

# Internal Combustion Engines: 2001

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## SUMMARY OF FINDINGS

In 2001, a total of 21,305,057 internal combustion engines (except outboard, nondiesel automotive,

aircraft and military tank) were shipped or produced and incorporated at the same plant, representing a 14-percent decrease from the 24,620,800 produced in 2000. Gasoline (except automotive) engines totaled 20,426,375 in 2001, 13 percent below the figure of 23,453,352 for 2000. The number of nonautomotive diesel, semidiesel, and dual-fuel engines produced in 2001 amounted to 226,728, a 25-percent decrease from the 299,365 reported in 2000. There were 635,737 automotive diesel, semidiesel, and dual-fuel engines produced in 2001, 25 percent less than the 848,993 produced in 2000. Production of gas engines (LPG and natural) was 16,217 in 2001, 15 percent more than the 19,090 produced in 2000.

For general CIR information, explanation of general terms and historical note, see the appendix.

Address inquiries concerning these data to Investment Goods Industries Branch, Manufacturing and Construction Division (MCD), Washington, DC 20233-6900, or call Marvella Jones, 301-457-4743.

For mail or fax copies of this publication, please contact the Information Services Center, MCD, Washington, DC 20233-6900, or call 301-457-4673.

U S C E N S U S B U R E A U

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Table 1. Internal Combustion Engines by Type of Engine: 2001 and 2000  
 [Engines and quantity in units. Value in thousands of dollars]

Product description	Engines produced 1/	Total Shipments and interplant transfers		Shipments to other companies		Interplant transfers		Engines produced and incorporated 2/
		Quantity	Value f.o.b. plant	Quantity	Value f.o.b. plant	Quantity	Value f.o.b. plant	
2001								
Total.....	21,305,057	11,168,207	11,536,350	10,039,123	8,603,096	1,129,084	2,933,254	(D)
Gasoline (except automotive)..	20,426,375	10,299,985	2,882,353	9,327,730	2,338,346	972,255	544,007	(D)
Nonautomotive diesel.....	226,728	216,313	3,501,355	164,551	2,199,544	51,762	1,301,811	10,415
Automotive diesel.....	635,737	635,737	4,674,540	533,759	3,851,586	101,978	822,954	-
Natural gas and liquefied petroleum gas.....	16,217	16,172	478,102	13,083	213,620	3,089	264,482	45
2000								
Total.....	24,620,800	16,117,054	13,508,953	15,032,238	9,985,361	1,084,816	3,523,592	(D)
Gasoline (except automotive)..	23,453,352	14,962,907	3,065,155	14,110,417	2,429,230	852,490	635,925	(D)
Nonautomotive diesel.....	299,365	286,226 r/	3,956,203	232,130	2,565,876	54,096	1,390,327	24,870
Automotive diesel.....	848,993 r/	848,993 r/	6,068,485	673,478	4,821,817	175,515 r/	1,246,668	-
Natural gas and liquefied petroleum gas.....	19,090	18,928 r/	419,110	16,213	168,438	2,715	250,672	162

- Represents zero. D Withheld to avoid disclosing figures for individual companies. r/Revised by 5 percent or more from previously published data.

1/Represents total number of engines shipped or produced and incorporated into products at the same establishment.

2/Represents engines produced and incorporated (in the same plant) into products such as construction machinery, farm machinery, tractors, engine-generator sets, and other products.

Table 2. Gasoline Engines by Horsepower Rating: 2001 and 2000  
 [Engines and quantity in units. Value in thousands of dollars]

Product code	Product description	No. of cos.	Engines produced 1/	Total shipments and interplant transfers		Shipment to other companies		Interplant transfers		Engines produced and incorporated 2/
				Quantity	Value f.o.b. plant	Quantity	Value f.o.b. plant	Quantity	Value f.o.b. plant	
2001										
3336181	Gasoline engines.....	23	20,426,375	10,299,985	2,882,353	9,327,730	2,338,346	972,255	544,007	8,179,818
3336181011	Under 11 hp.....	11	18,095,939	(D)	(D)	(D)	(D)	(D)	(D)	(D)
3336181013	11 to under 21 hp.....	6	1,508,923	1,386,130	468,057	1,380,837	466,506	(D)	(D)	-
3336181015	21 to under 61 hp.....	8	515,225	483,982	513,471	449,536	439,859	(D)	(D)	-
3336181017	61 hp and over.....	8	306,288	(D)	(D)	(D)	(D)	(D)	(D)	-
2000										
3336181	Gasoline engines.....	25 r/	23,453,352	14,962,907	3,065,155	14,110,417 r/	2,429,230 r/	852,490 r/	635,925	8,490,445
3336181011	Under 11 hp.....	14 r/	20,375,248	(D)	(D)	(D)	(D) r/	541,136 r/	76,795	(D)
3336181013	11 to under 21 hp.....	8	2,082,879	2,070,268 r/	679,188	2,048,945 r/	670,911	21,323 r/	8,277	(D)
3336181015	21 to under 61 hp.....	11 r/	603,314	596,252	435,075 r/	546,958 r/	352,671	(D)	(D)	(D)
3336181017	61 hp and over.....	8	391,912	(D)	(D)	(D)	(D)	(D)	(D)	-

- Represents zero. D Withheld to avoid disclosing figures for individual companies. r/Revised by 5 percent or more from previously published data.

1/Represents total number of engines shipped or produced and incorporated into products at the same establishment.

2/Represents engines produced and incorporated (in the same plant) into products such as construction machinery, farm machinery, tractors, engine-generator sets, and other products.

Note: Horsepower is defined as maximum published horsepower rating at maximum recommended revolutions per minute (rpm).

Table 3. Nonautomotive Diesel Engines by Horsepower Rating: 2001 and 2000  
 [Engines and quantity in units. Value in thousands of dollars]

Product code	Product description	No. of cos.	Engines produced 1/	Total shipments and interplant transfers		Shipments to other companies		Interplant transfers		Engines produced and incorporated 2/
				Quantity	Value f.o.b. plant	Quantity	Value f.o.b. plant	Quantity	Value f.o.b. plant	
2001										
33361830	Nonautomotive diesel engines.....	24	226,728	216,313	3,501,355	164,551	2,199,544	51,762	1,301,811	(D)
3336183011	Under 101 hp.....	8	(D)	3,800	49,325	(D)	(D)	(D)	(D)	(D)
3336183013	101 to under 151 hp.....	9	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
3336183015	151 to under 176 hp.....	10	(D)	(D)	(D)	12,531	44,462	(D)	(D)	(D)
3336183017	176 to under 251 hp.....	12	22,637	22,619	143,161	(D)	(D)	(D)	(D)	(D)
3336183019	251 to under 301 hp.....	11	34,557	34,549	279,990	27,724	227,356	6,825	52,634	(D)
333618301B	301 to under 401 hp.....	11	22,832	22,823	334,001	17,363	280,080	5,460	53,921	(D)
333618301D	401 to under 451 hp.....	5	(D)	(D)	(D)	(D)	(D)	2,087	22,834	-
333618301F	451 to under 601 hp.....	7	12,557	12,557	279,734	(D)	(D)	(D)	(D)	-
333618301H	601 to under 701 hp.....	7	2,974	2,974	80,609	(D)	(D)	(D)	(D)	-
333618301J	701 to under 801 hp.....	3	(D)	(D)	(D)	1,617	54,817	(D)	(D)	-
333618301L	801 to under 1,501 hp.....	8	7,939	7,571	560,312	3,897	191,662	(D)	(D)	(D)
333618301M	1,501 hp and over.....	6	2,800	2,185	527,638	1,533	332,954	(D)	(D)	(D)
2000										
33361830	Nonautomotive diesel engines.....	24 r/	299,365	286,226 r/	3,956,203	232,130 r/	2,565,876 r/	54,096	1,390,327	(D)
3336183011	Under 101 hp.....	9	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
3336183013	101 to under 151 hp.....	9	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
3336183015	151 to under 176 hp.....	9	(D)	24,846	124,531	(D)	(D)	(D)	(D)	(D)
3336183017	176 to under 251 hp.....	12	36,643	36,632	263,814	(D)	(D)	(D)	(D)	(D)
3336183019	251 to under 301 hp.....	11 r/	41,867	41,864 r/	344,458 r/	34,296	281,104	7,568	63,354	(D)
333618301B	301 to under 401 hp.....	10 r/	29,445	29,443 r/	360,946	23,538	309,685 r/	5,905	51,261	(D)
333618301D	401 to under 451 hp.....	6	(D)	(D)	(D)	(D)	(D)	(D)	(D)	-
333618301F	451 to under 601 hp.....	7	18,209	18,209 r/	397,698	(D)	(D)	(D)	(D)	-
333618301H	601 to under 701 hp.....	7	3,575	3,570	109,671	(D)	(D)	(D)	(D)	-
333618301J	701 to under 801 hp.....	4	(D)	(D)	(D)	(D)	(D)	(D)	(D)	-
333618301L	801 to under 1,501 hp.....	7 r/	6,575	(D)	(D)	(D)	(D)	(D)	(D)	(D)
333618301M	1,501 hp and over.....	6	2,979	2,176	466,465	(D)	(D)	(D)	(D)	(D)

- Represents zero. D Withheld to avoid disclosing figures for individual companies. r/Revised byn 5 percent or more from previously published data.

1/Represents total number of engines shipped or produced and incorporated into products at the same establishments.

2/Represents engines produced and incorporated (in the same plant) into products such as construction machinery, farm machinery, tractors, engine-generator sets, and other products.

Note: Horsepower is defined as maximum published horsepower rating at maximum recommended revolutions per minute (rpm).

Table 4. Automotive Diesel Engines by Horsepower Rating: 2001 and 2000  
 [Engines in units. Value in thousands of dollars]

Product code	Product description	No. of cos.	2001		2000	
			Engines 1/	Value 2/	Engines 1/	Value 2/
33361850	Automotive diesel engines.....	13	635,737	4,674,540 r/	848,993 r/	6,068,485
3336185011	Under 226 hp.....	10	210,097	1,259,009	333,704	1,835,336
3336185013	226 to under 251 hp.....	6	(D)	(D)	(D)	(D)
3336185015	251 hp and over.....	7	(D)	(D)	(D)	(D)

D Withheld to avoid disclosing data for individual companies. r/Revised by 5 percent or more from previously reported data.

1/Represents total number of engines shipped, including interplant transfers.

2/Represents value of all engines shipped, including interplant transfers.

Note: Horsepower is defined as maximum published horsepower rating at maximum recommended revolutions per minute (rpm).

Table 5. Gas Engines (Except Automotive) by Horsepower Rating: 2001 and 2000  
 [Engines and quantity in units. Value in thousands of dollars]

Product code	Product description	No. of cos.	Engines produced 1/	Total shipments including interplant transfers		Engines produced and incorporated 2/
				Quantity	Value f.o.b. plant	
2001						
33361890	Natural gas and liquefied petroleum gas engines.....	13	16,217	(D)	478,102	(D)
3336189011	Under 501 hp.....	12	(D)	(D)	(D)	(D)
3336189013	501 hp and over.....	4	(D)	(D)	(D)	-
2000						
33361890	Natural gas and liquefied petroleum gas engines.....	14 r/	19,090	(D) r/	419,110	(D)
3336189011	Under 501 hp.....	13	(D)	(D)	(D)	(D)
3336189013	501 hp and over.....	5	(D)	(D)	(D)	-

- Represents zero. D Withheld to avoid disclosing data for individual companies. r/Revised by 5 percent or more from previously reported data.

1/Represents total number of engines shipped or produced and incorporated into products at the same establishment.

2/Represents engines produced and incorporated (in the same plant) into products such as construction machinery, farm machinery, tractors, engine-generator sets, and other products.

Note: Horsepower is defined as maximum published horsepower rating at maximum recommended revolutions per minute (rpm).

**Table 6. Engines Produced by Piston Displacement and Fuel System: 2001 and 2000**

Piston Displacement	2001		2000
Total.....	21,735,510	r/	24,908,603
Gasoline.....	20,448,046	r/	23,446,937
Under 251 cc.....	(D)		(D)
251 and over.....	(D)		(D)
Nonautomotive diesel.....	496,018	r/	487,301
Under 251 cc.....	(D)		(D)
251 to 3,700 cc.....	(D)		(D)
3,701 and over cc.....	(D)		(D)
Automotive diesel.....	791,446	r/	974,365
Under 251 to 3,700 cc.....	(D)		(D)
3,701 and over cc.....	(D)		(D)

cc Cubic centimeters. D Withheld to avoid disclosing data for individual companies. r/Revised by 5 percent or more than previously reported data.

**Table 7. Engines Produced (Except Outboard, Automotive, and Aircraft) by Type of Engine and End Application: 2000 and 1999**

End application	Gasoline engines		Nonautomotive diesel engines	
	2001	2000	2001	2000
Total.....	18,470,504	r/ 23,404,467	495,739	r/ 490,479
Oil field and petroleum related generating and stationary equipment.....	-	-	7,285	(D)
Other generator sets.....	(D)	(D)	30,754	r/ 39,693
Irrigation.....	(D)	(D)	9,562	(D)
Agricultural vehicular.....	(D)	(D)	(D)	(D)
Off-highway mobile construction equipment.....	(D)	r/ 45,322	(D)	r/ 112,074
Marine, except outboard.....	(D)	(D)	41,032	r/ 13,254
Railroad, motive power type.....	-	-	2,181	r/ 2,721
Chain saws.....	(D)	(D)	-	-
Garden tractors.....	2,245,617	(D)	(D)	(D)
Lawn, home, and recreational equipment.....	12,520,217	r/ 16,013,259	-	-
Other general industrial.....	(D)	(D)	81,365	93,756

- Represents zero. D Withheld to avoid disclosing data for individual companies. r/Revised by 5 percent or more than previously reported data.

**Table 8. Production, Exports, and Imports of Internal Combustion Engines: 2001 and 2000**  
 [Quantity in units. Value in thousands of dollars]

Product code	Product description	Manufacturers' production		Exports of domestic merchandise 2/		Imports for consumption 3/	
		Quantity	Value of shipments f.o.b. plant 1/	Quantity	Value at port	Quantity	Value
2001							
	Total.....	21,305,057	11,536,350	2,542,886	2,613,942	3,100,197	3,597,876
3336185	Automotive diesel engines.....	635,737	4,674,540	118,790	846,770	46,378	171,593
3336183	Nonautomotive diesel engines.....	226,728	3,501,355	103,317	1,262,806	427,116	1,154,464
3336181	Gasoline engines.....	20,426,375	2,882,353	2,317,754	386,370	2,549,809	2,223,580
3336189	Gas and liquefied petroleum gas and engines.....	16,217	478,102	3,025	117,996	76,894	48,239
2000							
	Total.....	24,620,800	13,508,953	2,856,349	3,232,064	3,819,425	3,647,369
3336185	Automotive diesel engines.....	848,993	6,068,485	149,511	1,109,862	33,585	199,653
3336183	Nonautomotive diesel engines.....	299,365	3,956,203	100,802	1,441,223	495,955	1,355,613
3336181	Gasoline engines.....	23,453,352	3,065,155	2,602,257	596,896	3,228,851	2,048,643
3336189	Gas and liquefied petroleum gas and engines.....	19,090	419,110	3,779	84,083	61,034	43,460

1/Value of shipments f.o.b. plant of production quantities shipped as engines, including interplant transfers.

2/Source: Census Bureau report EM 545, U.S. Exports.

3/Source: Census Bureau report IM 145, U.S. General Imports. These figures include both import value and duty value.

Table 9. Comparison of North American Industry Classification System (NAICS)-Based Product Codes with Schedule B Export Codes and HTSUSA Import Codes: 2001

Product code	Product description	Export code 1/	Import code 2/
3336181	Gasoline engines (except outboard marine, aircraft, automobile, highway truck, bus, and tank).....	8407.29.0010	8407.29.0010
		8407.29.0050	8407.29.0020
		8407.31.0000	8407.29.0030
		8407.32.5000	8407.29.0040
		8407.33.5000	8407.31.0040
		8407.34.5000	8407.31.0080
		8407.90.1010	8407.32.1000
		8407.90.1050	8407.32.9040
		8407.90.9030	8407.32.9080
		8407.90.9050	8407.33.1030
			8407.33.1060
			8407.33.1090
			8407.33.9040
			8407.33.9080
			8407.34.0560
			8407.34.0590
			8407.34.1030
			8407.34.1060
			8407.34.1090
			8407.34.9000
	8407.90.1010		
	8407.90.1020		
	8407.90.1060		
	8407.90.1080		
	8407.90.9020		
	8407.90.9040		
	8407.90.9060		
	8407.90.9080		
	8411.99.9030		
	8411.99.9060		
3336183	Nonautomotive diesel, semidiesel, and dual-fuel engines.....	8408.10.0010	8408.10.0005
		8408.10.0020	8408.10.0015
		8408.10.0030	8408.10.0020
		8408.10.0040	8408.10.0030
		8408.10.0050	8408.10.0040
		8408.20.5000	8408.10.0050
		8408.90.1000	8408.20.1040
		8408.90.9010	8408.20.1080
		8408.90.9020	8408.20.9000
		8408.90.9030	8408.90.1040
		8408.90.9040	8408.90.1080
		8408.90.9050	8408.90.9010
			8408.90.9020
	8408.90.9030		
	8408.90.9040		
	8408.90.9050		
3336185	Automotive diesel, semidiesel, and dual-fuel engines.....	8408.20.2000	8408.20.2000
3336189	Piston-type natural gas engines, including liquefied petroleum gas engines.....	8407.90.9010	8407.90.9010

1/Source: 2001 edition, Harmonized System-Based Schedule B, Statistical Classification of Domestic and Foreign Commodities Exported from the United States.

2/Source: Harmonized Tariff Schedule of the United States Annotated (2001).

# Appendix.

## General CIR Survey Information, Explanation of General Terms and Historical Note

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### GENERAL

The CIR program has been providing monthly, quarterly, and annual measures of industrial activity for many years. Since 1904, with its cotton and fats and oils surveys, the CIR program has formed an essential part of an integrated statistical system involving the quinquennial economic census, manufacturing sector, and the annual survey of manufactures. The CIR surveys, however, provide current statistics at a more detailed product level than either of the other two statistical programs.

The primary objective of the CIR program is to produce timely, accurate data on production and shipments of selected products. The data are used to satisfy economic policy needs and for market analysis, forecasting, and decision making in the private sector. The product-level data generated by these surveys are used extensively by individual firms, trade associations, and market analysts in planning or recommending marketing and legislative strategies, particularly if their industry is significantly affected by foreign trade. Although production and shipments information are the two most common data items collected, the CIR program collects other measures also such as inventories, orders, and consumption. These surveys measure manufacturing activity in important commodity areas such as textiles and apparel, chemicals, primary metals, computer and electronic components, industrial equipment, aerospace equipment, and consumer goods.

The CIR program uses a unified data collection, processing, and publication system. The U.S. Census Bureau updates the survey panels for most reports annually and reconciles the estimates to the results of the broader-based annual survey of manufactures and the economic census, manufacturing sector. The manufacturing sector provides a complete list of all producers of the products covered by the CIR program and serves as the primary source for CIR sampling. Where a small number of producers exist, CIR surveys cover all known producers of a product. However, when the number of producers is too large, cutoff and random sampling techniques are used. Surveys are continually reviewed and modified to provide the most up-to-date information on products produced. The CIR program includes a group of mandatory and voluntary surveys. Typically the monthly and quarterly surveys are conducted on a voluntary basis. Those companies that choose not to respond to the voluntary surveys are required to submit a mandatory annual counterpart corresponding to the more frequent survey.

### NORTH AMERICAN INDUSTRY CLASSIFICATION SYSTEM (NAICS), 1997

The adoption of the North American Industry Classification System (NAICS) in the 1997 Economic Census has had a major impact on the comparability of current and historic data. Approximately half of the industries in the manufacturing sector of NAICS do not have comparable industries in the Standard Industrial Classification (SIC) system that was used in the past.

While most of the change affecting the manufacturing sector was change within the sector, some industries left manufacturing and others came into manufacturing. Prominent among those that left manufacturing are logging and portions of publishing. Prominent among the industries that came into the manufacturing sector are bakeries, candy stores where candy is made on the premises, custom tailors, makers of custom draperies, and tire retreading. The net effect of the classification changes are such that if the 1997 value of shipments data for all manufacturers were tabulated on an SIC basis, it would be approximately 3 percent higher.

Listed below are the NAICS sectors:

- 21 Mining
- 22 Utilities
- 23 Construction
- 31-33 Manufacturing
- 42 Wholesale Trade
- 44-45 Retail Trade
- 48-49 Transportation and Warehousing
- 51 Information
- 52 Finance and Insurance
- 53 Real Estate and Rental and Leasing
- 54 Professional, Scientific, and Technical Services
- 55 Management of Companies and Enterprises
- 56 Administrative and Support and Waste Management and Remediation Services
- 61 Educational Services
- 62 Health Care and Social Assistance
- 71 Arts, Entertainment, and Recreation
- 72 Accommodation and Food Services
- 81 Other Services (except Public Administration)

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

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

## FUNDING

The Census Bureau funds most of the surveys. However, a number of surveys are paid for either fully or partially by other Federal Government agencies or private trade associations. A few surveys are mandated, but all are authorized by Title 13 of the United States Code.

## RELIABILITY OF DATA

Survey error may result from several sources including the inability to obtain information about all cases in the survey, response errors, definitional difficulties, differences in the interpretation of questions, mistakes in recording or coding the reported data, and other errors of collection, response, coverage, and estimation. These nonsampling errors also occur in complete censuses. Although no direct measurement of the biases due to these nonsampling errors has been obtained, precautionary steps were taken in all phases of the collection, processing, and tabulation of the data in an effort to minimize their influence.

A major source of bias in the published estimates is the imputing of data for nonrespondents, for late reporters, and for data that fail logic edits. Missing figures are imputed based on period-to-period movements shown by reporting firms. A figure is considered to be an impute if the value was not directly reported on the questionnaire, directly derived from other reported items, directly available from supplemental sources, or obtained from the respondent during the analytical review phase. Imputation generally is limited to a maximum of 10 percent for any one data cell. Figures with imputation rates greater than 10 percent are suppressed or footnoted. The imputation rate is not an explicit indicator of the potential error in published figures due to nonresponse, because the actual yearly movements for nonrespondents may or may not closely agree with the imputed movements. The range of difference between the actual and imputed figures is assumed to be small. The degree of uncertainty regarding the accuracy of the published data increases as the percentage of imputation increases. Figures with imputation rates above 10 percent should be used with caution.

## DATA REVISIONS

Statistics for previous years may be revised as the result of corrected figures from respondents, late reports for which imputations were originally made, or other corrections. Data that have been revised by more than 5 percent from previously published data are indicated by footnotes.

## DISCLOSURE

The Census Bureau collects the CIR data under the authority of Title 13, United States Code, which specifies that the information can only be used for statistical purposes and cannot be published or released in any manner that would identify a person, household, or establishment. "D" indicates that data in the cell have been suppressed to avoid disclosure of information pertaining to individual companies.

## EXPLANATION OF GENERAL TERMS

**Capacity.** The maximum quantity of a product that can be produced in a plant in 1 day if operating for 24 hours. Includes the capacity of idle plants until the plant is reported to be destroyed, dismantled, or abandoned.

**Consumption.** Materials used in producing or processing a product or otherwise removing the product from the inventory.

**Exports.** Includes all types of products shipped to foreign countries, or to agents or exporters for reshipment to foreign countries.

**Gross shipments.** The quantity or value of physical shipments from domestic establishments of all products sold, transferred to other establishments of the same company, or shipped on consignment, whether for domestic or export sale or use. Shipments of products purchased for resale are omitted. Shipments of products made under toll arrangements are included.

**Interplant transfers.** Shipments to other domestic plants within a company for further assembly, fabrication, or manufacture.

**Inventories.** The quantity or value of finished goods, work in progress, and materials on hand.

**Machinery in place.** The number of machines of a particular type in place as of a particular date whether the machinery was used for production, prototype, or sampling, or was idle. Machinery in place includes all machinery set up in operating positions.

**Net receipts.** Derived by subtracting the materials held at the end of the previous month from the sum of materials used during the current month.

**Production.** The total volume of products produced, including: products sold; products transferred or added to inventory after adjustments for breakage, shrinkage, and obsolescence, plus any other inventory adjustment; and products that undergo further manufacture at the same establishment.

**Quantities produced and consumed.** Quantities of each type of product produced by a company for internal consumption within that same company.

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**Quantity and value of new orders.** The sales value of orders received during the current reporting period for products and services to be delivered immediately or at some future date. Also represents the net sales value of contract change documents that increase or decrease the sales value of the orders to which they are related, when the parties concerned are in substantial agreement as to the amount involved. Included as orders are only those that are supported by binding legal documents such as signed contracts or letter contracts.

**Quantity and value of shipments.** The figures on quantity and value of shipments represent physical shipments of all products sold, transferred to other establishments of the same company, or shipped on consignment, whether for domestic or export sale. The value represents the net sales price, f.o.b. plant, to the customer or branch to which the products are shipped, net of discounts, allowances, freight charges, and

returns. Shipments to a company's own branches are assigned the same value as comparable appropriate allocation of company overhead and profit. Products bought and resold without further manufacture are excluded.

**Stocks.** Total quantity of ending finished inventory.

**Unfilled orders (backlog).** Calculated by adding net new orders and subtracting net sales from the backlog at the end of the preceding year.

#### **HISTORICAL NOTE**

Data on internal combustion engines have been collected by the Census Bureau since 1943. Historical data may be obtained from Current Industrial Reports (called Facts for Industry before 1959) available at your local Federal Depository Library.