

All Other Motor Vehicle Parts Manufacturing: 2002

Issued December 2004

EC02-311-336399 (RV)

2002 Economic Census

Manufacturing

Industry Series



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-- 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 to 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.

INDUSTRY CLASSIFICATIONS

Data from the 2002 Economic Census are published primarily according to the 2002 North American Industry Classification System (NAICS). NAICS was first adopted in the United States, Canada, and Mexico in 1997. The 2002 Economic Census covers 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 Food Services
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), largely covered by the census of governments conducted by the Census Bureau.)

The 20 NAICS sectors are subdivided into 100 subsectors (three-digit codes), 317 industry groups (four-digit codes), and, as implemented in the United States, 1,179 industries (six-digit codes).

RELATIONSHIP TO HISTORICAL INDUSTRY CLASSIFICATIONS

Prior to the 1997 Economic Census, data were published according to the Standard Industrial Classification (SIC) system. 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 1997 Economic Census *Bridge Between NAICS and SIC* demonstrates the relationships between NAICS and SIC industries. Where changes are significant, it may not be possible to construct time series that include data for points both before and after 1997.

Most industry classifications remained unchanged between 1997 and 2002, but NAICS 2002 includes substantial revisions within the construction and wholesale trade sectors, and a number of revisions for the retail trade and information sectors. These changes are noted in industry definitions and will be demonstrated in the *Bridge Between NAICS 2002 and NAICS 1997*.

For 2002, data for enterprise support establishments (those functioning primarily to support the activities of their company's operating establishments, such as a warehouse or a research and development laboratory) are included in the industry that reflects their activities (such as warehousing). For 1997, such establishments were termed auxiliaries and were excluded from industry totals.

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. (For selected industries, only payroll, employment, and classification are collected for individual establishments, while other data are collected on a consolidated basis.)

GEOGRAPHIC AREA CODING

Accurate and complete information on the physical location of each establishment is required to tabulate the census data for states, metropolitan and micropolitan statistical areas, counties, and corporate municipalities (places) including cities, towns, townships, 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 administrative sources is used as a basis for coding.

AVAILABILITY OF ADDITIONAL DATA

All results of the 2002 Economic Census are available on the Census Bureau Internet site (www.census.gov) and on digital versatile discs (DVD-ROMs) for sale by the Census Bureau. The American FactFinder system at the Internet site allows selective retrieval and downloading of the data. For more information, including a description of reports being issued, see the Internet site, write to the U.S. Census Bureau, Washington, DC 20233-6100, or call Customer Services at 301-763-4100.

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 service trades in 1933. Censuses of construction, manufacturing, and the other business 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 and 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 report forms.

The range of industries covered in the economic census expanded between 1967 and 2002. 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. New for 2002 is coverage of four industries classified in the agriculture, forestry, and fishing sector under the SIC system: landscape architectural services, landscaping services, veterinary services, and pet care services.

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. Reports for 1997 were published primarily on the Internet and copies of 1992 reports are also available there. CD-ROMs issued from the 1987, 1992, and 1997 Economic Censuses contain databases that include all or 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 the 2002 Economic Census and related surveys is published in the *Guide to the 2002 Economic Census* at www.census.gov/econ/census02/guide. More information on the methodology, procedures, and history of the census will be published in the *History of the 2002 Economic Census* at www.census.gov/econ/www/history.html.

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Manufacturing

SCOPE

The Manufacturing sector (sector 31-33) comprises establishments engaged in the mechanical, physical, or chemical transformation of materials, substances, or components into new products. The assembling of component parts of manufactured products is considered manufacturing, except in cases where the activity is appropriately classified in Sector 23, Construction.

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

The materials, substances, or components transformed by manufacturing establishments are raw materials that are products of agriculture, forestry, fishing, mining, or quarrying, as well as products of other manufacturing establishments. The materials used may be purchased directly from producers, obtained through customary trade channels, or secured without recourse to the market by transferring the product from one establishment to another, under the same ownership. The new product of a manufacturing establishment may be finished in the sense that it is ready for utilization or consumption, or it may be semifinished to become an input for an establishment engaged in further manufacturing. For example, the product of the alumina refinery is the input used in the primary production of aluminum; primary aluminum is the input to an aluminum wire drawing plant; and aluminum wire is the input for a fabricated wire product manufacturing establishment.

The subsectors in the manufacturing sector generally reflect distinct production processes related to material inputs, production equipment, and employee skills. In the machinery area, where assembling is a key activity, parts and accessories for manufactured products are classified in the industry of the finished manufactured item when they are made for separate sale. For example, a replacement refrigerator door would be classified with refrigerators and an attachment for a piece of metal working machinery would be classified with metal working machinery. However, components, input from other manufacturing establishments, are classified based on the production function of the component manufacturer. For example, electronic components are classified in Subsector 334, Computer and Electronic Product Manufacturing; and stampings are classified in Subsector 332, Fabricated Metal Product Manufacturing.

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

The boundaries of manufacturing and the other sectors of the classification system can be somewhat blurry. The establishments in the manufacturing sector are engaged in the transformation of materials into new products. Their output is a new product. However, the definition of what constitutes a new product can be somewhat subjective. As clarification, the following activities are

considered manufacturing in NAICS: milk bottling and pasteurizing; water bottling and processing; fresh fish packaging (oyster shucking, fish filleting); apparel jobbing (assigning of materials to contract factories or shops for fabrication or other contract operations); as well as contracting on materials owned by others; printing and related activities; ready-mixed concrete production; leather converting; grinding of lenses to prescription; wood preserving; electroplating, plating, metal heat treating, and polishing for the trade; lapidary work for the trade; fabricating signs and advertising displays; rebuilding or remanufacturing machinery (i.e., automotive parts); ship repair and renovation; machine shops; and tire retreading.

Exclusions. There are activities that are sometimes considered manufacturing, but for NAICS are classified in another sector. These activities include logging, classified in Sector 11, Agriculture, Forestry, Fishing and Hunting is considered a harvesting operation; the beneficiating of ores and other minerals, classified in Sector 21, Mining, is considered part of the activity of mining; the construction of structures and fabricating operations performed at the site of construction by contractors, is classified in Sector 23, Construction; establishments engaged in breaking of bulk and redistribution in smaller lots, including packaging, repackaging, or bottling products, such as liquors or chemicals; the customized assembly of computers; sorting of scrap; mixing paints to customer order; and cutting metals to customer order, classified in Sector 42, Wholesale Trade or Sector 44-45, Retail Trade, produce a modified version of the same product, not a new product; and publishing and the combined activity of publishing and printing, classified in Sector 51, Information, perform the transformation of information into a product where as the value of the product to the consumer lies in the information content, not in the format in which it is distributed (i.e., the book or software diskette).

The tabulations for this sector do not include central administrative offices, warehouses, or other establishments that serve manufacturing establishments within the same organization. Data for such establishments are classified according to the nature of the service they provide. For example, separate headquarters establishments are reported in NAICS Sector 55, Management of Companies and Enterprises.

The reports described below exclude establishments of firms with no paid employees. These “nonemployers,” typically self-employed individuals or partnerships operating businesses that they have not chosen to incorporate, are reported separately in Nonemployer Statistics. The contribution of nonemployers, relatively small for this sector, may be examined at www.census.gov/nonemployerimpact.

The reports described below cover all manufacturing establishments with one or more paid employees.

Definitions. Industry categories are defined in Appendix B, NAICS Codes, Titles, and Descriptions. Other terms are defined in Appendix A, Explanation of Terms.

REPORTS

The following reports provide statistics on this sector:

Industry Series. There are 473 reports, each covering a single NAICS industry (six-digit code). 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. The industry reports also include data for states with 100 employees or more in the industry. The data in industry reports are preliminary and subject to change in the following reports.

Geographic Area Series. There are 51 separate reports, one for each state and the District of Columbia. Each state report presents similar statistics at the “all manufacturing” level for each state and its metropolitan and micropolitan areas 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.

Subject Series:

x Manufacturing

2002 Economic Census

- **Industry-Product Analysis Summary.** This report presents value of shipments, value of product shipments, percentage of product shipments of the total value of shipments, and percentage of distribution of value of product shipments on the NAICS six-digit industry level and by the six- and seven-digit product code levels. It also includes miscellaneous receipts at the six- and seven-digit product code levels by NAICS six-digit industry levels.
- **General Summary.** This 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.
- **Product Summary.** This report summarizes the products data published in the industry reports. This report also includes a table with data for products that are primary to more than one industry, which are not in the industry reports.
- **Materials Summary.** This report summarizes the materials data published in the industry reports.
- **Concentration Ratio Summary.** This report publishes data on the percentage of value of shipments and value added accounted for by the 4-, 8-, 20-, and 50-largest companies for each manufacturing industry. Also shown in this report are Herfindahl-Herschmann indexes for each industry.
- **Location of Manufacturing Plants Summary.** This report contains 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.

ZIP Code Statistics. This report contains statistics on the number of establishments for the three- and six-digit NAICS industry by employment-size of the establishment by ZIP Code.

Other reports. Data for this sector are also included in reports with multisector coverage, including Nonemployer Statistics, Comparative Statistics, Bridge Between 2002 NAICS and 1997 NAICS, Business Expenses, and the Survey of Business Owners reports.

GEOGRAPHIC AREAS COVERED

The level of geographic detail varies by report. Maps are available at www.census.gov/econ2002maps. Notes specific to areas in the state are included in Appendix D, Geographic Notes.

1. The United States as a whole.
2. States and the District of Columbia.
3. Metropolitan and micropolitan statistical areas with 250 employees or more. A core based statistical areas (CBSA) contains a core area with a substantial population nucleus, together with adjacent communities having a high degree of social and economic integration with that core. CBSAs are differentiated into metropolitan and micropolitan statistical areas based on size criteria. Both metropolitan and micropolitan areas are defined in terms of entire counties, and are listed in Appendix E, Metropolitan and Micropolitan Statistical Areas.
 - a. Metropolitan Statistical Areas (metro areas). Metro areas have at least one urbanized area of 50,000 or more population, plus adjacent territory that has a high degree of social and economic integration with the core as measured by commuting ties.
 - b. Micropolitan Statistical Areas (micro areas). Micro areas have at least one urban cluster of at least 10,000 but less than 50,000 population, plus adjacent territory that has a high degree of social and economic integration with the core as measured by commuting ties.
 - c. Metropolitan Divisions (metro divisions). If specified criteria are met, a metro area containing a single core with a population of 2.5 million or more may be subdivided to form smaller groupings of counties referred to as Metropolitan Divisions.

-
- d. Combined Statistical Areas (combined areas). If specified criteria are met, adjacent metro and micro areas, in various combinations, may become the components of a new set of areas called Combined Statistical Areas. The areas that combine retain their own designations as metro or micro areas within the larger combined area.
4. Counties and county equivalents defined as of January 1, 2002, with 500 employees or more. Counties are the primary divisions of states, except in Louisiana where they are called parishes and in Alaska where they are called boroughs, census areas, and city and boroughs. Maryland, Missouri, Nevada, and Virginia have one place or more that is independent of any county organization and constitutes primary divisions of their states. These places are treated as counties and as places.
 5. Economic places with 500 employees or more.
 - a. Municipalities of 2,500 inhabitants or more defined as of January 1, 2002. These are areas of significant population incorporated as cities, boroughs, villages, or towns according to the 2000 Census of Population. For the economic census, boroughs and census areas in Alaska and boroughs in New York are not included in this category.
 - b. Consolidated cities defined as of January 1, 2002. Consolidated cities are consolidated governments that consist of separately incorporated municipalities.
 - c. Townships in Michigan, New Jersey, and Pennsylvania, and towns in New York, Wisconsin, and the six New England states with 10,000 inhabitants or more (according to the 2000 Census of Population).
 - d. Balance of county. Areas outside the entities listed above, including incorporated municipalities with populations of fewer than 2,500, town and townships not qualifying as noted above, and the remainders of counties outside places are categorized as "Balance of county."

DOLLAR VALUES

All dollar values presented are expressed in current dollars; i.e., 2002 data are expressed in 2002 dollars, and 1997 data, in 1997 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.

COMPARABILITY OF THE 1997 AND 2002 ECONOMIC CENSUSES

Both the 2002 Economic Census and the 1997 Economic Census present data based on the North American Industry Classification System (NAICS). While there were revisions to selected industries for 2002, this sector is not affected by those revisions.

For 2002, there have been several additional data tables added, which did not exist in 1997. These tables for 2002 include products primary to more than one industry, industry-product analysis, e-commerce value of shipments, and leased and nonleased detail employment statistics by subsectors.

RELIABILITY OF DATA

All data compiled for this sector are subject to nonsampling errors. Nonsampling errors can be attributed to many sources: inability to identify all cases in the actual universe; definition and classification difficulties; differences in the interpretation of questions; errors in recording or coding the data obtained; and other errors of collection, response, coverage, processing, and estimation for missing or misreported data. Selected data in tables titled "Detailed Statistics" are based on the Annual Survey of Manufactures and are subject to sampling errors as well as nonsampling errors.

No direct measurement of these effects has been obtained except for estimation for missing or misreported data, as by the percentages shown in the tables. Precautionary steps were taken in all phases of the collection, processing, and tabulation of the data in an effort to minimize the effects of nonsampling errors. More information on the reliability of the data is included in Appendix C, Methodology.

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 in a specific industry or geographic area is not considered a disclosure; therefore, this information may be released even though other information is withheld. Techniques employed to limit disclosure are discussed at www.census.gov/epcd/ec02/disclosure.htm.

The disclosure analysis for "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. Nonetheless, the suppressed data are included in higher-level totals. A separate disclosure analysis is performed for capital expenditures, which 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 55,000 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 the Current Industrial Reports (CIR) program. The CIR program publishes selected detailed product statistics for selected manufacturing industries at the U.S. level annually and, in some cases, monthly and/or quarterly. 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.

In addition, the County Business Patterns program offers annual statistics on the number of establishments, employment, and payroll classified by industry within each county, and Statistics of U.S. Businesses provides annual statistics classified by the employment size of the enterprise, further classified by industry for the United States, and by broader categories for states and metropolitan areas.

CONTACTS FOR DATA USERS

Questions about these data may be directed to the U.S. Census Bureau, Manufacturing & Construction Division, Information Services Center, 301-763-4673 or ask.census.gov.

ABBREVIATIONS AND SYMBOLS

The following abbreviations and symbols are used with these 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
S	Withheld because estimates did not meet publication standards
X	Not applicable
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
nsk	Not specified by kind
-	Represents zero (page image/print only)
(CC)	Consolidated city
(IC)	Independent city

Table 1. Historical Statistics for the Industry: 2002 and Earlier Years

[Data based on the 2002 Economic Census and the 2002 Annual Survey of Manufactures (ASM). For information on confidentiality protection, sampling error, nonsampling error, and explanation of terms, see note at end of table. For meaning of abbreviations and symbols, see introductory text]

Industry and year ¹	Com- panies ²	All estab- lish- ments ³	All employees		Production workers			Value added (\$1,000)	Total cost of materials (\$1,000)	Total value of shipments (\$1,000)	Total capital expendi- tures (\$1,000)
			Number ⁴	Payroll (\$1,000)	Number ⁴	Hours (1,000)	Wages (\$1,000)				
336399, All other motor vehicle parts manufacturing	2002.. 1 172	1 447	144 082	5 129 083	113 878	225 735	3 513 738	15 765 987	19 746 861	35 449 064	1 365 529
	2001.. N	N	158 913	5 503 071	123 672	239 160	3 485 136	14 593 490	22 810 709	37 570 417	1 688 744
	2000.. N	N	185 628	6 667 323	147 793	295 281	4 568 141	18 259 777	25 309 184	43 526 317	2 133 664
	1999.. N	N	183 696	6 337 017	146 674	297 563	4 411 627	17 379 741	23 587 706	40 906 180	1 993 112
	1998.. N	N	186 567	6 138 537	149 363	295 521	4 322 118	16 792 090	21 180 313	38 027 482	1 889 380
	1997.. 1 271	1 515	179 392	5 739 398	144 196	284 081	4 060 050	15 538 788	19 994 870	35 510 733	1 690 338

¹Statistics presented for years ending in 2 and 7 are census data. Interim census years are derived in a representative sample of manufacturing establishments canvassed in the Annual Survey of Manufactures (ASM).

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

³Includes establishments with payroll at any time during the year.

⁴Number of employees figures represent average number of production workers for pay period that includes the 12th of March, May, August, and November plus other employees for payroll period that includes the 12th of March.

Note: The data in this table are based on the 2002 Economic Census and the 2002 Annual Survey of Manufactures (ASM). To maintain confidentiality, the Census Bureau suppresses data to protect the identity of any business or individual. The census results in this table contain sampling errors and nonsampling errors. Data users who create their own estimates using data from American FactFinder tables should cite the Census Bureau as the source of the original data only. For explanation of terms, see Appendix A. For full technical documentation, see Appendix C.

Table 2. Industry Statistics for Selected States: 2002

[States that are a disclosure or with less than 100 employees are not shown. Data based on the 2002 Economic Census. For information on confidentiality protection, nonsampling error, explanation of terms, and geographical definitions, see note at end of table. For information on geographic areas followed by *, see Appendix D. For meaning of abbreviations and symbols, see introductory text]

Industry and geographic area	E ¹	All establishments ²		All employees		Production workers			Value added (\$1,000)	Total cost of materials (\$1,000)	Total value of shipments (\$1,000)	Total capital expenditures (\$1,000)
		Total	With 20 employees or more	Number ³	Payroll (\$1,000)	Number ³	Hours (1,000)	Wages (\$1,000)				
336399, All other motor vehicle parts manufacturing												
United States	1	1 447	741	144 082	5 129 083	113 878	225 735	3 513 738	15 765 987	19 746 861	35 449 064	1 365 529
Alabama	—	21	7	1 394	45 933	1 032	1 945	26 689	243 684	328 447	573 328	131 180
Arizona	—	27	9	1 804	74 595	1 374	2 907	45 864	214 244	345 177	555 067	116 919
Arkansas	1	9	6	2 294	75 785	1 792	4 023	53 409	195 092	147 534	342 548	128 423
California	2	208	89	12 958	415 567	10 413	21 716	283 593	1 094 785	964 776	2 058 189	168 663
Colorado	1	16	4	1 146	40 578	832	1 415	21 542	96 817	98 703	197 192	12 684
Connecticut	—	11	5	562	23 752	429	897	16 472	84 186	48 182	134 389	1 573
Florida	1	39	12	1 744	48 180	1 281	2 896	26 786	107 351	138 658	246 158	116 309
Georgia	2	31	14	2 784	107 472	1 843	3 947	56 468	253 674	332 864	576 081	114 991
Illinois	—	55	29	6 119	205 598	4 836	9 303	142 017	877 234	529 492	1 397 775	170 977
Indiana	—	93	58	14 991	518 288	11 789	24 156	358 329	1 535 519	2 296 995	3 837 670	196 511
Iowa	—	16	9	2 361	71 284	2 088	4 012	57 593	263 521	184 330	444 552	18 916
Kansas	—	13	5	1 279	42 324	1 108	2 330	34 032	116 009	148 125	263 911	14 436
Kentucky	1	41	34	7 062	256 146	5 495	11 072	168 867	594 870	967 908	1 558 035	142 594
Maryland	—	7	4	313	10 361	251	497	7 317	26 485	20 646	47 515	590
Massachusetts	7	11	4	226	8 069	171	354	4 946	18 283	21 502	39 985	1 300
Michigan	—	199	127	25 703	1 046 900	20 200	36 265	707 577	2 776 460	4 285 068	7 050 689	248 391
Minnesota	2	19	4	460	14 922	363	726	9 979	25 218	44 232	70 181	2 133
Mississippi	6	9	7	1 202	39 281	964	1 974	27 422	132 439	124 221	254 801	112 548
Missouri	1	31	17	4 334	135 151	3 690	6 975	102 035	432 111	625 098	1 046 056	127 022
Nevada	1	7	3	179	6 095	132	279	3 623	10 039	16 496	26 357	3 431
North Carolina	—	37	20	5 779	182 393	4 148	7 783	129 095	627 481	449 923	1 063 984	175 788
Ohio	1	122	72	12 048	437 080	9 865	20 296	322 568	1 194 862	2 202 581	3 390 070	211 722
Oklahoma	1	14	6	1 037	42 493	703	1 529	22 273	35 814	161 856	197 574	2 936
Oregon	1	27	8	1 082	42 429	757	1 102	26 854	153 189	95 004	247 472	5 999
Pennsylvania	6	33	17	1 793	71 537	1 310	2 681	36 578	260 562	491 900	752 768	119 718
South Carolina	—	21	13	2 580	98 082	2 036	4 364	67 102	247 191	460 855	704 063	126 108
Tennessee	1	62	42	10 804	337 726	8 726	19 118	239 747	1 272 756	1 558 461	2 827 511	184 932
Texas	2	63	24	2 528	84 437	1 927	3 423	49 838	162 235	149 712	327 586	114 118
Virginia	2	14	11	1 657	48 447	1 444	3 198	37 628	196 603	154 117	355 962	18 584
Wisconsin	—	42	28	5 089	215 240	4 384	9 121	172 868	1 336 734	691 693	2 021 698	129 477

¹Some 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 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.

²Includes establishments with payroll at any time during the year.

³Number of employees figures represent average number of production workers for pay period that includes the 12th of March, May, August, and November plus other employees for payroll period that includes the 12th of March.

Note: The data in this table are based on the 2002 Economic Census. To maintain confidentiality, the Census Bureau suppresses data to protect the identity of any business or individual. The census results in this table contain nonsampling errors. Data users who create their own estimates using data from American FactFinder tables should cite the Census Bureau as the source of the original data only. For explanation of terms, see Appendix A. For full technical documentation, see Appendix C. For geographical definitions, see Appendix D.

Table 3. Detailed Statistics by Industry: 2002

[Data based on the 2002 Economic Census and the 2002 Annual Survey of Manufactures (ASM). For information on confidentiality protection, sampling error, nonsampling error, and explanation of terms, see note 2 at end of table. For meaning of abbreviations and symbols, see introductory text]

Item	Value
336399, All other motor vehicle parts manufacturing	
Companies ¹	number.. 1 172
All establishments ²	number.. 1 447
Establishments with 1 to 19 employees	number.. 706
Establishments with 20 to 99 employees	number.. 375
Establishments with 100 employees or more	number.. 366
All employees ³	number.. 144 082
Total compensation	\$1,000.. 6 825 297
Annual payroll	\$1,000.. 5 129 083
Total fringe benefits	\$1,000.. 1 696 214
Production workers, average for year	number.. 113 878
Production workers on March 12	number.. 112 839
Production workers on May 12	number.. 114 546
Production workers on August 12	number.. 114 454
Production workers on November 12	number.. 113 504
Production worker hours	1,000.. 225 735
Production worker wages	\$1,000.. 3 513 738
Total cost of materials	\$1,000.. 19 746 861
Materials, parts, containers, packaging, etc., used	\$1,000.. 18 152 652
Resales	\$1,000.. 904 588
Purchased fuels	\$1,000.. 117 128
Purchased electricity	\$1,000.. 254 223
Contract work	\$1,000.. 318 270
Quantity of electricity purchased for heat and power	1,000 kWh.. 4 708 483
Quantity of electricity generated less sold for heat and power	1,000 kWh.. S
Total value of shipments	\$1,000.. 35 449 064
Primary products value of shipments	\$1,000.. 32 893 394
Secondary products value of shipments	\$1,000.. 1 375 162
Total miscellaneous receipts	\$1,000.. 1 180 508
Value of resales	\$1,000.. 1 079 990
Contract receipts	\$1,000.. 41 244
Other miscellaneous receipts	\$1,000.. 59 274
Primary products specialization ratio	percent.. 96
Value of primary products shipments made in all industries	\$1,000.. 36 834 006
Value of primary products shipments made in this industry	\$1,000.. 32 893 394
Value of primary products shipments made in other industries	\$1,000.. 3 940 612
Coverage ratio	percent.. 89
Value added	\$1,000.. 15 765 987
Total inventories, beginning of year	\$1,000.. 2 226 089
Finished goods inventories	\$1,000.. 773 934
Work-in-process inventories	\$1,000.. 441 722
Materials and supplies inventories	\$1,000.. 1 010 433
Total inventories, end of year	\$1,000.. 2 344 753
Finished goods inventories	\$1,000.. 803 337
Work-in-process inventories	\$1,000.. 476 103
Materials and supplies inventories	\$1,000.. 1 065 313
Gross value of depreciable assets (acquisition costs) at beginning of year	\$1,000.. '13 065 246
Total capital expenditures (new and used)	\$1,000.. '1 365 529
Buildings and other structures (new and used)	\$1,000.. '146 661
Machinery and equipment (new and used)	\$1,000.. '1 218 868
Automobiles, trucks, etc., for highway use	\$1,000.. '20 818
Computers and peripheral data processing equipment	\$1,000.. '51 946
All other expenditures for machinery and equipment	\$1,000.. '1 146 104
Total retirements	\$1,000.. '734 043
Gross value of depreciable assets at end of year	\$1,000.. '13 696 732
Depreciation charges during year	\$1,000.. '1 121 018
Total rental payments	\$1,000.. 322 348
Buildings and other structures	\$1,000.. 165 600
Machinery and equipment	\$1,000.. 156 748
Total other expenses ⁴	\$1,000.. 2 250 543
Response coverage ratio ⁵	percent.. 85
Repair and maintenance services of buildings and/or machinery ⁴	\$1,000.. 282 156
Communications services ⁴	\$1,000.. 58 622
Legal services ⁴	\$1,000.. 23 232
Accounting, auditing, and bookkeeping services ⁴	\$1,000.. 11 988
Advertising and promotional services ⁴	\$1,000.. 31 233
Expensed computer hardware and supplies and purchased computer services ⁴	\$1,000.. 60 531
Refuse removal (including hazardous waste) services ⁴	\$1,000.. 26 752
Management consulting and administrative services ⁴	\$1,000.. 78 119
Taxes and license fees ⁴	\$1,000.. 101 766
All other expenses ⁴	\$1,000.. 1 576 145

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

²Includes establishments with payroll at any time during the year.

³Number of employees figures represent average number of production workers for pay period that includes the 12th of March, May, August, and November plus other employees for payroll period that includes the 12th of March.

⁴Based on Annual Survey of Manufactures (ASM) sample data.

⁵A response coverage ratio is derived for this item by calculating the ratio of the weighted employment (establishment data multiplied by sample weight) for those Annual Survey of Manufactures (ASM) establishments that reported to the weighted total employment for all ASM establishments classified in this industry.

Note 1: The amounts shown for other expenses reflect only those services that establishments purchase from other companies.

Note 2: The data in this table are based on the 2002 Economic Census and the 2002 Annual Survey of Manufactures (ASM). To maintain confidentiality, the Census Bureau suppresses data to protect the identity of any business or individual. The census results in this table contain sampling errors and nonsampling errors. Data users who create their own estimates using data from American FactFinder tables should cite the Census Bureau as the source of the original data only. For explanation of terms, see Appendix A. For full technical documentation, see Appendix C.

Table 4. Industry Statistics by Employment Size: 2002

[Data based on the 2002 Economic Census. For information on confidentiality protection, nonsampling error, and explanation of terms, see note at end of table. For meaning of abbreviations and symbols, see introductory text]

Employment size class	E ¹	All establishments ²	All employees		Production workers			Value added (\$1,000)	Total cost of materials (\$1,000)	Total value of shipments (\$1,000)	Total capital expenditures (\$1,000)
			Number ³	Payroll (\$1,000)	Number ³	Hours (1,000)	Wages (\$1,000)				
336399, All other motor vehicle parts manufacturing											
All establishments	1	1 447	144 082	5 129 083	113 878	225 735	3 513 738	15 765 987	19 746 861	35 449 064	¹ 1 365 529
Establishments with—											
1 to 4 employees	8	348	742	22 997	589	1 079	16 193	63 094	65 251	128 629	³ 3 909
5 to 9 employees	7	163	1 114	38 700	903	1 770	26 836	103 682	112 325	217 940	⁹ 890
10 to 19 employees	6	195	2 744	93 924	2 162	4 224	62 518	293 107	287 356	577 220	¹⁴ 510
20 to 49 employees	3	225	7 138	244 658	5 363	10 611	147 713	656 492	669 860	1 316 333	¹³⁰ 767
50 to 99 employees	2	150	10 409	341 061	8 049	16 243	213 718	985 876	1 087 287	2 058 889	¹⁰⁰ 939
100 to 249 employees	1	182	29 369	997 898	22 990	45 275	670 327	3 201 809	3 647 003	6 828 711	²⁰⁰ 411
250 to 499 employees	1	119	41 812	1 430 341	33 307	66 769	985 306	3 797 779	4 812 759	8 617 197	²⁸⁹ 130
500 to 999 employees	1	53	34 860	1 347 173	28 000	58 106	945 232	4 787 566	5 871 604	10 642 967	³⁹⁴ 150
2,500 employees or more	—	—	15 894	612 331	12 515	21 658	445 895	1 876 582	3 193 416	5 061 178	221 823
Administrative records ⁴	9	486	2 613	85 119	2 200	4 293	62 556	216 153	242 599	458 220	¹⁵ 492

¹Some 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 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.

²Includes establishments with payroll at any time during the year.

³Number of employees figures represent average number of production workers for pay period that includes the 12th of March, May, August, and November plus other employees for payroll period that includes the 12th of March.

⁴Some 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.

Note: The data in this table are based on the 2002 Economic Census. To maintain confidentiality, the Census Bureau suppresses data to protect the identity of any business or individual. The census results in this table contain nonsampling errors. Data users who create their own estimates using data from American FactFinder tables should cite the Census Bureau as the source of the original data only. For explanation of terms, see Appendix A. For full technical documentation, see Appendix C.

Table 5. Industry Statistics by Primary Product Class Specialization: 2002

[Data based on the 2002 Economic Census. For information on confidentiality protection, nonsampling error, and explanation of terms, see note at end of table. For meaning of abbreviations and symbols, see introductory text]

Industry or product class code	Industry or primary product class	All establishments ¹	All employees		Production workers			Value added (\$1,000)	Total cost of materials (\$1,000)	Total value of shipments (\$1,000)	Total capital expenditures (\$1,000)
			Number ²	Payroll (\$1,000)	Number ²	Hours (1,000)	Wages (\$1,000)				
336399	All other motor vehicle parts manufacturing	1 447	144 082	5 129 083	113 878	225 735	3 513 738	15 765 987	19 746 861	35 449 064	'1 365 529
3363991	Filters for internal combustion engines and motor vehicles, new ..	41	12 409	427 386	10 019	20 435	301 960	1 721 262	1 158 331	2 865 276	'79 220
3363993	Exhaust system parts, new	81	17 399	678 186	14 159	26 579	485 309	2 923 804	4 695 872	7 615 020	'224 350
3363995	Motor vehicle wheels, new	49	13 427	479 898	11 000	23 834	345 653	1 292 133	1 470 931	2 759 174	'121 825
3363996	Trailer hitches (for travel trailers, automobile trailers, and light duty truck trailers)	25	2 131	80 880	1 502	3 101	48 840	255 831	152 662	408 353	'20 229
3363998	All other motor vehicle parts and accessories, new and rebuilt	455	76 116	2 739 427	58 308	116 129	1 801 905	7 895 139	10 668 049	18 531 133	'787 758

¹Includes establishments with payroll at any time during the year.

²Number of employees figures represent average number of production workers for pay period that includes the 12th of March, May, August, and November plus other employees for payroll period that includes the 12th of March.

Note: The data in this table are based on the 2002 Economic Census. To maintain confidentiality, the Census Bureau suppresses data to protect the identity of any business or individual. The census results in this table contain nonsampling errors. Data users who create their own estimates using data from American FactFinder tables should cite the Census Bureau as the source of the original data only. For explanation of terms, see Appendix A. For full technical documentation, see Appendix C.

Table 6a. Products Statistics: 2002 and 1997

[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. Data based on the 2002 Economic Census. For information on confidentiality protection, nonsampling error, and explanation of terms, see note 2 at end of table. For meaning of abbreviations and symbols, see introductory text]

Product code	Product	Number of companies with shipments of \$100,000 or more	Quantity of production for all purposes	Product shipments	
				Quantity	Value (\$1,000)
336399	All other motor vehicle parts manufacturing	2002.. N 1997.. N	X X	X X	36 834 006 35 521 416
3363991	Filters for internal combustion engines and motor vehicles, new	2002.. N 1997.. N	X X	X X	2 811 037 2 463 396
33639911	Filters for internal combustion engines and motor vehicles, new	2002.. N 1997.. N	X X	X X	2 767 875 2 374 703
3363991101	Oil filters for internal combustion engines and motor vehicles, new, light-duty (car and light truck)	2002.. 14 1997.. 11	X X	X X	875 109 597 632
3363991104	Oil filters for internal combustion engines and motor vehicles, new, heavy-duty	2002.. 9 1997.. 10	X X	X X	350 943 350 201
3363991107	Fuel filters for internal combustion engines and motor vehicles, new, light-duty (car and light truck)	2002.. 13 1997.. 17	X X	X X	279 531 294 291
3363991111	Fuel filters for internal combustion engines and motor vehicles, new, heavy-duty	2002.. 10 1997.. 6	X X	X X	252 502 220 184
3363991113	Air filters for internal combustion engines and motor vehicles, new, light-duty (car and light truck)	2002.. 14 1997.. 19	X X	X X	398 344 387 326
3363991116	Air filters for internal combustion engines and motor vehicles, new, heavy-duty	2002.. 8 1997.. 9	X X	X X	388 498 325 320
3363991119	Other filters for internal combustion engines and motor vehicles (including coolant and hydraulic), new, light- (car and light truck) and heavy-duty	2002.. 9 1997.. 12	X X	X X	222 948 199 749
3363991Y	Filters for internal combustion engines and motor vehicles, new, nsk	2002.. N 1997.. N	X X	X X	43 162 88 693
3363991YVW	Filters for internal combustion engines and motor vehicles, new, nsk	2002.. N 1997.. N	X X	X X	43 162 88 693
3363993	Exhaust system parts, new	2002.. N 1997.. N	X X	X X	7 194 463 5 035 692
33639931	Exhaust system parts, new	2002.. N 1997.. N	X X	X X	7 183 730 4 999 226
3363993101	Exhaust system mufflers (including standard, sports or glass pack) and resonators, new, for motor vehicles	2002.. 37 1997.. 29	X X	X X	1 918 417 1 097 629
3363993104	Exhaust system pipes, including exhaust, intermediate, connecting, crossover, tail, and side pipes	2002.. 47 1997.. 37	X X	X X	1 721 048 1 308 998
3363993107	Exhaust system catalytic converters, new, for motor vehicles	2002.. 20 1997.. 18	X X	X X	3 544 265 2 592 599
3363993Y	Exhaust system parts, new, nsk	2002.. N 1997.. N	X X	X X	10 733 36 466
3363993YVW	Exhaust system parts, new, nsk	2002.. N 1997.. N	X X	X X	10 733 36 466
3363995	Motor vehicle wheels, new	2002.. N 1997.. N	X X	X X	2 665 734 3 439 804
33639951	Motor vehicle wheels, new	2002.. N 1997.. N	X X	X X	2 600 760 3 347 404
3363995101	Car and light truck wheels, steel, new	2002.. 10 1997.. 14	X X	X X	440 297 980 441
3363995104	Car and light truck wheels, aluminum, new	2002.. 20 1997.. 23	X X	X X	1 726 076 1 655 098
3363995107	Other car and light truck wheels, including combination, new	2002.. 7 1997.. 6	X X	X X	202 320 192 622
3363995111	Heavy truck and bus type wheels, including those used for truck trailers and trailer coaches	2002.. 10 1997.. 12	X X	X X	232 067 519 243
3363995Y	Motor vehicle wheels, new, nsk	2002.. N 1997.. N	X X	X X	64 974 92 400
3363995YVW	Motor vehicle wheels, new, nsk	2002.. N 1997.. N	X X	X X	64 974 92 400
3363996	Trailer hitches (for travel trailers, automobile trailers, and light duty truck trailers)	2002.. N 1997.. N	X X	X X	322 838 N
33639961	Trailer hitches (for travel trailers, automobile trailers, and light duty truck trailers)	2002.. N 1997.. N	X X	X X	322 838 N
3363996100	Trailer hitches (for travel trailers, automobile trailers, and light duty truck trailers)	2002.. 32 1997.. N	X X	X X	322 838 N
3363998	All other motor vehicle parts and accessories, new and rebuilt	2002.. N 1997.. N	X X	X X	20 839 431 N
33639981	Motor vehicle bumper assemblies, bumpers, and parts, new	2002.. N 1997.. N	X X	X X	1 322 682 N
3363998103	Motor vehicle bumper assemblies, bumpers, and parts for cars and light trucks (10,000 lb GVW and less), new	2002.. 28 1997.. N	X X	X X	1 228 639 N
3363998105	Motor vehicle bumper assemblies, bumpers, and parts for heavy trucks (greater than 10,000 lb GVW), new	2002.. 15 1997.. N	X X	X X	94 043 N
33639982	Motor vehicle frames, new	2002.. N 1997.. N	X X	X X	1 938 708 N
3363998204	Motor vehicle frames, new	2002.. 18 1997.. N	X X	X X	1 938 708 N
33639983	Motor vehicle fuel tanks, new	2002.. N 1997.. N	X X	X X	543 611 N
3363998307	Motor vehicle fuel tanks, new	2002.. 15 1997.. N	X X	X X	543 611 N

See footnotes at end of table.

Table 6a. Products Statistics: 2002 and 1997—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. Data based on the 2002 Economic Census. For information on confidentiality protection, nonsampling error, and explanation of terms, see note 2 at end of table. For meaning of abbreviations and symbols, see introductory text]

Product code	Product	Number of companies with shipments of \$100,000 or more	Quantity of production for all purposes	Product shipments	
				Quantity	Value (\$1,000)
336399	All other motor vehicle parts manufacturing—Con.				
3363998	All other motor vehicle parts and accessories, new and rebuilt—Con.				
33639984	Radiators, radiator shells and cores, new	2002.. N	X	X	1 546 303
		1997.. N	X	X	N
3363998401	Gasoline engine radiators, complete, new, for motor vehicles	2002.. 22	X	X	1 149 446
		1997.. N	X	X	N
3363998405	Gasoline engine radiator shells and cores, new, for motor vehicles	2002.. 17	X	X	207 194
		1997.. N	X	X	N
3363998409	Stationary engine radiators for internal combustion engines, except aircraft and gasoline automotive engines and gas turbines	2002.. 13	X	X	189 663
		1997.. N	X	X	N
33639985	All other motor vehicle parts, new and rebuilt	2002.. N	X	X	15 404 594
		1997.. N	X	X	N
3363998514	Motor vehicle air-conditioning hose assemblies, new	2002.. 19	X	X	423 433
		1997.. N	X	X	N
3363998524	Motor vehicle windshield wiper blades, new	2002.. 7	X	X	136 752
		1997.. N	X	X	N
3363998525	Truck and trailer liftgates, new	2002.. 10	X	X	D
		1997.. N	X	X	N
3363998527	Motor vehicle convertible tops, new	2002.. 15	X	X	230 309
		1997.. N	X	X	N
3363998531	Motor vehicle sunroofs and parts, new	2002.. 11	X	X	494 927
		1997.. N	X	X	N
3363998532	Motor vehicle doors, new	2002.. 8	X	X	190 112
		1997.. N	X	X	N
3363998534	Motor vehicle air bag assemblies and parts, new	2002.. 21	X	X	3 294 363
		1997.. N	X	X	N
3363998537	Motor vehicle heater cores, new	2002.. 2	X	X	D
		1997.. N	X	X	N
3363998541	Luggage and utility racks	2002.. 15	X	X	344 818
		1997.. N	X	X	N
3363998550	All other motor vehicle parts and accessories, new	2002.. 349	X	X	9 780 635
		1997.. N	X	X	N
3363998554	Other motor vehicle parts, excluding carburetors and engine electrical equipment, rebuilt	2002.. 36	X	X	390 233
		1997.. N	X	X	N
3363998Y	All other motor vehicle parts and accessories, new and rebuilt, nsk	2002.. N	X	X	83 533
		1997.. N	X	X	N
3363998YVW	All other motor vehicle parts and accessories, new and rebuilt, nsk	2002.. N	X	X	83 533
		1997.. N	X	X	N
336399W	All other motor vehicle parts manufacturing, nsk, total	2002.. N	X	X	3 000 503
		1997.. N	X	X	1 891 490
336399WY	All other motor vehicle parts manufacturing, nsk, total	2002.. N	X	X	3 000 503
		1997.. N	X	X	1 891 490
336399WYWW	All other motor vehicle parts manufacturing, nsk, for nonadministrative-record establishments	2002.. N	X	X	2 562 942
		1997.. N	X	X	1 600 165
336399WYWY	All other motor vehicle parts manufacturing, nsk, for administrative-record establishments	2002.. N	X	X	437 561
		1997.. N	X	X	291 325

Note 1: For some establishments, data have been estimated from central unit values that 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.

Note 2: The data in this table are based on the 2002 Economic Census. To maintain confidentiality, the Census Bureau suppresses data to protect the identity of any business or individual. The census results in this table contain nonsampling errors. Data users who create their own estimates using data from American FactFinder tables should cite the Census Bureau as the source of the original data only. For explanation of terms, see Appendix A. For full technical documentation, see Appendix C.

Table 6b. Product Class Shipments for Selected States: 2002 and 1997

[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 2002. Data based on the 2002 Economic Census. For information on confidentiality protection, nonsampling error, explanation of terms, and geographic definitions, see note at end of table. For information on geographic areas followed by *, see Appendix D. For meaning of abbreviations and symbols, see introductory text]

NAICS product class code	Product class and geographic area	Value of product shipments (\$1,000)
3363991	Filters for internal combustion engines and motor vehicles, new	
	United States	2002.. 2 811 037
	1997..	2 463 396
	California	2002.. 205 505
	1997..	107 005
	Iowa	2002.. 245 101
	1997..	298 654
	Michigan	2002.. 103 750
	1997..	130 958
	North Carolina	2002.. 643 082
1997..	N	
Ohio	2002.. 175 194	
1997..	180 419	
Wisconsin	2002.. 181 563	
1997..	113 076	
3363993	Exhaust system parts, new	
	United States	2002.. 7 194 463
	1997..	5 035 692
	California	2002.. 333 825
	1997..	255 538
	Indiana	2002.. 1 178 677
	1997..	856 203
	Kentucky	2002.. 78 924
	1997..	N
	Michigan	2002.. 1 749 237
1997..	796 449	
Ohio	2002.. 648 226	
1997..	421 343	
Tennessee	2002.. 372 800	
1997..	308 602	
3363995	Motor vehicle wheels, new	
	United States	2002.. 2 665 734
	1997..	3 439 804
	California	2002.. 845 020
	1997..	803 095
	Indiana	2002.. 343 345
	1997..	386 623
Kentucky	2002.. 365 892	
1997..	469 899	
Ohio	2002.. 161 309	
1997..	343 396	
3363996	Trailer hitches (for travel trailers, automobile trailers, and light duty truck trailers)	
	United States	2002.. 322 838
	1997..	N
	California	2002.. 65 103
	1997..	N
Michigan	2002.. 92 225	
1997..	N	
3363998	All other motor vehicle parts and accessories, new and rebuilt	
	United States	2002.. 20 839 431
	1997..	N
	Alabama	2002.. 429 922
	1997..	N
	Arkansas	2002.. 108 442
	1997..	N
	California	2002.. 611 821
	1997..	N
	Colorado	2002.. 182 756
	1997..	N
	Connecticut	2002.. 105 649
	1997..	N
	Florida	2002.. 154 502
	1997..	N
	Georgia	2002.. 393 223
	1997..	N
	Illinois	2002.. 868 138
	1997..	N
	Indiana	2002.. 1 912 246
	1997..	N
	Iowa	2002.. 140 231
	1997..	N
	Kentucky	2002.. 1 325 246
	1997..	N
	Maryland	2002.. 35 454
	1997..	N
	Massachusetts	2002.. 9 901
	1997..	N
	Michigan	2002.. 4 880 833
1997..	N	
Minnesota	2002.. 101 542	
1997..	N	
Mississippi	2002.. 242 371	
1997..	N	
Missouri	2002.. 608 947	
1997..	N	
North Carolina	2002.. 219 374	
1997..	N	
Ohio	2002.. 1 988 307	
1997..	N	
Oklahoma	2002.. 39 812	
1997..	N	
Oregon	2002.. 185 960	
1997..	N	
Pennsylvania	2002.. 194 068	
1997..	N	

See footnotes at end of table.

Table 6b. Product Class Shipments for Selected States: 2002 and 1997—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 2002. Data based on the 2002 Economic Census. For information on confidentiality protection, nonsampling error, explanation of terms, and geographic definitions, see note at end of table. For information on geographic areas followed by *, see Appendix D. For meaning of abbreviations and symbols, see introductory text]

NAICS product class code	Product class and geographic area	Value of product shipments (\$1,000)
3363998	All other motor vehicle parts and accessories, new and rebuilt—Con.	
	United States—Con.	
	South Carolina	2002.. 674 750
		1997.. N
	Tennessee	2002.. 1 732 555
		1997.. N
	Texas	2002.. 189 942
		1997.. N
	Virginia	2002.. 66 948
		1997.. N
	Wisconsin	2002.. 392 504
		1997.. N

Note: The data in this table are based on the 2002 Economic Census. To maintain confidentiality, the Census Bureau suppresses data to protect the identity of any business or individual. The census results in this table contain nonsampling errors. Data users who create their own estimates using data from American FactFinder tables should cite the Census Bureau as the source of the original data only. For explanation of terms, see Appendix A. For full technical documentation, see Appendix C. For geographical definitions, see Appendix D.

Table 7. Materials Consumed by Kind: 2002 and 1997

[Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. Data based on the 2002 Economic Census. For information on confidentiality protection, nonsampling error, and explanation of terms, see note 2 at end of table. For meaning of abbreviations and symbols, see introductory text]

Material code	Material consumed	Quantity	Delivered cost (\$1,000)
336399	All other motor vehicle parts manufacturing		
0090001	Total materials	2002.. X	18 152 652
		1997.. X	18 295 570
33151001	Iron and steel castings (rough and semifinished)	2002.. X	615 073
		1997.. X	410 285
33152005	Aluminum and aluminum-base alloy castings (rough and semifinished)	2002.. X	355 283
		1997.. X	265 903
33152003	Other nonferrous metal castings, rough and semifinished (including aluminum and aluminum-base alloy)	2002.. X	55 978
		1997.. X	121 146
33120007	Steel bars, bar shapes, and plate (excluding castings, forgings, and fabricated metal products)	2002.. X	123 992
		1997.. X	362 019
33120016	Steel sheet and strip (including tinplate)	2002.. X	599 645
		1997.. X	N
33120033	All other steel shapes and forms (excluding castings, forgings, and fabricated metal products)	2002.. X	314 644
		1997.. X	493 677
33142111	Copper and copper-base alloy shapes and forms (excluding castings, forgings, and fabricated metal products)	2002.. X	44 151
		1997.. X	76 331
33100038	Aluminum and aluminum-base alloy shapes and forms (excluding castings, forgings, and fabricated metal products)	2002.. X	348 919
		1997.. X	N
33100082	Other nonferrous metal shapes and forms (excluding aluminum and aluminum-base alloy and copper and copper-base alloy castings, forgings, and fabricated metal products)	2002.. X	92 757
		1997.. X	N
33299101	Ball and roller bearings (mounted or unmounted)	2002.. X	30 789
		1997.. X	N
32610007	Fabricated plastics products (excluding gaskets, hoses, and belting)	2002.. X	286 739
		1997.. X	N
32610013	Plastics products consumed in the form of sheets, rods, tubes, film, and other shapes	2002.. X	111 792
		1997.. X	202 362
32521105	Plastics resins consumed in the form of granules, pellets, powders, liquids, etc.	2002.. X	273 261
		1997.. X	469 727
32600017	Fabricated rubber products (excluding tires, tubes, hose, belting, and gaskets)	2002.. X	57 730
		1997.. X	69 524
32622001	Rubber and plastics hose and belting	2002.. X	46 069
		1997.. X	84 089
32500023	Ceramic raw materials (including powders, chemicals, and fibers), excluding refractory uses	2002.. X	D
		1997.. X	127 186
32700035	Ceramic and ceramic composite parts, components, and accessories	2002.. X	D
		1997.. X	255 029
33999103	Gaskets (all types), and packing and sealing devices	2002.. X	67 606
		1997.. X	110 120
32551002	Paints, varnishes, stains, lacquers, shellacs, japans, enamels, and allied product	2002.. X	202 120
		1997.. X	N
32552002	Glues and adhesives	2002.. X	29 565
		1997.. X	N
00190003	Flexible packaging materials	2002.. X	41 637
		1997.. X	32 962
32220015	Paper and paperboard containers	2002.. X	180 180
		1997.. X	274 878
33632201	Spark plugs for internal combustion engines	2002.. X	D
		1997.. X	N
33632203	Starting motors for internal combustion engines	2002.. X	D
		1997.. X	N
33632204	Distributors for internal combustion engines	2002.. X	D
		1997.. X	N
33632219	All other engine electrical equipment for internal combustion engines	2002.. X	D
		1997.. X	N
33441500	Resistors for electronic circuitry	2002.. X	D
		1997.. X	N
33441400	Capacitors for electronic circuitry	2002.. X	1 240
		1997.. X	N
33441300	Semiconductors (including transistors, diodes, rectifiers, and integrated circuits), for electronic circuitry	2002.. X	D
		1997.. X	N
001900D3	All other miscellaneous components and accessories, for electronic circuitry (excluding tubes)	2002.. X	99 227
		1997.. X	N
00999826	Core parts purchased for use in remanufacturing and rebuilding	2002.. X	1 559 284
		1997.. X	442 937
33441200	Printed circuit boards (without inserted components) for electronic circuitry	2002.. X	D
		1997.. X	N
33272203	Metal bolts, nuts, screws, washers, rivets, and other screw machine products	2002.. X	935 928
		1997.. X	294 452
33200019	Other fabricated metal products (excluding fluid power, forgings, automotive stamping and bolts, nuts, screws, rivets, washers, and screw machine products)	2002.. X	1 555 058
		1997.. X	866 492
33210000	Forgings	2002.. X	71 307
		1997.. X	N
331000A1	Insulated wire and cable (excluding magnet wire)	2002.. X	50 432
		1997.. X	N
33361200	Mechanical speed changers, gears, and industrial high-speed drives	2002.. X	D
		1997.. X	N
33399601	Fluid power pumps, motors, and hydrostatic transmissions (hydraulic and pneumatic)	2002.. X	134 019
		1997.. X	D
33291207	Fluid power valves (hydraulic and pneumatic)	2002.. X	2 316
		1997.. X	D
33399501	Fluid power cylinders and rotary actuators (hydraulic and pneumatic)	2002.. X	4 531
		1997.. X	D
33291203	Fluid power hose and tube fittings and assemblies (hydraulic and pneumatic)	2002.. X	103 918
		1997.. X	D
33399901	Fluid power filters (hydraulic and pneumatic)	2002.. X	13 572
		1997.. X	D
00190087	Other transportation related fluid power products, hydraulic and pneumatic	2002.. X	2 004
		1997.. X	N
33637000	Automotive stampings (including body parts, hubcaps, fenders, etc.)	2002.. X	1 618 343
		1997.. X	996 756

See footnotes at end of table.

Table 7. Materials Consumed by Kind: 2002 and 1997—Con.

[Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. Data based on the 2002 Economic Census. For information on confidentiality protection, nonsampling error, and explanation of terms, see note 2 at end of table. For meaning of abbreviations and symbols, see introductory text]

Material code	Material consumed	Quantity	Delivered cost (\$1,000)
336399	All other motor vehicle parts manufacturing—Con.		
33593101	Current-carrying wiring devices	X	103 784
	2002..	X	N
	1997..	X	N
32500046	Other chemicals and allied products	X	88 523
	2002..	X	N
	1997..	X	N
00970099	All other materials and components, parts, containers, and supplies	X	5 191 266
	2002..	X	8 530 299
	1997..	X	2 270 564
00971000	Materials, ingredients, containers, and supplies, nsk	X	3 610 719
	2002..	X	
	1997..	X	

Note 1: For some establishments, data have been estimated from central unit values that 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.

Note 2: The data in this table are based on the 2002 Economic Census. To maintain confidentiality, the Census Bureau suppresses data to protect the identity of any business or individual. The census results in this table contain nonsampling errors. Data users who create their own estimates using data from American FactFinder tables should cite the Census Bureau as the source of the original data only. For explanation of terms, see Appendix A. For full technical documentation, see Appendix C.

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 that 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.

SELECTED PURCHASED SERVICES

Annual Survey of Manufactures (ASM) establishments were requested to provide information on the cost of selected purchased services for the repair and maintenance services of buildings and/or machinery; communication services; legal services; accounting, auditing, and bookkeeping services; advertising and promotional services; expensed computer hardware and supplies and purchased computer services; refuse removal services; management consulting and administrative services; taxes and license fees; and all other expenses not previously stated. Each of these items reflects the costs paid directly by the establishment and excludes salaries paid to employees of the establishment for these services. These expenses are normally considered as nonproduction related costs purchased from other companies.

Included in the cost of selected purchased services for the repair and maintenance services of buildings and/or 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. Excluded from this item are extensive repairs or reconstruction that was capitalized, which is considered capital expenditures; costs incurred directly by the establishment in using its own work force to perform repairs and maintenance work; and repairs and maintenance provided by the building or machinery owner as part of the rental contract.

Included in the cost of selected purchased services for communication is the actual expense incurred or payable during the year for any type of communication. Such types of communication include telephone, data transmission, telegraph, Internet, connectivity, FAX, telex, photo transmission, paging, cellular telephone, on-line access and related services, etc.

Included in the cost of selected purchased services for legal services are payments made to other companies for these services that were paid directly by the establishment. Excluded are the salaries paid to employees of the establishment for these services.

Included in the cost of selected accounting, auditing, and bookkeeping services are payments made to other companies for these services that were paid directly by the establishment. Excluded are the salaries paid to employees of this establishment for these services.

Included in the cost of selected advertising and promotional services are payments made to other companies for these services that were paid directly by the establishment. These include payments for printing, media coverage, and other services and materials. Excluded are the salaries paid to employees of this establishment for these services.

Included in the cost of selected expensed computer hardware and supplies and purchased computer services are actual expenses incurred or payable during the year for this item. Purchases for computer hardware and supplies, computer services (software, data transmission, processing services, Web design, etc.) are all included. Excluded are services provided by other establishments of the same company (such as a separate central data processing unit).

Included in the cost of selected purchased refuse removal services are payments made to other companies for these services that were paid directly by the establishment, including costs for hazardous waste removal or treatment. Excluded are all costs included in rental payments or as capital expenditures and the salaries paid to employees of the establishment for these services.

Included in the cost of selected purchased management consulting and administrative services are payments made to other companies for these services that were paid directly by the establishment. Excluded are the salaries paid to employees of this establishment for these services.

Included in the cost of selected purchased taxes and license fees are payments made to other companies for these services that were paid directly by the establishment, excluding income, sales, payroll, and excise taxes. Excluded are also the salaries paid to employees of this establishment for these services.

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 nonreporters).

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.

NUMBER OF 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 that included the 12th of the months specified on the report form. Included are employees on paid sick leave, paid holidays, and paid vacations; not included are proprietors and partners of unincorporated businesses.

These individuals comprise of all full-time and part-time employees who are on the payrolls of establishments who worked or received pay for any part of the pay period including the 12th of March, May, August, and November.

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

The “production workers” number 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

The “other employees” 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.

TOTAL FRINGE BENEFITS

This item is the employer’s costs for social security tax, unemployment tax, workmen’s compensation insurance, state disability insurance pension plans, stock purchase plans, union-negotiated benefits, life insurance premiums, and insurance premiums on hospital and medical plans for employees.

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 VALUE OF DEPRECIABLE ASSETS (ACQUISITION COSTS) 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 (BOY) and end of year (EOY). 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.

ESTABLISHMENT

An establishment is a single physical location where business is conducted or where services or industrial operations are performed. Data in this sector includes those establishments where manufacturing is performed. A separate report was required for each manufacturing establishment (plant) with one employee or more that were in operation at any time during the year.

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.

Company

A company or ("enterprise") is comprised of all the establishments that operate under the ownership or control of a single organization. A company may be a business, service, or membership organization; consist of one or several establishments; and operate at one or several locations. It includes all subsidiary organizations, all establishments that are majority-owned by the company or any subsidiary, and all the establishments that can be directed or managed by the company or any subsidiary.

A company may have one or many establishments. Examples include product and service sales offices (retail and wholesale), industrial production plants, processing or assembly operations, mines or well sites, and support operations (such as an administrative office, warehouse, customer service center, or regional headquarters). Each establishment should receive, complete, and return a separate census form.

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.

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. 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.

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

In the manufacturing sector for 2002, 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). Product classes and products of the manufacturing industries have been assigned codes based on the industry from which they originate. There are 1,450 product classes (seven-digit codes), 5,674 census products, and an additional 3,746 ten-digit product 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.

PRODUCTION-WORKER HOURS

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

QUANTITY OF ELECTRICITY PURCHASED 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.

CAPITAL EXPENDITURES FOR NEW AND USED PLANT AND EQUIPMENT

Represents the total new and used capital expenditures reported by establishments in operation and any known plants under construction.

These data include expenditures for:

1. Permanent additions and major alterations to manufacturing and mining establishments.
2. New and used machinery and equipment used for replacement and additions to plant capacity, if they are of the type for which depreciation, depletion, or (for mining establishments) Office of Minerals Exploration accounts are ordinarily maintained. In addition, for mining establishments, these data include expenditures made during the year for development and exploration of mineral properties. For manufacturing establishments, these data are broken down into three types.
 - a. Automobiles, trucks, etc. for highway use. These include vehicles acquired under a lease-purchase agreement and excludes vehicles leased or normally designed to transport materials, property, or equipment on mining, construction, petroleum development, and similar projects. These vehicles are of such size or weight as to be normally restricted by state laws or regulations from operating on public highways. It also excludes purchases of vehicles that are purchased by a company for highway use.
 - b. Computers and peripheral data processing equipment. This item include all purchases of computers and related equipment.
 - c. All other expenditures for machinery and equipment excluding automobiles and computer equipment.

Capital expenditures include work done by contract, as well as by the establishment's own workforce.

These data exclude expenditures for land and mineral rights and cost of maintenance and repairs charged as current operating expenses.

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: Reported contract work — receipts for work or services that a plant performed for others on their materials. Value of resales — sales of products brought and sold without further manufacture, processing, or assembly. 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: Primary products value of shipments. Secondary product value of shipments. 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 that 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 ratio

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 ratio have been developed to measure the relationship of primary product shipments to the data on shipments for the industry shown in Tables 1 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

336399 ALL OTHER MOTOR VEHICLE PARTS MANUFACTURING

This U.S. industry comprises establishments primarily engaged in manufacturing and/or rebuilding motor vehicle parts and accessories (except motor vehicle gasoline engines and engine parts, motor vehicle electrical and electronic equipment, motor vehicle steering and suspension components, motor vehicle brake systems, motor vehicle transmission and power train parts, motor vehicle seating and interior trim, motor vehicle stampings, and motor vehicle air-conditioning systems and compressors).

Appendix C. Methodology

SOURCES OF THE DATA

The manufacturing sector includes approximately 350,000 establishments. This number includes those industries in the North American Industry Classification System (NAICS) definition of manufacturing. The amount of information requested from manufacturing establishments was 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).

Establishments in the 2002 Economic Census are divided into those sent report forms and those not sent report forms. The coverage of and the method of obtaining census information from each are described below:

1. Establishments sent a report form:

- 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-10000) 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 473 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 certain 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 listed on the form.

A wide variety of special inquiries were 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 “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 “not specified by kind” (nsk) categories.

2. Establishments not sent a report form:

- a. 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 the Census Bureau’s ability to assign the correct six-digit NAICS industry classification to the establishment. For each six-digit NAICS 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 that 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 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 NAICS group classification codes available in the files. For 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.

- b. All nonemployers, i.e., all firms subject to federal income tax, with no paid employees, during 2002 are excluded as in previous censuses. Data for nonemployers are not included in this report, but are released in the annual *Nonemployer Statistics* series.

The report forms used to collect information for establishments in this sector are available at help.econ.census.gov/econhelp/resources/.

A more detailed examination of census methodology is presented in the *History of the Economic Census* at www.census.gov/econ/www/history.html.

INDUSTRY CLASSIFICATION OF ESTABLISHMENTS

The classifications for all establishments covered in the 2002 Economic Census — Manufacturing are classified in 1 of 473 industries in accordance with the industry definitions in the *North American Industry Classification System (NAICS), United States, 2002* manual. There were no changes between the 2002 edition and the 1997 edition affecting this sector. When applicable, Appendix F 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 2002, 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). Product classes and products of the manufacturing industries have been assigned codes based on the industry from which they originate. There are 1,450 product classes (seven-digit codes), 5,674 census products, and an additional 3,746 ten-digit product codes. The ten-digit products are considered the primary products of the industry with the same first six digits.

For the 2002 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 2002, 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 that 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 2002 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 2002, 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 2002 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 ASM sample is drawn for the second survey year after a census. The most recent sample was drawn for the 1999 survey year based on the 1997 Economic Census — Manufacturing. This sample will be in place through the 2003 ASM.

In 1997, there were approximately 370,000 individual manufacturing establishments. For sample efficiency and cost considerations, the establishments in the 1997 manufacturing population were partitioned into two components for developing estimates within the ASM. The details of each are described below:

1. 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 200,000 of the 370,000 establishments in the 1997 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 1999 survey, a new sample of approximately 58,000 individual establishments was selected from the mail stratum assembled from the 1997 census. Supplemental samples representing both 1998 and 1999 births (newly active establishments that were not included in the 1997 census) were also selected. Establishments selected for the sample are mailed an ASM survey questionnaire for each year through 2003.

The 1999-2003 ASM sample design is similar to the one used since 1984. Companies in the 1997 Economic Census — Manufacturing 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 1999-2003 sample, there are approximately 500 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. Across these 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 1997 Economic Census — Manufacturing.

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 1997 industry classification and its 1997 product class data. For each product class (1,755) and six-digit industry (473), 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 the Census Bureau's 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) that permits us to prevent small establishments from being selected in consecutive samples without introducing a bias into the survey estimates.

2. Nonmail stratum. The initial nonmail component of the survey was comprised of approximately 170,000 small, single-establishment companies that were tabulated as administrative records in the 1997 Economic Census — Manufacturing. 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.

RELIABILITY OF DATA

All data compiled in the economic census are subject to nonsampling errors. Nonsampling errors can be attributed to many sources during the development or execution of the census. The following are two ways that further explain this method: 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 1997 (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 1998-2002 ASM estimates, the 1997 Economic Census — Manufacturing values serve as the base year. For the 2003 ASM, the base will be updated to be the 2002 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 contained approximately 170,000 individual establishments in 1999, 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. ASM Data Qualifications. 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.

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 2002 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.

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 in a specific industry or geographic area is not considered a disclosure; therefore, this information may be released even though other information is withheld. Techniques employed to limit disclosure are discussed at www.census.gov/epcd/ec02/disclosure.htm.

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. Nonetheless, the suppressed data are included in higher-level totals. A separate disclosure analysis is performed for capital expenditures, which can be suppressed even though value of shipments data are published.

Appendix D. Geographic Notes

Not applicable for this report.

Appendix E. Metropolitan Areas and Micropolitan Statistical Areas

Not applicable for this report.

Appendix F. Comparability of Product Classes and Product Codes: 2002 to 1997

2002 published	2002 collected	1997 published	2002 published	2002 collected	1997 published	2002 published	2002 collected	1997 published
3361110	3361110	3361110	3362130	3362130	3362130	336312W	336312W	336312W
3361110100	3361110100	3361110100	3362130101	3362130101	3362130101	336312WYWW	336312WYWW	336312WYWW
3361110YWW	3361110YWW	3361110YWW	3362130104	3362130104	3362130104	336312WYWW	336312WYWW	336312WYWW
3361120YWW	3361120YWW	3361120YWW	3362130107	3362130107	3362130107			
3361120	3361120	3361120	3362130111	3362130111	3362130111	3363210	3363210	3363210
3361120100	3361120100	3361120100	3362130YWW	3362130YWW	3362130YWW	3363210101	3363210101	3363210100 pt
3361120YWW	3361120YWW	3361120YWW	3362130YWW	3362130YWW	3362130YWW	3363210102	3363210102	3363210100 pt
3361120YWW	3361120YWW	3361120YWW	3362141	3362141	3362141	3363210103	3363210103	3363210100 pt
3361201	3361201	3361201	3362141101	3362141101	3362141101	3363210104	3363210104	3363210100 pt
3361201100	3361201100	3361201100	3362141104	3362141104	3362141104	3363210YWW	3363210YWW	3363210YWW
3361202	3361202	3361202	3362141207	3362141207	3362141207			
3361202100	3361202100	3361202100	3362141311	3362141311	3362141311	3363221	3363221	3363221
			3362141413	3362141413	3362141413	3363221101	3363221101	3363221101
			3362141516	3362141516	3362141516	3363221104	3363221104	3363221104
			3362141YWW	3362141YWW	3362141YWW	3363221201	3363221201	3363221201
						3363221204	3363221204	3363221204
						3363221YWW	3363221YWW	3363221YWW
			3362143	3362143	3362143			
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			3362143105	3362143105	3362143105	3363223101	3363223101	3363223101
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			3362143114	3362143114	3362143114	3363223204	3363223204	3363223204
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			3363111	3363111	3363111	3363229301	3363229301	3363229301
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			336311103	336311103	336311103	3363229307	3363229307	3363229307
			336311105	336311105	336311105	3363229309	3363229309	3363229309
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			3363111YWW	3363111YWW	3363111YWW			
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			3363113	3363113	3363113	336322A101	336322A101	336322A101
			3363113101	3363113101	3363113101	336322A204	336322A204	336322A204
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			3363113205	3363113205	3363113205	336322A409	336322A409	336322A409
			3363113207	3363113207	3363113207	336322A512	336322A512	336322A512
			3363113209	3363113209	3363113209	336322A615	336322A615	336322A615
			3363113211	3363113211	3363113211	336322AYWW	336322AYWW	336322AYWW
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			3363115	3363115	3363115	336322D104	336322D104	336322D104
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			3363115103	3363115103	3363115103	336322D111	336322D111	336322D111
			3363115YWW	3363115YWW	3363115YWW	336322D114	336322D114	336322D114
						336322D115	336322D115	336322D115
			336311W	336311W	336311W	336322D119	336322D119	336322D119
			336311WYWW	336311WYWW	336311WYWW	336322D121	336322D121	336322D121
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			3363121	3363121	3363121	336322D127	336322D127	336322D127
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			3363121351	3363121351	3363121351			
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			3363121457	3363121457	3363121457	336322WYWW	336322WYWW	336322WYWW
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			3363121504	3363121504	3363121504			
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			3363121511	3363121511	3363121511	3363301101	3363301101	3363301101
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			3363121531	3363121531	3363121531	3363301521	3363301521	3363301521
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			3363121544	3363121544	3363121544	3363301YWW	3363301YWW	3363301YWW
			3363121571	3363121571	3363121571			
			3363121574	3363121574	3363121574	3363303	3363303	3363303
			3363121YWW	3363121YWW	3363121YWW	3363303101	3363303101	3363303101
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			3363123104	3363123104	3363123104			
			3363123107	3363123107	3363123107	336330W	336330W	336330W
			3363123111	3363123111	3363123111	336330WYWW	336330WYWW	336330WYWW
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3363401416	3363401416	3363401416	3363991113	3363991113	3363991113	3364131YVW	3364131YVW	3364131YVW
3363401519	3363401519	3363401519	3363991116	3363991116	3363991116	3364133	3364133	3364133
3363401625	3363401625	3363401625	3363991119	3363991119	3363991119	3364133101	3364133101	3364133101
3363401707	3363401707	3363401707	3363991YVW	3363991YVW	3363991YVW	3364133104	3364133104	3364133104
3363401722	3363401722	3363401722	3363993	3363993	3363993	3364133YVW	3364133YVW	3364133YVW
3363401737	3363401737	3363401737	3363993101	3363993101	3363993101	3364136	3364135 pt	3364135 pt
3363401741	3363401741	3363401741	3363993104	3363993104	3363993104	3364136101	3364135101	3364135101
3363401744	3363401744	3363401744	3363993107	3363993107	3363993107	3364136104	3364135104	3364135104
3363401745	3363401745	3363401745	3363993YVW	3363993YVW	3363993YVW	3364136207	3364135207	3364135207
3363401747	3363401747	3363401747	3363995	3363995	3363995	3364136211	3364135211	3364135211
3363401YVW	3363401YVW	3363401YVW	3363995101	3363995101	3363995101	3364136313	3364135313	3364135313
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3363403101	3363403101	3363403101	3363995107	3363995107	3363995107	3364136YVW	3364135YVW	3364135YVW pt
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3363403107	3363403107	3363403107	3363995YVW	3363995YVW	3363995YVW	336413WYVW	336413WYVW pt	336413WYVW pt
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3363403114	3363403114	3363403114	3363996100	3363996100	3363996100	3364141	3364141	3364141
3363403117	3363403117	3363403117	3363998 pt	3325105 pt	3325105 pt	3364141100	3364141100	3364141100
3363403121	3363403121	3363403121	3363998 pt	336322C pt	336322C pt	3364143	3364143	3364143
3363403YVW	3363403YVW	3363403YVW	3363998 pt	3363998 pt	3363998 pt	3364143100	3364143100	3364143100
336340W	336340W	336340W	3363998103	3363998103	3363998103	3364145	3364145	3364145
336340WYVW	336340WYVW	336340WYVW	3363998105	3363998105	3363998105	3364145100	3364145100	3364145100
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3363501	3363501	3363501	3363998307	3363998307	3363998307	3364147101	3364147101	3364147101
3363501101	3363501101	3363501101	3363998401	3363998401	3363998401	3364147204	3364147204	3364147204
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3363501316	3363501316	3363501316	3363998525	3363998525	3363998525	3364149YVW	3364149YVW	3364149YVW
3363501336	3363501336	3363501336	3363998527	3363998527	3363998527	336414A	336414A	336414A
3363501435	3363501435	3363501434 pt	3363998531	3363998531	3363998531	336414A101	336414A101	336414A101
3363501436	3363501436	3363501434 pt	3363998532	3363998532	3363998532	336414A104	336414A104	336414A104
3363501519	3363501519	3363501519	3363998534	3363998534	3363998534	336414AYVW	336414AYVW	336414AYVW
3363501522	3363501522	3363501522	3363998537	3363998537	3363998537	336414W	336414W	336414W
3363501525	3363501525	3363501525	3363998538	3363998538	3363998538	336414WYVW	336414WYVW	336414WYVW
3363501528	3363501528	3363501528	3363998539	3363998539	3363998539	336414WYVW	336414WYVW	336414WYVW
3363501531	3363501531	3363501531	3363998541	3363998541	3363998541	3364151	3364151	3364151
3363501537	3363501537	3363501537	3363998550	3363998550	3363998550	3364151101	3364151101	3364151101
3363501541	3363501541	3363501541	3363998554	3363998554	3363998554	3364151204	3364151204	3364151204
3363501YVW	3363501YVW	3363501YVW	3363998YVW	3363998YVW	3363998YVW	3364151307	3364151307	3364151307
3363503	3363503	3363503	3363999 pt	332510W pt	332510W pt	3364151YVW	3364151YVW	3364151YVW
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3363503104	3363503104	3363503104	3363999W pt	332510WYVW pt	332510WYVW pt	3364153101	3364153101	3364153101
3363503107	3363503107	3363503107	3363999W pt	3363999W pt	3363999W pt	3364153104	3364153104	3364153104
3363503111	3363503111	3363503111	3363999WYVW pt	332510WYVW pt	332510WYVW pt	3364153107	3364153107	3364153107
3363503114	3363503114	3363503114	3363999WYVW pt	3363999WYVW pt	3363999WYVW pt	3364153YVW	3364153YVW	3364153YVW
3363503117	3363503117	3363503117	3363999WYVW pt	332510WYVW pt	332510WYVW pt	3364155	3364155	3364155
3363503YVW	3363503YVW	3363503YVW	3363999WYVW pt	3363999WYVW pt	3363999WYVW pt	3364155101	3364155101	3364155101
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336350WYVW	336350WYVW	336350WYVW	3364112 pt	3364112 pt	3364112 pt	3364155YVW	3364155YVW	3364155YVW
3363601	3363601	3363601	3364112 pt	3364112 pt	3364112 pt	3364157	3364157	3364157
3363601100	3363601100	3363601100	3364112200 pt	3364112200 pt	3364112200 pt	3364157101	3364157101	3364157101
3363602	3363602	3363602	33641122100 pt	33641122100 pt	33641122100 pt	3364157104	3364157104	3364157104
3363602100	3363602100	3363602100	3364113	3364113	3364113	3364157107	3364157107	3364157107
3363603	3363603	3363603	3364113100	3364113100	3364113100	3364157YVW	3364157YVW	3364157YVW
3363603101	3363603101	3363603101	3364115	3364115	3364115	336415W	336415W	336415W
3363603104	3363603104	3363603104	3364115101	3364115101	3364115101	336415WYVW	336415WYVW	336415WYVW
3363603YVW	3363603YVW	3363603YVW	3364115104	3364115104	3364115104	336415WYVW	336415WYVW	336415WYVW
3363605	3363605	3363605	3364115YVW	3364115YVW	3364115YVW	3364191	3364191	3364191
3363605100 pt	3149998 pt	3149998 pt	3364117	3364117	3364117	3364191101	3364191101	3364191101
3363605100 pt	3149998111	3149998111	3364117101	3364117101	3364117101	3364191104	3364191104	3364191104
3363605100 pt	3149998YVW pt	3149998YVW pt	3364117104	3364117104	3364117104	3364191207	3364191207	3364191207
3363607	332999H pt	332999G pt	3364117107	3364117107	3364117107	3364191311	3364191311	3364191311
3363607100 pt	332999H398	332999G399 pt	3364117111	3364117111	3364117111	3364191413	3364191413	3364191413
3363607100 pt	332999HYVW pt	332999GYVW pt	3364117YVW	3364117YVW	3364117YVW	3364191YVW	3364191YVW	3364191YVW
336360W pt	314999W pt	314999W pt	336411W pt	336411W	336411W	3364193	3364193	3364193
336360W pt	332999W pt	332999W pt	336411W pt	336411W pt	336411W pt	3364193101	3364193101	3364193101
336360W pt	332999W pt	332999W pt	336411WYVW pt	336411WYVW pt	336411WYVW pt	3364193104	3364193104	3364193104
336360WYVW pt	314999WYVW pt	314999WYVW pt	336411WYVW pt	336411WYVW pt	336411WYVW pt	3364193107	3364193107	3364193107
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336360WYVW pt	332999WYVW pt	332999WYVW pt	3364121	3364121	3364121	336419W	336419W	336419W
336360WYVW pt	332999WYVW pt	332999WYVW pt	3364121100	3364121100	3364121100	336419WYVW	336419WYVW	336419WYVW
336360WYVW pt	332999WYVW pt	332999WYVW pt	33641213	3364123	3364123	3365101	3365101	3365101
336360WYVW pt	332999WYVW pt	332999WYVW pt	3364123100	3364123100	3364123100	3365101102 pt	3365101104 pt	3365101104
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3363700YVW	3363700YVW	3363700YVW	3364125107	3364125107	3364125107	3365101YVW	3365101YVW	3365101YVW
3363700YVW	3363700YVW	3363700YVW	3364125111	3364125111	3364125111	3365103	3365103	3365103
3363917	3363917	3363917	3364125YVW	3364125YVW	3364125YVW	3365103100	3365103100	3365103100
3363917110	3363917110	3363917010	3364127	3364127	3364127	3365105	3365105	3365105
3363917120	3363917120	3363917020	3364127101	3364127101	3364127101	3365105301	3365105301	3365105301
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3365105421	3365105421	3365105419 pt	3366121222	3366121222	3366121222	3369912101	3369911101	3369911101
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3366116	3366115 pt	3366115 pt	3366123201	3366123201	3366123201	336991W pt	339932W pt	339932W pt
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3366116111	3366115111	3366115111	3366123YVW	3366123YVW	3366123YVW	336991WYVW pt	339932WYVW pt	339932WYVW pt
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3366116116	3366115116	3366115116	3366125107	3366125107	3366125107	336991WYVY pt	336991WYVY	336991WYVY
3366116119	3366115119	3366115119	3366125201	3366125201	3366125201	339932WYVY pt	339932WYVY	339932WYVY
3366116123	3366115123	3366115123	3366125204	3366125204	3366125204	336992	336992	336992
3366116125 pt	3366115124 pt	3366115107	3366125211	3366125211	3366125211	3369920111	3369920111	3369920111
3366116125 pt	3366115124 pt	3366115121	3366125213	3366125213	3366125213	3369920214	3369920214	3369920214
3366116125 pt	3366115124 pt	3366115124	3366125YVW	3366125YVW	3366125YVW	3369920218 pt	3369920217 pt	3369920216
3366116YVW	3366115YVW pt	3366115YVW pt	3366128 pt	3366115 pt	3366115 pt	3369920218 pt	3369920217 pt	3369920217
3366118	3366117 pt	3366117 pt	3366128 pt	3366127	3366127	3369920YVW	3369920YVW	3369920YVW
3366118101	3366117101	3366117101	3366128101	3366127101	3366127101	3369920YVY	3369920YVY	3369920YVY
3366118104	3366117104	3366117104	3366128104	3366127104	3366127104	3369991	3369991	3369991
3366118YVW	3366117YVW	3366117YVW pt	3366128107	3366127107	3366127107	3369991101	3369991101	3369991101
336611A	3366119 pt	3366119 pt	3366128111	3366127111	3366127111	3369991104	3369991104	3369991104
336611A101	3366119101	3366119101	3366128113	3366127113	3366127113	3369991YVW	3369991YVW	3369991YVW
336611A104	3366119104	3366119104	3366128116	3366127116	3366127116	3369995	3369995 pt	3369995 pt
336611AYVW	3366119YVW	3366119YVW pt	3366128120 pt	3366115199	3366115YVW pt	3369995101	3369993101	3369993101
336611W	336611W pt	336611W pt	3366128120 pt	3366115YVW pt	3366115YVW pt	3369995204	3369993204	3369993204
336611WYVW	336611WYVW pt	336611WYVW pt	3366128YVW pt	3366127YVW	3366127YVW	3369995414	3369993414	3369993414
336611WYVY	336611WYVY pt	336611WYVY pt	336612W pt	336611W pt	336611W pt	3369995417	3369993417	3369993417
3366121	3366121	3366121	336612W pt	336612W	336612W	3369995421	3369993421	3369993421
3366121101	3366121101	3366121101	336612WYVW pt	336611WYVW pt	336611WYVW pt	3369995513	3369993513	3369993513
3366121104	3366121104	3366121104	336612WYVW pt	336612WYVW	336612WYVW	3369995YVW	3369993YVW	3369993YVW
3366121107	3366121107	3366121107	336612WYVY pt	336611WYVY pt	336611WYVY pt	336999W	336999W pt	336999W pt
3366121111	3366121111	3366121111	336612WYVY pt	336612WYVY	336612WYVY	336999WYVW	336999WYVW pt	336999WYVW pt
3366121113	3366121113	3366121113	3366121116	3366121116	3366121116	336999WYVY	336999WYVY pt	336999WYVY pt
3366121116	3366121116	3366121116	3369912 pt	3369911	3369911			

