# Machine Tool (Metal Cutting Types) Manufacturing

## 1997

Issued November 1999

EC97M-3335B

**1997 Economic Census** *Manufacturing* Industry 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. Kenneth Hansen, Chief, Manufactured Durables Branch, assisted by Mike Brown, Renee Coley, Raphael Corrado, and Milbren Thomas, Section Chiefs, Michael Zampogna, Former Chief, Manufactured Nondurables Branch, assisted by Allen Foreman, Robert Miller, Robert Reinard, and Nat Shelton, 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, Brenda **Campbell, Suzanne Conard, Vance** Davis, Mary Ellickson, Matt Gaines, Merry Glascoe, Kay Hanks, Karen Harshbarger, Nancy Higgins, James Hinckley, Walter Hunter, Jim Jamski, Evelyn Jordan, Robert Lee, John Linehan, Paul Marck, Keith McKenzie, Philippe Morris, Joanna Nguyen, Betty Pannell, Joyce Pomeroy, Venita Powell, Cynthia Ramsey, Chris Savage, Aronda Stovall, Sue Sundermann, Thanos Theodoropoulos, Dora Thomas, Ann Truffa, Ronanne Vinson, Keeley Voor, Denneth Wallace, Tempie Whittington, Lissene Witt, 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, 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 **Christina Arledge** 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.

The staff of the Administrative and Customer Services Division, **Walter C. Odom,** Chief, performed planning, design, composition, editorial review, and printing planning and procurement for publications, Internet products, and report forms. **Cynthia G. Brooks** provided publication coordination and editing.

# Machine Tool (Metal Cutting Types) Manufacturing

1997

Issued November 1999

EC97M-3335B

## **1997 Economic Census**

Manufacturing Industry 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

	oduction to the Economic Census	1 5
TAB	DLES	
1. 2. 3. 4. 5. 6a. 6b. 7.	Industry Statistics on NAICS Basis With Distribution Among 1987 SIC-Based Industries: 1997 Industry Statistics for Selected States: 1997 Detailed Statistics by Industry: 1997 Industry Statistics by Employment Size: 1997 Industry Statistics by Industry and Primary Product Class Specialization: 1997 Products Statistics: 1997 and 1992 Product Class Shipments for Selected States: 1997 and 1992 . Materials Consumed by Kind: 1997 and 1992	7 7 8 9 10 12 13
APF	PENDIXES	
A. B. D. E. F.	Explanation of Terms NAICS Codes, Titles, and Descriptions Coverage and Methodology Geographic Notes Metropolitan Areas Footnotes for Products Statistics and Materials Consumed by Kind Comparability of Product Classes and Product Codes: 1997 to 1992	A-1 B-1 C-1  F-1 G-1

-- Not applicable for this report.

## 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

#### 1997 ECONOMIC CENSUS

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) 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 longterm 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. 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.

#### **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, semiindependent 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 on NAICS Basis With Distribution Among 1987 SIC-Based Industries: 1997

NAICS			All	All em	ployees	Pr	oduction work	ers				Total capital
or SIC code	Industry	Com- panies <sup>1</sup>	estab- lish- ments <sup>2</sup>	Number	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)	Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	expendi- tures (\$1,000)
	Machine tool (metal cutting types) mfg	369	401	29 371	1 268 422	16 876	35 034	624 686	2 609 350	2 819 663	5 334 884	141 241
354100 369935	Machine tools, metal cutting types Electrical equipment & supplies,	N	393	28 849	1 241 372	16 610	34 547	613 939	2 538 981	2 731 189	5 183 521	131 275
309935	n.e.c. (pt)	N	8	522	27 050	266	487	10 747	70 369	88 474	151 363	9 966

[NAICS codes appear in bold type. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

<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>Includes establishments with payroll at any time during the year.

### Table 2. Industry Statistics for Selected States: 1997

[States that are disclosures or with less than 100 employees are not shown. For explanation of terms, see appendixes. For meaning of abbreviations and symbols, see introductory text]

	All establishments All employees Production workers		ers									
Industry and geographic area	E1	Total	With 20 em- ploy- ees or more	Number	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)	Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expendi- tures (\$1,000)
333512, MACHINE TOOL (METAL CUTTING TYPES) MFG												
United States	1	401	262	29 371	1 268 422	16 876	35 034	624 686	2 609 350	2 819 663	5 334 884	141 241
California Connecticut Illinois Indiana Massachusetts	- 6 - 1	30 20 36 13 14	13 11 17 9 10	1 831 1 681 2 840 571 461	81 171 70 222 116 758 23 389 19 057	1 303 817 1 631 289 272	2 729 1 646 3 911 591 549	45 535 31 324 64 229 9 339 8 989	260 887 126 429 194 555 29 235 34 195	304 538 201 704 204 075 47 433 28 839	561 065 319 551 396 492 77 115 64 234	6 952 12 231 11 800 2 244 1 408
Michigan	-	89 9 7 20 46	71 6 2 13 36	5 761 753 131 3 105 4 382	280 252 28 418 5 609 134 266 190 987	3 490 515 88 1 906 2 141	7 915 984 185 3 675 4 066	147 736 17 481 2 880 70 990 81 529	471 992 51 446 9 006 275 117 500 092	663 576 51 140 7 701 246 257 478 783	1 161 897 109 293 16 324 530 733 862 309	21 231 2 761 545 14 186 38 892
Oregon Pennsylvania Wisconsin	2 - -	7 17 23	3 11 18	274 999 1 707	9 823 44 783 72 703	152 532 1 013	346 990 2 072	4 634 18 815 34 738		22 888 93 748 113 349	48 125 178 605 258 673	1 123 3 084 4 534

\* Hawaii has no incorporated places in the sense of functioning governmental units; however, in agreement with Hawaiian law, the Bureau of the Census reports data for census designated places (CDPs) which have been designated as place equivalents. Those CDPs, only for the state of Hawaii, with 2,500 or more population are recognized.

<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.

### Table 3. Detailed Statistics by Industry: 1997

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

Item	Value	Item	Value
333512, MACHINE TOOL (METAL CUTTING TYPES) MFG		333512, MACHINE TOOL (METAL CUTTING TYPES) MFG-Con.	
Companies <sup>1</sup> number	369	Value added \$1,000	2 609 350
All establishmentsnumber Establishments with 1 to 19 employeesnumber Establishments with 20 to 99 employeesnumber Establishments with 100 employees or morenumber	401 139 200 62	Work-in-process inventories, beginning of year \$1,000	1 498 685 349 199 801 884 347 602
All employees         number.           Total compensation <sup>2</sup> \$1,000.           Annual payroll.         \$1,000.           Total fringe benefits         \$1,000.	29 371 1 566 069 1 268 422 297 647	Materials and supplies inventories, end of year	1 511 143 464 877 780 335 265 931
Production workers, average for year	16 876 16 984	Gross book value of total assets at beginning of year\$1,000 Total capital expenditures (new and used)\$1,000 Capital expenditures for buildings and other structures	1 570 488 141 241
Production workers on May 12	16 970 16 759 16 791	(new and used) \$1 000	46 336 94 905
Production-worker hours	35 034 624 686	Total retirements <sup>2</sup>	62 477 1 649 252
-		Total depreciation during year <sup>2</sup> \$1,000	115 333
Total cost of materials         \$1,000.           Cost of materials, parts, containers, etc., consumed.         \$1,000.           Cost of resales         \$1,000.           Cost of fuels         \$1,000.           Cost of contract work         \$1,000.	2 819 663 2 256 376 372 120 8 548 33 385 149 234	Total rental payments <sup>2</sup> \$1,000         Buildings and other structures rental payments <sup>2</sup> \$1,000         Machinery and equipment rental payments <sup>2</sup> \$1,000	48 947 21 066 27 881 52 630
Quantity of electricity purchased for heat and power	497 531 -	Response coverage ratio <sup>4</sup> percent Cost of purchased services for the repair of machinery and	79
Total value of shipments\$1.000	5 334 884	equipment <sup>3</sup> \$1,000 Response coverage ratio <sup>4</sup> percent	15 598 79
Primary products value of shipments \$1,000	4 403 539	Cost of purchased communications services <sup>3</sup> \$1.000	14 127
Secondary products value of shipments\$1,000 Total miscellaneous receipts\$1,000	299 291 632 054	Response coverage ratio <sup>4</sup> percent Cost of purchased legal services <sup>3</sup> \$1,000	79 14 552
Value of resales \$1,000	457 316	Besponse coverage ratio <sup>4</sup>	79
Contract receipts\$1,000 Other miscellaneous receipts\$1,000	41 683 133 055	Cost of purchased accounting and bookkeeping services <sup>3</sup> \$1,000 Response coverage ratio <sup>4</sup>	17 477 79
	133 055	Cost of purchased advertising services <sup>3</sup>	19 19 507
Primary products specialization ratio percent	93	Response coverage ratio <sup>4</sup> percent.	79
Value of primary products shipments made in all industries \$1,000 Value of primary products shipments made in this industry \$1,000	4 732 066 4 403 539		10 771
Value of primary products shipments made in other		Response coverage ratio <sup>4</sup> percent.	79
industries \$1,000	328 527	Cost of purchased refuse removal (including hazardous waste) services <sup>3</sup>	3 487
Coverage ratio percent	93		3 487 79

<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; therefore, the levels of estimation are higher than for other items in the table. <sup>3</sup>Based on ASM sample data. <sup>4</sup>A response coverage ratio is derived for this item by calculating the ratio of the weighted employment (establishment data multiplied by sample weight) for those ASM establishments that reported to the weighted total employment for all ASM establishments classified in this industry.

Note: The amounts shown for purchased services reflect only those services that establishments purchase from other companies.

## Table 4. Industry Statistics by Employment Size: 1997

	All establishments All employees Production workers		ers									
Employment size class	E1	Total	With 20 em- ploy- ees or more	Number	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)	Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Total capital expendi- tures (\$1,000)
333512, MACHINE TOOL (METAL CUTTING TYPES) MFG												
All establishments	1	401	262	29 371	1 268 422	16 876	35 034	624 686	2 609 350	2 819 663	5 334 884	141 241
Establishments with 1 to 4 employees Establishments with 5 to 9	6	24	-	45	1 306	30	49	740	2 768	1 981	4 647	98
employees Establishments with 10 to 19	1	40	-	293	11 470	210	398	6 711	18 726	16 627	34 877	1 372
employees Establishments with 20 to 49	1	75	-	1 049	41 913	693	1 376	21 835	78 197	70 516	147 750	4 308
employees Establishments with 50 to 99	1	137	137	4 430	173 371	2 816	5 815	89 122	335 778	269 422	602 583	21 825
employees Establishments with 100 to 249	1	63	63	4 379	177 638	2 575	5 488	90 012	351 160	472 497	867 351	13 266
employees Establishments with 250 to 499	-	37	37	5 447	245 031	3 043	6 553	117 005	480 602	482 551	954 074	22 351
employees Establishments with 500 to 999	-	18	18	6 098	270 316	3 474	7 215	140 713	466 232	740 881	1 157 873	48 110
employees	-	4	4	3 152	153 228	1 621	3 349	62 252	375 887	374 720	765 148	D
Establishments with 1,000 to 2,499 employees Establishments with 2,500 employees	2	3	3	4 478	194 149	2 414	4 791	96 296	500 000	390 468	800 581	D
or more	-	-	-	-	-	-	-	-				-
Administrative records <sup>2</sup>	9	4	-	7	199	5	6	82	417	324	776	20

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

<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; 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.

## Table 5. Industry Statistics by Industry and Primary Product Class Specialization: 1997

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

NAICS		All	All em	oloyees	Pr	oduction work	ers	Value added			Total capital
industry or product class code	Industry or primary product class	estab- lish- ments	Number	Payroll (\$1,000)	Number	Hours (1,000)	Wages (\$1,000)	by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	expendi- tures (\$1,000)
333512	Machine tool (metal cutting types) mfg	401	29 371	1 268 422	16 876	35 034	624 686	2 609 350	2 819 663	5 334 884	141 241
3335121 3335122	Metal gear cutting machines Metal grinding, polishing, buffing, honing, and lapping machines, except gear-tooth grinding, lapping,	8	1 420	63 986	715	1 332	28 301	143 944	127 582	277 127	7 801
3335123	Metal lathes (turning machines) numerically and nonnumerically	63	4 214	164 979	2 108	4 281	73 338	311 988	286 700	596 270	11 960
3335124	controlled Metal milling machines (excluding	31	3 678	163 653	2 279	4 745	80 398	303 262	294 510	611 946	12 153
3335124	machining centers)	14	4 362	184 245	2 158	4 453	86 997	475 057	453 462	828 196	21 058
	metalworking)	10	232	8 051	135	266	3 520	13 565	9 478	21 779	359
3335126 3335127	Parts for metal cutting machine tools (sold separately) and rebuilt metal cutting machine tools	59	2 975	124 282	1 711	3 728	60 647	241 302	287 840	488 207	31 388
3335128 3335129	(multifunction numerically controlled machines) Metal station type machines Other metal cutting machine tools (except those designed primarily for	34 19	3 591 2 279	162 488 129 781	2 245 1 449	4 630 3 312	84 016 71 987	370 476 188 502	466 910 394 394	854 953 616 334	9 329 6 891
333512A	home workshops, laboratories, garages, etc.) Metal boring machines (excluding machining centers) and drilling	66	3 184	118 024	1 952	3 754	58 308	258 932	218 711	474 921	9 236
	machines (excluding machining centers)	28	1 729	83 420	1 037	2 279	41 342	182 050	173 502	343 142	18 214

### Table 6a. Products Statistics: 1997 and 1992

[Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

			19	97			19	992	
NAICS		Number of companies		Product	shipments	Number of companies		Product	shipments
product code	Product	with shipments of \$100,000 or more	Quantity of production for all purposes	Quantity	Value (\$1,000)	with shipments of \$100,000 or more	Quantity of production for all purposes	Quantity	Value (\$1,000)
333512	Machine tools, metal cutting types	N	x	x	4 732 066	N	x	x	N
3335121	Metal gear cutting machines @	N	х	х	181 261	N	x	х	Ν
33351211 3335121100	Metal gear cutting machines	N 12	X X	X X	181 261 181 261	N N	X X	X X	N N
3335121Y 3335121YWV	Metal gear cutting machines, nsk Metal gear cutting machines, nsk	N N	X X	X X	-	N N	X X	x x	N N
3335122	Metal grinding, polishing, buffing, honing, and lapping machines, except gear-tooth grinding, lapping, polishing, and buffing @	N	x	x	593 673	N	x	x	395 801
33351220	Metal grinding, polishing, buffing, honing, and lapping machines, except gear-tooth grinding, lapping, polishing, and buffing	N	x	x	593 673	N	x	x	N
3335122000	Metal grinding, polishing, buffing, honing, and lapping machines, except gear-tooth grinding, lapping, polishing,								
3335123	and buffing	106 N	x x	x x	593 673 489 775	111 N	x x	x x	395 801 329 339
33351230	Metal lathes (turning machines) numerically and nonnumerically		~	X	403 773		~	~	020 000
3335123000	controlled	N	х	х	489 775	N	х	х	Ν
3335124	controlled Metal milling machines (excluding	51	X	x	489 775	48	X	X	329 339
33351240	machining centers) @	N	X	x	350 026	N	X	X	221 681
3335124000	Metal milling machines (excluding machining centers)	N 44	x x	x x	350 026 350 026	N 43	x x	x x	N 221 681
3335125	Machine tools designed primarily for home workshops, labs, garages, etc. (metalworking and primarily metalworking)	N	x	x	54 937	N	x	x	60 949
33351251	Machine tools designed primarily for home workshops, labs, etc. (metalworking and primarily								
3335125101	metalworking)	N	х	х	54 937	N	х	х	N
3335125106	garages, etc	6	x	S	9 531	5	x	S	18 646
3335125111	including crankshaft regrinding and valve grinding machines	5	x	s	9 045	4	х	S	3 818
3335125111	Metal lathes designed primarily for home workshops, labs, garages, etc thousands Metal sawing and cut-off machines designed primarily for home	3	х	D	D	2	x	х	D
3335125199	work'shop's, labs, garages, etc thousands Other metalworking (or primarily metalworking) machines designed	8	x	D	D	7	x	х	D
	primarily for home workshops, labs, garages, etc., including automotive cylinder reboring machines thousands	13	x	S	25 645	11	x	<sup>p</sup> 55.7	33 221
3335125Y	Machine tools designed primarily for home workshops, labs, etc. (metalworking and primarily								
3335125YWV	metalworking), nsk Machine tools designed primarily for home workshops, labs, etc.	N	х	х	-	N	x	х	Ν
0005100	(metalworking) and primarily metalworking), nsk	N	x	х	-	N	х	х	500
3335126	Parts for metal cutting machine tools (sold separately) and rebuilt metal cutting machine tools	N	х	x	733 174	N	x	х	606 164
33351261	Parts for metal cutting machine tools (sold separately) and rebuilt metal cutting machine tools	N	х	х	731 859	N	x	х	N
3335126101	Parts for metal cutting machine tools, sold separately	128	XXX	X	549 893	175	x	х	428 016
3335126106 3335126Y	Rebuilt metal cutting machine tools	40	x	x	181 966	50	X	X	110 306
3335126YWV	separately) and rebuilt metal cutting machine tools, nsk Parts for metal cutting machine tools	N	x	х	1 315	N	x	x	Ν
	(sold separately) and rebuilt metal cutting machine tools, nsk	N	x	х	1 315	N	x	x	67 842

See footnotes at end of table.

## Table 6a. Products Statistics: 1997 and 1992-Con.

[Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

			19	997			1	992	
NAICS		Number of		Product	shipments	Number of		Product	shipments
product code	Product	companies with shipments of \$100,000 or more	Quantity of production for all purposes	Quantity	Value (\$1,000)	companies with shipments of \$100,000 or more	Quantity of production for all purposes	Quantity	Value (\$1,000)
333512	Machine tools, metal cutting types – Con.								
3335127	Metal machining centers (multifunction numerically controlled machines) @	N	x	x	857 909	N	x	х	454 145
33351270	Metal machining centers (multifunction		v	×	057.000		v	v	N
3335127000	numerically controlled machines) Metal machining centers (multifunction numerically controlled machines)	N 55	x	x x	857 909 857 909	N 52	x x	x x	N 454 145
3335128	Metal station type machines @	N	x	x	607 871	N	х	х	485 573
33351280 3335128000	Metal station type machines	N 27	X X	X X	607 871 607 871	N 26	x x	x x	N 485 573
3335129	Other metal cutting machine tools (except those designed primarily for home workshops, laboratories, garages, etc.) @	N	x	x	438 742	N	x	x	224 057
33351290 3335129000	Other metal cutting machine tools (except those designed primarily for home workshops, laboratories, garages, etc.) Other metal cutting machine tools (except those designed primarily for	N	x	x	438 742	N	х	х	Ν
	home workshops, laboratories, garages, etc.).	118	x	x	438 742	109	х	х	224 057
333512A	Metal boring machines (excluding machining centers) and drilling machines (excluding machining centers) @	N	x	x	238 185	N	x	x	Ν
333512A1	Metal boring machines (excluding machining centers) and drilling machines (excluding machining centers)	N	x	x	238 185	N	x	x	N
333512A100	Metal boring machines (excluding machining centers) and drilling machines (excluding machining		~	~	200 100		~	X	TX.
	centers)	55	x	х	238 185	N	х	х	N
333512AY	Metal boring machines (excluding machining centers) and drilling machines (excluding machining centers), nsk	N	x	x	_	N	x	x	N
333512AYWV	Metal boring machines (excluding machining centers) and drilling machines (excluding machining centers), nsk	N	x	x	_	N	x	x	Ν
333512W	Machine tool (metal cutting types) manufacturing, nsk, total	N	x	x	186 513	N	x	x	N
333512WY	Machine tool (metal cutting types)				100 510				
333512WYWW	manufacturing, nsk, total Machine tool (metal cutting types) manufacturing, nsk, for	N	X	х	186 513	N	х	х	N
333512WYWY	nonadministrătive-record establishments. Machine tool (metal cutting types) manufacturing, nsk, for administrative-	N	х	х	185 760	N	х	х	Ν
	record esablishments	N	Х	Х	753	N	х	Х	N

# Additional information is available for this item; see Appendix F. @ Additional data are available for these codes at the aggregate U.S. level in the Current Industrial Report (CIR) series; see Appendix F for the CIR survey number and title. \$ This product is primary to more than one industry; see Appendix F for a listing of the related product codes.

Note: For some establishments, data have been estimated from central unit values which are based on quantity-value relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figure: <sup>p</sup> 10 to 19 percent estimated; <sup>q</sup> 20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by S.

## Table 6b. Product Class Shipments for Selected States: 1997 and 1992

[Product classes covered are those that are economically significant and whose production is geographically dispersed, provided dispersion is not approximated by data in Table 2. Also, product classes are not shown if they are miscellaneous or "not specified by kind" classes. Statistics for some states are withheld because they are either less than \$2 million in product class shipments or they disclose data for individual companies in 1997. For meaning of abbreviations and symbols, see introductory text. For explanations of terms, see appendixes]

NAICS product class	Product class and geographic area	Value of product shipments (\$1,000)	s
code		1997	199
335121	METAL GEAR CUTTING MACHINES @		
	United States	181 261	
	Illinois	12 225	
335122	METAL GRINDING, POLISHING, BUFFING, HONING, AND LAPPING MACHINES, EXCEPT GEAR-TOOTH GRINDING, LAPPING, POLISHING, AND BUFFING @		
	United States	593 673	395 80
	Connecticut	30 438 37 640	35 83
	Indiana Indiana Michigan	4 878 130 869	4 55 94 15
	Minnesota	14 864	011
	Ohio	84 126 21 821	46 9
	Wisconsin	12 652	9 00
335123	METAL LATHES (TURNING MACHINES) NUMERICALLY AND NONNUMERICALLY CONTROLLED @		
	United States	489 775	329 33
	Michigan	133 403	31 39 64 43
	Ohio	50 902	64 4
335124	METAL MILLING MACHINES (EXCLUDING MACHINING CENTERS) @		
	United States	350 026	221 68
	Indiana Michigan	4 435 13 095	4 78
335125	MACHINE TOOLS DESIGNED PRIMARILY FOR HOME WORKSHOPS, LABS, GARAGES, ETC. (METALWORKING AND PRIMARILY METALWORKING)		
	United States	54 937	60 9
	Michigan	3 973	4 1
	Ohio T	13 313 10 874	17 9
335126	PARTS FOR METAL CUTTING MACHINE TOOLS (SOLD SEPARATELY) AND REBUILT METAL CUTTING MACHINE TOOLS		
	United States	733 174	606 10
	Connecticut Illinois	21 217 93 343	35 38 42 3
	Indiana Massachusetts	12 326 21 569	9 3 6 6
	Michigan	155 454	92 3
	Minnesota New York	11 001 63 616	7 99 65 6
	Ohio	205 803 21 638	124 8 30 2
	Wiscońsin	56 697	101 7
335127	METAL MACHINING CENTERS (MULTIFUNCTION NUMERICALLY CONTROLLED MACHINES) @		
	United States	857 909	454 1
	California Connecticut	407 181 20 316	
	Michigan . New York	35 930 40 170	36 4
	Ohio	137 675 3 205	
		5 205	
335128	METAL STATION TYPE MACHINES @		
	United States	607 871	485 57
	Connecticut Michigan	6 807 388 248	337 6
	Ohio	17 457	
335129	OTHER METAL CUTTING MACHINE TOOLS (EXCEPT THOSE DESIGNED PRIMARILY FOR HOME WORKSHOPS, LABORATORIES, GARAGES, ETC.) @		
	United States	438 742	224 0
	California	30 017 7 660	12 5 4 8
	Illinois	7 660 31 969 2 033	38 0
	Indiana . Michigan .	2 033 95 050	74 6
	Ohio	62 739	23 85
	Pennsylvania Wisconsin	22 112 41 843	58

See footnotes at end of table.

### Table 6b. Product Class Shipments for Selected States: 1997 and 1992-Con.

[Product classes covered are those that are economically significant and whose production is geographically dispersed, provided dispersion is not approximated by data in Table 2. Also, product classes are not shown if they are miscellaneous or "not specified by kind" classes. Statistics for some states are withheld because they are either less than \$2 million in product class shipments or they disclose data for individual companies in 1997. For meaning of abbreviations and symbols, see introductory text. For explanations of terms, see appendixes]

NAICS product class	Product class and geographic area	Value of product shipments (\$1,000)				
code		1997	1992			
333512A	METAL BORING MACHINES (EXCLUDING MACHINING CENTERS) AND DRILLING MACHINES (EXCLUDING MACHINING CENTERS) @					
	United States	238 185	Ν			
	Illinois Indiana Michigan Ohio Washington Wisconsin	22 945 2 629 67 677 11 307 13 975 27 867	N N N N N N			

# Additional information is available for this item; see Appendix F. @ Additional data are available for these codes at the aggregate U.S. level in the Current Industrial Report (CIR) series; see Appendix F for the CIR survey number and title. \$ This product is primary to more than one industry; see Appendix F for a listing of the related product codes.

### Table 7. Materials Consumed by Kind: 1997 and 1992

[Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

NAICS		19	97	1992			
material code	Material consumed	Quantity	Delivered cost (\$1,000)	Quantity	Delivered cost (\$1,000)		
333512	MACHINE TOOL (METAL CUTTING TYPES) MFG						
33399601 33399501 33399901 33291203 33291207	Fluid power pumps, motors, and hydrostatic transmissions (hydraulic and pneumatic). Fluid power cylinders and rotary actuators (hydraulic and pneumatic). Fluid power filters (hydraulic and pneumatic) Fluid power filters (hydraulic and assemblies (hydraulic and pneumatic) Fluid power valves (hydraulic and pneumatic)	X X X X X	48 506 13 687 3 128 10 187 19 551	× × × ×	33 161 15 341 4 491 11 274 13 323		
33272203 33200063 33210001 33151001 33152011	Metal bolts, nuts, screws, washers, rivets, and other screw machine products. Other fabricated metal products (except fluid power products and forgings) Forgings. Iron and steel castings (rough and semifinished) Nonferrous (aluminum, copper, etc.) castings (rough and semifinished)	X X X X X	29 769 121 991 15 390 120 297 8 700	× × × ×	N 70 117 N 117 864 N		
33120007 33120017 33120069 33120091 331000AJ	Steel bars, bar shapes, and plates (except castings, forgings, and fabricated metal products). Steel sheet and strip, including tin plate	X X X X	66 696 25 222 8 843 31 061	x x x x	39 803 18 294 10 411 6 183		
33531209 33531217 33531221 001900B1 33500007	metal products)	X X X X X X X	10 824 28 798 20 412 25 202 85 123 25 793	×××××××	N 20 817 12 687 20 218 42 439 13 374		
33531409 33531411 33299105 33299103 33361200	Numerical controls for metalworking machinery (except programmable) Programmable controllers for metalworking machinery	x x x x x	80 270 85 002 32 198 8 298 35 820	× × × ×	46 562 68 147 18 664 7 484 40 588		
32192001 33351503 00970099 00971000	Wood boxes, pallets, skids, and containers Cutting tools for machine tools All other materials and components, parts, containers, and supplies Materials, ingredients, containers, and supplies, n.s.k.	X X X X	6 440 90 437 692 259 506 472	X X X X	5 918 23 043 N N		

# Additional information is available for this item; see Appendix F.

Note: For some establishments, data have been estimated from central unit values which are based on quantity-value relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figure: <sup>p</sup> 10 to 19 percent estimated; <sup>q</sup> 20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by S.

## Appendix A. Explanation of Terms

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

Respondents were asked to report their beginning-ofyear 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.

### **Specific Materials Consumed**

In addition to the total cost of materials, which every establishment was required to report, information also was collected for most manufacturing industries on the consumption of major materials used in manufacturing. The inquiries were restricted to those materials which were important parts of the cost of production in a particular industry and for which cost information was available from manufacturers' records. If less than \$25,000 of a listed material was consumed by an establishment, the cost data could be reported in the "Cost of all other materials...," Census material code 00970099. Also, the cost of materials for small establishments for which administrative records or short forms were used was imputed into the "Materials not specified by kind," Census materials code 00971000.

# 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

#### 1997 ECONOMIC CENSUS

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.

#### **COST OF PURCHASED SERVICES**

Annual Survey of Manufactures (ASM) establishments were requested to provide information on the cost of purchased services for the repair of buildings and other structures, the repair of machinery, communication services, legal services, accounting and bookkeeping services, advertising, software and other data processing services, and refuse removal. Each of these items reflects the costs paid directly by the establishment and excludes salaries paid to employees of the establishment for these services.

Included in the cost of purchased services for the repair of buildings and machinery are payments made for all maintenance and repair work on buildings and equipment. Payments made to other establishments of the same company and for repair and maintenance of any leased property also are included. Extensive repairs or reconstruction that was capitalized is considered capital expenditures and is, therefore, excluded from this item. Repair and maintenance costs provided by an owner as part of a rental contract or incurred directly by an establishment in using its own work force also are excluded.

Included in the cost of purchased advertising services are payments for printing, media coverage, and other advertising services and materials.

Included in the cost of purchased software and other data processing services are all purchases by the establishment from other companies. Excluded are services provided by other establishments of the same company (such as by a separate data processing unit). Included in the cost of purchased refuse removal services are all costs of refuse removal services paid by the establishment, including costs for hazardous waste removal or treatment. Excluded are all costs included in rental payments or as capital expenditures.

### **Response Coverage Ratio**

A response coverage ratio is a measure of the extent to which respondents report for an item. The estimate is made by calculating the ratio value of the weighted total employment data for all the ASM establishments that report the item to the weighted total employment data for all ASM establishments classified in an industry (reporters and non-reporters).

## **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 linesupervisor 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 companyoperated 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).

#### **PRODUCT CODES AND CLASSES OF PRODUCTS**

NAICS United States industries are identified by a sixdigit code, in contrast to the four-digit SIC code. The longer code accommodates the large number of sectors and allows more flexibility in designing subsectors. Each

#### 1997 ECONOMIC CENSUS

product or service is assigned a ten-digit code. The product coding structure represents an extension by the Census Bureau of the six-digit industry classifications of the manufacturing and mining sectors. The classification system operates so that the industrial coverage is progressively narrower with the successive addition of digits. This is illustrated as follows:

NAICS level	NAICS code	Description
	NAICO COUE	Description
Industry	33461	Manufacturing and reproduction of magnetic and optical media
U.S. industry	334612	Reproduction of software
Product class	3346120	Prerecorded compact disc (except software), tape, and record repro- ducing
BLS link code	3346120X	
Product code	3346120XXX	

As in previous censuses, data were collected for most industries on the quantity and value of individual products shipped. In the 1997 census program, information was collected on the output of almost 10,000 individual product items.

In the new system, there are about 1,500 product classes (seven-digit codes), about 6,000 census products (ten-digit codes), 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.

The list of products for which separate information was collected was prepared after consultation with industry and government representatives. Comparability with previous figures was given considerable weight in the selection of product categories so that comparable 1992 information is presented for most products.

Typically, both quantity and value of shipments information were collected. However, if quantity was not significant or could not be reported by manufacturers, only value of shipments was collected.

Shipments include both commercial shipments and transfers of products to other plants of the same company. For industries in which a considerable portion of the total shipments is transferred to other plants of the same company, separate information on interplant transfers also was collected. Moreover, for products that are used to a large degree within the same establishment as materials or components in the fabrication of other products, total production and often consumption of the item within the plant (quantity produced and consumed) was collected. Typically, the information on production also was collected for products for which there are significant differences between total production and shipments in a given year because of wide fluctuations in finished goods inventories. Other measures of output of products with long production cycles were used as appropriate and feasible.

#### PRIMARY PRODUCT CLASS CODE

This file presents selected statistics for establishments according to their degree of specialization in products primary to their industry. This field contains either the sixdigit North American Industrial Classification System (NAICS) industry code corresponding to all establishments in the industry, or the seven-digit NAICS product class code for all establishments within the industry that are specialized in a particular product class. Product class specialization is determined by evaluating the ratio of the largest primary product class shipments to total product shipments (primary plus secondary, excluding miscellaneous receipts) for the establishment.

#### **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 companyowned 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 beginningand 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.

Industry primary product value of shipments represents one of the three components of value of shipments. These components are:

- 1. Primary products value of shipments.
- 2. Secondary product value of shipments.
- 3. Total miscellaneous receipts.

Primary product shipments is used in the calculations of industry specialization ratio and industry coverage ratio. The term "Value of primary products shipments made in this industry" is used in this publication and refers to the same data.

# 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.

#### **Specialization and Coverage Ratios**

These items are not collected on the report forms but are derived from the data shown in Table 3. An establishment is classified in a particular industry if its shipments of primary products of that industry exceed in value its shipments of the products of any other single industry.

An establishment's shipments include those products assigned to an industry (primary products), those considered primary to other industries (secondary products), and receipts for miscellaneous activities (merchandising, contract work, resales, etc.). Specialization and coverage ratios have been developed to measure the relationship of primary product shipments to the data on shipments for the industry shown in Tables 1a through 5 and data on product shipments shown in Tables 6a and 6b.

Specialization ratio represents the ratio of primary product shipments to total product shipments (primary and secondary, excluding miscellaneous receipts) for the establishments classified in the industry.

Coverage ratio represents the ratio of primary products shipped by the establishments classified in the industry to the total shipments of such products that are shipped by all manufacturing establishments wherever classified.

## Appendix B. NAICS Codes, Titles, and Descriptions

#### 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) 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 333512 include establishments primarily engaged in the manufacture of metal cooling towers. 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" (nsk) 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 fourdigit 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 materialsconsumed 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 supplybased 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 SICbased 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.

#### MANUFACTURING

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, completecoverage 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 broaderbased annual survey of manufactures and the economic

#### MANUFACTURING

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

Not applicable for this report.

## Appendix E. Metropolitan Areas

Not applicable for this report.

## Appendix F. Footnotes for Products Statistics and Materials Consumed by Kind

## Part 1. Products Statistics (Tables 6a and 6b)

NAICS product code	Footnote
@3335121	For additional detail, see Current Industrial Report MQ333W, Metalworking Machinery.
@3335122	For additional detail, see Current Industrial Report MQ333W, Metalworking Machinery.
@3335123	For additional detail, see Current Industrial Report MQ333W, Metalworking Machinery.
@3335124	For additional detail, see Current Industrial Report MQ333W, Metalworking Machinery.
@3335127	For additional detail, see Current Industrial Report MQ333W, Metalworking Machinery.
@3335128	For additional detail, see Current Industrial Report MQ333W, Metalworking Machinery.
@3335129	For additional detail, see Current Industrial Report MQ333W, Metalworking Machinery.
@333512A	For additional detail, see Current Industrial Report MQ333W, Metalworking Machinery.

Part 2. Materials Consumed by Kind (Table 7) Not applicable.

## Appendix G. Comparability of Product Classes and Product Codes: 1997 to 1992

1997 published	1997 collected	1992 published	1997 published	1997 collected	1992 published	1997 published	1997 collected	1992 published
3331111 3331111000	3523100	35231 3523100	3331209 3331209111 3331209245	35319 3531910 3531945	3531M pt 3531M03 3531M01	333132W 333132WYWW 333132WYWY	35330 3533000 3533002	35330 3533000 3533002
3331113 3331113000	35232 pt 3523200 pt	35232 pt 3523200 pt	3331209352 3331209353 3331209366 pt	3531920 3531930	3531M05 3531M07 pt 3531M07 pt	3332103 3332103101	35533	35533 3553311
3331117 3331117000	35233 3523300	35233 3523300	3331209366 pt	3531960 pt	3531M21 pt 3531M08 pt	3332103106 3332103111 3332103116	3553313 3553314 3553316	3553313 3553315 pt 3553315 pt
3331119 3331119000		35235 3523500	3331209388 3331209YWV	3531900	3531M00 pt	3332103121 3332103126	3553317	3553315 pt 3553315 pt
333111A 333111A000	3523600		333120W 333120WYWW 333120WYWY		35310 pt 3531000 pt 3531002 pt	3332103231 3332103236 3332103241 3332103246	3553319 3553321 3553323 3553325	3553319 3553321 3553323 3553323 3553325
333111C 333111C110 333111C220 pt	3523926	35239 3523926 3523931	3331311 3331311000	35325 3532500	35325 3532500	3332103251 3332103251	3553327 3553329	3553327 3553329
333111C220 pt 333111CYWV	3523953	3523953 3523900	3331313 3331313100		35326 3532600	3332103261	3553333	3553333 3553334
333111E 333111E000	3523C 3523C00	3523C 3523C00	3331315 3331315000	3532700		3332103271 3332103276 3332103279	3553335 3553337 3553339	3553335 3553337 3553338 pt
333111G 333111G000 pt 333111G000 pt		3523E pt 3523E00 pt 3523E00 pt	3331317 3331317000	35328 3532800 35329		3332103283 3332103287 3332103291	3553341 3553343 3553349	3553338 pt 3553338 pt 3553338 pt
333111J 333111J	3523F	3523E00 pt 3523F 3523F00	3331319         3331319101         3331319101         3331319106         3331319111	3532923 3532925	35329 3532931 pt 3532935 3532942	3332103396 3332103YWV 3332105	3553387 3553300 35534	3553387 3553300 35534
333111W 333111WYWW	35230 pt 3523000 pt	35230 pt 3523000 pt	3331319216 333131921 3331319321 3331319426	3532929 3532961 3532963	3532931 pt 3532972 pt 3532972 pt	3332105101 3332105211 3332105221	3553411 3553412 3553415	3553411 3553412 3553413 pt
333111WYWY 3331121	35241 pt	3523002 pt 35241 pt 3524100 pt	3331319531 3331319636 3331319744	3532965 3532967 3532969	3532972 pt 3532972 pt 3532972 pt	3332105231 3332105241 3332105251 3332105YWV	3553417 3553419 3553421 3553400	3553413 pt 3553413 pt 3553413 pt
3331121000 pt 3331121000 pt 3331123	3524109	3524100 pt	3331319YWV 333131W 333131WYWW	3532900 35320 3532000	3532900 35320 3532000	333210917070 333210W 333210WYWW	35530 355300	3553400 35530 3553000
3331123000	3524400	3524400 35246	333131WYWY	3532002 35337	3532002 35337	333210WYWY 3332201	3553002 35593	3553002 35593 3550202
3331127000 333112W	3524600 35240 pt		3331321101 pt 3331321101 pt 3331321101 pt	3533710 pt 3533710 pt 3533710 pt	3533711 3533712 3533714	3332201106 3332201111 3332201116	3559303 3559305 3559307	3559303 3559305 3559307
333112WYWW 333112WYWY	3524000 pt	3524000 pt 3524002 pt	3331321106 3331321111 3331321116	3533715 3533716 3533717	3533715	3332201121 3332201201 3332201226	3559309 3559301 3559311	3559309 3559301 3559311
3331201 pt	•		3331321122	3533721	3533721 3533722	3332201231 3332201236 3332201341	3559313 3559315 3559317	3559313 3559315 3559317
3331201 pt		3531B 3531C	3331321131 3331321136 pt	3533723 3533730 pt		3332201346 3332201351	3559319 3559321	3559319 3559321
3331201 pt		3531E	3331321136 pt 3331321146 3331321151	3533745	3533732 3533745 3533747	3332201356 3332201361	3559323 3559324	3559323 3559325 pt
3331201 pt	35312	3531F	3331321156 3331321166 pt		3533748 3533744	3332201366 3332201371 3332201476	3559326 3559328 3559342	3559325 pt 3559325 pt 3559341 pt
3331201 pt		3531G pt	3331321166 pt 3331321271	3533759 pt 3533761	3533759 3533761	3332201481 3332201486 3332201YWV	3559344 3559346	3559341 pt 3559341 pt
3331201 pt		3531G pt	3331321YWV	3533700 35338	3533700 35338	3332201YWV 3332203	3559300 35594	3559300 35594
3331201 pt		3531G pt 3531N pt	3331323101	3533831	3533831 3533851	3332203101	3559401 3559403	3559401 3559403
3331201 pt	35316 pt	3531P pt	3331323111 3331323122 3331323226	3533898	3533855 3533898 3533899	3332203111 3332203116 3332203121	3559405 3559407 3559416	3559405 3559407 3559416
3331201110 3331201220 3331201330	3531200	3531E00 3531F00 3531G00 pt	3331323YWV	3533800	3533800	3332203226 333220326	3559425 3559400	3559425 3559400
3331201440 3331201550 pt	3531400	3531C00 3531A00	3331325 3331325101	3533912	35339 3533912	333220W	35590 pt	35590 pt
3331201550 pt 3331201660 pt	3531500 pt 3531600 pt	3531B00 3531G00 pt	3331325106 3331325111	3533913 3533914	3533913 3533914	333220WYWW 333220WYWY	3559000 pt 3559002 pt	3559000 pt 3559002 pt
3331201660 pt 3331201770	3531600 pt	3531P20 3531N00 pt	3331325116 3331325121	3533919 3533921	3533921	3332911 3332911101	35543 3554317	35543 3554301 pt
3331201YWV pt 3331201YWV pt	3531G00	3531G00 pt 3531N00 pt	3331325126 3331325133	3533953 3533955	3533955	3332911106 3332911106	3554319 3554302	3554301 pt 3554302
3331201YWV pt	3531600 pt	3531P00 pt	3331325136 3331325141	3533957 3533961	3533961	3332911111 3332911116 3332911121	3554302 3554303 3554304	3554302 3554303 3554304
3331208 3331208110	35318 3531807	3531P pt 3531P70	3331325146 3331325151	3533965 3533971	3533971	3332911126	3554304 3554305 3554309	3554304 3554305 3554309
3331208115 3331208126	3531823 3531826	3531P85 3531P06	3331325199 3331325256 3331325YWV	3533998 3533982 3533900	3533998 3533982 3533900	3332911131 3332911236 3332911241	3554327 3554329	3554311 pt 3554311 pt
3331208127 3331208135	3531827 3531835	3531P07 3531P11 3531P25	3331327	3533A	3533A	3332911346 3332911351	3554312	3554312 3554313
3331208144 3331208148 3331208152	3531847	3531P25 3531P22 3531P24	3331327101 3331327210	3533A78	3533A10 3533A78	3332911351 3332911361 3332911456	3554313 3554315 3554314	3554313 3554315 3554314
3331208152 3331208156 3331208199 pt	3531849	3531P24 3531P27 3531P74	3331327YWV 3331329	3533A00 3533B	3533A00 3533B	3332911456 3332911566 3332911571	3554321 3554322	3554314 3554321 3554322
3331208199 pt 3331208199 pt 3331208199 pt	3531899 pt	3531P77 3531P82	3331329101	3533B21	3533B21 3533B32	3332911576 3332911576	3554323 3554324	3554323 3554324
3331208199 pt 3331208YWV	3531899 pt	3531P97	3331329111 3331329YWV	3533B34	3533B34 3533B00	3332911586 3332911591	3554325 3554337	3554325 3554326 pt
		•						

SSS281         SSS501         SSSS501         SSSS501         SSSS5	1997 published	1997 collected	1992 published	1997 published	1997 collected	1992 published	1997 published	1997 collected	1992 published
33201 B         302-44         30200 B	3332911596 3332911YWV			3332939101	3555801	3555801	33329505A6	3559667	3559651 pt
33323         302-440	3332913			3332939121 pt	3555819 pt	3555803	33329505B6	3559671	3559651 pt
Sacch 44         Sock 444	3332913211	3554402	3554402	3332939131	3699245	3699200 pt	3332950YWW pt	3559600	3559600
333211         355-400         355-400         33323191// 3332011//         355-500         33323191//         355-500         33323191//         33332191//         33332191//         3333291//	3332913431	3554404	3554404	3332939141	3555879	3555869 pt			
3328 HW,	3332913YWV			3332939361	3555885	3555885	3332981121	3559109	3559109
332201         332201<	333291W 333291WYWW						3332981206	3559103	3559105
Sack/L pr.         Stock 1	333291WYWY	3554002		3332939686	3555893	3555893	3332981226	3559111	3559111
333281101         552115         33208110         3552115         33208110         3552010         33208110         3552010         33208110         3552010         33208110         35520110         33208110         33208110         33208110         332081111         332081111 <t< td=""><td></td><td></td><td></td><td>3332939YWV pt</td><td>3555800</td><td>3555800</td><td>3332981331 3332981336 3332981YWV</td><td>3559115</td><td>3559115</td></t<>				3332939YWV pt	3555800	3555800	3332981331 3332981336 3332981YWV	3559115	3559115
33222110         352210         3522110         35220110         35220011           33222110         352100         35220011         3522001	3332921101	3552115	3552115	333293W pt		35550	3332983		
33292110         552160         3522130         332225117         3525117         3525110         3525100         3525100         3525100         3525100         3525117         3525117         3525100         3525100         3525100         3525101         355600         355600         355600         355600         355600         355600         355600         355600         355600         355600         3556000         3556000	3332921106 pt	3552159 pt	3552136	333293W pt	36990 pt		3332983106 pt	3559203 pt	3559204
33222116         332223117         33223117         33223117         33223117         33223117         33223117         33223117         33223	3332921106 pt 3332921106 pt	3552159 pt	3552157 pt	333293WYWW pt	3699000 pt	3699000 pt	3332983111	3559211	3559211
33322113         3552167         3352111         355216         State 1         State 1 <t< td=""><td>3332921116</td><td>3552153</td><td>3552153</td><td>333293WYWY pt</td><td></td><td></td><td>3332983121</td><td>3559213</td><td>3559215 pt</td></t<>	3332921116	3552153	3552153	333293WYWY pt			3332983121	3559213	3559215 pt
333221196         3522171         3522171         353241100         3526110         3526110         3526110         355600         355600         355600         355600         355600         355600         355600         355600         355600         355600         355600         355600         355600         355600         355600         355600         355600         355600         355600         3556000         3556000         3556000         3556000         3556000         3556000         3556000         3556000         3556000         3556000 <td>3332921121</td> <td></td> <td></td> <td>3332941101</td> <td>3556104</td> <td></td> <td>3332983231</td> <td>3559218</td> <td>3559219 pt</td>	3332921121			3332941101	3556104		3332983231	3559218	3559219 pt
3328212464         3552115         3552161         pi         332821150         332821150         332821150         332821150         332821150         332821150         332821150         332821150         332821150         332821150         332821150         332821150         332821150         332821150         332821150         332821150         332821141         3565105         3332821161         3565105         3332821171         33565121         3332821171         33565121         3332821171         33565121         3332821171         33565121         3332821171         33565121         3332821171         33565121         3332821171         33565121         3332821171         33565121         3332821171         33565121         3332821171         33565121         3332821171         33565121         3332821171         33565121         3332821171         33565121         333282111         33566121         333282111         33566121         333282111         33566121         333282111         33566121         333282111         33562110         333282111         3332821111         33562111         3332821111         3332821111         3332821111         3332821111         3332821111         3332821111         3332821111         3332821111         3332821111         33328211111         33328211111         33328211111         3	3332921136			3332941103	3556111	3556118 pt	3332985	35595	35595
33222146f         3696200 pt         332241414 pt         356617 pt         356610 pt         33328670 pt         333328670 pt         33332870 pt <t< td=""><td>3332921246 3332921351</td><td>3552175</td><td>3552181 pt</td><td>3332941141 pt</td><td>3556117 pt</td><td>3556105</td><td>3332985201</td><td>3559501</td><td>3559501</td></t<>	3332921246 3332921351	3552175	3552181 pt	3332941141 pt	3556117 pt	3556105	3332985201	3559501	3559501
3332921476         3552147         335294177         355610         3332987 168         3552146         3552146         3552146         3552146         3552146         3332941         355610         3332941         355610         33329477         3556987         33329477	3332921356 3332921461	3699241	3699200 pt	3332941141 pt	3556117 pt	3556109	3332985316	3559509	3559509
333282/1070         3322 108         3322 108         3322 108         3322 108         3322 108         3322 108         33232 108         33322 108         33322 108         33322 108         33322 108         33322 108         33322 108         333322 108         333322 108	3332921476	3552187	3552187	3332941171	3556121	3556121			
33222101         3552210         3556221         3556221         332284710         3558004         3556001           33322101         3552100         33524180         33324431         3556221         3332810161         3358000         3558000         3558000         3559001         3559001         3559001         3559010         3559010         3559010         3559010         3559010         3559010         3559010         3559010         3559010         3559010         3559010         3559011	3332921571			3332943			3332987 pt	36395 pt	
3332921(W)         3352196         3352196         335291(W)         335221(W)         335291(W)         335291(W)         335291(W)         335291(W)         335291(W)         335291(W)         3552100         35552100         3555200         3555800         3556811         3556811         3556811         3556811         3556811         3556811         3556812         3558817         3556812         3558817         355	3332921681 3332921686			3332943221	3556221	3556221	3332987106	3559804	3559801 pt
33292211WW pt         3699200 pt         332943661         3556265         3329247141         35569813         3556913           332923101         3552205         3552211 pt         3329443681         3556273         35562619         332987151         3559817         3559817           3329232101         3552205         3552211 pt         3329443681         3556273         3556273         3556817         353987151         3559812         3559812           3329242101         3552205         3552221         3552221         3552221         3556221 pt         332944101         3556813         3559827         3559813           332924311         3552225         3552221 pt         332944101         3556304         332987186         3559853         3559853           332924314         3552226         3552231 pt         332944116         3556313         3556119 pt         332987166         3559853         3559853           332924516         3552245 pt         332944161         3556313         3556319 pt         332987166         3559853         3559875         3559875         3559876         3559876         3559877         3559877         3559877         3559877         3559877         3559877         3559877         35598878         332947166         355	3332921691 3332921YWV pt	3552199		3332943441	3556241	3556241	3332987121	3559805	3559805
333223101       352520r       3552211 pt       332243681       3556276       35562201       3532817       3532817       3532817       3532817       3532817       3532817       3532817       3532817       3532817       3532817       3532817       3532817       3532817       3532817       355812       3558812       3558812       3558812       3558812       3558812       3558812       3558812       3558812       3558812       3558812       3558812       3558812       3558813       3558813       3558813       3558813       3558813       3558813       3558813       3558813       3558813       3558813       3558813       3558813       3558813       3558813       3558813       3558813       3558813       3558813       3558813       3332821616       3556313       3556313       3556313       3556313       3556313       3556313       3556313       3556313       3556313       3556313       3556313       3556313       3332821616       35528211       3332821616       3552811       3332821616       3558863       3332821616       3558863       3332821616       3558863       3558863       3558863       3558863       3332821616       3332821616       3558863       3558863       3332821616       33328281161       33328281161       33328281161	•			3332943661	3556265	3556265	3332987141 3332987146	3559813 3559815	3559815
3332923111 3552209 355221 pt 3332945 35563 35563 35563 35563 335297171 3559827 333294511 3555637 355631 355631 355631 355631 355631 3556819 pt 33329216 3559875 3559875 3559876 pt 333292456 3552229 3552243 pt 3332945134 3556329 3556329 3556319 pt 33329216 3559875 3559876 pt 333292456 3552245 pt 333294514 33556331 355631 3556819 pt 33329211 3559877 3559876 pt 333292456 3552243 3552245 pt 333294516 3556329 355631 3556819 pt 333292451 3559877 pt 333292456 3552281 355227 355224 pt 333294516 355633 355631 3556819 pt 33329211 3559886 3559887 pt 333292456 3559877 pt 333292456 355228 355227 pt 333294526 3556305 3556347 3556831 3559887 pt 333292451 3559888 pt 333294531 3556341 3556321 pt 332924716 pt 3559887 pt 3559888 pt 3559888 pt 3559888 pt 3559888 pt 3559888 pt 3559888 pt 33294531 3556341 3556321 pt 332987116 pt 3559888 pt 3559888 pt 333294531 3556341 3556321 pt 332987116 pt 3559888 pt 3559888 pt 333294531 3556341 3556321 pt 332987116 pt 332987116 pt 332987116 pt 332987116 pt 332987116 pt 35598989 pt 333294531 355634 3556300 .	3332923101	3552205	3552211 pt	3332943681	3556275 3556291	3556289 pt	3332987156	3559819	3559819
33322321         355223         3552231         pt         332342331         3552231         pt         332342331         3552231         pt         332342331         3552227         355231         pt         332342331         355833         3559835         3559837         333245135         3556319         333245135         3556319         333245135         3556319         333245135         3556319         333245151         335245711         333245151         335245714         3332345161         333245161         333245161         333245161         333245161         3332456161         3332456161         3332	3332923111	3552209	3552211 pt						
3332223336       3552227       3552231 pt       3332946116       2555000       2556310 pt       332997196       3559839       3559839         3332923346       3552224       3552231 pt       332946121       3556315       35566319 pt       332997166       3559858       3559853         33329234513       3556231 pt       332946131       3556319 pt       332987166       3559858       3559877       3559878 pt         33329234516       3552243 pt       332944131       3556331       3556319 pt       332987166       3559877       3559878 pt         3332923561       3552245 pt       3332944114       3556333       3556319 pt       332987114       3559877 pt       3559878 pt         3332923761       3552245 pt       33229445161       3556305       332987114       3559886 pt       3559888 pt         3332923711       3552245 pt       3322945161       3556305       332987114 pt       3559886 pt       3559886 pt       3559888 pt <td< td=""><td>3332923321 3332923331</td><td>3552223 3552225</td><td>3552231 pt</td><td>3332945101</td><td>3556304</td><td>3556304</td><td>3332987181</td><td>3559831 3559835</td><td>3559831</td></td<>	3332923321 3332923331	3552223 3552225	3552231 pt	3332945101	3556304	3556304	3332987181	3559831 3559835	3559831
3332223450         3322243 pt 3552248 pt 3332294513         3332945131         33566315         335627168         3352971         3355971         3355971         3355971         3355971         3355971         3355971         3355971         3355971         3355971         3355971         3355971         3355971         3355971         3355971         33559871         3359971         33559871         35569871         333297111         33559871         35569871         33559871         35569871         33559871         35559871         35559871	3332923336 3332923341	3552227	3552231 pt	3332945116	3556309	3556319 pt	3332987196 33329871B6	3559839 3559853	3559853
332292456         3552239         3552243 pt         332245151         3556331         3556331 pt         3532857116         353285711         3559876 pt           332292456         3552287         3352245 pt         3332945151         3556339         3556319 pt         3332987114         3559876 pt           332293671         3352245 pt         3332945151         3556339         3556319 pt         3332987114         3559876 pt           3322923671         3352245 pt         3332945164         3556339         3556319 pt         3332987114         3559876 pt           333292371         35552285         33552274 pt         3332945164         3556317         3556311         3332987114 pt         3559887 pt         3559884 pt           3332927071         3555200         3332945376         33556347         3556321 pt         3332987114 pt         3559887 pt         3559886 pt           3332924704         355200         3352245386         3556347         3556321 pt         3332887114 pt         3559887 pt         3559886 pt           3332927W1W         355900 pt         3322945386         3556347         3556321 pt         3332887114 pt         3559887 pt         3559884 pt           333292W1WW pt         36990 pt         33229457999 3556344         3556321 pt	3332923346 3332923451	3552229 3552235		3332945131	3556315	3556319 pt	33329871G6	3559875	3559878 pt
333292366       3552287       3552245 pt       3332943611       355339       33596319 pt         3332923661       3552285       3552274 pt       3332942506       3556305       33558305       33329871K6 pt       3559866 pt       3559864 pt         333292361       3552285       3552274 pt       3332945371       3556305       33329871K6 pt       3559866 pt       3559864 pt         3332923791       3552200       3332945376       3556341       33556321 pt       33329871K6 pt       3559867 pt       3559886 pt         3332927W pt       35520       3332945381       3556341       3556321 pt       33329871K6 pt       3559886 pt       3332947381 pt       3559886 pt       3559886 pt       33329871K1 pt       3559886 pt       3559886 pt       33329871K1 pt       35598891 pt       <	3332923456	3552239		3332945151	3556333	3556319 pt	33329871H6	3559879	3559878 pt
3322923681       3552285       3552274 pt       3552274 pt       3552279       3332942791       3552280       3552279       3332945201       3556317       3556311       33329471K6 pt       3559886 pt       3559898 pt       33329471M1 pt       3559892 pt       3559898 pt       3559898 pt       3559899 pt       33329471M1 pt       3559893 pt       3559899 pt       33329471M1 pt       3559893 pt       3559899 pt       33329471M1 pt       3559891 pt       33329471M1 pt       35598991       33329471M1 pt       35598991       33329471M1 pt       35598991       33329471M1 pt       35598991       33329471M1 pt       3559891       33329471M1 pt       35598911       3559891       33329471M1 pt<	3332923566	3552287	3552245 pt				33329871K1	3559885	3559884 pt
333292W pt.       35520       35520       355983 pt       355983 pt       355983 pt       355983 pt         333292W pt.       36990 pt       3332945386       3556341       3556321 pt       33329871M6 pt.       3559882 pt       3559884 pt         333292W pt.       36990 pt       3332945386       3556347       3556321 pt       33329871M6 pt.       3559882 pt       3559884 pt         333292WYWW pt.       3552000       3332945391       3556347       3556300       33329871M1 pt       3559839 pt       3559884 pt         333292WYWW pt.       3699000 pt       332945394       3556300       33329871M1 pt       3559893 pt       3559890         333292WYWV pt       3659000 pt       33294WW       3556000       33329871N1 pt       3559891       3559896         3332931101       355511       355511       3555101       333294WWW       35590 pt       3559001       33329871R6       33329871R6       36398513       3639520 pt         3332931101       3555132       3555132       3332950 pt       35590 pt       3559615       33329871R6       3559807       3559807       3559807       3559807       3559807       3559807       3559807       3559807       3559807       3559807       3559807       3559807       3559807	3332923681 3332923791	3552289	3552279		3556317		33329871K6 pt	3559886 pt	3559888
333292W pt				3332945376	3556341	3556321 pt	33329871M1 pt	3559887 pt	3559889 pt
333292WYWW pt       3552000       3552000 pt				3332945386	3556345	3556321 pt	33329871M6 pt 33329871N1 pt	3559892 pt	3559889 pt
333292WYWY pt       3699002 pt       3699002 pt       333294WYWW	333292WYWW pt 333292WYWW pt	3552000	3552000	3332945YWV	3556300		33329871N1 pt	3559893 pt	
3332931	333292WYWY pt 333292WYWY pt			333294WYWW	3556000	3556000	33329871P1	3559896	
332931111       3555103       352950 pt       355907       3559807       3559807         33293121       3555132       3555132       332950 pt       3559615       3332987266       3559811       3559811         33293131       3555132       3555133       332950106       3559615       3559615       3332987266       3559825       3559825         3332931351       3555136       3555136       332950211       3559617       3332987266       3559829       3559826       3332987291       3559841       3559841       3559841       3559841       3559841       3559841       3559845       3332987216       3559845       3559845       3559845       3559845       3559845       3559845       3559845       3559845       3559845       3559845       3559845       3332987216       3559865       3559865	3332931	35551					33329871R6	3639523	3639520 pt
332931331       3555133       332950106       3559615       332997266       3559825       3559825         332931351       3555136       3555136       3332950106       3559615       3559825       3559825       3559825         332931351       3555136       3555135       3332950106       3559615       33598276       3559829       3559829         332931441       3555135       332950326       3559623       3559623       335987276       3559829       3559836         3332931YWV       3555100       3555100       3322950401 pt       3559602 pt       3559603       3332987241       3559841       3559841         332933 pt       35552       3532950401 pt       3559602 pt       3559605       3332987261       3559845       3559845         3332933 pt       36992 pt       35590401 pt       3559602 pt       3559605       3332987261       3559865       3559865         3332933 nt       36992 pt       3559203       3332950401 pt       3559602 pt       3559602       332987261       3559863       35598613         3332933101       3555203       3332950401 pt       3559602 pt       3559611       3332987266       3559871       3559871       3559871       3559871       3559871       3559878 pt	3332931111	3555103	3555103				3332987226 3332987236	3559807 3559811	3559807 3559811
3332931441       3555135       3555135       3559135       3559135       3559135       3559135       3559135       3559135       3559135       3559100       3559100       3559100       3559100       3559100       332950401 pt       3559602 pt       3559603       3329872A1       3559841       3559845       3559841         3332933 pt       35551       35552       3332950401 pt       3559602 pt       3559602 pt       3359875       3329872A1       3559845       3559845         3332933 pt       35552       3332950401 pt       3559602 pt       3559602 pt       33329872C1       3559845       35598855         3332933 pt       36992 pt       36992 pt       3332950401 pt       3559602 pt       33329872C6       3559865       3559865         3332933101       3555203       332950401 pt       3559602 pt       35598602 pt       33329872F6       3559871       3559871         3332933101       3555203       3332950401 pt       3559602 pt       33329872F6       3559871       3559871       3559871         3332933111       3555205       3332950401 pt       3559602 pt       33329872F6       3559883       3559871       3559871       3559871       3559871       3559871       3559871       3559871       3559871 <td< td=""><td>3332931331 3332931351</td><td>3555133 3555136</td><td>3555133 3555136</td><td>3332950106</td><td>3559615 3559617</td><td>3559615 3559617</td><td>3332987276</td><td>3559825 3559829</td><td>3559825 3559829</td></td<>	3332931331 3332931351	3555133 3555136	3555133 3555136	3332950106	3559615 3559617	3559615 3559617	3332987276	3559825 3559829	3559825 3559829
3332933 pt	3332931441 3332931YWV	3555135 3555100		3332950401 pt	3559623 3559602 pt	3559601	33329872A1		
332933 pt	3332933 pt	35552	35552	3332950401 pt	3559602 pt	3559605	33329872C1	3559855	3559855
3332933111 3555205	3332933 pt 3332933101			3332950401 pt	3559602 pt	3559609	33329872D6 33329872F6	3559863 3559871	3559871
	3332933111 3332933221	3555205 3555211	3555205 3555209 pt	3332950401 pt	3559602 pt		33329872J6 33329872P6 33329873D1	3559883 3559897 3559861	
332953221 3555215	3332933231 3332933241	3555215	3555209 pt				33329873E1	3559865	3559865
3332933261 3055243 3055200 pt 3332950431 3559625 3559625 33329873F1 3559869 3559869 3559869	3332933251 3332933261 3332933YWV pt	3555219	3555209 pt	3332950431	3559625 3559627	3559625 3559627	33329873F1	3559869	3559869
3332933YWV pt 3699200 pt 3699200 pt 3332950441 pt 3559630 pt 3559629 33329873G1 3559874 3559843 3559843	3332933YWV pt			3332950441 pt	3559630 pt 3559630 pt	3559631	33329874A6	3559843	3559843
3332935.0	3332935 3332935101	3555305	3555300 pt	3332950451	3559655	3559633 pt	33329875R1 pt	3559899 pt 3559899 pt	3559851
3332935151 3555309	3332935151 3332935YWV				3559659		3332987YWV pt	3559800	3559800
3332937	3332937				3559636 pt				
3332937111 3555666	3332937111 3332937121	3555666	3555666	3332950471	3559639 3559641	3559639	333298W pt 333298WYWW pt	3559000 pt	
3332937131 3555671	3332937131 3332937141	3555671 3555673	3555671 3555673	3332950581 pt 3332950581 pt	3559646 pt 3559646 pt	3559645 3559647	333298WYWW pt 333298WYWY pt	3639000 pt 3559002 pt	3639000 pt 3559002 pt
3332937151 3555679	3332937151 3332937YWV	3555679 3555600		3332950586 pt	3559648 pt 3559648 pt	3559649		-	
3332939 pt	3332939 pt	35558	35558	3332950596					

G-2 APPENDIX G

1997 published	1997 collected	1992 published	1997 published	1997 collected	1992 published	1997 published	1997 collected	1992 published
3333112 3333112155	35812 3581255	35812 3581251 pt	3333191	35891 3589111	35891 3589111	3334120344 pt 3334120463	3564344 pt 3564413	3564339 3564413
3333112159	3581259	3581251 pt	3333191116	3589113	3589113	3334120465	3564415	3564415
3333112269 3333112YWV	3581269 3581200	3581269 3581200	3333191121	3589130 3589131	3589130 3589131	3334120573 3334120575	3564433 3564435	3564433 3564435
333311W	35810	35810	3333191241	3589161 3589163	3589161 3589163	3334120688 pt 3334120688 pt	3564438 pt 3564438 pt	3564437 3564439
333311WYWW 333311WYWY	3581000 3581002	3581000 3581002	3333191261	3589167	3589167	3334120YWW pt	3564000 pt	3564000 pt
3333120	35820	35820	3333191271 3333191281	3589170 3589181	3589170 3589181	3334120YWW pt 3334120YWW pt	3564300 3564400	3564300 3564400
3333120101 pt 3333120101 pt	3582013 pt 3582013 pt	3582011 3582012	3333191391 3333191YWV	3589185 3589100	3589185 3589100	3334120YWY	3564002 pt	3564002 pt
3333120211	3582017	3582017	3333193	35893	35893	3334141	34333 3433321	34333 3433321
3333120231 3333120241	3582021 3582025	3582018 pt 3582018 pt	3333193101	3589301 3589302	3589301 3589302	3334141106 3334141111	3433335	3433335
3333120351	3582027 3582028	3582027 3582029 pt	3333193221	3589307	3589307	3334141116	3433377	3433365 3433377
3333120366 3333120471	3582030 3582031	3582029 pt 3582031	3333193YWV	3589300	3589300	3334141YWV	3433300	3433300
3333120491	3582091	3582091	3333195	35597 3559701	35597 3559701	3334143 3334143101	34334 3433411	34334 3433410 pt
3333120577 3333120581	3582041	3582039 pt 3582039 pt	3333195106	3559702 3559703		3334143106	3433413	3433410 pt
3333120586	3582045 3582049	3582039 pt	3333195116 3333195121	3559704 3559705	3559704	3334143111	3433417	3433410 pt 3433410 pt
3333120YWW 3333120YWY	3582000 3582002	3582000 3582002	3333195126	3559709	3559709	3334143121 3334143126	3433419	3433410 pt 3433410 pt
3333131	35792	35792	3333195231 3333195YWV	3559711 3559700	3559711 3559700	3334143131	3433422	3433422
3333131000	3579200	3579200	3333197	36991	36991	3334143136 3334143141	3433440	3433430 3433440
3333134	35784 pt 3578410	35784 pt 3578400 pt	3333197000	3699100	3699100	3334143146 3334143151	3433474	3433462 3433474
3333137	35793	35793	3333199 pt	35892	35892	3334143YWV	3433400	3433400
3333137000	3579300		3333199 pt 3333199101	35994 pt 3589201	35994 pt 3589201	3334145	34335	34335
333313A 333313A000	35795 3579500	35795 3579500	3333199106	3589202	3589202	3334145101 3334145111 3334145YWV	3433512 3433520	3433512 3433520
			3333199111 3333199116	3589222 3589226	3589222 3589226	3334145YWV	3433500	3433500
333313D 333313D000		3579900 pt	3333199146 3333199151	3589273 3589275	3589273 3589275	3334147 3334147101	34338 3433820	34338 3433820
333313G	35789 pt	35789 pt	3333199161 3333199166	3589285 3589287	3589281 pt 3589281 pt	3334147106	3433830	3433830
333313G000 pt 333313G000 pt	3578910 3578900 pt	3578900 pt 3578900 pt	3333199171	3589288	3589281 pt	3334147111	3433838	3433832 3433838
333313J	3579A pt	3579A pt	3333199174	3589289	3589281 pt	3334147121	3433854 3433888	3433854 3433888
333313J000	3579A10	3579A00 pt	3333199178	3589282 3589283	3589282 3589283	3334147YWV	3433800	3433800
333313W pt	35780 pt	35780 pt	3333199186	3589284 3589286	3589284 3589286	3334149 pt	34339	34339
333313W pt 333313WYWW pt	35790 pt 3578000 pt	35790 pt 3578000 pt	3333199194 3333199196	3589291 3589295	3589296 pt 3589296 pt	3334149 pt	36345 pt	36345 pt
333313WYWW pt	3579000 pt	3579000 pt	3333199221	3589227	3589227	3334149 pt	36349 pt	36349 pt
333313WYWY pt 333313WYWY pt	3578002 pt 3579002 pt	3578002 pt 3579002 pt	3333199236 3333199256	3589245 3589276	3589245 3589276	3334149101 pt 3334149101 pt		3433906 3433908
3333141 pt	36992 pt	36992 pt	3333199299	3589297	3589297	3334149101 pt	3433901 pt	3433911
3333141 pt	38271	38271	3333199301	3599431 3589242	3599431 3589242	3334149101 pt 3334149101 pt	3433901 pt	3433913 3433915
3333141000 pt 3333141000 pt	3699221 3827100	3699200 pt 3827100	3333199331	3589243 3589246	3589243 3589246	3334149106		3433985 3433916
3333143	38274	38274	3333199YWV pt	3589200	3589200	3334149116	3433918 3433919	3433918 3433919
3333143110 3333143230	3827410 3827420	3827410 3827420	3333199YWV pt	3599400 pt	3599400 pt	3334149126	3433960	3433960
3333143230	3827400	3827400	333319W pt	35590 pt	35590 pt	3334149131	3433971	3433971
333314W pt	36990 pt	36990 pt	333319W pt	35890	35890	3334149136 3334149140	3433975	3433975 3634500 pt
333314W pt	38270	38270	333319W pt	35990 pt	35990 pt	3334149150	3634930	3634920 pt
333314WYWW pt	3827000	3699000 pt 3827000	333319W pt	36990 pt	36990 pt	3334149151 pt 3334149151 pt	3433989 pt	3433945 3433950
333314WYWY pt 333314WYWY pt	3699002 pt	3699002 pt 3827002	333319WYWW pt	3559000 pt 3589000	3559000 pt 3589000	3334149151 pt 3334149151 pt	3433989 pt 3433989 pt	3433961 3433999
3333151 pt		36992 pt	333319WYWW pt 333319WYWW pt	3599000 pt 3699000 pt	3599000 pt 3699000 pt	3334149YWV pt 3334149YWV pt	3433900 3634500	3433900 3634500 pt
3333151 pt	38611	38611	333319WYWY pt	3559002 pt	3559002 pt	3334149YWV pt	3634900 pt	3634900 pt
3333151101 pt	3861131 pt	3861111	333319WYWY pt 333319WYWY pt	3589002 3599002 pt	3589002 3599002 pt	333414W pt	34330	34330
3333151101 pt 3333151101 pt	3861131 pt 3861131 pt	3861121 3861132	333319WYWY pt	3699002 pt	3699002 pt	333414W pt	36340 pt	36340 pt
3333151206 3333151311	3861167 3861173	3861167 3861173	3334111	35646 3564611	35646 3564611	333414WYWW pt 333414WYWW pt	3433000 3634000 pt	3433000 3634000 pt
3333151416 3333151521 pt	3861181 3699251	3861181 3699200 pt	3334111165	3564621	3564621	333414WYWY pt	3433002	3433002
3333151521 pt	3861197	3861197	3334111YWV	3564600	3564600	333414WYWY pt	·	3634002 pt
3333151YWV pt 3333151YWV pt	3699200 pt 3861100	3699200 pt 3861100	3334113 3334113103	35645 3564543	35645 3564543	3334151 pt	34432 pt	34432 pt
3333153	38612	38612	3334113207	3564531 3564541	3564531 3564541	3334151 pt 3334151000 pt	35851 3443297	35851 pt 3443298 pt
3333153100		3861200	3334113231	3564546 3564547	3564546 3564547	3334151000 pt	3585100	3585100 pt
3333155 3333155101	38614 3861406	38614 3861406	3334113YWV	3564500	3564500	3334153	35853 3585312	35853 3585312
3333155106 3333155111	3861403 3861404	3861403 3861404	333411W	35640 pt	35640 pt	3334153106	3585315	3585315
3333155116	3861405 3861421	3861405 3861421	333411WYWW 333411WYWY	3564000 pt 3564002 pt	3564000 pt 3564002 pt	3334153111 3334153116	3585322	3585318 3585322
3333155221 3333155YWV	3861421	3861421	3334120 pt			3334153121	3585323 3585328	3585323 3585328
3333157	38613	38613	3334120 pt		35643	3334153131 3334153136	3585332 3585335	3585332 3585335
3333157101 pt 3333157101 pt	3861332 pt 3861332 pt	3861311 3861321				3334153141	3585337	3585337
3333157206 3333157311	3861352 3861397	3861352 3861397	3334120 pt 3334120101	3564441	35644 3564441	3334153146 3334153151	3585343 3585352	3585343 3585352
3333157YWV	3861300	3861300	3334120104	3564443 3564445	3564443 3564445	3334153156	3585357 3585398	3585357 3585398
333315W pt	36990 pt	36990 pt	3334120217 3334120219	3564317 3564319	3564317 3564319	3334153YWV	3585300	3585300
333315W pt	38610 pt	38610 pt	3334120221	3564321	3564321	3334155	35855	35855
333315WYWW pt 333315WYWW pt	3699000 pt 3861000 pt	3699000 pt 3861000 pt	3334120324	3564324	3564324 3564327	3334155000		3585500
333315WYWY pt 333315WYWY pt	3699002 pt 3861002 pt	3699002 pt 3861002 pt	3334120329 3334120344 pt	3564329 3564344 pt	3564329 3564331	3334156 3334156000	35856 3585600	35856 3585600
					-			

1997 published	1997 collected	1992 published	1997 published	1997 collected	1992 published	1997 published	1997 collected	1992 published
3334159 3334159101 3334159111 3334159121 3334159131	3585901 3585902 3585903 3585911	3585906 pt	333512W pt 333512WYWW pt 333512WYWW pt 333512WYWY pt 333512WYWY pt	3699000 pt 3541002	3541000 3699000 pt 3541002	3335153146 3335153152 3335153154 3335153156 3335153156	3545446 3545447 3545457 3545451 3545458	3545459 pt 3545451
3334159141 3334159YWV 333415A	3585915 3585900	3585906 pt 3585900	3335131 3335131000	35421 3542100	35421 3542100	3335153176 3335153YWV	3545498 3545400	3545498 3545400
333415A000 333415C	3585C	3585C	3335133 3335133000 3335135	35422 3542200 35423	35422 3542200 35423	333515W 333515WYWW 333515WYWY	35450 pt 3545000 pt 3545002 pt	35450 pt 3545000 pt 3545002 pt
333415C000 333415D 333415D101	3585D	3585D	3335135000 3335137 3335137 101		3542300 35424	3335161 3335161101 pt 3335161101 pt	35471 3547115 pt 3547115 pt	3547113
333415D111 333415D121 333415D131 333415D131	3585D20 3585D30 3585D40 3585D50	3585D20 3585D30 3585D40 3585D50	3335137111 3335137116 3335137YWV	3542410 3542475 3542400	3542411 pt 3542475 3542400	3335161101 pt 3335161191 3335161YWV	3547115 pt 3547118 3547100	3547118 3547100
333415D151 333415D161 333415D171 333415D181	3585D73 3585D75	3585D70 pt 3585D70 pt 3585D80	333513W 333513WYWW 333513WYWY 3335140 pt	35420 3542000 3542002 35440 pt	35420 3542000 3542002 35440 pt	3335163 3335163101 3335163106 3335163191 pt 3335163191 pt	35472 3547221 3547223 3547226 pt 3547226 pt	3547223 3547227
333415E 333415E000	3585E 3585E00	35852 pt 3585200 pt	3335140 pt 3335140101 3335140103	35441 3544113 3544115	3544113	3335163YWV	3547200 35473	3547200 35473
333415F 333415F000			3335140106 3335140109 3335140112	3544114 3544116 3544118	3544117 pt 3544118	3335165101 3335165106 pt 3335165106 pt 3335165106 pt	3547335 3547345 pt 3547345 pt 3547345 pt	3547341 3547343
	3585G 3585G00 34430 pt	3585200 pt	3335140215           3335140318           3335140321           3335140326           3335140326	3544119 3544121 3544122 3544124 3544126	3544121 3544122	3335165111 3335165116 3335165121 3335165YWV	3547349 3547351 3547352 3547300	3547349 3547351 3547352
333415W pt 333415WYWW pt 333415WYWW pt 333415WYWY pt	3443000 pt 3585000 pt	35850 pt 3443000 pt 3585000 pt 3443002 pt	3335140423 3335140429 3335140535	3544126 3544123 3544125 3544127	3544123 3544125 3544127	33351691WV 333516W 333516WYWW 333516WYWY	35470 3547000	35470 3547000
333415WYWY pt 3335110 pt	3585002 pt 35440 pt	3585002 pt 35440 pt	3335140538 3335140541 3335140543 3335140543	3544128 3544133 3544135 3544142	3544128 3544133 3544135 3544142	3335181 3335181 3335181101 3335181206	35492 3549211 3549215	35492 3549211 3549215
3335110 pt 3335110101 3335110106 3335110211	3544203 3544205 3544207	35442 3544203 3544205 3544207 2544207	3335140549 3335140652 3335140655 3335140658	3544143 3544144 3544145 3544146	3544143 3544144 3544145 3544146	3335181311 3335181416 3335181521 3335181YWV	3549217	3549217 3549213 3549218
3335110216 3335110221 3335110226 3335110231 3335110236	3544209 3544214 3544221 3544225 3544241	3544209 3544214 3544221 3544225 3544225	3335140661 3335140663 3335140666 3335140666 3335140769	3544147 3544148 3544173 3544173 3544175	3544147 3544148 3544173	3335183 3335183101 3335183106	3549502	3549501 3549502
3335110241 3335110246 3335110251	3544242 3544245	3544241 3544242 3544245 3544247	3335140772 3335140775 3335140878 3335140981	3544177 3544178 3544183 3544189	3544177 3544178 3544183	3335183111 3335183116 3335183121 3335183126	3549543 3549545 3549592	3549543 3549545 3549592
3335110261 3335110266 3335110276 3335110276	3544255 3544259 3544264	3544255 3544259 3544263 pt	3335140YWW pt 3335140YWW pt 3335140YWY	3544000 pt 3544100 3544002 pt	3544000 pt 3544100 3544002 pt	3335183131 3335183YWV 333518W 333518W	3549595 3549500 35490 354900	3549500 35490
3335110286 3335110356 3335110YWW pt 3335110YWW pt	3544267 3544251 3544000 pt 3544200	3544267 3544251 3544000 pt 3544200	3335151 3335151102 3335151102 3335151124 3335151126 3335151128	35451 3545114 3545132 3545136 3545142	3545114 3545132 3545136	333518WYWY 3336110 3336110	3549002 35110	3549002 35110
3335110YWY 3335121 pt	35413	35413	3335151132 3335151148 3335151152	3545147 3545167 3545172	3545147 3545167 3545172	3336110211 3336110706 3336110741	3511011 3511009 3511071	3511011 3511009 3511071
3335121 pt 3335121100 pt 3335121100 pt 3335121100 pt	3541300 3699233	3541300 3699200 pt	3335151188 3335151204 3335151206	3545198 3545115 3545121	3545115 3545121	3336110761 3336110766 3336110776	3511072 3511081 3511083 3511095	3511081 3511083 3511095
	35414 3541400		3335151308 3335151312 3335151314 3335151316	3545122 3545124 3545125 3545126	3545124 3545125 3545126	3336110836 3336110856 3336110871 3336110951	3511079 3511091 3511075	3511079 3511091 3511075
3335123000 3335124	35415 3541500 35416	3541500 35416	3335151318 3335151322 3335151434 3335151436	3545127 3545129 3545151 3545152	3545129 3545151	3336110YWW 3336110YWY 3336123	3511000 3511002 35663	3511002
3335125	3541600 35418 3541811	35418	3335151438 3335151442 3335151444	3545153 3545154 3545162	3545153	3336123111 pt 3336123111 pt 3336123113 pt 3336123113 pt	3566311 pt 3566311 pt 3566313 pt	3566041 pt 3566042 pt 3566041 pt
3335125106 3335125111 3335125116	3541831 3541851 3541871	3541831 3541851 3541871	3335151446 3335151554 3335151558 3335151558	3545164 3545173 3545173 3545175 3545175	3545164 3545173 3545175 3545179	3336123116 pt 3336123116 pt 3336123118 pt 3336123118 pt	3566316 pt 3566316 pt 3566318 pt	3566041 pt 3566043 3566041 pt
3335125199 3335125YWV 3335126 3335126101 3335126106		3541800 35419 3541911	3335151564 3335151568 3335151572 3335151574	3545181 3545186 3545187 3545189	3545181 3545186 3545187 3545187 3545189	3336123125 pt 3336123125 pt 3336123125 pt	3566325 pt	3566041 pt 3566045
3335126YWV	3541941 3541900 3541A 3541A00	3541900 3541A	3335151576 3335151578 3335151582 3335151584	3545192 3545194 3545195 3545196	3545194 3545195	3336123135 pt 3336123146 pt 3336123146 pt 3336123146 pt 3336123153	3566335 pt 3566346 pt	3566046 pt 3566041 pt 3566046 pt
	3541B 3541B00		3335151586 3335151592 3335151656	3545197 3545197 3545199 3545174 3545174	3545197 3545199 3545174	3336123155 3336123157 3336123YWV	3566355	3566041 pt 3566041 pt
3335129000	3541C 3541C00	3541C00	3335151766 3335151YWV 3335153	3545100 35454	3545100 35454	3336127 3336127114 3336127116	3566716	3566024 pt 3566024 pt
333512A pt	3541D 36992 pt 3541D00	36992 pt	3335153101 3335153106 3335153111 3335153116	3545412	3545412 3545414 3545417	3336127118 pt 3336127118 pt 3336127121 pt 3336127121 pt	3566718 pt 3566718 pt 3566721 pt	3566017 pt 3566018 pt 3566017 pt
333512A100 pt 333512AYWV	3699200 pt	3699200 pt 3699200 pt	3335153116 3335153121 3335153126 3335153131 3335153136	3545437 3545437 3545438 3545441 3545443	3545437 3545438 3545441	3336127121 pt 3336127121 pt 3336127225 3336127226 3336127229	3566721 pt 3566725 3566726	3566024 pt 3566034 3566037
555512vv pl		55410			0040440	1 3330121328	3300123	550005 i pi

G-4 APPENDIX G

1997 published	1997 collected	1992 published	1997 published	1997 collected	1992 published	1997 published	1997 collected	1992 published
3336127437 3336127438 3336127441 3336127443 3336127445 3336127445 3336127446 333612744R 33361274553 pt 3336127553 pt	3566737 3566738 3566741 3566743 3566745 3566745 3566747 3566748 3566748 3566749 3566753 pt 3566753 pt	3566051 pt 3566051 pt 3566051 pt 3566051 pt 3566051 pt 3566051 pt 3566051 pt 3566051 pt 3566051 pt 3566025 pt 3566029 pt	333618W pt 333618WYYWW pt 333618WYYWW pt 333618WYWW pt 333618WYWY pt 3339111 pt 3339111 pt	3519002 pt         3699002 pt         35612         35613	35613	3339227 pt 3339227101 3339227206 3339227221 3339227226 3339227231 3339227231 3339227236 3339227251	3535505 3535509	35355 3535505 3535509 3535511 3535519 3535523 3535527 3535527 3535531 pt 3535531 pt 3523200 pt
3336127555 3336127559 pt 3336127559 pt 3336127666 pt 3336127666 pt 3336127771 pt 3336127771 pt 3336127773 pt 3336127776 pt 3336127776 pt	3566759 pt 3566766 pt 3566766 pt 3566771 pt 3566771 pt 3566773 pt 3566773 pt 3566773 pt 3566776 pt	3566029 pt 3566021 3566051 pt 3566028 pt 3566051 pt 3566027 pt 3566051 pt	3339111 pt 3339111 pt 3339111 pt 333911110 333911120 333911130 333911140 333911140 333911140	35618         35617         35614         3561300         3561400         3561400         3561400         3561400         3561400         3561400         3561400         3561400         3561400         3561800	35615 pt 35615 pt 35615 pt 3561300 35615300 3561510 3561510 3561510 3561520 3561520	3339227261 3339227276 3339227281 3339227316 3339227466 33392274671 3339227YWV pt 3339227YWV pt 3339229. 3339229. 3339229101	3535515 3535543 3535545 3523200 pt 3535500 353556 353566 3535611	3535545
33361277879 3336127879 3336127983 3336127899 pt 3336127B99 pt 3336127B99 pt 3336127YWV 333612WVWV 333612WYWW 333612WYWW	3566779 3566783 3566788 3566799 pt 3566799 pt 3566799 pt	3566051 pt 3566051 pt 3566047 3566049 3566051 pt 35660049 35660051 pt 3566000 pt 3566000 pt 35660002	3339115 pt 3339115 pt 3339115105 3339115133 333911513W pt 3339115YWV pt 333911W pt 333911W pt	35619         37431 pt         3743107         3561900 pt         3561900 pt         3743100 pt         35610	35616 37431 pt 3743103 pt 3561600 pt 3561600 pt	3339229211 33392292W pt 333922W pt 333922WYWW pt 333922WYWW pt 333922WYWW pt 333922WYWY pt 333922WYWY pt 333922WYWY pt	3535637         3535600         35230 pt         35350         3523000 pt         353500         3523002 pt         3523002 pt         3535002	3535637 3535600 35230 pt 35350 352300 pt 3535000 3523002 pt
3336131 3336131112 3336131151 33361311YWV 3336133 3336133111 3336133213 3336133219	3568151 3568100 35683 3568311 3568311 3568313 3568319	35683 3568311 3568313 3568319	333911WYWW pt 333911WYWW pt 333911WYWY pt 333911WYWY pt 3339121 pt 3339121 pt 3339121 pt	3561000 3743000 pt 3561002 3743002 pt 3563K 35633	3561000 3743000 pt 3561002 3743002 pt	339231101 3399231101 339231106 339231116 339231116 339231131 339231131 339231146 3339231146 3339231146	3536301 3536302 3536303 3536313	3536301 3536301 3536302 3536303 3536313 3536315 3536316 3536336 3536332 3536334 3536339
3336133327 3336133329 3336133444 3336133444 3336133545 3336133648 3336133649 3336133766 3336133763 3336133767	3568323 3568333 3568335 3568361 3568365	3568320 3568323 3568333 3568335 3568361 3568365 3568325 3568325 3568324 3568351	3339121110 333912120 3339121YWV 3339125 3339125 3339127 3339127	356300 3563400 3563K00 35636 356360 35637 35637 356371	3563130 3563120 3563100 35632 3563200 35635 35635 3563531	3339231261 33392317WV 3339233 3339233101 3339233101 3339233116 3339233116 3339233116 3339233131 3339233136	3536401 3536403 3536404 3536405 3536407	3536345 3536300 3536401 3536401 3536403 3536403 3536404 3536405 3536406 pt 3536406 pt
3336133788 pt 3336133788 pt 3336133792 pt 3336133792 pt 3336133792 pt 3336133792 pt 3336133798 pt 3336133798 pt 3336133798 vt	3568377 pt 3568383 pt 3568383 pt 3568383 pt 3568383 pt 3568383 pt 3568383 pt 3568395 pt 3568395 pt 3568300	3668394 3568396 3568326 3668328 3568330 3568380 3568399 3568399 3568399 3568300	3339127151 3339127199 3339127YWV 333912W 333912WYWW 333912WYWW 333912WYWY 3339120 3339130 3339130	3563799 3563700 356300 3563000 3563002 35860 35860		3339233141 3339233156 3339233206 3339233206 3339233346 3339233361 33392337wWV 3339237 pt	3536415         3536452         3536402         3536402         3536454         3536450         3536400         3531W pt	3536417 pt 3536452 3536452 3536402 3536417 pt 3536454 3536400 3531M pt
333613W 333613WYWW 333613WYWY 3336181 3336181000 3336183 3336183 3336185	3568002         35191         3519100         3519300	35191 3519100 35193	3339130114 3339130223 3339130256 pt 3339130355 pt 3339130355 pt 3339130355 pt 3339130391 3339130YWW 3339130YWW	3586015 3586055 pt 3586055 pt 3586055 pt 3586055 pt 3586091 3586000 3586000	3586051 3586089 3586091 3586000 3586002	3339237 pt 3339237 pt 3339237 110 3339237230 3339237253 3339237355 3339237355 3339237365 3339237493 3339237493 3339237493	3531W pt 3531W30 3531W42 3531W55 3531W55 3531W55 3531W61 3531W70 3531W80	3531P pt 3531P90 3531N00 pt 3531P55 3531P55 3531P61 3531M08 pt 3531M01 pt
3336185000 3336187 pt 3336187 pt 3336187100 pt 3336187100 pt 3336189	3519400 35195 3699A pt 3519500 3699A07	3519400 35195 3699A pt 3519500 3699A07 35196	3339211 3339211101 3339211106 3339211211 3339211316 3339211326 3339211326 3339211326 3339211336 3339211336	35341 3534105 3534107 3534112 3534113 3534113 3534113 3534131 3534151 3534196 3534100	35341 3534105 3534107 3534112 3534113 3534115 3534115 3534151 3534151 3534196 3534100	3339237YWV pt 3339237YWV pt 3339237YWV pt 333923W pt 333923W pt 333923WYWW pt 333923WYWW pt 333923WYWW pt 333923WYWY pt	3531W00 pt 35310 pt 35360 353100 pt 3536000	3531P00 pt 35310 pt 35360 3531000 pt 3536000 3531002 pt
333618A. 333618A101 333618A106 333618AYWV 333618F. 333618F101 333618F106 333618F101	3519721 3519751 3519700 35199 pt 3519901 3519908 3519908 3519908	3519721 3519751 3519700 35199 pt 3519901 3519908 3519908 3519909	3339213 3339213101 3339213106 3339213YWV 333921WYWV 333921WYWW 333921WYWY	35342 3534201 3534202 3534200 35340 353400	35342 3534200 pt 3534200 pt 3534200 pt 35340 3534000 3534000	3339241 3339241101 3339241104 3339241208 3339241208 3339241212 3339241216 3339241321	35373 pt 3537301 3537302 3537303 3537304 3537306 3537307	3536002 35373 pt 3537301 3537302 3537302 3537303 3537304 3537306 3537307 3537308
333618F116 333618F121 333618F126 333618F136 333618F136 333618F136 333618F146 333618F151 333618F151 333618F156	3519924 3519925 3519933 3519927 3519927 3519931 3519932	3519927 3519931 3519932 3519935	3339221 3339221106 3339221106 3339221106 3339221416 3339221421 3339221421 3339221421 3339221423	3535313 3535314 3535317 3535317 3535301 3535302 3535303 3535304	35353 3535309 3535313 3535314 3535317 3535321 pt 3535321 pt 3535323 pt 3535323 pt 3535323 pt	3339241424 3339241528 3339241532 3339241532 3339241536 3339241541 3339241548 3339241548 3339241548 3339241556 3339241556	3537315 3537316 3537317 3537318 3537319	3537309 3537311 3537312 3537315 3537316 3537316 3537317 3537318 3537319 3537319 3537321
333618F166 333618F171 333618F176 333618F186 333618F196 333618F199	3519983 3519991 3519999 3519975 3519900 pt	3519963 3519967 3519971 3519983 3519991 3519999 3519999 3519975 3519900 pt	3339221441 3339221446 3339221451 3339221456 3339221451 3339221461 3339221461 3339221461 3339223 3339223 3339223 3339223 3339223 100	3535400	3636335 3535337 3535341 3535347 pt 3535347 pt 3535347 pt 3535300 35354 3535400 35232 pt	3339241664 3339241668 3339241672 3339241676 3339241681 3339241684 3339241684 3339241688 3339241688 3339241692 3339241696 333924199V	3537326 3537328 3537329 3537329 3537332 3537335 3537336 3537336 3537337	3537325 3537326 3537328 3537329 3537332 3537335 3537339 pt 3537339 pt 3537339 pt 3537330 pt 3537300 pt
···· .								· · · · · · · ·

1997 published	1997 collected	1992 published	1997 published	1997 collected	1992 published	1997 published	1997 collected	1992 published
3339243 3339243101	35374 3537412	35374 3537411	3339927 3339927101	35483 3548305	35483 3548305	3339940YWW pt 3339940YWW pt	3567000 pt 3567000 pt	3567100 3567400
3339243106 3339243111 3339243YWV	3537413	3537418 pt 3537418 pt	3339927106 3339927111 3339927116	3548306 3548307 3548308	3548308	3339940YWW pt 3339940YWW pt 3339940YWY	3567000 pt	3567500 3567600 3567002
333924W 333924WYWW	35370 pt 3537000 pt	3537000 pt	3339927121 3339927126 3339927131	3548309 3548311 3548319	3548311 3548319	3339951 3339951100	35934 3593400	35934 3593400
333924WYWY 3339911	35462	35462	3339927YWV 3339929 3339929101	3548300 35484 3548401	35484	3339953 3339953100 3339955	35935 3593500 35939	35935 3593500 35939
3339911101 3339911106 3339911111 3339911111	3546237 3546238 3546241 3546242	3546237 3546238 3546241 3546242	3339929106         3339929111         3339929116	3548402 3548403 3548404	3548403 3548404	3339955100 3339957 pt	3593900	3593900 35932
3339911121 3339911126 3339911131	3546244 3546245 3546248	3546244 3546245 3546248	3339929121 3339929126 3339929YWV	3548405 3548409 3548400	3548409	3339957 pt 3339957100 pt 3339957100 pt	37284 pt 3593200 3728400 pt	37284 pt 3593200 3728400 pt
3339911136 3339911141 3339911146 pt	3546249 3546251 3546262 pt	3546249 3546251 3546261	333992A pt 333992A pt 333992A101	35485 36992 pt	35485 36992 pt	3339957100 pt 3339957100 pt 3339957100 pt	3728409 pt 3728409 pt 3728409 pt	3728473 pt 3728475 pt 3728483 pt
3339911146 pt 3339911151 pt	3546262 pt 3546273 pt	3546279 pt 3546271	333992A101 333992A111 333992A116 333992A121	3548501 3548513 3699291 3548515	3548505 3699200 pt	3339957100 pt 333995W pt	3728409 pt 35930	3728485 pt 35930
3339911151 pt 3339911156 3339911YWV	3546273 pt 3546278	3546272 3546279 pt	333992A126 333992A131 333992A141	3548516 3548514 3548507	3548504 pt 3548503 3548507	333995W pt 333995WYWW pt 333995WYWW pt	37280 pt 3593000 3728000 pt	37280 pt 3593000 3728000 pt
3339913 3339913101		3546301	333992A146 333992AYWV pt 333992AYWV pt	3548509 3548500 3699200 pt	3548500	333995WYWY pt 333995WYWY pt 3339961	3593002 3728002 pt 35943	3593002 3728002 pt 35943
3339913106 3339913111 3339913116	3546311 3546317 3546318	3546319 pt 3546319 pt	333992W pt 333992W pt	35480 pt 36990 pt	36990 pt	3339961100 3339963 3339963100	3594300 35944	3594300 35944 3594400
3339913YWV 3339917 3339917101	3546300 35464 3546401	3546300 35464 3546401	333992WYWW pt 333992WYWW pt 333992WYWY pt 333992WYWY pt	3548000 pt 3699000 pt 3548002 pt 3699002 pt		3339965 3339965	3594400 35945 3594500	3594400 35945 3594500
3339917106 3339917111 pt 3339917111 pt	3546405 3546406 pt 3546406 pt	3546405 3546409	3339931	35651 3565123	35651 3565123	3339967 pt 3339967 pt	35946 37284 pt	35946 37284 pt
3339917116 3339917121 3339917126	3546418 3546420 3546421	3546419 pt 3546419 pt 3546421	3339931207 3339931311 3339931315 3339931315	3565125 3565103 3565131 3565104		3339967100 pt 3339967100 pt 3339967100 pt 3339967100 pt	3594600 3728400 pt 3728405 pt 3728405 pt	3594600 3728400 pt 3728473 pt 3728475 pt
3339917YWV	3546400 35465	3546400 35465	3339931321 3339931426 3339931433	3565105 3565152 3565122	3565105 3565152 3565122	3339969 pt	35949	35949
3339919101 pt 3339919101 pt 3339919101 pt 3339919101 pt	3546510 pt 3546510 pt 3546510 pt 3546510 pt	3546505 3546507	3339931437 3339931544 3339931545	3565151 3565133 3565135		3339969 pt 3339969100 pt 3339969100 pt 3339969100 pt	37284 pt 3594900 3728400 pt 3728407 pt	37284 pt 3594900 3728400 pt 3728473 pt
3339919104 3339919108 3339919112	3546511 3546512 3546513	3546511 3546512 3546513	3339931651 3339931755 3339931859	3565145 3565137 3565141	3565145 3565137	3339969100 pt 333996W pt	3728407 pt 35940	
3339919116 3339919121 3339919124	3546514 3546515 3546516	3546515	3339931963 3339931A67 3339931A71	3565143 3565118 3565149	3565143 3565118 3565149	333996W pt 333996WYWW pt 333996WYWW pt	37280 pt 3594000 3728000 pt	37280 pt 3594000 3728000 pt
3339919128 3339919132	3546517 3546521	3546517 3546521	3339931B75 3339931B79 3339931B83 3339931C99	3565127 3565128 3565153 3565159	3565128 3565153	333996WYWY pt 333996WYWY pt	3594002 3728002 pt	3594002 3728002 pt
3339919136 3339919141 3339919144	3546522 3546523 3546524	3546522 3546523 3546524	3339931YWV	3565100 35652	3565100 35652	3339971 3339971101 3339971103	35961 3596101 3596103	35961 3596101 3596103
3339919148 3339919152 3339919156 3339919161	3546527 3546528	3546525 3546527 3546528 3546529	3339935100 333993W 333993WYWW	3565200 35650 3565000	3565200 35650 3565000	3339971205 3339971207 3339971209 pt 3339971209 pt	3596105 3596107 3596110 pt 3596110 pt	3596105 3596107 3596109 3596111
3339919164	3546531	3546531	333993WYWY 3339940 pt	3565002 35670 pt	3565002 35670	3339971211 3339971215 3339971313	3596113	3596113 3596117 3596115
3339919168 3339919172 3339919176 3339919181	3546533 3546536 3546537 3546538	3546533 3546536 3546537 3546538	3339940 pt 3339940 pt	35670 pt 35670 pt	35671 35674	3339971YWV 3339973 3339973101	3596100 35962 3596201	3596100 35962 3596201
3339919184 3339919188 3339919192	3546539 3546541 3546543	3546539 3546541 3546543	3339940 pt 3339940 pt 3339940103	35670 pt 35670 pt 3567003	35675 35676 3567602	3339973103 pt 3339973103 pt 3339973103 pt	3596209 pt 3596209 pt 3596209 pt 3596209 pt	3596201 3596203 3596205 3596207
3339919YWV	3546500 35460	3546500 35460	3339940106 pt 3339940106 pt 3339940106 pt	3567006 pt 3567006 pt 3567006 pt	3567601 pt 3567609 pt 3567615 pt	3339973105 3339973107 3339973109	3596212 3596214 3596221	3596212 3596214 3596221
333991WYWW 333991WYWY 3339921	3546000 3546002 35481 pt		3339940109 pt 3339940109 pt 3339940109 pt	3567009 pt 3567009 pt 3567009 pt	3567601 pt 3567609 pt 3567615 pt	3339973YWV 3339975 3339975101	3596200 35963 3596301	3596200 35963 3596301
3339921101 3339921106 3339921111	3548103 3548101 3548102	3548103 3548104 pt 3548104 pt	3339940214 3339940323 pt 3339940323 pt	3567014 3567040 pt 3567040 pt	3567621 3567401 3567402	3339975103 3339975105 3339975105 3339975107 3339975YWV	3596303 3596305 3596309	3596303 3596305 3596309
3339921126 3339921131 3339921136	3548107 3548108 3548109	3548107 3548108 3548109	3339940323 pt 3339940323 pt 3339940429 pt	3567040 pt 3567040 pt 3567042 pt	3567403 3567404 3567111 pt	3339975YWV 333997W 333997WYWW	3596300 35960 3596000	3596300 35960 3596000
3339921141 3339921146 3339921151 3339921156	3548111 3548112 3548114 3548115	3548114	3339940429 pt 3339940429 pt 3339940431 pt	3567042 pt 3567042 pt 3567044 pt	3567121 pt 3567129 pt 3567111 pt 3567121 pt	333997WYWY 3339991	3596002 35693	3596002 35693
3339921161 3339921YWV	3548118 3548100 pt	3548119 3548100 pt	3339940431 pt 3339940431 pt 3339940431 pt 3339940535	3567044 pt 3567044 pt 3567044 pt 3567047	3567121 pt 3567129 pt 3567143 pt 3567121 pt	3339991104 3339991108 pt 3339991108 pt	3569304 3569308 pt 3569308 pt	3569304 3569305 3569306 3569311
3339923 3339923101 3339923106	35482 3548203 3548204	3548203 3548204	3339940639 pt 3339940639 pt	3567050 pt 3567050 pt	3567129 pt 3567143 pt	3339991111 3339991212 3339991389 pt 3339991389 pt	3569311 3569312 3569389 pt 3569389 pt	3569311 3569312 3569300 pt 3569309
3339923111 3339923116 3339923121 3339923126	3548205 3548206 3548209 3548211	3548205 3548206 3548209 3548211	3339940653 pt 3339940653 pt 3339940653 pt 3339940759	3567053 pt 3567053 pt 3567053 pt 3567059	3567111 pt 3567129 pt 3567143 pt 3567512 pt	3339991YWV	3569300 35694	3569300 pt 35694
3339923131 3339923136 3339923141	3548212 3548213 3548214	3548212 3548213 3548214	3339940871 3339940875 pt 3339940875 pt	3567071 3567075 pt 3567075 pt	3567501 3567502 3567503	3339993000 3339994 3339994000	3569400 35695 3569500	3569400 35695 3569500
3339923146 3339923151 3339923YWV	3548217 3548218 3548200	3548217 3548218	3339940979 pt 3339940979 pt 3339940YWW pt	3567079 pt 3567079 pt 3567000 pt	3567511 3567512 pt 3567000	3339996 3339996	35696	35696
G-6 APPEN					Μ	ANUFACTUR		RY SERIES

#### G-6 APPENDIX G

1997 published	1997 collected	1992 published	1997 published	1997 collected	1992 published	1997 published	1997 collected	1992 published
3339998 3339998109 3339998218 3339998221	3569909 3569903	3569909 3569903	3339998870 pt 3339998870 pt 3339998870 pt 3339998880	3569945 pt 3569945 pt	3569943 3569944	3339999 3339999100 pt 3339999100 pt	3599400 pt	
	3569905	3569905	3339998983	3569908	3569913 pt	333999W pt	35690	35690
	3569946 3569950 3569901 3569911 3569923	3569947 pt 3569951 pt 3569901 3569911 3569923	3339998989 3339998991 3339998995 pt 3339998995 pt	3569927 3569931 3569948 pt 3569948 pt 3569952	3569927 3569931 3569925 3569947 pt 3569951 pt		3569000 3599000 pt 3599098 3569002	3569002

EC97M-3335B