes. For meaning of abbreviations and symbols, see introductory text]

NAICS code	Geographic area and industry	E <sup>1</sup>	All establishments		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expenditures (\$1,000)
			Total	With 20 employees or more	Number <sup>2</sup>	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
<b>31-33</b>	<b>BENTON HARBOR, MI MSA—Con.</b>												
	<b>Manufacturing—Con.</b>												
334	Computer & electronic product mfg.....	1	11	6	1 270	41 597	574	1 190	13 870	95 188	74 520	165 562	7 112
3343	Audio & video equipment mfg.....	-	3	2	e	D	D	D	D	D	D	D	D
33431	Audio & video equipment mfg.....	-	3	2	e	D	D	D	D	D	D	D	D
334310	Audio & video equipment mfg.....	-	3	2	e	D	D	D	D	D	D	D	D
3345	Navigational, measuring, medical, & control instruments mfg.....	-	3	1	f	D	D	D	D	D	D	D	D
33451	Navigational, measuring, medical, & control instruments mfg.....	-	3	1	f	D	D	D	D	D	D	D	D
334516	Analytical laboratory instrument mfg.....	-	1	1	f	D	D	D	D	D	D	D	D
335	Electrical equipment, appliance, & component mfg.....	-	4	3	490	15 596	425	893	12 632	25 715	22 139	48 226	D
3352	Household appliance mfg... ..	-	1	1	e	D	D	D	D	D	D	D	D
33522	Major appliance mfg.... ..	-	1	1	e	D	D	D	D	D	D	D	D
335224	Household laundry equipment mfg.....	-	1	1	e	D	D	D	D	D	D	D	D
336	Transportation equipment mfg.....	-	19	10	2 379	88 943	1 918	3 927	65 376	256 485	241 191	499 258	25 677
3363	Motor vehicle parts mfg... ..	-	13	8	2 168	81 565	1 745	3 621	60 467	244 436	233 064	477 998	D
33634	Motor vehicle brake system mfg.....	-	3	3	g	D	D	D	D	D	D	D	D
336340	Motor vehicle brake system mfg.....	-	3	3	g	D	D	D	D	D	D	D	D
33639	Other motor vehicle parts mfg.....	-	6	3	f	D	D	D	D	D	D	D	D
336399	All other motor vehicle parts mfg.....	-	6	3	f	D	D	D	D	D	D	D	D
337	Furniture & related product mfg.....	1	17	7	556	13 206	417	713	8 949	50 392	51 939	103 276	1 836
3372	Office furniture (including fixtures) mfg.....	1	10	6	482	11 487	360	613	7 799	46 578	48 013	95 536	1 753
33721	Office furniture (including fixtures) mfg.....	1	10	6	482	11 487	360	613	7 799	46 578	48 013	95 536	1 753
337215	Showcase, partition, shelving, & locker mfg.....	1	8	5	e	D	D	D	D	D	D	D	D
<b>31-33</b>	<b>DETROIT-ANN ARBOR-FLINT, MI CMSA</b>												
	<b>Manufacturing....</b>	-	<b>8 637</b>	<b>2 983</b>	<b>430 461</b>	<b>19 469 895</b>	<b>329 935</b>	<b>693 002</b>	<b>13 750 158</b>	<b>54 793 924</b>	<b>79 871 678</b>	<b>134 710 061</b>	<b>5 212 492</b>
311	Food mfg.....	1	427	93	10 894	290 005	7 362	13 844	171 739	1 091 534	1 529 668	2 621 625	62 262
312	Beverage & tobacco product mfg.....	1	21	10	g	D	D	D	D	D	D	D	D
314	Textile product mills.....	1	96	11	g	D	D	D	D	D	D	D	D
315	Apparel mfg.....	6	62	8	f	D	D	D	D	D	D	D	D
316	Leather & allied product mfg..	3	11	4	g	D	D	D	D	D	D	D	D
321	Wood product mfg.....	2	140	30	g	D	D	D	D	D	D	D	D
322	Paper mfg.....	2	90	61	i	D	D	D	D	D	D	D	D
323	Printing & related support activities.....	1	811	127	j	D	D	D	D	D	D	D	D
324	Petroleum & coal products mfg.....	1	50	14	g	D	D	D	D	D	D	D	D
325	Chemical mfg.....	1	257	99	j	D	D	D	D	D	D	D	D
326	Plastics & rubber products mfg.....	1	472	258	31 030	920 684	23 757	47 991	586 381	2 282 571	2 274 646	4 560 026	209 566
327	Nonmetallic mineral product mfg.....	1	264	92	i	D	D	D	D	D	D	D	120 550
331	Primary metal mfg.....	-	129	80	15 446	712 813	12 213	28 289	544 402	1 904 316	3 159 401	5 060 580	200 209
332	Fabricated metal product mfg.....	1	2 191	716	55 841	2 059 849	42 179	88 785	1 321 202	4 452 031	3 362 762	7 804 025	412 634

**Table 2. Industry Statistics for Metropolitan Areas: 1997—Con.**

[Includes data for industry groups and industries with 250 employees or more. For definitions of CMSAs, MSAs, and PMSAs, information on geographic areas followed by \*, and explanation of terms, see appendixes. For meaning of abbreviations and symbols, see introductory text]

NAICS code	Geographic area and industry	E <sup>1</sup>	All establishments		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expenditures (\$1,000)
			Total	With 20 employees or more	Number <sup>2</sup>	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
<b>31-33</b>	<b>DETROIT—ANN ARBOR—FLINT, MI CMSA—Con.</b>												
	<b>Manufacturing—Con.</b>												
333	Machinery mfg . . . . .	—	1 675	668	60 683	3 052 290	40 365	90 071	1 750 428	5 666 853	5 737 154	11 401 569	380 899
334	Computer & electronic product mfg . . . . .	—	305	115	j	D	D	D	D	D	D	D	120 746
335	Electrical equipment, appliance, & component mfg . . . . .	1	147	57	h	D	D	D	D	D	D	D	D
336	Transportation equipment mfg . . . . .	—	647	408	m	D	D	D	D	D	D	D	D
337	Furniture & related product mfg . . . . .	1	255	49	h	D	D	D	D	D	D	D	8 009
339	Miscellaneous mfg . . . . .	2	565	80	i	D	D	D	D	D	D	D	31 630
	<b>Ann Arbor, MI PMSA</b>												
<b>31-33</b>	<b>Manufacturing . . . . .</b>	—	<b>839</b>	<b>320</b>	<b>48 754</b>	<b>2 128 833</b>	<b>37 410</b>	<b>78 214</b>	<b>1 484 701</b>	<b>5 017 142</b>	<b>6 817 242</b>	<b>11 869 184</b>	<b>519 607</b>
311	Food mfg . . . . .	1	39	8	734	22 010	601	1 079	15 299	81 822	75 488	158 172	7 597
3112	Grain & oilseed milling . . . . .	—	2	1	e	D	D	D	D	D	D	D	D
31121	Flour milling & malt mfg . . . . .	—	2	1	e	D	D	D	D	D	D	D	D
311211	Flour milling . . . . .	—	2	1	e	D	D	D	D	D	D	D	D
312	Beverage & tobacco product mfg . . . . .	—	1	1	e	D	D	D	D	D	D	D	D
3121	Beverage mfg . . . . .	—	1	1	e	D	D	D	D	D	D	D	D
31211	Soft drink & ice mfg . . . . .	—	1	1	e	D	D	D	D	D	D	D	D
312111	Soft drink mfg . . . . .	—	1	1	e	D	D	D	D	D	D	D	D
321	Wood product mfg . . . . .	4	24	7	739	24 788	575	1 204	15 374	42 581	68 275	110 773	3 598
3219	Other wood product mfg . . . . .	1	18	5	462	11 913	362	724	7 999	14 417	28 690	43 039	D
32191	Millwork . . . . .	1	11	2	357	9 433	286	597	6 946	10 045	22 427	32 350	1 830
321911	Wood window & door mfg . . . . .	—	3	1	e	D	D	D	D	D	D	D	D
322	Paper mfg . . . . .	—	7	6	540	17 869	357	741	11 015	55 729	74 625	129 094	D
3222	Converted paper product mfg . . . . .	—	5	4	e	D	D	D	D	D	D	D	D
32221	Paperboard container mfg . . . . .	—	4	3	369	13 591	267	608	8 217	31 517	59 510	90 885	6 227
322211	Corrugated & solid fiber box mfg . . . . .	—	4	3	369	13 591	267	608	8 217	31 517	59 510	90 885	6 227
323	Printing & related support activities . . . . .	1	86	24	3 472	98 661	2 660	4 834	65 954	187 507	138 217	326 118	15 188
3231	Printing & related support activities . . . . .	1	86	24	3 472	98 661	2 660	4 834	65 954	187 507	138 217	326 118	15 188
32311	Printing . . . . .	1	76	24	3 425	97 299	2 627	4 778	65 188	185 636	137 509	323 501	15 078
323110	Commercial lithographic printing . . . . .	2	32	12	723	21 280	528	1 021	13 269	40 638	29 027	70 214	1 325
323117	Book printing . . . . .	—	9	8	2 249	66 995	1 774	3 338	46 161	122 889	91 255	214 010	12 288
325	Chemical mfg . . . . .	—	34	14	1 675	77 270	749	1 574	28 032	185 021	308 598	491 640	26 221
3251	Basic chemical mfg . . . . .	—	5	3	299	17 285	126	233	4 578	45 192	37 493	82 947	3 141
32519	Other basic organic chemical mfg . . . . .	—	4	2	e	D	D	D	D	D	D	D	D
325199	All other basic organic chemical mfg . . . . .	—	4	2	e	D	D	D	D	D	D	D	D
3252	Resin, syn rubber, & artificial & syn fibers & filaments mfg . . . . .	—	3	3	f	D	D	D	D	D	D	D	D
32521	Resin & synthetic rubber mfg . . . . .	—	3	3	f	D	D	D	D	D	D	D	D
325212	Synthetic rubber mfg . . . . .	—	1	1	f	D	D	D	D	D	D	D	D
3259	Other chemical product mfg . . . . .	—	12	5	421	18 832	229	463	7 945	59 875	82 955	142 898	5 036
32599	All other chemical product & preparation mfg . . . . .	—	12	5	421	18 832	229	463	7 945	59 875	82 955	142 898	5 036
326	Plastics & rubber products mfg . . . . .	1	60	28	3 852	149 405	3 094	6 324	111 302	355 902	465 404	822 137	23 983
3261	Plastics product mfg . . . . .	1	55	26	3 643	144 393	2 925	6 005	108 265	344 705	454 365	799 827	23 662
32619	Other plastics product mfg . . . . .	1	40	20	3 071	129 770	2 480	5 189	97 877	307 272	415 669	723 263	20 670
326199	All other plastics product mfg . . . . .	1	38	19	h	D	D	D	D	D	D	D	D

**Table 2. Industry Statistics for Metropolitan Areas: 1997—Con.**

[Includes data for industry groups and industries with 250 employees or more. For definitions of CMSAs, MSAs, and PMSAs, information on geographic areas followed by \*, and explanation of terms, see appendixes. For meaning of abbreviations and symbols, see introductory text]

NAICS code	Geographic area and industry	E <sup>1</sup>	All establishments		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expenditures (\$1,000)
			Total	With 20 employees or more	Number <sup>2</sup>	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
	<b>DETROIT—ANN ARBOR—FLINT, MI CMSA—Con.</b>												
	<b>Ann Arbor, MI PMSA—Con.</b>												
<b>31-33</b>	<b>Manufacturing—Con.</b>												
327	Nonmetallic mineral product mfg . . . . .	—	36	12	914	34 006	658	1 319	22 647	105 108	97 916	203 512	7 578
3272	Glass & glass product mfg . . . . .	—	6	2	e	D	D	D	D	D	D	D	D
32721	Glass & glass product mfg . . . . .	—	6	2	e	D	D	D	D	D	D	D	D
327215	Glass product mfg made of purchased glass . . . . .	—	4	2	e	D	D	D	D	D	D	D	D
3273	Cement & concrete product mfg . . . . .	2	19	5	290	12 611	195	397	8 100	28 004	21 190	48 815	2 631
331	Primary metal mfg . . . . .	—	9	8	1 004	41 965	761	1 687	27 282	99 468	94 977	194 292	27 256
3315	Foundries . . . . .	—	6	5	736	30 312	587	1 259	21 501	69 632	65 815	135 508	18 598
33152	Nonferrous metal foundries . . . . .	—	5	5	f	D	D	D	D	D	D	D	D
331524	Aluminum foundries (except die-casting) . . . . .	—	4	4	f	D	D	D	D	D	D	D	D
332	Fabricated metal product mfg . . . . .	—	171	57	5 943	208 014	4 625	9 627	139 698	471 809	396 443	870 011	48 084
3326	Spring & wire product mfg . . . . .	—	14	7	811	24 833	584	1 111	14 871	58 093	53 350	111 524	11 102
33261	Spring & wire product mfg . . . . .	—	14	7	811	24 833	584	1 111	14 871	58 093	53 350	111 524	11 102
332612	Spring (light gauge) mfg . . . . .	—	5	3	334	12 223	217	433	7 433	28 711	27 151	55 836	D
332618	Other fabricated wire product mfg . . . . .	—	8	4	e	D	D	D	D	D	D	D	9 663
3327	Machine shops, turned product, & screw, nut, & bolt mfg . . . . .	—	89	27	2 505	93 830	1 942	4 299	61 708	216 245	167 834	384 236	20 257
33271	Machine shops . . . . .	—	63	9	906	32 255	729	1 568	22 526	65 161	55 430	120 762	4 844
332710	Machine shops . . . . .	—	63	9	906	32 255	729	1 568	22 526	65 161	55 430	120 762	4 844
33272	Turned product & screw, nut, & bolt mfg . . . . .	—	26	18	1 599	61 575	1 213	2 731	39 182	151 084	112 404	263 474	15 413
332721	Precision turned product mfg . . . . .	—	20	14	1 241	47 511	938	2 110	29 644	106 288	70 806	178 280	10 967
332722	Bolt, nut, screw, rivet, & washer mfg . . . . .	—	6	4	358	14 064	275	621	9 538	44 796	41 598	85 194	4 446
3328	Coating, engraving, heat treating, & allied activities . . . . .	—	15	6	307	9 202	220	344	4 414	18 621	5 628	24 388	1 014
33281	Coating, engraving, heat treating, & allied activities . . . . .	—	15	6	307	9 202	220	344	4 414	18 621	5 628	24 388	1 014
332813	Electroplating, plating, polishing, anodizing, & coloring . . . . .	—	11	6	291	8 909	206	324	4 206	18 016	5 391	23 547	958
3329	Other fabricated metal product mfg . . . . .	—	27	11	1 933	66 682	1 591	3 260	50 515	144 039	144 061	290 491	14 219
33291	Metal valve mfg . . . . .	1	9	4	405	11 182	314	703	7 119	20 671	24 828	45 343	D
33299	All other fabricated metal product mfg . . . . .	—	18	7	1 528	55 500	1 277	2 557	43 396	123 368	119 233	245 148	D
332991	Ball & roller bearing mfg . . . . .	—	4	3	f	D	D	D	D	D	D	D	D
332999	All other miscellaneous fabricated metal product mfg . . . . .	—	8	2	452	13 157	406	821	10 773	24 291	45 104	70 516	D
333	Machinery mfg . . . . .	—	125	53	5 586	245 961	3 951	7 926	135 888	461 619	418 582	872 461	16 048
3332	Industrial machinery mfg . . . . .	—	16	4	607	31 234	342	837	19 024	83 374	65 306	145 594	3 689
33322	Plastics & rubber industry machinery mfg . . . . .	—	2	2	e	D	D	D	D	D	D	D	D
333220	Plastics & rubber industry machinery mfg . . . . .	—	2	2	e	D	D	D	D	D	D	D	D
3333	Commercial & service industry machinery mfg . . . . .	—	8	3	370	14 662	188	361	4 160	38 799	30 711	69 766	1 319
33331	Commercial & service industry machinery mfg . . . . .	—	8	3	370	14 662	188	361	4 160	38 799	30 711	69 766	1 319
3334	Ventilation, heating, AC, & commercial refrigeration equip mfg . . . . .	—	8	5	1 244	55 825	1 079	1 856	27 950	56 143	119 734	183 901	1 957
33341	Ventilation, heating, AC, & commercial refrigeration equip mfg . . . . .	—	8	5	1 244	55 825	1 079	1 856	27 950	56 143	119 734	183 901	1 957
333415	AC & warm air heating & commercial/ industrial refig equip mfg . . . . .	—	5	3	1 114	51 275	988	1 671	25 429	47 499	117 287	172 701	D

**Table 2. Industry Statistics for Metropolitan Areas: 1997—Con.**

[Includes data for industry groups and industries with 250 employees or more. For definitions of CMSAs, MSAs, and PMSAs, information on geographic areas followed by \*, and explanation of terms, see appendixes. For meaning of abbreviations and symbols, see introductory text]

NAICS code	Geographic area and industry	E <sup>1</sup>	All establishments		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expenditures (\$1,000)
			Total	With 20 employees or more	Number <sup>2</sup>	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
	<b>DETROIT—ANN ARBOR—FLINT, MI CMSA—Con.</b>												
	<b>Ann Arbor, MI PMSA—Con.</b>												
<b>31-33</b>	<b>Manufacturing—Con.</b>												
333	Machinery mfg—Con.												
3335	Metalworking machinery mfg .....	1	60	24	1 914	81 933	1 462	3 188	58 342	134 882	130 728	252 503	6 234
33351	Metalworking machinery mfg .....	1	60	24	1 914	81 933	1 462	3 188	58 342	134 882	130 728	252 503	6 234
333512	Machine tool (metal cutting types) mfg ...	1	9	8	958	45 109	744	1 726	34 038	71 391	92 893	148 812	3 049
333514	Special die & tool, die set, jig, & fixture mfg .	1	26	6	459	16 288	348	702	11 520	26 695	11 993	39 062	1 510
3339	Other general-purpose machinery mfg .....	1	29	15	1 372	59 080	831	1 597	24 847	142 595	67 069	209 486	2 549
33392	Material handling equipment mfg .....	—	6	4	e	D	D	D	D	D	D	D	D
333922	Conveyor & conveying equipment mfg .....	—	2	2	e	D	D	D	D	D	D	D	D
33399	All other general-purpose machinery mfg .....	1	21	10	909	38 844	517	1 021	13 904	111 429	38 236	149 236	1 558
333999	All other miscellaneous general-purpose machinery mfg .....	—	13	5	722	30 500	405	793	10 187	91 322	26 275	117 429	775
334	Computer & electronic product mfg .....	—	62	26	4 302	223 226	2 839	5 794	135 240	684 111	807 144	1 498 505	50 179
3341	Computer & peripheral equipment mfg .....	6	10	7	678	32 505	208	392	5 550	91 672	78 794	169 915	4 797
33411	Computer & peripheral equipment mfg .....	6	10	7	678	32 505	208	392	5 550	91 672	78 794	169 915	4 797
334111	Electronic computer mfg .....	6	6	5	613	30 928	172	318	4 798	88 737	75 518	163 687	4 510
3342	Communications equipment mfg .....	—	5	4	409	12 430	174	412	3 327	26 477	9 116	36 250	1 207
3345	Navigational, measuring, medical, & control instruments mfg .....	—	25	10	2 817	165 013	2 216	4 562	120 906	538 517	703 689	1 249 132	42 132
33451	Navigational, measuring, medical, & control instruments mfg .....	—	25	10	2 817	165 013	2 216	4 562	120 906	538 517	703 689	1 249 132	42 132
334514	Totalizing fluid meter & counting device mfg .	—	2	2	g	D	D	D	D	D	D	D	D
335	Electrical equipment, appliance, & component mfg .....	4	25	14	667	20 926	436	825	9 900	43 146	33 101	77 039	3 653
3353	Electrical equipment mfg ..	4	19	11	530	17 860	344	653	8 433	37 685	28 659	66 923	3 413
33531	Electrical equipment mfg .....	4	19	11	530	17 860	344	653	8 433	37 685	28 659	66 923	3 413
336	Transportation equipment mfg .....	—	60	42	16 989	878 383	14 634	32 667	728 821	2 043 746	3 520 186	5 598 856	258 541
3363	Motor vehicle parts mfg ...	—	49	40	16 837	873 352	14 517	32 431	725 582	2 033 071	3 512 426	5 581 076	258 130
33631	Motor vehicle gasoline engine & engine parts mfg .....	—	5	5	2 885	172 286	2 641	6 242	155 543	515 806	533 909	1 056 948	D
336311	Carburetor, piston, piston ring, & valve mfg .....	—	3	3	h	D	D	D	D	D	D	D	D
336312	Gasoline engine & engine parts mfg ....	—	2	2	e	D	D	D	D	D	D	D	D
33632	Motor vehicle electrical & electronic equipment mfg .....	—	4	2	g	D	D	D	D	D	D	D	D
336322	Other motor vehicle electrical & electronic equipment mfg .....	—	4	2	g	D	D	D	D	D	D	D	D
33634	Motor vehicle brake system mfg .....	—	3	3	g	D	D	D	D	D	D	D	D
336340	Motor vehicle brake system mfg .....	—	3	3	g	D	D	D	D	D	D	D	D
33635	Motor vehicle transmission & power train parts mfg .....	—	3	3	i	D	D	D	D	D	D	D	D
336350	Motor vehicle transmission & power train parts mfg .....	—	3	3	i	D	D	D	D	D	D	D	D
33636	Motor vehicle seating & interior trim mfg .....	—	2	2	f	D	D	D	D	D	D	D	D
336360	Motor vehicle seating & interior trim mfg ...	—	2	2	f	D	D	D	D	D	D	D	D
33637	Motor vehicle metal stamping .....	—	19	16	2 218	83 697	1 778	3 955	60 471	195 410	359 079	554 786	19 619
336370	Motor vehicle metal stamping .....	—	19	16	2 218	83 697	1 778	3 955	60 471	195 410	359 079	554 786	19 619

**Table 2. Industry Statistics for Metropolitan Areas: 1997—Con.**

[Includes data for industry groups and industries with 250 employees or more. For definitions of CMSAs, MSAs, and PMSAs, information on geographic areas followed by \*, and explanation of terms, see appendixes. For meaning of abbreviations and symbols, see introductory text]

NAICS code	Geographic area and industry	E <sup>1</sup>	All establishments		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expenditures (\$1,000)
			Total	With 20 employees or more	Number <sup>2</sup>	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
	<b>DETROIT—ANN ARBOR—FLINT, MI CMSA—Con.</b>												
	<b>Ann Arbor, MI PMSA—Con.</b>												
<b>31-33</b>	<b>Manufacturing—Con.</b>												
336	Transportation equipment mfg—Con.												
3363	Motor vehicle parts mfg—Con.												
33639	Other motor vehicle parts mfg .....	-	10	8	3 180	159 557	2 556	5 545	123 623	471 756	706 855	1 181 339	37 123
336399	All other motor vehicle parts mfg .....	-	10	8	3 180	159 557	2 556	5 545	123 623	471 756	706 855	1 181 339	37 123
337	Furniture & related product mfg .....	-	23	4	648	20 175	511	913	14 061	70 844	78 707	149 091	838
3371	Household & institutional furniture & kitchen cabinet mfg .....	-	19	3	585	18 350	480	854	13 378	67 161	74 076	140 777	750
33711	Wood kitchen cabinet & counter top mfg .....	-	11	1	e	D	D	D	D	D	D	D	D
337110	Wood kitchen cabinet & counter top mfg ...	-	11	1	e	D	D	D	D	D	D	D	D
339	Miscellaneous mfg .....	1	53	12	1 020	42 849	597	1 017	14 428	111 909	75 028	186 830	6 166
3391	Medical equipment & supplies mfg .....	-	24	7	807	37 060	455	810	11 898	98 998	65 720	164 542	5 362
33911	Medical equipment & supplies mfg .....	-	24	7	807	37 060	455	810	11 898	98 998	65 720	164 542	5 362
339112	Surgical & medical instrument mfg .....	-	3	1	e	D	D	D	D	D	D	D	D
339113	Surgical appliance & supplies mfg .....	-	3	3	262	12 087	160	252	3 163	49 442	34 778	83 634	2 108
	<b>Detroit, MI PMSA</b>												
<b>31-33</b>	<b>Manufacturing ....</b>	-	<b>7 443</b>	<b>2 548</b>	<b>347 293</b>	<b>15 596 435</b>	<b>264 052</b>	<b>557 624</b>	<b>10 876 695</b>	<b>46 184 192</b>	<b>65 356 925</b>	<b>111 600 556</b>	<b>4 512 328</b>
311	Food mfg .....	-	372	82	9 699	255 157	6 510	12 258	149 812	974 999	1 360 084	2 334 708	52 357
3113	Sugar & confectionery product mfg .....	1	16	2	310	5 558	138	169	1 394	14 111	9 137	22 416	D
31133	Confectionery mfg from purchased chocolate ...	-	8	2	284	5 308	117	148	1 219	13 319	8 341	20 708	D
311330	Confectionery mfg from purchased chocolate .....	-	8	2	284	5 308	117	148	1 219	13 319	8 341	20 708	D
3114	Fruit & vegetable preserving & specialty food mfg .....	-	10	4	662	14 600	596	898	10 384	60 621	70 590	131 194	D
31142	Fruit & vegetable canning, pickling, & drying .....	-	6	1	f	D	D	D	D	D	D	D	D
311421	Fruit & vegetable canning .....	-	4	1	f	D	D	D	D	D	D	D	D
3115	Dairy product mfg .....	-	17	10	1 141	31 192	725	1 450	20 809	111 833	259 867	371 790	6 565
31151	Dairy product (except frozen) mfg .....	-	10	7	796	24 220	560	1 122	16 320	88 062	222 825	311 034	4 331
311511	Fluid milk mfg .....	-	5	4	650	18 524	453	867	12 930	72 777	191 759	264 378	3 327
31152	Ice cream & frozen dessert mfg .....	4	7	3	345	6 972	165	328	4 489	23 771	37 042	60 756	2 234
311520	Ice cream & frozen dessert mfg .....	4	7	3	345	6 972	165	328	4 489	23 771	37 042	60 756	2 234
3116	Meat product mfg .....	-	39	20	2 824	76 871	2 109	4 863	53 964	430 097	702 385	1 132 686	6 172
31161	Animal slaughtering & processing .....	-	39	20	2 824	76 871	2 109	4 863	53 964	430 097	702 385	1 132 686	6 172
311611	Animal (except poultry) slaughtering .....	-	11	6	1 275	32 257	1 087	2 518	28 023	324 235	480 030	803 518	1 879
311612	Meat processed from carcasses .....	1	24	11	1 023	25 437	575	1 254	11 400	70 556	141 031	212 451	2 541
311615	Poultry processing .....	-	2	2	e	D	D	D	D	D	D	D	D
3118	Bakeries & tortilla mfg .....	2	247	33	h	D	D	D	D	D	D	D	10 703
31181	Bread & bakery product mfg .....	2	235	30	h	D	D	D	D	D	D	D	D
311811	Retail bakeries .....	4	192	13	1 229	15 837	800	979	8 979	34 745	21 542	56 316	D
311812	Commercial bakeries ..	1	42	17	2 032	66 165	1 057	1 870	30 343	148 449	68 247	216 108	6 691
3119	Other food mfg .....	-	34	13	1 198	38 682	878	1 688	19 829	152 263	172 132	324 553	D
31191	Snack food mfg .....	-	7	5	783	27 036	577	1 169	13 850	118 713	125 272	244 207	4 966
311919	Other snack food mfg ..	-	6	4	f	D	D	D	D	D	D	D	D
31199	All other food mfg .....	4	14	5	264	7 275	196	356	3 704	18 544	20 990	39 547	865
312	Beverage & tobacco product mfg .....	1	18	8	1 460	62 547	593	1 199	23 328	305 890	417 422	721 186	16 334
3121	Beverage mfg .....	1	18	8	1 460	62 547	593	1 199	23 328	305 890	417 422	721 186	16 334
31211	Soft drink & ice mfg .....	2	13	6	g	D	D	D	D	D	D	D	D
312111	Soft drink mfg .....	2	7	5	f	D	D	D	D	D	D	D	11 997
31214	Distilleries .....	-	1	1	e	D	D	D	D	D	D	D	D
312140	Distilleries .....	-	1	1	e	D	D	D	D	D	D	D	D



**Table 2. Industry Statistics for Metropolitan Areas: 1997—Con.**

[Includes data for industry groups and industries with 250 employees or more. For definitions of CMSAs, MSAs, and PMSAs, information on geographic areas followed by \*, and explanation of terms, see appendixes. For meaning of abbreviations and symbols, see introductory text]

NAICS code	Geographic area and industry	E <sup>1</sup>	All establishments		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expenditures (\$1,000)
			Total	With 20 employees or more	Number <sup>2</sup>	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
	<b>DETROIT—ANN ARBOR—FLINT, MI CMSA—Con.</b>												
	<b>Detroit, MI PMSA—Con.</b>												
<b>31-33</b>	<b>Manufacturing—Con.</b>												
314	Textile product mills . . . . .	1	81	11	1 089	21 690	903	1 752	13 685	52 751	63 440	115 661	2 871
3149	Other textile product mills . . . . .	1	43	11	927	19 356	769	1 550	12 223	48 424	59 152	107 078	2 712
31491	Textile bag & canvas mills . . . . .	1	25	5	344	8 213	276	513	4 672	16 567	17 695	34 063	475
314912	Canvas & related product mills . . . . .	1	24	5	e	D	D	D	D	D	D	D	D
31499	All other textile product mills . . . . .	1	18	6	583	11 143	493	1 037	7 551	31 857	41 457	73 015	2 237
314999	All other miscellaneous textile product mills . . . . .	—	17	5	f	D	D	D	D	D	D	D	D
315	Apparel mfg . . . . .	5	54	7	884	17 606	746	1 457	11 784	48 619	45 801	94 761	D
3159	Apparel accessories & other apparel mfg . . . . .	5	31	3	567	13 061	476	1 025	8 504	37 246	38 573	76 201	D
31599	Apparel accessories & other apparel mfg . . . . .	5	31	3	567	13 061	476	1 025	8 504	37 246	38 573	76 201	D
315999	Other apparel accessories & other apparel mfg . . . . .	5	31	3	567	13 061	476	1 025	8 504	37 246	38 573	76 201	D
316	Leather & allied product mfg . . . . .	4	9	3	g	D	D	D	D	D	D	D	D
3161	Leather & hide tanning & finishing . . . . .	—	4	2	f	D	D	D	D	D	D	D	D
31611	Leather & hide tanning & finishing . . . . .	—	4	2	f	D	D	D	D	D	D	D	D
316110	Leather & hide tanning & finishing . . . . .	—	4	2	f	D	D	D	D	D	D	D	D
3169	Other leather & allied product mfg . . . . .	9	5	1	e	D	D	D	D	D	D	D	D
31699	Other leather & allied product mfg . . . . .	9	5	1	e	D	D	D	D	D	D	D	D
316999	All other leather good mfg . . . . .	9	4	1	e	D	D	D	D	D	D	D	D
321	Wood product mfg . . . . .	1	110	22	1 619	39 928	1 269	2 388	25 833	91 702	100 916	193 286	5 490
3219	Other wood product mfg . . . . .	1	96	18	1 355	31 440	1 077	2 043	20 964	73 345	75 515	150 002	4 304
32191	Millwork . . . . .	3	32	4	284	7 771	228	461	5 881	18 429	18 874	37 473	1 057
32192	Wood container & pallet mfg . . . . .	1	43	11	753	15 495	624	1 160	10 946	29 643	45 129	75 148	2 493
321920	Wood container & pallet mfg . . . . .	1	43	11	753	15 495	624	1 160	10 946	29 643	45 129	75 148	2 493
32199	All other wood product mfg . . . . .	1	21	3	318	8 174	225	422	4 137	25 273	11 512	37 381	754
322	Paper mfg . . . . .	2	77	50	4 424	157 965	3 196	6 382	95 798	395 503	505 922	899 631	33 714
3221	Pulp, paper, & paperboard mills . . . . .	—	6	6	955	45 526	699	1 549	30 276	134 056	186 674	321 359	10 702
32212	Paper mills . . . . .	—	4	4	f	D	D	D	D	D	D	D	D
322121	Paper (except newsprint) mills . . . . .	—	4	4	f	D	D	D	D	D	D	D	D
3222	Converted paper product mfg . . . . .	4	71	44	3 469	112 439	2 497	4 833	65 522	261 447	319 248	578 272	23 012
32221	Paperboard container mfg . . . . .	2	37	27	2 073	66 723	1 538	2 915	38 818	143 496	182 842	325 783	9 378
322211	Corrugated & solid fiber box mfg . . . . .	2	25	21	1 669	56 453	1 201	2 357	31 231	120 036	149 678	269 598	5 857
32222	Paper bag & coated & treated paper mfg . . . . .	8	8	5	583	22 176	348	793	12 118	58 959	59 246	118 712	4 175
322222	Coated & laminated paper mfg . . . . .	9	4	3	436	17 683	252	553	9 236	50 106	47 847	98 508	D
32223	Stationery product mfg . . . . .	4	16	6	486	15 019	367	711	8 324	30 568	33 043	63 228	1 608
322232	Envelope mfg . . . . .	4	6	5	336	11 359	248	490	6 222	23 201	25 374	48 073	1 467
32229	Other converted paper product mfg . . . . .	9	10	6	327	8 521	244	414	6 262	28 424	44 117	70 549	7 851
323	Printing & related support activities . . . . .	1	667	95	9 166	310 819	6 353	12 542	182 886	816 739	458 785	1 272 855	49 070
3231	Printing & related support activities . . . . .	1	667	95	9 166	310 819	6 353	12 542	182 886	816 739	458 785	1 272 855	49 070
32311	Printing . . . . .	1	588	83	8 306	276 536	5 723	11 292	162 568	749 444	446 913	1 193 557	45 792
323110	Commercial lithographic printing . . . . .	1	287	42	4 306	152 994	3 058	6 024	93 651	467 617	281 624	746 829	32 044
323112	Commercial flexographic printing . . . . .	—	16	7	369	17 002	234	454	8 005	30 605	20 136	51 007	1 913
323113	Commercial screen printing . . . . .	4	47	6	1 109	30 823	618	1 377	14 753	61 922	40 497	101 567	4 285
323114	Quick printing . . . . .	4	137	6	792	20 333	543	937	12 715	40 750	23 928	64 750	2 834
323116	Manifold business form printing . . . . .	—	20	10	664	20 254	455	803	12 213	66 855	32 632	99 850	1 093
323117	Book printing . . . . .	—	7	4	292	11 060	239	501	6 896	20 230	16 144	35 961	885
323119	Other commercial printing . . . . .	5	56	3	444	13 159	344	680	8 059	29 899	17 095	47 391	1 530

**Table 2. Industry Statistics for Metropolitan Areas: 1997—Con.**

[Includes data for industry groups and industries with 250 employees or more. For definitions of CMSAs, MSAs, and PMSAs, information on geographic areas followed by \*, and explanation of terms, see appendixes. For meaning of abbreviations and symbols, see introductory text]

NAICS code	Geographic area and industry	E <sup>1</sup>	All establishments		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expenditures (\$1,000)
			Total	With 20 employees or more	Number <sup>2</sup>	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
	<b>DETROIT—ANN ARBOR—FLINT, MI CMSA—Con.</b>												
	<b>Detroit, MI PMSA—Con.</b>												
<b>31-33</b>	<b>Manufacturing—Con.</b>												
323	Printing & related support activities—Con.												
3231	Printing & related support activities—Con.												
32312	Support activities for printing .....	2	79	12	860	34 283	630	1 250	20 318	67 295	11 872	79 298	3 278
323122	Prepress services ....	2	68	11	735	31 036	527	1 037	17 910	60 482	11 392	72 001	2 156
324	Petroleum & coal products mfg. ....	1	40	11	1 358	64 274	782	1 599	32 466	260 072	814 176	1 074 612	20 612
3241	Petroleum & coal products mfg. ....	1	40	11	1 358	64 274	782	1 599	32 466	260 072	814 176	1 074 612	20 612
32411	Petroleum refineries ....	—	1	1	e	D	D	D	D	D	D	D	D
324110	Petroleum refineries ..	—	1	1	e	D	D	D	D	D	D	D	D
32419	Other petroleum & coal products mfg. ....	5	21	7	889	37 249	470	857	16 242	111 498	184 026	296 473	10 149
324191	Petroleum lubricating oil & grease mfg. ....	3	18	6	f	D	D	D	D	D	D	D	D
324199	All other petroleum & coal products mfg. ....	9	3	1	e	D	D	D	D	D	D	D	D
325	Chemical mfg. ....	1	215	83	8 930	414 084	4 787	9 594	180 918	1 541 011	1 723 976	3 278 786	157 436
3251	Basic chemical mfg. ....	—	21	10	f	D	D	D	D	D	D	D	D
32519	Other basic organic chemical mfg. ....	—	8	6	e	D	D	D	D	D	D	D	D
325199	All other basic organic chemical mfg. ....	—	7	5	310	15 105	188	419	8 919	85 059	66 999	149 247	D
3252	Resin, syn rubber, & artificial & syn fibers & filaments mfg. ....	—	9	6	1 382	80 873	354	737	17 366	176 880	398 322	562 851	45 368
32521	Resin & synthetic rubber mfg. ....	—	9	6	1 382	80 873	354	737	17 366	176 880	398 322	562 851	45 368
325211	Plastics material & resin mfg. ....	—	7	6	g	D	D	D	D	D	D	D	D
3254	Pharmaceutical & medicine mfg. ....	1	23	11	1 382	58 838	753	1 466	21 993	225 306	101 363	329 869	D
32541	Pharmaceutical & medicine mfg. ....	1	23	11	1 382	58 838	753	1 466	21 993	225 306	101 363	329 869	D
325412	Pharmaceutical preparation mfg. ....	2	7	3	f	D	D	D	D	D	D	D	D
325413	In-vitro diagnostic substance mfg. ....	—	6	3	e	D	D	D	D	D	D	D	D
325414	Biological product (except diagnostic) mfg. ....	—	8	5	348	8 771	175	332	3 386	83 765	28 742	116 894	D
3255	Paint, coating, & adhesive mfg. ....	—	58	25	3 094	146 663	1 915	3 590	79 228	495 554	674 918	1 191 553	42 856
32551	Paint & coating mfg. ....	—	40	17	2 158	112 467	1 375	2 584	63 336	444 890	543 124	1 006 075	19 162
325510	Paint & coating mfg. ....	—	40	17	2 158	112 467	1 375	2 584	63 336	444 890	543 124	1 006 075	19 162
32552	Adhesive mfg. ....	2	18	8	936	34 196	540	1 006	15 892	50 664	131 794	185 478	23 694
325520	Adhesive mfg. ....	2	18	8	936	34 196	540	1 006	15 892	50 664	131 794	185 478	23 694
3256	Soap, cleaning compound, & toilet preparation mfg. ..	2	46	11	f	D	D	D	D	D	D	D	D
32561	Soap & cleaning compound mfg. ....	2	40	11	f	D	D	D	D	D	D	D	D
325611	Soap & other detergent mfg. ....	2	26	8	f	D	D	D	D	D	D	D	D
3259	Other chemical product mfg. ....	1	52	18	g	D	D	D	D	D	D	D	D
32599	All other chemical product & preparation mfg. ....	1	48	18	1 445	64 230	749	1 613	26 530	222 075	210 518	437 663	D
325991	Custom compounding of purchased resin ...	2	20	7	e	D	D	D	D	D	D	D	D
325998	All other miscellaneous chemical product & preparation mfg. ....	1	24	9	971	44 184	513	1 129	20 064	154 261	128 214	285 876	9 340
326	Plastics & rubber products mfg. ....	1	396	221	25 956	729 667	19 739	39 539	450 767	1 802 344	1 699 535	3 506 272	168 274
3261	Plastics product mfg. ....	1	354	203	24 665	691 031	18 728	37 680	427 046	1 711 427	1 629 297	3 345 952	163 381
32611	Unsupported plastics film, sheet, & bag mfg. ..	—	11	3	620	32 712	361	708	19 104	97 417	74 136	173 752	D
326113	Unsupported plastics film & sheet (except packaging) mfg. ....	—	9	2	f	D	D	D	D	D	D	D	D
32612	Plastics pipe, pipe fitting, & unsupported profile shape mfg. ....	—	21	7	f	D	D	D	D	D	D	D	D
326121	Unsupported plastics profile shape mfg. ....	—	14	6	493	17 531	314	559	8 218	37 183	65 381	105 112	D

Table 2. Industry Statistics for Metropolitan Areas: 1997—Con.

[Includes data for industry groups and industries with 250 employees or more. For definitions of CMSAs, MSAs, and PMSAs, information on geographic areas followed by \*, and explanation of terms, see appendixes. For meaning of abbreviations and symbols, see introductory text]

NAICS code	Geographic area and industry	E <sup>1</sup>	All establishments		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expenditures (\$1,000)
			Total	With 20 employees or more	Number <sup>2</sup>	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
	<b>DETROIT—ANN ARBOR—FLINT, MI CMSA—Con.</b>												
	<b>Detroit, MI PMSA—Con.</b>												
<b>31-33</b>	<b>Manufacturing—Con.</b>												
326	Plastics & rubber products mfg—Con.												
3261	Plastics product mfg—Con.												
32614	Polystyrene foam product mfg.....	5	12	5	802	26 803	596	1 184	14 370	47 582	37 726	85 649	D
326140	Polystyrene foam product mfg.....	5	12	5	802	26 803	596	1 184	14 370	47 582	37 726	85 649	D
32615	Urethane & other foam product (except polystyrene) mfg.....	—	18	7	878	27 574	658	1 517	17 901	72 905	109 468	182 336	5 003
326150	Urethane & other foam product (except polystyrene) mfg.....	—	18	7	878	27 574	658	1 517	17 901	72 905	109 468	182 336	5 003
32616	Plastics bottle mfg.....	3	4	2	e	D	D	D	D	D	D	D	6 744
326160	Plastics bottle mfg.....	3	4	2	e	D	D	D	D	D	D	D	6 744
32619	Other plastics product mfg.....	1	286	179	21 246	568 871	16 325	32 779	355 712	1 404 051	1 242 925	2 648 049	121 466
326191	Plastics plumbing fixture mfg.....	1	5	3	e	D	D	D	D	D	D	D	D
326199	All other plastics product mfg.....	1	280	176	20 977	562 068	16 098	32 426	351 084	1 383 990	1 227 917	2 612 190	119 386
3262	Rubber product mfg.....	1	42	18	1 291	38 636	1 011	1 859	23 721	90 917	70 238	160 320	4 893
32629	Other rubber product mfg.....	1	31	17	1 238	37 232	966	1 772	22 618	87 678	66 468	153 305	4 720
326291	Rubber product mfg for mechanical use.....	—	16	11	1 007	30 596	823	1 491	18 828	72 752	49 807	122 082	3 868
327	Nonmetallic mineral product mfg.....	1	213	72	6 791	305 990	5 186	11 312	220 399	815 917	669 735	1 491 882	110 965
3271	Clay product & refractory mfg.....	1	23	8	e	D	D	D	D	D	D	D	D
32711	Pottery, ceramics, & plumbing fixture mfg.....	—	13	5	315	8 020	192	411	4 476	24 312	11 361	33 934	1 159
3272	Glass & glass product mfg.....	2	31	11	2 957	161 156	2 460	5 685	129 508	341 071	225 144	570 583	D
32721	Glass & glass product mfg.....	2	31	11	2 957	161 156	2 460	5 685	129 508	341 071	225 144	570 583	D
327211	Flat glass mfg.....	4	2	2	g	D	D	D	D	D	D	D	D
327215	Glass product mfg made of purchased glass.....	—	28	9	g	D	D	D	D	D	D	D	D
3273	Cement & concrete product mfg.....	1	103	34	2 058	86 381	1 464	2 960	53 735	271 991	272 217	545 222	19 252
32731	Cement mfg.....	—	10	2	351	14 730	240	502	9 388	77 567	87 064	165 716	9 877
327310	Cement mfg.....	—	10	2	351	14 730	240	502	9 388	77 567	87 064	165 716	9 877
32732	Ready-mix concrete mfg.....	1	57	21	990	43 439	741	1 386	29 984	130 339	134 115	264 109	6 368
327320	Ready-mix concrete mfg.....	1	57	21	990	43 439	741	1 386	29 984	130 339	134 115	264 109	6 368
32733	Concrete pipe, brick, & block mfg.....	1	17	7	346	14 799	236	543	7 654	34 695	39 629	74 644	2 007
32739	Other concrete product mfg.....	6	19	4	371	13 413	247	529	6 709	29 390	11 409	40 753	1 000
327390	Other concrete product mfg.....	6	19	4	371	13 413	247	529	6 709	29 390	11 409	40 753	1 000
3274	Lime & gypsum product mfg.....	—	5	3	e	D	D	D	D	D	D	D	D
3279	Other nonmetallic mineral product mfg.....	2	51	16	1 053	35 978	754	1 589	22 009	104 027	93 821	201 351	7 634
32791	Abrasive product mfg.....	2	29	14	885	30 589	628	1 339	18 263	89 221	74 172	167 080	6 289
327910	Abrasive product mfg.....	2	29	14	885	30 589	628	1 339	18 263	89 221	74 172	167 080	6 289
331	Primary metal mfg.....	—	120	72	14 442	670 848	11 452	26 602	517 120	1 804 848	3 064 424	4 866 288	172 953
3311	Iron & steel mills & ferroalloy mfg.....	—	10	8	7 696	452 648	6 017	14 617	351 433	1 169 760	1 908 985	3 075 632	D
33111	Iron & steel mills & ferroalloy mfg.....	—	10	8	7 696	452 648	6 017	14 617	351 433	1 169 760	1 908 985	3 075 632	D
331111	Iron & steel mills.....	—	9	8	i	D	D	D	D	D	D	D	D
3312	Steel product mfg from purchased steel.....	—	24	18	2 245	84 862	1 750	3 649	61 402	226 156	542 254	767 504	14 686
33121	Iron & steel pipes & tubes mfg from purchased steel.....	—	9	9	1 407	47 654	1 127	2 293	33 424	101 630	176 382	276 514	4 751
331210	Iron & steel pipes & tubes mfg from purchased steel.....	—	9	9	1 407	47 654	1 127	2 293	33 424	101 630	176 382	276 514	4 751
33122	Rolling & drawing of purchased steel.....	—	15	9	838	37 208	623	1 356	27 978	124 526	365 872	490 990	9 935
331221	Cold-rolled steel shape mfg.....	—	13	7	f	D	D	D	D	D	D	D	D

**Table 2. Industry Statistics for Metropolitan Areas: 1997—Con.**

[Includes data for industry groups and industries with 250 employees or more. For definitions of CMSAs, MSAs, and PMSAs, information on geographic areas followed by \*, and explanation of terms, see appendixes. For meaning of abbreviations and symbols, see introductory text]

NAICS code	Geographic area and industry	E <sup>1</sup>	All establishments		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expenditures (\$1,000)
			Total	With 20 employees or more	Number <sup>2</sup>	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
<b>31-33</b>	<b>DETROIT-ANN ARBOR-FLINT, MI CMSA—Con.</b>												
	<b>Detroit, MI PMSA—Con.</b>												
	<b>Manufacturing—Con.</b>												
331	Primary metal mfg—Con.												
3313	Alumina & aluminum production & processing..	—	5	4	f	D	D	D	D	D	D	D	D
33131	Alumina & aluminum production & processing.....	—	5	4	f	D	D	D	D	D	D	D	D
331314	Secondary smelting & alloying of aluminum .	—	4	3	e	D	D	D	D	D	D	D	D
3314	Nonferrous metal (except aluminum) production & processing.....	—	16	8	1 876	48 975	1 514	3 538	41 540	177 105	373 622	543 463	D
33141	Nonferrous metal (except aluminum) smelting & refining .....	—	4	2	g	D	D	D	D	D	D	D	D
331411	Primary smelting & refining of copper ....	—	2	2	g	D	D	D	D	D	D	D	D
33142	Copper rolling, drawing, extruding, & alloying ...	—	2	2	e	D	D	D	D	D	D	D	D
331421	Copper rolling, drawing, & extruding .	—	1	1	e	D	D	D	D	D	D	D	D
3315	Foundries .....	—	65	34	g	D	D	D	D	D	D	D	7 381
33151	Ferrous metal foundries .	1	38	19	1 281	40 205	1 123	2 455	30 165	95 251	60 717	155 441	5 163
331511	Iron foundries .....	—	14	8	683	22 968	635	1 528	18 196	55 981	35 577	91 795	D
331512	Steel investment foundries .....	—	10	5	318	9 037	257	482	6 249	22 110	11 842	33 321	D
331513	Steel foundries (except investment) .....	4	14	6	280	8 200	231	445	5 720	17 160	13 298	30 325	D
33152	Nonferrous metal foundries .....	—	27	15	f	D	D	D	D	D	D	D	2 218
331522	Nonferrous (except aluminum) die-casting foundries .....	—	10	6	336	9 113	282	546	6 204	21 808	13 366	35 154	224
331524	Aluminum foundries (except die-casting) ..	—	8	6	290	10 656	228	533	7 199	33 406	16 971	49 908	1 886
332	Fabricated metal product mfg .....	1	1 946	631	47 374	1 739 744	35 506	74 585	1 095 982	3 793 512	2 738 773	6 521 030	348 582
3321	Forging & stamping .....	1	110	50	3 946	152 002	2 889	6 069	94 897	365 055	408 257	772 859	39 662
33211	Forging & stamping .....	1	110	50	3 946	152 002	2 889	6 069	94 897	365 055	408 257	772 859	39 662
332111	Iron & steel forging ...	—	27	13	1 297	59 960	865	2 016	36 060	180 591	233 826	412 696	25 756
332112	Nonferrous forging....	1	8	5	e	D	D	D	D	D	D	D	D
332116	Metal stamping .....	2	61	28	2 106	71 541	1 604	3 112	44 378	135 394	121 157	258 572	11 289
3322	Cutlery & handtool mfg ....	1	83	25	1 639	77 904	1 091	2 358	42 884	146 903	72 101	216 712	10 621
33221	Cutlery & handtool mfg ..	1	83	25	1 639	77 904	1 091	2 358	42 884	146 903	72 101	216 712	10 621
332212	Hand & edge tool mfg .	1	74	25	g	D	D	D	D	D	D	D	D
3323	Architectural & structural metals mfg .....	1	226	68	5 131	184 665	3 590	7 487	107 800	438 232	400 274	841 691	17 898
33231	Plate work & fabricated structural product mfg ..	1	90	29	2 500	84 558	1 770	3 777	52 867	224 887	206 685	437 458	10 270
332312	Fabricated structural metal mfg .....	2	57	14	1 370	44 342	907	1 816	26 429	131 059	128 456	265 025	5 681
332313	Plate work mfg .....	—	25	13	986	34 905	767	1 752	23 219	83 349	69 319	153 005	4 327
33232	Ornamental & architectural metal products mfg .....	1	136	39	2 631	100 107	1 820	3 710	54 933	213 345	193 589	404 233	7 628
332321	Metal window & door mfg .....	1	26	14	868	30 141	553	1 120	14 003	63 064	108 906	172 770	1 503
332322	Sheet metal work mfg .	1	86	23	1 584	64 610	1 145	2 391	38 297	140 961	79 261	216 847	5 865
3324	Boiler, tank, & shipping container mfg .....	4	28	8	827	24 638	611	1 183	15 180	46 513	44 047	90 213	2 635
33241	Power boiler & heat exchanger mfg .....	—	6	3	262	8 761	183	340	5 026	13 945	11 713	25 077	588
332410	Power boiler & heat exchanger mfg .....	—	6	3	262	8 761	183	340	5 026	13 945	11 713	25 077	588
33243	Metal can, box, & other metal container (light gauge) mfg .....	7	18	3	474	12 194	360	677	7 754	24 237	27 049	51 504	1 740
332439	Other metal container mfg .....	7	16	3	e	D	D	D	D	D	D	D	D
3325	Hardware mfg .....	1	35	15	1 314	48 932	943	2 013	25 632	128 943	129 391	255 704	7 376
33251	Hardware mfg .....	1	35	15	1 314	48 932	943	2 013	25 632	128 943	129 391	255 704	7 376
332510	Hardware mfg .....	1	35	15	1 314	48 932	943	2 013	25 632	128 943	129 391	255 704	7 376
3326	Spring & wire product mfg .	1	42	14	880	27 508	683	1 284	16 353	57 171	51 700	108 582	4 449
33261	Spring & wire product mfg .....	1	42	14	880	27 508	683	1 284	16 353	57 171	51 700	108 582	4 449
332612	Spring (light gauge) mfg .....	2	15	7	413	12 621	301	625	7 747	30 244	30 407	60 284	1 884
332618	Other fabricated wire product mfg .....	1	23	5	335	10 043	263	503	6 096	21 796	16 204	38 196	D

**Table 2. Industry Statistics for Metropolitan Areas: 1997—Con.**

[Includes data for industry groups and industries with 250 employees or more. For definitions of CMSAs, MSAs, and PMSAs, information on geographic areas followed by \*, and explanation of terms, see appendixes. For meaning of abbreviations and symbols, see introductory text]

NAICS code	Geographic area and industry	E <sup>1</sup>	All establishments		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expenditures (\$1,000)
			Total	With 20 employees or more	Number <sup>2</sup>	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
	<b>DETROIT—ANN ARBOR—FLINT, MI CMSA—Con.</b>												
	<b>Detroit, MI PMSA—Con.</b>												
<b>31-33</b>	<b>Manufacturing—Con.</b>												
332	Fabricated metal product mfg—Con.												
3327	Machine shops, turned product, & screw, nut, & bolt mfg .....	1	925	259	19 593	744 791	14 999	31 672	488 467	1 548 644	1 056 348	2 603 018	127 775
33271	Machine shops .....	1	709	143	10 678	418 948	8 111	16 855	273 559	783 383	394 864	1 176 829	60 426
332710	Machine shops .....	1	709	143	10 678	418 948	8 111	16 855	273 559	783 383	394 864	1 176 829	60 426
33272	Turned product & screw, nut, & bolt mfg .....	—	216	116	8 915	325 843	6 888	14 817	214 908	765 261	661 484	1 426 189	67 349
332721	Precision turned product mfg .....	—	131	69	4 828	174 885	3 957	8 807	120 219	371 187	214 354	582 950	33 430
332722	Bolt, nut, screw, rivet, & washer mfg .....	—	85	47	4 087	150 958	2 931	6 010	94 689	394 074	447 130	843 239	33 919
3328	Coating, engraving, heat treating, & allied activities .....	1	281	122	8 610	280 242	6 665	14 257	183 702	658 883	289 079	943 904	115 795
33281	Coating, engraving, heat treating, & allied activities .....	1	281	122	8 610	280 242	6 665	14 257	183 702	658 883	289 079	943 904	115 795
332811	Metal heat treating .....	1	81	45	2 534	99 388	1 860	4 122	65 067	237 147	84 664	322 323	26 413
332812	Metal coating/engraving (exc jewelry/silverware)/allied services .....	1	78	36	2 562	75 368	1 956	4 108	48 952	189 021	113 454	297 649	71 177
332813	Electroplating, plating, polishing, anodizing, & coloring .....	—	122	41	3 514	105 486	2 849	6 027	69 683	232 715	90 961	323 932	18 205
3329	Other fabricated metal product mfg .....	1	216	70	5 434	199 062	4 035	8 262	121 067	403 168	287 576	688 347	22 371
33291	Metal valve mfg .....	—	30	10	1 866	71 543	1 327	2 824	39 310	149 826	115 017	265 340	8 432
332912	Fluid power valve & hose fitting mfg .....	1	21	8	1 584	64 021	1 102	2 381	33 559	111 452	75 045	186 893	7 987
33299	All other fabricated metal product mfg .....	1	186	60	3 568	127 519	2 708	5 438	81 757	253 342	172 559	423 007	13 939
332996	Fabricated pipe & pipe fitting mfg .....	—	45	16	918	28 321	674	1 279	16 526	60 776	46 418	107 737	3 491
332997	Industrial pattern mfg .....	1	35	15	669	32 793	542	1 232	24 289	51 676	17 975	69 145	4 307
332999	All other miscellaneous fabricated metal product mfg .....	1	99	29	1 948	65 240	1 469	2 892	40 447	137 944	106 763	241 812	6 064
333	Machinery mfg .....	—	1 505	592	53 510	2 730 164	35 344	79 801	1 566 798	5 028 135	5 146 877	10 205 437	355 999
3332	Industrial machinery mfg ..	—	100	30	3 011	157 747	1 571	3 168	73 271	285 171	419 331	756 782	15 083
33322	Plastics & rubber industry machinery mfg .....	1	17	4	293	14 387	149	282	5 674	31 178	24 501	56 157	1 713
333220	Plastics & rubber industry machinery mfg .....	1	17	4	293	14 387	149	282	5 674	31 178	24 501	56 157	1 713
33329	Other industrial machinery mfg .....	—	80	26	2 711	143 187	1 417	2 878	67 492	253 611	394 552	699 963	13 354
333298	All other industrial machinery mfg .....	—	68	22	2 386	129 785	1 235	2 495	61 408	231 099	359 955	642 300	12 417
3333	Commercial & service industry machinery mfg ..	—	22	8	727	33 747	443	869	15 195	59 235	55 309	116 063	3 538
33331	Commercial & service industry machinery mfg .....	—	22	8	727	33 747	443	869	15 195	59 235	55 309	116 063	3 538
333319	Other commercial & service industry machinery mfg .....	—	17	6	622	28 713	378	737	12 470	49 915	49 580	100 683	2 842
3334	Ventilation, heating, AC, & commercial refrigeration equip mfg .....	2	33	20	2 038	70 924	1 197	2 490	34 515	135 949	133 593	269 526	10 047
33341	Ventilation, heating, AC, & commercial refrigeration equip mfg ..	2	33	20	2 038	70 924	1 197	2 490	34 515	135 949	133 593	269 526	10 047
333411	Air purification equipment mfg .....	6	10	7	e	D	D	D	D	D	D	D	1 267
333414	Heating equipment (except warm air furnaces) mfg .....	—	8	3	394	12 865	173	342	5 509	36 823	28 707	66 002	D
333415	AC & warm air heating & commercial/industrial refrig equip mfg .....	—	13	8	1 176	42 981	689	1 456	19 291	60 780	65 836	129 005	8 347

**Table 2. Industry Statistics for Metropolitan Areas: 1997—Con.**

[Includes data for industry groups and industries with 250 employees or more. For definitions of CMSAs, MSAs, and PMSAs, information on geographic areas followed by \*, and explanation of terms, see appendixes. For meaning of abbreviations and symbols, see introductory text]

NAICS code	Geographic area and industry	E <sup>1</sup>	All establishments		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expenditures (\$1,000)
			Total	With 20 employees or more	Number <sup>2</sup>	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
	<b>DETROIT—ANN ARBOR—FLINT, MI CMSA—Con.</b>												
	<b>Detroit, MI PMSA—Con.</b>												
<b>31-33</b>	<b>Manufacturing—Con.</b>												
333	Machinery mfg—Con.												
3335	Metalworking machinery mfg .....	-	1 064	409	30 559	1 572 684	22 284	52 212	1 026 047	2 797 007	1 758 394	4 586 267	221 286
33351	Metalworking machinery mfg .....	-	1 064	409	30 559	1 572 684	22 284	52 212	1 026 047	2 797 007	1 758 394	4 586 267	221 286
333511	Industrial mold mfg ...	-	181	61	5 079	272 146	3 899	9 232	194 216	482 957	183 770	662 105	40 735
333512	Machine tool (metal cutting types) mfg ...	-	47	34	2 499	137 877	1 432	3 395	65 338	216 678	358 426	624 515	11 974
333513	Machine tool (metal forming types) mfg ...	-			e	D	D	D	D	D	D	D	2 422
333514	Special die & tool, die set, jig, & fixture mfg .	1	19	8									
333515	Cutting tool & machine tool accessory mfg ..	1	528	192	14 226	759 470	11 189	25 949	541 669	1 256 722	499 029	1 733 749	124 046
333518	Other metalworking machinery mfg .....	1	226	72	4 985	213 534	3 485	7 670	126 159	439 557	230 251	668 523	28 105
		-	58	41	3 297	168 220	1 978	5 393	87 888	359 530	457 885	826 935	13 877
3336	Engine, turbine, & power transmission equipment mfg .....	-	30	19	4 552	266 167	2 880	6 592	147 973	528 522	1 254 338	1 774 460	50 496
33361	Engine, turbine, & power transmission equipment mfg .....	-	30	19	4 552	266 167	2 880	6 592	147 973	528 522	1 254 338	1 774 460	50 496
333612	Speed changer, industrial high-speed drive, & gear mfg ....	1	10	8	e	D	D	D	D	D	D	D	D
333613	Mechanical power transmission equipment mfg .....	1	11	4	406	15 446	267	537	8 763	38 731	43 720	82 235	D
333618	Other engine equipment mfg .....	-	8	6	3 869	237 860	2 428	5 652	132 763	463 245	1 196 464	1 651 641	D
3339	Other general-purpose machinery mfg .....	-	243	105	12 395	619 159	6 844	14 213	265 735	1 189 783	1 504 959	2 650 848	54 764
33391	Pump & compressor mfg .....	-	9	5	742	34 599	278	552	12 992	86 431	99 937	175 101	2 806
333912	Air & gas compressor mfg .....	-	4	3	f	D	D	D	D	D	D	D	2 105
33392	Material handling equipment mfg .....	-	57	30	2 440	135 294	1 295	3 053	52 229	297 880	393 261	691 499	10 110
333922	Conveyor & conveying equipment mfg .....	-	39	20	1 978	119 903	1 022	2 450	43 782	263 749	354 469	617 839	7 994
33399	All other general-purpose machinery mfg .....	-	177	70	9 213	449 266	5 271	10 608	200 514	805 472	1 011 761	1 784 248	41 848
333992	Welding & soldering equipment mfg .....	-	31	20	3 722	213 259	2 751	5 499	118 183	259 520	410 067	673 409	18 458
333993	Packaging machinery mfg .....	-	7	4	359	18 028	142	262	4 920	47 823	35 908	80 059	D
333994	Industrial process furnace & oven mfg ..	3	32	13	1 095	49 922	646	1 483	24 922	102 745	90 617	186 511	4 458
333995	Fluid power cylinder & actuator mfg .....	-	14	8	578	19 616	281	609	8 925	54 342	32 484	86 372	2 924
333999	All other miscellaneous general-purpose machinery mfg .....	-	77	20	3 200	134 198	1 280	2 394	35 085	314 137	424 200	712 603	11 197
334	Computer & electronic product mfg .....	-	231	85	9 269	359 642	5 714	12 105	158 457	842 348	944 077	1 747 163	56 632
3341	Computer & peripheral equipment mfg .....	1	16	3	534	27 581	215	377	7 080	38 087	47 247	85 793	1 785
33411	Computer & peripheral equipment mfg .....	1	16	3	534	27 581	215	377	7 080	38 087	47 247	85 793	1 785
334111	Electronic computer mfg .....	-	7	1	e	D	D	D	D	D	D	D	D
3342	Communications equipment mfg .....	-	18	6	539	21 669	251	524	6 858	55 300	52 747	107 487	3 887
33429	Other communications equipment mfg .....	-	7	3	e	D	D	D	D	D	D	D	D
334290	Other communications equipment mfg .....	-	7	3	e	D	D	D	D	D	D	D	D
3344	Semiconductor & other electronic component mfg .....	-	84	27	3 658	119 469	2 608	5 475	63 478	334 684	522 444	814 758	26 874
33441	Semiconductor & other electronic component mfg .....	-	84	27	3 658	119 469	2 608	5 475	63 478	334 684	522 444	814 758	26 874
334412	Bare printed circuit board mfg .....	2	21	6	496	13 756	373	745	8 344	33 285	20 660	52 120	2 356
334418	Printed circuit assembly (electronic assembly) mfg .....	-	14	9	1 747	53 410	1 507	3 182	37 188	153 209	272 274	424 617	17 431
334419	Other electronic component mfg .....	-	32	6	876	34 185	464	1 026	13 325	73 355	55 258	111 262	4 349

**Table 2. Industry Statistics for Metropolitan Areas: 1997—Con.**

[Includes data for industry groups and industries with 250 employees or more. For definitions of CMSAs, MSAs, and PMSAs, information on geographic areas followed by \*, and explanation of terms, see appendixes. For meaning of abbreviations and symbols, see introductory text]

NAICS code	Geographic area and industry	E <sup>1</sup>	All establishments		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expenditures (\$1,000)
			Total	With 20 employees or more	Number <sup>2</sup>	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
	<b>DETROIT—ANN ARBOR—FLINT, MI CMSA—Con.</b>												
	<b>Detroit, MI PMSA—Con.</b>												
<b>31-33</b>	<b>Manufacturing—Con.</b>												
334	Computer & electronic product mfg—Con.												
3345	Navigational, measuring, medical, & control instruments mfg .....	1	96	41	3 010	129 745	1 388	2 769	40 392	251 146	179 455	432 889	15 350
33451	Navigational, measuring, medical, & control instruments mfg .....	1	96	41	3 010	129 745	1 388	2 769	40 392	251 146	179 455	432 889	15 350
334513	Industrial process control instrument mfg .....	2	32	19	1 346	58 424	633	1 305	18 440	91 431	75 178	169 556	3 023
334519	Other measuring & controlling device mfg .....	—	28	9	907	41 310	375	730	11 024	91 062	47 707	138 273	7 427
3346	Mfg & reproducing magnetic & optical media ..	—	14	7	1 504	60 311	1 232	2 925	40 338	162 035	141 371	304 359	8 729
33461	Mfg & reproducing magnetic & optical media .....	—	14	7	1 504	60 311	1 232	2 925	40 338	162 035	141 371	304 359	8 729
334612	Prerecorded CD (except software), tape, & record reproducing .....	—	10	5	g	D	D	D	D	D	D	D	D
335	Electrical equipment, appliance, & component mfg .....	1	118	43	3 652	154 059	2 268	4 622	62 216	306 058	278 842	586 178	18 086
3353	Electrical equipment mfg ..	1	78	26	2 249	100 298	1 328	2 706	40 415	179 970	156 123	335 899	7 962
33531	Electrical equipment mfg .....	1	78	26	2 249	100 298	1 328	2 706	40 415	179 970	156 123	335 899	7 962
335313	Switchgear & apparatus mfg .....	1	19	9	647	30 872	368	787	11 462	52 145	55 934	107 836	1 826
335314	Relay & industrial control mfg .....	1	46	16	1 416	63 347	859	1 701	26 242	111 344	91 914	202 610	5 844
3359	Other electrical equipment & component mfg .....	—	27	14	1 175	44 444	781	1 590	18 835	101 986	108 989	212 102	9 720
33593	Wiring device mfg .....	—	7	4	505	21 148	331	729	8 915	46 531	60 127	107 099	D
335931	Current-carrying wiring device mfg .....	—	5	3	e	D	D	D	D	D	D	D	D
33599	All other electrical equipment & component mfg .....	1	19	9	f	D	D	D	D	D	D	D	D
335999	All other miscellaneous electrical equipment & component mfg .....	1	18	9	f	D	D	D	D	D	D	D	2 973
336	Transportation equipment mfg .....	—	560	351	135 046	7 202 235	114 917	242 641	5 879 702	26 485 979	44 775 826	71 326 906	2 902 418
3361	Motor vehicle mfg .....	—	23	18	k	D	D	D	D	D	D	D	D
33611	Automobile & light duty motor vehicle mfg .....	—	21	18	k	D	D	D	D	D	D	D	D
336111	Automobile mfg .....	—	16	13	j	D	D	D	D	D	D	D	D
336112	Light truck & utility vehicle mfg .....	—	5	5	j	D	D	D	D	D	D	D	D
3362	Motor vehicle body & trailer mfg .....	4	26	7	f	D	D	D	D	D	D	D	D
33621	Motor vehicle body & trailer mfg .....	4	26	7	f	D	D	D	D	D	D	D	D
336211	Motor vehicle body mfg .....	8	13	2	e	D	D	D	D	D	D	D	D
336213	Motor home mfg .....	—	1	1	e	D	D	D	D	D	D	D	D
3363	Motor vehicle parts mfg ...	—	461	304	90 882	4 721 843	75 682	165 826	3 753 482	9 775 809	16 213 235	26 062 776	D
33631	Motor vehicle gasoline engine & engine parts mfg .....	—	59	27	12 426	782 916	10 544	24 323	643 667	1 595 478	4 145 178	5 754 472	378 174
336312	Gasoline engine & engine parts mfg .....	—	56	25	12 346	780 569	10 488	24 218	642 493	1 586 924	4 143 723	5 744 225	D
33632	Motor vehicle electrical & electronic equipment mfg .....	2	22	8	744	21 118	617	1 199	14 504	59 826	70 599	130 018	D
336322	Other motor vehicle electrical & electronic equipment mfg .....	3	19	7	f	D	D	D	D	D	D	D	D
33633	Motor vehicle steering & suspension component (except spring) mfg ...	—	13	8	2 872	130 901	2 289	4 644	96 204	236 789	359 156	595 373	D
336330	Motor vehicle steering & suspension component (except spring) mfg .....	—	13	8	2 872	130 901	2 289	4 644	96 204	236 789	359 156	595 373	D
33634	Motor vehicle brake system mfg .....	—	13	7	739	30 845	595	1 396	20 746	61 947	95 691	156 150	26 444
336340	Motor vehicle brake system mfg .....	—	13	7	739	30 845	595	1 396	20 746	61 947	95 691	156 150	26 444

**Table 2. Industry Statistics for Metropolitan Areas: 1997—Con.**

[Includes data for industry groups and industries with 250 employees or more. For definitions of CMSAs, MSAs, and PMSAs, information on geographic areas followed by \*, and explanation of terms, see appendixes. For meaning of abbreviations and symbols, see introductory text]

NAICS code	Geographic area and industry	E <sup>1</sup>	All establishments		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expenditures (\$1,000)
			Total	With 20 employees or more	Number <sup>2</sup>	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
	<b>DETROIT—ANN ARBOR—FLINT, MI CMSA—Con.</b>												
	<b>Detroit, MI PMSA—Con.</b>												
<b>31-33</b>	<b>Manufacturing—Con.</b>												
336	Transportation equipment mfg—Con.												
3363	Motor vehicle parts mfg—Con.												
33635	Motor vehicle transmission & power train parts mfg .....	-	37	28	21 312	1 292 071	18 143	43 511	1 076 462	2 790 478	4 967 600	7 779 056	693 788
336350	Motor vehicle transmission & power train parts mfg .....	-	37	28	21 312	1 292 071	18 143	43 511	1 076 462	2 790 478	4 967 600	7 779 056	693 788
33636	Motor vehicle seating & interior trim mfg .....	-	31	27	10 750	460 298	8 895	18 255	361 128	999 127	1 755 472	2 754 113	100 634
336360	Motor vehicle seating & interior trim mfg ...	-	31	27	10 750	460 298	8 895	18 255	361 128	999 127	1 755 472	2 754 113	100 634
33637	Motor vehicle metal stamping .....	-	181	134	28 248	1 419 213	23 494	49 709	1 099 274	2 509 814	2 817 553	5 359 803	461 909
336370	Motor vehicle metal stamping .....	-	181	134	28 248	1 419 213	23 494	49 709	1 099 274	2 509 814	2 817 553	5 359 803	461 909
33639	Other motor vehicle parts mfg .....	-	105	65	13 791	584 481	11 105	22 789	441 497	1 522 350	2 001 986	3 533 791	198 519
336399	All other motor vehicle parts mfg .....	-	104	65	j	D	D	D	D	D	D	D	198 519
3364	Aerospace product & parts mfg .....	1	25	13	g	D	D	D	D	D	D	D	D
33641	Aerospace product & parts mfg .....	1	25	13	g	D	D	D	D	D	D	D	D
336412	Aircraft engine & engine parts mfg ....	3	10	6	e	D	D	D	D	D	D	D	D
336413	Other aircraft part & auxiliary equipment mfg .....	-	13	6	f	D	D	D	D	D	D	D	D
336415	Guided missile & space vehicle propulsion unit & parts mfg .....	-	1	1	e	D	D	D	D	D	D	D	D
3369	Other transportation equipment mfg .....	1	17	8	g	D	D	D	D	D	D	D	D
33699	Other transportation equipment mfg .....	1	17	8	g	D	D	D	D	D	D	D	D
336992	Military armored vehicle, tank, & tank component mfg ....	-	9	4	e	D	D	D	D	D	D	D	D
336999	All other transportation equipment mfg .....	2	7	4	f	D	D	D	D	D	D	D	D
337	Furniture & related product mfg .....	2	216	41	3 319	99 969	2 489	4 909	64 406	194 352	158 582	353 832	6 766
3371	Household & institutional furniture & kitchen cabinet mfg .....	2	135	15	1 451	39 726	1 120	2 171	26 225	72 107	57 628	130 620	3 026
33711	Wood kitchen cabinet & counter top mfg .....	3	83	7	741	18 832	564	1 050	12 848	32 877	27 001	60 226	1 633
337110	Wood kitchen cabinet & counter top mfg ...	3	83	7	741	18 832	564	1 050	12 848	32 877	27 001	60 226	1 633
33712	Household & institutional furniture mfg .....	1	52	8	710	20 894	556	1 121	13 377	39 230	30 627	70 394	1 393
337127	Institutional furniture mfg .....	-	12	2	364	12 628	254	568	7 016	25 986	16 491	43 053	970
3372	Office furniture (including fixtures) mfg .....	2	67	20	1 419	48 537	1 025	2 029	30 399	83 389	59 874	143 116	2 890
33721	Office furniture (including fixtures) mfg .....	2	67	20	1 419	48 537	1 025	2 029	30 399	83 389	59 874	143 116	2 890
337212	Custom architectural woodwork & millwork mfg .....	2	18	3	262	9 103	163	346	5 057	14 208	9 797	24 181	D
337215	Showcase, partition, shelving, & locker mfg .....	2	41	15	1 017	34 906	756	1 478	22 372	60 437	44 450	104 552	2 332
3379	Other furniture related product mfg .....	2	14	6	449	11 706	344	709	7 782	38 856	41 080	80 096	850
33791	Mattress mfg .....	-	5	4	e	D	D	D	D	D	D	D	D
337910	Mattress mfg .....	-	5	4	e	D	D	D	D	D	D	D	D
339	Miscellaneous mfg .....	2	476	65	7 828	227 390	5 007	9 622	120 534	557 134	334 235	887 933	25 097
3391	Medical equipment & supplies mfg .....	2	216	19	1 784	58 141	1 280	2 288	33 479	182 275	76 002	259 222	5 733
33911	Medical equipment & supplies mfg .....	2	216	19	1 784	58 141	1 280	2 288	33 479	182 275	76 002	259 222	5 733
339113	Surgical appliance & supplies mfg .....	5	22	5	300	11 300	191	328	4 642	22 271	13 289	35 329	1 332
339114	Dental equipment & supplies mfg .....	-	15	2	296	12 120	222	421	7 847	84 486	31 477	116 802	D
339116	Dental laboratories ...	4	148	6	889	24 240	664	1 195	16 039	53 628	20 357	74 294	1 602



**Table 2. Industry Statistics for Metropolitan Areas: 1997—Con.**

[Includes data for industry groups and industries with 250 employees or more. For definitions of CMSAs, MSAs, and PMSAs, information on geographic areas followed by \*, and explanation of terms, see appendixes. For meaning of abbreviations and symbols, see introductory text]

NAICS code	Geographic area and industry	E <sup>1</sup>	All establishments		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expenditures (\$1,000)
			Total	With 20 employees or more	Number <sup>2</sup>	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
	<b>DETROIT—ANN ARBOR—FLINT, MI CMSA—Con.</b>												
	<b>Detroit, MI PMSA—Con.</b>												
<b>31-33</b>	<b>Manufacturing—Con.</b>												
339	Miscellaneous mfg—Con.												
3399	Other miscellaneous mfg ..	1	260	46	6 044	169 249	3 727	7 334	87 055	374 859	258 233	628 711	19 364
33993	Doll, toy, & game mfg ...	—	8	2	709	17 955	509	949	8 519	53 674	36 161	87 730	D
339932	Game, toy, & children's vehicle mfg .....	—	8	2	709	17 955	509	949	8 519	53 674	36 161	87 730	D
33995	Sign mfg .....	—	109	15	2 883	81 029	1 516	2 908	38 665	173 058	95 716	269 224	5 098
339950	Sign mfg .....	—	109	15	2 883	81 029	1 516	2 908	38 665	173 058	95 716	269 224	5 098
33999	All other miscellaneous mfg .....	2	78	23	1 925	56 980	1 375	2 805	32 986	117 812	98 234	214 967	9 173
339991	Gasket, packing, & sealing device mfg ...	3	24	16	1 116	34 044	783	1 575	19 698	74 648	59 003	132 479	5 456
339999	All other miscellaneous mfg .....	2	37	5	551	17 698	399	908	10 283	31 369	26 322	57 714	3 025
	<b>Flint, MI PMSA</b>												
<b>31-33</b>	<b>Manufacturing ....</b>	—	<b>355</b>	<b>115</b>	<b>34 414</b>	<b>1 744 627</b>	<b>28 473</b>	<b>57 164</b>	<b>1 388 762</b>	<b>3 592 590</b>	<b>7 697 511</b>	<b>11 240 321</b>	<b>180 557</b>
311	Food mfg .....	7	16	3	461	12 838	251	507	6 628	34 713	94 096	128 745	2 308
3115	Dairy product mfg .....	8	2	1	e	D	D	D	D	D	D	D	D
31151	Dairy product (except frozen) mfg .....	8	2	1	e	D	D	D	D	D	D	D	D
311511	Fluid milk mfg .....	8	2	1	e	D	D	D	D	D	D	D	D
322	Paper mfg .....	2	6	5	e	D	D	D	D	D	D	D	1 358
3222	Converted paper product mfg .....	2	6	5	e	D	D	D	D	D	D	D	1 358
32221	Paperboard container mfg .....	2	5	5	e	D	D	D	D	D	D	D	D
322211	Corrugated & solid fiber box mfg .....	2	5	5	e	D	D	D	D	D	D	D	D
323	Printing & related support activities .....	1	58	8	f	D	D	D	D	D	D	D	D
3231	Printing & related support activities .....	1	58	8	f	D	D	D	D	D	D	D	D
32311	Printing .....	1	54	7	e	D	D	D	D	D	D	D	D
323110	Commercial lithographic printing ..	1	26	4	e	D	D	D	D	D	D	D	D
326	Plastics & rubber products mfg .....	1	16	9	1 222	41 612	924	2 128	24 312	124 325	109 707	231 617	17 309
3261	Plastics product mfg .....	1	15	9	g	D	D	D	D	D	D	D	D
32619	Other plastics product mfg .....	—	11	6	f	D	D	D	D	D	D	D	D
326199	All other plastics product mfg .....	—	11	6	f	D	D	D	D	D	D	D	D
327	Nonmetallic mineral product mfg .....	1	15	8	e	D	D	D	D	D	D	D	2 007
332	Fabricated metal product mfg .....	—	74	28	2 524	112 091	2 048	4 573	85 522	186 710	227 546	412 984	15 968
3325	Hardware mfg. ....	—	3	2	f	D	D	D	D	D	D	D	D
33251	Hardware mfg. ....	—	3	2	f	D	D	D	D	D	D	D	D
332510	Hardware mfg. ....	—	3	2	f	D	D	D	D	D	D	D	D
3327	Machine shops, turned product, & screw, nut, & bolt mfg .....	—	31	8	599	21 962	495	1 076	16 998	63 803	51 549	112 924	3 459
33272	Turned product & screw, nut, & bolt mfg .....	—	11	6	413	14 994	357	812	12 732	53 242	44 455	95 345	2 753
332722	Bolt, nut, screw, rivet, & washer mfg .....	—	5	3	e	D	D	D	D	D	D	D	D
3328	Coating, engraving, heat treating, & allied activities ..	1	10	6	292	9 346	241	405	3 950	13 322	5 370	18 832	539
33281	Coating, engraving, heat treating, & allied activities .....	1	10	6	292	9 346	241	405	3 950	13 322	5 370	18 832	539
3329	Other fabricated metal product mfg .....	—	8	5	330	8 692	285	498	5 868	11 287	18 011	28 455	1 227

**Table 2. Industry Statistics for Metropolitan Areas: 1997—Con.**

[Includes data for industry groups and industries with 250 employees or more. For definitions of CMSAs, MSAs, and PMSAs, information on geographic areas followed by \*, and explanation of terms, see appendixes. For meaning of abbreviations and symbols, see introductory text]

NAICS code	Geographic area and industry	E <sup>1</sup>	All establishments		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expenditures (\$1,000)
			Total	With 20 employees or more	Number <sup>2</sup>	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
	<b>DETROIT—ANN ARBOR—FLINT, MI CMSA—Con.</b>												
	<b>Flint, MI PMSA—Con.</b>												
<b>31-33</b>	<b>Manufacturing—Con.</b>												
333	Machinery mfg . . . . .	-	45	23	1 587	76 165	1 070	2 344	47 742	177 099	171 695	323 671	8 852
3335	Metalworking machinery mfg . . . . .	-	25	12	583	25 844	444	988	17 516	73 459	66 410	119 246	3 289
33351	Metalworking machinery mfg . . . . .	-	25	12	583	25 844	444	988	17 516	73 459	66 410	119 246	3 289
333514	Special die & tool, die set, jig, & fixture mfg . . . . .	-	12	4	256	12 211	205	486	8 981	24 008	11 929	33 844	1 665
3339	Other general-purpose machinery mfg . . . . .	-	12	8	872	45 358	557	1 214	27 265	95 576	99 009	190 402	5 066
33392	Material handling equipment mfg . . . . .	-	5	4	630	37 245	436	952	22 542	78 816	87 918	162 823	D
333922	Conveyor & conveying equipment mfg . . . . .	-	4	3	e	D	D	D	D	D	D	D	D
334	Computer & electronic product mfg . . . . .	-	12	4	h	D	D	D	D	D	D	D	13 935
3344	Semiconductor & other electronic component mfg . . . . .	-	4	1	e	D	D	D	D	D	D	D	D
33441	Semiconductor & other electronic component mfg . . . . .	-	4	1	e	D	D	D	D	D	D	D	D
334418	Printed circuit assembly (electronic assembly) mfg . . . . .	-	1	1	e	D	D	D	D	D	D	D	D
3345	Navigational, measuring, medical, & control instruments mfg . . . . .	-	5	2	g	D	D	D	D	D	D	D	D
33451	Navigational, measuring, medical, & control instruments mfg . . . . .	-	5	2	g	D	D	D	D	D	D	D	D
334514	Totalizing fluid meter & counting device mfg . . . . .	-	1	1	g	D	D	D	D	D	D	D	D
336	Transportation equipment mfg . . . . .	-	27	15	j	D	D	D	D	D	D	D	D
3361	Motor vehicle mfg . . . . .	-	2	2	i	D	D	D	D	D	D	D	D
33611	Automobile & light duty motor vehicle mfg . . . . .	-	2	2	i	D	D	D	D	D	D	D	D
336111	Automobile mfg . . . . .	-	1	1	i	D	D	D	D	D	D	D	D
336112	Light truck & utility vehicle mfg . . . . .	-	1	1	g	D	D	D	D	D	D	D	D
3363	Motor vehicle parts mfg . . . . .	-	19	12	j	D	D	D	D	D	D	D	D
33631	Motor vehicle gasoline engine & engine parts mfg . . . . .	-	2	2	h	D	D	D	D	D	D	D	D
336312	Gasoline engine & engine parts mfg . . . . .	-	2	2	h	D	D	D	D	D	D	D	D
33636	Motor vehicle seating & interior trim mfg . . . . .	-	1	1	e	D	D	D	D	D	D	D	D
336360	Motor vehicle seating & interior trim mfg . . . . .	-	1	1	e	D	D	D	D	D	D	D	D
33637	Motor vehicle metal stamping . . . . .	-	7	4	i	D	D	D	D	D	D	D	D
336370	Motor vehicle metal stamping . . . . .	-	7	4	i	D	D	D	D	D	D	D	D
33639	Other motor vehicle parts mfg . . . . .	-	6	4	i	D	D	D	D	D	D	D	D
336399	All other motor vehicle parts mfg . . . . .	-	6	4	i	D	D	D	D	D	D	D	D
337	Furniture & related product mfg . . . . .	-	16	4	e	D	D	D	D	D	D	D	405
339	Miscellaneous mfg . . . . .	3	36	3	e	D	D	D	D	D	D	D	367

**Table 2. Industry Statistics for Metropolitan Areas: 1997—Con.**

[Includes data for industry groups and industries with 250 employees or more. For definitions of CMSAs, MSAs, and PMSAs, information on geographic areas followed by \*, and explanation of terms, see appendixes. For meaning of abbreviations and symbols, see introductory text]

NAICS code	Geographic area and industry	E <sup>1</sup>	All establishments		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expenditures (\$1,000)
			Total	With 20 employees or more	Number <sup>2</sup>	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
	<b>GRAND RAPIDS—MUSKEGON—HOLLAND, MI MSA</b>												
<b>31-33</b>	<b>Manufacturing . . . .</b>	—	<b>2 334</b>	<b>948</b>	<b>150 646</b>	<b>5 648 694</b>	<b>107 443</b>	<b>219 863</b>	<b>3 386 455</b>	<b>15 248 819</b>	<b>13 246 529</b>	<b>28 465 754</b>	<b>1 367 606</b>
311	Food mfg . . . . .	1	111	50	10 572	303 097	7 965	16 713	209 148	1 473 377	1 431 052	2 906 495	67 985
3113	Sugar & confectionery product mfg . . . . .	—	7	2	g	D	D	D	D	D	D	D	D
31134	Nonchocolate confectionery mfg . . . . .	—	4	1	g	D	D	D	D	D	D	D	D
311340	Nonchocolate confectionery mfg . . . . .	—	4	1	g	D	D	D	D	D	D	D	D
3114	Fruit & vegetable preserving & specialty food mfg . . . . .	1	10	7	1 241	30 009	1 076	2 209	22 241	192 061	156 120	345 791	7 366
31141	Frozen food mfg . . . . .	—	6	4	578	15 444	487	891	10 321	79 414	69 883	149 360	1 953
311411	Frozen fruit, juice, & vegetable mfg . . . . .	—	3	3	e	D	D	D	D	D	D	D	D
311412	Frozen specialty food mfg . . . . .	—	3	1	e	D	D	D	D	D	D	D	D
31142	Fruit & vegetable canning, pickling, & drying . . . . .	3	4	3	663	14 565	589	1 318	11 920	112 647	86 237	196 431	5 413
311421	Fruit & vegetable canning . . . . .	3	4	3	663	14 565	589	1 318	11 920	112 647	86 237	196 431	5 413
3115	Dairy product mfg . . . . .	—	11	10	1 377	47 809	801	1 637	28 302	176 833	396 058	579 535	13 558
31151	Dairy product (except frozen) mfg . . . . .	—	10	9	g	D	D	D	D	D	D	D	13 558
311511	Fluid milk mfg . . . . .	—	5	5	757	25 058	363	862	12 837	60 141	198 530	257 394	6 617
311514	Dry, condensed, & evaporated dairy product mfg . . . . .	2	2	2	e	D	D	D	D	D	D	D	D
3116	Meat product mfg . . . . .	—	15	8	3 137	85 710	2 481	6 277	63 608	389 321	441 025	828 278	17 470
31161	Animal slaughtering & processing . . . . .	—	15	8	3 137	85 710	2 481	6 277	63 608	389 321	441 025	828 278	17 470
311611	Animal (except poultry) slaughtering . . . . .	7	8	3	312	5 726	279	444	4 765	17 647	60 769	78 481	D
311615	Poultry processing . . . . .	—	2	2	h	D	D	D	D	D	D	D	D
3118	Bakeries & tortilla mfg . . . . .	2	43	11	2 741	78 252	1 881	3 787	49 548	350 778	207 021	557 231	11 686
31181	Bread & bakery product mfg . . . . .	5	35	7	g	D	D	D	D	D	D	D	D
311812	Commercial bakeries . . . . .	6	10	4	g	D	D	D	D	D	D	D	3 333
31182	Cookie, cracker, & pasta mfg . . . . .	1	7	4	1 197	42 226	1 047	2 064	33 953	235 791	139 151	374 374	7 635
311821	Cookie & cracker mfg . . . . .	—	3	2	f	D	D	D	D	D	D	D	D
3119	Other food mfg . . . . .	6	15	8	597	13 194	441	694	7 757	44 575	52 443	97 440	3 380
31199	All other food mfg . . . . .	9	6	3	345	6 905	276	400	4 463	23 737	23 738	47 496	1 837
311999	All other miscellaneous food mfg . . . . .	9	5	3	e	D	D	D	D	D	D	D	D
313	Textile mills . . . . .	4	13	4	e	D	D	D	D	D	D	D	1 603
314	Textile product mills . . . . .	—	33	6	600	15 764	447	796	9 025	14 183	43 888	58 680	2 321
3149	Other textile product mills . . . . .	—	22	5	487	12 592	350	614	7 263	9 912	38 390	48 700	2 178
31499	All other textile product mills . . . . .	—	14	3	391	10 572	272	486	6 075	6 518	34 968	41 816	2 045
314999	All other miscellaneous textile product mills . . . . .	—	13	3	e	D	D	D	D	D	D	D	D
316	Leather & allied product mfg . . . . .	—	6	5	g	D	D	D	D	D	D	D	D
3161	Leather & hide tanning & finishing . . . . .	—	3	3	880	30 776	693	1 376	22 834	96 880	333 603	432 289	D
31611	Leather & hide tanning & finishing . . . . .	—	3	3	880	30 776	693	1 376	22 834	96 880	333 603	432 289	D
316110	Leather & hide tanning & finishing . . . . .	—	3	3	880	30 776	693	1 376	22 834	96 880	333 603	432 289	D
321	Wood product mfg . . . . .	2	100	31	2 752	72 874	2 143	4 209	47 673	188 429	239 766	426 791	12 132
3212	Veneer, plywood, & engineered wood product mfg . . . . .	3	19	11	1 061	28 469	819	1 533	17 780	78 397	85 837	164 238	4 675
32121	Veneer, plywood, & engineered wood product mfg . . . . .	3	19	11	1 061	28 469	819	1 533	17 780	78 397	85 837	164 238	4 675
321214	Truss mfg . . . . .	4	8	6	577	12 490	447	785	7 825	32 039	33 075	65 222	1 766
3219	Other wood product mfg . . . . .	2	67	19	1 530	39 972	1 187	2 379	26 456	94 692	132 087	226 548	6 385
32191	Millwork . . . . .	3	28	8	805	21 537	666	1 339	15 729	54 866	95 400	150 042	3 008
321912	Cut stock, resawing lumber, & planing . . . . .	8	11	4	425	10 458	371	766	8 538	23 329	38 817	62 418	2 025
32192	Wood container & pallet mfg . . . . .	1	19	5	317	7 742	237	492	4 811	16 744	15 450	32 081	2 135
321920	Wood container & pallet mfg . . . . .	1	19	5	317	7 742	237	492	4 811	16 744	15 450	32 081	2 135
32199	All other wood product mfg . . . . .	—	20	6	408	10 693	284	548	5 916	23 082	21 237	44 425	1 242
321999	All other miscellaneous wood product mfg . . . . .	—	17	5	e	D	D	D	D	D	D	D	D

**Table 2. Industry Statistics for Metropolitan Areas: 1997—Con.**

[Includes data for industry groups and industries with 250 employees or more. For definitions of CMSAs, MSAs, and PMSAs, information on geographic areas followed by \*, and explanation of terms, see appendixes. For meaning of abbreviations and symbols, see introductory text]

NAICS code	Geographic area and industry	E <sup>1</sup>	All establishments		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expenditures (\$1,000)
			Total	With 20 employees or more	Number <sup>2</sup>	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
<b>31-33</b>	<b>GRAND RAPIDS—MUSKEGON—HOLLAND, MI MSA—Con.</b> <b>Manufacturing—Con.</b>												
322	Paper mfg . . . . .	—	38	29	3 784	144 570	2 943	6 563	97 471	343 138	397 592	742 320	24 174
3221	Pulp, paper, & paperboard mills . . . . .	—	5	5	1 586	71 947	1 249	2 888	52 514	164 554	203 057	370 888	12 715
32212	Paper mills . . . . .	—	2	2	g	D	D	D	D	D	D	D	D
322121	Paper (except newsprint) mills . . . . .	—	2	2	g	D	D	D	D	D	D	D	D
32213	Paperboard mills . . . . .	—	3	3	f	D	D	D	D	D	D	D	D
322130	Paperboard mills . . . . .	—	3	3	f	D	D	D	D	D	D	D	D
3222	Converted paper product mfg . . . . .	1	33	24	2 198	72 623	1 694	3 675	44 957	178 584	194 535	371 432	11 459
32221	Paperboard container mfg . . . . .	—	18	17	1 565	50 932	1 200	2 609	30 289	111 886	130 167	241 388	7 533
322211	Corrugated & solid fiber box mfg . . . . .	—	13	13	1 136	37 377	844	1 761	21 184	80 422	92 867	172 952	3 898
322212	Folding paperboard box mfg . . . . .	—	4	4	e	D	D	D	D	D	D	D	D
32222	Paper bag & coated & treated paper mfg . . . . .	—	5	4	e	D	D	D	D	D	D	D	1 852
32229	Other converted paper product mfg . . . . .	7	4	3	261	9 493	190	446	5 537	24 890	23 170	48 250	1 978
322299	All other converted paper product mfg . . . . .	7	4	3	261	9 493	190	446	5 537	24 890	23 170	48 250	1 978
323	Printing & related support activities . . . . .	1	208	53	4 091	127 967	2 900	5 592	76 025	294 727	179 646	472 790	22 015
3231	Printing & related support activities . . . . .	1	208	53	4 091	127 967	2 900	5 592	76 025	294 727	179 646	472 790	22 015
32311	Printing . . . . .	1	175	43	3 464	108 865	2 434	4 682	63 547	255 746	165 171	419 524	19 476
323110	Commercial lithographic printing . . . . .	2	85	28	2 155	68 528	1 513	3 005	39 347	158 724	97 501	256 314	10 803
323112	Commercial flexographic printing . . . . .	—	4	2	260	7 892	132	273	4 364	23 131	20 329	43 112	3 858
323114	Quick printing . . . . .	1	41	3	252	6 649	177	265	3 790	14 249	4 999	19 224	604
32312	Support activities for printing . . . . .	1	33	10	627	19 102	466	910	12 478	38 981	14 475	53 266	2 539
323121	Tradebinding & related work . . . . .	—	9	4	261	6 249	221	431	4 795	11 761	4 263	15 787	1 132
323122	Prepress services . . . . .	2	24	6	366	12 853	245	479	7 683	27 220	10 212	37 479	1 407
325	Chemical mfg . . . . .	—	64	28	10 655	484 005	5 179	10 250	171 495	2 211 452	1 562 528	3 791 645	218 270
3251	Basic chemical mfg . . . . .	—	10	7	1 102	47 011	661	1 565	27 206	191 314	238 567	430 418	D
32513	Dye & pigment mfg . . . . .	—	3	3	f	D	D	D	D	D	D	D	D
325132	Synthetic organic dye & pigment mfg . . . . .	—	3	3	f	D	D	D	D	D	D	D	D
32519	Other basic organic chemical mfg . . . . .	1	5	4	f	D	D	D	D	D	D	D	D
325192	Cyclic crude & intermediate mfg . . . . .	—	2	2	e	D	D	D	D	D	D	D	D
3254	Pharmaceutical & medicine mfg . . . . .	—	8	5	3 019	124 705	1 896	3 632	60 693	402 760	327 695	725 239	D
32541	Pharmaceutical & medicine mfg . . . . .	—	8	5	3 019	124 705	1 896	3 632	60 693	402 760	327 695	725 239	D
325412	Pharmaceutical preparation mfg . . . . .	—	7	4	h	D	D	D	D	D	D	D	D
3255	Paint, coating, & adhesive mfg . . . . .	—	16	7	f	D	D	D	D	D	D	D	D
32551	Paint & coating mfg . . . . .	—	12	6	580	21 227	360	774	9 438	53 109	78 258	132 194	D
325510	Paint & coating mfg . . . . .	—	12	6	580	21 227	360	774	9 438	53 109	78 258	132 194	D
3256	Soap, cleaning compound, & toilet preparation mfg . . . . .	—	13	3	i	D	D	D	D	D	D	D	D
32561	Soap & cleaning compound mfg . . . . .	—	13	3	i	D	D	D	D	D	D	D	D
325611	Soap & other detergent mfg . . . . .	—	10	1	i	D	D	D	D	D	D	D	D
3259	Other chemical product mfg . . . . .	—	10	5	e	D	D	D	D	D	D	D	D
32599	All other chemical product & preparation mfg . . . . .	—	8	5	e	D	D	D	D	D	D	D	D
325991	Custom compounding of purchased resin . . . . .	—	5	3	e	D	D	D	D	D	D	D	D

**Table 2. Industry Statistics for Metropolitan Areas: 1997—Con.**

[Includes data for industry groups and industries with 250 employees or more. For definitions of CMSAs, MSAs, and PMSAs, information on geographic areas followed by \*, and explanation of terms, see appendixes. For meaning of abbreviations and symbols, see introductory text]

NAICS code	Geographic area and industry	E <sup>1</sup>	All establishments		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expenditures (\$1,000)
			Total	With 20 employees or more	Number <sup>2</sup>	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
<b>31-33</b>	<b>GRAND RAPIDS—MUSKEGON—HOLLAND, MI MSA—Con.</b>												
	<b>Manufacturing—Con.</b>												
326	Plastics & rubber products mfg .....	1	148	93	11 544	338 326	8 858	17 363	213 818	861 888	784 587	1 647 051	76 456
3261	Plastics product mfg .....	1	132	86	10 352	300 729	7 961	15 311	191 686	711 939	686 230	1 400 344	67 947
32611	Unsupported plastics film, sheet, & bag mfg ..	3	8	7	493	15 128	345	682	7 895	38 199	55 186	94 177	3 022
326113	Unsupported plastics film & sheet (except packaging) mfg .....	3	6	5	e	D	D	D	D	D	D	D	D
32612	Plastics pipe, pipe fitting, & unsupported profile shape mfg .....	6	9	4	e	D	D	D	D	D	D	D	D
326121	Unsupported plastics profile shape mfg .....	6	8	4	e	D	D	D	D	D	D	D	D
32614	Polystyrene foam product mfg .....	-	6	4	391	17 661	265	546	9 299	31 404	44 958	76 744	9 611
326140	Polystyrene foam product mfg .....	-	6	4	391	17 661	265	546	9 299	31 404	44 958	76 744	9 611
32615	Urethane & other foam product (except polystyrene) mfg .....	5	7	4	393	10 620	313	616	7 418	21 109	36 312	57 619	2 263
326150	Urethane & other foam product (except polystyrene) mfg .....	5	7	4	393	10 620	313	616	7 418	21 109	36 312	57 619	2 263
32619	Other plastics product mfg .....	1	100	67	8 739	248 727	6 769	12 995	161 349	599 053	529 988	1 129 770	51 197
326199	All other plastics product mfg .....	1	97	65	8 666	246 672	6 715	12 895	160 210	594 251	525 152	1 120 077	D
3262	Rubber product mfg .....	-	16	7	1 192	37 597	897	2 052	22 132	149 949	98 357	246 707	8 509
32629	Other rubber product mfg .....	-	9	5	962	30 245	720	1 669	17 875	124 894	83 617	206 674	D
326291	Rubber product mfg for mechanical use .....	-	2	1	e	D	D	D	D	D	D	D	D
326299	All other rubber product mfg .....	-	7	4	e	D	D	D	D	D	D	D	D
327	Nonmetallic mineral product mfg .....	-	80	30	4 529	177 522	3 020	6 237	91 385	450 317	423 173	871 431	39 123
3272	Glass & glass product mfg ..	-	14	10	3 272	130 130	2 196	4 403	62 928	309 860	309 482	618 320	24 951
32721	Glass & glass product mfg .....	-	14	10	3 272	130 130	2 196	4 403	62 928	309 860	309 482	618 320	24 951
327215	Glass product mfg made of purchased glass .....	-	14	10	3 272	130 130	2 196	4 403	62 928	309 860	309 482	618 320	24 951
3273	Cement & concrete product mfg .....	2	47	16	904	32 609	560	1 181	18 446	97 188	79 495	176 213	9 275
32732	Ready-mix concrete mfg .....	-	30	11	523	20 456	294	632	10 773	52 416	43 819	96 378	6 156
327320	Ready-mix concrete mfg .....	-	30	11	523	20 456	294	632	10 773	52 416	43 819	96 378	6 156
331	Primary metal mfg .....	-	70	51	7 575	266 875	5 751	11 518	181 983	634 663	522 492	1 152 159	59 531
3313	Alumina & aluminum production & processing ..	-	2	2	f	D	D	D	D	D	D	D	D
33131	Alumina & aluminum production & processing .....	-	2	2	f	D	D	D	D	D	D	D	D
331316	Aluminum extruded product mfg .....	-	2	2	f	D	D	D	D	D	D	D	D
3315	Foundries .....	-	56	43	6 565	224 784	5 009	9 995	155 724	544 773	348 925	889 085	39 069
33151	Ferrous metal foundries ..	-	19	16	2 892	108 951	2 390	4 931	84 127	259 734	134 056	389 749	14 481
331511	Iron foundries .....	-	12	9	1 237	50 586	979	1 965	37 279	102 155	62 604	164 685	7 003
331512	Steel investment foundries .....	-	4	4	g	D	D	D	D	D	D	D	D
331513	Steel foundries (except investment) .....	-	3	3	e	D	D	D	D	D	D	D	D
33152	Nonferrous metal foundries .....	-	37	27	3 673	115 833	2 619	5 064	71 597	285 039	214 869	499 336	24 588
331521	Aluminum die-casting foundries .....	-	11	8	1 508	49 455	982	1 841	29 023	122 880	75 039	197 718	12 622
331522	Nonferrous (except aluminum) die-casting foundries .....	-	11	10	1 376	42 219	1 010	1 997	25 725	104 267	107 454	212 814	6 804
331524	Aluminum foundries (except die-casting) ..	2	10	5	312	8 662	264	568	6 157	20 298	15 609	35 958	2 817
331525	Copper foundries (except die-casting) ..	-	2	2	e	D	D	D	D	D	D	D	D

**Table 2. Industry Statistics for Metropolitan Areas: 1997—Con.**

[Includes data for industry groups and industries with 250 employees or more. For definitions of CMSAs, MSAs, and PMSAs, information on geographic areas followed by \*, and explanation of terms, see appendixes. For meaning of abbreviations and symbols, see introductory text]

NAICS code	Geographic area and industry	E <sup>1</sup>	All establishments		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expenditures (\$1,000)
			Total	With 20 employees or more	Number <sup>2</sup>	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
<b>31-33</b>	<b>GRAND RAPIDS—MUSKEGON—HOLLAND, MI MSA—Con.</b>												
	<b>Manufacturing—Con.</b>												
332	Fabricated metal product mfg . . . . .	1	533	186	17 764	567 731	13 586	26 781	368 728	1 255 506	928 769	2 182 310	111 286
3321	Forging & stamping . . . . .	—	23	15	1 375	41 297	1 046	1 896	27 456	78 438	89 887	170 882	9 607
33211	Forging & stamping . . . . .	—	23	15	1 375	41 297	1 046	1 896	27 456	78 438	89 887	170 882	9 607
332116	Metal stamping . . . . .	—	16	11	1 073	31 879	836	1 438	21 723	56 519	72 681	131 606	7 086
3322	Cutlery & handtool mfg . . . . .	7	14	6	548	17 470	437	910	12 343	34 388	19 196	53 858	1 945
33221	Cutlery & handtool mfg . . . . .	7	14	6	548	17 470	437	910	12 343	34 388	19 196	53 858	1 945
332212	Hand & edge tool mfg . . . . .	7	11	6	524	16 929	417	881	11 968	33 106	18 364	51 748	D
3323	Architectural & structural metals mfg . . . . .	—	59	20	2 263	77 268	1 718	3 588	49 066	166 363	119 087	285 510	9 448
33231	Plate work & fabricated structural product mfg . . . . .	1	22	9	559	20 935	392	855	12 746	42 871	48 166	90 977	2 237
332312	Fabricated structural metal mfg . . . . .	2	14	6	425	16 818	300	672	10 331	33 687	38 049	71 765	1 824
33232	Ornamental & architectural metal products mfg . . . . .	—	37	11	1 704	56 333	1 326	2 733	36 320	123 492	70 921	194 533	7 211
332322	Sheet metal work mfg . . . . .	—	27	8	f	D	D	D	D	D	D	D	D
332323	Ornamental & architectural metal work mfg . . . . .	—	8	3	892	31 688	688	1 432	20 043	75 008	30 448	105 520	D
3325	Hardware mfg . . . . .	—	11	9	1 598	58 443	1 286	2 366	38 645	138 672	90 612	229 218	9 665
33251	Hardware mfg . . . . .	—	11	9	1 598	58 443	1 286	2 366	38 645	138 672	90 612	229 218	9 665
332510	Hardware mfg . . . . .	—	11	9	1 598	58 443	1 286	2 366	38 645	138 672	90 612	229 218	9 665
3326	Spring & wire product mfg . . . . .	2	19	9	947	26 946	676	1 411	16 205	61 392	38 023	99 023	4 927
33261	Spring & wire product mfg . . . . .	2	19	9	947	26 946	676	1 411	16 205	61 392	38 023	99 023	4 927
332611	Spring (heavy gauge) mfg . . . . .	—	3	3	329	10 799	238	566	6 594	23 805	11 041	34 664	1 941
332612	Spring (light gauge) mfg . . . . .	5	7	4	511	13 576	372	711	8 325	32 140	21 544	53 614	2 371
3327	Machine shops, turned product, & screw, nut, & bolt mfg . . . . .	1	218	51	4 053	133 088	3 144	6 178	89 762	316 858	236 154	553 203	36 088
33271	Machine shops . . . . .	1	176	32	2 591	82 631	2 075	3 914	58 274	177 695	147 056	325 517	12 587
332710	Machine shops . . . . .	1	176	32	2 591	82 631	2 075	3 914	58 274	177 695	147 056	325 517	12 587
33272	Turned product & screw, nut, & bolt mfg . . . . .	—	42	19	1 462	50 457	1 069	2 264	31 488	139 163	89 098	227 686	23 501
332721	Precision turned product mfg . . . . .	—	36	16	1 271	44 068	946	2 027	27 944	122 411	72 631	194 875	21 361
3328	Coating, engraving, heat treating, & allied activities . . . . .	1	109	47	3 933	109 364	2 995	5 880	69 708	247 878	134 037	381 098	29 240
33281	Coating, engraving, heat treating, & allied activities . . . . .	1	109	47	3 933	109 364	2 995	5 880	69 708	247 878	134 037	381 098	29 240
332811	Metal heat treating . . . . .	2	16	8	451	16 036	351	618	9 592	42 216	10 680	52 850	7 152
332812	Metal coating/engraving (exc jewelry/silverware)/allied services . . . . .	1	35	20	1 439	36 338	1 127	2 196	24 810	87 330	34 035	121 687	12 389
332813	Electroplating, plating, polishing, anodizing, & coloring . . . . .	—	58	19	2 043	56 990	1 517	3 066	35 306	118 332	89 322	206 561	9 699
3329	Other fabricated metal product mfg . . . . .	—	74	27	2 890	98 192	2 173	4 335	62 239	200 480	194 081	390 943	10 093
33291	Metal valve mfg . . . . .	—	7	5	1 254	37 017	963	1 931	23 560	62 642	133 397	194 245	3 464
332912	Fluid power valve & hose fitting mfg . . . . .	—	4	3	g	D	D	D	D	D	D	D	D
33299	All other fabricated metal product mfg . . . . .	—	67	22	1 636	61 175	1 210	2 404	38 679	137 838	60 684	196 698	6 629
332991	Ball & roller bearing mfg . . . . .	—	3	2	e	D	D	D	D	D	D	D	D
332997	Industrial pattern mfg . . . . .	—	18	7	482	20 755	417	854	16 324	38 156	12 440	51 179	2 438
332999	All other miscellaneous fabricated metal product mfg . . . . .	1	39	9	691	21 791	493	961	12 177	44 785	34 661	78 876	3 026
333	Machinery mfg . . . . .	—	396	164	16 748	772 975	11 167	23 703	428 011	1 619 655	1 072 433	2 668 328	139 306
3332	Industrial machinery mfg . . . . .	1	53	10	800	30 256	389	779	12 631	61 908	51 242	114 153	3 319
33329	Other industrial machinery mfg . . . . .	1	33	6	494	19 395	257	514	8 608	37 198	27 577	64 794	2 715
333298	All other industrial machinery mfg . . . . .	1	24	4	280	11 558	140	290	4 860	21 625	16 779	38 358	1 434
3333	Commercial & service industry machinery mfg . . . . .	—	20	7	1 035	34 820	644	1 215	16 005	107 618	92 226	198 145	6 845
33331	Commercial & service industry machinery mfg . . . . .	—	20	7	1 035	34 820	644	1 215	16 005	107 618	92 226	198 145	6 845
333315	Photographic & photocopying equipment mfg . . . . .	—	2	1	e	D	D	D	D	D	D	D	D
333319	Other commercial & service industry machinery mfg . . . . .	—	14	5	f	D	D	D	D	D	D	D	D

**Table 2. Industry Statistics for Metropolitan Areas: 1997—Con.**

[Includes data for industry groups and industries with 250 employees or more. For definitions of CMSAs, MSAs, and PMSAs, information on geographic areas followed by \*, and explanation of terms, see appendixes. For meaning of abbreviations and symbols, see introductory text]

NAICS code	Geographic area and industry	E <sup>1</sup>	All establishments		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expenditures (\$1,000)
			Total	With 20 employees or more	Number <sup>2</sup>	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
<b>31-33</b>	<b>GRAND RAPIDS—MUSKEGON—HOLLAND, MI MSA—Con.</b>												
	<b>Manufacturing—Con.</b>												
333	Machinery mfg—Con.												
3334	Ventilation, heating, AC, & commercial refrigeration equip mfg . . . . .	1	13	5	377	12 181	270	552	7 056	27 105	22 066	49 553	1 303
33341	Ventilation, heating, AC, & commercial refrigeration equip mfg . . . . .	1	13	5	377	12 181	270	552	7 056	27 105	22 066	49 553	1 303
333415	AC & warm air heating & commercial/ industrial refrig equip mfg . . . . .	—	4	3	254	8 458	178	375	4 606	18 897	17 267	36 522	1 138
3335	Metalworking machinery mfg . . . . .	—	221	100	7 658	360 523	5 915	13 495	252 137	751 374	347 535	1 077 087	64 218
33351	Metalworking machinery mfg . . . . .	—	221	100	7 658	360 523	5 915	13 495	252 137	751 374	347 535	1 077 087	64 218
333511	Industrial mold mfg . . . . .	—	56	32	2 484	120 531	1 930	4 675	82 326	238 474	100 449	335 928	32 049
333512	Machine tool (metal cutting types) mfg . . . . .	1	6	5	329	13 677	167	336	6 019	25 465	23 740	53 227	1 087
333513	Machine tool (metal forming types) mfg . . . . .	—	6	3	354	12 975	184	374	5 681	32 475	31 874	64 849	1 572
333514	Special die & tool, die set, jig, & fixture mfg . . . . .	—	120	54	3 963	195 930	3 245	7 423	147 761	418 347	177 624	572 417	26 597
333515	Cutting tool & machine tool accessory mfg . . . . .	2	22	2	334	10 463	250	436	6 545	23 585	7 291	30 701	2 374
3336	Engine, turbine, & power transmission equipment mfg . . . . .	—	12	6	2 021	100 796	1 270	2 420	47 589	143 453	112 137	260 869	29 855
33361	Engine, turbine, & power transmission equipment mfg . . . . .	—	12	6	2 021	100 796	1 270	2 420	47 589	143 453	112 137	260 869	29 855
333618	Other engine equipment mfg . . . . .	—	8	4	1 871	95 740	1 149	2 161	43 797	131 644	105 811	242 695	28 880
3339	Other general-purpose machinery mfg . . . . .	—	69	32	4 674	227 534	2 547	4 970	88 368	515 114	433 734	941 836	32 051
33391	Pump & compressor mfg . . . . .	—	6	2	e	D	D	D	D	D	D	D	D
333911	Pump & pumping equipment mfg . . . . .	—	2	1	e	D	D	D	D	D	D	D	D
33392	Material handling equipment mfg . . . . .	—	23	9	2 366	128 643	1 075	1 953	42 743	268 864	247 300	513 267	20 098
333922	Conveyor & conveying equipment mfg . . . . .	—	16	7	1 832	111 077	707	1 778	31 884	219 221	207 708	424 024	D
333923	Overhead traveling crane, hoist, & monorail system mfg . . . . .	—	3	1	e	D	D	D	D	D	D	D	D
33399	All other general-purpose machinery mfg . . . . .	—	40	21	g	D	D	D	D	D	D	D	D
333996	Fluid power pump & motor mfg . . . . .	—	2	2	e	D	D	D	D	D	D	D	D
333999	All other miscellaneous general-purpose machinery mfg . . . . .	—	23	8	665	34 088	383	756	11 641	99 368	54 139	146 489	3 689
334	Computer & electronic product mfg . . . . .	2	51	23	4 686	164 587	3 069	7 297	102 533	420 831	279 025	704 696	12 856
3343	Audio & video equipment mfg . . . . .	7	3	2	f	D	D	D	D	D	D	D	D
33431	Audio & video equipment mfg . . . . .	7	3	2	f	D	D	D	D	D	D	D	D
334310	Audio & video equipment mfg . . . . .	7	3	2	f	D	D	D	D	D	D	D	D
3344	Semiconductor & other electronic component mfg . . . . .	5	13	7	754	17 187	512	970	9 381	48 820	37 905	89 855	2 685
33441	Semiconductor & other electronic component mfg . . . . .	5	13	7	754	17 187	512	970	9 381	48 820	37 905	89 855	2 685
334418	Printed circuit assembly (electronic assembly) mfg . . . . .	7	3	3	332	5 641	214	344	3 069	19 782	24 235	47 604	D
3345	Navigational, measuring, medical, & control instruments mfg . . . . .	—	28	11	3 042	118 678	1 958	5 103	75 687	279 110	174 906	455 412	6 899
33451	Navigational, measuring, medical, & control instruments mfg . . . . .	—	28	11	3 042	118 678	1 958	5 103	75 687	279 110	174 906	455 412	6 899
334511	Search, detection, navigation, & guidance instrument mfg . . . . .	—	4	3	g	D	D	D	D	D	D	D	2 853
334512	Automatic environmental control mfg . . . . .	—	2	1	f	D	D	D	D	D	D	D	D
334518	Watch, clock, & part mfg . . . . .	—	4	2	f	D	D	D	D	D	D	D	D

**Table 2. Industry Statistics for Metropolitan Areas: 1997—Con.**

[Includes data for industry groups and industries with 250 employees or more. For definitions of CMSAs, MSAs, and PMSAs, information on geographic areas followed by \*, and explanation of terms, see appendixes. For meaning of abbreviations and symbols, see introductory text]

NAICS code	Geographic area and industry	E <sup>1</sup>	All establishments		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expenditures (\$1,000)
			Total	With 20 employees or more	Number <sup>2</sup>	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
<b>31-33</b>	<b>GRAND RAPIDS—MUSKEGON—HOLLAND, MI MSA—Con.</b>												
	<b>Manufacturing—Con.</b>												
335	Electrical equipment, appliance, & component mfg .....	-	32	15	2 249	63 796	1 671	2 951	37 594	188 855	331 533	519 139	7 520
3352	Household appliance mfg ..	-	4	2	f	D	D	D	D	D	D	D	D
33521	Small electrical appliance mfg .....	-	3	1	f	D	D	D	D	D	D	D	D
335212	Household vacuum cleaner mfg .....	-	1	1	f	D	D	D	D	D	D	D	D
3353	Electrical equipment mfg ..	-	12	4	355	8 712	230	404	3 708	17 234	33 000	50 659	531
33531	Electrical equipment mfg .....	-	12	4	355	8 712	230	404	3 708	17 234	33 000	50 659	531
335314	Relay & industrial control mfg .....	-	8	2	258	6 085	171	264	2 648	12 092	21 978	33 989	336
3359	Other electrical equipment & component mfg .....	-	11	7	f	D	D	D	D	D	D	D	3 416
33592	Communication & energy wire & cable mfg .....	-	2	2	e	D	D	D	D	D	D	D	D
335929	Other communication & energy wire mfg ...	-	2	2	e	D	D	D	D	D	D	D	D
33599	All other electrical equipment & component mfg .....	1	5	3	359	10 979	256	350	6 691	12 910	14 267	28 864	1 153
335999	All other miscellaneous electrical equipment & component mfg .....	1	5	3	359	10 979	256	350	6 691	12 910	14 267	28 864	1 153
336	Transportation equipment mfg .....	-	132	79	23 927	970 937	18 203	36 637	682 511	1 856 856	2 557 389	4 394 438	346 979
3362	Motor vehicle body & trailer mfg .....	-	14	3	473	16 806	294	563	7 390	30 279	51 212	80 677	1 667
33621	Motor vehicle body & trailer mfg .....	-	14	3	473	16 806	294	563	7 390	30 279	51 212	80 677	1 667
336211	Motor vehicle body mfg .....	-	4	2	e	D	D	D	D	D	D	D	1 481
3363	Motor vehicle parts mfg ...	-	98	66	21 452	890 420	16 484	33 262	640 403	1 641 489	2 387 195	4 023 737	335 500
33631	Motor vehicle gasoline engine & engine parts mfg .....	-	13	10	4 134	187 607	3 560	6 858	156 016	285 671	692 355	978 040	D
336312	Gasoline engine & engine parts mfg .....	-	12	10	h	D	D	D	D	D	D	D	205 157
33632	Motor vehicle electrical & electronic equipment mfg .....	-	15	6	1 628	44 333	1 295	2 473	29 800	110 312	173 937	285 288	4 606
336321	Vehicular lighting equipment mfg .....	-	2	2	f	D	D	D	D	D	D	D	D
336322	Other motor vehicle electrical & electronic equipment mfg .....	-	13	4	f	D	D	D	D	D	D	D	D
33633	Motor vehicle steering & suspension component (except spring) mfg ....	-	4	2	f	D	D	D	D	D	D	D	D
336330	Motor vehicle steering & suspension component (except spring) mfg .....	-	4	2	f	D	D	D	D	D	D	D	D
33636	Motor vehicle seating & interior trim mfg .....	-	6	5	6 135	255 497	4 095	8 670	155 400	542 166	598 823	1 144 976	D
336360	Motor vehicle seating & interior trim mfg ...	-	6	5	6 135	255 497	4 095	8 670	155 400	542 166	598 823	1 144 976	D
33637	Motor vehicle metal stamping .....	-	42	32	7 946	345 668	6 522	13 234	270 617	562 002	774 890	1 334 687	65 570
336370	Motor vehicle metal stamping .....	-	42	32	7 946	345 668	6 522	13 234	270 617	562 002	774 890	1 334 687	65 570
33639	Other motor vehicle parts mfg .....	-	15	10	1 013	34 142	687	1 341	16 597	92 061	98 880	187 643	5 069
336399	All other motor vehicle parts mfg .....	-	15	10	1 013	34 142	687	1 341	16 597	92 061	98 880	187 643	5 069
3364	Aerospace product & parts mfg .....	-	7	4	1 130	43 666	748	1 504	22 151	131 931	63 610	189 287	D
33641	Aerospace product & parts mfg .....	-	7	4	1 130	43 666	748	1 504	22 151	131 931	63 610	189 287	D
336412	Aircraft engine & engine parts mfg ....	-	2	2	f	D	D	D	D	D	D	D	D
336413	Other aircraft part & auxiliary equipment mfg .....	-	5	2	e	D	D	D	D	D	D	D	D
3366	Ship & boat building .....	-	5	4	e	D	D	D	D	D	D	D	D
33661	Ship & boat building .....	-	5	4	e	D	D	D	D	D	D	D	D
336612	Boat building .....	-	5	4	e	D	D	D	D	D	D	D	D



**Table 2. Industry Statistics for Metropolitan Areas: 1997—Con.**

[Includes data for industry groups and industries with 250 employees or more. For definitions of CMSAs, MSAs, and PMSAs, information on geographic areas followed by \*, and explanation of terms, see appendixes. For meaning of abbreviations and symbols, see introductory text]

NAICS code	Geographic area and industry	E <sup>1</sup>	All establishments		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expenditures (\$1,000)	
			Total	With 20 employees or more	Number <sup>2</sup>	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)					
<b>31-33</b>	<b>GRAND RAPIDS—MUSKEGON—HOLLAND, MI MSA—Con.</b>													
	<b>Manufacturing—Con.</b>													
336	Transportation equipment mfg—Con.													
3369	Other transportation equipment mfg .....	-	5	1	e	D	D	D	D	D	D	D	245	
33699	Other transportation equipment mfg .....	-	5	1	e	D	D	D	D	D	D	D	245	
336999	All other transportation equipment mfg .....	-	2	1	e	D	D	D	D	D	D	D	D	
337	Furniture & related product mfg .....	-	147	64		23 902	1 010 652	16 886	36 128	569 201	2 847 468	1 702 194	4 546 439	200 755
3371	Household & institutional furniture & kitchen cabinet mfg .....	1	70	19		2 561	78 122	1 973	3 817	50 481	174 897	109 749	285 583	7 407
33712	Household & institutional furniture mfg .....	1	51	18		2 450	75 602	1 884	3 669	48 724	170 373	106 735	277 987	7 179
337122	Nonupholstered wood household furniture mfg .....	2	25	11		992	26 201	807	1 595	18 287	50 187	29 166	79 748	2 629
337127	Institutional furniture mfg .....	-	18	6		1 392	47 105	1 043	2 007	29 622	110 925	68 194	179 742	4 439
3372	Office furniture (including fixtures) mfg .....	-	70	44		21 285	931 239	14 865	32 214	517 785	2 668 135	1 588 057	4 252 017	193 141
33721	Office furniture (including fixtures) mfg .....	-	70	44		21 285	931 239	14 865	32 214	517 785	2 668 135	1 588 057	4 252 017	193 141
337211	Wood office furniture mfg .....	-	19	12		1 755	51 764	1 355	2 891	36 316	135 026	78 333	213 105	7 354
337212	Custom architectural woodwork & millwork mfg .....	8	3	3	e	D	D	D	D	D	D	D	D	D
337214	Office furniture (except wood) mfg .....	-	22	19	j	D	D	D	D	D	D	D	D	D
337215	Showcase, partition, shelving, & locker mfg .....	-	26	10		631	20 302	455	900	11 097	63 336	47 327	108 099	D
339	Miscellaneous mfg .....	-	153	33		3 667	114 815	2 354	4 595	60 181	359 117	271 269	632 146	17 496
3391	Medical equipment & supplies mfg .....	-	64	14		1 705	48 898	1 014	1 889	23 005	142 745	53 544	196 098	4 874
33911	Medical equipment & supplies mfg .....	-	64	14		1 705	48 898	1 014	1 889	23 005	142 745	53 544	196 098	4 874
339111	Laboratory apparatus & furniture mfg .....	-	6	5		657	20 641	370	776	9 611	39 158	21 954	61 161	621
339112	Surgical & medical instrument mfg .....	-	8	4		436	13 227	227	458	4 801	69 487	14 502	83 441	2 644
339113	Surgical appliance & supplies mfg .....	-	7	3		318	7 603	210	299	4 068	17 709	10 945	28 806	1 116
3399	Other miscellaneous mfg ..	-	89	19		1 962	65 917	1 340	2 706	37 176	216 372	217 725	436 048	12 622
33992	Sporting & athletic goods mfg .....	-	12	2	e	D	D	D	D	D	D	D	D	D
339920	Sporting & athletic goods mfg .....	-	12	2	e	D	D	D	D	D	D	D	D	D
33995	Sign mfg .....	1	36	8		479	15 534	277	543	6 818	38 529	22 954	61 210	2 026
339950	Sign mfg .....	1	36	8		479	15 534	277	543	6 818	38 529	22 954	61 210	2 026
33999	All other miscellaneous mfg .....	-	27	6	f	D	D	D	D	D	D	D	D	D
339994	Broom, brush, & mop mfg .....	-	1	1	e	D	D	D	D	D	D	D	D	D
	<b>JACKSON, MI MSA</b>													
<b>31-33</b>	<b>Manufacturing ....</b>	-	<b>351</b>	<b>140</b>		<b>12 248</b>	<b>421 991</b>	<b>8 735</b>	<b>17 652</b>	<b>246 134</b>	<b>1 082 930</b>	<b>1 175 838</b>	<b>2 271 824</b>	<b>89 924</b>
311	Food mfg .....	-	19	5		465	15 371	201	362	4 878	88 757	50 352	139 251	2 407
3118	Bakeries & tortilla mfg .....	-	14	4		406	14 218	180	324	4 420	85 820	44 340	130 272	2 302
31182	Cookie, cracker, & pasta mfg .....	1	4	2	e	D	D	D	D	D	D	D	D	D
311822	Flour mixes & dough mfg from purchased flour .....	1	4	2	e	D	D	D	D	D	D	D	D	D
323	Printing & related support activities .....	2	21	5		258	6 574	177	328	3 710	13 938	7 034	20 935	982
3231	Printing & related support activities .....	2	21	5		258	6 574	177	328	3 710	13 938	7 034	20 935	982
325	Chemical mfg .....	-	4	1	e	D	D	D	D	D	D	D	D	D
3255	Paint, coating, & adhesive mfg .....	-	2	1	e	D	D	D	D	D	D	D	D	D
32552	Adhesive mfg .....	-	1	1	e	D	D	D	D	D	D	D	D	D
325520	Adhesive mfg .....	-	1	1	e	D	D	D	D	D	D	D	D	D

**Table 2. Industry Statistics for Metropolitan Areas: 1997—Con.**

[Includes data for industry groups and industries with 250 employees or more. For definitions of CMSAs, MSAs, and PMSAs, information on geographic areas followed by \*, and explanation of terms, see appendixes. For meaning of abbreviations and symbols, see introductory text]

NAICS code	Geographic area and industry	E <sup>1</sup>	All establishments		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expenditures (\$1,000)
			Total	With 20 employees or more	Number <sup>2</sup>	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
<b>31-33</b>	<b>JACKSON, MI MSA— Con. Manufacturing— Con.</b>												
326	Plastics & rubber products mfg .....	-	17	9	921	29 839	668	1 444	18 316	100 714	81 375	184 201	14 680
3261	Plastics product mfg .....	-	14	8	880	28 339	633	1 387	17 418	97 826	80 092	180 050	14 563
32619	Other plastics product mfg .....	-	10	6	772	24 709	552	1 215	15 190	88 764	72 548	163 384	14 058
326199	All other plastics product mfg .....	-	9	6	f	D	D	D	D	D	D	D	D
331	Primary metal mfg .....	-	9	5	592	27 303	408	999	16 076	79 299	98 063	179 532	6 506
3311	Iron & steel mills & ferroalloy mfg .....	-	1	1	e	D	D	D	D	D	D	D	D
33111	Iron & steel mills & ferroalloy mfg .....	-	1	1	e	D	D	D	D	D	D	D	D
331111	Iron & steel mills .....	-	1	1	e	D	D	D	D	D	D	D	D
3315	Foundries .....	-	7	3	e	D	D	D	D	D	D	D	D
332	Fabricated metal product mfg .....	-	132	61	4 263	140 073	3 376	6 679	90 608	285 898	254 503	539 239	20 784
3325	Hardware mfg .....	-	5	4	431	12 362	352	613	8 935	34 969	28 198	62 908	2 274
33251	Hardware mfg .....	-	5	4	431	12 362	352	613	8 935	34 969	28 198	62 908	2 274
332510	Hardware mfg .....	-	5	4	431	12 362	352	613	8 935	34 969	28 198	62 908	2 274
3327	Machine shops, turned product, & screw, nut, & bolt mfg .....	-	74	31	1 973	64 497	1 627	3 213	41 294	122 907	99 798	223 048	9 954
33271	Machine shops .....	-	45	12	1 041	30 823	827	1 585	19 990	56 784	32 799	89 118	4 055
332710	Machine shops .....	-	45	12	1 041	30 823	827	1 585	19 990	56 784	32 799	89 118	4 055
33272	Turned product & screw, nut, & bolt mfg .....	-	29	19	932	33 674	800	1 628	21 304	66 123	66 999	133 930	5 899
332721	Precision turned product mfg .....	-	24	16	829	31 385	715	1 503	19 789	59 594	61 686	122 189	5 406
3328	Coating, engraving, heat treating, & allied activities .....	-	15	7	399	12 703	321	647	8 368	32 159	7 432	39 626	2 882
33281	Coating, engraving, heat treating, & allied activities .....	-	15	7	399	12 703	321	647	8 368	32 159	7 432	39 626	2 882
3329	Other fabricated metal product mfg .....	-	17	12	1 010	37 058	734	1 433	23 137	66 927	98 695	164 343	4 391
33291	Metal valve mfg .....	-	8	7	571	21 760	390	754	13 597	41 087	74 976	115 027	3 047
332912	Fluid power valve & hose fitting mfg .....	-	6	5	f	D	D	D	D	D	D	D	D
33299	All other fabricated metal product mfg .....	-	9	5	439	15 298	344	679	9 540	25 840	23 719	49 316	1 344
332999	All other miscellaneous fabricated metal product mfg .....	-	9	5	439	15 298	344	679	9 540	25 840	23 719	49 316	1 344
333	Machinery mfg .....	-	59	22	1 676	63 323	1 214	2 444	37 438	121 510	89 720	215 829	6 912
3331	Agriculture, construction, & mining machinery mfg .....	-	1	1	e	D	D	D	D	D	D	D	D
33311	Agricultural implement mfg .....	-	1	1	e	D	D	D	D	D	D	D	D
333112	Lawn & garden tractor & home lawn & garden equipment mfg .....	-	1	1	e	D	D	D	D	D	D	D	D
3335	Metalworking machinery mfg .....	1	39	12	718	29 549	535	1 041	18 092	61 615	28 137	91 294	3 227
33351	Metalworking machinery mfg .....	1	39	12	718	29 549	535	1 041	18 092	61 615	28 137	91 294	3 227
333514	Special die & tool, die set, jig, & fixture mfg .....	1	19	4	302	12 732	233	403	8 148	30 238	8 680	39 176	1 559
3339	Other general-purpose machinery mfg .....	-	11	6	493	18 890	324	703	10 657	32 913	34 963	69 919	2 151
33399	All other general-purpose machinery mfg .....	-	8	5	454	17 871	305	679	10 312	30 171	33 728	66 042	2 092
335	Electrical equipment, appliance, & component mfg .....	-	5	2	267	7 114	175	344	3 425	16 917	11 627	28 967	622
336	Transportation equipment mfg .....	-	30	19	2 736	91 452	1 897	3 899	55 603	285 280	465 280	751 002	25 846
3363	Motor vehicle parts mfg ...	-	27	19	2 719	90 864	1 886	3 878	55 259	284 083	464 520	748 992	25 756
33631	Motor vehicle gasoline engine & engine parts mfg .....	-	7	5	842	29 203	576	1 123	17 596	81 585	81 636	161 390	4 875
336312	Gasoline engine & engine parts mfg .....	-	7	5	842	29 203	576	1 123	17 596	81 585	81 636	161 390	4 875
33634	Motor vehicle brake system mfg .....	-	1	1	e	D	D	D	D	D	D	D	D
336340	Motor vehicle brake system mfg .....	-	1	1	e	D	D	D	D	D	D	D	D

**Table 2. Industry Statistics for Metropolitan Areas: 1997—Con.**

[Includes data for industry groups and industries with 250 employees or more. For definitions of CMSAs, MSAs, and PMSAs, information on geographic areas followed by \*, and explanation of terms, see appendixes. For meaning of abbreviations and symbols, see introductory text]

NAICS code	Geographic area and industry	E <sup>1</sup>	All establishments		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expenditures (\$1,000)	
			Total	With 20 employees or more	Number <sup>2</sup>	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)					
	<b>JACKSON, MI MSA—</b>													
	<b>Con.</b>													
<b>31-33</b>	<b>Manufacturing—</b>													
	<b>Con.</b>													
336	Transportation equipment mfg—Con.													
3363	Motor vehicle parts mfg—Con.													
33635	Motor vehicle transmission & power train parts mfg .....	-	3	2	e	D	D	D	D	D	D	D	D	
336350	Motor vehicle transmission & power train parts mfg .....	-	3	2	e	D	D	D	D	D	D	D	D	
33637	Motor vehicle metal stamping .....	-	6	4		310	8 665	200	374	5 026	21 740	24 345	46 126	D
336370	Motor vehicle metal stamping .....	-	6	4		310	8 665	200	374	5 026	21 740	24 345	46 126	D
33639	Other motor vehicle parts mfg .....	-	8	5	f			D	D	D	D	D	D	D
336391	Motor vehicle air-conditioning mfg .....	-	1	1	f			D	D	D	D	D	D	D
	<b>KALAMAZOO—BATTLE CREEK, MI MSA</b>													
<b>31-33</b>	<b>Manufacturing ....</b>	-	<b>748</b>	<b>287</b>		<b>43 859</b>	<b>1 586 793</b>	<b>32 602</b>	<b>66 073</b>	<b>1 058 717</b>	<b>4 683 631</b>	<b>4 902 583</b>	<b>9 631 184</b>	<b>506 613</b>
311	Food mfg .....	-	44	16		4 456	200 626	3 842	7 700	162 668	1 246 878	803 820	2 052 320	49 875
3112	Grain & oilseed milling ....	-	4	4	g		D	D	D	D	D	D	D	D
31123	Breakfast cereal mfg .....	-	3	3	g		D	D	D	D	D	D	D	D
311230	Breakfast cereal mfg .....	-	3	3	g		D	D	D	D	D	D	D	D
3114	Fruit & vegetable preserving & specialty food mfg .....	-	11	6		597	13 448	485	937	9 410	78 768	66 134	143 977	1 946
31142	Fruit & vegetable canning, pickling, & drying .....	-	10	5	f		D	D	D	D	D	D	D	D
311421	Fruit & vegetable canning .....	-	7	4	e		D	D	D	D	D	D	D	D
3116	Meat product mfg .....	-	8	2	g		D	D	D	D	D	D	D	D
31161	Animal slaughtering & processing .....	-	8	2	g		D	D	D	D	D	D	D	D
311611	Animal (except poultry) slaughtering .....	-	6	1	f		D	D	D	D	D	D	D	D
312	Beverage & tobacco product mfg .....	-	9	5		824	27 706	651	1 476	21 765	227 922	200 711	426 148	22 548
3121	Beverage mfg .....	-	9	5		824	27 706	651	1 476	21 765	227 922	200 711	426 148	22 548
31211	Soft drink & ice mfg .....	-	5	3		735	26 312	586	1 356	20 846	222 162	197 234	416 886	D
312111	Soft drink mfg .....	-	4	3	f		D	D	D	D	D	D	D	D
322	Paper mfg .....	-	35	28		4 159	171 020	3 229	7 314	118 889	478 711	604 949	1 094 381	51 606
3221	Pulp, paper, & paperboard mills .....	-	6	6		1 792	89 235	1 438	3 521	66 005	241 035	312 187	566 717	25 705
32212	Paper mills .....	-	3	3		993	49 499	816	1 942	35 797	87 299	187 661	288 459	D
322121	Paper (except newsprint) mills .....	-	3	3		993	49 499	816	1 942	35 797	87 299	187 661	288 459	D
32213	Paperboard mills .....	-	3	3		799	39 736	622	1 579	30 208	153 736	124 526	278 258	D
322130	Paperboard mills .....	-	3	3		799	39 736	622	1 579	30 208	153 736	124 526	278 258	D
3222	Converted paper product mfg .....	1	29	22		2 367	81 785	1 791	3 793	52 884	237 676	292 762	527 664	25 901
32221	Paperboard container mfg .....	1	18	13		1 510	54 867	1 114	2 541	35 109	135 713	189 465	324 472	22 623
322211	Corrugated & solid fiber box mfg .....	1	9	7		631	23 788	437	999	14 137	54 907	78 649	133 528	D
322212	Folding paperboard box mfg .....	2	6	4	e		D	D	D	D	D	D	D	D
322215	Nonfolding sanitary food container mfg .....	-	2	2	f		D	D	D	D	D	D	D	D
32222	Paper bag & coated & treated paper mfg .....	-	2	2	e		D	D	D	D	D	D	D	D
32223	Stationery product mfg .....	-	2	2	e		D	D	D	D	D	D	D	D
323	Printing & related support activities .....	-	96	18		1 841	56 735	1 280	2 264	31 981	133 973	80 552	214 561	9 003
3231	Printing & related support activities .....	-	96	18		1 841	56 735	1 280	2 264	31 981	133 973	80 552	214 561	9 003
32311	Printing .....	1	86	15		1 552	42 535	1 056	1 806	22 653	94 925	73 545	168 701	5 362
323110	Commercial lithographic printing .....	1	42	9		836	22 329	546	998	11 661	41 379	39 903	80 366	3 587
32312	Support activities for printing .....	-	10	3		289	14 200	224	458	9 328	39 048	7 007	45 860	3 641
323122	Prepress services .....	-	9	3	e		D	D	D	D	D	D	D	3 641

**Table 2. Industry Statistics for Metropolitan Areas: 1997—Con.**

[Includes data for industry groups and industries with 250 employees or more. For definitions of CMSAs, MSAs, and PMSAs, information on geographic areas followed by \*, and explanation of terms, see appendixes. For meaning of abbreviations and symbols, see introductory text]

NAICS code	Geographic area and industry	E <sup>1</sup>	All establishments		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expenditures (\$1,000)
			Total	With 20 employees or more	Number <sup>2</sup>	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
<b>31-33</b>	<b>KALAMAZOO-BATTLE CREEK, MI MSA—Con. Manufacturing—Con.</b>												
325	Chemical mfg . . . . .	1	32	16	3 652	182 130	2 569	4 288	129 094	365 654	550 503	940 074	120 286
3254	Pharmaceutical & medicine mfg . . . . .	—	7	4	2 816	148 441	2 158	3 422	114 803	220 408	347 091	585 259	D
32541	Pharmaceutical & medicine mfg . . . . .	—	7	4	2 816	148 441	2 158	3 422	114 803	220 408	347 091	585 259	D
325412	Pharmaceutical preparation mfg . . . . .	—	2	1	g	D	D	D	D	D	D	D	D
3259	Other chemical product mfg . . . . .	4	12	8	640	26 026	291	658	11 171	123 753	111 742	230 675	D
32599	All other chemical product & preparation mfg . . . . .	5	8	5	554	22 799	251	576	9 644	113 367	97 782	206 529	D
325998	All other miscellaneous chemical product & preparation mfg . . . . .	6	4	3	399	17 814	149	358	6 406	98 348	71 896	165 762	D
326	Plastics & rubber products mfg . . . . .	1	51	31	4 242	114 062	3 420	6 874	73 281	312 060	237 131	553 900	39 542
3261	Plastics product mfg . . . . .	1	46	29	3 972	109 531	3 181	6 408	69 639	286 516	218 926	510 169	38 894
32611	Unsupported plastics film, sheet, & bag mfg . . . . .	—	3	3	289	11 400	167	323	5 161	22 818	27 267	49 504	D
32615	Urethane & other foam product (except polystyrene) mfg . . . . .	9	4	1	e	D	D	D	D	D	D	D	D
326150	Urethane & other foam product (except polystyrene) mfg . . . . .	9	4	1	e	D	D	D	D	D	D	D	D
32619	Other plastics product mfg . . . . .	—	36	24	3 318	90 570	2 715	5 456	58 771	246 792	172 318	424 419	29 104
326199	All other plastics product mfg . . . . .	—	36	24	3 318	90 570	2 715	5 456	58 771	246 792	172 318	424 419	29 104
3262	Rubber product mfg . . . . .	—	5	2	270	4 531	239	466	3 642	25 544	18 205	43 731	648
32629	Other rubber product mfg . . . . .	—	5	2	270	4 531	239	466	3 642	25 544	18 205	43 731	648
326291	Rubber product mfg for mechanical use . . . . .	—	3	2	e	D	D	D	D	D	D	D	D
327	Nonmetallic mineral product mfg . . . . .	1	28	5	595	19 062	448	973	12 596	79 114	55 276	132 677	5 250
3273	Cement & concrete product mfg . . . . .	3	19	4	325	11 739	200	444	5 889	25 973	24 662	50 312	2 971
331	Primary metal mfg . . . . .	—	17	11	1 616	53 565	1 191	2 620	37 508	130 779	100 323	230 957	7 941
3315	Foundries . . . . .	—	14	8	1 321	45 337	958	2 105	31 684	110 954	73 950	184 972	D
33151	Ferrous metal foundries . . . . .	—	6	4	758	25 042	484	1 106	13 998	68 398	45 182	113 720	D
331511	Iron foundries . . . . .	—	5	4	f	D	D	D	D	D	D	D	1 125
33152	Nonferrous metal foundries . . . . .	—	8	4	563	20 295	474	999	17 686	42 556	28 768	71 252	5 177
331522	Nonferrous (except aluminum) die-casting foundries . . . . .	—	2	2	e	D	D	D	D	D	D	D	D
332	Fabricated metal product mfg . . . . .	1	163	58	5 313	160 212	4 000	8 075	99 469	376 731	325 553	699 677	31 113
3323	Architectural & structural metals mfg . . . . .	1	23	8	484	15 834	342	646	9 290	37 837	36 642	74 278	1 588
33232	Ornamental & architectural metal products mfg . . . . .	1	15	7	390	12 500	270	502	7 453	30 573	28 891	59 443	1 333
3325	Hardware mfg . . . . .	4	3	3	363	11 645	264	528	6 726	30 415	30 734	60 733	2 864
33251	Hardware mfg . . . . .	4	3	3	363	11 645	264	528	6 726	30 415	30 734	60 733	2 864
332510	Hardware mfg . . . . .	4	3	3	363	11 645	264	528	6 726	30 415	30 734	60 733	2 864
3326	Spring & wire product mfg . . . . .	—	5	2	347	7 564	269	495	5 244	22 442	9 999	31 395	1 185
33261	Spring & wire product mfg . . . . .	—	5	2	347	7 564	269	495	5 244	22 442	9 999	31 395	1 185
332618	Other fabricated wire product mfg . . . . .	—	4	1	e	D	D	D	D	D	D	D	D
3327	Machine shops, turned product, & screw, nut, & bolt mfg . . . . .	—	67	15	1 291	39 377	1 047	2 130	28 408	104 260	89 438	192 951	11 518
33271	Machine shops . . . . .	—	52	7	772	23 378	624	1 259	16 707	62 176	59 261	120 347	5 655
332710	Machine shops . . . . .	—	52	7	772	23 378	624	1 259	16 707	62 176	59 261	120 347	5 655
33272	Turned product & screw, nut, & bolt mfg . . . . .	—	15	8	519	15 999	423	871	11 701	42 084	30 177	72 604	5 863
332721	Precision turned product mfg . . . . .	—	11	6	e	D	D	D	D	D	D	D	5 016
3328	Coating, engraving, heat treating, & allied activities . . . . .	—	26	12	803	20 317	662	1 318	12 810	42 706	24 728	67 001	2 951
33281	Coating, engraving, heat treating, & allied activities . . . . .	—	26	12	803	20 317	662	1 318	12 810	42 706	24 728	67 001	2 951
332813	Electroplating, plating, polishing, anodizing, & coloring . . . . .	1	15	8	539	13 060	443	971	8 671	27 409	17 755	44 754	2 376

**Table 2. Industry Statistics for Metropolitan Areas: 1997—Con.**

[Includes data for industry groups and industries with 250 employees or more. For definitions of CMSAs, MSAs, and PMSAs, information on geographic areas followed by \*, and explanation of terms, see appendixes. For meaning of abbreviations and symbols, see introductory text]

NAICS code	Geographic area and industry	E <sup>1</sup>	All establishments		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expenditures (\$1,000)
			Total	With 20 employees or more	Number <sup>2</sup>	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
<b>31-33</b>	<b>KALAMAZOO—BATTLE CREEK, MI MSA—Con. Manufacturing—Con.</b>												
332	Fabricated metal product mfg—Con.												
3329	Other fabricated metal product mfg.....	-	24	13	1 776	58 014	1 234	2 598	32 275	125 107	127 446	252 861	10 240
33291	Metal valve mfg.....	1	10	8	1 080	34 161	760	1 455	18 035	77 352	69 133	147 570	8 066
332912	Fluid power valve & hose fitting mfg.....	-	4	4	784	25 256	553	1 081	13 338	59 857	53 488	114 682	6 446
33299	All other fabricated metal product mfg.....	-	14	5	696	23 853	474	1 143	14 240	47 755	58 313	105 291	2 174
332999	All other miscellaneous fabricated metal product mfg.....	-	8	3	577	20 938	405	1 018	12 283	42 091	54 269	95 527	1 565
333	Machinery mfg.....	1	108	41	4 134	158 186	2 480	5 277	79 446	275 667	235 438	526 097	17 642
3332	Industrial machinery mfg ..	4	8	5	439	15 136	263	485	7 586	34 329	25 306	61 076	1 813
3335	Metalworking machinery mfg.....	1	49	19	1 064	46 270	728	1 574	27 852	75 558	31 075	105 838	7 353
33351	Metalworking machinery mfg.....	1	49	19	1 064	46 270	728	1 574	27 852	75 558	31 075	105 838	7 353
333511	Industrial mold mfg ...	-	22	10	530	27 888	378	891	17 433	43 920	12 354	56 153	5 835
3339	Other general-purpose machinery mfg.....	-	35	9	2 279	86 084	1 240	2 731	38 257	139 806	151 840	305 233	6 652
33391	Pump & compressor mfg.....	-	5	2	f	D	D	D	D	D	D	D	D
333911	Pump & pumping equipment mfg.....	-	3	2	f	D	D	D	D	D	D	D	D
33392	Material handling equipment mfg.....	-	11	3	e	D	D	D	D	D	D	D	D
333922	Conveyor & conveying equipment mfg.....	-	10	3	e	D	D	D	D	D	D	D	D
33399	All other general-purpose machinery mfg.....	-	19	4	997	35 921	538	1 102	13 775	52 260	85 413	148 657	2 217
333996	Fluid power pump & motor mfg.....	-	3	1	f	D	D	D	D	D	D	D	D
334	Computer & electronic product mfg.....	5	11	3	265	8 636	179	399	4 067	19 034	13 519	32 843	2 304
335	Electrical equipment, appliance, & component mfg.....	-	13	5	670	19 554	506	1 057	12 415	33 741	39 027	73 827	5 332
3359	Other electrical equipment & component mfg.....	-	4	2	f	D	D	D	D	D	D	D	D
33592	Communication & energy wire & cable mfg.....	-	2	2	e	D	D	D	D	D	D	D	D
335929	Other communication & energy wire mfg...	-	2	2	e	D	D	D	D	D	D	D	D
336	Transportation equipment mfg.....	-	37	25	8 752	312 134	6 879	13 495	227 562	719 405	1 399 421	2 113 799	127 233
3363	Motor vehicle parts mfg ...	-	33	23	8 678	309 739	6 835	13 394	226 399	713 388	1 389 682	2 097 842	127 093
33631	Motor vehicle gasoline engine & engine parts mfg.....	1	6	1	374	12 085	286	528	7 349	8 707	12 146	20 932	D
336312	Gasoline engine & engine parts mfg.....	1	4	1	e	D	D	D	D	D	D	D	D
33632	Motor vehicle electrical & electronic equipment mfg.....	-	6	6	3 719	127 435	2 878	5 877	96 846	291 063	915 088	1 206 899	84 200
336321	Vehicular lighting equipment mfg.....	-	2	2	f	D	D	D	D	D	D	D	D
336322	Other motor vehicle electrical & electronic equipment mfg.....	-	4	4	h	D	D	D	D	D	D	D	D
33633	Motor vehicle steering & suspension component (except spring) mfg....	-	2	2	e	D	D	D	D	D	D	D	D
336330	Motor vehicle steering & suspension component (except spring) mfg.....	-	2	2	e	D	D	D	D	D	D	D	D
33635	Motor vehicle transmission & power train parts mfg.....	-	1	1	f	D	D	D	D	D	D	D	D
336350	Motor vehicle transmission & power train parts mfg.....	-	1	1	f	D	D	D	D	D	D	D	D
33637	Motor vehicle metal stamping.....	-	10	8	2 664	111 252	2 145	4 339	85 119	195 715	238 882	434 307	12 310
336370	Motor vehicle metal stamping.....	-	10	8	2 664	111 252	2 145	4 339	85 119	195 715	238 882	434 307	12 310
33639	Other motor vehicle parts mfg.....	-	5	4	984	21 930	802	988	10 537	88 246	125 140	211 258	D
336399	All other motor vehicle parts mfg.....	-	5	4	984	21 930	802	988	10 537	88 246	125 140	211 258	D

**Table 2. Industry Statistics for Metropolitan Areas: 1997—Con.**

[Includes data for industry groups and industries with 250 employees or more. For definitions of CMSAs, MSAs, and PMSAs, information on geographic areas followed by \*, and explanation of terms, see appendixes. For meaning of abbreviations and symbols, see introductory text]

NAICS code	Geographic area and industry	E <sup>1</sup>	All establishments		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expenditures (\$1,000)
			Total	With 20 employees or more	Number <sup>2</sup>	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
<b>31-33</b>	<b>KALAMAZOO—BATTLE CREEK, MI MSA—Con.</b>												
	<b>Manufacturing—Con.</b>												
337	Furniture & related product mfg .....	-	19	5	659	21 566	458	1 082	12 705	45 786	43 088	88 017	1 751
3371	Household & institutional furniture & kitchen cabinet mfg .....	-	11	3	254	7 904	170	330	4 244	20 986	18 626	39 548	575
3372	Office furniture (including fixtures) mfg .....	-	6	2	e	D	D	D	D	D	D	D	D
33721	Office furniture (including fixtures) mfg .....	-	6	2	e	D	D	D	D	D	D	D	D
337215	Showcase, partition, shelving, & locker mfg .....	-	3	1	e	D	D	D	D	D	D	D	D
339	Miscellaneous mfg .....	-	57	13	2 258	72 134	1 183	2 576	30 275	212 378	156 578	368 014	14 745
3391	Medical equipment & supplies mfg .....	-	24	6	1 666	56 087	743	1 650	19 876	176 166	136 743	311 923	13 356
33911	Medical equipment & supplies mfg .....	-	24	6	1 666	56 087	743	1 650	19 876	176 166	136 743	311 923	13 356
339112	Surgical & medical instrument mfg .....	-	5	3	e	D	D	D	D	D	D	D	D
339113	Surgical appliance & supplies mfg .....	-	8	3	g	D	D	D	D	D	D	D	D
3399	Other miscellaneous mfg ..	2	33	7	592	16 047	440	926	10 399	36 212	19 835	56 091	1 389
33999	All other miscellaneous mfg .....	1	9	3	297	7 834	241	486	5 536	17 788	8 001	25 994	469
	<b>LANSING—EAST LANSING, MI MSA</b>												
<b>31-33</b>	<b>Manufacturing ....</b>	-	<b>428</b>	<b>144</b>	<b>29 104</b>	<b>1 470 820</b>	<b>22 747</b>	<b>47 126</b>	<b>1 075 704</b>	<b>2 369 459</b>	<b>6 492 102</b>	<b>8 892 841</b>	<b>515 690</b>
311	Food mfg .....	1	29	10	666	17 064	485	954	12 289	45 982	174 480	216 673	D
3115	Dairy product mfg .....	-	5	5	392	11 481	301	644	9 429	26 350	139 887	162 517	D
31151	Dairy product (except frozen) mfg .....	-	4	4	e	D	D	D	D	D	D	D	D
311511	Fluid milk mfg .....	1	3	3	e	D	D	D	D	D	D	D	D
321	Wood product mfg .....	1	21	9	521	14 982	344	725	7 659	30 129	47 875	77 541	D
3219	Other wood product mfg ...	2	18	7	369	8 512	239	511	4 861	15 733	18 951	34 876	D
323	Printing & related support activities .....	1	81	15	1 490	48 156	1 058	1 910	28 205	75 165	80 101	154 901	D
3231	Printing & related support activities .....	1	81	15	1 490	48 156	1 058	1 910	28 205	75 165	80 101	154 901	D
32311	Printing .....	1	68	13	1 332	44 599	929	1 676	25 771	68 688	78 056	146 389	D
323110	Commercial lithographic printing ..	-	39	9	1 122	39 220	763	1 428	22 573	58 105	69 241	127 071	D
325	Chemical mfg .....	8	13	6	371	15 018	171	328	6 047	51 121	52 695	100 199	D
326	Plastics & rubber products mfg .....	-	19	11	2 058	55 789	1 556	3 113	35 753	99 655	167 060	267 530	40 967
3261	Plastics product mfg .....	-	17	11	g	D	D	D	D	D	D	D	D
32614	Polystyrene foam product mfg .....	-	2	2	f	D	D	D	D	D	D	D	D
326140	Polystyrene foam product mfg .....	-	2	2	f	D	D	D	D	D	D	D	D
32619	Other plastics product mfg .....	-	12	8	g	D	D	D	D	D	D	D	D
326199	All other plastics product mfg .....	-	12	8	g	D	D	D	D	D	D	D	D
327	Nonmetallic mineral product mfg .....	1	22	6	497	18 906	384	771	14 224	57 411	32 220	92 183	3 672
3273	Cement & concrete product mfg .....	1	17	5	e	D	D	D	D	D	D	D	3 604
331	Primary metal mfg .....	-	4	2	e	D	D	D	D	D	D	D	D
332	Fabricated metal product mfg .....	-	70	20	1 852	66 762	1 485	3 077	46 481	140 316	98 500	241 155	10 534
3321	Forging & stamping .....	-	4	2	379	16 830	313	638	12 569	31 088	30 082	64 193	D
33211	Forging & stamping .....	-	4	2	379	16 830	313	638	12 569	31 088	30 082	64 193	D
3327	Machine shops, turned product, & screw, nut, & bolt mfg .....	-	23	5	585	22 368	454	1 043	14 859	48 178	18 381	66 340	3 032
33272	Turned product & screw, nut, & bolt mfg .....	1	6	3	338	12 646	262	627	7 874	25 353	8 175	33 559	2 520
332721	Precision turned product mfg .....	1	6	3	338	12 646	262	627	7 874	25 353	8 175	33 559	2 520
3328	Coating, engraving, heat treating, & allied activities ..	-	13	5	392	11 910	322	592	8 546	23 815	5 912	29 945	887
33281	Coating, engraving, heat treating, & allied activities .....	-	13	5	392	11 910	322	592	8 546	23 815	5 912	29 945	887
332811	Metal heat treating .....	-	6	4	305	10 305	251	469	7 372	19 645	4 762	24 615	765

**Table 2. Industry Statistics for Metropolitan Areas: 1997—Con.**

[Includes data for industry groups and industries with 250 employees or more. For definitions of CMSAs, MSAs, and PMSAs, information on geographic areas followed by \*, and explanation of terms, see appendixes. For meaning of abbreviations and symbols, see introductory text]

NAICS code	Geographic area and industry	E <sup>1</sup>	All establishments		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expenditures (\$1,000)
			Total	With 20 employees or more	Number <sup>2</sup>	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
<b>31-33</b>	<b>LANSING—EAST LANSING, MI MSA—Con.</b>												
	<b>Manufacturing—Con.</b>												
333	Machinery mfg . . . . .	-	44	24	2 182	88 017	1 629	3 671	59 828	176 980	137 195	315 886	6 135
3335	Metalworking machinery mfg . . . . .	-	23	14	984	42 941	700	1 656	27 836	71 615	50 351	122 432	2 415
33351	Metalworking machinery mfg . . . . .	-	23	14	984	42 941	700	1 656	27 836	71 615	50 351	122 432	2 415
333512	Machine tool (metal cutting types) mfg . . .	-	2	2	e	D	D	D	D	D	D	D	D
333514	Special die & tool, die set, jig, & fixture mfg .	-	15	9	326	13 057	250	555	8 939	22 773	7 968	30 944	1 095
3336	Engine, turbine, & power transmission equipment mfg . . . . .	-	1	1	f	D	D	D	D	D	D	D	D
33361	Engine, turbine, & power transmission equipment mfg . . . . .	-	1	1	f	D	D	D	D	D	D	D	D
333613	Mechanical power transmission equipment mfg . . . . .	-	1	1	f	D	D	D	D	D	D	D	D
334	Computer & electronic product mfg . . . . .	5	14	5	263	10 220	145	294	4 020	17 290	12 136	29 493	641
336	Transportation equipment mfg . . . . .	-	35	22	17 833	1 098 383	14 498	30 374	839 512	1 572 918	5 550 232	7 152 442	D
3361	Motor vehicle mfg . . . . .	-	4	2	j	D	D	D	D	D	D	D	D
33611	Automobile & light duty motor vehicle mfg . . . . .	-	3	2	j	D	D	D	D	D	D	D	D
336111	Automobile mfg . . . . .	-	3	2	j	D	D	D	D	D	D	D	D
3363	Motor vehicle parts mfg . . .	-	24	15	h	D	D	D	D	D	D	D	42 347
33631	Motor vehicle gasoline engine & engine parts mfg . . . . .	-	4	3	2 403	121 298	1 923	4 098	86 712	98 456	467 319	595 510	D
336311	Carburetor, piston, piston ring, & valve mfg . . . . .	-	1	1	e	D	D	D	D	D	D	D	D
336312	Gasoline engine & engine parts mfg . . . . .	-	3	2	g	D	D	D	D	D	D	D	D
33632	Motor vehicle electrical & electronic equipment mfg . . . . .	-	1	1	f	D	D	D	D	D	D	D	D
336322	Other motor vehicle electrical & electronic equipment mfg . . . . .	-	1	1	f	D	D	D	D	D	D	D	D
33633	Motor vehicle steering & suspension component (except spring) mfg . . . . .	-	3	2	352	12 337	261	618	8 223	28 673	10 862	39 053	D
336330	Motor vehicle steering & suspension component (except spring) mfg . . . . .	-	3	2	352	12 337	261	618	8 223	28 673	10 862	39 053	D
33637	Motor vehicle metal stamping . . . . .	-	7	4	e	D	D	D	D	D	D	D	4 362
336370	Motor vehicle metal stamping . . . . .	-	7	4	e	D	D	D	D	D	D	D	4 362
33639	Other motor vehicle parts mfg . . . . .	3	8	5	f	D	D	D	D	D	D	D	2 474
336399	All other motor vehicle parts mfg . . . . .	3	8	5	f	D	D	D	D	D	D	D	2 474
3364	Aerospace product & parts mfg . . . . .	-	4	3	e	D	D	D	D	D	D	D	D
33641	Aerospace product & parts mfg . . . . .	-	4	3	e	D	D	D	D	D	D	D	D
339	Miscellaneous mfg . . . . .	-	30	5	313	8 153	241	457	5 850	15 790	7 422	23 443	857
	<b>SAGINAW—BAY CITY—MIDLAND, MI MSA</b>												
<b>31-33</b>	<b>Manufacturing . . . . .</b>	-	<b>462</b>	<b>147</b>	<b>33 753</b>	<b>1 780 987</b>	<b>25 283</b>	<b>55 691</b>	<b>1 270 068</b>	<b>4 306 649</b>	<b>4 495 290</b>	<b>8 791 510</b>	<b>597 094</b>
311	Food mfg . . . . .	1	38	7	1 093	29 453	809	1 644	20 263	91 461	118 304	210 616	4 673
3113	Sugar & confectionery product mfg . . . . .	2	5	2	e	D	D	D	D	D	D	D	D
31131	Sugar mfg . . . . .	2	2	2	e	D	D	D	D	D	D	D	D
311313	Beet sugar mfg . . . . .	2	2	2	e	D	D	D	D	D	D	D	D
3114	Fruit & vegetable preserving & specialty food mfg . . . . .	-	3	1	e	D	D	D	D	D	D	D	D
31142	Fruit & vegetable canning, pickling, & drying . . . . .	-	3	1	e	D	D	D	D	D	D	D	D
311421	Fruit & vegetable canning . . . . .	-	2	1	e	D	D	D	D	D	D	D	D
321	Wood product mfg . . . . .	-	21	6	461	10 720	332	659	6 813	28 487	35 415	62 149	1 490

**Table 2. Industry Statistics for Metropolitan Areas: 1997—Con.**

[Includes data for industry groups and industries with 250 employees or more. For definitions of CMSAs, MSAs, and PMSAs, information on geographic areas followed by \*, and explanation of terms, see appendixes. For meaning of abbreviations and symbols, see introductory text]

NAICS code	Geographic area and industry	E <sup>1</sup>	All establishments		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expenditures (\$1,000)
			Total	With 20 employees or more	Number <sup>2</sup>	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
<b>31-33</b>	<b>SAGINAW-BAY CITY-MIDLAND, MI MSA—Con.</b>												
	<b>Manufacturing—Con.</b>												
323	Printing & related support activities.....	-	53	7	1 190	35 921	874	1 753	21 355	75 782	62 217	137 613	7 241
3231	Printing & related support activities.....	-	53	7	1 190	35 921	874	1 753	21 355	75 782	62 217	137 613	7 241
32311	Printing.....	-	48	7	1 148	34 702	846	1 706	20 673	73 214	61 763	134 594	7 137
323110	Commercial lithographic printing ..	-	19	3	713	22 482	555	1 257	15 192	51 524	45 072	96 234	5 672
325	Chemical mfg.....	-	18	9	i	D	D	D	D	D	D	D	D
3251	Basic chemical mfg.....	-	6	2	h	D	D	D	D	D	D	D	D
32519	Other basic organic chemical mfg.....	-	3	2	h	D	D	D	D	D	D	D	D
325199	All other basic organic chemical mfg.....	-	3	2	h	D	D	D	D	D	D	D	D
3252	Resin, syn rubber, & artificial & syn fibers & filaments mfg.....	-	4	4	g	D	D	D	D	D	D	D	D
32521	Resin & synthetic rubber mfg.....	-	4	4	g	D	D	D	D	D	D	D	D
325211	Plastics material & resin mfg.....	-	4	4	g	D	D	D	D	D	D	D	D
326	Plastics & rubber products mfg.....	-	20	12	1 479	53 319	1 163	2 455	36 459	123 659	123 869	249 356	9 456
3261	Plastics product mfg.....	-	18	11	g	D	D	D	D	D	D	D	D
32611	Unsupported plastics film, sheet, & bag mfg..	-	3	3	e	D	D	D	D	D	D	D	D
326111	Unsupported plastics bag mfg.....	-	2	2	e	D	D	D	D	D	D	D	D
32619	Other plastics product mfg.....	-	10	5	847	24 593	691	1 473	15 170	48 788	48 097	97 720	1 525
326199	All other plastics product mfg.....	-	10	5	847	24 593	691	1 473	15 170	48 788	48 097	97 720	1 525
327	Nonmetallic mineral product mfg.....	1	27	10	534	19 353	341	711	10 768	68 256	61 476	129 946	3 252
3273	Cement & concrete product mfg.....	1	18	8	460	16 963	302	630	9 669	60 825	55 770	117 092	2 776
331	Primary metal mfg.....	-	13	5	h	D	D	D	D	D	D	D	D
3314	Nonferrous metal (except aluminum) production & processing.....	-	1	1	f	D	D	D	D	D	D	D	D
33141	Nonferrous metal (except aluminum) smelting & refining.....	-	1	1	f	D	D	D	D	D	D	D	D
331419	Other nonferrous metal primary smelting & refining.....	-	1	1	f	D	D	D	D	D	D	D	D
3315	Foundries.....	-	12	4	h	D	D	D	D	D	D	D	D
33151	Ferrous metal foundries..	-	9	3	h	D	D	D	D	D	D	D	D
331511	Iron foundries.....	-	5	2	h	D	D	D	D	D	D	D	D
332	Fabricated metal product mfg.....	1	101	37	2 553	92 211	2 033	4 205	62 758	183 864	102 227	287 467	8 618
3323	Architectural & structural metals mfg.....	1	15	5	599	18 249	530	1 084	14 035	35 560	27 455	63 446	2 052
33232	Ornamental & architectural metal products mfg.....	1	8	3	418	12 916	373	814	10 629	21 690	19 393	41 137	1 555
332322	Sheet metal work mfg..	-	4	1	e	D	D	D	D	D	D	D	D
3327	Machine shops, turned product, & screw, nut, & bolt mfg.....	-	60	23	1 314	48 854	1 032	2 158	32 858	95 795	42 419	137 919	4 063
33271	Machine shops.....	-	56	22	1 237	46 704	967	2 012	31 298	92 397	41 215	133 279	3 953
332710	Machine shops.....	-	56	22	1 237	46 704	967	2 012	31 298	92 397	41 215	133 279	3 953
3329	Other fabricated metal product mfg.....	3	11	5	360	16 022	256	527	10 403	36 560	22 576	60 540	1 444
33299	All other fabricated metal product mfg.....	2	10	4	e	D	D	D	D	D	D	D	D
333	Machinery mfg.....	2	67	29	2 831	123 159	1 800	3 937	69 096	244 227	210 151	463 501	11 482
3332	Industrial machinery mfg..	2	9	3	349	21 295	182	449	9 852	57 360	49 216	102 111	2 860
3335	Metalworking machinery mfg.....	2	41	21	2 099	87 421	1 401	3 017	52 235	146 259	126 680	286 535	7 753
33351	Metalworking machinery mfg.....	2	41	21	2 099	87 421	1 401	3 017	52 235	146 259	126 680	286 535	7 753
333512	Machine tool (metal cutting types) mfg... ..	3	4	4	666	32 067	338	792	15 037	45 447	73 405	124 673	2 086
333514	Special die & tool, die set, jig, & fixture mfg..	-	19	5	303	11 863	244	490	8 809	20 422	6 141	26 644	1 544
333515	Cutting tool & machine tool accessory mfg..	-	9	6	688	23 888	533	1 059	16 251	40 756	21 945	62 773	2 753
333518	Other metalworking machinery mfg.....	4	3	2	e	D	D	D	D	D	D	D	D



**Table 2. Industry Statistics for Metropolitan Areas: 1997—Con.**

[Includes data for industry groups and industries with 250 employees or more. For definitions of CMSAs, MSAs, and PMSAs, information on geographic areas followed by \*, and explanation of terms, see appendixes. For meaning of abbreviations and symbols, see introductory text]

NAICS code	Geographic area and industry	E <sup>1</sup>	All establishments		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expenditures (\$1,000)
			Total	With 20 employees or more	Number <sup>2</sup>	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
<b>31-33</b>	<b>SAGINAW-BAY CITY-MIDLAND, MI MSA—Con.</b>												
	<b>Manufacturing—Con.</b>												
333	Machinery mfg—Con.												
3339	Other general-purpose machinery mfg .....	-	10	4	318	12 118	174	390	6 165	36 697	28 598	65 335	789
335	Electrical equipment, appliance, & component mfg .....	2	10	2	254	8 421	197	341	4 865	22 012	8 577	30 711	1 016
336	Transportation equipment mfg .....	-	16	10	j	D	D	D	D	D	D	D	D
3363	Motor vehicle parts mfg ...	-	12	9	j	D	D	D	D	D	D	D	D
33631	Motor vehicle gasoline engine & engine parts mfg .....	-	4	3	2 133	123 370	1 889	4 616	106 108	150 987	315 512	470 318	D
336312	Gasoline engine & engine parts mfg .....	-	4	3	2 133	123 370	1 889	4 616	106 108	150 987	315 512	470 318	D
33633	Motor vehicle steering & suspension component (except spring) mfg ...	-	2	2	i	D	D	D	D	D	D	D	D
336330	Motor vehicle steering & suspension component (except spring) mfg .....	-	2	2	i	D	D	D	D	D	D	D	D
33634	Motor vehicle brake system mfg .....	-	2	2	g	D	D	D	D	D	D	D	D
336340	Motor vehicle brake system mfg .....	-	2	2	g	D	D	D	D	D	D	D	D
33639	Other motor vehicle parts mfg .....	-	2	1	e	D	D	D	D	D	D	D	D
336399	All other motor vehicle parts mfg .....	-	2	1	e	D	D	D	D	D	D	D	D
339	Miscellaneous mfg .....	1	30	5	441	12 752	333	682	7 995	45 575	22 902	67 586	3 841

<sup>1</sup>Some payroll and sales data for small single-establishment companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate statistics for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at the time data were tabulated. The following symbols are shown where estimated data based on administrative-record data account for 10 percent or more of the figures shown: 1—10 to 19 percent; 2—20 to 29 percent; 3—30 to 39 percent; 4—40 to 49 percent; 5—50 to 59 percent; 6—60 to 69 percent; 7—70 to 79 percent; 8—80 to 89 percent; 9—90 percent or more.

<sup>2</sup>Industries with 250 employees or more are shown. Some statistics are withheld to avoid disclosing data for individual companies. If employment is 250 or more, number of establishments is shown and employment-size range is indicated by one of the following symbols: c—100 to 249 employees; e—250 to 499 employees; f—500 to 999 employees; g—1,000 to 2,499 employees; h—2,500 to 4,999 employees; i—5,000 to 9,999 employees; j—10,000 to 24,999 employees; k—25,000 to 49,999 employees; l—50,000 to 99,999 employees; m—100,000 employees or more.

**Table 3. Industry Statistics for Counties: 1997**

[Includes data for industry groups and industries with 500 employees or more. For information on geographic areas followed by \* and explanation of terms, see appendixes. For meaning of abbreviations and symbols, see introductory text]

NAICS code	Geographic area and industry	E <sup>1</sup>	All establishments		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expenditures (\$1,000)
			Total	With 20 employees or more	Number <sup>2</sup>	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
<b>ALGER COUNTY, MI</b>													
31-33	Manufacturing . . . .	-	13	5	873	29 712	693	1 378	22 225	82 376	112 650	195 810	4 863
<b>ALLEGAN COUNTY, MI</b>													
31-33	Manufacturing . . . .	-	203	84	15 984	585 855	11 317	22 562	321 149	1 742 807	1 379 104	3 108 862	104 032
311	Food mfg . . . . .	1	15	7	g	D	D	D	D	D	D	D	D
3113	Sugar & confectionery product mfg . . . . .	-	2	1	g	D	D	D	D	D	D	D	D
31134	Nonchocolate confectionery mfg . . . . .	-	2	1	g	D	D	D	D	D	D	D	D
311340	Nonchocolate confectionery mfg . . . . .	-	2	1	g	D	D	D	D	D	D	D	D
322	Paper mfg . . . . .	-	4	4	f	D	D	D	D	D	D	D	D
3221	Pulp, paper, & paperboard mills . . . . .	-	3	3	f	D	D	D	D	D	D	D	D
325	Chemical mfg . . . . .	-	7	3	h	D	D	D	D	D	D	D	D
3254	Pharmaceutical & medicine mfg . . . . .	-	1	1	g	D	D	D	D	D	D	D	D
32541	Pharmaceutical & medicine mfg . . . . .	-	1	1	g	D	D	D	D	D	D	D	D
325412	Pharmaceutical preparation mfg . . . . .	-	1	1	g	D	D	D	D	D	D	D	D
327	Nonmetallic mineral product mfg . . . . .	-	11	3	f	D	D	D	D	D	D	D	D
3272	Glass & glass product mfg . . . . .	-	3	3	f	D	D	D	D	D	D	D	D
32721	Glass & glass product mfg . . . . .	-	3	3	f	D	D	D	D	D	D	D	D
327215	Glass product mfg made of purchased glass . . . . .	-	3	3	f	D	D	D	D	D	D	D	D
332	Fabricated metal product mfg . . . . .	-	55	24	2 318	69 800	1 805	3 588	46 544	102 199	156 915	256 451	5 929
3329	Other fabricated metal product mfg . . . . .	-	9	4	1 052	31 922	824	1 706	21 509	36 819	103 965	138 031	D
33291	Metal valve mfg . . . . .	-	2	2	f	D	D	D	D	D	D	D	D
332912	Fluid power valve & hose fitting mfg . . . . .	-	2	2	f	D	D	D	D	D	D	D	D
333	Machinery mfg . . . . .	-	36	14	1 107	37 909	696	1 371	18 209	110 393	70 357	182 831	4 461
336	Transportation equipment mfg . . . . .	2	13	9	1 054	35 184	887	1 961	26 566	84 040	97 601	173 725	D
3363	Motor vehicle parts mfg . . . . .	2	9	7	f	D	D	D	D	D	D	D	D
33637	Motor vehicle metal stamping . . . . .	2	5	5	f	D	D	D	D	D	D	D	D
336370	Motor vehicle metal stamping . . . . .	2	5	5	f	D	D	D	D	D	D	D	D
337	Furniture & related product mfg . . . . .	-	12	6	h	D	D	D	D	D	D	D	D
3372	Office furniture (including fixtures) mfg . . . . .	-	7	5	h	D	D	D	D	D	D	D	D
33721	Office furniture (including fixtures) mfg . . . . .	-	7	5	h	D	D	D	D	D	D	D	D
337214	Office furniture (except wood) mfg . . . . .	-	4	4	h	D	D	D	D	D	D	D	D
<b>ALPENA COUNTY, MI</b>													
31-33	Manufacturing . . . .	-	58	21	2 445	90 799	1 823	3 694	52 520	257 607	225 501	480 083	25 513
321	Wood product mfg . . . . .	-	14	5	581	18 295	476	842	12 964	33 108	28 060	61 328	7 438
333	Machinery mfg . . . . .	-	11	6	835	33 299	539	1 119	11 025	47 703	91 300	140 185	6 511
3332	Industrial machinery mfg . . . . .	-	2	2	f	D	D	D	D	D	D	D	D
33329	Other industrial machinery mfg . . . . .	-	2	2	f	D	D	D	D	D	D	D	D
<b>ANTRIM COUNTY, MI</b>													
31-33	Manufacturing . . . .	-	56	14	1 323	38 732	1 025	1 958	26 173	90 007	78 463	164 926	7 922
<b>ARENAC COUNTY, MI</b>													
31-33	Manufacturing . . . .	1	37	12	732	18 923	571	1 096	11 470	47 820	43 421	91 750	2 247
<b>BARAGA COUNTY, MI</b>													
31-33	Manufacturing . . . .	-	26	8	715	21 596	566	1 216	16 165	49 540	65 724	115 228	2 740

**Table 3. Industry Statistics for Counties: 1997—Con.**

[Includes data for industry groups and industries with 500 employees or more. For information on geographic areas followed by \* and explanation of terms, see appendixes. For meaning of abbreviations and symbols, see introductory text]

NAICS code	Geographic area and industry	E <sup>1</sup>	All establishments		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expenditures (\$1,000)
			Total	With 20 employees or more	Number <sup>2</sup>	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
<b>BARRY COUNTY, MI</b>													
<b>31-33</b>	<b>Manufacturing . . . .</b>	—	<b>71</b>	<b>18</b>	<b>3 145</b>	<b>102 057</b>	<b>2 351</b>	<b>5 072</b>	<b>67 230</b>	<b>274 871</b>	<b>259 042</b>	<b>525 212</b>	<b>16 336</b>
326	Plastics & rubber products mfg . . . . .	—	6	3	691	21 528	526	1 060	13 947	64 812	28 690	92 825	3 294
333	Machinery mfg . . . . .	2	10	3	523	18 907	348	636	10 592	50 531	48 761	94 488	D
335	Electrical equipment, appliance, & component mfg . . . . .	—	2	1	f	D	D	D	D	D	D	D	D
3352	Household appliance mfg . . . . .	—	1	1	f	D	D	D	D	D	D	D	D
33522	Major appliance mfg . . . . .	—	1	1	f	D	D	D	D	D	D	D	D
335228	Other major household appliance mfg . . . . .	—	1	1	f	D	D	D	D	D	D	D	D
336	Transportation equipment mfg . . . . .	—	6	4	f	D	D	D	D	D	D	D	3 778
3363	Motor vehicle parts mfg . . . . .	—	4	4	f	D	D	D	D	D	D	D	D
33631	Motor vehicle gasoline engine & engine parts mfg . . . . .	—	2	2	f	D	D	D	D	D	D	D	D
<b>BAY COUNTY, MI</b>													
<b>31-33</b>	<b>Manufacturing . . . .</b>	—	<b>152</b>	<b>52</b>	<b>7 459</b>	<b>346 971</b>	<b>5 607</b>	<b>11 707</b>	<b>225 447</b>	<b>1 067 023</b>	<b>860 259</b>	<b>1 928 580</b>	<b>D</b>
325	Chemical mfg . . . . .	—	4	3	g	D	D	D	D	D	D	D	D
3251	Basic chemical mfg . . . . .	—	2	1	g	D	D	D	D	D	D	D	D
32519	Other basic organic chemical mfg . . . . .	—	2	1	g	D	D	D	D	D	D	D	D
325199	All other basic organic chemical mfg . . . . .	—	2	1	g	D	D	D	D	D	D	D	D
326	Plastics & rubber products mfg . . . . .	—	7	5	783	32 332	607	1 287	23 377	63 093	69 867	134 536	D
3261	Plastics product mfg . . . . .	—	7	5	783	32 332	607	1 287	23 377	63 093	69 867	134 536	D
332	Fabricated metal product mfg . . . . .	2	37	16	f	D	D	D	D	D	D	D	D
333	Machinery mfg . . . . .	1	18	7	743	35 324	432	1 020	18 535	74 561	86 443	167 260	D
336	Transportation equipment mfg . . . . .	—	7	4	g	D	D	D	D	D	D	D	D
3363	Motor vehicle parts mfg . . . . .	—	5	4	g	D	D	D	D	D	D	D	D
33631	Motor vehicle gasoline engine & engine parts mfg . . . . .	—	2	2	g	D	D	D	D	D	D	D	D
336312	Gasoline engine & engine parts mfg . . . . .	—	2	2	g	D	D	D	D	D	D	D	D
<b>BENZIE COUNTY, MI</b>													
<b>31-33</b>	<b>Manufacturing . . . .</b>	—	<b>23</b>	<b>8</b>	<b>657</b>	<b>12 283</b>	<b>537</b>	<b>1 023</b>	<b>9 096</b>	<b>35 004</b>	<b>33 308</b>	<b>70 142</b>	<b>2 050</b>
<b>BERRIEN COUNTY, MI</b>													
<b>31-33</b>	<b>Manufacturing . . . .</b>	<b>1</b>	<b>397</b>	<b>160</b>	<b>16 996</b>	<b>539 081</b>	<b>12 678</b>	<b>25 259</b>	<b>335 861</b>	<b>1 266 208</b>	<b>1 143 206</b>	<b>2 394 160</b>	<b>106 302</b>
311	Food mfg . . . . .	6	18	8	681	11 578	490	994	6 911	43 041	49 221	90 998	9 075
323	Printing & related support activities . . . . .	1	30	7	957	29 051	749	1 614	21 378	62 321	65 211	126 995	3 083
3231	Printing & related support activities . . . . .	1	30	7	957	29 051	749	1 614	21 378	62 321	65 211	126 995	3 083
32311	Printing . . . . .	1	27	7	943	28 661	737	1 593	21 084	61 532	65 065	126 060	3 002
323110	Commercial lithographic printing . . . . .	—	11	3	658	20 784	534	1 206	16 438	44 547	55 597	99 951	2 421
326	Plastics & rubber products mfg . . . . .	4	27	16	2 129	52 285	1 765	3 402	35 539	115 708	140 063	254 965	10 808
3261	Plastics product mfg . . . . .	5	24	13	1 810	42 184	1 514	2 815	29 142	91 915	113 907	204 744	10 263
32619	Other plastics product mfg . . . . .	4	18	12	1 751	40 428	1 467	2 721	27 929	86 770	106 373	192 041	9 684
326199	All other plastics product mfg . . . . .	4	17	12	g	D	D	D	D	D	D	D	D
331	Primary metal mfg . . . . .	—	30	21	1 894	56 720	1 546	3 155	40 094	117 745	128 713	246 848	12 999
3315	Foundries . . . . .	1	27	19	g	D	D	D	D	D	D	D	D
33152	Nonferrous metal foundries . . . . .	1	24	16	1 469	42 623	1 182	2 410	28 991	81 866	88 929	171 447	10 231
331521	Aluminum die-casting foundries . . . . .	1	15	11	1 006	28 907	803	1 636	19 644	55 035	66 499	121 160	8 706

**Table 3. Industry Statistics for Counties: 1997—Con.**

[Includes data for industry groups and industries with 500 employees or more. For information on geographic areas followed by \* and explanation of terms, see appendixes. For meaning of abbreviations and symbols, see introductory text]

NAICS code	Geographic area and industry	E <sup>1</sup>	All establishments		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expenditures (\$1,000)
			Total	With 20 employees or more	Number <sup>2</sup>	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
<b>BERRIEN COUNTY, MI—Con.</b>													
<b>31-33</b>	<b>Manufacturing—Con.</b>												
332	Fabricated metal product mfg .....	1	94	30	1 921	53 291	1 459	2 724	33 969	114 102	71 939	186 576	7 262
3327	Machine shops, turned product, & screw, nut, & bolt mfg .....	2	39	9	644	17 578	499	901	11 463	39 621	17 268	58 170	2 170
3328	Coating, engraving, heat treating, & allied activities .	1	18	9	564	12 267	448	791	8 152	24 494	9 130	33 666	2 162
33281	Coating, engraving, heat treating, & allied activities.....	1	18	9	564	12 267	448	791	8 152	24 494	9 130	33 666	2 162
333	Machinery mfg .....	2	81	39	3 726	146 840	2 650	5 369	80 625	308 212	226 662	522 314	18 656
3334	Ventilation, heating, AC, & commercial refrigeration equip mfg .....	—	6	5	860	26 899	641	1 247	17 013	65 548	58 076	124 803	3 683
33341	Ventilation, heating, AC, & commercial refrigeration equip mfg .	—	6	5	860	26 899	641	1 247	17 013	65 548	58 076	124 803	3 683
333415	AC & warm air heating & commercial/ industrial refrig equip mfg .....	—	3	3	f	D	D	D	D	D	D	D	D
3335	Metalworking machinery mfg .....	—	52	18	1 537	66 753	1 091	2 384	38 254	127 118	83 512	207 445	8 423
33351	Metalworking machinery mfg .....	—	52	18	1 537	66 753	1 091	2 384	38 254	127 118	83 512	207 445	8 423
333511	Industrial mold mfg ...	—	19	9	593	25 796	496	1 143	18 060	37 804	15 526	53 386	3 781
3339	Other general-purpose machinery mfg .....	7	11	7	951	39 436	670	1 198	17 986	82 916	53 086	124 874	5 095
33391	Pump & compressor mfg .....	9	4	3	655	28 099	455	719	10 186	51 148	33 949	81 936	D
333912	Air & gas compressor mfg .....	9	4	3	655	28 099	455	719	10 186	51 148	33 949	81 936	D
334	Computer & electronic product mfg .....	1	11	6	1 270	41 597	574	1 190	13 870	95 188	74 520	165 562	7 112
3345	Navigational, measuring, medical, & control instruments mfg .....	—	3	1	f	D	D	D	D	D	D	D	D
33451	Navigational, measuring, medical, & control instruments mfg .....	—	3	1	f	D	D	D	D	D	D	D	D
334516	Analytical laboratory instrument mfg .....	—	1	1	f	D	D	D	D	D	D	D	D
336	Transportation equipment mfg .....	—	19	10	2 379	88 943	1 918	3 927	65 376	256 485	241 191	499 258	25 677
3363	Motor vehicle parts mfg ...	—	13	8	2 168	81 565	1 745	3 621	60 467	244 436	233 064	477 998	D
33634	Motor vehicle brake system mfg .....	—	3	3	g	D	D	D	D	D	D	D	D
336340	Motor vehicle brake system mfg .....	—	3	3	g	D	D	D	D	D	D	D	D
33639	Other motor vehicle parts mfg .....	—	6	3	f	D	D	D	D	D	D	D	D
336399	All other motor vehicle parts mfg .....	—	6	3	f	D	D	D	D	D	D	D	D
337	Furniture & related product mfg .....	1	17	7	556	13 206	417	713	8 949	50 392	51 939	103 276	1 836
<b>BRANCH COUNTY, MI</b>													
<b>31-33</b>	<b>Manufacturing ....</b>	—	<b>90</b>	<b>38</b>	<b>3 572</b>	<b>102 430</b>	<b>2 749</b>	<b>5 481</b>	<b>68 617</b>	<b>269 609</b>	<b>250 647</b>	<b>516 542</b>	<b>41 821</b>
332	Fabricated metal product mfg .....	—	34	14	1 432	37 927	1 136	2 309	26 340	89 824	69 217	156 493	6 206
336	Transportation equipment mfg .....	—	9	6	586	19 441	419	820	10 815	52 466	52 885	104 382	28 033

**Table 3. Industry Statistics for Counties: 1997—Con.**

[Includes data for industry groups and industries with 500 employees or more. For information on geographic areas followed by \* and explanation of terms, see appendixes. For meaning of abbreviations and symbols, see introductory text]

NAICS code	Geographic area and industry	E <sup>1</sup>	All establishments		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expenditures (\$1,000)
			Total	With 20 employees or more	Number <sup>2</sup>	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
	<b>CALHOUN COUNTY, MI</b>												
<b>31-33</b>	<b>Manufacturing ....</b>	-	<b>222</b>	<b>90</b>	<b>16 973</b>	<b>613 772</b>	<b>13 210</b>	<b>26 630</b>	<b>437 721</b>	<b>2 376 250</b>	<b>2 136 864</b>	<b>4 514 774</b>	<b>208 767</b>
311	Food mfg.....	-	18	6	h	D	D	D	D	D	D	D	D
3112	Grain & oilseed milling ....	-	3	3	g	D	D	D	D	D	D	D	D
31123	Breakfast cereal mfg.....	-	3	3	g	D	D	D	D	D	D	D	D
311230	Breakfast cereal mfg ..	-	3	3	g	D	D	D	D	D	D	D	D
322	Paper mfg.....	1	8	6	f	D	D	D	D	D	D	D	D
323	Printing & related support activities.....	1	27	4	f	D	D	D	D	D	D	D	D
3231	Printing & related support activities.....	1	27	4	f	D	D	D	D	D	D	D	D
326	Plastics & rubber products mfg.....	2	13	8	1 079	25 816	885	1 778	18 093	74 941	64 985	139 120	D
3261	Plastics product mfg.....	3	11	7	f	D	D	D	D	D	D	D	D
331	Primary metal mfg.....	-	8	6	f	D	D	D	D	D	D	D	2 309
3315	Foundries.....	-	7	5	f	D	D	D	D	D	D	D	D
33151	Ferrous metal foundries ..	-	6	4	758	25 042	484	1 106	13 998	68 398	45 182	113 720	D
331511	Iron foundries.....	-	5	4	f	D	D	D	D	D	D	D	1 125
332	Fabricated metal product mfg.....	1	59	23	2 279	66 853	1 787	3 453	43 584	170 999	176 692	345 358	17 156
3327	Machine shops, turned product, & screw, nut, & bolt mfg.....	-	21	6	751	23 016	644	1 317	17 145	74 414	74 311	147 168	7 757
3329	Other fabricated metal product mfg.....	2	15	6	f	D	D	D	D	D	D	D	D
333	Machinery mfg.....	-	17	9	900	33 805	566	1 372	17 485	65 171	49 984	118 316	3 915
3339	Other general-purpose machinery mfg.....	-	7	3	f	D	D	D	D	D	D	D	D
335	Electrical equipment, appliance, & component mfg.....	-	5	3	f	D	D	D	D	D	D	D	D
336	Transportation equipment mfg.....	-	17	13	6 116	200 233	4 739	9 156	142 420	529 319	1 160 818	1 685 051	D
3363	Motor vehicle parts mfg ...	-	16	12	i	D	D	D	D	D	D	D	D
33632	Motor vehicle electrical & electronic equipment mfg.....	-	5	5	h	D	D	D	D	D	D	D	D
336321	Vehicular lighting equipment mfg.....	-	1	1	f	D	D	D	D	D	D	D	D
336322	Other motor vehicle electrical & electronic equipment mfg.....	-	4	4	h	D	D	D	D	D	D	D	D
33635	Motor vehicle transmission & power train parts mfg.....	-	1	1	f	D	D	D	D	D	D	D	D
336350	Motor vehicle transmission & power train parts mfg.....	-	1	1	f	D	D	D	D	D	D	D	D
33639	Other motor vehicle parts mfg.....	-	2	2	f	D	D	D	D	D	D	D	D
336399	All other motor vehicle parts mfg.....	-	2	2	f	D	D	D	D	D	D	D	D
	<b>CASS COUNTY, MI</b>												
<b>31-33</b>	<b>Manufacturing ....</b>	-	<b>87</b>	<b>28</b>	<b>3 384</b>	<b>95 914</b>	<b>2 678</b>	<b>4 895</b>	<b>62 875</b>	<b>204 414</b>	<b>367 257</b>	<b>570 808</b>	<b>14 547</b>
331	Primary metal mfg.....	-	3	2	f	D	D	D	D	D	D	D	D
336	Transportation equipment mfg.....	1	5	4	f	D	D	D	D	D	D	D	D
3362	Motor vehicle body & trailer mfg.....	1	4	3	f	D	D	D	D	D	D	D	D
33621	Motor vehicle body & trailer mfg.....	1	4	3	f	D	D	D	D	D	D	D	D
336213	Motor home mfg.....	-	1	1	f	D	D	D	D	D	D	D	D

**Table 3. Industry Statistics for Counties: 1997—Con.**

[Includes data for industry groups and industries with 500 employees or more. For information on geographic areas followed by \* and explanation of terms, see appendixes. For meaning of abbreviations and symbols, see introductory text]

NAICS code	Geographic area and industry	E <sup>1</sup>	All establishments		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expenditures (\$1,000)
			Total	With 20 employees or more	Number <sup>2</sup>	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
<b>CHARLEVOIX COUNTY, MI</b>													
31-33	Manufacturing ....	-	69	28	3 624	116 853	2 743	5 610	75 523	392 612	337 067	724 096	31 138
331	Primary metal mfg .....	-	3	3	f	D	D	D	D	D	D	D	D
3315	Foundries .....	-	2	2	f	D	D	D	D	D	D	D	D
33151	Ferrous metal foundries ..	-	1	1	f	D	D	D	D	D	D	D	D
331511	Iron foundries .....	-	1	1	f	D	D	D	D	D	D	D	D
336	Transportation equipment mfg .....	4	4	3	609	14 940	479	979	9 419	21 065	68 829	90 981	3 702
3363	Motor vehicle parts mfg ...	4	4	3	609	14 940	479	979	9 419	21 065	68 829	90 981	3 702
33639	Other motor vehicle parts mfg .....	5	2	2	f	D	D	D	D	D	D	D	D
336399	All other motor vehicle parts mfg .....	5	2	2	f	D	D	D	D	D	D	D	D
<b>CHEBOYGAN COUNTY, MI</b>													
31-33	Manufacturing ....	2	37	9	711	17 890	587	1 005	12 401	48 657	29 167	76 649	4 779
<b>CHIPPEWA COUNTY, MI</b>													
31-33	Manufacturing ....	3	31	13	818	15 031	694	1 128	10 979	32 890	32 340	63 175	4 217
<b>CLARE COUNTY, MI</b>													
31-33	Manufacturing ....	-	28	12	924	23 880	769	1 527	16 703	52 962	68 125	120 894	4 017
<b>CLINTON COUNTY, MI</b>													
31-33	Manufacturing ....	-	62	16	2 586	100 274	2 019	4 335	68 375	202 870	252 273	450 254	D
323	Printing & related support activities.....	-	10	1	f	D	D	D	D	D	D	D	D
3231	Printing & related support activities.....	-	10	1	f	D	D	D	D	D	D	D	D
32311	Printing .....	-	9	1	f	D	D	D	D	D	D	D	D
323110	Commercial lithographic printing ..	-	4	1	f	D	D	D	D	D	D	D	D
333	Machinery mfg .....	-	14	8	g	D	D	D	D	D	D	D	D
3336	Engine, turbine, & power transmission equipment mfg .....	-	1	1	f	D	D	D	D	D	D	D	D
33361	Engine, turbine, & power transmission equipment mfg .....	-	1	1	f	D	D	D	D	D	D	D	D
333613	Mechanical power transmission equipment mfg .....	-	1	1	f	D	D	D	D	D	D	D	D
336	Transportation equipment mfg .....	-	2	2	f	D	D	D	D	D	D	D	D
3363	Motor vehicle parts mfg ...	-	2	2	f	D	D	D	D	D	D	D	D
<b>CRAWFORD COUNTY, MI</b>													
31-33	Manufacturing ....	1	17	8	503	15 847	396	820	10 074	32 767	71 714	104 280	4 376
<b>DELTA COUNTY, MI</b>													
31-33	Manufacturing ....	-	59	20	2 834	124 322	2 099	4 559	80 265	355 422	319 124	702 422	39 999
322	Paper mfg .....	-	2	1	g	D	D	D	D	D	D	D	D
3221	Pulp, paper, & paperboard mills .....	-	1	1	g	D	D	D	D	D	D	D	D
32212	Paper mills .....	-	1	1	g	D	D	D	D	D	D	D	D
322121	Paper (except newsprint) mills .....	-	1	1	g	D	D	D	D	D	D	D	D
333	Machinery mfg .....	-	5	5	540	16 233	384	824	9 581	26 719	56 044	85 814	D

**Table 3. Industry Statistics for Counties: 1997—Con.**

[Includes data for industry groups and industries with 500 employees or more. For information on geographic areas followed by \* and explanation of terms, see appendixes. For meaning of abbreviations and symbols, see introductory text]

NAICS code	Geographic area and industry	E <sup>1</sup>	All establishments		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expenditures (\$1,000)
			Total	With 20 employees or more	Number <sup>2</sup>	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
<b>DICKINSON COUNTY, MI</b>													
<b>31-33</b>	<b>Manufacturing . . . .</b>	-	<b>50</b>	<b>19</b>	<b>2 478</b>	<b>100 636</b>	<b>1 912</b>	<b>3 943</b>	<b>70 884</b>	<b>338 089</b>	<b>313 415</b>	<b>655 313</b>	<b>25 046</b>
322	Paper mfg . . . . .	-	1	1	f	D	D	D	D	D	D	D	D
3221	Pulp, paper, & paperboard mills . . . . .	-	1	1	f	D	D	D	D	D	D	D	D
32212	Paper mills . . . . .	-	1	1	f	D	D	D	D	D	D	D	D
322121	Paper (except newsprint) mills . . . . .	-	1	1	f	D	D	D	D	D	D	D	D
331	Primary metal mfg . . . . .	-	3	2	f	D	D	D	D	D	D	D	D
3315	Foundries . . . . .	-	3	2	f	D	D	D	D	D	D	D	D
33151	Ferrous metal foundries . . . . .	-	3	2	f	D	D	D	D	D	D	D	D
331511	Iron foundries . . . . .	-	2	2	f	D	D	D	D	D	D	D	D
<b>EATON COUNTY, MI</b>													
<b>31-33</b>	<b>Manufacturing . . . .</b>	-	<b>94</b>	<b>35</b>	<b>h</b>	<b>D</b>	<b>D</b>	<b>D</b>	<b>D</b>	<b>D</b>	<b>D</b>	<b>D</b>	<b>D</b>
326	Plastics & rubber products mfg . . . . .	-	4	3	f	D	D	D	D	D	D	D	D
3261	Plastics product mfg . . . . .	-	4	3	f	D	D	D	D	D	D	D	D
32619	Other plastics product mfg . . . . .	-	3	3	f	D	D	D	D	D	D	D	D
326199	All other plastics product mfg . . . . .	-	3	3	f	D	D	D	D	D	D	D	D
336	Transportation equipment mfg . . . . .	-	11	6	g	D	D	D	D	D	D	D	D
3361	Motor vehicle mfg . . . . .	-	2	1	f	D	D	D	D	D	D	D	D
33611	Automobile & light duty motor vehicle mfg . . . . .	-	2	1	f	D	D	D	D	D	D	D	D
336111	Automobile mfg . . . . .	-	2	1	f	D	D	D	D	D	D	D	D
3363	Motor vehicle parts mfg . . . . .	-	7	4	f	D	D	D	D	D	D	D	D
33632	Motor vehicle electrical & electronic equipment mfg . . . . .	-	1	1	f	D	D	D	D	D	D	D	D
336322	Other motor vehicle electrical & electronic equipment mfg . . . . .	-	1	1	f	D	D	D	D	D	D	D	D
<b>EMMET COUNTY, MI</b>													
<b>31-33</b>	<b>Manufacturing . . . .</b>	-	<b>57</b>	<b>13</b>	<b>1 377</b>	<b>39 065</b>	<b>973</b>	<b>1 875</b>	<b>21 957</b>	<b>81 621</b>	<b>84 760</b>	<b>168 232</b>	<b>5 085</b>
<b>GENESEE COUNTY, MI</b>													
<b>31-33</b>	<b>Manufacturing . . . .</b>	-	<b>355</b>	<b>115</b>	<b>34 414</b>	<b>1 744 627</b>	<b>28 473</b>	<b>57 164</b>	<b>1 388 762</b>	<b>3 592 590</b>	<b>7 697 511</b>	<b>11 240 321</b>	<b>180 557</b>
323	Printing & related support activities . . . . .	1	58	8	f	D	D	D	D	D	D	D	D
3231	Printing & related support activities . . . . .	1	58	8	f	D	D	D	D	D	D	D	D
326	Plastics & rubber products mfg . . . . .	1	16	9	1 222	41 612	924	2 128	24 312	124 325	109 707	231 617	17 309
3261	Plastics product mfg . . . . .	1	15	9	g	D	D	D	D	D	D	D	D
32619	Other plastics product mfg . . . . .	-	11	6	f	D	D	D	D	D	D	D	D
326199	All other plastics product mfg . . . . .	-	11	6	f	D	D	D	D	D	D	D	D
332	Fabricated metal product mfg . . . . .	-	74	28	2 524	112 091	2 048	4 573	85 522	186 710	227 546	412 984	15 968
3325	Hardware mfg . . . . .	-	3	2	f	D	D	D	D	D	D	D	D
33251	Hardware mfg . . . . .	-	3	2	f	D	D	D	D	D	D	D	D
332510	Hardware mfg . . . . .	-	3	2	f	D	D	D	D	D	D	D	D
3327	Machine shops, turned product, & screw, nut, & bolt mfg . . . . .	-	31	8	599	21 962	495	1 076	16 998	63 803	51 549	112 924	3 459
333	Machinery mfg . . . . .	-	45	23	1 587	76 165	1 070	2 344	47 742	177 099	171 695	323 671	8 852
3335	Metalworking machinery mfg . . . . .	-	25	12	583	25 844	444	988	17 516	73 459	66 410	119 246	3 289
33351	Metalworking machinery mfg . . . . .	-	25	12	583	25 844	444	988	17 516	73 459	66 410	119 246	3 289
3339	Other general-purpose machinery mfg . . . . .	-	12	8	872	45 358	557	1 214	27 265	95 576	99 009	190 402	5 066
33392	Material handling equipment mfg . . . . .	-	5	4	630	37 245	436	952	22 542	78 816	87 918	162 823	D
334	Computer & electronic product mfg . . . . .	-	12	4	h	D	D	D	D	D	D	D	13 935
3345	Navigational, measuring, medical, & control instruments mfg . . . . .	-	5	2	g	D	D	D	D	D	D	D	D
33451	Navigational, measuring, medical, & control instruments mfg . . . . .	-	5	2	g	D	D	D	D	D	D	D	D
334514	Totalizing fluid meter & counting device mfg . . . . .	-	1	1	g	D	D	D	D	D	D	D	D

**Table 3. Industry Statistics for Counties: 1997—Con.**

[Includes data for industry groups and industries with 500 employees or more. For information on geographic areas followed by \* and explanation of terms, see appendixes. For meaning of abbreviations and symbols, see introductory text]

NAICS code	Geographic area and industry	E <sup>1</sup>	All establishments		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expenditures (\$1,000)
			Total	With 20 employees or more	Number <sup>2</sup>	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
<b>GENESEE COUNTY, MI—Con.</b>													
<b>31-33</b>	<b>Manufacturing—Con.</b>												
336	Transportation equipment mfg .....	-	27	15	j	D	D	D	D	D	D	D	D
3361	Motor vehicle mfg .....	-	2	2	i	D	D	D	D	D	D	D	D
33611	Automobile & light duty motor vehicle mfg .....	-	2	2	i	D	D	D	D	D	D	D	D
336111	Automobile mfg .....	-	1	1	i	D	D	D	D	D	D	D	D
336112	Light truck & utility vehicle mfg .....	-	1	1	g	D	D	D	D	D	D	D	D
3363	Motor vehicle parts mfg ...	-	19	12	j	D	D	D	D	D	D	D	D
33631	Motor vehicle gasoline engine & engine parts mfg .....	-	2	2	h	D	D	D	D	D	D	D	D
336312	Gasoline engine & engine parts mfg .....	-	2	2	h	D	D	D	D	D	D	D	D
33637	Motor vehicle metal stamping .....	-	7	4	i	D	D	D	D	D	D	D	D
336370	Motor vehicle metal stamping .....	-	7	4	i	D	D	D	D	D	D	D	D
33639	Other motor vehicle parts mfg .....	-	6	4	i	D	D	D	D	D	D	D	D
336399	All other motor vehicle parts mfg .....	-	6	4	i	D	D	D	D	D	D	D	D
<b>GLADWIN COUNTY, MI</b>													
<b>31-33</b>	<b>Manufacturing ....</b>	<b>3</b>	<b>46</b>	<b>16</b>	<b>1 406</b>	<b>42 085</b>	<b>1 123</b>	<b>2 459</b>	<b>29 995</b>	<b>113 922</b>	<b>96 662</b>	<b>206 799</b>	<b>8 790</b>
333	Machinery mfg .....	1	12	5	519	18 494	380	852	12 082	35 518	23 960	56 130	1 834
<b>GOGEBIC COUNTY, MI</b>													
<b>31-33</b>	<b>Manufacturing ....</b>	<b>2</b>	<b>27</b>	<b>10</b>	<b>709</b>	<b>14 843</b>	<b>617</b>	<b>1 171</b>	<b>11 698</b>	<b>27 987</b>	<b>34 193</b>	<b>62 518</b>	<b>2 574</b>
<b>GRAND TRAVERSE COUNTY, MI</b>													
<b>31-33</b>	<b>Manufacturing ....</b>	<b>-</b>	<b>190</b>	<b>59</b>	<b>5 867</b>	<b>177 144</b>	<b>4 542</b>	<b>9 096</b>	<b>117 981</b>	<b>487 607</b>	<b>392 393</b>	<b>875 907</b>	<b>D</b>
311	Food mfg .....	-	9	2	f	D	D	D	D	D	D	D	D
3118	Bakeries & tortilla mfg .....	-	3	1	f	D	D	D	D	D	D	D	D
31181	Bread & bakery product mfg .....	-	3	1	f	D	D	D	D	D	D	D	D
311813	Frozen cakes, pies, & other pastries mfg ...	-	1	1	f	D	D	D	D	D	D	D	D
332	Fabricated metal product mfg .....	-	27	13	598	19 354	446	868	11 736	41 538	26 939	69 018	4 989
333	Machinery mfg .....	1	33	12	1 089	42 532	704	1 430	24 022	101 184	61 477	162 533	9 819
335	Electrical equipment, appliance, & component mfg .....	-	5	2	f	D	D	D	D	D	D	D	D
3359	Other electrical equipment & component mfg .....	-	3	2	f	D	D	D	D	D	D	D	D
33593	Wiring device mfg .....	-	2	2	f	D	D	D	D	D	D	D	D
335931	Current-carrying wiring device mfg .....	-	2	2	f	D	D	D	D	D	D	D	D
336	Transportation equipment mfg .....	-	13	7	845	24 173	717	1 438	17 545	57 112	82 475	136 896	D
3363	Motor vehicle parts mfg ...	-	12	7	f	D	D	D	D	D	D	D	D
<b>GRATIOT COUNTY, MI</b>													
<b>31-33</b>	<b>Manufacturing ....</b>	<b>-</b>	<b>51</b>	<b>19</b>	<b>2 282</b>	<b>77 028</b>	<b>1 827</b>	<b>3 440</b>	<b>40 494</b>	<b>141 935</b>	<b>125 023</b>	<b>265 702</b>	<b>14 402</b>
336	Transportation equipment mfg .....	-	7	4	1 310	40 627	1 089	2 101	24 493	66 162	72 069	137 465	5 623
3363	Motor vehicle parts mfg ...	-	2	2	f	D	D	D	D	D	D	D	D
33635	Motor vehicle transmission & power train parts mfg .....	-	1	1	f	D	D	D	D	D	D	D	D
336350	Motor vehicle transmission & power train parts mfg .....	-	1	1	f	D	D	D	D	D	D	D	D



**Table 3. Industry Statistics for Counties: 1997—Con.**

[Includes data for industry groups and industries with 500 employees or more. For information on geographic areas followed by \* and explanation of terms, see appendixes. For meaning of abbreviations and symbols, see introductory text]

NAICS code	Geographic area and industry	E <sup>1</sup>	All establishments		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expenditures (\$1,000)
			Total	With 20 employees or more	Number <sup>2</sup>	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
<b>HILLSDALE COUNTY, MI</b>													
<b>31-33</b>	<b>Manufacturing . . . .</b>	<b>1</b>	<b>104</b>	<b>46</b>	<b>6 510</b>	<b>176 126</b>	<b>5 276</b>	<b>10 763</b>	<b>128 084</b>	<b>493 542</b>	<b>642 445</b>	<b>1 134 532</b>	<b>57 829</b>
326	Plastics & rubber products mfg . . . . .	3	7	5	f	D	D	D	D	D	D	D	4 185
3261	Plastics product mfg . . . . .	3	6	4	514	10 675	421	791	7 019	22 425	20 464	42 881	D
32619	Other plastics product mfg . . . . .	3	6	4	514	10 675	421	791	7 019	22 425	20 464	42 881	D
326199	All other plastics product mfg . . . . .	3	6	4	514	10 675	421	791	7 019	22 425	20 464	42 881	D
331	Primary metal mfg . . . . .	—	3	2	f	D	D	D	D	D	D	D	D
3312	Steel product mfg from purchased steel . . . . .	—	3	2	f	D	D	D	D	D	D	D	D
332	Fabricated metal product mfg . . . . .	1	27	13	1 034	28 911	797	1 588	19 303	82 510	50 588	132 075	5 228
336	Transportation equipment mfg . . . . .	1	12	9	2 831	83 042	2 411	5 280	65 600	167 182	274 635	442 526	32 145
3363	Motor vehicle parts mfg . . .	1	12	9	2 831	83 042	2 411	5 280	65 600	167 182	274 635	442 526	32 145
33635	Motor vehicle transmission & power train parts mfg . . . . .	—	2	2	f	D	D	D	D	D	D	D	D
336350	Motor vehicle transmission & power train parts mfg . . . . .	—	2	2	f	D	D	D	D	D	D	D	D
33639	Other motor vehicle parts mfg . . . . .	3	4	4	1 311	34 366	1 154	2 640	27 375	49 617	158 138	208 228	14 009
336399	All other motor vehicle parts mfg . . . . .	3	4	4	1 311	34 366	1 154	2 640	27 375	49 617	158 138	208 228	14 009
<b>HOUGHTON COUNTY, MI</b>													
<b>31-33</b>	<b>Manufacturing . . . .</b>	<b>1</b>	<b>43</b>	<b>9</b>	<b>698</b>	<b>16 260</b>	<b>540</b>	<b>1 028</b>	<b>10 376</b>	<b>36 555</b>	<b>36 619</b>	<b>72 121</b>	<b>4 180</b>
<b>HURON COUNTY, MI</b>													
<b>31-33</b>	<b>Manufacturing . . . .</b>	<b>1</b>	<b>67</b>	<b>34</b>	<b>4 216</b>	<b>126 909</b>	<b>3 417</b>	<b>6 853</b>	<b>94 781</b>	<b>326 189</b>	<b>289 905</b>	<b>612 783</b>	<b>31 395</b>
331	Primary metal mfg . . . . .	—	6	4	536	13 114	450	760	9 582	33 544	18 373	52 754	D
333	Machinery mfg . . . . .	—	16	10	816	26 050	612	1 362	17 740	60 624	25 120	79 213	3 497
3335	Metalworking machinery mfg . . . . .	—	9	6	633	19 897	498	1 139	14 424	42 827	15 351	58 652	2 797
33351	Metalworking machinery mfg . . . . .	—	9	6	633	19 897	498	1 139	14 424	42 827	15 351	58 652	2 797
336	Transportation equipment mfg . . . . .	—	8	7	1 759	59 005	1 531	3 049	49 231	160 540	164 979	326 672	3 727
3363	Motor vehicle parts mfg . . .	—	6	6	g	D	D	D	D	D	D	D	D
33637	Motor vehicle metal stamping . . . . .	—	2	2	g	D	D	D	D	D	D	D	D
336370	Motor vehicle metal stamping . . . . .	—	2	2	g	D	D	D	D	D	D	D	D
<b>INGHAM COUNTY, MI</b>													
<b>31-33</b>	<b>Manufacturing . . . .</b>	<b>—</b>	<b>272</b>	<b>93</b>	<b>j</b>	<b>D</b>	<b>D</b>	<b>D</b>	<b>D</b>	<b>D</b>	<b>D</b>	<b>D</b>	<b>D</b>
323	Printing & related support activities . . . . .	2	62	13	f	D	D	D	D	D	D	D	D
3231	Printing & related support activities . . . . .	2	62	13	f	D	D	D	D	D	D	D	D
32311	Printing . . . . .	2	50	11	f	D	D	D	D	D	D	D	D
323110	Commercial lithographic printing . . . . .	1	30	7	f	D	D	D	D	D	D	D	D
326	Plastics & rubber products mfg . . . . .	—	13	8	g	D	D	D	D	D	D	D	D
3261	Plastics product mfg . . . . .	—	12	8	g	D	D	D	D	D	D	D	D
32614	Polystyrene foam product mfg . . . . .	—	2	2	f	D	D	D	D	D	D	D	D
326140	Polystyrene foam product mfg . . . . .	—	2	2	f	D	D	D	D	D	D	D	D
332	Fabricated metal product mfg . . . . .	—	46	16	1 586	59 550	1 270	2 681	42 016	125 824	87 749	215 968	D
333	Machinery mfg . . . . .	—	24	11	944	40 311	607	1 397	23 181	75 900	79 578	157 374	D
3335	Metalworking machinery mfg . . . . .	—	13	7	f	D	D	D	D	D	D	D	D
33351	Metalworking machinery mfg . . . . .	—	13	7	f	D	D	D	D	D	D	D	D

**Table 3. Industry Statistics for Counties: 1997—Con.**

[Includes data for industry groups and industries with 500 employees or more. For information on geographic areas followed by \* and explanation of terms, see appendixes. For meaning of abbreviations and symbols, see introductory text]

NAICS code	Geographic area and industry	E <sup>1</sup>	All establishments		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expenditures (\$1,000)
			Total	With 20 employees or more	Number <sup>2</sup>	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
<b>INGHAM COUNTY, MI—Con.</b>													
<b>31-33</b>	<b>Manufacturing—Con.</b>												
336	Transportation equipment mfg .....	-	22	14	j	D	D	D	D	D	D	D	D
3361	Motor vehicle mfg .....	-	2	1	j	D	D	D	D	D	D	D	D
33611	Automobile & light duty motor vehicle mfg .....	-	1	1	j	D	D	D	D	D	D	D	D
336111	Automobile mfg .....	-	1	1	j	D	D	D	D	D	D	D	D
3363	Motor vehicle parts mfg ...	-	15	9	h	D	D	D	D	D	D	D	D
33631	Motor vehicle gasoline engine & engine parts mfg .....	-	2	2	g	D	D	D	D	D	D	D	D
336312	Gasoline engine & engine parts mfg .....	-	2	2	g	D	D	D	D	D	D	D	D
<b>IONIA COUNTY, MI</b>													
<b>31-33</b>	<b>Manufacturing ....</b>	-	<b>80</b>	<b>34</b>	<b>4 308</b>	<b>137 958</b>	<b>3 333</b>	<b>7 524</b>	<b>89 497</b>	<b>375 352</b>	<b>485 998</b>	<b>852 755</b>	<b>22 897</b>
326	Plastics & rubber products mfg .....	7	11	7	610	21 828	439	954	12 248	42 296	35 810	77 989	3 423
3261	Plastics product mfg .....	7	11	7	610	21 828	439	954	12 248	42 296	35 810	77 989	3 423
32619	Other plastics product mfg .....	7	10	7	f	D	D	D	D	D	D	D	D
326199	All other plastics product mfg .....	7	10	7	f	D	D	D	D	D	D	D	D
336	Transportation equipment mfg .....	-	8	4	2 009	66 211	1 591	3 755	45 415	173 764	220 788	393 480	11 282
3363	Motor vehicle parts mfg ...	-	8	4	2 009	66 211	1 591	3 755	45 415	173 764	220 788	393 480	11 282
33639	Other motor vehicle parts mfg .....	-	4	1	g	D	D	D	D	D	D	D	D
336399	All other motor vehicle parts mfg .....	-	4	1	g	D	D	D	D	D	D	D	D
<b>IOSCO COUNTY, MI</b>													
<b>31-33</b>	<b>Manufacturing ....</b>	-	<b>34</b>	<b>11</b>	<b>1 299</b>	<b>31 457</b>	<b>962</b>	<b>1 712</b>	<b>21 796</b>	<b>83 092</b>	<b>80 227</b>	<b>164 721</b>	<b>6 015</b>
336	Transportation equipment mfg .....	-	5	4	756	16 879	551	961	12 188	35 247	51 867	88 993	D
3363	Motor vehicle parts mfg ...	-	4	4	f	D	D	D	D	D	D	D	D
33637	Motor vehicle metal stamping .....	-	3	3	f	D	D	D	D	D	D	D	D
336370	Motor vehicle metal stamping .....	-	3	3	f	D	D	D	D	D	D	D	D
<b>ISABELLA COUNTY, MI</b>													
<b>31-33</b>	<b>Manufacturing ....</b>	-	<b>58</b>	<b>13</b>	<b>2 221</b>	<b>61 248</b>	<b>1 650</b>	<b>2 841</b>	<b>38 440</b>	<b>165 175</b>	<b>238 780</b>	<b>402 465</b>	<b>8 133</b>
332	Fabricated metal product mfg .....	-	10	2	846	27 028	670	1 181	17 741	49 526	37 580	89 174	1 940
3329	Other fabricated metal product mfg .....	-	1	1	f	D	D	D	D	D	D	D	D
33299	All other fabricated metal product mfg .....	-	1	1	f	D	D	D	D	D	D	D	D
332999	All other miscellaneous fabricated metal product mfg .....	-	1	1	f	D	D	D	D	D	D	D	D
333	Machinery mfg .....	-	17	7	753	19 590	496	888	11 896	65 589	60 945	125 184	1 766
<b>JACKSON COUNTY, MI</b>													
<b>31-33</b>	<b>Manufacturing ....</b>	-	<b>351</b>	<b>140</b>	<b>12 248</b>	<b>421 991</b>	<b>8 735</b>	<b>17 652</b>	<b>246 134</b>	<b>1 082 930</b>	<b>1 175 838</b>	<b>2 271 824</b>	<b>89 924</b>
326	Plastics & rubber products mfg .....	-	17	9	921	29 839	668	1 444	18 316	100 714	81 375	184 201	14 680
3261	Plastics product mfg .....	-	14	8	880	28 339	633	1 387	17 418	97 826	80 092	180 050	14 563
32619	Other plastics product mfg .....	-	10	6	772	24 709	552	1 215	15 190	88 764	72 548	163 384	14 058
326199	All other plastics product mfg .....	-	9	6	f	D	D	D	D	D	D	D	D
331	Primary metal mfg .....	-	9	5	592	27 303	408	999	16 076	79 299	98 063	179 532	6 506

**Table 3. Industry Statistics for Counties: 1997—Con.**

[Includes data for industry groups and industries with 500 employees or more. For information on geographic areas followed by \* and explanation of terms, see appendixes. For meaning of abbreviations and symbols, see introductory text]

NAICS code	Geographic area and industry	E <sup>1</sup>	All establishments		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expenditures (\$1,000)
			Total	With 20 employees or more	Number <sup>2</sup>	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
	<b>JACKSON COUNTY, MI—Con.</b>												
<b>31-33</b>	<b>Manufacturing—Con.</b>												
332	Fabricated metal product mfg.....	-	132	61	4 263	140 073	3 376	6 679	90 608	285 898	254 503	539 239	20 784
3327	Machine shops, turned product, & screw, nut, & bolt mfg.....	-	74	31	1 973	64 497	1 627	3 213	41 294	122 907	99 798	223 048	9 954
33271	Machine shops.....	-	45	12	1 041	30 823	827	1 585	19 990	56 784	32 799	89 118	4 055
332710	Machine shops.....	-	45	12	1 041	30 823	827	1 585	19 990	56 784	32 799	89 118	4 055
33272	Turned product & screw, nut, & bolt mfg.....	-	29	19	932	33 674	800	1 628	21 304	66 123	66 999	133 930	5 899
332721	Precision turned product mfg.....	-	24	16	829	31 385	715	1 503	19 789	59 594	61 686	122 189	5 406
3329	Other fabricated metal product mfg.....	-	17	12	1 010	37 058	734	1 433	23 137	66 927	98 695	164 343	4 391
33291	Metal valve mfg.....	-	8	7	571	21 760	390	754	13 597	41 087	74 976	115 027	3 047
332912	Fluid power valve & hose fitting mfg.....	-	6	5	f	D	D	D	D	D	D	D	D
333	Machinery mfg.....	-	59	22	1 676	63 323	1 214	2 444	37 438	121 510	89 720	215 829	6 912
3335	Metalworking machinery mfg.....	1	39	12	718	29 549	535	1 041	18 092	61 615	28 137	91 294	3 227
33351	Metalworking machinery mfg.....	1	39	12	718	29 549	535	1 041	18 092	61 615	28 137	91 294	3 227
336	Transportation equipment mfg.....	-	30	19	2 736	91 452	1 897	3 899	55 603	285 280	465 280	751 002	25 846
3363	Motor vehicle parts mfg....	-	27	19	2 719	90 864	1 886	3 878	55 259	284 083	464 520	748 992	25 756
33631	Motor vehicle gasoline engine & engine parts mfg.....	-	7	5	842	29 203	576	1 123	17 596	81 585	81 636	161 390	4 875
336312	Gasoline engine & engine parts mfg....	-	7	5	842	29 203	576	1 123	17 596	81 585	81 636	161 390	4 875
33639	Other motor vehicle parts mfg.....	-	8	5	f	D	D	D	D	D	D	D	D
336391	Motor vehicle air-conditioning mfg.....	-	1	1	f	D	D	D	D	D	D	D	D
	<b>KALAMAZOO COUNTY, MI</b>												
<b>31-33</b>	<b>Manufacturing ....</b>	-	<b>399</b>	<b>153</b>	<b>22 007</b>	<b>820 949</b>	<b>15 620</b>	<b>31 770</b>	<b>520 900</b>	<b>1 744 180</b>	<b>2 317 816</b>	<b>4 108 588</b>	<b>237 922</b>
311	Food mfg.....	-	14	5	g	D	D	D	D	D	D	D	D
3116	Meat product mfg.....	-	4	1	f	D	D	D	D	D	D	D	D
31161	Animal slaughtering & processing.....	-	4	1	f	D	D	D	D	D	D	D	D
311611	Animal (except poultry) slaughtering.....	-	4	1	f	D	D	D	D	D	D	D	D
322	Paper mfg.....	-	26	21	3 368	134 469	2 615	5 744	92 248	371 954	516 497	896 266	D
3221	Pulp, paper, & paperboard mills.....	-	4	4	g	D	D	D	D	D	D	D	D
32212	Paper mills.....	-	3	3	993	49 499	816	1 942	35 797	87 299	187 661	288 459	D
322121	Paper (except newsprint) mills.....	-	3	3	993	49 499	816	1 942	35 797	87 299	187 661	288 459	D
3222	Converted paper product mfg.....	-	22	17	g	D	D	D	D	D	D	D	22 531
32221	Paperboard container mfg.....	-	12	9	g	D	D	D	D	D	D	D	19 253
322211	Corrugated & solid fiber box mfg.....	1	6	5	f	D	D	D	D	D	D	D	D
322215	Nonfolding sanitary food container mfg....	-	2	2	f	D	D	D	D	D	D	D	D
323	Printing & related support activities.....	-	62	13	1 101	36 683	755	1 390	20 945	80 585	38 906	118 878	6 074
3231	Printing & related support activities.....	-	62	13	1 101	36 683	755	1 390	20 945	80 585	38 906	118 878	6 074
32311	Printing.....	1	54	11	f	D	D	D	D	D	D	D	D
325	Chemical mfg.....	1	23	13	3 349	169 803	2 395	3 930	122 977	324 969	505 030	855 619	D
3254	Pharmaceutical & medicine mfg.....	-	4	3	h	D	D	D	D	D	D	D	D
32541	Pharmaceutical & medicine mfg.....	-	4	3	h	D	D	D	D	D	D	D	D
325412	Pharmaceutical preparation mfg.....	-	2	1	g	D	D	D	D	D	D	D	D
3259	Other chemical product mfg.....	4	9	7	f	D	D	D	D	D	D	D	D
326	Plastics & rubber products mfg.....	-	29	17	1 966	54 529	1 579	3 193	34 678	114 997	101 642	222 536	11 869
3261	Plastics product mfg.....	-	28	17	g	D	D	D	D	D	D	D	D
32619	Other plastics product mfg.....	-	23	15	g	D	D	D	D	D	D	D	D
326199	All other plastics product mfg.....	-	23	15	g	D	D	D	D	D	D	D	D

**Table 3. Industry Statistics for Counties: 1997—Con.**

[Includes data for industry groups and industries with 500 employees or more. For information on geographic areas followed by \* and explanation of terms, see appendixes. For meaning of abbreviations and symbols, see introductory text]

NAICS code	Geographic area and industry	E <sup>1</sup>	All establishments		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expenditures (\$1,000)
			Total	With 20 employees or more	Number <sup>2</sup>	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
<b>31-33</b>	<b>KALAMAZOO COUNTY, MI—Con.</b>												
	<b>Manufacturing—Con.</b>												
332	Fabricated metal product mfg . . . . .	-	70	23	2 312	73 295	1 654	3 518	42 678	166 118	125 929	291 011	11 353
3329	Other fabricated metal product mfg . . . . .	-	8	7	1 227	41 846	852	1 857	22 770	95 674	84 334	179 646	D
33291	Metal valve mfg . . . . .	-	4	4	f	D	D	D	D	D	D	D	D
332912	Fluid power valve & hose fitting mfg . . . . .	-	3	3	f	D	D	D	D	D	D	D	D
33299	All other fabricated metal product mfg . . . . .	-	4	3	f	D	D	D	D	D	D	D	D
332999	All other miscellaneous fabricated metal product mfg . . . . .	-	4	3	f	D	D	D	D	D	D	D	D
333	Machinery mfg . . . . .	1	71	26	2 879	106 493	1 673	3 379	53 192	176 841	162 991	351 188	12 212
3335	Metalworking machinery mfg . . . . .	1	36	15	829	31 654	566	1 213	20 438	50 695	23 451	73 518	6 202
33351	Metalworking machinery mfg . . . . .	1	36	15	829	31 654	566	1 213	20 438	50 695	23 451	73 518	6 202
3339	Other general-purpose machinery mfg . . . . .	-	21	5	1 563	59 732	822	1 690	25 774	91 504	107 441	209 563	4 612
33399	All other general-purpose machinery mfg . . . . .	-	11	2	f	D	D	D	D	D	D	D	D
333996	Fluid power pump & motor mfg . . . . .	-	1	1	f	D	D	D	D	D	D	D	D
336	Transportation equipment mfg . . . . .	1	14	10	2 523	108 795	2 045	4 136	82 763	183 105	230 631	413 594	D
3363	Motor vehicle parts mfg . . .	1	13	10	h	D	D	D	D	D	D	D	D
33637	Motor vehicle metal stamping . . . . .	-	6	6	g	D	D	D	D	D	D	D	D
336370	Motor vehicle metal stamping . . . . .	-	6	6	g	D	D	D	D	D	D	D	D
337	Furniture & related product mfg . . . . .	-	9	2	f	D	D	D	D	D	D	D	D
339	Miscellaneous mfg . . . . .	-	35	9	1 930	63 115	932	2 066	24 264	192 478	146 010	336 952	14 485
3391	Medical equipment & supplies mfg . . . . .	-	17	5	g	D	D	D	D	D	D	D	D
33911	Medical equipment & supplies mfg . . . . .	-	17	5	g	D	D	D	D	D	D	D	D
339113	Surgical appliance & supplies mfg . . . . .	-	6	2	g	D	D	D	D	D	D	D	D
<b>31-33</b>	<b>KALKASKA COUNTY, MI</b>												
	<b>Manufacturing . . . .</b>	<b>1</b>	<b>19</b>	<b>9</b>	<b>1 187</b>	<b>34 461</b>	<b>946</b>	<b>2 016</b>	<b>22 561</b>	<b>83 270</b>	<b>95 657</b>	<b>178 168</b>	<b>17 115</b>
<b>31-33</b>	<b>KENT COUNTY, MI</b>												
	<b>Manufacturing . . . .</b>	<b>-</b>	<b>1 205</b>	<b>509</b>	<b>80 020</b>	<b>3 189 899</b>	<b>57 080</b>	<b>117 498</b>	<b>1 912 209</b>	<b>8 338 399</b>	<b>6 455 057</b>	<b>14 765 533</b>	<b>743 972</b>
311	Food mfg . . . . .	3	61	30	4 802	133 294	3 437	6 944	84 572	516 930	585 297	1 101 617	27 397
3116	Meat product mfg . . . . .	3	7	5	g	D	D	D	D	D	D	D	D
31161	Animal slaughtering & processing . . . . .	3	7	5	g	D	D	D	D	D	D	D	D
311615	Poultry processing . . . . .	-	1	1	f	D	D	D	D	D	D	D	D
3118	Bakeries & tortilla mfg . . . .	2	25	8	2 136	65 947	1 521	3 162	43 227	310 841	182 586	493 225	D
31181	Bread & bakery product mfg . . . . .	5	18	4	f	D	D	D	D	D	D	D	D
311812	Commercial bakeries . . . . .	5	5	2	f	D	D	D	D	D	D	D	D
31182	Cookie, cracker, & pasta mfg . . . . .	1	6	4	g	D	D	D	D	D	D	D	D
311821	Cookie & cracker mfg . . . . .	-	3	2	f	D	D	D	D	D	D	D	D
3119	Other food mfg . . . . .	6	12	7	f	D	D	D	D	D	D	D	D
321	Wood product mfg . . . . .	3	42	17	1 651	45 826	1 322	2 603	31 494	122 325	155 006	276 232	8 073
3212	Veneer, plywood, & engineered wood product mfg . . . . .	4	7	6	656	18 777	517	957	12 101	50 674	43 926	95 008	3 461
32121	Veneer, plywood, & engineered wood product mfg . . . . .	4	7	6	656	18 777	517	957	12 101	50 674	43 926	95 008	3 461
3219	Other wood product mfg . . .	3	29	10	889	23 942	712	1 418	16 843	60 089	93 905	153 706	D
32191	Millwork . . . . .	3	16	7	667	18 343	560	1 131	13 620	48 047	86 530	134 287	D
322	Paper mfg . . . . .	-	26	18	1 646	52 641	1 282	2 730	33 121	133 202	143 136	275 991	D
3222	Converted paper product mfg . . . . .	-	25	17	g	D	D	D	D	D	D	D	D
32221	Paperboard container mfg . . . . .	-	14	14	g	D	D	D	D	D	D	D	D
322211	Corrugated & solid fiber box mfg . . . . .	-	11	11	f	D	D	D	D	D	D	D	D

**Table 3. Industry Statistics for Counties: 1997—Con.**

[Includes data for industry groups and industries with 500 employees or more. For information on geographic areas followed by \* and explanation of terms, see appendixes. For meaning of abbreviations and symbols, see introductory text]

NAICS code	Geographic area and industry	E <sup>1</sup>	All establishments		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expenditures (\$1,000)
			Total	With 20 employees or more	Number <sup>2</sup>	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
	<b>KENT COUNTY, MI—Con.</b>												
<b>31-33</b>	<b>Manufacturing—Con.</b>												
323	Printing & related support activities.....	1	144	40	3 081	102 794	2 203	4 359	61 514	242 908	152 635	394 476	18 323
3231	Printing & related support activities.....	1	144	40	3 081	102 794	2 203	4 359	61 514	242 908	152 635	394 476	18 323
32311	Printing.....	1	117	31	h	D	D	D	D	D	D	D	D
323110	Commercial lithographic printing ..	1	55	19	g	D	D	D	D	D	D	D	D
32312	Support activities for printing.....	1	27	9	f	D	D	D	D	D	D	D	D
325	Chemical mfg.....	—	29	8	5 776	282 106	2 153	4 066	70 120	1 550 984	908 700	2 480 397	D
3256	Soap, cleaning compound, & toilet preparation mfg ..	—	10	2	i	D	D	D	D	D	D	D	D
32561	Soap & cleaning compound mfg.....	—	10	2	i	D	D	D	D	D	D	D	D
325611	Soap & other detergent mfg.....	—	9	1	i	D	D	D	D	D	D	D	D
326	Plastics & rubber products mfg.....	1	91	62	8 162	237 250	6 314	12 720	151 260	612 057	586 759	1 198 633	56 269
3261	Plastics product mfg.....	1	81	55	7 008	200 665	5 442	10 721	129 733	464 375	491 458	957 477	47 846
32619	Other plastics product mfg.....	1	60	42	5 798	160 951	4 548	8 947	106 418	382 446	375 030	757 768	33 821
326199	All other plastics product mfg.....	1	58	41	i	D	D	D	D	D	D	D	D
3262	Rubber product mfg.....	—	10	7	1 154	36 585	872	1 999	21 527	147 682	95 301	241 156	8 423
32629	Other rubber product mfg.....	—	5	5	f	D	D	D	D	D	D	D	D
327	Nonmetallic mineral product mfg.....	1	35	16	874	29 780	617	1 400	19 524	101 183	81 162	181 391	9 643
3273	Cement & concrete product mfg.....	2	21	11	f	D	D	D	D	D	D	D	D
331	Primary metal mfg.....	—	26	20	h	D	D	D	D	D	D	D	D
3315	Foundries.....	—	20	17	2 818	100 495	1 954	3 665	61 034	237 476	182 280	421 683	19 566
33151	Ferrous metal foundries ..	—	7	5	541	25 189	388	695	18 334	53 711	27 862	81 919	4 624
331511	Iron foundries.....	—	7	5	541	25 189	388	695	18 334	53 711	27 862	81 919	4 624
33152	Nonferrous metal foundries.....	—	13	12	2 277	75 306	1 566	2 970	42 700	183 765	154 418	339 764	14 942
331521	Aluminum die-casting foundries.....	—	4	4	f	D	D	D	D	D	D	D	D
331522	Nonferrous (except aluminum) die-casting foundries.....	—	7	7	1 272	39 662	936	1 854	23 947	99 355	99 660	200 147	D
332	Fabricated metal product mfg.....	1	236	85	7 654	248 457	5 972	11 611	160 632	558 690	359 214	918 326	53 824
3321	Forging & stamping.....	—	8	7	835	26 548	629	1 086	17 182	55 398	62 593	119 102	6 088
33211	Forging & stamping.....	—	8	7	835	26 548	629	1 086	17 182	55 398	62 593	119 102	6 088
332116	Metal stamping.....	—	6	5	f	D	D	D	D	D	D	D	D
3325	Hardware mfg.....	—	7	6	1 443	54 320	1 148	2 128	35 725	132 413	86 086	218 450	9 520
33251	Hardware mfg.....	—	7	6	1 443	54 320	1 148	2 128	35 725	132 413	86 086	218 450	9 520
332510	Hardware mfg.....	—	7	6	1 443	54 320	1 148	2 128	35 725	132 413	86 086	218 450	9 520
3327	Machine shops, turned product, & screw, nut, & bolt mfg.....	—	92	18	1 707	60 798	1 305	2 699	38 945	141 702	80 359	220 950	24 854
33271	Machine shops.....	1	67	9	882	30 135	723	1 464	20 567	58 574	25 973	84 359	4 951
332710	Machine shops.....	1	67	9	882	30 135	723	1 464	20 567	58 574	25 973	84 359	4 951
33272	Turned product & screw, nut, & bolt mfg.....	—	25	9	825	30 663	582	1 235	18 378	83 128	54 386	136 591	19 903
332721	Precision turned product mfg.....	—	20	7	f	D	D	D	D	D	D	D	D
3328	Coating, engraving, heat treating, & allied activities.	1	59	30	2 351	64 371	1 920	3 813	43 573	138 102	57 204	196 377	8 762
33281	Coating, engraving, heat treating, & allied activities.....	1	59	30	2 351	64 371	1 920	3 813	43 573	138 102	57 204	196 377	8 762
332812	Metal coating/engraving (exc jewelry/silverware)/allied services.....	4	19	10	662	15 556	543	1 062	10 725	36 999	14 790	51 868	2 091
332813	Electroplating, plating, polishing, anodizing, & coloring.....	—	32	15	1 415	38 047	1 153	2 327	26 037	77 359	34 516	112 874	4 286

**Table 3. Industry Statistics for Counties: 1997—Con.**

[Includes data for industry groups and industries with 500 employees or more. For information on geographic areas followed by \* and explanation of terms, see appendixes. For meaning of abbreviations and symbols, see introductory text]

NAICS code	Geographic area and industry	E <sup>1</sup>	All establishments		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expenditures (\$1,000)
			Total	With 20 employees or more	Number <sup>2</sup>	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
<b>31-33</b>	<b>KENT COUNTY, MI— Con. Manufacturing— Con.</b>												
333	Machinery mfg .....	-	230	109	11 981	597 216	8 251	18 576	342 749	1 206 593	748 434	1 924 148	113 845
3333	Commercial & service												
33331	industry machinery mfg ..	1	8	3	f	D	D	D	D	D	D	D	D
33331	Commercial & service												
33331	industry machinery	1	8	3	f	D	D	D	D	D	D	D	D
3335	Metalworking machinery												
33351	mfg .....	-	131	70	5 836	287 694	4 750	11 166	211 183	589 415	257 365	821 544	51 918
33351	Metalworking machinery												
33351	mfg .....	-	131	70	5 836	287 694	4 750	11 166	211 183	589 415	257 365	821 544	51 918
333511	Industrial mold mfg ...	-	33	24	2 124	105 222	1 699	4 187	73 674	213 718	90 667	300 584	27 295
333514	Special die & tool, die												
333514	set, jig, & fixture mfg .	-	79	40	3 350	170 728	2 785	6 514	130 807	348 905	156 097	483 426	22 391
3336	Engine, turbine, & power												
33361	transmission equipment												
33361	mfg .....	-	6	4	g	D	D	D	D	D	D	D	D
33361	Engine, turbine, & power												
33361	transmission equipment	-	6	4	g	D	D	D	D	D	D	D	D
333618	Other engine												
333618	equipment mfg .....	-	4	2	g	D	D	D	D	D	D	D	D
3339	Other general-purpose												
33392	machinery mfg .....	-	40	23	3 219	171 122	1 675	3 821	66 102	399 326	311 039	703 159	27 708
33392	Material handling												
333922	equipment mfg .....	-	11	6	1 658	102 965	658	1 667	30 681	201 977	188 583	388 672	D
333922	Conveyor & conveying												
333922	equipment mfg .....	-	9	5	g	D	D	D	D	D	D	D	D
33399	All other general-purpose												
33399	machinery mfg .....	-	25	16	g	D	D	D	D	D	D	D	D
334	Computer & electronic												
3343	product mfg .....	3	29	12	2 785	103 631	1 721	4 535	68 592	278 094	152 080	432 931	D
3343	Audio & video equipment												
33431	mfg .....	7	3	2	f	D	D	D	D	D	D	D	D
33431	Audio & video equipment												
334310	mfg .....	7	3	2	f	D	D	D	D	D	D	D	D
334310	Audio & video												
334310	equipment mfg .....	7	3	2	f	D	D	D	D	D	D	D	D
3345	Navigational, measuring,												
33451	medical, & control												
33451	instruments mfg .....	1	17	7	1 819	78 506	1 071	3 284	53 029	182 723	76 330	258 604	D
33451	Navigational, measuring,												
33451	medical, & control	1	17	7	1 819	78 506	1 071	3 284	53 029	182 723	76 330	258 604	D
334511	Search, detection,												
334511	navigation, &												
334511	guidance instrument	-	4	3	g	D	D	D	D	D	D	D	2 853
335	Electrical equipment,												
3352	appliance, & component												
33521	mfg .....	-	16	5	1 656	50 689	1 256	2 266	31 495	159 039	283 753	441 509	D
33521	Household appliance mfg .												
335212	Small electrical appliance												
335212	mfg .....	-	2	1	f	D	D	D	D	D	D	D	D
335212	Household vacuum												
335212	cleaner mfg .....	-	1	1	f	D	D	D	D	D	D	D	D
3359	Other electrical equipment												
3359	& component mfg .....	-	5	3	f	D	D	D	D	D	D	D	D
336	Transportation equipment												
3363	mfg .....	-	62	35	11 364	497 927	9 314	18 121	384 375	801 801	1 230 707	2 012 340	127 601
3363	Motor vehicle parts mfg ...												
33631	Motor vehicle gasoline												
33631	engine & engine parts												
336312	mfg .....	-	2	2	g	D	D	D	D	D	D	D	D
336312	Gasoline engine &												
336312	engine parts mfg ....	-	2	2	g	D	D	D	D	D	D	D	D
33632	Motor vehicle electrical &												
336321	electronic equipment												
336321	mfg .....	-	10	4	g	D	D	D	D	D	D	D	D
336321	Vehicular lighting												
336322	equipment mfg .....	-	2	2	f	D	D	D	D	D	D	D	D
336322	Other motor vehicle												
336322	electrical & electronic												
336322	equipment mfg .....	-	8	2	f	D	D	D	D	D	D	D	2 105
33636	Motor vehicle seating &												
336360	interior trim mfg .....	-	5	4	g	D	D	D	D	D	D	D	D
336360	Motor vehicle seating												
336360	& interior trim mfg ...	-	5	4	g	D	D	D	D	D	D	D	D
33637	Motor vehicle metal												
336370	stamping .....	-	18	11	4 557	231 919	3 982	7 603	195 201	290 547	448 551	742 068	D
336370	Motor vehicle metal												
336370	stamping .....	-	18	11	4 557	231 919	3 982	7 603	195 201	290 547	448 551	742 068	D

**Table 3. Industry Statistics for Counties: 1997—Con.**

[Includes data for industry groups and industries with 500 employees or more. For information on geographic areas followed by \* and explanation of terms, see appendixes. For meaning of abbreviations and symbols, see introductory text]

NAICS code	Geographic area and industry	E <sup>1</sup>	All establishments		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expenditures (\$1,000)	
			Total	With 20 employees or more	Number <sup>2</sup>	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)					
	<b>KENT COUNTY, MI—Con.</b>													
<b>31-33</b>	<b>Manufacturing—Con.</b>													
336	Transportation equipment mfg—Con.													
3363	Motor vehicle parts mfg—Con.													
33639	Other motor vehicle parts mfg .....	-	11	9	f	D	D	D	D	D	D	D	D	
336399	All other motor vehicle parts mfg .....	-	11	9	f	D	D	D	D	D	D	D	D	
337	Furniture & related product mfg .....	-	67	27		12 625	609 552	8 986	19 517	353 808	1 525 896	653 834	2 180 446	D
3371	Household & institutional furniture & kitchen cabinet mfg .....	-	33	9		1 641	52 353	1 320	2 601	35 738	117 114	66 760	185 050	D
33712	Household & institutional furniture mfg .....	-	26	9		1 588	51 287	1 276	2 537	35 008	114 940	65 541	181 631	D
337122	Nonupholstered wood household furniture mfg .....	1	15	8	f	D	D	D	D	D	D	D	D	D
337127	Institutional furniture mfg .....	-	8	1	f	D	D	D	D	D	D	D	D	D
3372	Office furniture (including fixtures) mfg .....	-	30	17		10 938	556 144	7 627	16 833	317 286	1 405 071	583 502	1 988 112	D
33721	Office furniture (including fixtures) mfg .....	-	30	17		10 938	556 144	7 627	16 833	317 286	1 405 071	583 502	1 988 112	D
337211	Wood office furniture mfg .....	-	11	6	g	D	D	D	D	D	D	D	D	6 231
337214	Office furniture (except wood) mfg .....	-	6	4	i	D	D	D	D	D	D	D	D	D
339	Miscellaneous mfg .....	-	81	16		1 930	58 364	1 282	2 441	31 492	178 117	68 897	248 064	D
3391	Medical equipment & supplies mfg .....	1	40	6		913	24 591	562	968	11 818	94 762	21 741	116 187	D
33911	Medical equipment & supplies mfg .....	1	40	6		913	24 591	562	968	11 818	94 762	21 741	116 187	D
3399	Other miscellaneous mfg ..	-	41	10		1 017	33 773	720	1 473	19 674	83 355	47 156	131 877	D
33999	All other miscellaneous mfg .....	-	13	3		671	21 620	496	992	13 329	53 139	33 543	85 945	1 968
	<b>LAPEER COUNTY, MI</b>													
<b>31-33</b>	<b>Manufacturing ....</b>	-	<b>139</b>	<b>44</b>		<b>6 118</b>	<b>155 561</b>	<b>4 380</b>	<b>8 925</b>	<b>96 210</b>	<b>392 178</b>	<b>441 137</b>	<b>837 230</b>	<b>56 566</b>
311	Food mfg .....	-	3	1	f	D	D	D	D	D	D	D	D	D
3114	Fruit & vegetable preserving & specialty food mfg .....	-	2	1	f	D	D	D	D	D	D	D	D	D
31142	Fruit & vegetable canning, pickling, & drying .....	-	2	1	f	D	D	D	D	D	D	D	D	D
311421	Fruit & vegetable canning .....	-	2	1	f	D	D	D	D	D	D	D	D	D
326	Plastics & rubber products mfg .....	-	14	11		2 181	53 470	1 392	3 415	33 471	147 617	119 650	269 172	D
3261	Plastics product mfg .....	-	12	10	g	D	D	D	D	D	D	D	D	D
32619	Other plastics product mfg .....	-	10	9	g	D	D	D	D	D	D	D	D	D
326199	All other plastics product mfg .....	-	9	8	g	D	D	D	D	D	D	D	D	D
332	Fabricated metal product mfg .....	1	37	10		1 174	31 155	909	1 668	19 224	57 576	47 575	104 818	D
3327	Machine shops, turned product, & screw, nut, & bolt mfg .....	1	23	5		507	14 249	379	612	8 563	21 618	22 369	44 136	D
336	Transportation equipment mfg .....	-	15	9	g	D	D	D	D	D	D	D	D	D
3363	Motor vehicle parts mfg ...	-	11	8		882	23 981	529	937	12 180	48 356	78 211	126 299	D

**Table 3. Industry Statistics for Counties: 1997—Con.**

[Includes data for industry groups and industries with 500 employees or more. For information on geographic areas followed by \* and explanation of terms, see appendixes. For meaning of abbreviations and symbols, see introductory text]

NAICS code	Geographic area and industry	E <sup>1</sup>	All establishments		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expenditures (\$1,000)
			Total	With 20 employees or more	Number <sup>2</sup>	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
	<b>LENAWEE COUNTY, MI</b>												
<b>31-33</b>	<b>Manufacturing . . . .</b>	-	<b>163</b>	<b>65</b>	<b>8 940</b>	<b>359 317</b>	<b>6 671</b>	<b>13 581</b>	<b>229 292</b>	<b>774 383</b>	<b>955 833</b>	<b>1 736 147</b>	<b>80 972</b>
325	Chemical mfg . . . . .	-	11	5	889	40 945	366	879	16 436	80 740	194 017	273 277	19 767
3252	Resin, syn rubber, & artificial & syn fibers & filaments mfg . . . . .	-	2	2	f	D	D	D	D	D	D	D	D
32521	Resin & synthetic rubber mfg . . . . .	-	2	2	f	D	D	D	D	D	D	D	D
325212	Synthetic rubber mfg . . . . .	-	1	1	f	D	D	D	D	D	D	D	D
326	Plastics & rubber products mfg . . . . .	-	13	5	g	D	D	D	D	D	D	D	4 497
3261	Plastics product mfg . . . . .	-	12	5	g	D	D	D	D	D	D	D	D
32619	Other plastics product mfg . . . . .	-	7	4	g	D	D	D	D	D	D	D	D
326199	All other plastics product mfg . . . . .	-	7	4	g	D	D	D	D	D	D	D	D
331	Primary metal mfg . . . . .	-	6	5	f	D	D	D	D	D	D	D	D
3315	Foundries . . . . .	-	4	3	f	D	D	D	D	D	D	D	D
33152	Nonferrous metal foundries . . . . .	-	3	3	f	D	D	D	D	D	D	D	D
331524	Aluminum foundries (except die-casting) . . . . .	-	3	3	f	D	D	D	D	D	D	D	D
332	Fabricated metal product mfg . . . . .	-	29	9	1 019	37 360	746	1 565	22 310	91 717	60 067	153 266	12 077
3327	Machine shops, turned product, & screw, nut, & bolt mfg . . . . .	-	13	4	604	25 748	437	990	15 703	66 178	37 094	104 715	D
33272	Turned product & screw, nut, & bolt mfg . . . . .	-	6	4	562	24 684	405	933	14 980	64 491	36 594	102 498	D
332721	Precision turned product mfg . . . . .	-	5	3	f	D	D	D	D	D	D	D	D
333	Machinery mfg . . . . .	-	33	13	1 576	68 946	1 300	2 308	36 411	85 536	127 632	220 380	4 274
3334	Ventilation, heating, AC, & commercial refrigeration equip mfg . . . . .	-	6	3	g	D	D	D	D	D	D	D	D
33341	Ventilation, heating, AC, & commercial refrigeration equip mfg . . . . .	-	6	3	g	D	D	D	D	D	D	D	D
333415	AC & warm air heating & commercial/ industrial refig equip mfg . . . . .	-	4	2	f	D	D	D	D	D	D	D	1 389
336	Transportation equipment mfg . . . . .	-	9	6	f	D	D	D	D	D	D	D	D
3363	Motor vehicle parts mfg . . . . .	-	7	6	f	D	D	D	D	D	D	D	D
337	Furniture & related product mfg . . . . .	-	7	2	f	D	D	D	D	D	D	D	631
3371	Household & institutional furniture & kitchen cabinet mfg . . . . .	-	6	2	f	D	D	D	D	D	D	D	D
	<b>LIVINGSTON COUNTY, MI</b>												
<b>31-33</b>	<b>Manufacturing . . . .</b>	-	<b>264</b>	<b>105</b>	<b>10 560</b>	<b>374 061</b>	<b>7 592</b>	<b>15 390</b>	<b>218 492</b>	<b>1 075 181</b>	<b>1 699 810</b>	<b>2 782 795</b>	<b>66 180</b>
325	Chemical mfg . . . . .	-	10	5	577	28 212	268	523	8 680	80 732	87 533	168 184	5 629
326	Plastics & rubber products mfg . . . . .	1	24	14	g	D	D	D	D	D	D	D	9 824
3261	Plastics product mfg . . . . .	1	21	12	g	D	D	D	D	D	D	D	D
32619	Other plastics product mfg . . . . .	1	16	9	f	D	D	D	D	D	D	D	D
326199	All other plastics product mfg . . . . .	1	15	9	f	D	D	D	D	D	D	D	D
332	Fabricated metal product mfg . . . . .	-	64	25	1 670	57 206	1 269	2 740	35 259	121 352	96 785	217 923	7 236
3327	Machine shops, turned product, & screw, nut, & bolt mfg . . . . .	-	35	14	934	33 630	762	1 768	23 213	63 544	60 463	124 291	D
33271	Machine shops . . . . .	-	25	6	618	24 057	510	1 198	16 977	47 752	49 856	97 692	D
332710	Machine shops . . . . .	-	25	6	618	24 057	510	1 198	16 977	47 752	49 856	97 692	D
333	Machinery mfg . . . . .	1	46	21	1 336	47 769	960	1 867	29 819	84 921	62 882	149 725	3 298
3335	Metalworking machinery mfg . . . . .	-	22	10	660	22 451	468	983	15 239	35 607	20 140	57 274	1 380
33351	Metalworking machinery mfg . . . . .	-	22	10	660	22 451	468	983	15 239	35 607	20 140	57 274	1 380



**Table 3. Industry Statistics for Counties: 1997—Con.**

[Includes data for industry groups and industries with 500 employees or more. For information on geographic areas followed by \* and explanation of terms, see appendixes. For meaning of abbreviations and symbols, see introductory text]

NAICS code	Geographic area and industry	E <sup>1</sup>	All establishments		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expenditures (\$1,000)
			Total	With 20 employees or more	Number <sup>2</sup>	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
<b>LIVINGSTON COUNTY, MI—Con.</b>													
<b>31-33</b>	<b>Manufacturing—Con.</b>												
336	Transportation equipment mfg .....	-	23	14	3 369	124 548	2 742	5 962	88 989	553 930	1 026 648	1 587 438	D
3363	Motor vehicle parts mfg ...	-	19	14	h	D	D	D	D	D	D	D	D
33634	Motor vehicle brake system mfg .....	-	3	3	g	D	D	D	D	D	D	D	D
336340	Motor vehicle brake system mfg .....	-	3	3	g	D	D	D	D	D	D	D	D
33637	Motor vehicle metal stamping .....	-	8	6	877	36 335	682	1 693	27 745	90 834	238 487	329 377	D
336370	Motor vehicle metal stamping .....	-	8	6	877	36 335	682	1 693	27 745	90 834	238 487	329 377	D
<b>MACOMB COUNTY, MI</b>													
<b>31-33</b>	<b>Manufacturing ....</b>	-	<b>2 116</b>	<b>745</b>	<b>93 551</b>	<b>4 321 928</b>	<b>73 377</b>	<b>156 201</b>	<b>3 128 112</b>	<b>9 148 935</b>	<b>14 813 995</b>	<b>23 988 006</b>	<b>1 022 785</b>
311	Food mfg .....	1	55	9	f	D	D	D	D	D	D	D	D
323	Printing & related support activities .....	2	110	18	2 165	75 529	1 335	2 730	38 314	183 737	102 706	283 561	15 467
3231	Printing & related support activities .....	2	110	18	2 165	75 529	1 335	2 730	38 314	183 737	102 706	283 561	15 467
32311	Printing .....	2	98	16	2 056	71 255	1 247	2 556	36 045	169 919	100 283	267 085	14 893
323110	Commercial lithographic printing ..	-	51	9	1 073	40 154	744	1 390	20 954	104 877	54 229	156 469	10 635
323113	Commercial screen printing .....	9	6	1	f	D	D	D	D	D	D	D	D
325	Chemical mfg .....	-	27	7	1 554	87 623	1 067	1 875	53 262	417 455	384 771	816 377	32 628
3255	Paint, coating, & adhesive mfg .....	-	8	4	g	D	D	D	D	D	D	D	27 490
32551	Paint & coating mfg .....	-	5	1	f	D	D	D	D	D	D	D	D
325510	Paint & coating mfg ...	-	5	1	f	D	D	D	D	D	D	D	D
326	Plastics & rubber products mfg .....	1	121	74	9 063	261 344	6 984	13 674	154 655	618 968	581 934	1 202 629	42 207
3261	Plastics product mfg .....	1	113	68	8 669	249 163	6 682	13 105	148 983	593 858	562 583	1 159 051	41 437
32619	Other plastics product mfg .....	1	99	63	8 204	234 569	6 397	12 604	142 273	558 664	493 626	1 051 524	38 815
326199	All other plastics product mfg .....	1	96	63	i	D	D	D	D	D	D	D	38 798
327	Nonmetallic mineral product mfg .....	2	46	12	987	34 629	752	1 623	21 516	82 499	104 363	186 961	5 401
3273	Cement & concrete product mfg .....	3	31	8	530	22 364	378	799	13 417	61 982	57 398	119 200	2 909
331	Primary metal mfg .....	-	37	21	1 560	51 547	1 329	2 858	39 407	151 210	173 048	322 447	8 467
3315	Foundries .....	-	25	13	1 004	31 691	873	1 972	24 567	85 898	56 583	142 124	D
33151	Ferrous metal foundries ..	-	13	7	646	20 921	590	1 386	17 411	54 001	36 768	90 798	D
332	Fabricated metal product mfg .....	1	656	192	13 418	496 713	10 111	21 402	316 689	1 069 564	716 458	1 792 578	87 104
3321	Forging & stamping .....	2	39	11	805	31 917	599	1 389	20 850	61 701	67 469	128 672	D
33211	Forging & stamping .....	2	39	11	805	31 917	599	1 389	20 850	61 701	67 469	128 672	D
332116	Metal stamping .....	4	20	7	f	D	D	D	D	D	D	D	D
3323	Architectural & structural metals mfg .....	1	71	19	1 286	48 002	908	1 958	27 765	106 603	71 623	187 083	3 099
33231	Plate work & fabricated structural product mfg ..	-	32	10	736	26 697	550	1 232	17 201	66 123	50 213	126 111	D
33232	Ornamental & architectural metal products mfg .....	2	39	9	550	21 305	358	726	10 564	40 480	21 410	60 972	D
3325	Hardware mfg .....	-	10	5	555	18 490	438	1 043	11 300	42 961	49 451	91 920	4 240
33251	Hardware mfg .....	-	10	5	555	18 490	438	1 043	11 300	42 961	49 451	91 920	4 240
332510	Hardware mfg .....	-	10	5	555	18 490	438	1 043	11 300	42 961	49 451	91 920	4 240
3327	Machine shops, turned product, & screw, nut, & bolt mfg .....	1	341	81	6 196	241 295	4 697	9 912	157 759	509 032	352 565	859 835	45 708
33271	Machine shops .....	1	282	51	3 709	146 873	2 766	5 806	92 387	289 120	126 966	414 081	19 672
332710	Machine shops .....	1	282	51	3 709	146 873	2 766	5 806	92 387	289 120	126 966	414 081	19 672
33272	Turned product & screw, nut, & bolt mfg .....	-	59	30	2 487	94 422	1 931	4 106	65 372	219 912	225 599	445 754	26 036
332721	Precision turned product mfg .....	-	35	17	1 308	51 152	1 052	2 443	35 145	106 027	57 214	162 817	15 669
332722	Bolt, nut, screw, rivet, & washer mfg .....	-	24	13	1 179	43 270	879	1 663	30 227	113 885	168 385	282 937	10 367

**Table 3. Industry Statistics for Counties: 1997—Con.**

[Includes data for industry groups and industries with 500 employees or more. For information on geographic areas followed by \* and explanation of terms, see appendixes. For meaning of abbreviations and symbols, see introductory text]

NAICS code	Geographic area and industry	E <sup>1</sup>	All establishments		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expenditures (\$1,000)
			Total	With 20 employees or more	Number <sup>2</sup>	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
	<b>MACOMB COUNTY, MI—Con.</b>												
<b>31-33</b>	<b>Manufacturing—Con.</b>												
332	Fabricated metal product mfg—Con.												
3328	Coating, engraving, heat treating, & allied activities.	—	81	40	2 376	79 438	1 877	3 975	52 437	194 860	64 675	261 518	19 139
33281	Coating, engraving, heat treating, & allied activities . . . . .	—	81	40	2 376	79 438	1 877	3 975	52 437	194 860	64 675	261 518	19 139
332811	Metal heat treating . . . . .	—	26	14	737	28 146	577	1 264	20 017	80 268	21 155	102 886	D
332812	Metal coating/engraving (exc jewelry/silverware)/allied services . . . . .	—	26	14	737	28 146	577	1 264	20 017	80 268	21 155	102 886	D
332813	Electroplating, plating, polishing, anodizing, & coloring . . . . .	1	28	15	737	25 162	559	1 182	14 807	49 365	19 655	69 597	D
3329	Other fabricated metal product mfg . . . . .	—	27	11	902	26 130	741	1 529	17 613	65 227	23 865	89 035	D
33299	All other fabricated metal product mfg . . . . .	1	73	28	1 699	58 725	1 266	2 457	35 951	112 024	88 489	199 058	6 622
332999	All other miscellaneous fabricated metal product mfg . . . . .	1	65	27	g	D	D	D	D	D	D	D	D
333	Machinery mfg . . . . .	1	36	15	904	29 744	672	1 282	17 544	58 569	56 612	113 844	D
3335	Metalworking machinery mfg . . . . .	—	580	228	17 177	842 350	12 265	28 227	530 097	1 577 793	979 573	2 537 015	94 257
33351	Metalworking machinery mfg . . . . .	—	450	168	12 375	627 312	9 344	21 732	420 067	1 097 435	588 083	1 679 072	76 727
333511	Industrial mold mfg . . . . .	—	450	168	12 375	627 312	9 344	21 732	420 067	1 097 435	588 083	1 679 072	76 727
333512	Machine tool (metal cutting types) mfg . . . . .	—	90	25	2 538	134 193	2 035	4 984	103 794	222 328	68 584	290 127	14 976
333514	Special die & tool, die set, jig, & fixture mfg . . . . .	—	21	13	911	54 435	547	1 282	25 310	67 666	103 775	183 130	5 859
333515	Cutting tool & machine tool accessory mfg . . . . .	1	222	79	5 329	275 874	4 246	9 753	196 679	474 260	160 392	619 624	36 314
333518	Other metalworking machinery mfg . . . . .	—	81	27	2 049	88 399	1 469	3 262	53 543	206 910	103 292	309 169	13 147
3339	Other general-purpose machinery mfg . . . . .	1	24	20	1 307	63 420	881	2 129	35 078	104 111	138 929	241 361	D
33392	Material handling equipment mfg . . . . .	—	73	37	3 600	163 667	2 158	5 036	83 999	354 235	301 540	642 490	D
333922	Conveyor & conveying equipment mfg . . . . .	1	21	9	f	D	D	D	D	D	D	D	D
33399	All other general-purpose machinery mfg . . . . .	—	14	7	541	28 511	352	874	16 730	60 529	85 092	144 564	D
333992	Welding & soldering equipment mfg . . . . .	—	51	27	2 842	127 887	1 692	3 923	63 750	279 114	199 668	466 975	7 497
333999	All other miscellaneous general-purpose machinery mfg . . . . .	—	15	12	1 452	78 838	986	2 573	43 136	148 511	121 715	260 278	D
334	Computer & electronic product mfg . . . . .	—	19	6	997	32 721	487	861	13 568	96 057	58 886	154 032	2 844
3344	Semiconductor & other electronic component mfg . . . . .	1	52	16	g	D	D	D	D	D	D	D	8 915
33441	Semiconductor & other electronic component mfg . . . . .	—	20	6	849	23 910	586	1 351	10 745	76 515	62 889	140 004	5 668
3345	Navigational, measuring, medical, & control instruments mfg . . . . .	—	20	6	849	23 910	586	1 351	10 745	76 515	62 889	140 004	5 668
33451	Navigational, measuring, medical, & control instruments mfg . . . . .	2	24	9	f	D	D	D	D	D	D	D	D
335	Electrical equipment, appliance, & component mfg . . . . .	2	24	9	f	D	D	D	D	D	D	D	D
3353	Electrical equipment mfg . . . . .	—	29	10	984	40 850	721	1 418	20 302	71 636	64 774	135 181	5 462
335314	Relay & industrial control mfg . . . . .	—	18	8	672	32 207	458	896	14 480	48 630	51 905	98 967	D
336	Transportation equipment mfg . . . . .	—	18	8	672	32 207	458	896	14 480	48 630	51 905	98 967	D
3361	Motor vehicle mfg . . . . .	—	11	7	598	29 130	397	759	12 130	42 084	46 301	86 825	D
33611	Automobile & light duty motor vehicle mfg . . . . .	—	182	118	40 101	2 258 179	34 224	73 818	1 859 409	4 561 431	11 346 630	15 937 232	703 825
336111	Automobile mfg . . . . .	—	4	2	i	D	D	D	D	D	D	D	D
336112	Light truck & utility vehicle mfg . . . . .	—	4	2	i	D	D	D	D	D	D	D	D
336111	Automobile mfg . . . . .	—	3	1	h	D	D	D	D	D	D	D	D
336112	Light truck & utility vehicle mfg . . . . .	—	1	1	h	D	D	D	D	D	D	D	D

**Table 3. Industry Statistics for Counties: 1997—Con.**

[Includes data for industry groups and industries with 500 employees or more. For information on geographic areas followed by \* and explanation of terms, see appendixes. For meaning of abbreviations and symbols, see introductory text]

NAICS code	Geographic area and industry	E <sup>1</sup>	All establishments		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expenditures (\$1,000)
			Total	With 20 employees or more	Number <sup>2</sup>	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
	<b>MACOMB COUNTY, MI</b> —Con.												
<b>31-33</b>	<b>Manufacturing—</b> Con.												
336	Transportation equipment mfg—Con.												
3363	Motor vehicle parts mfg ...	-	158	107	k	D	D	D	D	D	D	D	D
33631	Motor vehicle gasoline engine & engine parts mfg .....	-	16	5	g	D	D	D	D	D	D	D	D
336312	Gasoline engine & engine parts mfg .....	-	16	5	g	D	D	D	D	D	D	D	D
33633	Motor vehicle steering & suspension component (except spring) mfg .....	-	3	3	f	D	D	D	D	D	D	D	D
336330	Motor vehicle steering & suspension component (except spring) mfg .....	-	3	3	f	D	D	D	D	D	D	D	D
33635	Motor vehicle transmission & power train parts mfg .....	-	13	10	9 050	570 885	7 961	19 364	488 986	1 328 389	3 038 438	4 389 857	D
336350	Motor vehicle transmission & power train parts mfg .....	-	13	10	9 050	570 885	7 961	19 364	488 986	1 328 389	3 038 438	4 389 857	D
33636	Motor vehicle seating & interior trim mfg .....	-	8	7	5 135	276 209	4 437	9 266	228 648	583 164	725 996	1 313 601	D
336360	Motor vehicle seating & interior trim mfg ...	-	8	7	5 135	276 209	4 437	9 266	228 648	583 164	725 996	1 313 601	D
33637	Motor vehicle metal stamping .....	-	79	57	13 070	705 712	11 005	23 521	561 851	1 201 927	1 391 929	2 604 506	200 153
336370	Motor vehicle metal stamping .....	-	79	57	13 070	705 712	11 005	23 521	561 851	1 201 927	1 391 929	2 604 506	200 153
33639	Other motor vehicle parts mfg .....	1	32	21	2 687	71 436	1 987	3 979	45 459	172 581	216 392	388 267	13 587
336399	All other motor vehicle parts mfg .....	1	32	21	2 687	71 436	1 987	3 979	45 459	172 581	216 392	388 267	13 587
337	Furniture & related product mfg .....	4	56	10	709	19 087	576	1 097	14 147	36 704	29 549	66 512	1 866
339	Miscellaneous mfg .....	1	84	12	2 029	53 658	1 402	2 527	28 609	126 550	82 104	206 755	6 722
3399	Other miscellaneous mfg ..	-	48	8	g	D	D	D	D	D	D	D	D
33995	Sign mfg .....	-	19	3	917	21 925	593	936	11 386	40 679	39 329	79 914	D
339950	Sign mfg .....	-	19	3	917	21 925	593	936	11 386	40 679	39 329	79 914	D
	<b>MANISTEE COUNTY, MI</b>												
<b>31-33</b>	<b>Manufacturing ....</b>	-	<b>31</b>	<b>12</b>	<b>1 300</b>	<b>48 416</b>	<b>993</b>	<b>2 137</b>	<b>35 081</b>	<b>140 554</b>	<b>93 618</b>	<b>244 573</b>	<b>31 546</b>
	<b>MARQUETTE COUNTY, MI</b>												
<b>31-33</b>	<b>Manufacturing ....</b>	3	<b>39</b>	<b>8</b>	<b>730</b>	<b>16 024</b>	<b>484</b>	<b>851</b>	<b>10 211</b>	<b>38 954</b>	<b>42 042</b>	<b>81 012</b>	<b>4 347</b>
	<b>MASON COUNTY, MI</b>												
<b>31-33</b>	<b>Manufacturing ....</b>	-	<b>40</b>	<b>18</b>	<b>2 682</b>	<b>84 154</b>	<b>2 092</b>	<b>4 293</b>	<b>55 517</b>	<b>289 393</b>	<b>163 848</b>	<b>435 761</b>	<b>37 730</b>
332	Fabricated metal product mfg .....	-	7	4	725	16 375	561	1 190	10 957	40 981	36 182	77 285	3 699
	<b>MECOSTA COUNTY, MI</b>												
<b>31-33</b>	<b>Manufacturing ....</b>	-	<b>41</b>	<b>13</b>	<b>1 837</b>	<b>50 664</b>	<b>1 544</b>	<b>2 928</b>	<b>33 586</b>	<b>178 867</b>	<b>185 488</b>	<b>363 174</b>	<b>26 508</b>
332	Fabricated metal product mfg .....	-	7	4	611	21 273	485	995	14 301	51 684	62 223	114 042	7 153

**Table 3. Industry Statistics for Counties: 1997—Con.**

[Includes data for industry groups and industries with 500 employees or more. For information on geographic areas followed by \* and explanation of terms, see appendixes. For meaning of abbreviations and symbols, see introductory text]

NAICS code	Geographic area and industry	E <sup>1</sup>	All establishments		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expenditures (\$1,000)
			Total	With 20 employees or more	Number <sup>2</sup>	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
<b>MENOMINEE COUNTY, MI</b>													
<b>31-33</b>	<b>Manufacturing . . . .</b>	-	<b>56</b>	<b>27</b>	<b>2 901</b>	<b>78 048</b>	<b>2 319</b>	<b>4 330</b>	<b>56 366</b>	<b>233 056</b>	<b>190 185</b>	<b>425 196</b>	<b>11 659</b>
333	Machinery mfg . . . . .	-	5	3	613	13 572	503	928	9 373	105 004	41 103	145 105	5 942
3333	Commercial & service industry machinery mfg . .	-	2	2	f	D	D	D	D	D	D	D	D
33331	Commercial & service industry machinery mfg . . . . .	-	2	2	f	D	D	D	D	D	D	D	D
333319	Other commercial & service industry machinery mfg . . . . .	-	2	2	f	D	D	D	D	D	D	D	D
337	Furniture & related product mfg . . . . .	-	5	4	563	11 511	463	893	8 559	26 692	21 150	48 121	407
3371	Household & institutional furniture & kitchen cabinet mfg . . . . .	-	5	4	563	11 511	463	893	8 559	26 692	21 150	48 121	407
33712	Household & institutional furniture mfg . . . . .	-	5	4	563	11 511	463	893	8 559	26 692	21 150	48 121	407
<b>MIDLAND COUNTY, MI</b>													
<b>31-33</b>	<b>Manufacturing . . . .</b>	-	<b>71</b>	<b>12</b>	<b>5 613</b>	<b>285 424</b>	<b>3 247</b>	<b>6 588</b>	<b>142 722</b>	<b>783 098</b>	<b>916 389</b>	<b>1 690 770</b>	<b>D</b>
323	Printing & related support activities . . . . .	-	13	2	665	21 034	526	1 194	14 372	44 948	42 208	86 652	D
3231	Printing & related support activities . . . . .	-	13	2	665	21 034	526	1 194	14 372	44 948	42 208	86 652	D
32311	Printing . . . . .	-	11	2	f	D	D	D	D	D	D	D	D
323110	Commercial lithographic printing . .	-	6	1	f	D	D	D	D	D	D	D	D
325	Chemical mfg . . . . .	-	9	3	h	D	D	D	D	D	D	D	D
3251	Basic chemical mfg . . . . .	-	3	1	g	D	D	D	D	D	D	D	D
32519	Other basic organic chemical mfg . . . . .	-	1	1	g	D	D	D	D	D	D	D	D
325199	All other basic organic chemical mfg . . . . .	-	1	1	g	D	D	D	D	D	D	D	D
3252	Resin, syn rubber, & artificial & syn fibers & filaments mfg . . . . .	-	2	2	g	D	D	D	D	D	D	D	D
32521	Resin & synthetic rubber mfg . . . . .	-	2	2	g	D	D	D	D	D	D	D	D
325211	Plastics material & resin mfg . . . . .	-	2	2	g	D	D	D	D	D	D	D	D
<b>MISSAUKEE COUNTY, MI</b>													
<b>31-33</b>	<b>Manufacturing . . . .</b>	<b>1</b>	<b>23</b>	<b>7</b>	<b>548</b>	<b>17 533</b>	<b>436</b>	<b>854</b>	<b>11 655</b>	<b>37 655</b>	<b>35 904</b>	<b>73 032</b>	<b>4 064</b>
<b>MONROE COUNTY, MI</b>													
<b>31-33</b>	<b>Manufacturing . . . .</b>	-	<b>138</b>	<b>56</b>	<b>9 278</b>	<b>425 645</b>	<b>7 346</b>	<b>15 383</b>	<b>316 877</b>	<b>1 310 274</b>	<b>1 237 804</b>	<b>2 560 101</b>	<b>201 979</b>
322	Paper mfg . . . . .	-	8	8	773	26 198	585	1 071	15 967	56 011	45 824	102 334	8 525
3222	Converted paper product mfg . . . . .	1	7	7	f	D	D	D	D	D	D	D	D
32221	Paperboard container mfg . . . . .	-	5	5	578	19 689	447	759	11 787	40 465	33 742	74 328	D
322211	Corrugated & solid fiber box mfg . . . . .	-	4	4	f	D	D	D	D	D	D	D	D
327	Nonmetallic mineral product mfg . . . . .	5	14	6	928	31 090	702	1 529	21 975	156 612	86 049	242 147	13 042
3272	Glass & glass product mfg . . . . .	9	1	1	f	D	D	D	D	D	D	D	D
32721	Glass & glass product mfg . . . . .	9	1	1	f	D	D	D	D	D	D	D	D
327211	Flat glass mfg . . . . .	9	1	1	f	D	D	D	D	D	D	D	D
331	Primary metal mfg . . . . .	-	4	3	f	D	D	D	D	D	D	D	D
3311	Iron & steel mills & ferroalloy mfg . . . . .	-	1	1	f	D	D	D	D	D	D	D	D
33111	Iron & steel mills & ferroalloy mfg . . . . .	-	1	1	f	D	D	D	D	D	D	D	D
331111	Iron & steel mills . . . . .	-	1	1	f	D	D	D	D	D	D	D	D
332	Fabricated metal product mfg . . . . .	-	40	15	1 181	48 101	902	2 050	28 506	110 058	54 743	163 895	67 887
333	Machinery mfg . . . . .	-	19	10	674	27 156	358	758	13 808	68 759	45 510	116 394	D
336	Transportation equipment mfg . . . . .	-	9	5	h	D	D	D	D	D	D	D	D
3363	Motor vehicle parts mfg . . . . .	-	8	5	h	D	D	D	D	D	D	D	D
33639	Other motor vehicle parts mfg . . . . .	-	2	2	h	D	D	D	D	D	D	D	D
336399	All other motor vehicle parts mfg . . . . .	-	2	2	h	D	D	D	D	D	D	D	D

**Table 3. Industry Statistics for Counties: 1997—Con.**

[Includes data for industry groups and industries with 500 employees or more. For information on geographic areas followed by \* and explanation of terms, see appendixes. For meaning of abbreviations and symbols, see introductory text]

NAICS code	Geographic area and industry	E <sup>1</sup>	All establishments		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expenditures (\$1,000)
			Total	With 20 employees or more	Number <sup>2</sup>	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
<b>MONTCALM COUNTY, MI</b>													
<b>31-33</b>	<b>Manufacturing . . . .</b>	-	<b>77</b>	<b>24</b>	<b>5 456</b>	<b>171 954</b>	<b>4 561</b>	<b>9 432</b>	<b>131 049</b>	<b>464 266</b>	<b>457 048</b>	<b>923 819</b>	<b>17 997</b>
326	Plastics & rubber products mfg . . . . .	6	11	3	631	20 268	480	1 032	13 353	41 267	36 944	77 959	2 920
3261	Plastics product mfg . . . . .	6	10	3	f	D	D	D	D	D	D	D	D
32619	Other plastics product mfg . . . . .	5	8	3	f	D	D	D	D	D	D	D	2 644
326199	All other plastics product mfg . . . . .	5	8	3	f	D	D	D	D	D	D	D	2 644
332	Fabricated metal product mfg . . . . .	-	16	4	940	25 496	746	1 538	18 070	65 971	56 337	119 580	2 412
3329	Other fabricated metal product mfg . . . . .	-	4	2	f	D	D	D	D	D	D	D	D
335	Electrical equipment, appliance, & component mfg . . . . .	-	1	1	g	D	D	D	D	D	D	D	D
3352	Household appliance mfg . . . . .	-	1	1	g	D	D	D	D	D	D	D	D
33522	Major appliance mfg . . . . .	-	1	1	g	D	D	D	D	D	D	D	D
335222	Household refrigerator & home freezer mfg . . . . .	-	1	1	g	D	D	D	D	D	D	D	D
336	Transportation equipment mfg . . . . .	-	3	2	f	D	D	D	D	D	D	D	D
3363	Motor vehicle parts mfg . . . . .	-	3	2	f	D	D	D	D	D	D	D	D
33631	Motor vehicle gasoline engine & engine parts mfg . . . . .	-	2	1	f	D	D	D	D	D	D	D	D
336312	Gasoline engine & engine parts mfg . . . . .	-	1	1	f	D	D	D	D	D	D	D	D
<b>MUSKEGON COUNTY, MI</b>													
<b>31-33</b>	<b>Manufacturing . . . .</b>	-	<b>335</b>	<b>138</b>	<b>16 398</b>	<b>562 128</b>	<b>11 708</b>	<b>23 147</b>	<b>355 431</b>	<b>1 521 903</b>	<b>1 393 281</b>	<b>2 903 267</b>	<b>130 785</b>
322	Paper mfg . . . . .	-	1	1	f	D	D	D	D	D	D	D	D
3221	Pulp, paper, & paperboard mills . . . . .	-	1	1	f	D	D	D	D	D	D	D	D
32212	Paper mills . . . . .	-	1	1	f	D	D	D	D	D	D	D	D
322121	Paper (except newsprint) mills . . . . .	-	1	1	f	D	D	D	D	D	D	D	D
325	Chemical mfg . . . . .	1	13	9	1 056	41 386	656	1 398	23 276	149 141	201 295	350 936	19 252
3251	Basic chemical mfg . . . . .	-	5	5	f	D	D	D	D	D	D	D	D
326	Plastics & rubber products mfg . . . . .	6	9	6	680	14 799	537	816	9 641	37 094	33 941	71 134	3 431
3261	Plastics product mfg . . . . .	6	8	6	f	D	D	D	D	D	D	D	D
32619	Other plastics product mfg . . . . .	4	6	4	519	10 238	411	576	6 663	26 129	23 164	49 355	D
326199	All other plastics product mfg . . . . .	4	6	4	519	10 238	411	576	6 663	26 129	23 164	49 355	D
331	Primary metal mfg . . . . .	-	31	25	3 680	127 425	2 947	6 104	93 832	330 394	246 576	568 784	25 495
3315	Foundries . . . . .	-	28	22	h	D	D	D	D	D	D	D	D
33151	Ferrous metal foundries . . . . .	-	12	11	2 351	83 762	2 002	4 236	65 793	206 023	106 194	307 830	9 857
331511	Iron foundries . . . . .	-	5	4	696	25 397	591	1 270	18 945	48 444	34 742	82 766	2 379
331512	Steel investment foundries . . . . .	-	4	4	g	D	D	D	D	D	D	D	D
33152	Nonferrous metal foundries . . . . .	-	16	11	g	D	D	D	D	D	D	D	D
331521	Aluminum die-casting foundries . . . . .	-	5	4	537	14 890	381	781	10 898	41 048	21 331	61 758	D
332	Fabricated metal product mfg . . . . .	-	105	37	3 412	112 453	2 397	4 762	69 633	283 135	239 442	519 512	28 145
3327	Machine shops, turned product, & screw, nut, & bolt mfg . . . . .	-	46	14	f	D	D	D	D	D	D	D	D
33271	Machine shops . . . . .	-	45	14	962	28 766	727	1 370	19 651	73 272	95 978	169 951	5 068
332710	Machine shops . . . . .	-	45	14	962	28 766	727	1 370	19 651	73 272	95 978	169 951	5 068
3328	Coating, engraving, heat treating, & allied activities . . . . .	-	17	5	687	22 850	383	811	10 551	54 881	59 913	112 759	13 654
33281	Coating, engraving, heat treating, & allied activities . . . . .	-	17	5	687	22 850	383	811	10 551	54 881	59 913	112 759	13 654
3329	Other fabricated metal product mfg . . . . .	-	20	9	915	37 082	657	1 279	23 499	99 245	43 058	140 978	4 198
33299	All other fabricated metal product mfg . . . . .	-	19	8	f	D	D	D	D	D	D	D	D
333	Machinery mfg . . . . .	-	42	15	1 769	61 044	1 108	1 539	31 135	140 070	121 974	266 697	9 520
3339	Other general-purpose machinery mfg . . . . .	-	8	4	824	30 488	484	408	13 254	71 145	71 394	142 120	2 804
33392	Material handling equipment mfg . . . . .	-	4	2	f	D	D	D	D	D	D	D	D

**Table 3. Industry Statistics for Counties: 1997—Con.**

[Includes data for industry groups and industries with 500 employees or more. For information on geographic areas followed by \* and explanation of terms, see appendixes. For meaning of abbreviations and symbols, see introductory text]

NAICS code	Geographic area and industry	E <sup>1</sup>	All establishments		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expenditures (\$1,000)
			Total	With 20 employees or more	Number <sup>2</sup>	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
<b>31-33</b>	<b>MUSKEGON COUNTY, MI—Con.</b>												
	<b>Manufacturing—Con.</b>												
336	Transportation equipment mfg .....	1	20	13	1 881	65 867	1 292	2 731	38 493	149 925	133 300	277 236	D
3363	Motor vehicle parts mfg ...	2	14	10	g	D	D	D	D	D	D	D	D
337	Furniture & related product mfg .....	—	21	8	g	D	D	D	D	D	D	D	D
3372	Office furniture (including fixtures) mfg .....	—	10	7	g	D	D	D	D	D	D	D	D
33721	Office furniture (including fixtures) mfg .....	—	10	7	g	D	D	D	D	D	D	D	D
337214	Office furniture (except wood) mfg .....	—	3	3	f	D	D	D	D	D	D	D	D
339	Miscellaneous mfg .....	—	28	7	660	25 327	456	940	14 750	110 095	151 777	262 543	8 636
3399	Other miscellaneous mfg ...	—	19	5	f	D	D	D	D	D	D	D	D
	<b>NEWAYGO COUNTY, MI</b>												
<b>31-33</b>	<b>Manufacturing ....</b>	—	<b>46</b>	<b>11</b>	<b>1 727</b>	<b>51 735</b>	<b>1 325</b>	<b>2 678</b>	<b>34 566</b>	<b>277 748</b>	<b>208 185</b>	<b>484 715</b>	<b>11 382</b>
311	Food mfg .....	—	1	1	f	D	D	D	D	D	D	D	D
3114	Fruit & vegetable preserving & specialty food mfg .....	—	1	1	f	D	D	D	D	D	D	D	D
31142	Fruit & vegetable canning, pickling, & drying .....	—	1	1	f	D	D	D	D	D	D	D	D
311422	Specialty canning .....	—	1	1	f	D	D	D	D	D	D	D	D
	<b>OAKLAND COUNTY, MI</b>												
<b>31-33</b>	<b>Manufacturing ....</b>	—	<b>2 366</b>	<b>800</b>	<b>90 481</b>	<b>3 747 478</b>	<b>64 198</b>	<b>133 825</b>	<b>2 271 592</b>	<b>12 724 076</b>	<b>14 452 152</b>	<b>27 172 655</b>	<b>963 569</b>
311	Food mfg .....	4	84	19	1 197	23 445	639	1 062	11 207	54 482	51 785	106 552	3 496
3118	Bakeries & tortilla mfg .....	4	62	12	f	D	D	D	D	D	D	D	D
31181	Bread & bakery product mfg .....	4	59	12	f	D	D	D	D	D	D	D	D
315	Apparel mfg .....	9	24	3	f	D	D	D	D	D	D	D	D
316	Leather & allied product mfg .	—	3	1	f	D	D	D	D	D	D	D	D
3161	Leather & hide tanning & finishing .....	—	3	1	f	D	D	D	D	D	D	D	D
31611	Leather & hide tanning & finishing .....	—	3	1	f	D	D	D	D	D	D	D	D
316110	Leather & hide tanning & finishing .....	—	3	1	f	D	D	D	D	D	D	D	D
323	Printing & related support activities .....	2	271	42	3 351	115 600	2 338	4 573	65 399	237 743	152 996	389 334	15 885
3231	Printing & related support activities .....	2	271	42	3 351	115 600	2 338	4 573	65 399	237 743	152 996	389 334	15 885
32311	Printing .....	2	234	37	3 009	102 290	2 101	4 098	57 608	212 722	148 086	359 518	13 959
323110	Commercial lithographic printing ..	1	93	17	1 159	42 617	777	1 474	23 765	88 438	68 273	156 039	7 053
325	Chemical mfg .....	2	75	32	2 964	124 289	1 500	3 140	43 214	384 822	312 406	704 973	D
3254	Pharmaceutical & medicine mfg .....	—	10	5	906	38 245	520	1 115	12 970	142 611	50 042	196 541	8 862
32541	Pharmaceutical & medicine mfg .....	—	10	5	906	38 245	520	1 115	12 970	142 611	50 042	196 541	8 862
325412	Pharmaceutical preparation mfg .....	—	3	2	f	D	D	D	D	D	D	D	D
3255	Paint, coating, & adhesive mfg .....	—	19	9	f	D	D	D	D	D	D	D	D
32551	Paint & coating mfg .....	—	12	7	f	D	D	D	D	D	D	D	3 194
325510	Paint & coating mfg ...	—	12	7	f	D	D	D	D	D	D	D	3 194
3259	Other chemical product mfg .....	2	20	8	528	26 201	186	384	5 312	78 154	47 583	127 107	D
32599	All other chemical product & preparation mfg .....	2	19	8	f	D	D	D	D	D	D	D	1 998
326	Plastics & rubber products mfg .....	2	126	60	6 234	169 059	4 936	9 893	110 654	420 673	405 903	827 456	38 783
3261	Plastics product mfg .....	2	114	55	5 821	153 887	4 606	9 235	99 945	389 208	382 371	772 501	36 633
32619	Other plastics product mfg .....	2	87	48	5 005	126 570	4 024	7 859	82 959	324 209	284 892	610 810	28 210
326199	All other plastics product mfg .....	2	85	46	h	D	D	D	D	D	D	D	D
327	Nonmetallic mineral product mfg .....	2	63	22	1 151	41 696	823	1 679	25 783	114 206	89 753	204 601	6 772
331	Primary metal mfg .....	—	24	11	1 142	42 468	776	1 560	26 285	70 896	96 262	166 628	D

**Table 3. Industry Statistics for Counties: 1997—Con.**

[Includes data for industry groups and industries with 500 employees or more. For information on geographic areas followed by \* and explanation of terms, see appendixes. For meaning of abbreviations and symbols, see introductory text]

NAICS code	Geographic area and industry	E <sup>1</sup>	All establishments		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expenditures (\$1,000)
			Total	With 20 employees or more	Number <sup>2</sup>	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
	<b>OAKLAND COUNTY, MI—Con.</b>												
<b>31-33</b>	<b>Manufacturing—Con.</b>												
332	Fabricated metal product mfg . . . . .	1	530	188	14 889	579 439	11 099	23 929	359 247	1 235 543	965 790	2 198 709	91 643
3321	Forging & stamping . . . . .	—	31	19	1 791	67 782	1 288	2 717	41 610	181 526	227 061	408 053	21 352
33211	Forging & stamping . . . . .	—	31	19	1 791	67 782	1 288	2 717	41 610	181 526	227 061	408 053	21 352
332111	Iron & steel forging . . . . .	—	9	6	814	36 374	534	1 307	20 609	131 185	165 630	294 946	17 147
332116	Metal stamping . . . . .	1	18	10	879	28 050	691	1 295	19 433	43 293	54 683	99 376	D
3322	Cutlery & handtool mfg . . . . .	1	29	8	573	25 433	350	696	12 016	58 040	36 126	93 774	4 328
33221	Cutlery & handtool mfg . . . . .	1	29	8	573	25 433	350	696	12 016	58 040	36 126	93 774	4 328
332212	Hand & edge tool mfg . . . . .	1	26	8	f	D	D	D	D	D	D	D	D
3323	Architectural & structural metals mfg . . . . .	1	53	18	1 343	51 763	986	2 041	31 115	112 945	127 179	239 076	D
33232	Ornamental & architectural metal products mfg . . . . .	—	40	15	1 037	41 580	747	1 592	24 074	87 201	102 442	188 891	3 780
332322	Sheet metal work mfg . . . . .	—	26	9	566	23 809	441	938	15 472	55 747	34 475	88 438	D
3327	Machine shops, turned product, & screw, nut, & bolt mfg . . . . .	1	258	86	6 386	252 493	4 962	10 897	169 313	520 088	347 482	868 993	38 121
33271	Machine shops . . . . .	1	195	51	3 473	146 676	2 684	5 886	99 179	260 178	138 940	401 420	15 842
332710	Machine shops . . . . .	1	195	51	3 473	146 676	2 684	5 886	99 179	260 178	138 940	401 420	15 842
33272	Turned product & screw, nut, & bolt mfg . . . . .	—	63	35	2 913	105 817	2 278	5 011	70 134	259 910	208 542	467 573	22 279
332721	Precision turned product mfg . . . . .	—	45	25	1 816	65 674	1 525	3 410	46 336	138 971	78 567	215 789	9 586
332722	Bolt, nut, screw, rivet, & washer mfg . . . . .	1	18	10	1 097	40 143	753	1 601	23 798	120 939	129 975	251 784	12 693
3328	Coating, engraving, heat treating, & allied activities . . . . .	2	67	25	1 633	58 667	1 232	2 688	36 686	116 695	60 786	176 965	D
33281	Coating, engraving, heat treating, & allied activities . . . . .	2	67	25	1 633	58 667	1 232	2 688	36 686	116 695	60 786	176 965	D
332811	Metal heat treating . . . . .	1	20	11	664	27 441	463	1 075	16 075	50 646	28 072	78 633	D
332813	Electroplating, plating, polishing, anodizing, & coloring . . . . .	1	28	9	650	21 372	509	1 111	13 544	38 934	20 834	59 898	3 787
3329	Other fabricated metal product mfg . . . . .	—	64	22	2 482	96 978	1 817	3 949	56 753	178 955	112 601	290 154	11 001
33291	Metal valve mfg . . . . .	—	14	5	1 415	56 674	993	2 158	29 516	95 326	64 445	160 001	6 937
332912	Fluid power valve & hose fitting mfg . . . . .	—	12	5	g	D	D	D	D	D	D	D	D
33299	All other fabricated metal product mfg . . . . .	1	50	17	1 067	40 304	824	1 791	27 237	83 629	48 156	130 153	4 064
332999	All other miscellaneous fabricated metal product mfg . . . . .	1	24	6	555	19 010	439	941	13 479	39 823	23 146	61 550	2 563
333	Machinery mfg . . . . .	—	487	199	20 415	1 052 712	12 459	27 885	532 554	1 998 167	2 092 220	4 104 179	114 682
3332	Industrial machinery mfg . . . . .	—	38	12	1 506	70 885	504	1 156	19 445	185 473	187 708	376 106	D
33329	Other industrial machinery mfg . . . . .	—	30	10	1 346	62 437	443	1 026	17 215	167 998	175 669	345 921	D
333298	All other industrial machinery mfg . . . . .	—	25	8	1 137	53 520	334	777	13 338	153 997	147 500	303 251	D
3334	Ventilation, heating, AC, & commercial refrigeration equip mfg . . . . .	4	13	6	f	D	D	D	D	D	D	D	7 197
33341	Ventilation, heating, AC, & commercial refrigeration equip mfg . . . . .	4	13	6	f	D	D	D	D	D	D	D	7 197
3335	Metalworking machinery mfg . . . . .	—	328	131	10 589	551 838	7 280	17 560	338 585	1 040 597	867 851	1 954 545	60 490
33351	Metalworking machinery mfg . . . . .	—	328	131	10 589	551 838	7 280	17 560	338 585	1 040 597	867 851	1 954 545	60 490
333511	Industrial mold mfg . . . . .	—	51	23	1 666	94 616	1 253	2 826	64 487	179 874	87 789	265 427	14 733
333512	Machine tool (metal cutting types) mfg . . . . .	—	17	13	1 311	71 673	693	1 691	33 323	124 301	236 313	401 817	5 336
333514	Special die & tool, die set, jig, & fixture mfg . . . . .	1	156	58	4 093	211 646	3 216	7 497	148 518	345 161	182 750	526 353	24 468
333515	Cutting tool & machine tool accessory mfg . . . . .	2	77	23	1 851	81 770	1 205	2 724	46 567	160 832	85 930	248 649	8 137
333518	Other metalworking machinery mfg . . . . .	—	19	11	1 516	84 307	825	2 628	41 663	215 992	264 424	487 665	7 328
3336	Engine, turbine, & power transmission equipment mfg . . . . .	—	4	4	f	D	D	D	D	D	D	D	6 726
33361	Engine, turbine, & power transmission equipment mfg . . . . .	—	4	4	f	D	D	D	D	D	D	D	6 726

**Table 3. Industry Statistics for Counties: 1997—Con.**

[Includes data for industry groups and industries with 500 employees or more. For information on geographic areas followed by \* and explanation of terms, see appendixes. For meaning of abbreviations and symbols, see introductory text]

NAICS code	Geographic area and industry	E <sup>1</sup>	All establishments		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expenditures (\$1,000)
			Total	With 20 employees or more	Number <sup>2</sup>	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
	<b>OAKLAND COUNTY, MI—Con.</b>												
<b>31-33</b>	<b>Manufacturing—Con.</b>												
333	Machinery mfg—Con.												
3339	Other general-purpose machinery mfg .....	-	95	41	6 798	363 753	3 561	6 657	139 955	625 152	909 439	1 503 731	33 681
33391	Pump & compressor mfg .....	-	4	2	f	D	D	D	D	D	D	D	2 072
33392	Material handling equipment mfg .....	-	18	12	g	D	D	D	D	D	D	D	4 553
333922	Conveyor & conveying equipment mfg .....	-	13	8	942	61 531	395	899	16 654	147 982	159 447	307 972	3 631
33399	All other general-purpose machinery mfg .....	-	73	27	5 156	270 901	2 843	5 097	109 225	389 850	648 500	1 017 726	27 056
333992	Welding & soldering equipment mfg .....	-	7	5	g	D	D	D	D	D	D	D	D
333994	Industrial process furnace & oven mfg ..	2	12	5	595	28 357	354	832	14 442	54 125	56 290	110 378	2 983
333999	All other miscellaneous general-purpose machinery mfg .....	-	38	12	1 978	93 916	628	1 197	16 426	196 017	347 495	518 465	7 047
334	Computer & electronic product mfg .....	-	116	50	4 719	180 496	2 899	5 890	79 757	423 947	582 653	984 327	30 519
3342	Communications equipment mfg .....	-	10	6	f	D	D	D	D	D	D	D	D
3344	Semiconductor & other electronic component mfg .....	-	43	17	2 134	70 146	1 604	3 248	41 508	203 442	417 363	596 827	17 166
33441	Semiconductor & other electronic component mfg .....	-	43	17	2 134	70 146	1 604	3 248	41 508	203 442	417 363	596 827	17 166
334418	Printed circuit assembly (electronic assembly) mfg .....	-	9	6	1 423	43 811	1 248	2 646	32 530	120 551	241 194	360 476	D
3345	Navigational, measuring, medical, & control instruments mfg .....	1	43	21	1 667	73 625	756	1 547	21 636	134 846	95 117	232 211	5 152
33451	Navigational, measuring, medical, & control instruments mfg .....	1	43	21	1 667	73 625	756	1 547	21 636	134 846	95 117	232 211	5 152
334513	Industrial process control instrument mfg .....	2	16	11	862	39 132	374	790	10 674	56 004	50 538	107 778	D
335	Electrical equipment, appliance, & component mfg .....	1	58	22	1 687	66 819	955	1 908	26 143	134 146	135 260	271 757	D
3353	Electrical equipment mfg ..	2	40	13	1 158	46 837	600	1 217	17 493	92 913	68 891	162 907	3 224
33531	Electrical equipment mfg .....	2	40	13	1 158	46 837	600	1 217	17 493	92 913	68 891	162 907	3 224
335314	Relay & industrial control mfg .....	1	26	8	702	28 276	383	779	11 384	59 033	36 071	95 751	2 598
3359	Other electrical equipment & component mfg .....	1	14	9	509	19 593	342	667	8 416	40 188	65 204	106 614	D
336	Transportation equipment mfg .....	-	143	91	25 993	1 162 737	21 251	43 306	884 945	7 242 797	9 255 696	16 496 869	606 826
3361	Motor vehicle mfg .....	-	8	7	j	D	D	D	D	D	D	D	D
33611	Automobile & light duty motor vehicle mfg .....	-	7	7	j	D	D	D	D	D	D	D	D
336111	Automobile mfg .....	-	6	6	i	D	D	D	D	D	D	D	D
336112	Light truck & utility vehicle mfg .....	-	1	1	i	D	D	D	D	D	D	D	D
3363	Motor vehicle parts mfg ...	1	111	74	j	D	D	D	D	D	D	D	D
33631	Motor vehicle gasoline engine & engine parts mfg .....	-	16	8	f	D	D	D	D	D	D	D	D
336312	Gasoline engine & engine parts mfg .....	-	14	6	f	D	D	D	D	D	D	D	D
33635	Motor vehicle transmission & power train parts mfg .....	2	6	5	g	D	D	D	D	D	D	D	D
336350	Motor vehicle transmission & power train parts mfg .....	2	6	5	g	D	D	D	D	D	D	D	D
33636	Motor vehicle seating & interior trim mfg .....	1	5	3	868	18 134	734	1 188	12 534	42 480	106 071	151 332	D
336360	Motor vehicle seating & interior trim mfg ...	1	5	3	868	18 134	734	1 188	12 534	42 480	106 071	151 332	D
33637	Motor vehicle metal stamping .....	2	40	33	3 609	137 272	2 558	5 525	73 767	237 431	286 169	525 408	36 447
336370	Motor vehicle metal stamping .....	2	40	33	3 609	137 272	2 558	5 525	73 767	237 431	286 169	525 408	36 447
33639	Other motor vehicle parts mfg .....	-	27	18	4 298	197 386	3 485	7 531	150 491	368 431	743 980	1 113 263	57 139
336399	All other motor vehicle parts mfg .....	-	27	18	4 298	197 386	3 485	7 531	150 491	368 431	743 980	1 113 263	57 139



**Table 3. Industry Statistics for Counties: 1997—Con.**

[Includes data for industry groups and industries with 500 employees or more. For information on geographic areas followed by \* and explanation of terms, see appendixes. For meaning of abbreviations and symbols, see introductory text]

NAICS code	Geographic area and industry	E <sup>1</sup>	All establishments		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expenditures (\$1,000)
			Total	With 20 employees or more	Number <sup>2</sup>	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
	<b>OAKLAND COUNTY, MI—Con.</b>												
<b>31-33</b>	<b>Manufacturing—Con.</b>												
336	Transportation equipment mfg—Con.												
3364	Aerospace product & parts mfg .....	-	9	5	f	D	D	D	D	D	D	D	D
33641	Aerospace product & parts mfg .....	-	9	5	f	D	D	D	D	D	D	D	D
337	Furniture & related product mfg .....	4	75	13	899	24 914	633	1 241	15 546	43 400	37 951	81 715	1 475
339	Miscellaneous mfg .....	3	201	31	3 407	96 160	1 944	3 725	48 490	217 106	121 061	337 704	8 020
3391	Medical equipment & supplies mfg .....	6	91	7	616	21 013	451	759	11 689	45 688	19 684	65 790	1 962
33911	Medical equipment & supplies mfg .....	6	91	7	616	21 013	451	759	11 689	45 688	19 684	65 790	1 962
3399	Other miscellaneous mfg ..	3	110	24	2 791	75 147	1 493	2 966	36 801	171 418	101 377	271 914	6 058
33995	Sign mfg .....	-	43	8	1 508	44 341	604	1 312	19 950	102 578	37 248	140 547	2 526
339950	Sign mfg .....	-	43	8	1 508	44 341	604	1 312	19 950	102 578	37 248	140 547	2 526
33999	All other miscellaneous mfg .....	7	28	10	711	16 810	530	992	10 406	36 843	28 877	64 849	D
339991	Gasket, packing, & sealing device mfg...	8	12	9	508	13 128	363	736	7 999	30 298	21 966	51 403	D
	<b>OCEANA COUNTY, MI</b>												
<b>31-33</b>	<b>Manufacturing ....</b>	-	<b>51</b>	<b>12</b>	<b>1 385</b>	<b>31 199</b>	<b>1 141</b>	<b>2 128</b>	<b>23 101</b>	<b>103 891</b>	<b>103 324</b>	<b>214 458</b>	<b>6 538</b>
311	Food mfg .....	-	7	5	625	10 927	558	1 025	8 408	43 877	49 090	100 540	D
3114	Fruit & vegetable preserving & specialty food mfg .....	-	5	5	f	D	D	D	D	D	D	D	D
	<b>OGEMAW COUNTY, MI</b>												
<b>31-33</b>	<b>Manufacturing ....</b>	<b>1</b>	<b>29</b>	<b>10</b>	<b>872</b>	<b>23 260</b>	<b>660</b>	<b>1 072</b>	<b>15 919</b>	<b>52 601</b>	<b>38 430</b>	<b>85 921</b>	<b>3 391</b>
	<b>OSCEOLA COUNTY, MI</b>												
<b>31-33</b>	<b>Manufacturing ....</b>	<b>1</b>	<b>36</b>	<b>13</b>	<b>3 582</b>	<b>99 163</b>	<b>3 051</b>	<b>6 168</b>	<b>73 325</b>	<b>350 279</b>	<b>314 178</b>	<b>661 292</b>	<b>17 401</b>
326	Plastics & rubber products mfg .....	-	3	2	g	D	D	D	D	D	D	D	D
3261	Plastics product mfg .....	-	3	2	g	D	D	D	D	D	D	D	D
32619	Other plastics product mfg .....	-	3	2	g	D	D	D	D	D	D	D	D
326199	All other plastics product mfg .....	-	3	2	g	D	D	D	D	D	D	D	D
336	Transportation equipment mfg .....	-	1	1	f	D	D	D	D	D	D	D	D
3363	Motor vehicle parts mfg ...	-	1	1	f	D	D	D	D	D	D	D	D
33632	Motor vehicle electrical & electronic equipment mfg .....	-	1	1	f	D	D	D	D	D	D	D	D
336322	Other motor vehicle electrical & electronic equipment mfg .....	-	1	1	f	D	D	D	D	D	D	D	D
	<b>OTSEGO COUNTY, MI</b>												
<b>31-33</b>	<b>Manufacturing ....</b>	-	<b>39</b>	<b>15</b>	<b>1 870</b>	<b>53 848</b>	<b>1 545</b>	<b>3 359</b>	<b>34 605</b>	<b>125 703</b>	<b>131 448</b>	<b>255 499</b>	<b>10 330</b>

**Table 3. Industry Statistics for Counties: 1997—Con.**

[Includes data for industry groups and industries with 500 employees or more. For information on geographic areas followed by \* and explanation of terms, see appendixes. For meaning of abbreviations and symbols, see introductory text]

NAICS code	Geographic area and industry	E <sup>1</sup>	All establishments		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expenditures (\$1,000)
			Total	With 20 employees or more	Number <sup>2</sup>	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
<b>OTTAWA COUNTY, MI</b>													
<b>31-33</b>	<b>Manufacturing .....</b>	-	<b>591</b>	<b>217</b>	<b>38 244</b>	<b>1 310 812</b>	<b>27 338</b>	<b>56 656</b>	<b>797 666</b>	<b>3 645 710</b>	<b>4 019 087</b>	<b>7 688 092</b>	<b>388 817</b>
311	Food mfg .....	-	30	11	3 892	112 701	3 109	7 154	82 896	590 795	674 867	1 270 116	D
3114	Fruit & vegetable preserving & specialty food mfg .....	-	3	3	f	D	D	D	D	D	D	D	D
3115	Dairy product mfg .....	-	4	4	794	29 309	468	829	17 104	134 574	246 907	389 699	D
31151	Dairy product (except frozen) mfg .....	-	4	4	794	29 309	468	829	17 104	134 574	246 907	389 699	D
3116	Meat product mfg .....	-	6	2	g	D	D	D	D	D	D	D	D
31161	Animal slaughtering & processing .....	-	6	2	g	D	D	D	D	D	D	D	D
311615	Poultry processing .....	-	1	1	g	D	D	D	D	D	D	D	D
316	Leather & allied product mfg .....	-	1	1	f	D	D	D	D	D	D	D	D
3161	Leather & hide tanning & finishing .....	-	1	1	f	D	D	D	D	D	D	D	D
31611	Leather & hide tanning & finishing .....	-	1	1	f	D	D	D	D	D	D	D	D
316110	Leather & hide tanning & finishing .....	-	1	1	f	D	D	D	D	D	D	D	D
321	Wood product mfg .....	-	36	11	f	D	D	D	D	D	D	D	D
3219	Other wood product mfg .....	-	27	9	574	14 776	423	870	8 680	31 773	34 922	66 710	D
322	Paper mfg .....	4	7	6	f	D	D	D	D	D	D	D	D
3222	Converted paper product mfg .....	4	7	6	f	D	D	D	D	D	D	D	D
325	Chemical mfg .....	-	15	8	g	D	D	D	D	D	D	D	18 776
326	Plastics & rubber products mfg .....	-	39	20	2 328	73 520	1 731	3 255	45 418	184 329	129 461	314 303	14 721
3261	Plastics product mfg .....	-	36	20	g	D	D	D	D	D	D	D	14 673
32619	Other plastics product mfg .....	-	29	18	2 200	70 584	1 636	3 111	43 585	176 089	120 343	296 888	14 047
326199	All other plastics product mfg .....	-	28	17	g	D	D	D	D	D	D	D	D
327	Nonmetallic mineral product mfg .....	-	24	10	2 574	89 029	1 911	3 771	53 944	274 825	278 729	552 239	25 005
3272	Glass & glass product mfg .....	-	7	5	g	D	D	D	D	D	D	D	D
32721	Glass & glass product mfg .....	-	7	5	g	D	D	D	D	D	D	D	D
327215	Glass product mfg made of purchased glass .....	-	7	5	g	D	D	D	D	D	D	D	D
331	Primary metal mfg .....	-	12	6	f	D	D	D	D	D	D	D	D
332	Fabricated metal product mfg .....	1	137	40	4 380	137 021	3 412	6 820	91 919	311 482	173 198	488 021	23 388
3323	Architectural & structural metals mfg .....	-	16	6	1 274	43 844	981	2 005	28 603	98 114	47 167	145 764	4 903
33232	Ornamental & architectural metal products mfg .....	-	10	3	1 149	40 068	890	1 827	26 196	90 783	43 646	135 027	D
332323	Ornamental & architectural metal work mfg .....	-	3	1	f	D	D	D	D	D	D	D	D
3327	Machine shops, turned product, & screw, nut, & bolt mfg .....	1	60	12	1 055	34 109	867	1 624	24 809	86 158	49 652	136 176	5 110
33272	Turned product & screw, nut, & bolt mfg .....	-	14	9	591	19 154	465	993	12 652	54 797	34 073	89 217	3 446
332721	Precision turned product mfg .....	-	14	9	591	19 154	465	993	12 652	54 797	34 073	89 217	3 446
3328	Coating, engraving, heat treating, & allied activities .....	1	27	9	630	14 549	484	864	9 647	37 879	12 376	50 409	D
33281	Coating, engraving, heat treating, & allied activities .....	1	27	9	630	14 549	484	864	9 647	37 879	12 376	50 409	D
333	Machinery mfg .....	-	88	26	1 891	76 806	1 112	2 217	35 918	162 599	131 668	294 652	11 480
3335	Metalworking machinery mfg .....	-	49	17	997	39 483	622	1 261	22 156	74 774	47 414	122 580	7 980
33351	Metalworking machinery mfg .....	-	49	17	997	39 483	622	1 261	22 156	74 774	47 414	122 580	7 980
334	Computer & electronic product mfg .....	-	18	9	g	D	D	D	D	D	D	D	D
3345	Navigational, measuring, medical, & control instruments mfg .....	-	9	3	g	D	D	D	D	D	D	D	D
33451	Navigational, measuring, medical, & control instruments mfg .....	-	9	3	g	D	D	D	D	D	D	D	D
334512	Automatic environmental control mfg .....	-	2	1	f	D	D	D	D	D	D	D	D
334518	Watch, clock, & part mfg .....	-	2	2	f	D	D	D	D	D	D	D	D

**Table 3. Industry Statistics for Counties: 1997—Con.**

[Includes data for industry groups and industries with 500 employees or more. For information on geographic areas followed by \* and explanation of terms, see appendixes. For meaning of abbreviations and symbols, see introductory text]

NAICS code	Geographic area and industry	E <sup>1</sup>	All establishments		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expenditures (\$1,000)
			Total	With 20 employees or more	Number <sup>2</sup>	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
	<b>OTTAWA COUNTY, MI—Con.</b>												
<b>31-33</b>	<b>Manufacturing—Con.</b>												
336	Transportation equipment mfg .....	-	37	22	9 628	371 959	6 710	13 824	233 077	821 090	1 095 781	1 931 137	192 416
3363	Motor vehicle parts mfg ...	-	29	19	8 801	339 400	6 217	12 809	218 882	749 082	1 023 081	1 780 605	188 314
33631	Motor vehicle gasoline engine & engine parts mfg .....	-	5	4	1 750	80 821	1 550	2 948	69 619	92 219	336 070	429 329	D
336312	Gasoline engine & engine parts mfg .....	-	5	4	1 750	80 821	1 550	2 948	69 619	92 219	336 070	429 329	D
33636	Motor vehicle seating & interior trim mfg .....	-	1	1	h	D	D	D	D	D	D	D	D
336360	Motor vehicle seating & interior trim mfg ...	-	1	1	h	D	D	D	D	D	D	D	D
33637	Motor vehicle metal stamping .....	-	15	12	2 290	75 536	1 663	3 652	47 912	199 276	222 447	419 175	8 610
336370	Motor vehicle metal stamping .....	-	15	12	2 290	75 536	1 663	3 652	47 912	199 276	222 447	419 175	8 610
337	Furniture & related product mfg .....	-	47	23	i	D	D	D	D	D	D	D	47 439
3371	Household & institutional furniture & kitchen cabinet mfg .....	2	21	8	f	D	D	D	D	D	D	D	D
33712	Household & institutional furniture mfg .....	2	15	7	f	D	D	D	D	D	D	D	D
337127	Institutional furniture mfg .....	1	8	5	f	D	D	D	D	D	D	D	D
3372	Office furniture (including fixtures) mfg .....	-	23	15	i	D	D	D	D	D	D	D	D
33721	Office furniture (including fixtures) mfg .....	-	23	15	i	D	D	D	D	D	D	D	D
337214	Office furniture (except wood) mfg .....	-	9	8	h	D	D	D	D	D	D	D	D
339	Miscellaneous mfg .....	-	36	6	878	25 575	470	921	11 166	59 681	38 147	97 693	D
3391	Medical equipment & supplies mfg .....	-	11	3	582	18 232	305	633	8 058	35 103	18 116	53 224	D
33911	Medical equipment & supplies mfg .....	-	11	3	582	18 232	305	633	8 058	35 103	18 116	53 224	D
339111	Laboratory apparatus & furniture mfg .....	-	3	2	f	D	D	D	D	D	D	D	D
	<b>SAGINAW COUNTY, MI</b>												
<b>31-33</b>	<b>Manufacturing ....</b>	-	<b>239</b>	<b>83</b>	<b>20 681</b>	<b>1 148 592</b>	<b>16 429</b>	<b>37 396</b>	<b>901 899</b>	<b>2 456 528</b>	<b>2 718 642</b>	<b>5 172 160</b>	<b>181 366</b>
311	Food mfg .....	2	23	5	746	19 268	553	1 146	14 269	61 705	58 364	120 064	D
331	Primary metal mfg .....	-	8	3	h	D	D	D	D	D	D	D	D
3314	Nonferrous metal (except aluminum) production & processing .....	-	1	1	f	D	D	D	D	D	D	D	D
33141	Nonferrous metal (except aluminum) smelting & refining .....	-	1	1	f	D	D	D	D	D	D	D	D
331419	Other nonferrous metal primary smelting & refining .....	-	1	1	f	D	D	D	D	D	D	D	D
3315	Foundries .....	-	7	2	h	D	D	D	D	D	D	D	D
33151	Ferrous metal foundries ..	-	6	2	h	D	D	D	D	D	D	D	D
331511	Iron foundries .....	-	4	2	h	D	D	D	D	D	D	D	D
332	Fabricated metal product mfg .....	-	63	21	g	D	D	D	D	D	D	D	D
3327	Machine shops, turned product, & screw, nut, & bolt mfg .....	-	36	13	f	D	D	D	D	D	D	D	D
33271	Machine shops .....	-	35	12	790	28 504	624	1 263	19 537	55 107	26 659	82 131	2 598
332710	Machine shops .....	-	35	12	790	28 504	624	1 263	19 537	55 107	26 659	82 131	2 598
333	Machinery mfg .....	2	43	22	2 034	86 094	1 326	2 843	49 333	166 071	121 472	290 364	D
3335	Metalworking machinery mfg .....	3	30	18	1 648	65 650	1 114	2 319	39 229	106 010	71 634	185 749	D
33351	Metalworking machinery mfg .....	3	30	18	1 648	65 650	1 114	2 319	39 229	106 010	71 634	185 749	D
333515	Cutting tool & machine tool accessory mfg ..	-	9	6	688	23 888	533	1 059	16 251	40 756	21 945	62 773	2 753

**Table 3. Industry Statistics for Counties: 1997—Con.**

[Includes data for industry groups and industries with 500 employees or more. For information on geographic areas followed by \* and explanation of terms, see appendixes. For meaning of abbreviations and symbols, see introductory text]

NAICS code	Geographic area and industry	E <sup>1</sup>	All establishments		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expenditures (\$1,000)
			Total	With 20 employees or more	Number <sup>2</sup>	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
	<b>SAGINAW COUNTY, MI—Con.</b>												
<b>31-33</b>	<b>Manufacturing—Con.</b>												
336	Transportation equipment mfg .....	-	9	6	j	D	D	D	D	D	D	D	D
3363	Motor vehicle parts mfg ...	-	7	5	j	D	D	D	D	D	D	D	D
33631	Motor vehicle gasoline engine & engine parts mfg .....	-	2	1	f	D	D	D	D	D	D	D	D
336312	Gasoline engine & engine parts mfg .....	-	2	1	f	D	D	D	D	D	D	D	D
33633	Motor vehicle steering & suspension component (except spring) mfg .....	-	2	2	i	D	D	D	D	D	D	D	D
336330	Motor vehicle steering & suspension component (except spring) mfg .....	-	2	2	i	D	D	D	D	D	D	D	D
33634	Motor vehicle brake system mfg .....	-	1	1	g	D	D	D	D	D	D	D	D
336340	Motor vehicle brake system mfg .....	-	1	1	g	D	D	D	D	D	D	D	D
	<b>ST. CLAIR COUNTY, MI</b>												
<b>31-33</b>	<b>Manufacturing .....</b>	-	<b>294</b>	<b>113</b>	<b>14 162</b>	<b>431 533</b>	<b>10 456</b>	<b>20 545</b>	<b>276 406</b>	<b>1 110 762</b>	<b>1 556 273</b>	<b>2 667 597</b>	<b>115 340</b>
322	Paper mfg .....	2	4	4	994	46 657	663	1 471	28 588	138 640	179 676	320 159	8 878
3221	Pulp, paper, & paperboard mills .....	-	3	3	f	D	D	D	D	D	D	D	D
32212	Paper mills .....	-	2	2	f	D	D	D	D	D	D	D	D
322121	Paper (except newsprint) mills .....	-	2	2	f	D	D	D	D	D	D	D	D
326	Plastics & rubber products mfg .....	-	36	25	3 002	75 094	2 226	3 922	44 599	185 100	221 032	406 544	16 688
3261	Plastics product mfg .....	-	35	24	h	D	D	D	D	D	D	D	D
32619	Other plastics product mfg .....	1	31	22	2 547	63 486	1 856	3 194	36 560	148 682	170 851	320 025	D
326199	All other plastics product mfg .....	1	31	22	2 547	63 486	1 856	3 194	36 560	148 682	170 851	320 025	D
331	Primary metal mfg .....	-	5	5	g	D	D	D	D	D	D	D	D
3314	Nonferrous metal (except aluminum) production & processing .....	-	2	2	g	D	D	D	D	D	D	D	D
33141	Nonferrous metal (except aluminum) smelting & refining .....	-	1	1	g	D	D	D	D	D	D	D	D
331411	Primary smelting & refining of copper .....	-	1	1	g	D	D	D	D	D	D	D	D
332	Fabricated metal product mfg .....	-	74	28	1 910	65 330	1 519	3 232	40 937	155 933	137 432	291 504	D
3327	Machine shops, turned product, & screw, nut, & bolt mfg .....	-	40	12	778	27 379	604	1 320	16 266	55 868	41 559	96 638	D
333	Machinery mfg .....	2	51	17	1 089	43 683	741	1 550	26 550	79 752	104 438	191 889	D
3335	Metalworking machinery mfg .....	2	39	14	865	34 965	572	1 170	19 955	56 163	23 430	80 233	D
33351	Metalworking machinery mfg .....	2	39	14	865	34 965	572	1 170	19 955	56 163	23 430	80 233	D
336	Transportation equipment mfg .....	-	26	17	3 579	93 832	2 717	4 691	61 399	249 353	411 608	658 636	40 000
3363	Motor vehicle parts mfg ...	-	21	17	h	D	D	D	D	D	D	D	D
33631	Motor vehicle gasoline engine & engine parts mfg .....	-	5	5	f	D	D	D	D	D	D	D	D
336312	Gasoline engine & engine parts mfg .....	-	5	5	f	D	D	D	D	D	D	D	D
33639	Other motor vehicle parts mfg .....	-	6	3	g	D	D	D	D	D	D	D	D
336399	All other motor vehicle parts mfg .....	-	6	3	g	D	D	D	D	D	D	D	D

**Table 3. Industry Statistics for Counties: 1997—Con.**

[Includes data for industry groups and industries with 500 employees or more. For information on geographic areas followed by \* and explanation of terms, see appendixes. For meaning of abbreviations and symbols, see introductory text]

NAICS code	Geographic area and industry	E <sup>1</sup>	All establishments		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expenditures (\$1,000)
			Total	With 20 employees or more	Number <sup>2</sup>	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
<b>ST. JOSEPH COUNTY, MI</b>													
<b>31-33</b>	<b>Manufacturing ....</b>	-	<b>163</b>	<b>79</b>	<b>10 651</b>	<b>371 356</b>	<b>8 359</b>	<b>17 315</b>	<b>263 424</b>	<b>1 390 481</b>	<b>1 021 845</b>	<b>2 402 707</b>	<b>86 167</b>
311	Food mfg.....	-	4	2	f	D	D	D	D	D	D	D	D
3115	Dairy product mfg.....	-	2	2	f	D	D	D	D	D	D	D	D
31151	Dairy product (except frozen) mfg.....	-	2	2	f	D	D	D	D	D	D	D	D
311514	Dry, condensed, & evaporated dairy product mfg.....	-	2	2	f	D	D	D	D	D	D	D	D
321	Wood product mfg.....	-	8	2	f	D	D	D	D	D	D	D	3 653
3219	Other wood product mfg....	-	6	2	f	D	D	D	D	D	D	D	D
322	Paper mfg.....	-	11	9	717	26 294	569	1 253	19 716	68 379	102 916	170 274	8 876
3222	Converted paper product mfg.....	-	9	7	f	D	D	D	D	D	D	D	D
326	Plastics & rubber products mfg.....	1	26	15	1 881	55 421	1 474	3 146	36 992	158 734	109 543	268 675	7 190
3261	Plastics product mfg.....	1	23	14	g	D	D	D	D	D	D	D	D
32619	Other plastics product mfg.....	1	21	13	g	D	D	D	D	D	D	D	D
326199	All other plastics product mfg.....	1	19	12	g	D	D	D	D	D	D	D	6 593
332	Fabricated metal product mfg.....	-	32	15	1 391	42 732	1 050	2 113	26 369	88 992	67 043	156 091	9 112
3329	Other fabricated metal product mfg.....	-	5	4	608	19 476	438	863	11 266	32 587	30 592	63 710	2 777
333	Machinery mfg.....	-	28	11	1 125	45 862	789	1 857	30 864	107 008	55 476	160 044	5 924
3335	Metalworking machinery mfg.....	-	19	7	708	31 443	579	1 418	24 868	68 832	31 694	98 185	D
33351	Metalworking machinery mfg.....	-	19	7	708	31 443	579	1 418	24 868	68 832	31 694	98 185	D
336	Transportation equipment mfg.....	1	19	14	3 160	118 432	2 563	4 971	91 819	238 823	322 376	561 816	27 240
3362	Motor vehicle body & trailer mfg.....	1	10	8	g	D	D	D	D	D	D	D	D
33621	Motor vehicle body & trailer mfg.....	1	10	8	g	D	D	D	D	D	D	D	D
336211	Motor vehicle body mfg.....	-	2	2	f	D	D	D	D	D	D	D	D
3363	Motor vehicle parts mfg....	1	8	6	g	D	D	D	D	D	D	D	D
33635	Motor vehicle transmission & power train parts mfg.....	-	1	1	f	D	D	D	D	D	D	D	D
336350	Motor vehicle transmission & power train parts mfg.....	-	1	1	f	D	D	D	D	D	D	D	D
33639	Other motor vehicle parts mfg.....	1	5	5	1 190	31 506	968	1 500	22 458	81 977	121 010	203 127	5 403
336399	All other motor vehicle parts mfg.....	1	5	5	1 190	31 506	968	1 500	22 458	81 977	121 010	203 127	5 403
<b>SANILAC COUNTY, MI</b>													
<b>31-33</b>	<b>Manufacturing ....</b>	<b>2</b>	<b>88</b>	<b>40</b>	<b>5 244</b>	<b>123 552</b>	<b>4 166</b>	<b>7 635</b>	<b>82 341</b>	<b>359 256</b>	<b>369 197</b>	<b>726 324</b>	<b>25 136</b>
326	Plastics & rubber products mfg.....	-	12	11	1 728	33 887	1 374	2 277	21 742	86 586	110 447	196 306	6 437
3261	Plastics product mfg.....	1	11	10	g	D	D	D	D	D	D	D	D
32619	Other plastics product mfg.....	-	9	8	1 243	23 116	963	1 338	12 907	61 698	59 959	121 911	2 311
326199	All other plastics product mfg.....	-	9	8	1 243	23 116	963	1 338	12 907	61 698	59 959	121 911	2 311
327	Nonmetallic mineral product mfg.....	-	5	1	f	D	D	D	D	D	D	D	D
3279	Other nonmetallic mineral product mfg.....	-	1	1	f	D	D	D	D	D	D	D	D
32799	All other nonmetallic mineral product mfg....	-	1	1	f	D	D	D	D	D	D	D	D
327993	Mineral wool mfg.....	-	1	1	f	D	D	D	D	D	D	D	D
332	Fabricated metal product mfg.....	-	27	11	1 165	35 005	922	1 839	23 445	142 553	85 741	227 429	6 627
3327	Machine shops, turned product, & screw, nut, & bolt mfg.....	-	8	3	566	18 963	437	807	12 071	53 496	36 673	89 770	5 174
33272	Turned product & screw, nut, & bolt mfg.....	-	3	2	f	D	D	D	D	D	D	D	D
336	Transportation equipment mfg.....	-	7	6	626	14 207	522	982	9 523	40 293	45 721	84 972	4 675
3363	Motor vehicle parts mfg....	-	6	5	f	D	D	D	D	D	D	D	D

**Table 3. Industry Statistics for Counties: 1997—Con.**

[Includes data for industry groups and industries with 500 employees or more. For information on geographic areas followed by \* and explanation of terms, see appendixes. For meaning of abbreviations and symbols, see introductory text]

NAICS code	Geographic area and industry	E <sup>1</sup>	All establishments		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expenditures (\$1,000)
			Total	With 20 employees or more	Number <sup>2</sup>	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
<b>SHIAWASSEE COUNTY, MI</b>													
<b>31-33</b>	<b>Manufacturing . . . .</b>	<b>1</b>	<b>86</b>	<b>37</b>	<b>4 139</b>	<b>99 579</b>	<b>3 037</b>	<b>5 471</b>	<b>62 998</b>	<b>207 470</b>	<b>244 817</b>	<b>453 830</b>	<b>14 803</b>
326	Plastics & rubber products mfg . . . . .	2	15	10	1 108	20 703	760	1 180	11 729	52 090	61 692	113 884	4 741
3261	Plastics product mfg . . . . .	2	15	10	1 108	20 703	760	1 180	11 729	52 090	61 692	113 884	4 741
32619	Other plastics product mfg . . . . .	2	13	9	g	D	D	D	D	D	D	D	D
326199	All other plastics product mfg . . . . .	2	13	9	g	D	D	D	D	D	D	D	D
335	Electrical equipment, appliance, & component mfg . . . . .	-	3	3	f	D	D	D	D	D	D	D	2 157
3353	Electrical equipment mfg . . . . .	-	3	3	f	D	D	D	D	D	D	D	2 157
33531	Electrical equipment mfg . . . . .	-	3	3	f	D	D	D	D	D	D	D	2 157
335312	Motor & generator mfg . . . . .	-	3	3	f	D	D	D	D	D	D	D	2 157
<b>TUSCOLA COUNTY, MI</b>													
<b>31-33</b>	<b>Manufacturing . . . .</b>	<b>2</b>	<b>65</b>	<b>20</b>	<b>2 818</b>	<b>96 917</b>	<b>2 017</b>	<b>4 179</b>	<b>61 354</b>	<b>197 000</b>	<b>285 370</b>	<b>486 438</b>	<b>17 594</b>
336	Transportation equipment mfg . . . . .	-	9	6	g	D	D	D	D	D	D	D	7 016
3363	Motor vehicle parts mfg . . . . .	-	7	6	g	D	D	D	D	D	D	D	D
33631	Motor vehicle gasoline engine & engine parts mfg . . . . .	-	2	2	f	D	D	D	D	D	D	D	D
336311	Carburetor, piston, piston ring, & valve mfg . . . . .	-	1	1	f	D	D	D	D	D	D	D	D
<b>VAN BUREN COUNTY, MI</b>													
<b>31-33</b>	<b>Manufacturing . . . .</b>	<b>-</b>	<b>127</b>	<b>44</b>	<b>4 879</b>	<b>152 072</b>	<b>3 772</b>	<b>7 673</b>	<b>100 096</b>	<b>563 201</b>	<b>447 903</b>	<b>1 007 822</b>	<b>59 924</b>
312	Beverage & tobacco product mfg . . . . .	-	5	3	f	D	D	D	D	D	D	D	D
3121	Beverage mfg . . . . .	-	5	3	f	D	D	D	D	D	D	D	D
31211	Soft drink & ice mfg . . . . .	-	4	3	f	D	D	D	D	D	D	D	D
312111	Soft drink mfg . . . . .	-	4	3	f	D	D	D	D	D	D	D	D
326	Plastics & rubber products mfg . . . . .	-	9	6	1 197	33 717	956	1 903	20 510	122 122	70 504	192 244	D
3261	Plastics product mfg . . . . .	-	7	5	g	D	D	D	D	D	D	D	D
32619	Other plastics product mfg . . . . .	-	5	4	g	D	D	D	D	D	D	D	D
326199	All other plastics product mfg . . . . .	-	5	4	g	D	D	D	D	D	D	D	D
332	Fabricated metal product mfg . . . . .	1	34	12	722	20 064	559	1 104	13 207	39 614	22 932	63 308	2 604
<b>WASHTENAW COUNTY, MI</b>													
<b>31-33</b>	<b>Manufacturing . . . .</b>	<b>-</b>	<b>412</b>	<b>150</b>	<b>29 254</b>	<b>1 395 455</b>	<b>23 147</b>	<b>49 243</b>	<b>1 036 917</b>	<b>3 167 578</b>	<b>4 161 599</b>	<b>7 350 242</b>	<b>372 455</b>
311	Food mfg . . . . .	-	21	5	562	18 239	465	842	12 905	69 941	59 202	130 006	D
323	Printing & related support activities . . . . .	-	58	17	2 938	86 763	2 266	4 237	58 323	159 506	118 468	278 397	13 770
3231	Printing & related support activities . . . . .	-	58	17	2 938	86 763	2 266	4 237	58 323	159 506	118 468	278 397	13 770
32311	Printing . . . . .	-	51	17	h	D	D	D	D	D	D	D	D
323110	Commercial lithographic printing . . . . .	1	20	7	508	15 354	372	708	9 618	29 097	22 779	52 379	D
323117	Book printing . . . . .	-	9	8	2 249	66 995	1 774	3 338	46 161	122 889	91 255	214 010	12 288
326	Plastics & rubber products mfg . . . . .	2	23	9	1 116	32 711	906	1 874	23 752	113 462	113 523	226 893	9 662
3261	Plastics product mfg . . . . .	2	22	9	g	D	D	D	D	D	D	D	D
32619	Other plastics product mfg . . . . .	3	17	7	f	D	D	D	D	D	D	D	D
326199	All other plastics product mfg . . . . .	4	16	6	f	D	D	D	D	D	D	D	D

**Table 3. Industry Statistics for Counties: 1997—Con.**

[Includes data for industry groups and industries with 500 employees or more. For information on geographic areas followed by \* and explanation of terms, see appendixes. For meaning of abbreviations and symbols, see introductory text]

NAICS code	Geographic area and industry	E <sup>1</sup>	All establishments		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expenditures (\$1,000)
			Total	With 20 employees or more	Number <sup>2</sup>	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
	<b>WASHTENAW COUNTY, MI—Con.</b>												
<b>31-33</b>	<b>Manufacturing—Con.</b>												
332	Fabricated metal product mfg . . . . .	-	78	23	3 254	113 448	2 610	5 322	82 129	258 740	239 591	498 822	28 771
3327	Machine shops, turned product, & screw, nut, & bolt mfg . . . . .	-	41	9	967	34 452	743	1 541	22 792	86 523	70 277	155 230	8 939
33272	Turned product & screw, nut, & bolt mfg . . . . .	-	10	6	721	27 318	556	1 228	17 966	70 801	65 203	134 377	D
3329	Other fabricated metal product mfg . . . . .	-	14	5	1 572	56 054	1 328	2 762	45 022	117 171	122 932	242 072	D
33299	All other fabricated metal product mfg . . . . .	-	9	4	g	D	D	D	D	D	D	D	D
332991	Ball & roller bearing mfg . . . . .	-	4	3	f	D	D	D	D	D	D	D	D
333	Machinery mfg . . . . .	-	46	19	2 674	129 246	1 691	3 751	69 658	291 162	228 068	502 356	8 476
3335	Metalworking machinery mfg . . . . .	1	19	7	881	46 174	707	1 650	33 552	73 729	100 565	159 863	3 432
33351	Metalworking machinery mfg . . . . .	1	19	7	881	46 174	707	1 650	33 552	73 729	100 565	159 863	3 432
333512	Machine tool (metal cutting types) mfg . . . . .	1	4	4	700	36 864	570	1 338	27 945	57 547	85 415	128 370	2 678
3339	Other general-purpose machinery mfg . . . . .	-	11	6	f	D	D	D	D	D	D	D	D
33399	All other general-purpose machinery mfg . . . . .	-	9	4	f	D	D	D	D	D	D	D	D
333999	All other miscellaneous general-purpose machinery mfg . . . . .	-	6	3	f	D	D	D	D	D	D	D	D
334	Computer & electronic product mfg . . . . .	-	51	23	h	D	D	D	D	D	D	D	49 143
3341	Computer & peripheral equipment mfg . . . . .	6	8	6	f	D	D	D	D	D	D	D	D
33411	Computer & peripheral equipment mfg . . . . .	6	8	6	f	D	D	D	D	D	D	D	D
334111	Electronic computer mfg . . . . .	6	5	5	f	D	D	D	D	D	D	D	D
3345	Navigational, measuring, medical, & control instruments mfg . . . . .	-	20	9	h	D	D	D	D	D	D	D	D
33451	Navigational, measuring, medical, & control instruments mfg . . . . .	-	20	9	h	D	D	D	D	D	D	D	D
334514	Totalizing fluid meter & counting device mfg . . . . .	-	2	2	g	D	D	D	D	D	D	D	D
336	Transportation equipment mfg . . . . .	-	28	22	j	D	D	D	D	D	D	D	D
3363	Motor vehicle parts mfg . . . . .	-	23	20	j	D	D	D	D	D	D	D	D
33631	Motor vehicle gasoline engine & engine parts mfg . . . . .	-	3	3	h	D	D	D	D	D	D	D	D
336311	Carburetor, piston, piston ring, & valve mfg . . . . .	-	3	3	h	D	D	D	D	D	D	D	D
33632	Motor vehicle electrical & electronic equipment mfg . . . . .	-	2	2	g	D	D	D	D	D	D	D	D
336322	Other motor vehicle electrical & electronic equipment mfg . . . . .	-	2	2	g	D	D	D	D	D	D	D	D
33635	Motor vehicle transmission & power train parts mfg . . . . .	-	2	2	i	D	D	D	D	D	D	D	D
336350	Motor vehicle transmission & power train parts mfg . . . . .	-	2	2	i	D	D	D	D	D	D	D	D
33637	Motor vehicle metal stamping . . . . .	-	8	7	f	D	D	D	D	D	D	D	D
336370	Motor vehicle metal stamping . . . . .	-	8	7	f	D	D	D	D	D	D	D	D
33639	Other motor vehicle parts mfg . . . . .	-	6	5	2 476	134 057	2 076	4 594	109 208	406 901	608 667	1 018 421	32 914
336399	All other motor vehicle parts mfg . . . . .	-	6	5	2 476	134 057	2 076	4 594	109 208	406 901	608 667	1 018 421	32 914
339	Miscellaneous mfg . . . . .	1	33	9	f	D	D	D	D	D	D	D	D
3391	Medical equipment & supplies mfg . . . . .	-	14	5	f	D	D	D	D	D	D	D	D
33911	Medical equipment & supplies mfg . . . . .	-	14	5	f	D	D	D	D	D	D	D	D

**Table 3. Industry Statistics for Counties: 1997—Con.**

[Includes data for industry groups and industries with 500 employees or more. For information on geographic areas followed by \* and explanation of terms, see appendixes. For meaning of abbreviations and symbols, see introductory text]

NAICS code	Geographic area and industry	E <sup>1</sup>	All establishments		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expenditures (\$1,000)
			Total	With 20 employees or more	Number <sup>2</sup>	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
	<b>WAYNE COUNTY, MI</b>												
<b>31-33</b>	<b>Manufacturing ....</b>	-	<b>2 390</b>	<b>790</b>	<b>133 703</b>	<b>6 514 290</b>	<b>104 295</b>	<b>222 745</b>	<b>4 787 498</b>	<b>21 497 967</b>	<b>32 855 564</b>	<b>54 374 967</b>	<b>2 152 089</b>
311	Food mfg.....	-	206	50	6 853	197 365	4 758	9 499	119 159	806 401	1 135 779	1 941 782	23 063
3115	Dairy product mfg.....	-	8	6	f	D	D	D	D	D	D	D	D
3116	Meat product mfg.....	-	30	17	2 657	73 119	1 974	4 621	51 347	420 885	681 520	1 102 620	D
31161	Animal slaughtering & processing.....	-	30	17	2 657	73 119	1 974	4 621	51 347	420 885	681 520	1 102 620	D
311611	Animal (except poultry) slaughtering.....	-	9	6	g	D	D	D	D	D	D	D	D
311612	Meat processed from carcasses.....	1	17	8	f	D	D	D	D	D	D	D	D
3118	Bakeries & tortilla mfg.....	1	127	14	2 267	66 425	1 322	2 034	32 064	151 341	69 952	220 721	D
31181	Bread & bakery product mfg.....	1	123	13	2 207	65 272	1 282	1 980	31 443	149 529	68 183	217 152	6 906
311811	Retail bakeries.....	4	102	5	617	7 859	448	484	4 648	19 518	12 018	31 588	990
311812	Commercial bakeries ..	1	21	8	1 590	57 413	834	1 496	26 795	130 011	56 165	185 564	5 916
3119	Other food mfg.....	-	20	9	f	D	D	D	D	D	D	D	5 250
31191	Snack food mfg.....	-	5	4	f	D	D	D	D	D	D	D	D
311919	Other snack food mfg ..	-	5	4	f	D	D	D	D	D	D	D	D
312	Beverage & tobacco product mfg.....	1	9	5	1 349	58 768	527	1 073	21 317	295 172	396 743	690 887	15 173
3121	Beverage mfg.....	1	9	5	1 349	58 768	527	1 073	21 317	295 172	396 743	690 887	15 173
31211	Soft drink & ice mfg.....	2	8	4	f	D	D	D	D	D	D	D	D
312111	Soft drink mfg.....	2	5	4	f	D	D	D	D	D	D	D	D
321	Wood product mfg.....	2	36	8	521	11 390	418	802	8 481	24 264	42 352	66 722	1 728
322	Paper mfg.....	4	42	25	1 846	56 655	1 383	2 661	34 802	139 196	199 398	334 893	11 914
3222	Converted paper product mfg.....	5	41	24	g	D	D	D	D	D	D	D	D
32221	Paperboard container mfg.....	3	21	14	1 063	30 652	789	1 519	17 687	70 396	99 936	169 734	5 738
322211	Corrugated & solid fiber box mfg.....	4	13	10	727	22 718	500	1 068	11 467	52 888	70 168	122 880	D
323	Printing & related support activities.....	1	255	33	3 411	114 447	2 511	4 965	76 043	385 879	196 608	584 106	17 269
3231	Printing & related support activities.....	1	255	33	3 411	114 447	2 511	4 965	76 043	385 879	196 608	584 106	17 269
32311	Printing.....	1	225	28	3 002	97 748	2 206	4 364	65 785	357 423	192 069	551 100	16 491
323110	Commercial lithographic printing ..	1	127	15	1 925	67 137	1 415	2 956	46 733	268 653	154 215	423 765	14 113
324	Petroleum & coal products mfg.....	1	24	9	988	45 373	595	1 180	24 379	205 717	723 552	928 722	D
3241	Petroleum & coal products mfg.....	1	24	9	988	45 373	595	1 180	24 379	205 717	723 552	928 722	D
32419	Other petroleum & coal products mfg.....	7	15	5	f	D	D	D	D	D	D	D	D
325	Chemical mfg.....	1	103	38	3 889	180 243	1 838	3 701	69 383	671 017	946 076	1 608 362	94 099
3252	Resin, syn rubber, & artificial & syn fibers & filaments mfg.....	-	5	3	g	D	D	D	D	D	D	D	D
32521	Resin & synthetic rubber mfg.....	-	5	3	g	D	D	D	D	D	D	D	D
325211	Plastics material & resin mfg.....	-	3	3	g	D	D	D	D	D	D	D	D
3255	Paint, coating, & adhesive mfg.....	2	28	12	937	39 126	513	998	17 750	100 633	231 304	339 232	D
32551	Paint & coating mfg.....	1	22	9	765	31 029	416	812	15 218	86 834	197 230	290 488	D
325510	Paint & coating mfg....	1	22	9	765	31 029	416	812	15 218	86 834	197 230	290 488	D
3256	Soap, cleaning compound, & toilet preparation mfg ..	1	28	6	f	D	D	D	D	D	D	D	D
32561	Soap & cleaning compound mfg.....	1	27	6	f	D	D	D	D	D	D	D	D
325611	Soap & other detergent mfg.....	1	20	5	f	D	D	D	D	D	D	D	D
326	Plastics & rubber products mfg.....	1	93	48	5 312	167 265	4 063	8 465	104 968	419 802	358 594	777 893	50 806
3261	Plastics product mfg.....	1	75	43	4 954	157 889	3 784	7 946	98 978	389 895	334 846	724 179	49 194
32611	Unsupported plastics film, sheet, & bag mfg ..	-	6	2	f	D	D	D	D	D	D	D	D
326113	Unsupported plastics film & sheet (except packaging) mfg.....	-	5	2	f	D	D	D	D	D	D	D	D
32619	Other plastics product mfg.....	2	55	34	3 254	90 111	2 603	5 668	59 591	220 773	168 795	387 355	19 167
326199	All other plastics product mfg.....	2	55	34	3 254	90 111	2 603	5 668	59 591	220 773	168 795	387 355	19 167



**Table 3. Industry Statistics for Counties: 1997—Con.**

[Includes data for industry groups and industries with 500 employees or more. For information on geographic areas followed by \* and explanation of terms, see appendixes. For meaning of abbreviations and symbols, see introductory text]

NAICS code	Geographic area and industry	E <sup>1</sup>	All establishments		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expenditures (\$1,000)
			Total	With 20 employees or more	Number <sup>2</sup>	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
<b>31-33</b>	<b>WAYNE COUNTY, MI—Con.</b>												
	<b>Manufacturing—Con.</b>												
327	Nonmetallic mineral product mfg . . . . .	—	77	29	3 513	191 839	2 749	6 151	146 660	449 391	379 133	834 642	85 023
3272	Glass & glass product mfg . . . . .	—	12	5	1 859	130 355	1 584	3 755	107 398	240 384	135 871	379 583	D
32721	Glass & glass product mfg . . . . .	—	12	5	1 859	130 355	1 584	3 755	107 398	240 384	135 871	379 583	D
327211	Flat glass mfg . . . . .	—	1	1	f	D	D	D	D	D	D	D	D
327215	Glass product mfg made of purchased glass . . . . .	—	11	4	g	D	D	D	D	D	D	D	D
3273	Cement & concrete product mfg . . . . .	—	34	10	709	29 373	488	965	17 881	75 221	122 720	198 537	D
3279	Other nonmetallic mineral product mfg . . . . .	1	18	9	558	17 956	386	791	11 221	61 171	57 167	121 572	3 694
32791	Abrasive product mfg . . . . .	1	11	8	510	16 667	349	726	10 386	57 421	53 429	114 029	3 316
327910	Abrasive product mfg . . . . .	1	11	8	510	16 667	349	726	10 386	57 421	53 429	114 029	3 316
331	Primary metal mfg . . . . .	—	50	32	9 281	500 387	7 332	17 704	385 366	1 334 358	2 332 848	3 678 866	141 821
3311	Iron & steel mills & ferroalloy mfg . . . . .	—	4	3	i	D	D	D	D	D	D	D	D
33111	Iron & steel mills & ferroalloy mfg . . . . .	—	4	3	i	D	D	D	D	D	D	D	D
331111	Iron & steel mills . . . . .	—	4	3	i	D	D	D	D	D	D	D	D
3312	Steel product mfg from purchased steel . . . . .	—	12	10	1 297	46 360	1 000	2 121	33 275	141 195	368 251	509 531	D
33121	Iron & steel pipes & tubes mfg from purchased steel . . . . .	—	4	4	f	D	D	D	D	D	D	D	D
331210	Iron & steel pipes & tubes mfg from purchased steel . . . . .	—	4	4	f	D	D	D	D	D	D	D	D
33122	Rolling & drawing of purchased steel . . . . .	—	8	6	f	D	D	D	D	D	D	D	D
331221	Cold-rolled steel shape mfg . . . . .	—	7	5	f	D	D	D	D	D	D	D	D
3315	Foundries . . . . .	2	22	12	f	D	D	D	D	D	D	D	D
332	Fabricated metal product mfg . . . . .	1	609	198	14 802	519 006	10 966	22 304	331 379	1 164 838	816 775	1 969 526	83 723
3321	Forging & stamping . . . . .	2	31	15	1 014	40 756	711	1 329	24 610	89 842	81 035	171 858	12 106
33211	Forging & stamping . . . . .	2	31	15	1 014	40 756	711	1 329	24 610	89 842	81 035	171 858	12 106
332116	Metal stamping . . . . .	2	16	8	531	17 571	361	585	8 663	43 613	32 663	77 700	D
3322	Cutlery & handtool mfg . . . . .	1	25	8	608	33 349	422	1 009	19 990	48 635	18 103	63 823	D
33221	Cutlery & handtool mfg . . . . .	1	25	8	608	33 349	422	1 009	19 990	48 635	18 103	63 823	D
332212	Hand & edge tool mfg . . . . .	1	21	8	f	D	D	D	D	D	D	D	D
3323	Architectural & structural metals mfg . . . . .	2	85	24	2 001	67 810	1 331	2 656	38 552	181 391	161 322	338 475	7 224
33231	Plate work & fabricated structural product mfg . . . . .	2	33	11	1 073	34 328	693	1 415	20 020	105 557	101 435	202 927	D
332312	Fabricated structural metal mfg . . . . .	3	26	9	944	29 491	593	1 190	16 941	96 137	89 707	181 844	D
33232	Ornamental & architectural metal products mfg . . . . .	1	52	13	928	33 482	638	1 241	18 532	75 834	59 887	135 548	D
3324	Boiler, tank, & shipping container mfg . . . . .	5	13	6	663	19 361	499	964	12 119	34 416	32 670	66 668	1 734
3327	Machine shops, turned product, & screw, nut, & bolt mfg . . . . .	1	248	71	5 365	189 209	4 082	8 334	125 152	406 124	276 225	681 556	30 277
33271	Machine shops . . . . .	1	171	32	2 507	90 122	1 898	3 752	59 984	166 999	83 557	250 017	15 262
332710	Machine shops . . . . .	1	171	32	2 507	90 122	1 898	3 752	59 984	166 999	83 557	250 017	15 262
33272	Turned product & screw, nut, & bolt mfg . . . . .	—	77	39	2 858	99 087	2 184	4 582	65 168	239 125	192 668	431 539	15 015
332721	Precision turned product mfg . . . . .	1	40	20	g	D	D	D	D	D	D	D	D
332722	Bolt, nut, screw, rivet, & washer mfg . . . . .	—	37	19	g	D	D	D	D	D	D	D	D
3328	Coating, engraving, heat treating, & allied activities . . . . .	—	116	47	3 449	110 470	2 605	5 541	73 609	265 800	129 441	390 081	21 975
33281	Coating, engraving, heat treating, & allied activities . . . . .	—	116	47	3 449	110 470	2 605	5 541	73 609	265 800	129 441	390 081	21 975
332811	Metal heat treating . . . . .	—	30	19	1 063	41 690	768	1 678	27 549	99 910	33 211	132 256	11 407
332812	Metal coating/engraving (exc jewelry/silverware)/allied services . . . . .	—	26	12	970	24 180	694	1 405	15 685	65 851	62 142	123 252	3 421
332813	Electroplating, plating, polishing, anodizing, & coloring . . . . .	1	60	16	1 416	44 600	1 143	2 458	30 375	100 039	34 088	134 573	7 147
3329	Other fabricated metal product mfg . . . . .	2	66	19	1 159	40 597	880	1 744	26 437	105 832	83 848	190 039	D
33299	All other fabricated metal product mfg . . . . .	2	59	15	f	D	D	D	D	D	D	D	D

**Table 3. Industry Statistics for Counties: 1997—Con.**

[Includes data for industry groups and industries with 500 employees or more. For information on geographic areas followed by \* and explanation of terms, see appendixes. For meaning of abbreviations and symbols, see introductory text]

NAICS code	Geographic area and industry	E <sup>1</sup>	All establishments		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expenditures (\$1,000)
			Total	With 20 employees or more	Number <sup>2</sup>	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
	<b>WAYNE COUNTY, MI—Con.</b>												
<b>31-33</b>	<b>Manufacturing—Con.</b>												
333	Machinery mfg . . . . .	-	348	135	13 998	759 010	9 409	21 136	460 549	1 293 285	1 918 509	3 237 259	131 780
3332	Industrial machinery mfg ..	-	27	9	1 088	69 888	804	1 522	45 488	76 599	205 723	331 909	D
33329	Other industrial machinery mfg . . . . .	-	23	8	1 016	66 708	757	1 458	43 765	68 085	196 498	314 028	8 025
333298	All other industrial machinery mfg . . . . .	-	19	7	932	62 841	703	1 349	41 964	60 900	191 087	301 391	D
3334	Ventilation, heating, AC, & commercial refrigeration equip mfg . . . . .	-	10	7	f	D	D	D	D	D	D	D	D
33341	Ventilation, heating, AC, & commercial refrigeration equip mfg . . . . .	-	10	7	f	D	D	D	D	D	D	D	D
333415	AC & warm air heating & commercial/ industrial refrig equip mfg . . . . .	-	4	3	791	29 881	352	740	10 221	26 686	28 239	57 193	D
3335	Metalworking machinery mfg . . . . .	-	224	89	6 389	342 973	4 832	11 169	237 725	581 205	269 144	839 287	72 431
33351	Metalworking machinery mfg . . . . .	-	224	89	6 389	342 973	4 832	11 169	237 725	581 205	269 144	839 287	72 431
333514	Special die & tool, die set, jig, & fixture mfg . . . . .	-	124	47	4 326	251 392	3 387	8 048	184 735	403 077	140 625	538 754	58 562
333515	Cutting tool & machine tool accessory mfg . . . . .	1	54	18	850	35 050	652	1 339	20 914	61 671	33 807	93 349	D
3336	Engine, turbine, & power transmission equipment mfg . . . . .	-	13	8	h	D	D	D	D	D	D	D	D
33361	Engine, turbine, & power transmission equipment mfg . . . . .	-	13	8	h	D	D	D	D	D	D	D	D
333618	Other engine equipment mfg . . . . .	-	4	3	h	D	D	D	D	D	D	D	D
3339	Other general-purpose machinery mfg . . . . .	1	63	21	g	D	D	D	D	D	D	D	D
33392	Material handling equipment mfg . . . . .	-	18	9	f	D	D	D	D	D	D	D	D
33399	All other general-purpose machinery mfg . . . . .	3	42	11	f	D	D	D	D	D	D	D	D
334	Computer & electronic product mfg . . . . .	-	55	16	2 855	125 534	1 772	4 003	55 780	286 790	256 101	523 787	16 121
3344	Semiconductor & other electronic component mfg . . . . .	-	19	4	f	D	D	D	D	D	D	D	D
33441	Semiconductor & other electronic component mfg . . . . .	-	19	4	f	D	D	D	D	D	D	D	D
3345	Navigational, measuring, medical, & control instruments mfg . . . . .	1	24	9	f	D	D	D	D	D	D	D	7 381
33451	Navigational, measuring, medical, & control instruments mfg . . . . .	1	24	9	f	D	D	D	D	D	D	D	7 381
3346	Mfg & reproducing magnetic & optical media . . . . .	-	3	2	g	D	D	D	D	D	D	D	D
33461	Mfg & reproducing magnetic & optical media . . . . .	-	3	2	g	D	D	D	D	D	D	D	D
334612	Prerecorded CD (except software), tape, & record reproducing . . . . .	-	3	2	g	D	D	D	D	D	D	D	D
335	Electrical equipment, appliance, & component mfg . . . . .	-	26	11	957	45 489	578	1 268	15 404	98 328	77 171	175 596	7 218
336	Transportation equipment mfg . . . . .	-	185	111	60 092	3 417 394	52 459	111 933	2 861 233	13 605 317	22 859 315	36 487 993	1 445 034
3361	Motor vehicle mfg . . . . .	-	10	9	21 200	1 245 836	19 328	37 983	1 095 156	9 562 582	15 881 210	25 459 053	D
33611	Automobile & light duty motor vehicle mfg . . . . .	-	9	9	j	D	D	D	D	D	D	D	D
336111	Automobile mfg . . . . .	-	6	6	j	D	D	D	D	D	D	D	D
336112	Light truck & utility vehicle mfg . . . . .	-	3	3	i	D	D	D	D	D	D	D	D
3363	Motor vehicle parts mfg . . . . .	-	152	93	k	D	D	D	D	D	D	D	966 815
33631	Motor vehicle gasoline engine & engine parts mfg . . . . .	-	22	9	9 204	638 223	7 885	18 578	531 811	1 004 326	2 942 969	3 950 658	288 759
336312	Gasoline engine & engine parts mfg . . . . .	-	21	9	i	D	D	D	D	D	D	D	D

**Table 3. Industry Statistics for Counties: 1997—Con.**

[Includes data for industry groups and industries with 500 employees or more. For information on geographic areas followed by \* and explanation of terms, see appendixes. For meaning of abbreviations and symbols, see introductory text]

NAICS code	Geographic area and industry	E <sup>1</sup>	All establishments		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expenditures (\$1,000)
			Total	With 20 employees or more	Number <sup>2</sup>	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
	<b>WAYNE COUNTY, MI—Con.</b>												
<b>31-33</b>	<b>Manufacturing—Con.</b>												
336	Transportation equipment mfg—Con.												
3363	Motor vehicle parts mfg—Con.												
33633	Motor vehicle steering & suspension component (except spring) mfg . . . .	2	5	3	1 383	64 957	1 219	2 461	54 228	102 993	149 456	253 034	D
336330	Motor vehicle steering & suspension component (except spring) mfg . . . . .	2	5	3	1 383	64 957	1 219	2 461	54 228	102 993	149 456	253 034	D
33635	Motor vehicle transmission & power train parts mfg . . . . .	—	15	10	j	D	D	D	D	D	D	D	412 310
336350	Motor vehicle transmission & power train parts mfg . . . . .	—	15	10	j	D	D	D	D	D	D	D	412 310
33636	Motor vehicle seating & interior trim mfg . . . . .	—	14	13	3 784	138 736	3 231	6 874	105 380	308 940	772 249	1 078 099	13 848
336360	Motor vehicle seating & interior trim mfg . . . . .	—	14	13	3 784	138 736	3 231	6 874	105 380	308 940	772 249	1 078 099	13 848
33637	Motor vehicle metal stamping . . . . .	—	49	35	10 648	548 320	9 230	19 441	446 043	1 017 243	1 062 197	2 095 861	220 125
336370	Motor vehicle metal stamping . . . . .	—	49	35	10 648	548 320	9 230	19 441	446 043	1 017 243	1 062 197	2 095 861	220 125
33639	Other motor vehicle parts mfg . . . . .	1	35	19	g	D	D	D	D	D	D	D	16 325
336399	All other motor vehicle parts mfg . . . . .	1	34	19	1 820	62 412	1 423	2 784	43 034	152 884	198 444	347 685	16 325
337	Furniture & related product mfg . . . . .	—	70	16	1 368	44 114	1 010	1 975	27 265	93 548	72 731	166 176	2 486
3372	Office furniture (including fixtures) mfg . . . . .	1	29	10	f	D	D	D	D	D	D	D	1 912
33721	Office furniture (including fixtures) mfg . . . . .	1	29	10	f	D	D	D	D	D	D	D	1 912
337215	Showcase, partition, shelving, & locker mfg . . . . .	1	19	8	650	25 018	499	1 010	15 609	43 729	31 167	74 659	1 813
339	Miscellaneous mfg . . . . .	1	156	19	1 999	66 700	1 363	2 811	36 464	186 769	106 747	292 696	9 052
3391	Medical equipment & supplies mfg . . . . .	1	70	7	724	23 018	522	954	14 386	106 355	41 876	148 843	2 512
33911	Medical equipment & supplies mfg . . . . .	1	70	7	724	23 018	522	954	14 386	106 355	41 876	148 843	2 512
3399	Other miscellaneous mfg . . . . .	1	86	12	1 275	43 682	841	1 857	22 078	80 414	64 871	143 853	6 540
33999	All other miscellaneous mfg . . . . .	—	28	7	727	26 642	463	1 070	13 600	46 679	42 300	88 959	D
	<b>WEXFORD COUNTY, MI</b>												
<b>31-33</b>	<b>Manufacturing . . . .</b>	—	<b>57</b>	<b>24</b>	<b>4 331</b>	<b>126 712</b>	<b>3 179</b>	<b>6 207</b>	<b>72 394</b>	<b>353 935</b>	<b>352 098</b>	<b>719 103</b>	<b>26 812</b>
326	Plastics & rubber products mfg . . . . .	—	6	4	1 280	32 043	959	2 271	21 992	86 384	91 298	177 323	D
3262	Rubber product mfg . . . . .	—	4	4	g	D	D	D	D	D	D	D	D
32622	Rubber & plastics hoses & belting mfg . . . . .	—	1	1	f	D	D	D	D	D	D	D	D
326220	Rubber & plastics hoses & belting mfg . . . . .	—	1	1	f	D	D	D	D	D	D	D	D
32629	Other rubber product mfg . . . . .	—	3	3	f	D	D	D	D	D	D	D	D
326291	Rubber product mfg for mechanical use . . . . .	—	3	3	f	D	D	D	D	D	D	D	D
332	Fabricated metal product mfg . . . . .	—	14	7	583	16 855	394	846	9 663	37 592	35 196	74 204	2 057
335	Electrical equipment, appliance, & component mfg . . . . .	—	1	1	f	D	D	D	D	D	D	D	D
3352	Household appliance mfg . . . . .	—	1	1	f	D	D	D	D	D	D	D	D
33521	Small electrical appliance mfg . . . . .	—	1	1	f	D	D	D	D	D	D	D	D
335212	Household vacuum cleaner mfg . . . . .	—	1	1	f	D	D	D	D	D	D	D	D
336	Transportation equipment mfg . . . . .	—	3	2	f	D	D	D	D	D	D	D	D
3366	Ship & boat building . . . . .	—	1	1	f	D	D	D	D	D	D	D	D
33661	Ship & boat building . . . . .	—	1	1	f	D	D	D	D	D	D	D	D
336612	Boat building . . . . .	—	1	1	f	D	D	D	D	D	D	D	D

**Table 3. Industry Statistics for Counties: 1997—Con.**

<sup>1</sup>Some payroll and sales data for small single-establishment companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate statistics for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at the time data were tabulated. The following symbols are shown where estimated data based on administrative-record data account for 10 percent or more of the figures shown: 1–10 to 19 percent; 2–20 to 29 percent; 3–30 to 39 percent; 4–40 to 49 percent; 5–50 to 59 percent; 6–60 to 69 percent; 7–70 to 79 percent; 8–80 to 89 percent; 9–90 percent or more.

<sup>2</sup>Industries with 500 employees or more are shown. Some statistics are withheld to avoid disclosing data for individual companies. If employment is 500 or more, number of establishments is shown and employment-size range is indicated by one of the following symbols: c–100 to 249 employees; e–250 to 499 employees; f–500 to 999 employees; g–1,000 to 2,499 employees, h–2,500 to 4,999 employees; i–5,000 to 9,999 employees; j–10,000 to 24,999 employees; k–25,000 to 49,999 employees; l–50,000 to 99,999 employees; m–100,000 employees or more.

**Table 4. Industry Statistics for Places: 1997**

[Includes data for industry groups and industries with 500 employees or more. For information on geographic areas followed by \* and explanation of terms, see appendixes. For meaning of abbreviations and symbols, see introductory text]

NAICS code	Geographic area and industry	E <sup>1</sup>	All establishments		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expenditures (\$1,000)
			Total	With 20 employees or more	Number <sup>2</sup>	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
<b>ADRIAN, MI</b>													
31-33	Manufacturing ....	-	37	22	3 559	150 142	2 821	5 743	112 512	353 205	415 902	767 566	23 099
326	Plastics & rubber products mfg .....	-	7	4	g	D	D	D	D	D	D	D	4 090
3261	Plastics product mfg .....	-	7	4	g	D	D	D	D	D	D	D	4 090
32619	Other plastics product mfg .....	-	4	3	g	D	D	D	D	D	D	D	D
326199	All other plastics product mfg .....	-	4	3	g	D	D	D	D	D	D	D	D
337	Furniture & related product mfg .....	-	3	2	f	D	D	D	D	D	D	D	615
3371	Household & institutional furniture & kitchen cabinet mfg .....	-	2	2	f	D	D	D	D	D	D	D	D
<b>ALBION, MI</b>													
31-33	Manufacturing ....	-	25	11	1 342	42 922	998	2 185	28 718	148 922	107 355	255 352	6 915
331	Primary metal mfg .....	-	1	1	f	D	D	D	D	D	D	D	D
3315	Foundries .....	-	1	1	f	D	D	D	D	D	D	D	D
33151	Ferrous metal foundries ..	-	1	1	f	D	D	D	D	D	D	D	D
331511	Iron foundries .....	-	1	1	f	D	D	D	D	D	D	D	D
<b>ALLEGAN, MI</b>													
31-33	Manufacturing ....	-	12	4	3 148	113 025	2 116	4 036	57 392	402 996	301 704	701 148	D
325	Chemical mfg .....	-	2	1	g	D	D	D	D	D	D	D	D
3254	Pharmaceutical & medicine mfg .....	-	1	1	g	D	D	D	D	D	D	D	D
32541	Pharmaceutical & medicine mfg .....	-	1	1	g	D	D	D	D	D	D	D	D
325412	Pharmaceutical preparation mfg .....	-	1	1	g	D	D	D	D	D	D	D	D
<b>ALLEN PARK, MI</b>													
31-33	Manufacturing ....	-	20	4	g	D	D	D	D	D	D	D	7 434
311	Food mfg .....	-	6	1	f	D	D	D	D	D	D	D	D
3119	Other food mfg .....	-	1	1	f	D	D	D	D	D	D	D	D
31191	Snack food mfg .....	-	1	1	f	D	D	D	D	D	D	D	D
311919	Other snack food mfg ..	-	1	1	f	D	D	D	D	D	D	D	D
<b>ALMA, MI</b>													
31-33	Manufacturing ....	-	15	7	1 448	44 286	1 187	2 313	26 695	77 434	79 758	156 387	6 281
336	Transportation equipment mfg .....	-	4	4	g	D	D	D	D	D	D	D	5 598
3363	Motor vehicle parts mfg ...	-	2	2	f	D	D	D	D	D	D	D	D
33635	Motor vehicle transmission & power train parts mfg .....	-	1	1	f	D	D	D	D	D	D	D	D
336350	Motor vehicle transmission & power train parts mfg .....	-	1	1	f	D	D	D	D	D	D	D	D
<b>ALPENA, MI</b>													
31-33	Manufacturing ....	-	37	16	2 074	78 034	1 547	3 136	44 413	234 813	191 812	423 955	24 319
321	Wood product mfg .....	-	6	4	516	17 227	423	756	12 162	30 690	24 953	55 910	D
333	Machinery mfg .....	-	6	3	f	D	D	D	D	D	D	D	D
<b>ALPINE TOWNSHIP, MI</b>													
31-33	Manufacturing ....	-	26	8	938	29 030	752	1 471	19 348	77 270	36 482	111 012	4 015

**Table 4. Industry Statistics for Places: 1997—Con.**

[Includes data for industry groups and industries with 500 employees or more. For information on geographic areas followed by \* and explanation of terms, see appendixes. For meaning of abbreviations and symbols, see introductory text]

NAICS code	Geographic area and industry	All establishments			All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expenditures (\$1,000)
		E <sup>1</sup>	Total	With 20 employees or more	Number <sup>2</sup>	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
<b>ANN ARBOR, MI</b>													
<b>31-33</b>	<b>Manufacturing ....</b>	<b>3</b>	<b>131</b>	<b>35</b>	<b>4 330</b>	<b>160 004</b>	<b>2 826</b>	<b>5 511</b>	<b>78 896</b>	<b>347 274</b>	<b>249 649</b>	<b>599 781</b>	<b>32 340</b>
323	Printing & related support activities.....	1	26	4	685	20 934	468	796	11 319	38 963	25 060	64 104	D
3231	Printing & related support activities.....	1	26	4	685	20 934	468	796	11 319	38 963	25 060	64 104	D
32311	Printing .....	1	22	4	663	20 181	455	774	11 017	37 924	24 795	62 776	D
332	Fabricated metal product mfg.....	-	12	3	768	26 129	616	1 238	19 203	62 735	39 781	102 830	7 126
3329	Other fabricated metal product mfg.....	-	4	2	f	D	D	D	D	D	D	D	D
33299	All other fabricated metal product mfg.....	-	4	2	f	D	D	D	D	D	D	D	D
332991	Ball & roller bearing mfg.....	-	3	2	f	D	D	D	D	D	D	D	D
334	Computer & electronic product mfg.....	6	24	10	803	39 749	306	611	9 433	97 838	76 776	175 161	5 614
336	Transportation equipment mfg.....	1	9	5	g	D	D	D	D	D	D	D	D
3363	Motor vehicle parts mfg ...	1	7	5	g	D	D	D	D	D	D	D	D
339	Miscellaneous mfg.....	1	19	5	563	26 100	299	559	8 565	49 595	32 673	82 744	3 383
<b>AUBURN HILLS, MI</b>													
<b>31-33</b>	<b>Manufacturing ....</b>	<b>-</b>	<b>83</b>	<b>50</b>	<b>8 548</b>	<b>352 574</b>	<b>4 274</b>	<b>8 898</b>	<b>141 854</b>	<b>944 172</b>	<b>1 337 804</b>	<b>2 215 861</b>	<b>48 980</b>
326	Plastics & rubber products mfg.....	-	12	8	709	24 177	483	1 033	12 863	55 062	44 138	98 828	3 294
3261	Plastics product mfg .....	-	11	7	f	D	D	D	D	D	D	D	D
333	Machinery mfg .....	-	30	22	3 879	195 080	1 345	2 673	53 366	484 355	645 821	1 088 517	22 663
3332	Industrial machinery mfg ..	-	3	2	f	D	D	D	D	D	D	D	D
33329	Other industrial machinery mfg .....	-	3	2	f	D	D	D	D	D	D	D	D
333298	All other industrial machinery mfg .....	-	2	1	f	D	D	D	D	D	D	D	D
3335	Metalworking machinery mfg .....	-	17	13	1 250	68 043	742	1 513	32 818	174 553	176 114	339 424	14 723
33351	Metalworking machinery mfg .....	-	17	13	1 250	68 043	742	1 513	32 818	174 553	176 114	339 424	14 723
3339	Other general-purpose machinery mfg .....	-	10	7	g	D	D	D	D	D	D	D	D
33399	All other general-purpose machinery mfg .....	-	5	3	1 341	68 787	289	509	5 380	137 155	303 176	416 835	4 557
333999	All other miscellaneous general-purpose machinery mfg .....	-	4	3	g	D	D	D	D	D	D	D	4 557
334	Computer & electronic product mfg.....	-	4	3	g	D	D	D	D	D	D	D	D
3344	Semiconductor & other electronic component mfg .....	-	3	3	g	D	D	D	D	D	D	D	D
33441	Semiconductor & other electronic component mfg .....	-	3	3	g	D	D	D	D	D	D	D	D
334418	Printed circuit assembly (electronic assembly) mfg .....	-	1	1	g	D	D	D	D	D	D	D	D
336	Transportation equipment mfg.....	-	7	6	1 038	36 999	674	1 426	21 606	128 074	228 164	356 320	5 864
3363	Motor vehicle parts mfg ...	-	6	5	f	D	D	D	D	D	D	D	D
33639	Other motor vehicle parts mfg .....	-	3	2	f	D	D	D	D	D	D	D	D
336399	All other motor vehicle parts mfg .....	-	3	2	f	D	D	D	D	D	D	D	D
339	Miscellaneous mfg.....	-	2	1	f	D	D	D	D	D	D	D	D
3399	Other miscellaneous mfg ..	-	1	1	f	D	D	D	D	D	D	D	D
33995	Sign mfg .....	-	1	1	f	D	D	D	D	D	D	D	D
339950	Sign mfg .....	-	1	1	f	D	D	D	D	D	D	D	D
<b>BAD AXE, MI</b>													
<b>31-33</b>	<b>Manufacturing ....</b>	<b>-</b>	<b>12</b>	<b>8</b>	<b>789</b>	<b>20 735</b>	<b>645</b>	<b>1 291</b>	<b>16 254</b>	<b>75 578</b>	<b>26 606</b>	<b>102 814</b>	<b>6 276</b>

**Table 4. Industry Statistics for Places: 1997—Con.**

[Includes data for industry groups and industries with 500 employees or more. For information on geographic areas followed by \* and explanation of terms, see appendixes. For meaning of abbreviations and symbols, see introductory text]

NAICS code	Geographic area and industry	E <sup>1</sup>	All establishments		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expenditures (\$1,000)
			Total	With 20 employees or more	Number <sup>2</sup>	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
<b>BATTLE CREEK, MI</b>													
31-33	Manufacturing ....	-	81	40	10 194	409 425	7 955	15 942	304 348	1 726 943	1 604 079	3 337 702	169 123
311	Food mfg .....	-	9	4	2 571	156 406	2 225	4 303	129 893	1 121 543	363 721	1 490 074	D
3112	Grain & oilseed milling ....	-	3	3	g	D	D	D	D	D	D	D	D
31123	Breakfast cereal mfg .....	-	3	3	g	D	D	D	D	D	D	D	D
311230	Breakfast cereal mfg .....	-	3	3	g	D	D	D	D	D	D	D	D
322	Paper mfg .....	1	5	5	664	32 470	529	1 417	24 802	97 776	80 181	180 867	D
332	Fabricated metal product mfg .....	4	13	7	682	19 618	541	1 017	12 883	46 753	27 990	73 271	4 800
336	Transportation equipment mfg .....	-	9	8	4 305	137 926	3 338	6 405	103 524	338 882	1 004 028	1 340 268	102 293
3363	Motor vehicle parts mfg ...	-	8	7	h	D	D	D	D	D	D	D	D
33632	Motor vehicle electrical & electronic equipment mfg .....	-	4	4	h	D	D	D	D	D	D	D	D
336321	Vehicular lighting equipment mfg .....	-	1	1	f	D	D	D	D	D	D	D	D
336322	Other motor vehicle electrical & electronic equipment mfg .....	-	3	3	h	D	D	D	D	D	D	D	D
<b>BAY CITY, MI</b>													
31-33	Manufacturing ....	-	79	31	4 174	198 333	3 325	7 342	146 905	317 934	472 712	794 726	53 758
332	Fabricated metal product mfg .....	3	20	9	632	22 687	490	977	14 630	51 778	27 515	80 285	1 972
336	Transportation equipment mfg .....	-	4	3	g	D	D	D	D	D	D	D	D
3363	Motor vehicle parts mfg ...	-	3	3	g	D	D	D	D	D	D	D	D
33631	Motor vehicle gasoline engine & engine parts mfg .....	-	2	2	g	D	D	D	D	D	D	D	D
336312	Gasoline engine & engine parts mfg .....	-	2	2	g	D	D	D	D	D	D	D	D
<b>BEDFORD TOWNSHIP, MI (MONROE COUNTY)</b>													
31-33	Manufacturing ....	-	29	11	793	30 804	560	1 187	16 930	79 050	60 064	139 773	5 513
<b>BELDING, MI</b>													
31-33	Manufacturing ....	-	22	12	897	31 178	673	1 457	18 510	91 594	144 936	229 943	4 599
<b>BENTON TOWNSHIP, MI</b>													
31-33	Manufacturing ....	1	43	20	1 680	46 578	1 221	2 350	29 112	110 196	83 603	196 004	6 709
<b>BENTON HARBOR, MI</b>													
31-33	Manufacturing ....	2	48	22	2 473	82 120	1 880	3 549	46 904	159 131	141 820	296 968	11 770
333	Machinery mfg .....	6	8	3	568	26 211	412	691	9 732	49 589	33 190	79 048	D
<b>BIG RAPIDS, MI</b>													
31-33	Manufacturing ....	-	21	10	g	D	D	D	D	D	D	D	19 459
332	Fabricated metal product mfg .....	-	4	4	f	D	D	D	D	D	D	D	D
<b>BIRMINGHAM, MI</b>													
31-33	Manufacturing ....	3	40	6	555	17 566	409	810	11 001	34 681	42 059	79 809	2 743

**Table 4. Industry Statistics for Places: 1997—Con.**

[Includes data for industry groups and industries with 500 employees or more. For information on geographic areas followed by \* and explanation of terms, see appendixes. For meaning of abbreviations and symbols, see introductory text]

NAICS code	Geographic area and industry	E <sup>1</sup>	All establishments		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expenditures (\$1,000)
			Total	With 20 employees or more	Number <sup>2</sup>	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
<b>BLACKMAN TOWNSHIP, MI</b>													
31-33	Manufacturing ....	-	58	31	2 777	89 803	2 005	4 111	52 708	225 119	214 077	436 746	13 469
332	Fabricated metal product mfg .....	-	20	10	718	24 871	573	1 209	15 213	56 316	53 162	109 704	2 676
336	Transportation equipment mfg .....	-	11	8	g	D	D	D	D	D	D	D	D
3363	Motor vehicle parts mfg ...	-	9	8	g	D	D	D	D	D	D	D	D
33631	Motor vehicle gasoline engine & engine parts mfg .....	-	5	4	f	D	D	D	D	D	D	D	D
336312	Gasoline engine & engine parts mfg .....	-	5	4	f	D	D	D	D	D	D	D	D
<b>BOYNE CITY, MI</b>													
31-33	Manufacturing ....	3	17	7	846	26 582	584	1 015	14 126	42 048	72 024	115 015	3 745
<b>BRIDGEPORT TOWNSHIP, MI</b>													
31-33	Manufacturing ....	-	22	13	1 096	37 964	839	1 836	24 465	110 306	48 887	154 100	6 209
<b>BRIGHTON, MI</b>													
31-33	Manufacturing ....	1	36	18	1 153	35 961	810	1 448	20 430	75 946	105 900	182 793	5 070
333	Machinery mfg .....	1	9	7	527	18 486	403	685	11 770	30 552	26 780	57 897	1 343
<b>BRIGHTON TOWNSHIP, MI</b>													
31-33	Manufacturing ....	1	26	11	768	26 741	548	1 182	16 661	55 972	73 366	129 391	6 117
<b>BROWNSTOWN TOWNSHIP, MI</b>													
31-33	Manufacturing ....	-	17	5	656	18 242	546	1 170	12 213	63 956	58 900	124 210	D
<b>BUCHANAN, MI</b>													
31-33	Manufacturing ....	5	15	5	828	17 615	516	902	8 351	31 619	25 280	56 724	2 149
<b>BUENA VISTA TOWNSHIP, MI</b>													
31-33	Manufacturing ....	-	18	8	i	D	D	D	D	D	D	D	D
336	Transportation equipment mfg .....	-	2	1	i	D	D	D	D	D	D	D	D
3363	Motor vehicle parts mfg ...	-	2	1	i	D	D	D	D	D	D	D	D
33633	Motor vehicle steering & suspension component (except spring) mfg .....	-	1	1	i	D	D	D	D	D	D	D	D
336330	Motor vehicle steering & suspension component (except spring) mfg .....	-	1	1	i	D	D	D	D	D	D	D	D
<b>BURTON, MI</b>													
31-33	Manufacturing ....	3	41	15	f	D	D	D	D	D	D	D	4 294
<b>BYRON TOWNSHIP, MI</b>													
31-33	Manufacturing ....	3	32	14	1 122	38 406	843	1 840	23 638	73 871	90 255	163 680	13 593

**Table 4. Industry Statistics for Places: 1997—Con.**

[Includes data for industry groups and industries with 500 employees or more. For information on geographic areas followed by \* and explanation of terms, see appendixes. For meaning of abbreviations and symbols, see introductory text]

NAICS code	Geographic area and industry	E <sup>1</sup>	All establishments		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expenditures (\$1,000)
			Total	With 20 employees or more	Number <sup>2</sup>	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
<b>CADILLAC, MI</b>													
31-33	<b>Manufacturing</b> ....	-	37	20	4 082	119 752	2 989	5 842	67 747	336 875	343 285	693 907	D
326	Plastics & rubber products mfg .....	-	5	4	g	D	D	D	D	D	D	D	D
3262	Rubber product mfg .....	-	4	4	g	D	D	D	D	D	D	D	D
32622	Rubber & plastics hoses & belting mfg .....	-	1	1	f	D	D	D	D	D	D	D	D
326220	Rubber & plastics hoses & belting mfg..	-	1	1	f	D	D	D	D	D	D	D	D
32629	Other rubber product mfg .....	-	3	3	f	D	D	D	D	D	D	D	D
326291	Rubber product mfg for mechanical use .....	-	3	3	f	D	D	D	D	D	D	D	D
332	Fabricated metal product mfg .....	-	9	6	f	D	D	D	D	D	D	D	2 003
335	Electrical equipment, appliance, & component mfg .....	-	1	1	f	D	D	D	D	D	D	D	D
3352	Household appliance mfg..	-	1	1	f	D	D	D	D	D	D	D	D
33521	Small electrical appliance mfg .....	-	1	1	f	D	D	D	D	D	D	D	D
335212	Household vacuum cleaner mfg .....	-	1	1	f	D	D	D	D	D	D	D	D
336	Transportation equipment mfg .....	-	2	2	f	D	D	D	D	D	D	D	D
3366	Ship & boat building .....	-	1	1	f	D	D	D	D	D	D	D	D
33661	Ship & boat building .....	-	1	1	f	D	D	D	D	D	D	D	D
336612	Boat building .....	-	1	1	f	D	D	D	D	D	D	D	D
<b>CANTON TOWNSHIP, MI</b>													
31-33	<b>Manufacturing</b> ....	1	66	30	2 258	82 357	1 584	3 269	46 775	201 543	162 116	359 322	34 303
336	Transportation equipment mfg .....	-	7	5	f	D	D	D	D	D	D	D	11 349
<b>CARO, MI</b>													
31-33	<b>Manufacturing</b> ....	4	10	4	f	D	D	D	D	D	D	D	6 228
<b>CASCADE TOWNSHIP, MI</b>													
31-33	<b>Manufacturing</b> ....	-	39	22	2 563	87 604	1 835	3 782	50 346	199 691	162 942	360 156	15 021
326	Plastics & rubber products mfg .....	-	7	5	705	23 691	439	884	11 349	65 435	66 597	131 583	5 876
3261	Plastics product mfg .....	-	5	4	f	D	D	D	D	D	D	D	D
32619	Other plastics product mfg .....	-	4	4	f	D	D	D	D	D	D	D	D
326199	All other plastics product mfg .....	-	4	4	f	D	D	D	D	D	D	D	D
<b>CENTER LINE, MI</b>													
31-33	<b>Manufacturing</b> ....	-	25	7	2 121	70 185	1 720	3 266	47 806	122 948	165 258	290 808	D
336	Transportation equipment mfg .....	-	3	2	g	D	D	D	D	D	D	D	D
3363	Motor vehicle parts mfg ...	-	3	2	g	D	D	D	D	D	D	D	D
33637	Motor vehicle metal stamping .....	-	3	2	g	D	D	D	D	D	D	D	D
336370	Motor vehicle metal stamping .....	-	3	2	g	D	D	D	D	D	D	D	D
<b>CHARLEVOIX, MI</b>													
31-33	<b>Manufacturing</b> ....	1	17	8	676	22 700	514	1 167	15 316	121 585	59 202	185 326	9 306
<b>CHARLOTTE, MI</b>													
31-33	<b>Manufacturing</b> ....	-	24	10	g	D	D	D	D	D	D	D	D
336	Transportation equipment mfg .....	-	3	2	f	D	D	D	D	D	D	D	D
<b>CHELSEA, MI</b>													
31-33	<b>Manufacturing</b> ....	-	22	9	1 832	60 779	1 482	2 971	45 166	152 706	139 455	280 678	9 728
332	Fabricated metal product mfg .....	-	9	4	598	17 906	441	819	10 194	38 169	30 980	68 621	5 183



**Table 4. Industry Statistics for Places: 1997—Con.**

[Includes data for industry groups and industries with 500 employees or more. For information on geographic areas followed by \* and explanation of terms, see appendixes. For meaning of abbreviations and symbols, see introductory text]

NAICS code	Geographic area and industry	E <sup>1</sup>	All establishments		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expenditures (\$1,000)
			Total	With 20 employees or more	Number <sup>2</sup>	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
<b>CHESTERFIELD TOWNSHIP, MI</b>													
<b>31-33</b>	<b>Manufacturing ....</b>	-	<b>114</b>	<b>52</b>	<b>6 952</b>	<b>287 465</b>	<b>5 400</b>	<b>11 781</b>	<b>199 903</b>	<b>629 160</b>	<b>642 215</b>	<b>1 280 729</b>	<b>37 809</b>
326	Plastics & rubber products mfg .....	-	12	8	582	24 161	385	814	10 886	41 279	64 646	109 439	3 376
3261	Plastics product mfg .....	-	11	7	f	D	D	D	D	D	D	D	D
332	Fabricated metal product mfg .....	-	29	9	795	28 768	600	1 326	18 488	64 006	66 560	138 813	4 612
333	Machinery mfg .....	-	36	16	769	34 217	510	1 187	19 863	75 599	50 551	121 775	2 077
3335	Metalworking machinery mfg .....	-	30	12	629	29 413	419	1 022	17 376	51 431	31 214	79 843	D
33351	Metalworking machinery mfg .....	-	30	12	629	29 413	419	1 022	17 376	51 431	31 214	79 843	D
336	Transportation equipment mfg .....	-	19	11	3 251	161 643	2 713	6 071	129 864	328 663	378 235	709 467	18 116
3363	Motor vehicle parts mfg ...	-	18	11	h	D	D	D	D	D	D	D	18 116
33636	Motor vehicle seating & interior trim mfg .....	-	1	1	g	D	D	D	D	D	D	D	D
336360	Motor vehicle seating & interior trim mfg ...	-	1	1	g	D	D	D	D	D	D	D	D
33637	Motor vehicle metal stamping .....	-	9	6	634	21 955	448	959	12 753	62 511	75 093	137 277	4 793
336370	Motor vehicle metal stamping .....	-	9	6	634	21 955	448	959	12 753	62 511	75 093	137 277	4 793
33639	Other motor vehicle parts mfg .....	1	5	3	f	D	D	D	D	D	D	D	D
336399	All other motor vehicle parts mfg .....	1	5	3	f	D	D	D	D	D	D	D	D
339	Miscellaneous mfg .....	-	4	2	f	D	D	D	D	D	D	D	D
3399	Other miscellaneous mfg ..	-	3	2	f	D	D	D	D	D	D	D	D
<b>CLAWSON, MI</b>													
<b>31-33</b>	<b>Manufacturing ....</b>	-	<b>27</b>	<b>8</b>	<b>835</b>	<b>32 754</b>	<b>521</b>	<b>1 035</b>	<b>14 712</b>	<b>94 126</b>	<b>53 630</b>	<b>139 938</b>	<b>3 907</b>
<b>CLINTON TOWNSHIP, MI</b>													
<b>31-33</b>	<b>Manufacturing ....</b>	-	<b>229</b>	<b>69</b>	<b>5 660</b>	<b>211 340</b>	<b>3 956</b>	<b>8 421</b>	<b>120 921</b>	<b>489 177</b>	<b>294 737</b>	<b>779 672</b>	<b>27 050</b>
326	Plastics & rubber products mfg .....	-	12	9	880	30 611	703	1 633	21 005	71 879	38 188	110 060	2 803
3261	Plastics product mfg .....	-	12	9	880	30 611	703	1 633	21 005	71 879	38 188	110 060	2 803
32619	Other plastics product mfg .....	-	11	9	f	D	D	D	D	D	D	D	D
326199	All other plastics product mfg .....	-	11	9	f	D	D	D	D	D	D	D	D
332	Fabricated metal product mfg .....	-	69	16	961	39 709	705	1 456	21 842	74 164	41 807	115 350	3 790
333	Machinery mfg .....	-	55	23	1 668	65 389	1 103	2 341	40 174	158 702	64 274	220 427	8 030
3335	Metalworking machinery mfg .....	1	45	18	894	42 923	672	1 665	28 093	75 962	26 311	102 058	5 593
33351	Metalworking machinery mfg .....	1	45	18	894	42 923	672	1 665	28 093	75 962	26 311	102 058	5 593
333514	Special die & tool, die set, jig, & fixture mfg .	1	27	12	611	28 718	478	1 200	20 662	55 748	16 253	71 290	4 143
3339	Other general-purpose machinery mfg .....	-	4	2	f	D	D	D	D	D	D	D	D
33399	All other general-purpose machinery mfg .....	-	3	1	f	D	D	D	D	D	D	D	D
333999	All other miscellaneous general-purpose machinery mfg .....	-	3	1	f	D	D	D	D	D	D	D	D
336	Transportation equipment mfg .....	-	13	8	978	33 963	702	1 618	18 754	69 624	89 103	161 638	4 599
3363	Motor vehicle parts mfg ...	-	13	8	978	33 963	702	1 618	18 754	69 624	89 103	161 638	4 599
33637	Motor vehicle metal stamping .....	-	7	5	513	20 860	360	804	11 053	42 424	47 817	92 747	981
336370	Motor vehicle metal stamping .....	-	7	5	513	20 860	360	804	11 053	42 424	47 817	92 747	981
<b>COLDWATER, MI</b>													
<b>31-33</b>	<b>Manufacturing ....</b>	-	<b>42</b>	<b>26</b>	<b>2 127</b>	<b>63 010</b>	<b>1 616</b>	<b>3 168</b>	<b>42 100</b>	<b>179 803</b>	<b>177 444</b>	<b>354 905</b>	<b>36 391</b>
332	Fabricated metal product mfg .....	-	16	8	632	18 590	478	924	11 807	49 418	41 479	88 851	D

**Table 4. Industry Statistics for Places: 1997—Con.**

[Includes data for industry groups and industries with 500 employees or more. For information on geographic areas followed by \* and explanation of terms, see appendixes. For meaning of abbreviations and symbols, see introductory text]

NAICS code	Geographic area and industry	E <sup>1</sup>	All establishments		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expenditures (\$1,000)
			Total	With 20 employees or more	Number <sup>2</sup>	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
<b>COMMERCE TOWNSHIP BALANCE, MI *</b>													
31-33	Manufacturing ....	1	82	22	2 061	95 096	1 357	2 645	46 406	139 482	116 787	257 363	10 216
336	Transportation equipment mfg .....	-	5	2	f	D	D	D	D	D	D	D	D
<b>COMSTOCK TOWNSHIP, MI</b>													
31-33	Manufacturing ....	-	17	8	2 058	90 039	1 669	3 507	71 441	156 005	195 808	350 372	2 827
336	Transportation equipment mfg .....	-	1	1	g	D	D	D	D	D	D	D	D
3363	Motor vehicle parts mfg ...	-	1	1	g	D	D	D	D	D	D	D	D
33637	Motor vehicle metal stamping .....	-	1	1	g	D	D	D	D	D	D	D	D
336370	Motor vehicle metal stamping .....	-	1	1	g	D	D	D	D	D	D	D	D
<b>COOPERSVILLE, MI</b>													
31-33	Manufacturing ....	-	8	4	g	D	D	D	D	D	D	D	D
336	Transportation equipment mfg .....	-	1	1	g	D	D	D	D	D	D	D	D
3363	Motor vehicle parts mfg ...	-	1	1	g	D	D	D	D	D	D	D	D
33631	Motor vehicle gasoline engine & engine parts mfg .....	-	1	1	g	D	D	D	D	D	D	D	D
336312	Gasoline engine & engine parts mfg .....	-	1	1	g	D	D	D	D	D	D	D	D
<b>DEARBORN, MI</b>													
31-33	Manufacturing ....	-	119	43	13 098	764 407	10 422	24 267	591 735	2 440 365	3 117 535	5 533 805	D
327	Nonmetallic mineral product mfg .....	-	4	1	f	D	D	D	D	D	D	D	D
3272	Glass & glass product mfg .	-	3	1	f	D	D	D	D	D	D	D	D
32721	Glass & glass product mfg .....	-	3	1	f	D	D	D	D	D	D	D	D
327211	Flat glass mfg .....	-	1	1	f	D	D	D	D	D	D	D	D
331	Primary metal mfg .....	-	3	2	h	D	D	D	D	D	D	D	D
3311	Iron & steel mills & ferroalloy mfg .....	-	1	1	h	D	D	D	D	D	D	D	D
33111	Iron & steel mills & ferroalloy mfg .....	-	1	1	h	D	D	D	D	D	D	D	D
331111	Iron & steel mills .....	-	1	1	h	D	D	D	D	D	D	D	D
332	Fabricated metal product mfg .....	4	18	8	542	21 347	412	931	15 288	60 202	50 313	108 249	3 688
333	Machinery mfg .....	-	16	8	1 378	102 431	783	1 808	69 808	116 334	32 003	150 447	D
3335	Metalworking machinery mfg .....	-	7	4	797	78 251	623	1 490	64 414	82 847	11 984	94 923	D
33351	Metalworking machinery mfg .....	-	7	4	797	78 251	623	1 490	64 414	82 847	11 984	94 923	D
333514	Special die & tool, die set, jig, & fixture mfg .	-	5	4	f	D	D	D	D	D	D	D	D
336	Transportation equipment mfg .....	-	15	10	i	D	D	D	D	D	D	D	D
3361	Motor vehicle mfg .....	-	1	1	g	D	D	D	D	D	D	D	D
33611	Automobile & light duty motor vehicle mfg .....	-	1	1	g	D	D	D	D	D	D	D	D
336111	Automobile mfg .....	-	1	1	g	D	D	D	D	D	D	D	D
3363	Motor vehicle parts mfg ...	-	14	9	h	D	D	D	D	D	D	D	D
33631	Motor vehicle gasoline engine & engine parts mfg .....	-	1	1	g	D	D	D	D	D	D	D	D
336312	Gasoline engine & engine parts mfg .....	-	1	1	g	D	D	D	D	D	D	D	D
33637	Motor vehicle metal stamping .....	-	6	4	2 544	156 474	2 186	4 593	126 695	276 902	207 584	484 168	D
336370	Motor vehicle metal stamping .....	-	6	4	2 544	156 474	2 186	4 593	126 695	276 902	207 584	484 168	D
<b>DELHI TOWNSHIP, MI</b>													
31-33	Manufacturing ....	1	24	7	f	D	D	D	D	D	D	D	3 996

**Table 4. Industry Statistics for Places: 1997—Con.**

[Includes data for industry groups and industries with 500 employees or more. For information on geographic areas followed by \* and explanation of terms, see appendixes. For meaning of abbreviations and symbols, see introductory text]

NAICS code	Geographic area and industry	E <sup>1</sup>	All establishments		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expenditures (\$1,000)
			Total	With 20 employees or more	Number <sup>2</sup>	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
	<b>DETROIT, MI</b>												
<b>31-33</b>	<b>Manufacturing ....</b>	-	<b>825</b>	<b>259</b>	<b>47 487</b>	<b>2 312 248</b>	<b>37 202</b>	<b>78 582</b>	<b>1 715 363</b>	<b>6 445 938</b>	<b>13 304 725</b>	<b>19 778 457</b>	<b>744 863</b>
311	Food mfg.....	-	92	30	4 126	120 653	2 736	5 916	72 709	548 694	777 322	1 326 812	10 745
3116	Meat product mfg.....	-	18	10	2 088	58 170	1 728	4 179	46 311	382 732	634 438	1 017 551	3 445
31161	Animal slaughtering & processing.....	-	18	10	2 088	58 170	1 728	4 179	46 311	382 732	634 438	1 017 551	3 445
311611	Animal (except poultry) slaughtering.....	-	8	6	g	D	D	D	D	D	D	D	D
3118	Bakeries & tortilla mfg.....	2	46	7	g	D	D	D	D	D	D	D	3 035
31181	Bread & bakery product mfg.....	2	43	7	g	D	D	D	D	D	D	D	D
311812	Commercial bakeries	2	14	6	g	D	D	D	D	D	D	D	D
312	Beverage & tobacco product mfg.....	2	7	4	f	D	D	D	D	D	D	D	D
3121	Beverage mfg.....	2	7	4	f	D	D	D	D	D	D	D	D
31211	Soft drink & ice mfg.....	2	7	4	f	D	D	D	D	D	D	D	D
312111	Soft drink mfg.....	2	5	4	f	D	D	D	D	D	D	D	D
322	Paper mfg.....	4	22	11	962	28 310	750	1 385	19 204	74 113	120 425	191 532	8 384
3222	Converted paper product mfg.....	5	21	10	f	D	D	D	D	D	D	D	D
323	Printing & related support activities.....	2	95	12	1 298	44 921	936	1 860	28 151	110 239	43 699	156 396	6 890
3231	Printing & related support activities.....	2	95	12	1 298	44 921	936	1 860	28 151	110 239	43 699	156 396	6 890
32311	Printing.....	2	79	10	1 100	35 354	785	1 556	22 460	93 882	41 179	137 504	6 371
323110	Commercial lithographic printing ..	2	54	7	861	28 889	612	1 250	18 127	61 942	33 073	97 224	5 733
324	Petroleum & coal products mfg.....	1	15	6	798	36 749	504	1 008	21 193	187 065	691 139	877 631	12 637
3241	Petroleum & coal products mfg.....	1	15	6	798	36 749	504	1 008	21 193	187 065	691 139	877 631	12 637
325	Chemical mfg.....	2	57	18	1 426	59 964	799	1 503	29 310	200 501	316 938	524 054	15 502
3255	Paint, coating, & adhesive mfg.....	1	17	6	591	25 808	352	702	13 328	68 916	189 225	264 035	8 667
326	Plastics & rubber products mfg.....	1	27	9	582	16 198	400	737	8 627	35 249	29 569	64 561	8 572
3261	Plastics product mfg.....	1	19	9	560	15 727	382	709	8 302	33 858	28 284	61 875	8 494
327	Nonmetallic mineral product mfg.....	-	28	10	1 740	104 231	1 439	3 247	83 152	218 846	186 450	410 544	68 615
3272	Glass & glass product mfg.....	-	5	2	g	D	D	D	D	D	D	D	D
32721	Glass & glass product mfg.....	-	5	2	g	D	D	D	D	D	D	D	D
327215	Glass product mfg made of purchased glass.....	-	5	2	g	D	D	D	D	D	D	D	D
331	Primary metal mfg.....	-	25	17	1 490	50 111	1 151	2 408	34 394	142 843	376 841	517 084	D
3312	Steel product mfg from purchased steel.....	-	7	5	g	D	D	D	D	D	D	D	D
33121	Iron & steel pipes & tubes mfg from purchased steel.....	-	3	3	f	D	D	D	D	D	D	D	D
331210	Iron & steel pipes & tubes mfg from purchased steel.....	-	3	3	f	D	D	D	D	D	D	D	D
332	Fabricated metal product mfg.....	2	209	49	4 267	138 924	3 309	6 517	92 993	298 168	182 138	481 177	20 607
3327	Machine shops, turned product, & screw, nut, & bolt mfg.....	-	62	10	1 107	38 080	889	1 648	26 657	82 840	53 779	137 056	7 741
33271	Machine shops.....	1	43	4	511	17 947	402	759	12 484	32 648	11 220	43 240	4 319
332710	Machine shops.....	1	43	4	511	17 947	402	759	12 484	32 648	11 220	43 240	4 319
33272	Turned product & screw, nut, & bolt mfg.....	-	19	6	596	20 133	487	889	14 173	50 192	42 559	93 816	3 422
3328	Coating, engraving, heat treating, & allied activities.....	1	59	17	1 537	50 444	1 237	2 599	35 242	108 154	50 250	158 355	7 459
33281	Coating, engraving, heat treating, & allied activities.....	1	59	17	1 537	50 444	1 237	2 599	35 242	108 154	50 250	158 355	7 459
332813	Electroplating, plating, polishing, anodizing, & coloring.....	1	36	8	763	24 468	648	1 427	17 483	48 443	16 960	65 377	D

**Table 4. Industry Statistics for Places: 1997—Con.**

[Includes data for industry groups and industries with 500 employees or more. For information on geographic areas followed by \* and explanation of terms, see appendixes. For meaning of abbreviations and symbols, see introductory text]

NAICS code	Geographic area and industry	E <sup>1</sup>	All establishments		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expenditures (\$1,000)
			Total	With 20 employees or more	Number <sup>2</sup>	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
<b>31-33</b>	<b>DETROIT, MI—Con.</b>												
	<b>Manufacturing—Con.</b>												
333	Machinery mfg .....	-	86	36	5 386	322 711	3 395	7 822	180 294	577 722	1 400 963	1 984 048	49 658
3335	Metalworking machinery mfg .....	-	50	24	1 251	63 667	959	2 163	43 219	109 105	73 020	174 282	4 942
33351	Metalworking machinery mfg .....	-	50	24	1 251	63 667	959	2 163	43 219	109 105	73 020	174 282	4 942
333514	Special die & tool, die set, jig, & fixture mfg .	-	26	9	644	35 789	525	1 215	26 605	52 765	23 839	71 692	2 471
3336	Engine, turbine, & power transmission equipment mfg .....	-	4	2	h	D	D	D	D	D	D	D	D
33361	Engine, turbine, & power transmission equipment mfg .....	-	4	2	h	D	D	D	D	D	D	D	D
333618	Other engine equipment mfg .....	-	2	2	h	D	D	D	D	D	D	D	D
336	Transportation equipment mfg .....	-	56	35	22 700	1 295 549	20 208	42 927	1 105 475	3 799 025	8 806 301	12 619 112	523 615
3361	Motor vehicle mfg .....	-	5	5	i	D	D	D	D	D	D	D	D
33611	Automobile & light duty motor vehicle mfg .....	-	5	5	i	D	D	D	D	D	D	D	D
336111	Automobile mfg .....	-	3	3	h	D	D	D	D	D	D	D	D
336112	Light truck & utility vehicle mfg .....	-	2	2	h	D	D	D	D	D	D	D	D
3363	Motor vehicle parts mfg ...	-	47	30	j	D	D	D	D	D	D	D	D
33631	Motor vehicle gasoline engine & engine parts mfg .....	-	9	3	g	D	D	D	D	D	D	D	D
336312	Gasoline engine & engine parts mfg .....	-	8	3	g	D	D	D	D	D	D	D	D
33635	Motor vehicle transmission & power train parts mfg .....	-	4	3	6 525	396 852	5 699	13 236	335 363	665 341	867 830	1 534 200	D
336350	Motor vehicle transmission & power train parts mfg .....	-	4	3	6 525	396 852	5 699	13 236	335 363	665 341	867 830	1 534 200	D
33636	Motor vehicle seating & interior trim mfg .....	-	4	4	1 164	31 995	1 015	1 745	23 431	112 180	134 002	246 261	D
336360	Motor vehicle seating & interior trim mfg ...	-	4	4	1 164	31 995	1 015	1 745	23 431	112 180	134 002	246 261	D
33637	Motor vehicle metal stamping .....	-	12	10	2 745	132 057	2 392	5 203	103 515	211 515	249 573	463 068	9 570
336370	Motor vehicle metal stamping .....	-	12	10	2 745	132 057	2 392	5 203	103 515	211 515	249 573	463 068	9 570
33639	Other motor vehicle parts mfg .....	1	12	8	f	D	D	D	D	D	D	D	D
336399	All other motor vehicle parts mfg .....	1	12	8	f	D	D	D	D	D	D	D	D
	<b>DOWAGIAC, MI</b>												
<b>31-33</b>	<b>Manufacturing ....</b>	-	<b>26</b>	<b>10</b>	<b>1 441</b>	<b>37 412</b>	<b>1 102</b>	<b>1 834</b>	<b>25 350</b>	<b>86 666</b>	<b>152 720</b>	<b>241 280</b>	<b>5 229</b>
331	Primary metal mfg .....	-	3	2	f	D	D	D	D	D	D	D	D
	<b>EAST JORDAN, MI</b>												
<b>31-33</b>	<b>Manufacturing ....</b>	-	<b>11</b>	<b>5</b>	<b>1 091</b>	<b>38 626</b>	<b>905</b>	<b>1 929</b>	<b>28 345</b>	<b>154 038</b>	<b>100 262</b>	<b>244 603</b>	<b>11 708</b>
331	Primary metal mfg .....	-	1	1	f	D	D	D	D	D	D	D	D
3315	Foundries .....	-	1	1	f	D	D	D	D	D	D	D	D
33151	Ferrous metal foundries .	-	1	1	f	D	D	D	D	D	D	D	D
331511	Iron foundries .....	-	1	1	f	D	D	D	D	D	D	D	D
	<b>EATON RAPIDS, MI</b>												
<b>31-33</b>	<b>Manufacturing ....</b>	-	<b>10</b>	<b>6</b>	<b>f</b>	<b>D</b>	<b>D</b>	<b>D</b>	<b>D</b>	<b>D</b>	<b>D</b>	<b>D</b>	<b>D</b>
336	Transportation equipment mfg .....	-	2	1	f	D	D	D	D	D	D	D	D
3363	Motor vehicle parts mfg ...	-	2	1	f	D	D	D	D	D	D	D	D
33632	Motor vehicle electrical & electronic equipment mfg .....	-	1	1	f	D	D	D	D	D	D	D	D
336322	Other motor vehicle electrical & electronic equipment mfg .....	-	1	1	f	D	D	D	D	D	D	D	D
	<b>ECORSE, MI</b>												
<b>31-33</b>	<b>Manufacturing ....</b>	-	<b>13</b>	<b>6</b>	<b>h</b>	<b>D</b>	<b>D</b>	<b>D</b>	<b>D</b>	<b>D</b>	<b>D</b>	<b>D</b>	<b>D</b>
331	Primary metal mfg .....	-	2	1	h	D	D	D	D	D	D	D	D
3311	Iron & steel mills & ferroalloy mfg .....	-	1	1	h	D	D	D	D	D	D	D	D
33111	Iron & steel mills & ferroalloy mfg .....	-	1	1	h	D	D	D	D	D	D	D	D
331111	Iron & steel mills .....	-	1	1	h	D	D	D	D	D	D	D	D

**Table 4. Industry Statistics for Places: 1997—Con.**

[Includes data for industry groups and industries with 500 employees or more. For information on geographic areas followed by \* and explanation of terms, see appendixes. For meaning of abbreviations and symbols, see introductory text]

NAICS code	Geographic area and industry	E <sup>1</sup>	All establishments		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expenditures (\$1,000)
			Total	With 20 employees or more	Number <sup>2</sup>	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
<b>ESCANABA, MI</b>													
31-33	Manufacturing ....	-	33	11	2 311	110 012	1 689	3 755	70 199	331 046	269 956	629 548	37 823
322	Paper mfg .....	-	1	1	g	D	D	D	D	D	D	D	D
3221	Pulp, paper, & paperboard mills .....	-	1	1	g	D	D	D	D	D	D	D	D
32212	Paper mills .....	-	1	1	g	D	D	D	D	D	D	D	D
322121	Paper (except newsprint) mills .....	-	1	1	g	D	D	D	D	D	D	D	D
<b>FARMINGTON, MI</b>													
31-33	Manufacturing ....	-	23	7	647	26 660	452	1 089	15 949	55 907	39 146	95 987	2 609
<b>FARMINGTON HILLS, MI</b>													
31-33	Manufacturing ....	1	155	62	5 109	225 308	2 884	6 794	92 559	476 776	509 277	993 840	22 526
332	Fabricated metal product mfg .....	1	32	19	1 325	42 861	1 094	2 305	29 749	90 068	54 549	143 774	3 979
3327	Machine shops, turned product, & screw, nut, & bolt mfg .....	-	18	13	949	29 515	816	1 738	21 580	54 673	30 452	84 502	2 454
33272	Turned product & screw, nut, & bolt mfg .....	-	6	5	671	19 483	578	1 246	14 167	37 162	22 416	58 968	1 629
332721	Precision turned product mfg .....	-	6	5	671	19 483	578	1 246	14 167	37 162	22 416	58 968	1 629
333	Machinery mfg .....	-	37	17	1 857	109 872	817	2 559	35 423	251 611	306 054	568 466	6 983
3335	Metalworking machinery mfg .....	-	24	9	760	44 167	427	1 676	20 454	68 445	103 581	183 154	2 958
33351	Metalworking machinery mfg .....	-	24	9	760	44 167	427	1 676	20 454	68 445	103 581	183 154	2 958
3339	Other general-purpose machinery mfg .....	-	9	6	863	52 061	264	586	9 370	138 487	157 321	297 372	D
33392	Material handling equipment mfg .....	-	3	3	f	D	D	D	D	D	D	D	3 323
333922	Conveyor & conveying equipment mfg .....	-	2	2	f	D	D	D	D	D	D	D	D
334	Computer & electronic product mfg .....	3	9	6	630	30 515	252	574	8 086	46 885	38 385	85 519	2 278
3345	Navigational, measuring, medical, & control instruments mfg .....	3	4	4	537	26 635	209	485	6 686	37 347	34 543	72 037	1 906
33451	Navigational, measuring, medical, & control instruments mfg .....	3	4	4	537	26 635	209	485	6 686	37 347	34 543	72 037	1 906
<b>FENTON, MI</b>													
31-33	Manufacturing ....	-	34	15	1 647	62 499	1 230	2 565	38 177	185 088	313 701	474 179	12 175
333	Machinery mfg .....	-	9	7	f	D	D	D	D	D	D	D	4 880
<b>FENTON TOWNSHIP, MI</b>													
31-33	Manufacturing ....	1	22	7	819	23 550	550	959	12 933	39 843	50 095	89 362	3 454
<b>FERNDALE, MI</b>													
31-33	Manufacturing ....	2	89	30	2 278	85 099	1 430	3 011	44 908	199 487	201 482	403 696	12 339
<b>FLAT ROCK, MI</b>													
31-33	Manufacturing ....	-	7	3	h	D	D	D	D	D	D	D	D
336	Transportation equipment mfg .....	-	1	1	h	D	D	D	D	D	D	D	D
3361	Motor vehicle mfg .....	-	1	1	h	D	D	D	D	D	D	D	D
33611	Automobile & light duty motor vehicle mfg .....	-	1	1	h	D	D	D	D	D	D	D	D
336111	Automobile mfg .....	-	1	1	h	D	D	D	D	D	D	D	D

**Table 4. Industry Statistics for Places: 1997—Con.**

[Includes data for industry groups and industries with 500 employees or more. For information on geographic areas followed by \* and explanation of terms, see appendixes. For meaning of abbreviations and symbols, see introductory text]

NAICS code	Geographic area and industry	E <sup>1</sup>	All establishments		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expenditures (\$1,000)
			Total	With 20 employees or more	Number <sup>2</sup>	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
<b>FLINT, MI</b>													
<b>31-33</b>	<b>Manufacturing . . . .</b>	-	<b>94</b>	<b>33</b>	<b>k</b>	<b>D</b>	<b>D</b>	<b>D</b>	<b>D</b>	<b>D</b>	<b>D</b>	<b>D</b>	<b>D</b>
332	Fabricated metal product mfg . . . . .	-	17	10	1 281	72 551	1 058	2 571	57 230	90 947	138 902	232 580	D
3325	Hardware mfg . . . . .	-	2	2	f	D	D	D	D	D	D	D	D
33251	Hardware mfg . . . . .	-	2	2	f	D	D	D	D	D	D	D	D
332510	Hardware mfg . . . . .	-	2	2	f	D	D	D	D	D	D	D	D
334	Computer & electronic product mfg . . . . .	-	2	1	g	D	D	D	D	D	D	D	D
3345	Navigational, measuring, medical, & control instruments mfg . . . . .	-	2	1	g	D	D	D	D	D	D	D	D
33451	Navigational, measuring, medical, & control instruments mfg . . . . .	-	2	1	g	D	D	D	D	D	D	D	D
334514	Totalizing fluid meter & counting device mfg . . . . .	-	1	1	g	D	D	D	D	D	D	D	D
336	Transportation equipment mfg . . . . .	-	7	6	j	D	D	D	D	D	D	D	D
3361	Motor vehicle mfg . . . . .	-	2	2	i	D	D	D	D	D	D	D	D
33611	Automobile & light duty motor vehicle mfg . . . . .	-	2	2	i	D	D	D	D	D	D	D	D
336111	Automobile mfg . . . . .	-	1	1	i	D	D	D	D	D	D	D	D
336112	Light truck & utility vehicle mfg . . . . .	-	1	1	g	D	D	D	D	D	D	D	D
3363	Motor vehicle parts mfg . . . . .	-	4	4	j	D	D	D	D	D	D	D	D
33631	Motor vehicle gasoline engine & engine parts mfg . . . . .	-	1	1	h	D	D	D	D	D	D	D	D
336312	Gasoline engine & engine parts mfg . . . . .	-	1	1	h	D	D	D	D	D	D	D	D
33637	Motor vehicle metal stamping . . . . .	-	1	1	h	D	D	D	D	D	D	D	D
336370	Motor vehicle metal stamping . . . . .	-	1	1	h	D	D	D	D	D	D	D	D
33639	Other motor vehicle parts mfg . . . . .	-	2	2	i	D	D	D	D	D	D	D	D
336399	All other motor vehicle parts mfg . . . . .	-	2	2	i	D	D	D	D	D	D	D	D
<b>FRASER, MI</b>													
<b>31-33</b>	<b>Manufacturing . . . .</b>	<b>1</b>	<b>192</b>	<b>80</b>	<b>7 071</b>	<b>269 964</b>	<b>5 248</b>	<b>11 161</b>	<b>164 964</b>	<b>504 273</b>	<b>428 026</b>	<b>934 306</b>	<b>42 150</b>
326	Plastics & rubber products mfg . . . . .	4	11	10	f	D	D	D	D	D	D	D	D
3261	Plastics product mfg . . . . .	4	10	9	927	25 716	772	1 461	15 934	62 223	51 266	113 693	5 696
32619	Other plastics product mfg . . . . .	4	10	9	927	25 716	772	1 461	15 934	62 223	51 266	113 693	5 696
326199	All other plastics product mfg . . . . .	4	10	9	927	25 716	772	1 461	15 934	62 223	51 266	113 693	5 696
332	Fabricated metal product mfg . . . . .	1	57	20	1 349	53 374	1 083	2 456	34 035	118 511	81 669	200 029	14 934
3327	Machine shops, turned product, & screw, nut, & bolt mfg . . . . .	-	34	10	f	D	D	D	D	D	D	D	10 846
33271	Machine shops . . . . .	-	32	9	507	21 339	399	843	13 726	42 123	19 124	60 718	D
332710	Machine shops . . . . .	-	32	9	507	21 339	399	843	13 726	42 123	19 124	60 718	D
333	Machinery mfg . . . . .	-	80	34	2 756	144 132	1 879	4 457	85 787	220 838	169 721	393 258	16 170
3335	Metalworking machinery mfg . . . . .	-	62	25	2 001	105 251	1 477	3 459	67 081	158 357	87 251	248 143	12 363
33351	Metalworking machinery mfg . . . . .	-	62	25	2 001	105 251	1 477	3 459	67 081	158 357	87 251	248 143	12 363
333514	Special die & tool, die set, jig, & fixture mfg . . . . .	-	31	14	874	41 051	691	1 514	28 688	73 589	26 987	100 600	5 821
3339	Other general-purpose machinery mfg . . . . .	-	13	8	704	36 367	371	937	17 342	58 744	78 952	137 860	3 673
336	Transportation equipment mfg . . . . .	1	15	8	754	20 586	559	1 177	12 527	47 162	79 666	127 066	2 129
3363	Motor vehicle parts mfg . . . . .	1	12	8	726	19 774	536	1 140	11 945	45 155	76 107	121 493	2 009
339	Miscellaneous mfg . . . . .	-	4	2	f	D	D	D	D	D	D	D	D
3399	Other miscellaneous mfg . . . . .	-	3	1	f	D	D	D	D	D	D	D	D
33995	Sign mfg . . . . .	-	2	1	f	D	D	D	D	D	D	D	D
339950	Sign mfg . . . . .	-	2	1	f	D	D	D	D	D	D	D	D

**Table 4. Industry Statistics for Places: 1997—Con.**

[Includes data for industry groups and industries with 500 employees or more. For information on geographic areas followed by \* and explanation of terms, see appendixes. For meaning of abbreviations and symbols, see introductory text]

NAICS code	Geographic area and industry	E <sup>1</sup>	All establishments		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expenditures (\$1,000)
			Total	With 20 employees or more	Number <sup>2</sup>	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
<b>FREMONT, MI</b>													
31-33	Manufacturing ....	-	10	3	f	D	D	D	D	D	D	D	D
311	Food mfg.....	-	1	1	f	D	D	D	D	D	D	D	D
3114	Fruit & vegetable preserving & specialty food mfg.....	-	1	1	f	D	D	D	D	D	D	D	D
31142	Fruit & vegetable canning, pickling, & drying.....	-	1	1	f	D	D	D	D	D	D	D	D
311422	Specialty canning.....	-	1	1	f	D	D	D	D	D	D	D	D
<b>GARFIELD TOWNSHIP, MI</b>													
31-33	Manufacturing ....	-	42	10	1 510	47 557	1 240	2 535	36 868	185 361	151 004	336 226	D
311	Food mfg.....	-	2	1	f	D	D	D	D	D	D	D	D
3118	Bakeries & tortilla mfg.....	-	2	1	f	D	D	D	D	D	D	D	D
31181	Bread & bakery product mfg.....	-	2	1	f	D	D	D	D	D	D	D	D
311813	Frozen cakes, pies, & other pastries mfg....	-	1	1	f	D	D	D	D	D	D	D	D
<b>GAYLORD, MI</b>													
31-33	Manufacturing ....	-	27	11	1 525	45 519	1 271	2 700	28 580	109 196	108 268	215 834	9 213
<b>GENOA TOWNSHIP, MI</b>													
31-33	Manufacturing ....	-	23	10	622	27 063	347	659	10 340	62 903	47 087	109 750	3 622
<b>GEORGETOWN TOWNSHIP, MI</b>													
31-33	Manufacturing ....	2	50	8	557	19 993	373	752	11 634	38 852	40 828	82 009	4 796
<b>GRAND BLANC, MI</b>													
31-33	Manufacturing ....	-	14	6	g	D	D	D	D	D	D	D	4 772
336	Transportation equipment mfg.....	-	1	1	g	D	D	D	D	D	D	D	D
3363	Motor vehicle parts mfg....	-	1	1	g	D	D	D	D	D	D	D	D
33637	Motor vehicle metal stamping.....	-	1	1	g	D	D	D	D	D	D	D	D
336370	Motor vehicle metal stamping.....	-	1	1	g	D	D	D	D	D	D	D	D
<b>GRAND BLANC TOWNSHIP, MI</b>													
31-33	Manufacturing ....	-	18	11	1 139	41 976	887	2 009	26 184	138 255	118 167	251 723	15 078
326	Plastics & rubber products mfg.....	-	2	1	f	D	D	D	D	D	D	D	D
3261	Plastics product mfg.....	-	2	1	f	D	D	D	D	D	D	D	D
32619	Other plastics product mfg.....	-	2	1	f	D	D	D	D	D	D	D	D
326199	All other plastics product mfg.....	-	2	1	f	D	D	D	D	D	D	D	D

**Table 4. Industry Statistics for Places: 1997—Con.**

[Includes data for industry groups and industries with 500 employees or more. For information on geographic areas followed by \* and explanation of terms, see appendixes. For meaning of abbreviations and symbols, see introductory text]

NAICS code	Geographic area and industry	E <sup>1</sup>	All establishments		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expenditures (\$1,000)
			Total	With 20 employees or more	Number <sup>2</sup>	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
<b>GRAND HAVEN, MI</b>													
<b>31-33</b>	<b>Manufacturing . . . .</b>	—	<b>99</b>	<b>48</b>	<b>6 500</b>	<b>212 788</b>	<b>4 712</b>	<b>9 646</b>	<b>132 242</b>	<b>518 674</b>	<b>730 528</b>	<b>1 251 640</b>	<b>39 094</b>
316	Leather & allied product mfg .	—	1	1	f	D	D	D	D	D	D	D	D
3161	Leather & hide tanning & finishing . . . . .	—	1	1	f	D	D	D	D	D	D	D	D
31611	Leather & hide tanning & finishing . . . . .	—	1	1	f	D	D	D	D	D	D	D	D
316110	Leather & hide tanning & finishing . . . . .	—	1	1	f	D	D	D	D	D	D	D	D
326	Plastics & rubber products mfg . . . . .	1	8	7	523	14 004	380	584	8 552	30 290	24 637	55 642	1 598
3261	Plastics product mfg . . . . .	1	7	7	f	D	D	D	D	D	D	D	D
332	Fabricated metal product mfg . . . . .	—	26	12	1 132	32 099	857	1 837	21 129	75 870	39 294	116 672	6 533
336	Transportation equipment mfg . . . . .	—	13	10	2 391	72 806	1 763	3 840	46 676	185 576	239 356	421 725	12 620
3363	Motor vehicle parts mfg . . . . .	—	11	9	g	D	D	D	D	D	D	D	D
33631	Motor vehicle gasoline engine & engine parts mfg . . . . .	—	2	2	f	D	D	D	D	D	D	D	D
336312	Gasoline engine & engine parts mfg . . . . .	—	2	2	f	D	D	D	D	D	D	D	D
33637	Motor vehicle metal stamping . . . . .	—	6	6	1 604	51 415	1 110	2 420	31 794	127 773	171 944	297 995	5 093
336370	Motor vehicle metal stamping . . . . .	—	6	6	1 604	51 415	1 110	2 420	31 794	127 773	171 944	297 995	5 093
<b>GRAND RAPIDS, MI</b>													
<b>31-33</b>	<b>Manufacturing . . . .</b>	<b>1</b>	<b>459</b>	<b>187</b>	<b>30 971</b>	<b>1 309 114</b>	<b>21 313</b>	<b>44 763</b>	<b>740 040</b>	<b>3 123 985</b>	<b>2 042 971</b>	<b>5 140 094</b>	<b>246 577</b>
311	Food mfg . . . . .	4	27	11	2 693	69 827	1 838	3 721	40 376	201 484	214 242	416 357	14 775
3116	Meat product mfg . . . . .	—	4	2	f	D	D	D	D	D	D	D	D
31161	Animal slaughtering & processing . . . . .	—	4	2	f	D	D	D	D	D	D	D	D
311615	Poultry processing . . . . .	—	1	1	f	D	D	D	D	D	D	D	D
3118	Bakeries & tortilla mfg . . . . .	6	14	5	g	D	D	D	D	D	D	D	D
31181	Bread & bakery product mfg . . . . .	5	10	3	f	D	D	D	D	D	D	D	D
311812	Commercial bakeries . . . . .	5	2	2	f	D	D	D	D	D	D	D	D
31182	Cookie, cracker, & pasta mfg . . . . .	6	3	2	f	D	D	D	D	D	D	D	D
323	Printing & related support activities . . . . .	—	79	25	1 621	56 896	1 038	2 099	32 777	130 031	79 160	208 390	10 057
3231	Printing & related support activities . . . . .	—	79	25	1 621	56 896	1 038	2 099	32 777	130 031	79 160	208 390	10 057
32311	Printing . . . . .	—	63	20	1 365	47 297	863	1 769	26 739	108 239	70 975	178 381	8 934
323110	Commercial lithographic printing . . . . .	1	31	13	663	24 301	418	954	13 335	49 761	28 663	78 527	3 043
326	Plastics & rubber products mfg . . . . .	1	30	19	2 089	62 840	1 537	3 163	36 950	177 095	162 032	336 768	15 830
3261	Plastics product mfg . . . . .	3	24	15	1 378	37 932	1 080	2 028	24 545	80 897	82 207	162 595	7 975
32619	Other plastics product mfg . . . . .	3	19	12	1 213	31 872	947	1 742	21 011	67 826	68 064	135 382	7 327
326199	All other plastics product mfg . . . . .	3	19	12	1 213	31 872	947	1 742	21 011	67 826	68 064	135 382	7 327
3262	Rubber product mfg . . . . .	—	6	4	711	24 908	457	1 135	12 405	96 198	79 825	174 173	7 855
32629	Other rubber product mfg . . . . .	—	3	3	f	D	D	D	D	D	D	D	D
331	Primary metal mfg . . . . .	—	6	5	897	25 290	642	1 297	16 595	64 029	50 672	115 098	D
3315	Foundries . . . . .	—	5	5	f	D	D	D	D	D	D	D	4 552
33152	Nonferrous metal foundries . . . . .	—	3	3	745	22 412	559	1 125	14 363	59 371	47 410	107 139	4 552
331522	Nonferrous (except aluminum) die-casting foundries . . . . .	—	3	3	745	22 412	559	1 125	14 363	59 371	47 410	107 139	4 552
332	Fabricated metal product mfg . . . . .	1	85	35	3 331	115 243	2 661	5 069	75 477	247 550	156 048	404 936	19 765
3325	Hardware mfg . . . . .	—	5	5	g	D	D	D	D	D	D	D	D
33251	Hardware mfg . . . . .	—	5	5	g	D	D	D	D	D	D	D	D
332510	Hardware mfg . . . . .	—	5	5	g	D	D	D	D	D	D	D	D
3328	Coating, engraving, heat treating, & allied activities . . . . .	1	24	13	1 095	32 141	932	1 859	23 319	64 477	27 508	93 023	4 637
33281	Coating, engraving, heat treating, & allied activities . . . . .	1	24	13	1 095	32 141	932	1 859	23 319	64 477	27 508	93 023	4 637
332813	Electroplating, plating, polishing, anodizing, & coloring . . . . .	—	15	9	783	23 804	675	1 379	17 659	43 619	20 260	64 877	3 243



**Table 4. Industry Statistics for Places: 1997—Con.**

[Includes data for industry groups and industries with 500 employees or more. For information on geographic areas followed by \* and explanation of terms, see appendixes. For meaning of abbreviations and symbols, see introductory text]

NAICS code	Geographic area and industry	E <sup>1</sup>	All establishments		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expenditures (\$1,000)
			Total	With 20 employees or more	Number <sup>2</sup>	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
<b>GRAND RAPIDS, MI—Con.</b>													
<b>31-33</b>	<b>Manufacturing—Con.</b>												
333	Machinery mfg .....	-	64	34	5 116	263 505	3 217	7 203	134 707	592 090	391 180	954 306	40 233
3335	Metalworking machinery mfg .....	-	32	19	2 151	104 024	1 753	3 925	77 713	221 040	121 797	320 582	11 602
33351	Metalworking machinery mfg .....	-	32	19	2 151	104 024	1 753	3 925	77 713	221 040	121 797	320 582	11 602
333511	Industrial mold mfg ...	-	9	7	585	19 767	477	854	13 647	39 582	22 608	61 374	4 419
333514	Special die & tool, die set, jig, & fixture mfg .	-	19	11	1 505	82 098	1 233	3 007	62 792	177 818	97 457	253 503	6 947
3339	Other general-purpose machinery mfg .....	-	15	9	2 416	142 436	1 107	2 590	48 518	336 287	241 816	571 112	25 550
33392	Material handling equipment mfg .....	-	1	1	g	D	D	D	D	D	D	D	D
333922	Conveyor & conveying equipment mfg .....	-	1	1	g	D	D	D	D	D	D	D	D
33399	All other general-purpose machinery mfg .....	-	12	7	f	D	D	D	D	D	D	D	D
334	Computer & electronic product mfg .....	7	9	5	879	26 538	568	1 182	15 064	91 743	60 548	152 704	2 997
3343	Audio & video equipment mfg .....	7	3	2	f	D	D	D	D	D	D	D	D
33431	Audio & video equipment mfg .....	7	3	2	f	D	D	D	D	D	D	D	D
334310	Audio & video equipment mfg .....	7	3	2	f	D	D	D	D	D	D	D	D
336	Transportation equipment mfg .....	-	24	14	2 269	94 957	1 633	3 136	57 628	182 918	219 104	401 825	9 666
3363	Motor vehicle parts mfg ...	-	19	13	2 206	92 686	1 575	3 041	56 176	178 726	215 230	393 488	9 361
33636	Motor vehicle seating & interior trim mfg .....	-	3	3	f	D	D	D	D	D	D	D	D
336360	Motor vehicle seating & interior trim mfg ...	-	3	3	f	D	D	D	D	D	D	D	D
33637	Motor vehicle metal stamping .....	-	4	3	f	D	D	D	D	D	D	D	D
336370	Motor vehicle metal stamping .....	-	4	3	f	D	D	D	D	D	D	D	D
33639	Other motor vehicle parts mfg .....	-	8	7	701	26 150	451	868	12 162	55 922	57 010	112 316	1 120
336399	All other motor vehicle parts mfg .....	-	8	7	701	26 150	451	868	12 162	55 922	57 010	112 316	1 120
337	Furniture & related product mfg .....	-	37	15	i	D	D	D	D	D	D	D	D
3371	Household & institutional furniture & kitchen cabinet mfg .....	1	21	6	733	19 737	595	1 173	13 200	34 917	24 483	59 862	D
33712	Household & institutional furniture mfg .....	1	19	6	f	D	D	D	D	D	D	D	1 604
337122	Nonupholstered wood household furniture mfg .....	1	11	6	643	17 695	526	1 056	11 849	30 551	20 208	51 204	D
3372	Office furniture (including fixtures) mfg .....	-	13	8	i	D	D	D	D	D	D	D	D
33721	Office furniture (including fixtures) mfg .....	-	13	8	i	D	D	D	D	D	D	D	D
337214	Office furniture (except wood) mfg .....	-	3	3	i	D	D	D	D	D	D	D	D
339	Miscellaneous mfg .....	-	31	6	622	20 091	350	744	9 235	89 253	19 481	110 292	3 574
<b>GRANDVILLE, MI</b>													
<b>31-33</b>	<b>Manufacturing ....</b>	-	<b>50</b>	<b>22</b>	<b>2 092</b>	<b>78 172</b>	<b>1 516</b>	<b>3 018</b>	<b>45 380</b>	<b>181 315</b>	<b>169 755</b>	<b>358 716</b>	<b>18 360</b>
333	Machinery mfg .....	-	12	6	713	31 527	501	1 050	18 729	62 505	49 644	119 156	5 647
<b>GREEN OAK TOWNSHIP, MI</b>													
<b>31-33</b>	<b>Manufacturing ....</b>	-	<b>48</b>	<b>21</b>	<b>1 574</b>	<b>60 145</b>	<b>994</b>	<b>1 873</b>	<b>28 862</b>	<b>186 079</b>	<b>320 561</b>	<b>504 869</b>	<b>13 540</b>
336	Transportation equipment mfg .....	-	4	2	f	D	D	D	D	D	D	D	D
3363	Motor vehicle parts mfg ...	-	3	2	f	D	D	D	D	D	D	D	D

**Table 4. Industry Statistics for Places: 1997—Con.**

[Includes data for industry groups and industries with 500 employees or more. For information on geographic areas followed by \* and explanation of terms, see appendixes. For meaning of abbreviations and symbols, see introductory text]

NAICS code	Geographic area and industry	E <sup>1</sup>	All establishments		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expenditures (\$1,000)
			Total	With 20 employees or more	Number <sup>2</sup>	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
<b>GREENVILLE, MI</b>													
31-33	<b>Manufacturing</b> ....	-	30	17	4 277	141 364	3 600	7 555	108 781	383 569	380 289	768 386	13 647
335	Electrical equipment, appliance, & component mfg .....	-	1	1	g	D	D	D	D	D	D	D	D
3352	Household appliance mfg ..	-	1	1	g	D	D	D	D	D	D	D	D
33522	Major appliance mfg .....	-	1	1	g	D	D	D	D	D	D	D	D
335222	Household refrigerator & home freezer mfg ..	-	1	1	g	D	D	D	D	D	D	D	D
336	Transportation equipment mfg .....	-	2	2	f	D	D	D	D	D	D	D	D
3363	Motor vehicle parts mfg ...	-	2	2	f	D	D	D	D	D	D	D	D
33631	Motor vehicle gasoline engine & engine parts mfg .....	-	1	1	f	D	D	D	D	D	D	D	D
336312	Gasoline engine & engine parts mfg .....	-	1	1	f	D	D	D	D	D	D	D	D
<b>HAMTRAMCK, MI</b>													
31-33	<b>Manufacturing</b> ....	1	24	7	581	16 036	289	561	6 770	35 535	32 969	68 346	2 085
<b>HARRISON TOWNSHIP, MI</b>													
31-33	<b>Manufacturing</b> ....	2	68	19	1 351	47 406	1 057	1 973	31 017	94 537	55 149	148 823	4 155
332	Fabricated metal product mfg .....	1	34	9	580	21 347	435	1 003	13 673	39 729	16 802	56 668	1 877
<b>HASTINGS, MI</b>													
31-33	<b>Manufacturing</b> ....	1	23	7	1 186	40 320	847	2 048	24 360	86 058	73 801	154 061	6 621
<b>HAZEL PARK, MI</b>													
31-33	<b>Manufacturing</b> ....	3	56	12	785	26 315	572	1 139	14 926	50 267	29 588	80 387	3 096
<b>HILLSDALE, MI</b>													
31-33	<b>Manufacturing</b> ....	-	30	17	2 818	79 468	2 243	4 424	56 567	289 462	323 649	611 183	27 689
336	Transportation equipment mfg .....	-	2	2	f	D	D	D	D	D	D	D	D
3363	Motor vehicle parts mfg ...	-	2	2	f	D	D	D	D	D	D	D	D
33635	Motor vehicle transmission & power train parts mfg .....	-	2	2	f	D	D	D	D	D	D	D	D
336350	Motor vehicle transmission & power train parts mfg .....	-	2	2	f	D	D	D	D	D	D	D	D
<b>HOLLAND, MI *</b>													
31-33	<b>Manufacturing</b> ....	-	117	58	16 130	615 696	10 931	22 396	331 971	1 757 132	1 478 399	3 246 767	114 877
311	Food mfg .....	-	9	3	1 487	45 320	1 326	2 398	37 609	354 126	155 453	507 998	D
3113	Sugar & confectionery product mfg .....	-	1	1	g	D	D	D	D	D	D	D	D
31134	Nonchocolate confectionery mfg .....	-	1	1	g	D	D	D	D	D	D	D	D
311340	Nonchocolate confectionery mfg ...	-	1	1	g	D	D	D	D	D	D	D	D
327	Nonmetallic mineral product mfg .....	-	8	4	g	D	D	D	D	D	D	D	4 197
3272	Glass & glass product mfg .	-	4	3	g	D	D	D	D	D	D	D	D
32721	Glass & glass product mfg .....	-	4	3	g	D	D	D	D	D	D	D	D
327215	Glass product mfg made of purchased glass .....	-	4	3	g	D	D	D	D	D	D	D	D
332	Fabricated metal product mfg .....	3	22	10	994	31 844	778	1 508	20 966	57 120	48 462	106 176	6 631
333	Machinery mfg .....	-	16	9	787	37 289	443	922	14 309	96 783	64 598	164 473	4 152
3335	Metalworking machinery mfg .....	-	9	6	f	D	D	D	D	D	D	D	D
33351	Metalworking machinery mfg .....	-	9	6	f	D	D	D	D	D	D	D	D

**Table 4. Industry Statistics for Places: 1997—Con.**

[Includes data for industry groups and industries with 500 employees or more. For information on geographic areas followed by \* and explanation of terms, see appendixes. For meaning of abbreviations and symbols, see introductory text]

NAICS code	Geographic area and industry	E <sup>1</sup>	All establishments		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expenditures (\$1,000)
			Total	With 20 employees or more	Number <sup>2</sup>	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
<b>31-33</b>	<b>HOLLAND, MI *—Con.</b>												
	<b>Manufacturing—Con.</b>												
336	Transportation equipment mfg . . . . .	-	6	5	5 414	210 368	3 493	7 382	118 618	507 069	534 943	1 049 273	52 325
3363	Motor vehicle parts mfg . . .	-	4	4	i	D	D	D	D	D	D	D	D
33636	Motor vehicle seating & interior trim mfg . . . . .	-	1	1	h	D	D	D	D	D	D	D	D
336360	Motor vehicle seating & interior trim mfg . . .	-	1	1	h	D	D	D	D	D	D	D	D
33637	Motor vehicle metal stamping . . . . .	-	2	2	f	D	D	D	D	D	D	D	D
336370	Motor vehicle metal stamping . . . . .	-	2	2	f	D	D	D	D	D	D	D	D
337	Furniture & related product mfg . . . . .	-	13	7	4 336	165 821	3 040	6 128	82 773	483 762	363 743	849 432	D
3372	Office furniture (including fixtures) mfg . . . . .	-	4	3	h	D	D	D	D	D	D	D	D
33721	Office furniture (including fixtures) mfg . . . . .	-	4	3	h	D	D	D	D	D	D	D	D
337214	Office furniture (except wood) mfg . . . . .	-	2	2	h	D	D	D	D	D	D	D	D
339	Miscellaneous mfg . . . . .	-	6	3	595	18 722	343	719	8 809	34 595	25 186	60 042	D
3391	Medical equipment & supplies mfg . . . . .	-	5	3	f	D	D	D	D	D	D	D	D
33911	Medical equipment & supplies mfg . . . . .	-	5	3	f	D	D	D	D	D	D	D	D
339111	Laboratory apparatus & furniture mfg . . . . .	-	2	2	f	D	D	D	D	D	D	D	D
	<b>HOLLAND TOWNSHIP, MI</b>												
<b>31-33</b>	<b>Manufacturing . . . . .</b>	-	<b>85</b>	<b>34</b>	<b>4 968</b>	<b>160 472</b>	<b>3 418</b>	<b>7 082</b>	<b>95 065</b>	<b>481 630</b>	<b>395 101</b>	<b>878 914</b>	<b>22 583</b>
327	Nonmetallic mineral product mfg . . . . .	-	4	3	f	D	D	D	D	D	D	D	D
3272	Glass & glass product mfg . . . . .	-	2	2	f	D	D	D	D	D	D	D	D
32721	Glass & glass product mfg . . . . .	-	2	2	f	D	D	D	D	D	D	D	D
327215	Glass product mfg made of purchased glass . . . . .	-	2	2	f	D	D	D	D	D	D	D	D
332	Fabricated metal product mfg . . . . .	-	20	8	1 249	42 504	987	2 001	28 055	107 175	46 012	153 269	5 075
3323	Architectural & structural metals mfg . . . . .	-	4	3	f	D	D	D	D	D	D	D	D
33232	Ornamental & architectural metal products mfg . . . . .	-	1	1	f	D	D	D	D	D	D	D	D
332323	Ornamental & architectural metal work mfg . . . . .	-	1	1	f	D	D	D	D	D	D	D	D
334	Computer & electronic product mfg . . . . .	-	3	1	f	D	D	D	D	D	D	D	D
3345	Navigational, measuring, medical, & control instruments mfg . . . . .	-	3	1	f	D	D	D	D	D	D	D	D
33451	Navigational, measuring, medical, & control instruments mfg . . . . .	-	3	1	f	D	D	D	D	D	D	D	D
334512	Automatic environmental control mfg . . . . .	-	2	1	f	D	D	D	D	D	D	D	D
337	Furniture & related product mfg . . . . .	-	10	5	764	25 484	428	982	12 428	75 153	46 947	122 261	2 830
3372	Office furniture (including fixtures) mfg . . . . .	-	4	3	505	18 014	252	646	8 651	60 122	36 058	96 441	D
33721	Office furniture (including fixtures) mfg . . . . .	-	4	3	505	18 014	252	646	8 651	60 122	36 058	96 441	D
	<b>HOWELL, MI</b>												
<b>31-33</b>	<b>Manufacturing . . . . .</b>	-	<b>46</b>	<b>18</b>	<b>2 843</b>	<b>102 202</b>	<b>1 980</b>	<b>3 904</b>	<b>56 481</b>	<b>205 023</b>	<b>509 848</b>	<b>716 399</b>	<b>22 753</b>
326	Plastics & rubber products mfg . . . . .	-	7	5	748	21 341	548	827	12 227	42 450	61 457	104 794	2 106
3261	Plastics product mfg . . . . .	-	4	3	f	D	D	D	D	D	D	D	D
336	Transportation equipment mfg . . . . .	-	3	2	f	D	D	D	D	D	D	D	D
3363	Motor vehicle parts mfg . . .	-	2	2	f	D	D	D	D	D	D	D	D
33637	Motor vehicle metal stamping . . . . .	-	1	1	f	D	D	D	D	D	D	D	D
336370	Motor vehicle metal stamping . . . . .	-	1	1	f	D	D	D	D	D	D	D	D

**Table 4. Industry Statistics for Places: 1997—Con.**

[Includes data for industry groups and industries with 500 employees or more. For information on geographic areas followed by \* and explanation of terms, see appendixes. For meaning of abbreviations and symbols, see introductory text]

NAICS code	Geographic area and industry	E <sup>1</sup>	All establishments		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expenditures (\$1,000)
			Total	With 20 employees or more	Number <sup>2</sup>	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
<b>HUDSON, MI</b>													
31-33	<b>Manufacturing . . . .</b>	-	9	7	926	37 297	721	1 576	25 537	96 793	49 312	148 317	17 026
332	Fabricated metal product mfg . . . . .	-	4	3	539	24 228	388	896	14 653	63 571	35 866	100 892	D
3327	Machine shops, turned product, & screw, nut, & bolt mfg . . . . .	-	3	3	f	D	D	D	D	D	D	D	D
33272	Turned product & screw, nut, & bolt mfg . . . . .	-	3	3	f	D	D	D	D	D	D	D	D
332721	Precision turned product mfg . . . . .	-	2	2	f	D	D	D	D	D	D	D	D
<b>HUDSONVILLE, MI</b>													
31-33	<b>Manufacturing . . . .</b>	2	23	5	686	18 439	571	1 057	13 059	41 254	25 611	67 365	4 755
<b>IMLAY CITY, MI</b>													
31-33	<b>Manufacturing . . . .</b>	-	14	10	g	D	D	D	D	D	D	D	23 513
<b>IONIA, MI</b>													
31-33	<b>Manufacturing . . . .</b>	1	11	6	1 965	60 882	1 556	3 700	40 842	151 118	212 626	363 201	10 791
336	Transportation equipment mfg . . . . .	-	4	2	g	D	D	D	D	D	D	D	D
3363	Motor vehicle parts mfg . . .	-	4	2	g	D	D	D	D	D	D	D	D
33639	Other motor vehicle parts mfg . . . . .	-	2	1	g	D	D	D	D	D	D	D	D
336399	All other motor vehicle parts mfg . . . . .	-	2	1	g	D	D	D	D	D	D	D	D
<b>JACKSON, MI</b>													
31-33	<b>Manufacturing . . . .</b>	-	143	52	4 453	149 754	3 290	6 450	93 593	425 876	389 323	826 150	33 327
332	Fabricated metal product mfg . . . . .	-	58	27	2 037	62 238	1 601	2 943	42 501	133 096	110 117	241 807	10 020
3327	Machine shops, turned product, & screw, nut, & bolt mfg . . . . .	-	29	10	612	15 857	508	881	10 603	31 993	15 107	47 101	2 302
3329	Other fabricated metal product mfg . . . . .	-	7	5	514	17 580	377	684	12 315	24 667	50 985	74 463	2 152
333	Machinery mfg . . . . .	-	26	10	606	24 356	443	912	15 289	38 731	32 636	75 910	2 023
<b>KALAMAZOO, MI</b>													
31-33	<b>Manufacturing . . . .</b>	1	153	61	7 499	253 810	4 770	9 919	139 410	699 046	738 232	1 450 518	49 046
322	Paper mfg . . . . .	-	13	11	1 782	63 576	1 351	2 884	43 426	232 416	241 868	469 227	12 925
3222	Converted paper product mfg . . . . .	-	12	10	g	D	D	D	D	D	D	D	D
32221	Paperboard container mfg . . . . .	-	8	6	993	33 011	737	1 584	21 017	85 461	131 704	213 614	D
322215	Nonfolding sanitary food container mfg . . . . .	-	2	2	f	D	D	D	D	D	D	D	D
323	Printing & related support activities . . . . .	1	32	8	614	18 364	375	709	9 587	33 547	24 955	58 004	2 123
3231	Printing & related support activities . . . . .	1	32	8	614	18 364	375	709	9 587	33 547	24 955	58 004	2 123
32311	Printing . . . . .	1	30	8	f	D	D	D	D	D	D	D	D
332	Fabricated metal product mfg . . . . .	-	26	9	860	31 144	612	1 229	16 524	62 875	42 904	105 245	5 085
3329	Other fabricated metal product mfg . . . . .	-	3	3	561	22 111	387	822	11 441	44 119	29 831	73 576	D
333	Machinery mfg . . . . .	-	24	8	1 781	67 525	960	1 945	29 948	94 318	116 290	221 244	5 115
3339	Other general-purpose machinery mfg . . . . .	-	9	3	1 364	52 291	709	1 465	22 423	70 000	97 882	178 207	D
33399	All other general-purpose machinery mfg . . . . .	-	3	1	f	D	D	D	D	D	D	D	D
333996	Fluid power pump & motor mfg . . . . .	-	1	1	f	D	D	D	D	D	D	D	D
336	Transportation equipment mfg . . . . .	1	4	3	f	D	D	D	D	D	D	D	D
3363	Motor vehicle parts mfg . . .	1	4	3	f	D	D	D	D	D	D	D	D
33637	Motor vehicle metal stamping . . . . .	1	2	2	f	D	D	D	D	D	D	D	D
336370	Motor vehicle metal stamping . . . . .	1	2	2	f	D	D	D	D	D	D	D	D

**Table 4. Industry Statistics for Places: 1997—Con.**

[Includes data for industry groups and industries with 500 employees or more. For information on geographic areas followed by \* and explanation of terms, see appendixes. For meaning of abbreviations and symbols, see introductory text]

NAICS code	Geographic area and industry	E <sup>1</sup>	All establishments		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expenditures (\$1,000)	
			Total	With 20 employees or more	Number <sup>2</sup>	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)					
<b>31-33</b>	<b>KALAMAZOO, MI—Con.</b>													
	<b>Manufacturing—Con.</b>													
339	Miscellaneous mfg.....	-	13	2	f	D	D	D	D	D	D	D	D	
3391	Medical equipment & supplies mfg.....	-	6	1	f	D	D	D	D	D	D	D	D	
33911	Medical equipment & supplies mfg.....	-	6	1	f	D	D	D	D	D	D	D	D	
339113	Surgical appliance & supplies mfg.....	-	1	1	f	D	D	D	D	D	D	D	D	
	<b>KALAMAZOO TOWNSHIP, MI</b>													
<b>31-33</b>	<b>Manufacturing ....</b>	-	<b>42</b>	<b>16</b>		<b>2 133</b>	<b>81 333</b>	<b>1 474</b>	<b>3 234</b>	<b>48 684</b>	<b>191 381</b>	<b>193 440</b>	<b>386 441</b>	<b>28 459</b>
	<b>KENTWOOD, MI</b>													
<b>31-33</b>	<b>Manufacturing ....</b>	<b>1</b>	<b>99</b>	<b>53</b>		<b>9 998</b>	<b>332 089</b>	<b>7 346</b>	<b>14 813</b>	<b>202 700</b>	<b>859 766</b>	<b>707 790</b>	<b>1 550 800</b>	<b>85 252</b>
326	Plastics & rubber products mfg.....	1	16	15	2 280	62 156	1 950	3 950	47 227	154 102	153 894	307 134	13 826	
3261	Plastics product mfg.....	1	16	15	2 280	62 156	1 950	3 950	47 227	154 102	153 894	307 134	13 826	
32619	Other plastics product mfg.....	-	14	13	g	D	D	D	D	D	D	D	D	
326199	All other plastics product mfg.....	-	13	12	2 059	55 865	1 765	3 570	42 584	138 409	132 910	270 310	D	
332	Fabricated metal product mfg.....	-	14	4	636	20 741	447	938	12 967	63 760	31 094	94 076	D	
333	Machinery mfg.....	-	17	8	1 836	86 793	1 185	2 372	41 105	152 772	99 690	247 687	25 583	
3336	Engine, turbine, & power transmission equipment mfg.....	-	3	3	g	D	D	D	D	D	D	D	D	
33361	Engine, turbine, & power transmission equipment mfg.....	-	3	3	g	D	D	D	D	D	D	D	D	
333618	Other engine equipment mfg.....	-	2	2	g	D	D	D	D	D	D	D	D	
334	Computer & electronic product mfg.....	3	6	4	885	24 310	557	1 032	11 272	77 019	41 684	119 870	1 943	
3345	Navigational, measuring, medical, & control instruments mfg.....	-	2	2	f	D	D	D	D	D	D	D	D	
33451	Navigational, measuring, medical, & control instruments mfg.....	-	2	2	f	D	D	D	D	D	D	D	D	
336	Transportation equipment mfg.....	-	5	4	1 237	40 196	913	1 875	26 512	116 812	71 523	178 767	8 677	
3363	Motor vehicle parts mfg... ..	-	3	2	f	D	D	D	D	D	D	D	D	
33632	Motor vehicle electrical & electronic equipment mfg.....	-	2	1	f	D	D	D	D	D	D	D	D	
336321	Vehicular lighting equipment mfg.....	-	1	1	f	D	D	D	D	D	D	D	D	
337	Furniture & related product mfg.....	-	3	2	g	D	D	D	D	D	D	D	D	
3372	Office furniture (including fixtures) mfg.....	-	2	2	g	D	D	D	D	D	D	D	D	
33721	Office furniture (including fixtures) mfg.....	-	2	2	g	D	D	D	D	D	D	D	D	
337211	Wood office furniture mfg.....	-	1	1	f	D	D	D	D	D	D	D	D	
337214	Office furniture (except wood) mfg.....	-	1	1	f	D	D	D	D	D	D	D	D	
339	Miscellaneous mfg.....	-	11	3	624	19 930	459	925	12 520	38 444	28 205	65 859	1 677	
3399	Other miscellaneous mfg... ..	-	5	3	603	19 278	444	898	12 118	36 937	27 538	63 662	D	
33999	All other miscellaneous mfg.....	-	3	3	f	D	D	D	D	D	D	D	D	
	<b>KINGSFORD, MI</b>													
<b>31-33</b>	<b>Manufacturing ....</b>	<b>1</b>	<b>16</b>	<b>8</b>	<b>951</b>	<b>30 679</b>	<b>781</b>	<b>1 530</b>	<b>22 033</b>	<b>60 120</b>	<b>51 159</b>	<b>110 494</b>	<b>2 981</b>	
331	Primary metal mfg.....	-	3	2	f	D	D	D	D	D	D	D	D	
3315	Foundries.....	-	3	2	f	D	D	D	D	D	D	D	D	
33151	Ferrous metal foundries..	-	3	2	f	D	D	D	D	D	D	D	D	
331511	Iron foundries.....	-	2	2	f	D	D	D	D	D	D	D	D	

**Table 4. Industry Statistics for Places: 1997—Con.**

[Includes data for industry groups and industries with 500 employees or more. For information on geographic areas followed by \* and explanation of terms, see appendixes. For meaning of abbreviations and symbols, see introductory text]

NAICS code	Geographic area and industry	E <sup>1</sup>	All establishments		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expenditures (\$1,000)
			Total	With 20 employees or more	Number <sup>2</sup>	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
<b>LANSING, MI *</b>													
<b>31-33</b>	<b>Manufacturing ....</b>	-	<b>131</b>	<b>52</b>	<b>j</b>	<b>D</b>	<b>D</b>	<b>D</b>	<b>D</b>	<b>D</b>	<b>D</b>	<b>D</b>	<b>D</b>
323	Printing & related support activities.....	1	35	9	f	D	D	D	D	D	D	D	D
3231	Printing & related support activities.....	1	35	9	f	D	D	D	D	D	D	D	D
332	Fabricated metal product mfg .....	-	21	8	f	D	D	D	D	D	D	D	D
333	Machinery mfg .....	-	9	4	f	D	D	D	D	D	D	D	D
3335	Metalworking machinery mfg .....	-	7	4	f	D	D	D	D	D	D	D	D
33351	Metalworking machinery mfg .....	-	7	4	f	D	D	D	D	D	D	D	D
336	Transportation equipment mfg .....	-	13	10	j	D	D	D	D	D	D	D	D
3361	Motor vehicle mfg .....	-	1	1	j	D	D	D	D	D	D	D	D
33611	Automobile & light duty motor vehicle mfg .....	-	1	1	j	D	D	D	D	D	D	D	D
336111	Automobile mfg .....	-	1	1	j	D	D	D	D	D	D	D	D
3363	Motor vehicle parts mfg ...	-	8	6	2 784	131 475	2 169	4 642	91 731	173 341	508 588	712 801	D
33631	Motor vehicle gasoline engine & engine parts mfg .....	-	2	2	g	D	D	D	D	D	D	D	D
336312	Gasoline engine & engine parts mfg ....	-	2	2	g	D	D	D	D	D	D	D	D
<b>LAPEER, MI</b>													
<b>31-33</b>	<b>Manufacturing ....</b>	-	<b>34</b>	<b>16</b>	<b>2 742</b>	<b>66 949</b>	<b>1 867</b>	<b>4 330</b>	<b>41 444</b>	<b>188 742</b>	<b>165 481</b>	<b>358 156</b>	<b>17 681</b>
326	Plastics & rubber products mfg .....	-	6	6	1 569	38 602	896	2 229	22 528	115 940	84 156	202 502	13 788
3261	Plastics product mfg .....	-	6	6	1 569	38 602	896	2 229	22 528	115 940	84 156	202 502	13 788
32619	Other plastics product mfg .....	-	5	5	g	D	D	D	D	D	D	D	D
326199	All other plastics product mfg .....	-	4	4	g	D	D	D	D	D	D	D	D
332	Fabricated metal product mfg .....	-	6	3	555	13 632	465	953	9 301	29 416	15 387	44 652	D
<b>LEONI TOWNSHIP, MI</b>													
<b>31-33</b>	<b>Manufacturing ....</b>	-	<b>37</b>	<b>6</b>	<b>835</b>	<b>31 599</b>	<b>592</b>	<b>1 218</b>	<b>17 475</b>	<b>76 155</b>	<b>77 297</b>	<b>152 549</b>	<b>9 747</b>
<b>LINCOLN TOWNSHIP, MI</b>													
<b>31-33</b>	<b>Manufacturing ....</b>	-	<b>39</b>	<b>20</b>	<b>2 703</b>	<b>99 864</b>	<b>2 269</b>	<b>4 850</b>	<b>75 353</b>	<b>258 568</b>	<b>246 031</b>	<b>502 971</b>	<b>35 526</b>
333	Machinery mfg .....	3	15	8	503	21 110	414	926	15 095	35 690	19 414	55 025	4 665
336	Transportation equipment mfg .....	-	1	1	g	D	D	D	D	D	D	D	D
3363	Motor vehicle parts mfg ...	-	1	1	g	D	D	D	D	D	D	D	D
33634	Motor vehicle brake system mfg .....	-	1	1	g	D	D	D	D	D	D	D	D
336340	Motor vehicle brake system mfg .....	-	1	1	g	D	D	D	D	D	D	D	D

**Table 4. Industry Statistics for Places: 1997—Con.**

[Includes data for industry groups and industries with 500 employees or more. For information on geographic areas followed by \* and explanation of terms, see appendixes. For meaning of abbreviations and symbols, see introductory text]

NAICS code	Geographic area and industry	E <sup>1</sup>	All establishments		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expenditures (\$1,000)
			Total	With 20 employees or more	Number <sup>2</sup>	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
<b>LIVONIA, MI</b>													
<b>31-33</b>	<b>Manufacturing ....</b>	-	<b>350</b>	<b>112</b>	<b>17 012</b>	<b>826 716</b>	<b>13 244</b>	<b>29 530</b>	<b>592 804</b>	<b>1 810 408</b>	<b>2 426 090</b>	<b>4 243 020</b>	<b>253 217</b>
311	Food mfg .....	-	20	5	985	31 519	796	1 544	23 539	97 756	187 330	283 901	4 748
3118	Bakeries & tortilla mfg .....	-	16	3	f	D	D	D	D	D	D	D	D
31181	Bread & bakery product mfg .....	-	16	3	f	D	D	D	D	D	D	D	D
311812	Commercial bakeries .....	-	3	1	f	D	D	D	D	D	D	D	D
323	Printing & related support activities .....	-	36	6	842	31 832	664	1 352	24 232	200 972	106 933	306 879	6 714
3231	Printing & related support activities .....	-	36	6	842	31 832	664	1 352	24 232	200 972	106 933	306 879	6 714
32311	Printing .....	-	31	5	775	30 013	611	1 257	22 957	198 802	106 449	304 224	6 617
326	Plastics & rubber products mfg .....	6	9	6	1 080	33 289	863	1 881	20 957	72 673	40 200	112 605	8 040
3261	Plastics product mfg .....	6	8	5	g	D	D	D	D	D	D	D	D
32619	Other plastics product mfg .....	4	6	4	f	D	D	D	D	D	D	D	D
326199	All other plastics product mfg .....	4	6	4	f	D	D	D	D	D	D	D	D
332	Fabricated metal product mfg .....	1	85	22	1 734	69 729	1 230	2 601	42 112	121 065	73 923	191 452	6 992
3327	Machine shops, turned product, & screw, nut, & bolt mfg .....	1	40	6	575	23 582	422	966	15 990	50 194	22 418	72 375	2 267
333	Machinery mfg .....	1	80	31	2 339	109 285	1 653	3 867	64 755	186 763	129 549	317 913	16 606
3335	Metalworking machinery mfg .....	-	61	24	1 645	81 508	1 182	2 854	48 460	151 984	84 337	236 917	14 238
33351	Metalworking machinery mfg .....	-	61	24	1 645	81 508	1 182	2 854	48 460	151 984	84 337	236 917	14 238
333514	Special die & tool, die set, jig, & fixture mfg .....	-	31	13	914	46 996	712	1 763	30 092	91 959	44 010	138 013	7 134
334	Computer & electronic product mfg .....	-	17	7	1 522	61 595	1 190	2 796	38 025	163 581	146 164	307 126	5 016
3346	Mfg & reproducing magnetic & optical media .....	-	2	2	g	D	D	D	D	D	D	D	D
33461	Mfg & reproducing magnetic & optical media .....	-	2	2	g	D	D	D	D	D	D	D	D
334612	Prerecorded CD (except software), tape, & record reproducing .....	-	2	2	g	D	D	D	D	D	D	D	D
336	Transportation equipment mfg .....	-	24	18	7 069	427 838	5 936	13 735	349 341	836 740	1 556 219	2 400 162	191 429
3363	Motor vehicle parts mfg ...	-	22	16	i	D	D	D	D	D	D	D	D
33631	Motor vehicle gasoline engine & engine parts mfg .....	-	1	1	f	D	D	D	D	D	D	D	D
336312	Gasoline engine & engine parts mfg ....	-	1	1	f	D	D	D	D	D	D	D	D
33633	Motor vehicle steering & suspension component (except spring) mfg ....	1	3	3	g	D	D	D	D	D	D	D	D
336330	Motor vehicle steering & suspension component (except spring) mfg .....	1	3	3	g	D	D	D	D	D	D	D	D
33635	Motor vehicle transmission & power train parts mfg .....	-	3	3	h	D	D	D	D	D	D	D	D
336350	Motor vehicle transmission & power train parts mfg .....	-	3	3	h	D	D	D	D	D	D	D	D
33636	Motor vehicle seating & interior trim mfg .....	-	1	1	f	D	D	D	D	D	D	D	D
336360	Motor vehicle seating & interior trim mfg ...	-	1	1	f	D	D	D	D	D	D	D	D
<b>LOWELL, MI</b>													
<b>31-33</b>	<b>Manufacturing ....</b>	<b>1</b>	<b>15</b>	<b>11</b>	<b>1 136</b>	<b>37 603</b>	<b>848</b>	<b>1 627</b>	<b>22 659</b>	<b>83 572</b>	<b>108 196</b>	<b>195 168</b>	<b>8 070</b>
<b>LUDINGTON, MI</b>													
<b>31-33</b>	<b>Manufacturing ....</b>	-	<b>27</b>	<b>13</b>	<b>2 098</b>	<b>74 921</b>	<b>1 565</b>	<b>3 070</b>	<b>47 183</b>	<b>242 742</b>	<b>140 407</b>	<b>365 245</b>	<b>D</b>
332	Fabricated metal product mfg .....	-	7	4	725	16 375	561	1 190	10 957	40 981	36 182	77 285	3 699
<b>MACOMB TOWNSHIP, MI</b>													
<b>31-33</b>	<b>Manufacturing ....</b>	-	<b>26</b>	<b>11</b>	<b>675</b>	<b>28 814</b>	<b>421</b>	<b>894</b>	<b>15 941</b>	<b>68 537</b>	<b>29 266</b>	<b>98 029</b>	<b>7 778</b>

**Table 4. Industry Statistics for Places: 1997—Con.**

[Includes data for industry groups and industries with 500 employees or more. For information on geographic areas followed by \* and explanation of terms, see appendixes. For meaning of abbreviations and symbols, see introductory text]

NAICS code	Geographic area and industry	E <sup>1</sup>	All establishments		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expenditures (\$1,000)
			Total	With 20 employees or more	Number <sup>2</sup>	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
<b>MADISON HEIGHTS, MI</b>													
31-33	Manufacturing ....	1	227	86	6 683	282 242	4 732	10 492	171 465	586 821	472 214	1 060 191	40 895
332	Fabricated metal product mfg .....	-	73	28	1 914	80 494	1 430	3 168	52 396	163 812	103 213	266 465	14 498
3327	Machine shops, turned product, & screw, nut, & bolt mfg .....	-	40	11	800	34 941	591	1 325	24 506	83 871	49 525	132 670	6 888
3328	Coating, engraving, heat treating, & allied activities ..	-	12	6	513	19 004	377	874	11 622	34 452	17 218	51 894	4 977
33281	Coating, engraving, heat treating, & allied activities.....	-	12	6	513	19 004	377	874	11 622	34 452	17 218	51 894	4 977
333	Machinery mfg .....	-	67	32	2 760	136 636	1 940	4 683	85 885	259 677	204 205	464 181	10 250
3335	Metalworking machinery mfg .....	-	52	25	2 265	114 554	1 625	3 911	74 169	215 536	158 001	371 463	7 161
33351	Metalworking machinery mfg .....	-	52	25	2 265	114 554	1 625	3 911	74 169	215 536	158 001	371 463	7 161
333511	Industrial mold mfg ...	-	11	6	506	30 872	291	749	17 573	57 822	41 071	98 629	1 944
333515	Cutting tool & machine tool accessory mfg ..	-	18	9	582	25 795	415	1 004	15 746	55 983	29 882	88 028	1 525
<b>MANISTEE, MI</b>													
31-33	Manufacturing ....	-	16	6	669	23 624	495	1 055	16 124	99 536	30 923	141 020	D
<b>MARINE CITY, MI</b>													
31-33	Manufacturing ....	1	26	11	944	25 094	752	1 310	15 942	56 493	72 088	129 719	5 491
<b>MARSHALL, MI</b>													
31-33	Manufacturing ....	-	35	16	2 393	75 467	1 918	3 752	50 050	270 897	212 430	480 660	15 340
336	Transportation equipment mfg .....	-	4	3	g	D	D	D	D	D	D	D	D
3363	Motor vehicle parts mfg ...	-	4	3	g	D	D	D	D	D	D	D	D
33635	Motor vehicle transmission & power train parts mfg .....	-	1	1	f	D	D	D	D	D	D	D	D
336350	Motor vehicle transmission & power train parts mfg .....	-	1	1	f	D	D	D	D	D	D	D	D
<b>MARYSVILLE, MI</b>													
31-33	Manufacturing ....	1	31	16	2 831	93 675	2 107	3 968	60 618	237 733	381 161	626 453	22 383
336	Transportation equipment mfg .....	-	4	3	1 431	43 600	1 173	2 060	29 942	119 507	181 633	301 921	13 592
3363	Motor vehicle parts mfg ...	-	4	3	1 431	43 600	1 173	2 060	29 942	119 507	181 633	301 921	13 592
33631	Motor vehicle gasoline engine & engine parts mfg .....	-	1	1	f	D	D	D	D	D	D	D	D
336312	Gasoline engine & engine parts mfg .....	-	1	1	f	D	D	D	D	D	D	D	D
33639	Other motor vehicle parts mfg .....	-	2	1	f	D	D	D	D	D	D	D	D
336399	All other motor vehicle parts mfg .....	-	2	1	f	D	D	D	D	D	D	D	D
<b>MATTAWAN, MI</b>													
31-33	Manufacturing ....	-	3	2	f	D	D	D	D	D	D	D	D
326	Plastics & rubber products mfg .....	-	1	1	f	D	D	D	D	D	D	D	D
3261	Plastics product mfg .....	-	1	1	f	D	D	D	D	D	D	D	D
32619	Other plastics product mfg .....	-	1	1	f	D	D	D	D	D	D	D	D
326199	All other plastics product mfg .....	-	1	1	f	D	D	D	D	D	D	D	D
<b>MELVINDALE, MI</b>													
31-33	Manufacturing ....	3	25	12	749	25 636	518	1 175	13 834	50 274	53 959	104 528	4 325



**Table 4. Industry Statistics for Places: 1997—Con.**

[Includes data for industry groups and industries with 500 employees or more. For information on geographic areas followed by \* and explanation of terms, see appendixes. For meaning of abbreviations and symbols, see introductory text]

NAICS code	Geographic area and industry	E <sup>1</sup>	All establishments		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expenditures (\$1,000)
			Total	With 20 employees or more	Number <sup>2</sup>	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
<b>MENOMINEE, MI</b>													
<b>31-33</b>	<b>Manufacturing ....</b>	-	<b>28</b>	<b>14</b>	<b>2 158</b>	<b>63 273</b>	<b>1 681</b>	<b>3 233</b>	<b>45 267</b>	<b>196 657</b>	<b>155 831</b>	<b>354 798</b>	<b>9 336</b>
333	Machinery mfg .....	-	2	2	f	D	D	D	D	D	D	D	D
3333	Commercial & service industry machinery mfg ..	-	2	2	f	D	D	D	D	D	D	D	D
33331	Commercial & service industry machinery mfg .....	-	2	2	f	D	D	D	D	D	D	D	D
333319	Other commercial & service industry machinery mfg .....	-	2	2	f	D	D	D	D	D	D	D	D
<b>MIDLAND, MI *</b>													
<b>31-33</b>	<b>Manufacturing ....</b>	-	<b>49</b>	<b>11</b>	<b>5 289</b>	<b>278 928</b>	<b>2 923</b>	<b>5 937</b>	<b>135 660</b>	<b>760 472</b>	<b>916 394</b>	<b>1 671 071</b>	<b>D</b>
323	Printing & related support activities.....	-	10	2	f	D	D	D	D	D	D	D	D
3231	Printing & related support activities.....	-	10	2	f	D	D	D	D	D	D	D	D
32311	Printing .....	-	7	2	f	D	D	D	D	D	D	D	D
323110	Commercial lithographic printing ..	-	4	1	f	D	D	D	D	D	D	D	D
325	Chemical mfg .....	-	8	3	h	D	D	D	D	D	D	D	D
3251	Basic chemical mfg .....	-	3	1	g	D	D	D	D	D	D	D	D
32519	Other basic organic chemical mfg .....	-	1	1	g	D	D	D	D	D	D	D	D
325199	All other basic organic chemical mfg .....	-	1	1	g	D	D	D	D	D	D	D	D
3252	Resin, syn rubber, & artificial & syn fibers & filaments mfg .....	-	2	2	g	D	D	D	D	D	D	D	D
32521	Resin & synthetic rubber mfg .....	-	2	2	g	D	D	D	D	D	D	D	D
325211	Plastics material & resin mfg .....	-	2	2	g	D	D	D	D	D	D	D	D
<b>MILAN, MI *</b>													
<b>31-33</b>	<b>Manufacturing ....</b>	-	<b>13</b>	<b>7</b>	<b>1 687</b>	<b>94 630</b>	<b>1 387</b>	<b>2 919</b>	<b>73 624</b>	<b>213 536</b>	<b>259 224</b>	<b>471 929</b>	<b>D</b>
336	Transportation equipment mfg .....	-	2	2	g	D	D	D	D	D	D	D	D
3363	Motor vehicle parts mfg ...	-	2	2	g	D	D	D	D	D	D	D	D
33639	Other motor vehicle parts mfg .....	-	1	1	g	D	D	D	D	D	D	D	D
336399	All other motor vehicle parts mfg .....	-	1	1	g	D	D	D	D	D	D	D	D
<b>MONROE, MI</b>													
<b>31-33</b>	<b>Manufacturing ....</b>	-	<b>43</b>	<b>18</b>	<b>4 429</b>	<b>219 810</b>	<b>3 580</b>	<b>7 684</b>	<b>173 996</b>	<b>756 010</b>	<b>766 749</b>	<b>1 535 383</b>	<b>48 580</b>
331	Primary metal mfg .....	-	1	1	f	D	D	D	D	D	D	D	D
3311	Iron & steel mills & ferroalloy mfg .....	-	1	1	f	D	D	D	D	D	D	D	D
33111	Iron & steel mills & ferroalloy mfg .....	-	1	1	f	D	D	D	D	D	D	D	D
331111	Iron & steel mills .....	-	1	1	f	D	D	D	D	D	D	D	D
336	Transportation equipment mfg .....	-	2	2	h	D	D	D	D	D	D	D	D
3363	Motor vehicle parts mfg ...	-	2	2	h	D	D	D	D	D	D	D	D
33639	Other motor vehicle parts mfg .....	-	1	1	g	D	D	D	D	D	D	D	D
336399	All other motor vehicle parts mfg .....	-	1	1	g	D	D	D	D	D	D	D	D
<b>MOUNT CLEMENS, MI</b>													
<b>31-33</b>	<b>Manufacturing ....</b>	-	<b>83</b>	<b>22</b>	<b>3 488</b>	<b>145 881</b>	<b>2 596</b>	<b>5 088</b>	<b>89 710</b>	<b>531 194</b>	<b>478 736</b>	<b>1 024 143</b>	<b>22 170</b>
325	Chemical mfg .....	-	1	1	f	D	D	D	D	D	D	D	D
3255	Paint, coating, & adhesive mfg .....	-	1	1	f	D	D	D	D	D	D	D	D
32551	Paint & coating mfg .....	-	1	1	f	D	D	D	D	D	D	D	D
325510	Paint & coating mfg .....	-	1	1	f	D	D	D	D	D	D	D	D
332	Fabricated metal product mfg .....	-	21	4	640	19 592	546	1 223	13 298	48 281	15 151	63 276	6 554
336	Transportation equipment mfg .....	2	8	5	633	17 568	426	755	9 495	53 256	132 825	187 809	3 090
3363	Motor vehicle parts mfg ...	2	8	5	633	17 568	426	755	9 495	53 256	132 825	187 809	3 090
<b>MOUNT PLEASANT, MI</b>													
<b>31-33</b>	<b>Manufacturing ....</b>	-	<b>15</b>	<b>2</b>	<b>f</b>	<b>D</b>	<b>D</b>	<b>D</b>	<b>D</b>	<b>D</b>	<b>D</b>	<b>D</b>	<b>D</b>

**Table 4. Industry Statistics for Places: 1997—Con.**

[Includes data for industry groups and industries with 500 employees or more. For information on geographic areas followed by \* and explanation of terms, see appendixes. For meaning of abbreviations and symbols, see introductory text]

NAICS code	Geographic area and industry	E <sup>1</sup>	All establishments		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expenditures (\$1,000)
			Total	With 20 employees or more	Number <sup>2</sup>	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
<b>MUSKEGON, MI</b>													
<b>31-33</b>	<b>Manufacturing ....</b>	<b>1</b>	<b>108</b>	<b>47</b>	<b>6 918</b>	<b>236 738</b>	<b>4 757</b>	<b>9 632</b>	<b>145 912</b>	<b>630 574</b>	<b>597 364</b>	<b>1 230 975</b>	<b>58 248</b>
322	Paper mfg .....	-	1	1	f	D	D	D	D	D	D	D	D
3221	Pulp, paper, & paperboard mills .....	-	1	1	f	D	D	D	D	D	D	D	D
32212	Paper mills .....	-	1	1	f	D	D	D	D	D	D	D	D
322121	Paper (except newsprint) mills .....	-	1	1	f	D	D	D	D	D	D	D	D
331	Primary metal mfg .....	-	12	9	920	29 455	670	1 539	21 454	60 295	47 432	108 385	5 882
3315	Foundries .....	-	11	8	f	D	D	D	D	D	D	D	D
33152	Nonferrous metal foundries .....	-	9	6	540	16 059	378	847	11 490	40 511	25 229	64 971	4 337
332	Fabricated metal product mfg .....	2	27	9	910	28 725	579	1 143	15 850	62 865	74 374	134 812	7 768
333	Machinery mfg .....	-	12	5	f	D	D	D	D	D	D	D	D
336	Transportation equipment mfg .....	2	9	7	1 472	52 009	1 004	2 075	30 673	126 043	89 415	209 534	D
3363	Motor vehicle parts mfg ...	3	7	6	f	D	D	D	D	D	D	D	D
<b>MUSKEGON HEIGHTS, MI</b>													
<b>31-33</b>	<b>Manufacturing ....</b>	<b>-</b>	<b>44</b>	<b>19</b>	<b>1 713</b>	<b>60 200</b>	<b>1 343</b>	<b>2 290</b>	<b>43 088</b>	<b>130 874</b>	<b>81 251</b>	<b>211 311</b>	<b>7 384</b>
<b>NEW BALTIMORE, MI</b>													
<b>31-33</b>	<b>Manufacturing ....</b>	<b>-</b>	<b>18</b>	<b>6</b>	<b>1 225</b>	<b>33 433</b>	<b>1 019</b>	<b>2 175</b>	<b>23 130</b>	<b>81 011</b>	<b>118 299</b>	<b>201 275</b>	<b>3 331</b>
336	Transportation equipment mfg .....	-	1	1	f	D	D	D	D	D	D	D	D
3363	Motor vehicle parts mfg ...	-	1	1	f	D	D	D	D	D	D	D	D
33637	Motor vehicle metal stamping .....	-	1	1	f	D	D	D	D	D	D	D	D
336370	Motor vehicle metal stamping .....	-	1	1	f	D	D	D	D	D	D	D	D
<b>NILES, MI *</b>													
<b>31-33</b>	<b>Manufacturing ....</b>	<b>-</b>	<b>38</b>	<b>18</b>	<b>1 948</b>	<b>60 435</b>	<b>1 488</b>	<b>2 912</b>	<b>40 171</b>	<b>185 372</b>	<b>176 641</b>	<b>365 429</b>	<b>12 794</b>
333	Machinery mfg .....	-	5	3	f	D	D	D	D	D	D	D	D
3334	Ventilation, heating, AC, & commercial refrigeration equip mfg .....	-	4	3	f	D	D	D	D	D	D	D	D
33341	Ventilation, heating, AC, & commercial refrigeration equip mfg .	-	4	3	f	D	D	D	D	D	D	D	D
333415	AC & warm air heating & commercial/ industrial refrig equip mfg .....	-	2	2	f	D	D	D	D	D	D	D	D
<b>NILES TOWNSHIP, MI</b>													
<b>31-33</b>	<b>Manufacturing ....</b>	<b>5</b>	<b>29</b>	<b>9</b>	<b>988</b>	<b>28 467</b>	<b>784</b>	<b>1 530</b>	<b>19 514</b>	<b>54 145</b>	<b>69 441</b>	<b>121 862</b>	<b>5 331</b>
<b>NORTHVILLE, MI *</b>													
<b>31-33</b>	<b>Manufacturing ....</b>	<b>2</b>	<b>16</b>	<b>8</b>	<b>825</b>	<b>30 050</b>	<b>400</b>	<b>827</b>	<b>12 296</b>	<b>57 646</b>	<b>48 796</b>	<b>90 389</b>	<b>4 140</b>
<b>NORTON SHORES, MI</b>													
<b>31-33</b>	<b>Manufacturing ....</b>	<b>-</b>	<b>56</b>	<b>30</b>	<b>2 219</b>	<b>78 251</b>	<b>1 459</b>	<b>2 822</b>	<b>40 587</b>	<b>235 487</b>	<b>191 882</b>	<b>422 990</b>	<b>19 680</b>
332	Fabricated metal product mfg .....	-	19	12	679	23 026	459	808	12 528	62 224	16 026	76 734	3 822
<b>NOVI, MI</b>													
<b>31-33</b>	<b>Manufacturing ....</b>	<b>3</b>	<b>87</b>	<b>30</b>	<b>2 448</b>	<b>104 351</b>	<b>1 752</b>	<b>4 182</b>	<b>68 341</b>	<b>204 136</b>	<b>175 594</b>	<b>378 780</b>	<b>12 479</b>
333	Machinery mfg .....	2	19	8	734	37 235	602	1 589	30 254	67 196	42 269	107 530	1 563
3335	Metalworking machinery mfg .....	2	16	6	625	32 997	511	1 409	27 280	50 621	23 541	71 547	1 086
33351	Metalworking machinery mfg .....	2	16	6	625	32 997	511	1 409	27 280	50 621	23 541	71 547	1 086
333514	Special die & tool, die set, jig, & fixture mfg .	2	11	4	511	27 736	453	1 270	25 041	41 467	13 265	52 423	754
<b>OAK PARK, MI</b>													
<b>31-33</b>	<b>Manufacturing ....</b>	<b>-</b>	<b>78</b>	<b>26</b>	<b>1 632</b>	<b>63 374</b>	<b>961</b>	<b>2 050</b>	<b>33 857</b>	<b>122 025</b>	<b>85 068</b>	<b>208 105</b>	<b>5 668</b>

**Table 4. Industry Statistics for Places: 1997—Con.**

[Includes data for industry groups and industries with 500 employees or more. For information on geographic areas followed by \* and explanation of terms, see appendixes. For meaning of abbreviations and symbols, see introductory text]

NAICS code	Geographic area and industry	E <sup>1</sup>	All establishments		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expenditures (\$1,000)
			Total	With 20 employees or more	Number <sup>2</sup>	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
<b>ORION TOWNSHIP BALANCE, MI *</b>													
31-33	Manufacturing ....	-	31	14	i	D	D	D	D	D	D	D	D
336	Transportation equipment mfg .....	-	3	3	h	D	D	D	D	D	D	D	D
3361	Motor vehicle mfg .....	-	1	1	h	D	D	D	D	D	D	D	D
33611	Automobile & light duty motor vehicle mfg .....	-	1	1	h	D	D	D	D	D	D	D	D
336111	Automobile mfg .....	-	1	1	h	D	D	D	D	D	D	D	D
<b>OTSEGO, MI</b>													
31-33	Manufacturing ....	-	13	8	1 736	63 269	1 349	3 016	44 081	96 673	188 458	284 220	7 608
322	Paper mfg .....	-	3	3	f	D	D	D	D	D	D	D	D
332	Fabricated metal product mfg .....	-	3	3	f	D	D	D	D	D	D	D	D
3329	Other fabricated metal product mfg .....	-	2	2	f	D	D	D	D	D	D	D	D
33291	Metal valve mfg .....	-	2	2	f	D	D	D	D	D	D	D	D
332912	Fluid power valve & hose fitting mfg .....	-	2	2	f	D	D	D	D	D	D	D	D
<b>OWOSSO, MI</b>													
31-33	Manufacturing ....	1	42	22	2 917	65 666	2 216	4 015	43 434	135 157	155 133	290 577	9 369
326	Plastics & rubber products mfg .....	2	9	8	f	D	D	D	D	D	D	D	3 880
3261	Plastics product mfg .....	2	9	8	f	D	D	D	D	D	D	D	3 880
32619	Other plastics product mfg .....	2	8	7	f	D	D	D	D	D	D	D	3 880
326199	All other plastics product mfg .....	2	8	7	f	D	D	D	D	D	D	D	3 880
335	Electrical equipment, appliance, & component mfg .....	-	3	3	f	D	D	D	D	D	D	D	2 157
3353	Electrical equipment mfg ..	-	3	3	f	D	D	D	D	D	D	D	2 157
33531	Electrical equipment mfg .....	-	3	3	f	D	D	D	D	D	D	D	2 157
335312	Motor & generator mfg .....	-	3	3	f	D	D	D	D	D	D	D	2 157
<b>OXFORD TOWNSHIP BALANCE, MI *</b>													
31-33	Manufacturing ....	-	28	13	828	32 293	631	1 445	19 753	56 497	75 835	131 452	4 435
<b>OXFORD, MI *</b>													
31-33	Manufacturing ....	1	35	11	1 046	32 574	697	1 320	17 295	66 578	73 047	139 988	3 933
<b>PARK TOWNSHIP, MI</b>													
31-33	Manufacturing ....	-	24	9	1 741	62 320	1 135	2 116	31 630	231 352	192 456	424 574	29 164
311	Food mfg .....	-	2	2	f	D	D	D	D	D	D	D	D
337	Furniture & related product mfg .....	-	1	1	f	D	D	D	D	D	D	D	D
3372	Office furniture (including fixtures) mfg .....	-	1	1	f	D	D	D	D	D	D	D	D
33721	Office furniture (including fixtures) mfg .....	-	1	1	f	D	D	D	D	D	D	D	D
337214	Office furniture (except wood) mfg .....	-	1	1	f	D	D	D	D	D	D	D	D
<b>PAW PAW, MI</b>													
31-33	Manufacturing ....	-	15	5	815	24 597	635	1 198	18 096	142 961	133 662	277 416	9 640
<b>PETOSKEY, MI</b>													
31-33	Manufacturing ....	-	24	5	558	15 272	410	782	8 304	30 212	44 832	74 469	1 615
<b>PITTSFIELD TOWNSHIP, MI</b>													
31-33	Manufacturing ....	-	32	10	913	40 712	578	1 135	22 919	96 264	72 336	169 993	10 210

**Table 4. Industry Statistics for Places: 1997—Con.**

[Includes data for industry groups and industries with 500 employees or more. For information on geographic areas followed by \* and explanation of terms, see appendixes. For meaning of abbreviations and symbols, see introductory text]

NAICS code	Geographic area and industry	E <sup>1</sup>	All establishments		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expenditures (\$1,000)
			Total	With 20 employees or more	Number <sup>2</sup>	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
	<b>PLAINFIELD TOWNSHIP, MI</b>												
31-33	<b>Manufacturing ....</b>	-	47	17	1 886	63 675	1 486	2 756	42 407	145 495	103 353	253 138	13 548
332	Fabricated metal product mfg .....	-	11	4	719	21 654	592	937	15 750	44 682	46 859	92 918	4 803
	<b>PLAINWELL, MI</b>												
31-33	<b>Manufacturing ....</b>	-	18	4	621	21 434	466	973	14 173	29 516	43 517	71 455	931
	<b>PLYMOUTH, MI</b>												
31-33	<b>Manufacturing ....</b>	-	64	22	1 872	67 217	1 170	2 327	34 446	169 980	134 221	304 379	10 649
336	Transportation equipment mfg .....	-	10	5	544	23 267	345	824	13 637	46 751	39 895	87 798	2 689
	<b>PLYMOUTH TOWNSHIP, MI</b>												
31-33	<b>Manufacturing ....</b>	-	61	35	3 312	153 706	2 125	4 238	81 800	267 545	324 428	618 172	20 832
332	Fabricated metal product mfg .....	1	12	7	606	21 564	409	820	12 120	48 311	49 364	97 462	3 327
333	Machinery mfg .....	-	14	10	889	58 289	686	1 318	40 941	75 173	146 150	247 880	4 513
3332	Industrial machinery mfg ..	-	3	2	f	D	D	D	D	D	D	D	2 168
33329	Other industrial machinery mfg .....	-	2	2	f	D	D	D	D	D	D	D	D
333298	All other industrial machinery mfg .....	-	2	2	f	D	D	D	D	D	D	D	D
334	Computer & electronic product mfg .....	-	6	5	759	39 592	275	547	8 788	70 225	72 003	142 720	7 117
	<b>PONTIAC, MI</b>												
31-33	<b>Manufacturing ....</b>	-	58	20	8 474	378 712	7 434	13 509	314 077	1 526 591	3 038 570	4 570 225	D
336	Transportation equipment mfg .....	-	3	3	i	D	D	D	D	D	D	D	D
3361	Motor vehicle mfg .....	-	1	1	i	D	D	D	D	D	D	D	D
33611	Automobile & light duty motor vehicle mfg .....	-	1	1	i	D	D	D	D	D	D	D	D
336112	Light truck & utility vehicle mfg .....	-	1	1	i	D	D	D	D	D	D	D	D
3363	Motor vehicle parts mfg ...	1	2	2	g	D	D	D	D	D	D	D	D
33639	Other motor vehicle parts mfg .....	-	1	1	g	D	D	D	D	D	D	D	D
336399	All other motor vehicle parts mfg .....	-	1	1	g	D	D	D	D	D	D	D	D
	<b>PORTAGE, MI</b>												
31-33	<b>Manufacturing ....</b>	-	78	33	5 667	239 446	4 137	7 361	162 386	400 741	481 194	902 250	124 916
325	Chemical mfg .....	-	4	2	h	D	D	D	D	D	D	D	D
3254	Pharmaceutical & medicine mfg .....	-	1	1	g	D	D	D	D	D	D	D	D
32541	Pharmaceutical & medicine mfg .....	-	1	1	g	D	D	D	D	D	D	D	D
325412	Pharmaceutical preparation mfg .....	-	1	1	g	D	D	D	D	D	D	D	D
326	Plastics & rubber products mfg .....	-	9	6	926	23 876	773	1 523	17 684	50 220	39 747	90 147	8 536
3261	Plastics product mfg .....	-	9	6	926	23 876	773	1 523	17 684	50 220	39 747	90 147	8 536
32619	Other plastics product mfg .....	-	8	5	f	D	D	D	D	D	D	D	D
326199	All other plastics product mfg .....	-	8	5	f	D	D	D	D	D	D	D	D
333	Machinery mfg .....	4	14	8	584	20 284	356	685	11 050	44 180	21 261	65 789	D
339	Miscellaneous mfg .....	-	9	2	639	29 564	303	636	7 723	53 824	54 067	108 892	3 684
3391	Medical equipment & supplies mfg .....	-	5	1	f	D	D	D	D	D	D	D	D
33911	Medical equipment & supplies mfg .....	-	5	1	f	D	D	D	D	D	D	D	D
339113	Surgical appliance & supplies mfg .....	-	3	1	f	D	D	D	D	D	D	D	D

**Table 4. Industry Statistics for Places: 1997—Con.**

[Includes data for industry groups and industries with 500 employees or more. For information on geographic areas followed by \* and explanation of terms, see appendixes. For meaning of abbreviations and symbols, see introductory text]

NAICS code	Geographic area and industry	E <sup>1</sup>	All establishments		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expenditures (\$1,000)
			Total	With 20 employees or more	Number <sup>2</sup>	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
<b>PORT HURON, MI</b>													
<b>31-33</b>	<b>Manufacturing</b> . . . . .	-	<b>74</b>	<b>34</b>	<b>5 789</b>	<b>184 835</b>	<b>4 193</b>	<b>8 725</b>	<b>119 123</b>	<b>519 145</b>	<b>844 452</b>	<b>1 355 617</b>	<b>59 511</b>
322	Paper mfg . . . . .	-	3	3	f	D	D	D	D	D	D	D	D
3221	Pulp, paper, & paperboard mills . . . . .	-	3	3	f	D	D	D	D	D	D	D	D
32212	Paper mills . . . . .	-	2	2	f	D	D	D	D	D	D	D	D
322121	Paper (except newsprint) mills . . . . .	-	2	2	f	D	D	D	D	D	D	D	D
326	Plastics & rubber products mfg . . . . .	-	11	6	994	24 680	712	1 202	13 621	61 142	87 097	148 396	5 100
3261	Plastics product mfg . . . . .	-	11	6	994	24 680	712	1 202	13 621	61 142	87 097	148 396	5 100
32619	Other plastics product mfg . . . . .	-	9	5	f	D	D	D	D	D	D	D	D
326199	All other plastics product mfg . . . . .	-	9	5	f	D	D	D	D	D	D	D	D
331	Primary metal mfg . . . . .	-	2	2	g	D	D	D	D	D	D	D	D
3314	Nonferrous metal (except aluminum) production & processing . . . . .	-	2	2	g	D	D	D	D	D	D	D	D
33141	Nonferrous metal (except aluminum) smelting & refining . . . . .	-	1	1	g	D	D	D	D	D	D	D	D
331411	Primary smelting & refining of copper . . . . .	-	1	1	g	D	D	D	D	D	D	D	D
332	Fabricated metal product mfg . . . . .	-	19	10	752	30 313	583	1 265	16 488	77 076	75 489	151 866	D
336	Transportation equipment mfg . . . . .	-	6	4	830	23 850	637	1 113	17 330	52 275	136 300	184 195	17 866
3363	Motor vehicle parts mfg . . . . .	-	5	4	f	D	D	D	D	D	D	D	D
<b>REDFORD TOWNSHIP, MI</b>													
<b>31-33</b>	<b>Manufacturing</b> . . . . .	<b>1</b>	<b>129</b>	<b>34</b>	<b>2 701</b>	<b>102 649</b>	<b>1 941</b>	<b>4 166</b>	<b>65 270</b>	<b>222 469</b>	<b>159 817</b>	<b>382 711</b>	<b>22 025</b>
332	Fabricated metal product mfg . . . . .	1	40	14	738	27 209	497	1 007	15 510	66 674	40 779	106 658	12 175
333	Machinery mfg . . . . .	-	24	6	851	38 474	644	1 507	26 876	70 768	39 230	110 502	3 182
3335	Metalworking machinery mfg . . . . .	-	19	5	f	D	D	D	D	D	D	D	2 958
33351	Metalworking machinery mfg . . . . .	-	19	5	f	D	D	D	D	D	D	D	2 958
333514	Special die & tool, die set, jig, & fixture mfg . . . . .	-	14	4	611	28 051	455	1 037	19 966	52 018	13 488	67 135	D
<b>ROCHESTER, MI</b>													
<b>31-33</b>	<b>Manufacturing</b> . . . . .	<b>-</b>	<b>44</b>	<b>10</b>	<b>1 759</b>	<b>64 135</b>	<b>1 295</b>	<b>2 454</b>	<b>35 578</b>	<b>194 987</b>	<b>125 598</b>	<b>324 701</b>	<b>11 166</b>
325	Chemical mfg . . . . .	-	3	3	f	D	D	D	D	D	D	D	D
3254	Pharmaceutical & medicine mfg . . . . .	-	3	3	f	D	D	D	D	D	D	D	D
32541	Pharmaceutical & medicine mfg . . . . .	-	3	3	f	D	D	D	D	D	D	D	D
<b>ROCHESTER HILLS, MI</b>													
<b>31-33</b>	<b>Manufacturing</b> . . . . .	<b>1</b>	<b>140</b>	<b>70</b>	<b>7 936</b>	<b>285 904</b>	<b>5 934</b>	<b>12 623</b>	<b>174 267</b>	<b>638 058</b>	<b>622 804</b>	<b>1 264 013</b>	<b>56 123</b>
316	Leather & allied product mfg . . . . .	-	1	1	f	D	D	D	D	D	D	D	D
3161	Leather & hide tanning & finishing . . . . .	-	1	1	f	D	D	D	D	D	D	D	D
31611	Leather & hide tanning & finishing . . . . .	-	1	1	f	D	D	D	D	D	D	D	D
316110	Leather & hide tanning & finishing . . . . .	-	1	1	f	D	D	D	D	D	D	D	D
326	Plastics & rubber products mfg . . . . .	4	13	7	759	15 889	609	1 096	10 033	38 753	46 876	85 691	D
3261	Plastics product mfg . . . . .	5	12	7	f	D	D	D	D	D	D	D	D
32619	Other plastics product mfg . . . . .	5	12	7	f	D	D	D	D	D	D	D	D
326199	All other plastics product mfg . . . . .	4	11	6	f	D	D	D	D	D	D	D	4 522
333	Machinery mfg . . . . .	-	32	19	1 224	70 659	876	2 082	43 527	151 441	78 934	229 504	12 123
3335	Metalworking machinery mfg . . . . .	-	20	12	897	54 469	657	1 625	35 769	119 788	52 303	171 694	6 234
33351	Metalworking machinery mfg . . . . .	-	20	12	897	54 469	657	1 625	35 769	119 788	52 303	171 694	6 234

**Table 4. Industry Statistics for Places: 1997—Con.**

[Includes data for industry groups and industries with 500 employees or more. For information on geographic areas followed by \* and explanation of terms, see appendixes. For meaning of abbreviations and symbols, see introductory text]

NAICS code	Geographic area and industry	E <sup>1</sup>	All establishments		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expenditures (\$1,000)
			Total	With 20 employees or more	Number <sup>2</sup>	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
	<b>ROCHESTER HILLS, MI</b> —Con.												
<b>31-33</b>	<b>Manufacturing—</b> <b>Con.</b>												
336	Transportation equipment mfg .....	1	13	13	3 347	116 546	2 475	5 199	70 871	271 832	380 532	656 184	23 960
3363	Motor vehicle parts mfg ...	1	13	13	3 347	116 546	2 475	5 199	70 871	271 832	380 532	656 184	23 960
33635	Motor vehicle transmission & power train parts mfg .....	—	1	1	f	D	D	D	D	D	D	D	D
336350	Motor vehicle transmission & power train parts mfg .....	—	1	1	f	D	D	D	D	D	D	D	D
33636	Motor vehicle seating & interior trim mfg .....	—	1	1	f	D	D	D	D	D	D	D	D
336360	Motor vehicle seating & interior trim mfg ...	—	1	1	f	D	D	D	D	D	D	D	D
33637	Motor vehicle metal stamping .....	6	6	6	555	24 079	382	903	11 656	37 665	38 018	76 903	6 717
336370	Motor vehicle metal stamping .....	6	6	6	555	24 079	382	903	11 656	37 665	38 018	76 903	6 717
33639	Other motor vehicle parts mfg .....	1	2	2	f	D	D	D	D	D	D	D	D
336399	All other motor vehicle parts mfg .....	1	2	2	f	D	D	D	D	D	D	D	D
339	Miscellaneous mfg .....	7	14	8	596	15 355	443	932	9 466	36 558	25 800	61 829	1 853
3399	Other miscellaneous mfg ..	7	11	7	564	14 234	414	902	9 146	34 156	24 277	57 809	D
	<b>ROCKFORD, MI</b>												
<b>31-33</b>	<b>Manufacturing ....</b>	—	<b>21</b>	<b>8</b>	<b>1 507</b>	<b>35 094</b>	<b>1 335</b>	<b>2 514</b>	<b>26 424</b>	<b>148 623</b>	<b>88 669</b>	<b>237 800</b>	<b>5 143</b>
	<b>ROMEO, MI *</b>												
<b>31-33</b>	<b>Manufacturing ....</b>	—	<b>49</b>	<b>22</b>	<b>2 786</b>	<b>139 301</b>	<b>2 131</b>	<b>4 804</b>	<b>102 086</b>	<b>545 429</b>	<b>1 102 565</b>	<b>1 655 439</b>	<b>84 189</b>
326	Plastics & rubber products mfg .....	2	10	4	502	11 381	399	784	6 682	25 007	19 040	43 492	1 071
336	Transportation equipment mfg .....	—	5	5	g	D	D	D	D	D	D	D	D
3363	Motor vehicle parts mfg ...	—	5	5	g	D	D	D	D	D	D	D	D
33631	Motor vehicle gasoline engine & engine parts mfg .....	—	1	1	g	D	D	D	D	D	D	D	D
336312	Gasoline engine & engine parts mfg .....	—	1	1	g	D	D	D	D	D	D	D	D
	<b>ROMULUS, MI</b>												
<b>31-33</b>	<b>Manufacturing ....</b>	—	<b>97</b>	<b>49</b>	<b>6 269</b>	<b>278 521</b>	<b>4 900</b>	<b>10 846</b>	<b>201 659</b>	<b>538 304</b>	<b>1 118 812</b>	<b>1 635 862</b>	<b>212 257</b>
332	Fabricated metal product mfg .....	1	37	18	1 387	52 668	990	2 066	32 631	117 128	104 339	221 612	6 557
3327	Machine shops, turned product, & screw, nut, & bolt mfg .....	—	18	9	818	29 733	592	1 163	17 733	66 355	61 423	128 049	5 202
33272	Turned product & screw, nut, & bolt mfg .....	—	12	6	621	21 720	436	839	12 641	49 183	44 027	93 427	2 333
332722	Bolt, nut, screw, rivet, & washer mfg .....	—	8	4	507	18 340	343	610	10 337	42 992	40 474	83 689	2 066
333	Machinery mfg .....	—	20	7	586	21 900	442	994	15 061	52 345	21 738	70 004	1 983
336	Transportation equipment mfg .....	—	9	8	3 029	159 847	2 556	6 011	128 437	195 008	884 862	1 061 948	197 216
3363	Motor vehicle parts mfg ...	—	7	7	h	D	D	D	D	D	D	D	D
33631	Motor vehicle gasoline engine & engine parts mfg .....	—	1	1	g	D	D	D	D	D	D	D	D
336312	Gasoline engine & engine parts mfg .....	—	1	1	g	D	D	D	D	D	D	D	D
33636	Motor vehicle seating & interior trim mfg .....	—	2	2	f	D	D	D	D	D	D	D	D
336360	Motor vehicle seating & interior trim mfg ...	—	2	2	f	D	D	D	D	D	D	D	D
	<b>ROOSEVELT PARK, MI</b>												
<b>31-33</b>	<b>Manufacturing ....</b>	1	<b>5</b>	<b>5</b>	<b>533</b>	<b>18 075</b>	<b>375</b>	<b>759</b>	<b>10 505</b>	<b>42 024</b>	<b>24 297</b>	<b>66 687</b>	<b>3 302</b>

**Table 4. Industry Statistics for Places: 1997—Con.**

[Includes data for industry groups and industries with 500 employees or more. For information on geographic areas followed by \* and explanation of terms, see appendixes. For meaning of abbreviations and symbols, see introductory text]

NAICS code	Geographic area and industry	E <sup>1</sup>	All establishments		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expenditures (\$1,000)
			Total	With 20 employees or more	Number <sup>2</sup>	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
<b>ROSEVILLE, MI</b>													
<b>31-33</b>	<b>Manufacturing ....</b>	<b>1</b>	<b>202</b>	<b>83</b>	<b>6 582</b>	<b>257 068</b>	<b>5 117</b>	<b>10 773</b>	<b>175 335</b>	<b>551 795</b>	<b>395 590</b>	<b>930 534</b>	<b>33 870</b>
326	Plastics & rubber products mfg .....	1	11	7	921	22 515	670	1 063	12 051	65 754	67 658	131 412	3 291
3261	Plastics product mfg .....	1	11	7	921	22 515	670	1 063	12 051	65 754	67 658	131 412	3 291
32619	Other plastics product mfg .....	1	9	6	f	D	D	D	D	D	D	D	D
326199	All other plastics product mfg .....	1	8	6	899	21 155	654	1 036	11 431	63 872	66 507	128 372	3 197
332	Fabricated metal product mfg .....	2	77	25	1 483	50 870	1 164	2 482	34 646	101 956	46 789	147 438	6 555
3327	Machine shops, turned product, & screw, nut, & bolt mfg .....	2	46	11	741	26 645	609	1 343	19 830	51 990	18 128	69 436	4 342
333	Machinery mfg .....	-	43	22	2 239	120 415	1 821	4 294	89 309	202 665	109 989	297 135	9 885
3335	Metalworking machinery mfg .....	-	33	15	1 723	93 160	1 410	3 318	69 738	155 969	72 430	211 714	9 396
33351	Metalworking machinery mfg .....	-	33	15	1 723	93 160	1 410	3 318	69 738	155 969	72 430	211 714	9 396
333511	Industrial mold mfg ...	-	4	1	f	D	D	D	D	D	D	D	D
333514	Special die & tool, die set, jig, & fixture mfg .	-	20	10	756	43 238	605	1 525	30 849	70 231	22 475	79 634	6 581
336	Transportation equipment mfg .....	-	20	13	868	28 425	681	1 292	17 962	94 597	107 637	204 175	10 031
3363	Motor vehicle parts mfg ...	-	15	11	f	D	D	D	D	D	D	D	D
33637	Motor vehicle metal stamping .....	-	9	7	582	18 072	453	912	11 601	70 037	82 367	152 620	9 204
336370	Motor vehicle metal stamping .....	-	9	7	582	18 072	453	912	11 601	70 037	82 367	152 620	9 204
<b>ROYAL OAK, MI</b>													
<b>31-33</b>	<b>Manufacturing ....</b>	<b>1</b>	<b>98</b>	<b>21</b>	<b>2 397</b>	<b>96 337</b>	<b>1 788</b>	<b>3 846</b>	<b>56 405</b>	<b>274 330</b>	<b>258 543</b>	<b>531 392</b>	<b>22 407</b>
332	Fabricated metal product mfg .....	-	14	5	653	28 016	444	1 029	16 224	122 399	148 719	270 986	13 127
333	Machinery mfg .....	1	18	5	709	34 100	589	1 372	20 471	64 361	38 852	101 813	2 532
<b>SAGINAW, MI</b>													
<b>31-33</b>	<b>Manufacturing ....</b>	<b>-</b>	<b>78</b>	<b>35</b>	<b>7 667</b>	<b>420 761</b>	<b>6 118</b>	<b>14 445</b>	<b>337 071</b>	<b>738 336</b>	<b>1 535 412</b>	<b>2 289 485</b>	<b>D</b>
331	Primary metal mfg .....	-	4	2	h	D	D	D	D	D	D	D	D
3315	Foundries .....	-	4	2	h	D	D	D	D	D	D	D	D
33151	Ferrous metal foundries .	-	4	2	h	D	D	D	D	D	D	D	D
331511	Iron foundries .....	-	3	2	h	D	D	D	D	D	D	D	D
332	Fabricated metal product mfg .....	-	20	8	604	22 662	464	964	15 023	48 675	23 312	72 133	D
333	Machinery mfg .....	3	12	8	1 079	46 533	603	1 349	22 912	85 445	85 469	177 790	D
3335	Metalworking machinery mfg .....	5	7	5	f	D	D	D	D	D	D	D	D
33351	Metalworking machinery mfg .....	5	7	5	f	D	D	D	D	D	D	D	D
336	Transportation equipment mfg .....	-	5	4	g	D	D	D	D	D	D	D	D
3363	Motor vehicle parts mfg ...	-	5	4	g	D	D	D	D	D	D	D	D
33631	Motor vehicle gasoline engine & engine parts mfg .....	-	1	1	f	D	D	D	D	D	D	D	D
336312	Gasoline engine & engine parts mfg .....	-	1	1	f	D	D	D	D	D	D	D	D
33634	Motor vehicle brake system mfg .....	-	1	1	g	D	D	D	D	D	D	D	D
336340	Motor vehicle brake system mfg .....	-	1	1	g	D	D	D	D	D	D	D	D
<b>SAGINAW TOWNSHIP, MI</b>													
<b>31-33</b>	<b>Manufacturing ....</b>	<b>1</b>	<b>26</b>	<b>2</b>	<b>512</b>	<b>15 666</b>	<b>442</b>	<b>941</b>	<b>12 652</b>	<b>27 025</b>	<b>19 856</b>	<b>47 269</b>	<b>1 782</b>
<b>ST. CLAIR, MI</b>													
<b>31-33</b>	<b>Manufacturing ....</b>	<b>-</b>	<b>20</b>	<b>14</b>	<b>1 430</b>	<b>45 012</b>	<b>1 100</b>	<b>2 159</b>	<b>30 321</b>	<b>96 530</b>	<b>75 176</b>	<b>173 078</b>	<b>6 906</b>
326	Plastics & rubber products mfg .....	-	7	7	942	25 542	736	1 307	16 424	61 009	59 807	120 512	5 514
3261	Plastics product mfg .....	-	7	7	942	25 542	736	1 307	16 424	61 009	59 807	120 512	5 514
32619	Other plastics product mfg .....	-	7	7	942	25 542	736	1 307	16 424	61 009	59 807	120 512	5 514
326199	All other plastics product mfg .....	-	7	7	942	25 542	736	1 307	16 424	61 009	59 807	120 512	5 514

**Table 4. Industry Statistics for Places: 1997—Con.**

[Includes data for industry groups and industries with 500 employees or more. For information on geographic areas followed by \* and explanation of terms, see appendixes. For meaning of abbreviations and symbols, see introductory text]

NAICS code	Geographic area and industry	E <sup>1</sup>	All establishments		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expenditures (\$1,000)
			Total	With 20 employees or more	Number <sup>2</sup>	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
<b>ST. CLAIR SHORES, MI</b>													
<b>31-33</b>	<b>Manufacturing . . . .</b>	<b>3</b>	<b>68</b>	<b>12</b>	<b>2 756</b>	<b>76 671</b>	<b>1 867</b>	<b>3 795</b>	<b>49 920</b>	<b>158 426</b>	<b>177 520</b>	<b>335 000</b>	<b>9 308</b>
323	Printing & related support activities . . . . .	7	13	2	622	14 122	270	662	6 841	30 373	27 012	56 886	D
3231	Printing & related support activities . . . . .	7	13	2	622	14 122	270	662	6 841	30 373	27 012	56 886	D
32311	Printing . . . . .	7	12	2	f	D	D	D	D	D	D	D	D
323113	Commercial screen printing . . . . .	9	2	1	f	D	D	D	D	D	D	D	D
336	Transportation equipment mfg . . . . .	3	7	3	1 103	26 734	848	1 622	20 373	72 732	111 432	184 199	3 950
3363	Motor vehicle parts mfg . . .	3	7	3	1 103	26 734	848	1 622	20 373	72 732	111 432	184 199	3 950
<b>ST. JOHNS, MI</b>													
<b>31-33</b>	<b>Manufacturing . . . .</b>	<b>-</b>	<b>19</b>	<b>7</b>	<b>g</b>	<b>D</b>	<b>D</b>	<b>D</b>	<b>D</b>	<b>D</b>	<b>D</b>	<b>D</b>	<b>D</b>
333	Machinery mfg . . . . .	-	7	6	f	D	D	D	D	D	D	D	D
3336	Engine, turbine, & power transmission equipment mfg . . . . .	-	1	1	f	D	D	D	D	D	D	D	D
33361	Engine, turbine, & power transmission equipment mfg . . . . .	-	1	1	f	D	D	D	D	D	D	D	D
333613	Mechanical power transmission equipment mfg . . . . .	-	1	1	f	D	D	D	D	D	D	D	D
<b>ST. JOSEPH, MI</b>													
<b>31-33</b>	<b>Manufacturing . . . .</b>	<b>1</b>	<b>34</b>	<b>12</b>	<b>2 314</b>	<b>78 682</b>	<b>1 539</b>	<b>3 350</b>	<b>43 670</b>	<b>172 813</b>	<b>139 897</b>	<b>308 764</b>	<b>13 376</b>
323	Printing & related support activities . . . . .	-	7	1	f	D	D	D	D	D	D	D	D
3231	Printing & related support activities . . . . .	-	7	1	f	D	D	D	D	D	D	D	D
32311	Printing . . . . .	-	6	1	f	D	D	D	D	D	D	D	D
323110	Commercial lithographic printing . . . . .	-	2	1	f	D	D	D	D	D	D	D	D
334	Computer & electronic product mfg . . . . .	1	2	2	f	D	D	D	D	D	D	D	D
3345	Navigational, measuring, medical, & control instruments mfg . . . . .	-	1	1	f	D	D	D	D	D	D	D	D
33451	Navigational, measuring, medical, & control instruments mfg . . . . .	-	1	1	f	D	D	D	D	D	D	D	D
334516	Analytical laboratory instrument mfg . . . . .	-	1	1	f	D	D	D	D	D	D	D	D
<b>SALINE, MI</b>													
<b>31-33</b>	<b>Manufacturing . . . .</b>	<b>-</b>	<b>14</b>	<b>9</b>	<b>3 549</b>	<b>189 691</b>	<b>2 878</b>	<b>6 128</b>	<b>146 808</b>	<b>570 035</b>	<b>802 478</b>	<b>1 377 090</b>	<b>46 619</b>
334	Computer & electronic product mfg . . . . .	-	2	2	g	D	D	D	D	D	D	D	D
3345	Navigational, measuring, medical, & control instruments mfg . . . . .	-	1	1	g	D	D	D	D	D	D	D	D
33451	Navigational, measuring, medical, & control instruments mfg . . . . .	-	1	1	g	D	D	D	D	D	D	D	D
334514	Totalizing fluid meter & counting device mfg . . . . .	-	1	1	g	D	D	D	D	D	D	D	D
<b>SAULT STE. MARIE, MI</b>													
<b>31-33</b>	<b>Manufacturing . . . .</b>	<b>3</b>	<b>13</b>	<b>6</b>	<b>512</b>	<b>8 577</b>	<b>422</b>	<b>665</b>	<b>6 007</b>	<b>17 447</b>	<b>20 217</b>	<b>37 498</b>	<b>3 482</b>
<b>SCIO TOWNSHIP, MI</b>													
<b>31-33</b>	<b>Manufacturing . . . .</b>	<b>-</b>	<b>66</b>	<b>31</b>	<b>3 270</b>	<b>123 338</b>	<b>2 144</b>	<b>4 031</b>	<b>58 082</b>	<b>298 382</b>	<b>183 373</b>	<b>480 807</b>	<b>10 812</b>
323	Printing & related support activities . . . . .	-	9	6	870	28 530	719	1 333	21 343	51 190	40 194	91 273	1 624
3231	Printing & related support activities . . . . .	-	9	6	870	28 530	719	1 333	21 343	51 190	40 194	91 273	1 624
32311	Printing . . . . .	-	9	6	870	28 530	719	1 333	21 343	51 190	40 194	91 273	1 624
323117	Book printing . . . . .	-	3	3	f	D	D	D	D	D	D	D	1 013
333	Machinery mfg . . . . .	1	10	7	1 087	46 174	579	1 181	15 706	121 710	52 981	173 876	1 983
3339	Other general-purpose machinery mfg . . . . .	-	4	3	f	D	D	D	D	D	D	D	D
33399	All other general-purpose machinery mfg . . . . .	-	3	2	f	D	D	D	D	D	D	D	D
333999	All other miscellaneous general-purpose machinery mfg . . . . .	-	3	2	f	D	D	D	D	D	D	D	D



**Table 4. Industry Statistics for Places: 1997—Con.**

[Includes data for industry groups and industries with 500 employees or more. For information on geographic areas followed by \* and explanation of terms, see appendixes. For meaning of abbreviations and symbols, see introductory text]

NAICS code	Geographic area and industry	E <sup>1</sup>	All establishments		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expenditures (\$1,000)
			Total	With 20 employees or more	Number <sup>2</sup>	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
<b>SHELBY TOWNSHIP, MI</b>													
31-33	Manufacturing ....	-	101	31	4 856	242 586	3 875	8 393	172 462	517 779	495 511	1 004 810	81 298
326	Plastics & rubber products mfg .....	-	7	3	512	13 283	444	1 178	10 651	22 531	24 464	46 037	2 839
3261	Plastics product mfg .....	-	6	3	f	D	D	D	D	D	D	D	D
333	Machinery mfg .....	-	29	14	1 081	61 369	760	1 820	30 914	119 656	75 936	187 892	5 482
336	Transportation equipment mfg .....	-	4	3	g	D	D	D	D	D	D	D	D
3363	Motor vehicle parts mfg ...	-	4	3	g	D	D	D	D	D	D	D	D
33636	Motor vehicle seating & interior trim mfg .....	-	1	1	g	D	D	D	D	D	D	D	D
336360	Motor vehicle seating & interior trim mfg ...	-	1	1	g	D	D	D	D	D	D	D	D
<b>SOUTHFIELD, MI</b>													
31-33	Manufacturing ....	1	115	33	4 564	211 748	3 393	6 379	124 069	326 834	426 606	748 752	39 148
326	Plastics & rubber products mfg .....	5	4	3	645	21 609	491	1 118	14 831	59 387	34 495	94 525	5 071
332	Fabricated metal product mfg .....	2	22	10	f	D	D	D	D	D	D	D	2 487
333	Machinery mfg .....	-	18	8	2 305	129 432	1 737	2 790	70 380	112 777	200 554	307 022	15 076
3339	Other general-purpose machinery mfg .....	1	8	4	g	D	D	D	D	D	D	D	D
33399	All other general-purpose machinery mfg .....	-	7	4	g	D	D	D	D	D	D	D	D
333992	Welding & soldering equipment mfg .....	-	3	3	g	D	D	D	D	D	D	D	D
<b>SOUTH HAVEN, MI *</b>													
31-33	Manufacturing ....	-	26	12	882	26 075	640	1 418	14 678	60 932	49 379	110 227	8 135
<b>SOUTH LYON, MI</b>													
31-33	Manufacturing ....	3	10	3	534	23 873	390	935	17 933	54 069	69 681	120 410	1 480
<b>SPARTA, MI</b>													
31-33	Manufacturing ....	2	25	13	1 390	43 194	1 083	2 045	27 731	139 584	88 678	228 620	8 136
<b>SPRING LAKE, MI</b>													
31-33	Manufacturing ....	-	24	12	2 349	52 540	1 812	4 033	31 674	271 277	189 602	461 024	15 679
337	Furniture & related product mfg .....	-	5	3	g	D	D	D	D	D	D	D	D
3372	Office furniture (including fixtures) mfg .....	-	3	2	g	D	D	D	D	D	D	D	D
33721	Office furniture (including fixtures) mfg .....	-	3	2	g	D	D	D	D	D	D	D	D
337214	Office furniture (except wood) mfg .....	-	2	2	g	D	D	D	D	D	D	D	D

**Table 4. Industry Statistics for Places: 1997—Con.**

[Includes data for industry groups and industries with 500 employees or more. For information on geographic areas followed by \* and explanation of terms, see appendixes. For meaning of abbreviations and symbols, see introductory text]

NAICS code	Geographic area and industry	E <sup>1</sup>	All establishments		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expenditures (\$1,000)
			Total	With 20 employees or more	Number <sup>2</sup>	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
<b>STERLING HEIGHTS, MI</b>													
<b>31-33</b>	<b>Manufacturing . . . .</b>	-	<b>314</b>	<b>111</b>	<b>21 628</b>	<b>1 241 704</b>	<b>17 743</b>	<b>39 228</b>	<b>977 829</b>	<b>2 423 167</b>	<b>4 322 794</b>	<b>6 777 861</b>	<b>380 700</b>
326	Plastics & rubber products mfg . . . . .	2	27	17	2 232	73 014	1 686	3 407	38 155	154 215	148 697	303 699	17 045
3261	Plastics product mfg . . . . .	2	26	17	g	D	D	D	D	D	D	D	17 045
32619	Other plastics product mfg . . . . .	2	25	16	g	D	D	D	D	D	D	D	D
326199	All other plastics product mfg . . . . .	2	25	16	g	D	D	D	D	D	D	D	D
332	Fabricated metal product mfg . . . . .	1	92	22	1 560	61 502	1 073	2 325	35 858	131 424	65 891	197 479	7 447
3327	Machine shops, turned product, & screw, nut, & bolt mfg . . . . .	2	46	9	645	26 207	468	985	16 688	47 791	28 858	77 439	2 941
333	Machinery mfg . . . . .	1	91	41	2 478	121 340	1 709	3 719	73 184	245 649	120 159	369 514	16 143
3335	Metalworking machinery mfg . . . . .	-	69	30	1 899	96 754	1 392	3 057	62 323	177 692	79 046	261 674	13 835
33351	Metalworking machinery mfg . . . . .	-	69	30	1 899	96 754	1 392	3 057	62 323	177 692	79 046	261 674	13 835
333511	Industrial mold mfg . . . . .	-	21	9	593	29 142	465	999	22 034	51 905	16 310	70 104	3 225
333514	Special die & tool, die set, jig, & fixture mfg . . . . .	2	32	13	746	40 618	599	1 349	28 190	69 519	19 599	88 744	6 074
336	Transportation equipment mfg . . . . .	-	29	23	14 278	952 431	12 440	28 073	808 780	1 821 827	3 911 810	5 760 396	336 163
3361	Motor vehicle mfg . . . . .	-	1	1	h	D	D	D	D	D	D	D	D
33611	Automobile & light duty motor vehicle mfg . . . . .	-	1	1	h	D	D	D	D	D	D	D	D
336111	Automobile mfg . . . . .	-	1	1	h	D	D	D	D	D	D	D	D
3363	Motor vehicle parts mfg . . . . .	-	23	19	j	D	D	D	D	D	D	D	319 030
33633	Motor vehicle steering & suspension component (except spring) mfg . . . . .	-	1	1	f	D	D	D	D	D	D	D	D
336330	Motor vehicle steering & suspension component (except spring) mfg . . . . .	-	1	1	f	D	D	D	D	D	D	D	D
33635	Motor vehicle transmission & power train parts mfg . . . . .	-	6	5	i	D	D	D	D	D	D	D	D
336350	Motor vehicle transmission & power train parts mfg . . . . .	-	6	5	i	D	D	D	D	D	D	D	D
33637	Motor vehicle metal stamping . . . . .	-	7	7	3 719	266 255	3 362	7 327	234 006	390 769	387 433	783 346	D
336370	Motor vehicle metal stamping . . . . .	-	7	7	3 719	266 255	3 362	7 327	234 006	390 769	387 433	783 346	D
<b>STURGIS, MI</b>													
<b>31-33</b>	<b>Manufacturing . . . .</b>	-	<b>49</b>	<b>29</b>	<b>4 061</b>	<b>134 955</b>	<b>3 139</b>	<b>7 040</b>	<b>94 094</b>	<b>839 055</b>	<b>329 880</b>	<b>1 159 178</b>	<b>38 801</b>
326	Plastics & rubber products mfg . . . . .	2	9	5	744	20 121	575	1 332	13 383	46 802	27 429	74 716	2 654
3261	Plastics product mfg . . . . .	1	8	5	f	D	D	D	D	D	D	D	D
32619	Other plastics product mfg . . . . .	2	6	4	f	D	D	D	D	D	D	D	D
326199	All other plastics product mfg . . . . .	2	6	4	f	D	D	D	D	D	D	D	D
333	Machinery mfg . . . . .	-	8	6	677	28 560	553	1 367	22 740	67 771	29 241	94 663	D
3335	Metalworking machinery mfg . . . . .	-	6	5	f	D	D	D	D	D	D	D	D
33351	Metalworking machinery mfg . . . . .	-	6	5	f	D	D	D	D	D	D	D	D
336	Transportation equipment mfg . . . . .	-	5	3	670	21 877	478	862	14 151	34 565	39 448	73 512	6 868
<b>SUMMIT TOWNSHIP, MI</b>													
<b>31-33</b>	<b>Manufacturing . . . .</b>	-	<b>22</b>	<b>9</b>	<b>1 366</b>	<b>56 440</b>	<b>866</b>	<b>1 884</b>	<b>28 907</b>	<b>113 098</b>	<b>153 624</b>	<b>270 556</b>	<b>7 982</b>
<b>TAYLOR, MI</b>													
<b>31-33</b>	<b>Manufacturing . . . .</b>	-	<b>90</b>	<b>35</b>	<b>2 662</b>	<b>94 150</b>	<b>2 029</b>	<b>4 409</b>	<b>56 716</b>	<b>225 464</b>	<b>427 850</b>	<b>652 409</b>	<b>7 932</b>
332	Fabricated metal product mfg . . . . .	-	35	14	804	29 864	645	1 371	20 470	67 749	35 601	102 875	2 394
336	Transportation equipment mfg . . . . .	-	9	4	f	D	D	D	D	D	D	D	1 890
3363	Motor vehicle parts mfg . . . . .	-	7	2	f	D	D	D	D	D	D	D	D

**Table 4. Industry Statistics for Places: 1997—Con.**

[Includes data for industry groups and industries with 500 employees or more. For information on geographic areas followed by \* and explanation of terms, see appendixes. For meaning of abbreviations and symbols, see introductory text]

NAICS code	Geographic area and industry	E <sup>1</sup>	All establishments		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expenditures (\$1,000)
			Total	With 20 employees or more	Number <sup>2</sup>	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
<b>TECUMSEH, MI</b>													
<b>31-33</b>	<b>Manufacturing ....</b>	-	<b>25</b>	<b>11</b>	<b>1 844</b>	<b>75 294</b>	<b>1 458</b>	<b>2 734</b>	<b>38 069</b>	<b>106 367</b>	<b>146 802</b>	<b>261 225</b>	<b>9 621</b>
333	Machinery mfg .....	-	6	2	f	D	D	D	D	D	D	D	922
3334	Ventilation, heating, AC, & commercial refrigeration equip mfg .....	-	1	1	f	D	D	D	D	D	D	D	D
33341	Ventilation, heating, AC, & commercial refrigeration equip mfg .	-	1	1	f	D	D	D	D	D	D	D	D
333415	AC & warm air heating & commercial/ industrial refrig equip mfg .....	-	1	1	f	D	D	D	D	D	D	D	D
<b>THOMAS TOWNSHIP, MI</b>													
<b>31-33</b>	<b>Manufacturing ....</b>	-	<b>6</b>	<b>3</b>	<b>f</b>	<b>D</b>	<b>D</b>	<b>D</b>	<b>D</b>	<b>D</b>	<b>D</b>	<b>D</b>	<b>D</b>
331	Primary metal mfg .....	-	1	1	f	D	D	D	D	D	D	D	D
3314	Nonferrous metal (except aluminum) production & processing.....	-	1	1	f	D	D	D	D	D	D	D	D
33141	Nonferrous metal (except aluminum) smelting & refining .....	-	1	1	f	D	D	D	D	D	D	D	D
331419	Other nonferrous metal primary smelting & refining .....	-	1	1	f	D	D	D	D	D	D	D	D
<b>THREE RIVERS, MI</b>													
<b>31-33</b>	<b>Manufacturing ....</b>	-	<b>37</b>	<b>20</b>	<b>2 995</b>	<b>123 244</b>	<b>2 287</b>	<b>4 293</b>	<b>88 911</b>	<b>266 239</b>	<b>251 614</b>	<b>520 540</b>	<b>29 113</b>
332	Fabricated metal product mfg .....	-	10	7	662	23 522	474	989	13 671	35 521	29 870	66 385	4 716
336	Transportation equipment mfg .....	1	4	2	g	D	D	D	D	D	D	D	D
3363	Motor vehicle parts mfg ...	1	3	2	g	D	D	D	D	D	D	D	D
33635	Motor vehicle transmission & power train parts mfg .....	-	1	1	f	D	D	D	D	D	D	D	D
336350	Motor vehicle transmission & power train parts mfg .....	-	1	1	f	D	D	D	D	D	D	D	D
<b>TRAVERSE CITY, MI *</b>													
<b>31-33</b>	<b>Manufacturing ....</b>	-	<b>114</b>	<b>43</b>	<b>3 659</b>	<b>110 983</b>	<b>2 740</b>	<b>5 621</b>	<b>69 107</b>	<b>254 006</b>	<b>193 545</b>	<b>449 081</b>	<b>25 415</b>
333	Machinery mfg .....	1	16	9	861	33 997	519	1 127	17 640	86 216	55 186	140 924	8 537
335	Electrical equipment, appliance, & component mfg .....	-	3	2	f	D	D	D	D	D	D	D	D
3359	Other electrical equipment & component mfg .....	-	3	2	f	D	D	D	D	D	D	D	D
33593	Wiring device mfg .....	-	2	2	f	D	D	D	D	D	D	D	D
335931	Current-carrying wiring device mfg .....	-	2	2	f	D	D	D	D	D	D	D	D
<b>TRENTON, MI</b>													
<b>31-33</b>	<b>Manufacturing ....</b>	-	<b>21</b>	<b>7</b>	<b>h</b>	<b>D</b>	<b>D</b>	<b>D</b>	<b>D</b>	<b>D</b>	<b>D</b>	<b>D</b>	<b>21 299</b>
336	Transportation equipment mfg .....	-	2	1	h	D	D	D	D	D	D	D	D
3363	Motor vehicle parts mfg ...	-	2	1	h	D	D	D	D	D	D	D	D
33631	Motor vehicle gasoline engine & engine parts mfg .....	-	2	1	h	D	D	D	D	D	D	D	D
336312	Gasoline engine & engine parts mfg .....	-	2	1	h	D	D	D	D	D	D	D	D

**Table 4. Industry Statistics for Places: 1997—Con.**

[Includes data for industry groups and industries with 500 employees or more. For information on geographic areas followed by \* and explanation of terms, see appendixes. For meaning of abbreviations and symbols, see introductory text]

NAICS code	Geographic area and industry	E <sup>1</sup>	All establishments		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expenditures (\$1,000)
			Total	With 20 employees or more	Number <sup>2</sup>	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
<b>TROY, MI</b>													
<b>31-33</b>	<b>Manufacturing ....</b>	<b>2</b>	<b>396</b>	<b>146</b>	<b>11 872</b>	<b>470 949</b>	<b>7 968</b>	<b>16 563</b>	<b>251 449</b>	<b>898 252</b>	<b>766 828</b>	<b>1 677 987</b>	<b>65 869</b>
323	Printing & related support activities.....	2	46	14	764	24 704	526	996	14 024	48 963	23 797	72 691	2 619
3231	Printing & related support activities.....	2	46	14	764	24 704	526	996	14 024	48 963	23 797	72 691	2 619
32311	Printing .....	2	37	11	620	18 121	434	828	10 739	36 666	20 769	57 491	1 991
326	Plastics & rubber products mfg .....	1	18	8	757	19 074	641	1 279	14 523	48 358	60 616	108 966	6 817
3261	Plastics product mfg .....	1	18	8	757	19 074	641	1 279	14 523	48 358	60 616	108 966	6 817
32619	Other plastics product mfg .....	2	14	7	f	D	D	D	D	D	D	D	D
326199	All other plastics product mfg .....	2	14	7	f	D	D	D	D	D	D	D	D
332	Fabricated metal product mfg .....	1	98	33	2 754	113 214	1 904	4 092	63 801	237 292	222 297	459 330	15 724
3327	Machine shops, turned product, & screw, nut, & bolt mfg .....	1	51	18	1 378	54 803	996	2 194	33 895	128 727	79 313	205 784	8 778
33272	Turned product & screw, nut, & bolt mfg .....	1	16	9	901	33 115	640	1 363	19 626	89 946	64 672	153 022	6 226
332722	Bolt, nut, screw, rivet, & washer mfg .....	2	9	5	559	19 195	340	645	9 463	61 238	49 889	109 855	5 125
333	Machinery mfg .....	1	83	33	2 030	111 243	1 367	3 114	65 322	200 629	110 470	321 385	14 553
3335	Metalworking machinery mfg .....	1	58	27	1 396	72 613	1 012	2 285	46 220	125 633	51 343	175 347	11 478
33351	Metalworking machinery mfg .....	1	58	27	1 396	72 613	1 012	2 285	46 220	125 633	51 343	175 347	11 478
333514	Special die & tool, die set, jig, & fixture mfg ..	2	30	18	846	44 506	642	1 481	30 392	82 271	34 165	116 007	7 568
334	Computer & electronic product mfg .....	1	29	15	933	39 677	489	990	15 037	65 987	48 214	116 111	5 755
335	Electrical equipment, appliance, & component mfg .....	3	14	8	515	18 070	304	523	6 947	34 686	27 908	62 989	1 803
336	Transportation equipment mfg .....	3	28	18	2 583	86 644	1 909	3 974	49 600	140 640	180 365	322 906	14 501
3363	Motor vehicle parts mfg ...	2	22	15	2 312	74 409	1 721	3 514	41 676	115 235	151 260	267 510	D
33637	Motor vehicle metal stamping .....	-	8	7	1 379	48 732	999	2 157	27 049	59 725	95 189	155 150	7 481
336370	Motor vehicle metal stamping .....	-	8	7	1 379	48 732	999	2 157	27 049	59 725	95 189	155 150	7 481
<b>UTICA, MI</b>													
<b>31-33</b>	<b>Manufacturing ....</b>	<b>1</b>	<b>17</b>	<b>11</b>	<b>797</b>	<b>37 677</b>	<b>666</b>	<b>1 790</b>	<b>28 955</b>	<b>62 808</b>	<b>94 474</b>	<b>159 098</b>	<b>7 386</b>
<b>VAN BUREN TOWNSHIP, MI</b>													
<b>31-33</b>	<b>Manufacturing ....</b>	<b>-</b>	<b>32</b>	<b>14</b>	<b>2 277</b>	<b>76 775</b>	<b>1 900</b>	<b>4 102</b>	<b>59 542</b>	<b>185 177</b>	<b>274 124</b>	<b>463 954</b>	<b>14 485</b>
336	Transportation equipment mfg .....	-	4	4	1 108	34 894	1 009	2 071	30 333	74 961	117 417	192 566	D
3363	Motor vehicle parts mfg ...	-	4	4	1 108	34 894	1 009	2 071	30 333	74 961	117 417	192 566	D
33637	Motor vehicle metal stamping .....	-	4	4	1 108	34 894	1 009	2 071	30 333	74 961	117 417	192 566	D
336370	Motor vehicle metal stamping .....	-	4	4	1 108	34 894	1 009	2 071	30 333	74 961	117 417	192 566	D
<b>VASSAR, MI</b>													
<b>31-33</b>	<b>Manufacturing ....</b>	<b>-</b>	<b>11</b>	<b>6</b>	<b>681</b>	<b>25 579</b>	<b>570</b>	<b>1 107</b>	<b>19 073</b>	<b>63 143</b>	<b>63 425</b>	<b>127 183</b>	<b>3 290</b>

**Table 4. Industry Statistics for Places: 1997—Con.**

[Includes data for industry groups and industries with 500 employees or more. For information on geographic areas followed by \* and explanation of terms, see appendixes. For meaning of abbreviations and symbols, see introductory text]

NAICS code	Geographic area and industry	E <sup>1</sup>	All establishments		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expenditures (\$1,000)
			Total	With 20 employees or more	Number <sup>2</sup>	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
<b>WALKER, MI</b>													
<b>31-33</b>	<b>Manufacturing ....</b>	-	<b>91</b>	<b>41</b>	<b>5 776</b>	<b>240 590</b>	<b>4 585</b>	<b>9 791</b>	<b>173 238</b>	<b>574 342</b>	<b>660 238</b>	<b>1 217 542</b>	<b>41 415</b>
333	Machinery mfg .....	-	30	14	1 322	71 872	1 065	2 773	54 422	148 913	77 579	219 473	17 996
3335	Metalworking machinery mfg .....	-	20	10	1 050	60 490	899	2 388	47 896	125 219	52 515	171 056	17 384
33351	Metalworking machinery mfg .....	-	20	10	1 050	60 490	899	2 388	47 896	125 219	52 515	171 056	17 384
333514	Special die & tool, die set, jig, & fixture mfg ..	-	16	9	f	D	D	D	D	D	D	D	9 616
335	Electrical equipment, appliance, & component mfg .....	-	2	1	f	D	D	D	D	D	D	D	D
3352	Household appliance mfg ..	-	1	1	f	D	D	D	D	D	D	D	D
33521	Small electrical appliance mfg .....	-	1	1	f	D	D	D	D	D	D	D	D
335212	Household vacuum cleaner mfg .....	-	1	1	f	D	D	D	D	D	D	D	D
336	Transportation equipment mfg .....	-	7	5	1 693	68 067	1 449	3 033	52 874	104 627	200 745	297 168	10 307
3363	Motor vehicle parts mfg ...	-	7	5	1 693	68 067	1 449	3 033	52 874	104 627	200 745	297 168	10 307
33636	Motor vehicle seating & interior trim mfg .....	-	1	1	f	D	D	D	D	D	D	D	D
336360	Motor vehicle seating & interior trim mfg ...	-	1	1	f	D	D	D	D	D	D	D	D
33637	Motor vehicle metal stamping .....	-	3	2	f	D	D	D	D	D	D	D	D
336370	Motor vehicle metal stamping .....	-	3	2	f	D	D	D	D	D	D	D	D
337	Furniture & related product mfg .....	-	4	2	f	D	D	D	D	D	D	D	D
3371	Household & institutional furniture & kitchen cabinet mfg .....	-	2	2	f	D	D	D	D	D	D	D	D
33712	Household & institutional furniture mfg .....	-	2	2	f	D	D	D	D	D	D	D	D
337127	Institutional furniture mfg .....	-	1	1	f	D	D	D	D	D	D	D	D
<b>WALLED LAKE, MI</b>													
<b>31-33</b>	<b>Manufacturing ....</b>	<b>1</b>	<b>31</b>	<b>13</b>	<b>959</b>	<b>33 243</b>	<b>754</b>	<b>1 478</b>	<b>18 454</b>	<b>95 645</b>	<b>65 245</b>	<b>161 010</b>	<b>2 321</b>
<b>WARREN, MI</b>													
<b>31-33</b>	<b>Manufacturing ....</b>	-	<b>518</b>	<b>186</b>	<b>23 404</b>	<b>1 157 162</b>	<b>18 803</b>	<b>38 848</b>	<b>875 534</b>	<b>2 210 392</b>	<b>5 868 270</b>	<b>8 065 320</b>	<b>240 596</b>
326	Plastics & rubber products mfg .....	1	14	7	811	16 916	592	985	10 781	51 476	42 652	92 555	1 453
3261	Plastics product mfg .....	-	12	5	f	D	D	D	D	D	D	D	D
32619	Other plastics product mfg .....	-	9	5	708	14 115	510	848	8 953	42 956	36 395	77 722	1 104
326199	All other plastics product mfg .....	-	9	5	708	14 115	510	848	8 953	42 956	36 395	77 722	1 104
331	Primary metal mfg .....	-	14	10	688	25 113	563	1 104	17 878	69 230	115 564	183 531	4 230
332	Fabricated metal product mfg .....	-	186	54	3 835	136 171	2 838	5 480	88 721	303 076	207 385	508 248	23 966
3327	Machine shops, turned product, & screw, nut, & bolt mfg .....	-	95	21	1 888	70 629	1 373	2 634	46 779	154 059	112 617	263 927	11 864
33271	Machine shops .....	1	79	13	922	38 450	671	1 362	24 321	71 128	33 403	104 092	4 940
332710	Machine shops .....	1	79	13	922	38 450	671	1 362	24 321	71 128	33 403	104 092	4 940
33272	Turned product & screw, nut, & bolt mfg .....	-	16	8	966	32 179	702	1 272	22 458	82 931	79 214	159 835	6 924
332722	Bolt, nut, screw, rivet, & washer mfg .....	-	6	3	596	18 226	430	677	13 736	59 749	65 521	122 602	5 674
3328	Coating, engraving, heat treating, & allied activities ..	-	35	15	902	29 515	675	1 345	19 122	65 925	22 140	89 234	8 501
33281	Coating, engraving, heat treating, & allied activities .....	-	35	15	902	29 515	675	1 345	19 122	65 925	22 140	89 234	8 501
333	Machinery mfg .....	1	142	48	3 859	182 173	2 769	6 334	117 255	369 920	277 446	653 308	20 664
3335	Metalworking machinery mfg .....	1	112	36	2 946	148 216	2 209	5 015	98 460	294 849	202 741	502 415	16 321
33351	Metalworking machinery mfg .....	1	112	36	2 946	148 216	2 209	5 015	98 460	294 849	202 741	502 415	16 321
333514	Special die & tool, die set, jig, & fixture mfg ..	-	49	11	1 043	57 266	830	1 808	41 553	99 348	28 003	127 010	4 045
333515	Cutting tool & machine tool accessory mfg ..	-	33	8	780	30 591	601	1 299	19 267	102 031	48 426	147 109	6 479
333518	Other metalworking machinery mfg .....	2	8	7	f	D	D	D	D	D	D	D	2 863
3339	Other general-purpose machinery mfg .....	2	17	8	633	23 821	393	998	13 621	46 509	55 969	103 292	D

**Table 4. Industry Statistics for Places: 1997—Con.**

[Includes data for industry groups and industries with 500 employees or more. For information on geographic areas followed by \* and explanation of terms, see appendixes. For meaning of abbreviations and symbols, see introductory text]

NAICS code	Geographic area and industry	E <sup>1</sup>	All establishments		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expenditures (\$1,000)
			Total	With 20 employees or more	Number <sup>2</sup>	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
<b>WARREN, MI—Con.</b>													
<b>31-33</b>	<b>Manufacturing—Con.</b>												
336	Transportation equipment mfg .....	-	49	33	11 856	708 166	10 544	21 992	598 827	1 187 647	4 979 651	6 150 373	170 705
3361	Motor vehicle mfg .....	-	1	1	h	D	D	D	D	D	D	D	D
33611	Automobile & light duty motor vehicle mfg .....	-	1	1	h	D	D	D	D	D	D	D	D
336112	Light truck & utility vehicle mfg .....	-	1	1	h	D	D	D	D	D	D	D	D
3363	Motor vehicle parts mfg ...	-	41	28	i	D	D	D	D	D	D	D	D
33635	Motor vehicle transmission & power train parts mfg .....	-	3	2	h	D	D	D	D	D	D	D	D
336350	Motor vehicle transmission & power train parts mfg .....	-	3	2	h	D	D	D	D	D	D	D	D
33637	Motor vehicle metal stamping .....	-	23	16	4 311	277 136	3 783	8 269	225 151	446 141	513 108	959 666	101 555
336370	Motor vehicle metal stamping .....	-	23	16	4 311	277 136	3 783	8 269	225 151	446 141	513 108	959 666	101 555
<b>WATERFORD TOWNSHIP, MI</b>													
<b>31-33</b>	<b>Manufacturing ....</b>	<b>1</b>	<b>60</b>	<b>14</b>	<b>1 041</b>	<b>33 149</b>	<b>676</b>	<b>1 475</b>	<b>19 780</b>	<b>77 419</b>	<b>65 877</b>	<b>142 610</b>	<b>6 113</b>
<b>WAYNE, MI</b>													
<b>31-33</b>	<b>Manufacturing ....</b>	<b>-</b>	<b>28</b>	<b>14</b>	<b>i</b>	<b>D</b>	<b>D</b>	<b>D</b>	<b>D</b>	<b>D</b>	<b>D</b>	<b>D</b>	<b>D</b>
336	Transportation equipment mfg .....	-	2	2	i	D	D	D	D	D	D	D	D
3361	Motor vehicle mfg .....	-	2	2	i	D	D	D	D	D	D	D	D
33611	Automobile & light duty motor vehicle mfg .....	-	2	2	i	D	D	D	D	D	D	D	D
336111	Automobile mfg .....	-	1	1	h	D	D	D	D	D	D	D	D
336112	Light truck & utility vehicle mfg .....	-	1	1	h	D	D	D	D	D	D	D	D
<b>WESTLAND, MI</b>													
<b>31-33</b>	<b>Manufacturing ....</b>	<b>-</b>	<b>79</b>	<b>23</b>	<b>2 533</b>	<b>91 506</b>	<b>1 842</b>	<b>3 893</b>	<b>55 886</b>	<b>199 408</b>	<b>203 995</b>	<b>402 629</b>	<b>19 131</b>
326	Plastics & rubber products mfg .....	-	5	3	f	D	D	D	D	D	D	D	D
3261	Plastics product mfg .....	-	3	2	f	D	D	D	D	D	D	D	D
336	Transportation equipment mfg .....	-	8	2	521	18 268	398	955	11 910	41 763	60 970	102 456	D
3363	Motor vehicle parts mfg ...	-	5	2	f	D	D	D	D	D	D	D	D
<b>WHITEHALL, MI</b>													
<b>31-33</b>	<b>Manufacturing ....</b>	<b>-</b>	<b>13</b>	<b>9</b>	<b>2 003</b>	<b>77 758</b>	<b>1 549</b>	<b>3 208</b>	<b>55 312</b>	<b>242 963</b>	<b>148 155</b>	<b>379 369</b>	<b>D</b>
331	Primary metal mfg .....	-	3	3	g	D	D	D	D	D	D	D	D
3315	Foundries .....	-	2	2	g	D	D	D	D	D	D	D	D
33151	Ferrous metal foundries .	-	1	1	g	D	D	D	D	D	D	D	D
331512	Steel investment foundries .....	-	1	1	g	D	D	D	D	D	D	D	D
<b>WIXOM, MI</b>													
<b>31-33</b>	<b>Manufacturing ....</b>	<b>-</b>	<b>89</b>	<b>37</b>	<b>6 111</b>	<b>297 832</b>	<b>4 823</b>	<b>10 234</b>	<b>216 927</b>	<b>3 448 538</b>	<b>2 363 823</b>	<b>5 802 092</b>	<b>D</b>
332	Fabricated metal product mfg .....	1	19	7	975	35 979	837	1 830	25 868	70 578	35 912	106 403	4 757
3329	Other fabricated metal product mfg .....	-	3	1	f	D	D	D	D	D	D	D	D
33291	Metal valve mfg .....	-	2	1	f	D	D	D	D	D	D	D	D
332912	Fluid power valve & hose fitting mfg .....	-	2	1	f	D	D	D	D	D	D	D	D
333	Machinery mfg .....	-	33	12	f	D	D	D	D	D	D	D	5 192
336	Transportation equipment mfg .....	-	7	4	h	D	D	D	D	D	D	D	D
3361	Motor vehicle mfg .....	-	1	1	h	D	D	D	D	D	D	D	D
33611	Automobile & light duty motor vehicle mfg .....	-	1	1	h	D	D	D	D	D	D	D	D
336111	Automobile mfg .....	-	1	1	h	D	D	D	D	D	D	D	D

**Table 4. Industry Statistics for Places: 1997—Con.**

[Includes data for industry groups and industries with 500 employees or more. For information on geographic areas followed by \* and explanation of terms, see appendixes. For meaning of abbreviations and symbols, see introductory text]

NAICS code	Geographic area and industry	E <sup>1</sup>	All establishments		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expenditures (\$1,000)
			Total	With 20 employees or more	Number <sup>2</sup>	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)				
<b>WOODHAVEN, MI</b>													
<b>31-33</b>	<b>Manufacturing ....</b>	-	<b>7</b>	<b>3</b>	<b>h</b>	<b>D</b>	<b>D</b>	<b>D</b>	<b>D</b>	<b>D</b>	<b>D</b>	<b>D</b>	<b>D</b>
336	Transportation equipment mfg .....	-	2	1	h	D	D	D	D	D	D	D	D
3363	Motor vehicle parts mfg ...	-	1	1	h	D	D	D	D	D	D	D	D
33637	Motor vehicle metal stamping .....	-	1	1	h	D	D	D	D	D	D	D	D
336370	Motor vehicle metal stamping .....	-	1	1	h	D	D	D	D	D	D	D	D
<b>WYANDOTTE, MI</b>													
<b>31-33</b>	<b>Manufacturing ....</b>	-	<b>49</b>	<b>18</b>	<b>2 227</b>	<b>95 956</b>	<b>1 101</b>	<b>2 118</b>	<b>32 789</b>	<b>175 763</b>	<b>346 409</b>	<b>511 067</b>	<b>38 111</b>
325	Chemical mfg .....	-	5	2	g	D	D	D	D	D	D	D	D
3252	Resin, syn rubber, & artificial & syn fibers & filaments mfg .....	-	1	1	f	D	D	D	D	D	D	D	D
32521	Resin & synthetic rubber mfg .....	-	1	1	f	D	D	D	D	D	D	D	D
325211	Plastics material & resin mfg .....	-	1	1	f	D	D	D	D	D	D	D	D
332	Fabricated metal product mfg .....	-	21	10	837	26 453	636	1 220	16 893	60 078	41 388	101 458	D
3327	Machine shops, turned product, & screw, nut, & bolt mfg .....	-	14	8	573	18 336	441	884	11 955	44 644	33 496	78 924	D
<b>WYOMING, MI</b>													
<b>31-33</b>	<b>Manufacturing ....</b>	-	<b>185</b>	<b>81</b>	<b>11 933</b>	<b>539 220</b>	<b>9 513</b>	<b>20 197</b>	<b>414 765</b>	<b>965 374</b>	<b>1 087 273</b>	<b>2 055 013</b>	<b>130 564</b>
311	Food mfg .....	-	6	3	f	D	D	D	D	D	D	D	D
3118	Bakeries & tortilla mfg ....	-	3	1	f	D	D	D	D	D	D	D	D
31182	Cookie, cracker, & pasta mfg .....	-	1	1	f	D	D	D	D	D	D	D	D
311821	Cookie & cracker mfg .	-	1	1	f	D	D	D	D	D	D	D	D
326	Plastics & rubber products mfg .....	1	15	9	1 017	27 251	777	1 526	17 527	49 042	56 071	104 863	3 144
3261	Plastics product mfg .....	1	15	9	1 017	27 251	777	1 526	17 527	49 042	56 071	104 863	3 144
32619	Other plastics product mfg .....	1	9	6	746	19 771	570	1 164	13 296	35 675	40 405	75 436	2 692
326199	All other plastics product mfg .....	1	9	6	746	19 771	570	1 164	13 296	35 675	40 405	75 436	2 692
331	Primary metal mfg .....	-	5	2	521	21 257	365	835	12 152	34 270	66 473	101 803	1 541
332	Fabricated metal product mfg .....	-	49	18	1 178	34 950	883	1 834	20 685	75 839	36 562	111 632	4 841
3328	Coating, engraving, heat treating, & allied activities.	1	21	10	627	16 744	470	971	9 246	39 575	15 438	54 989	2 318
33281	Coating, engraving, heat treating, & allied activities.....	1	21	10	627	16 744	470	971	9 246	39 575	15 438	54 989	2 318
333	Machinery mfg .....	-	36	19	1 199	68 831	893	2 041	42 390	100 227	52 113	156 232	12 498
3335	Metalworking machinery mfg .....	-	23	15	909	43 069	697	1 597	29 209	82 719	29 519	111 875	9 679
33351	Metalworking machinery mfg .....	-	23	15	909	43 069	697	1 597	29 209	82 719	29 519	111 875	9 679
333511	Industrial mold mfg ...	-	9	8	558	25 965	414	971	16 738	51 354	19 287	70 607	7 882
334	Computer & electronic product mfg .....	-	6	2	f	D	D	D	D	D	D	D	D
3345	Navigational, measuring, medical, & control instruments mfg .....	-	3	2	f	D	D	D	D	D	D	D	D
33451	Navigational, measuring, medical, & control instruments mfg .....	-	3	2	f	D	D	D	D	D	D	D	D
334511	Search, detection, navigation, & guidance instrument mfg .....	-	1	1	f	D	D	D	D	D	D	D	D
336	Transportation equipment mfg .....	-	9	6	h	D	D	D	D	D	D	D	D
3363	Motor vehicle parts mfg ...	-	6	5	h	D	D	D	D	D	D	D	D
33631	Motor vehicle gasoline engine & engine parts mfg .....	-	2	2	g	D	D	D	D	D	D	D	D
336312	Gasoline engine & engine parts mfg ....	-	2	2	g	D	D	D	D	D	D	D	D
33637	Motor vehicle metal stamping .....	-	3	3	h	D	D	D	D	D	D	D	D
336370	Motor vehicle metal stamping .....	-	3	3	h	D	D	D	D	D	D	D	D

**Table 4. Industry Statistics for Places: 1997—Con.**

[Includes data for industry groups and industries with 500 employees or more. For information on geographic areas followed by \* and explanation of terms, see appendixes. For meaning of abbreviations and symbols, see introductory text]

NAICS code	Geographic area and industry	E <sup>1</sup>	All establishments		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expenditures (\$1,000)	
			Total	With 20 employees or more	Number <sup>2</sup>	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)					
<b>YPSILANTI, MI</b>														
<b>31-33</b>	<b>Manufacturing . . . .</b>	-	<b>25</b>	<b>10</b>										
336	Transportation equipment mfg . . . . .	-	4	4	i	D	D	D	D	D	D	D	D	
3363	Motor vehicle parts mfg . . .	-	4	4	i	D	D	D	D	D	D	D	D	
33631	Motor vehicle gasoline engine & engine parts mfg . . . . .	-	1	1	g	D	D	D	D	D	D	D	D	
336311	Carburetor, piston, piston ring, & valve mfg . . . . .	-	1	1	g	D	D	D	D	D	D	D	D	
33632	Motor vehicle electrical & electronic equipment mfg . . . . .	-	1	1	f	D	D	D	D	D	D	D	D	
336322	Other motor vehicle electrical & electronic equipment mfg . . . . .	-	1	1	f	D	D	D	D	D	D	D	D	
33635	Motor vehicle transmission & power train parts mfg . . . . .	-	1	1	i	D	D	D	D	D	D	D	D	
336350	Motor vehicle transmission & power train parts mfg . . . . .	-	1	1	i	D	D	D	D	D	D	D	D	
<b>YPSILANTI TOWNSHIP, MI</b>														
<b>31-33</b>	<b>Manufacturing . . . .</b>	-	<b>20</b>	<b>5</b>		<b>716</b>	<b>21 573</b>	<b>553</b>	<b>955</b>	<b>14 205</b>	<b>50 372</b>	<b>40 221</b>	<b>89 760</b>	<b>3 035</b>
<b>ZEELAND, MI</b>														
<b>31-33</b>	<b>Manufacturing . . . .</b>	-	<b>52</b>	<b>32</b>		<b>8 078</b>	<b>301 142</b>	<b>6 009</b>	<b>13 315</b>	<b>180 911</b>	<b>947 783</b>	<b>1 003 919</b>	<b>1 961 642</b>	<b>55 430</b>
311	Food mfg . . . . .	-	3	2	g	D	D	D	D	D	D	D	D	D
3116	Meat product mfg . . . . .	-	1	1	g	D	D	D	D	D	D	D	D	D
31161	Animal slaughtering & processing . . . . .	-	1	1	g	D	D	D	D	D	D	D	D	D
311615	Poultry processing . . . . .	-	1	1	g	D	D	D	D	D	D	D	D	D
326	Plastics & rubber products mfg . . . . .	-	6	4		887	35 095	597	1 152	20 119	94 259	60 017	154 197	7 941
3261	Plastics product mfg . . . . .	-	6	4		887	35 095	597	1 152	20 119	94 259	60 017	154 197	7 941
32619	Other plastics product mfg . . . . .	-	5	4	f	D	D	D	D	D	D	D	D	D
326199	All other plastics product mfg . . . . .	-	5	4	f	D	D	D	D	D	D	D	D	D
327	Nonmetallic mineral product mfg . . . . .	-	4	2	f	D	D	D	D	D	D	D	D	D
3272	Glass & glass product mfg . . . . .	-	2	1	f	D	D	D	D	D	D	D	D	D
32721	Glass & glass product mfg . . . . .	-	2	1	f	D	D	D	D	D	D	D	D	D
327215	Glass product mfg made of purchased glass . . . . .	-	2	1	f	D	D	D	D	D	D	D	D	D
334	Computer & electronic product mfg . . . . .	-	2	2	f	D	D	D	D	D	D	D	D	D
3345	Navigational, measuring, medical, & control instruments mfg . . . . .	-	2	2	f	D	D	D	D	D	D	D	D	D
33451	Navigational, measuring, medical, & control instruments mfg . . . . .	-	2	2	f	D	D	D	D	D	D	D	D	D
334518	Watch, clock, & part mfg . . . . .	-	2	2	f	D	D	D	D	D	D	D	D	D
336	Transportation equipment mfg . . . . .	-	4	3		779	30 822	531	1 140	18 310	85 944	61 251	153 372	4 157
337	Furniture & related product mfg . . . . .	-	7	7	g	D	D	D	D	D	D	D	D	1 198
3372	Office furniture (including fixtures) mfg . . . . .	-	5	5	g	D	D	D	D	D	D	D	D	D
33721	Office furniture (including fixtures) mfg . . . . .	-	5	5	g	D	D	D	D	D	D	D	D	D
337214	Office furniture (except wood) mfg . . . . .	-	2	2	g	D	D	D	D	D	D	D	D	D

<sup>1</sup>Some payroll and sales data for small single-establishment companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate statistics for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at the time data were tabulated. The following symbols are shown where estimated data based on administrative-record data account for 10 percent or more of the figures shown: 1-10 to 19 percent; 2-20 to 29 percent; 3-30 to 39 percent; 4-40 to 49 percent; 5-50 to 59 percent; 6-60 to 69 percent; 7-70 to 79 percent; 8-80 to 89 percent; 9-90 percent or more.

<sup>2</sup>Industries with 500 employees or more are shown. Some statistics are withheld to avoid disclosing data for individual companies. If employment is 500 or more, number of establishments is shown and employment-size range is indicated by one of the following symbols: c-100 to 249 employees; e-250 to 499 employees; f-500 to 999 employees; g-1,000 to 2,499 employees; h-2,500 to 4,999 employees; i-5,000 to 9,999 employees; j-10,000 to 24,999 employees; k-25,000 to 49,999 employees; l-50,000 to 99,999 employees; m-100,000 employees or more.



**Table 5. Detailed Statistics for the State: 1997**

[For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Item	Value	Item	Value
<b>MICHIGAN</b>		<b>MICHIGAN—Con.</b>	
Companies <sup>1</sup> .....	number.. 14 700	Quantity of electricity purchased for heat and power .....	1,000 kWh.. 32 011 458
		Quantity of electricity generated less sold for heat and power .....	1,000 kWh.. 1 827 546
All establishments .....	number.. 16 045	Total value of shipments .....	\$1,000.. 214 900 655
Establishments with 1 to 19 employees .....	number.. 10 292	Value of resales .....	\$1,000.. 6 201 203
Establishments with 20 to 99 employees .....	number.. 4 143	Value added .....	\$1,000.. 93 809 468
Establishments with 100 employees or more .....	number.. 1 610	Total inventories, beginning of year .....	\$1,000.. 15 466 894
All employees .....	number.. 833 429	Finished goods inventories, beginning of year .....	\$1,000.. 4 495 065
Total compensation <sup>2</sup> .....	\$1,000.. 44 639 423	Work-in-process inventories, beginning of year .....	\$1,000.. 5 267 823
Annual payroll .....	\$1,000.. 34 418 934	Materials and supplies inventories, beginning of year .....	\$1,000.. 5 704 006
Total fringe benefits .....	\$1,000.. 10 220 489	Total inventories, end of year .....	\$1,000.. 15 506 875
Production workers, average for year .....	number.. 630 390	Finished goods inventories, end of year .....	\$1,000.. 4 531 793
Production workers on March 12 .....	number.. 626 594	Work-in-process inventories, end of year .....	\$1,000.. 5 165 973
Production workers on May 12 .....	number.. 630 532	Materials and supplies inventories, end of year .....	\$1,000.. 5 809 109
Production workers on August 12 .....	number.. 629 921	Gross book value of total assets at beginning of year .....	\$1,000.. 73 751 060
Production workers on November 12 .....	number.. 634 513	Total capital expenditures (new and used) .....	\$1,000.. 9 240 449
Production-worker hours .....	1,000.. 1 305 619	Capital expenditures for buildings and other structures (new and used) .....	\$1,000.. 1 176 197
Production-worker wages .....	\$1,000.. 23 485 989	Capital expenditures for machinery and equipment (new and used) .....	\$1,000.. 8 064 252
Total cost of materials .....	\$1,000.. 121 029 520	Total retirements <sup>2</sup> .....	\$1,000.. 4 473 276
Cost of materials, parts, containers, etc., consumed .....	\$1,000.. 110 823 735	Gross book value of total assets at end of year .....	\$1,000.. 78 518 233
Cost of resales .....	\$1,000.. 3 918 380	Total depreciation during year <sup>2</sup> .....	\$1,000.. 4 906 157
Cost of fuels .....	\$1,000.. 1 024 793	Total rental payments <sup>2</sup> .....	\$1,000.. 1 529 432
Cost of purchased electricity .....	\$1,000.. 1 781 825	Buildings and other structures rental payments <sup>2</sup> .....	\$1,000.. 609 454
Cost of contract work .....	\$1,000.. 3 480 787	Machinery and equipment rental payments <sup>2</sup> .....	\$1,000.. 919 978

<sup>1</sup>For the census, a company is defined as a business organization consisting of one establishment or more under common ownership or control.

<sup>2</sup>These items are collected in the ASM and estimated for the remaining establishments.

# Appendix A.

## Explanation of Terms

---

### **BEGINNING- AND END-OF-YEAR INVENTORIES**

Respondents were asked to report their beginning-of-year and end-of-year inventories at cost or market. Effective with the 1982 Economic Census, this change to a uniform instruction for reporting inventories was introduced for all sector reports. Prior to 1982, respondents were permitted to value inventories using any generally accepted accounting method (FIFO, LIFO, market, to name a few). Beginning in 1982, LIFO users were asked to first report inventory values prior to the LIFO adjustment and then to report the LIFO reserve and the LIFO value after adjustment for the reserve.

### **Inventory Data by Stage of Fabrication**

Total inventories and three detailed components (1) finished goods, (2) work-in-process, and (3) materials, supplies, fuels, etc., were collected.

When using inventory data by stage of fabrication for “all industries” and at the three-digit subsector level, it should be noted that an item treated as a finished product by an establishment in one industry may be reported as a raw material by an establishment in a different industry. For example, the finished-product inventories of a steel mill would be reported as raw materials by a stamping plant. Such differences are present in the inventory figures by stage of fabrication shown for all publication levels.

### **COST OF MATERIALS**

This term refers to direct charges actually paid or payable for items consumed or put into production during the year, including freight charges and other direct charges incurred by the establishment in acquiring these materials. It includes the cost of materials or fuel consumed, whether purchased by the individual establishment from other companies, transferred to it from other establishments of the same company, or withdrawn from inventory during the year.

Included in this item are:

1. Cost of parts, components, containers, etc.—Includes all raw materials, semifinished goods, parts, containers, scrap, and supplies put into production or used as operating supplies and for repair and maintenance during the year.
2. Cost of products bought and sold in the same condition.

3. Cost of fuels consumed for heat and power—Includes the cost of materials or fuel consumed, whether purchased by the individual establishment from other companies, transferred to it from other establishments of the same company, or withdrawn from inventory during the year.
4. Cost of purchased electricity—The cost of purchased electric energy represents the amount actually used during the year for heat and power. In addition, information was collected on the quantity of electric energy generated by the establishment and the quantity of electric energy sold or transferred to other plants of the same company.
5. Cost of contract work—This term applies to work done by others on materials furnished by the manufacturing establishment. The actual cost of the material is to be reported on the cost of materials, parts, and containers line of this item. The term “Contract Work” refers to the fee a company pays to another company to perform a service.

### **Duplication in Cost of Materials and Value of Shipment**

The aggregate of the cost of materials and value of shipments figures for industry groups and for all manufacturing industries includes large amounts of duplication since the products of some industries are used as materials by others. This duplication results, in part, from the addition of related industries representing successive stages in the production of a finished manufactured product. Examples are the addition of flour mills to bakeries in the food group and the addition of pulp mills to paper mills in the paper and allied products group of industries. Estimates of the overall extent of this duplication indicate that the value of manufactured products exclusive of such duplication (the value of finished manufactures) tends to approximate two-thirds of the total value of products reported in the survey.

Duplication of products within individual industries is significant within a number of industry groups, e.g., machinery and transportation industries. These industries frequently include complete machinery and their parts. In this case, the parts made for original equipment are materials consumed for assembly plants in the same industry.

Even when no significant amount of duplication is involved, value of shipments figures are deficient as measures of the relative economic importance of individual

---

manufacturing industries or geographic areas because of the wide variation in ratio of materials, labor, and other processing costs of value of shipments, both among industries and within the same industry.

Before 1962, cost of materials and value of shipments were not published for some industries which included considerable duplication. Since then, these data have been published for all industries at the U.S. level and beginning in 1964, for all geographic levels.

### **DEPRECIATION CHARGES FOR FIXED ASSETS**

This item includes depreciation and amortization charged during the year against assets. Depreciation charged against fixed assets acquired since the beginning of the year and against assets sold or retired during the year are components of this category. Respondents were requested to make certain that they did not report accumulated depreciation.

### **EMPLOYEES**

This item includes all full-time and part-time employees on the payrolls of operating manufacturing establishments during any part of the pay period which included the 12th of the months specified on the report form. Included are all persons on paid sick leave, paid holidays, and paid vacations during these pay periods. Officers of corporations are included as employees; proprietors and partners of unincorporated firms are excluded. The "all employees" number is the average number of production workers plus the number of other employees in mid-March. The number of production workers is the average for the payroll periods including the 12th of March, May, August, and November.

#### **Production Workers**

This item includes workers (up through the line-supervisor level) engaged in fabricating, processing, assembling, inspecting, receiving, storing, handling, packing, warehousing, shipping (but not delivering), maintenance, repair, janitorial and guard services, product development, auxiliary production for plant's own use (e.g., power plant), recordkeeping, and other services closely associated with these production operations at the establishment covered by the report. Employees above the working-supervisor level are excluded from this item.

#### **All Other Employees**

This item covers nonproduction employees of the manufacturing establishment including those engaged in factory supervision above the line-supervisor level. It includes sales (including driver-salespersons), sales delivery (highway truck drivers and their helpers), advertising, credit, collection, installation and servicing of own products, clerical and routine office functions, executive, purchasing, financing, legal, personnel (including cafeteria,

medical, etc.), professional, and technical employees. Also included are employees on the payroll of the manufacturing establishment engaged in the construction of major additions or alterations utilized as a separate work force.

### **FRINGE BENEFITS**

Fringe benefits are divided into legally required expenditures and payments for voluntary programs. The legally required portion consists primarily of Federal old age and survivors' insurance, unemployment compensation, and workers' compensation. Payments for voluntary programs include all programs not specifically required by legislation whether they were employer initiated or the result of collective bargaining. They include the employer portion of such plans as insurance premiums, premiums for supplemental accident and sickness insurance, pension plans, supplemental unemployment compensation, welfare plans, stock purchase plans on which the employer payment is not subject to withholding tax, and deferred profit-sharing plans. They exclude such items as company-operated cafeterias, in-plant medical services, free parking lots, discounts on employee purchases, and uniforms and work clothing for employees.

### **GROSS BOOK VALUE OF DEPRECIABLE ASSETS AT BEGINNING OF YEAR (BOY) AND END OF YEAR (EOY)**

Total value of depreciable assets is collected on all census forms. It shows the value of depreciable assets for the beginning of year and end of year. The data encompass all fixed depreciable assets on the books of establishments. The values shown (book value) represent the actual cost of assets at the time they were acquired, including all costs incurred in making the assets usable (such as transportation and installation). Included are all buildings, structures, machinery, and equipment (production, office, and transportation equipment) for which depreciation reserves are maintained. Excluded are nondepreciable capital assets including inventories and intangible assets, such as timber and mineral rights.

The definition of fixed depreciable assets is consistent with the definition of capital expenditures. For example, expenditures include actual capital outlays during the year rather than the final value of equipment put in place and buildings completed during the year. Accordingly, the value of assets at the end of the year includes the value of construction in progress.

In addition, respondents were requested to make certain that assets at the beginning of the year plus capital expenditures, less retirements, equaled assets at the end of the year.

### **NUMBER OF ESTABLISHMENTS AND COMPANIES**

A separate report was required for each manufacturing establishment (plant) with one employee or more. An establishment is defined as a single physical location

---

where manufacturing is performed. A company, on the other hand, is defined as a business organization consisting of one establishment or more under common ownership or control.

If the company operated at different physical locations, even if the individual locations were producing the same line of goods, a separate report was requested for each location. If the company operated in two or more distinct lines of manufacturing at the same location, a separate report was requested for each activity.

An establishment not in operation for any portion of the year was requested to return the report form with the proper notation in the "Operational Status" section of the form. In addition, the establishment was requested to report data on any employees, capital expenditures, inventories, or shipments from inventories during the year.

### **PAYROLL**

This item includes the gross earnings of all employees on the payrolls of operating manufacturing establishments paid in the calendar year. Respondents were told they could follow the definition of payrolls used for calculating the Federal withholding tax. It includes all forms of compensation, such as salaries, wages, commissions, dismissal pay, bonuses, vacation and sick leave pay, and compensation in kind, prior to such deductions as employees' social security contributions, withholding taxes, group insurance, union dues, and savings bonds. The total includes salaries of officers of corporations; it excludes payments to proprietors or partners of unincorporated concerns. Also excluded are payments to members of Armed Forces and pensioners carried on the active payrolls of manufacturing establishments.

The census definition of payrolls is identical to that recommended to all Federal statistical agencies by the Office of Management and Budget. It should be noted that this definition does not include employers' social security contributions or other nonpayroll labor costs, such as employees' pension plans, group insurance premiums, and workers' compensation.

The ASM provides estimates of employers' total supplemental labor costs (those required by Federal and state laws and those incurred voluntarily or as part of collective bargaining agreements).

### **PRODUCTION-WORKER HOURS**

This item covers hours worked or paid for at the plant, including actual overtime hours (not straight-time equivalent hours). It excludes hours paid for vacations, holidays, or sick leave.

### **QUANTITY OF ELECTRIC ENERGY CONSUMED FOR HEAT AND POWER**

Data on the cost of purchased electric energy were collected on all census forms. However, data on the quantity of purchased electric energy were collected only on the

Annual Survey of Manufactures (ASM) form. In addition, information is collected on the quantity of electric energy generated by the establishment and the quantity of electric energy sold or transferred to other plants of the same company.

### **RENTAL PAYMENTS**

Total rental payments are collected on all census forms. However, the breakdown between rental payments for buildings and other structures and rental payments for machinery and equipment is collected only on the ASM forms. This item includes rental payments for the use of all items for which depreciation reserves would be maintained if they were owned by the establishment, e.g., structures and buildings, and production, office, and transportation equipment. Excluded are royalties and other payments for the use of intangibles and depletable assets and land rents where separable.

When an establishment of a multiestablishment company was charged rent by another part of the same company for the use of assets owned by the company, it was instructed to exclude that cost from rental payments. However, the book value (original cost) of these company-owned assets was to be reported as assets of the establishment at the end of the year.

If there were assets at an establishment rented from another company and the rents were paid centrally by the head office of the establishment, the company was instructed to report these rental payments as if they were paid directly by the establishment.

### **RETIREMENTS OF DEPRECIABLE ASSETS**

Included in this item is the gross value of assets sold, retired, scrapped, destroyed, etc., during the calendar year. When a complete operation or establishment changed ownership, the respondent was instructed to report the value of the assets sold at the original cost as recorded in the books of the seller. The respondent also was requested to report retirements of equipment or structures owned by a parent company that the establishment was using as if it were a tenant.

### **TOTAL CAPITAL EXPENDITURES (NEW AND USED)**

For establishments in operation and any known plants under construction, manufacturers were asked to report their new and used expenditures for (1) permanent additions and major alterations to manufacturing establishments and (2) machinery and equipment used for replacement and additions to plant capacity if they were of the type for which depreciation accounts were ordinarily maintained.

Totals for expenditures include the costs of assets leased from nonmanufacturing concerns through capital leases. New facilities owned by the Federal Government but operated under contract by private companies and

---

plant and equipment furnished to the manufacturer by communities and nonprofit organizations are excluded. Also excluded are expenditures for land and cost of maintenance and repairs charged as current operating expenses.

For any equipment or structure transferred for the use of the reporting establishment by the parent company or one of its subsidiaries, the value at which it was transferred to the establishment was to be reported. If an establishment changed ownership during the year, the cost of the fixed assets (building and equipment) was to be reported.

### **VALUE ADDED**

This measure of manufacturing activity is derived by subtracting the cost of materials, supplies, containers, fuel, purchased electricity, and contract work from the value of shipments (products manufactured plus receipts for services rendered). The result of this calculation is adjusted by the addition of value added by merchandising operations (i.e., the difference between the sales value and the cost of merchandise sold without further manufacture, processing, or assembly) plus the net change in finished goods and work-in-process between the beginning- and end-of-year inventories.

For those industries where value of production is collected instead of value of shipments, value added is adjusted only for the change in work-in-process inventories between the beginning and end of year. For those industries where value of work done is collected, the value added does not include an adjustment for the change in finished goods or work-in-process inventories.

“Value added” avoids the duplication in the figure for value of shipments that results from the use of products of some establishments as materials by others. Value added is considered to be the best value measure available for comparing the relative economic importance of manufacturing among industries and geographic areas.

### **VALUE OF SHIPMENTS**

This item covers the received or receivable net selling values, f.o.b. plant (exclusive of freight and taxes), of all products shipped, both primary and secondary, as well as all miscellaneous receipts, such as receipts for contract work performed for others, installation and repair, sales of scrap, and sales of products bought and sold without further processing. Included are all items made by or for the establishments from material owned by it, whether sold, transferred to other plants of the same company, or shipped on consignment. The net selling value of products made in one plant on a contract basis from materials owned by another was reported by the plant providing the materials.

In the case of multiunit companies, the manufacturer was requested to report the value of products transferred to other establishments of the same company at full economic or commercial value, including not only the direct cost of production but also a reasonable proportion of “all other costs” (including company overhead) and profit.

In addition to the value for NAICS defined products, aggregates of the following categories of miscellaneous receipts are reported as part of a total establishment’s value of product shipments:

1. Reported contract work—Receipts for work or services that a plant performed for others on their materials.
2. Value of resales—Sales of products brought and sold without further manufacture, processing, or assembly.
3. Other miscellaneous receipts—Such as repair work, installation, sales of scrap, etc.

### **Duplication in Cost of Materials and Value of Shipment**

The aggregate of the cost of materials and value of shipments figures for industry groups and for all manufacturing industries includes large amounts of duplication since the products of some industries are used as materials by others. This duplication results, in part, from the addition of related industries representing successive stages in the production of a finished manufactured product. Examples are the addition of flour mills to bakeries in the food group and the addition of pulp mills to paper mills in the paper and allied products group of industries. Estimates of the overall extent of this duplication indicate that the value of manufactured products exclusive of such duplication (the value of finished manufactures) tends to approximate two-thirds of the total value of products reported in the annual survey.

Duplication of products within individual industries is significant within a number of industry groups, e.g., machinery and transportation industries. These industries frequently include complete machinery and their parts. In this case, the parts made for original equipment are materials consumed for assembly plants in the same industry.

Even when no significant amount of duplication is involved, value of shipments figures are deficient as measures of the relative economic importance of individual manufacturing industries or geographic areas because of the wide variation in ratio of materials, labor, and other processing costs of value of shipments, both among industries and within the same industry.

Before 1962, cost of materials and value of shipments were not published for some industries which included considerable duplication. Since then, these data have been published for all industries at the U.S. level and beginning in 1964, for all geographic levels.

# Appendix B.

## NAICS Codes, Titles, and Descriptions

---

### SECTOR 31-33 MANUFACTURING

The Manufacturing sector comprises establishments engaged in the mechanical, physical, or chemical transformation of materials, substances, or components into new products. The assembling of component parts of manufactured products is considered manufacturing, except in cases where the activity is appropriately classified in Sector 23, Construction.

Establishments in the Manufacturing sector are often described as plants, factories, or mills and characteristically use power-driven machines and materials-handling equipment. However, establishments that transform materials or substances into new products by hand or in the worker's home and those engaged in selling to the general public products made on the same premises from which they are sold, such as bakeries, candy stores, and custom tailors, may also be included in this sector. Manufacturing establishments may process materials or may contract with other establishments to process their materials for them. Both types of establishments are included in manufacturing.

The materials, substances, or components transformed by manufacturing establishments are raw materials that are products of agriculture, forestry, fishing, mining, or quarrying as well as products of other manufacturing establishments. The materials used may be purchased directly from producers, obtained through customary trade channels, or secured without recourse to the market by transferring the product from one establishment to another, under the same ownership.

The new product of a manufacturing establishment may be finished in the sense that it is ready for utilization or consumption, or it may be semifinished to become an input for an establishment engaged in further manufacturing. For example, the product of the alumina refinery is the input used in the primary production of aluminum; primary aluminum is the input to an aluminum wire drawing plant; and aluminum wire is the input for a fabricated wire product manufacturing establishment.

The subsectors in the Manufacturing sector generally reflect distinct production processes related to material inputs, production equipment, and employee skills. In the machinery area, where assembling is a key activity, parts and accessories for manufactured products are classified in the industry of the finished manufactured item when they are made for separate sale. For example, a replacement refrigerator door would be classified with refrigerators and an attachment for a piece of metal working

machinery would be classified with metal working machinery. However, components, input from other manufacturing establishments, are classified based on the production function of the component manufacturer. For example, electronic components are classified in Subsector 334, Computer and Electronic Product Manufacturing and stampings are classified in Subsector 332, Fabricated Metal Product Manufacturing.

Manufacturing establishments often perform one or more activities that are classified outside the Manufacturing sector of NAICS. For instance, almost all manufacturing has some captive research and development or administrative operations, such as accounting, payroll, or management. These captive services are treated the same as captive manufacturing activities. When the services are provided by separate establishments, they are classified to the NAICS sector where such services are primary, not in manufacturing.

The boundaries of manufacturing and the other sectors of the classification system can be somewhat blurry. The establishments in the manufacturing sector are engaged in the transformation of materials into new products. Their output is a new product. However, the definition of what constitutes a new product can be somewhat subjective. As clarification, the following activities are considered manufacturing in NAICS: milk bottling and pasteurizing; water bottling and processing; fresh fish packaging (oyster shucking, fish filleting); apparel jobbing (assigning of materials to contract factories or shops for fabrication or other contract operations) as well as contracting on materials owned by others; printing and related activities; ready-mixed concrete production; leather converting; grinding of lenses to prescription; wood preserving; electroplating, plating, metal heat treating, and polishing for the trade; lapidary work for the trade; fabricating signs and advertising displays; rebuilding or remanufacturing machinery (i.e., automotive parts); ship repair and renovation; machine shops; and tire retreading.

Conversely, there are activities that are sometimes considered manufacturing, but which for NAICS are classified in another sector (i.e., not classified as manufacturing). They include:

1. Logging, classified in Sector 11, Agriculture, Forestry, Fishing and Hunting, is considered a harvesting operation;
2. The beneficiating of ores and other minerals, classified in Sector 21, Mining, is considered part of the activity of mining;

3. The construction of structures and fabricating operations performed at the site of construction by contractors, is classified in Sector 23, Construction;
4. Establishments engaged in breaking of bulk and redistribution in smaller lots, including packaging, repackaging, or bottling products, such as liquors or chemicals; the customized assembly of computers; sorting of scrap; mixing paints to customer order; and cutting metals to customer order, classified in Sector 42, Wholesale Trade or Sector 44-45, Retail Trade, produce a modified version of the same product, not a new product; and
5. Publishing and the combined activity of publishing and printing, classified in Sector 51, Information, perform the transformation of information into a product where as the value of the product to the consumer lies in the information content, not in the format in which it is distributed (i.e., the book or software diskette).

### **311 Food Manufacturing**

Industries in the Food Manufacturing subsector transform livestock and agricultural products into products for intermediate or final consumption. The industry groups are distinguished by the raw materials (generally of animal or vegetable origin) processed into food products.

The food products manufactured in these establishments are typically sold to wholesalers or retailers for distribution to consumers, but establishments primarily engaged in retailing bakery and candy products made on the premises not for immediate consumption are included.

Establishments primarily engaged in manufacturing beverages are classified in Subsector 312, Beverage and Tobacco Product Manufacturing.

#### **3111 Animal Food Manufacturing**

This NAICS industry group includes establishments classified in NAICS Industry 31111, Animal Food Manufacturing.

##### **31111 Animal Food Manufacturing**

This industry comprises establishments primarily engaged in manufacturing food and feed for animals from ingredients, such as grains, oilseed mill products, and meat products.

##### **311111 Dog and Cat Food Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing dog and cat food from ingredients, such as grains, oilseed mill products, and meat products.

The data published with NAICS code 311111 include the following SIC industry:

2047 Dog and cat food

#### **311119 Other Animal Food Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing animal food (except dog and cat) from ingredients, such as grains, oilseed mill products, and meat products.

The data published with NAICS code 311119 include the following SIC industry:

2048 Prepared feeds and feed ingredients for animals and fowls, except dogs and cats (pt)

This definition comes from the 1997 NAICS Manual. However, for this industry, the 1997 Economic Census – Manufacturing did not fully implement the conversion to NAICS. Data for NAICS industry 311119 do not include establishments primarily engaged in the custom grinding of grain. The NAICS definitions will be fully implemented with the 2002 Economic Census.

#### **3112 Grain and Oilseed Milling**

This NAICS industry group includes establishments classified in the following NAICS Industries: 31121, Flour Milling and Malt Manufacturing; 31122, Starch and Vegetable Fats and Oils Manufacturing; and 31123, Breakfast Cereal Manufacturing.

##### **31121 Flour Milling and Malt Manufacturing**

This industry comprises establishments primarily engaged in one or more of the following: (1) milling flour or meal from grains or vegetables; (2) preparing flour mixes or doughs from flour milled in the same establishment; (3) milling, cleaning, and polishing rice; and (4) manufacturing malt from barley, rye, or other grains.

##### **311211 Flour Milling**

This U.S. industry comprises establishments primarily engaged in (1) milling flour or meal from grains (except rice) or vegetables and/or (2) milling flour and preparing flour mixes or doughs.

The data published with NAICS code 311211 include the following SIC industries:

2034 Dehydrated fruits, vegetables, and soup mixes (pt)

2041 Flour and other grain mill products

##### **311212 Rice Milling**

This U.S. industry comprises establishments primarily engaged in one of the following: (1) milling rice; (2) cleaning and polishing rice; or (3) milling, cleaning, and polishing rice. The establishments in this industry may package the rice they mill with other ingredients.

The data published with NAICS code 311212 include the following SIC industry:

2044 Rice milling

---

This definition comes from the 1997 NAICS Manual. However, for this industry, the 1997 Economic Census – Manufacturing did not fully implement the conversion to NAICS. Data for NAICS industry 311212 do not include rice mills primarily engaged in packaging uncooked rice with other ingredients. The NAICS definitions will be fully implemented with the 2002 Economic Census.

### **311213 Malt Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing malt from barley, rye, or other grains.

The data published with NAICS code 311213 include the following SIC industry:

2083 Malt

### **31122 Starch and Vegetable Fats and Oils Manufacturing**

This industry comprises establishments primarily engaged in one or more of the following: (1) wet milling corn and vegetables; (2) crushing oilseeds and tree nuts; (3) refining and/or blending vegetable oils; (4) manufacturing shortening and margarine; and (5) blending purchased animal fats with vegetable fats.

#### **311221 Wet Corn Milling**

This U.S. industry comprises establishments primarily engaged in wet milling corn and other vegetables (except to make ethyl alcohol). Examples of products made in these establishments are corn sweeteners, such as glucose, dextrose, and fructose; corn oil; and starches (except laundry).

The data published with NAICS code 311221 include the following SIC industry:

2046 Wet corn milling

#### **311222 Soybean Processing**

This U.S. industry comprises establishments engaged in crushing soybeans. Examples of products produced in these establishments are soybean oil, soybean cake and meal, and soybean protein isolates and concentrates.

The data published with NAICS code 311222 include the following SIC industry:

2075 Soybean oil mills (pt)

This definition comes from the 1997 NAICS Manual. However, for this industry, the 1997 Economic Census – Manufacturing did not fully implement the conversion to NAICS. Data for NAICS industry 311222 do not include establishments primarily engaged in the processing of

soybean oil from soybeans crushed in the same establishment. The NAICS definitions will be fully implemented with the 2002 Economic Census.

#### **311223 Other Oilseed Processing**

This U.S. industry comprises establishments engaged in crushing oilseeds (except soybeans) and tree nuts, such as cottonseeds, linseeds, peanuts, and sunflower seeds.

The data published with NAICS code 311223 include the following SIC industries:

2074 Cottonseed oil mills (pt)

2076 Vegetable oil mills, n.e.c. (pt)

This definition comes from the 1997 NAICS Manual. However, for this industry, the 1997 Economic Census – Manufacturing did not fully implement the conversion to NAICS. Data for NAICS industry 311223 do not include establishments primarily engaged in the processing of vegetable oils, except soybean oil, from oilseeds crushed in the same establishment. The NAICS definitions will be fully implemented with the 2002 Economic Census.

#### **311225 Fats and Oils Refining and Blending**

This U.S. industry comprises establishments primarily engaged in one or more of the following: (1) manufacturing shortening and margarine from purchased fats and oils; (2) refining and/or blending vegetable, oilseed, and tree nut oils from purchased oils; and (3) blending purchased animal fats with purchased vegetable fats.

The data published with NAICS code 311225 include the following SIC industries:

2074 Cottonseed oil mills (pt)

2075 Soybean oil mills (pt)

2076 Vegetable oil mills, n.e.c. (pt)

2077 Animal and marine fats and oil (pt)

2079 Shortening and cooking oils

This definition comes from the 1997 NAICS Manual. However, for this industry, the 1997 Economic Census – Manufacturing did not fully implement the conversion to NAICS. Data for NAICS industry 311225 do not include establishments primarily engaged in refining and/or blending corn oil from purchased oil. The data include establishments primarily engaged in the manufacture of vegetable oil foots. The NAICS definitions will be fully implemented with the 2002 Economic Census.

#### **31123 Breakfast Cereal Manufacturing**

This industry comprises establishments primarily engaged in manufacturing breakfast cereal foods.



---

### **311230 Breakfast Cereal Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing breakfast cereal foods.

The data published with NAICS code 311230 include the following SIC industry:

2043 Cereal breakfast foods (pt)

### **3113 Sugar and Confectionery Product Manufacturing**

This industry group comprises (1) establishments that process agricultural inputs, such as sugarcane, beet, and cacao, to give rise to a new product (sugar or chocolate) and (2) those that begin with sugar and chocolate and process these further.

#### **31131 Sugar Manufacturing**

This industry comprises establishments primarily engaged in manufacturing raw sugar, liquid sugar, and refined sugar from sugarcane, raw cane sugar and sugarbeets.

##### **311311 Sugarcane Mills**

This U.S. industry comprises establishments primarily engaged in processing sugarcane.

The data published with NAICS code 311312 include the following SIC industry:

2061 Raw cane sugar

##### **311312 Cane Sugar Refining**

This U.S. industry comprises establishments primarily engaged in refining cane sugar from raw cane sugar.

The data published with NAICS code 311312 include the following SIC industry:

2062 Cane sugar refining

##### **311313 Beet Sugar Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing refined beet sugar from sugarbeets

The data published with NAICS code 311313 include the following SIC industry:

2063 Beet sugar

### **31132 Chocolate and Confectionery Manufacturing From Cacao Beans**

This industry comprises establishments primarily engaged in shelling, roasting, and grinding cacao beans and making chocolate cacao products and chocolate confectioneries.

### **311320 Chocolate and Confectionery Manufacturing From Cacao Beans**

This U.S. industry comprises establishments primarily engaged in shelling, roasting, and grinding cacao beans and making chocolate cacao products and chocolate confectioneries.

The data published with NAICS code 311320 include the following SIC industries:

2066 Chocolate and cocoa products

#### **31133 Confectionery Manufacturing From Purchased Chocolate**

This industry comprises establishments primarily engaged in manufacturing chocolate confectioneries from chocolate produced elsewhere. Included in this industry are establishments primarily engaged in retailing chocolate confectionery products not for immediate consumption made on the premises from chocolate made elsewhere.

##### **311330 Confectionery Manufacturing From Purchased Chocolate**

This U.S. industry comprises establishments primarily engaged in manufacturing chocolate confectioneries from chocolate produced elsewhere. Included in this industry are establishments primarily engaged in retailing chocolate confectionery products not for immediate consumption made on the premises from chocolate made elsewhere.

The data published with NAICS code 311330 include the following SIC industries:

2064 Candy and other confectionery products and chewing gum (pt)

5441 Candy, nut, and confectionery stores (pt)

This definition comes from the 1997 NAICS Manual. However, for this industry, the 1997 Economic Census – Manufacturing did not fully implement the conversion to NAICS. Data for NAICS industry 311330 do not include establishments primarily engaged in the manufacture of chocolate products made from purchased chocolate. The NAICS definitions will be fully implemented with the 2002 Economic Census.

##### **3113301 Chocolate and Chocolate-type Confectionery Retail – Manufacturer**

Establishments primarily engaged in the manufacture of consumer-type chocolate and chocolate-type confectionery products not for immediate consumption made on the premises from chocolate produced elsewhere.

---

### **3113302 Chocolate and Chocolate-type Confectionery – Manufacturer**

Establishments primarily engaged in the manufacture of consumer-type chocolate and chocolate-type confectionery products from chocolate produced elsewhere.

### **31134 Nonchocolate Confectionery Manufacturing**

This industry comprises establishments primarily engaged in manufacturing nonchocolate confectioneries. Included in this industry are establishments primary engaged in retailing nonchocolate confectionery products not for immediate consumption made on the premises.

### **311340 Nonchocolate Confectionery Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing nonchocolate confectioneries. Included in this industry are establishments primary engaged in retailing nonchocolate confectionery products not for immediate consumption made on the premises.

The data published with NAICS code 311340 include the following SIC industries:

2064 Candy and other confectionery products and chewing gum (pt)

2099 Food preparations, n.e.c. (pt)

5441 Candy, nut, and confectionery stores (pt)

### **3113401 Nonchocolate-Type Confectionery Products Retail – Manufacturer**

Establishments primarily engaged in the manufacture of consumer-type nonchocolate confectionery products, excluding cough drops, medicated candy, roasted peanuts, unsweetened popcorn and fountain syrup, not for immediate consumption made on the premises.

### **3113402 Nonchocolate-Type Confectionery Products – Manufacturer**

Establishments primarily engaged in the manufacture of consumer-type nonchocolate confectionery products, excluding cough drops, medicated candy, roasted peanuts, unsweetened popcorn and fountain syrup.

### **3114 Fruit and Vegetable Preserving and Specialty Food Manufacturing**

This industry group includes (1) establishments that freeze food and (2) those that use preservation processes, such as pickling, canning, and dehydrating. Both types begin their production process with inputs of vegetable or animal origin.

### **31141 Frozen Food Manufacturing**

This industry comprises establishments primarily engaged in manufacturing frozen fruit, frozen juices, frozen vegetables, and frozen specialty foods (except seafood), such as frozen dinners, entrees, and side dishes; frozen pizza; frozen whipped toppings; and frozen waffles, pancakes, and french toast.

### **311411 Frozen Fruit, Juice, and Vegetable Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing frozen fruits; frozen vegetables; and frozen fruit juices, –ades, drinks, cocktail mixes and concentrates.

The data published with NAICS code 311411 include the following SIC industry:

2037 Frozen fruits and vegetables

### **311412 Frozen Specialty Food Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing frozen specialty foods (except seafood), such as frozen dinners, entrees, and side dishes; frozen pizza; frozen whipped topping; and frozen waffles, pancakes, and french toast.

The data published with NAICS code 311412 include the following SIC industry:

2038 Frozen specialties, n.e.c.

### **31142 Fruit and Vegetable Canning, Pickling, and Drying**

This industry comprises establishments primarily engaged in manufacturing canned, pickled, and dried fruits, vegetables, and specialty foods. Establishments in this industry may package the dried or dehydrated ingredients they make with other purchased ingredients. Examples of products made by these establishments are canned juices; canned baby foods; canned soups (except seafood); canned dry beans; canned tomato-based sauces, such as catsup, salsa, chili, spaghetti, barbeque, and tomato paste, pickles, relishes, jams and jellies, dried soup mixes and bullions, and sauerkraut.

### **311421 Fruit and Vegetable Canning**

This U.S. industry comprises establishments primarily engaged in manufacturing canned, pickled, and brined fruits and vegetables. Examples of products made in these establishments are canned juices; canned jams and jellies; canned tomato-based sauces, such as catsup, salsa, chili, spaghetti, barbeque, and tomato paste; pickles, relishes, and sauerkraut.

---

The data published with NAICS code 311421 include the following SIC industries:

2033 Canned fruits and vegetables

2035 Pickles, sauces, and salad dressings (pt)

### **311422 Specialty Canning**

This U.S. industry comprises establishments primarily engaged in manufacturing canned specialty foods. Examples of products made in these establishments are canned baby food, canned baked beans, canned soups (except seafood), canned spaghetti, and other canned nationality foods.

The data published with NAICS code 311422 include the following SIC industry:

2032 Canned specialties (pt)

### **311423 Dried and Dehydrated Food Manufacturing**

This U.S. industry comprises establishments primarily engaged in (1) drying (including freeze-dried) and/or dehydrating fruits, vegetables, and soup mixes and bouillon and/or (2) drying and/or dehydrating ingredients and packaging them with other purchased ingredients, such as rice and dry pasta.

The data published with NAICS code 311423 include the following SIC industries:

2034 Dehydrated fruits, vegetables, and soups (pt)

2099 Food preparations, n.e.c. (pt)

### **3115 Dairy Product Manufacturing**

This industry group comprises establishments that manufacture dairy products from raw milk, processed milk, and dairy substitutes.

31151 Dairy Product (Except Frozen) Manufacturing

This industry comprises establishments primarily engaged in one or more of the following: (1) manufacturing dairy products (except frozen) from raw milk and/or processed milk products; (2) manufacturing dairy substitutes (except frozen) from soybeans and other nondairy substances; and (3) manufacturing dry, condensed, concentrated, and evaporated dairy and dairy substitute products.

#### **311511 Fluid Milk Manufacturing**

This U.S. industry comprises establishments primarily engaged in (1) manufacturing processed milk products, such as pasteurized milk or cream and sour cream and/or (2) manufacturing fluid milk dairy substitutes from soybeans and other nondairy substances.

The data published with NAICS code 311511 include the following SIC industry:

2026 Fluid milk

#### **311512 Creamery Butter Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing creamery butter from milk and/or processed milk products.

The data published with NAICS code 311512 include the following SIC industry:

2021 Creamery butter

#### **311513 Cheese Manufacturing**

This U.S. industry comprises establishments primarily engaged in (1) manufacturing cheese products (except cottage cheese) from raw milk and/or processed milk products and/or (2) manufacturing cheese substitutes from soybean and other nondairy substances.

The data published with NAICS code 311513 include the following SIC industry:

2022 Cheese, natural and processed

#### **311514 Dry, Condensed, and Evaporated Dairy Product Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing dry, condensed, and evaporated milk and dairy substitute products.

The data published with NAICS code 311514 include the following SIC industry:

2023 Dry, condensed and evaporated milk

This definition comes from the 1997 NAICS Manual. However, for this industry, the 1997 Economic Census – Manufacturing did not fully implement the conversion to NAICS. Data for NAICS industry 311514 do not include establishments primarily engaged in the manufacture of fluid milk processed with ultra-high temperature. The NAICS definitions will be fully implemented with the 2002 Economic Census.

#### **31152 Ice Cream and Frozen Dessert Manufacturing**

This industry comprises establishments primarily engaged in manufacturing ice cream, frozen yogurts, frozen ices, sherbets, frozen tofu, and other frozen desserts (except bakery products).

#### **311520 Ice Cream and Frozen Dessert Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing ice cream, frozen yogurts, frozen ices, sherbets, frozen tofu, and other frozen desserts (except bakery products).

The data published with NAICS code 311520 include the following SIC industry:

2024 Ice cream and frozen desserts

---

## **3116 Meat Product Manufacturing**

This NAICS industry group includes establishments classified in NAICS Industry 31161, Animal Slaughtering and Processing.

### **31161 Animal Slaughtering and Processing**

This industry comprises establishments primarily engaged in one or more of the following: (1) slaughtering animals; (2) preparing processed meats and meat byproducts; and (3) rendering and/or refining animal fat, bones, and meat scraps. This industry includes establishments primarily engaged in assembly cutting and packing of meats (i.e., boxed meats) from purchased carcasses.

#### **311611 Animal (Except Poultry) Slaughtering**

This U.S. industry comprises establishments primary engaged in slaughtering animals (except poultry and small game). Establishments that slaughter and prepare meats are included in this industry.

The data published with NAICS code 311611 include the following SIC industries:

2011 Meat packing plants

2048 Prepared feeds, n.e.c. (pt)

This definition comes from the 1997 NAICS Manual. However, for this industry, the 1997 Economic Census – Manufacturing did not fully implement the conversion to NAICS. Data for NAICS industry 311611 do not include establishments primarily engaged in custom slaughtering. The NAICS definitions will be fully implemented with the 2002 Economic Census.

#### **311612 Meat Processed From Carcasses**

This U.S. industry comprises establishments primarily engaged in processing or preserving meat and meat byproducts (except poultry and small game) from purchased meats. This industry includes establishments primarily engaged in assembly cutting and packing of meats (i.e., boxed meats) from purchased meats.

The data published with NAICS code 311612 include the following SIC industries:

2013 Sausages and other prepared meats

5147 Meat and meat products (pt)

#### **311613 Rendering and Meat Byproduct Processing**

This U.S. industry comprises establishments primarily engaged in rendering animal fat, bones, and meat scraps.

The data published with NAICS code 311613 include the following SIC industry:

2077 Animal and marine fats and oil (pt)

This definition comes from the 1997 NAICS Manual. However, for this industry, the 1997 Economic Census – Manufacturing did not fully implement the conversion to NAICS. Data for NAICS industry 311613 do not include establishments primarily engaged in manufacturing lard from purchased materials. The NAICS definitions will be fully implemented with the 2002 Economic Census.

#### **311615 Poultry Processing**

This U.S. industry comprises establishments primarily engaged in (1) slaughtering poultry and small game and/or (2) preparing processed poultry and small game meat and meat byproducts.

The data published with NAICS code 311615 include the following SIC industry:

2015 Poultry and egg processing (pt)

#### **3117 Seafood Product Preparation and Packaging**

This NAICS industry group includes establishments classified in NAICS Industry 31171, Seafood Product Preparation and Packaging.

#### **31171 Seafood Product Preparation and Packaging**

This industry comprises establishments primarily engaged in one or more of the following: (1) canning seafood (including soup); (2) smoking, salting, and drying seafoods; (3) eviscerating fresh fish by removing heads, fins, scales, bones, and entrails; (4) shucking and packing fresh shellfish; (5) processing marine fats and oils; and (6) freezing seafood. Establishments known as “floating factory ships” that are engaged in the gathering and processing of seafood into canned seafood products are included in this industry.

##### **311711 Seafood Canning**

This U.S. industry comprises establishments primarily engaged in (1) canning seafood (including soup) and marine fats and oils and/or (2) smoking, salting, and drying seafoods. Establishments known as “floating factory ships” that are engaged in the gathering and processing of seafood into canned seafood products are included in this industry.

The data published with NAICS code 311711 include the following SIC industries:

2077 Animal and marine fats and oil (pt)

2091 Canned and cured seafood

##### **311712 Fresh and Frozen Seafood Processing**

This U.S. industry comprises establishments primarily engaged in one or more of the following: (1) eviscerating fresh fish by removing heads, fins, scales, bones, and

---

entrails; (2) shucking and packing fresh shellfish; (3) manufacturing frozen seafood; and (4) processing fresh and frozen marine fats and oils.

The data published with NAICS code 311712 include the following SIC industries:

2077 Animal and marine fats and oil (pt)

2092 Prepared fresh or frozen fish and seafood

### **3118 Bakeries and Tortilla Manufacturing**

This NAICS industry group includes establishments classified in the following NAICS Industries: 31181, Bread and Bakery Product Manufacturing; 31182, Cookie, Cracker, and Pasta Manufacturing; and 31183, Tortilla Manufacturing.

#### **31181 Bread and Bakery Product Manufacturing**

This industry comprises establishments primarily engaged in manufacturing fresh and frozen bread and other bakery products.

##### **311811 Retail Bakeries**

This U.S. industry comprises establishments primarily engaged in retailing bread and other bakery products not for immediate consumption made on the premises from flour, not from prepared dough.

The data published with NAICS code 311811 include the following SIC industry:

5461 Retail bakeries (pt)

##### **311812 Commercial Bakeries**

This U.S. industry comprises establishments primarily engaged in manufacturing fresh and frozen bread and bread-type rolls and other fresh bakery (except cookies and crackers) products.

The data published with NAICS code 311812 include the following SIC industries:

2051 Bread, cake, and related products

2052 Cookies and crackers (pt)

##### **311813 Frozen Cakes, Pies, and Other Pastries Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing frozen bakery products (except bread), such as cakes, pies, and doughnuts.

The data published with NAICS code 311813 include the following SIC industry:

2053 Frozen bakery products, except bread

##### **31182 Cookie, Cracker, and Pasta Manufacturing**

This industry comprises establishments primarily engaged in one of the following: (1) manufacturing cookies and crackers; (2) preparing flour and dough mixes and

dough from flour ground elsewhere; and (3) manufacturing dry pasta. The establishments in this industry may package the dry pasta they manufacture with other ingredients.

##### **311821 Cookie and Cracker Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing cookies, crackers, and other products, such as ice cream cones.

The data published with NAICS code 311821 include the following SIC industry:

2052 Cookies and crackers (pt)

##### **311822 Flour Mixes and Dough Manufacturing From Purchased Flour**

This U.S. industry comprises establishments primarily engaged in manufacturing prepared flour mixes or dough mixes from flour ground elsewhere.

The data published with NAICS code 311822 include the following SIC industries:

2045 Blended and prepared flour

##### **311823 Dry Pasta Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing dry pasta. The establishments in this industry may package the dry pasta they manufacture with other ingredients.

The data published with NAICS code 311823 include the following SIC industry:

2098 Macaroni and spaghetti

This definition comes from the 1997 NAICS Manual. However, for this industry, the 1997 Economic Census – Manufacturing did not fully implement the conversion to NAICS. Data for NAICS industry 311823 do not include dry pasta plants primarily engaged in packaging dry pasta with other ingredients. The NAICS definitions will be fully implemented with the 2002 Economic Census.

##### **31183 Tortilla Manufacturing**

This industry comprises establishments primarily engaged in manufacturing tortillas.

##### **311830 Tortilla Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing tortillas.

The data published with NAICS code 311830 include the following SIC industry:

2099 Food preparations, n.e.c. (pt)

### **3119 Other Food Manufacturing**

This industry group comprises establishments primarily engaged in manufacturing food (except animal food; grain and oilseed milling; sugar and confectionery products; preserved fruit, vegetable, and specialty foods; dairy products; meat products; seafood products; and bakeries and tortillas). The industry group includes industries with different productive processes, such as snack food manufacturing; coffee and tea manufacturing; concentrate, syrup, condiment, and spice manufacturing; and, in general, an entire range of other miscellaneous food product manufacturing.

#### **31191 Snack Food Manufacturing**

This industry comprises establishments primarily engaged in one or more of the following: (1) salting, roasting, drying, cooking, or canning nuts; (2) processing grains or seeds into snacks; (3) manufacturing peanut butter; and (4) manufacturing potato chips, corn chips, popped popcorn, pretzels (except soft), pork rinds, and similar snacks.

##### **311911 Roasted Nuts and Peanut Butter Manufacturing**

This U.S. industry comprises establishments primarily engaged in one or more of the following: (1) salting, roasting, drying, cooking, or canning nuts; (2) processing grains or seeds into snacks; and (3) manufacturing peanut butter.

The data published with NAICS code 311911 include the following SIC industries:

2068 Salted and roasted nuts and seeds

2099 Food preparations, n.e.c. (pt)

##### **311919 Other Snack Food Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing snack foods (except roasted nuts and peanut butter).

The data published with NAICS code 311919 include the following SIC industries:

2052 Cookies and crackers (pt)

2096 Potato chips and similar snacks

#### **31192 Coffee and Tea Manufacturing**

This industry comprises establishments primarily engaged in one or more of the following: (1) roasting coffee; (2) manufacturing coffee and tea concentrates (including instant and freeze-dried); (3) blending tea; (4) manufacturing herbal tea; and (5) manufacturing coffee extracts, flavorings, and syrups.

#### **311920 Coffee and Tea Manufacturing**

This U.S. industry comprises establishments primarily engaged in one or more of the following: (1) roasting coffee; (2) manufacturing coffee and tea concentrates (including instant and freeze-dried); (3) blending tea; (4) manufacturing herbal tea; and (5) manufacturing coffee extracts, flavorings, and syrups.

The data published with NAICS code 311920 include the following SIC industries:

2043 Cereal breakfast foods (pt)

2095 Roasted coffee (pt)

2099 Food preparations, n.e.c. (pt)

This definition comes from the 1997 NAICS Manual. However, for this industry, the 1997 Economic Census – Manufacturing did not fully implement the conversion to NAICS. Data for NAICS industry 311920 do not include establishments primarily engaged in the manufacture of coffee flavorings and syrups. The NAICS definitions will be fully implemented with the 2002 Economic Census.

##### **31193 Flavoring Syrup and Concentrate Manufacturing**

This industry comprises establishments primarily engaged in manufacturing flavoring syrup drink concentrates and related products for soda fountain use or for the manufacture of soft drinks.

##### **311930 Flavoring Syrup and Concentrate Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing flavoring syrup drink concentrates and related products for soda fountain use or for the manufacture of soft drinks.

The data published with NAICS code 311930 include the following SIC industry:

2087 Flavoring extracts and syrups, n.e.c. (pt)

##### **31194 Seasoning and Dressing Manufacturing**

This industry comprises establishments primarily engaged in one or more of the following: (1) manufacturing dressings and sauces, such as mayonnaise, salad dressing, vinegar, mustard, horseradish, soy sauce, tarter sauce, Worcestershire sauce, and other prepared sauces (except tomato-based and gravies); (2) manufacturing spices, table salt, seasoning, and flavoring extracts (except coffee and meat), and natural food colorings; and (3) manufacturing dry mix food preparations, such as salad dressing mixes, gravy and sauce mixes, frosting mixes, and other dry mix preparations.

### **311941 Mayonnaise, Dressing, and Other Prepared Sauce Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing mayonnaise, salad dressing, vinegar, mustard, horseradish, soy sauce, tarter sauce, Worcestershire sauce, and other prepared sauces (except tomato-based and gravy).

The data published with NAICS code 311941 include the following SIC industries:

2035 Pickles, sauces, and salad dressings (pt)

2099 Food preparations, n.e.c.(pt)

### **311942 Spice and Extract Manufacturing**

This U.S. industry comprises establishments primarily engaged in (1) manufacturing spices, table salt, seasonings, flavoring extracts (except coffee and meat), and natural food colorings and/or (2) manufacturing dry mix food preparations, such as salad dressing mixes, gravy and sauce mixes, frosting mixes, and other dry mix preparations.

The data published with NAICS code 311942 include the following SIC industries:

2087 Flavoring extracts and syrups, n.e.c. (pt)

2095 Roasted coffee (pt)

2099 Food preparations, n.e.c. (pt)

2899 Chemical preparations, n.e.c. (pt)

This definition comes from the 1997 NAICS Manual. However, for this industry, the 1997 Economic Census – Manufacturing did not fully implement the conversion to NAICS. Data for NAICS industry 311942 include establishments primarily engaged in the manufacture of coffee extracts but do not include establishments primarily engaged in the manufacture of malt extract. The NAICS definitions will be fully implemented with the 2002 Economic Census.

### **31199 All Other Food Manufacturing**

This industry comprises establishments primarily engaged in manufacturing food (except animal food; grain and oilseed milling; sugar and confectionery products; preserved fruits, vegetables, and specialties; dairy products; meat products; seafood products; bakeries and tortillas; snack foods; coffee and tea; flavoring syrups and concentrates; seasonings; and dressings). Included in this industry are establishments primarily engaged in mixing purchased dried and/or dehydrated ingredients including those mixing purchased dried and/or dehydrated ingredients for soup mixes and bouillon.

### **311991 Perishable Prepared Food Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing perishable prepared foods, such as salads, sandwiches, prepared meals, fresh pizza, fresh pasta, and peeled or cut vegetables.

The data published with NAICS code 311991 include the following SIC industry:

2099 Food preparations, n.e.c. (pt)

### **311999 All Other Miscellaneous Food Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing food (except animal food; grain and oilseed milling; sugar and confectionery products; preserved fruits, vegetables, and specialties; dairy products; meat products; seafood products; bakeries and tortillas; snack foods; coffee and tea; flavoring syrups and concentrates; seasonings and dressings; and perishable prepared food). Included in this industry are establishments primarily engaged in mixing purchased dried and/or dehydrated ingredients including those mixing purchased dried and/or dehydrated ingredients for soup mixes and bouillon.

The data published with NAICS code 311999 include the following SIC industries:

2015 Poultry slaughtering and processing (pt)

2032 Canned specialties (pt)

2087 Flavoring extracts and syrups, n.e.c. (pt)

2099 Food preparations, n.e.c. (pt)

This definition comes from the 1997 NAICS Manual. However, for this industry, the 1997 Economic Census – Manufacturing did not fully implement the conversion to NAICS. Data for NAICS industry 311999 do not include establishments primarily engaged in the manufacture of soup mixes from purchased dehydrated ingredients. The NAICS definitions will be fully implemented with the 2002 Economic Census.

### **312 Beverage and Tobacco Product Manufacturing**

Industries in the Beverage and Tobacco Product Manufacturing subsector manufacture beverages and tobacco products. The industry group, Beverage Manufacturing, includes three types of establishments: (1) those that manufacture nonalcoholic beverages; (2) those that manufacture alcoholic beverages through the fermentation process; and (3) those that produce distilled alcoholic beverages. Ice manufacturing, while not a beverage, is included with nonalcoholic beverage manufacturing because it uses the same production process as water purification.

In the case of activities related to the manufacture of beverages, the structure follows the defined productive processes. Brandy, a distilled beverage, was not placed

---

under distillery product manufacturing, but rather under the NAICS class for winery product manufacturing since the productive process used in the manufacturing of alcoholic grape-based beverages produces both wines (fermented beverage) and brandies (distilled beverage).

The industry group, Tobacco Manufacturing, includes two types of establishments: (1) those engaged in redrying and stemming tobacco and (2) those that manufacture tobacco products, such as cigarettes and cigars.

### **3121 Beverage Manufacturing**

This NAICS industry group includes establishments classified in the following NAICS Industries: 31211, Soft Drink and Ice Manufacturing; 31212, Breweries; 31213, Wineries; and 31214, Distilleries.

#### **31211 Soft Drink and Ice Manufacturing**

This industry comprises establishments primarily engaged in one or more of the following: (1) manufacturing soft drinks; (2) manufacturing ice; and (3) purifying and bottling water.

##### **312111 Soft Drink Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing soft drinks and artificially carbonated waters.

The data published with NAICS code 312111 include the following SIC industry:

2086 Bottled and canned soft drinks (pt)

##### **312112 Bottled Water Manufacturing**

This U.S. industry comprises establishments primarily engaged in purifying and bottling water (including naturally carbonated).

The data published with NAICS code 312112 include the following SIC industry:

2086 Bottled and canned soft drinks (pt)

This definition comes from the 1997 NAICS Manual. However, for this industry, the 1997 Economic Census – Manufacturing did not fully implement the conversion to NAICS. Data for NAICS industry 312112 do not include establishments primarily engaged in the bottling of mineral or spring water. The NAICS definitions will be fully implemented with the 2002 Economic Census.

##### **312113 Ice Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing ice.

The data published with NAICS code 312113 include the following SIC industry:

2097 Manufactured ice

### **31212 Breweries**

This industry comprises establishments primarily engaged in brewing beer, ale, malt liquors, and nonalcoholic beer.

#### **312120 Breweries**

This U.S. industry comprises establishments primarily engaged in brewing beer, ale, malt liquors, and nonalcoholic beer.

The data published with NAICS code 312120 include the following SIC industry:

2082 Malt beverages

#### **31213 Wineries**

This industry comprises establishments primarily engaged in one or more of the following: (1) growing grapes and manufacturing wine and brandies; (2) manufacturing wine and brandies from grapes and other fruits grown elsewhere; and (3) blending wines and brandies.

##### **312130 Wineries**

This U.S. industry comprises establishments primarily engaged in one or more of the following: (1) growing grapes and manufacturing wine and brandies; (2) manufacturing wine and brandies from grapes and other fruits grown elsewhere; and (3) blending wines and brandies.

The data published with NAICS code 312130 include the following SIC industry:

2084 Wines, brandy, and brandy spirits

This definition comes from the 1997 NAICS Manual. However, for this industry, the 1997 Economic Census – Manufacturing did not fully implement the conversion to NAICS. Data for NAICS industry 312130 do not include establishments primarily engaged in the manufacture of applejack. The NAICS definitions will be fully implemented with the 2002 Economic Census.

#### **31214 Distilleries**

This industry comprises establishments primarily engaged in one or more of the following: (1) distilling potable liquors (except brandies); (2) distilling and blending liquors; and (3) blending and mixing liquors and other ingredients.

##### **312140 Distilleries**

This U.S. industry comprises establishments primarily engaged in one or more of the following: (1) distilling potable liquors (except brandies); (2) distilling and blending liquors; and (3) blending and mixing liquors and other ingredients.

The data published with NAICS code 312140 include the following SIC industry:

2085 Distilled liquor, except brandy



## **3122 Tobacco Manufacturing**

This NAICS industry group includes establishments classified in the following NAICS Industries: 31221, Tobacco Stemming and Redrying; and 31222, Tobacco Product Manufacturing.

### **31221 Tobacco Stemming and Redrying**

This industry comprises establishments primarily engaged in the stemming and redrying of tobacco.

### **312210 Tobacco Stemming and Redrying**

This U.S. industry comprises establishments primarily engaged in the stemming and redrying of tobacco.

The data published with NAICS code 312210 include the following SIC industry:

2141 Tobacco stemming and redrying (pt)

### **31222 Tobacco Product Manufacturing**

This industry comprises establishments primarily engaged in manufacturing cigarettes, cigars, smoking and chewing tobacco, and reconstituted tobacco.

#### **312221 Cigarette Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing cigarettes.

The data published with NAICS code 312221 include the following SIC industries:

2111 Cigarettes

#### **312229 Other Tobacco Product Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing tobacco products (except cigarettes).

The data published with NAICS code 312229 include the following SIC industries:

2121 Cigars

2131 Chewing and smoking tobacco

2141 Tobacco stemming and redrying (pt)

## **313 Textile Mills**

Industries in the Textile Mills subsector group establishments that transform a basic fiber (natural or synthetic) into a product, such as yarn or fabric, that is further manufactured into usable items, such as apparel, sheets and towels, and textile bags for individual or industrial consumption. The further manufacturing may be performed in the same establishment and classified in this subsector, or it may be performed at a separate establishment and be classified elsewhere in manufacturing.

The main processes in this subsector include preparation and spinning of fiber, knitting or weaving of fabric, and the finishing of the textile. The NAICS structure follows and captures this process flow. Major industries in this flow, such as preparation of fibers, weaving of fabric, knitting of fabric, and fiber and fabric finishing, are uniquely identified. Texturizing, throwing, twisting, and winding of yarn contains aspects of both fiber preparation and fiber finishing and is classified with preparation of fibers rather than with finishing of fibers.

NAICS separates the manufacturing of primary textiles and the manufacturing of textile products (except apparel) when the textile product is produced from purchased primary textiles, such as fabric. The manufacturing of textile products (except apparel) from purchased fabric is classified in Subsector 314, Textile Product Mills, and apparel from purchased fabric is classified in Subsector 315, Apparel Manufacturing.

Excluded from this subsector are establishments that weave or knit fabric and make garments. These establishments are included in Subsector 315, Apparel Manufacturing.

## **3131 Fiber, Yarn, and Thread Mills**

This NAICS industry group includes establishments classified in NAICS Industry 31311, Fiber, Yarn, and Thread Mills.

### **31311 Fiber, Yarn, and Thread Mills**

This industry comprises establishments primarily engaged in one or more of the following: (1) spinning yarn; (2) manufacturing thread of any fiber; (3) texturizing, throwing, twisting, and winding purchased yarn or manmade fiber filaments; and (4) producing hemp yarn and further processing into rope or bags.

#### **313111 Yarn Spinning Mills**

This U.S. industry comprises establishments primarily engaged in spinning yarn from any fiber and/or producing hemp yarn and further processing into rope or bags.

The data published with NAICS code 313111 include the following SIC industries:

2281 Yarn spinning mills

2299 Textile goods, n.e.c. (pt)

#### **313112 Yarn Texturizing, Throwing, and Twisting Mills**

This U.S. industry comprises establishments primarily engaged in texturizing, throwing, twisting, spooling, or winding purchased yarns or manmade fiber filaments.

The data published with NAICS code 313112 include the following SIC industry:

2282 Yarn throwing and winding mills (pt)

---

### **3131121 Yarn Texturing, Throwing, and Twisting Mills – Manufacturer**

Establishments primarily engaged in texturing, throwing, twisting, spooling, or winding purchased yarns or manmade filaments.

### **3131122 Yarn Texturing, Throwing, and Twisting Mills – Commission Finisher**

Establishments primarily engaged in throwing, twisting, spooling, or winding yarns or manmade filaments on a commission basis.

### **313113 Thread Mills**

This U.S. industry comprises establishments primarily engaged in manufacturing thread (e.g., sewing, hand-knitting, crochet) of all fibers.

The data published with NAICS code 313113 include the following SIC industries:

2284 Thread mills (pt)

2299 Textile goods, n.e.c. (pt)

### **3132 Fabric Mills**

This NAICS industry group includes establishments classified in the following NAICS Industries: 31321, Broadwoven Fabric Mills; 31322, Narrow Fabric Mills and Schiffli Machine Embroidery; 31323, Nonwoven Fabric Mills; and 31324, Knit Fabric Mills.

### **31321 Broadwoven Fabric Mills**

This industry comprises establishments primarily engaged in weaving broadwoven fabrics and felts (except tire fabrics and rugs). Establishments in this industry may weave only, weave and finish, or weave, finish, and further fabricate fabric products.

### **313210 Broadwoven Fabric Mills**

This U.S. industry comprises establishments primarily engaged in weaving broadwoven fabrics and felts (except tire fabrics and rugs). Establishments in this industry may weave only, weave and finish, or weave, finish, and further fabricate fabric products.

The data published with NAICS code 313210 include the following SIC industries:

2211 Weaving mills, cotton

2221 Weaving mills, synthetics

2231 Weaving and finishing mills, wool (pt)

2299 Textile goods, n.e.c. (pt)

### **31322 Narrow Fabric Mills and Schiffli Machine Embroidery**

This industry comprises establishments primarily engaged in one or more of the following: (1) weaving or braiding narrow fabrics; (2) manufacturing Schiffli machine embroideries; and (3) making fabric-covered elastic yarn and thread.

### **313221 Narrow Fabric Mills**

This U.S. industry comprises establishments primarily engaged in (1) weaving or braiding narrow fabrics in their final form or initially made in wider widths that are specially constructed for narrower widths and/or (2) making fabric-covered elastic yarn and thread. Establishments in this industry may weave only; weave and finish; or weave, finish, and further fabricate fabric products

The data published with NAICS code 313221 include the following SIC industries:

2241 Narrow fabric mills

2299 Textile goods, n.e.c. (pt)

### **313222 Schiffli Machine Embroidery**

This U.S. industry comprises establishments primarily engaged in manufacturing Schiffli machine embroideries.

The data published with NAICS code 313222 include the following SIC industry:

2397 Schiffli machine embroideries

### **31323 Nonwoven Fabric Mills**

This industry comprises establishments primarily engaged in manufacturing nonwoven fabrics and felts. Processes used include bonding and/or interlocking fibers by mechanical, chemical, thermal, or solvent means, or by combinations thereof.

### **313230 Nonwoven Fabric Mills**

This U.S. industry comprises establishments primarily engaged in manufacturing nonwoven fabrics and felts. Processes used include bonding and/or interlocking fibers by mechanical, chemical, thermal, or solvent means, or by combinations thereof.

The data published with NAICS code 313230 include the following SIC industries:

2297 Nonwoven fabrics

2299 Textile goods, n.e.c. (pt)

### **31324 Knit Fabric Mills**

This industry comprises establishments primarily engaged in one of the following: (1) knitting weft (i.e., circular) and warp (i.e., flat) fabric; (2) knitting and finishing

weft and warp fabric; (3) manufacturing lace; or (4) manufacturing, dyeing, and finishing lace and lace goods. Establishments in this industry may knit only; knit and finish; or knit, finish, and further fabricate fabric products (except apparel).

### **313241 Weft Knit Fabric Mills**

This U.S. industry comprises establishments primarily engaged in knitting weft (i.e., circular) fabric or knitting and finishing weft fabric. Establishments in this industry may knit only; knit and finish; or knit, finish, and further fabricate fabric products (except apparel).

The data published with NAICS code 313241 include the following SIC industry:

2257 Circular knit fabric mills (pt)

This definition comes from the 1997 NAICS Manual. However, for this industry, the 1997 Economic Census – Manufacturing did not fully implement the conversion to NAICS. Data for NAICS industry 313241 do not include establishments primarily engaged in the manufacture of articles of weft knit fabric. The NAICS definitions will be fully implemented with the 2002 Economic Census.

### **3132411 Weft Knit Fabric Mills – Manufacturer**

Establishments primarily engaged in knitting weft (i.e., circular) fabric; knitting and finishing weft fabric; or knitting, finishing, and further fabricating weft fabric products (except apparel).

### **3132412 Weft Knit Fabric Mills – Jobber**

Establishments engaged as weft knit fabric jobbers, who perform entrepreneurial functions of a manufacturer, including buying raw materials, designing and preparing samples, arranging for fabric to be made from their materials, and marketing finished fabric or fabricated products (except apparel).

### **3132413 Weft Knit Fabric Mills – Contractor**

Establishments primarily engaged in knitting or finishing weft knit fabric or further fabricating weft knit fabric into products (except apparel) on a commission basis.

### **313249 Other Knit Fabric and Lace Mills**

This U.S. industry comprises establishments primarily engaged in one of the following: (1) knitting warp (i.e., flat) fabric; (2) knitting and finishing warp fabric; (3) manufacturing lace; or (4) manufacturing, dyeing, or finishing lace and lace goods. Establishments in this industry may knit only; knit and finish; or knit, finish, and further fabricate fabric products (except apparel).

The data published with NAICS code 313249 include the following SIC industries:

2258 Lace and warp knit fabric mills (pt)

2259 Knitting mills, n.e.c. (pt)

### **3132491 Other Knit Fabric and Lace Mills – Manufacturer**

Establishments primarily engaged in knitting warp (i.e., flat) fabric; knitting and finishing warp fabric; knitting, finishing, and further fabricating warp fabric products (except apparel); manufacturing lace; or manufacturing, dyeing, or finishing lace and lace goods.

### **3132492 Other Knit Fabric and Lace Mills – Jobber**

Establishments engaged as other knit fabric and lace jobbers, who perform entrepreneurial functions of a manufacturer, including buying raw materials, designing and preparing samples, arranging for fabric to be made from their materials, and marketing finished fabric.

### **3132493 Other Knit Fabric and Lace Mills – Contractor**

Establishments primarily engaged in knitting or finishing lace and other knit fabric or further fabricating lace and other knit fabric into products (except apparel) on a commission basis.

### **3133 Textile and Fabric Finishing and Fabric Coating Mills**

This NAICS industry group includes establishments classified in the following NAICS Industries: 31331, Textile and Fabric Finishing Mills; and 31332, Fabric Coating Mills.

### **31331 Textile and Fabric Finishing Mills**

This industry comprises (1) establishments primarily engaged in finishing of textiles, fabrics, and apparel, and (2) establishments of converters who buy fabric goods in the grey, have them finished on contract, and sell at wholesale. Finishing operations include: bleaching, dyeing, printing (e.g., roller, screen, flock, plisse), stonewashing, and other mechanical finishing, such as preshrinking, shrinking, sponging, calendaring, mercerizing, and napping; as well as cleaning, scouring, and the preparation of natural fibers and raw stock.

### **313311 Broadwoven Fabric Finishing Mills**

This U.S. industry comprises (1) establishments primarily engaged in finishing broadwoven fabrics and (2) establishments of converters who buy broadwoven fabrics in the grey, have them finished on contract, and sell at wholesale. Finishing operations include bleaching, dyeing, printing (e.g., roller, screen, flock, plisse), and other mechanical finishing, such as preshrinking, shrinking, sponging, calendaring, mercerizing and napping.

---

The data published with NAICS code 313311 include the following SIC industries:

- 2231 Weaving and finishing mills, wool (pt)
- 2261 Finishing plants, cotton
- 2262 Finishing plants, synthetics
- 5131 Piece goods, notions and other dry goods (pt)

This definition comes from the 1997 NAICS Manual. However, for this industry, the 1997 Economic Census – Manufacturing did not fully implement the conversion to NAICS. Data for NAICS industry 313311 do not include establishments primarily engaged in the sponging of fabric for tailors and dressmakers. The NAICS definitions will be fully implemented with the 2002 Economic Census.

### **3133111 Broadwoven Fabric Finishing Mills – Manufacturer**

Establishments primarily engaged in dyeing, bleaching, printing, and other finishing of purchased broadwoven fabrics.

### **3133112 Broadwoven Fabric Finishing Mills – Converter**

Establishments engaged as converters who buy broadwoven fabrics in the grey, have them finished on contract, and sell at wholesale.

### **3133113 Broadwoven Fabric Finishing Mills – Commission Finisher**

Establishments primarily engaged in dyeing, bleaching, printing, and other finishing of broadwoven fabrics on a commission basis.

### **313312 Textile and Fabric Finishing (Except Broadwoven Fabric) Mills**

This U.S. industry comprises (1) establishments primarily engaged in dyeing, bleaching, printing, and other finishing of textiles, apparel, and fabrics (except broadwoven) and (2) establishments of converters who buy fabrics (except broadwoven) in the grey, have them finished on contract, and sell at wholesale. Finishing operations include bleaching, dyeing, printing (e.g., roller, screen, flock, plisse), stonewashing, and other mechanical finishing, such as preshrinking, shrinking, sponging, calendering, mercerizing and napping; as well as cleaning, scouring, and the preparation of natural fibers and raw stock.

The data published with NAICS code 313312 include the following SIC industries:

- 2231 Weaving and finishing mills, wool (pt)
- 2257 Circular knit fabric mills (pt)
- 2258 Lace and warp knit fabric mills (pt)

2269 Finishing plants, n.e.c.

2282 Yarn throwing and winding mills (pt)

2284 Thread mills (pt)

2299 Textile goods, n.e.c. (pt)

5131 Piece goods, notions and other dry goods (pt)

### **3133121 Textile and Fabric Finishing (Except Broadwoven Fabric) Mills – Manufacturer**

Establishments primarily engaged in dyeing, bleaching, printing, and other finishing of purchased textiles, apparel, and fabrics (except broadwoven).

### **3133122 Textile and Fabric Finishing (Except Broadwoven Fabric) Mills – Converter**

Establishments engaged as converters who buy fabrics (except broadwoven) in the grey, have them finished on contract, and sell at wholesale.

### **3133123 Textile and Fabric Finishing (Except Broadwoven Fabric) Mills – Commission Finisher**

Establishments primarily engaged in dyeing, bleaching, printing, and other finishing of textiles, apparel, and fabrics (except broadwoven) on a commission basis.

### **31332 Fabric Coating Mills**

This industry comprises establishments primarily engaged in coating, laminating, varnishing, waxing, and rubberizing textiles and apparel.

### **313320 Fabric Coating Mills**

This U.S. industry comprises establishments primarily engaged in coating, laminating, varnishing, waxing, and rubberizing textiles and apparel.

The data published with NAICS code 313320 include the following SIC industries:

- 2295 Coated fabrics, not rubberized
- 3069 Fabricated rubber products, n.e.c. (pt)

### **314 Textile Product Mills**

Industries in the Textile Product Mills subsector group establishments that made textile products (except apparel). With a few exceptions, processes used in these industries are generally cut and sew (i.e., purchasing fabric and cutting and sewing to make nonapparel textile products, such as sheets and towels).

### **3141 Textile Furnishings Mills**

This NAICS industry group includes establishments classified in the following NAICS Industries: 31411, Carpet and Rug Mills; and 31412, Curtain and Linen Mills.

### **31411 Carpet and Rug Mills**

This industry comprises establishments primarily engaged in (1) manufacturing woven, tufted, and other carpets and rugs, such as art squares, floor mattings, needlepunch carpeting, and door mats and mattings, from textile materials or from twisted paper, grasses, reeds, sisal, jute, or rags and/or (2) finishing carpets and rugs.

#### **314110 Carpet and Rug Mills**

This U.S. industry comprises establishments primarily engaged in (1) manufacturing woven, tufted, and other carpets and rugs, such as art squares, floor mattings, needlepunch carpeting, and door mats and mattings, from textile materials or from twisted paper, grasses, reeds, sisal, jute, or rags and/or (2) finishing carpets and rugs.

The data published with NAICS code 314110 include the following SIC industry:

2273 Carpets and rugs

#### **31412 Curtain and Linen Mills**

This industry comprises establishments primarily engaged in manufacturing household textile products, such as curtains, draperies, linens, bedspreads, sheets, tablecloths, towels, and shower curtains, from purchased materials.

#### **314121 Curtain and Drapery Mills**

This U.S. industry comprises establishments primarily engaged in manufacturing window curtains and draperies from purchased fabrics or sheet goods. The curtains and draperies may be made on a stock or custom basis for sale to individual retail customers.

The data published with NAICS code 314121 include the following SIC industries:

2391 Curtains and draperies

5714 Drapery and upholstery stores (pt)

#### **314129 Other Household Textile Product Mills**

This U.S. industry comprises establishments primarily engaged in manufacturing household textile products (except window curtains and draperies), such as bedspreads, sheets, tablecloths, towels, and shower curtains, from purchased materials.

The data published with NAICS code 314129 include the following SIC industry:

2392 Housefurnishings, n.e.c. (pt)

This definition comes from the 1997 NAICS Manual. However, for this industry, the 1997 Economic Census – Manufacturing did not fully implement the conversion to NAICS. Data for NAICS industry 314129 do not include

establishments primarily engaged in the making of custom slip covers. The NAICS definitions will be fully implemented with the 2002 Economic Census.

### **3149 Other Textile Product Mills**

This industry group comprises establishments primarily engaged in making textile products, (except carpets and rugs, curtains and draperies, and other household textile products) from purchased materials.

#### **31491 Textile Bag and Canvas Mills**

This industry comprises establishments primarily engaged in manufacturing textile bags, awnings, tents, and related products from purchased textile fabrics.

##### **314911 Textile Bag Mills**

This U.S. industry comprises establishments primarily engaged in manufacturing bags from purchased textile fabrics or yarns.

The data published with NAICS code 314911 include the following SIC industries:

2392 Housefurnishings, n.e.c. (pt)

2393 Textile bags

##### **314912 Canvas and Related Product Mills**

This U.S. industry comprises establishments primarily engaged in manufacturing canvas and canvas-like products, such as awnings, sails, tarpaulins, and tents, from purchased fabrics.

The data published with NAICS code 314912 include the following SIC industry:

2394 Canvas and related products

### **31499 All Other Textile Product Mills**

This industry comprises establishments primarily engaged in manufacturing nonapparel textile products (except carpet, rugs, curtains, linens, bags, and canvas products) from purchased materials.

#### **314991 Rope, Cordage, and Twine Mills**

This U.S. industry comprises establishments primarily engaged in manufacturing rope, cable, cordage, twine, and related products from all materials (e.g., abaca, sisal, henequen, hemp, cotton, paper, jute, flax, manmade fibers including glass).

The data published with NAICS code 314991 include the following SIC industry:

2298 Cordage and twine

### **314992 Tire Cord and Tire Fabric Mills**

This U.S. industry comprises establishments primarily engaged in manufacturing cord and fabric of polyester, rayon, cotton, glass, steel, or other materials for use in reinforcing rubber tires, industrial belting, and similar uses.

The data published with NAICS code 314992 include the following SIC industry:

2296 Tire cord and fabric

### **314999 All Other Miscellaneous Textile Product Mills**

This U.S. industry comprises establishments primarily engaged in manufacturing textile products (except carpets and rugs; curtains and linens; textile bags and canvas products; rope, cordage, and twine; and tire cord and tire fabrics) from purchased materials.

The data published with NAICS code 314999 include the following SIC industries:

2299 Textile goods, n.e.c. (pt)

2395 Pleating and stitching (pt)

2396 Automotive and apparel trimmings (pt)

2399 Fabricated textile products, n.e.c. (pt)

3999 Manufacturing industries, n.e.c. (pt)

This definition comes from the 1997 NAICS Manual. However, for this industry, the 1997 Economic Census – Manufacturing did not fully implement the conversion to NAICS. Data for NAICS industry 314999 include establishments primarily engaged in the manufacture of other miscellaneous textile products from SIC 3999, but do not include establishments primarily engaged in the manufacture of dust rags or textile fire hoses, or engaged in the embroidery of advertising. The NAICS definitions will be fully implemented with the 2002 Economic Census.

### **315 Apparel Manufacturing**

Industries in the Apparel Manufacturing subsector group establishments with two distinct manufacturing processes: (1) cut and sew (i.e., purchasing fabric and cutting and sewing to make a garment) and (2) the manufacture of garments in establishments that first knit fabric and then cut and sew the fabric into a garment. The Apparel Manufacturing subsector includes a diverse range of establishments manufacturing full lines of ready-to-wear apparel and custom apparel: apparel contractors, performing cutting or sewing operations on materials owned by others; jobbers performing entrepreneurial functions involved in apparel manufacture; and tailors, manufacturing custom garments for individual clients are all included. Knitting, when done alone, is classified in the

Textile Mills subsector, but when knitting is combined with the production of complete garments, the activity is classified in Apparel Manufacturing.

### **3151 Apparel Knitting Mills**

This industry group comprises establishments primarily engaged in knitting apparel or knitting fabric and then manufacturing apparel. This industry group includes jobbers performing entrepreneurial functions involved in knitting apparel and accessories. Knitting fabric, without manufacturing apparel, is classified in Subsector 313, Textile Mills.

### **31511 Hosiery and Sock Mills**

This industry comprises establishments primarily engaged in knitting or knitting and finishing hosiery and socks.

### **315111 Sheer Hosiery Mills**

This U.S. industry comprises establishments primarily engaged in knitting or knitting and finishing women's, misses', and girls' full-length and knee-length sheer hosiery (except socks).

The data published with NAICS code 315111 include the following SIC industries:

2251 Women's hosiery, except socks

2252 Hosiery, n.e.c. (pt)

### **315119 Other Hosiery and Sock Mills**

This U.S. industry comprises establishments primarily engaged in knitting or knitting and finishing hosiery (except women's, misses', and girls' sheer hosiery).

The data published with NAICS code 315119 include the following SIC industry:

2252 Hosiery, n.e.c. (pt)

### **31519 Other Apparel Knitting Mills**

This industry comprises establishments primarily engaged in one of the following: (1) knitting underwear, outerwear, and/or nightwear; (2) knitting fabric and manufacturing underwear, outerwear, and/or nightwear; or (3) knitting, manufacturing, and finishing knit underwear, outerwear, and/or nightwear.

### **315191 Outerwear Knitting Mills**

This U.S. industry comprises establishments primarily engaged in one or more of the following: (1) knitting outerwear; (2) knitting fabric and manufacturing outerwear; and (3) knitting, manufacturing, and finishing knit outerwear. Examples of products made in knit outerwear mills are shirts, shorts, sweat suits, sweaters, gloves, and pants.

---

The data published with NAICS code 315191 include the following SIC industries:

2253 Knit outerwear mills

2259 Knitting mills, n.e.c. (pt)

### **3151911 Outerwear Knitting Mills – Manufacturer**

Establishments primarily engaged in knitting outerwear clothing.

### **3151912 Outerwear Knitting Mills – Jobber**

Establishments engaged as knit outerwear jobbers, who perform entrepreneurial functions involved in apparel manufacture, including buying raw materials, designing and preparing samples, arranging for apparel to be made from their materials, and marketing finished apparel.

### **3151913 Outerwear Knitting Mills – Contractor**

Establishments primarily engaged in manufacturing knit outerwear on materials owned by others (commission basis).

### **315192 Underwear and Nightwear Knitting Mills**

This U.S. industry comprises establishments primarily engaged in one of the following: (1) knitting underwear and nightwear; (2) knitting fabric and manufacturing underwear and nightwear; or (3) knitting, manufacturing, and finishing knit underwear and nightwear. Examples of products produced in underwear and nightwear knitting mills are briefs, underwear T-shirts, pajamas, nightshirts, foundation garments, and panties.

The data published with NAICS code 315192 include the following SIC industries:

2254 Knit underwear mills

2259 Knitting mills, n.e.c. (pt)

This definition comes from the 1997 NAICS Manual. However, for this industry, the 1997 Economic Census – Manufacturing did not fully implement the conversion to NAICS. Data for NAICS industry 315192 do not include knitting mills primarily engaged in the manufacture of bath and lounge robes. The NAICS definitions will be fully implemented with the 2002 Economic Census.

### **3152 Cut and Sew Apparel Manufacturing**

This industry group comprises establishments primarily engaged in manufacturing cut and sew apparel from woven fabric or purchased knit fabric. Included in this industry group is a diverse range of establishments manufacturing full lines of ready-to-wear apparel and custom apparel: apparel contractors, performing cutting or sewing operations on materials owned by others; jobbers performing entrepreneurial functions involved in apparel

manufacture; and tailors, manufacturing custom garments for individual clients. Establishments weaving or knitting fabric, without manufacturing apparel, are classified in Subsector 313, Textile Mills.

### **31521 Cut and Sew Apparel Contractors**

This industry comprises establishments commonly referred to as contractors primarily engaged in (1) cutting materials owned by others for apparel and accessories and/or (2) sewing materials owned by others for apparel and accessories.

### **315211 Men's and Boys' Cut and Sew Apparel Contractors**

This U.S. industry comprises establishments commonly referred to as contractors primarily engaged in (1) cutting materials owned by others for men's and boys' apparel and/or (2) sewing materials owned by others for men's and boys' apparel.

The data published with NAICS code 315211 include the following SIC industries:

2311 Men's and boys' suits and coats (pt)

2321 Shirts, men's and boys' (pt)

2322 Men's and boys' underwear and nightwear (pt)

2325 Men's and boys' trousers and slacks (pt)

2326 Men's and boys' work clothing (pt)

2329 Men's and boys' clothing, n.e.c. (pt)

2341 Women's and children's underwear (pt)

2384 Robes and dressing gowns (pt)

2385 Waterproof outer garments (pt)

2395 Pleating and stitching (pt)

This definition comes from the 1997 NAICS Manual. However, for this industry, the 1997 Economic Census – Manufacturing did not fully implement the conversion to NAICS. Data for NAICS industry 315211 do not include establishments primarily engaged in cut and sew contract work for men's and boy's neckwear, hats, shirts, other outerwear, fur goods, dress and work gloves, leather gloves and mittens, leather and sheep-lined clothing, apparel belts, or apparel and accessories, nec. The NAICS definitions will be fully implemented with the 2002 Economic Census.

### **315212 Women's, Girls', and Infants' Cut and Sew Apparel Contractors**

This U.S. industry comprises establishments commonly referred to as contractors primarily engaged in (1) cutting materials owned by others for women's, girls', and infants' apparel and accessories and/or (2) sewing materials owned by others for women's, girls', and infants' apparel and accessories.

---

The data published with NAICS code 315212 include the following SIC industries:

- 2331 Women's blouses and waists (pt)
- 2335 Women's dresses (pt)
- 2337 Women's suits and coats (pt)
- 2339 Women's outerwear, n.e.c. (pt)
- 2341 Women's and children's underwear (pt)
- 2342 Brassieres and allied garments (pt)
- 2361 Girls' and children's dresses and blouses (pt)
- 2369 Girls' and children's outerwear, n.e.c. (pt)
- 2384 Robes and dressing gowns (pt)
- 2385 Waterproof outer garments (pt)
- 2389 Apparel and accessories, n.e.c. (pt)
- 2395 Pleating and stitching (pt)

This definition comes from the 1997 NAICS Manual. However, for this industry, the 1997 Economic Census – Manufacturing did not fully implement the conversion to NAICS. Data for NAICS industry 315212 do not include establishments primarily engaged in cut and sew contract work for women's, girls', and infants' hats; fur goods; dress and work gloves; leather gloves and mittens; leather and sheep-lined clothing; or apparel belts. The NAICS definitions will be fully implemented with the 2002 Economic Census.

### **31522 Men's and Boys' Cut and Sew Apparel Manufacturing**

This industry comprises establishments primarily engaged in manufacturing men's and boys' cut and sew apparel from purchased fabric. Men's and boys' clothing jobbers, who perform entrepreneurial functions involved in apparel manufacture, including buying raw materials, designing and preparing samples, arranging for apparel to be made from their materials, and marketing finished apparel, are included.

### **315221 Men's and Boys' Cut and Sew Underwear and Nightwear Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing men's and boys' underwear and nightwear from purchased fabric. Men's and boys' underwear and nightwear jobbers, who perform entrepreneurial functions involved in apparel manufacture, including buying raw materials, designing and preparing samples, arranging for apparel to be made from their materials, and marketing finished apparel, are included. Examples of products made by these establishments are briefs, bathrobes, underwear T-shirts and shorts, nightshirts, and pajamas.

The data published with NAICS code 315221 include the following SIC industries:

- 2322 Men's and boys' underwear and nightwear (pt)
- 2341 Women's and children's underwear (pt)
- 2369 Girls' and children's outerwear, n.e.c. (pt)
- 2384 Robes and dressing gowns (pt)

### **315222 Men's and Boys' Cut and Sew Suit, Coat, and Overcoat Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing men's and boys' suits, overcoats, sport coats, tuxedos, dress uniforms, and other tailored apparel (except fur and leather) from purchased fabric. Men's and boys' suit, coat, and overcoat jobbers, who perform entrepreneurial functions involved in apparel manufacture, including buying raw materials, designing and preparing samples, arranging for apparel to be made from their materials, and marketing finished apparel, are included.

The data published with NAICS code 315222 include the following SIC industries:

- 2311 Men's and boys' suits and coats (pt)
- 2369 Girls' and children's outerwear, n.e.c. (pt)
- 2385 Waterproof outer garments (pt)

This definition comes from the 1997 NAICS Manual. However, for this industry, the 1997 Economic Census – Manufacturing implemented the conversion to NAICS differently. Data for NAICS industry 315222 do not include establishments primarily engaged in custom tailoring.

### **3152221 Men's and Boys' Cut and Sew Suit, Coat, and Overcoat Manufacturing – Manufacturer**

Establishments primarily engaged in manufacturing men's and boys' suits, overcoats, sport coats, tuxedos, dress uniforms, and other tailored apparel (except fur and leather) from purchased fabric.

### **3152222 - Men's and Boys' Cut and Sew Suit, Coat, and Overcoat Manufacturing - Jobber**

Establishments engaged as men's and boys' suit, coat, and overcoat jobbers, who perform entrepreneurial functions involved in apparel manufacture, including buying raw materials, designing and preparing samples, arranging for apparel to be made from their materials, and marketing finished apparel.

### **315223 Men's and Boys' Cut and Sew Shirt (Except Work Shirt) Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing men's and boys' outerwear shirts from purchased fabric. Men's and boys' shirt (except



---

work shirt) jobbers, who perform entrepreneurial functions involved in apparel manufacture, including buying raw materials, designing and preparing samples, arranging for apparel to be made from their materials, and marketing finished apparel, are included. Unisex outerwear shirts, such as T-shirts and sweatshirts that are sized without specific reference to gender (i.e., adult S, M, L, XL) are included in this industry.

The data published with NAICS code 315223 include the following SIC industries:

2321 Shirts, men's and boys' (pt)

2361 Girls' and children's dresses and blouses (pt)

### **3152231 Men's and Boys' Cut and Sew Shirt (Except Work Shirt) Manufacturing – Manufacturer**

Establishments primarily engaged in manufacturing men's and boys' outerwear shirts from purchased fabric.

### **3152232 Men's and Boys' Cut and Sew Shirt (Except Work Shirt) Manufacturing – Jobber**

Establishments engaged as men's and boys' shirt (except work shirt) jobbers, who perform entrepreneurial functions involved in apparel manufacture, including buying raw materials, designing and preparing samples, arranging for apparel to be made from their materials, and marketing finished apparel.

### **315224 Men's and Boys' Cut and Sew Trouser, Slack, and Jean Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing men's and boys' jeans, dungarees, and other separate trousers and slacks (except work pants) from purchased fabric. Men's and boys' trouser, slack, and jean jobbers, who perform entrepreneurial functions involved in apparel manufacture, including buying raw materials, designing and preparing samples, arranging for apparel to be made from their materials, and marketing finished apparel, are included.

The data published with NAICS code 315224 include the following SIC industries:

2325 Men's and boys' trousers and slacks (pt)

2369 Girls' and children's outerwear, n.e.c. (pt)

### **3152241 Men's and Boys' Cut and Sew Trouser, Slack, and Jean Manufacturing – Manufacturer**

Establishments primarily engaged in manufacturing men's and boys' jeans, dungarees, and other separate trousers and slacks (except work pants) from purchased fabric.

### **3152242 Men's and Boys' Cut and Sew Trouser, Slack, and Jean Manufacturing – Jobbers**

Establishments engaged as men's and boys' trouser, slack, and jean jobbers, who perform entrepreneurial functions involved in apparel manufacture, including buying raw materials, designing and preparing samples, arranging for apparel to be made from their materials, and marketing finished apparel.

### **315225 Men's and Boys' Cut and Sew Work Clothing Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing men's and boys' work shirts, work pants (excluding jeans and dungarees), other work clothing, and washable service apparel from purchased fabric. Men's and boys' work clothing jobbers, who perform entrepreneurial functions involved in apparel manufacture, including buying raw materials, designing and preparing samples, arranging for apparel to be made from their materials, and marketing finished apparel, are included. Examples of products made by these establishments are washable service apparel, laboratory coats, work shirts, work pants (except jeans and dungarees), and hospital apparel.

The data published with NAICS code 315225 include the following SIC industry:

2326 Men's and boys' work clothing (pt)

### **3152251 Men's and Boys' Cut and Sew Work Clothing Manufacturing – Manufacturer**

Establishments primarily engaged in manufacturing men's and boys' work shirts, work pants (excluding jeans and dungarees), other work clothing, and washable service apparel from purchased fabric.

### **3152252 Men's and Boys' Cut and Sew Work Clothing Manufacturing – Jobbers**

Establishments engaged as men's and boys' work clothing jobbers, who perform entrepreneurial functions involved in apparel manufacture, including buying raw materials, designing and preparing samples, arranging for apparel to be made from their materials, and marketing finished apparel.

### **315228 Men's and Boys' Cut and Sew Other Outerwear Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing men's and boys' cut and sew outerwear from purchased fabric (except underwear, nightwear, shirts, suits, overcoats and tailored coats, separate trousers and slacks, and work clothing). Men's and boys' other outerwear jobbers, who perform entrepreneurial functions involved in apparel manufacture, including buying raw materials, designing and preparing samples,

arranging for apparel to be made from their materials, and marketing finished apparel, are included. Unisex sweat-pants and similar garments that are sized without specific reference to gender (i.e., adult S, M, L, XL) are also included in this industry. Examples of products made by these establishments are athletic clothing (except athletic uniforms), bathing suits, down coats, outerwear shorts, windbreakers and jackets, and jogging suits.

The data published with NAICS code 315228 include the following SIC industries:

2329 Men's and boys' clothing, n.e.c. (pt)

2369 Girls' and children's outerwear, n.e.c. (pt)

2385 Waterproof outer garments (pt)

### **3152281 Men's and Boys' Cut and Sew Other Outerwear Manufacturing – Manufacturer**

Establishments primarily engaged in manufacturing men's and boys' cut and sew outerwear from purchased fabric (except underwear, nightwear, shirts, suits, overcoats and tailored coats, separate trousers and slacks, and working clothing).

### **3152282 Men's and Boys' Cut and Sew Other Outerwear Manufacturing – Jobbers**

Establishments engaged as men's and boys' other outerwear jobbers, who perform entrepreneurial functions involved in apparel manufacture, including buying raw materials, designing and preparing samples, arranging for apparel to be made from their materials, and marketing finished apparel.

### **31523 Women's and Girls' Cut and Sew Apparel Manufacturing**

This industry comprises establishments primarily engaged in manufacturing women's and girls' apparel from purchased fabric. Women's and girls' clothing jobbers, who perform entrepreneurial functions involved in apparel manufacture, including buying raw materials, designing and preparing samples, arranging for apparel to be made from their materials, and marketing finished apparel, are included.

### **315231 Women's and Girls' Cut and Sew Lingerie, Loungewear, and Nightwear Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing women's and girls' bras, girdles, and other underwear; lingerie; loungewear; and nightwear from purchased fabric. Women's and girls' lingerie, loungewear, and nightwear jobbers, who perform entrepreneurial functions involved in apparel manufacture, including buying raw materials, designing and preparing samples, arranging for apparel to be made from their

materials, and marketing finished apparel, are included. Examples of products made by these establishments are bathrobes, foundation garments, nightgowns, pajamas, panties, and slips.

The data published with NAICS code 315231 include the following SIC industries:

2341 Women's and children's underwear (pt)

2342 Brassieres and allied garments (pt)

2369 Girls' and children's outerwear, n.e.c. (pt)

2384 Robes and dressing gowns (pt)

2389 Apparel and accessories, n.e.c. (pt)

### **3152311 Women's and Girls' Cut and Sew Lingerie, Loungewear, and Nightwear Manufacturing – Manufacturer**

Establishments primarily engaged in manufacturing women's and girls' bras, girdles, and other underwear; lingerie; loungewear; and nightwear from purchased fabric.

### **3152312 Women's and Girls' Cut and Sew Lingerie, Loungewear, and Nightwear Manufacturing – Jobbers**

Establishments engaged as women's and girls' lingerie, loungewear, and nightwear jobbers, who perform entrepreneurial functions involved in apparel manufacture, including buying raw materials, designing and preparing samples, arranging for apparel to be made from their materials, and marketing finished apparel.

### **315232 Women's and Girls' Cut and Sew Blouse and Shirt Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing women's and girls' blouses and shirts from purchased fabric. Women's and girls' blouse and shirt jobbers, who perform entrepreneurial functions involved in apparel manufacture, including buying raw materials, designing and preparing samples, arranging for apparel to be made from their materials, and marketing finished apparel, are included.

The data published with NAICS code 315232 include the following SIC industries:

2331 Women's blouses and waists (pt)

2361 Girls' and children's dresses and blouses (pt)

### **3152321 Women's and Girls' Cut and Sew Blouse and Shirt Manufacturing – Manufacturer**

Establishments primarily engaged in manufacturing women's and girls' blouses and shirts from purchased fabric.

---

### **3152322 Women's and Girls' Cut and Sew Blouse and Shirt Manufacturing – Jobbers**

Establishments engaged as women's and girls' blouse and shirt jobbers, who perform entrepreneurial functions involved in apparel manufacture, including buying raw materials, designing and preparing samples, arranging for apparel to be made from their materials, and marketing finished apparel.

### **315233 Women's and Girls' Cut and Sew Dress Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing women's and girls' dresses from purchased fabric. Women's and girls' dress jobbers, who perform entrepreneurial functions involved in apparel manufacture, including buying raw materials, designing and preparing samples, arranging for apparel to be made from their materials, and marketing finished apparel, are included.

The data published with NAICS code 315233 include the following SIC industries:

2335 Women's dresses (pt)

2361 Girls' and children's dresses and blouses (pt)

This definition comes from the 1997 NAICS Manual. However, for this industry, the 1997 Economic Census – Manufacturing implemented the conversion to NAICS differently. Data for NAICS industry 315233 do not include establishments primarily engaged in custom tailoring.

### **3152331 Women's and Girls' Cut and Sew Dress Manufacturing – Manufacturer**

Establishments primarily engaged in manufacturing women's and girls' dresses from purchased fabric.

### **3152332 Women's and Girls' Cut and Sew Dress Manufacturing – Jobbers**

Establishments engaged as women's and girls' dress jobbers, who perform entrepreneurial functions involved in apparel manufacture, including buying raw materials, designing and preparing samples, arranging for apparel to be made from their materials, and marketing finished apparel.

### **315234 Women's and Girls' Cut and Sew Suit, Coat, Tailored Jacket, and Skirt Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing women's and girls' suits, pantsuits, skirts, tailored jackets, vests, raincoats, and other tailored coats, (except fur and leather coats) from purchased fabric. Women's and girls' suit, coat, tailored jacket, and skirt jobbers, who perform entrepreneurial

functions involved in apparel manufacture, including buying raw materials, designing and preparing samples, arranging for apparel to be made from their materials, and marketing finished apparel, are included.

The data published with NAICS code 315234 include the following SIC industries:

2337 Women's suits and coats (pt)

2369 Girls' and children's outerwear, n.e.c. (pt)

2385 Waterproof outer garments (pt)

### **3152341 Women's and Girls' Cut and Sew Suit, Coat, Tailored Jacket, and Skirt Manufacturing – Manufacturer**

Establishments primarily engaged in manufacturing women's and girls' suits, pantsuits, skirts, tailored jackets, vests, raincoats, and other tailored coats, (except fur and leather coats) from purchased fabric.

### **3152342 Women's and Girls' Cut and Sew Suit, Coat, Tailored Jacket, and Skirt Manufacturing – Jobbers**

Establishments engaged as women's and girls' suit, coat, tailored jacket, and skirt jobbers, who perform entrepreneurial functions involved in apparel manufacture, including buying raw materials, designing and preparing samples, arranging for apparel to be made from their materials, and marketing finished apparel.

### **315239 Women's and Girls' Cut and Sew Other Outerwear Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing women's and girls' cut and sew apparel from purchased fabric (except underwear, lingerie, nightwear, blouses, shirts, dresses, suits, tailored coats, tailored jackets, and skirts). Women's and girls' other outerwear clothing jobbers, who perform entrepreneurial functions involved in apparel manufacture, including buying raw materials, designing and preparing samples, arranging for apparel to be made from their materials, and marketing finished apparel, are included. Examples of products made by these establishments are bathing suits, down coats, sweaters, jogging suits, outerwear pants and shorts, and windbreakers.

The data published with NAICS code 315239 include the following SIC industries:

2339 Women's outerwear, n.e.c. (pt)

2369 Girls' and children's outerwear, n.e.c. (pt)

2385 Waterproof outer garments (pt)

---

### **3152391 Women's and Girls' Cut and Sew Other Outerwear Manufacturing – Manufacturer**

Establishments primarily engaged in manufacturing women's and girls' cut and sew apparel from purchased fabric (except underwear, lingerie, nightwear, blouses, shirts, dresses, suits, tailored coats, tailored jackets, and skirts).

### **3152392 Women's and Girls' Cut and Sew Other Outerwear Manufacturing – Jobbers**

Establishments engaged as women's and girls' other outerwear clothing jobbers, who perform entrepreneurial functions involved in apparel manufacture, including buying raw materials, designing and preparing samples, arranging for apparel to be made from their materials, and marketing finished apparel.

### **31529 Other Cut and Sew Apparel Manufacturing**

This industry comprises establishments primarily engaged in manufacturing cut and sew apparel from purchased fabric (except men's, boys', women's, and girls' apparel). This industry includes establishments manufacturing apparel, such as fur apparel, leather apparel, infants' apparel, costumes, and clerical vestments.

### **315291 Infants' Cut and Sew Apparel Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing infants' dresses, blouses, shirts, and all other infants' wear from purchased fabric. Infants' clothing jobbers, who perform entrepreneurial functions involved in apparel manufacture, including buying raw materials, designing and preparing samples, arranging for apparel to be made from their materials, and marketing finished apparel, are included. For the purposes of classification, the term "infants' apparel" includes apparel for young children of an age not exceeding 24 months.

The data published with NAICS code 315291 include the following SIC industries:

- 2341 Women's and children's underwear (pt)
- 2361 Girls' and children's dresses and blouses (pt)
- 2369 Girls' and children's outerwear, n.e.c. (pt)
- 2385 Waterproof outer garments (pt)

### **3152911 Infants' Cut and Sew Apparel Manufacturing – Manufacturer**

Establishments primarily engaged in manufacturing infants' dresses, blouses, shirts, and all other infants' wear from purchased fabric. For the purposes of classification, the term "infants' apparel" includes apparel for young children of an age not exceeding 24 months.

### **3152912 Infants' Cut and Sew Apparel Manufacturing – Jobbers**

Establishments engaged as infants' clothing jobbers, who perform entrepreneurial functions involved in apparel manufacture, including buying raw materials, designing and preparing samples, arranging for apparel to be made from their materials, and marketing finished apparel. For the purposes of classification, the term "infants' apparel" includes apparel for young children of an age not exceeding 24 months.

### **315292 Fur and Leather Apparel Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing cut and sew fur and leather apparel, and sheep-lined clothing. Fur and leather apparel jobbers, who perform entrepreneurial functions involved in apparel manufacture, including buying raw materials, designing and preparing samples, arranging for apparel to be made from their materials, and marketing finished apparel, are included.

The data published with NAICS code 315292 include the following SIC industries:

- 2371 Fur goods
- 2386 Leather and sheep-lined clothing

### **315299 All Other Cut and Sew Apparel Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing cut and sew apparel from purchased fabric (except cut and sew apparel contractors; men's and boys' cut and sew underwear, nightwear, suits, coats, shirts, trousers, work clothing, and other outerwear; women's and girls' lingerie, blouses, shirts, dresses, suits, coats, and other outerwear; infants' apparel; and fur and leather apparel). Clothing jobbers for these products, who perform entrepreneurial functions involved in apparel manufacture, including buying raw materials, designing and preparing samples, arranging for apparel to be made from their materials, and marketing finished apparel, are included. Examples of products made by these establishments are team athletic uniforms, band uniforms, academic caps and gowns, clerical vestments, and costumes.

The data published with NAICS code 315299 include the following SIC industries:

- 2329 Men's and boys' clothing, n.e.c. (pt)
- 2339 Women's outerwear, n.e.c. (pt)
- 2389 Apparel and accessories, n.e.c. (pt)

This definition comes from the 1997 NAICS Manual. However, for this industry, the 1997 Economic Census – Manufacturing did not fully implement the conversion to NAICS. Data for NAICS industry 315299 do not include establishments primarily engaged in the manufacture of

---

waterproof rubber and plastic outerwear or rubber pants and raincoats. The NAICS definitions will be fully implemented with the 2002 Economic Census.

### **3152991 All Other Cut and Sew Apparel Manufacturing – Manufacturer**

Establishments primarily engaged in manufacturing cut and sew apparel from purchased fabric (except cut and sew apparel contractors; men's and boys' cut and sew underwear, nightwear, suits, coats, shirts, trousers, work clothing, and other outerwear; women's and girls' lingerie, blouses, shirts, dresses, suits, coats, and other outerwear; infants' apparel; and fur and leather apparel). Examples of products made by these establishments are team athletic uniforms, band uniforms, academic caps and gowns, clerical vestments, and costumes.

### **3152992 All Other Cut and Sew Apparel Manufacturing – Jobbers**

Establishments engaged as clothing jobbers (except cut and sew apparel contractors; men's and boys' cut and sew underwear, nightwear, suits, coats, shirts, trousers, work clothing, and other outerwear; women's and girls' lingerie, blouses, shirts, dresses, suits, coats, and other outerwear; infants' apparel; and fur and leather apparel), who perform entrepreneurial functions involved in apparel manufacture, including buying raw materials, designing and preparing samples, arranging for apparel to be made from their materials, and marketing finished apparel. Examples of these products are team athletic uniforms, band uniforms, academic caps and gowns, clerical vestments, and costumes.

### **3159 Apparel Accessories and Other Apparel Manufacturing**

This industry group comprises establishments primarily engaged in manufacturing apparel accessories and other apparel (except apparel knitting mills, apparel contractors, men's and boys' cut and sew apparel, women's and girls' cut and sew apparel, infants' cut and sew apparel, fur and leather apparel, and all other cut and sew apparel). This industry group includes jobbers performing entrepreneurial functions involved in manufacturing apparel accessories.

### **31599 Apparel Accessories and Other Apparel Manufacturing**

This industry comprises establishments primarily engaged in manufacturing apparel and accessories (except apparel knitting mills, cut and sew apparel contractors, men's and boys' cut and sew apparel, women's and girls' cut and sew apparel, and other cut and sew apparel). Jobbers, who perform entrepreneurial functions involved in apparel accessories manufacture, including buying raw materials, designing and preparing samples, arranging for

apparel accessories to be made from their materials, and marketing finished apparel accessories, are included. Examples of products made by these establishments are belts, caps, gloves (except medical, sporting, safety), hats, and neckties.

### **315991 Hat, Cap, and Millinery Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing cut and sew hats, caps, millinery, and hat bodies from purchased fabric. Jobbers, who perform entrepreneurial functions involved in hat, cap, and millinery manufacture, including buying raw materials, designing and preparing samples, arranging for hats, caps, and millinery to be made from their materials, and marketing finished hats, caps, and millinery, are included.

The data published with NAICS code 315991 include the following SIC industry:

2353 Hats, caps, and millinery

### **315992 Glove and Mitten Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing cut and sew gloves (except rubber, metal, and athletic gloves) and mittens from purchased fabric, fur, leather, or from combinations of fabric, fur, or leather. Jobbers, who perform entrepreneurial functions involved in glove and mitten manufacture, including buying raw materials, designing and preparing samples, arranging for gloves and mittens to be made from their materials, and marketing finished gloves and mittens, are included.

The data published with NAICS code 315992 include the following SIC industries:

2381 Fabric gloves and mittens

3151 Leather gloves and mittens

### **315993 Men's and Boys' Neckwear Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing men's and boys' cut and sew neckties, scarves, and mufflers from purchased fabric, leather, or from combinations of leather and fabric. Men's and boys' neckwear jobbers, who perform entrepreneurial functions involved in neckwear manufacture, including buying raw materials, designing and preparing samples, arranging for neckwear to be made from their materials, and marketing finished neckwear, are included.

The data published with NAICS code 315993 include the following SIC industry:

2323 Men's and boys' neckwear

### **315999 Other Apparel Accessories and Other Apparel Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing apparel and apparel accessories (except apparel knitting mills; cut and sew apparel contractors; cut and sew apparel; hats and caps; mittens and

gloves; and men's and boys' neckwear). Jobbers for these products, who perform entrepreneurial functions involved in other apparel and accessory manufacture, including buying raw materials, designing and preparing samples, arranging for other apparel and accessories to be made from their materials, and marketing finished other apparel and accessories, are included. Examples of products made by these establishments are apparel trimmings and findings, belts, women's scarves, suspenders, and waterproof outerwear.

The data published with NAICS code 315999 include the following SIC industries:

2339 Women's outerwear, n.e.c. (pt)

2385 Waterproof outer garments (pt)

2387 Apparel belts

2389 Apparel and accessories, n.e.c. (pt)

2396 Automotive and apparel trimmings (pt)

2399 Fabricated textile products, n.e.c. (pt)

5699 Miscellaneous apparel and accessory stores (pt)

This definition comes from the 1997 NAICS Manual. However, for this industry, the 1997 Economic Census – Manufacturing implemented the conversion to NAICS differently. Data for NAICS industry 315999 include establishments primarily engaged in custom tailoring but do not include establishments primarily engaged in the manufacture of rubber bibs, aprons, and bathing caps.

### **316 Leather and Allied Product Manufacturing**

Establishments in the Leather and Allied Product Manufacturing subsector transform hides into leather by tanning or curing and fabricating the leather into products for final consumption. It also includes the manufacture of similar products from other materials, including products (except apparel) made from "leather substitutes," such as rubber, plastics, or textiles. Rubber footwear, textile luggage, and plastics purses or wallets are examples of "leather substitute" products included in this group. The products made from leather substitutes are included in this subsector because they are made in similar ways leather products are made (e.g., luggage). They are made in the same establishments, so it is not practical to separate them.

The inclusion of leather making in this subsector is partly because leather tanning is a relatively small industry that has few close neighbors as a production process, partly because leather is an input to some of the other products classified in this subsector and partly for historical reasons.

### **3161 Leather and Hide Tanning and Finishing**

This NAICS industry group includes establishments classified in NAICS Industry 31611, Leather and Hide Tanning and Finishing.

#### **31611 Leather and Hide Tanning and Finishing**

This industry comprises establishments primarily engaged in one or more of the following: (1) tanning, currying, and finishing hides and skins; (2) having others process hides and skins on a contract basis; and (3) dyeing or dressing furs.

##### **316110 Leather and Hide Tanning and Finishing**

This U.S. industry comprises establishments primarily engaged in one or more of the following: (1) tanning, currying, and finishing hides and skins; (2) having others process hides and skins on a contract basis; and (3) dyeing or dressing furs.

The data published with NAICS code 316110 include the following SIC industries:

3111 Leather tanning and finishing

3999 Manufacturing industries, n.e.c. (pt)

### **3162 Footwear Manufacturing**

This NAICS industry group includes establishments classified in NAICS Industry 31621, Footwear Manufacturing.

#### **31621 Footwear Manufacturing**

This industry comprises establishments primarily engaged in manufacturing footwear (except orthopedic extension footwear).

##### **316211 Rubber and Plastics Footwear Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing rubber and plastics footwear with vulcanized rubber or plastics soles, molded or cemented to rubber, plastics, or fabric uppers, and rubber and plastics protective footwear.

The data published with NAICS code 316211 include the following SIC industry:

Rubber and plastics footwear

##### **316212 House Slipper Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing house slippers and slipper socks, regardless of material.

The data published with NAICS code 316212 include the following SIC industry:

3142 House slippers

---

### **316213 Men's Footwear (Except Athletic) Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing men's footwear designed primarily for dress, street, and work. This industry includes men's shoes with rubber or plastics soles and leather or vinyl uppers.

The data published with NAICS code 316213 include the following SIC industry:

3143 Men's footwear, except athletic

### **316214 Women's Footwear (Except Athletic) Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing women's footwear designed for dress, street, and work. This industry includes women's shoes with rubber or plastics soles and leather or vinyl uppers.

The data published with NAICS code 316214 include the following SIC industry:

3144 Women's footwear, except athletic

### **316219 Other Footwear Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing other footwear (except rubber and plastics footwear; house slippers; men's footwear (except athletic); and women's footwear (except athletic)).

The data published with NAICS code 316219 include the following SIC industry:

3149 Footwear, except rubber, n.e.c.

### **3169 Other Leather and Allied Product Manufacturing**

This NAICS industry group includes establishments classified in NAICS Industry 31699, Other Leather and Allied Product Manufacturing.

### **31699 Other Leather and Allied Product Manufacturing**

This industry comprises establishments primarily engaged in manufacturing leather products (except footwear and apparel) from purchased leather or leather substitutes (e.g., fabric, plastics).

### **316991 Luggage Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing luggage of any material.

The data published with NAICS code 316991 include the following SIC industry:

3161 Luggage

### **316992 Women's Handbag and Purse Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing women's handbags and purses of any material (except precious metal).

The data published with NAICS code 316992 include the following SIC industry:

3171 Women's handbags and purses

### **316993 Personal Leather Goods (Except Women's Handbag and Purse) Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing personal leather goods (i.e., small articles of any material (except metal) normally carried on or about the person or in a handbag). Examples of personal leather goods made by these establishments are billfolds, coin purses, key cases, toilet kits, and watchbands (except metal).

The data published with NAICS code 316993 include the following SIC industry:

3172 Personal leather goods, n.e.c.

### **316999 All Other Leather Goods Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing leather goods (except footwear, luggage, handbags, purses, and personal leather goods).

The data published with NAICS code 316999 include the following SIC industries:

3131 Footwear cut stock and findings (pt)

3199 Leather goods, n.e.c.

### **321 Wood Product Manufacturing**

Industries in the Wood Product Manufacturing subsector manufacture wood products, such as lumber, plywood, veneers, wood containers, wood flooring, wood trusses, manufactured homes (i.e., mobile home), and prefabricated wood buildings. The production processes of the Wood Product Manufacturing subsector include sawing, planing, shaping, laminating, and assembling of wood products starting from logs that are cut into bolts, or lumber that then may be further cut, or shaped by lathes or other shaping tools. The lumber or other transformed wood shapes may also be subsequently planed or smoothed, and assembled into finished products, such as wood containers.

The Wood Product Manufacturing subsector includes establishments that make wood products from logs and bolts that are sawed and shaped, and establishments that purchase sawed lumber and make wood products. With the exception of sawmills and wood preservation establishments, the establishments are grouped into industries mainly based on the specific products manufactured.

## **3211 Sawmills and Wood Preservation**

This industry group comprises establishments whose primary production process begins with logs or bolts that are transformed into boards, dimension lumber, beams, timbers, poles, ties, shingles, shakes, siding, and wood chips. Establishments that cut and treat round wood and/or treat wood products made in other establishments to prevent rotting by impregnation with creosote or other chemical compounds are also included in this industry group.

### **32111 Sawmills and Wood Preservation**

This industry comprises establishments primarily engaged in one or more of the following: (1) sawing dimension lumber, boards, beams, timber, poles, ties, shingles, shakes, siding, and wood chips from logs or bolts; (2) sawing round wood poles, pilings, and posts and treating them with preservatives; and (3) treating wood sawed, planed, or shaped in other establishments with creosote or other preservatives to prevent decay and to protect against fire and insects. Sawmills may plane the rough lumber that they make with a planing machine to achieve smoothness and uniformity of size.

#### **321113 Sawmills**

This U.S. industry comprises establishments primarily engaged in sawing dimension lumber, boards, beams, timbers, poles, ties, shingles, shakes, siding, and wood chips from logs or bolts. Sawmills may plane the rough lumber that they make with a planing machine to achieve smoothness and uniformity of size.

The data published with NAICS code 321113 include the following SIC industries:

2421 Sawmills and planing mills, general (pt)

2429 Special product sawmills, n.e.c. (pt)

2439 Structural wood members, n.e.c. (pt)

This definition comes from the 1997 NAICS Manual. However, for this industry, the 1997 Economic Census – Manufacturing implemented the conversion to NAICS differently. Data for NAICS industry 321113 include establishments primarily engaged in the manufacture of lumber members made from logs and bolts, but do not include establishments primarily engaged in the manufacture of hardwood dimension made from logs and bolts. The NAICS definitions will be fully implemented with the 2002 Economic Census.

#### **321114 Wood Preservation**

This U.S. industry comprises establishments primarily engaged in (1) treating wood sawed, planed, or shaped in other establishments with creosote or other preservatives,

such as chromated copper arsenate, to prevent decay and to protect against fire and insects and/or (2) sawing round wood poles, pilings, and posts and treating them with preservatives.

The data published with NAICS code 321114 include the following SIC industry:

2491 Wood preserving

## **3212 Veneer, Plywood, and Engineered Wood Product Manufacturing**

This NAICS industry group includes establishments classified in NAICS Industry 32121, Veneer, Plywood, and Engineered Wood Product Manufacturing.

### **32121 Veneer, Plywood, and Engineered Wood Product Manufacturing**

This industry comprises establishments primarily engaged in one or more of the following: (1) manufacturing veneer and/or plywood; (2) manufacturing engineered wood members; and (3) manufacturing reconstituted wood products. This industry includes manufacturing plywood from veneer made in the same establishment or from veneer made in other establishments, and manufacturing plywood faced with nonwood materials, such as plastics or metal.

#### **321211 Hardwood Veneer and Plywood Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing hardwood veneer and/or hardwood plywood.

The data published with NAICS code 321211 include the following SIC industry:

2435 Hardwood veneer and plywood

#### **321212 Softwood Veneer and Plywood Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing softwood veneer and/or softwood plywood.

The data published with NAICS code 321212 include the following SIC industry:

2436 Softwood veneer and plywood

#### **321213 Engineered Wood Member (Except Truss) Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing fabricated or laminated wood arches and/or other fabricated or laminated wood structural members.

The data published with NAICS code 321213 include the following SIC industry:

2439 Structural wood members, n.e.c. (pt)



---

### **321214 Truss Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing laminated or fabricated wood roof and floor trusses.

The data published with NAICS code 321214 include the following SIC industry:

2439 Structural wood members, n.e.c. (pt)

### **321219 Reconstituted Wood Product Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing reconstituted wood sheets and boards.

The data published with NAICS code 321219 include the following SIC industry:

2493 Reconstituted wood products

### **3219 Other Wood Product Manufacturing**

This industry group comprises establishments primarily engaged in manufacturing wood products (except establishments operating sawmills and wood preservation facilities; and establishments manufacturing veneer, plywood, or engineered wood products).

#### **32191 Millwork**

This industry comprises establishments primarily engaged in manufacturing hardwood and softwood cut stock and dimension stock (i.e., shapes); wood windows and wood doors; and other millwork including wood flooring. Dimension stock or cut stock is defined as lumber and worked wood products cut or shaped to specialized sizes. These establishments generally use woodworking machinery, such as jointers, planers, lathes, and routers to shape wood.

#### **321911 Wood Window and Door Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing window and door units, sash, window and door frames, and doors from wood or wood clad with metal or plastics.

The data published with NAICS code 321911 include the following SIC industry:

2431 Millwork (pt)

#### **321912 Cut Stock, Resawing Lumber, and Planing**

This U.S. industry comprises establishments primarily engaged in one or more of the following: (1) manufacturing dimension lumber from purchased lumber; (2) manufacturing dimension stock (i.e., shapes) or cut stock; (3) resawing the output of sawmills; and (4) planing purchased lumber. These establishments generally use woodworking machinery, such as jointers, planers, lathes, and routers to shape wood.

The data published with NAICS code 321912 include the following SIC industries:

2421 Sawmills and planing mills, general (pt)

2426 Hardwood dimension and flooring mills (pt)

2439 Structural wood members, n.e.c. (pt)

2499 Wood products, n.e.c. (pt)

This definition comes from the 1997 NAICS Manual. However, for this industry, the 1997 Economic Census – Manufacturing implemented the conversion to NAICS differently. Data for NAICS industry 321912 include establishments primarily engaged in the manufacture of hardwood dimension made from logs and bolts, lumber members made from purchased lumber, and semi-machined and fully-machined softwood dimension lumber, but do not include establishments primarily engaged in the manufacture of staves from purchased lumber. The NAICS definitions will be fully implemented with the 2002 Economic Census.

#### **321918 Other Millwork (Including Flooring)**

This U.S. industry comprises establishments primarily engaged in manufacturing millwork (except wood windows, wood doors, and cut stock).

The data published with NAICS code 321918 include the following SIC industries:

2421 Sawmills and planing mills, general (pt)

2426 Hardwood dimension and flooring mills (pt)

2431 Millwork (pt)

#### **32192 Wood Container and Pallet Manufacturing**

This industry comprises establishments primarily engaged in manufacturing wood pallets, wood box shoo, wood boxes, other wood containers, and wood parts for pallets and containers.

#### **321920 Wood Container and Pallet Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing wood pallets, wood box shoo, wood boxes, other wood containers, and wood parts for pallets and containers.

The data published with NAICS code 321920 include the following SIC industries:

2429 Special product sawmills, n.e.c. (pt)

2441 Nailed wood boxes & shoo

2448 Wood pallets and skids

2449 Wood containers, n.e.c.

2499 Wood products, n.e.c. (pt)

---

This definition comes from the 1997 NAICS Manual. However, for this industry, the 1997 Economic Census – Manufacturing did not fully implement the conversion to NAICS. Data for NAICS industry 321920 include establishments primarily engaged in the manufacture of cooperage headings and staves made of purchased lumber. The NAICS definitions will be fully implemented with the 2002 Economic Census.

### **32199 All Other Wood Product Manufacturing**

This industry comprises establishments primarily engaged in manufacturing wood products (except establishments operating sawmills and wood preservation facilities; and establishments manufacturing veneer, plywood, engineered wood products, millwork, wood containers, or pallets).

#### **321991 Manufactured Home (Mobile Home) Manufacturing**

This U.S. industry comprises establishments primarily engaged in making manufactured homes (i.e., mobile homes) and nonresidential mobile buildings. Manufactured homes are designed to accept permanent water, sewer, and utility connections and although equipped with wheels, they are not intended for regular highway movement.

The data published with NAICS code 321991 include the following SIC industry:

2451 Mobile homes

#### **321992 Prefabricated Wood Building Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing prefabricated wood buildings and wood sections and panels for prefabricated wood buildings.

The data published with NAICS code 321992 include the following SIC industry:

2452 Prefabricated wood buildings

#### **321999 All Other Miscellaneous Wood Product Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing wood products (except establishments operating sawmills and preservation facilities; establishments manufacturing veneer, engineered wood products, millwork, wood containers, pallets, and wood container parts; and establishments making manufactured homes (i.e., mobile homes) and prefabricated buildings and components).

The data published with NAICS code 321999 include the following SIC industries:

2421 Sawmills and planing mills, general (pt)

2429 Special product sawmills, n.e.c. (pt)

2499 Wood products, n.e.c. (pt)

3131 Footwear cut stock and findings (pt)

3999 Manufacturing industries, n.e.c. (pt)

This definition comes from the 1997 NAICS Manual. However, for this industry, the 1997 Economic Census – Manufacturing did not fully implement the conversion to NAICS. Data for NAICS industry 321999 include establishments primarily engaged in the manufacture of wood cooling towers, but do not include establishments primarily engaged in the manufacture of finished metal moldings for mirrors and pictures, semi-machined and fully-machined softwood dimension, or cooperage headings. The NAICS definitions will be fully implemented with the 2002 Economic Census.

### **322 Paper Manufacturing**

Industries in the Paper Manufacturing subsector make pulp, paper, or converted paper products. The manufacturing of these products is grouped together because they constitute a series of vertically connected processes. More than one is often carried out in a single establishment. There are essentially three activities. The manufacturing of pulp involves separating the cellulose fibers from other impurities in wood or used paper. The manufacturing of paper involves matting these fibers into a sheet. Converted paper products are made from paper and other materials by various cutting and shaping techniques and includes coating and laminating activities.

The Paper Manufacturing subsector is subdivided into two industry groups, the first for the manufacturing of pulp and paper and the second for the manufacturing of converted paper products. Paper making is treated as the core activity of the subsector. Therefore, any establishment that makes paper (including paperboard), either alone or in combination with pulp manufacturing or paper converting, is classified as a paper or paperboard mill. Establishments that make pulp without making paper are classified as pulp mills. Pulp mills, paper mills and paperboard mills comprise the first industry group.

Establishments that make products from purchased paper and other materials make up the second industry group, Converted Paper Product Manufacturing. This general activity is then subdivided based, for the most part, on process distinctions. Paperboard container manufacturing uses corrugating, cutting, and shaping machinery to form paperboard into containers. Paper bag and coated and treated paper manufacturing establishments cut and coat paper and foil. Stationery product manufacturing establishments make a variety of paper products used for writing, filing, and similar applications. Other converted paper product manufacturing includes, in particular, the conversion of sanitary paper stock into such things as tissue paper and disposable diapers.

An important process used in the Paper Bag and Coated and Treated Paper Manufacturing industry is lamination, often combined with coating. Lamination and coating makes a composite material with improved properties of strength, impermeability, and so on. The laminated materials may be paper, metal foil, or plastics film. While paper is often one of the components, it is not always. Lamination of plastics film to plastics film is classified in the NAICS Subsector 326, Plastics and Rubber Products Manufacturing, because establishments that do this often first make the film.

The same situation holds with respect to bags. The manufacturing of bags from plastics only, whether or not laminated, is classified in Subsector 326, Plastics and Rubber Products Manufacturing, but all other bag manufacturing is classified in this subsector.

Excluded from this subsector are photosensitive papers. These papers are chemically treated and are classified in Industry 32599, All Other Chemical Product and Preparation Manufacturing.

### **3221 Pulp, Paper, and Paperboard Mills**

This industry group comprises establishments primarily engaged in manufacturing pulp, paper, or paperboard.

#### **32211 Pulp Mills**

This industry comprises establishments primarily engaged in manufacturing pulp without manufacturing paper or paperboard. The pulp is made by separating the cellulose fibers from the other impurities in wood or other materials, such as used or recycled rags, linters, scrap paper, and straw.

##### **322110 Pulp Mills**

This U.S. industry comprises establishments primarily engaged in manufacturing pulp without manufacturing paper or paperboard. The pulp is made by separating the cellulose fibers from the other impurities in wood or other materials, such as used or recycled rags, linters, scrap paper, and straw.

The data published with NAICS code 322110 include the following SIC industry:

2611 Pulp mills

##### **32212 Paper Mills**

This industry comprises establishments primarily engaged in manufacturing paper from pulp. These establishments may manufacture or purchase pulp. In addition, the establishments may convert the paper they make. The activity of making paper classifies an establishment into this industry regardless of the output.

##### **322121 Paper (Except Newsprint) Mills**

This U.S. industry comprises establishments primarily engaged in manufacturing paper (except newsprint and uncoated groundwood paper) from pulp. These establishments may manufacture or purchase pulp. In addition, the establishments may also convert the paper they make.

The data published with NAICS code 322121 include the following SIC industries:

2621 Paper mills (pt)

2676 Sanitary paper products (pt)

3842 Surgical appliances and supplies (pt)

This definition comes from the 1997 NAICS Manual. However, for this industry, the 1997 Economic Census – Manufacturing did not fully implement the conversion to NAICS. Data for NAICS industry 322121 include paper mills which convert sanitary paper stock into sanitary paper products, but do not include paper mills which are primarily engaged in the manufacture of other converted paper products. The NAICS definitions will be fully implemented with the 2002 Economic Census.

##### **3221211 Paper (Except Newsprint) Mills – Integrated Producer**

Establishments primarily engaged in manufacturing paper (except newsprint and uncoated groundwood paper) from pulp in combination with pulp manufacture.

##### **3221212 Paper (Except Newsprint) Mills – Nonintegrated Producer**

Establishments primarily engaged in manufacturing paper (except newsprint and uncoated groundwood paper) from pulp not in combination with pulp manufacture.

##### **322122 Newsprint Mills**

This U.S. industry comprises establishments primarily engaged in manufacturing newsprint and uncoated groundwood paper from pulp. These establishments may manufacture or purchase pulp. In addition, the establishments may also convert the paper they make.

The data published with NAICS code 322122 include the following SIC industry:

2621 Paper mills (pt)

##### **3221221 Newsprint Mills – Integrated Producer**

Establishments primarily engaged in manufacturing newsprint and uncoated groundwood paper from pulp in combination with pulp manufacture.

##### **3221222 Newsprint Mills – Nonintegrated Producer**

Establishments primarily engaged in manufacturing newsprint and uncoated groundwood paper from pulp not in combination with pulp manufacture.

##### **32213 Paperboard Mills**

This industry comprises establishments primarily engaged in manufacturing paperboard from pulp. These establishments may manufacture or purchase pulp. In addition, the establishments may also convert the paperboard they make.

---

### **322130 Paperboard Mills**

This U.S. industry comprises establishments primarily engaged in manufacturing paperboard from pulp. These establishments may manufacture or purchase pulp. In addition, the establishments may also convert the paperboard they make.

The data published with NAICS code 322130 include the following SIC industry:

2631 Paperboard mills

This definition comes from the 1997 NAICS Manual. However, for this industry, the 1997 Economic Census – Manufacturing did not fully implement the conversion to NAICS. Data for NAICS industry 322130 do not include paperboard mills primarily engaged in converting paperboard into paperboard products. The NAICS definitions will be fully implemented with the 2002 Economic Census.

#### **3221301 Paperboard Mills – Integrated Producer**

Establishments primarily engaged in manufacturing paperboard from pulp in combination with pulp manufacture.

#### **3221302 Paperboard Mills – Nonintegrated Producer**

Establishments primarily engaged in manufacturing paperboard from pulp not in combination with pulp manufacture or paperboard converting.

### **3222 Converted Paper Product Manufacturing**

This industry group comprises establishments primarily engaged in converting paper or paperboard without manufacturing paper or paperboard.

#### **32221 Paperboard Container Manufacturing**

This industry comprises establishments primarily engaged in converting paperboard into containers without manufacturing paperboard. These establishments use corrugating, cutting, and shaping machinery to form paperboard into containers. Products made by these establishments include boxes; corrugated sheets, pads, and pallets; paper dishes; and fiber drums and reels.

#### **322211 Corrugated and Solid Fiber Box Manufacturing**

This U.S. industry comprises establishments primarily engaged in laminating purchased paper or paperboard into corrugated or solid fiber boxes and related products, such as pads, partitions, pallets, and corrugated paper without manufacturing paperboard. These boxes are generally used for shipping.

The data published with NAICS code 322211 include the following SIC industry:

2653 Corrugated and solid fiber boxes

#### **322212 Folding Paperboard Box Manufacturing**

This U.S. industry comprises establishments primarily engaged in converting paperboard (except corrugated) into folding paperboard boxes without manufacturing paper and paperboard.

The data published with NAICS code 322212 include the following SIC industry:

2657 Folding paperboard boxes

#### **322213 Setup Paperboard Box Manufacturing**

This U.S. industry comprises establishments primarily engaged in converting paperboard into setup paperboard boxes (i.e., rigid-sided boxes not shipped flat) without manufacturing paperboard.

The data published with NAICS code 322213 include the following SIC industry:

2652 Setup paperboard boxes

#### **322214 Fiber Can, Tube, Drum, and Similar Products Manufacturing**

This U.S. industry comprises establishments primarily engaged in converting paperboard into fiber cans, tubes, drums, and similar products without manufacturing paperboard.

The data published with NAICS code 322214 include the following SIC industry:

2655 Fiber cans, drums, and similar products

#### **322215 Nonfolding Sanitary Food Container Manufacturing**

This U.S. industry comprises establishments primarily engaged in converting sanitary foodboard into food containers (except folding).

The data published with NAICS code 322215 include the following SIC industry:

2656 Sanitary food containers

#### **32222 Paper Bag and Coated and Treated Paper Manufacturing**

This industry comprises establishments primarily engaged in one or more of the following: (1) cutting and coating paper and paperboard; (2) cutting and laminating paper and paperboard and other flexible materials (except plastics film to plastics film); (3) manufacturing bags or multiwall bags or sacks of paper, metal foil, coated paper, or laminates or coated combinations of paper and foil with plastics film; (4) manufacturing laminated aluminum and other converted metal foils from purchased foils; and (5) surface coating paper or paperboard.

---

### **322221 Coated and Laminated Packaging Paper and Plastics Film Manufacturing**

This U.S. industry comprises establishments primarily engaged in performing one or more of the following activities associated with the manufacturing of packaging materials: (1) cutting and coating paper; and (2) cutting and laminating paper with other flexible materials (except plastics to plastics or foil to paper laminates). The products made in this industry are made from purchased sheet materials and may be printed in the same establishment.

The data published with NAICS code 322221 include the following SIC industry:

2671 Paper - coated and laminated, packaging (pt)

### **322222 Coated and Laminated Paper Manufacturing**

This U.S. industry comprises establishments primarily engaged in performing one or more of the following activities associated with making products designed for purposes other than packaging: (1) cutting and coating paper; (2) cutting and laminating paper and other flexible materials (except plastics film to plastics film); and (3) manufacturing converted aluminum and other metal foils for non-packaging uses from purchased foils. The products made in this industry are made from purchased sheet materials and may be printed in the same establishment.

The data published with NAICS code 322222 include the following SIC industries:

2672 Paper - coated and laminated, n.e.c.

2679 Converted paper products, n.e.c. (pt)

### **322223 Plastics, Foil, and Coated Paper Bag Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing bags of coated paper, of metal foil, or of laminated or coated combinations of plastics, foil, and paper, whether or not printed.

The data published with NAICS code 322223 include the following SIC industry:

2673 Bags - plastics, laminated, and coated (pt)

### **322224 Uncoated Paper and Multiwall Bag Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing uncoated paper bags or multiwall bags and sacks.

The data published with NAICS code 322224 include the following SIC industry:

2674 Bags - uncoated paper and multiwall

### **322225 Laminated Aluminum Foil Manufacturing for Flexible Packaging Uses**

This U.S. industry comprises establishments primarily engaged in laminating aluminum and other metal foil into products with flexible packaging uses or gift wrap and other packaging wrap applications.

The data published with NAICS code 322225 include the following SIC industry:

3497 Metal foil and leaf (pt)

### **322226 Surface-Coated Paperboard Manufacturing**

This U.S. industry comprises establishments primarily engaged in laminating, lining, or surface coating purchased paperboard to make other paperboard products.

The data published with NAICS code 322226 include the following SIC industry:

2675 Die-cut paper and board (pt)

### **32223 Stationery Product Manufacturing**

This industry comprises establishments primarily engaged in converting paper or paperboard into products used for writing, filing, art work, and similar applications.

### **322231 Die-Cut Paper and Paperboard Office Supplies Manufacturing**

This U.S. industry comprises establishments primarily engaged in converting paper rollstock or paperboard into die-cut paper or paperboard office supplies. For the purpose of this industry, office supplies are defined as office products, such as filing folders, index cards, rolls for adding machines, file separators and dividers, tabulating cards, and other paper and paperboard office supplies.

The data published with NAICS code 322231 include the following SIC industries:

2675 Die-cut paper and board (pt)

2679 Converted paper products, n.e.c. (pt)

### **322232 Envelope Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing envelopes for mailing or stationery of any material including combinations.

The data published with NAICS code 322232 include the following SIC industry:

2677 Envelopes

### **322233 Stationery, Tablet, and Related Product Manufacturing**

This U.S. industry comprises establishments primarily engaged in converting paper and paperboard into products used for writing and similar applications (e.g., loose-leaf fillers, notebooks, pads, stationery, tablets).

---

The data published with NAICS code 322233 include the following SIC industry:

2678 Stationery products

### **32229 Other Converted Paper Product Manufacturing**

This industry comprises establishments primarily engaged in (1) converting paper and paperboard into products (except containers, bags, coated and treated paper and paperboard, and stationery products), or (2) converting pulp into pulp products, such as disposable diapers, or molded pulp egg cartons, food trays, and dishes. Processes used include laminating or lining purchased paper or paperboard.

#### **322291 Sanitary Paper Product Manufacturing**

This U.S. industry comprises establishments primarily engaged in converting purchased sanitary paper stock or wadding into sanitary paper products, such as facial tissues and handkerchiefs, table napkins, toilet paper, towels, disposable diapers, sanitary napkins, and tampons.

The data published with NAICS code 322291 include the following SIC industries:

2676 Sanitary paper products (pt)

3842 Surgical appliances and supplies (pt)

#### **322299 All Other Converted Paper Product Manufacturing**

This U.S. industry comprises establishments primarily engaged in converting paper or paperboard into products (except containers, bags, coated and treated paper, stationery products, and sanitary paper products) or converting pulp into pulp products, such as egg cartons, food trays, and other food containers from molded pulp.

The data published with NAICS code 322299 include the following SIC industries:

2675 Die-cut paper and board (pt)

2679 Converted paper products, n.e.c. (pt)

3999 Manufacturing industries, n.e.c. (pt)

### **323 Printing and Related Support Activities**

Industries in the Printing and Related Support Activities subsector print products, such as newspapers, books, periodicals, business forms, greeting cards, and other materials, and perform support activities, such as book-binding, platemaking services, and data imaging. The support activities included here are an integral part of the printing industry, and a product (a printing plate, a bound book, or a computer disk or file) that is an integral part of the printing industry is almost always provided by these operations.

Processes used in printing include a variety of methods used to transfer an image from a plate, screen, or computer file to some medium, such as paper, plastics, metal, textile articles, or wood. The most prominent of these methods is to transfer the image from a plate or screen to the medium (lithographic, gravure, screen, and flexographic printing). A rapidly growing new technology uses a computer file to directly “drive” the printing mechanism to create the image and new electrostatic and other types of equipment (digital or nonimpact printing).

In contrast to many other classification systems that locate publishing of printed materials in manufacturing, NAICS classifies the publishing of printed products in Subsector 511, Publishing Industries. Though printing and publishing are often carried out by the same enterprise (a newspaper, for example), it is less and less the case that these distinct activities are carried out in the same establishment. When publishing and printing are done in the same establishment, the establishment is classified in Sector 51, Information, in the appropriate NAICS industry even if the receipts for printing exceed those for publishing.

This subsector includes printing on clothing because the production process for that activity is printing, not clothing manufacturing. For instance, the printing of T-shirts is included in this subsector. In contrast, printing on fabric (or grey goods) is not included. This activity is part of the process of finishing the fabric and is included in the NAICS Textile Mills subsector in Industry 31331, Textile and Fabric Finishing Mills.

#### **3231 Printing and Related Support Activities**

This NAICS industry group includes establishments classified in the following NAICS Industries: 32311, Printing; and 32312, Support Activities for Printing.

##### **32311 Printing**

This industry comprises establishments primarily engaged in printing on apparel and textile products, paper, metal, glass, plastics, and other materials, except fabric (grey goods). The printing processes employed include, but are not limited to, lithographic, gravure, screen, flexographic, digital, and letterpress. Establishments in this industry do not manufacture the stock that they print but may perform postprinting activities, such as bending, cutting, or laminating the materials they print, and mailing.

##### **323110 Commercial Lithographic Printing**

This U.S. industry comprises establishments primarily engaged in lithographic (i.e., offset) printing without publishing (except books, grey goods, and manifold business forms). This industry includes establishments engaged in lithographic printing on purchased stock materials, such as stationery, letterhead, invitations, labels, and similar items, on a job order basis.

---

The data published with NAICS code 323110 include the following SIC industries:

- 2752 Commercial printing, lithographic (pt)
- 2771 Greeting cards (pt)
- 3999 Manufacturing industries, n.e.c. (pt)

### **323111 Commercial Gravure Printing**

This U.S. industry comprises establishments primarily engaged in gravure printing without publishing (except books, grey goods, and manifold business forms). This industry includes establishments engaged in gravure printing on purchased stock materials, such as stationery, letterhead, invitations, labels, and similar items, on a job order basis.

The data published with NAICS code 323111 include the following SIC industries:

- 2754 Commercial printing, gravure
- 2771 Greeting cards (pt)
- 3999 Manufacturing industries, n.e.c. (pt)

### **323112 Commercial Flexographic Printing**

This U.S. industry comprises establishments primarily engaged in flexographic printing without publishing (except books, grey goods, and manifold business forms). This industry includes establishments engaged in flexographic printing on purchased stock materials, such as stationery, invitations, labels, and similar items, on a job order basis.

The data published with NAICS code 323112 include the following SIC industries:

- 2759 Commercial printing, n.e.c. (pt)
- 2771 Greeting cards (pt)
- 3999 Manufacturing industries, n.e.c. (pt)

### **323113 Commercial Screen Printing**

This U.S. industry comprises establishments primarily engaged in screen printing without publishing (except books, grey goods, and manifold business forms). This industry includes establishments engaged in screen printing on purchased stock materials, such as stationery, invitations, labels, and similar items, on a job order basis. Establishments primarily engaged in printing on apparel and textile products, such as T-shirts, caps, jackets, towels, and napkins, are included in this industry.

The data published with NAICS code 323113 include the following SIC industries:

- 2396 Automotive and apparel trimmings (pt)
- 2759 Commercial printing, n.e.c. (pt)
- 2771 Greeting cards (pt)
- 3999 Manufacturing industries, n.e.c. (pt)

### **323114 Quick Printing**

This U.S. industry comprises establishments primarily engaged in traditional printing activities, such as short-run offset printing or prepress services, in combination with providing document photocopying service. Prepress services include receiving documents in electronic format and directly duplicating from the electronic file and formatting, colorizing, and otherwise modifying the original document to improve presentation. These establishments, known as quick printers, generally provide short-run printing and copying with fast turnaround times.

The data published with NAICS code 323114 include the following SIC industries:

- 2752 Commercial printing, lithographic (pt)
- 2759 Commercial printing, n.e.c. (pt)

### **323115 Digital Printing**

This U.S. industry comprises establishments primarily engaged in printing graphical materials using digital printing equipment. Establishments known as digital printers typically provide sophisticated prepress services including using scanners to input images and computers to manipulate and format the graphic images prior to printing.

The data published with NAICS code 323115 include the following SIC industry:

- 2759 Commercial printing, n.e.c. (pt)

### **323116 Manifold Business Form Printing**

This U.S. industry comprises establishments primarily engaged in printing special forms, including checkbooks, for use in the operation of a business. The forms may be in single and multiple sets, including carbonized, interleaved with carbon, or otherwise processed for multiple reproduction.

The data published with NAICS code 323116 include the following SIC industries:

- 2761 Manifold business forms
- 2782 Blankbooks and looseleaf binders (pt)

### **323117 Book Printing**

This U.S. industry comprises establishments primarily engaged in printing or printing and binding books and pamphlets without publishing.

The data published with NAICS code 323117 include the following SIC industry:

- 2732 Book printing

### **323118 Blankbook, Looseleaf Binders, and Devices Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing blankbooks, looseleaf devices, and binders. Establishments in this industry may print or print and bind.

---

The data published with NAICS code 323118 include the following SIC industry:

2782 Blankbooks and looseleaf binders (pt)

### **323119 Other Commercial Printing**

This U.S. industry comprises establishments primarily engaged in commercial printing (except lithographic, gravure, screen, or flexographic printing) without publishing (except books, grey goods, and manifold business forms). Printing processes included in this industry are letterpress printing and engraving printing. This industry includes establishments engaged in commercial printing on purchased stock materials, such as stationery, invitations, labels, and similar items, on a job order basis.

The data published with NAICS code 323119 include the following SIC industries:

2759 Commercial printing, n.e.c. (pt)

2771 Greeting cards (pt)

3999 Manufacturing industries, n.e.c. (pt)

### **32312 Support Activities for Printing**

This industry comprises establishments primarily engaged in performing prepress (e.g., platemaking, typesetting) and postpress services (e.g., book binding) in support of printing activities.

### **323121 Tradebinding and Related Work**

This U.S. industry comprises establishments primarily engaged in one or more of the following: (1) tradebinding; (2) sample mounting; and (3) postpress services (e.g., book or paper bronzing, die-cutting, edging, embossing, folding, gilding, gluing, indexing).

The data published with NAICS code 323121 include the following SIC industry:

2789 Bookbinding and related work

### **323122 Prepress Services**

This U.S. industry comprises (1) establishments primarily engaged in prepress services, such as imagesetting or typesetting, for printers and (2) establishments primarily engaged in preparing film or plates for printing purposes.

The data published with NAICS code 323122 include the following SIC industries:

2791 Typesetting

2796 Platemaking services

## **324 Petroleum and Coal Products Manufacturing**

The Petroleum and Coal Products Manufacturing subsector is based on the transformation of crude petroleum and coal into usable products. The dominant process is

petroleum refining that involves the separation of crude petroleum into component products through such techniques as cracking and distillation.

In addition, this subsector includes establishments that primarily further process refined petroleum and coal products and produce products, such as asphalt coatings and petroleum lubricating oils. However, establishments that manufacture petrochemicals from refined petroleum are classified in Industry 32511, Petrochemical Manufacturing.

## **3241 Petroleum and Coal Products Manufacturing**

This NAICS industry group includes establishments classified in the following NAICS Industries: 32411, Petroleum Refineries; 32412, Asphalt Paving, Roofing, and Saturated Materials Manufacturing; and 32419, Other Petroleum and Coal Products Manufacturing.

### **32411 Petroleum Refineries**

This industry comprises establishments primarily engaged in refining crude petroleum into refined petroleum. Petroleum refining involves one or more of the following activities: (1) fractionation; (2) straight distillation of crude oil; and (3) cracking.

#### **324110 Petroleum Refineries**

This U.S. industry comprises establishments primarily engaged in refining crude petroleum into refined petroleum. Petroleum refining involves one or more of the following activities: (1) fractionation; (2) straight distillation of crude oil; and (3) cracking.

The data published with NAICS code 324110 include the following SIC industry:

2911 Petroleum refining

### **32412 Asphalt Paving, Roofing, and Saturated Materials Manufacturing**

This industry comprises establishments primarily engaged in (1) manufacturing asphalt and tar paving mixtures and blocks and roofing cements and coatings from purchased asphaltic materials and/or (2) saturating purchased mats and felts with asphalt or tar from purchased asphaltic materials.

#### **32412 Asphalt Paving, Roofing, and Saturated Materials Manufacturing**

This industry comprises establishments primarily engaged in (1) manufacturing asphalt and tar paving mixtures and blocks and roofing cements and coatings from purchased asphaltic materials and/or (2) saturating purchased mats and felts with asphalt or tar from purchased asphaltic materials.



---

### **324121 Asphalt Paving Mixture and Block Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing asphalt and tar paving mixtures and blocks from purchased asphaltic materials.

The data published with NAICS code 324121 include the following SIC industry:

2951 Asphalt paving mixtures and blocks

### **324122 Asphalt Shingle and Coating Materials Manufacturing**

This U.S. industry comprises establishments primarily engaged in (1) saturating purchased mats and felts with asphalt or tar from purchased asphaltic materials and (2) manufacturing asphalt and tar and roofing cements and coatings from purchased asphaltic materials.

The data published with NAICS code 324122 include the following SIC industry:

2952 Asphalt felts and coatings

### **32419 Other Petroleum and Coal Products Manufacturing**

This industry comprises establishments primarily engaged in manufacturing petroleum products (except asphalt paving, roofing, and saturated materials) from refined petroleum or coal products made in coke ovens not integrated with a steel mill.

#### **324191 Petroleum Lubricating Oil and Grease Manufacturing**

This U.S. industry comprises establishments primarily engaged in blending or compounding refined petroleum to make lubricating oils and greases and/or re-refining used petroleum lubricating oils.

The data published with NAICS code 324191 include the following SIC industry:

2992 Lubricating oils and greases

#### **324199 All Other Petroleum and Coal Products Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing petroleum products (except asphalt paving, roofing, and saturated materials and lubricating oils and greases) from refined petroleum and coal products made in coke ovens not integrated with a steel mill.

The data published with NAICS code 324199 include the following SIC industries:

2999 Petroleum and coal products, n.e.c.

3312 Blast furnaces and steel mills (pt)

### **325 Chemical Manufacturing**

The Chemical Manufacturing subsector is based on the transformation of organic and inorganic raw materials by a chemical process and the formulation of products. This subsector distinguishes the production of basic chemicals that comprise the first industry group from the production of intermediate and end products produced by further processing of basic chemicals that make up the remaining industry groups.

This subsector does not include all industries transforming raw materials by a chemical process. It is common for some chemical processing to occur during mining operations. These beneficiating operations, such as copper concentrating, are classified in Sector 21, Mining. Furthermore, the refining of crude petroleum is included in Subsector 324, Petroleum and Coal Products Manufacturing. In addition, the manufacturing of aluminum oxide is included in Subsector 331, Primary Metal Manufacturing; and beverage distilleries are classified in Subsector 312, Beverage and Tobacco Product Manufacturing. As in the case of these two activities, the grouping of industries into subsectors may take into account the association of the activities performed with other activities in the subsector.

#### **3251 Basic Chemical Manufacturing**

This industry group comprises establishments primarily engaged in manufacturing chemicals using basic processes, such as thermal cracking and distillation. Chemicals manufactured in this industry group are usually separate chemical elements or separate chemically-defined compounds.

##### **32511 Petrochemical Manufacturing**

This industry comprises establishments primarily engaged in (1) manufacturing acyclic (i.e., aliphatic) hydrocarbons such as ethylene, propylene, and butylene made from refined petroleum or liquid hydrocarbon and/or (2) manufacturing cyclic aromatic hydrocarbons such as benzene, toluene, styrene, xylene, ethyl benzene, and cumene made from refined petroleum or liquid hydrocarbons.

###### **325110 Petrochemical Manufacturing**

This U.S. industry comprises establishments primarily engaged in (1) manufacturing acyclic (i.e., aliphatic) hydrocarbons such as ethylene, propylene, and butylene made from refined petroleum or liquid hydrocarbon and/or (2) manufacturing cyclic aromatic hydrocarbons such as benzene, toluene, styrene, xylene, ethyl benzene, and cumene made from refined petroleum or liquid hydrocarbons.

The data published with NAICS code 325110 include the following SIC industries:

2865 Cyclic crudes and intermediates (pt)

2869 Industrial organic chemicals, n.e.c. (pt)

### **32512 Industrial Gas Manufacturing**

This industry comprises establishments primarily engaged in manufacturing industrial organic and inorganic gases in compressed, liquid, and solid forms.

### **325120 Industrial Gas Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing industrial organic and inorganic gases in compressed, liquid, and solid forms.

The data published with NAICS code 325120 include the following SIC industries:

2813 Industrial gases

2869 Industrial organic chemicals, n.e.c. (pt)

### **32513 Synthetic Dye and Pigment Manufacturing**

This industry comprises establishments primarily engaged in manufacturing synthetic organic and inorganic dyes and pigments, such as lakes and toners (except electrostatic and photographic).

### **325131 Inorganic Dye and Pigment Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing inorganic dyes and pigments.

The data published with NAICS code 325131 include the following SIC industries:

2816 Inorganic pigments (pt)

2819 Industrial inorganic chemicals, n.e.c. (pt)

### **325132 Synthetic Organic Dye and Pigment Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing synthetic organic dyes and pigments, such as lakes and toners (except electrostatic and photographic).

The data published with NAICS code 325132 include the following SIC industry:

2865 Cyclic crudes and intermediates (pt)

### **32518 Other Basic Inorganic Chemical Manufacturing**

This industry comprises establishments primarily engaged in manufacturing basic inorganic chemicals (except industrial gases and synthetic dyes and pigments).

### **325181 Alkalies and Chlorine Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing chlorine, sodium hydroxide (i.e., caustic soda), and other alkalies often using an electrolysis process.

The data published with NAICS code 325181 include the following SIC industry:

2812 Alkalies and chlorine

### **325182 Carbon Black Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing carbon black, bone black, and lamp black.

The data published with NAICS code 325182 include the following SIC industries:

2816 Inorganic pigments (pt)

2895 Carbon black

### **325188 All Other Basic Inorganic Chemical Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing basic inorganic chemicals (except industrial gases, inorganic dyes and pigments, alkalies and chlorine, and carbon black).

The data published with NAICS code 325188 include the following SIC industries:

2819 Industrial inorganic chemicals, n.e.c. (pt)

2869 Industrial organic chemicals, n.e.c. (pt)

### **32519 Other Basic Organic Chemical Manufacturing**

This industry comprises establishments primarily engaged in manufacturing basic organic chemicals (except petrochemicals, industrial gases, and synthetic dyes and pigments).

### **325191 Gum and Wood Chemical Manufacturing**

This U.S. industry comprises establishments primarily engaged in (1) distilling wood or gum into products, such as tall oil and wood distillates, and (2) manufacturing wood or gum chemicals, such as naval stores, natural tanning materials, charcoal briquettes, and charcoal (except activated).

The data published with NAICS code 325191 include the following SIC industry:

2861 Gum and wood chemicals

### **325192 Cyclic Crude and Intermediate Manufacturing**

This U.S. industry comprises establishments primarily engaged in (1) distilling coal tars and/or (2) manufacturing cyclic crudes or cyclic intermediates (i.e., hydrocarbons, except aromatic petrochemicals) from refined petroleum or natural gas.

The data published with NAICS code 325192 include the following SIC industry:

2865 Cyclic crudes and intermediates (pt)

---

### **325193 Ethyl Alcohol Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing nonpotable ethyl alcohol.

The data published with NAICS code 325193 include the following SIC industry:

2869 Industrial organic chemicals, n.e.c. (pt)

### **325199 All Other Basic Organic Chemical Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing basic organic chemical products (except aromatic petrochemicals, industrial gases, synthetic organic dyes and pigments, gum and wood chemicals, cyclic crudes and intermediates, and ethyl alcohol).

The data published with NAICS code 325199 include the following SIC industries:

2869 Industrial organic chemicals, n.e.c. (pt)

2899 Chemical preparations, n.e.c. (pt)

### **3252 Resin, Synthetic Rubber, and Artificial and Synthetic Fibers and Filaments Manufacturing**

#### **32521 Resin and Synthetic Rubber Manufacturing**

This industry comprises establishments primarily engaged in one or more of the following: (1) manufacturing synthetic resins, plastics materials, and nonvulcanizable elastomers and mixing and blending resins on a custom basis; (2) manufacturing noncustomized synthetic resins; and (3) manufacturing synthetic rubber.

#### **325211 Plastics Material and Resin Manufacturing**

This U.S. industry comprises establishments primarily engaged in (1) manufacturing resins, plastics materials, and nonvulcanizable thermoplastic elastomers and mixing and blending resins on a custom basis and/or (2) manufacturing noncustomized synthetic resins.

The data published with NAICS code 325211 include the following SIC industry:

2821 Plastics materials and resins

#### **325212 Synthetic Rubber Manufacturing**

This U.S. industry consists of establishments primarily engaged in manufacturing synthetic rubber.

The data published with NAICS code 325212 include the following SIC industry:

2822 Synthetic rubber

### **32522 Artificial and Synthetic Fibers and Filaments Manufacturing**

This industry comprises establishments primarily engaged in (1) manufacturing cellulosic (i.e., rayon and acetate) and noncellulosic (i.e., nylon, polyolefin, and polyester) fibers and filaments in the form of monofilament, filament yarn, staple, or tow or (2) manufacturing and texturing cellulosic and noncellulosic fibers and filaments.

#### **325221 Cellulosic Organic Fiber Manufacturing**

This U.S. industry comprises establishments primarily engaged in (1) manufacturing cellulosic (i.e., rayon and acetate) fibers and filaments in the form of monofilament, filament yarn, staple, or tow or (2) manufacturing and texturing cellulosic fibers and filaments.

The data published with NAICS code 325221 include the following SIC industry:

2823 Cellulosic manmade fibers

#### **325222 Noncellulosic Organic Fiber Manufacturing**

This U.S. industry consists of establishments primarily engaged in (1) manufacturing noncellulosic (i.e., nylon, polyolefin, and polyester) fibers and filaments in the form of monofilament, filament yarn, staple, or tow or (2) manufacturing and texturing noncellulosic fibers and filaments.

The data published with NAICS code 325222 include the following SIC industry:

2824 Organic fibers, noncellulosic

### **3253 Pesticide, Fertilizer, and Other Agricultural Chemical Manufacturing**

This NAICS industry group includes establishments classified in the following NAICS Industries: 32531, Fertilizer Manufacturing; and 32532, Pesticide and Other Agricultural Chemical Manufacturing.

#### **32531 Fertilizer Manufacturing**

This industry comprises establishments primarily engaged in one or more of the following: (1) manufacturing nitrogenous or phosphatic fertilizer materials; (2) manufacturing fertilizers from sewage or animal waste; (3) manufacturing nitrogenous or phosphatic materials and mixing with other ingredients into fertilizers; and (4) mixing ingredients made elsewhere into fertilizers.

#### **325311 Nitrogenous Fertilizer Manufacturing**

This U.S. industry comprises establishments primarily engaged in one or more of the following: (1) manufacturing nitrogenous fertilizer materials and mixing ingredients

into fertilizers; (2) manufacturing fertilizers from sewage or animal waste; and (3) manufacturing nitrogenous materials and mixing them into fertilizers.

The data published with NAICS code 325311 include the following SIC industry:

2873 Nitrogenous fertilizers

### **325312 Phosphatic Fertilizer Manufacturing**

This U.S. industry comprises establishments primarily engaged in (1) manufacturing phosphatic fertilizer materials or (2) manufacturing phosphatic materials and mixing them into fertilizers.

The data published with NAICS code 325312 include the following SIC industry:

2874 Phosphatic fertilizers

### **325314 Fertilizer (Mixing Only) Manufacturing**

This U.S. industry comprises establishments primarily engaged in mixing ingredients made elsewhere into fertilizers.

The data published with NAICS code 325314 include the following SIC industry:

2875 Fertilizers, mixing only

### **32532 Pesticide and Other Agricultural Chemical Manufacturing**

This industry comprises establishments primarily engaged in the formulation and preparation of agricultural and household pest control chemicals (except fertilizers).

### **325320 Pesticide and Other Agricultural Chemical Manufacturing**

This U.S. industry comprises establishments primarily engaged in the formulation and preparation of agricultural and household pest control chemicals (except fertilizers).

The data published with NAICS code 325320 include the following SIC industry:

2879 Agricultural chemicals, n.e.c.

### **3254 Pharmaceutical and Medicine Manufacturing**

This NAICS industry group includes establishments classified in Industry 32541, Pharmaceutical and Medicine Manufacturing.

### **32541 Pharmaceutical and Medicine Manufacturing**

This industry comprises establishments primarily engaged in one or more of the following: (1) manufacturing biological and medicinal products; (2) processing (i.e., grading, grinding, and milling) botanical drugs and herbs; (3) isolating active medicinal principals from botanical drugs and herbs; and (4) manufacturing pharmaceutical

products intended for internal and external consumption in such forms as ampoules, tablets, capsules, vials, ointments, powders, solutions, and suspensions.

### **325411 Medicinal and Botanical Manufacturing**

This U.S. industry comprises establishments primarily engaged in (1) manufacturing uncompounded medicinal chemicals and their derivatives (i.e., generally for use by pharmaceutical preparation manufacturers) and/or (2) grading, grinding, and milling uncompounded botanicals.

The data published with NAICS code 325411 include the following SIC industry:

2833 Medicinals and botanicals

### **325412 Pharmaceutical Preparation Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing in-vivo diagnostic substances and pharmaceutical preparations (except biological) intended for internal and external consumption in dose forms, such as ampoules, tablets, capsules, vials, ointments, powders, solutions, and suspensions.

The data published with NAICS code 325412 include the following SIC industries:

2834 Pharmaceutical preparations

2835 Diagnostic substances (pt)

### **325413 In-Vitro Diagnostic Substance Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing in-vitro (i.e., not taken internally) diagnostic substances, such as chemical, biological, or radioactive substances. The substances are used for diagnostic tests that are performed in test tubes, petri dishes, machines, and other diagnostic test-type devices.

The data published with NAICS code 325413 include the following SIC industry:

2835 Diagnostic substances (pt)

### **325414 Biological Product (Except Diagnostic) Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing vaccines, toxoids, blood fractions, and culture media of plant or animal origin (except diagnostic).

The data published with NAICS code 325414 include the following SIC industry:

2836 Biological products, except diagnostic

### **3255 Paint, Coating, and Adhesive Manufacturing**

This NAICS industry group includes establishments classified in the following NAICS Industries: 32551, Paint and Coating Manufacturing; and 32552, Adhesive Manufacturing.

---

### **32551 Paint and Coating Manufacturing**

This industry comprises establishments primarily engaged in (1) mixing pigments, solvents, and binders into paints and other coatings, such as stains, varnishes, lacquers, enamels, shellacs, and water repellent coatings for concrete and masonry, and/or (2) manufacturing allied paint products, such as putties, paint and varnish removers, paint brush cleaners, and frit.

#### **325510 Paint and Coating Manufacturing**

This U.S. industry comprises establishments primarily engaged in (1) mixing pigments, solvents, and binders into paints and other coatings, such as stains, varnishes, lacquers, enamels, shellacs, and water repellent coatings for concrete and masonry, and/or (2) manufacturing allied paint products, such as putties, paint and varnish removers, paint brush cleaners, and frit.

The data published with NAICS code 325510 include the following SIC industries:

2851 Paints and allied products

2899 Chemical preparations, n.e.c. (pt)

### **32552 Adhesive Manufacturing**

This industry comprises establishments primarily engaged in manufacturing adhesives, glues, and caulking compounds.

#### **325520 Adhesive Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing adhesives, glues, and caulking compounds.

The data published with NAICS code 325520 include the following SIC industry:

2891 Adhesives and sealants

### **3256 Soap, Cleaning Compound, and Toilet Preparation Manufacturing**

This NAICS industry group includes establishments classified in the following NAICS Industries: 32561, Soap and Cleaning Compound Manufacturing; and 32562, Toilet Preparation Manufacturing.

#### **32561 Soap and Cleaning Compound Manufacturing**

This industry comprises establishments primarily engaged in manufacturing and packaging soap and other cleaning compounds, surface active agents, and textile and leather finishing agents used to reduce tension or speed the drying process.

### **325611 Soap and Other Detergent Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing and packaging soaps and other detergents, such as laundry detergents; dishwashing detergents; toothpaste gels and tooth powders; and natural glycerin.

The data published with NAICS code 325611 include the following SIC industries:

2841 Soap and other detergents

2844 Toilet preparations (pt)

#### **325612 Polish and Other Sanitation Good Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing and packaging polishes and specialty cleaning preparations.

The data published with NAICS code 325612 include the following SIC industry:

2842 Polishes and sanitation goods

#### **325613 Surface Active Agent Manufacturing**

This U.S. industry comprises establishments primarily engaged in (1) manufacturing bulk surface active agents for use as wetting agents, emulsifiers, and penetrants, and/or (2) manufacturing textiles and leather finishing agents used to reduce tension or speed the drying process.

The data published with NAICS code 325613 include the following SIC industry:

2843 Surface active agents

#### **32562 Toilet Preparation Manufacturing**

This industry comprises establishments primarily engaged in preparing, blending, compounding, and packaging toilet preparations, such as perfumes, shaving preparations, hair preparations, face creams, lotions (including sunscreens), and other cosmetic preparations.

#### **325620 Toilet Preparation Manufacturing**

This U.S. industry comprises establishments primarily engaged in preparing, blending, compounding, and packaging toilet preparations, such as perfumes, shaving preparations, hair preparations, face creams, lotions (including sunscreens), and other cosmetic preparations.

The data published with NAICS code 325620 include the following SIC industry:

2844 Toilet preparations (pt)

#### **3259 Other Chemical Product Manufacturing**

This industry group comprises establishments primarily engaged in manufacturing chemical products (except basic chemicals; resins, synthetic rubber, cellulosic and

---

noncellulosic fibers and filaments; pesticides, fertilizers, and other agricultural chemicals; pharmaceuticals and medicines; paints, coatings, and adhesives; soaps and cleaning compounds; and toilet preparations).

### **32591 Printing Ink Manufacturing**

This industry comprises establishments primarily engaged in manufacturing printing and inkjet inks and inkjet cartridges.

### **325910 Printing Ink Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing printing and inkjet inks and inkjet cartridges.

The data published with NAICS code 325910 include the following SIC industry:

2893 Printing ink

### **32592 Explosives Manufacturing**

This industry comprises establishments primarily engaged in manufacturing explosives.

### **325920 Explosives Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing explosives.

The data published with NAICS code 325920 include the following SIC industry:

2892 Explosives

### **32599 All Other Chemical Product and Preparation Manufacturing**

This industry comprises establishments primarily engaged in manufacturing chemical products (except basic chemicals, resins, and synthetic rubber; cellulosic and noncellulosic fibers and filaments; pesticides, fertilizers, and other agricultural chemicals; pharmaceuticals and medicines; paints, coatings, and adhesives; and soaps, cleaning compounds, and toilet preparations; printing inks; and explosives).

### **325991 Custom Compounding of Purchased Resins**

This U.S. industry comprises establishments primarily engaged in (1) custom mixing and blending plastics resins made elsewhere or (2) reformulating plastics resins from recycled plastics products.

The data published with NAICS code 325991 include the following SIC industries:

3087 Custom compound purchased resins

### **325992 Photographic Film, Paper, Plate, and Chemical Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing sensitized film, sensitized paper, sensitized cloth, sensitized plates, toners (i.e., for photocopiers, laser printers, and similar electrostatic printing devices), toner cartridges, and photographic chemicals.

The data published with NAICS code 325992 include the following SIC industry:

3861 Photographic equipment and supplies (pt)

### **325998 All Other Miscellaneous Chemical Product and Preparation Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing chemical products (except basic chemicals, resins, synthetic rubber; cellulosic and noncellulosic fiber and filaments; pesticides, fertilizers, and other agricultural chemicals; pharmaceuticals and medicines; paints, coatings, and adhesives; soap, cleaning compounds, and toilet preparations; printing inks; explosives; custom compounding of purchased resins; and photographic films, papers, plates, and chemicals).

The data published with NAICS code 325998 include the following SIC industries:

2819 Industrial inorganic chemicals, n.e.c. (pt)

2899 Chemical preparations, n.e.c. (pt)

3952 Lead pencils and art goods (pt)

3999 Manufacturing industries, n.e.c. (pt)

This definition comes from the 1997 NAICS Manual. However, for this industry, the 1997 Economic Census – Manufacturing did not fully implement the conversion to NAICS. Data for NAICS industry 325998 do not include establishments primarily engaged in aerosol packaging. The NAICS definitions will be fully implemented with the 2002 Economic Census.

### **326 Plastics and Rubber Products Manufacturing**

Industries in the Plastics and Rubber Products Manufacturing subsector make goods by processing plastics materials and raw rubber. The core technology employed by establishments in this subsector is that of plastics or rubber product production. Plastics and rubber are combined in the same subsector because plastics are increasingly being used as a substitute for rubber; however, the subsector is generally restricted to the production of products made of just one material, either solely plastics or rubber.

Many manufacturing activities use plastics or rubber, for example the manufacture of footwear, or furniture. Typically, the production process of these products

involves more than one material. In these cases, technologies that allow disparate materials to be formed and combined are of central importance in describing the manufacturing activity. In NAICS, such activities (the footwear and furniture manufacturing) are not classified in the Plastics and Rubber Products Manufacturing subsector because the core technologies for these activities are diverse and involve multiple materials.

Within the Plastics and Rubber Products Manufacturing subsector, a distinction is made between plastics and rubber products at the industry group level, although it is not a rigid distinction, as can be seen from the definition of Industry 32622, Rubber and Plastics Hose and Belting Manufacturing. As materials technology progresses, plastics are increasingly being used as a substitute for rubber; and eventually, the distinction may disappear as a basis for establishment classification.

In keeping with the core technology focus of plastics, lamination of plastics film to plastics film as well as the production of bags from plastics only is classified in this subsector. Lamination and bag production involving plastics and materials other than plastics are classified in the NAICS Subsector 322, Paper Manufacturing.

### **3261 Plastics Product Manufacturing**

This industry group comprises establishments primarily engaged in processing new or spent (i.e., recycled) plastics resins into intermediate or final products, using such processes as compression molding; extrusion molding; injection molding; blow molding; and casting. Within most of these industries, the production process is such that a wide variety of products can be made.

#### **32611 Unsupported Plastics Film, Sheet, and Bag Manufacturing**

This industry comprises establishments primarily engaged in (1) converting plastics resins into unsupported plastics film and sheet and/or (2) forming, coating, or laminating plastics film and sheet into plastics bags.

##### **326111 Unsupported Plastics Bag Manufacturing**

This U.S. industry comprises establishments primarily engaged in (1) converting plastics resins into plastics bags or (2) forming, coating, or laminating plastics film and sheet into single wall or multiwall plastics bags. Establishments in this industry may print on the bags they manufacture.

The data published with NAICS code 326111 include the following SIC industry:

2673 Bags - plastics, laminated, and coated (pt)

##### **326112 Unsupported Plastics Packaging Film and Sheet Manufacturing**

This U.S. industry comprises establishments primarily engaged in converting plastics resins into plastics packaging (flexible) film and packaging sheet.

The data published with NAICS code 326112 include the following SIC industry:

2671 Paper - coated and laminated, packaging (pt)

##### **326113 Unsupported Plastics Film and Sheet (Except Packaging) Manufacturing**

This U.S. industry comprises establishments primarily engaged in converting plastics resins into plastics film and unlaminated sheet (except packaging).

The data published with NAICS code 326113 include the following SIC industry:

3081 Unsupported plastics film and sheet

##### **32612 Plastics Pipe, Pipe Fitting, and Unsupported Profile Shape Manufacturing**

This industry comprises establishments primarily engaged in manufacturing plastics pipes and pipe fittings, and plastics profile shapes such as rod, tube, and sausage casings.

##### **326121 Unsupported Plastics Profile Shapes Manufacturing**

This U.S. industry comprises establishments primarily engaged in converting plastics resins into nonrigid plastics profile shapes (except film, sheet, and bags), such as rod, tube, and sausage casings.

The data published with NAICS code 326121 include the following SIC industry:

3082 Unsupported plastics profile shapes

##### **326122 Plastics Pipe and Pipe Fitting Manufacturing**

This U.S. industry comprises establishments primarily engaged in converting plastics resins into rigid plastics pipes and pipe fittings.

The data published with NAICS code 326122 include the following SIC industries:

3084 Plastics pipe

3089 Plastics products, n.e.c. (pt)

##### **32613 Laminated Plastics Plate, Sheet, and Shape Manufacturing**

This industry comprises establishments primarily engaged in laminating plastics profile shapes such as plate, sheet (except packaging), and rod. The lamination process generally involves bonding or impregnating profiles with plastics resins and compressing them under heat.

---

### **326130 Laminated Plastics Plate, Sheet, and Shape Manufacturing**

This U.S. industry comprises establishments primarily engaged in laminating plastics profile shapes such as plate, sheet (except packaging), and rod. The lamination process generally involves bonding or impregnating profiles with plastics resins and compressing them under heat.

The data published with NAICS code 326130 include the following SIC industry:

3083 Laminated plastics plate and sheet

### **32614 Polystyrene Foam Product Manufacturing**

This industry comprises establishments primarily engaged in manufacturing polystyrene foam products.

### **326140 Polystyrene Foam Product Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing polystyrene foam products.

The data published with NAICS code 326140 include the following SIC industry:

3086 Plastics foam products (pt)

### **32615 Urethane and Other Foam Product (Except Polystyrene) Manufacturing**

This industry comprises establishments primarily engaged in manufacturing plastics foam products (except polystyrene).

### **326150 Urethane and Other Foam Product (Except Polystyrene) Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing plastics foam products (except polystyrene).

The data published with NAICS code 326150 include the following SIC industry:

3086 Plastics foam products (pt)

### **32616 Plastics Bottle Manufacturing**

This industry comprises establishments primarily engaged in manufacturing plastics bottles.

### **326160 Plastics Bottle Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing plastics bottles.

The data published with NAICS code 326160 include the following SIC industry:

3085 Plastics bottles

### **32619 Other Plastics Product Manufacturing**

This industry comprises establishments primarily engaged in manufacturing resilient floor covering and other plastics products (except film, sheet, bags, profile shapes, pipes, pipe fittings, laminates, foam products, and bottles).

### **326191 Plastics Plumbing Fixture Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing plastics or fiberglass plumbing fixtures. Examples of products made by these establishments are plastics or fiberglass bathtubs, hot tubs, portable toilets, and shower stalls.

The data published with NAICS code 326191 include the following SIC industry:

3088 Plastics plumbing fixtures

### **326192 Resilient Floor Covering Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing resilient floor coverings for permanent installation.

The data published with NAICS code 326192 include the following SIC industries:

3069 Fabricated rubber products, n.e.c. (pt)

3996 Hard surface floor coverings

### **326199 All Other Plastics Product Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing plastics products (except film, sheet, bags, profile shapes, pipes, pipe fittings, laminates, foam products, bottles, plumbing fixtures, and resilient floor coverings).

The data published with NAICS code 326199 include the following SIC industries:

3089 Plastics products, n.e.c. (pt)

3999 Manufacturing industries, n.e.c. (pt)

This definition comes from the 1997 NAICS Manual. However, for this industry, the 1997 Economic Census – Manufacturing did not fully implement the conversion to NAICS. Data for NAICS industry 326199 include establishments primarily engaged in the manufacture of plastic furniture parts. The NAICS definitions will be fully implemented with the 2002 Economic Census.

### **3262 Rubber Product Manufacturing**

This industry group comprises establishments primarily engaged in processing natural and synthetic or reclaimed rubber materials into intermediate or final products using processes such as vulcanizing, cementing, molding, extruding, and lathe-cutting.



---

### **32621 Tire Manufacturing**

This industry comprises establishments primarily engaged in manufacturing tires and inner tubes from natural and synthetic rubber and retreading or rebuilding tires.

#### **326211 Tire Manufacturing (Except Retreading)**

This U.S. industry comprises establishments primarily engaged in manufacturing tires and inner tubes from natural and synthetic rubber.

The data published with NAICS code 326211 include the following SIC industry:

3011 Tires and inner tubes

#### **326212 Tire Retreading**

This U.S. industry comprises establishments primarily engaged in retreading, or rebuilding tires.

The data published with NAICS code 326212 include the following SIC industry:

7534 Tire retreading and repair shops (pt)

#### **32622 Rubber and Plastics Hoses and Belting Manufacturing**

This industry comprises establishments primarily engaged in manufacturing rubber hose and/or plastics (reinforced) hose and belting from natural and synthetic rubber and/or plastics resins. Establishments manufacturing garden hoses from purchased hose are included in this industry.

#### **326220 Rubber and Plastics Hoses and Belting Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing rubber hose and/or plastics (reinforced) hose and belting from natural and synthetic rubber and/or plastics resins. Establishments manufacturing garden hoses from purchased hose are included in this industry.

The data published with NAICS code 326220 include the following SIC industry:

3052 Rubber and plastics hose and belting

#### **32629 Other Rubber Product Manufacturing**

This industry comprises establishments primarily engaged in manufacturing rubber products (except tires, hoses, and belting) from natural and synthetic rubber.

#### **326291 Rubber Product Manufacturing for Mechanical Use**

This U.S. industry comprises establishments primarily engaged in molding, extruding, or lathe-cutting rubber to manufacture rubber goods (except tubing) for mechanical applications. Products of this industry are generally parts for motor vehicles, machinery, and equipment.

The data published with NAICS code 326291 include the following SIC industry:

3061 Mechanical rubber goods

#### **326299 All Other Rubber Product Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing rubber products (except tires; hoses and belting; and molded, extruded, and lathe-cut rubber goods for mechanical applications) from natural and synthetic rubber.

The data published with NAICS code 326299 include the following SIC industry:

3069 Fabricated rubber products, n.e.c. (pt)

This definition comes from the 1997 NAICS Manual. However, for this industry, the 1997 Economic Census – Manufacturing did not fully implement the conversion to NAICS. Data for NAICS industry 326299 include establishments primarily engaged in the manufacture of rubber products including gloves, toys, pants, raincoats, bibs, aprons, bathing caps, life jackets, and wet suits. The NAICS definitions will be fully implemented with the 2002 Economic Census.

### **327 Nonmetallic Mineral Product Manufacturing**

The Nonmetallic Mineral Product Manufacturing subsector transforms mined or quarried nonmetallic minerals, such as sand, gravel, stone, clay, and refractory materials, into products for intermediate or final consumption. Processes used include grinding, mixing, cutting, shaping, and honing. Heat often is used in the process and chemicals are frequently mixed to change the composition, purity, and chemical properties for the intended product. For example, glass is produced by heating silica sand to the melting point (sometimes combined with cullet or recycled glass) and then drawn, floated, or blow molded to the desired shape or thickness. Refractory materials are heated and then formed into bricks or other shapes for use in industrial applications.

The Nonmetallic Mineral Product Manufacturing subsector includes establishments that manufacture products, such as bricks, refractories, ceramic products, and glass and glass products, such as plate glass and containers. Also included are cement and concrete products, lime, gypsum and other nonmetallic mineral products including abrasive products, ceramic plumbing fixtures, statuary, cut stone products, and mineral wool. The products are used in a wide range of activities from construction and heavy and light manufacturing to articles for personal use.

Mining, beneficiating, and manufacturing activities often occur in a single location. Separate receipts will be collected for these activities whenever possible. When receipts cannot be broken out between mining and manufacturing, establishments that mine or quarry nonmetallic minerals, beneficiate the nonmetallic minerals and further

process the nonmetallic minerals into a more finished manufactured product are classified based on the primary activity of the establishment. A mine that manufactures a small amount of finished products will be classified in Sector 21, Mining. An establishment that mines whose primary output is a more-finished manufactured product will be classified in the Manufacturing Sector.

Excluded from the Nonmetallic Mineral Product Manufacturing subsector are establishments that primarily benefit mined nonmetallic minerals. Beneficiation is the process whereby the extracted material is reduced to particles that can be separated into mineral and waste, the former suitable for further processing or direct use. Beneficiation establishments are included in Sector 21, Mining.

### **3271 Clay Product and Refractory Manufacturing**

This NAICS industry group includes establishments classified in the following NAICS Industries: 32711, Pottery, Ceramics, and Plumbing Fixture Manufacturing; and 32712, Clay Building Material and Refractories Manufacturing.

#### **32711 Pottery, Ceramics, and Plumbing Fixture Manufacturing**

This industry comprises establishments primarily engaged in shaping, molding, glazing, and firing pottery, ceramics, and plumbing fixtures made entirely or partly of clay or other ceramic materials.

#### **327111 Vitreous China Plumbing Fixture and China and Earthenware Bathroom Accessories Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing vitreous china plumbing fixtures and china and earthenware bathroom accessories, such as faucet handles, towel bars, and soap dishes.

The data published with NAICS code 327111 include the following SIC industry:

3261 Vitreous plumbing fixtures

#### **327112 Vitreous China, Fine Earthenware, and Other Pottery Product Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing table and kitchen articles, art and ornamental items, and similar vitreous china, fine earthenware, stoneware, coarse earthenware, and pottery products.

The data published with NAICS code 327112 include the following SIC industries:

3262 Vitreous china table and kitchen articles

3263 Fine earthenware table and kitchen articles

3269 Pottery products, n.e.c.

3299 Nonmetallic mineral products, n.e.c. (pt)

### **327113 Porcelain Electrical Supply Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing porcelain electrical insulators, molded porcelain parts for electrical devices, ferrite or ceramic magnets, and electronic and electrical supplies from nonmetallic minerals, such as clay and ceramic materials.

The data published with NAICS code 327113 include the following SIC industry:

3264 Porcelain electrical supplies

### **32712 Clay Building Material and Refractories Manufacturing**

This industry comprises establishments primarily engaged in shaping, molding, baking, burning, or hardening clay refractories, nonclay refractories, ceramic tile, structural clay tile, brick, and other structural clay building materials.

#### **327121 Brick and Structural Clay Tile Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing brick and structural clay tiles.

The data published with NAICS code 327121 include the following SIC industry:

3251 Brick and structural clay tile

This definition comes from the 1997 NAICS Manual. However, for this industry, the 1997 Economic Census – Manufacturing did not fully implement the conversion to NAICS. Data for NAICS industry 327121 include establishments primarily engaged in the manufacture of slumped brick. The NAICS definitions will be fully implemented with the 2002 Economic Census.

#### **327122 Ceramic Wall and Floor Tile Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing ceramic wall and floor tiles.

The data published with NAICS code 327122 include the following SIC industry:

3253 Ceramic wall and floor tile

#### **327123 Other Structural Clay Product Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing clay sewer pipe, drain tile, flue lining tile, architectural terra-cotta, and other structural clay products.

The data published with NAICS code 327123 include the following SIC industry:

3259 Structural clay products, n.e.c.

---

### **327124 Clay Refractory Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing clay refractory, mortar, brick, block, tile, and fabricated clay refractories, such as melting pots. A refractory is a material that will retain its shape and chemical identity when subjected to high temperatures and is used in applications that require extreme resistance to heat, such as furnace linings.

The data published with NAICS code 327124 include the following SIC industry:

3255 Clay refractories

### **327125 Nonclay Refractory Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing nonclay refractory, mortar, brick, block, tile, and fabricated nonclay refractories such as graphite, magnesite, silica, or alumina crucibles. A refractory is a material that will retain its shape and chemical identity when subjected to high temperatures and is used in applications that require extreme resistance to heat, such as furnace linings.

The data published with NAICS code 327125 include the following SIC industry:

3297 Nonclay refractories

### **3272 Glass and Glass Product Manufacturing**

This NAICS industry group includes establishments classified in NAICS Industry 32721, Glass and Glass Product Manufacturing.

#### **32721 Glass and Glass Product Manufacturing**

This industry comprises establishments primarily engaged in manufacturing glass and/or glass products. Establishments in this industry may manufacture glass and/or glass products by melting silica sand or cullet, or purchasing glass.

#### **327211 Flat Glass Manufacturing**

This U.S. industry comprises establishments primarily engaged in (1) manufacturing flat glass by melting silica sand or cullet or (2) manufacturing both flat glass and laminated glass by melting silica sand or cullet.

The data published with NAICS code 327211 include the following SIC industry:

3211 Flat glass

#### **327212 Other Pressed and Blown Glass and Glassware Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing glass by melting silica sand or cullet and making pressed, blown, or shaped glass or glassware (except glass packaging containers).

The data published with NAICS code 327212 include the following SIC industry:

3229 Pressed and blown glass, n.e.c.

### **327213 Glass Container Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing glass packaging containers.

The data published with NAICS code 327213 include the following SIC industry:

3221 Glass containers

### **327215 Glass Product Manufacturing Made of Purchased Glass**

This U.S. industry comprises establishments primarily engaged in remelting, pressing, blowing, or shaping purchased glass.

The data published with NAICS code 327215 include the following SIC industry:

3231 Products of purchased glass

### **3273 Cement and Concrete Product Manufacturing**

This NAICS industry group includes establishments classified in the following NAICS Industries: 32731, Cement Manufacturing; 32732, Ready-Mix Concrete Manufacturing; 32733, Concrete Pipe, Brick, and Block Manufacturing; and 32739, Other Concrete Product Manufacturing.

#### **32731 Cement Manufacturing**

This industry comprises establishments primarily engaged in manufacturing portland, natural, masonry, pozzalanic, and other hydraulic cements. Cement manufacturing establishments may calcine earths or mine, quarry, manufacture, or purchase lime.

#### **327310 Cement Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing portland, natural, masonry, pozzalanic, and other hydraulic cements. Cement manufacturing establishments may calcine earths or mine, quarry, manufacture, or purchase lime.

The data published with NAICS code 327310 include the following SIC industry:

3241 Cement, hydraulic

#### **32732 Ready-Mix Concrete Manufacturing**

This industry comprises establishments, such as batch plants or mix plants, primarily engaged in manufacturing concrete delivered to a purchaser in a plastic and unhardened state. Ready-mix concrete manufacturing establishments may mine, quarry, or purchase sand and gravel.

### **327320 Ready-Mix Concrete Manufacturing**

This U.S. industry comprises establishments, such as batch plants or mix plants, primarily engaged in manufacturing concrete delivered to a purchaser in a plastic and unhardened state. Ready-mix concrete manufacturing establishments may mine, quarry, or purchase sand and gravel.

The data published with NAICS code 327320 include the following SIC industry:

3273 Ready-mixed concrete

### **32733 Concrete Pipe, Brick, and Block Manufacturing**

This industry comprises establishments primarily engaged in manufacturing concrete pipe, brick, and block

#### **327331 Concrete Block and Brick Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing concrete block and brick.

The data published with NAICS code 327331 include the following SIC industry:

3271 Concrete brick and block

This definition comes from the 1997 NAICS Manual. However, for this industry, the 1997 Economic Census – Manufacturing did not fully implement the conversion to NAICS. Data for NAICS industry 327331 do not include establishments primarily engaged in the manufacture of slumped brick. The NAICS definitions will be fully implemented with the 2002 Economic Census.

#### **327332 Concrete Pipe Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing concrete pipe.

The data published with NAICS code 327332 include the following SIC industry:

3272 Concrete products, n.e.c. (pt)

#### **32739 Other Concrete Product Manufacturing**

This industry comprises establishments primarily engaged in manufacturing concrete products (except block, brick, and pipe).

#### **327390 Other Concrete Product Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing concrete products (except block, brick, and pipe).

The data published with NAICS code 327390 include the following SIC industry:

3272 Concrete products, n.e.c. (pt)

### **3274 Lime and Gypsum Product Manufacturing**

This NAICS industry group includes establishments classified in the following NAICS Industries: 32741, Lime Manufacturing; and 32742, Gypsum Product Manufacturing.

#### **32741 Lime Manufacturing**

This industry comprises establishments primarily engaged in manufacturing lime from calcitic limestone, dolomitic limestone, or other calcareous materials, such as coral, chalk, and shells. Lime manufacturing establishments may mine, quarry, collect, or purchase the sources of calcium carbonate.

#### **327410 Lime Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing lime from calcitic limestone, dolomitic limestone, or other calcareous materials, such as coral, chalk, and shells. Lime manufacturing establishments may mine, quarry, collect, or purchase the sources of calcium carbonate.

The data published with NAICS code 327410 include the following SIC industry:

3274 Lime

#### **32742 Gypsum Product Manufacturing**

This industry comprises establishments primarily engaged in manufacturing gypsum products such as wall-board, plaster, plasterboard, molding, ornamental moldings, statuary, and architectural plaster work. Gypsum product manufacturing establishments may mine, quarry, or purchase gypsum.

#### **327420 Gypsum Product Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing gypsum products, such as wall-board, plaster, plasterboard, molding, ornamental moldings, statuary, and architectural plaster work. Gypsum product manufacturing establishments may mine, quarry, or purchase gypsum.

The data published with NAICS code 327420 include the following SIC industries:

3275 Gypsum products

3299 Nonmetallic mineral products, n.e.c. (pt)

#### **3279 Other Nonmetallic Mineral Product Manufacturing**

The Other Nonmetallic Mineral Product Manufacturing industry group comprises establishments manufacturing nonmetallic mineral products (except clay products, refractory products, glass products, cement and concrete products, lime, and gypsum products).

### **32791 Abrasive Product Manufacturing**

This industry comprises establishments primarily engaged in manufacturing abrasive grinding wheels of natural or synthetic materials, abrasive-coated products, and other abrasive products

#### **327910 Abrasive Product Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing abrasive grinding wheels of natural or synthetic materials, abrasive-coated products, and other abrasive products.

The data published with NAICS code 327910 include the following SIC industry:

3291 Abrasive products (pt)

### **32799 All Other Nonmetallic Mineral Product Manufacturing**

This industry comprises establishments primarily engaged in manufacturing nonmetallic mineral products (except pottery, ceramics, and plumbing fixtures; clay building materials and refractories; glass and glass products; cement; ready-mix concrete; concrete products; lime; gypsum products; and abrasive products).

#### **327991 Cut Stone and Stone Product Manufacturing**

This U.S. industry comprises establishments primarily engaged in cutting, shaping, and finishing granite, marble, limestone, slate, and other stone for building and miscellaneous uses. Stone product manufacturing establishments may mine, quarry, or purchase stone.

The data published with NAICS code 327991 include the following SIC industry:

3281 Cut stone and stone products

#### **327992 Ground or Treated Mineral and Earth Manufacturing**

This U.S. industry comprises establishments primarily engaged in calcining, dead burning, or otherwise processing beyond beneficiation, clays, ceramic and refractory minerals, barite, and miscellaneous nonmetallic minerals.

The data published with NAICS code 327992 include the following SIC industry:

3295 Minerals, ground or treated

#### **327993 Mineral Wool Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing mineral wool and mineral wool (i.e., fiberglass) insulation products made of such siliceous materials as rock, slag, and glass or combinations thereof.

The data published with NAICS code 327993 include the following SIC industry:

3296 Mineral wool

### **327999 All Other Miscellaneous Nonmetallic Mineral Product Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing nonmetallic mineral products (except pottery, ceramics, and plumbing fixtures; clay building materials and refractories; glass and glass products; cement; ready-mix concrete; concrete products; lime; gypsum products; abrasive products; cut stone and stone products; ground and treated minerals and earth; and mineral wool).

The data published with NAICS code 327999 include the following SIC industries:

3272 Concrete products, n.e.c. (pt)

3292 Asbestos products (pt)

3299 Nonmetallic mineral products, n.e.c. (pt)

### **331 Primary Metal Manufacturing**

Industries in the Primary Metal Manufacturing subsector smelt and/or refine ferrous and nonferrous metals from ore, pig or scrap, using electrometallurgical and other process metallurgical techniques. Establishments in this subsector also manufacture metal alloys and superalloys by introducing other chemical elements to pure metals. The output of smelting and refining, usually in ingot form, is used in rolling, drawing, and extruding operations to make sheet, strip, bar, rod, or wire, and in molten form to make castings and other basic metal products.

Primary manufacturing of ferrous and nonferrous metals begins with ore or concentrate as the primary input. Establishments manufacturing primary metals from ore and/or concentrate remain classified in the primary smelting, primary refining, or iron and steel mill, industries regardless of the form of their output. Establishments primarily engaged in secondary smelting and/or secondary refining recover ferrous and nonferrous metals from scrap and/or dross. The output of the secondary smelting and/or secondary refining industries is limited to shapes, such as ingot or billet, that will be further processed. Recovery of metals from scrap often occurs in establishments that are primarily engaged in activities, such as rolling, drawing, extruding, or similar processes.

Excluded from the Primary Metal Manufacturing subsector are establishments primarily engaged in manufacturing ferrous and nonferrous forgings (except ferrous forgings made in steel mills) and stampings. Although forging, stamping, and casting are all methods used to make metal shapes, forging and stamping do not use molten metals and are included in Subsector 332, Fabricated Metal Product Manufacturing. Establishments primarily engaged in operating coke ovens are classified in Industry 32419, Other Petroleum and Coal Products Manufacturing.

---

### **3311 Iron and Steel Mills and Ferroalloy Manufacturing**

This NAICS industry group includes establishments classified in NAICS Industry 33111, Iron and Steel Mills and Ferroalloy Manufacturing.

#### **33111 Iron and Steel Mills and Ferroalloy Manufacturing**

This industry comprises establishments primarily engaged in one or more of the following: (1) direct reduction of iron ore; (2) manufacturing pig iron in molten or solid form; (3) converting pig iron into steel; (4) manufacturing ferroalloys; (5) making steel; (6) making steel and manufacturing shapes (e.g., bar, plate, rod, sheet, strip, wire); and (7) making steel and forming pipe and tube.

#### **331111 Iron and Steel Mills**

This U.S. industry comprises establishments primarily engaged in one or more of the following: (1) direct reduction of iron ore; (2) manufacturing pig iron in molten or solid form; (3) converting pig iron into steel; (4) making steel; (5) making steel and manufacturing shapes (e.g., bar, plate, rod, sheet, strip, wire); and (6) making steel and forming tube and pipe.

The data published with NAICS code 331111 include the following SIC industries:

3312 Blast furnaces and steel mills (pt)

3399 Primary metal products, n.e.c. (pt)

This definition comes from the 1997 NAICS Manual. However, for this industry, the 1997 Economic Census – Manufacturing did not fully implement the conversion to NAICS. Data for NAICS industry 331111 include establishments primarily engaged in the manufacture of ferrous metal powder, paste, and flake. The NAICS definitions will be fully implemented with the 2002 Economic Census.

#### **3311111 Iron and Steel Mills – Fully Integrated**

Establishments primarily engaged in smelting iron ore in a blast furnace to produce pig iron in molten or solid form; then converting pig iron into steel by removal of the carbon in the iron through combustion in a basic oxygen or electric furnace; then producing iron and steel basic shapes, such as plates, sheets, strips, and bars, and other related products, such as pipes, tubes, and wire.

#### **3311112 Iron and Steel Mills – Partially Integrated With a Blast Furnace**

Establishments primarily engaged in smelting iron ore in a blast furnace to produce pig iron in molten or solid form; then converting pig iron into steel by removal of the carbon in the iron through combustion in a basic oxygen or electric furnace; then producing ingots and/or semifinished shapes, such as blooms, billets, and rods.

#### **3311113 Iron and Steel Mills – Partially Integrated Without a Blast Furnace**

Establishments primarily engaged in converting pig iron, direct reduced iron, and/or scrap into steel by removal of the carbon in the iron through combustion in a basic oxygen or electric furnace; then producing iron and steel basic shapes, such as plates, sheets, strips, and bars, and other related products, such as pipes, tubes, and wire.

#### **3311114 Iron and Steel Mills – Nonintegrated**

Establishments primarily engaged in producing iron and steel basic shapes, such as plates, sheets, strips, and bars, and other related products, such as pipes, tubes, and wire from purchased ingots and/or semifinished shapes, such as blooms, billets, and rods.

#### **331112 Electrometallurgical Ferroalloy Product Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing electrometallurgical ferroalloys. Ferroalloys add critical elements, such as silicon and manganese for carbon steel and chromium, vanadium, tungsten, titanium, and molybdenum for low- and high-alloy metals. Ferroalloys include iron-rich alloys and more pure forms of elements added during the steel manufacturing process that alter or improve the characteristics of the metal being made.

The data published with NAICS code 331112 include the following SIC industry:

3313 Electrometallurgical products (pt)

#### **3312 Steel Product Manufacturing From Purchased Steel**

This industry group comprises establishments primarily engaged in manufacturing iron and steel tube and pipe, drawing steel wire, and rolling or drawing shapes from purchased iron or steel.

#### **33121 Iron and Steel Pipes and Tubes Manufacturing From Purchased Steel**

This industry comprises establishments primarily engaged in manufacturing welded, riveted, or seamless pipe and tube from purchased iron or steel.

#### **331210 Iron and Steel Pipes and Tubes Manufacturing From Purchased Steel**

This U.S. industry comprises establishments primarily engaged in manufacturing welded, riveted, or seamless pipe and tube from purchased iron or steel.

The data published with NAICS code 331210 include the following SIC industry:

3317 Steel pipe and tubes

### **33122 Rolling and Drawing of Purchased Steel**

This industry comprises establishments primarily engaged in rolling and/or drawing steel shapes, such as plate, sheet, strip, rod, and bar, from purchased steel.

#### **331221 Rolled Steel Shape Manufacturing**

This U.S. industry comprises establishments primarily engaged in rolling or drawing shapes (except wire), such as plate, sheet, strip, rod, and bar, from purchased steel.

The data published with NAICS code 331221 include the following SIC industry:

3316 Cold finishing of steel shapes

This definition comes from the 1997 NAICS Manual. However, for this industry, the 1997 Economic Census – Manufacturing did not fully implement the conversion to NAICS. Data for NAICS industry 331221 do not include establishments primarily engaged in making coke oven and blast furnace products; in making steel and rolling or drawing steel shapes; or in the making of ferrous metal powder, paste, and flake. The NAICS definitions will be fully implemented with the 2002 Economic Census.

#### **331222 Steel Wire Drawing**

This U.S. industry comprises establishments primarily engaged in drawing wire from purchased steel.

The data published with NAICS code 331222 include the following SIC industry:

3315 Steel wire and related products (pt)

### **3313 Alumina and Aluminum Production and Processing**

This NAICS industry group includes establishments classified in NAICS Industry 33131, Alumina and Aluminum Production and Processing.

#### **33131 Alumina and Aluminum Production and Processing**

This industry comprises establishments primarily engaged in one or more of the following: (1) refining alumina; (2) making (i.e., the primary production) aluminum from alumina; (3) recovering aluminum from scrap or dross; (4) alloying purchased aluminum; and (5) manufacturing aluminum primary forms (e.g., bar, foil, pipe, plate, rod, sheet, tube, wire).

##### **331311 Alumina Refining**

This U.S. industry comprises establishments primarily engaged in refining alumina (i.e., aluminum oxide) generally from bauxite.

The data published with NAICS code 331311 include the following SIC industry:

2819 Industrial inorganic chemicals, n.e.c. (pt)

### **331312 Primary Aluminum Production**

This U.S. industry comprises establishments primarily engaged in (1) making aluminum from alumina and/or (2) making aluminum from alumina and rolling, drawing, extruding, or casting the aluminum they make into primary forms (e.g., bar, billet, ingot, plate, rod, sheet, strip). Establishments in this industry may make primary aluminum or aluminum-based alloys from alumina.

The data published with NAICS code 331312 include the following SIC industry:

3334 Primary aluminum

#### **331314 Secondary Smelting and Alloying of Aluminum**

This U.S. industry comprises establishments primarily engaged in (1) recovering aluminum and aluminum alloys from scrap and/or dross (i.e., secondary smelting) and making billet or ingot (except by rolling) and/or (2) manufacturing alloys, powder, paste, or flake from purchased aluminum.

The data published with NAICS code 331314 include the following SIC industries:

3341 Secondary nonferrous metals (pt)

3399 Primary metal products, n.e.c. (pt)

#### **331315 Aluminum Sheet, Plate, and Foil Manufacturing**

This U.S. industry comprises establishments primarily engaged in (1) flat rolling or continuous casting sheet, plate, foil, and welded tube from purchased aluminum and/or (2) recovering aluminum from scrap and flat rolling or continuous casting sheet, plate, foil, and welded tube in integrated mills.

The data published with NAICS code 331315 include the following SIC industry:

3353 Aluminum sheet, plate, and foil (pt)

#### **331316 Aluminum Extruded Product Manufacturing**

This U.S. industry comprises establishments primarily engaged in (1) extruding aluminum bar, pipe, and tube blooms or extruding or drawing tube from purchased aluminum; and/or (2) recovering aluminum from scrap and extruding bar, pipe, and tube blooms or drawing tube in integrated mills.

The data published with NAICS code 331316 include the following SIC industry:

3354 Aluminum extruded products

### **331319 Other Aluminum Rolling and Drawing**

This U.S. industry comprises establishments primarily engaged in (1) rolling, drawing, or extruding shapes (except flat rolled sheet, plate, foil, and welded tube; extruded rod, bar, pipe, and tube blooms; and drawn or extruded tube) from purchased aluminum and/or (2) recovering aluminum from scrap and rolling, drawing or extruding shapes (except flat rolled sheet, plate, foil, and welded tube; extruded rod, bar, pipe, and tube blooms; and drawn or extruded tube) in integrated mills.

The data published with NAICS code 331319 include the following SIC industries:

3355 Aluminum rolling and drawing, n.e.c.

3357 Nonferrous wire drawing and insulating (pt)

### **3314 Nonferrous Metal (Except Aluminum) Production and Processing**

This NAICS industry group includes establishments classified in the following NAICS Industries: 33141, Nonferrous Metal (Except Aluminum) Smelting and Refining; 33142, Copper Rolling, Drawing, Extruding, and Alloying; and 33149, Nonferrous Metal (Except Copper and Aluminum) Rolling, Drawing, Extruding, and Alloying.

#### **33141 Nonferrous Metal (Except Aluminum) Smelting and Refining**

This industry comprises establishments primarily engaged in (1) smelting ores into nonferrous metals and/or (2) the primary refining of nonferrous metals (except aluminum) using electrolytic or other processes.

#### **331411 Primary Smelting and Refining of Copper**

This U.S. industry comprises establishments primarily engaged in (1) smelting copper ore and/or (2) the primary refining of copper by electrolytic methods or other processes. Establishments in this industry make primary copper and copper-based alloys, such as brass and bronze, from ore or concentrates.

The data published with NAICS code 331411 include the following SIC industry:

3331 Primary copper

#### **331419 Primary Smelting and Refining of Nonferrous Metal (Except Copper and Aluminum)**

This U.S. industry comprises establishments primarily engaged in (1) making (i.e., the primary production) nonferrous metals by smelting ore and/or (2) the primary refining of nonferrous metals by electrolytic methods or other processes.

The data published with NAICS code 331419 include the following SIC industry:

3339 Primary nonferrous metals, n.e.c.

### **33142 Copper Rolling, Drawing, Extruding, and Alloying**

This industry comprises establishments primarily engaged in one or more of the following: (1) recovering copper or copper alloys from scraps; (2) alloying purchased copper; (3) rolling, drawing, or extruding shapes, (e.g., bar, plate, sheet, strip, tube, and wire) from purchased copper; and (4) recovering copper or copper alloys from scrap and rolling drawing, or extruding shapes (e.g., bar, plate, sheet, strip, tube, and wire).

#### **331421 Copper Rolling, Drawing, and Extruding**

This U.S. industry comprises establishments primarily engaged in (1) rolling, drawing, and/or extruding shapes (e.g., bar, plate, sheet, strip, tube (except bare or insulated copper communication or energy wire)) from purchased copper; and/or (2) recovering copper from scrap and rolling, drawing, and/or extruding shapes (e.g., bar, plate, sheet, strip, tube (except bare or insulated copper communication or energy wire in integrated mills)).

The data published with NAICS code 331421 include the following SIC industry:

3351 Copper rolling and drawing

#### **331422 Copper Wire (Except Mechanical) Drawing**

This U.S. industry comprises establishments primarily engaged in drawing or drawing and insulating communication and energy wire and cable from purchased copper or in integrated secondary smelting and wire drawing plants.

The data published with NAICS code 331422 include the following SIC industry:

3357 Nonferrous wire drawing and insulating (pt)

#### **331423 Secondary Smelting, Refining, and Alloying of Copper**

This U.S. industry comprises establishments primarily engaged in (1) recovering copper and copper alloys from scrap and/or (2) alloying purchased copper. Establishments in this industry make primary forms, such as ingot, wire bar, cake, and slab from copper or copper alloys, such as brass and bronze.

The data published with NAICS code 331423 include the following SIC industries:

3341 Secondary nonferrous metals (pt)

3399 Primary metal products, n.e.c. (pt)

### **33149 Nonferrous Metal (Except Copper and Aluminum) Rolling, Drawing, Extruding, and Alloying**

This industry comprises establishments primarily engaged in one or more of the following: (1) recovering nonferrous metals (except copper and aluminum) and nonferrous metal alloys from scrap; (2) alloying purchased



---

nonferrous metals (except copper and aluminum); (3) rolling, drawing, and extruding shapes from purchased nonferrous metals (except copper and aluminum); and (4) recovering nonferrous metals from scrap (except copper and aluminum) and rolling, drawing, or extruding shapes in integrated facilities.

### **331491 Nonferrous Metal (Except Copper and Aluminum) Rolling, Drawing, and Extruding**

This U.S. industry comprises establishments primarily engaged in (1) rolling, drawing, or extruding shapes (e.g., bar, plate, sheet, strip, tube) from purchased nonferrous metals) and/or (2) recovering nonferrous metals from scrap and rolling, drawing, and/or extruding shapes (e.g., bar, plate, sheet, strip, tube) in integrated mills.

The data published with NAICS code 331491 include the following SIC industries:

3356 Nonferrous rolling and drawing, n.e.c.

3357 Nonferrous wire drawing and insulating (pt)

### **331492 Secondary Smelting, Refining, and Alloying of Nonferrous Metal (Except Copper and Aluminum)**

This U.S. industry comprises establishments primarily engaged in (1) alloying purchased nonferrous metals and/or (2) recovering nonferrous metals from scrap. Establishments in this industry make primary forms (e.g., bar, billet, bloom, cake, ingot, slab, slug, wire) using smelting or refining processes.

The data published with NAICS code 331492 include the following SIC industries:

3313 Electrometallurgical products (pt)

3341 Secondary nonferrous metals (pt)

3399 Primary metal products, n.e.c. (pt)

This definition comes from the 1997 NAICS Manual. However, for this industry, the 1997 Economic Census – Manufacturing did not fully implement the conversion to NAICS. Data for NAICS industry 331492 include establishments primarily engaged in the manufacture of other nonferrous additive alloys. The NAICS definitions will be fully implemented with the 2002 Economic Census.

### **3315 Foundries**

This industry group comprises establishments primarily engaged in pouring molten metal into molds or dies to form castings. Establishments making castings and further manufacturing, such as machining or assembling, a specific manufactured product are classified in the industry of the finished product. Foundries may perform operations, such as cleaning and deburring, on the castings they manufacture. More involved processes, such as tapping,

threading, milling, or machining to tight tolerances, that transform castings into more finished products are classified elsewhere in the manufacturing sector based on the product being made.

Establishments in this industry group make castings from purchased metals or in integrated secondary smelting and casting facilities. When the production of primary metals is combined with making castings, the establishment is classified in 331 with the primary metal being made.

### **33151 Ferrous Metal Foundries**

This industry comprises establishments primarily engaged in pouring molten iron and steel into molds of a desired shape to make castings. Establishments in this industry purchase iron and steel made in other establishments.

#### **331511 Iron Foundries**

This U.S. industry comprises establishments primarily engaged in pouring molten pig iron or iron alloys into molds to manufacture castings, (e.g., cast iron man-hole covers, cast iron pipe, cast iron skillets). Establishments in this industry purchase iron made in other establishments.

The data published with NAICS code 331511 include the following SIC industries:

3321 Gray iron foundries

3322 Malleable iron foundries

#### **331512 Steel Investment Foundries**

This U.S. industry comprises establishments primarily engaged in manufacturing steel investment castings. Investment molds are formed by covering a wax shape with a refractory slurry. After the refractory slurry hardens, the wax is melted, leaving a seamless mold. Investment molds provide highly detailed, consistent castings. Establishments in this industry purchase steel made in other establishments.

The data published with NAICS code 331512 include the following SIC industry:

3324 Steel investment foundries

#### **331513 Steel Foundries (Except Investment)**

This U.S. industry comprises establishments primarily engaged in manufacturing steel castings (except steel investment castings). Establishments in this industry purchase steel made in other establishments.

The data published with NAICS code 331513 include the following SIC industry:

3325 Steel foundries, n.e.c.

---

### **33152 Nonferrous Metal Foundries**

This industry comprises establishments primarily engaged in pouring and/or introducing molten nonferrous metal, under high pressure, into metal molds or dies to manufacture castings. Establishments in this industry purchase nonferrous metals made in other establishments.

### **331521 Aluminum Die-Casting Foundries**

This U.S. industry comprises establishments primarily engaged in introducing molten aluminum, under high pressure, into molds or dies to make aluminum die-castings. Establishments in this industry purchase aluminum made in other establishments.

The data published with NAICS code 331521 include the following SIC industry:

3363 Aluminum die-castings

### **331522 Nonferrous (Except Aluminum) Die-Casting Foundries**

This U.S. industry comprises establishments primarily engaged in introducing molten nonferrous metal (except aluminum), under high pressure, into molds to make nonferrous metal die-castings. Establishments in this industry purchase nonferrous metals made in other establishments.

The data published with NAICS code 331522 include the following SIC industry:

3364 Nonferrous die-casting, except aluminum

### **331524 Aluminum Foundries (Except Die-Casting)**

This U.S. industry comprises establishments primarily engaged in pouring molten aluminum into molds to manufacture aluminum castings. Establishments in this industry purchase aluminum made in other establishments.

The data published with NAICS code 331524 include the following SIC industry:

3365 Aluminum foundries

### **331525 Copper Foundries (Except Die-Casting)**

This U.S. industry comprises establishments primarily engaged in pouring molten copper into molds to manufacture copper castings. Establishments in this industry purchase copper made in other establishments.

The data published with NAICS code 331525 include the following SIC industry:

3366 Copper foundries

### **331528 Other Nonferrous Foundries (Except Die-Casting)**

This U.S. industry comprises establishments primarily engaged in pouring molten nonferrous metals (except aluminum and copper) into molds to manufacture nonferrous castings (except aluminum die-castings, nonferrous

(except aluminum) die-castings, aluminum castings, and copper castings). Establishments in this industry purchase nonferrous metals, such as nickel, lead, and zinc, made in other establishments.

The data published with NAICS code 331528 include the following SIC industry:

3369 Nonferrous foundries, n.e.c.

### **332 Fabricated Metal Product Manufacturing**

Industries in the Fabricated Metal Product Manufacturing subsector transform metal into intermediate or end products, other than machinery, computers and electronics, and metal furniture or treating metals and metal formed products fabricated elsewhere. Important fabricated metal processes are forging, stamping, bending, forming, and machining, used to shape individual pieces of metal; and other processes, such as welding and assembling, used to join separate parts together. Establishments in this subsector may use one of these processes or a combination of these processes.

The NAICS structure for this subsector distinguishes the forging and stamping processes in a single industry. The remaining industries, in the subsector, group establishments based on similar combinations of processes used to make products.

The manufacturing performed in the Fabricated Metal Product Manufacturing subsector begins with manufactured metal shapes. The establishments in this sector further fabricate the purchased metal shapes into a product. For instance, the Spring and Wire Product Manufacturing industry starts with wire and fabricates such items.

Within manufacturing there are other establishments that make the same products made by this subsector; only these establishments begin production further back in the production process. These establishments have a more integrated operation. For instance, one establishment may manufacture steel, draw it into wire, and make wire products in the same establishment. Such operations are classified in the Primary Metal Manufacturing subsector.

### **3321 Forging and Stamping**

This NAICS industry group includes establishments classified in NAICS Industry 33211, Forging and Stamping.

### **33211 Forging and Stamping**

This industry comprises establishments primarily engaged in one or more of the following: (1) manufacturing forgings from purchased metals; (2) manufacturing metal custom roll forming products; (3) manufacturing metal stamped and spun products (except automotive, cans, coins); and (4) manufacturing powder metallurgy products. Establishments making metal forgings, metal stampings, and metal spun products and further manufacturing (e.g., machining, assembling) a specific manufactured product are classified in the industry of the finished

---

product. Metal forging, metal stamping, and metal spun products establishments may perform surface finishing operations, such as cleaning and deburring, on the products they manufacture.

### **332111 Iron and Steel Forging**

This U.S. industry comprises establishments primarily engaged in manufacturing iron and steel forgings from purchased iron and steel by hammering mill shapes. Establishments making iron and steel forgings and further manufacturing (e.g., machining, assembling) a specific manufactured product are classified in the industry of the finished product. Iron and steel forging establishments may perform surface finishing operations, such as cleaning and deburring, on the forgings they manufacture.

The data published with NAICS code 332111 include the following SIC industry:

3462 Iron and steel forgings

### **332112 Nonferrous Forging**

This U.S. industry comprises establishments primarily engaged in manufacturing nonferrous forgings from purchased nonferrous metals by hammering mill shapes. Establishments making nonferrous forgings and further manufacturing (e.g., machining, assembling) a specific manufactured product are classified in the industry of the finished product. Nonferrous forging establishments may perform surface finishing operations, such as cleaning and deburring, on the forgings they manufacture.

The data published with NAICS code 332112 include the following SIC industry:

3463 Nonferrous forgings

### **332114 Custom Roll Forming**

This U.S. industry comprises establishments primarily engaged in custom roll forming metal products by use of rotary motion of rolls with various contours to bend or shape the products.

The data published with NAICS code 332114 include the following SIC industry:

3449 Miscellaneous metal work (pt)

### **332115 Crown and Closure Manufacturing**

This U.S. industry comprises establishments primarily engaged in stamping metal crowns and closures, such as bottle caps and home canning lids and rings.

The data published with NAICS code 332115 include the following SIC industry:

3466 Crowns and closures

### **332116 Metal Stamping**

This U.S. industry comprises establishments primarily engaged in manufacturing unfinished metal stampings and spinning unfinished metal products (except crowns, cans, closures, automotive, and coins). Establishments making metal stampings and metal spun products and further manufacturing (e.g., machining, assembling) a specific product are classified in the industry of the finished product. Metal stamping and metal spun products establishments may perform surface finishing operations, such as cleaning and deburring, on the products they manufacture.

The data published with NAICS code 332116 include the following SIC industry:

3469 Metal stampings, n.e.c. (pt)

### **332117 Powder Metallurgy Parts Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing powder metallurgy products by compacting them in a shaped die and sintering. Establishments in this industry generally make a wide range of parts on a job or order basis.

The data published with NAICS code 332117 include the following SIC industry:

3499 Fabricated metal products, n.e.c. (pt)

### **3322 Cutlery and Handtool Manufacturing**

This NAICS industry group includes establishments classified in NAICS Industry 33221, Cutlery and Handtool Manufacturing.

#### **33221 Cutlery and Handtool Manufacturing**

This industry comprises establishments primarily engaged in one or more of the following: (1) manufacturing nonprecious and precious plated metal cutlery and flatware; (2) manufacturing nonpowered hand and edge tools; (3) manufacturing nonpowered handsaws; (4) manufacturing saw blades, all types (including those for sawing machines); and (5) manufacturing metal kitchen utensils (except cutting-type) and pots and pans (except those manufactured by casting (e.g., cast iron skillets) or stamped without further fabrication).

#### **332211 Cutlery and Flatware (Except Precious) Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing nonprecious and precious plated metal cutlery and flatware.

The data published with NAICS code 332211 include the following SIC industries:

3421 Cutlery

3914 Silverware and plated ware (pt)

---

This definition comes from the 1997 NAICS Manual. However, for this industry, the 1997 Economic Census—Manufacturing did not fully implement the conversion to NAICS. Data for NAICS industry 332211 do not include establishments primarily engaged in the manufacture of hand-operated clippers for human hair. The NAICS definitions will be fully implemented with the 2002 Economic Census.

### **332212 Hand and Edge Tool Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing nonpowered hand and edge tools (except saws).

The data published with NAICS code 332212 include the following SIC industries:

- 3423 Hand and edge tools, n.e.c.
- 3523 Farm machinery and equipment (pt)
- 3524 Lawn and garden equipment (pt)
- 3545 Machine tool accessories (pt)
- 3699 Electrical equipment and supplies, n.e.c. (pt)
- 3799 Transportation equipment, n.e.c. (pt)
- 3999 Manufacturing industries, n.e.c. (pt)

This definition comes from the 1997 NAICS Manual. However, for this industry, the 1997 Economic Census—Manufacturing did not fully implement the conversion to NAICS. Data for NAICS industry 332212 include establishments primarily engaged in the manufacture of wheelbarrows or quality control laser equipment but do not include establishments primarily engaged in the manufacture of tool-type shears or fish wire, an electrical wiring tool. The NAICS definitions will be fully implemented with the 2002 Economic Census.

### **332213 Saw Blade and Handsaw Manufacturing**

This U.S. industry comprises establishments primarily engaged in (1) manufacturing nonpowered handsaws and/or (2) manufacturing saw blades, all types (including those for power sawing machines).

The data published with NAICS code 332213 include the following SIC industry:

- 3425 Saw blades and handsaws

### **332214 Kitchen Utensil, Pot, and Pan Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing metal kitchen utensils (except cutting-type), pots, and pans (except those manufactured by casting (e.g., cast iron skillets) or stamped without further fabrication).

The data published with NAICS code 332214 include the following SIC industry:

- 3469 Metal stampings, n.e.c. (pt)

### **3323 Architectural and Structural Metals Manufacturing**

This NAICS industry group includes establishments classified in the following NAICS Industries: 33231, Plate Work and Fabricated Structural Product Manufacturing; and 33232, Ornamental and Architectural Metal Products Manufacturing.

#### **33231 Plate Work and Fabricated Structural Product Manufacturing**

This industry comprises establishments primarily engaged in manufacturing one or more of the following: (1) prefabricated metal buildings, panels, and sections; (2) structural metal products; and (3) metal plate work products.

##### **332311 Prefabricated Metal Building and Component Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing prefabricated metal buildings, panels, and sections.

The data published with NAICS code 332311 include the following SIC industry:

- 3448 Prefabricated metal buildings

##### **332312 Fabricated Structural Metal Manufacturing**

This U.S. industry comprises establishments primarily engaged in fabricating structural metal products, such as concrete reinforcing bars and fabricated bar joists.

The data published with NAICS code 332312 include the following SIC industries:

- 3441 Fabricated structural metal
- 3449 Miscellaneous metal work (pt)

##### **332313 Plate Work Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing fabricated metal plate work by cutting, punching, bending, shaping, and welding purchased metal plate.

The data published with NAICS code 332313 include the following SIC industry:

- 3443 Fabricated plate work, boiler shops (pt)

##### **33232 Ornamental and Architectural Metal Products Manufacturing**

This industry comprises establishments primarily engaged in manufacturing one or more of the following: (1) metal framed windows (i.e., typically using purchased glass) and metal doors; (2) sheet metal work; and (3) ornamental and architectural metal products.

### **332321 Metal Window and Door Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing metal framed windows (i.e., typically using purchased glass) and metal doors. Examples of products made by these establishments are metal door frames; metal framed window and door screens; metal molding and trim (except automotive); and metal curtain walls.

The data published with NAICS code 332321 include the following SIC industries:

- 2499 Wood products, n.e.c. (pt)
- 3442 Metal doors, sash, and trim
- 3449 Miscellaneous metal work (pt)

This definition comes from the 1997 NAICS Manual. However, for this industry, the 1997 Economic Census – Manufacturing did not fully implement the conversion to NAICS. Data for NAICS industry 332321 include establishments primarily engaged in the manufacture of metal finished moldings for mirrors and pictures. The NAICS definitions will be fully implemented with the 2002 Economic Census.

### **332322 Sheet Metal Work Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing sheet metal work (except stampings).

The data published with NAICS code 332322 include the following SIC industry:

- 3444 Sheet metal work (pt)

### **332323 Ornamental and Architectural Metal Work Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing ornamental and architectural metal work, such as staircases, metal open steel flooring, fire escapes, railings, and scaffolding.

The data published with NAICS code 332323 include the following SIC industries:

- 3446 Architectural metal work
- 3449 Miscellaneous metal work (pt)
- 3523 Farm machinery and equipment (pt)

### **3324 Boiler, Tank, and Shipping Container Manufacturing**

This NAICS industry group includes establishments classified in the following NAICS Industries: 33241, Power Boiler and Heat Exchanger Manufacturing; 33242, Metal Tank (Heavy Gauge) Manufacturing; and 33243, Metal Can, Box, and Other Metal Container (Light Gauge) Manufacturing.

### **33241 Power Boiler and Heat Exchanger Manufacturing**

This industry comprises establishments primarily engaged in manufacturing power boilers and heat exchangers. Establishments in this industry may perform installation in addition to manufacturing power boilers and heat exchangers.

### **332410 Power Boiler and Heat Exchanger Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing power boilers and heat exchangers. Establishments in this industry may perform installation in addition to manufacturing power boilers and heat exchangers.

The data published with NAICS code 332410 include the following SIC industry:

- 3443 Fabricated plate work, boiler shops (pt)

This definition comes from the 1997 NAICS Manual. However, for this industry, the 1997 Economic Census – Manufacturing did not fully implement the conversion to NAICS. Data for NAICS industry 332410 do not include establishments primarily engaged in the manufacture of nuclear control drive mechanisms. The NAICS definitions will be fully implemented with the 2002 Economic Census.

### **33242 Metal Tank (Heavy Gauge) Manufacturing**

This industry comprises establishments primarily engaged in cutting, forming, and joining heavy gauge metal to manufacture tanks, vessels, and other containers.

### **332420 Metal Tank (Heavy Gauge) Manufacturing**

This U.S. industry comprises establishments primarily engaged in cutting, forming, and joining heavy gauge metal to manufacture tanks, vessels, and other containers.

The data published with NAICS code 332420 include the following SIC industry:

- 3443 Fabricated plate work, boiler shops (pt)

### **33243 Metal Can, Box, and Other Metal Container (Light Gauge) Manufacturing**

This industry comprises establishments primarily engaged in forming light gauge metal containers.

### **332431 Metal Can Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing metal cans, lids, and ends.

The data published with NAICS code 332431 include the following SIC industry:

- 3411 Metal cans

---

### **332439 Other Metal Container Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing metal (light gauge) containers (except cans).

The data published with NAICS code 332439 include the following SIC industries:

- 3412 Metal barrels, drums, and pails
- 3429 Hardware, n.e.c. (pt)
- 3444 Sheet metal work (pt)
- 3499 Fabricated metal products, n.e.c. (pt)
- 3537 Industrial trucks and tractors (pt)

### **3325 Hardware Manufacturing**

This NAICS industry group includes establishments classified in NAICS Industry 33251, Hardware Manufacturing.

#### **33251 Hardware Manufacturing**

This industry comprises establishments primarily engaged in manufacturing metal hardware, such as metal hinges, metal handles, keys, and locks (except coin-operated, time locks).

#### **332510 Hardware Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing metal hardware, such as metal hinges, metal handles, keys, and locks (except coin-operated, time locks).

The data published with NAICS code 332510 include the following SIC industries:

- 3429 Hardware, n.e.c. (pt)
- 3499 Fabricated metal products, n.e.c. (pt)

### **3326 Spring and Wire Product Manufacturing**

This NAICS industry group includes establishments classified in NAICS Industry 33261, Spring and Wire Product Manufacturing.

#### **33261 Spring and Wire Product Manufacturing**

This industry comprises establishments primarily engaged in (1) manufacturing steel springs by forming, such as cutting, bending, and heat winding metal rod or strip stock and/or (2) manufacturing wire springs and fabricated wire products from wire drawn elsewhere (except watch and clock springs).

#### **332611 Spring (Heavy Gauge) Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing heavy gauge springs by forming, such as cutting, bending, and heat winding rod or strip stock.

The data published with NAICS code 332611 include the following SIC industry:

- 3493 Steel springs, except wire

### **332612 Spring (Light Gauge) Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing light gauge springs from purchased wire or strip.

The data published with NAICS code 332612 include the following SIC industry:

- 3495 Wire springs (pt)

### **332618 Other Fabricated Wire Product Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing fabricated wire products (except springs) made from purchased wire.

The data published with NAICS code 332618 include the following SIC industries:

- 3315 Steel wire and related products (pt)
- 3399 Primary metal products, n.e.c. (pt)
- 3496 Miscellaneous fabricated wire products

### **3327 Machine Shops; Turned Product; and Screw, Nut, and Bolt Manufacturing**

This NAICS industry group includes establishments classified in the following NAICS Industries: 33271, Machine Shops; and 33272, Turned Product and Screw, Nut, and Bolt Manufacturing.

#### **33271 Machine Shops**

This industry comprises establishments known as machine shops primarily engaged in machining metal parts on a job or order basis. Generally machine shop jobs are low volume using machine tools, such as lathes (including computer numerically controlled); automatic screw machines; and machines for boring, grinding, and milling.

#### **332710 Machine Shops**

This U.S. industry comprises establishments known as machine shops primarily engaged in machining metal parts on a job or order basis. Generally machine shop jobs are low volume using machine tools, such as lathes (including computer numerically controlled); automatic screw machines; and machines for boring, grinding, and milling.

The data published with NAICS code 332710 include the following SIC industry:

- 3599 Industrial machinery, n.e.c. (pt)

---

### **33272 Turned Product and Screw, Nut, and Bolt Manufacturing**

This industry comprises establishments primarily engaged in (1) machining precision turned products or (2) manufacturing metal bolts, nuts, screws, rivets, and other industrial fasteners. Included in this industry are establishments primarily engaged manufacturing parts for machinery and equipment on a customized basis.

### **332721 Precision Turned Product Manufacturing**

This U.S. industry comprises establishments known as precision turned manufacturers primarily engaged in machining precision products of all materials on a job or order basis. Generally precision turned product jobs are large volume using machines, such as automatic screw machines, rotary transfer machines, computer numerically controlled (CNC) lathes, or turning centers.

The data published with NAICS code 332721 include the following SIC industry:

3451 Screw machine products

### **332722 Bolt, Nut, Screw, Rivet, and Washer Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing metal bolts, nuts, screws, rivets, and washers, and other industrial fasteners using machines, such as headers, threaders, and nut forming machines.

The data published with NAICS code 332722 include the following SIC industry:

3452 Bolts, nuts, rivets, and washers

This definition comes from the 1997 NAICS Manual. However, for this industry, the 1997 Economic Census – Manufacturing did not fully implement the conversion to NAICS. Data for NAICS industry 332722 do not include establishments primarily engaged in the manufacture of turnbuckles and hose clamps. The NAICS definitions will be fully implemented with the 2002 Economic Census.

### **3328 Coating, Engraving, Heat Treating, and Allied Activities**

This NAICS industry group includes establishments classified in NAICS Industry 33281, Coating, Engraving, Heat Treating, and Allied Activities.

### **33281 Coating, Engraving, Heat Treating, and Allied Activities**

This industry comprises establishments primarily engaged in one or more of the following: (1) heat treating metals and metal products; (2) enameling, lacquering, varnishing metals and metal products; (3) hot dip galvanizing metals and metal products; (4) engraving, chasing, or

etching metals and metal products (except jewelry; personal goods carried on or about the person, such as compacts and cigarette cases; precious metal products (except precious plated flatware and other plated ware); and printing plates); (5) powder coating metals and metal products; (6) electroplating, plating, anodizing, coloring, and finishing metals and metal products; and (7) providing other metal surfacing services for the trade. Establishments in this industry coat engravings and heat treat metals and metal formed products fabricated elsewhere.

### **332811 Metal Heat Treating**

This U.S. industry comprises establishments primarily engaged in heat treating, such as annealing, tempering, and brazing, metals and metal products for the trade.

The data published with NAICS code 332811 include the following SIC industry:

3398 Metal heat treating

### **332812 Metal Coating, Engraving (Except Jewelry and Silverware), and Allied Services to Manufacturers**

This U.S. industry comprises establishments primarily engaged in one or more of the following: (1) enameling, lacquering, and varnishing metals and metal products; (2) hot dip galvanizing metals and metal products; (3) engraving, chasing, or etching metals and metal products (except jewelry; personal goods carried on or about the person, such as compacts and cigarette cases; precious metal products (except precious plated flatware and other plated ware); and printing plates); (4) powder coating metals and metal products; and (5) providing other metal surfacing services for the trade.

The data published with NAICS code 332812 include the following SIC industry:

3479 Metal coating and allied services (pt)

### **332813 Electroplating, Plating, Polishing, Anodizing, and Coloring**

This U.S. industry comprises establishments primarily engaged in electroplating, plating, anodizing, coloring, buffing, polishing, cleaning, and sandblasting metals and metal products for the trade.

The data published with NAICS code 332813 include the following SIC industry:

3471 Plating and polishing

This definition comes from the 1997 NAICS Manual. However, for this industry, the 1997 Economic Census – Manufacturing did not fully implement the conversion to NAICS. Data for NAICS industry 332813 do not include establishments primarily engaged in laminating steel. The NAICS definitions will be fully implemented with the 2002 Economic Census.

---

### **3329 Other Fabricated Metal Product Manufacturing**

This industry group comprises establishments primarily engaged in manufacturing fabricated metal products (except forgings and stampings, cutlery and handtools, architectural and structural metals, boilers, tanks, shipping containers, hardware, spring and wire products, machine shop products, turned products, screws, and nuts and bolts).

#### **33291 Metal Valve Manufacturing**

This industry comprises establishments primarily engaged in manufacturing one or more of the following metal valves: (1) industrial valves; (2) fluid power valves and hose fittings; (3) plumbing fixture fittings and trim; and (4) other metal valves and pipe fittings.

#### **332911 Industrial Valve Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing industrial valves and valves for water works and municipal water systems.

The data published with NAICS code 332911 include the following SIC industries:

3491 Industrial valves

#### **332912 Fluid Power Valve and Hose Fitting Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing fluid power valves and hose fittings.

The data published with NAICS code 332912 include the following SIC industries:

3492 Fluid power valves and hose fittings

3728 Aircraft parts and equipment, n.e.c. (pt)

#### **332913 Plumbing Fixture Fitting and Trim Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing metal and plastics plumbing fixture fittings and trim, such as faucets, flush valves, and shower heads.

The data published with NAICS code 332913 include the following SIC industry:

3432 Plumbing fittings and brass goods (pt)

This definition comes from the 1997 NAICS Manual. However, for this industry, the 1997 Economic Census – Manufacturing did not fully implement the conversion to NAICS. Data for NAICS industry 332913 include establishments primarily engaged in the manufacture of lawn hose nozzels. The NAICS definitions will be fully implemented with the 2002 Economic Census.

### **332919 Other Metal Valve and Pipe Fitting Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing metal valves (except industrial valves, fluid power valves, fluid power hose fittings, and plumbing fixture fittings and trim).

The data published with NAICS code 332919 include the following SIC industries:

3429 Hardware, n.e.c. (pt)

3494 Valves and pipe fittings, n.e.c. (pt)

3499 Fabricated metal products, n.e.c. (pt)

This definition comes from the 1997 NAICS Manual. However, for this industry, the 1997 Economic Census – Manufacturing did not fully implement the conversion to NAICS. Data for NAICS industry 332919 do not include establishments primarily engaged in manufacturing lawn hose nozzels. The NAICS definitions will be fully implemented with the 2002 Economic Census.

### **33299 All Other Fabricated Metal Product Manufacturing**

This industry comprises establishments primarily engaged in manufacturing fabricated metal products (except forgings and stampings, cutlery and handtools, architectural and structural metal products, boilers, tanks, shipping containers, hardware, spring and wire products, machine shop products, turned products, screws, nuts and bolts, and metal valves).

#### **332991 Ball and Roller Bearing Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing ball and roller bearings of all materials.

The data published with NAICS code 332991 include the following SIC industry:

3562 Ball and roller bearings

#### **332992 Small Arms Ammunition Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing small arms ammunition.

The data published with NAICS code 332992 include the following SIC industry:

3482 Small arms ammunition

#### **332993 Ammunition (Except Small Arms) Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing ammunition (except small arms). Examples of products made by these establishments are bombs, depth charges, rockets (except guided missiles), grenades, mines, and torpedoes.



---

The data published with NAICS code 332993 include the following SIC industry:

3483 Ammunition, except small arms, n.e.c.

### **332994 Small Arms Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing small firearms that are carried and fired by the individual.

The data published with NAICS code 332994 include the following SIC industry:

3484 Small arms

This definition comes from the 1997 NAICS Manual. However, for this industry, the 1997 Economic Census – Manufacturing did not fully implement the conversion to NAICS. Data for NAICS industry 332994 do not include establishments primarily engaged in the manufacture of tranquilizer guns. The NAICS definitions will be fully implemented with the 2002 Economic Census.

### **332995 Other Ordnance and Accessories Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing ordnance (except small arms) and accessories.

The data published with NAICS code 332995 include the following SIC industry:

3489 Ordnance and accessories, n.e.c.

### **332996 Fabricated Pipe and Pipe Fitting Manufacturing**

This U.S. industry comprises establishments primarily engaged in fabricating (such as cutting, threading and bending) metal pipes and pipe fittings made from purchased metal pipe.

The data published with NAICS code 332996 include the following SIC industries:

3353 Aluminum sheet, plate, and foil (pt)

3498 Fabricated pipe and fittings

### **332997 Industrial Pattern Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing industrial patterns.

The data published with NAICS code 332997 include the following SIC industry:

3543 Industrial patterns

### **332998 Enameled Iron and Metal Sanitary Ware Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing enameled iron and metal sanitary ware.

The data published with NAICS code 332998 include the following SIC industry:

3431 Metal sanitary ware

### **332999 All Other Miscellaneous Fabricated Metal Product Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing fabricated metal products (except forgings and stampings, cutlery and handtools, architectural and structural metals, boilers, tanks, shipping containers, hardware, spring and wire products, machine shop products, turned products, screws, nuts, and bolts, metal valves, ball and roller bearings, ammunition, small arms and other ordnances, fabricated pipes and pipe fittings, industrial patterns, and enameled iron and metal sanitary ware).

The data published with NAICS code 332999 include the following SIC industries:

3291 Abrasive products (pt)

3432 Plumbing fixture fittings and trim

3494 Valves and pipe fittings, n.e.c. (pt)

3497 Metal foil and leaf (pt)

3499 Fabricated metal products, n.e.c. (pt)

3537 Industrial trucks and tractors (pt)

3599 Industrial machinery, n.e.c. (pt)

3999 Manufacturing industries, n.e.c. (pt)

This definition comes from the 1997 NAICS Manual. However, for this industry, the 1997 Economic Census – Manufacturing did not fully implement the conversion to NAICS. Data for NAICS industry 332999 do not include establishments primarily engaged in manufacturing fire-place fixtures, traps, handcuffs and leg irons, ladder jacks, or other like metal products, or primarily engaged in manufacturing precious metal hollowware. The NAICS definitions will be fully implemented with the 2002 Economic Census.

### **333 Machinery Manufacturing**

Industries in the Machinery Manufacturing subsector create end products that apply mechanical force, for example, the application of gears and levers, to perform work. Some important processes for the manufacture of machinery are forging, stamping, bending, forming, and machining that are used to shape individual pieces of metal. Processes, such as welding and assembling are used to join separate parts together. Although these processes are similar to those used in metal fabricating establishments, machinery manufacturing is different because it

typically employs multiple metal forming processes in manufacturing the various parts of the machine. Moreover, complex assembly operations are an inherent part of the production process.

In general, design considerations are very important in machinery production. Establishments specialize in making machinery designed for particular applications. Thus, design is considered to be part of the production process for the purpose of implementing NAICS. The NAICS structure reflects this by defining industries and industry groups that make machinery for different applications. A broad distinction exists between machinery that is generally used in a variety of industrial applications (i.e., general-purpose machinery) and machinery that is designed to be used in a particular industry (i.e., special-purpose machinery). Three industry groups consist of special-purpose machinery—Agricultural, Construction, and Mining Machinery Manufacturing; Industrial Machinery Manufacturing; and Commercial and Service Industry Machinery Manufacturing. The other industry groups make general-purpose machinery: Ventilation, Heating, Air-Conditioning, and Commercial Refrigeration Equipment Manufacturing; Metalworking Machinery Manufacturing; Engine, Turbine, and Power Transmission Equipment Manufacturing; and Other General-Purpose Machinery Manufacturing.

### **3331 Agriculture, Construction, and Mining Machinery Manufacturing**

This NAICS industry group includes establishments classified in the following NAICS Industries: 33311, Agricultural Implement Manufacturing; 33312, Construction Machinery Manufacturing; and 33313, Mining and Oil and Gas Field Machinery Manufacturing.

#### **33311 Agricultural Implement Manufacturing**

This industry comprises establishments primarily engaged in manufacturing farm machinery and equipment, powered mowing equipment, and other powered home lawn and garden equipment.

#### **333111 Farm Machinery and Equipment Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing agricultural and farm machinery and equipment, and other turf and grounds care equipment, including planting, harvesting, and grass mowing equipment (except lawn and garden-type).

The data published with NAICS code 333111 include the following SIC industry:

3523 Farm machinery and equipment (pt)

This definition comes from the 1997 NAICS Manual. However, for this industry, the 1997 Economic Census – Manufacturing did not fully implement the conversion to

NAICS. Data for NAICS industry 333111 do not include establishments primarily engaged in manufacturing cotton ginning machinery. The NAICS definitions will be fully implemented with the 2002 Economic Census.

#### **333112 Lawn and Garden Tractor and Home Lawn and Garden Equipment Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing powered lawnmowers, lawn and garden tractors, and other home lawn and garden equipment, such as tillers, shredders, and yard vacuums and blowers.

The data published with NAICS code 333112 include the following SIC industry:

3524 Lawn and garden equipment (pt)

#### **33312 Construction Machinery Manufacturing**

This industry comprises establishments primarily engaged in manufacturing construction machinery, surface mining machinery, and logging equipment.

#### **333120 Construction Machinery Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing construction machinery, surface mining machinery, and logging equipment.

The data published with NAICS code 333120 include the following SIC industry:

3531 Construction machinery (pt)

#### **33313 Mining and Oil and Gas Field Machinery Manufacturing**

This industry comprises establishments primarily engaged in manufacturing oil and gas field and underground mining machinery and equipment.

#### **333131 Mining Machinery and Equipment Manufacturing**

This U.S. industry comprises establishments primarily engaged in (1) manufacturing underground mining machinery and equipment, such as coal breakers, mining cars, core drills, coal cutters, rock drills and (2) manufacturing mineral beneficiating machinery and equipment used in surface or underground mines.

The data published with NAICS code 333131 include the following SIC industry:

3532 Mining machinery

#### **333132 Oil and Gas Field Machinery and Equipment Manufacturing**

This U.S. industry comprises establishments primarily engaged in (1) manufacturing oil and gas field machinery and equipment, such as oil and gas field drilling machinery and equipment; oil and gas field production machinery and equipment; and oil and gas field derricks and (2) manufacturing water well drilling machinery.

---

The data published with NAICS code 333132 include the following SIC industry:

3533 Oil field machinery

### **3332 Industrial Machinery Manufacturing**

This NAICS industry group includes establishments classified in the following NAICS Industries: 33321, Sawmill and Woodworking Machinery Manufacturing; 33322, Plastics and Rubber Industry Machinery Manufacturing; and 33329, Other Industrial Machinery Manufacturing.

#### **33321 Sawmill and Woodworking Machinery Manufacturing**

This industry comprises establishments primarily engaged in manufacturing sawmill and woodworking machinery (except handheld), such as circular and band sawing equipment, planing machinery, and sanding machinery.

#### **333210 Sawmill and Woodworking Machinery Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing sawmill and woodworking machinery (except handheld), such as circular and band sawing equipment, planing machinery, and sanding machinery.

The data published with NAICS code 333210 include the following SIC industry:

3553 Woodworking machinery

#### **33322 Plastics and Rubber Industry Machinery Manufacturing**

This industry comprises establishments primarily engaged in manufacturing plastics and rubber products making machinery, such as plastics compression, extrusion and injection molding machinery and equipment, and tire building and recapping machinery and equipment.

#### **333220 Plastics and Rubber Industry Machinery Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing plastics and rubber products making machinery, such as plastics compression, extrusion and injection molding machinery and equipment, and tire building and recapping machinery and equipment.

The data published with NAICS code 333220 include the following SIC industry:

3559 Special industry machinery, n.e.c. (pt)

#### **33329 Other Industrial Machinery Manufacturing**

This industry comprises establishments primarily engaged in manufacturing industrial machinery (except agricultural and farm-type, construction, mining, sawmill and woodworking, and plastics and rubber products making machinery).

### **333291 Paper Industry Machinery Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing paper industry machinery for making paper and paper products, such as pulp making machinery, paper and paperboard making machinery, and paper and paperboard converting machinery.

The data published with NAICS code 333291 include the following SIC industry:

3554 Paper industries machinery

### **333292 Textile Machinery Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing textile machinery for making thread, yarn, and fiber.

The data published with NAICS code 333292 include the following SIC industries:

3552 Textile machinery

3699 Electrical equipment and supplies, n.e.c. (pt)

### **333293 Printing Machinery and Equipment Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing printing and bookbinding machinery and equipment, such as printing presses, type-setting machinery, and bindery machinery.

The data published with NAICS code 333293 include the following SIC industries:

3555 Printing trades machinery

3699 Electrical equipment and supplies, n.e.c. (pt)

### **333294 Food Product Machinery Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing food and beverage manufacturing-type machinery and equipment, such as dairy product plant machinery and equipment (e.g., homogenizers, pasteurizers, ice cream freezers), bakery machinery and equipment (e.g., dough mixers, bake ovens, pastry rolling machines), meat and poultry processing and preparation machinery, and other commercial food products machinery (e.g., slicers, choppers, and mixers).

The data published with NAICS code 333294 include the following SIC industry:

3556 Food products machinery

### **333295 Semiconductor Machinery Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing wafer processing equipment, semiconductor assembly and packaging equipment, and other semiconductor making machinery.

The data published with NAICS code 333295 include the following SIC industry:

3559 Special industry machinery, n.e.c. (pt)

---

### **333298 All Other Industrial Machinery Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing industrial machinery (except agricultural and farm-type, construction and mining machinery, sawmill and woodworking machinery, plastics and rubber making machinery, paper and paperboard making machinery, textile machinery, printing machinery and equipment, food manufacturing-type machinery, and semiconductor making machinery).

The data published with NAICS code 333298 include the following SIC industries:

3559 Special industry machinery, n.e.c. (pt)

3639 Household appliances, n.e.c. (pt)

### **3333 Commercial and Service Industry Machinery Manufacturing**

This NAICS industry group includes establishments classified in NAICS Industry 33331, Commercial and Service Industry Machinery Manufacturing.

### **33331 Commercial and Service Industry Machinery Manufacturing**

This industry comprises establishments primarily engaged in manufacturing commercial and service machinery, such as automatic vending machinery, commercial laundry and drycleaning machinery, office machinery, photographic and photocopying machinery, optical instruments and machinery, automotive maintenance equipment (except mechanic's handtools), industrial vacuum cleaners, and commercial-type cooking equipment.

### **333311 Automatic Vending Machine Manufacturing**

This U.S. industry comprises establishments primarily engaged in (1) manufacturing coin, token, currency, or magnetic card operated vending machines and/or (2) manufacturing coin operated mechanism for machines, such as vending machines, lockers, and laundry machines.

The data published with NAICS code 333311 include the following SIC industry:

3581 Automatic merchandising machines

This definition comes from the 1997 NAICS Manual. However, for this industry, the 1997 Economic Census – Manufacturing did not fully implement the conversion to NAICS. Data for NAICS industry 333311 do not include establishments primarily engaged in the manufacture of change making machines. The NAICS definitions will be fully implemented with the 2002 Economic Census.

### **333312 Commercial Laundry, Drycleaning, and Pressing Machine Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing commercial and industrial laundry and drycleaning equipment and pressing machines.

The data published with NAICS code 333312 include the following SIC industry:

3582 Commercial laundry equipment

### **333313 Office Machinery Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing office machinery (except computers and photocopying equipment), such as mail-handling machinery and equipment, calculators, typewriters, and dedicated word processing equipment.

The data published with NAICS code 333313 include the following SIC industries:

3578 Calculating and accounting equipment (pt)

3579 Office machines, n.e.c. (pt)

### **333314 Optical Instrument and Lens Manufacturing**

This U.S. industry comprises establishments primarily engaged in one or more of the following: (1) manufacturing optical instruments and lens, such as binoculars, microscopes (except electron, proton), telescopes, prisms, and lenses (except ophthalmic); (2) coating or polishing lenses (except ophthalmic); and (3) mounting lenses (except ophthalmic).

The data published with NAICS code 333314 include the following SIC industries:

3699 Electrical equipment and supplies, n.e.c. (pt)

3827 Optical instruments and lenses

This definition comes from the 1997 NAICS Manual. However, for this industry, the 1997 Economic Census – Manufacturing implemented the conversion to NAICS differently. Data for NAICS industry 333314 include establishments primarily engaged in the manufacture of sighting and tracking laser products.

### **333315 Photographic and Photocopying Equipment Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing photographic and photocopying equipment, such as cameras (except television, video, digital projectors, film developing equipment, photocopying equipment, and microfilm equipment).

The data published with NAICS code 333315 include the following SIC industries:

3699 Electrical equipment and supplies, n.e.c. (pt)

3861 Photographic equipment and supplies (pt)

---

This definition comes from the 1997 NAICS Manual. However, for this industry, the 1997 Economic Census – Manufacturing implemented the conversion to NAICS differently. Data for NAICS industry 333315 include establishments primarily engaged in the manufacture of photographic laser products.

### **333319 Other Commercial and Service Industry Machinery Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing commercial and service industry equipment (except automatic vending machines, commercial laundry, drycleaning and pressing machines, office machinery, optical instruments and lenses, and photographic and photocopying equipment).

The data published with NAICS code 333319 include the following SIC industries:

3559 Special industry machinery, n.e.c. (pt)

3589 Service industry machinery, n.e.c.

3599 Industrial machinery, n.e.c. (pt)

3699 Electrical equipment and supplies, n.e.c. (pt)

This definition comes from the 1997 NAICS Manual. However, for this industry, the 1997 Economic Census – Manufacturing did not fully implement the conversion to NAICS. Data for NAICS industry 333319 do not include establishments primarily engaged in the manufacture of beauty and barbershop equipment, except chairs. The NAICS definitions will be fully implemented with the 2002 Economic Census.

### **3334 Ventilation, Heating, Air-Conditioning, and Commercial Refrigeration Equipment Manufacturing**

This NAICS industry group includes establishments classified in NAICS Industry 33341, Ventilation, Heating, Air-Conditioning, and Commercial Refrigeration Equipment Manufacturing.

#### **33341 Ventilation, Heating, Air-Conditioning, and Commercial Refrigeration Equipment Manufacturing**

This industry comprises establishments primarily engaged in manufacturing ventilating, heating, air-conditioning, and commercial and industrial refrigeration and freezer equipment.

#### **333411 Air Purification Equipment Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing stationary air purification equipment, such as industrial dust and fume collection equipment, electrostatic precipitation equipment, warm air furnace filters, air washers, and other dust collection equipment.

The data published with NAICS code 333411 include the following SIC industry:

3564 Blowers and fans (pt)

#### **333412 Industrial and Commercial Fan and Blower Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing attic fans and industrial and commercial fans and blowers, such as commercial exhaust fans and commercial ventilating fans.

The data published with NAICS code 333412 include the following SIC industry:

3564 Blowers and fans (pt)

#### **333414 Heating Equipment (Except Warm Air Furnaces) Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing heating equipment (except electric and warm air furnaces), such as heating boilers, heating stoves, floor and wall furnaces, and wall and baseboard heating units.

The data published with NAICS code 333414 include the following SIC industries:

3433 Heating equipment, except electric

3634 Electric housewares and fans (pt)

This definition comes from the 1997 NAICS Manual. However, for this industry, the 1997 Economic Census – Manufacturing did not fully implement the conversion to NAICS. Data for NAICS industry 333414 do not include establishments primarily engaged in the manufacture of cooling towers of wood, metal, or sheet metal, or the manufacture of electric swimming pool heaters. The NAICS definitions will be fully implemented with the 2002 Economic Census.

#### **333415 Air-Conditioning and Warm Air Heating Equipment and Commercial and Industrial Refrigeration Equipment Manufacturing**

This U.S. industry comprises establishments primarily engaged in (1) manufacturing air-conditioning (except motor vehicle) and warm air furnace equipment and/or (2) manufacturing commercial and industrial refrigeration and freezer equipment.

The data published with NAICS code 333415 include the following SIC industries:

3443 Fabricated plate work, boiler shops (pt)

3585 Refrigeration and heating equipment (pt)

This definition comes from the 1997 NAICS Manual. However, for this industry, the 1997 Economic Census – Manufacturing did not fully implement the conversion to

---

NAICS. Data for NAICS industry 333415 include establishments primarily engaged in the manufacture of metal cooling towers. The NAICS definitions will be fully implemented with the 2002 Economic Census.

### **3335 Metalworking Machinery Manufacturing**

This NAICS industry group includes establishments classified in NAICS Industry 33351, Metalworking Machinery Manufacturing.

#### **33351 Metalworking Machinery Manufacturing**

This industry comprises establishments primarily engaged in manufacturing metalworking machinery, such as metal cutting and metal forming machine tools; cutting tools; and accessories for metalworking machinery; special dies, tools, jigs, and fixtures; industrial molds; rolling mill machinery; assembly machinery; coil handling, conversion, or straightening equipment; and wire drawing and fabricating machines.

##### **333511 Industrial Mold Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing industrial molds for casting metals or forming other materials, such as plastics, glass, or rubber.

The data published with NAICS code 333511 include the following SIC industry:

3544 Special dies, tools, jigs, and fixtures (pt)

##### **333512 Machine Tool (Metal Cutting Types) Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing metal cutting machine tools (except handtools).

The data published with NAICS code 333512 include the following SIC industries:

3541 Machine tools, metal cutting types

3699 Electrical equipment and supplies, n.e.c. (pt)

##### **333513 Machine Tool (Metal Forming Types) Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing metal forming machine tools (except handtools), such as punching, sheering, bending, forming, pressing, forging and die-casting machines.

The data published with NAICS code 333513 include the following SIC industries:

3542 Machine tools, metal forming types

##### **333514 Special Die and Tool, Die Set, Jig, and Fixture Manufacturing**

This U.S. industry comprises establishments, known as tool and die shops, primarily engaged in manufacturing special tools and fixtures, such as cutting dies and jigs.

The data published with NAICS code 333514 include the following SIC industry:

3544 Special dies, tools, jigs, and fixtures (pt)

##### **333515 Cutting Tool and Machine Tool Accessory Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing accessories and attachments for metal cutting and metal forming machine tools.

The data published with NAICS code 333515 include the following SIC industry:

3545 Machine tool accessories (pt)

##### **333516 Rolling Mill Machinery and Equipment Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing rolling mill machinery and equipment for metal production.

The data published with NAICS code 333516 include the following SIC industry:

3547 Rolling mill machinery

##### **333518 Other Metalworking Machinery Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing metal working machinery (except industrial molds; metal cutting machine tools; metal forming machine tools; special dies and tools, die sets, jigs, and fixtures; cutting tools and machine tool accessories; and rolling mill machinery and equipment).

The data published with NAICS code 333518 include the following SIC industry:

3549 Metalworking machinery, n.e.c.

##### **3336 Engine, Turbine, and Power Transmission Equipment Manufacturing**

This NAICS industry group includes establishments classified in NAICS Industry 33361, Engine, Turbine, and Power Transmission Equipment Manufacturing.

##### **33361 Engine, Turbine, and Power Transmission Equipment Manufacturing**

This industry comprises establishments primarily engaged in manufacturing turbines, power transmission equipment, and internal combustion engines (except automotive gasoline and aircraft).

---

### **333611 Turbine and Turbine Generator Set Units Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing turbines (except aircraft); and complete turbine generator set units, such as steam, hydraulic, gas, and wind.

The data published with NAICS code 333611 include the following SIC industry:

3511 Turbines and turbine generator sets

### **333612 Speed Changer, Industrial High-Speed Drive, and Gear Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing gears, speed changers, and industrial high-speed drives (except hydrostatic).

The data published with NAICS code 333612 include the following SIC industry:

3566 Speed changers, drives, and gears

### **333613 Mechanical Power Transmission Equipment Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing mechanical power transmission equipment (except motor vehicle and aircraft), such as plain bearings, brakes and clutches (except motor vehicle and electromagnetic industrial control), couplings, joints, and drive chains.

The data published with NAICS code 333613 include the following SIC industry:

3568 Power transmission equipment, n.e.c.

### **333618 Other Engine Equipment Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing internal combustion engines (except automotive gasoline and aircraft).

The data published with NAICS code 333618 include the following SIC industries:

3519 Internal combustion engines, n.e.c. (pt)

3699 Electrical equipment and supplies, n.e.c. (pt)

### **3339 Other General-Purpose Machinery Manufacturing**

This NAICS industry group includes establishments classified in the following NAICS Industries: 33391, Pump and Compressor Manufacturing; 33392, Material Handling Equipment Manufacturing; and 33399, All Other General-Purpose Machinery Manufacturing.

### **33391 Pump and Compressor Manufacturing**

This industry comprises establishments primarily engaged in manufacturing pumps and compressors, such as general-purpose air and gas compressors, nonagricultural spraying and dusting equipment, general-purpose pumps and pumping equipment (except fluid power pumps and motors), and measuring and dispensing pumps.

#### **333911 Pump and Pumping Equipment Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing general-purpose pumps and pumping equipment (except fluid power pumps and motors), such as reciprocating pumps, turbine pumps, centrifugal pumps, rotary pumps, diaphragm pumps, domestic water system pumps, oil well and oil field pumps and sump pumps.

The data published with NAICS code 333911 include the following SIC industries:

3561 Pumps and pumping equipment

3743 Railroad equipment (pt)

#### **333912 Air and Gas Compressor Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing general-purpose air and gas compressors, such as reciprocating compressors, centrifugal compressors, vacuum pumps (except laboratory), and nonagricultural spraying and dusting compressors and spray gun units.

The data published with NAICS code 333912 include the following SIC industry:

3563 Air and gas compressors

#### **333913 Measuring and Dispensing Pump Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing measuring and dispensing pumps, such as gasoline pumps and lubricating oil measuring and dispensing pumps.

The data published with NAICS code 333913 include the following SIC industry:

3586 Measuring and dispensing pumps

#### **33392 Material Handling Equipment Manufacturing**

This industry comprises establishments primarily engaged in manufacturing material handling equipment, such as elevators and moving stairs; conveyors and conveying equipment; overhead traveling cranes, hoists, and monorail systems; and industrial trucks, tractors, trailers, and stacker machinery.

---

### **333921 Elevator and Moving Stairway Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing elevators and moving stairways.

The data published with NAICS code 333912 include the following SIC industry:

3534 Elevators and moving stairways

### **333922 Conveyor and Conveying Equipment Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing conveyors and conveying equipment, such as gravity conveyors, trolley conveyors, tow conveyors, pneumatic tube conveyors, carousel conveyors, farm conveyors, and belt conveyors.

The data published with NAICS code 333922 include the following SIC industries:

3523 Farm machinery and equipment (pt)

3535 Conveyors and conveying equipment

### **333923 Overhead Traveling Crane, Hoist, and Monorail System Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing overhead traveling cranes, hoists, and monorail systems.

The data published with NAICS code 333923 include the following SIC industries:

3531 Construction machinery (pt)

3536 Hoists, cranes, and monorails

### **333924 Industrial Truck, Tractor, Trailer, and Stacker Machinery Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing industrial trucks, tractors, trailers, and stackers (i.e., truck-type) such as forklifts, pallet loaders and unloaders, and portable loading docks.

The data published with NAICS code 333924 include the following SIC industry:

3537 Industrial trucks and tractors (pt)

This definition comes from the 1997 NAICS Manual. However, for this industry, the 1997 Economic Census – Manufacturing did not fully implement the conversion to NAICS. Data for NAICS industry 332994 do not include establishments primarily engaged in the manufacture of tranquilizer guns. The NAICS definitions will be fully implemented with the 2002 Economic Census.

### **33399 All Other General-Purpose Machinery Manufacturing**

This industry comprises establishments primarily engaged in manufacturing general-purpose machinery (except ventilation, heating, air-conditioning, and commercial refrigeration equipment; metal working machinery; engines, turbines, and power transmission equipment; pumps and compressors; and material handling equipment).

#### **333991 Power-Driven Handtool Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing power-driven (e.g., battery, corded, pneumatic) handtools, such as drills, screwguns, circular saws, chain saws, staplers, and nailers.

The data published with NAICS code 333991 include the following SIC industry:

3546 Power-driven handtools

#### **333992 Welding and Soldering Equipment Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing welding and soldering equipment and accessories (except transformers), such as arc, resistance, gas, plasma, laser, electron beam, and ultrasonic welding equipment; welding electrodes; coated or cored welding wire; and soldering equipment (except handheld).

The data published with NAICS code 333992 include the following SIC industries:

3548 Welding apparatus (pt)

3699 Electrical equipment and supplies, n.e.c. (pt)

#### **333993 Packaging Machinery Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing packaging machinery, such as wrapping, bottling, canning, and labeling machinery.

The data published with NAICS code 333993 include the following SIC industry:

3565 Packaging machinery

#### **333994 Industrial Process Furnace and Oven Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing industrial process furnaces, ovens, induction and dielectric heating equipment, and kilns (except cement, chemical, wood).

The data published with NAICS code 333994 include the following SIC industry:

3567 Industrial furnaces and ovens



---

### **333995 Fluid Power Cylinder and Actuator Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing fluid power (i.e., hydraulic and pneumatic) cylinders and actuators.

The data published with NAICS code 333995 include the following SIC industries:

3593 Fluid power cylinders and actuators

3728 Aircraft parts and equipment, n.e.c. (pt)

This definition comes from the 1997 NAICS Manual. However, for this industry, the 1997 Economic Census – Manufacturing implemented the conversion to NAICS differently. Data for NAICS industry 333995 include establishments primarily engaged in the manufacture of aerospace-type fluid power actuators. The NAICS definitions will be fully implemented with the 2002 Economic Census.

### **333996 Fluid Power Pump and Motor Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing fluid power (i.e., hydraulic and pneumatic) pumps and motors.

The data published with NAICS code 333996 include the following SIC industries:

3594 Fluid power pumps and motors

3728 Aircraft parts and equipment, n.e.c. (pt)

This definition comes from the 1997 NAICS Manual. However, for this industry, the 1997 Economic Census – Manufacturing implemented the conversion to NAICS differently. Data for NAICS industry 333996 include establishments primarily engaged in the manufacture of aerospace-type fluid power actuators. The NAICS definitions will be fully implemented with the 2002 Economic Census.

### **333997 Scale and Balance (Except Laboratory) Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing scales and balances (except laboratory).

The data published with NAICS code 333997 include the following SIC industry:

3596 Scales and balances, except laboratory

### **333999 All Other Miscellaneous General-Purpose Machinery Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing general-purpose machinery (except ventilating, heating, air-conditioning, and commercial refrigeration equipment; metal working machinery;

engines, turbines, and power transmission equipment; pumps and compressors; material handling equipment; power-driven handtools; welding and soldering equipment; packaging machinery; industrial process furnaces and ovens; fluid power cylinders and actuators; fluid power pumps and motors; and scales and balances).

The data published with NAICS code 333999 include the following SIC industries:

3569 General industrial machinery, n.e.c.

3599 Industrial machinery, n.e.c. (pt)

### **334 Computer and Electronic Product Manufacturing**

Industries in the Computer and Electronic Product Manufacturing subsector group establishments that manufacture computers, computer peripherals, communications equipment, and similar electronic products, and establishments that manufacture components for such products. The Computer and Electronic Product Manufacturing industries have been combined in the hierarchy of NAICS because of the economic significance they have attained. Their rapid growth suggests that they will become even more important to the economies of all three North American countries in the future, and in addition their manufacturing processes are fundamentally different from the manufacturing processes of other machinery and equipment. The design and use of integrated circuits and the application of highly specialized miniaturization technologies are common elements in the production technologies of the computer and electronic subsector. Convergence of technology motivates this NAICS subsector. Digitalization of sound recording, for example, causes both the medium (the compact disc) and the equipment to resemble the technologies for recording, storing, transmitting, and manipulating data. Communications technology and equipment have been converging with computer technology. When technologically related components are in the same sector, it makes it easier to adjust the classification for future changes, without needing to redefine its basic structure. The creation of the Computer and Electronic Product Manufacturing subsector will assist in delineating new and emerging industries because the activities that will serve as the probable sources of new industries, such as computer manufacturing and communications equipment manufacturing, or computers and audio equipment are brought together. As new activities emerge, they are less likely, therefore, to cross the subsector boundaries of the classification.

### **3341 Computer and Peripheral Equipment Manufacturing**

This NAICS industry group includes establishments classified in NAICS Industry 33411, Computer and Peripheral Equipment Manufacturing.

---

### **33411 Computer and Peripheral Equipment Manufacturing**

This industry comprises establishments primarily engaged in manufacturing and/or assembling electronic computers, such as mainframes, personal computers, workstations, laptops, and computer servers; and computer peripheral equipment, such as storage devices, printers, monitors, input/output devices and terminals. Computers can be analog, digital, or hybrid. Digital computers, the most common type, are devices that do all of the following: (1) store the processing program or programs and the data immediately necessary for the execution of the program; (2) can be freely programmed in accordance with the requirements of the user; (3) perform arithmetical computations specified by the user; and (4) execute, without human intervention, a processing program that requires the computer to modify its execution by logical decision during the processing run. Analog computers are capable of simulating mathematical models and comprise at least analog, control, and programming elements.

#### **334111 Electronic Computer Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing and/or assembling electronic computers, such as mainframes, personal computers, workstations, laptops, and computer servers. Computers can be analog, digital, or hybrid. Digital computers, the most common type, are devices that do all of the following: (1) store the processing program or programs and the data immediately necessary for the execution of the program; (2) can be freely programmed in accordance with the requirements of the user; (3) perform arithmetical computations specified by the user; and (4) execute, without human intervention, a processing program that requires the computer to modify its execution by logical decision during the processing run. Analog computers are capable of simulating mathematical models and contain at least analog, control, and programming elements. The manufacture of computers includes the assembly or integration of processors, coprocessors, memory, storage, and input/output devices into a user-programmable final product.

The data published with NAICS code 334111 include the following SIC industry:

3571 Electronic computers

#### **334112 Computer Storage Device Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing computer storage devices that allow the storage and retrieval of data from a phase change, magnetic, optical, or magnetic/optical media. Examples of products made by these establishments are CD-ROM drives, floppy disk drives, hard disk drives, and tape storage and backup units.

The data published with NAICS code 334112 include the following SIC industry:

3572 Computer storage devices

#### **334113 Computer Terminal Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing computer terminals. Computer terminals are input/output devices that connect with a central computer for processing.

The data published with NAICS code 334113 include the following SIC industry:

3575 Computer terminals

#### **334119 Other Computer Peripheral Equipment Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing computer peripheral equipment (except storage devices and computer terminals).

The data published with NAICS code 334119 include the following SIC industries:

3577 Computer peripheral equipment, n.e.c.

3578 Calculating and accounting equipment (pt)

3699 Electrical equipment and supplies, n.e.c. (pt)

This definition comes from the 1997 NAICS Manual. However, for this industry, the 1997 Economic Census – Manufacturing implemented the conversion to NAICS differently. Data for NAICS industry 334119 include establishments primarily engaged in the manufacture of laser products.

#### **3342 Communications Equipment Manufacturing**

This NAICS industry group includes establishments classified in the following NAICS Industries: 33421, Telephone Apparatus Manufacturing; 33422, Radio and Television Broadcasting and Wireless Communications Equipment Manufacturing; and 33429, Other Communications Equipment Manufacturing.

#### **33421 Telephone Apparatus Manufacturing**

This industry comprises establishments primarily engaged in manufacturing wire telephone and data communications equipment. These products may be stand-alone or board-level components of a larger system. Examples of products made by these establishments are central office switching equipment, cordless telephones (except cellular), PBX equipment, telephones, telephone answering machines, and data communications equipment, such as bridges, routers, and gateways.

---

### **334210 Telephone Apparatus Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing wire telephone and data communications equipment. These products may be stand-alone or board-level components of a larger system. Examples of products made by these establishments are central office switching equipment, cordless telephones (except cellular), PBX equipment, telephones, telephone answering machines, and data communications equipment, such as bridges, routers, and gateways.

The data published with NAICS code 334210 include the following SIC industry:

3661 Telephone and telegraph apparatus (pt)

### **33422 Radio and Television Broadcasting and Wireless Communications Equipment Manufacturing**

This industry comprises establishments primarily engaged in manufacturing radio and television broadcast and wireless communications equipment. Examples of products made by these establishments are: transmitting and receiving antennas, cable television equipment, GPS equipment, pagers, cellular phones, mobile communications equipment, and radio and television studio and broadcasting equipment.

### **334220 Radio and Television Broadcasting and Wireless Communications Equipment Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing radio and television broadcast and wireless communications equipment. Examples of products made by these establishments are: transmitting and receiving antennas, cable television equipment, GPS equipment, pagers, cellular phones, mobile communications equipment, and radio and television studio and broadcasting equipment.

The data published with NAICS code 334220 include the following SIC industries:

3663 Radio and TV communications equipment

3679 Electronic components, n.e.c. (pt)

### **33429 Other Communications Equipment Manufacturing**

This industry comprises establishments primarily engaged in manufacturing communications equipment (except telephone apparatus, and radio and television broadcast, and wireless communications equipment).

### **334290 Other Communications Equipment Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing communications equipment (except telephone apparatus, radio and television broadcast, and wireless communications equipment).

The data published with NAICS code 334290 include the following SIC industry:

3669 Communications equipment, n.e.c.

### **3343 Audio and Video Equipment Manufacturing**

This NAICS industry group includes establishments classified in NAICS Industry 33431, Audio and Video Equipment Manufacturing.

### **33431 Audio and Video Equipment Manufacturing**

This industry comprises establishments primarily engaged in manufacturing electronic audio and video equipment for home entertainment, motor vehicle, public address and musical instrument amplifications. Examples of products made by these establishments are video cassette recorders, televisions, stereo equipment, speaker systems, household-type video cameras, jukeboxes, and amplifiers for musical instruments and public address systems.

### **334310 Audio and Video Equipment Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing electronic audio and video equipment for home entertainment, motor vehicle, public address and musical instrument amplifications. Examples of products made by these establishments are video cassette recorders, televisions, stereo equipment, speaker systems, household-type video cameras, jukeboxes, and amplifiers for musical instruments and public address systems.

The data published with NAICS code 334310 include the following SIC industry:

3651 Household audio and video equipment

This definition comes from the 1997 NAICS Manual. However, for this industry, the 1997 Economic Census – Manufacturing did not fully implement the conversion to NAICS. Data for NAICS industry 334310 do not include establishments primarily engaged in the manufacture of radio headphones. The NAICS definitions will be fully implemented with the 2002 Economic Census.

### **3344 Semiconductor and Other Electronic Component Manufacturing**

This NAICS industry group includes establishments classified in NAICS Industry 33441, Semiconductor and Other Electronic Component Manufacturing.

### **33441 Semiconductor and Other Electronic Component Manufacturing**

This industry comprises establishments primarily engaged in manufacturing semiconductors and other components for electronic applications. Examples of products

---

made by these establishments are capacitors, resistors, microprocessors, bare and loaded printed circuit boards, electron tubes, electronic connectors, and computer modems.

### **334411 Electron Tube Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing electron tubes and parts (except glass blanks). Examples of products made by these establishments are cathode ray tubes (i.e., picture tubes), klystron tubes, magnetron tubes, and traveling wave tubes.

The data published with NAICS code 334411 include the following SIC industries:

3671 Electron tubes

### **334412 Bare Printed Circuit Board Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing bare (i.e., rigid or flexible) printed circuit boards without mounted electronic components. These establishments print, perforate, plate, screen, etch, or photoprint interconnecting pathways for electric current on laminates.

The data published with NAICS code 334412 include the following SIC industry:

3672 Printed circuit boards

### **334413 Semiconductor and Related Device Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing semiconductors and related solid state devices. Examples of products made by these establishments are integrated circuits, memory chips, microprocessors, diodes, transistors, solar cells, and other optoelectronic devices.

The data published with NAICS code 334413 include the following SIC industry:

3674 Semiconductors and related devices

### **334414 Electronic Capacitor Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing electronic fixed and variable capacitors and condensers.

The data published with NAICS code 334414 include the following SIC industry:

3675 Electronic capacitors

### **334415 Electronic Resistor Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing electronic resistors, such as fixed and variable resistors, resistor networks, thermistors, and varistors.

The data published with NAICS code 334415 include the following SIC industry:

3676 Electronic resistors

### **334416 Electronic Coil, Transformer, and Other Inductor Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing electronic inductors, such as coils and transformers.

The data published with NAICS code 334416 include the following SIC industries:

3661 Telephone and telegraph apparatus (pt)

3677 Electronic coils and transformers

3825 Instruments to measure electricity (pt)

This definition comes from the 1997 NAICS Manual. However, for this industry, the 1997 Economic Census – Manufacturing did not fully implement the conversion to NAICS. Data for NAICS industry 334416 include establishments primarily engaged in the manufacture of telephone transformers or portable instrument transformers. The NAICS definitions will be fully implemented with the 2002 Economic Census.

### **334417 Electronic Connector Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing electronic connectors, such as coaxial, cylindrical, rack and panel, pin and sleeve, printed circuit and fiber optic.

The data published with NAICS code 334417 include the following SIC industry:

3678 Electronic connectors

### **334418 Printed Circuit Assembly (Electronic Assembly) Manufacturing**

This U.S. industry comprises establishments primarily engaged in loading components onto printed circuit boards or who manufacture and ship loaded printed circuit boards. Also known as printed circuit assemblies, electronics assemblies, or modules, these products are printed circuit boards that have some or all of the semiconductor and electronic components inserted or mounted and are inputs to a wide variety of electronic systems and devices.

The data published with NAICS code 334418 include the following SIC industries:

3661 Telephone and telegraph apparatus (pt)

3679 Electronic components, n.e.c. (pt)

This definition comes from the 1997 NAICS Manual. However, for this industry, the 1997 Economic Census – Manufacturing did not fully implement the conversion to NAICS. Data for NAICS industry 334418 do not include

---

establishments primarily engaged in the manufacture of plotter controllers. The NAICS definitions will be fully implemented with the 2002 Economic Census.

### **334419 Other Electronic Component Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing electronic components (except electron tubes; bare printed circuit boards; semiconductors and related devices; electronic capacitors; electronic resistors; coils, transformers and other inductors; connectors; and loaded printed circuit boards).

The data published with NAICS code 334419 include the following SIC industry:

3679 Electronic components, n.e.c. (pt)

### **3345 Navigational, Measuring, Medical, and Control Instruments Manufacturing**

This NAICS industry group includes establishments classified in NAICS Industry 33451, Navigational, Measuring, Medical, and Control Instruments Manufacturing.

#### **33451 Navigational, Measuring, Medical, and Control Instruments Manufacturing**

This industry comprises establishments primarily engaged in manufacturing navigational, measuring, electromedical, and control instruments. Examples of products made by these establishments are aeronautical instruments, appliance regulators and controls (except switches), laboratory analytical instruments, navigation and guidance systems, and physical properties testing equipment.

#### **334510 Electromedical and Electrotherapeutic Apparatus Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing electromedical and electrotherapeutic apparatus, such as magnetic resonance imaging equipment, medical ultrasound equipment, pacemakers, hearing aids, electrocardiographs, and electromedical endoscopic equipment.

The data published with NAICS code 334510 include the following SIC industries:

3699 Electrical equipment and supplies, n.e.c. (pt)

3842 Surgical appliances and supplies (pt)

3845 Electromedical equipment

This definition comes from the 1997 NAICS Manual. However, for this industry, the 1997 Economic Census – Manufacturing implemented the conversion to NAICS differently. Data for NAICS industry 334510 include establishments primarily engaged in the manufacture of electro-medical laser products.

#### **334511 Search, Detection, Navigation, Guidance, Aeronautical, and Nautical System and Instrument Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing search, detection, navigation, guidance, aeronautical, and nautical systems and instruments. Examples of products made by these establishments are aircraft instruments (except engine), flight recorders, navigational instruments and systems, radar systems and equipment, and sonar systems and equipment.

The data published with NAICS code 334511 include the following SIC industries:

3699 Electrical equipment and supplies, n.e.c. (pt)

3812 Search and navigation equipment

This definition comes from the 1997 NAICS Manual. However, for this industry, the 1997 Economic Census – Manufacturing implemented the conversion to NAICS differently. Data for NAICS industry 334511 include establishments primarily engaged in the manufacture of search and detection laser products.

#### **334512 Automatic Environmental Control Manufacturing for Residential, Commercial, and Appliance Use**

This U.S. industry comprises establishments primarily engaged in manufacturing automatic controls and regulators for applications, such as heating, air-conditioning, refrigeration and appliances.

The data published with NAICS code 334512 include the following SIC industry:

3822 Environmental controls

#### **334513 Instruments and Related Products Manufacturing for Measuring, Displaying, and Controlling Industrial Process Variables**

This U.S. industry comprises establishments primarily engaged in manufacturing instruments and related devices for measuring, displaying, indicating, recording, transmitting, and controlling industrial process variables. These instruments measure, display or control (monitor, analyze, and so forth) industrial process variables, such as temperature, humidity, pressure, vacuum, combustion, flow, level, viscosity, density, acidity, concentration, and rotation.

The data published with NAICS code 334513 include the following SIC industry:

3823 Process control instruments

#### **334514 Totalizing Fluid Meter and Counting Device Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing totalizing (i.e., registering) fluid meters and counting devices. Examples of products made

by these establishments are gas consumption meters, water consumption meters, parking meters, taxi meters, motor vehicle gauges, and fare collection equipment.

The data published with NAICS code 334514 include the following SIC industry:

3824 Fluid meters and counting devices

This definition comes from the 1997 NAICS Manual. However, for this industry, the 1997 Economic Census – Manufacturing did not fully implement the conversion to NAICS. Data for NAICS industry 334514 do not include establishments primarily engaged in the manufacture of automotive ammeters and voltmeters or motor vehicle gauges. The NAICS definitions will be fully implemented with the 2002 Economic Census.

### **334515 Instrument Manufacturing for Measuring and Testing Electricity and Electrical Signals**

This U.S. industry comprises establishments primarily engaged in manufacturing instruments for measuring and testing the characteristics of electricity and electrical signals. Examples of products made by these establishments are circuit and continuity testers, volt meters, ohm meters, wattmeters, multimeters, and semiconductor test equipment.

The data published with NAICS code 334515 include the following SIC industry:

3825 Instruments to measure electricity (pt)

### **334516 Analytical Laboratory Instrument Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing instruments and instrumentation systems for laboratory analysis of the chemical or physical composition or concentration of samples of solid, fluid, gaseous, or composite material.

The data published with NAICS code 334516 include the following SIC industries:

3699 Electrical equipment and supplies, n.e.c. (pt)

3826 Analytical instruments

This definition comes from the 1997 NAICS Manual. However, for this industry, the 1997 Economic Census – Manufacturing implemented the conversion to NAICS differently. Data for NAICS industry 334516 include establishments primarily engaged in the manufacture of analytical and scientific laser products.

### **334517 Irradiation Apparatus Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing irradiation apparatus and tubes for applications, such as medical diagnostic, medical therapeutic, industrial, research and scientific evaluation. Irradiation can take the form of beta-rays, gamma-rays, X-rays, or other ionizing radiation.

The data published with NAICS code 334517 include the following SIC industry:

3844 X-ray apparatus and tubes

### **334518 Watch, Clock, and Parts Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing and/or assembling clocks; watches; timing mechanisms for clockwork operated devices; time clocks; time and date recording devices; and clock and watch parts (except crystals), such as springs, jewels, and modules.

The data published with NAICS code 334518 include the following SIC industries:

3495 Wire springs (pt)

3579 Office machines, n.e.c. (pt)

3873 Watches, clocks, and watchcases

This definition comes from the 1997 NAICS Manual. However, for this industry, the 1997 Economic Census – Manufacturing did not fully implement the conversion to NAICS. Data for NAICS industry 334518 do not include establishments primarily engaged in the manufacture of electronic chronometers or watch jewels. The NAICS definitions will be fully implemented with the 2002 Economic Census.

### **334519 Other Measuring and Controlling Device Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing measuring and controlling devices (except search, detection, navigation, guidance, aeronautical, and nautical instruments and systems; automatic environmental controls for residential, commercial, and appliance use; instruments for measurement, display, and control of industrial process variables; totalizing fluid meters and counting devices; instruments for measuring and testing electricity and electrical signals; analytical laboratory instruments; watches, clocks, and parts; irradiation equipment; and electromedical and electrotherapeutic apparatus).

The data published with NAICS code 334519 include the following SIC industries:

3699 Electrical equipment and supplies, n.e.c. (pt)

3829 Measuring and controlling devices, n.e.c. (pt)

This definition comes from the 1997 NAICS Manual. However, for this industry, the 1997 Economic Census – Manufacturing implemented the conversion to NAICS differently. Data for NAICS industry 334519 include establishments primarily engaged in the manufacture of commercial geophysical, meteorological, survey, and drafting laser products.

---

### **3346 Manufacturing and Reproducing Magnetic and Optical Media**

This NAICS industry group includes establishments classified in NAICS Industry 33461, Manufacturing and Reproducing Magnetic and Optical Media.

#### **33461 Manufacturing and Reproducing Magnetic and Optical Media**

This industry comprises establishments primarily engaged in (1) manufacturing optical and magnetic media, such as blank audio tape, blank video tape, and blank diskettes and/or (2) mass duplicating (i.e., making copies) audio, video, software, and other data on magnetic, optical, and similar media.

##### **334611 Software Reproducing**

This U.S. industry comprises establishments primarily engaged in mass reproducing computer software. These establishments do not generally develop any software; they mass reproduce data and programs on magnetic media, such as diskettes, tapes, or cartridges. Establishments in this industry mass reproduce products, such as CD-ROMs and game cartridges.

The data published with NAICS code 334611 include the following SIC industries:

7379 Computer Related Services, n.e.c. (pt)

##### **334612 Prerecorded Compact Disc (Except Software), Tape, and Record Reproducing**

This U.S. industry comprises establishments primarily engaged in mass reproducing audio and video material on magnetic or optical media. Examples of products mass reproduced by these establishments are audio compact discs, prerecorded audio and video cassettes, and laser discs.

The data published with NAICS code 334612 include the following SIC industries:

3652 Prerecorded records and tapes

7819 Services allied to motion pictures (pt)

##### **334613 Magnetic and Optical Recording Media Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing magnetic and optical recording media, such as blank magnetic tape, blank diskettes, blank optical discs, hard drive media, and blank magnetic tape cassettes.

The data published with NAICS code 334613 include the following SIC industry:

3695 Magnetic and optical recording media

This definition comes from the 1997 NAICS Manual. However, for this industry, the 1997 Economic Census – Manufacturing did not fully implement the conversion to NAICS. Data for NAICS industry 334613 do not include establishments primarily engaged in the manufacture of magnetic tape cleaners. The NAICS definitions will be fully implemented with the 2002 Economic Census.

### **335 Electrical Equipment, Appliance, and Component Manufacturing**

Industries in the Electrical Equipment, Appliance, and Component Manufacturing subsector manufacture products that generate, distribute and use electrical power. Electric lighting equipment manufacturing establishments produce electric lamp bulbs, lighting fixtures, and parts. Household appliance manufacturing establishments make both small and major electrical appliances and parts. Electrical equipment manufacturing establishments make goods, such as electric motors, generators, transformers, and switchgear apparatus. Other electrical equipment and component manufacturing establishments make devices for storing electrical power (e.g., batteries), for transmitting electricity (e.g., insulated wire), and wiring devices (e.g., electrical outlets, fuse boxes, and light switches).

#### **3351 Electric Lighting Equipment Manufacturing**

This NAICS industry group includes establishments classified in the following NAICS Industries: 33511, Electric Lamp Bulb and Parts Manufacturing; and 33512, Lighting Fixture Manufacturing.

##### **33511 Electric Lamp Bulb and Parts Manufacturing**

This industry comprises establishments primarily engaged in manufacturing electric light bulbs and tubes, and parts and components (except glass blanks for electric light bulbs).

###### **335110 Electric Lamp Bulb and Part Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing electric light bulbs and tubes, and parts and components (except glass blanks for electric light bulbs).

The data published with NAICS code 335110 include the following SIC industry:

3641 Electric lamps

##### **33512 Lighting Fixture Manufacturing**

This industry comprises establishments primarily engaged in manufacturing electric lighting fixtures (except vehicular), nonelectric lighting equipment, lamp shades (except glass and plastics) and lighting fixture components (except current-carrying wiring devices).

---

### **335121 Residential Electric Lighting Fixture Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing fixed or portable residential electric lighting fixtures and lamp shades of metal, paper, or textiles. Residential electric lighting fixtures include those for use both inside and outside the residence.

The data published with NAICS code 335121 include the following SIC industries:

- 3089 Plastics products, n.e.c. (pt)
- 3645 Residential lighting fixtures
- 3999 Manufacturing industries, n.e.c. (pt)

This definition comes from the 1997 NAICS Manual. However, for this industry, the 1997 Economic Census – Manufacturing did not fully implement the conversion to NAICS. Data for NAICS industry 335121 include establishments primarily engaged in the manufacture of plastic lampshades. The NAICS definitions will be fully implemented with the 2002 Economic Census.

### **335122 Commercial, Industrial, and Institutional Electric Lighting Fixture Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing commercial, industrial, and institutional electric lighting fixtures.

The data published with NAICS code 335122 include the following SIC industry:

- 3646 Commercial lighting fixtures

### **335129 Other Lighting Equipment Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing electric lighting fixtures (except residential, commercial, industrial, institutional, and vehicular electric lighting fixtures) and nonelectric lighting equipment.

The data published with NAICS code 335129 include the following SIC industries:

- 3648 Lighting equipment, n.e.c.
- 3699 Electrical equipment and supplies, n.e.c. (pt)

### **3352 Household Appliance Manufacturing**

This NAICS industry group includes establishments classified in the following NAICS Industries: 33521, Small Electrical Appliance Manufacturing; and 33522, Major Appliance Manufacturing.

#### **33521 Small Electrical Appliance Manufacturing**

This industry comprises establishments primarily engaged in manufacturing small electric appliances and electric housewares, household-type fans, household-type vacuum cleaners, and other electric household-type floor care machines.

#### **335211 Electric Housewares and Household Fan Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing small electric appliances and electric housewares for heating, cooking, and other purposes, and electric household-type fans (except attic fans).

The data published with NAICS code 335211 include the following SIC industry:

- 3634 Electric housewares and fans (pt)

This definition comes from the 1997 NAICS Manual. However, for this industry, the 1997 Economic Census – Manufacturing did not fully implement the conversion to NAICS. Data for NAICS industry 335211 do not include establishments primarily engaged in the manufacture of electric hair clippers for humans. The NAICS definitions will be fully implemented with the 2002 Economic Census.

#### **335212 Household Vacuum Cleaner Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing electric vacuum cleaners, electric floor waxing machines, and other electric floor care machines typically for household use.

The data published with NAICS code 335212 include the following SIC industries:

- 3635 Household vacuum cleaners
- 3639 Household appliances, n.e.c. (pt)

#### **33522 Major Appliance Manufacturing**

This industry comprises establishments primarily engaged in manufacturing household-type cooking appliances, household-type laundry equipment, household-type refrigerators, upright and chest freezers, and other electrical and nonelectrical major household-type appliances, such as dishwashers, water heaters, and garbage disposal units.

#### **335221 Household Cooking Appliance Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing household-type electric and nonelectric cooking equipment (except small electric appliances and electric housewares).

The data published with NAICS code 335221 include the following SIC industry:

- 3631 Household cooking equipment

#### **335222 Household Refrigerator and Home Freezer Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing household-type refrigerators and upright and chest freezers.



---

The data published with NAICS code 335222 include the following SIC industry:

3632 Household refrigerators and freezers

### **335224 Household Laundry Equipment Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing household-type laundry equipment.

The data published with NAICS code 335224 include the following SIC industry:

3633 Household laundry equipment

### **335228 Other Major Household Appliance Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing electric and nonelectric major household-type appliances (except cooking equipment, refrigerators, upright and chest freezers, and household-type laundry equipment).

The data published with NAICS code 335228 include the following SIC industry:

3639 Household appliances, n.e.c. (pt)

### **3353 Electrical Equipment Manufacturing**

This NAICS industry group includes establishments classified in NAICS Industry 33531, Electrical Equipment Manufacturing.

#### **33531 Electrical Equipment Manufacturing**

This industry comprises establishments primarily engaged in manufacturing power, distribution, and specialty transformers; electric motors, generators, and motor generator sets; switchgear and switchboard apparatus; relays; and industrial controls.

#### **335311 Power, Distribution, and Specialty Transformer Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing power, distribution, and specialty transformers (except electronic components). Industrial-type and consumer-type transformers in this industry vary (e.g., step up or step down) voltage but do not convert alternating to direct or direct to alternating current.

The data published with NAICS code 335311 include the following SIC industries:

3548 Welding apparatus (pt)

3612 Transformers

#### **335312 Motor and Generator Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing electric motors (except internal combustion engine starting motors), power generators (except battery charging alternators for internal combustion engines), and motor generator sets (except turbine generator set units). This industry includes establishments rewinding armatures on a factory basis.

The data published with NAICS code 335312 include the following SIC industries:

3621 Motors and generators

7694 Armature rewinding shops (pt)

#### **335313 Switchgear and Switchboard Apparatus Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing switchgear and switchboard apparatus.

The data published with NAICS code 335313 include the following SIC industry:

3613 Switchgear and switchboard apparatus

#### **335314 Relay and Industrial Control Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing relays, motor starters and controllers, and other industrial controls and control accessories.

The data published with NAICS code 335314 include the following SIC industry:

3625 Relays and industrial controls

#### **3359 Other Electrical Equipment and Component Manufacturing**

This industry group comprises establishments manufacturing electrical equipment and components (except electric lighting equipment, household-type appliances, transformers, switchgear, relays, motors, and generators).

#### **33591 Battery Manufacturing**

This industry comprises establishments primarily engaged in manufacturing primary and storage batteries.

#### **335911 Storage Battery Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing storage batteries.

The data published with NAICS code 335911 include the following SIC industry:

3691 Storage batteries

### **335912 Primary Battery Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing wet or dry primary batteries.

The data published with NAICS code 335912 include the following SIC industry:

3692 Primary batteries, dry and wet

### **33592 Communication and Energy Wire and Cable Manufacturing**

This industry comprises establishments insulating fiber-optic cable, and manufacturing insulated nonferrous wire and cable from nonferrous wire drawn in other establishments.

### **335921 Fiber Optic Cable Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing insulated fiber-optic cable from purchased fiber-optic strand.

The data published with NAICS code 335921 include the following SIC industry:

3357 Nonferrous wire drawing and insulating (pt)

### **335929 Other Communication and Energy Wire Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing insulated wire and cable of nonferrous metals from purchased wire.

The data published with NAICS code 335929 include the following SIC industry:

3357 Nonferrous wire drawing and insulating (pt)

### **33593 Wiring Device Manufacturing**

This industry comprises establishments primarily engaged in manufacturing current-carrying wiring devices and noncurrent-carrying wiring devices for wiring electrical circuits.

### **335931 Current-Carrying Wiring Device Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing current-carrying wiring devices.

The data published with NAICS code 335931 include the following SIC industry:

3643 Current-carrying wiring devices

### **335932 Noncurrent-Carrying Wiring Device Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing noncurrent-carrying wiring devices.

The data published with NAICS code 335932 include the following SIC industry:

3644 Noncurrent-carrying wiring devices

### **33599 All Other Electrical Equipment and Component Manufacturing**

This industry comprises establishments primarily engaged in manufacturing electrical equipment (except electric lighting equipment, household-type appliances, transformers, motors, generators, switchgear, relays, industrial controls, batteries, communication and energy wire and cable, and wiring devices).

### **335991 Carbon and Graphite Product Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing carbon, graphite, and metal-graphite brushes and brush stock; carbon or graphite electrodes for thermal and electrolytic uses; carbon and graphite fibers; and other carbon, graphite, and metal-graphite products.

The data published with NAICS code 335991 include the following SIC industry:

3624 Carbon and graphite products

### **335999 All Other Miscellaneous Electrical Equipment and Component Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing industrial and commercial electric apparatus and other equipment (except lighting equipment, household appliances, transformers, motors, generators, switchgear, relays, industrial controls, batteries, communication and energy wire and cable, wiring devices, and carbon and graphite products). This industry includes power converters (i.e., AC to DC and DC to AC), power supplies, surge suppressors, and similar equipment for industrial-type and consumer-type equipment.

The data published with NAICS code 335999 include the following SIC industries:

3629 Electrical industrial apparatus, n.e.c.

3699 Electrical equipment and supplies, n.e.c. (pt)

### **336 Transportation Equipment Manufacturing**

Industries in the Transportation Equipment Manufacturing subsector produce equipment for transporting people and goods. Transportation equipment is a type of machinery. An entire subsector is devoted to this activity because of the significance of its economic size in all three North American countries.

Establishments in this subsector utilize production processes similar to those of other machinery manufacturing establishments - bending, forming, welding, machining, and assembling metal or plastic parts into components and finished products. However, the assembly of components and subassemblies and their further assembly into finished vehicles tends to be a more common production process in this subsector than in the Machinery Manufacturing subsector.

---

NAICS has industry groups for the manufacture of equipment for each mode of transport - road, rail, air, and water. Parts for motor vehicles warrant a separate industry group because of their importance and because parts manufacture requires less assembly, and the establishments that manufacture only parts are not as vertically integrated as those that make complete vehicles.

Land use motor vehicle equipment not designed for highway operation (e.g., agricultural equipment, construction equipment, and materials handling equipment) is classified in the appropriate NAICS subsector based on the type and use of the equipment.

### **3361 Motor Vehicle Manufacturing**

This NAICS industry group includes establishments classified in the following NAICS Industries: 33611, Automobile and Light Duty Motor Vehicle Manufacturing; and 33612, Heavy Duty Truck Manufacturing.

#### **33611 Automobile and Light Duty Motor Vehicle Manufacturing**

This industry comprises establishments primarily engaged in (1) manufacturing complete automobile and light duty motor vehicles (i.e., body and chassis or unibody) or (2) manufacturing chassis only.

##### **336111 Automobile Manufacturing**

This U.S. industry comprises establishments primarily engaged in (1) manufacturing complete automobiles (i.e., body and chassis or unibody) or (2) manufacturing automobile chassis only.

The data published with NAICS code 336111 include the following SIC industry:

3711 Motor vehicles and car bodies (pt)

##### **336112 Light Truck and Utility Vehicle Manufacturing**

This U.S. industry comprises establishments primarily engaged in (1) manufacturing complete light trucks and utility vehicles (i.e., body and chassis) or (2) manufacturing light truck and utility vehicle chassis only. Vehicles made include light duty vans, pick-up trucks, minivans, and sport utility vehicles.

The data published with NAICS code 336112 include the following SIC industry:

3711 Motor vehicles and car bodies (pt)

### **33612 Heavy Duty Truck Manufacturing**

This industry comprises establishments primarily engaged in (1) manufacturing heavy duty truck chassis and assembling complete heavy duty trucks, buses, heavy duty motor homes, and other special-purpose, heavy duty motor vehicles for highway use or (2) manufacturing heavy duty truck chassis only.

### **336120 Heavy Duty Truck Manufacturing**

This U.S. industry comprises establishments primarily engaged in (1) manufacturing heavy duty truck chassis and assembling complete heavy duty trucks, buses, heavy duty motor homes, and other special-purpose, heavy duty motor vehicles for highway use or (2) manufacturing heavy duty truck chassis only.

The data published with NAICS code 336120 include the following SIC industry:

3711 Motor vehicles and car bodies (pt)

### **3362 Motor Vehicle Body and Trailer Manufacturing**

This NAICS industry group includes establishments classified in NAICS Industry 33621, Motor Vehicle Body and Trailer Manufacturing.

#### **33621 Motor Vehicle Body and Trailer Manufacturing**

This industry comprises establishments primarily engaged in (1) manufacturing motor vehicle bodies and cabs or (2) manufacturing truck, automobile and utility trailers, truck trailer chassis, detachable trailer bodies and detachable trailer chassis. The products made may be sold separately or may be assembled on purchased chassis and sold as complete vehicles.

Motor homes are units where the motor and the living quarters are contained in the same integrated unit, while travel trailers are designed to be towed by a motor unit, such as an automobile or a light truck.

##### **336211 Motor Vehicle Body Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing truck and bus bodies and cabs and automobile bodies. The products made may be sold separately or may be assembled on purchased chassis and sold as complete vehicles.

The data published with NAICS code 336211 include the following SIC industries:

3711 Motor vehicles and car bodies (pt)

3713 Truck and bus bodies

3714 Motor vehicle parts and accessories (pt)

##### **336212 Truck Trailer Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing truck trailers, truck trailer chassis, cargo container chassis, detachable trailer bodies, and detachable trailer chassis for sale separately.

The data published with NAICS code 336212 include the following SIC industry:

3715 Truck trailers

### **336213 Motor Home Manufacturing**

This U.S. industry comprises establishments primarily engaged in (1) manufacturing motor homes on purchased chassis and/or (2) manufacturing conversion vans on an assembly line basis. Motor homes are units where the motor and the living quarters are integrated in the same unit.

The data published with NAICS code 336213 include the following SIC industry:

3716 Motor homes

### **336214 Travel Trailer and Camper Manufacturing**

This U.S. industry comprises establishments primarily engaged in one or more of the following: (1) manufacturing travel trailers and campers designed to attach to motor vehicles; (2) manufacturing pickup coaches (i.e., campers) and caps (i.e., covers) for mounting on pickup trucks; and (3) manufacturing automobile, utility, and light-truck trailers. Travel trailers do not have their own motor but are designed to be towed by a motor unit, such as an automobile or a light truck.

The data published with NAICS code 336214 include the following SIC industries:

3792 Travel trailer and campers

3799 Transportation equipment, n.e.c. (pt)

### **3363 Motor Vehicle Parts Manufacturing**

This NAICS industry group includes establishments classified in the following NAICS Industries: 33631, Motor Vehicle Gasoline Engine and Engine Parts Manufacturing; 33632, Motor Vehicle Electrical and Electronic Equipment Manufacturing; 33633, Motor Vehicle Steering and Suspension Component (Except Spring) Manufacturing; 33634, Motor Vehicle Brake System Manufacturing; 33635, Motor Vehicle Transmission and Power Train Parts Manufacturing; 33636, Motor Vehicle Seating and Interior Trim Manufacturing; 33637, Motor Vehicle Metal Stamping; and 33639, Other Motor Vehicle Parts Manufacturing.

#### **33631 Motor Vehicle Gasoline Engine and Engine Parts Manufacturing**

This industry comprises establishments primarily engaged in manufacturing and/or rebuilding motor vehicle gasoline engines and engine parts, whether or not for vehicular use.

#### **336311 Carburetor, Piston, Piston Ring, and Valve Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing and/or rebuilding carburetors, pistons, piston rings, and engine intake and exhaust valves.

The data published with NAICS code 336311 include the following SIC industries:

3592 Carburetors, pistons, rings, and valves

#### **336312 Gasoline Engine and Engine Parts Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing and/or rebuilding gasoline motor vehicle engines and gasoline motor vehicle engine parts, excluding carburetors, pistons, piston rings, and valves.

The data published with NAICS code 336312 include the following SIC industry:

3714 Motor vehicle parts and accessories (pt)

#### **33632 Motor Vehicle Electrical and Electronic Equipment Manufacturing**

This industry comprises establishments primarily engaged in (1) manufacturing vehicular lighting and/or (2) manufacturing and/or rebuilding motor vehicle electrical and electronic equipment. The products made can be used for all types of transportation equipment (i.e., aircraft, automobiles, trains, ships).

#### **336321 Vehicular Lighting Equipment Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing vehicular lighting fixtures.

The data published with NAICS code 336321 include the following SIC industry:

3647 Vehicular lighting equipment

#### **336322 Other Motor Vehicle Electrical and Electronic Equipment Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing and/or rebuilding electrical and electronic equipment for motor vehicles and internal combustion engines.

The data published with NAICS code 336322 include the following SIC industries:

3679 Electronic components, n.e.c. (pt)

3694 Engine electrical equipment

3714 Motor vehicle parts and accessories (pt)

This definition comes from the 1997 NAICS Manual. However, for this industry, the 1997 Economic Census – Manufacturing did not fully implement the conversion to NAICS. Data for NAICS industry 336322 include establishments primarily engaged in the manufacture of electronic control modular chips for motor vehicles. The NAICS definitions will be fully implemented with the 2002 Economic Census.

---

### **33633 Motor Vehicle Steering and Suspension Component (Except Spring) Manufacturing**

This industry comprises establishments primarily engaged in manufacturing and/or rebuilding motor vehicle steering mechanisms and suspension components (except springs).

### **336330 Motor Vehicle Steering and Suspension Component (Except Spring) Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing and/or rebuilding motor vehicle steering mechanisms and suspension components (except springs).

The data published with NAICS code 336330 include the following SIC industry:

3714 Motor vehicle parts and accessories (pt)

### **33634 Motor Vehicle Brake System Manufacturing**

This industry comprises establishments primarily engaged in manufacturing and/or rebuilding motor vehicle brake systems and related components.

### **336340 Motor Vehicle Brake System Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing and/or rebuilding motor vehicle brake systems and related components.

The data published with NAICS code 336340 include the following SIC industries:

3292 Asbestos products (pt)

3714 Motor vehicle parts and accessories (pt)

### **33635 Motor Vehicle Transmission and Power Train Parts Manufacturing**

This industry comprises establishments primarily engaged in manufacturing and/or rebuilding motor vehicle transmission and power train parts.

### **336350 Motor Vehicle Transmission and Power Train Parts Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing and/or rebuilding motor vehicle transmission and power train parts.

The data published with NAICS code 336350 include the following SIC industry:

3714 Motor vehicle parts and accessories (pt)

### **33636 Motor Vehicle Seating and Interior Trim Manufacturing**

This industry comprises establishments primarily engaged in manufacturing motor vehicle seating, seats, seat frames, seat belts, and interior trimmings.

### **336360 Motor Vehicle Seating and Interior Trim Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing motor vehicle seating, seats, seat frames, seat belts, and interior trimmings.

The data published with NAICS code 336360 include the following SIC industries:

2396 Automotive and apparel trimmings (pt)

2399 Fabricated textile products, n.e.c. (pt)

2531 Public building and related furniture (pt)

This definition comes from the 1997 NAICS Manual. However, for this industry, the 1997 Economic Census – Manufacturing did not fully implement the conversion to NAICS. Data for NAICS industry 336360 do not include establishments primarily engaged in the manufacture of metal motor vehicle seat frames. The NAICS definitions will be fully implemented with the 2002 Economic Census.

### **33637 Motor Vehicle Metal Stamping**

This industry comprises establishments primarily engaged in manufacturing motor vehicle stampings, such as fenders, tops, body parts, trim, and molding.

### **336370 Motor Vehicle Metal Stamping**

This U.S. industry comprises establishments primarily engaged in manufacturing motor vehicle stampings, such as fenders, tops, body parts, trim, and molding.

The data published with NAICS code 336370 include the following SIC industry:

3465 Automotive stampings

### **33639 Other Motor Vehicle Parts Manufacturing**

This industry comprises establishments primarily engaged in manufacturing and/or rebuilding motor vehicle parts and accessories (except motor vehicle gasoline engines and engine parts, motor vehicle electrical and electronic equipment, motor vehicle steering and suspension components, motor vehicle brake systems, motor vehicle transmission and power train parts, motor vehicle seating and interior trim, and motor vehicle stampings).

### **336391 Motor Vehicle Air-Conditioning Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing air-conditioning systems and compressors for motor vehicles, such as automobiles, trucks, buses, aircraft, farm machinery, construction machinery, and other related vehicles.

The data published with NAICS code 336391 include the following SIC industry:

3585 Refrigeration and heating equipment (pt)

---

### **336399 All Other Motor Vehicle Parts Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing and/or rebuilding motor vehicle parts and accessories (except motor vehicle gasoline engines and engine parts, motor vehicle electrical and electronic equipment, motor vehicle steering and suspension components, motor vehicle brake systems, motor vehicle transmission and power train parts, motor vehicle seating and interior trim, motor vehicle stampings, and motor vehicle air-conditioning systems and compressors).

The data published with NAICS code 336399 include the following SIC industries:

3519 Internal combustion engines, n.e.c. (pt)

3714 Motor vehicle parts and accessories (pt)

This definition comes from the 1997 NAICS Manual. However, for this industry, the 1997 Economic Census – Manufacturing did not fully implement the conversion to NAICS. Data for NAICS industry 336399 do not include establishments primarily engaged in the manufacture of luggage and utility racks or trailer hitches. The NAICS definitions will be fully implemented with the 2002 Economic Census.

### **3364 Aerospace Product and Parts Manufacturing**

This NAICS industry group includes establishments classified in NAICS Industry 33641, Aerospace Product and Parts Manufacturing.

#### **33641 Aerospace Product and Parts Manufacturing**

This industry comprises establishments primarily engaged in one or more of the following: (1) manufacturing complete aircraft, missiles, or space vehicles; (2) manufacturing aerospace engines, propulsion units, auxiliary equipment or parts; (3) developing and making prototypes of aerospace products; (4) aircraft conversion (i.e., major modifications to systems); and (5) complete aircraft or propulsion systems overhaul and rebuilding (i.e., periodic restoration of aircraft to original design specifications).

##### **336411 Aircraft Manufacturing**

This U.S. industry comprises establishments primarily engaged in one or more of the following: (1) manufacturing or assembling complete aircraft; (2) developing and making aircraft prototypes; (3) aircraft conversion (i.e., major modifications to systems); and (4) complete aircraft overhaul and rebuilding (i.e., periodic restoration of aircraft to original design specifications).

The data published with NAICS code 336411 include the following SIC industry:

3721 Aircraft

This definition comes from the 1997 NAICS Manual. However, for this industry, the 1997 Economic Census – Manufacturing did not fully implement the conversion to NAICS. Data for NAICS industry 336411 do not include establishments primarily engaged in the manufacture of target drones. The NAICS definitions will be fully implemented with the 2002 Economic Census.

##### **336412 Aircraft Engine and Engine Parts Manufacturing**

This U.S. industry comprises establishments primarily engaged in one or more of the following: (1) manufacturing aircraft engines and engine parts; (2) developing and making prototypes of aircraft engines and engine parts; (3) aircraft propulsion system conversion (i.e., major modifications to systems); and (4) aircraft propulsion systems overhaul and rebuilding (i.e., periodic restoration of aircraft propulsion system to original design specifications).

The data published with NAICS code 336412 include the following SIC industry:

3724 Aircraft engines and engine parts

##### **336413 Other Aircraft Parts and Auxiliary Equipment Manufacturing**

This U.S. industry comprises establishments primarily engaged in (1) manufacturing aircraft parts or auxiliary equipment (except engines and aircraft fluid power subassemblies) and/or (2) developing and making prototypes of aircraft parts and auxiliary equipment. Auxiliary equipment includes such items as crop dusting apparatus, armament racks, inflight refueling equipment, and external fuel tanks.

The data published with NAICS code 336413 include the following SIC industry:

3728 Aircraft parts and equipment, n.e.c. (pt)

##### **336414 Guided Missile and Space Vehicle Manufacturing**

This U.S. industry comprises establishments primarily engaged in (1) manufacturing complete guided missiles and space vehicles and/or (2) developing and making prototypes of guided missile or space vehicles.

The data published with NAICS code 336414 include the following SIC industry:

3761 Guided missiles and space vehicles

##### **336415 Guided Missile and Space Vehicle Propulsion Unit and Propulsion Unit Parts Manufacturing**

This U.S. industry comprises establishments primarily engaged in (1) manufacturing guided missile and/or space vehicle propulsion units and propulsion unit parts and/or (2) developing and making prototypes of guided missile and space vehicle propulsion units and propulsion unit parts.

---

The data published with NAICS code 336415 include the following SIC industry:

3764 Space propulsion units and parts

### **336419 Other Guided Missile and Space Vehicle Parts and Auxiliary Equipment Manufacturing**

This U.S. industry comprises establishments primarily engaged in (1) manufacturing guided missile and space vehicle parts and auxiliary equipment (except guided missile and space vehicle propulsion units and propulsion unit parts) and/or (2) developing and making prototypes of guided missile and space vehicle parts and auxiliary equipment.

The data published with NAICS code 336419 include the following SIC industry:

3769 Space vehicle equipment, n.e.c.

### **3365 Railroad Rolling Stock Manufacturing**

This NAICS industry group includes establishments classified in NAICS Industry 33651, Railroad Rolling Stock Manufacturing.

#### **33651 Railroad Rolling Stock Manufacturing**

This industry comprises establishments primarily engaged in one or more of the following: (1) manufacturing and/or rebuilding locomotives, locomotive frames and parts; (2) manufacturing railroad, street, and rapid transit cars and car equipment for operation on rails for freight and passenger service; and (3) manufacturing rail layers, ballast distributors, rail tamping equipment, and other railway track maintenance equipment.

#### **336510 Railroad Rolling Stock Manufacturing**

This U.S. industry comprises establishments primarily engaged in one or more of the following: (1) manufacturing and/or rebuilding locomotives, locomotive frames, and parts; (2) manufacturing railroad, street, and rapid transit cars and car equipment for operation on rails for freight and passenger service; and (3) manufacturing rail layers, ballast distributors, rail tamping equipment, and other railway track maintenance equipment.

The data published with NAICS code 336510 include the following SIC industries:

3531 Construction machinery (pt)

3743 Railroad equipment (pt)

### **3366 Ship and Boat Building**

This NAICS industry group includes establishments classified in NAICS Industry 33661, Ship and Boat Building.

### **33661 Ship and Boat Building**

This industry comprises establishments primarily engaged in operating shipyards or boat yards (i.e., ship or boat manufacturing facilities). Shipyards are fixed facilities with drydocks and fabrication equipment capable of building a ship, defined as watercraft typically suitable or intended for other than personal or recreational use. Boats are defined as watercraft typically suitable or intended for personal use. Activities of shipyards include the construction of ships, their repair, conversion and alteration, the production of prefabricated ship and barge sections, and specialized services, such as ship scaling.

#### **336611 Ship Building and Repairing**

This U.S. industry comprises establishments primarily engaged in operating a shipyard. Shipyards are fixed facilities with drydocks and fabrication equipment capable of building a ship, defined as watercraft typically suitable or intended for other than personal or recreational use. Activities of shipyards include the construction of ships, their repair, conversion and alteration, the production of prefabricated ship and barge sections, and specialized services, such as ship scaling.

The data published with NAICS code 336611 include the following SIC industry:

3731 Ship building and repairing

#### **336612 Boat Building**

This U.S. industry comprises establishments primarily engaged in building boats. Boats are defined as watercraft not built in shipyards and typically of the type suitable or intended for personal use.

The data published with NAICS code 336612 include the following SIC industry:

3732 Boat building and repairing (pt)

### **3369 Other Transportation Equipment Manufacturing**

This industry group comprises establishments primarily engaged in manufacturing transportation equipment (except motor vehicles and parts, aerospace products and parts, railroad rolling stock, ship building, and boat manufacturing).

#### **33699 Other Transportation Equipment Manufacturing**

This industry comprises establishments primarily engaged in manufacturing motorcycles, bicycles, metal tricycles, complete military armored vehicles, tanks, self-propelled weapons, vehicles pulled by draft animals, and other transportation equipment (except motor vehicles, boats, ships, railroad rolling stock, and aerospace products), including parts thereof.

---

### **336991 Motorcycle, Bicycle, and Parts Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing motorcycles, bicycles, tricycles and similar equipment and parts.

The data published with NAICS code 336991 include the following SIC industries:

3751 Motorcycles, bicycles, and parts

3944 Games, toys, and children's vehicles (pt)

### **336992 Military Armored Vehicle, Tank, and Tank Component Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing complete military armored vehicles, combat tanks, specialized components for combat tanks, and self-propelled weapons.

The data published with NAICS code 336992 include the following SIC industries:

3711 Motor vehicles and car bodies (pt)

3795 Tanks and tank components

### **336999 All Other Transportation Equipment Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing transportation equipment (except motor vehicles, motor vehicle parts, boats, ships, railroad rolling stock, aerospace products, motorcycles, bicycles, armored vehicles, and tanks).

The data published with NAICS code 336999 include the following SIC industry:

3799 Transportation equipment, n.e.c. (pt)

### **337 Furniture and Related Product Manufacturing**

Industries in the Furniture and Related Product Manufacturing subsector make furniture and related articles, such as mattresses, window blinds, cabinets, and fixtures. The processes used in the manufacture of furniture include the cutting, bending, molding, laminating, and assembly of such materials as wood, metal, glass, plastics, and rattan. However, the production process for furniture is not solely bending metal, cutting and shaping wood, or extruding and molding plastics. Design and fashion trends play an important part in the production of furniture. The integrated design of the article for both esthetic and functional qualities is also a major part of the process of manufacturing furniture. Design services may be performed by the furniture establishment's work force or may be purchased from industrial designers.

Furniture may be made of any material, but the most common ones used in North America are metal and wood. Furniture manufacturing establishments may specialize in making articles primarily from one material. Some of the

equipment required to make a wooden table, for example, is different from that used to make a metal one. However, furniture is usually made from several materials. A wooden table might have metal brackets, and a wooden chair, a fabric or plastics seat. Therefore, in NAICS, furniture initially is classified based on the type of furniture (application for which it is designed) rather than the material used. For example, an upholstered sofa is treated as household furniture, although it may also be used in hotels or offices.

When classifying furniture according to the component material from which it is made, furniture made from more than one material is classified based on the material used in the frame, or if there is no frame, the predominant component material. Upholstered household furniture (excluding kitchen and dining room chairs with upholstered seats) is classified without regard to the frame material. Kitchen or dining room chairs with upholstered seats are classified according to the frame material.

Furniture may be made on a stock or custom basis and may be shipped assembled or unassembled (i.e., knock-down). The manufacture of furniture parts and frames is included in this subsector.

Some of the processes used in furniture manufacturing are similar to processes that are used in other segments of manufacturing. For example, cutting and assembly occurs in the production of wood trusses that are classified in Subsector 321, Wood Product Manufacturing. However, the multiple processes that distinguish wood furniture manufacturing from wood product manufacturing warrant inclusion of wooden furniture manufacturing in the Furniture and Related Product Manufacturing subsector. Metal furniture manufacturing uses techniques that are also employed in the manufacturing of roll-formed products classified in Subsector 332, Fabricated Metal Product Manufacturing. The molding process for plastics furniture is similar to the molding of other plastics products. However, plastics furniture producing establishments tend to specialize in furniture.

NAICS attempts to keep furniture manufacturing together, but there are two notable exceptions: seating for transportation equipment and laboratory and hospital furniture. These exceptions are related to that fact that some of the aspects of the production process for these products, primarily the design, are highly integrated with that of other manufactured goods, namely motor vehicles and health equipment.

### **3371 Household and Institutional Furniture and Kitchen Cabinet Manufacturing**

This industry group comprises establishments manufacturing household-type furniture, such as living room, kitchen, and bedroom furniture, and institutional (i.e., public building) furniture, such as furniture for schools, theaters, and churches.



---

### **33711 Wood Kitchen Cabinet and Countertop Manufacturing**

This industry comprises establishments primarily engaged in manufacturing wood or plastics laminated on wood kitchen cabinets, bathroom vanities, and countertops (except freestanding). The cabinets and counters may be made on a stock or custom basis.

### **337110 Wood Kitchen Cabinet and Countertop Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing wood or plastics laminated on wood kitchen cabinets, bathroom vanities, and countertops (except freestanding). The cabinets and counters may be made on a stock or custom basis.

The data published with NAICS code 3371110 include the following SIC industries:

2434 Wood kitchen cabinets

2541 Wood partitions and fixtures (pt)

5712 Furniture stores (pt)

This definition comes from the 1997 NAICS Manual. However, for this industry, the 1997 Economic Census – Manufacturing did not fully implement the conversion to NAICS. Data for NAICS industry 337110 include establishments primarily engaged in manufacturing wood countertops as part of wood office and store fixtures. The NAICS definitions will be fully implemented with the 2002 Economic Census.

### **33712 Household and Institutional Furniture Manufacturing**

This industry comprises establishments primarily engaged in manufacturing household-type and public building furniture (i.e., library, school, theater, and church furniture). The furniture may be made on a stock or custom basis and may be assembled or unassembled (i.e., knockdown).

### **337121 Upholstered Household Furniture Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing upholstered household-type furniture. The furniture may be made on a stock or custom basis.

The data published with NAICS code 337121 include the following SIC industries:

2512 Upholstered household furniture

2515 Mattresses and bedsprings (pt)

5712 Furniture stores (pt)

This definition comes from the 1997 NAICS Manual. However, for this industry, the 1997 Economic Census – Manufacturing did not fully implement the conversion to NAICS. Data for NAICS industry 337121 do not include establishments primarily engaged in manufacturing upholstered metal household furniture. The NAICS definitions will be fully implemented with the 2002 Economic Census.

### **337122 Nonupholstered Wood Household Furniture Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing nonupholstered wood household-type furniture and freestanding cabinets (except television, radio, and sewing machine cabinets). The furniture may be made on a stock or custom basis and may be assembled or unassembled (i.e., knockdown).

The data published with NAICS code 337122 include the following SIC industries:

2511 Wood household furniture

5712 Furniture stores (pt)

This definition comes from the 1997 NAICS Manual. However, for this industry, the 1997 Economic Census – Manufacturing did not fully implement the conversion to NAICS. Data for NAICS industry 337122 include establishments primarily engaged in manufacturing wood box spring frames. The NAICS definitions will be fully implemented with the 2002 Economic Census.

### **337124 Metal Household Furniture Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing metal household-type furniture and freestanding cabinets. The furniture may be made on a stock or custom basis and may be assembled or unassembled (i.e., knockdown).

The data published with NAICS code 337124 include the following SIC industry:

2514 Metal household furniture

This definition comes from the 1997 NAICS Manual. However, for this industry, the 1997 Economic Census – Manufacturing did not fully implement the conversion to NAICS. Data for NAICS industry 337124 include establishments primarily engaged in manufacturing upholstered metal household furniture or metal box spring frames. The NAICS definitions will be fully implemented with the 2002 Economic Census.

### **337125 Household Furniture (Except Wood and Metal) Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing household-type furniture of materials other than wood or metal, such as plastics, reed,

rattan, wicker, and fiberglass. The furniture may be made on a stock or custom basis and may be assembled or unassembled (i.e., knockdown).

The data published with NAICS code 337125 include the following SIC industry:

2519 Household furniture, n.e.c.

### **337127 Institutional Furniture Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing institutional-type furniture (e.g., library, school, theater, and church furniture). The furniture may be made on a stock or custom basis and may be assembled or unassembled (i.e., knockdown).

The data published with NAICS code 337127 include the following SIC industries:

2531 Public building and related furniture (pt)

2599 Furniture and fixtures, n.e.c. (pt)

3952 Lead pencils and art goods (pt)

3999 Manufacturing industries, n.e.c. (pt)

This definition comes from the 1997 NAICS Manual. However, for this industry, the 1997 Economic Census – Manufacturing did not fully implement the conversion to NAICS. Data for NAICS industry 337127 do not include establishments primarily engaged in manufacturing wood or nonwood lunchroom tables and chairs. The NAICS definitions will be fully implemented with the 2002 Economic Census.

### **337129 Wood Television, Radio, and Sewing Machine Cabinet Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing wood cabinets used as housings by television, stereo, loudspeaker, and sewing machine manufacturers.

The data published with NAICS code 337129 include the following SIC industry:

2517 Wood TV and radio cabinets

### **3372 Office Furniture (Including Fixtures) Manufacturing**

This NAICS industry group includes establishments classified in NAICS Industry 33721, Office Furniture (Including Fixtures) Manufacturing.

### **33721 Office Furniture (Including Fixtures) Manufacturing**

This industry comprises establishments primarily engaged in manufacturing office furniture and/or office and store fixtures. The furniture may be made on a stock or custom basis and may be assembled or unassembled (i.e., knockdown).

### **337211 Wood Office Furniture Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing wood office-type furniture. The furniture may be made on a stock or custom basis and may be assembled or unassembled (i.e., knockdown).

The data published with NAICS code 337211 include the following SIC industry:

2521 Wood office furniture

### **337212 Custom Architectural Woodwork and Millwork Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing custom designed interiors consisting of architectural woodwork and fixtures utilizing wood, wood products, and plastics laminates. All of the industry output is made to individual order on a job shop basis and requires skilled craftsmen as a labor input. A job might include custom manufacturing of display fixtures, gondolas, wall shelving units, entrance and window architectural detail, sales and reception counters, wall paneling, and matching furniture.

The data published with NAICS code 337212 include the following SIC industry:

2541 Wood partitions and fixtures (pt)

### **337214 Office Furniture (Except Wood) Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing nonwood office-type furniture. The furniture may be made on a stock or custom basis and may be assembled or unassembled (i.e., knockdown).

The data published with NAICS code 337214 include the following SIC industry:

2522 Office furniture, except wood

### **337215 Showcase, Partition, Shelving, and Locker Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing wood and nonwood office and store fixtures, shelving, lockers, frames, partitions, and related fabricated products of wood and nonwood materials, including plastics laminated fixture tops. The products are made on a stock basis and may be assembled or unassembled (i.e., knockdown). Establishments exclusively making furniture parts (e.g., frames) are included in this industry.

The data published with NAICS code 337215 include the following SIC industries:

2426 Hardwood dimension and flooring mills (pt)

2541 Wood partitions and fixtures (pt)

2542 Partitions and fixtures, except wood

3499 Fabricated metal products, n.e.c. (pt)

---

This definition comes from the 1997 NAICS Manual. However, for this industry, the 1997 Economic Census – Manufacturing did not fully implement the conversion to NAICS. Data for NAICS industry 337215 include establishments primarily engaged in manufacturing wood or non-wood lunchroom tables and chairs, but do not include establishments primarily engaged in manufacturing wood or metal box spring frames, finished plastic furniture parts, convertible bed sleeper mechanisms or chair glides. The NAICS definitions will be fully implemented with the 2002 Economic Census.

### **3379 Other Furniture Related Product Manufacturing**

This industry group comprises establishments manufacturing furniture related products, such as mattresses, blinds, and shades.

#### **33791 Mattress Manufacturing**

This industry comprises establishments primarily engaged in manufacturing innerspring, box spring, and noninnerspring mattresses, including mattresses for waterbeds.

##### **337910 Mattress Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing innerspring, box spring, and noninnerspring mattresses, including mattresses for waterbeds.

The data published with NAICS code 337910 include the following SIC industry:

2515 Mattresses and bedsprings (pt)

##### **33792 Blind and Shade Manufacturing**

This industry comprises establishments primarily engaged in manufacturing one or more of the following: venetian blinds, other window blinds, shades; curtain and drapery rods, poles; and/or curtain and drapery fixtures. The blinds and shades may be made on a stock or custom basis and may be made of any material.

##### **337920 Blind and Shade Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing one or more of the following: venetian blinds, other window blinds, shades; curtain and drapery rods, poles; and/or curtain and drapery fixtures. The blinds and shades may be made on a stock or custom basis and may be made of any material.

The data published with NAICS code 337920 include the following SIC industry:

2591 Drapery hardware, blinds, and shades

### **339 Miscellaneous Manufacturing**

Industries in the Miscellaneous Manufacturing subsector make a wide range of products that cannot readily be classified in specific NAICS subsectors in manufacturing. Processes used by these establishments vary significantly, both among and within industries. For example, a variety of manufacturing processes are used in manufacturing sporting and athletic goods that include products, such as tennis racquets and golf balls. The processes for these products differ from each other, and the processes differ significantly from the fabrication processes used in making dolls or toys, the melting and shaping of precious metals to make jewelry, and the bending, forming, and assembly used in making medical products.

The industries in this subsector are defined by what is made rather than how it is made. Although individual establishments might be appropriately classified elsewhere in the NAICS structure, for historical continuity, these product-based industries were maintained. In most cases, no one process or material predominates for an industry.

Establishments in this subsector manufacture products as diverse as medical equipment and supplies, jewelry, sporting goods, toys, and office supplies.

#### **3391 Medical Equipment and Supplies Manufacturing**

This NAICS industry group includes establishments classified in NAICS Industry 33911, Medical Equipment and Supplies Manufacturing.

##### **33911 Medical Equipment and Supplies Manufacturing**

This industry comprises establishments primarily engaged in manufacturing medical equipment and supplies. Examples of products made by these establishments are laboratory apparatus and furniture, surgical and medical instruments, surgical appliances and supplies, dental equipment and supplies, orthodontic goods, dentures, and orthodontic appliances.

##### **339111 Laboratory Apparatus and Furniture Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing laboratory apparatus and laboratory and hospital furniture (except dental). Examples of products made by these establishments are hospital beds, operating room tables, laboratory balances and scales, furnaces, ovens, centrifuges, cabinets, cases, benches, tables, and stools.

The data published with NAICS code 339111 include the following SIC industry:

3821 Laboratory apparatus and furniture

---

This definition comes from the 1997 NAICS Manual. However, for this industry, the 1997 Economic Census – Manufacturing did not fully implement the conversion to NAICS. Data for NAICS industry 339111 do not include establishments primarily engaged in the manufacture of hospital beds or operating tables. The NAICS definitions will be fully implemented with the 2002 Economic Census.

### **339112 Surgical and Medical Instrument Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing medical, surgical, ophthalmic, and veterinary instruments and apparatus (except electrotherapeutic, electromedical, and irradiation apparatus). Examples of products made by these establishments are syringes, hypodermic needles, anesthesia apparatus, blood transfusion equipment, catheters, surgical clamps, and medical thermometers.

The data published with NAICS code 339112 include the following SIC industries:

3829 Measuring and controlling devices, n.e.c. (pt)

3841 Surgical and medical instruments

### **339113 Surgical Appliance and Supplies Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing surgical appliances and supplies. Examples of products made by these establishments are orthopedic devices, prosthetic appliances, surgical dressings, crutches, surgical sutures, and personal industrial safety devices (except protective eyewear).

The data published with NAICS code 339113 include the following SIC industries:

2599 Furniture and fixtures, n.e.c. (pt)

3842 Surgical appliances and supplies (pt)

This definition comes from the 1997 NAICS Manual. However, for this industry, the 1997 Economic Census – Manufacturing did not fully implement the conversion to NAICS. Data for NAICS industry 339113 do not include establishments primarily engaged in the manufacture of rubber gloves and life jackets. The NAICS definitions will be fully implemented with the 2002 Economic Census.

### **339114 Dental Equipment and Supplies Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing dental equipment and supplies used by dental laboratories and offices of dentists, such as dental chairs, dental instrument delivery systems, dental hand instruments, and dental impression material.

The data published with NAICS code 339114 include the following SIC industries:

3699 Electrical equipment and supplies, n.e.c. (pt)

3843 Dental equipment and supplies

### **339115 Ophthalmic Goods Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing ophthalmic goods. Examples of products made by these establishments are prescription eyeglasses (except manufactured in a retail setting), contact lenses, sunglasses, eyeglass frames, and reading glasses made to standard powers.

The data published with NAICS code 339115 include the following SIC industry:

3851 Ophthalmic goods

### **339116 Dental Laboratories**

This U.S. industry comprises establishments primarily engaged in manufacturing dentures, crowns, bridges, and orthodontic appliances customized for individual application.

The data published with NAICS code 339116 include the following SIC industry:

8072 Dental laboratories

### **3399 Other Miscellaneous Manufacturing**

This NAICS industry group includes establishments classified in the following NAICS Industries: 33991, Jewelry and Silverware Manufacturing; 33992, Sporting and Athletic Goods Manufacturing; 33993, Doll, Toy, and Game Manufacturing; 33994, Office Supplies (Except Paper) Manufacturing; 33995, Sign Manufacturing; and 33999, All Other Miscellaneous Manufacturing.

### **33991 Jewelry and Silverware Manufacturing**

This industry comprises establishments primarily engaged in one or more of the following: (1) manufacturing, engraving, chasing, or etching jewelry; (2) manufacturing metal personal goods (i.e., small articles carried on or about the person, such as compacts or cigarette cases); (3) manufacturing, engraving, chasing, or etching precious metal solid, precious metal clad, or pewter cutlery and flatware; (4) manufacturing, engraving, chasing, or etching personal metal goods (i.e., small articles carried on or about the person, such as compacts or cigarette cases); (5) stamping coins; (6) manufacturing unassembled jewelry parts and stock shop products, such as sheet, wire, and tubing; (7) cutting, slabbing, tumbling, carving, engraving, polishing, or faceting precious or semiprecious stones and gems; (8) recutting, repolishing, and setting gem stones; and (9) drilling, sawing, and peeling cultured and costume pearls.

### **339911 Jewelry (Except Costume) Manufacturing**

This U.S. industry comprises establishments primarily engaged in one or more of the following: (1) manufacturing, engraving, chasing, or etching precious metal solid or precious metal clad jewelry; (2) manufacturing, engraving, chasing, or etching personal goods (i.e., small articles carried on or about the person, such as compacts or cigarette cases) made of precious solid or clad metal; and (3) stamping coins.

The data published with NAICS code 339911 include the following SIC industries:

3479 Metal coating and allied services (pt)

3911 Jewelry, precious metal

### **339912 Silverware and Holloware Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing, engraving, chasing, or etching precious metal solid, precious metal clad, or pewter flatware and other plated ware.

The data published with NAICS code 339912 include the following SIC industries:

3479 Metal coating and allied services (pt)

3914 Silverware and plated ware (pt)

### **339913 Jewelers' Material and Lapidary Work Manufacturing**

This U.S. industry comprises establishments primarily engaged in one or more of the following: (1) manufacturing unassembled jewelry parts and stock shop products, such as sheet, wire, and tubing; (2) cutting, slabbing, tumbling, carving, engraving, polishing or faceting precious or semiprecious stones and gems; (3) recutting, repolishing, and setting gem stones; and (4) drilling, sawing, and peeling cultured pearls.

The data published with NAICS code 339913 include the following SIC industry:

3915 Jewelers' materials and lapidary work

### **339914 Costume Jewelry and Novelty Manufacturing**

This U.S. industry comprises establishments primarily engaged in (1) manufacturing, engraving, chasing, and etching costume jewelry; and/or (2) manufacturing, engraving, chasing, or etching nonprecious metal personal goods (i.e., small articles carried on or about the person, such as compacts or cigarette cases). This industry includes establishments primarily engaged in manufacturing precious plated jewelry and precious plated personal goods.

The data published with NAICS code 339914 include the following SIC industries:

3479 Metal coating and allied services (pt)

3499 Fabricated metal products, n.e.c. (pt)

3961 Costume jewelry

### **33992 Sporting and Athletic Goods Manufacturing**

This industry comprises establishments primarily engaged in manufacturing sporting and athletic goods (except apparel and footwear).

#### **339920 Sporting and Athletic Goods Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing sporting and athletic goods (except apparel and footwear).

The data published with NAICS code 339920 include the following SIC industry:

3949 Sporting and athletic goods, n.e.c.

This definition comes from the 1997 NAICS Manual. However, for this industry, the 1997 Economic Census – Manufacturing did not fully implement the conversion to NAICS. Data for NAICS industry 339920 do not include establishments primarily engaged in the manufacture of wet suits. The NAICS definitions will be fully implemented with the 2002 Economic Census.

### **33993 Doll, Toy, and Game Manufacturing**

This industry comprises establishments primarily engaged in manufacturing dolls, toys, and games, such as complete dolls, doll parts, doll clothes, action figures, toys, games (including electronic), hobby kits, and children's vehicles (except metal bicycles and tricycles).

#### **339931 Doll and Stuffed Toy Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing complete dolls, doll parts, and doll clothes, action figures, and stuffed toys.

The data published with NAICS code 339931 include the following SIC industry:

3942 Dolls

#### **339932 Game, Toy, and Children's Vehicle Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing games (including electronic), toys, and children's vehicles (except bicycles and metal tricycles).

The data published with NAICS code 339932 include the following SIC industry:

3944 Games, toys, and children's vehicles (pt)

This definition comes from the 1997 NAICS Manual. However, for this industry, the 1997 Economic Census – Manufacturing did not fully implement the conversion to NAICS. Data for NAICS industry 339932 do not include

---

establishments primarily engaged in the manufacture of rubber toys, except dolls or embroidery kits. The NAICS definitions will be fully implemented with the 2002 Economic Census.

### **33994 Office Supplies (Except Paper) Manufacturing**

This industry comprises establishments primarily engaged in manufacturing office supplies. Examples of products made by these establishments are pens, pencils, felt tip markers, crayons, chalk, pencil sharpeners, staplers, hand operated stamps, modeling clay, and inked ribbons.

#### **339941 Pen and Mechanical Pencil Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing pens, ballpoint pen refills and cartridges, mechanical pencils, and felt tipped markers.

The data published with NAICS code 339941 include the following SIC industry:

3951 Pens and mechanical pencils

#### **339942 Lead Pencil and Art Goods Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing nonmechanical pencils and art goods. Examples of products made by these establishments are pencil leads, crayons, chalk, framed blackboards, pencil sharpeners, staplers, artists' palettes and paints, and modeling clay.

The data published with NAICS code 339942 include the following SIC industries:

2531 Public building and related furniture (pt)

3579 Office machines, n.e.c. (pt)

3952 Lead pencils and art goods (pt)

#### **339943 Marking Device Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing marking devices, such as hand operated stamps, embossing stamps, stamp pads, and stencils.

The data published with NAICS code 339943 include the following SIC industry:

3953 Marking devices

#### **339944 Carbon Paper and Inked Ribbon Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing carbon paper and inked ribbons.

The data published with NAICS code 339944 include the following SIC industry:

3955 Carbon paper and inked ribbons

### **33995 Sign Manufacturing**

This industry comprises establishments primarily engaged in manufacturing signs and related displays of all materials (except printing paper and paperboard signs, notices, displays).

#### **339950 Sign Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing signs and related displays of all materials (except printing paper and paperboard signs, notices, displays).

The data published with NAICS code 339950 include the following SIC industries:

3993 Signs and advertising specialties

### **33999 All Other Miscellaneous Manufacturing**

This industry comprises establishments primarily engaged in miscellaneous manufacturing (except medical equipment and supplies, jewelry and flatware, sporting and athletic goods, dolls, toys, games, office supplies (except paper), and signs).

#### **339991 Gasket, Packing, and Sealing Device Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing gaskets, packing, and sealing devices of all materials.

The data published with NAICS code 339991 include the following SIC industry:

3053 Gaskets, packing and sealing devices

#### **339992 Musical Instrument Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing musical instruments (except toys).

The data published with NAICS code 339992 include the following SIC industry:

3931 Musical instruments

#### **339993 Fastener, Button, Needle, and Pin Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing fasteners, buttons, needles, pins, and buckles (except precious metals or precious and semiprecious stones and gems).

The data published with NAICS code 339993 include the following SIC industries:

3131 Footwear cut stock and findings (pt)

3965 Fasteners, buttons, needles, and pins

---

### **339994 Broom, Brush, and Mop Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing brooms, mops, and brushes.

The data published with NAICS code 339994 include the following SIC industries:

2392 Housefurnishings, n.e.c. (pt)

3991 Brooms and brushes

### **339995 Burial Casket Manufacturing**

This U.S. industry comprises establishments primarily engaged in manufacturing burial caskets, cases, and vaults (except concrete).

The data published with NAICS code 339995 include the following SIC industry:

3995 Burial caskets

### **339999 All Other Miscellaneous Manufacturing**

This U.S. industry comprises establishments primarily engaged in miscellaneous manufacturing (except medical

equipment and supplies, jewelry and flatware, sporting and athletic goods, dolls, toys, games, office supplies (except paper), musical instruments, fasteners, buttons, needles, pins, brooms, brushes, mops, and burial caskets).

The data published with NAICS code 339999 include the following SIC industries:

2499 Wood products, n.e.c. (pt)

3999 Manufacturing industries, n.e.c. (pt)

This definition comes from the 1997 NAICS Manual. However, for this industry, the 1997 Economic Census – Manufacturing did not fully implement the conversion to NAICS. Data for NAICS industry 339999 do not include establishments primarily engaged in the manufacture of electronic cigarette lighters. The NAICS definitions will be fully implemented with the 2002 Economic Census.

# Appendix C.

## Coverage and Methodology

---

### MAIL/NONMAIL UNIVERSE

The manufacturing universe includes about 400,000 establishments. This number includes those industries in the North American Industry Classification System (NAICS) definition of manufacturing, but not those industries leaving the manufacturing sector in the classification change. The amounts of information requested from manufacturing establishments were dependent upon a number of factors. The more important considerations were the size of the company and whether it was included in the annual survey of manufactures (ASM). The methods of obtaining information for the various subsets of the universe to arrive at the aggregate figures shown in the publication are described below:

1. Small single-establishment companies not sent a report form.

Approximately 40 percent of the manufacturing establishments were small single-establishment companies that were excused from filing a census report. Selection of these establishments was based on two factors: annual payroll and our ability to assign the correct six-digit NAICS industry classification to the establishment. For each four-digit Standard Industrial Classification (SIC) industry code, an annual payroll cutoff was determined. These cutoffs were derived so that the establishments with payroll less than the cutoff were expected to account for no more than 3 percent of the value of shipments for the industry. Generally, all single-establishment companies with less than 5 employees were excused, while all establishments with more than 20 employees were mailed forms. Establishments below the cutoff that could not be directly assigned a six-digit NAICS code were mailed a classification report which requested information for assigning NAICS industry codes. Establishments below the cutoff that could be directly assigned a six-digit NAICS code were excused from filing any report. For below cutoff establishments, information on the physical location, payroll, and receipts was obtained from the administrative records of other Federal agencies under special arrangements that safeguarded their confidentiality.

Estimates of data for these small establishments were developed using industry averages in conjunction with the administrative information. The value of shipments and cost of materials were not distributed among specific products and materials for these

establishments but were included in the product and material “not specified by kind” (nsc) categories.

The industry classification codes included in the administrative-record files were assigned on the basis of brief descriptions of the general activity of the establishment. As a result, an indeterminate number of establishments were erroneously coded to a four-digit SIC industry and then erroneously re-coded to a six-digit NAICS industry. This was especially true whenever there was a relatively fine line of demarcation between industries or between manufacturing and nonmanufacturing activity.

Sometimes the administrative-record cases had only two- or three-digit SIC group classification codes available in the files. For the 1997 Economic Census – Manufacturing, these establishments were sent a separate classification form, which requested information on the products and services of the establishment. This form was used to code many of these establishments to the appropriate six-digit NAICS level. Establishments that did not return the classification form were coded later to those six-digit NAICS industries identified as “All other” industries within the given subsector.

As a result of these situations, a number of small establishments may have been misclassified by industry. However, such possible misclassification has no significant effect on the statistics other than on the number of companies and establishments.

The total establishment count for individual industries should be viewed as an approximation rather than a precise measurement. The counts for establishments with 20 employees or more are far more reliable than the count of total number of establishments.

2. Establishments sent a report form.

The establishments covered in the mail canvass were divided into three groups:

- a. ASM sample establishments.

This group accounts for approximately 15 percent of all manufacturing establishments. The ASM panel covers all the units of large manufacturing establishments as well as a sample of the medium and smaller establishments. The probability of selection was proportionate to size. For more information, see the Description of the ASM Survey Sample.



In an economic census year, the ASM report form (MA-1000) replaces the first page of the regular census form for those establishments included in the ASM. In addition to information on employment, payroll, and other items normally requested on the regular census form, establishments in the ASM sample were requested to supply additional information on gross book value of assets and capital expenditures. ASM establishments were also requested to provide information on retirements, depreciation, rental payments, and supplemental labor costs. For establishments not included in the ASM, these additional items were estimated using relationships observed in the ASM establishment data. The census statistics for these variables are a sum of the ASM establishment data and the estimated data for non-ASM establishments. ASM establishments were also requested to provide information for selected purchased services. The census statistics for the purchased service items were derived solely from the ASM establishments. See Appendix A, Explanation of Terms for an explanation of these items. The census part of the report form is 1 of 220 versions containing product, material, and special inquiries. The diversity of manufacturing activities necessitated the use of this many forms to canvass the 480 manufacturing industries. Each form was developed for a group of related industries.

Appearing on each form was a list of products primary to the group of related industries as well as secondary products and miscellaneous services that establishments classified in these industries were likely to perform. Respondents were requested to identify the products, the value of each product, and, in many cases, the quantity of the product shipped during the survey year. Space also was provided for the respondent to describe products not specifically identified on the form.

The report form also contained a materials-consumed inquiry which varied from form to form depending on the industries being canvassed. The respondents were asked to review a list of materials generally used in their production processes. From this list, each establishment was requested to identify those materials consumed during the survey year, the cost of each, and, in certain cases, the quantity consumed. Once again, space was provided for the respondent to describe significant materials not identified on the form.

A wide variety of special inquiries was included to measure activities peculiar to a given industry, such as operations performed and equipment used.

b. Large and medium establishments (non-ASM).

Approximately 30 percent of all manufacturing establishments were included in this group. A variable cutoff, based on administrative-record payroll data and determined on an industry-by-industry basis, was used to select those establishments that were to receive 1 of the 220 economic census – manufacturing regular forms. The first page, requesting establishment data for items such as employment and payroll, was standard but did not contain the detailed statistics included on the ASM form. The product, material, and special inquiry sections supplied were based on the historical industry classification of the establishment.

c. Small single-establishment companies (non-ASM).

This group includes approximately 15 percent of all manufacturing establishments. For those industries where application of the variable cutoff for administrative-record cases resulted in a large number of small establishments being included in the mail canvass, an abbreviated or short form was used. These establishments received 1 of the 31 versions of the short form, which requested summary product and material data and totals but no details on employment, payroll, cost of materials, inventories, and capital expenditures.

Use of the short form has no adverse effect on published totals for the industry statistics because the same data were collected on the short form as on the long form. However, detailed information on products and materials consumed was not collected on the short form; thus, its use would increase the value of the nsk categories.

## **INDUSTRY CLASSIFICATION OF ESTABLISHMENTS**

Each of the establishments covered in the 1997 Economic Census – Manufacturing was classified in 1 of 480 industries (473 manufacturing industries and 7 former manufacturing industries) in accordance with the industry definitions in the 1997 NAICS Manual. This is the first edition of the NAICS Manual and it is a major change from the 1987 SIC Manual that was used previously. Appendix A of the 1997 NAICS Manual notes the comparability between the 1987 SIC and 1997 NAICS classification systems. When applicable, Appendix G of this report shows the product class and product comparability between the two systems for data in this report.

In the NAICS system, an industry is generally defined as a group of establishments that have similar production processes. To the extent practical, the system uses supply-based or production-oriented concepts in defining industries. The resulting group of establishments must be significant in terms of number, value added by manufacture, value of shipments, and number of employees.

The coding system works in such a way that the definitions progressively become narrower with successive additions of numerical digits. In the manufacturing sector for 1997, there are 21 subsectors (three-digit NAICS), 86 industry groups (four-digit NAICS), 184 NAICS industries (five-digit NAICS) that are comparable with Canadian and Mexican classification, and 473 U.S. industries (six-digit NAICS). This represents an expansion of the four-digit SIC-based U.S. industries from 459 in 1987. Product classes and products of the manufacturing industries have been assigned codes based on the industry from which they originate. In the new system, there are about 1,500 product classes (seven-digit codes), about 6,000 census products, and an additional 3,700 CIR products (ten-digit codes). The ten-digit products are considered the primary products of the industry with the same first six digits. These counts do not include the seven former manufacturing industries that are included in the 1997 Economic Census – Manufacturing.

For the 1997 Economic Census – Manufacturing, all establishments were classified in particular industries based on the products they produced. If an establishment made products of more than one industry, it was classified in the industry with the largest product value. For 1997, there were no “resistance rules” or “frozen industries.”

In ASM years, establishments included in the ASM sample with certainty weights are reclassified by industry only if the change in the primary activity from the prior year is significant or if the change has occurred for 2 successive years. This procedure prevents reclassification when there are minor shifts in product mix.

In ASM years, establishments included in the ASM sample with noncertainty weight are not shifted from one industry classification to another. They are retained in the industry where they were classified in the base census year. However, in the following census year, these ASM plants are allowed to shift from one industry to another.

The results of these rules covering the switching of plants from one industry classification to another are that some industries comprise different mixes of establishments in different survey years. Hence, comparisons between prior-year and current-year published totals, particularly at the six-digit NAICS level, should be viewed with caution. This is particularly true for the comparison between the data shown for a census year versus the data shown for the previous ASM year.

As previously noted, the small establishments that may have been misclassified by industry are usually administrative-record cases whose industry codes were assigned on the basis of incomplete descriptions of the general activity of the establishment. Such possible misclassifications have no significant effect on the statistics other than on the number of companies and establishments.

Establishments frequently make products classified both in their industry (primary products) and other industries (secondary products). Industry statistics (employment, payroll, value added by manufacture, value of shipments, etc.) reflect the activities of the establishments which may make both primary and secondary products. Product statistics, however, represent the output of all establishments without regard for the classification of the producing establishment. For this reason, when relating the industry statistics, especially the value of shipments, to the product statistics, the composition of the industry’s output should be considered.

The extent to which industry and product statistics may be matched with each other is measured by the primary product specialization ratio and the coverage ratio. The primary product specialization ratio is the proportion of industry shipments accounted for by the primary products of establishments classified in the industry. The coverage ratio is the proportion of product shipments accounted for by establishments classified in the industry.

## **ESTABLISHMENT BASIS OF REPORTING**

The economic census – manufacturing is conducted on an establishment basis. A company operating at more than one location is required to file a separate report for each location or establishment. The ASM also is conducted on an establishment basis, but separate reports are filed for just those establishments selected in the sample. Companies engaged in distinctly different lines of activity at one location are requested to submit separate reports if the plant records permit such a separation and if the activities are substantial in size.

In 1997, as in earlier years, a minimum size limit was set for inclusion of establishments in the census. All establishments employing one person or more at any time during the census year are included. The same size limitation has applied since 1947 in censuses and annual surveys of manufactures. In the 1939 and earlier censuses, establishments with less than \$5,000 value of products were excluded. The change in the minimum size limit in 1947 does not appreciably affect the historical comparability of the census figures except for data on number of establishments for a few industries.

The 1997 Economic Census – Manufacturing excludes data for central administrative offices (CAOs). These would include separately operated administrative offices, warehouses, garages, and other auxiliary units that service manufacturing establishments of the same company. These data are published in a separate report series.

## **DESCRIPTION OF THE ASM SURVEY SAMPLE**

The annual survey of manufactures (ASM) sample is drawn for the second survey year after a census. The most recent sample was drawn for the 1994 survey year based on the 1992 Census of Manufactures. This sample will be in place through the 1998 ASM.

---

In 1992, there were approximately 370,000 individual manufacturing establishments. For sample efficiency and cost considerations, the 1992 manufacturing population was partitioned into two components for developing estimates within the ASM; a mail stratum and a nonmail stratum.

**Mail stratum.** The mail stratum of the survey is comprised of larger single-location manufacturing companies and all manufacturing establishments of multiunit companies (companies that operate at more than one physical location). Approximately 230,000 of the 370,000 establishments in the 1992 census were assigned to the mail stratum. On an annual basis, the mail stratum is supplemented with larger, newly active single-location companies identified from a list provided by the Internal Revenue Service (IRS) and new manufacturing locations of multiunit companies identified from the Census Bureau's Company Organization Survey (COS).

For the 1994 survey, a new sample of approximately 58,000 individual establishments was selected from the mail stratum assembled from the 1992 census. Supplemental samples representing both 1993 and 1994 births (newly active establishments that were not included in the 1992 census) were also selected. Establishments selected for the sample are mailed an ASM survey questionnaire for each year through 1998.

The 1994-98 ASM sample design is similar to the one used since 1984. Companies in the 1992 Census of Manufactures with manufacturing shipments of at least \$500 million were defined as company certainties. For these large companies, each manufacturing establishment is included in the mail sample. For the 1994-98 sample, there are approximately 650 certainty companies collectively accounting for over 18,000 establishments.

For the remaining portion of the mail component of the survey, the establishment was defined as the sample unit. All establishments with 250 employees or more were defined as employment certainties. In addition, all establishments producing products in SIC 3571 (Electronic Computers) were defined as certainties. Across these three arbitrary certainty classes, there were approximately 25,000 establishments included in the sample with certainty. Collectively, these certainty establishments accounted for approximately 80 percent of the total value of shipments in the 1992 Census of Manufactures.

Smaller establishments in the remaining portion of the mail stratum were sampled with probabilities ranging from .02 to 1.00. The initial probabilities of selection assigned to these establishments were proportionate to a measure-of-size determined for each establishment. The measure-of-size was a function of the establishment's 1992 industry classification, its 1992 product class data, and the historical variability of the year-to-year estimates of the product class estimates. For each product class (1,755) and four-digit industry (459), a desired reliability

constraint was specified. Using a technique developed by Dr. James R. Chromy of the Research Triangle Institute, the initial establishment probabilities were optimized such that the expected sample satisfied all industry and product class reliability constraints while the sample size was minimized. This technique reduces the likelihood of selecting nonrepresentative samples for individual product classes or industries.

This method of assigning probabilities based on product class shipments is motivated by our primary desire to produce reliable estimates of both product class and industry shipments. The high correlation between shipments and employment, value-added, and other general statistics assures that these variables will also be well represented by the sample. The actual sample selection procedure uses an independent chance of selection method (Poisson sampling) which permits us to prevent small establishments from being selected in consecutive samples without introducing a bias into the survey estimates.

**Nonmail component.** The initial nonmail component of the survey was comprised of approximately 140,000 small, single-establishment companies that were tabulated as administrative records in the 1992 Census of Manufactures. The nonmail stratum is also supplemented annually using the list of newly active single-location companies provided by the Internal Revenue Service (IRS) and payroll cutoffs. Companies with payroll below the payroll cutoff are added to the nonmail stratum. For this portion of the population, sampling is not used. The data for this group are estimated based on selected information obtained annually from the administrative records of the IRS and Social Security Administration (SSA). This administrative information, which includes payroll, total employment, industry classification, and physical location, is obtained under conditions which safeguard the confidentiality of both tax and census records.

## DESCRIPTION OF THE ASM ESTIMATING PROCEDURE

Most of the ASM estimates derived for the mail stratum are computed using a difference estimator. At the establishment level, there is a strong correlation between the current-year data values and the corresponding 1992 (base) data values. Therefore, within the mailed stratum, for each item at each level of aggregation, an estimate of the "difference" between the current year and the base year is computed from sample cases and added to the corresponding base-year values. For the 1993-1997 ASM estimates, the 1992 Census of Manufactures values serve as the base year. For the 1998 ASM, the base will be updated to be the 1997 Economic Census – Manufacturing.

Due to the positive year-to-year correlation, estimates derived using this methodology are generally more reliable than comparable estimates developed from the current sample data alone. Estimates for the capital expenditures variables are not generated using the difference

estimator because the year-to-year correlations are considerably weaker. The standard linear estimator is used for these variables.

For the nonmail stratum, estimates for payroll and employment are directly tabulated from the administrative-record data provided by IRS and SSA. Estimates of data other than payroll and employment are developed from industry averages. Although the nonmail stratum contains approximately 170,000 individual establishments in 1994, it accounts for less than 2 percent of the estimate for total value of shipments at the total manufacturing level.

Corresponding estimates for the mail and nonmail components are combined to produce the estimates included in this publication.

### **QUALIFICATIONS OF THE ASM DATA**

The estimates developed from the sample are apt to differ somewhat from the results of a survey covering all companies in the sample lists but otherwise conducted under essentially the same conditions as the actual sample survey. The estimates of the magnitude of the sampling errors (the difference between the estimates obtained and the results theoretically obtained from a comparable, complete-coverage survey) are provided by the standard errors of estimates.

The particular sample selected for the ASM is one of many similar probability samples that, by chance, might have been selected under the same specifications. Each of the possible samples would yield somewhat different sets of results, and the standard errors are measures of the variation of all the possible sample estimates around the theoretically comparable, complete-coverage values.

Estimates of the standard errors have been computed from the sample data for selected ASM statistics in this report. They are represented in the form of relative standard errors (the standard errors divided by the estimated values to which they refer).

In conjunction with its associated estimate, the relative standard error may be used to define confidence intervals (ranges that would include the comparable, complete-coverage value for specified percentages of all the possible samples).

The complete-coverage value would be included in the range:

From one standard error below to one standard error above the derived estimate for about two-thirds of all possible samples.

From two standard errors below to two standard errors above the derived estimate for about 19 out of 20 of all possible samples.

From three standard errors below to three standard errors above the derived estimate for nearly all samples.

An inference that the comparable, complete-survey result would be within the indicated ranges would be correct in approximately the relative frequencies shown. Those proportions, therefore, may be interpreted as defining the confidence that the estimates from a particular sample would differ from complete-coverage results by as much as one, two, or three standard errors, respectively.

For example, suppose an estimated total is shown at 50,000 with an associated relative standard error of 2 percent, that is, a standard error of 1,000 (2 percent of 50,000). There is approximately 67 percent confidence that the interval 49,000 to 51,000 includes the complete-coverage total, about 95 percent confidence that the interval 48,000 to 52,000 includes the complete-coverage total, and almost certain confidence that the interval 47,000 to 53,000 includes the complete-coverage total.

In addition to the sample errors, the estimates are subject to various response and operational errors: errors of collection, reporting, coding, transcription, imputation for nonresponse, etc. These operational errors also would occur if a complete canvass were to be conducted under the same conditions as the survey. Explicit measures of their effects generally are not available. However, it is believed that most of the important operational errors were detected and corrected during the Census Bureau's review of the data for reasonableness and consistency. The small operational errors usually remain. To some extent, they are compensating in the aggregated totals shown. When important operational errors were detected too late to correct the estimates, the data were suppressed or were specifically qualified in the tables.

As derived, the estimated standard errors included part of the effect of the operational errors. The total errors, which depend upon the joint effect of the sampling and operational errors, are usually of the order of size indicated by the standard error, or moderately higher. However, for particular estimates, the total error may considerably exceed the standard errors shown. Any figures shown in the tables in this publication having an associated standard error exceeding 15 percent may be combined with higher level totals, creating a broader aggregate, which then may be of acceptable reliability.

### **DATA FROM THE CURRENT INDUSTRIAL REPORTS (CIR)**

The CIR program provides product statistics for selected manufacturing industries at the U.S. level annually and, in some cases, monthly and/or quarterly. When detail product data are collected in the CIR, they are not also collected in the census. However, the annual CIR data are included in the census Product Summary report.

The CIR program uses a unified data collection, processing, and publication system. The Census Bureau updates the survey panels for most reports annually and reconciles the estimates to the results of the broader-based annual survey of manufactures and the economic

---

census – manufacturing. The economic census – manufacturing provides a complete list of all producers of the products covered by the CIR program and serves as the primary source for CIR sampling. Where a small number of producers exist, CIR surveys cover all known producers of a product. However, when the number of producers is large, cutoff and random sampling techniques are used. Surveys are continually reviewed and modified to provide the most up-to-date information on products produced. While the CIR program includes both mandatory and voluntary surveys, the annual data are mandatory.

#### **DUPLICATION IN COST OF MATERIALS AND VALUE OF SHIPMENTS**

Data for cost of materials and value of shipments include varying amounts of duplication, especially at higher levels of aggregation. This is because the products of one establishment may be the materials of another. The value added statistics avoid this duplication and are, for most purposes, the best measure for comparing the relative economic importance of industries and geographic areas.

#### **VALUE OF INDUSTRY SHIPMENTS COMPARED WITH VALUE OF PRODUCT SHIPMENTS**

The 1997 Economic Census – Manufacturing shows value of shipments data for industries and products. In the industry statistics tables and files, these data represent the total value of shipments of all establishments classified in a particular industry. The data include the shipments of the products classified in the industry (primary to the industry), products classified in other industries (secondary to the industry), and miscellaneous receipts (repair work, sale of scrap, research and development, installation receipts, and resales). Value of product shipments shown in the products statistics tables and files represent the total value of all products shipped that are classified as primary to an industry regardless of the classification of the producing establishment.

## Appendix D. Geographic Notes

---

### MICHIGAN

**Clare** is in Clare and Isabella Counties.

**Commerce township balance.** The term “balance” after the township refers to the portion of a township excluding an incorporated place recognized for the 1997 Economic Census. Commerce township balance contains all of Commerce township except the incorporated place of Wolverine Lake.

**Eastpointe** name was changed from East Detroit in July 1992.

**Grosse Pointe Shores** is in Macomb and Wayne Counties.

**Holland** is in Allegan and Ottawa Counties.

**Lake Orion.** See “Orion township balance.”

**Lansing** is in Eaton and Ingham Counties.

**Midland** is in Bay and Midland Counties.

**Milan** is in Monroe and Washtenaw Counties.

**Niles** is in Berrien and Cass Counties.

**Northville** is in Oakland and Wayne Counties.

**Orion township balance.** The term “balance” after the township refers to the portion of a township excluding an incorporated place recognized for the 1997 Economic Census. Orion township balance contains all of Orion township except the incorporated place of Lake Orion.

**Oxford.** See “Oxford township balance.”

**Oxford township balance.** The term “balance” after the township refers to the portion of a township excluding an incorporated place recognized for the 1997 Economic Census. Oxford township balance contains all of Oxford township except the incorporated place of Oxford.

**Romeo.** See “Washington township balance.”

**South Haven** is in Allegan and Van Buren Counties.

**Traverse City** is in Grand Traverse and Leelanau Counties.

**Washington township balance.** The term “balance” after the township refers to the portion of a township excluding an incorporated place recognized for the 1997 Economic Census. Washington township balance contains all of Washington township except the incorporated place of Romeo.

**Wolverine Lake.** See “Commerce township balance.”

# Appendix E. Metropolitan Areas

---

## **MICHIGAN**

### **Ann Arbor, MI PMSA**

Lenawee County, MI  
Livingston County, MI  
Washtenaw County, MI

### **Benton Harbor, MI MSA**

Berrien County, MI

### **Detroit, MI PMSA**

Lapeer County, MI  
Macomb County, MI  
Monroe County, MI  
Oakland County, MI  
St. Clair County, MI  
Wayne County, MI

### **Detroit—Ann Arbor—Flint, MI CMSA**

Ann Arbor, MI PMSA  
Lenawee County, MI  
Livingston County, MI  
Washtenaw County, MI

Detroit, MI PMSA  
Lapeer County, MI  
Macomb County, MI  
Monroe County, MI  
Oakland County, MI  
St. Clair County, MI  
Wayne County, MI

### **Detroit—Ann Arbor—Flint, MI CMSA—Con.**

Flint, MI PMSA  
Genesee County, MI

### **Flint, MI PMSA**

Genesee County, MI

### **Grand Rapids—Muskegon—Holland, MI MSA**

Allegan County, MI  
Kent County, MI  
Muskegon County, MI  
Ottawa County, MI

### **Jackson, MI MSA**

Jackson County, MI

### **Kalamazoo—Battle Creek, MI MSA**

Calhoun County, MI  
Kalamazoo County, MI  
Van Buren County, MI

### **Lansing—East Lansing, MI MSA**

Clinton County, MI  
Eaton County, MI  
Ingham County, MI

### **Saginaw—Bay City—Midland, MI MSA**

Bay County, MI  
Midland County, MI  
Saginaw County, MI

