Fluid Power Valve and Hose Fitting Manufacturing

1997

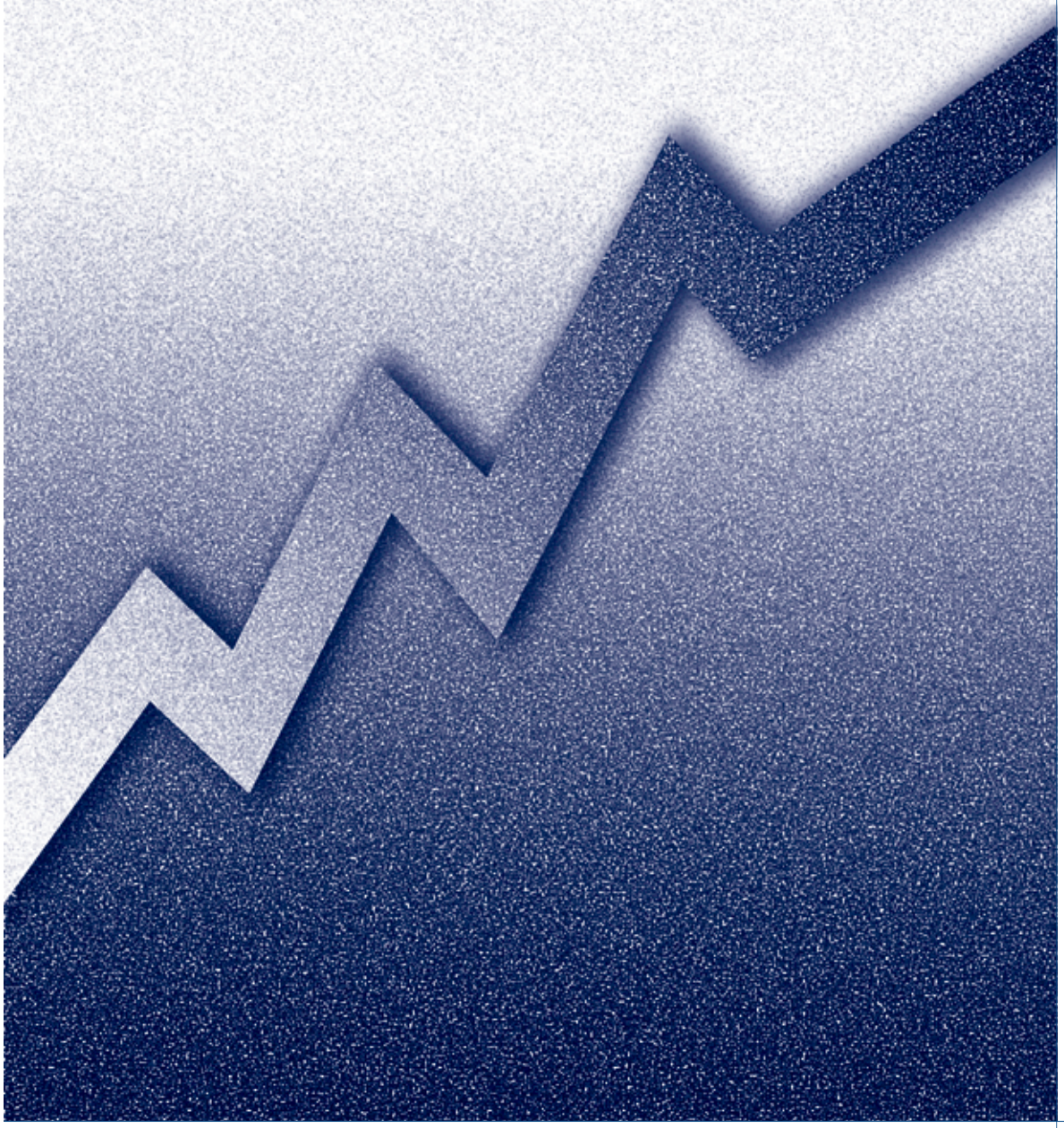
Issued December 1999

EC97M-3329B

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.

Fluid Power Valve and Hose Fitting Manufacturing 1997

Issued December 1999

EC97M-3329B

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

-- 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

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

SOURCES FOR MORE INFORMATION

More information about the scope, coverage, classification system, data items, and publications for each of the economic censuses and related surveys is published in the *Guide to the 1997 Economic Census and Related Statistics* at www.census.gov/econguide. 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, semi-independent municipalities, special economic urban areas (SEUAs), or other place equivalents.

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

COMPARABILITY OF THE 1992 AND 1997 CENSUSES

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

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

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

DISCLOSURE

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

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

AVAILABILITY OF MORE FREQUENT ECONOMIC DATA

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

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

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

Table 1. **Industry Statistics on NAICS Basis With Distribution Among 1987 SIC-Based Industries: 1997**

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

NAICS or SIC code	Industry	Companies[1]	All establishments[2]	All employees		Production workers			Value added by manufacture ($1,000)	Cost of materials ($1,000)	Value of shipments ($1,000)	Total capital expenditures ($1,000)
				Number	Payroll ($1,000)	Number	Hours (1,000)	Wages ($1,000)				
332912	**Fluid power valve & hose fitting mfg**	**358**	**423**	**36 977**	**1 320 367**	**25 445**	**53 385**	**745 095**	**3 943 860**	**2 649 920**	**6 590 429**	**237 176**
349200	Fluid power valves & hose fittings	N	423	36 977	1 320 367	25 445	53 385	745 095	3 943 860	2 649 920	6 590 429	237 176
372810	Aircraft parts & equipment, n.e.c. (pt)	N	–	–	–	–	–	–	–	–	–	–

[1]For the census, a company is defined as a business organization consisting of one establishment or more under common ownership or control.
[2]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]

Industry and geographic area	E[1]	All establishments		All employees		Production workers			Value added by manufacture ($1,000)	Cost of materials ($1,000)	Value of shipments ($1,000)	Total capital expenditures ($1,000)
		Total	With 20 employees or more	Number	Payroll ($1,000)	Number	Hours (1,000)	Wages ($1,000)				
332912, FLUID POWER VALVE & HOSE FITTING MFG												
United States	**–**	**423**	**213**	**36 977**	**1 320 367**	**25 445**	**53 385**	**745 095**	**3 943 860**	**2 649 920**	**6 590 429**	**237 176**
California	–	64	25	3 831	168 801	2 347	4 838	82 493	418 946	200 211	609 678	19 982
Florida	–	17	7	1 326	42 568	856	1 967	20 219	106 522	52 082	151 653	7 122
Illinois	–	24	12	1 186	38 833	839	1 844	23 451	129 335	113 045	239 194	5 465
Indiana	–	15	10	863	30 477	652	1 325	20 182	114 024	109 967	259 695	7 632
Kansas	3	10	4	225	5 311	183	341	3 552	15 032	10 054	25 244	641
Michigan	–	48	27	4 809	163 930	3 587	7 466	98 256	345 276	409 295	751 479	23 058
Minnesota	–	19	10	1 443	53 798	951	2 159	32 829	158 670	70 122	230 789	6 807
New Jersey	–	10	4	402	16 704	234	520	6 839	29 124	38 001	67 838	763
New York	1	16	6	593	19 297	390	846	12 268	44 845	18 102	64 029	3 205
North Carolina	–	9	5	743	21 914	538	1 078	12 665	48 442	55 375	107 967	5 614
Ohio	–	43	30	5 694	206 617	4 301	8 788	136 032	735 320	486 935	1 210 986	44 230
Pennsylvania	1	14	8	637	20 775	474	981	12 849	55 483	34 852	86 230	3 037
Texas	–	29	9	926	31 888	650	1 308	17 486	100 692	48 360	144 037	2 920
Wisconsin	–	12	7	2 148	75 097	1 587	3 135	46 076	211 710	142 702	355 426	21 613

* 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.

[1]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
332912, FLUID POWER VALVE & HOSE FITTING MFG	
Companies[1] ..... number..	358
All establishments ..... number..	423
Establishments with 1 to 19 employees ..... number..	210
Establishments with 20 to 99 employees ..... number..	106
Establishments with 100 employees or more ..... number..	107
All employees ..... number..	36 977
Total compensation[2] ..... $1,000..	1 733 735
Annual payroll ..... $1,000..	1 320 367
Total fringe benefits ..... $1,000..	413 368
Production workers, average for year ..... number..	25 445
Production workers on March 12 ..... number..	24 669
Production workers on May 12 ..... number..	25 262
Production workers on August 12 ..... number..	25 647
Production workers on November 12 ..... number..	26 202
Production-worker hours ..... 1,000..	53 385
Production-worker wages ..... $1,000..	745 095
Total cost of materials ..... $1,000..	2 649 920
Cost of materials, parts, containers, etc., consumed ..... $1,000..	2 184 326
Cost of resales ..... $1,000..	248 854
Cost of fuels ..... $1,000..	7 151
Cost of purchased electricity ..... $1,000..	44 695
Cost of contract work ..... $1,000..	164 894
Quantity of electricity purchased for heat and power ..... 1,000 kWh..	790 998
Quantity of electricity generated less sold for heat and power ... 1,000 kWh..	–
Total value of shipments ..... $1,000..	6 590 429
Primary products value of shipments ..... $1,000..	5 252 296
Secondary products value of shipments ..... $1,000..	954 455
Total miscellaneous receipts ..... $1,000..	383 678
Value of resales ..... $1,000..	328 423
Contract receipts ..... $1,000..	8 057
Other miscellaneous receipts ..... $1,000..	47 198
Primary products specialization ratio ..... percent..	84
Value of primary products shipments made in all industries ..... $1,000..	6 251 385
Value of primary products shipments made in this industry ..... $1,000..	5 252 296
Value of primary products shipments made in other industries ..... $1,000..	999 089
Coverage ratio ..... percent..	84

Item	Value
332912, FLUID POWER VALVE & HOSE FITTING MFG—Con.	
Value added ..... $1,000..	3 943 860
Total inventories, beginning of year ..... $1,000..	1 222 915
Finished goods inventories, beginning of year ..... $1,000..	544 693
Work-in-process inventories, beginning of year ..... $1,000..	321 775
Materials and supplies inventories, beginning of year ..... $1,000..	356 447
Total inventories, end of year ..... $1,000..	1 254 222
Finished goods inventories, end of year ..... $1,000..	539 527
Work-in-process inventories, end of year ..... $1,000..	330 292
Materials and supplies inventories, end of year ..... $1,000..	384 403
Gross book value of total assets at beginning of year ..... $1,000..	2 117 462
Total capital expenditures (new and used) ..... $1,000..	237 176
Capital expenditures for buildings and other structures (new and used) ..... $1,000..	34 178
Capital expenditures for machinery and equipment (new and used) ..... $1,000..	202 998
Total retirements[2] ..... $1,000..	74 218
Gross book value of total assets at end of year ..... $1,000..	2 280 420
Total depreciation during year[2] ..... $1,000..	168 507
Total rental payments[2] ..... $1,000..	25 994
Buildings and other structures rental payments[2] ..... $1,000..	12 740
Machinery and equipment rental payments[2] ..... $1,000..	13 254
Cost of purchased services for the repair of buildings and other structures[3] ..... $1,000..	14 624
Response coverage ratio[4] ..... percent..	88
Cost of purchased services for the repair of machinery and equipment[3] ..... $1,000..	38 088
Response coverage ratio[4] ..... percent..	88
Cost of purchased communications services[3] ..... $1,000..	9 092
Response coverage ratio[4] ..... percent..	88
Cost of purchased legal services[3] ..... $1,000..	6 721
Response coverage ratio[4] ..... percent..	88
Cost of purchased accounting and bookkeeping services[3] ..... $1,000..	2 754
Response coverage ratio[4] ..... percent..	88
Cost of purchased advertising services[3] ..... $1,000..	11 923
Response coverage ratio[4] ..... percent..	88
Cost of purchased software and other data processing services[3] ..... $1,000..	12 568
Response coverage ratio[4] ..... percent..	88
Cost of purchased refuse removal (including hazardous waste) services[3] ..... $1,000..	3 466
Response coverage ratio[4] ..... percent..	88

[1]For the census, a company is defined as a business organization consisting of one establishment or more under common ownership or control.
[2]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.
[3]Based on ASM sample data.
[4]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**

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

Employment size class	E[1]	All establishments		All employees		Production workers			Value added by manufacture ($1,000)	Cost of materials ($1,000)	Value of shipments ($1,000)	Total capital expenditures ($1,000)
		Total	With 20 employees or more	Number	Payroll ($1,000)	Number	Hours (1,000)	Wages ($1,000)				
332912, FLUID POWER VALVE & HOSE FITTING MFG												
All establishments	**–**	**423**	**213**	**36 977**	**1 320 367**	**25 445**	**53 385**	**745 095**	**3 943 860**	**2 649 920**	**6 590 429**	**237 176**
Establishments with 1 to 4 employees	8	102	–	199	5 328	158	266	3 652	13 378	9 599	22 629	700
Establishments with 5 to 9 employees	8	51	–	343	10 426	252	467	7 134	23 942	17 653	41 676	1 391
Establishments with 10 to 19 employees	6	57	–	793	27 013	552	1 087	16 549	69 308	42 394	111 969	3 469
Establishments with 20 to 49 employees	1	58	58	1 928	65 091	1 348	2 513	35 517	171 435	113 635	277 987	9 052
Establishments with 50 to 99 employees	–	48	48	3 504	119 324	2 402	4 909	68 438	339 687	252 936	583 015	22 003
Establishments with 100 to 249 employees	–	64	64	10 028	336 161	7 188	15 803	197 362	958 991	716 808	1 730 787	60 067
Establishments with 250 to 499 employees	–	28	28	8 856	341 704	6 096	13 099	201 518	875 413	524 577	1 397 333	54 186
Establishments with 500 to 999 employees	–	12	12	7 199	264 287	5 249	10 913	157 169	697 732	482 437	1 163 146	47 825
Establishments with 1,000 to 2,499 employees	–	3	3	4 127	151 033	2 200	4 328	57 756	793 974	489 881	1 261 887	38 483
Establishments with 2,500 employees or more	–	–	–	–	–	–	–	–	–	–	–	–
Administrative records[2]	9	184	–	1 324	38 092	993	1 782	26 433	87 214	64 155	151 985	5 341

[1]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.

[2]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. Data are also included in respective size classes shown.

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 industry or product class code	Industry or primary product class	All establishments	All employees		Production workers			Value added by manufacture ($1,000)	Cost of materials ($1,000)	Value of shipments ($1,000)	Total capital expenditures ($1,000)
			Number	Payroll ($1,000)	Number	Hours (1,000)	Wages ($1,000)				
332912	**Fluid power valve & hose fitting mfg**	**423**	**36 977**	**1 320 367**	**25 445**	**53 385**	**745 095**	**3 943 860**	**2 649 920**	**6 590 429**	**237 176**
3329121	Aerospace type hydraulic fluid power valves	23	4 291	177 328	2 162	4 373	73 496	485 891	315 688	789 794	30 929
3329123	Aerospace type pneumatic fluid power valves	12	3 005	123 822	1 677	3 558	44 613	529 540	259 826	778 582	16 298
3329125	Nonaerospace type hydraulic directional control valves	15	2 434	94 013	1 761	4 001	56 955	276 100	196 684	475 402	18 703
3329127	Nonaerospace type hydraulic valves, except directional control	25	3 403	127 682	2 265	4 985	72 353	410 670	232 444	646 159	17 741
3329129	Nonaerospace type pneumatic directional control valves	20	3 648	131 711	2 617	5 566	72 844	381 148	262 301	679 003	25 919
332912B	Nonaerospace type pneumatic valves, except directional control	8	1 191	42 302	795	1 535	21 387	116 681	54 478	171 247	5 858
332912D	Parts for fluid power valves	5	449	13 316	268	529	6 324	52 160	30 500	82 145	2 855
332912F	Aerospace type hydraulic and pneumatic fluid power hose or tube end fittings and assemblies	28	4 571	169 976	3 050	7 005	100 820	439 391	257 397	681 254	27 672
332912H	Nonaerospace type flared (metal) fittings, couplings for, and assemblies of tubing used in fluid power transfer systems	15	2 047	62 695	1 617	3 443	43 874	192 448	110 807	299 978	12 039
332912J	Nonaerospace type flareless fittings and couplings, including nonmetal fittings, used in fluid power transfer systems	10	2 535	89 963	1 818	3 857	51 140	193 551	281 846	471 245	19 637
332912L	Nonaerospace type hydraulic and pneumatic fittings and couplings for hose	35	6 217	191 843	5 024	10 085	138 983	638 711	455 872	1 095 849	45 001
332912N	Nonaerospace type hydraulic and pneumatic assemblies of hose	14	1 203	36 730	891	1 676	21 766	94 150	99 462	193 032	6 816

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]

NAICS product code	Product	1997				1992			
		Number of companies with shipments of $100,000 or more	Quantity of production for all purposes	Product shipments		Number of companies with shipments of $100,000 or more	Quantity of production for all purposes	Product shipments	
				Quantity	Value ($1,000)			Quantity	Value ($1,000)
332912	**Fluid power valves and hose fittings**	**N**	**X**	**X**	**6 251 385**	**N**	**X**	**X**	**N**
3329121	Aerospace type hydraulic fluid power valves @	N	X	X	649 005	N	X	X	N
33291211	Aerospace type hydraulic fluid power valves	N	X	X	649 005	N	X	X	N
3329121100	Aerospace type hydraulic fluid power valves	57	X	X	649 005	N	X	X	N
3329123	Aerospace type pneumatic fluid power valves @	N	X	X	499 415	N	X	X	N
33291231	Aerospace type pneumatic fluid power valves	N	X	X	499 415	N	X	X	N
3329123100	Aerospace type pneumatic fluid power valves	39	X	X	499 415	N	X	X	N
3329125	Nonaerospace type hydraulic directional control valves @	N	X	X	519 904	N	X	X	314 608
33291251	Nonaerospace type hydraulic directional control valves	N	X	X	519 904	N	X	X	N
3329125100	Nonaerospace type hydraulic directional control valves	54	X	X	519 904	64	X	X	314 608
3329127	Nonaerospace type hydraulic valves, except directional control @	N	X	X	747 190	N	X	X	374 522
33291271	Nonaerospace type hydraulic valves, except directional control	N	X	X	747 190	N	X	X	N
3329127100	Nonaerospace type hydraulic valves, except directional control	52	X	X	747 190	52	X	X	374 522
3329129	Nonaerospace type pneumatic directional control valves @	N	X	X	619 943	N	X	X	324 237
33291291	Nonaerospace type pneumatic directional control valves	N	X	X	619 943	N	X	X	N
3329129100	Nonaerospace type pneumatic directional control valves	42	X	X	619 943	47	X	X	324 237
332912B	Nonaerospace type pneumatic valves, except directional control @	N	X	X	192 604	N	X	X	125 921
332912B1	Nonaerospace type pneumatic valves, except directional control	N	X	X	192 604	N	X	X	N
332912B100	Nonaerospace type pneumatic valves, except directional control	40	X	X	192 604	41	X	X	125 921
332912D	Parts for fluid power valves @	N	X	X	208 956	N	X	X	136 986
332912D1	Parts for fluid power valves	N	X	X	208 956	N	X	X	N
332912D100	Parts for fluid power valves	52	X	X	208 956	65	X	X	136 986
332912F	Aerospace type hydraulic and pneumatic fluid power hose or tube end fittings and assemblies @	N	X	X	562 664	N	X	X	N
332912F1	Aerospace type hydraulic and pneumatic fluid power hose or tube end fittings and assemblies	N	X	X	562 664	N	X	X	N
332912F100	Aerospace type hydraulic and pneumatic fluid power hose or tube end fittings and assemblies	37	X	X	562 664	N	X	X	N
332912H	Nonaerospace type flared (metal) fittings, couplings for, and assemblies of tubing used in fluid power transfer systems @	N	X	X	346 784	N	X	X	189 688
332912H1	Nonaerospace type flared (metal) fittings, couplings for, and assemblies of tubing used in fluid power transfer systems	N	X	X	346 784	N	X	X	N
332912H100	Nonaerospace type flared (metal) fittings, couplings for, and assemblies of tubing used in fluid power transfer systems	28	X	X	346 784	19	X	X	189 688
332912J	Nonaerospace type flareless fittings and couplings, including nonmetal fittings, used in fluid power transfer systems @	N	X	X	512 409	N	X	X	339 868
332912J1	Nonaerospace type flareless fittings and couplings, including nonmetal fittings, used in fluid power transfer systems	N	X	X	512 409	N	X	X	N
332912J100	Nonaerospace type flareless fittings and couplings, including nonmetal fittings, used in fluid power transfer systems	27	X	X	512 409	26	X	X	339 868
332912L	Nonaerospace type hydraulic and pneumatic fittings and couplings for hose @	N	X	X	849 747	N	X	X	421 300
332912L1	Nonaerospace type hydraulic and pneumatic fittings and couplings for hose	N	X	X	849 747	N	X	X	N
332912L100	Nonaerospace type hydraulic and pneumatic fittings and couplings for hose	54	X	X	849 747	50	X	X	421 300

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]

NAICS product code	Product	1997				1992			
		Number of companies with shipments of $100,000 or more	Quantity of production for all purposes	Product shipments		Number of companies with shipments of $100,000 or more	Quantity of production for all purposes	Product shipments	
				Quantity	Value ($1,000)			Quantity	Value ($1,000)
332912	**Fluid power valves and hose fittings**—Con.								
332912N	Nonaerospace type hydraulic and pneumatic assemblies of hose @	N	X	X	293 568	N	X	X	238 550
332912N1	Nonaerospace type hydraulic and pneumatic assemblies of hose	N	X	X	293 568	N	X	X	N
332912N100	Nonaerospace type hydraulic and pneumatic assemblies of hose	28	X	X	293 568	29	X	X	238 550
332912W	Fluid power valves and hose fittings, nsk, total	N	X	X	249 196	N	X	X	N
332912WY	Fluid power valves and hose fittings, nsk, total	N	X	X	249 196	N	X	X	N
332912WYWW	Fluid power valves and hose fittings, nsk, for nonadministrative-record establishments	N	X	X	107 004	N	X	X	N
332912WYWY	Fluid power valves and hose fittings, nsk, for administrative-record establishments	N	X	X	142 192	N	X	X	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: [p] 10 to 19 percent estimated; [q] 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 code	Product class and geographic area	Value of product shipments ($1,000)	
		1997	1992
3329121	**AEROSPACE TYPE HYDRAULIC FLUID POWER VALVES @**		
	United States	**649 005**	**N**
	California	189 338	N
	Connecticut	24 044	N
	New York	70 038	N
	Ohio	18 197	N
3329123	**AEROSPACE TYPE PNEUMATIC FLUID POWER VALVES @**		
	United States	**499 415**	**N**
	California	116 832	N
	Ohio	14 670	N
3329125	**NONAEROSPACE TYPE HYDRAULIC DIRECTIONAL CONTROL VALVES @**		
	United States	**519 904**	**314 608**
	California	4 629	9 546
	Connecticut	6 440	N
	Michigan	8 160	3 677
	Minnesota	55 184	N
	Nebraska	15 367	6 540
	Ohio	87 306	46 799
	Wisconsin	92 786	39 587
3329127	**NONAEROSPACE TYPE HYDRAULIC VALVES, EXCEPT DIRECTIONAL CONTROL @**		
	United States	**747 190**	**374 522**
	California	12 044	8 428
	Illinois	263 295	138 542
	Michigan	9 779	N
	Nebraska	8 289	N
	Ohio	128 171	37 341
	Wisconsin	71 925	13 489
3329129	**NONAEROSPACE TYPE PNEUMATIC DIRECTIONAL CONTROL VALVES @**		
	United States	**619 943**	**324 237**
	California	7 657	2 685
	Connecticut	32 591	N
	Michigan	260 896	133 264
	Ohio	37 691	14 639
	Texas	7 352	N

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 code	Product class and geographic area	Value of product shipments ($1,000)	
		1997	1992
332912B	**NONAEROSPACE TYPE PNEUMATIC VALVES, EXCEPT DIRECTIONAL CONTROL @**		
	United States	**192 604**	**125 921**
	California	9 734	N
	Illinois	7 858	6 409
	Michigan	31 922	21 921
	New Jersey	2 271	N
	Ohio	28 780	23 314
332912D	**PARTS FOR FLUID POWER VALVES @**		
	United States	**208 956**	**136 986**
	California	22 514	39 050
	Connecticut	14 612	N
	Illinois	9 106	4 424
	Michigan	60 535	29 099
	Minnesota	8 403	3 405
	New York	8 433	9 983
	Ohio	17 663	7 436
	Wisconsin	16 143	5 424
332912F	**AEROSPACE TYPE HYDRAULIC AND PNEUMATIC FLUID POWER HOSE OR TUBE END FITTINGS AND ASSEMBLIES @**		
	United States	**562 664**	**N**
	California	149 798	N
	Connecticut	49 110	N
332912H	**NONAEROSPACE TYPE FLARED (METAL) FITTINGS, COUPLINGS FOR, AND ASSEMBLIES OF TUBING USED IN FLUID POWER TRANSFER SYSTEMS @**		
	United States	**346 784**	**189 688**
	Michigan	89 171	43 220
	Ohio	152 509	90 020
	Wisconsin	9 246	N
332912J	**NONAEROSPACE TYPE FLARELESS FITTINGS AND COUPLINGS, INCLUDING NONMETAL FITTINGS, USED IN FLUID POWER TRANSFER SYSTEMS @**		
	United States	**512 409**	**339 868**
	Ohio	302 475	180 390
332912L	**NONAEROSPACE TYPE HYDRAULIC AND PNEUMATIC FITTINGS AND COUPLINGS FOR HOSE @**		
	United States	**849 747**	**421 300**
	California	16 753	N
	Illinois	76 317	18 348
	Indiana	38 722	7 151
	Ohio	256 459	153 063
	Pennsylvania	36 415	N
	Wisconsin	102 332	N
332912N	**NONAEROSPACE TYPE HYDRAULIC AND PNEUMATIC ASSEMBLIES OF HOSE @**		
	United States	**293 568**	**238 550**
	California	2 055	N
	Illinois	56 671	33 683
	New Jersey	12 893	7 972
	Ohio	71 660	N
	Wisconsin	18 842	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 material code	Material consumed	1997		1992	
		Quantity	Delivered cost ($1,000)	Quantity	Delivered cost ($1,000)
332912	**FLUID POWER VALVE & HOSE FITTING MFG**				
33272203	Metal bolts, nuts, screws, washers, rivets, and other screw machine products	X	280 670	X	N
332000AC	Metal stampings	X	15 272	X	8 133
33290003	Valves, fittings, and couplings purchased for further assembly (except forgings)	X	224 707	X	113 314
33200029	Other fabricated metal products (except forgings)	X	145 804	X	56 546
33151101	Iron castings (rough and semifinished)	X	76 725	X	27 428
33151009	Steel castings (rough and semifinished)	X	11 845	X	15 957
33152005	Aluminum and aluminum-base alloy castings (rough and semifinished)	X	56 154	X	N
33152500	Copper and copper-base alloy castings (rough and semifinished)	X	4 667	X	4 619
33152009	Other nonferrous castings (rough and semifinished)	X	31 809	X	29 852
33211101	Iron and steel forgings	X	43 418	X	N
33211201	Nonferrous forgings	X	41 982	X	16 367
33120007	Steel bars, bar shapes, and plates (except castings, forgings, and fabricated metal products)	X	253 348	X	N
33120017	Steel sheet and strip, including tin plate	X	51 585	X	N
33120033	All other steel shapes and forms (except castings, forgings, and fabricated metal products)	X	53 671	X	N
33141105	Copper and copper-base alloy refinery shapes (except castings, forgings, and fabricated metal products)	X	D	X	D
33142105	Copper and copper-base alloy rod, bar, and mechanical wire, including extruded and/or drawn shapes	X	D	X	65 617
33142135	Copper and copper-base alloy pipe and tube (except castings, forgings, and fabricated metal products)	X	10 795	X	5 219
33142145	All other copper and copper-base alloy shapes and forms (except castings, forgings, and fabricated metal products)	X	33 286	X	D
33100039	Aluminum and aluminum-base alloy shapes and forms (except castings, forgings, and fabricated metal products)	X	98 173	X	28 173
33100083	Other nonferrous shapes and forms (except castings, forgings, and fabricated metal products)	X	15 415	X	8 278
00190060	Scrap, including iron, steel, aluminum and aluminum-base alloy (excluding home scrap)	X	15 662	X	2 600
33531227	Electric motors and generators less than 1 horsepower (less than 746 watts)	X	3 634	X	9 005
32221001	Paperboard containers, boxes, and corrugated paperboard	X	19 955	X	21 800
32622003	Hydraulic and pneumatic hose (without fittings), rubber and plastics inner tube type, wire or textile reinforced	X	81 518	X	104 825
32622005	Other rubber and plastics hose and belting	X	718	X	626
33999103	Gaskets (all types), and packing and sealing devices	X	14 731	X	10 597
32600017	Fabricated rubber products, except tires, tubes, hose, belting, and gaskets	X	9 491	X	5 403
32610011	Fabricated plastics products (except gaskets)	X	20 473	X	8 254
00970099	All other materials and components, parts, containers, and supplies	X	324 658	X	N
00971000	Materials, ingredients, containers, and supplies, n.s.k.	X	127 947	X	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: [p] 10 to 19 percent estimated; [q] 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-of-year and end-of-year inventories at cost or market. Effective with the 1982 Economic Census, this change to a uniform instruction for reporting inventories was introduced for all sector reports. Prior to 1982, respondents were permitted to value inventories using any generally accepted accounting method (FIFO, LIFO, market, to name a few). Beginning in 1982, LIFO users were asked to first report inventory values prior to the LIFO adjustment and then to report the LIFO reserve and the LIFO value after adjustment for the reserve.

Inventory Data by Stage of Fabrication

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

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

COST OF MATERIALS

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

Included in this item are:

1. Cost of parts, components, containers, etc.—Includes all raw materials, semifinished goods, parts, containers, scrap, and supplies put into production or used as operating supplies and for repair and maintenance during the year.
2. Cost of products bought and sold in the same condition.
3. Cost of fuels consumed for heat and power—Includes the cost of materials or fuel consumed, whether purchased by the individual establishment from other companies, transferred to it from other establishments of the same company, or withdrawn from inventory during the year.
4. Cost of purchased electricity—The cost of purchased electric energy represents the amount actually used during the year for heat and power. In addition, information was collected on the quantity of electric energy generated by the establishment and the quantity of electric energy sold or transferred to other plants of the same company.
5. Cost of contract work—This term applies to work done by others on materials furnished by the manufacturing establishment. The actual cost of the material is to be reported on the cost of materials, parts, and containers line of this item. The term "Contract Work" refers to the fee a company pays to another company to perform a service.

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

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

All Other Employees

This item covers nonproduction employees of the manufacturing establishment including those engaged in factory supervision above the line-supervisor level. It

includes sales (including driver-salespersons), sales delivery (highway truck drivers and their helpers), advertising, credit, collection, installation and servicing of own products, clerical and routine office functions, executive, purchasing, financing, legal, personnel (including cafeteria, medical, etc.), professional, and technical employees. Also included are employees on the payroll of the manufacturing establishment engaged in the construction of major additions or alterations utilized as a separate work force.

FRINGE BENEFITS

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

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

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

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

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

NUMBER OF ESTABLISHMENTS AND COMPANIES

A separate report was required for each manufacturing establishment (plant) with one employee or more. An establishment is defined as a single physical location where manufacturing is performed. A company, on the other hand, is defined as a business organization consisting of one establishment or more under common ownership or control.

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

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

PAYROLL

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

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

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

PRODUCT CODES AND CLASSES OF PRODUCTS

NAICS United States industries are identified by a six-digit 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

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
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 reproducing
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 six-digit 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 company-owned assets was to be reported as assets of the establishment at the end of the year.

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

RETIREMENTS OF DEPRECIABLE ASSETS

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

TOTAL CAPITAL EXPENDITURES (NEW AND USED)

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

Totals for expenditures include the costs of assets leased from nonmanufacturing concerns through capital leases. New facilities owned by the Federal Government but operated under contract by private companies and plant and equipment furnished to the manufacturer by communities and nonprofit organizations are excluded. Also excluded are expenditures for land and cost of maintenance and repairs charged as current operating expenses.

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

VALUE ADDED

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

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

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

VALUE OF SHIPMENTS

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

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

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

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

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

332912 FLUID POWER VALVE AND HOSE FITTING MANUFACTURING

This U.S. industry comprises establishments primarily engaged in manufacturing fluid power valves and hose fittings.

The data published with NAICS code 332912 include the following SIC industries:

3492 Fluid power valves and hose fittings
3728 Aircraft parts and equipment, n.e.c. (pt)

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 four-digit SIC industry and then erroneously re-coded to a six-digit NAICS industry. This was especially true whenever there was a relatively fine line of demarcation between industries or between manufacturing and nonmanufacturing activity.

   Sometimes the administrative-record cases had only two- or three-digit SIC group classification codes available in the files. For the 1997 Economic Census – Manufacturing, these establishments were sent a separate classification form, which requested information on the products and services of the establishment. This form was used to code many of these establishments to the appropriate six-digit NAICS level. Establishments that did not return the classification form were coded later to those six-digit NAICS industries identified as "All other" industries within the given subsector.

   As a result of these situations, a number of small establishments may have been misclassified by industry. However, such possible misclassification has no significant effect on the statistics other than on the number of companies and establishments.

   The total establishment count for individual industries should be viewed as an approximation rather than a precise measurement. The counts for establishments with 20 employees or more are far more reliable than the count of total number of establishments.

2. Establishments sent a report form.

   The establishments covered in the mail canvass were divided into three groups:

   a. ASM sample establishments.

      This group accounts for approximately 15 percent of all manufacturing establishments. The ASM panel covers all the units of large manufacturing establishments as well as a sample of the medium and smaller establishments. The probability of selection was proportionate to size. For more information, see the Description of the ASM Survey Sample.

In an economic census year, the ASM report form (MA-1000) replaces the first page of the regular census form for those establishments included in the ASM. In addition to information on employment, payroll, and other items normally requested on the regular census form, establishments in the ASM sample were requested to supply additional information on gross book value of assets and capital expenditures. ASM establishments were also requested to provide information on retirements, depreciation, rental payments, and supplemental labor costs. For establishments not included in the ASM, these additional items were estimated using relationships observed in the ASM establishment data. The census statistics for these variables are a sum of the ASM establishment data and the estimated data for non-ASM establishments. ASM establishments were also requested to provide information for selected purchased services. The census statistics for the purchased service items were derived solely from the ASM establishments. See Appendix A, Explanation of Terms for an explanation of these items. The census part of the report form is 1 of 220 versions containing product, material, and special inquiries. The diversity of manufacturing activities necessitated the use of this many forms to canvass the 480 manufacturing industries. Each form was developed for a group of related industries.

Appearing on each form was a list of products primary to the group of related industries as well as secondary products and miscellaneous services that establishments classified in these industries were likely to perform. Respondents were requested to identify the products, the value of each product, and, in many cases, the quantity of the product shipped during the survey year. Space also was provided for the respondent to describe products not specifically identified on the form.

The report form also contained a materials-consumed inquiry which varied from form to form depending on the industries being canvassed. The respondents were asked to review a list of materials generally used in their production processes. From this list, each establishment was requested to identify those materials consumed during the survey year, the cost of each, and, in certain cases, the quantity consumed. Once again, space was provided for the respondent to describe significant materials not identified on the form.

A wide variety of special inquiries was included to measure activities peculiar to a given industry, such as operations performed and equipment used.

b. Large and medium establishments (non-ASM).

Approximately 30 percent of all manufacturing establishments were included in this group. A variable cutoff, based on administrative-record payroll data and determined on an industry-by-industry basis, was used to select those establishments that were to receive 1 of the 220 economic census – manufacturing regular forms. The first page, requesting establishment data for items such as employment and payroll, was standard but did not contain the detailed statistics included on the ASM form. The product, material, and special inquiry sections supplied were based on the historical industry classification of the establishment.

c. Small single-establishment companies (non-ASM).

This group includes approximately 15 percent of all manufacturing establishments. For those industries where application of the variable cutoff for administrative-record cases resulted in a large number of small establishments being included in the mail canvass, an abbreviated or short form was used. These establishments received 1 of the 31 versions of the short form, which requested summary product and material data and totals but no details on employment, payroll, cost of materials, inventories, and capital expenditures.

Use of the short form has no adverse effect on published totals for the industry statistics because the same data were collected on the short form as on the long form. However, detailed information on products and materials consumed was not collected on the short form; thus, its use would increase the value of the nsk categories.

INDUSTRY CLASSIFICATION OF ESTABLISHMENTS

Each of the establishments covered in the 1997 Economic Census – Manufacturing was classified in 1 of 480 industries (473 manufacturing industries and 7 former manufacturing industries) in accordance with the industry definitions in the 1997 NAICS Manual. This is the first edition of the NAICS Manual and it is a major change from the 1987 SIC Manual that was used previously. Appendix A of the 1997 NAICS Manual notes the comparability between the 1987 SIC and 1997 NAICS classification systems. When applicable, Appendix G of this report shows the product class and product comparability between the two systems for data in this report.

In the NAICS system, an industry is generally defined as a group of establishments that have similar production processes. To the extent practical, the system uses supply-based or production-oriented concepts in defining industries. The resulting group of establishments must be significant in terms of number, value added by manufacture, value of shipments, and number of employees.

The coding system works in such a way that the definitions progressively become narrower with successive additions of numerical digits. In the manufacturing sector for 1997, there are 21 subsectors (three-digit NAICS), 86 industry groups (four-digit NAICS), 184 NAICS industries (five-digit NAICS) that are comparable with Canadian and Mexican classification, and 473 U.S. industries (six-digit NAICS). This represents an expansion of the four-digit SIC-based U.S. industries from 459 in 1987. Product classes and products of the manufacturing industries have been assigned codes based on the industry from which they originate. In the new system, there are about 1,500 product classes (seven-digit codes), about 6,000 census products, and an additional 3,700 CIR products (ten-digit codes). The ten-digit products are considered the primary products of the industry with the same first six digits. These counts do not include the seven former manufacturing industries that are included in the 1997 Economic Census – Manufacturing.

For the 1997 Economic Census – Manufacturing, all establishments were classified in particular industries based on the products they produced. If an establishment made products of more than one industry, it was classified in the industry with the largest product value. For 1997, there were no "resistance rules" or "frozen industries."

In ASM years, establishments included in the ASM sample with certainty weights are reclassified by industry only if the change in the primary activity from the prior year is significant or if the change has occurred for 2 successive years. This procedure prevents reclassification when there are minor shifts in product mix.

In ASM years, establishments included in the ASM sample with noncertainty weight are not shifted from one industry classification to another. They are retained in the industry where they were classified in the base census year. However, in the following census year, these ASM plants are allowed to shift from one industry to another.

The results of these rules covering the switching of plants from one industry classification to another are that some industries comprise different mixes of establishments in different survey years. Hence, comparisons between prior-year and current-year published totals, particularly at the six-digit NAICS level, should be viewed with caution. This is particularly true for the comparison between the data shown for a census year versus the data shown for the previous ASM year.

As previously noted, the small establishments that may have been misclassified by industry are usually administrative-record cases whose industry codes were assigned on the basis of incomplete descriptions of the general activity of the establishment. Such possible misclassifications have no significant effect on the statistics other than on the number of companies and establishments.

Establishments frequently make products classified both in their industry (primary products) and other industries (secondary products). Industry statistics (employment, payroll, value added by manufacture, value of shipments, etc.) reflect the activities of the establishments which may make both primary and secondary products. Product statistics, however, represent the output of all establishments without regard for the classification of the producing establishment. For this reason, when relating the industry statistics, especially the value of shipments, to the product statistics, the composition of the industry's output should be considered.

The extent to which industry and product statistics may be matched with each other is measured by the primary product specialization ratio and the coverage ratio. The primary product specialization ratio is the proportion of industry shipments accounted for by the primary products of establishments classified in the industry. The coverage ratio is the proportion of product shipments accounted for by establishments classified in the industry.

ESTABLISHMENT BASIS OF REPORTING

The economic census – manufacturing is conducted on an establishment basis. A company operating at more than one location is required to file a separate report for each location or establishment. The ASM also is conducted on an establishment basis, but separate reports are filed for just those establishments selected in the sample. Companies engaged in distinctly different lines of activity at one location are requested to submit separate reports if the plant records permit such a separation and if the activities are substantial in size.

In 1997, as in earlier years, a minimum size limit was set for inclusion of establishments in the census. All establishments employing one person or more at any time during the census year are included. The same size limitation has applied since 1947 in censuses and annual surveys of manufactures. In the 1939 and earlier censuses, establishments with less than $5,000 value of products were excluded. The change in the minimum size limit in 1947 does not appreciably affect the historical comparability of the census figures except for data on number of establishments for a few industries.

The 1997 Economic Census – Manufacturing excludes data for central administrative offices (CAOs). These would include separately operated administrative offices, warehouses, garages, and other auxiliary units that service manufacturing establishments of the same company. These data are published in a separate report series.

DESCRIPTION OF THE ASM SURVEY SAMPLE

The annual survey of manufactures (ASM) sample is drawn for the second survey year after a census. The most recent sample was drawn for the 1994 survey year based on the 1992 Census of Manufactures. This sample will be in place through the 1998 ASM.

In 1992, there were approximately 370,000 individual manufacturing establishments. For sample efficiency and cost considerations, the 1992 manufacturing population was partitioned into two components for developing estimates within the ASM; a mail stratum and a nonmail stratum.

Mail stratum. The mail stratum of the survey is comprised of larger single-location manufacturing companies and all manufacturing establishments of multiunit companies (companies that operate at more than one physical location). Approximately 230,000 of the 370,000 establishments in the 1992 census were assigned to the mail stratum. On an annual basis, the mail stratum is supplemented with larger, newly active single-location companies identified from a list provided by the Internal Revenue Service (IRS) and new manufacturing locations of multiunit companies identified from the Census Bureau's Company Organization Survey (COS).

For the 1994 survey, a new sample of approximately 58,000 individual establishments was selected from the mail stratum assembled from the 1992 census. Supplemental samples representing both 1993 and 1994 births (newly active establishments that were not included in the 1992 census) were also selected. Establishments selected for the sample are mailed an ASM survey questionnaire for each year through 1998.

The 1994-98 ASM sample design is similar to the one used since 1984. Companies in the 1992 Census of Manufactures with manufacturing shipments of at least $500 million were defined as company certainties. For these large companies, each manufacturing establishment is included in the mail sample. For the 1994-98 sample, there are approximately 650 certainty companies collectively accounting for over 18,000 establishments.

For the remaining portion of the mail component of the survey, the establishment was defined as the sample unit. All establishments with 250 employees or more were defined as employment certainties. In addition, all establishments producing products in SIC 3571 (Electronic Computers) were defined as certainties. Across these three arbitrary certainty classes, there were approximately 25,000 establishments included in the sample with certainty. Collectively, these certainty establishments accounted for approximately 80 percent of the total value of shipments in the 1992 Census of Manufactures.

Smaller establishments in the remaining portion of the mail stratum were sampled with probabilities ranging from .02 to 1.00. The initial probabilities of selection assigned to these establishments were proportionate to a measure-of-size determined for each establishment. The measure-of-size was a function of the establishment's 1992 industry classification, its 1992 product class data, and the historical variability of the year-to-year estimates of the product class estimates. For each product class (1,755) and four-digit industry (459), a desired reliability constraint was specified. Using a technique developed by Dr. James R. Chromy of the Research Triangle Institute, the initial establishment probabilities were optimized such that the expected sample satisfied all industry and product class reliability constraints while the sample size was minimized. This technique reduces the likelihood of selecting nonrepresentative samples for individual product classes or industries.

This method of assigning probabilities based on product class shipments is motivated by our primary desire to produce reliable estimates of both product class and industry shipments. The high correlation between shipments and employment, value-added, and other general statistics assures that these variables will also be well represented by the sample. The actual sample selection procedure uses an independent chance of selection method (Poisson sampling) which permits us to prevent small establishments from being selected in consecutive samples without introducing a bias into the survey estimates.

Nonmail component. The initial nonmail component of the survey was comprised of approximately 140,000 small, single-establishment companies that were tabulated as administrative records in the 1992 Census of Manufactures. The nonmail stratum is also supplemented annually using the list of newly active single-location companies provided by the Internal Revenue Service (IRS) and payroll cutoffs. Companies with payroll below the payroll cutoff are added to the nonmail stratum. For this portion of the population, sampling is not used. The data for this group are estimated based on selected information obtained annually from the administrative records of the IRS and Social Security Administration (SSA). This administrative information, which includes payroll, total employment, industry classification, and physical location, is obtained under conditions which safeguard the confidentiality of both tax and census records.

DESCRIPTION OF THE ASM ESTIMATING PROCEDURE

Most of the ASM estimates derived for the mail stratum are computed using a difference estimator. At the establishment level, there is a strong correlation between the current-year data values and the corresponding 1992 (base) data values. Therefore, within the mailed stratum, for each item at each level of aggregation, an estimate of the "difference" between the current year and the base year is computed from sample cases and added to the corresponding base-year values. For the 1993-1997 ASM estimates, the 1992 Census of Manufactures values serve as the base year. For the 1998 ASM, the base will be updated to be the 1997 Economic Census – Manufacturing.

Due to the positive year-to-year correlation, estimates derived using this methodology are generally more reliable than comparable estimates developed from the current sample data alone. Estimates for the capital expenditures variables are not generated using the difference

estimator because the year-to-year correlations are considerably weaker. The standard linear estimator is used for these variables.

For the nonmail stratum, estimates for payroll and employment are directly tabulated from the administrative-record data provided by IRS and SSA. Estimates of data other than payroll and employment are developed from industry averages. Although the nonmail stratum contains approximately 170,000 individual establishments in 1994, it accounts for less than 2 percent of the estimate for total value of shipments at the total manufacturing level.

Corresponding estimates for the mail and nonmail components are combined to produce the estimates included in this publication.

QUALIFICATIONS OF THE ASM DATA

The estimates developed from the sample are apt to differ somewhat from the results of a survey covering all companies in the sample lists but otherwise conducted under essentially the same conditions as the actual sample survey. The estimates of the magnitude of the sampling errors (the difference between the estimates obtained and the results theoretically obtained from a comparable, complete-coverage survey) are provided by the standard errors of estimates.

The particular sample selected for the ASM is one of many similar probability samples that, by chance, might have been selected under the same specifications. Each of the possible samples would yield somewhat different sets of results, and the standard errors are measures of the variation of all the possible sample estimates around the theoretically comparable, complete-coverage values.

Estimates of the standard errors have been computed from the sample data for selected ASM statistics in this report. They are represented in the form of relative standard errors (the standard errors divided by the estimated values to which they refer).

In conjunction with its associated estimate, the relative standard error may be used to define confidence intervals (ranges that would include the comparable, complete-coverage value for specified percentages of all the possible samples).

The complete-coverage value would be included in the range:

From one standard error below to one standard error above the derived estimate for about two-thirds of all possible samples.

From two standard errors below to two standard errors above the derived estimate for about 19 out of 20 of all possible samples.

From three standard errors below to three standard errors above the derived estimate for nearly all samples.

An inference that the comparable, complete-survey result would be within the indicated ranges would be correct in approximately the relative frequencies shown. Those proportions, therefore, may be interpreted as defining the confidence that the estimates from a particular sample would differ from complete-coverage results by as much as one, two, or three standard errors, respectively.

For example, suppose an estimated total is shown at 50,000 with an associated relative standard error of 2 percent, that is, a standard error of 1,000 (2 percent of 50,000). There is approximately 67 percent confidence that the interval 49,000 to 51,000 includes the complete-coverage total, about 95 percent confidence that the interval 48,000 to 52,000 includes the complete-coverage total, and almost certain confidence that the interval 47,000 to 53,000 includes the complete-coverage total.

In addition to the sample errors, the estimates are subject to various response and operational errors: errors of collection, reporting, coding, transcription, imputation for nonresponse, etc. These operational errors also would occur if a complete canvass were to be conducted under the same conditions as the survey. Explicit measures of their effects generally are not available. However, it is believed that most of the important operational errors were detected and corrected during the Census Bureau's review of the data for reasonableness and consistency. The small operational errors usually remain. To some extent, they are compensating in the aggregated totals shown. When important operational errors were detected too late to correct the estimates, the data were suppressed or were specifically qualified in the tables.

As derived, the estimated standard errors included part of the effect of the operational errors. The total errors, which depend upon the joint effect of the sampling and operational errors, are usually of the order of size indicated by the standard error, or moderately higher. However, for particular estimates, the total error may considerably exceed the standard errors shown. Any figures shown in the tables in this publication having an associated standard error exceeding 15 percent may be combined with higher level totals, creating a broader aggregate, which then may be of acceptable reliability.

DATA FROM THE CURRENT INDUSTRIAL REPORTS (CIR)

The CIR program provides product statistics for selected manufacturing industries at the U.S. level annually and, in some cases, monthly and/or quarterly. When detail product data are collected in the CIR, they are not also collected in the census. However, the annual CIR data are included in the census Product Summary report.

The CIR program uses a unified data collection, processing, and publication system. The Census Bureau updates the survey panels for most reports annually and reconciles the estimates to the results of the broader-based annual survey of manufactures and the economic

census – manufacturing. The economic census – manufacturing provides a complete list of all producers of the products covered by the CIR program and serves as the primary source for CIR sampling. Where a small number of producers exist, CIR surveys cover all known producers of a product. However, when the number of producers is large, cutoff and random sampling techniques are used. Surveys are continually reviewed and modified to provide the most up-to-date information on products produced. While the CIR program includes both mandatory and voluntary surveys, the annual data are mandatory.

DUPLICATION IN COST OF MATERIALS AND VALUE OF SHIPMENTS

Data for cost of materials and value of shipments include varying amounts of duplication, especially at higher levels of aggregation. This is because the products of one establishment may be the materials of another. The value added statistics avoid this duplication and are, for most purposes, the best measure for comparing the relative economic importance of industries and geographic areas.

VALUE OF INDUSTRY SHIPMENTS COMPARED WITH VALUE OF PRODUCT SHIPMENTS

The 1997 Economic Census – Manufacturing shows value of shipments data for industries and products. In the industry statistics tables and files, these data represent the total value of shipments of all establishments classified in a particular industry. The data include the shipments of the products classified in the industry (primary to the industry), products classified in other industries (secondary to the industry), and miscellaneous receipts (repair work, sale of scrap, research and development, installation receipts, and resales). Value of product shipments shown in the products statistics tables and files represent the total value of all products shipped that are classified as primary to an industry regardless of the classification of the producing establishment.

Appendix D. Geographic Notes

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
@3329121	For additional detail, see Current Industrial Report MA333N, Fluid Power Products.
@3329123	For additional detail, see Current Industrial Report MA333N, Fluid Power Products.
@3329125	For additional detail, see Current Industrial Report MA333N, Fluid Power Products.
@3329127	For additional detail, see Current Industrial Report MA333N, Fluid Power Products.
@3329129	For additional detail, see Current Industrial Report MA333N, Fluid Power Products.
@332912B	For additional detail, see Current Industrial Report MA333N, Fluid Power Products.
@332912D	For additional detail, see Current Industrial Report MA333N, Fluid Power Products.
@332912F	For additional detail, see Current Industrial Report MA333N, Fluid Power Products.
@332912H	For additional detail, see Current Industrial Report MA333N, Fluid Power Products.
@332912J	For additional detail, see Current Industrial Report MA333N, Fluid Power Products.
@332912L	For additional detail, see Current Industrial Report MA333N, Fluid Power Products.
@332912N	For additional detail, see Current Industrial Report MA333N, Fluid Power Products.

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
3321111	34625	34625
3321111101	3462511	3462511
3321111206	3462513	3462513
3321111311	3462515	3462515
3321111416	3462517	3462517
3321111YWV	3462500	3462500
3321113	34626	34626
3321113101	3462611	3462611
3321113106	3462613	3462613
3321113111	3462616	3462616
3321113YWV	3462600	3462600
3321115	34627	34627
3321115101	3462712	3462712
3321115106	3462716	3462716
3321115YWV	3462700	3462700
3321117	34628	34628
3321117101	3462812	3462812
3321117106	3462816	3462816
3321117YWV	3462800	3462800
332111W	34620	34620
332111WYWW	3462000	3462000
332111WYWY	3462002	3462002
3321121	34635	34635
3321121101	3463521	3463521
3321121206	3463523	3463523
3321121311	3463525	3463525
3321121316	3463529	3463529
3321121YWV	3463500	3463500
3321122	34639	34639
3321122101	3463915	3463915
3321122106	3463925	3463925
3321122111	3463935	3463935
3321122YWV	3463900	3463900
332112W	34630	34630
332112WYWW	3463000	3463000
332112WYWY	3463002	3463002
3321140 pt	34490 pt	34490 pt
3321140 pt	34498	34498
3321140101	3449811	3449811
3321140206	3449813	3449813
3321140311	3449815	3449815
3321140416	3449817	3449817
3321140YWW pt	3449000 pt	3449000 pt
3321140YWW pt	3449800	3449800
3321140YWY	3449002 pt	3449002 pt
3321150 pt	34660	34660
3321150 pt	34661	34661
3321150 pt	34662	34662
3321150101	3466105	3466105
3321150103 pt	3466200 pt	3466200
3321150103 pt	3466200 pt	3466230
3321150103 pt	3466200 pt	3466232
3321150106 pt	3466123 pt	3466120
3321150106 pt	3466123 pt	3466122
3321150YWW pt	3466000	3466000
3321150YWW pt	3466100	3466100
3321150YWY	3466002	3466002
3321161	34692	34692
3321161101	3469201	3469201
3321161115	3469215	3469215
3321161205	3469205	3469205
3321161311	3469211	3469211
3321161331	3469231	3469231
3321161352	3469252	3469252
3321161354	3469253	3469253
3321161388	3469288	3469288
3321161398	3469298	3469298
3321161421	3469220	3469220
3321161441	3469241	3469241
3321161525	3469225	3469225
3321161561	3469261	3469261
3321161571	3469271	3469271
3321161584	3469284	3469284
3321161YWV	3469200	3469200
3321163	34696	34696
3321163100	3469600	3469600
3321165	34699	34699
3321165101	3469941	3469941
3321165211	3469948	3469948
3321165221	3469951	3469951
3321165231	3469959	3469959
3321165241	3469961	3469961
3321165251	3469969	3469969
3321165271	3469985	3469985
3321165281	3469989	3469989
3321165291	3469997	3469997
3321165361	3469971	3469971
3321165YWV	3469900	3469900
332116W	34690 pt	34690 pt
332116WYWW	3469000 pt	3469000 pt
332116WYWY	3469002 pt	3469002 pt
3321170 pt	34990 pt	34990 pt
3321170 pt	34996	34996
3321170106	3499633	3499633
3321170211	3499655	3499655
3321170321	3499677	3499677
3321170401	3499611	3499611
3321170416	3499666	3499666
3321170426	3499688	3499688
3321170YWW pt	3499000 pt	3499000 pt
3321170YWW pt	3499600	3499600
3321170YWY	3499002 pt	3499002 pt
3322111 pt	34211	34211
3322111 pt	39141 pt	39141 pt
3322111 pt	39142 pt	39142 pt
3322111101	3421111	3421111
3322111103	3914245	3914270 pt
3322111106	3914155	3914170 pt
3322111211	3421125	3421125
3322111222	3421130	3421130
3322111326	3421153	3421153
3322111331	3421155	3421155
3322111336	3421157	3421157
3322111344	3421159	3421159
3322111455	3421180	3421180
3322111YWV pt	3421100	3421100
3322111YWV pt	3914200 pt	3914200 pt
3322113	34212	34212
3322113101	3421205	3421205
3322113106	3421210	3421210
3322113111	3421216	3421216
3322113YWV	3421200	3421200
332211W pt	34210	34210
332211W pt	39140 pt	39140 pt
332211WYWW pt	3421000	3421000
332211WYWW pt	3914000 pt	3914000 pt
332211WYWY pt	3421002	3421002
332211WYWY pt	3914002 pt	3914002 pt
3322121 pt	34231	34231
3322121 pt	39999 pt	39999 pt
3322121101	3423112	3423112
3322121206	3423113	3423113
3322121311	3423121	3423121
3322121351	3423141	3423141
3322121356	3423151	3423151
3322121361	3423155	3423155
3322121365	3999971	3999999 pt
3322121399	3423197	3423197
3322121416	3423131	3423131
3322121421	3423133	3423133
3322121426	3423136	3423136
3322121431	3423137	3423137
3322121436	3423138	3423138
3322121444	3423139	3423139
3322121YWV pt	3423100	3423100
3322121YWV pt	3999900 pt	3999900 pt
3322123 pt	34234	34234
3322123 pt	3523E pt	3523E pt
3322123101	3423414	3423414
3322123106	3423433	3423433
3322123111	3423444	3423444
3322123121	3423498	3423498
3322123216	3523E80	3523E00 pt
3322123YWV pt	3423400	3423400
3322123YWV pt	3523E00 pt	3523E00 pt
3322125	34235	34235
3322125101	3423511	3423511
3322125206	3423512	3423512
3322125311	3423521	3423521
3322125316	3423522	3423522
3322125321	3423531	3423531
3322125333	3423541	3423541
3322125YWV	3423500	3423500
3322127 pt	34236	34236
3322127 pt	35241 pt	35241 pt
3322127 pt	37999 pt	37999 pt
3322127101	3423611	3423611
3322127111	3423621	3423621
3322127116	3423631	3423631
3322127121	3423641	3423641
3322127131	3423681	3423681
3322127136	3423685	3423685
3322127141	3799906	3799923 pt
3322127199	3423698	3423698
3322127226	3524101	3524100 pt
3322127YWV pt	3423600	3423600
3322127YWV pt	3524100 pt	3524100 pt
3322127YWV pt	3799900 pt	3799900 pt
3322129 pt	35455	35455
3322129 pt	36992 pt	36992 pt
3322129101	3545511	3545511
3322129106	3545513	3545513
3322129111	3545515	3545515
3322129116	3545517	3545517
3322129121	3545521	3545521
3322129126	3545561	3545561
3322129131	3545565	3545565
3322129146	3545577	3545577
3322129161	3699255	3699200 pt
3322129236	3545571	3545571
3322129341	3545573	3545573
3322129451	3545579	3545579
3322129YWV pt	3545500	3545500
3322129YWV pt	3699200 pt	3699200 pt
332212W pt	34230	34230
332212W pt	35230 pt	35230 pt
332212W pt	35240 pt	35240 pt
332212W pt	35450 pt	35450 pt
332212W pt	36990 pt	36990 pt
332212W pt	37990 pt	37990 pt
332212W pt	39990 pt	39990 pt
332212WYWW pt	3423000	3423000
332212WYWW pt	3523000 pt	3523000 pt
332212WYWW pt	3524000 pt	3524000 pt
332212WYWW pt	3545000 pt	3545000 pt
332212WYWW pt	3699000 pt	3699000 pt
332212WYWW pt	3799000 pt	3799000 pt
332212WYWW pt	3999000 pt	3999000 pt
332212WYWY pt	3423002	3423002
332212WYWY pt	3523002 pt	3523002 pt
332212WYWY pt	3524002 pt	3524002 pt
332212WYWY pt	3545002 pt	3545002 pt
332212WYWY pt	3699002 pt	3699002 pt
332212WYWY pt	3799002 pt	3799002 pt
332212WYWY pt	3999002 pt	3999002 pt
3322130	34250	34250
3322130101	3425011	3425011
3322130106	3425013	3425013
3322130111	3425016	3425016
3322130116	3425018	3425018
3322130122	3425019	3425019
3322130226	3425031	3425031
3322130231	3425035	3425035
3322130236	3425036	3425036
3322130244	3425039	3425039
3322130255	3425041	3425041
3322130361	3425043	3425043
3322130365	3425045	3425045
3322130377	3425049	3425049
3322130YWW	3425000	3425000
3322130YWY	3425002	3425002
3322141	34694	34694
3322141111	3469411	3469411
3322141221	3469414	3469414
3322141231	3469417	3469417
3322141241	3469429	3469429
3322141YWV	3469400	3469400
3322143	34695	34695
3322143101	3469507	3469507
3322143211	3469509	3469509
3322143221	3469515	3469515
3322143231 pt	3469525 pt	3469521
3322143231 pt	3469525 pt	3469524
3322143241 pt	3469599 pt	3469527
3322143241 pt	3469599 pt	3469598
3322143YWV	3469500	3469500
332214W	34690 pt	34690 pt
332214WYWW	3469000 pt	3469000 pt
332214WYWY	3469002 pt	3469002 pt

1997 published	1997 collected	1992 published
3323111	34481	34481
3323111106	3448117	3448117
3323111111	3448118	3448118
3323111201	3448115	3448115
3323111YWV	3448100	3448100
3323113	34482	34482
3323113101	3448211	3448211
3323113106	3448214	3448214
3323113111	3448215	3448215
3323113216	3448216	3448216
3323113221	3448217	3448217
3323113226	3448218	3448218
3323113231	3448226	3448226
3323113236	3448227	3448227
3323113241	3448254	3448254
3323113YWV	3448200	3448200
332311W	34480	34480
332311WYWW	3448000	3448000
332311WYWY	3448002	3448002
3323121 pt	34411	34411
3323121 pt	34494	34494
3323121101 pt	3441141	3441141
3323121101 pt	3449443	3449443
3323121206 pt	3441142	3441142
3323121206 pt	3449447	3449447
3323121211 pt	3441143	3441143
3323121211 pt	3449452	3449452
3323121216	3441144	3441144
3323121221	3441146	3441146
3323121226	3441147	3441147
3323121231	3441171	3441171
3323121YWV pt	3441100	3441100
3323121YWV pt	3449400	3449400
3323123	34412	34412
3323123100	3441200	3441200
3323125	34413	34413
3323125106	3441320	3441320
3323125111	3441323	3441323
3323125116	3441326	3441326
3323125121	3441329	3441329
3323125126	3441359	3441359
3323125131	3441384	3441384
3323125136	3441398	3441398
3323125201	3441316	3441316
3323125YWV	3441300	3441300
332312W pt	34410	34410
332312W pt	34490 pt	34490 pt
332312WYWW pt	3441000	3441000
332312WYWW pt	3449000 pt	3449000 pt
332312WYWY pt	3441002	3441002
332312WYWY pt	3449002 pt	3449002 pt
3323130 pt	34430 pt	34430 pt
3323130 pt	34432 pt	34432 pt
3323130111	3443244	3443244
3323130116	3443246	3443246
3323130121	3443248	3443248
3323130226	3443252	3443252
3323130231	3443254	3443254
3323130236	3443256	3443256
3323130301	3443221	3443221
3323130346	3443299	3443298 pt
3323130406	3443236	3443236
3323130YWW pt	3443000 pt	3443000 pt
3323130YWW pt	3443200	3443200
3323130YWY	3443002 pt	3443002 pt
3323211	34421	34421
3323211110	3442111	3442111
3323211113	3442116	3442116
3323211116	3442119	3442119
3323211119	3442121	3442121
3323211201	3442105	3442105
3323211204	3442107	3442107
3323211207	3442109	3442109
3323211222	3442122	3442122
3323211225	3442123	3442123
3323211328	3442124	3442124
3323211331	3442125	3442125
3323211334	3442126	3442126
3323211440	3442128	3442128
3323211443	3442130	3442130
3323211446	3442131	3442131
3323211549	3442132	3442132
3323211552	3442134	3442134
3323211555	3442136	3442136
3323211661	3442142	3442142
3323211664	3442143	3442143
3323211667	3442144	3442144
3323211758	3442139	3442139
3323211770	3442145	3442145
3323211837	3442127	3442127
3323211YWV	3442100	3442100
3323213	34422	34422
3323213101	3442220	3442220
3323213111	3442222	3442222
3323213116	3442224	3442224
3323213121	3442230	3442230
3323213226	3442235	3442235
3323213231	3442241	3442241
3323213236	3442242	3442242
3323213241	3442243	3442243
3323213246	3442249	3442249
3323213251	3442298	3442298
3323213306	3442221	3442221
3323213YWV	3442200	3442200
3323215 pt	24991 pt	24991 pt
3323215 pt	34423	34423
3323215 pt	34497	34497
3323215101 pt	3442321	3442321
3323215101 pt	3449773	3449773
3323215106 pt	2499141	2499141
3323215106 pt	3442325	3442325
3323215106 pt	3449775	3449775
3323215111 pt	3442351	3442351
3323215111 pt	3449779	3449779
3323215YWV pt	2499100 pt	2499100 pt
3323215YWV pt	3442300	3442300
3323215YWV pt	3449700	3449700
3323217	34424	34424
3323217101	3442411	3442411
3323217106	3442412	3442412
3323217111	3442413	3442413
3323217YWV	3442400	3442400
3323219	34425	34425
3323219101	3442511	3442511
3323219106	3442512	3442512
3323219111	3442551	3442551
3323219YWV	3442500	3442500
332321W pt	24990 pt	24990 pt
332321W pt	34420	34420
332321W pt	34490 pt	34490 pt
332321WYWW pt	2499000 pt	2499000 pt
332321WYWW pt	3442000	3442000
332321WYWW pt	3449000 pt	3449000 pt
332321WYWY pt	2499002 pt	2499002 pt
332321WYWY pt	3442002	3442002
332321WYWY pt	3449002 pt	3449002 pt
3323221	34441	34441
3323221101	3444121	3444121
3323221106	3444123	3444123
3323221211	3444127	3444127
3323221216	3444129	3444129
3323221YWV	3444100	3444100
3323223	34442	34442
3323223101	3444213	3444213
3323223106	3444215	3444215
3323223111	3444219	3444219
3323223YWV	3444200	3444200
3323227	34444	34444
3323227101	3444411	3444411
3323227206	3444417	3444417
3323227211	3444423	3444423
3323227216	3444429	3444429
3323227221	3444431	3444431
3323227YWV	3444400	3444400
3323229	34445	34445
3323229106	3444516	3444516
3323229111	3444517	3444517
3323229116	3444518	3444518
3323229121	3444519	3444519
3323229201	3444505	3444505
3323229YWV	3444500	3444500
332322A	34447	34447
332322A101	3444721	3444721
332322A106	3444725	3444725
332322A111	3444731	3444731
332322A116	3444741	3444741
332322AYWV	3444700	3444700
332322C	34448	34448
332322C101	3444811	3444811
332322C206	3444813	3444813
332322C311	3444819	3444819
332322CYWV	3444800	3444800
332322E	34449	34449
332322E101	3444931	3444931
332322E106	3444941	3444941
332322E211	3444953	3444953
332322E321	3444955	3444955
332322E326	3444962	3444962
332322E331	3444965	3444965
332322E336	3444998	3444998
332322EYWV	3444900	3444900
332322W	34440 pt	34440 pt
332322WYWW	3444000 pt	3444000 pt
332322WYWY	3444002 pt	3444002 pt
3323231	34461	34461
3323231106	3446112	3446112
3323231111	3446115	3446115
3323231116	3446117	3446117
3323231201	3446110	3446110
3323231YWV	3446100	3446100
3323233 pt	34462	34462
3323233 pt	34496	34496
3323233101 pt	3446210	3446210
3323233101 pt	3449611	3449611
3323233106 pt	3446212	3446212
3323233106 pt	3449632	3449632
3323233211	3446220	3446220
3323233216	3446222	3446222
3323233221	3446226	3446226
3323233YWV pt	3446200	3446200
3323233YWV pt	3449600	3449600
3323235	34463	34463
3323235101	3446310	3446310
3323235106	3446312	3446312
3323235211	3446320	3446320
3323235216	3446322	3446322
3323235YWV	3446300	3446300
3323237	34464	34464
3323237101	3446410	3446410
3323237106	3446413	3446413
3323237111	3446416	3446416
3323237116	3446418	3446418
3323237YWV	3446400	3446400
3323239 pt	34465	34465
3323239 pt	3523E pt	3523E pt
3323239106	3446512	3446512
3323239111	3446530	3446530
3323239201	3446510	3446510
3323239311	3523E84	3523E00 pt
3323239YWV pt	3446500	3446500
3323239YWV pt	3523E00 pt	3523E00 pt
332323W pt	34460	34460
332323W pt	34490 pt	34490 pt
332323W pt	35230 pt	35230 pt
332323WYWW pt	3446000	3446000
332323WYWW pt	3449000 pt	3449000 pt
332323WYWW pt	3523000 pt	3523000 pt
332323WYWY pt	3446002	3446002
332323WYWY pt	3449002 pt	3449002 pt
332323WYWY pt	3523002 pt	3523002 pt
3324101	34431	34431
3324101101	3443113	3443113
3324101206	3443118	3443118
3324101311	3443155	3443155
3324101YWV	3443100	3443100
3324105	34433	34433
3324105101	3443308	3443308
3324105106 pt	3443331 pt	3443310
3324105106 pt	3443331 pt	3443319
3324105111 pt	3443332 pt	3443315
3324105111 pt	3443332 pt	3443324
3324105126 pt	3443333 pt	3443326
3324105126 pt	3443333 pt	3443330
3324105131 pt	3443336 pt	3443328
3324105131 pt	3443336 pt	3443334
3324105146	3443339	3443335
3324105151 pt	3443342 pt	3443337
3324105151 pt	3443342 pt	3443340
3324105161 pt	3443343 pt	3443341
3324105161 pt	3443343 pt	3443344
3324105171 pt	3443345 pt	3443346
3324105171 pt	3443345 pt	3443347
3324105181	3443348	3443348
3324105186	3443351	3443351
3324105291	3443352	3443352
3324105YWV	3443300	3443300
332410W	34430 pt	34430 pt
332410WYWW	3443000 pt	3443000 pt
332410WYWY	3443002 pt	3443002 pt
3324207	34434	34434
3324207101	3443414	3443414
3324207106	3443416	3443416
3324207YWV	3443400	3443400
3324209	34435	34435
3324209101	3443520	3443520
3324209106	3443535	3443535
3324209111	3443542	3443542
3324209YWV	3443500	3443500
332420A	34436	34436
332420A100	3443600	3443600
332420C	34437	34437
332420C101	3443712	3443712
332420C106	3443715	3443715
332420C111	3443717	3443717
332420C116	3443719	3443719
332420C121	3443748	3443748
332420C126	3443750	3443750
332420CYWV	3443700	3443700
332420E	34438	34438
332420E101	3443803	3443803
332420E106	3443805	3443805
332420E211	3443808	3443808
332420E216	3443813	3443813
332420E221	3443820	3443820
332420E226	3443822	3443822
332420EYWV	3443800	3443800
332420G	34439	34439
332420G101	3443915	3443915
332420G106	3443917	3443917
332420G111	3443919	3443919
332420G116	3443923	3443923
332420G121	3443931	3443931
332420G126	3443932	3443932
332420G131	3443933	3443933
332420G136	3443934	3443934
332420G141	3443936	3443936
332420G246	3443951	3443951
332420G351	3443953	3443953

1997 published	1997 collected	1992 published
332420G356	3443958	3443958
332420GYWV	3443900	3443900
332420W	34430 pt	34430 pt
332420WYWW	3443000 pt	3443000 pt
332420WYWY	3443002 pt	3443002 pt
3324311	34111	34111
3324311101	3411120	3411120
3324311206	3411191	3411191
3324311YWV	3411100	3411100
3324313	34112	34112
3324313100	3411200	3411200
332431W	34110	34110
332431WYWW	3411000	3411000
332431WYWY	3411002	3411002
3324391 pt	34121	34121
3324391 pt	34998 pt	34998 pt
3324391100	3412100 pt	3412100 pt
3324391306	3499821	3499821
3324391311	3499825	3499825
3324391YWV pt	3412100 pt	3412100 pt
3324391YWV pt	3499800 pt	3499800 pt
3324393	34122	34122
3324393100	3412200	3412200
3324395 pt	34123	34123
3324395 pt	34293	34293
3324395 pt	34443	34443
3324395101 pt	3412313	3412313
3324395101 pt	3444314	3444314
3324395106 pt	3429300	3429300
3324395106 pt	3444324	3444324
3324395199	3412319	3412319
3324395YWV pt	3412300	3412300
3324395YWV pt	3444300	3444300
3324397	35373 pt	35373 pt
3324397100	3537334	3537300 pt
332439W pt	34120	34120
332439W pt	34290 pt	34290 pt
332439W pt	34440 pt	34440 pt
332439W pt	34990 pt	34990 pt
332439W pt	35370 pt	35370 pt
332439WYWW pt	3412000	3412000
332439WYWW pt	3429000 pt	3429000 pt
332439WYWW pt	3444000 pt	3444000 pt
332439WYWW pt	3499000 pt	3499000 pt
332439WYWW pt	3537000 pt	3537000 pt
332439WYWY pt	3412002	3412002
332439WYWY pt	3429002 pt	3429002 pt
332439WYWY pt	3444002 pt	3444002 pt
332439WYWY pt	3499002 pt	3499002 pt
332439WYWY pt	3537002 pt	3537002 pt
3325101	34292	34292
3325101101	3429212	3429212
3325101106	3429213	3429213
3325101111	3429214	3429214
3325101116	3429216	3429216
3325101121	3429253	3429253
3325101133	3429255	3429255
3325101YWV	3429200	3429200
3325103 pt	34294	34294
3325103 pt	34991	34991
3325103101	3429412	3429412
3325103111 pt	3429415 pt	3429413
3325103111 pt	3429415 pt	3429414
3325103121	3429417	3429417
3325103125	3499117	3499117
3325103126	3429418	3429418
3325103128	3499143	3499198 pt
3325103129	3499141	3499141
3325103131	3429419	3429419
3325103133	3429422	3429422
3325103137	3499199	3499198 pt
3325103216	3429416	3429416
3325103336	3429423	3429423
3325103341	3429424	3429424
3325103346	3429427	3429427
3325103361	3429437	3429437
3325103363	3429442	3429442
3325103365	3429443	3429443
3325103367	3429444	3429444
3325103451	3429433	3429433
3325103456	3429436	3429436
3325103569	3429452	3429452
3325103571	3429453	3429453
3325103573	3429454	3429454
3325103575	3429461	3429461
3325103579	3429462	3429462
3325103581	3429464	3429464
3325103583	3429466	3429466
3325103685	3429471	3429471
3325103687	3429473	3429473
3325103689	3429481	3429481
3325103691	3429491	3429491
3325103699	3429498	3429498
3325103YWV pt	3429400	3429400
3325103YWV pt	3499100	3499100
3325105	34296	34296
3325105100	3429600	3429600
3325107	34297	34297
3325107101	3429711	3429711
3325107106	3429731	3429731
3325107111	3429798	3429798
3325107YWV	3429700	3429700
3325109	34298 pt	34298 pt
3325109101	3429812	3429812
3325109106	3429822	3429822
3325109111	3429852	3429852
3325109121	3429865	3429865
3325109199	3429898	3429898
3325109YWV	3429800 pt	3429800 pt
332510W pt	34290 pt	34290 pt
332510W pt	34990 pt	34990 pt
332510WYWW pt	3429000 pt	3429000 pt
332510WYWW pt	3499000 pt	3499000 pt
332510WYWY pt	3429002 pt	3429002 pt
332510WYWY pt	3499002 pt	3499002 pt
3326111	34931	34931
3326111101	3493105	3493105
3326111106	3493106	3493106
3326111216	3493155	3493155
3326111221	3493157	3493157
3326111311	3493116	3493116
3326111326	3493199	3493199
3326111YWV	3493100	3493100
3326113	34932	34932
3326113101	3493210	3493210
3326113106	3493220	3493220
3326113YWV	3493200	3493200
332611W	34930	34930
332611WYWW	3493000	3493000
332611WYWY	3493002	3493002
3326122	34952	34952
3326122111	3495215	3495215
3326122116	3495217	3495217
3326122201	3495212	3495212
3326122206	3495214	3495214
3326122YWV	3495200	3495200
3326124	34953 pt	34953 pt
3326124111	3495317	3495317
3326124201	3495311	3495311
3326124216	3495318	3495318
3326124221 pt	3495320 pt	3495313
3326124221 pt	3495320 pt	3495319
3326124226	3495321	3495321
3326124231	3495399	3495398 pt
3326124YWV	3495300 pt	3495300 pt
332612W	34950 pt	34950 pt
332612WYWW	3495000 pt	3495000 pt
332612WYWY	3495002 pt	3495002 pt
3326181	34961	34961
3326181101	3496113	3496113
3326181103	3496115	3496115
3326181105	3496134	3496134
3326181107	3496152	3496152
3326181YWV	3496100	3496100
3326182	33992	33992
3326182101	3399211	3399211
3326182106	3399298	3399298
3326182YWV	3399200	3399200
3326183	34964	34964
3326183100	3496400	3496400
3326185	34965	34965
3326185100	3496500	3496500
3326187	34966	34966
3326187101	3496613	3496613
3326187103	3496621	3496621
3326187105	3496635	3496635
3326187107	3496671	3496671
3326187YWV	3496600	3496600
3326189	33152 pt	33152 pt
3326189101	3315202	3315201 pt
3326189103	3315204	3315203 pt
3326189105	3315206	3315205 pt
3326189107	3315208	3315207 pt
3326189109	3315211	3315209 pt
3326189111 pt	3315212 pt	3315210 pt
3326189111 pt	3315212 pt	3315213 pt
3326189113	3315215	3315216 pt
3326189115	3315221	3315222 pt
3326189117	3315224	3315223 pt
3326189119	3315226	3315225 pt
3326189121	3315231	3315230 pt
3326189YWV	3315200 pt	3315200 pt
332618B	34968	34968
332618B105	3496855	3496855
332618B217	3496883	3496883
332618B319	3496885	3496885
332618B401	3496842	3496842
332618B403	3496851	3496851
332618B407	3496863	3496863
332618B409	3496871	3496871
332618B411	3496873	3496873
332618B413	3496875	3496875
332618B415	3496881	3496881
332618B421	3496898	3496898
332618BYWV	3496800	3496800
332618W pt	33150 pt	33150 pt
332618W pt	33990 pt	33990 pt
332618W pt	34960	34960
332618WYWW pt	3315000 pt	3315000 pt
332618WYWW pt	3399000 pt	3399000 pt
332618WYWW pt	3496000	3496000
332618WYWY pt	3315002 pt	3315002 pt
332618WYWY pt	3399002 pt	3399002 pt
332618WYWY pt	3496002	3496002
3327100 pt	35990 pt	35990 pt
3327100 pt	35995	35995
3327100000	3599500	3599500
3327100YWW	3599000 pt	3599000 pt
3327100YWY	3599002 pt	3599002 pt
3327211	34511	34511
3327211100	3451100	3451100
3327215	34512	34512
3327215111	3451231	3451231
3327215222	3451242	3451242
3327215333	3451252	3451252
3327215444	3451257	3451299 pt
3327215555	3451262	3451262
3327215666	3451239	3451239
3327215699	3451298	3451299 pt
3327215YWV	3451200	3451200
332721W	34510	34510
332721WYWW	3451000	3451000
332721WYWY	3451002	3451002
3327221	34527	34527
3327221101	3452701	3452701
3327221106	3452706	3452706
3327221115	3452715	3452715
3327221145	3452745	3452745
3327221159	3452759	3452759
3327221172	3452761	3452761
3327221178	3452762	3452762
3327221184	3452763	3452763
3327221YWV	3452700	3452700
3327223	34524	34524
3327223111	3452411	3452411
3327223122	3452412	3452412
3327223133	3452419	3452419
3327223144	3452439	3452439
3327223155	3452445	3452445
3327223199	3452489	3452489
3327223YWV	3452400	3452400
3327225	34525	34525
3327225104	3452504	3452504
3327225129	3452529	3452529
3327225189	3452589	3452589
3327225YWV	3452500	3452500
3327227	34526	34526
3327227109	3452609	3452609
3327227115	3452615	3452615
3327227135	3452635	3452635
3327227179	3452679	3452679
3327227YWV	3452600	3452600
3327229	34528	34528
3327229105	3452831	3452831
3327229115	3452811	3452811
3327229135	3452821	3452821
3327229199	3452898	3452898
3327229YWV	3452800	3452800
332722W	34520	34520
332722WYWW	3452000	3452000
332722WYWY	3452002	3452002
3328110	33980	33980
3328110100	3398000 pt	3398000 pt
3328110YWW	3398000 pt	3398000 pt
3328110YWY	3398002	3398002
3328120	34790 pt	34790 pt
3328120101	3479010	3479010
3328120106	3479011	3479011
3328120111	3479013	3479013
3328120116	3479028	3479021 pt
3328120141	3479081	3479081
3328120146	3479077	3479077
3328120221	3479031	3479031
3328120326	3479061	3479061
3328120431	3479073	3479073
3328120536	3479075	3479075
3328120YWW	3479000 pt	3479000 pt
3328120YWY	3479002 pt	3479002 pt
3328130	34710	34710
3328130100	3471000 pt	3471000 pt
3328130YWW	3471000 pt	3471000 pt
3328130YWY	3471002	3471002
3329111	34911	34911
3329111101	3491111	3491111
3329111103	3491121	3491121
3329111105	3491123	3491123
3329111107	3491134	3491134
3329111109	3491138	3491138
3329111111	3491143	3491143
3329111213	3491152	3491152
3329111YWV	3491100	3491100

1997 published	1997 collected	1992 published
3329113	34912	34912
3329113101	3491201	3491201
3329113103	3491211	3491211
3329113105	3491221	3491221
3329113107	3491223	3491223
3329113109	3491231	3491231
3329113111	3491235	3491235
3329113113	3491241	3491241
3329113215	3491243	3491243
3329113YWV	3491200	3491200
3329115	3491300	3491300
3329115101	3491311	3491311
3329115103	3491323	3491323
3329115105	3491335	3491335
3329115107	3491347	3491347
3329115109	3491359	3491359
3329115211	3491361	3491361
3329115YWV	3491300	3491300
3329117	3491400	3491400
3329117101	3491411	3491411
3329117103	3491413	3491413
3329117105	3491415	3491415
3329117107	3491417	3491417
3329117109	3491421	3491421
3329117111	3491423	3491423
3329117113	3491425	3491425
3329117115	3491431	3491431
3329117217	3491461	3491461
3329117YWV	3491400	3491400
3329119	3491500	3491500
3329119101	3491511	3491511
3329119103	3491523	3491523
3329119105	3491535	3491535
3329119107	3491547	3491547
3329119209	3491561	3491561
3329119YWV	3491500	3491500
332911B	3491600	3491600
332911B101	3491611	3491611
332911B103	3491623	3491623
332911B105	3491631	3491631
332911B107	3491633	3491633
332911B109	3491641	3491641
332911B111	3491653	3491653
332911B113	3491665	3491665
332911B115	3491678	3491678
332911B117	3491698	3491698
332911BYWV	3491600	3491600
332911D	3491711	3491711
332911D101	3491713	3491713
332911D103	3491715	3491715
332911D105	3491727	3491727
332911D107	3491731	3491731
332911D109	3491739	3491739
332911D111	3491798	3491798
332911D213	3491700	3491700
332911DYWV	3491800	3491800
332911F	3491900	3491900
332911F100	3491000	3491000
332911H	3491002	3491002
332911H100	3492A	3492A
332911W	3492A00	3492A00
332911WYWW	3728400 pt	3728400 pt
332911WYWY	3728401 pt	3728473 pt
3329121 pt	3728401 pt	3728475 pt
3329121 pt	3492B	3492B
3329121100 pt	3492B00	3492B00
3329121100 pt	3728400 pt	3728400 pt
3329121100 pt	3728402 pt	3728483 pt
3329121100 pt	3728402 pt	3728485 pt
3329123 pt	3492C	3492C
3329123100 pt	3492C00	3492C00
3329125	3492D	3492D
3329125100	3492D00	3492D00
3329127	3492E	3492E
3329127100	3492E00	3492E00
3329129	3492F	3492F
3329129100	3492F00	3492F00
332912B	3492G	3492G
332912B100	3492G00	3492G00
332912D	3492H	3492H
332912D100	37284 pt	37284 pt
332912F pt	3492H00	3492H00
332912F pt	3728400 pt	3728400 pt
332912F100 pt	3728403 pt	3728473 pt
332912F100 pt	3728403 pt	3728475 pt
332912F100 pt	3728403 pt	3728483 pt
332912F100 pt	3728403 pt	3728485 pt
332912H	3492J	3492J
332912H100	3492J00	3492J00
332912J	3492K	3492K
332912J100	3492K00	3492K00
332912L	3492M	3492M
332912L100	3492M00	3492M00
332912N	3492N	3492N
332912N100	3492N00	3492N00
332912W pt	34920	34920
332912W pt	37280 pt	37280 pt
332912WYWW pt	3492000	3492000
332912WYWW pt	3728000 pt	3728000 pt
332912WYWY pt	3492002	3492002
332912WYWY pt	3728002 pt	3728002 pt
3329131	34321	34321
3329131101	3432102	3432102
3329131206	3432105	3432105
3329131211	3432108	3432108
3329131316	3432110	3432110
3329131321	3432112	3432112
3329131326 pt	3432111 pt	3432113
3329131326 pt	3432111 pt	3432114
3329131431	3432115	3432115
3329131436	3432117	3432117
3329131441	3432118	3432118
3329131446	3432120	3432120
3329131451	3432122	3432122
3329131456	3432125	3432125
3329131461	3432128	3432128
3329131466	3432130	3432130
3329131468 pt	3432133 pt	3432132
3329131468 pt	3432133 pt	3432134
3329131468 pt	3432133 pt	3432136
3329131YWV	3432100	3432100
3329133	34322	34322
3329133131	3432224	3432224
3329133136	3432227	3432227
3329133141	3432230	3432230
3329133146	3432233	3432233
3329133151	3432236	3432236
3329133201 pt	3432202 pt	3432201
3329133201 pt	3432202 pt	3432203
3329133206 pt	3432206 pt	3432205
3329133206 pt	3432206 pt	3432207
3329133211	3432212	3432212
3329133216	3432215	3432215
3329133221	3432218	3432218
3329133226	3432221	3432221
3329133256	3432239	3432239
3329133261	3432245	3432245
3329133266	3432250	3432250
3329133YWV	3432200	3432200
3329137	34323 pt	34323 pt
3329137101	3432302	3432302
3329137106	3432305	3432305
3329137111	3432311	3432311
3329137116 pt	3432315 pt	3432314
3329137116 pt	3432315 pt	3432317
3329137121 pt	3432321 pt	3432320
3329137121 pt	3432321 pt	3432323
3329137131	3432327	3432327
3329137141 pt	3432331 pt	3432308
3329137141 pt	3432331 pt	3432332 pt
3329137224	3432324	3432325 pt
3329137226	3432326	3432325 pt
3329137YWV	3432300 pt	3432300 pt
332913W	3432000 pt	3432000 pt
332913WYWW	3432002 pt	3432002 pt
332913WYWY	34944	34944
3329191 pt	34998 pt	34998 pt
3329191101 pt	3494421	3494421
3329191101 pt	3499831	3499831
3329191203	3494431	3494431
3329191205	3494441	3494441
3329191207	3494451	3494451
3329191209	3494499	3494499
3329191YWV pt	3494400	3494400
3329191YWV pt	3499800 pt	3499800 pt
3329193 pt	34298 pt	34298 pt
3329193 pt	34945 pt	34945 pt
3329193101	3494511	3494511
3329193103	3494512	3494512
3329193105	3494513	3494513
3329193107	3494514	3494514
3329193109	3494515	3494515
3329193111	3494516	3494516
3329193113	3494517	3494517
3329193215	3494518	3494518
3329193217	3494519	3494519
3329193319	3494521	3494521
3329193321	3494523	3494523
3329193323	3494532	3494532
3329193325	3494534	3494534
3329193327	3494537	3494537
3329193329	3494542	3494542
3329193331	3494544	3494544
3329193333	3494547	3494547
3329193335	3494585	3494585
3329193336	3429862	3429862
3329193337	3494599	3494599
3329193YWV pt	3429800 pt	3429800 pt
3329193YWV pt	3494500 pt	3494500 pt
332919W pt	34290 pt	34290 pt
332919W pt	34940 pt	34940 pt
332919W pt	34990 pt	34990 pt
332919WYWW pt	3429000 pt	3429000 pt
332919WYWW pt	3494000 pt	3494000 pt
332919WYWW pt	3499000 pt	3499000 pt
332919WYWY pt	3429002 pt	3429002 pt
332919WYWY pt	3494002 pt	3494002 pt
332919WYWY pt	3499002 pt	3499002 pt
3329911	35621	35621
3329911000	3562100	3562100
3329913	35622	35622
3329913000	3562200	3562200
3329915	35623	35623
3329915000	3562300	3562300
3329917	35624	35624
3329917000	3562400	3562400
3329919	35629	35629
3329919000	3562900	3562900
332991W	35620	35620
332991WYWW	3562000	3562000
332991WYWY	3562002	3562002
3329920	34820	34820
3329920101	3482025	3482025
3329920206	3482035	3482035
3329920311	3482045	3482045
3329920416	3482055	3482055
3329920521	3482061	3482061
3329920626	3482069	3482069
3329920731	3482098	3482098
3329920YWW	3482000	3482000
3329920YWY	3482002	3482002
3329931	34831	34831
3329931101	3483111	3483111
3329931106	3483135	3483135
3329931111	3483151	3483151
3329931116	3483171	3483171
3329931121	3483181	3483181
3329931YWV	3483100	3483100
3329933	34833	34833
3329933101	3483311	3483311
3329933206	3483331	3483331
3329933YWV	3483300	3483300
332993W	3483000	3483000
332993WYWW	3483002	3483002
332993WYWY	34841	34841
3329941	3484100	3484100
3329941100	34842	34842
3329943	3484211	3484211
3329943101	3484213	3484213
3329943206	3484216	3484216
3329943311	3484221	3484221
3329943416	3484223	3484223
3329943421	3484226	3484226
3329943426	3484254	3484254
3329943431	3484265	3484265
3329943536	3484274	3484274
3329943541	3484281	3484281
3329943546	3484200	3484200
3329943YWV	3484000	3484000
332994W	3484002	3484002
332994WYWW	34891	34891
332994WYWY	3489121	3489121
3329951	3489151	3489151
3329951106	3489171	3489171
3329951111	3489100	3489100
3329951116	34892	34892
3329951YWV	3489200	3489200
3329952	34890	34890
3329952100	3489000	3489000
332995W	3489002	3489002
332995WYWW	33534	33534
332995WYWY	3353400	3353400
3329961	34980	34980
3329961100	3498013	3498013
3329963	3498015	3498015
3329963101	3498017	3498017
3329963203	3498019	3498019
3329963205	3498000 pt	3498000 pt
3329963207	33530 pt	33530 pt
3329963YWV	3353000 pt	3353000 pt
332996W	3498000 pt	3498000 pt
332996WYWW pt	3353002 pt	3353002 pt
332996WYWW pt	3498002	3498002
332996WYWY pt	35430	35430
332996WYWY pt	3543011	3543011
3329970	3543098	3543098
3329970101	3543000	3543000
3329970206	3543002	3543002
3329970WWW	34310	34310
3329970YWY	3431010	3431010
3329980	3431098	3431098
3329980110	3431000	3431000
3329980290	3431002	3431002
3329980YWW		
3329980YWY		

1997 published	1997 collected	1992 published
3329991	34971	34971
3329991101	3497132	3497132
3329991106	3497133	3497133
3329991111	3497137	3497137
3329991YWV	3497100	3497100
3329993	34973	34973
3329993101	3497352	3497352
3329993106	3497354	3497354
3329993111	3497358	3497358
3329993YWV	3497300	3497300
3329994	35994 pt	35994 pt
3329994101	3599411	3599411
3329994106	3599413	3599413
3329994111	3599415	3599415
3329994116	3599416	3599416
3329994121	3599425	3599425
3329994YWV	3599400 pt	3599400 pt
3329997	34992	34992
3329997101	3499211	3499211
3329997106	3499213	3499213
3329997YWV	3499200	3499200
3329999	34993	34993
3329999100	3499300	3499300
332999A	34995	34995
332999A101	3499511	3499511
332999A106	3499521	3499521
332999A111	3499531	3499531
332999A116	3499539	3499539
332999AYWV	3499500	3499500
332999G pt	32918 pt	32918 pt
332999G pt	34323 pt	34323 pt
332999G pt	34945 pt	34945 pt
332999G pt	34998 pt	34998 pt
332999G pt	35373 pt	35373 pt
332999G pt	39999 pt	39999 pt
332999G101	3499811	3499811
332999G106	3499819	3499819
332999G189	3494571	3494571
332999G301	3499829	3499829
332999G303	3499839	3499839
332999G305	3537331	3537331
332999G306 pt	3999991 pt	3999913 pt
332999G306 pt	3999991 pt	3999942 pt
332999G306 pt	3999991 pt	3999944 pt
332999G306 pt	3999991 pt	3999999 pt
332999G313	3291831	3291831
332999G316	3291835	3291890 pt
332999G399 pt	3432329	3432332 pt
332999G399 pt	3499898	3499899 pt
332999GYWV pt	3291800 pt	3291800 pt
332999GYWV pt	3432300 pt	3432300 pt
332999GYWV pt	3494500 pt	3494500 pt
332999GYWV pt	3499800 pt	3499800 pt
332999GYWV pt	3537300 pt	3537300 pt
332999GYWV pt	3999900 pt	3999900 pt
332999W pt	32910 pt	32910 pt
332999W pt	34320 pt	34320 pt
332999W pt	34940 pt	34940 pt
332999W pt	34970 pt	34970 pt
332999W pt	34990 pt	34990 pt
332999W pt	35370 pt	35370 pt
332999W pt	35990 pt	35990 pt
332999W pt	39990 pt	39990 pt
332999WYWW pt	3291000 pt	3291000 pt
332999WYWW pt	3432000 pt	3432000 pt
332999WYWW pt	3494000 pt	3494000 pt
332999WYWW pt	3497000 pt	3497000 pt
332999WYWW pt	3499000 pt	3499000 pt
332999WYWW pt	3537000 pt	3537000 pt
332999WYWW pt	3599000 pt	3599000 pt
332999WYWW pt	3999000 pt	3999000 pt
332999WYWY pt	3291002 pt	3291002 pt
332999WYWY pt	3432002 pt	3432002 pt
332999WYWY pt	3494002 pt	3494002 pt
332999WYWY pt	3497002 pt	3497002 pt
332999WYWY pt	3499002 pt	3499002 pt
332999WYWY pt	3537002 pt	3537002 pt
332999WYWY pt	3599002 pt	3599002 pt
332999WYWY pt	3999002 pt	3999002 pt