

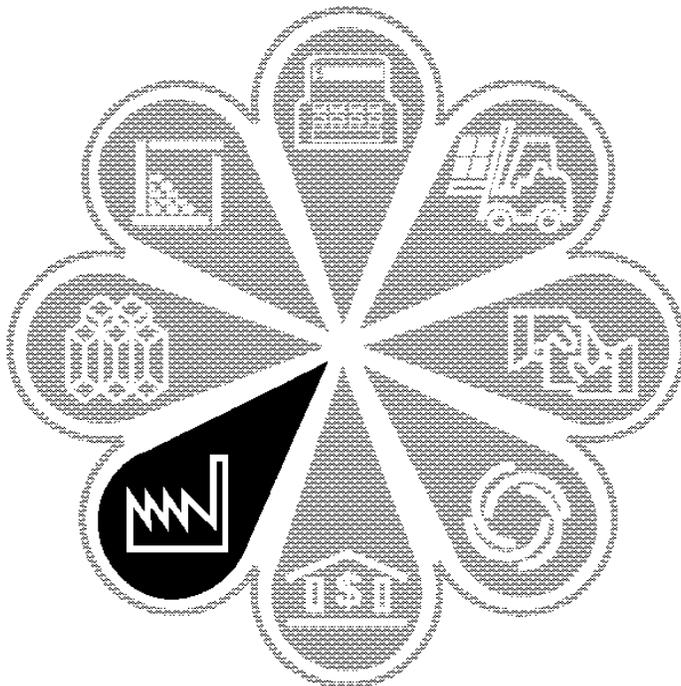
1992 Census of Manufactures

MC92-I-35G

INDUSTRY SERIES

Service Industry Machines

Industries 3581, 3582, 3585, 3586, and
3589



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David J. Barram, Deputy Secretary

Economics and Statistics Administration
Everett M. Ehrlich, Under Secretary
for Economic Affairs

BUREAU OF THE CENSUS
Martha Farnsworth Riche, Director

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Manufacturing and Construction Division prepared this report. **David W. Cartwright**, Assistant Chief for Census and Related Programs, was responsible for the overall planning, management, and coordination of the census of manufactures. Planning and implementation were under the direction of **Kenneth I. Hansen**, Chief, Metals and Industrial Machinery Branch, assisted by **J. Michael Brown**, Section Chief, with primary staff assistance by **Joanna T.Q. Nguyen**.

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If you have any questions concerning the statistics in this report, call 301-457-4755.



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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.

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

Policymaking agencies of the Federal Government use the data, especially in monitoring economic activity and providing assistance to business.

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 and 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.

AUTHORITY AND SCOPE

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 1992 Economic Census consists of the following eight censuses:

- Census of Retail Trade
- Census of Wholesale Trade
- Census of Service Industries
- Census of Financial, Insurance, and Real Estate Industries
- Census of Transportation, Communications, and Utilities
- Census of Manufactures
- Census of Mineral Industries
- Census of Construction Industries

Special programs also cover enterprise statistics and minority-owned and women-owned businesses. (The 1992 Census of Agriculture and 1992 Census of Governments are conducted separately.) The next economic census is scheduled to be taken in 1998 covering the year 1997.

AVAILABILITY OF THE DATA

The results of the economic census are available in printed reports for sale by the U.S. Government Printing Office and on compact discs for sale by the Census Bureau. Order forms for all types of products are available on request from Customer Services, Bureau of the Census, Washington, DC 20233-8300. A more complete description of publications being issued from this census is on the inside back cover of this document.

Census facts are also widely disseminated by trade associations, business journals, and newspapers. Volumes containing census statistics are available in most major public and college libraries. Finally, State data centers in every State as well as business and industry data centers in many States also supply economic census statistics.

WHAT'S NEW IN 1992

The 1992 Economic Census covers more of the economy than any previous census. New for 1992 are data on communications, utilities, financial, insurance, and real estate, as well as coverage of more transportation industries. The economic, agriculture, and governments censuses now collectively cover nearly 98 percent of all economic activity.

Among other changes, new 1992 definitions affect the boundaries of about a third of all metropolitan areas. Also, the Survey of Women-Owned Businesses has now been expanded to include all corporations.

HISTORICAL INFORMATION

The economic census has been taken as an integrated program at 5-year intervals since 1967 and before that for 1963, 1958, and 1954. Prior to that time, the individual subcomponents 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 1840 and subsequent censuses to include mining and some commercial activities. In 1902, Congress established a permanent Census Bureau and directed that a census of manufactures be taken every 5 years. The 1905 Manufactures Census was the first time a census was taken apart from the regular every-10-year population census.

The first census of business was taken in 1930, covering 1929. Initially it covered retail and wholesale trade and construction industries, but it was broadened in 1933 to include some of the service trades.

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

The range of industries covered in the economic censuses has continued to expand. The census of construction industries began on a regular basis in 1967, and the scope of service industries was broadened in 1967, 1977, and 1987. The census of transportation began in 1963 as a set of surveys covering travel, transportation of commodities, and trucks, but expanded in 1987 to cover business establishments in several transportation industries. For 1992, these statistics are incorporated into a broadened census of transportation, communications, and utilities. Also new for 1992 is the census of financial, insurance, and real estate industries. This is part of a gradual expansion in coverage of industries previously subjected to government regulation.

The Survey of Minority-Owned Business Enterprises was first conducted as a special project in 1969 and was incorporated into the economic census in 1972 along with the Survey of Women-Owned Businesses.

An economic census has also been taken in Puerto Rico since 1909, in the Virgin Islands of the United States and Guam since 1958, and in the Commonwealth of the Northern Mariana Islands since 1982.

Statistical reports from the 1987 and earlier censuses provide historical figures for the study of long-term time series and are available in some large libraries. All of the census data published since 1967 are still available for sale on microfiche from the Census Bureau.

AVAILABILITY OF MORE FREQUENT ECONOMIC DATA

While the census provides complete enumerations every 5 years, there are many needs for more frequent data as well. The Census Bureau conducts a number of monthly, quarterly, and annual surveys, with the results appearing in publication series such as Current Business Reports (retail and wholesale trade and service industries), the Annual Survey of Manufactures, Current Industrial Reports, and the Quarterly Financial Report. Most of these surveys, while providing more frequent observations, yield less kind-of-business and geographic detail than the census. The County Business Patterns program offers annual statistics on the number of establishments, employment, and payroll classified by industry within each county.

SOURCES FOR MORE INFORMATION

More information about the scope, coverage, classification system, data items, and publications for each of the economic censuses and related surveys is published in the *Guide to the 1992 Economic Census and Related Statistics*. More information on the methodology, procedures, and history of the census will be published in the *History of the 1992 Economic Census*. Contact Customer Services for information on availability.

Census of Manufactures

GENERAL

This report, from the 1992 Census of Manufactures, is one of a series of 83 industry reports, each of which provides statistics for individual industries or groups of related industries. Additional separate reports will be issued for each State and the District of Columbia and for special subjects such as manufacturers' shipments to the federal government and concentration ratios in manufacturing.

The industry reports include such statistics as number of establishments, employment, payroll, value added by manufacture, cost of materials consumed, capital expenditures, product shipments, etc.

State reports present similar statistics for each State and its important metropolitan areas (MA's), counties, and places. Selected statistical totals for "all manufacturing" have been shown in the State reports for MA's with 250 employees or more and for counties and places with 500 employees or more.

The *General Summary* report contains industry, product class, and geographic area statistics summarized in one report. The introduction to the *General Summary* discusses, at greater length, many of the subjects described in this introduction. For example, the *General Summary* text discusses the relationship of value added by manufacture to national income by industry of origin, the changes in statistical concepts over the history of the censuses, and the valuation problems arising from intracompany transfers between manufacturing plants of a company and between manufacturing plants and sales offices and sales branches of a company.

SCOPE OF CENSUS AND DEFINITION OF MANUFACTURING

The 1992 Census of Manufactures covers all establishments with one paid employee or more primarily engaged in manufacturing as defined in the *1987 Standard Industrial Classification (SIC) Manual*¹. This is the system of industrial classification developed by experts on classification in Government and private industry under the guidance of the Office of Information and Regulatory Affairs, Office of

¹*Standard Industrial Classification Manual: 1987*. For sale by Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402. Stock No. 041-001-00314-2.

Management and Budget. This classification system is used by Government agencies as well as many organizations outside the Government.

The SIC Manual defines manufacturing as the mechanical or chemical transformation of substances or materials into new products. The assembly of component parts of products also is considered to be manufacturing if the resulting product is neither a structure nor other fixed improvement. These activities are usually carried on in plants, factories, or mills that characteristically use power-driven machines and materials-handling equipment.

Manufacturing production is usually carried on for the wholesale market, for transfers to other plants of the same company, or to the order of industrial users rather than for direct sale to the household consumer. Some manufacturers in a few industries sell chiefly at retail to household consumers through the mail, through house-to-house routes, or through salespersons. Some activities of a service nature (enameling, engraving, etc.) are included in manufacturing when they are performed primarily for trade. They are considered nonmanufacturing when they are performed primarily to the order of the household consumer.

RELATIONSHIP BETWEEN ANNUAL SURVEY OF MANUFACTURES AND CENSUS OF MANUFACTURES

The Bureau of the Census conducts the annual survey of manufactures (ASM) in each of the 4 years between the censuses of manufactures. The ASM is a probability-based sample of approximately 62,000 establishments and collects the same industry statistics (employment, payroll, value of shipments, etc.) as the census of manufactures. In addition to collecting the information normally requested on the census form, the establishments in the ASM sample are requested to supply information on assets, capital expenditures, retirements, depreciation, rental payments, supplemental labor costs, costs of purchased services, and foreign content of materials consumed. Except for supplemental labor costs, the extra ASM items are collected only in census years.

ESTABLISHMENT BASIS OF REPORTING

The census of manufactures is conducted on an establishment basis. A company operating at more than one location is required to file a separate report for each

location. 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 1992, 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. This report excludes information for separately operated administrative offices, warehouses, garages, and other auxiliary units that service manufacturing establishments of the same company (see Auxiliaries).

MANUFACTURING UNIVERSE AND CENSUS REPORT FORMS

The 1992 Census of Manufactures universe includes approximately 380,000 establishments. The amounts of information requested from manufacturing establishments were dependent upon a number of factors. The more important considerations were the size of the company and whether it was included in the annual survey of manufactures. The methods of obtaining information for the various subsets of the universe to arrive at the aggregate figures shown in the publication are described below:

1. **Small single-establishment companies not sent a report form.** In the 1992 Census of Manufactures, approximately 143,000 small single-establishment companies were excused from filing reports. Selection of these small establishments was done on an industry-by-industry basis and was based on annual payroll and total shipments data as well as on the industry classification codes contained in the administrative records of Federal agencies. The cutoffs were selected so that these administrative-records cases would account for no more than 3 percent of the value of shipments for all manufacturing. Generally, all single-establishment companies with less than 5 employees were excused, while all establishments with more than 20 employees were mailed forms.

Information on the physical location of the establishment, as well as information on payrolls, receipts (shipments), and industry classification, was obtained from the administrative records of other Federal agencies under special arrangements, which 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" (n.s.k.) categories.

The industry classification codes included in the administrative-records 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 at the four-digit SIC level. This was especially true whenever there was a relatively fine line of demarcation between industries or between manufacturing and nonmanufacturing activity.

Sometimes these administrative-records cases were only given a two- or three-digit SIC group. For the 1992 Census of Manufactures, 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 four-digit SIC level. Establishments that did not return the classification form were coded later to those four-digit SIC industries identified as "not elsewhere classified" (n.e.c.) within the given two- or three-digit industry groups.

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

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

2. **Establishments sent a report form.** The over 237,000 establishments covered in the mail canvass were divided into three groups:

- a. **ASM sample establishments.** This group consisted of approximately 62,000 establishments covering 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 (see Appendix B, Annual Survey of Manufactures).

In a census of manufactures year, the ASM report form (MA-1000) replaces the first page of the regular census form for those establishments included in the ASM. In addition to information on employment, payroll, and other items normally requested on the regular census form, establishments in the ASM sample were requested to supply information on assets, capital expenditures, retirements, depreciation, rental payments, supplemental labor costs, and costs of purchased services. See appendix A, section 2, for an explanation of these items.

The census part of the report form is 1 of approximately 200 versions containing product, material, and special inquiries. The diversity of manufacturing activities necessitated the use of these many forms to canvass the 459 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 be performing. Respondents were requested to identify the products, the value of each product, and, in a large number of 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 material not identified on the form.

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

- b. **Large and medium establishments (non-ASM).** Approximately 112,000 establishments were included in this group. A variable cutoff, based on administrative-records payroll data and determined on an industry-by-industry basis, was used to select those establishments that were to receive 1 of the approximately 200 census of manufactures 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 consisted of approximately 63,000 establishments. For those industries where application of the variable cutoff for administrative-records cases resulted in a large number of small establishments being included in the mail canvass, an abbreviated or "short" form was used. These establishments received 1 of the approximately 80 versions of the short form, which requested summary product and

material data and totals but no details on employment, payrolls, cost of materials, inventories, and capital expenditures.

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

AUXILIARIES

In this industry report, the data on employment and payroll are limited to operating manufacturing establishments. The census report form filed for auxiliaries (ES-9200) requested a description of the activity of the establishments serviced. However, the manufacturing auxiliaries were coded only to the two-digit major group of the establishments they served; whereas, the operating establishments were coded to a four-digit manufacturing industry. Data for the approximately 11,000 separately operated auxiliaries are included in the geographic area series and in a report issued as part of the 1992 Enterprise Statistics Survey.

Auxiliaries are establishments whose employees are primarily engaged in performing supporting services for other establishments of the same company, rather than for the general public or for other business firms. They can be at different locations from the establishments served or at the same location as one of those establishments but not operating as an integral part thereof and serving two establishments or more. Where auxiliary operations are conducted at the same location as the manufacturing operation and operate as an integral part thereof, they usually are included in the report for the operating manufacturing establishment.

Included in the broad category of auxiliaries are administrative offices. Employees in administrative offices are concerned with the general management of multiestablishment companies, i.e., with the general supervision and control of two units or more, such as manufacturing plants, mines, sales branches, or stores. The functions of these employees may include the following:

1. Program planning, including sales research and coordination of purchasing, production, and distribution
2. Company purchasing, including general contracts and purchasing methods
3. Company financial policy and accounting
4. General engineering, including design of product machinery and equipment, and direction of engineering effort conducted at the individual operation locations
5. Company personnel matters
6. Legal and patent matters

Other types of auxiliaries serving the plants or central management of the company include purchasing offices, sales promotion offices, research and development organizations, etc.

INDUSTRY CLASSIFICATION OF ESTABLISHMENTS

Each of the establishments covered in the census was classified in 1 of 459 manufacturing industries in accordance with the industry definitions in the 1987 SIC Manual. The 1987 edition of this manual represents a major revision for manufacturing industries from the 1972 edition and its 1977 supplement. Appendix A of the 1987 Manual notes the revisions in the four-digit industry levels between 1972/77 and 1987.

An industry is generally defined as a group of establishments producing the same product or a closely related group of products. The product groupings from which industry classifications are derived are based on considerations such as similarity of manufacturing processes, types of materials used, types of customers, and the like. The resulting group of establishments must be significant in terms of number, value added by manufacture, value of shipments, and number of employees. The system operates in such a way that the definitions progressively become narrower with successive additions of numerical digits. For 1992, there are 20 major groups (two-digit SIC), 139 industry groups (three-digit SIC), and 459 industries (four-digit SIC). This represents an expansion of four-digit industries from 452 in 1972/77 and a reduction of three-digit groups from 143 in 1972/77. Product classes and products of the manufacturing industries have been assigned codes based on the industry from which they originate. There are about 11,000 products identified by a seven-digit code. The seven-digit products are considered the primary products of the industry with the same four digits.

Accordingly, an establishment is usually classified in a particular industry on the basis of its major activity during a particular year, i.e., production of the products primary to that industry exceeds, in value, production of the products primary to any other single industry. In a few instances, however, the industry classification of an establishment is not only determined by the products it makes but also by the process employed in operations. Refining of nonferrous metals from ore or rolling and drawing of nonferrous metals (processes which involve heavy capitalization in specialized equipment) would be classified according to the process used during a census year. These establishments then would be "frozen" in that industry during the following ASM years.

In either a census or ASM year, establishments included in the ASM sample with certainty weight, other than those involved with heavily capitalized activities described above, 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 (see Appendix B, Annual Survey of Manufactures). 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, at the aggregate level, some industries comprise different mixes of establishments between survey years and establishment data for such industry statistics as employment and payroll may be tabulated in different industries between survey years. Hence, comparisons between prior-year and current-year published totals, particularly at the four-digit SIC 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-records 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.

While some establishments produce only the primary products of the industry in which they are classified, all establishments of an industry rarely specialize to this extent. The industry statistics (employment, inventories, value added by manufacture, total value of shipments including resales and miscellaneous receipts, etc.) shown in tables 1a through 5a, therefore, reflect not only the primary activities of the establishments in that industry but also their secondary activities. The product statistics in table 6a represent the output of all establishments whether or not they are classified in the same industry as the product. For this reason, in relating the industry statistics, especially the value of shipments to the product statistics, the composition of the industry's output shown in table 5b should be considered.

The extent to which industry and product statistics may be matched with each other is measured by two ratios which are computed from the figures shown in table 5b. The first of these ratios, called the primary product specialization ratio, measures the proportion of product shipments (both primary and secondary) of the establishments classified in the industry represented by the primary products of those establishments. The second ratio, called the coverage ratio, is the proportion of primary products shipped by the establishments classified in the industry to total shipments of such products by all manufacturing establishments.

However, establishments making products falling into the same industry category may use a variety of processes and materials to produce them. Also, the same industry classification (based on end products) may include both establishments that are highly integrated and those that

put only the finishing touches on an already highly fabricated item. For example, the refrigeration equipment industry includes instances of almost complete integration (production of the compressor, condensing unit, electric motor, casting, stamping of the case, and final assembly) all carried on at one plant. On the other hand, the condensing unit, the motor, and the case may be purchased and only assembled into the finished product.

In some instances, separate industry categories have been established for integrated and nonintegrated establishments. For other industries, the census provides separate statistics on the production of intermediate commodities made and used in the producing plant. For some industries characterized by many plants of the same company, separate figures on interplant transfers of products usually are shown.

Differences in the integration of production processes, types of operations, and alternatives in types of materials used should be considered when relating the industry statistics (employment, payrolls, value added, etc.) to the product and material data.

VALUE OF SHIPMENTS FOR THE INDUSTRY COMPARED WITH VALUE OF PRODUCT SHIPMENTS

This report shows value of shipments data for industries and products. In tables 1a through 5b, 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 table 6a represents the total value of all products shipped that are classified as primary to an industry.

CENSUS DISCLOSURE RULES

In accordance with Federal law governing census reports, no data are published that would disclose the data for an individual establishment or company. However, the number of establishments classified in a specific industry is not considered a disclosure, so this information may be released even though other information is withheld.

The disclosure analysis for the industry statistics in tables 1a through 5a of this report 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 new capital expenditures. However, the suppressed data are included in higher-level totals. A separate disclosure analysis is performed for new capital expenditures that can be suppressed even though value of shipments data are publishable.

SPECIAL TABULATIONS

Special tabulations of data collected in the 1992 Census of Manufactures may be obtained on computer diskette or in tabular form. The data will be in summary form and subject to the same rules prohibiting disclosure of confidential information (including name, address, kind of business, or other data for individual business establishments or companies) as are the regular publications.

Special tabulations are prepared on a cost basis. A request for a cost estimate, as well as exact specifications on the type and format of the data to be provided, should be directed to the Chief, Manufacturing and Construction Division, Bureau of the Census, Washington, DC 20233.

ABBREVIATIONS AND SYMBOLS

The following abbreviations and symbols are used in this publication:

- Represents zero.
- (D) Withheld to avoid disclosing data for individual companies; data are included in higher level totals.
- (NA) Not available.
- (NC) Not comparable.
- (S) Withheld because estimate did not meet publication standards.
- (X) Not applicable.
- (Z) Less than half the unit shown.
- n.e.c. Not elsewhere classified.
- n.s.k. Not specified by kind.
- pt. Part.
- r Revised.
- SIC Standard Industrial Classification.

Other abbreviations, such as lb, gal, yd, doz, bbl, and s tons, are used in the customary sense.

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SIC's 33-35 (exc. 357)	Kenneth Hansen	301-457-4755
SIC's 357, 36-39	Bruce Goldhirsch	301-457-4817
Import/ export publications	Foreign Trade Division	301-457-3041
Industry analysis and forecasting	International Trade Administration	202-377-4356

Users' Guide for Locating Statistics in This Report by Table Number

[For explanation of terms, see appendixes]

Item	Four-digit industry statistics							Five-digit product class and seven-digit product statistics			
	Historical	Operating ratios	By geographic area	Summary and supplemental	By employment size	By industry and product class specialization	Materials consumed by kind	Industry-product analysis	Product shipments	Product class by geographic area	Historical product class
Number of companies	1a			3a					*6a		
Number of establishments.	1a		2	3a	4	5a					
Employment and payroll:											
Number of employees	1a	1b	2	3a	4	5a					
Payroll	1a	1b	2	3a	4	5a					
Supplemental labor costs				3a							
Production workers	1a	1b	2	3a	4	5a					
Production-worker hours	1a	1b	2	3a	4	5a					
Production-worker wages	1a	1b	2	3a	4	5a					
Shipments, cost of materials, and value added:											
Value of shipments (four-digit)	1a	1b	2	3a	4	5a		5b			
Product class shipments (five-digit)									6a	6b	6c
Product shipments (seven-digit)									6a		
Value added by manufacture	1a	1b	2	3a	4	5a					
Cost of materials	1a	1b	2	3a	4	5a					
Fuels and electric energy				3a							
Materials consumed by kind							7				
Inventories:											
Total, end of year	1a			3a	4						
By stage of fabrication				3a							
Capital expenditures, assets, rental payments, and purchased services:											
New capital expenditures	1a		2	3b	4	5a					
Used plant and equipment expenditures				3b							
Gross assets				3b							
Depreciation				3b							
Retirements of buildings and machinery				3b							
Rental payments				3b							
Foreign content of materials consumed				3c							
Purchased services				3c							
Ratios:											
Specialization	1a							5b			
Coverage	1a							5b			

*Number of companies with shipments of more than \$100 thousand.

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Description of Industries and Summary of Findings

This report shows 1992 Census of Manufactures statistics for establishments classified in each of the following industries:

SIC code and title

3581	Automatic Vending Machines
3582	Commercial Laundry Equipment
3585	Refrigeration and Heating Equipment
3586	Measuring and Dispensing Pumps
3589	Service Industry Machinery, N.E.C.

The industry statistics (employment, payroll, cost of materials, value of shipments, inventories, etc.) are reported for each establishment as a whole. Aggregates of such data for an industry reflect not only the primary activities of the establishments but also their activities in the manufacture of secondary products as well as their miscellaneous activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1 through 5a) with product statistics (table 6) showing shipments by all industries of the primary products of the specified industry. The extent of the "product mix" is indicated in table 5b, which shows the value of primary and secondary products shipped by establishments classified in the specified industry and the value of primary products of the industry shipped as secondary products by establishments classified in other industries.

Establishment data were tabulated based on industry definitions included in the *1987 Standard Industrial Classification (SIC) Manual*¹. The 1987 edition represents a major revision for manufacturing industries from the 1972 edition and its 1977 supplement. In addition to the 1987 SIC revision, changes were made to the product class (five-digit) and product code (seven-digit) categories. The product class and product code comparability between the 1992 and 1987 censuses is shown in appendix C. This appendix presents, in tabular form, the linkage from 1992 to 1987, and 1987 to 1992.

All dollar figures included in this report are at prices current for the year specified and, therefore, unadjusted for changes in price levels. Consequently, when making comparisons to prior years, users should take into consideration the inflation that has occurred.

¹*Standard Industrial Classification Manual: 1987*. For sale by Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402. Stock No. 041-001-00314-2.

INDUSTRY 3581, AUTOMATIC VENDING MACHINES

This industry is made up of establishments primarily engaged in manufacturing automatic vending machines and coin-operated mechanisms for such machines. Establishments primarily engaged in manufacturing money changing machinery are classified in industry 3578. Products of this industry also are collected in the Current Industrial Report (CIR) MA-35U, Vending Machines (Coin-Operated). For information regarding the CIR, see Contacts for Data Users at the end of the Census of Manufactures section.

The 1992 definition of this industry is the same as that used in the 1987 Standard Industrial Classification (SIC) system. The SIC number and title also are the same.

In the 1992 Census of Manufactures, Industry 3581, Automatic Vending Machines, had employment of 7.2 thousand. The employment figure was 9 percent below the 7.9 thousand reported in 1987. Compared with 1991, employment increased 4 percent. The 1991 data are based on the Census Bureau's annual survey of manufactures (ASM), which is a sample survey conducted each year between censuses.

The leading States in employment in 1992 were California, Missouri, South Carolina, and Texas, accounting for approximately 50 percent of the industry's employment. This represents a shift from 1987 when Missouri, West Virginia, California, and Pennsylvania were the leading States.

The total value of shipments for establishments classified in this industry was \$815.7 million.

Establishments in virtually all industries ship secondary products as well as products primary to the industry in which they are classified and have some miscellaneous receipts, such as resales and contract receipts. Industry 3581 shipped \$748.6 million of automatic vending machines considered primary to the industry, \$17.8 million of secondary products, and had \$49.3 million of miscellaneous receipts, resales, and contract work. Thus, the ratio of primary products to the total of both secondary and primary products shipped by establishments in this industry was 98 percent (specialization ratio). In 1987, the specialization ratio was 97 percent.

Establishments in this industry also accounted for 99 percent of products considered primary to the industry no matter where they were actually produced (coverage ratio). In 1987, the coverage ratio also was 99 percent.

The products primary to industry 3581, no matter in what industry they were produced, appear in table 6a and aggregate to \$757.8 million. For further explanation of specialization and coverage ratios, see table 5b and the appendixes.

The total cost of materials, services, and fuels and energy used by establishments classified in the automatic vending machines industry amounted to \$422.7 million. Data on specific materials consumed appear in table 7.

Single-establishment companies in this industry with less than 10 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 4 percent of the total value of shipments.

INDUSTRY 3582, COMMERCIAL LAUNDRY EQUIPMENT

This industry is made up of establishments primarily engaged in manufacturing laundry and drycleaning equipment and pressing machines for commercial and industrial use. Establishments primarily engaged in manufacturing household laundry equipment, including coin-operated washers and dryers are classified in industry 3633.

The 1992 definition of this industry is the same as that used in the 1987 Standard Industrial Classification (SIC) system. The SIC number and title also are the same.

In the 1992 Census of Manufactures, Industry 3582, Commercial Laundry Equipment, had employment of 4.7 thousand. The employment figure was 2 percent above the 4.6 thousand reported in 1987.

The leading States in employment in 1992 were Louisiana, Florida, Kentucky, and Ohio, accounting for approximately 50 percent of the industry's employment. These same States were the leaders in 1987.

The total value of shipments for establishments classified in this industry was \$570.3 million.

Establishments in virtually all industries ship secondary products as well as products primary to the industry in which they are classified and have some miscellaneous receipts, such as resales and contract receipts. Industry 3582 shipped \$508.6 million of commercial laundry equipment considered primary to the industry, \$35.8 million of secondary products, and had \$25.9 million of miscellaneous receipts, resales, and contract work. Thus, the ratio of primary products to the total of both secondary and primary products shipped by establishments in this industry was 93 percent (specialization ratio). In 1987, the specialization ratio was 96 percent.

Establishments in this industry also accounted for 93 percent of products considered primary to the industry no matter where they were actually produced (coverage ratio). In 1987, the coverage ratio was 94 percent.

The products primary to industry 3582, no matter in what industry they were produced, appear in table 6a and aggregate to \$546.0 million. For further explanation of specialization and coverage ratios, see table 5b and the appendixes.

The total cost of materials, services, and fuels and energy used by establishments classified in the commercial laundry equipment industry amounted to \$281.5 million. Data on specific materials consumed appear in table 7.

Single-establishment companies in this industry with less than 10 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 3 percent of the total value of shipments.

INDUSTRY 3585, REFRIGERATION AND HEATING EQUIPMENT

This industry is made up of establishments primarily engaged in manufacturing refrigeration equipment and systems and similar equipment for commercial and industrial use; complete air-conditioning units for domestic, commercial, and industrial use; and warm air furnaces. Establishments primarily engaged in manufacturing soda fountains and beer dispensing equipment and humidifiers and dehumidifiers, except portable, are also classified in this industry. Establishments primarily engaged in manufacturing household refrigerators and home and farm freezers are classified in industry 3632, and those manufacturing electric air space heaters and portable humidifiers and dehumidifiers are classified in industry 3634. Products of this industry also are collected in the Current Industrial Report (CIR) MA-35M, Air-Conditioning and Refrigeration Equipment. For information regarding the CIR, see Contacts for Data Users at the end of the Census of Manufactures section.

The 1992 definition of this industry is the same as that used in the 1987 Standard Industrial Classification (SIC) system. The SIC number and title also are the same.

In the 1992 Census of Manufactures, Industry 3585, Refrigeration and Heating Equipment, had employment of 120.5 thousand. The employment figure was 10 percent below the 133.3 thousand reported in 1987.

The leading States in employment in 1992 were Ohio, Texas, New York, and Tennessee, accounting for approximately 37 percent of the industry's employment. These same States were the leaders in 1987.

The total value of shipments for establishments classified in this industry was \$19.7 billion.

Establishments in virtually all industries ship secondary products as well as products primary to the industry in which they are classified and have some miscellaneous receipts, such as resales and contract receipts. Industry

3585 shipped \$17.7 billion of refrigeration and heating equipment considered primary to the industry, \$1.0 billion of secondary products, and had \$948.4 million of miscellaneous receipts, resales, and contract work. Thus, the ratio of primary products to the total of both secondary and primary products shipped by establishments in this industry was 95 percent (specialization ratio). In 1987, the specialization ratio was 93 percent.

Establishments in this industry also accounted for 98 percent of products considered primary to the industry no matter where they were actually produced (coverage ratio). In 1987, the coverage ratio was 97 percent.

The products primary to industry 3585, no matter in what industry they were produced, appear in table 6a and aggregate to \$18.1 billion. For further explanation of specialization and coverage ratios, see table 5b and the appendixes.

The total cost of materials, services, and fuels and energy used by establishments classified in the refrigeration and heating equipment industry amounted to \$10.3 billion. Data on specific materials consumed appear in table 7.

Single-establishment companies in this industry with less than 10 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 2 percent of the total value of shipments.

INDUSTRY 3586, MEASURING AND DISPENSING PUMPS

This industry is made up of establishments primarily engaged in manufacturing measuring and dispensing pumps commonly used in service stations for dispensing gasoline, oil, and grease, including grease guns. Establishments primarily engaged in manufacturing pumps and pumping equipment for general industrial use are classified in industry 3561. Pumps used specifically in hydraulic fluid power systems are classified in industry 3594.

The 1992 definition of this industry is the same as that used in the 1987 Standard Industrial Classification (SIC) system. The SIC number and title also are the same.

In the 1992 Census of Manufactures, Industry 3586, Measuring and Dispensing Pumps, had employment of 6.5 thousand. The employment figure was 31 percent below the 9.4 thousand reported in 1987.

The leading States in employment in 1992 were North Carolina, Indiana, Maryland, and Iowa, accounting for approximately 54 percent of the industry's employment. This represents a shift from 1987 when Indiana, North Carolina, Missouri, and Maryland were the leading States.

The total value of shipments for establishments classified in this industry was \$896.3 million.

Establishments in virtually all industries ship secondary products as well as products primary to the industry in which they are classified and have some miscellaneous receipts, such as resales and contract receipts. Industry 3586 shipped \$732.7 million of measuring and dispensing pumps considered primary to the industry, \$60.2 million of secondary products, and had \$103.4 million of miscellaneous receipts, resales, and contract work. Thus, the ratio of primary products to the total of both secondary and primary products shipped by establishments in this industry was 92 percent (specialization ratio). In 1987, the specialization ratio was 86 percent.

Establishments in this industry also accounted for 94 percent of products considered primary to the industry no matter where they were actually produced (coverage ratio). In 1987, the coverage ratio was 96 percent.

The products primary to industry 3586, no matter in what industry they were produced, appear in table 6a and aggregate to \$776.9 million. For further explanation of specialization and coverage ratios, see table 5b and the appendixes.

The total cost of materials, services, and fuels and energy used by establishments classified in the measuring and dispensing pumps industry amounted to \$451.4 million. Data on specific materials consumed appear in table 7.

Single-establishment companies in this industry with less than 15 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 9 percent of the total value of shipments.

INDUSTRY 3589, SERVICE INDUSTRY MACHINERY, N.E.C.

This industry is made up of establishments primarily engaged in manufacturing machines and equipment, not elsewhere classified, for use in service industries, such as floor sanding machines, industrial vacuum cleaners, scrubbing machines, commercial cooking and food warming equipment, and commercial dishwashing machines. Establishments primarily engaged in manufacturing household electrical appliances are classified in industry group 363.

The 1992 definition of this industry is the same as that used in the 1987 Standard Industrial Classification (SIC) system. The SIC number and title also are the same.

In the 1992 Census of Manufactures, Industry 3589, Service Industry Machinery, N.E.C., had employment of 38.5 thousand. The employment figure was 9 percent above the 35.2 thousand reported in 1987. Compared with 1991, employment increased 7 percent. The 1991 data are based on the Census Bureau's annual survey of manufactures (ASM), which is a sample survey conducted each year between censuses.

The leading States in employment in 1992 were Illinois, California, Ohio, and Michigan, accounting for approximately 40 percent of the industry's employment. This represents a shift from 1987 when Illinois, California, Minnesota, and Ohio were the leading States.

The total value of shipments for establishments classified in this industry was \$5.3 billion.

Establishments in virtually all industries ship secondary products as well as products primary to the industry in which they are classified and have some miscellaneous receipts, such as resales and contract receipts. Industry 3589 shipped \$4.6 billion of service industry machinery, not elsewhere classified, considered primary to the industry, \$318.6 million of secondary products, and had \$404.1 million of miscellaneous receipts, resales, and contract work. Thus, the ratio of primary products to the total of both secondary and primary products shipped by establishments in this industry was 94 percent (specialization ratio). In 1987, the specialization ratio was 95 percent.

Establishments in this industry also accounted for 91 percent of products considered primary to the industry no

matter where they were actually produced (coverage ratio). In 1987, the coverage ratio was 90 percent.

The products primary to industry 3589, no matter in what industry they were produced, appear in table 6a and aggregate to \$5.1 billion. For further explanation of specialization and coverage ratios, see table 5b and the appendixes.

The total cost of materials, services, and fuels and energy used by establishments classified in the service industry machinery, not elsewhere classified, industry amounted to \$2.4 billion. Data on specific materials consumed appear in table 7.

Single-establishment companies in this industry with less than 5 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 6 percent of the total value of shipments.

Table 1a. Historical Statistics for the Industry: 1992 and Earlier Years

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

Year ¹	All establishments ³			All employees		Production workers			Value added by manufacture ⁴ (million dollars)	Cost of materials ⁵ (million dollars)	Value of shipments (million dollars)	New capital expenditures ⁶ (million dollars)	End-of-year inventories ⁴ (million dollars)	Ratios	
	Companies ² (no.)	Total (no.)	With 20 employees or more (no.)	Number (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)						Specialization ⁷ (per cent)	Coverage ⁸ (per cent)
INDUSTRY 3581, AUTOMATIC VENDING MACHINES															
1992 Census ---	105	107	38	7.2	181.2	5.1	10.1	89.3	384.7	422.7	815.7	13.4	167.9	98	99
1991 ASM -----	(NA)	(NA)	(NA)	6.9	164.9	4.8	9.2	82.7	339.2	385.4	733.7	10.4	177.6	(NA)	(NA)
1990 ASM -----	(NA)	(NA)	(NA)	7.4	181.5	5.2	10.1	97.2	338.1	399.8	741.7	80.2	176.5	(NA)	(NA)
1989 ASM -----	(NA)	(NA)	(NA)	7.9	188.9	5.7	11.0	107.1	381.0	462.7	828.6	21.6	170.1	(NA)	(NA)
1988 ASM -----	(NA)	(NA)	(NA)	7.9	179.0	5.5	10.6	97.9	366.8	406.0	776.1	21.9	151.3	(NA)	(NA)
1987 Census ---	97	98	33	7.9	185.6	5.7	11.1	108.7	344.0	372.7	714.6	25.9	158.6	97	99
1986 ASM -----	(NA)	(NA)	(NA)	8.0	176.6	5.6	10.7	98.7	306.3	363.1	668.6	27.0	157.5	(NA)	(NA)
1985 ASM -----	(NA)	(NA)	(NA)	8.1	163.4	5.9	11.4	103.6	306.2	372.5	664.8	13.4	158.7	(NA)	(NA)
1984 ASM -----	(NA)	(NA)	(NA)	8.3	156.8	6.0	11.6	103.4	279.3	349.8	611.3	23.5	156.1	(NA)	(NA)
1983 ASM -----	(NA)	(NA)	(NA)	7.5	132.9	5.1	9.8	72.4	257.1	345.0	596.0	25.3	136.7	(NA)	(NA)
1982 Census ---	88	92	36	7.4	123.3	5.1	9.8	72.3	215.0	267.1	479.4	13.1	118.2	93	98
1981 ASM -----	(NA)	(NA)	(NA)	8.7	137.5	6.0	11.8	83.9	253.6	315.6	576.4	12.7	120.3	(NA)	(NA)
1980 ASM -----	(NA)	(NA)	(NA)	8.9	127.3	6.3	12.0	77.4	211.2	294.8	501.3	16.8	127.3	(NA)	(NA)
1979 ASM -----	(NA)	(NA)	(NA)	9.2	123.0	6.8	13.2	78.4	226.6	281.3	504.7	13.1	120.5	(NA)	(NA)
1978 ASM -----	(NA)	(NA)	(NA)	9.4	116.0	6.9	13.4	73.0	222.3	258.6	482.6	8.8	114.6	(NA)	(NA)
1977 Census ---	106	113	35	8.8	103.2	6.4	12.4	65.1	211.7	214.5	410.1	7.9	109.6	94	93
INDUSTRY 3582, COMMERCIAL LAUNDRY EQUIPMENT															
1992 Census ---	74	77	33	4.7	129.3	3.2	6.7	71.1	286.7	281.5	570.3	10.8	88.6	93	93
1991 ASM -----	(NA)	(NA)	(NA)	4.9	125.9	3.3	7.3	69.6	247.0	287.6	542.3	11.1	108.1	(NA)	(NA)
1990 ASM -----	(NA)	(NA)	(NA)	5.2	120.3	3.5	7.1	67.4	240.4	277.6	526.6	13.2	107.9	(NA)	(NA)
1989 ASM -----	(NA)	(NA)	(NA)	5.0	111.8	3.5	7.2	64.5	181.2	283.7	478.9	13.4	104.3	(NA)	(NA)
1988 ASM -----	(NA)	(NA)	(NA)	6.3	138.3	4.3	9.0	79.8	294.1	308.2	586.6	9.2	116.2	(NA)	(NA)
1987 Census ---	80	81	40	4.6	106.9	3.4	7.0	66.3	246.5	212.7	455.8	6.6	84.8	96	94
1986 ASM -----	(NA)	(NA)	(NA)	4.5	100.2	3.1	6.6	59.8	196.0	184.5	381.6	6.9	76.6	(NA)	(NA)
1985 ASM -----	(NA)	(NA)	(NA)	4.5	92.9	3.1	6.5	55.8	193.3	186.1	373.5	6.8	72.1	(NA)	(NA)
1984 ASM -----	(NA)	(NA)	(NA)	4.4	89.5	3.1	6.5	55.4	191.5	159.1	346.0	9.3	72.3	(NA)	(NA)
1983 ASM -----	(NA)	(NA)	(NA)	4.5	85.6	3.1	6.5	52.8	177.5	160.0	338.5	6.0	69.2	(NA)	(NA)
1982 Census ---	86	87	45	4.7	83.0	3.2	6.4	49.6	170.0	147.8	321.0	4.9	64.1	96	87
1981 ASM -----	(NA)	(NA)	(NA)	4.8	76.3	3.6	7.3	50.6	154.7	159.3	308.5	3.0	57.8	(NA)	(NA)
1980 ASM -----	(NA)	(NA)	(NA)	5.1	72.8	3.9	7.5	46.0	134.5	163.1	295.2	8.3	56.6	(NA)	(NA)
1979 ASM -----	(NA)	(NA)	(NA)	5.6	74.9	4.2	8.4	49.2	126.3	173.5	293.6	10.7	53.1	(NA)	(NA)
1978 ASM -----	(NA)	(NA)	(NA)	5.2	66.3	3.9	7.4	41.7	126.5	128.1	247.9	3.8	61.6	(NA)	(NA)
1977 Census ---	90	94	38	4.6	54.4	3.3	6.4	35.6	117.3	104.9	220.3	2.2	53.5	90	81
INDUSTRY 3585, REFRIGERATION AND HEATING EQUIPMENT															
1992 Census ---	769	913	512	120.5	3 590.2	88.9	179.8	2 385.5	9 413.3	10 341.2	19 697.0	556.1	2 473.9	95	98
1991 ASM -----	(NA)	(NA)	(NA)	119.0	3 377.1	87.1	173.4	2 201.6	8 186.2	9 867.4	18 223.8	443.2	2 455.2	(NA)	(NA)
1990 ASM -----	(NA)	(NA)	(NA)	126.9	3 507.2	92.4	183.9	2 261.5	8 339.5	10 425.0	19 043.2	472.4	2 674.2	(NA)	(NA)
1989 ASM -----	(NA)	(NA)	(NA)	135.8	3 683.1	101.5	204.3	2 453.7	9 340.7	11 161.7	20 249.1	534.2	2 995.5	(NA)	(NA)
1988 ASM -----	(NA)	(NA)	(NA)	135.2	3 456.7	99.5	200.2	2 272.0	8 822.6	10 373.1	18 963.6	452.4	2 806.4	(NA)	(NA)
1987 Census ---	746	894	513	133.3	3 355.8	96.4	192.8	2 170.3	8 051.1	9 138.5	17 035.4	433.3	2 579.9	93	97
1986 ASM -----	(NA)	(NA)	(NA)	128.9	3 194.5	91.8	181.3	2 067.2	7 212.6	8 484.8	15 826.2	493.1	2 204.3	(NA)	(NA)
1985 ASM -----	(NA)	(NA)	(NA)	130.4	3 102.3	94.2	183.3	2 021.0	7 249.5	8 608.2	15 836.4	436.5	2 359.4	(NA)	(NA)
1984 ASM -----	(NA)	(NA)	(NA)	134.2	3 021.0	97.7	189.6	1 982.6	7 409.1	8 576.8	15 775.5	418.9	2 434.1	(NA)	(NA)
1983 ASM -----	(NA)	(NA)	(NA)	122.1	2 565.0	88.5	167.3	1 679.5	6 373.1	6 966.7	13 375.2	225.6	2 209.6	(NA)	(NA)
1982 Census ---	730	865	496	120.5	2 393.2	85.0	159.3	1 532.6	6 049.4	6 190.6	12 390.3	329.3	2 141.9	92	95
1981 ASM -----	(NA)	(NA)	(NA)	137.0	2 532.2	98.7	192.7	1 639.4	6 210.4	6 039.4	13 125.7	400.6	2 038.9	(NA)	(NA)
1980 ASM -----	(NA)	(NA)	(NA)	130.0	2 240.6	93.6	182.9	1 442.5	5 383.9	6 023.9	11 587.4	367.0	1 860.9	(NA)	(NA)
1979 ASM -----	(NA)	(NA)	(NA)	148.8	2 323.8	111.5	216.8	1 575.4	5 857.7	6 596.2	12 273.1	297.4	2 101.1	(NA)	(NA)
1978 ASM -----	(NA)	(NA)	(NA)	148.5	2 154.4	112.9	214.3	1 476.7	5 323.6	6 051.0	11 217.0	292.9	1 882.2	(NA)	(NA)
1977 Census ---	725	860	457	138.6	1 849.7	104.4	205.4	1 270.2	4 469.2	5 235.7	9 638.1	233.0	1 632.7	89	95
INDUSTRY 3586, MEASURING AND DISPENSING PUMPS															
1992 Census ---	71	77	41	6.5	196.6	4.1	8.2	98.6	422.0	451.4	896.3	27.1	151.1	92	94
1991 ASM -----	(NA)	(NA)	(NA)	7.0	192.8	4.5	8.1	96.6	493.5	426.4	927.7	22.2	170.5	(NA)	(NA)
1990 ASM -----	(NA)	(NA)	(NA)	8.0	221.1	4.9	9.5	121.0	519.1	492.9	1 029.5	21.1	203.1	(NA)	(NA)
1989 ASM -----	(NA)	(NA)	(NA)	8.2	229.5	5.2	10.0	123.5	544.3	505.1	1 071.0	29.7	214.5	(NA)	(NA)
1988 ASM -----	(NA)	(NA)	(NA)	8.8	230.4	5.7	11.2	133.4	641.7	490.3	1 135.7	26.8	206.3	(NA)	(NA)
1987 Census ---	70	83	44	9.4	249.0	5.8	12.0	132.8	617.8	470.3	1 068.7	24.4	213.9	86	96
1986 ASM -----	(NA)	(NA)	(NA)	7.3	172.8	4.7	9.1	91.1	392.8	413.5	813.1	16.4	154.1	(NA)	(NA)
1985 ASM -----	(NA)	(NA)	(NA)	8.2	185.1	5.3	10.2	97.0	417.9	423.7	840.3	21.3	181.6	(NA)	(NA)
1984 ASM -----	(NA)	(NA)	(NA)	8.4	182.3	5.6	11.0	103.4	465.7	396.2	858.8	13.1	197.3	(NA)	(NA)
1983 ASM -----	(NA)	(NA)	(NA)	7.4	157.6	4.7	8.7	80.1	364.3	292.1	668.2	13.1	154.5	(NA)	(NA)
1982 Census ---	58	61	35	8.1	160.0	5.2	9.9	86.9	365.1	299.7	676.2	12.8	157.2	86	93
1981 ASM -----	(NA)	(NA)	(NA)	6.4	114.6	4.5	8.6	69.1	324.3	223.7	549.0	11.5	121.4	(NA)	(NA)
1980 ASM -----	(NA)	(NA)	(NA)	7.2	122.2	5.1	9.7	74.2	338.3	227.6	539.5	16.6	123.8	(NA)	(NA)
1979 ASM -----	(NA)	(NA)	(NA)	6.9	106.7	4.8	9.2	64.3	259.2	198.6	448.6	9.9	105.5	(NA)	(NA)
1978 ASM -----	(NA)	(NA)	(NA)	6.7	95.6	4.7	8.8	57.4	222.3	174.2	392.1	9.0	91.8	(NA)	(NA)
1977 Census ---	57	59	30	7.4	97.3	5.1	9.7	57.9	218.0	158.2	375.7	6.2	97.9	61	82
INDUSTRY 3589, SERVICE INDUSTRY MACHINERY, N.E.C.															
1992 Census ---	1 046	1 113	391	38.5	1 136.7	22.4	45.4	503.5	2 965.1	2 388.3	5 344.6	109.6	898.5	94	91
1991 ASM -----	(NA)	(NA)	(NA)	35.9	971.2	21.2	42.6	453.2	2 483.7	2 130.2	4 636.2	60.0	896.4	(NA)	(NA)
1990 ASM -----	(NA)	(NA)	(NA)	38.6	1 018.1	23.0	46.3	481.2	2 721.4	2 170.4	4 877.2	82.5	969.7	(NA)	(NA)
1989 ASM -----	(NA)	(NA)	(NA)	35.4	932.5	22.4	45.2	455.9	2 592.9	1 993.8	4 428.1	104.0	901.5	(NA)	(NA)
1988 ASM -----	(NA)	(NA)	(NA)	35.9	874.2	22.2	43.0	420.5	2 169.6	1 977.6	4 116.6	100.3	768.8	(NA)	(NA)
1987 Census ---	897	949	333	35.2	854.8	21.5	43.3	399.0	2 200.5	1 765.5	3 960.4	88.9	717.4	95	90
1986 ASM -----	(NA)	(NA)	(NA)	31.7	736.4	19.1	36.5	345.5	1 815.4	1 611.7	3 428.3	58.0	630.5	(NA)	(NA)
1985 ASM -----	(NA)	(NA)	(NA)	3											

Table 1a. Historical Statistics for the Industry: 1992 and Earlier Years—Con.

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

Year ¹	All establishments ³			All employees		Production workers			Value added by manufacture ⁴ (million dollars)	Cost of materials ⁵ (million dollars)	Value of shipments (million dollars)	New capital expenditures ⁶ (million dollars)	End-of-year inventories ⁴ (million dollars)	Ratios	
	Companies ² (no.)	Total (no.)	With 20 employees or more (no.)	Number (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)						Specialization ⁷ (percent)	Coverage ⁸ (percent)
INDUSTRY 3589, SERVICE INDUSTRY MACHINERY, N.E.C.—Con.															
1978 ASM-----	(NA)	(NA)	(NA)	32.7	445.6	19.6	38.0	222.0	1 008.5	946.4	1 949.8	43.4	389.8	(NA)	(NA)
1977 Census ---	959	988	277	32.1	411.8	19.2	36.9	208.6	946.4	849.3	1 771.8	38.5	365.9	91	90

¹In annual survey of manufactures (ASM) years, data are estimates based on a representative sample of establishments canvassed annually and may differ from results of a complete canvass of all establishments. ASM publication shows percentage standard errors. Unless otherwise noted, for data prior to 1977, see 1977 Census of Manufactures, vol. II, table 1 of the industry chapter.

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.

⁴Beginning in 1982, all respondents were requested to report their inventories at cost or market prior to adjustment to LIFO cost. This is a change from prior years when respondents were permitted to value their inventories using any generally accepted accounting method. Consequently, 1982 data for inventories and value added by manufacture are not comparable to prior-year data.

⁵Cost of materials is the sum of five components: the cost of (1) parts used in the manufacture of finished goods (materials, parts, containers, and supplies incorporated into products or otherwise directly consumed in the process); (2) purchased items later resold without further manufacture; (3) fuels; (4) electricity; and (5) commissions or fees to outside parties for contract manufacturing. A separate cost for each of the five components is shown in table 3a. Detailed data on materials consumed by type, are shown in table 7.

⁶Detailed data on new machinery and equipment expenditures are provided in table 3c.

⁷Represents ratio of primary product shipments to total product shipments (primary and secondary, excluding miscellaneous receipts) for establishments classified in the industry.

⁸Represents ratio of primary products shipped by establishments classified in industry to total shipments of such products by all manufacturing establishments, wherever classified.

Table 1b. Selected Operating Ratios for the Industry: 1992 and Earlier Years

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

Year	Payroll per employee (dollars)	Production workers as percent of total employment (percent)	Annual hours of production workers (number)	Average hourly earnings of production workers (dollars)	Cost of materials as percent of value of shipments (percent)	Cost of materials and payroll as percent of value of shipments (percent)	Value added per employee (dollars)	Payroll as percent of value added (percent)	Value added per production worker hour (dollars)
INDUSTRY 3581, AUTOMATIC VENDING MACHINES									
1992 Census-----	25 167	71	1 980	8.84	52	74	53 431	47	38.09
1991 ASM-----	23 899	70	1 917	8.99	53	75	49 159	49	36.87
1990 ASM-----	24 527	70	1 942	9.62	54	78	45 689	54	33.48
1989 ASM-----	23 911	72	1 930	9.74	56	79	48 228	50	34.64
1988 ASM-----	22 658	70	1 927	9.24	52	75	46 430	49	34.60
1987 Census-----	23 494	72	1 947	9.79	52	78	43 544	54	30.99
1986 ASM-----	22 075	70	1 911	9.22	54	81	38 288	58	28.63
1985 ASM-----	20 173	73	1 932	9.09	56	81	37 802	53	26.86
1984 ASM-----	18 892	72	1 933	8.91	57	83	33 651	56	24.08
1983 ASM-----	17 720	68	1 922	7.39	58	80	34 280	52	26.23
1982 Census-----	16 662	69	1 922	7.38	56	81	29 054	57	21.94
1981 ASM-----	15 805	69	1 967	7.11	55	79	29 149	54	21.49
1980 ASM-----	14 303	71	1 905	6.45	59	84	23 730	60	17.60
1979 ASM-----	13 370	74	1 941	5.94	56	80	24 630	54	17.17
1978 ASM-----	12 340	73	1 942	5.45	54	78	23 649	52	16.59
1977 Census-----	11 727	73	1 937	5.25	52	77	24 057	49	17.07
INDUSTRY 3582, COMMERCIAL LAUNDRY EQUIPMENT									
1992 Census-----	27 511	68	2 094	10.61	49	72	61 000	45	42.79
1991 ASM-----	25 694	67	2 212	9.53	53	76	50 408	51	33.84
1990 ASM-----	23 135	67	2 029	9.49	53	76	46 231	50	33.86
1989 ASM-----	22 360	70	2 057	8.96	59	83	36 240	62	25.17
1988 ASM-----	21 952	68	2 093	8.87	53	76	46 683	47	32.68
1987 Census-----	23 239	74	2 059	9.47	47	70	53 587	43	35.21
1986 ASM-----	22 267	69	2 129	9.06	48	75	43 556	51	29.70
1985 ASM-----	20 644	69	2 097	8.58	50	75	42 956	48	29.74
1984 ASM-----	20 341	70	2 097	8.52	46	72	43 523	47	29.46
1983 ASM-----	19 022	69	2 097	8.12	47	73	39 444	48	27.31
1982 Census-----	17 660	68	2 000	7.75	46	72	36 170	49	26.56
1981 ASM-----	15 896	75	2 028	6.93	52	76	32 229	49	21.19
1980 ASM-----	14 275	76	1 923	6.13	55	80	26 373	54	17.93
1979 ASM-----	13 375	75	2 000	5.86	59	85	22 554	59	15.04
1978 ASM-----	12 750	75	1 897	5.64	52	78	24 327	52	17.09
1977 Census-----	11 826	72	1 939	5.56	48	72	25 500	46	18.33
INDUSTRY 3585, REFRIGERATION AND HEATING EQUIPMENT									
1992 Census-----	29 794	74	2 022	13.27	53	71	78 119	38	52.35
1991 ASM-----	28 379	73	1 991	12.70	54	73	68 792	41	47.21
1990 ASM-----	27 638	73	1 990	12.30	55	73	65 717	42	45.35
1989 ASM-----	27 122	75	2 013	12.01	55	73	68 783	39	45.72
1988 ASM-----	25 567	74	2 012	11.35	55	73	65 256	39	44.07
1987 Census-----	25 175	72	2 000	11.26	54	73	60 398	42	41.76
1986 ASM-----	24 783	71	1 975	11.40	54	74	55 955	44	39.78
1985 ASM-----	23 791	72	1 946	11.03	54	74	55 594	43	39.55
1984 ASM-----	22 511	73	1 941	10.46	54	74	55 209	41	39.08
1983 ASM-----	21 007	72	1 890	10.04	52	71	52 196	40	38.09
1982 Census-----	19 861	71	1 874	9.62	50	69	50 202	40	37.97
1981 ASM-----	18 483	72	1 952	8.51	53	73	45 331	41	32.23
1980 ASM-----	17 235	72	1 954	7.89	52	71	41 415	42	29.44
1979 ASM-----	15 617	75	1 944	7.27	54	73	39 366	40	27.02
1978 ASM-----	14 508	76	1 898	6.89	54	73	35 849	40	24.84
1977 Census-----	13 346	75	1 967	6.18	54	74	32 245	41	21.76

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Table 1b. Selected Operating Ratios for the Industry: 1992 and Earlier Years—Con.

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

Year	Payroll per employee (dollars)	Production workers as percent of total employment (percent)	Annual hours of production workers (number)	Average hourly earnings of production workers (dollars)	Cost of materials as percent of value of shipments (percent)	Cost of materials and payroll as percent of value of shipments (percent)	Value added per employee (dollars)	Payroll as percent of value added (percent)	Value added per production worker hour (dollars)
INDUSTRY 3586, MEASURING AND DISPENSING PUMPS									
1992 Census	30 246	63	2 000	12.02	50	72	64 923	47	51.46
1991 ASM	27 543	64	1 800	11.93	46	67	70 500	39	60.93
1990 ASM	27 638	61	1 939	12.74	48	69	64 887	43	54.64
1989 ASM	27 988	63	1 923	12.35	47	69	66 378	42	54.43
1988 ASM	26 182	65	1 965	11.91	43	63	72 920	36	57.29
1987 Census	26 489	62	2 069	11.07	44	67	65 723	40	51.48
1986 ASM	23 671	64	1 936	10.01	51	72	53 808	44	43.16
1985 ASM	22 573	65	1 925	9.51	50	72	50 963	44	40.97
1984 ASM	21 702	67	1 964	9.40	46	67	55 440	39	42.34
1983 ASM	21 297	64	1 851	9.21	44	67	49 230	43	41.87
1982 Census	19 753	64	1 904	8.78	44	68	45 074	44	36.88
1981 ASM	17 906	70	1 911	8.03	41	62	50 672	35	37.71
1980 ASM	16 972	71	1 902	7.65	42	65	46 986	36	34.88
1979 ASM	15 464	70	1 917	6.99	44	68	37 565	41	28.17
1978 ASM	14 269	70	1 872	6.52	44	69	33 179	43	25.26
1977 Census	13 149	69	1 902	5.97	42	68	29 459	45	22.47
INDUSTRY 3589, SERVICE INDUSTRY MACHINERY, N.E.C.									
1992 Census	29 525	58	2 027	11.09	45	66	77 016	38	65.31
1991 ASM	27 053	59	2 009	10.64	46	67	69 184	39	58.30
1990 ASM	26 376	60	2 013	10.39	45	65	70 503	37	58.78
1989 ASM	26 342	63	2 018	10.09	45	66	73 246	36	57.37
1988 ASM	24 351	62	1 937	9.78	48	69	60 435	40	50.46
1987 Census	24 284	61	2 014	9.21	45	66	62 514	39	50.82
1986 ASM	23 230	60	1 911	9.47	47	68	57 268	41	49.74
1985 ASM	21 978	62	1 944	8.90	49	70	52 823	42	44.04
1984 ASM	21 489	62	1 964	8.82	48	70	50 397	43	41.67
1983 ASM	19 328	59	1 877	8.55	48	71	42 839	45	38.89
1982 Census	18 839	57	1 882	8.45	48	70	42 623	44	39.44
1981 ASM	17 455	63	1 881	7.54	49	72	38 844	45	32.88
1980 ASM	15 732	63	1 919	6.64	49	71	35 390	44	29.16
1979 ASM	14 107	62	1 941	5.99	49	72	31 726	44	26.18
1978 ASM	13 627	60	1 939	5.84	49	71	30 841	44	26.54
1977 Census	12 829	60	1 922	5.65	48	71	29 483	44	25.65

Note: For qualifications of data, see footnotes on table 1a.

Table 2. Industry Statistics for Selected States: 1992 and 1987

[Excludes data for auxiliaries. States with 100 employees or more are shown. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Industry and geographic area	1992											1987	
	All establishments		All employees		Production workers			Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	All employees ² (1,000)	Value added by manufacture (million dollars)
	Total (no.)	With 20 employees or more (no.)	Number ² (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)						
INDUSTRY 3581, AUTOMATIC VENDING MACHINES													
United States	107	38	7.2	181.2	5.1	10.1	89.3	384.7	422.7	815.7	13.4	7.9	344.0
Arkansas	3	1	E	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
California	20	5	G	(D)	(D)	(D)	(D)	(D)	(D)	(D)	1.5	F	(D)
Illinois	11	5	.3	9.2	.2	.5	4.0	19.6	19.5	39.0	(D)	E	(D)
Iowa	3	2	E	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	E	(D)
Maryland	1	1	C	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Minnesota	6	3	E	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	E	(D)
Missouri	2	2	G	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	F	(D)
New Jersey	1	1	E	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	F	(D)
New York	8	3	.3	7.1	.2	.4	3.8	13.2	10.8	22.5	.2	E	(D)
Pennsylvania	5	3	F	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	F	(D)
South Carolina	1	1	F	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Tennessee	1	1	C	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	F	(D)
Texas	4	2	F	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	F	(D)
West Virginia	1	1	E	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	G	(D)

See footnotes at end of table.

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Table 2. Industry Statistics for Selected States: 1992 and 1987—Con.

[Excludes data for auxiliaries. States with 100 employees or more are shown. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Industry and geographic area	1992											1987		
	E1	All establishments		All employees		Production workers			Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	All employees ² (1,000)	Value added by manufacture (million dollars)
		Total (no.)	With 20 employees or more (no.)	Number ² (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)						
INDUSTRY 3582, COMMERCIAL LAUNDRY EQUIPMENT														
United States -----	-	77	33	4.7	129.3	3.2	6.7	71.1	286.7	281.5	570.3	10.8	4.6	246.5
California -----	E2	10	2	C	(D)	(D)	(D)	(D)	(D)	(D)	(D)	.2	(NA)	(NA)
Florida -----	-	7	4	.6	16.4	.4	.8	6.7	38.7	55.4	93.8	(D)	.5	39.0
Illinois -----	-	12	4	E	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	E	(D)
Iowa -----	-	2	1	E	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Kentucky -----	-	2	2	F	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	F	(D)
Louisiana -----	-	1	1	F	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	F	(D)
Massachusetts -----	-	4	4	E	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	E	(D)
New York -----	-	2	2	E	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Ohio -----	-	5	2	E	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	F	(D)
Tennessee -----	-	2	2	C	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Texas -----	-	4	3	E	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	E	(D)
INDUSTRY 3585, REFRIGERATION AND HEATING EQUIPMENT														
United States -----	-	913	512	120.5	3 590.2	88.9	179.8	2 385.5	9 413.3	10 341.2	19 697.0	556.1	133.3	8 051.1
Alabama -----	-	11	9	2.4	67.7	2.0	4.3	52.9	198.8	300.5	492.7	16.9	2.0	132.4
Arizona -----	-	17	6	1.1	25.7	.8	1.7	14.5	65.6	68.4	129.7	2.5	1.6	63.5
Arkansas -----	-	15	11	3.7	106.4	2.9	5.7	69.5	300.7	316.1	626.9	12.1	3.6	230.0
California -----	-	99	46	3.8	104.3	2.8	5.8	65.3	267.2	363.2	633.4	9.8	5.3	241.7
Colorado -----	-	7	4	F	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	E	(D)
Connecticut -----	E2	12	5	.7	22.7	.5	1.0	11.8	52.4	51.0	104.3	1.5	G	(D)
Delaware -----	-	3	1	C	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Florida -----	E3	49	17	1.3	27.0	.9	1.7	14.8	57.9	68.0	125.1	1.4	1.4	72.8
Georgia -----	-	27	20	4.7	126.3	3.6	8.0	86.4	315.7	444.4	753.6	26.0	(NA)	(D)
Illinois -----	-	39	26	4.4	122.9	3.1	6.3	69.7	395.5	306.1	721.1	20.7	5.5	346.2
Indiana -----	-	29	22	6.8	222.4	5.4	10.9	167.9	759.1	661.7	1 420.9	31.4	5.6	401.1
Iowa -----	-	11	9	1.4	37.2	1.1	2.0	26.2	174.3	102.1	295.8	4.2	G	(D)
Kansas -----	-	8	6	1.1	33.1	.7	1.3	18.5	76.3	122.2	202.2	1.9	(NA)	(D)
Kentucky -----	-	14	11	3.3	83.9	2.5	5.0	57.3	242.8	256.8	494.2	7.3	(NA)	(D)
Louisiana -----	-	3	1	C	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Maryland -----	-	16	9	1.4	45.8	.8	1.3	20.1	64.8	55.6	127.5	2.9	G	(D)
Massachusetts -----	E2	15	6	.7	20.3	.5	.9	10.8	45.0	40.6	85.6	2.2	F	(D)
Michigan -----	-	30	19	3.7	109.0	2.5	4.7	61.4	180.0	347.8	522.9	(D)	5.4	261.8
Minnesota -----	-	24	14	3.0	101.0	1.7	3.2	45.0	203.6	268.4	464.8	6.8	3.3	207.6
Mississippi -----	-	8	7	H	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	G	(D)
Missouri -----	-	19	13	4.2	107.0	3.1	6.5	67.6	245.7	263.8	504.7	11.0	4.7	187.1
Nebraska -----	-	3	1	E	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Nevada -----	E2	10	2	.2	4.4	.1	.3	2.8	10.6	12.1	22.4	.5	(NA)	(NA)
New Jersey -----	-	20	10	3.7	99.2	2.8	5.6	67.7	240.4	286.4	582.2	12.4	5.4	210.5
New York -----	-	64	31	11.3	469.6	8.7	17.9	361.7	895.7	776.7	1 673.3	53.4	(NA)	(D)
North Carolina -----	-	18	11	1.9	51.2	1.3	3.0	30.1	149.4	145.9	291.3	28.2	1.6	94.7
Ohio -----	-	44	29	12.2	475.8	9.2	19.4	345.0	1 034.7	1 170.9	2 220.5	91.6	12.6	1 016.4
Oklahoma -----	-	15	10	1.9	50.5	1.5	3.3	34.7	144.4	176.3	320.5	6.2	1.5	83.7
Oregon -----	-	9	3	C	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	7.2
Pennsylvania -----	-	51	30	5.2	148.5	3.4	7.0	90.1	522.4	364.7	885.0	14.7	6.3	338.6
South Carolina -----	-	8	5	1.6	36.2	1.2	2.5	23.2	106.8	114.4	224.9	4.4	1.3	74.1
South Dakota -----	-	4	1	E	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Tennessee -----	-	25	19	9.9	245.8	8.1	16.3	187.0	1 069.5	1 183.9	2 170.2	56.6	11.4	841.7
Texas -----	-	118	68	11.7	293.9	8.2	16.4	168.8	730.4	1 082.1	1 759.8	45.6	12.8	685.0
Utah -----	E9	3	1	C	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Virginia -----	-	12	7	3.8	80.8	3.1	4.5	57.4	217.7	300.6	510.9	(D)	2.6	126.4
Washington -----	-	11	4	F	(D)	(D)	(D)	(D)	(D)	(D)	(D)	1.6	4	22.5
Wisconsin -----	-	24	14	4.0	130.7	2.2	4.5	63.6	259.3	278.3	535.0	11.6	5.7	262.5
INDUSTRY 3586, MEASURING AND DISPENSING PUMPS														
United States -----	-	77	41	6.5	196.6	4.1	8.2	98.6	422.0	451.4	896.3	27.1	9.4	617.8
California -----	E3	11	6	.4	14.8	.3	.6	6.9	33.3	26.0	58.6	1.2	E	(D)
Illinois -----	-	3	2	E	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	F	(D)
Indiana -----	-	7	4	1.1	32.7	.8	1.5	14.6	42.1	82.5	137.9	3.0	G	(D)
Iowa -----	-	2	2	E	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	F	(D)
Maryland -----	-	1	1	F	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	F	(D)
Massachusetts -----	-	2	1	C	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Michigan -----	E6	7	4	E	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	E	(D)
New Jersey -----	-	1	1	C	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
North Carolina -----	-	3	2	G	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	G	(D)
Ohio -----	-	6	4	.4	12.6	.2	.5	6.6	39.3	26.4	65.5	1.9	E	(D)
Pennsylvania -----	-	1	1	E	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	E	(D)
Tennessee -----	-	3	3	E	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	E	(D)
Texas -----	E4	11	6	.4	8.9	.2	.5	4.8	22.7	18.3	42.6	.5	E	(D)

See footnotes at end of table.

Table 2. Industry Statistics for Selected States: 1992 and 1987—Con.

[Excludes data for auxiliaries. States with 100 employees or more are shown. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Industry and geographic area	1992											1987		
	All establishments		All employees		Production workers			Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	All employees ² (1,000)	Value added by manufacture (million dollars)	
	E1	Total (no.)	With 20 employees or more (no.)	Number ² (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)							Wages (million dollars)
INDUSTRY 3589, SERVICE INDUSTRY MACHINERY, N.E.C.														
United States -----		1 113	391	38.5	1 136.7	22.4	45.4	503.5	2 965.1	2 388.3	5 344.6	109.6	35.2	2 200.5
Alabama -----	E3	9	4	.7	18.3	.4	.8	7.9	47.2	34.3	83.4	(D)	.6	42.1
Arizona -----	E1	18	7	.4	8.7	.2	.4	3.7	21.3	25.4	46.3	.5	.3	19.3
Arkansas -----		15	7	F	(D)	(D)	(D)	(D)	(D)	(D)	(D)	1.2	E	(D)
California -----		189	56	4.4	133.6	2.7	5.4	60.2	323.7	256.4	575.7	10.2	(NA)	(D)
Colorado -----		19	3	.3	10.1	.2	.3	3.0	33.4	28.4	61.8	.8	.2	24.5
Connecticut -----		8	3	E	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Florida -----	E1	73	17	1.3	36.2	.8	1.6	17.5	89.6	63.4	152.0	2.0	1.4	81.9
Georgia -----	E1	21	7	.6	12.4	.3	.6	5.8	18.7	23.6	39.0	1.4	(NA)	(D)
Illinois -----		77	42	4.8	153.3	2.8	5.9	69.8	349.2	328.0	666.4	10.3	5.1	311.9
Indiana -----		20	5	.8	23.0	.6	1.2	12.7	50.8	54.7	105.2	2.0	(D)	(D)
Iowa -----		17	9	.9	27.3	.4	.8	10.2	62.4	54.7	116.9	1.4	.5	31.3
Kansas -----		15	6	E	(D)	(D)	(D)	(D)	(D)	(D)	(D)	.4	(NA)	(NA)
Kentucky -----	E2	9	3	E	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	F	(D)
Louisiana -----		17	3	F	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	E	(D)
Maryland -----		4	1	E	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	F	(D)
Massachusetts -----		25	8	.7	25.0	.3	.6	9.7	52.6	45.5	100.2	(D)	F	(D)
Michigan -----		41	15	2.4	64.1	1.6	3.2	33.3	237.6	190.0	421.4	14.6	G	(D)
Minnesota -----		40	12	2.4	98.9	1.2	2.3	33.3	181.1	138.4	325.0	(D)	2.2	199.8
Mississippi -----		4	1	C	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Missouri -----		26	9	E	(D)	(D)	(D)	(D)	(D)	(D)	(D)	.6	1.1	53.9
Nevada -----		10	3	.3	9.2	.2	.4	4.5	24.0	17.5	41.3	.2	E	(D)
New Hampshire -----		7	2	E	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
New Jersey -----	E1	34	14	1.4	43.2	.8	1.5	20.5	79.0	59.8	139.9	1.0	.9	41.4
New York -----		35	11	1.0	25.5	.7	1.4	12.9	47.1	56.8	104.0	1.4	G	(D)
North Carolina -----		23	10	F	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	F	(D)
Ohio -----		65	30	3.7	99.5	2.1	4.4	47.8	374.8	267.3	646.5	9.0	2.1	114.1
Oklahoma -----	E6	14	4	C	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(NA)
Oregon -----		13	6	.5	12.1	.3	.6	5.1	29.2	24.6	53.7	.9	.5	23.6
Pennsylvania -----		46	17	1.3	38.5	.8	1.5	16.0	87.0	76.1	163.1	(D)	1.9	105.0
South Carolina -----		13	5	E	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	E	(D)
Tennessee -----		19	10	.7	19.2	.4	.7	6.8	47.9	37.5	86.0	2.2	.5	29.0
Texas -----		58	17	1.2	32.4	.6	1.3	13.1	99.2	65.3	164.1	2.8	F	(D)
Utah -----	E1	16	1	.2	4.2	.1	.1	.9	13.0	15.1	28.2	.3	(NA)	(NA)
Vermont -----		2	1	E	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)
Virginia -----		10	5	E	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	.3	17.7
Washington -----		20	7	.6	21.4	.4	.8	10.1	50.1	24.9	71.3	(D)	.3	18.0
Wisconsin -----		46	18	G	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	G	(D)
Wyoming -----		2	1	C	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(NA)	(D)

Note: For qualifications of data, see footnotes on table 1a.

¹Payroll and sales data for some 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 the items shown 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 for those States where estimated value of shipments data based on administrative-record data account for 10 percent or more of figure shown: E1—10 to 19 percent; E2—20 to 29 percent; E3—30 to 39 percent; E4—40 to 49 percent; E5—50 to 59 percent; E6—60 to 69 percent; E7—70 to 79 percent; E8—80 to 89 percent; E9—90 percent or more.

²Statistics for some producing States have been withheld to avoid disclosing data for individual companies. However, for States with 100 employees or more, number of establishments is shown and employment-size range is indicated by one of the following symbols: C—100 to 249 employees; E—250 to 499 employees; F—500 to 999 employees; G—1,000 to 2,499 employees; H—2,500 to 4,999 employees; I—5,000 to 9,999 employees; J—10,000 to 24,999 employees; K—25,000 to 49,999 employees; L—50,000 to 99,999 employees; M—100,000 employees or more.

Table 3a. Summary Statistics for the Industry: 1992

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

Item	Automatic vending machines (SIC 3581)	Commercial laundry equipment (SIC 3582)	Refrigeration and heating equipment (SIC 3585)	Measuring and dispensing pumps (SIC 3586)	Service industry machinery, n.e.c. (SIC 3589)
Companies -----	105	74	769	71	1 046
All establishments -----	107	77	913	77	1 113
With 1 to 19 employees -----	69	44	401	36	722
With 20 to 99 employees -----	20	22	260	25	295
With 100 employees or more -----	18	11	252	16	96
Employment and labor costs:					
Employees -----	7.2	4.7	120.5	6.5	38.5
Compensation, total ----- mil dol..	236.0	159.6	4 715.2	254.6	1 423.9
Annual payroll ----- mil dol..	181.2	129.3	3 590.2	196.6	1 136.7
Fringe benefits ----- mil dol..	54.9	30.3	1 125.0	58.0	287.2
Social Security and other legally required payments ----- mil dol..	19.3	13.8	392.5	21.3	114.9
Employer voluntary payments ----- mil dol..	35.6	16.5	732.5	36.7	172.3
Production workers:					
Average for year -----	5.1	3.2	88.9	4.1	22.4
March -----	5.0	3.2	89.6	4.3	22.6
May -----	5.2	3.2	93.1	4.1	22.5
August -----	5.2	3.3	87.1	4.0	22.6
November -----	5.1	3.2	86.2	4.0	22.1
Hours ----- millions..	10.1	6.7	179.8	8.2	45.4
Wages ----- mil dol..	89.3	71.1	2 385.5	98.6	503.5

See footnotes at end of table.

Table 3a. Summary Statistics for the Industry: 1992—Con.

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

Item	Automatic vending machines (SIC 3581)	Commercial laundry equipment (SIC 3582)	Refrigeration and heating equipment (SIC 3585)	Measuring and dispensing pumps (SIC 3586)	Service industry machinery, n.e.c. (SIC 3589)
Cost of materials ¹	422.7	281.5	10 341.2	451.4	2 388.3
Materials, parts, containers, etc., consumed ²	384.1	255.7	9 607.0	424.1	2 053.3
Resales	28.0	18.4	483.1	7.9	246.0
Fuels	1.9	1.9	48.7	1.2	9.5
Purchased electricity	6.5	3.3	142.9	7.3	31.0
Contract work	2.1	2.2	59.4	10.9	48.6
Quantity of electric energy used for heat and power:					
Purchased	94.4	60.3	2 684.8	123.7	463.1
Generated less sold	—	—	—	—	—
Total value of shipments	815.7	570.3	19 697.0	896.3	5 344.6
Value added	384.7	286.7	9 413.3	422.0	2 965.1
Inventories by stage of fabrication:					
Beginning of 1992	180.4	92.2	2 424.7	176.4	869.0
Finished goods	78.0	15.2	1 036.4	46.8	268.2
Work in process	36.2	29.6	588.9	62.7	218.3
Materials and supplies	66.3	47.4	799.4	66.9	382.5
End of 1992	167.9	88.6	2 473.9	151.1	898.5
Finished goods	69.8	15.6	1 064.7	37.5	269.3
Work in process	36.2	27.1	618.1	49.0	226.1
Materials and supplies	62.0	45.8	791.1	64.5	403.2

Note: For qualifications of data, see footnotes on table 1a.

¹Data on purchased services for the repair of buildings and machinery and for communication services are not included in cost of materials, etc., but are shown in table 3c.

²Data on materials consumed by type are shown in table 7. Data on amount purchased or transferred from foreign sources are shown in table 3c.

Table 3b. Gross Book Value of Depreciable Assets, Capital Expenditures, Retirements, Depreciation, and Rental Payments: 1992

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

Item	Automatic vending machines (SIC 3581)	Commercial laundry equipment (SIC 3582)	Refrigeration and heating equipment (SIC 3585)	Measuring and dispensing pumps (SIC 3586)	Service industry machinery, n.e.c. (SIC 3589)
Gross book value of depreciable assets:					
Total:					
Beginning of year	233.9	105.8	5 694.8	250.2	1 043.6
New capital expenditures ¹	13.4	10.8	556.1	27.1	109.6
Used capital expenditures	3.2	5	44.6	3	18.9
Retirements	1.8	1.2	167.8	5.5	41.1
End of year	248.7	115.9	6 127.7	272.2	1 131.1
Buildings and other structures:					
Beginning of year	53.7	24.6	1 372.8	56.7	291.0
New capital expenditures	1.8	2.9	65.9	5.0	16.9
Used capital expenditures	(D)	(Z)	6.6	(Z)	9.8
Retirements	(D)	.1	27.0	.8	7.6
End of year	55.7	27.5	1 418.3	60.9	310.0
Machinery and equipment:					
Beginning of year	180.2	81.2	4 322.0	193.5	752.6
New capital expenditures ¹	11.6	7.8	490.2	22.1	92.7
Used capital expenditures	(D)	5	38.0	3	9.1
Retirements	(D)	1.2	140.8	4.7	33.5
End of year	193.0	88.4	4 709.4	211.2	821.0
Depreciation charges during 1992:					
Total	16.6	10.0	417.7	13.7	103.3
Buildings and other structures	2.2	1.3	55.4	2.0	17.7
Machinery and equipment	14.4	8.7	362.3	11.7	85.7
Rental payments:					
Total	5.6	8.2	90.1	7.0	65.1
Buildings and other structures	3.5	6.5	51.6	4.9	41.3
Machinery and equipment	2.0	1.6	38.4	2.1	23.7

¹Data on new machinery and equipment expenditures by type are provided in table 3c.

Table 3c. Supplemental Industry Statistics Based on Sample Estimates: 1992

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

Item	Automatic vending machines (SIC 3581)		Commercial laundry equipment (SIC 3582)		Refrigeration and heating equipment (SIC 3585)		Measuring and dispensing pumps (SIC 3586)		Service industry machinery, n.e.c. (SIC 3589)	
	Amount (million dollars)	Relative standard error of estimate ¹ (percent)	Amount (million dollars)	Relative standard error of estimate ¹ (percent)	Amount (million dollars)	Relative standard error of estimate ¹ (percent)	Amount (million dollars)	Relative standard error of estimate ¹ (percent)	Amount (million dollars)	Relative standard error of estimate ¹ (percent)
Purchased services:										
Cost of purchased services for the repair of—										
Buildings and other structures .....	.7	(X)	1.0	(X)	89.6	(X)	.9	(X)	10.5	(X)
Response coverage ratio (percent) ²	90.4	(X)	82.8	(X)	88.2	(X)	98.4	(X)	84.7	(X)
Machinery	3.7	(X)	2.6	(X)	(S)	(X)	4.6	(X)	13.7	(X)
Response coverage ratio (percent) ²	90.4	(X)	70.8	(X)	(S)	(X)	99.3	(X)	83.0	(X)
Other purchased services:										
Communications	2.2	(X)	1.3	(X)	26.6	(X)	2.9	(X)	20.1	(X)
Response coverage ratio (percent) ²	90.4	(X)	82.8	(X)	86.7	(X)	99.3	(X)	79.8	(X)
Legal	3.4	(X)	.9	(X)	24.0	(X)	6.4	(X)	18.2	(X)
Response coverage ratio (percent) ²	90.4	(X)	82.8	(X)	86.7	(X)	99.3	(X)	81.2	(X)
Accounting and bookkeeping .....	.6	(X)	.7	(X)	8.4	(X)	1.8	(X)	9.6	(X)
Response coverage ratio (percent) ²	90.4	(X)	82.8	(X)	84.6	(X)	98.4	(X)	80.3	(X)
Advertising	1.4	(X)	4.4	(X)	49.8	(X)	4.5	(X)	59.1	(X)
Response coverage ratio (percent) ²	90.4	(X)	82.8	(X)	85.9	(X)	99.3	(X)	84.0	(X)
Software and other data processing .....	.3	(X)	1.1	(X)	57.5	(X)	1.9	(X)	6.0	(X)
Response coverage ratio (percent) ²	90.4	(X)	82.8	(X)	85.0	(X)	99.3	(X)	78.1	(X)
Refuse removal, including hazardous waste .....	.7	(X)	.3	(X)	69.4	(X)	.7	(X)	3.4	(X)
Response coverage ratio (percent) ²	90.4	(X)	82.8	(X)	89.4	(X)	98.4	(X)	83.4	(X)
New machinery and equipment expenditures	11.6	(X)	7.8	(X)	490.2	(X)	22.1	(X)	92.7	(X)
Automobiles, trucks, etc., for highway use .....	.1		.1		51		.5		7.0	
Computers and peripheral data processing equipment	2.4	1	.5	24	24.3	4	1.9	16	13.2	10
All other	9.1	1	7.2	3	461.9	1	19.8	3	72.5	3
Adjustment ratio ³	1.4	(X)	.5	(X)	1.1	(X)	1.3	(X)	1.3	(X)
Cost of materials, components, parts, etc., used	384.1	(X)	255.7	(X)	9 607.0	(X)	424.1	(X)	2 053.3	(X)
Materials purchased or transferred from foreign sources ⁴	20.4	1	26.9	3	550.9	3	9.2	15	69.3	14
Materials purchased or transferred from domestic sources	363.8	1	228.8	3	9 056.2	1	414.9	1	1 984.0	1
Adjustment ratio ³	1.8	(X)	1.4	(X)	1.4	(X)	1.2	(X)	1.7	(X)

Note: The amounts shown for purchased services reflect only those services that establishments purchase from other companies. Amounts purchased by separate central administrative offices and services provided to establishments by central administrative offices are excluded.

¹For description of relative standard error of estimate, see Qualifications of the Data in appendixes.

²A response coverage ratio is derived for this item by calculating the ratio of the weighted employment (establishment data multiplied by sample weight, see appendix B) for those ASM establishments that reported to the weighted total employment for all ASM establishments classified in the industry.

³Detail has been adjusted upwards to account for nonresponse. Inverse of the ratio shown represents a measure of the response of the inquiry. (See appendixes for further explanation.)

⁴Data may understate the true cost of imported parts, components, and supplies since some respondents do not know the origin of these materials. Includes cases where materials were purchased from secondary suppliers or where they were transferred from company-operated warehouses or other distribution points. Direct purchases from foreign suppliers and importers by domestic manufacturing establishments are believed to be reported accurately.

Table 4. Industry Statistics by Employment Size of Establishment: 1992

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

Industry and employment size class	E ¹	All establishments (no.)	All employees		Production workers			Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	End-of-year inventories (million dollars)
			Number (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)					
INDUSTRY 3581, AUTOMATIC VENDING MACHINES												
Total	-	107	7.2	181.2	5.1	10.1	89.3	384.7	422.7	815.7	13.4	167.9
Establishments with an average of—												
1 to 4 employees	E9	36	.1	1.4	(Z)	.1	.8	2.6	3.1	5.6	.1	1.5
5 to 9 employees	E6	17	.1	2.4	.1	.1	1.5	4.8	6.2	11.1	.3	2.7
10 to 19 employees	E2	16	.2	5.0	.2	.3	2.7	8.3	10.9	19.2	.3	5.0
20 to 49 employees	E3	16	.5	12.4	.3	.6	6.1	20.7	18.5	38.8	.5	7.2
50 to 99 employees	-	4	.2	4.5	.2	.3	2.4	10.1	12.1	22.0	(Z)	4.3
100 to 249 employees	-	8	1.2	29.9	.9	1.7	17.8	54.6	75.5	129.0	3.9	32.7
250 to 499 employees	-	6	2.1	60.7	1.3	3.0	23.2	94.5	126.5	219.4	4.4	54.0
500 to 999 employees	-	4	2.8	64.9	2.1	3.9	34.8	189.1	169.9	370.5	3.7	60.4
Covered by administrative records ²	E9	45	.1	2.4	.1	.2	1.4	4.2	5.2	9.3	.3	2.5
INDUSTRY 3582, COMMERCIAL LAUNDRY EQUIPMENT												
Total	-	77	4.7	129.3	3.2	6.7	71.1	286.7	281.5	570.3	10.8	88.6
Establishments with an average of—												
1 to 4 employees	E9	17	(Z)	.5	(Z)	(Z)	.3	.8	.9	1.8	(Z)	1.2
5 to 9 employees	E5	15	.1	2.3	.1	.1	1.4	3.4	5.8	9.9	.2	3.0
10 to 19 employees	E3	12	.2	4.1	.1	.2	2.3	7.0	6.9	13.8	.2	2.3
20 to 49 employees	E1	11	.3	9.7	.3	.5	5.7	22.1	15.3	37.4	.6	5.5
50 to 99 employees	-	11	.8	23.7	.5	1.1	10.5	49.9	43.5	93.0	.9	12.8
100 to 249 employees	-	5	.8	24.5	.6	1.4	14.0	69.9	80.3	150.6	1.8	19.8
250 to 499 employees	-	5	2.4	64.4	1.7	3.3	37.0	133.6	128.7	263.8	7.1	44.0
500 to 999 employees	-	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Covered by administrative records ²	E9	30	.2	2.7	.1	.2	1.7	4.6	4.9	9.6	.2	1.9

See footnotes at end of table.

MANUFACTURES—INDUSTRY SERIES

SERVICE INDUSTRY MACHINES 35G-13

Table 4. Industry Statistics by Employment Size of Establishment: 1992—Con.

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

Industry and employment size class	E ¹	All establishments (no.)	All employees		Production workers			Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	End-of-year inventories (million dollars)
			Number (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)					
INDUSTRY 3585, REFRIGERATION AND HEATING EQUIPMENT												
Total	-	913	120.5	3 590.2	88.9	179.8	2 385.5	9 413.3	10 341.2	19 697.0	556.1	2 473.9
Establishments with an average of—												
1 to 4 employees	E8	162	.3	7.4	.2	.4	4.8	23.4	20.8	44.3	.8	5.2
5 to 9 employees	E6	132	.9	20.5	.6	1.2	12.3	46.5	48.4	92.7	2.6	16.2
10 to 19 employees	E3	107	1.5	36.8	1.0	2.0	21.8	85.6	94.0	179.6	3.1	26.4
20 to 49 employees	E1	158	4.9	120.8	3.4	6.7	66.4	252.3	293.0	543.1	9.1	89.6
50 to 99 employees	-	102	7.3	190.0	5.1	10.5	108.6	448.2	457.2	907.8	20.5	129.4
100 to 249 employees	-	140	21.7	561.7	15.2	32.1	329.1	1 427.7	1 559.1	2 992.1	89.9	458.4
250 to 499 employees	-	55	18.6	504.1	13.4	26.9	303.9	1 320.7	1 598.8	2 964.9	92.5	455.4
500 to 999 employees	-	34	23.1	657.7	16.9	34.3	428.8	2 117.9	2 382.9	4 491.0	97.6	491.2
1,000 to 2,499 employees	-	20	42.2	1 491.2	33.0	65.7	1 109.8	3 691.0	3 886.9	7 481.4	240.0	802.1
2,500 employees or more	-	3	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Covered by administrative records ²	E9	255	1.2	22.5	.9	1.7	14.7	43.4	51.7	95.2	2.3	13.2
INDUSTRY 3586, MEASURING AND DISPENSING PUMPS												
Total	-	77	6.5	196.6	4.1	8.2	98.6	422.0	451.4	896.3	27.1	151.1
Establishments with an average of—												
1 to 4 employees	E8	15	(Z)	.9	(Z)	.1	.6	1.6	1.5	3.2	.1	.7
5 to 9 employees	E6	9	.1	1.7	(Z)	.1	1.0	3.3	3.6	7.0	.2	1.6
10 to 19 employees	E3	12	.2	5.9	.1	.2	2.9	10.3	9.0	19.7	.4	4.5
20 to 49 employees	E1	16	.5	15.7	.3	.7	7.6	40.5	34.0	77.6	1.4	15.8
50 to 99 employees	-	9	.6	19.9	.4	.9	8.0	45.9	39.4	83.9	2.7	23.5
100 to 249 employees	E2	10	1.5	41.0	1.1	2.3	26.1	115.4	120.2	237.5	8.1	42.0
250 to 499 employees	-	3	.9	26.0	.5	1.1	13.9	66.4	51.3	119.6	3.1	15.2
500 to 999 employees	-	2	2.6	85.6	1.5	3.0	38.5	138.6	192.4	348.0	11.1	47.8
1,000 to 2,499 employees	-	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Covered by administrative records ²	E9	20	.1	2.4	.1	.1	1.5	3.8	4.2	8.0	.2	1.8
INDUSTRY 3589, SERVICE INDUSTRY MACHINERY, N.E.C.												
Total	-	1 113	38.5	1 136.7	22.4	45.4	503.5	2 965.1	2 388.3	5 344.6	109.6	898.5
Establishments with an average of—												
1 to 4 employees	E6	344	.6	16.2	.4	.8	7.6	43.2	36.5	80.7	1.1	19.0
5 to 9 employees	E4	197	1.3	31.6	.8	1.5	14.7	73.2	65.5	138.0	4.4	24.0
10 to 19 employees	E1	181	2.5	65.8	1.4	2.9	28.6	156.5	135.2	293.5	4.3	45.4
20 to 49 employees	E1	205	6.3	177.0	3.5	7.0	74.5	434.1	377.7	814.3	10.8	133.0
50 to 99 employees	-	90	6.2	185.9	3.5	7.2	75.3	472.6	383.3	854.5	17.9	159.4
100 to 249 employees	-	75	11.7	349.8	7.1	14.5	162.7	940.8	805.8	1 749.9	27.2	301.6
250 to 499 employees	-	15	5.3	153.5	3.2	6.5	74.2	461.3	339.7	796.5	18.6	111.6
500 to 999 employees	-	6	4.4	157.0	2.6	5.1	65.9	383.3	244.7	617.4	25.3	104.6
Covered by administrative records ²	E9	411	1.3	23.8	.8	1.5	11.1	57.2	46.5	103.7	1.8	18.1

Note: For qualifications of data, see footnotes on table 1a. Data shown as (D) are included in underscored figures above.

¹Payroll and sales data for some small single-establishment manufacturing 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 the items shown 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 for those employment-size classes where estimated data based on administrative-record data account for 10 percent or more of figures shown: E1—10 to 19 percent; E2—20 to 29 percent; E3—30 to 39 percent; E4—40 to 49 percent; E5—50 to 59 percent; E6—60 to 69 percent; E7—70 to 79 percent; E8—80 to 89 percent; E9—90 percent or more.

²Report forms were not mailed to small single-establishment companies with up to 20 employees (cutoff varied by industry). Payroll and sales data for 1992 were obtained from administrative records supplied by other agencies of the Federal Government. Those data were then used in conjunction with industry averages to estimate the items shown. Data are also included in respective employment-size classes shown.

Table 5a. Industry Statistics by Industry and Primary Product Class Specialization: 1992

[Table presents selected statistics for establishments according to their degree of specialization in products primary to their industry. Measures of plant specialization shown are (1) industry specialization: ratio of primary product shipments to total product shipments (primary plus secondary, excluding miscellaneous receipts) for the establishment; and (2) product class specialization: ratio of largest primary product class shipments to total product shipments (primary plus secondary, excluding miscellaneous receipts) for the establishment. See appendix for method of computing ratios. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Industry or product class code	Industry or primary product class	All establishments (number)	All employees		Production workers			Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)
			Number (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)				
3581	Automatic vending machines: All establishments in industry	107	7.2	181.2	5.1	10.1	89.3	384.7	422.7	815.7	13.4
	Establishments with this product class primary:										
35811	Automatic merchandising machines, coin-operated (vending)	39	5.6	138.1	4.1	8.4	73.2	298.8	342.3	653.7	10.4
35812	Coin-operated mechanisms and parts for automatic merchandising machines	10	1.2	34.3	.7	1.2	10.8	69.0	61.5	126.6	(D)
3582	Commercial laundry equipment: All establishments in industry	77	4.7	129.3	3.2	6.7	71.1	286.7	281.5	570.3	10.8

See footnotes at end of table.

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MANUFACTURES—INDUSTRY SERIES

Table 5a. Industry Statistics by Industry and Primary Product Class Specialization: 1992—
Con.

[Table presents selected statistics for establishments according to their degree of specialization in products primary to their industry. Measures of plant specialization shown are (1) industry specialization: ratio of primary product shipments to total product shipments (primary plus secondary, excluding miscellaneous receipts) for the establishment; and (2) product class specialization: ratio of largest primary product class shipments to total product shipments (primary plus secondary, excluding miscellaneous receipts) for the establishment. See appendix for method of computing ratios. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Industry or product class code	Industry or primary product class	All establishments (number)	All employees		Production workers			Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)
			Number (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)				
3585	Refrigeration and heating equipment: All establishments in industry -----	913	120.5	3 590.2	88.9	179.8	2 385.5	9 413.3	10 341.2	19 697.0	556.1
	Establishments with this product class primary:										
35851	Heat transfer equipment (except electrically operated dehumidifiers), mechanically refrigerated, self-contained -----	152	34.1	1 157.0	24.3	50.4	770.2	2 773.5	2 664.3	5 422.1	119.1
35852	Unitary air-conditioners -----	56	22.2	632.3	16.6	34.0	420.4	2 184.1	2 503.1	4 596.6	116.1
35853	Commercial refrigerators and related equipment -----	115	16.1	436.3	11.6	23.9	262.1	1 033.6	954.7	1 987.1	36.6
35854	Compressors and compressor units, all refrigerants ---	43	21.6	717.7	17.2	33.5	528.9	1 574.4	2 250.1	3 810.6	208.1
35855	Refrigeration condensing units (complete) -----	9	.6	16.5	.3	.7	6.6	50.2	57.8	109.7	2.6
35856	Room air-conditioners and dehumidifiers -----	12	4.8	111.4	3.5	7.1	69.3	441.2	507.0	990.3	18.3
35859	Refrigeration and air-conditioning equipment, n.e.c. ---	63	6.1	157.7	4.2	8.4	85.5	378.3	345.4	726.9	17.6
3585C	Warm air furnaces, including duct furnaces and humidifiers, and electric comfort heating equipment ---	39	5.2	136.2	4.1	7.4	102.4	496.1	466.2	984.0	14.6
3585D	Parts and accessories for air-conditioning and heat transfer equipment -----	62	5.7	134.5	4.3	8.6	83.9	288.9	378.1	664.7	14.1
3586	Measuring and dispensing pumps: All establishments in industry -----	77	6.5	196.6	4.1	8.2	98.6	422.0	451.4	896.3	27.1
3589	Service industry machinery, n.e.c.: All establishments in industry -----	1 113	38.5	1 136.7	22.4	45.4	503.5	2 965.1	2 388.3	5 344.6	109.6
	Establishments with this product class primary:										
35891	Commercial cooking and food-warming equipment ---	115	11.1	313.0	7.1	14.3	159.3	820.1	606.7	1 408.8	23.4
35892	Service industry machines and parts -----	399	20.8	633.5	11.6	23.7	267.0	1 711.4	1 459.4	3 177.3	60.8
35893	Commercial and industrial vacuum cleaners, including parts and attachments -----	23	2.4	90.3	1.3	2.6	30.5	191.7	138.6	333.5	(D)

Note: For qualifications of data, see footnotes on table 1a.

Table 5b. Industry-Product Analysis—Value of Industry and Primary Product Shipments; Specialization and Coverage Ratios: 1992 and Earlier Census Years

[Million dollars. An establishment is assigned to an industry based on shipment values of products representing largest amount considered primary to an industry. Frequently, establishment shipments comprise mixtures of products assigned to an industry (primary), those considered primary to other industries (secondary), and receipts for activities such as merchandising or contract work (total miscellaneous receipts). Subtotals for total value of shipments show this product pattern for an industry. Primary products specialization ratio is the primary products value of shipments divided by the sum of primary products value of shipments plus secondary products value of shipments. The extent of which an industry's primary products are shipped by establishments classified both in and out of an industry is the coverage ratio and is calculated by dividing the primary products value of shipments by the value of primary products shipments made in all industries. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Industry	1992	1987	1982
INDUSTRY 3581, AUTOMATIC VENDING MACHINES			
Total value of shipments -----	815.7	714.6	479.4
Primary products value of shipments -----	748.6	685.6	436.4
Secondary products value of shipments -----	17.8	18.2	30.8
Total miscellaneous receipts -----	49.3	10.8	12.3
Value of resales -----	37.9	9.5	11.5
Contract receipts -----	9.7	(D)	—
Other miscellaneous receipts -----	1.7	(D)	.8
Primary products specialization ratio -----	98	97	93
Value of primary products shipments made in all industries -----	757.8	695.2	445.7
Value of primary products shipments made in this industry -----	748.6	685.6	436.4
Value of primary products shipments made in other industries -----	9.3	9.6	9.4
Coverage ratio -----	99	99	98
INDUSTRY 3582, COMMERCIAL LAUNDRY EQUIPMENT			
Total value of shipments -----	570.3	455.8	321.0
Primary products value of shipments -----	508.6	409.1	293.6
Secondary products value of shipments -----	35.8	15.8	11.7
Total miscellaneous receipts -----	25.9	30.9	15.6
Value of resales -----	23.6	27.6	13.2
Contract receipts -----	(D)	1.4	—
Other miscellaneous receipts -----	(D)	1.9	2.4
Primary products specialization ratio -----	93	96	96
Value of primary products shipments made in all industries -----	546.0	433.2	338.7
Value of primary products shipments made in this industry -----	508.6	409.1	293.6
Value of primary products shipments made in other industries -----	37.3	24.1	45.1
Coverage ratio -----	93	94	87

MANUFACTURES—INDUSTRY SERIES

SERVICE INDUSTRY MACHINES 35G—15

Table 5b. Industry–Product Analysis—Value of Industry and Primary Product Shipments; Specialization and Coverage Ratios: 1992 and Earlier Census Years—Con.

[Million dollars. An establishment is assigned to an industry based on shipment values of products representing largest amount considered primary to an industry. Frequently, establishment shipments comprise mixtures of products assigned to an industry (primary), those considered primary to other industries (secondary), and receipts for activities such as merchandising or contract work (total miscellaneous receipts). Subtotals for total value of shipments show this product pattern for an industry. Primary products specialization ratio is the primary products value of shipments divided by the sum of primary products value of shipments plus secondary products value of shipments. The extent of which an industry's primary products are shipped by establishments classified both in and out of an industry is the coverage ratio and is calculated by dividing the primary products value of shipments by the value of primary products shipments made in all industries. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Industry	1992	1987	1982
INDUSTRY 3585, REFRIGERATION AND HEATING EQUIPMENT			
Total value of shipments	19 697.0	17 035.4	12 390.3
Primary products value of shipments	17 735.7	14 949.3	10 587.3
Secondary products value of shipments	1 012.9	1 109.9	914.3
Total miscellaneous receipts	948.4	976.2	888.7
Value of resales	609.3	780.6	604.8
Contract receipts	(D)	(D)	(D)
Other miscellaneous receipts	(D)	(D)	(D)
Sales of scrap and refuse	36.2	36.1	21.4
Receipts for installation (or construction) of products of this establishment	23.7	9.7	17.1
Receipts for research and development	(D)	(D)	(D)
Receipts for repair work	11.4	5.1	(D)
Other miscellaneous receipts	79.7	(D)	(NA)
Other miscellaneous receipts, n.s.k.	(D)	45.0	(D)
Primary products specialization ratio	95	93	92
Value of primary products shipments made in all industries	18 072.2	15 337.5	11 150.7
Value of primary products shipments made in this industry	17 735.7	14 949.3	10 587.3
Value of primary products shipments made in other industries	336.5	388.2	563.4
Coverage ratio	98	97	95
INDUSTRY 3586, MEASURING AND DISPENSING PUMPS			
Total value of shipments	896.3	1 068.7	676.2
Primary products value of shipments	732.7	881.2	547.3
Secondary products value of shipments	60.2	145.3	87.6
Total miscellaneous receipts	103.4	42.2	41.3
Value of resales	(D)	(D)	39.2
Contract receipts	—	(D)	—
Other miscellaneous receipts	(D)	(D)	2.1
Primary products specialization ratio	92	86	86
Value of primary products shipments made in all industries	776.9	916.7	590.7
Value of primary products shipments made in this industry	732.7	881.2	547.3
Value of primary products shipments made in other industries	44.2	35.4	43.4
Coverage ratio	94	96	93
INDUSTRY 3589, SERVICE INDUSTRY MACHINERY, N.E.C.			
Total value of shipments	5 344.6	3 960.4	2 583.0
Primary products value of shipments	4 622.0	3 514.7	2 253.6
Secondary products value of shipments	318.6	203.9	173.5
Total miscellaneous receipts	404.1	241.9	155.8
Value of resales	343.1	200.9	121.2
Contract receipts	21.4	7.0	12.5
Other miscellaneous receipts	39.6	34.0	22.1
Primary products specialization ratio	94	95	93
Value of primary products shipments made in all industries	5 057.2	3 926.3	2 550.4
Value of primary products shipments made in this industry	4 622.0	3 514.7	2 253.6
Value of primary products shipments made in other industries	435.3	411.6	296.8
Coverage ratio	91	90	88

Note: For qualifications of data, see footnotes on table 1a.

Table 6a. Product and Product Classes—Quantity and Value of Shipments by All Producers: 1992 and 1987

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

Product code	Product	1992		1987	
		Number of companies with shipments of \$100,000 or more	Value of product shipments ¹ (million dollars)	Number of companies with shipments of \$100,000 or more	Value of product shipments ¹ (million dollars)
3581—	AUTOMATIC MERCHANDISING MACHINES				
	Total	(NA)	757.8	(NA)	695.2
35811	Automatic merchandising machines, coin-operated (vending)	(NA)	559.5	(NA)	502.1
35811 00	Automatic merchandising machines, coin-operated (vending), excluding money changing machines ³	42	559.5	32	502.1
35812	Coin-operated mechanisms and parts for automatic merchandising machines	(NA)	164.0	(NA)	161.9
35812 51	Coin-operated mechanisms for vending machines (for sale separately)	12	115.6	19	103.8
35812 69	Parts for automatic merchandising machines, except coin-operated mechanisms	19	48.1	17	57.1
35812 00	Coin-operated mechanisms and parts for automatic merchandising machines, n.s.k.	(NA)	.4	(NA)	1.0
35810	Automatic merchandising machines, n.s.k.	(NA)	34.3	(NA)	31.2
35810 00	Automatic merchandising machines, n.s.k. ⁴	(NA)	25.8	(NA)	6.7
35810 02	Automatic merchandising machines, n.s.k. ⁵	(NA)	8.6	(NA)	24.6
3582—	COMMERCIAL LAUNDRY EQUIPMENT				
	Total	(NA)	546.0	(NA)	433.2
35820	Commercial laundry, dry cleaning, and pressing machinery and equipment	(NA)	546.0	(NA)	433.2
	Commercial laundry equipment and presses, capacity exceeding 10 kg (22 lb):				
35820 11	Washers only	4	3.4	(NA)	(⁶)
35820 12	Washer-extractor combinations	10	144.1	(NA)	83.1
	Drying tumblers:				
35820 17	Coin-operated, more than 22 lb load	7	71.2	6	38.3
35820 18	Other than coin-operated	8	37.3	6	31.3
35820 27	Presses, laundry	6	42.8	5	42.5
35820 29	Other commercial laundry equipment, including extractors only, flatwork ironers, etc.	14	84.2	(NA)	⁶ 117.0
35820 31	Parts, attachments, and accessories	20	63.1	(NA)	34.6
	Dry-cleaning equipment and clothing presses:				
35820 39	Dry-cleaning units, presses including garment manufacturers ¹ (needle trades) presses, reclaiming units, etc.	11	40.4	(NA)	36.1
35820 91	Parts, attachments, and accessories	10	17.1	11	14.0
35820 00	Commercial laundry equipment, n.s.k. ⁴	(NA)	33.0	(NA)	22.5
35820 02	Commercial laundry equipment, n.s.k. ⁵	(NA)	9.4	(NA)	13.7

Product code	Product	1992			1987		
		Number of companies with shipments of \$100,000 or more	Product shipments ¹		Number of companies with shipments of \$100,000 or more	Product shipments ¹	
			Quantity ²	Value (million dollars)		Quantity ²	Value (million dollars)
3585—	REFRIGERATION AND HEATING EQUIPMENT						
	Total	(NA)	(X)	18 072.2	(NA)	(X)	'15 337.5
35851	Heat transfer equipment (except electrically operated dehumidifiers), mechanically refrigerated, self-contained	(NA)	(X)	4 413.0	(NA)	(X)	3 692.5
35851 00	Heat transfer equipment (except electrically operated dehumidifiers), mechanically refrigerated, self-contained ³	158	(X)	4 413.0	157	(X)	3 692.5
35852	Unitary air-conditioners	(NA)	(X)	3 801.2	(NA)	(X)	'3 454.0
35852 00	Unitary air-conditioners ³	65	(X)	3 801.2	53	(X)	'3 454.0
35853	Commercial refrigerators and related equipment	(NA)	(X)	1 821.8	(NA)	(X)	1 768.9
	Refrigerated enclosures, including self-contained units and remote units:						
35853 12	Sectional coolers or cooling rooms of the prefabricated (factory produced) type	46	(S)	307.3	47	(S)	293.2
	Reach-in refrigerators and reach-in type vertical display cabinets:						
35853 15	For normal temperature application; i.e., not intended for frozen foods, ice cream, etc.	31	*165.8	224.0	30	*120.2	149.8
35853 18	For low temperature application	24	*59.5	219.5	29	*104.0	186.8
	Display cases operated at normal temperatures:						
35853 22	Closed	14	(S)	43.6	17	**30.9	41.6
	Open self-service:						
35853 23	One level	12	(S)	142.3	9	**48.6	119.4
35853 28	Multilevel	9	42.6	151.8	10	27.9	82.2
	Display cases operated at low temperatures:						
35853 32	Frozen food display cases, open, self-service	8	28.3	61.8	(NA)	(S)	98.5
35853 35	Frozen food cabinets, closed, other than reach-in type	6	14.6	38.2	9	(S)	64.6
35853 37	Other	9	**9.6	39.6	(NA)	22.7	48.3
35853 43	Mechanical drinking water coolers ³	6	(X)	206.2	8	(X)	152.3

See footnotes at end of table.

MANUFACTURES—INDUSTRY SERIES

SERVICE INDUSTRY MACHINES 35G—17

Table 6a. Product and Product Classes—Quantity and Value of Shipments by All Producers: 1992 and 1987—Con.

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

Product code	Product	1992				1987			
		Number of companies with shipments of \$100,000 or more	Product shipments ¹		Number of companies with shipments of \$100,000 or more	Product shipments ¹			
			Quantity ²	Value (million dollars)		Quantity ²	Value (million dollars)		
3585—	REFRIGERATION AND HEATING EQUIPMENT—Con.								
35853	Commercial refrigerators and related equipment—Con. Mechanical beverage cooling and dispensing equipment, except coin-operated:								
35853 52	Bottled beverage coolers, dry and wet types	7	(X)	22.4	7	(X)	40.9		
35853 57	Bulk beverage dispensers, including malt dispensers and precooler cabinets	11	(X)	144.0	14	(X)	187.2		
35853 98	Other commercial refrigerators	27	(X)	207.7	(NA)	(X)	257.3		
35853 00	Commercial refrigerators and related equipment, n.s.k.	(NA)	(X)	13.6	(NA)	(X)	46.8		
35854	Compressors and compressor units, all refrigerants	(NA)	(X)	3 078.6	(NA)	(X)	2 317.4		
35854 00	Compressors and compressor units, all refrigerants ³	53	(X)	3 078.6	45	(X)	2 317.4		
35855	Refrigeration condensing units (complete)	(NA)	(X)	209.6	(NA)	(X)	241.1		
35855 00	Condensing units, all refrigerants, except ammonia (complete) ⁵	27	(X)	209.6	30	(X)	241.1		
35856	Room air-conditioners and dehumidifiers	(NA)	(X)	878.8	(NA)	(X)	909.7		
35856 00	Room air-conditioners and dehumidifiers, except portable dehumidifiers ³	20	(X)	878.8	26	(X)	909.7		
35859	Refrigeration and air-conditioning equipment, n.e.c.	(NA)	(X)	694.2	(NA)	(X)	1447.2		
35859 01	Soda fountain equipment (cooler box, fountainette, and similar equipment)	15	(X)	168.4	9	(X)	97.7		
35859 02	Beer dispensing equipment	9	(X)	23.9	7	(X)	12.6		
35859 03	Evaporative air coolers	20	(X)	161.5	11	(X)	61.3		
35859 06	Other refrigeration machinery and air-conditioning equipment	55	(X)	321.7	(NA)	(X)	255.1		
35859 00	Refrigeration and air-conditioning equipment, n.e.c., n.s.k.	(NA)	(X)	18.8	(NA)	(X)	20.5		
3585C	Warm air furnaces, including duct furnaces and humidifiers, and electric comfort heating equipment	(NA)	(X)	1 307.3	(NA)	(X)	883.5		
3585C 00	Warm air furnaces, including duct furnaces and humidifiers, and electric comfort heating equipment ³	61	(X)	1 307.3	61	(X)	883.5		
3585D	Parts and accessories for air-conditioning and heat transfer equipment	(NA)	(X)	1 467.0	(NA)	(X)	1 153.9		
3585D 10	Parts for heat transfer equipment, including parts for air-conditioning condensing units	51	(X)	628.9	50	(X)	456.5		
3585D 20	Parts for unitary air-conditioners	29	(X)	285.1	25	(X)	147.2		
3585D 30	Parts for commercial refrigeration and related equipment	35	(X)	139.6	38	(X)	92.4		
3585D 40	Parts for compressors and compressor units	25	(X)	199.4	19	(X)	107.6		
3585D 50	Parts for condensing units, excluding air-conditioning condensing units	7	(X)	6.8	6	(X)	4.7		
3585D 60	Parts for dehumidifiers and room air-conditioners	7	(X)		12	(X)	60.2		
3585D 70	Parts for refrigeration and air-conditioning equipment, n.e.c.	14	(X)	80.4	28	(X)	137.2		
3585D 80	Parts for warm air furnaces, including duct furnaces (excluding complete humidifiers)	25	(X)	74.3	24	(X)	78.6		
3585D 00	Parts and accessories for air-conditioning and heat transfer equipment, n.s.k.	(NA)	(X)	52.6	(NA)	(X)	69.3		
35850	Refrigeration and heating equipment, n.s.k.	(NA)	(X)	400.6	(NA)	(X)	469.3		
35850 00	Refrigeration and heating equipment, n.s.k. ⁴	(NA)	(X)	307.0	(NA)	(X)	237.0		
35850 02	Refrigeration and heating equipment, n.s.k. ⁵	(NA)	(X)	93.7	(NA)	(X)	232.4		
3586—	MEASURING AND DISPENSING PUMPS								
	Total	(NA)	(X)	776.9	(NA)	(X)	916.7		
35860	Measuring and dispensing pumps	(NA)	(X)	776.9	(NA)	(X)	916.7		
	Gasoline dispensing pumps, computing type (filling station type):								
	Single units:								
35860 13	With suction pumping unit	7	(S)	61.2	(NA)	35.3	173.4		
35860 14	Without suction pumping unit	5	(S)	16.4					
	Multiple units:								
35860 15	With suction pumping unit	5	*7.4	31.4	(NA)	(S)	206.5		
35860 16	Without suction pumping unit	6	(S)	206.9					
35860 31	Lubricating oil pumps, including barrel pumps	4	(S)	13.4	7	*323.3	36.3		
35860 51	Grease guns	4			7	**5 302.2	31.0		
35860 89	Other measuring and dispensing pumps (noncomputing gasoline dispensing, grease, and lubrication oil outfits, etc.)	33	(X)	254.1	22	(X)	115.4		
35860 91	Parts and attachments for measuring and dispensing pumps	28	(X)	170.7	24	(X)	275.5		
35860 00	Measuring and dispensing pumps, n.s.k. ⁷	(NA)	(X)	14.8	(NA)	(X)	49.5		
35860 02	Measuring and dispensing pumps, n.s.k. ⁸	(NA)	(X)	8.0	(NA)	(X)	29.1		

See footnotes at end of table.

35G—18 SERVICE INDUSTRY MACHINES

MANUFACTURES—INDUSTRY SERIES

Table 6a. Product and Product Classes—Quantity and Value of Shipments by All Producers: 1992 and 1987—Con.

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

Product code	Product	1992		1987	
		Number of companies with shipments of \$100,000 or more	Value of product shipments ¹ (million dollars)	Number of companies with shipments of \$100,000 or more	Value of product shipments ¹ (million dollars)
3589—	SERVICE INDUSTRY MACHINERY, N.E.C.				
	Total	(NA)	5 057.2	(NA)	3 926.3
35891	Commercial cooking and food-warming equipment	(NA)	1 304.8	(NA)	1 092.1
	Nonelectric:				
35891 11	Commercial ranges, ovens, and broilers (except electric)	36	288.8	29	257.9
35891 13	Deep-fat fryers (except electric)	22	121.6	16	91.4
35891 30	Other commercial cooking equipment (griddles, toasters, coffee urns, steam pressure cookers, etc.), except electric	21	76.6	15	47.0
35891 31	Commercial food-warming equipment, including steam tables (except electric)	11	23.8	6	25.0
	Electric:				
35891 61	Commercial ranges, ovens, and broilers	35	158.0	(NA)	135.6
35891 63	Commercial microwave stoves and ovens	3	76.2	18	55.5
35891 67	Deep-fat fryers	21	230.5	29	213.5
35891 70	Other commercial cooking equipment, including griddles, toasters, coffee makers, coffee urns, etc.	36	184.0	29	159.1
35891 81	Commercial food-warming equipment, including hot-food server units and steam tables	35	141.7	36	89.5
35891 85	Parts and accessories for commercial cooking and food-warming equipment	46	3.6	(NA)	17.6
35891 00	Commercial cooking and food-warming equipment, n.s.k.	(NA)		(NA)	
35892	Service industry machines and parts	(NA)	3 012.3	(NA)	2 138.1
	Water heaters, including parts (excluding household and boilers):				
35892 01	Instantaneous	5	31.6	(NA)	89.4
35892 02	All others with more than 120 gallons (454.2 liters capacity)	7	85.8		
	Water softeners:				
35892 22	Industrial	35	51.6	19	109.8
35892 26	Farm, household and commercial	39	219.1	22	109.0
35892 27	Parts for water softeners (excluding tanks)	27	42.5	12	19.0
	Commercial and industrial floor and carpet cleaning equipment:				
35892 42	Sanding and scrubbing machines	14	74.6	9	69.5
35892 43	Carpet cleaning equipment, including sweepers (except vacuum cleaners)	29	209.5	28	152.9
35892 46	Other machines, including waxing and polishing machines, except vacuum cleaners	22	161.9	(NA)	181.3
35892 45	Parts and attachments	30	62.9	24	51.9
	Dishwashing machines, commercial type:				
35892 73	Conveyor type	8	61.4	7	50.9
35892 75	All other	11	80.5	16	55.9
35892 76	Parts for dishwashing machines	11	39.6	7	14.4
35892 84	Sewer pipe and drain cleaning equipment	13	73.7	(NA)	47.8
35892 86	High-pressure (more than 1,000 p.s.i.) cleaning and blasting machinery and equipment (except foundry)	33	147.8	(NA)	52.6
	Other service industry machines and parts:				
35892 82	Commercial car, truck, and bus washing machinery and equipment	25	119.3	16	90.4
35892 83	Trash and garbage compactors	24	82.9	20	78.3
35892 81	Sewage treatment equipment	101	544.3	62	389.2
35892 96	Other equipment	156	729.5	81	351.4
35892 97	Parts for other service industry machines	42	144.0	(NA)	99.3
35892 00	Service industry machines and parts, n.s.k.	(NA)	49.8	(NA)	125.1
35893	Commercial and industrial vacuum cleaners, including parts and attachments	(NA)	347.9	(NA)	271.6
	Portable:				
35893 01	Complete machine	30	190.1	29	208.8
35893 02	Parts and attachments	23	115.4	(NA)	44.5
35893 07	Central system, including parts and attachments	11	34.5	(NA)	12.1
35893 00	Commercial and industrial vacuum cleaners, including parts and attachments, n.s.k.	(NA)	7.9	(NA)	6.1
35890	Service industry machinery, n.e.c., n.s.k.	(NA)	392.1	(NA)	424.4
35890 00	Service industry machinery, n.e.c., n.s.k. ⁹	(NA)	287.1	(NA)	284.3
35890 02	Service industry machinery, n.e.c., n.s.k. ¹⁰	(NA)	105.1	(NA)	140.1

¹Data reported by all producers, not just those with shipments of \$100,000 or more.

²For some establishments, data have been estimated from central unit values which are based on quantity-value relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figure: *10 to 19 percent estimated; **20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by (S).

³Additional detail is collected for this product in the Current Industrial Reports. For the survey number and title, see appendix C, part 3.

⁴Typically for establishments with 10 employees or more.

⁵Typically for establishments with less than 10 employees.

⁶For 1987, product codes were combined to avoid disclosing data for individual companies.

⁷Typically for establishments with 15 employees or more.

⁸Typically for establishments with less than 15 employees.

⁹Typically for establishments with 5 employees or more.

¹⁰Typically for establishments with less than 5 employees.

Table 6b. Product Classes—Value of Shipments by All Producers for Specified States: 1992 and 1987

[Million dollars. Product classes shown are those where the data are 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 1992. For meaning of abbreviations and symbols, see introductory text]

Product class and geographic area	1992 value of product shipments	1987 value of product shipments	Product class and geographic area	1992 value of product shipments	1987 value of product shipments
35811, AUTOMATIC MERCHANDISING MACHINES, COIN-OPERATED (VENDING)			35859, REFRIGERATION AND AIR-CONDITIONING EQUIPMENT, N.E.C.		
United States	559.5	502.1	United States	694.2	447.2
Illinois	17.4	13.7	Arizona	71.6	45.2
Minnesota	44.7	(NA)	California	66.9	23.8
			Illinois	37.9	(NA)
35812, COIN-OPERATED MECHANISMS AND PARTS FOR AUTOMATIC MERCHANDISING MACHINES			Indiana	55.7	(NA)
United States	164.0	161.9	Michigan	9.7	(NA)
Illinois	9.8	(NA)	New York	24.8	(NA)
			Ohio	5.9	13.2
35851, HEAT TRANSFER EQUIPMENT (EXCEPT ELECTRICALLY OPERATED DEHUMIDIFIERS), MECHANICALLY REFRIGERATED, SELF-CONTAINED			Pennsylvania	59.6	16.6
United States	4 413.0	3 692.5	Texas	74.9	43.1
Alabama	82.9	26.3	Wisconsin	54.4	11.9
California	230.4	255.3			
Florida	2.6	(NA)	3585C, WARM AIR FURNACES, INCLUDING DUCT FURNACES AND HUMIDIFIERS, AND ELECTRIC COMFORT HEATING EQUIPMENT		
Georgia	189.0	(NA)	United States	1 307.3	883.5
Illinois	238.8	219.7	Illinois	8.2	(NA)
Indiana	30.4	51.7	Massachusetts	4.4	(NA)
Kentucky	215.5	208.2	Michigan	7.5	10.4
Maryland	30.1	29.4	Minnesota	15.9	15.0
Michigan	20.9	39.6	Pennsylvania	10.4	(NA)
Minnesota	158.2	152.6			
Missouri	83.9	27.5	3585D, PARTS AND ACCESSORIES FOR AIR-CONDITIONING AND HEAT TRANSFER EQUIPMENT		
New Jersey	17.7	35.6	United States	1 467.0	1 153.9
North Carolina	27.3	31.3	Alabama	29.9	22.2
Ohio	202.6	(NA)	Arkansas	81.6	41.7
Pennsylvania	290.5	162.2	California	14.1	25.9
Tennessee	287.3	90.9	Florida	16.9	10.7
Texas	325.9	394.3	Georgia	14.2	(NA)
Virginia	83.5	62.8	Illinois	29.2	24.6
Washington	40.7	(NA)	Kentucky	17.7	(NA)
			Massachusetts	14.1	11.0
35852, UNITARY AIR-CONDITIONERS			Michigan	21.4	45.7
United States	3 801.2	3 454.0	Minnesota	78.0	12.8
Florida	34.9	(NA)	Missouri	102.6	54.3
Georgia	203.8	(NA)	New York	76.9	106.9
Minnesota	77.7	82.3	Ohio	126.5	106.3
New York	31.2	(NA)	Tennessee	161.7	68.8
Ohio	712.6	481.6	Texas	151.8	112.5
Oklahoma	190.7	(NA)	Wisconsin	92.5	67.4
Tennessee	1 039.3	929.3			
Texas	677.6	541.8	35891, COMMERCIAL COOKING AND FOOD-WARMING EQUIPMENT		
Virginia	54.9	22.6	United States	1 304.8	1 092.1
			California	165.4	124.6
35853, COMMERCIAL REFRIGERATORS AND RELATED EQUIPMENT			Florida	27.4	(NA)
United States	1 821.8	1 768.9	Illinois	230.3	216.2
California	112.5	113.5	Michigan	15.9	(NA)
Florida	5.7	37.0	Missouri	20.6	43.2
Indiana	40.0	46.7	New York	23.8	34.7
Iowa	25.9	(NA)	Ohio	122.1	81.4
Michigan	113.5	88.0	Tennessee	36.6	32.2
Minnesota	48.8	97.6	Washington	45.5	(NA)
Mississippi	65.7	54.3	Wisconsin	65.8	58.3
New Jersey	84.0	92.8			
New York	65.5	93.7	35892, SERVICE INDUSTRY MACHINES AND PARTS		
Pennsylvania	117.2	162.1	United States	3 012.3	2 138.1
Texas	117.0	120.4	Alabama	41.1	53.6
Virginia	8.2	10.0	Arizona	31.7	24.3
Washington	11.5	(NA)	Arkansas	70.5	(NA)
Wisconsin	78.9	171.4	California	266.3	217.0
			Colorado	37.1	17.1
35854, COMPRESSORS AND COMPRESSOR UNITS, ALL REFRIGERANTS			Florida	69.2	82.6
United States	3 078.6	2 317.4	Georgia	15.1	(NA)
Florida	10.1	(NA)	Illinois	337.6	268.8
Illinois	25.1	(NA)	Indiana	43.6	21.7
Wisconsin	36.3	(NA)	Iowa	100.3	39.3
			Kansas	22.5	(NA)
35855, REFRIGERATION CONDENSING UNITS (COMPLETE)			Kentucky	11.9	(NA)
United States	209.6	241.1	Louisiana	7.7	(NA)
Florida	4.1	(NA)	Massachusetts	62.1	19.4
			Michigan	283.2	142.1
35856, ROOM AIR-CONDITIONERS AND DEHUMIDIFIERS			Minnesota	201.2	273.8
United States	878.8	909.7	Missouri	23.5	14.2
			Nevada	12.7	(NA)
			New Jersey	123.0	69.9
			New York	50.9	61.9

See footnotes at end of table.

Table 6b. Product Classes—Value of Shipments by All Producers for Specified States: 1992 and 1987—Con.

[Million dollars. Product classes shown are those where the data are 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 1992. For meaning of abbreviations and symbols, see introductory text]

Product class and geographic area	1992 value of product shipments	1987 value of product shipments	Product class and geographic area	1992 value of product shipments	1987 value of product shipments
35892, SERVICE INDUSTRY MACHINES AND PARTS—Con.			35892, SERVICE INDUSTRY MACHINES AND PARTS—Con.		
			Wisconsin -----	151.9	153.3
North Carolina -----	65.0	49.4	35893, COMMERCIAL AND INDUSTRIAL VACUUM CLEANERS, INCLUDING PARTS AND ATTACHMENTS		
Ohio -----	421.5	153.7	United States -----	347.9	271.6
Oregon -----	44.1	38.4	Illinois -----	19.6	49.0
Pennsylvania -----	112.3	97.8	Ohio -----	33.5	29.2
South Carolina -----	59.2	39.7	Wisconsin -----	2.7	(NA)
Tennessee -----	102.7	40.2			
Texas -----	99.0	91.2			
Virginia -----	36.1	(NA)			
Washington -----	3.4	2.2			

Note: For qualifications of data, see footnotes on table 6a.

Table 6c. Historical Statistics for Product Classes—Value Shipped by All Producers: 1992 and Earlier Years

[Million dollars. For meaning of abbreviations and symbols, see introductory text]

Product code	Product class	1992	1991 ¹	1990 ¹	1989 ¹	1988 ¹	1987	1982	1977
3581-	Automatic merchandising machines -----	757.8	698.7	707.5	792.9	745.2	695.2	445.7	396.2
35811	Automatic merchandising machines, coin-operated (vending) -----	559.5	478.5	507.0	581.7	558.6	502.1	334.1	294.9
35812	Coin-operated mechanisms and parts for automatic merchandising machines -----	164.0	186.1	165.3	176.2	157.9	161.9	96.2	84.3
35810	Automatic merchandising machines, n.s.k. -----	34.3	34.1	35.2	35.0	28.6	31.2	15.5	17.0
3582-	Commercial laundry equipment -----	546.0	589.0	550.4	506.9	605.5	433.2	338.7	233.6
35820	Commercial laundry, dry cleaning, and pressing machinery and equipment -----	546.0	589.0	550.4	506.9	605.5	433.2	338.7	233.6
3585-	Refrigeration and heating equipment -----	18 072.2	16 830.5	17 544.7	18 561.1	17 164.0	15 337.5	11 150.7	(NA)
35851	Heat transfer equipment (except electrically operated dehumidifiers), mechanically refrigerated, self-contained -----	4 413.0	4 196.6	4 754.4	4 951.2	4 429.2	3 692.5	2 908.0	2 251.2
35852	Unitary air-conditioners -----	3 801.2	3 628.4	3 642.7	3 995.5	3 799.5	3 454.0	1 972.1	1 673.0
35853	Commercial refrigerators and related equipment -----	1 821.8	1 996.7	2 027.8	2 082.2	1 891.0	1 768.9	1 070.8	759.4
35854	Compressors and compressor units, all refrigerants -----	3 078.6	2 488.2	2 346.3	2 706.7	2 492.7	2 317.4	1 734.7	1 580.3
35855	Refrigeration condensing units (complete) -----	209.6	232.9	210.7	244.2	261.7	241.1	196.9	175.6
35856	Room air-conditioners and dehumidifiers -----	878.8	848.1	1 123.5	1 241.6	1 142.6	909.7	897.5	720.4
35859	Refrigeration and air-conditioning equipment, n.e.c. -----	694.2	558.7	529.3	467.8	448.8	447.2	428.9	(NA)
3585C	Warm air furnaces, including duct furnaces and humidifiers, and electric comfort heating equipment -----	1 307.3	1 039.3	944.1	1 038.0	1 048.9	883.5	520.3	(NA)
3585D	Parts and accessories for air-conditioning and heat transfer equipment -----	1 467.0	1 360.3	1 440.0	1 412.9	1 295.5	1 153.9	893.0	(NA)
35850	Refrigeration and heating equipment, n.s.k. -----	400.6	481.4	525.8	421.0	354.0	469.3	528.5	251.3
3586-	Measuring and dispensing pumps -----	776.9	897.7	915.7	949.2	998.7	916.7	590.7	265.6
35860	Measuring and dispensing pumps -----	776.9	897.7	915.7	949.2	998.7	916.7	590.7	265.6
3589-	Service industry machinery, n.e.c. -----	5 057.2	4 525.0	4 699.0	4 457.4	3 900.2	3 926.3	2 550.4	1 687.6
35891	Commercial cooking and food-warming equipment -----	1 304.8	1 250.6	1 241.2	1 195.1	1 076.6	1 092.1	609.0	386.0
35892	Service industry machines and parts -----	3 012.3	2 465.2	2 573.9	2 554.8	2 093.2	2 138.1	1 568.4	1 059.2
35893	Commercial and industrial vacuum cleaners, including parts and attachments -----	347.9	388.6	323.8	330.1	331.5	271.6	192.9	109.4
35890	Service industry machinery, n.e.c., n.s.k. -----	392.1	420.5	560.1	377.5	398.9	424.4	180.1	132.9

¹Figures are estimates derived from a representative sample of manufacturing establishments. Standard errors associated with estimates are published in annual survey of manufactures publications for this period.

Table 7. Materials Consumed by Kind: 1992 and 1987

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

Material code	Material	1992 delivered cost (million dollars)	1987 delivered cost (million dollars)
INDUSTRY 3581, AUTOMATIC VENDING MACHINES			
Materials, ingredients, containers, and supplies -----		384.1	355.8
362125	Fractional horsepower electric motors and generators (less than 1 hp) -----	21.3	25.9
358501	Compressors, compressor units, condensing units, fin coils, and other heat transfer equipment -----	18.3	16.7
364300	Current-carrying wiring devices -----	22.0	11.6
190091	Electrical enclosures (metal and plastics) -----	1.0	(¹)
Fabricated metal products, except forgings:			
345001	Bolts, nuts, screws, washers, rivets, and screw machine products -----	8.6	24.5
346901	Metal stampings -----	6.5	6.5
340084	Other fabricated metal products, except electrical enclosures -----	7.7	(¹)
346000	Forgings -----	(²)	(¹)
330091	Castings (rough and semifinished) -----	4.1	(¹)
Shapes and forms, except castings, forgings, and fabricated metal products:			
331002	Steel -----	39.1	(¹)
336002	Nonferrous shapes and forms -----	1.3	(¹)
308007	Plastics products consumed in the form of sheets, rods, tubes, and other shapes -----	23.4	19.3
285100	Paints, varnishes, stains, lacquers, shellacs, japans, enamels, and allied products -----	7.9	(¹)
260091	Paper and paperboard containers including shipping sacks and other paper packaging supplies -----	6.7	3.0
970099	All other materials and components, parts, containers, and supplies -----	² 140.3	¹ 205.7
971000	Materials, ingredients, containers, and supplies, n.s.k. ³ -----	75.7	42.6
INDUSTRY 3582, COMMERCIAL LAUNDRY EQUIPMENT			
Materials, ingredients, containers, and supplies -----		255.7	¹187.2
Fabricated metal products, except forgings:			
346901	Metal stampings -----	10.8	4.4
349002	Pipe, valves, and pipe fittings, except plumbers' -----	7.9	6.6
340081	Other fabricated metal products -----	19.8	(¹)
346000	Forgings -----	.2	(¹)
330091	Castings (rough and semifinished) -----	6.6	3.6
Shapes and forms, except castings, forgings, and fabricated metal products:			
Steel:			
331022	Sheet and strip -----	40.7	36.7
331085	All other steel shapes and forms -----	8.2	
336002	Nonferrous shapes and forms -----	8.4	(¹)
Electric motors and generators:			
362115	Fractional horsepower electric motors, excluding timing motors -----	18.4	5.3
362120	Integral horsepower motors and generators (1 hp or more) -----	10.1	6.7
305201	Rubber and plastics hose and belting -----	4.3	5.4
356810	Plain bearings and bushings -----	15.0	4.4
356601	Speed changers, gears, and industrial high-speed drives -----	8.9	4.1
364300	Current-carrying wiring devices -----	7.9	7.9
360101	Electrical transmission, distribution, and control equipment -----	20.5	14.3
244021	Wooden boxes, skids, pallets, and containers, including combinations of wood and paperboard -----	2.2	2.7
970099	All other materials and components, parts, containers, and supplies -----	46.6	¹ 37.6
971000	Materials, ingredients, containers, and supplies, n.s.k. ³ -----	19.1	¹ 47.5
INDUSTRY 3585, REFRIGERATION AND HEATING EQUIPMENT			
Materials, ingredients, containers, and supplies -----		9 607.0	¹8 308.0
358501	Refrigeration compressors, compressor units, fin coils, and other heat transfer equipment -----	1 497.5	1 144.4
Electric motors and generators:			
Fractional horsepower electric motors (less than 1 hp):			
362110	Timing motors, synchronous and subsynchronous -----	210.0	52.8
362114	Other (excluding timing motors) -----	316.7	458.3
362120	Integral horsepower motors and generators (1 hp or more) -----	507.5	298.0
356401	Fans and blowers -----	136.5	122.2
360101	Electrical transmission, distribution, and control equipment -----	341.8	255.9
364300	Current-carrying wiring devices -----	114.5	103.9
382201	Automatic temperature controls, thermostats, regulators, etc. -----	386.6	261.5
356200	Ball and roller bearings (mounted or unmounted) -----	46.0	65.8
Fabricated metal products, except forgings:			
345001	Bolts, nuts, screws, washers, rivets, and screw machine products -----	178.7	151.9
346901	Metal stampings -----	231.1	215.7
342903	Metal hardware including hinges, handles, locks, casters, etc. -----	55.8	35.1
349402	Pipe, valves, and pipe fittings -----	162.0	157.8
340073	All other fabricated metal products -----	236.5	(¹)
346000	Forgings -----	22.1	27.0
Castings (rough and semifinished):			
332001	Iron and steel -----	300.9	138.9
336005	Aluminum and aluminum-base alloy -----	182.2	149.2
336003	Other nonferrous -----	5.7	10.8

See footnotes at end of table.

Table 7. Materials Consumed by Kind: 1992 and 1987—Con.

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

Material code	Material	1992 delivered cost (million dollars)	1987 delivered cost (million dollars)
INDUSTRY 3585, REFRIGERATION AND HEATING EQUIPMENT—Con.			
Shapes and forms, except castings, forgings, and fabricated metal products:			
Steel:			
331007	Bars, bar shapes, and plates	101.1	714.1
331022	Sheet and strip	549.8	
331027	Wire and wire products	45.7	
331035	All other steel shapes and forms	111.7	
Copper and copper-base alloy:			
335152	Pipe and tube	384.6	242.3
335191	All other copper and copper-base alloy (except pipe and tube)	115.5	100.3
Aluminum and aluminum-base alloy:			
335301	Sheet, plate, foil, and welded tubing	410.8	352.1
335011	All other (except sheet, plate, foil, and welded tubing)	93.4	118.3
335099	Other nonferrous shapes and forms	28.0	(1)
260091	Paper and paperboard containers including shipping sacks and other paper packaging supplies	128.0	96.5
244022	Wooden containers, complete (including combination wood and paperboard)	29.9	44.5
285101	Paints, varnishes, stains, lacquers, shellacs, japans, enamels, and allied products	55.0	52.3
286903	Refrigerant gases and other synthetic organic chemicals	55.8	48.3
282104	Plastics resins consumed in the form of granules, pellets, powders, liquids, etc., except sheets, rods, tubes and shapes	52.5	46.9
308007	Plastics products consumed in the form of sheets, rods, tubes, and other shapes	53.1	48.1
308004	Fabricated plastics products, except gaskets, hose, and belting	226.4	144.2
305201	Rubber and plastics hose and belting	104.3	62.8
329300	Gaskets (all types) and asbestos packing	66.2	52.9
329601	Mineral wool insulation (fibrous glass, rock wool, etc.)	62.6	45.9
970099	All other materials and components, parts, containers, and supplies	1 317.1	11 588.6
971000	Materials, ingredients, containers, and supplies, n.s.k. ³	683.9	900.7
INDUSTRY 3586, MEASURING AND DISPENSING PUMPS			
Materials, ingredients, containers, and supplies		424.1	426.5
190090	Fluid power products	10.9	(4)
Fabricated metal products, except forgings:			
345001	Bolts, nuts, screws, washers, rivets, and screw machine products	16.6	8.5
346901	Metal stampings	6.9	(4)
349002	Pipe, valves, and pipe fittings, except plumbers'	5.6	(4)
344301	Metal tanks, heat exchangers, steam condensers, and other boiler products, fabricated steelplate and weldments	1.2	(4)
340057	All other fabricated metal products	(5)	(4)
Forgings:			
346200	Iron and steel	(5)	(4)
346300	Nonferrous	(5)	(4)
Castings (rough and semifinished):			
332001	Iron and steel	10.0	(4)
336005	Aluminum and aluminum-base alloy	16.6	13.4
336003	Other nonferrous	3.4	4.9
Shapes and forms, except castings, forgings, and fabricated metal products:			
Steel:			
331007	Bars, bar shapes, and plates	(6)	(7)
331022	Sheet and strip	16.7	(7)
331034	Other steel shapes and forms	64.7	724.6
335105	Copper and copper-base alloy	(8)	3.4
335001	Aluminum and aluminum-base alloy	4.9	5.0
335099	Other nonferrous shapes and forms	22.4	(Z)
351910	Engines (diesel, semidiesel, gasoline, and other carburetor)	-	(4)
Electric motors and generators:			
362115	Fractional horsepower electric motors (less than 1 hp), except timing motors	13.1	5.9
362120	Integral horsepower electric motors and generators (1 hp or more)	2.5	2.5
356200	Ball and roller bearings (mounted or unmounted)	2.1	1.8
265001	Paperboard containers, boxes, and corrugated paperboard	5.1	3.4
306001	Fabricated rubber products, except gaskets	5.8	18.3
308006	Fabricated plastics products, except gaskets	31.8	(4)
305302	Gaskets (all types) and packing and sealing devices	7.5	5.0
360101	Electrical transmission, distribution, and control equipment	8.5	5.0
285100	Paints, varnishes, stains, lacquers, shellacs, japans, enamels, and allied products	1.4	(4)
970099	All other materials and components, parts, containers, and supplies	5 214.8	4 237.1
971000	Materials, ingredients, containers, and supplies, n.s.k. ³	31.7	92.7
INDUSTRY 3589, SERVICE INDUSTRY MACHINERY, N.E.C.			
Materials, ingredients, containers, and supplies		2 053.3	1 538.6
Pumps:			
359412	Hydraulic and pneumatic fluid power pumps, motors, and hydrostatic transmissions	41.1	(1)
356102	Other pumps, except hydraulic	24.8	25.6
Fluid power products, except pumps, motors, and hydrostatic transmission:			
349271	Valves	35.2	(1)
359301	Cylinders and rotary actuators	11.9	(1)
349261	Hose or tube fittings and assemblies	23.5	(1)
356921	Filters	15.7	(1)
190089	Other fluid power products	11.1	(1)

See footnotes at end of table.

Table 7. Materials Consumed by Kind: 1992 and 1987—Con.

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

Material code	Material	1992 delivered cost (million dollars)	1987 delivered cost (million dollars)
	INDUSTRY 3589, SERVICE INDUSTRY MACHINERY, N.E.C.—Con.		
	Fabricated metal products, except forgings:		
345001	Bolts, nuts, screws, washers, rivets, and screw machine products-----	49.0	32.3
349002	Pipe, valves, and pipe fittings, except plumbers'-----	44.4	38.5
340088	Other fabricated metal products, except electrical enclosures-----	90.0	(¹)
346000	Forgings-----	3.5	(¹)
	Castings (rough and semifinished):		
332001	Iron and steel-----	33.3	19.5
336010	Nonferrous (aluminum, copper, etc.)-----	22.8	15.4
	Shapes and forms, except castings, forgings, and fabricated metal products:		
	Steel:		
331007	Bars, bar shapes, and plates-----	49.0	207.3
331022	Sheet and strip-----	148.7	
331023	Structural shapes and sheet piling-----	15.0	
331091	All other steel shapes and forms-----	33.9	
335001	Aluminum and aluminum-base alloy-----	24.6	27.2
335091	Other nonferrous shapes and forms-----	8.6	(¹)
	Electric motors and generators:		
362125	Fractional horsepower electric motors (less than 1 hp)-----	43.3	29.0
362120	Integral horsepower motors and generators (1 hp or more)-----	55.9	30.6
282104	Plastics resins consumed in the form of granules, pellets, powders, liquids, etc., except sheets, rods, tubes and shapes-----	52.3	33.6
308007	Plastics products consumed in the form of sheets, rods, tubes, and other shapes-----	70.6	25.2
356601	Speed changers, gears, and industrial high-speed drives-----	18.1	16.8
190091	Electrical enclosures (metal and plastics)-----	19.3	(¹)
364300	Current-carrying wiring devices-----	31.3	16.8
360101	Electrical transmission, distribution, and control equipment-----	79.2	43.8
260091	Paper and paperboard containers including shipping sacks and other paper packaging supplies-----	35.6	17.9
970099	All other materials and components, parts, containers, and supplies-----	606.7	1505.5
971000	Materials, ingredients, containers, and supplies, n.s.k. ³ -----	354.9	453.6

¹For 1987, data were not collected separately but were included with material code 970099.

²For 1992, material codes are combined to avoid disclosing data for individual companies.

³Total cost of materials of establishments that did not report detailed materials data, including establishments that were not mailed a form.

⁴For 1987, material codes 190090, 346901, 349002, 340057, 346300, 305302, and 285100 are combined with material code 970099 because data were not collected separately; for 1987, material codes 344301, 346200, 332001, and 351910 are combined with material code 970099 to avoid disclosing data for individual companies.

⁵For 1992, material codes 340057, 346200, and 346300 are combined with material code 970099 to avoid disclosing data for individual companies.

⁶For 1992, material code 331007 is combined with material code 331034 to avoid disclosing data for individual companies.

⁷For 1987, material codes 331007 and 331022 are combined with material code 331034 to maintain data comparability.

⁸For 1992, material code 335105 is combined with material code 335099 to avoid disclosing data for individual companies.

Appendix A.

Explanation of Terms

This appendix is in two sections. Section 1 includes items requested of all establishments mailed census of manufactures forms including annual survey of manufactures (ASM) forms. Note that this section also includes several items (number of establishments and companies, value added, classes of products, and specialization and coverage ratios) not included on the report forms but derived from information collected on the forms. Section 2 covers supplementary items requested only from establishments included in the ASM sample. Results of the supplementary ASM inquiries are included in table 3c of this report.

SECTION 1. ITEMS COLLECTED OR DERIVED BASED ON ALL CENSUS OF MANUFACTURES (INCLUDING ASM) REPORT FORMS

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

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

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

In this report, data are shown for establishments in operation at any time during the year. A comparison with the number of establishments in operation at the end of the year will be provided in the Introduction of the *General Summary* subject report.

Employment and related items. The report forms requested separate information on production workers for a specific payroll period within each quarter of the year and on other employees as of the payroll period which included the 12th of March.

All employees. This item includes all full-time and part-time employees on the payrolls of operating manufacturing establishments during any part of the pay period which included the 12th of the months specified on the report form. Included are all persons on paid sick leave,

paid holidays, and paid vacations during these pay periods. Officers of corporations are included as employees; proprietors and partners of unincorporated firms are excluded. The "all employees" number is the average number of production workers plus the number of other employees in mid-March. The number of production workers is the average for the payroll periods including the 12th of March, May, August, and November.

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

All other employees. This item covers nonproduction employees of the manufacturing establishment including those engaged in factory supervision above the line-supervisor level. It includes sales (including driver salespersons), sales delivery (highway truckdrivers and their helpers), advertising, credit, collection, installation and servicing of own products, clerical and routine office function, 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 to the plant and utilized as a separate work force.

In addition to reports sent to operating manufacturing establishments, information on employment during the payroll period which included March 12 and annual payrolls also was requested of auxiliary units (e.g., administrative offices, warehouses, and research and development

laboratories) of multiestablishment companies. However, these figures are not included in the totals for individual industries shown in this report. They are included in the *General Summary* and geographic area reports as a separate category.

Payroll. This item includes the gross earnings of all employees on the payrolls of operating manufacturing establishments paid in the calendar year 1992. 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' supplemental labor costs, both those required by Federal and State laws and those incurred voluntarily or as part of collective bargaining agreements. (Supplemental labor costs are explained later in this appendix.)

As in the case of employment figures, the payrolls of separate auxiliary units of multiestablishment companies are not included in the totals for individual industries or industry groups.

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

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.

The important components of this cost item are (1) 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) electric energy purchased, (3) fuels consumed for heat, power, or the generation of electricity, (4) work done by

others on materials or parts furnished by manufacturing establishments (contract work), and (5) products bought and resold in the same condition. (See discussion of duplication of data below.)

Specific materials consumed. In addition to the total cost of materials, which every establishment was required to report, information also was collected for most manufacturing industries on the consumption of major materials used in manufacturing. The inquiries were restricted to those materials which were important parts of the cost of production in a particular industry and for which cost information was available from manufacturers' records. Information on the establishments consuming less than a specified amount (usually \$25,000) of a specific material were not requested to report consumption of that material separately. Also, the cost of materials for the small establishments for which either administrative records or short forms were used was imputed as "not specified by kind." (See Census of Manufactures for the importance of administrative records in the industry.)

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 resold without further processing. Included are all items made by or for the establishments from materials 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. (See discussion of duplication of data below.)

Individual products. As in previous censuses, data were collected for most industries on the quantity and value of individual products shipped. In the 1992 census program, information was collected on the output of almost 11,000 individual product items. The term "product," as used in the census of manufactures, represents the finest level of detail for which output information was requested. Consequently, it is not necessarily synonymous with the term "product" as used in the marketing sense. In some cases, it may be much more detailed and, in other cases, it is more aggregative. For example, "pharmaceutical preparations" was distributed into over 100 terms; whereas, "motor gasoline" was reported as a single item.

Approximately 6,300 of the product items were listed separately on the 1992 census report forms. Data for

about 4,500 products were obtained in the monthly, quarterly, or annual surveys comprising the Current Industrial Reports series of the Census Bureau. Totals for the year 1992 for these items, as derived from the commodity surveys, are shown in the "products shipped" table.

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 1987 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 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.

Classes of products. To summarize the product information, the separate products were aggregated into classes of products that, in turn, were grouped into all primary products of each industry. The code structure used is a seven-digit number for the individual product, a five-digit number for the class of product, and a four-digit number for the total primary products in an industry. (See Census of Manufactures, Industry Classification of Establishments, for application of the coding structure to the assignment of SIC codes for establishments.)

In the 1992 census, the 11,000 products were grouped into approximately 1,500 separate classes on the basis of general similarity of manufacturing processes, types of materials used, etc. However, the grouping of products was affected by the economic significance of the class and, in some cases, dissimilar products were grouped because the products were not sufficiently significant to warrant separate classes.

Duplication in cost of materials and value of shipments. The aggregate of the cost of materials and value of shipments figures for industry groups and for all manufacturing industries includes large amounts of duplication since the products of some industries are used as materials by others. This duplication results, in part, from the addition of related industries representing successive stages

in the production of a finished manufactured product. Examples are the addition of flour mills to bakeries in the food group and the addition of pulp mills to paper mills in the paper and allied products group of industries. Estimates of the overall extent of this duplication indicate that the value of manufactured products exclusive of such duplication (the value of finished manufactures) tends to approximate two-thirds of the total value of products reported in the annual survey.

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

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

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

Value added by manufacture. 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 (see footnote in table 1a), 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.

New and used capital expenditures. For establishments in operation and any known plants under construction, manufacturers were asked to report their new expenditures for (1) permanent additions and major alterations to

manufacturing establishments, and (2) machinery and equipment used for replacement and additions to plant capacity if they were of the type for which depreciation accounts were ordinarily maintained.

The totals for new expenditures include expenditures leased from nonmanufacturing concerns through capital leases. New facilities owned by the Federal Government but operated under contract by private companies, and plant and equipment furnished to the manufacturer by communities and nonprofit organizations are excluded. Also excluded are expenditures for used plant and equipment (although reported in the census), expenditures for land, and cost of maintenance and repairs charged as current operating expenses.

Manufacturers also were requested to report the value of all used buildings and equipment purchased during the year at the purchase price. For any equipment or structure transferred for the use of the reporting establishment by the parent company or one of its subsidiaries, the value at which it was transferred to the establishment was to be reported. Furthermore, if the establishment changed ownership during the year, the cost of the fixed assets (building and equipment) was to be reported under used capital expenditures.

Total expenditures for used plant and equipment is a universe figure; it is collected on all census forms. However, the breakdown of this figure between expenditures for used buildings and other structures and expenditures for used machinery and equipment is collected only on the ASM form. The data for total new capital expenditures, new building expenditures, and new machinery expenditures, as well as the data for total used expenditures, are shown in table 3b.

End-of-year inventories. Respondents were asked to report their 1991 and 1992 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). 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.

SECTION 2. ITEMS COLLECTED ONLY ON ASM REPORT FORMS

The following items were collected only from establishments included in the ASM sample:

Supplemental labor costs. Supplemental labor costs 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

Because of this change in reporting instructions, the 1982 through 1992 data for inventories and value added by manufacture included in the tables of this report are not comparable to the prior-year data shown in table 1a of this report and in historical census of manufactures and annual survey of manufactures publications.

In using inventory data by stage of fabrication for "all industries" and at the two-digit industry 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 another 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 individual industries, industry groups, and "all manufacturing", which are aggregates of figures reported by establishments in specified industries.

Specialization and coverage ratios. These items are not collected on the report forms but are derived from the data shown in table 5b. An establishment is classified in a particular industry if its shipments of primary products of that industry exceed in value its shipments of the products of any other single industry.

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

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.

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.

While the excluded items do benefit employees and all or part of their cost generally is similar to the items covered in the ASM labor costs statistics, accounting records generally do not provide reliable figures on net employee benefits of these types.

Retirements of depreciable assets. Included in this item is the gross value of assets sold, retired, scrapped, destroyed, etc., during 1992. 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.

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.

Rental payments. Total rental payments is 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.

Depreciable assets. Total value of gross depreciable assets is collected on all census forms. However, the detail for depreciable assets is collected only on the ASM forms. The data encompass all fixed depreciable assets on the books of establishments at the beginning and end of the year. 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 new and used capital expenditures, less retirements, equalled assets at the end of the year.

New and used capital expenditures. The data for total new capital expenditures, new building expenditures, new machinery expenditures, and total used capital expenditures are collected on all census forms. However, the breakdown between expenditures for used buildings and other structures and expenditures for used machinery and equipment is collected only on the ASM form. (See further explanation on capital expenditures in section 1.)

Quantity of electric energy consumed for heat and power. Data on the cost of purchased electric energy are collected on all census forms. However, data on the quantity of purchased electric energy are collected only on the ASM forms. 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.

Breakdown of new capital expenditures for machinery and equipment. ASM establishments were requested to separate their capital expenditures for new machinery and equipment into (1) automobiles, trucks, etc., for highway use, (2) computers and peripheral data processing equipment, and (3) all other.

The category "automobiles, trucks, etc., for highway use" is intended to measure expenditures for vehicles designed for highway use that were acquired through a purchase or lease-purchase agreement. Vehicles normally operating off public highways (vehicles specifically designed to transport materials, property, or equipment on mining, construction, logging, and petroleum development projects) are excluded from this item.

Foreign content of cost of materials. Establishments included in the ASM sample panel were requested to provide information on foreign-made materials purchased or transferred from foreign sources. This includes materials acquired from a central warehouse or other domestic establishment of the same company but made in an operation outside of the 50 States, District of Columbia, Puerto Rico, or U.S. territories.

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

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

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

Included in the cost of purchased software and other data processing services are all purchases by the establishment from other companies. Excluded are services provided by other establishments of the same company (such as by a separate data processing unit).

Included in the cost of purchased refuse removal services are all costs of refuse removal services paid by the establishment, including costs for hazardous waste removal or treatment. Excluded are all costs included in rental payments or as capital expenditures.

Three basic approaches were utilized to produce these statistics.

1. For items 1 through 6, data were estimated (imputed) for all non-ASM establishments using the available data in the establishment record and industry-based parameters. The statistics were then generated by simply tabulating all census records including the imputed value for non-ASM establishments and the unweighted value for ASM establishments. Separate imputation rates were developed and are shown in the table. For quantity of purchased electricity for heat and power (item 7), a similar procedure was used; however, the imputation parameters were geographically-based instead of industry-based. For quantities of generated less sold electricity, no imputation was performed for non-ASM establishments. The estimates for these items are simply tabulations of unweighted ASM values.

Since the published statistics for these items were developed from the complete census universe and not just the ASM establishments, there are no sampling variances associated with these statistics. However, there is an unknown level of bias for each of the items due to the imputation of the non-ASM establishments. This bias is felt to be small due to the strong correlation between the items being imputed and the collected items that were used to generate the impute values.

2. For items 8 and 9, the estimates were developed using a ratio estimation methodology. For item 8, an estimate of the breakout of new capital expenditures for machinery and equipment into the three categories was made from ASM establishments reporting these categories. The estimated proportions were then applied to the corresponding census value for new capital expenditures for machinery and equipment to produce the estimates.

The estimates for item 9, foreign content of cost of materials, were developed in a similar manner based on costs of parts, supplies, and components (item 5a) as the control total for the three categories.

For items 8 and 9, an adjustment ratio of the following form was computed:

$$R_j = \frac{NMc}{TMEasm}$$

where:

NMc = the census value of new capital expenditures for machinery and equipment

TMEasm = the weighted ASM value of new capital expenditures for machinery and equipment from reporters of the detailed breakout data

3. For item 10, cost of purchased services, the estimates were made by simply tabulating weighted data for all the ASM records that reported the item. A response coverage ratio (a measure of the extent to which respondents reported for each item) is shown in table 3c for the types of services. It is derived for each item by calculating the ratio of the weighted employment (establishment data multiplied by sample weight, see appendix B) for those ASM establishments that reported the specific inquiry to the weighted total employment for all ASM establishments classified in the industry.

Appendix B.

Annual Survey of Manufactures Sampling and Estimating Methodologies

DESCRIPTION OF SURVEY SAMPLE

The annual survey of manufactures (ASM) contains two components. The mail portion of the survey is a probability sample of about 64,000 manufacturing establishments selected from a total of about 216,000 establishments. These 216,000 establishments represent all manufacturing establishments of multiunit companies and all single-establishment companies mailed schedules in the 1987 Census of Manufactures. This mail portion is supplemented annually by a Social Security Administration list of new manufacturing establishments opened after 1987 and a list of new multiunit manufacturing establishments identified from the Census Bureau's Company Organization Survey.

For the current panel, all establishments of companies with 1987 shipments in manufacturing in excess of \$500 million were included in the survey panel with certainty. There are approximately 500 such companies collectively accounting for approximately 18,000 establishments. For the remaining portion of the mail survey, the establishment was defined as the sampling unit. For this portion, all establishments with 250 employees or more and establishments with a very large value of shipments also were included in the survey panel with certainty. A total of 12,100 establishments were selected from this portion of the universe with certainty. Therefore, of the 64,000 manufacturing establishments included in the ASM panel, approximately 31,000 are selected with certainty. These certainty establishments collectively account for approximately 80 percent of the total value of shipments in the 1987 census.

Smaller establishments in the remaining portion of the mail survey were sampled with probabilities ranging from 0.999 to 0.005 in accordance with mathematical theory for optimum allocation of a sample. The probabilities of selection assigned to the smaller establishments were proportional to measures of size determined for each establishment. The measures of size depend directly upon each establishment's 1987 product class values and the historic variability of the year-to-year shipments of each product class. Product classes displaying more volatile year-to-year change in shipments at the establishment level were sampled at a heavier rate.

This method of assigning measures of size was used in order to maximize the precision (that is, minimize the variance of estimates of the year-to-year change) in the value of product class shipments. Implicitly, it also gave weight differences in employment, value added, and other

general statistics, since these are highly correlated with value of shipments. Individual sample selection probabilities were obtained by multiplying each establishment's final measure of size by an overall sampling fraction coefficient calculated to yield a total expected sample size.

The sample selection procedure gave each establishment in the sampling frame an independent chance of selection. This method of independent selection permits the rotation of small establishments out of a given sample panel without introducing a bias into the survey estimates.

The nonmail portion of the survey includes all single-establishment companies that were tabulated as administrative records in the 1987 Census of Manufactures. Although this portion contained approximately 134,000 establishments, it accounted for less than 2 percent of the estimate for total value of shipments at the total manufacturing level. This portion was not sampled; rather, the data for every establishment in this group were estimated based on selected information obtained annually from the administrative records of the Internal Revenue Service and the Social Security Administration. This administrative-records information, which includes payroll, total employment, industry classification, and physical location of the establishment, was obtained under conditions which safeguard the confidentiality of both tax and census records. Estimates of data other than payroll and employment for these small establishments were developed from industry averages.

The corresponding estimates for the mail and nonmail establishments were added together, along with the base-year differences, as defined in the Description of Estimating Procedure section, to produce the figures shown in this publication.

DESCRIPTION OF ESTIMATING PROCEDURES

Most of the ASM estimates for the years 1988-1991 were computed using a difference estimation procedure. For each item, a base-year difference was developed. This base-year difference is equal to the difference between the 1987 census published number for an item total and the linear ASM estimate of the total for 1987. The ASM linear estimate was obtained by multiplying each sample establishment's data by its sample weight (the reciprocal of its probability of selection) and summing the weighted values.

These base-year differences were then added to the corresponding current-year linear estimates, which include the sum of the estimates for the mail and nonmail

establishments, to produce the estimates for the years 1983-1991. Estimates developed by this procedure usually are far more reliable than comparable linear estimates developed from the current sample data alone.

However, the 1992 sample estimates for the purchased service items, shown in table 3c, are strictly ASM linear estimates developed only from ASM establishments that reported the specific item.

The remaining estimates in table 3c, showing the breakdown of expenditures for new machinery and equipment and costs of parts (separated into purchases from foreign sources and purchases from domestic sources), were computed as ratio estimates. To do this, linear estimates of the new machinery detail items were developed from the ASM establishments and were ratio adjusted to the corresponding census total for new machinery. In a similar fashion, the ASM linear estimates of the detailed purchased materials items were ratio adjusted to the corresponding census total for cost of parts.

QUALIFICATIONS OF THE DATA

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

The particular sample selected for the ASM is one of a large number of 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 theoretical, comparable, complete-coverage values.

Estimates of the standard errors have been computed from the sample data for selected statistics in this report. They are presented 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:

1. From one standard error below to one standard error above the derived estimate for about two-thirds of all possible samples.
2. From two standard errors below to two standard errors above the derived estimate for about 19 of 20 of all possible samples.
3. 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 as 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 in the course of 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 only moderately higher. However, for particular estimates, the total error may considerably exceed the standard errors shown.

The concept of complete coverage under the conditions prevailing for the ASM is not identical to the complete coverage of the census of manufactures, as the censuses have been conducted. Nearly all types of operational errors that affect the ASM also occur in the censuses. The ASM and the censuses, are conducted under quite different conditions, and operational errors can be better controlled in the ASM than in the censuses. As a result, for many of the census figures, the errors are of the same order of size as the total errors of the corresponding annual survey estimates. The differences between the census and ASM operating conditions also disturb, to some degree, the comparability of the ASM and census data.

Any figures shown in the tables in this publication having an associated standard error exceeding 15 percent may be of limited reliability. However, the figure may be combined with higher-level totals, creating a broader aggregate, which then may be of acceptable reliability.

Appendix C. Product Code Reference Tables

Part 1. Comparability of Product Classes and Product Codes That Changed: 1992 to 1987

1992	1987	1992	1987	1992	1987	1992	1987
35110	35111	35337 28	35337 24	35464	35461	35521 57	35521 54
		35337 28	35337 25	35464 01	35461 22	35521 57	35521 56
35110	35112	35337 32	35337 26	35464 05	35461 35	35521 67	35521 68
		35337 32	35337 27	35464 09	35461 01	35521 67	35521 69
35110 05	35111 01			35464 09	35461 03	35521 86	35521 84
35110 09	35111 02			35464 09	35461 04	35521 86	35521 85
35110 11	35112 03	35353 41	35353 45	35464 09	35461 05		
35110 11	35112 13	35353 47	35353 45	35464 09	35461 07		
35110 21	35112 21			35464 09	35461 09	35533 34	35533 39
35110 22	35112 22	35363 39	35363 37	35464 15	35461 01	35533 38	35533 31
35110 23	35112 23	35363 39	35363 38	35464 15	35461 03	35533 38	35533 39
35110 24	35112 24						
35110 61	35112 61			35464 15	35461 04	35534 12	35534 01
35110 71	35112 71	35373 04	35373 05	35464 15	35461 05	35534 12	35534 02
35110 72	35112 72	35373 07	35373 05	35464 15	35461 07	35534 12	35534 03
		35373 09	35373 05	35464 15	35461 09	35534 13	35534 04
		35373 11	35373 05	35464 19	35461 12	35534 13	35534 05
35110 75	35112 74			35464 19	35461 15	35534 13	35534 06
35110 75	35112 76			35464 19	35461 16	35534 13	35534 07
35110 79	35112 79	35374 18	35374 17	35464 19	35461 17	35534 13	35534 08
35110 81	35112 81	35374 18	35374 19	35464 19	35461 18	35534 13	35534 09
35110 83	35112 83			35464 19	35461 19		
35110 91	35111 01						
35110 95	35111 02	35419 41	35419 21	35464 19	35461 21	35551 01	35551 02
		35419 41	35419 22	35464 19	35461 22	35551 03	35551 02
		35419 41	35419 23	35464 19	35461 23		
35199 35	35199 41	35419 41	35419 24	35464 19	35461 25		
35199 35	35199 42	35419 41	35419 25	35464 19	35461 26	35552 03	35552 38
35199 39	35199 43	35419 41	35419 26	35464 19	35461 28	35552 05	35552 38
35199 39	35199 44			35464 19	35461 29	35552 09	35552 01
35199 49	35199 45			35464 19	35461 31	35552 09	35552 37
35199 49	35199 46	35424 11	35424 01	35464 19	35461 32	35552 09	35552 41
35199 63	35199 47	35424 11	35424 02	35464 19	35461 33		
35199 63	35199 48	35424 75	35424 03	35464 19	35461 34	35553 00	35553 03
35199 67	35199 51	35424 75	35424 04	35464 19	35461 35	35553 00	35553 05
35199 67	35199 52	35424 75	35424 05	35464 19	35461 37	35553 00	35553 08
35199 71	35199 53			35464 21	35461 36	35553 00	35553 09
35199 71	35199 54	35442 03	35442 11				
35199 75	35199 55	35442 05	35442 11			35556 71	35556 65
35199 75	35199 56	35442 07	35442 13	35465	35461	35556 73	35556 65
35199 83	35199 57	35442 09	35442 13	35465 02	35461 01	35556 79	35556 65
35199 83	35199 58	35442 14	35442 15	35465 02	35461 03		
35199 87	35199 59	35442 14	35442 16	35465 02	35461 04		
35199 87	35199 60	35442 21	35442 17	35465 05	35461 05		
35199 91	35199 61	35442 21	35442 18	35465 07	35461 07	35558 01	35558 02
35199 91	35199 62	35442 25	35442 19	35465 09	35461 09	35558 01	35558 09
35199 99	35199 91	35442 25	35442 23	35465 11	35461 18	35558 03	35558 09
35199 99	35199 92			35465 12	35461 12	35558 11	35558 02
				35465 13	35461 19	35558 11	35558 09
				35465 14	35461 18	35558 91	35558 89
3531M 08	3531M 09	35451 15	35451 16			35558 93	35558 89
3531M 21	3531M 09	35451 15	35451 18				
3531M 21	3531M 15	35451 21	35451 17				
		35451 21	35451 19	35465 14	35461 19		
		35451 62	35451 58	35465 15	35461 15		
3531N	3531H	35451 62	35451 59	35465 16	35461 16	35561 18	35561 02
3531N 00	3531H 00	35451 62	35451 61	35465 17	35461 17	35561 18	35561 07
		35451 64	35451 58	35465 21	35461 21	35561 18	35561 08
		35451 64	35451 59	35465 22	35461 22	35561 18	35561 11
3531P	3531H	35451 64	35451 63	35465 23	35461 23	35561 18	35561 19
		35451 67	35451 65	35465 24	35461 26		
3531P	3531K			35465 25	35461 25	35562 73	35562 71
3531P 06	3531K 06			35465 27	35461 26	35562 73	35562 75
3531P 07	3531K 07	35451 67	35451 66			35562 89	35562 85
3531P 11	3531K 11	35451 67	35451 68	35465 28	35461 28	35562 89	35562 91
3531P 20	3531K 20	35451 74	35451 70	35465 29	35461 29		
3531P 21	3531K 21	35451 74	35451 71	35465 31	35461 31		
3531P 22	3531K 22	35451 74	35451 77	35465 33	35461 33	35563 19	35563 01
3531P 24	3531K 24	35451 79	35451 91	35465 36	35461 36	35563 19	35563 02
3531P 25	3531K 25	35451 79	35451 93	35465 37	35461 37	35563 19	35563 03
3531P 27	3531K 27	35451 81	35451 82	35465 38	35461 34	35563 19	35563 06
3531P 53	3531K 53	35451 81	35451 84	35465 38	35461 35	35563 19	35563 07
				35465 39	35461 35	35563 19	35563 08
3531P 55	3531K 55			35465 41	35461 32	35563 19	35563 09
3531P 61	3531K 61			35465 43	35461 32	35563 19	35563 14
3531P 70	3531K 70	35455 73	35455 94				
3531P 74	3531K 74	35455 73	35455 95				
3531P 77	3531K 77	35455 77	35455 91				
3531P 82	3531K 82	35455 77	35455 92	35473 41	35473 48		
3531P 85	3531H 00	35455 77	35455 97	35473 43	35473 48	35592 04	35592 03
3531P 90	3531K 90	35455 79	35455 93	35473 49	35473 48	35592 04	35592 05
3531P 97	3531K 97	35455 79	35455 93			35592 15	35592 09
		35455 79	35455 96				
		35455 79	35455 98				
35329 31	35329 33			35481 14	35481 01	35593 41	35593 27
35329 31	35329 34			35481 14	35481 02	35593 41	35593 28
35329 35	35329 37			35481 15	35481 05	35593 41	35593 29
35329 35	35329 38						
35329 42	35329 41	35462 45	35462 47				
35329 42	35329 43	35462 48	35462 47	35482 09	35482 01	35594 16	35594 09
35329 72	35329 71	35462 49	35462 47	35482 09	35482 02	35594 16	35594 13
35329 72	35329 71			35482 17	35482 07	35594 16	35594 15
35329 72	35329 73			35482 17	35482 08	35594 25	35594 17
35329 72	35329 73	35463 19	35463 12	35482 18	35482 15	35594 25	35594 19
35329 72	35329 75	35463 19	35463 14	35482 18	35482 16	35594 25	35594 21

Part 1. Comparability of Product Classes and Product Codes That Changed: 1992 to 1987—Con.

1992	1987	1992	1987	1992	1987	1992	1987
35595	35599	35651 28	35651 08	35699 31	35698 31	35820 11	35820 21
35595 01	35599 86	35651 31	35651 09	35699 41	35698 07	35820 12	35820 13
35595 03	35599 86	35651 31	35651 21	35699 42	35698 07	35820 12	35820 14
35595 05	35599 86	35651 33	35651 11	35699 43	35698 07	35820 29	35820 22
35595 09	35599 87	35651 33	35651 14	35699 44	35698 07	35820 29	35820 26
		35651 35	35651 12	35699 47	35698 35	35820 29	35820 28
35598	35599	35651 35	35651 13	35699 47	35698 48	35820 31	35820 25
35598 01	35599 01	35651 37	35651 15	35699 51	35698 02	35820 31	35820 35
35598 03	35599 03	35651 41	35651 15	35699 51	35698 04	35820 31	35820 36
35598 05	35599 05	35651 43	35651 16	35699 51	35698 06	35820 39	35820 34
35598 07	35599 07					35820 39	35820 41
35598 09	35599 09	35651 45	35651 17	35699 51	35698 08	35820 39	35820 43
35598 11	35599 11	35651 49	35651 19	35699 51	35698 12	35820 39	35820 81
35598 13	35599 13	35651 51	35651 21	35699 51	35698 14		
35598 15	35599 15	35651 52	35651 21	35699 51	35698 16	35853 32	35853 31
35598 17	35599 17	35651 53	35651 21	35699 51	35698 18	35853 32	35853 33
35598 19	35599 19	35651 59	35651 19	35699 51	35698 22	35853 37	35853 36
		35651 59	35651 21	35699 51	35698 24	35853 37	35853 38
				35699 51	35698 26	35853 98	35853 73
35598 22	35599 22			35699 51	35698 28	35853 98	35853 97
35598 25	35599 25	35660 34	35660 31	35699 51	35698 28		
35598 27	35599 27	35660 34	35660 32	35699 51	35698 32		
35598 29	35599 29	35660 37	35660 35	35699 51	35698 36	35859 06	35859 04
35598 31	35599 31	35660 37	35660 36	35699 51	35698 49	35859 06	35859 05
35598 35	35599 35	35660 47	35660 33			35859 06	35859 07
35598 36	35599 33	35660 47	35660 40	35713	35711		
35598 36	35599 37	35660 49	35660 38				
35598 39	35599 39	35660 49	35660 39	35713	35712	35892 01	35892 05
35598 41	35599 41					35892 01	35892 06
		35676 09	35676 03	35713 00	35711 00	35892 01	35892 07
35598 43	35599 43	35676 09	35676 04	35713 00	35712 00	35892 02	35892 03
35598 45	35599 45	35676 15	35676 05			35892 02	35892 04
35598 48	35599 47	35676 15	35676 06	35714	35711	35892 02	35892 07
35598 48	35599 49	35676 21	35676 17			35892 46	35892 35
35598 51	35599 51	35676 21	35676 19	35714	35712	35892 46	35892 44
35598 53	35599 53					35892 84	35892 77
35598 55	35599 55					35892 84	35892 78
35598 58	35599 57	35681 12	35681 11	35714 00	35711 00	35892 84	35892 79
35598 58	35599 59	35681 12	35681 13	35714 00	35712 00		
35598 61	35599 61					35892 86	35892 85
		35683 20	35683 21			35892 86	35892 87
35598 63	35599 63	35683 20	35683 24	35715	35711	35892 86	35892 88
35598 65	35599 65	35683 23	35683 22			35892 96	35892 98
35598 67	35599 67	35683 23	35683 24	35715	35712	35892 97	35892 80
35598 69	35599 69	35683 33	35683 32			35892 97	35892 91
35598 71	35599 71	35683 33	35683 34			35892 97	35892 99
35598 74	35599 73	35683 44	35683 43	35715 00	35711 00		
35598 74	35599 75	35683 44	35683 45	35715 00	35712 00		
35598 78	35599 77	35683 89	35683 27			35893 07	35893 08
35598 78	35599 79	35683 89	35683 29	35716	35711	35893 07	35893 09
35598 84	35599 82	35683 89	35683 92				
		35683 89	35683 97	35716	35712	35934	35931
35598 84	35599 85	35683 89	35683 98			35934 00	35931 00
35598 88	35599 88	35683 89	35683 98				
35598 89	35599 89	35683 91	35683 95	35716 00	35711 00	35935	35931
35598 90	35599 90	35683 99	35683 95	35716 00	35712 00	35935 00	35931 00
35598 91	35599 94	35683 99	35683 93				
35598 91	35599 95			35717	35711	35939	35933
35598 96	35599 96	35694	35692			35939 00	35933 00
35598 97	35599 97	35694 00	35692 00	35717	35712	35943	35941
35598 98	35599 80					35943 00	35941 10
35598 98	35599 81						
		35695	35692	35717 00	35711 00	35944	35941
35598 98	35599 83	35695 00	35692 00	35717 00	35712 00	35944 00	35941 10
35598 98	35599 85						
35598 98	35599 85	35696	35692				
35598 98	35599 92	35696 00	35692 00	35718	35711	35945	35941
35598 98	35599 93					35945 00	35941 10
35598 98	35599 99			35718	35712	35945 00	35941 20
		35699	35697				
35643 39	35643 23			35718 00	35711 00	35946	35941
35643 39	35643 28	35699	35698	35718 00	35712 00	35946 00	35941 10
		35699 01	35698 01			35946 00	35941 20
		35699 03	35698 03				
35646 11	35646 10	35699 05	35698 05				
35646 21	35646 20	35699 09	35697 00	35784	35781	35949	35942
		35699 11	35698 11			35949 00	35942 10
		35699 13	35698 13	35784	35782	35949 00	35942 20
35651 23	35651 01						
35651 23	35651 15						
35651 25	35651 02	35699 15	35698 15				
35651 25	35651 21	35699 17	35698 17	35784 00	35781 00	35962 12	35962 09
35651 27	35651 06	35699 21	35698 21	35784 00	35782 00	35962 12	35962 11
35651 28	35651 06	35699 23	35698 23			35962 14	35962 13
35651 28	35651 06	35699 25	35698 25			35962 14	35962 15
35651 28	35651 07	35699 27	35698 27	35789	35783	35962 21	35962 17
				35789 00	35783 00	35962 21	35962 19

Part 2. Comparability of Product Classes and Product Codes That Changed: 1987 to 1992

1987	1992	1987	1992	1987	1992	1987	1992
35111	35110	35419 21	35419 41	35461 26	35464 19	35563 01	35563 19
35111 01	35110 05	35419 22	35419 41	35461 26	35465 24	35563 02	35563 19
35111 01	35110 91	35419 23	35419 41	35461 26	35465 27	35563 03	35563 19
35111 02	35110 09	35419 24	35419 41	35461 28	35464 19	35563 06	35563 19
35111 02	35110 95	35419 25	35419 41	35461 28	35465 28	35563 07	35563 19
		35419 26	35419 41	35461 29	35464 19	35563 08	35563 19
35112	35110			35461 29	35465 29	35563 09	35563 19
35112 03	35110 11			35461 31	35464 19	35563 14	35563 19
35112 13	35110 11	35424 01	35424 11	35461 31	35465 31	35563 15	35563 19
35112 21	35110 21	35424 02	35424 11	35461 32	35464 19		
35112 22	35110 22	35424 03	35424 75				
35112 23	35110 23	35424 04	35424 75				
35112 24	35110 24	35424 05	35424 75	35461 32	35465 41	35592 03	35592 04
35112 61	35110 61			35461 32	35465 43	35592 05	35592 15
35112 71	35110 71			35461 33	35464 19		
35112 72	35110 72	35442 11	35442 03	35461 33	35465 33	35593 27	35593 41
35112 74	35110 75	35442 11	35442 05	35461 34	35464 19	35593 28	35593 41
35112 76	35110 75	35442 13	35442 07	35461 34	35465 38	35593 29	35593 41
35112 79	35110 79	35442 15	35442 09	35461 35	35464 05		
35112 81	35110 81	35442 16	35442 14	35461 35	35464 19	35594 09	35594 16
35112 83	35110 83	35442 17	35442 21	35461 35	35465 38	35594 13	35594 16
		35442 18	35442 21	35461 35	35465 39	35594 15	35594 16
35199 41	35199 35	35442 19	35442 25	35461 36	35464 21	35594 17	35594 25
35199 42	35199 35	35442 23	35442 25	35461 36	35465 36	35594 19	35594 25
35199 43	35199 39			35461 37	35464 19	35594 21	35594 25
35199 44	35199 39			35461 37	35465 37		
35199 45	35199 49	35451 16	35451 15			35599	35595
35199 46	35199 49	35451 17	35451 21	35462 47	35462 45		
35199 47	35199 63	35451 18	35451 15	35462 47	35462 48	35599	35598
35199 48	35199 63	35451 19	35451 21			35599 01	35598 01
35199 51	35199 67	35451 58	35451 62			35599 03	35598 03
35199 52	35199 67	35451 58	35451 64	35463 12	35463 19	35599 05	35598 05
35199 53	35199 71	35451 59	35451 62	35463 14	35463 19	35599 07	35598 07
		35451 59	35451 64			35599 09	35598 09
35199 54	35199 71	35451 61	35451 62	35473 48	35473 41	35599 11	35598 11
35199 55	35199 75	35451 63	35451 64	35473 48	35473 43	35599 13	35598 13
35199 56	35199 75	35451 65	35451 64	35473 48	35473 49	35599 15	35598 15
35199 57	35199 83					35599 17	35598 17
35199 58	35199 83	35451 66	35451 67	35481 01	35481 14	35599 19	35598 19
35199 59	35199 87	35451 68	35451 67	35481 02	35481 14		
35199 60	35199 87	35451 70	35451 74	35481 05	35481 15	35599 22	35598 22
35199 61	35199 91	35451 71	35451 74	35481 06	35481 15	35599 25	35598 25
35199 62	35199 91	35451 77	35451 74			35599 27	35598 27
35199 91	35199 99	35451 82	35451 81	35482 01	35482 09	35599 29	35598 29
35199 92	35199 99	35451 84	35451 81	35482 02	35482 09	35599 31	35598 31
		35451 91	35451 79	35482 07	35482 17	35599 33	35598 36
		35451 93	35451 79	35482 08	35482 17	35599 35	35598 35
3531H	3531N			35482 15	35482 18	35599 37	35598 36
				35482 16	35482 18	35599 39	35598 39
						35599 41	35598 41
3531H	3531P	35455 81	35455 77				
		35455 83	35455 79	35521 54	35521 57	35599 43	35598 43
3531H 00	3531N 00	35455 91	35455 77	35521 56	35521 57	35599 45	35598 45
3531H 00	3531P 85	35455 92	35455 79	35521 68	35521 67	35599 47	35598 48
		35455 93	35455 79	35521 69	35521 67	35599 49	35598 48
		35455 94	35455 73	35521 84	35521 86	35599 51	35598 51
3531K	3531P	35455 95	35455 73	35521 85	35521 86	35599 53	35598 53
3531K 06	3531P 06	35455 96	35455 79			35599 55	35598 55
3531K 07	3531P 07	35455 97	35455 77	35533 31	35533 38	35599 57	35598 58
3531K 11	3531P 11	35455 98	35455 79	35533 39	35533 34	35599 59	35598 58
3531K 20	3531P 20			35533 39	35533 38	35599 61	35598 61
3531K 21	3531P 21						
3531K 22	3531P 22	35461	35464			35599 63	35598 63
3531K 24	3531P 24			35534 01	35534 12	35599 65	35598 65
3531K 25	3531P 25			35534 02	35534 12	35599 67	35598 67
3531K 27	3531P 27	35461	35465	35534 03	35534 12	35599 69	35598 69
3531K 53	3531P 53			35534 04	35534 13	35599 71	35598 71
				35534 05	35534 13	35599 73	35598 74
3531K 55	3531P 55	35461 01	35464 09	35534 06	35534 13	35599 75	35598 74
3531K 61	3531P 61	35461 01	35464 15	35534 07	35534 13	35599 77	35598 78
3531K 70	3531P 70	35461 03	35465 02	35534 08	35534 13	35599 79	35598 78
3531K 74	3531P 74	35461 03	35465 02	35534 09	35534 13	35599 80	35598 98
3531K 77	3531P 77	35461 04	35464 09				
3531K 82	3531P 82	35461 04	35464 15	35551 02	35551 01	35599 81	35598 98
3531K 90	3531P 90	35461 04	35465 02	35551 02	35551 03	35599 82	35598 84
3531K 97	3531P 97	35461 05	35464 09			35599 83	35598 98
		35461 05	35464 15	35552 01	35552 09	35599 85	35598 84
3531M 09	3531M 08			35552 37	35552 09	35599 85	35598 84
3531M 09	3531M 21			35552 38	35552 03	35599 86	35598 84
3531M 15	3531M 21	35461 05	35465 05	35552 38	35552 05	35599 86	35595 01
		35461 07	35464 09	35552 41	35552 09	35599 87	35595 03
		35461 07	35464 15			35599 88	35595 05
35329 33	35329 31	35461 07	35465 07			35599 88	35595 09
35329 34	35329 31	35461 09	35464 09	35553 03	35553 00		
35329 37	35329 35	35461 09	35464 15	35553 05	35553 00	35599 89	35598 89
35329 38	35329 35	35461 09	35464 15	35553 08	35553 00	35599 90	35598 90
35329 41	35329 42	35461 12	35465 09	35553 09	35553 00	35599 92	35598 98
35329 43	35329 42	35461 12	35464 19			35599 93	35598 98
35329 71	35329 72	35461 15	35465 12			35599 94	35598 98
35329 73	35329 72			35556 65	35556 71	35599 95	35598 91
35329 75	35329 72			35556 65	35556 73	35599 96	35598 91
				35556 65	35556 79	35599 97	35598 96
		35461 15	35465 15			35599 97	35598 97
35337 24	35337 28	35461 16	35464 19	35558 02	35558 01	35599 99	35598 98
35337 25	35337 28	35461 16	35465 16	35558 02	35558 03		
35337 26	35337 32	35461 17	35464 19	35558 02	35558 11	35643 23	35643 39
35337 27	35337 32	35461 17	35465 17	35558 09	35558 01	35643 28	35643 39
		35461 18	35464 19	35558 09	35558 03		
		35461 18	35465 11	35558 09	35558 11		
35353 45	35353 41	35461 18	35465 14	35558 09	35558 11	35646 10	35646 11
35353 45	35353 47	35461 19	35464 19	35558 89	35558 91	35646 20	35646 21
		35461 19	35465 13	35558 89	35558 93		
35363 37	35363 39					35651 01	35651 23
35363 38	35363 39	35461 19	35465 14	35561 02	35561 18	35651 02	35651 25
		35461 21	35464 19	35561 07	35561 18	35651 06	35651 27
		35461 21	35465 21	35561 08	35561 18	35651 06	35651 28
35373 05	35373 04	35461 22	35464 01	35561 11	35561 18	35651 07	35651 28
35373 05	35373 07	35461 22	35464 19	35561 19	35561 18	35651 08	35651 28
35373 05	35373 09	35461 22	35465 22			35651 09	35651 31
35373 05	35373 11	35461 23	35464 19			35651 11	35651 33
		35461 23	35465 23	35562 71	35562 73	35651 12	35651 35
		35461 25	35464 19	35562 75	35562 73	35651 13	35651 35
35374 17	35374 18	35461 25	35464 19	35562 85	35562 89	35651 14	35651 33
35374 19	35374 18	35461 25	35465 25	35562 91	35562 89		

Part 2. Comparability of Product Classes and Product Codes That Changed: 1987 to 1992—Con.

1987	1992	1987	1992	1987	1992	1987	1992
35651 15	35651 23	35692 00	35694 00	35711 00	35713 00	35859 04	35859 06
35651 15	35651 37	35692 00	35695 00	35711 00	35714 00	35859 05	35859 06
35651 15	35651 41	35692 00	35696 00	35711 00	35715 00	35859 07	35859 06
35651 16	35651 43			35711 00	35716 00		
35651 17	35651 45			35711 00	35717 00	35892 03	35892 02
35651 19	35651 49	35697	35699	35711 00	35718 00	35892 04	35892 02
35651 19	35651 59	35697 00	35699 09			35892 05	35892 01
35651 21	35651 25					35892 06	35892 01
35651 21	35651 31			35712	35713	35892 07	35892 01
35651 21	35651 51	35698	35699			35892 07	35892 02
35651 21	35651 52	35698 01	35699 01			35892 35	35892 46
35651 21	35651 53	35698 02	35699 51	35712	35714	35892 44	35892 46
35651 21	35651 59	35698 03	35699 03			35892 77	35892 84
		35698 04	35699 51			35892 78	35892 84
		35698 05	35699 05	35712	35715	35892 79	35892 84
35660 31	35660 34	35698 06	35699 51				
35660 32	35660 34	35698 07	35699 41	35712	35716	35892 80	35892 97
35660 33	35660 47	35698 07	35699 42			35892 85	35892 86
35660 35	35660 37	35698 07	35699 43			35892 87	35892 86
35660 36	35660 37	35698 07	35699 44	35712	35717	35892 88	35892 86
35660 38	35660 49					35892 91	35892 97
35660 39	35660 49					35892 98	35892 96
35660 40	35660 47	35698 08	35699 51	35712	35718	35892 99	35892 97
		35698 11	35699 11				
		35698 12	35699 51	35712 00	35713 00		
35676 03	35676 09	35698 13	35699 13	35712 00	35714 00	35893 08	35893 07
35676 04	35676 09	35698 14	35699 51	35712 00	35715 00	35893 09	35893 07
35676 05	35676 15	35698 15	35699 15	35712 00	35716 00		
35676 06	35676 15	35698 16	35699 51	35712 00	35717 00	35931	35934
35676 17	35676 21	35698 17	35699 17	35712 00	35718 00		
35676 19	35676 21	35698 18	35699 51			35931	35935
		35698 21	35699 21				
				35781	35784	35931 00	35934 00
35681 11	35681 12			35781 00	35784 00	35931 00	35935 00
35681 13	35681 12						
		35698 22	35699 51				
		35698 23	35699 23				
		35698 24	35699 51	35782	35784	35933	35939
35683 21	35683 20	35698 25	35699 25	35782 00	35784 00	35933 00	35939 00
35683 22	35683 23	35698 26	35699 51				
35683 24	35683 20	35698 27	35699 27	35783	35789	35941	35943
35683 24	35683 23	35698 28	35699 51	35783 00	35789 00		
35683 27	35683 89	35698 31	35699 31			35941	35944
35683 29	35683 89	35698 32	35699 51				
35683 32	35683 33	35698 35	35699 47	35820 13	35820 12	35941	35945
35683 34	35683 33	35698 36	35699 51	35820 14	35820 12		
35683 36	35683 99	35698 38	35699 47	35820 21	35820 11	35941	35946
35683 43	35683 44	35698 48	35699 47	35820 22	35820 29		
35683 45	35683 44	35698 49	35699 51	35820 25	35820 31	35941 10	35943 00
				35820 26	35820 29	35941 10	35944 00
				35820 28	35820 29	35941 10	35945 00
				35820 34	35820 39	35941 10	35946 00
				35820 35	35820 31	35941 20	35945 00
35683 92	35683 89			35820 36	35820 31	35941 20	35946 00
35683 93	35683 99	35711	35713	35820 35	35820 31		
35683 95	35683 91			35820 36	35820 31		
35683 97	35683 89			35820 41	35820 39	35942	35949
35683 98	35683 89	35711	35715	35820 43	35820 39	35942 10	35949 00
				35820 81	35820 39	35942 20	35949 00
35692	35694	35711	35716	35853 31	35853 32	35962 09	35962 12
				35853 33	35853 32	35962 11	35962 12
35692	35695	35711	35717	35853 36	35853 37	35962 13	35962 14
				35853 38	35853 37	35962 15	35962 14
				35853 73	35853 98	35962 17	35962 21
35692	35696	35711	35718	35853 97	35853 98	35962 19	35962 21

Part 3. Current Industrial Reports by Product Code

[Current Industrial Reports (CIR) data are contained in the publication *Manufacturing Profiles: 1992* [MP-1(92)] issued August 1994 and available through the Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402. To access the most current CIR data electronically, dial the Census-BEA Electronic Forum at 301-457-2310. Your communications modem should be set as follows: Baud rate: 1200, 2400, 9600; Parity: None; Data bits: 8; Stop bits: 1; Duplex: full. Before making your first call, decide on a password and be prepared to provide the following regarding your computer: PC brand name, monitor screen dimensions (e.g., 80 columns by 24 lines), monitor color support, modem baud rate, and PC communications software package. Call the voice number, 301-457-1242, for further bulletin board assistance]

Product code	Current Industrial Report	Product code	Current Industrial Report
3519100	MA35L, Internal Combustion Engines	3561510	MA35P, Pumps and Compressors
3519300	MA35L, Internal Combustion Engines	3561520	MA35P, Pumps and Compressors
3519400	MA35L, Internal Combustion Engines	3561530	MA35P, Pumps and Compressors
3519600	MA35L, Internal Combustion Engines	3562100	MA35Q, Antifriction Bearings
3523100	MA35A, Farm Machinery and Lawn and Garden Equipment	3562200	MA35Q, Antifriction Bearings
3523200	MA35A, Farm Machinery and Lawn and Garden Equipment	3562300	MA35Q, Antifriction Bearings
3523300	MA35A, Farm Machinery and Lawn and Garden Equipment	3562400	MA35Q, Antifriction Bearings
3523500	MA35A, Farm Machinery and Lawn and Garden Equipment	3562900	MA35Q, Antifriction Bearings
3523600	MA35A, Farm Machinery and Lawn and Garden Equipment	3563100	MA35P, Pumps and Compressors
3523926	MA35A, Farm Machinery and Lawn and Garden Equipment	3563120	MA35P, Pumps and Compressors
3523931	MA35A, Farm Machinery and Lawn and Garden Equipment	3569400	MA35N, Fluid Power Products, Including Aerospace
3523953	MA35A, Farm Machinery and Lawn and Garden Equipment	3569500	MA35N, Fluid Power Products, Including Aerospace
3523C00	MA35A, Farm Machinery and Lawn and Garden Equipment	3569600	MA35N, Fluid Power Products, Including Aerospace
3523E00	MA35A, Farm Machinery and Lawn and Garden Equipment	3571300	MA35R, Computers and Office and Accounting Machines
3523F00	MA35A, Farm Machinery and Lawn and Garden Equipment	3571400	MA35R, Computers and Office and Accounting Machines
3524100	MA35A, Farm Machinery and Lawn and Garden Equipment	3571500	MA35R, Computers and Office and Accounting Machines
3524400	MA35A, Farm Machinery and Lawn and Garden Equipment	3571600	MA35R, Computers and Office and Accounting Machines
3524600	MA35A, Farm Machinery and Lawn and Garden Equipment	3571700	MA35R, Computers and Office and Accounting Machines
3531A00	MA35D, Construction Machinery	3571800	MA35R, Computers and Office and Accounting Machines
3531B00	MA35D, Construction Machinery	3572100	MA35R, Computers and Office and Accounting Machines
3531C00	MA35D, Construction Machinery	3572200	MA35R, Computers and Office and Accounting Machines
3531E00	MA35D, Construction Machinery	3575100	MA35R, Computers and Office and Accounting Machines
3531F00	MA35D, Construction Machinery	3575200	MA35R, Computers and Office and Accounting Machines
3531G00	MA35D, Construction Machinery	3577100	MA35R, Computers and Office and Accounting Machines
3531N00	MA35D, Construction Machinery	3577200	MA35R, Computers and Office and Accounting Machines
3531P20	MA35D, Construction Machinery	3578400	MA35R, Computers and Office and Accounting Machines
3531P70	MA35F, Mining Machinery, and Mineral Processing Equipment	3578900	MA35R, Computers and Office and Accounting Machines
3531P90	MA35D, Construction Machinery	3579200	MA35R, Computers and Office and Accounting Machines
3532500	MA35F, Mining Machinery, and Mineral Processing Equipment	3579300	MA35R, Computers and Office and Accounting Machines
3532600	MA35F, Mining Machinery, and Mineral Processing Equipment	3579500	MA35R, Computers and Office and Accounting Machines
3532700	MA35F, Mining Machinery, and Mineral Processing Equipment	3579900	MA35R, Computers and Office and Accounting Machines
3532800	MA35F, Mining Machinery, and Mineral Processing Equipment	3579A00	MA35R, Computers and Office and Accounting Machines
3533A00	MA35F, Mining Machinery, and Mineral Processing Equipment	3581100	MA35U, Vending Machines
3536315	MA35F, Mining Machinery, and Mineral Processing Equipment	3585100	MA35M, Air-Conditioning and Refrigeration Equipment
3539500	MA35N, Fluid Power Products, Including Aerospace	3585200	MA35M, Air-Conditioning and Refrigeration Equipment
3541300	MQ35W, Metalworking Machinery	3585343	MA35M, Air-Conditioning and Refrigeration Equipment
3541400	MQ35W, Metalworking Machinery	3585400	MA35M, Air-Conditioning and Refrigeration Equipment
3541500	MQ35W, Metalworking Machinery	3585500	MA35M, Air-Conditioning and Refrigeration Equipment
3541600	MQ35W, Metalworking Machinery	3585600	MA35M, Air-Conditioning and Refrigeration Equipment
3541A00	MQ35W, Metalworking Machinery	3585C00	MA35M, Air-Conditioning and Refrigeration Equipment
3541B00	MQ35W, Metalworking Machinery	3593200	MA35N, Fluid Power Products, Including Aerospace
3541C00	MQ35W, Metalworking Machinery	3593400	MA35N, Fluid Power Products, Including Aerospace
3541D00	MQ35W, Metalworking Machinery	3593900	MA35N, Fluid Power Products, Including Aerospace
3542100	MQ35W, Metalworking Machinery	3594300	MA35N, Fluid Power Products, Including Aerospace
3542200	MQ35W, Metalworking Machinery	3594400	MA35N, Fluid Power Products, Including Aerospace
3542300	MQ35W, Metalworking Machinery	3594500	MA35N, Fluid Power Products, Including Aerospace
3561100	MA35P, Pumps and Compressors	3594600	MA35N, Fluid Power Products, Including Aerospace
3561300	MA35P, Pumps and Compressors	3594900	MA35N, Fluid Power Products, Including Aerospace

Publication Program

1992 CENSUS OF MANUFACTURES

Publications of the 1992 Census of Manufactures, containing preliminary and final data on manufacturing establishments in the United States, are described below. Publications order forms for the specific reports may be obtained from any Department of Commerce district office or from Data User Services Division, Customer Services, Bureau of the Census, Washington, DC 20233-8300.

Preliminary Reports

Industry series—83 reports (MC92-I-20A(P) to -39D(P))

Preliminary industry data are issued in 83 separate reports covering 459 industries. Preliminary summary data for the United States and States are released in one report.

Final Reports

Industry series—83 reports (MC92-1-20A to -39D)

Each of the 83 reports provides information for a group of related industries ("dairy products" includes industries for butter, cheese, milk, etc.). Final figures for the United States are shown for each of the 459 manufacturing industries on quantity and value of products shipped and materials consumed, cost of fuels and electric energy, capital expenditures, assets, rents, inventories, employment, payroll, payroll supplements, hours worked, value added by manufacture, number of establishments, and number of companies. Comparative statistics for earlier years are provided where available.

For each industry, data on value of shipments, value added by manufacture, capital expenditures, employment, and payroll are shown by employment-size class of establishment, State, and degree of primary product specialization.

Geographic area series—51 reports (MC92-A-1 to -51)

A separate report is being published for each State and the District of Columbia. Each report presents data for industry groups and industries on value of shipments, cost of materials, value added by manufacture, employment, payroll, hours worked, new capital expenditures, and number of manufacturing establishments for the State, MA's, counties, and selected places. Comparative statistics for earlier census years are shown for the State and large MA's. Manufacturing totals are presented for each county and for places with significant manufacturing activity. Detailed statistics (including inventories, assets, rents, and energy costs) are presented only in statewide totals.

Subject series—3 reports (MC92-S-1 to -3)

Each of the three reports contains detailed statistics for an individual subject, such as concentration ratios in manufacturing, manufacturers' shipments to the Federal Government, and a general national-level summary.

Reference series—1 report (MC92-R-1)

The *Numerical List of Manufactured and Mineral Products* includes a description of the principal products and services published in the 1992 Censuses of Manufactures and Mineral Industries.

Location of Manufacturing Plants—1 report (MC92-LM)

This report includes data for number of establishments by four-digit SIC industry and by employment-size class for counties, incorporated places of 2,500 inhabitants or more, and Zip Codes for each State. This report is available only on compact disc-read only memory (CD-ROM).

Analytical Reports—2 reports (AR92-1 and -2)

Exports From Manufacturing Establishments (AR92-1)

This report presents data on exports by two- and three-digit SIC industry groups for the United States and States. Information is presented on value of direct report shipments and estimates of the employment required to manufacture these products. Included are estimates of employment in manufacturing and nonmanufacturing establishments that supply parts, materials, and services for production of manufactured exports.

Selected Characteristics of Manufacturing Establishments That Export (AR92-2)

This report presents data on the number of manufacturing companies and establishments that export by major group, State, employment size, and ratios of exports to shipments.

Electronic Media

All data included in the printed reports are available on CD-ROM. The CD-ROM's provide the same information found in the reports as well as additional information not published in the final reports, such as location of manufacturing plants. Electronic media products are available for users who wish to summarize, rearrange, or process large amounts of data. These products, with corresponding technical documentation, are sold by Data User Services Division, Customer Services, Bureau of the Census, Washington, DC 20233-8300.

OTHER ECONOMIC CENSUSES REPORTS

Data on retail trade, wholesale trade, financial, insurance, real estate, service industries, construction industries, mineral industries, transportation, communications, utilities, enterprise statistics, minority-owned businesses, and women-owned businesses also are available from the 1992 Economic Census. A separate series of reports covers the census of outlying areas—Puerto Rico, Virgin Islands of the United States, Guam, and the Commonwealth of the Northern Mariana Islands. Separate announcements describing these reports are available free of charge from Data User Services Division, Customer Services, Bureau of the Census, Washington, DC 20233-8300.