

16 DETAILED COST OF MATERIALS, PARTS, AND SUPPLIES

General - The materials, parts, and supplies listed below are those commonly consumed in the manufacture, processing, or assembly of the products listed in **2**. Please review the entire list and report separately each item consumed. Leave blank if you do not consume the item. If you use materials, parts, and supplies that are not listed, describe and report them in the "Cost of all other materials . . ." at the end of this section. If you consumed less than \$25,000 of a listed material, include the value with "Cost of all other materials . . ." Census material code 009700 99 8.

Report materials, parts, and supplies purchased, transferred from other plants of your company, or withdrawn from inventory.

If quantities are requested, please use the unit of measure specified.

If the information as requested cannot be taken directly from your book records, REASONABLE ESTIMATES ARE ACCEPTABLE.

Valuation of Materials Consumed - The value of the materials, etc., consumed should be based on the delivered cost; i.e., the amount paid or payable after discounts and including freight and other direct charges incurred in acquiring the materials.

Materials received from other plants within your company should be reported at their full economic value (the value assigned by the shipping plant, plus the cost of freight and other handling charges).

If purchases or transfers do not differ significantly from the amount actually put into production, you may report the cost of purchases or transfers. However, if consumption differs significantly from the amounts purchased or transferred, these amounts should be adjusted for changes in the materials and supplies inventories by adding the beginning inventory to the amount purchased or transferred and subtracting ending inventory.

Contract Work - Include all materials consumed those you purchased for use by others making products for you under contract. Amounts paid to the companies doing the contract work should be reported in **15**, line A5, and should include freight in and out. On the other hand, materials owned by others but used at this establishment in making products for others under contract or on commission should be excluded.

Resales - Cost for products bought and sold or transferred from other establishments of your company and sold without further manufacture, processing, or assembly should be reported in **15**, line A2, not in **16**. The value of these products shipped by this establishment should be reported in **2** under Census product code 000999 8900 6, "Resales."

INFORMATION COPY
DO NOT USE TO REPORT

Line No.	Materials, parts, and supplies	Census material code	Consumption of purchased materials and of materials received from other establishments of your company		
			Cost, including delivery cost (freight-in)		
			\$ Bil.	Mil.	Thou.
0634		0630	0631		
1	Fluid power products (hydraulic and pneumatic)				
	Pumps, motors, and hydrostatic transmissions	333996 01 5			
2	Cylinders and rotary actuators	333995 01 7			
3	Filters	333999 01 9			
4	Hose or tube fittings and assemblies	332912 03 9			
5	Valves	332912 07 0			
	Fabricated metal products (excluding castings and forgings)				
6	Bolts, nuts, screws, washers, rivets, and other screw machine products	332722 03 2			
7	Other fabricated metal products, excluding fluid power products	332000 63 7			
8	Forgings	332100 01 5			
	Castings (rough and semifinished)				
9	Iron and steel	331510 01 6			
10	Nonferrous (aluminum, copper, etc.)	331520 11 4			

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If not shown, please enter your 11-digit Census File Number (CFN) from the mailing address.

16 DETAILED COST OF MATERIALS, PARTS, AND SUPPLIES - Continued

Line No.	Materials, parts, and supplies	Census material code	Consumption of purchased materials and of materials received from other establishments of your company		
			Cost, including delivery cost (freight-in)		
			\$ Bil.	Mil.	Thou.
0634		0630	0631		
	Shapes and forms (excluding castings, forgings, and fabricated metal products)				
	Steel				
11	Bars, bar shapes, and plate	331200 07 1			
12	Sheet and strip	331200 17 0			
13	Structural shapes	331200 69 1			
14	All other steel shapes and forms	331200 91 5			
15	Nonferrous shapes and forms (including copper and copper-base alloy and aluminum and aluminum-base)	331000 AJ 9			
	Electric motors and generators				
	Fractional horsepower electric motors (less than 1 hp)				
16	Timing motors, synchronous and subsynchronous	335312 09 6			
17	Other fractional horsepower electric motors (less than 1 hp) (excluding timing motors)	335312 17 9			
18	Integral horsepower motors and generators (1 hp or more)	335312 21 1			
19	Electrical transmission, distribution, and control equipment	001900 B1 6			
20	Electrical industrial capacitors, resistors, rheostats, and coil windings	335000 07 1			
21	Electrical instrument mechanisms and meter movements (including instrument relays)	334515 01 2			
22	Numerical controls for metalworking machinery (excluding programmable)	335314 09 2			
23	Programmable controllers for metalworking machinery	335314 11 8			
	Bearings (mounted or unmounted)				
24	Ball	332991 05 8			
25	Roller	332991 03 3			
26	Speed changers, gears, and industrial high-speed drives	333612 00 0			
27	Wood boxes, pallets, skids, and containers	321920 01 9			
28	Cutting tools for machine tools	333515 03 9			
29	Printed circuit assemblies, loaded boards or modules (printed circuit boards with inserted electronic components)	001900 C4 9			

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16 DETAILED COST OF MATERIALS, PARTS, AND SUPPLIES - Continued					
Line No.	Materials, parts, and supplies	Census material code	Consumption of purchased materials and of materials received from other establishments of your company		
			Cost, including delivery cost (freight-in)		
			\$ Bil.	Mil.	Thou.
0634		0630	0631		
30	Printed circuit boards (without inserted components) for electronic circuitry	334412 00 4			
31	Semiconductors, including transistors, diodes, rectifiers, and integrated circuits for electronic circuitry	334413 00 2			
32	Other components and accessories for electronic circuitry, nec, excluding tubes	001900 D3 0			
33	Paper and paperboard containers, including shipping sacks and other paper packaging supplies	322200 17 1			
34	Fabricated plastics products (excluding gaskets, hoses, and belting)	326100 07 0			
35	Optical instruments and lenses (excluding sighting, tracking, and fire control)	333314 01 1			
36	Electronic computing equipment	334100 01 3			
37	Electronic communication equipment	334220 01 9			
38	Cost of all other materials and components, parts, containers, and supplies consumed (Specify the principal materials, etc. included in this value.) (See instruction 5 regarding machine tool subassemblies and knockdowns)	009700 99 8			
39	TOTAL (Should equal total reported in 15, line A1)	771000 00 7			

17-21 Not Applicable.

22 DETAIL OF SALES, SHIPMENTS, RECEIPTS, OR REVENUE

General - The manufactured products and services listed below are generally made in your industry. If you make products that are not listed, describe and report them in the "All other products made in this establishment" section at the end of 2. PLEASE DO NOT COMBINE PRODUCT LINES.

If quantities are requested, please use the unit of measure specified.

If the information as requested cannot be taken directly from your book records, REASONABLE ESTIMATES ARE ACCEPTABLE.

Valuation of Products - Report the value of the products shipped and services performed at the net selling value, f.o.b. plant to the customer; i.e., after discounts and allowances, and exclusive of freight charges and excise taxes.

If you transfer products to other establishments within your company, you should assign the full economic value to the transferred products; i.e., include all direct costs of production and a reasonable proportion of all other costs and profits.

Contract Work - Report PRODUCTS MADE BY OTHERS FOR YOU FROM YOUR MATERIALS on the specific lines as if they were made in this establishment. On the other hand, do not report on the specific product lines PRODUCTS THAT YOU MADE FROM MATERIALS OWNED BY OTHERS. Report only the amount that you received for "commission or contract receipts" under Census code 000930 0000 8.

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If not shown, please enter your 11-digit Census File Number (CFN) from the mailing address.

22 DETAIL OF SALES, SHIPMENTS, RECEIPTS, OR REVENUE - Continued

Resales - Do not report on the specific product lines those PRODUCTS BOUGHT AND SOLD OR TRANSFERRED FROM OTHER ESTABLISHMENTS OF YOUR COMPANY AND SOLD WITHOUT FURTHER MANUFACTURE. Report only a value under Census code 000999 8900 6, "Resales."

Machine Tool Subassemblies and Knockdowns - Report the sale of purchased machine tool subassemblies and knockdowns under Census product code 000999 8900 6, "Resales," (line 76).

Detailed Data Reported Elsewhere - Items denoted by an asterisk (*) require totals for groups of products covered in the more frequent Current Industrial Reports (CIR). If you report on the CIR form, the sum of the detailed products should equal the total reported on this form.

NOTE: Only totals are requested; do not duplicate detail reported on the CIR.

Line No.	Products and services *Items correspond to products reported on Current Industrial Reports (CIR)	Census product code	Products shipped and other receipts		
			Value, f.o.b. plant		
			\$ Bil.	Mil.	Thou.
	0734	0730	0731		
1	Boring machines (excluding machining centers) and drilling machines (excluding machining centers) (Corresponds to the value of shipments reported on CIR Form MQ333W, Metalworking Machinery, for 2002, item codes 1110 - 1265)*	333512 A100 9			
2	Gear-cutting machines (Corresponds to the value of shipments reported on CIR Form MQ333W, Metalworking Machinery, for 2002, item code 1991)*	333512 1100 9			
3	Grinding, polishing, buffing, honing, and lapping machines, except gear-tooth grinding, lapping, polishing, and buffing machines (Corresponds to the value of shipments reported on CIR Form MQ333W, Metalworking Machinery, for 2002, item codes 2010 - 2740.)*	333512 2100 8			
4	Lathes (turning machines) numerically and nonnumerically controlled (Corresponds to the value of shipments reported on CIR Form MQ333W, Metalworking Machinery, for 2002, item codes 2801 - 3102)*	333512 3100 7			
5	Milling machines (excluding machining centers) (Corresponds to the value of shipments reported on CIR Form MQ333W, Metalworking Machinery, for 2002, item codes 3309 - 3675.)*	333512 4100 6			
6	Machining centers (multifunction numerically controlled machines) (Corresponds to the value of shipments reported on CIR Form MQ333W, Metalworking Machinery, for 2002, item codes 3721 - 3736)*	333512 7100 3			
7	Station type machines (Corresponds to the value of shipments reported on CIR Form MQ333W, Metalworking Machinery, for 2002, item codes 3821 - 3825)*	333512 8100 2			
8	Other metal cutting machine tools (except those designed primarily for home workshops, laboratories, garages, etc.) (Corresponds to the value of shipments reported on CIR Form MQ333W, Metalworking Machinery, for 2002, item codes 3840 - 4630.)*	333512 9100 1			
9	Machine tools designed primarily for home workshops, laboratories, garages, etc. (metalworking and primarily metalworking only) Drilling machines	333512 5101 3			
10	Grinding and polishing machines (including crankshaft regrinding and valve grinding machines)	333512 5106 2			
11	Sawing and cut-off machines	333512 5116 1			
12	Other metalworking (or primarily metalworking) types (including automotive cylinder reboring machines and lathes) (Specify kind.) ↘	333512 5199 7			

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22 DETAIL OF SALES, SHIPMENTS, RECEIPTS, OR REVENUE - Continued					
Line No.	Products and services *Items correspond to products reported on Current Industrial Reports (CIR)	Census product code	Products shipped and other receipts		
			Value, f.o.b. plant		
			\$ Bil.	Mil.	Thou.
0734		0730	0731		
	Parts for metal cutting type machine tools, sold separately, rebuilt metal cutting type machine tools, and remanufactured metal cutting machine tools				
13	Parts for metal cutting machine tools	333512 6101 2			
14	Rebuilt metal cutting type machine tools (includes machines returned to same configuration they were in when new from factory)	333512 6107 9			
15	Remanufactured metal cutting type machine tools (includes machines in which the original carcass is reused and all possible modern improvements have been incorporated) (Corresponds to the value of shipments reported on CIR Form MQ333W, Metalworking Machinery, for 2002, item code 4700)*	333512 6111 1			
16	Punching and shearing machines (including power and manual) and bending and forming machines (power only) (Corresponds to the value of shipments reported on CIR Form MQ333W, Metalworking Machinery, for 2002, item codes 5009 - 5270.)*	333513 1100 7			
17	Metalworking presses (except forging and die-stamping presses) (Corresponds to the value of shipments reported on CIR Form MQ333W, Metalworking Machinery, for 2002, item codes 5409 - 6305)*	333513 3100 5			
18	Other metal forming machine tools, including forging and die-stamping machines (except metalworking presses) (Corresponds to the value of shipments reported on CIR Form MQ333W, Metalworking Machinery, for 2002, item codes 6405 - 7173.)*	333513 5100 3			
	Parts for metal forming machine tools, sold separately, rebuilt metal forming machine tools, and remanufactured metal forming machine tools				
19	Parts for die-casting machines	333513 7101 9			
20	Other parts for metal forming machine tools	333513 7111 8			
21	Rebuilt metal forming machine tools (includes machines returned to same configuration they were in when new from factory)	333513 7117 5			
22	Remanufactured metal forming machine tools (includes machines in which the basic carcass is reused and all possible modern improvements have been incorporated) (Corresponds to the value of shipments reported on CIR Form MQ333W, Metalworking Machinery, for 2002, item code 7200)*	333513 7121 7			
23	Hot rolling mill machinery (including combination hot and cold) (except tube rolling)	333516 1100 0			
	Cold rolling mill machinery				
24	Tandem roll mills	333516 3101 6			
25	Single stand roll mills	333516 3106 5			
	Other cold rolling mill machinery and equipment (<i>Specify kind.</i>) ↴				
26		333516 3191 7			

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22 DETAIL OF SALES, SHIPMENTS, RECEIPTS, OR REVENUE - Continued

Line No.	Products and services *Items correspond to products reported on Current Industrial Reports (CIR)	Census product code	Products shipped and other receipts			
			Value, f.o.b. plant			
			\$ Bil.	Mil.	Thou.	
	0734	0730	0731			
27	Other rolling mill machinery (including tube mill machinery) and parts for all rolling mill machinery Tube mill machinery	333516 5101 4				
28	Processing lines (including pickling and cleaning, tinning, galvanizing, etc.), scarfing units, and press feed lines	333516 5106 3				
29	Other rolling mill machinery and equipment (except parts) (Specify kind.) ↴ _____	333516 5111 3				
30	Machined rolls for rolling mills	333516 5116 2				
31	Parts (except rolls) for rolling mill machinery, sold separately	333516 5121 2				
32	Assembly machines Rotary transfer (dial or rotary, trunnion, center column)	333518 1101 4				
33	Inline transfer, synchronous	333518 1206 1				
34	Inline transfer, nonsynchronous	333518 1311 9				
35	Special-purpose and other types (Specify kind.) ↴ _____	333518 1416 6				
36	Parts and attachments for assembly machines (sold separately)	333518 1521 3				
37	Industrial robots, attachments, and parts	333999 8109 2				
38	Other metalworking machinery (except handheld and ultrasonic) Machines for weaving and other wire fabricating and wiredrawing machines and draw benches Draw benches and wiredrawing machines (except dies)	333518 3101 2				
39	Wire rope or wire cable making machines (Specify kind.) ↴ _____	333518 3106 1				
40	Other machines for working wire (Specify kind.) ↴ _____	333518 3111 1				

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22 DETAIL OF SALES, SHIPMENTS, RECEIPTS, OR REVENUE - Continued

Line No.	Products and services *Items correspond to products reported on Current Industrial Reports (CIR)	Census product code	Products shipped and other receipts		
			Value, f.o.b. plant		
			\$ Bil.	Mil.	Thou.
	0734	0730	0731		
	Other metalworking machinery (except handheld and ultrasonic) - Continued				
	Coil handling equipment (conversion or straightening)				
41	Cut-to-length lines	333518 3116 0			
42	Slitting lines	333518 3121 0			
	Other metalworking machinery (Specify kind.) ↴				
43		333518 3126 9			
44	Parts and attachments for other metalworking machinery (sold separately)	333518 3131 9			
	Special dies and tools, die sets, jigs, and fixtures				
	Jigs and fixtures, all types				
	Gauging and checking types				
45	Less than 1,000 lb weight	333514 0101 4			
46	1,000 lb weight or more	333514 0103 0			
	All other jigs and fixtures (holding, positioning, layout, assembly, etc.)				
	Less than 1,000 lb weight				
47	Work-holding fixtures	333514 0109 7			
48	Other than work-holding fixtures	333514 0106 3			
49	1,000 lb weight or more	333514 0112 1			
	Metalworking forming and drawing dies, all sizes				
	Forming and drawing dies				
50	500 lb weight or less	333514 0321 8			
51	501 to 3,000 lb weight	333514 0326 7			
52	More than 3,000 lb weight	333514 0332 5			
	Metalworking stamping, forging, extrusion, wiredrawing, and straightening dies				
	Stamping dies (including lamination and blanking), progressive type				
53	High-speed steel	333514 0535 3			
54	Carbide	333514 0538 7			
	Other (Specify kind.) ↴				
55		333514 0429 9			

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22 DETAIL OF SALES, SHIPMENTS, RECEIPTS, OR REVENUE - Continued

Line No.	Products and services *Items correspond to products reported on Current Industrial Reports (CIR)	Census product code	Products shipped and other receipts		
			Value, f.o.b. plant		
			\$ Bil.	Mil.	Thou.
	0734	0730	0731		
	Special dies and tools, die sets, jigs, and fixtures - Continued				
56	All other metalworking dies, including lamination and blanking dies (punch, trim, notch, pierce, perforate, etc.)	333514 0423 2			
57	Industrial models and prototypes	333514 0878 7			
58	Other specially designed tooling (Specify kind.) ↴ 	333514 0981 9			
	Work holding devices				
59	Rotary tables, including numerically controlled	333515 3146 3			
60	Indexing work holders, excluding rotary tables	333515 3152 1			
61	Collets, jaws, vises	333515 3154 7			
62	Other than collets, jaws, or vises such as mandrels, feeding fingers clamps, stops, etc.	333515 3166 1			
63	Receipts for machine shop job work and job order repairs	332710 0100 1			
64	All other products made in this establishment - Specify and report each product with sales value of \$50,000 or more that cannot be assigned to one of the "listed products and services". For all remaining products, write "Other" and report a single total value.	18			
65		26			
66		34			
67		42			
68		59			
69		67			
70	Contract work - Receipts for work done for others on their materials (Specify products worked on and kind of work.) ↴ 	000930 0000 8			
71	Miscellaneous receipts Sales of scrap and refuse	000999 8013 8			
72	Receipts for installation (or construction) of products of this establishment	000999 8031 0			

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22 DETAIL OF SALES, SHIPMENTS, RECEIPTS, OR REVENUE - Continued

Line No.	Products and services *Items correspond to products reported on Current Industrial Reports (CIR)	Census product code	Products shipped and other receipts		
			Value, f.o.b. plant		
			\$ Bil.	Mil.	Thou.
0734		0730	0731		
	Miscellaneous receipts - Continued				
73	Receipts for research and developmental work	000999 8041 9			
74	Receipts for repair work	000999 8061 7			
75	Other miscellaneous receipts	000999 8098 9			
76	Resales - Sales of products bought and sold without further manufacture, processing, or assembly (The cost of such items should be reported in 15, line A2.)	000999 8900 6			
77	TOTAL (Should equal 4, line A)	770000 0000 8			

23-27 Not Applicable.



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28 ESTABLISHMENT ACTIVITIES

A. Indicate activities that were performed by this establishment or were performed for this establishment by another company during 2002.
(Mark "X" ALL that apply.)

This activity was performed -			
By this establishment	By another establishment of this company	By another company	Not at all
0921 <input type="checkbox"/>	8071 <input type="checkbox"/>	0941 <input type="checkbox"/>	0961 <input type="checkbox"/>
1. Product design/engineering			
2. Order fulfillment			
0923 <input type="checkbox"/>	8072 <input type="checkbox"/>	0943 <input type="checkbox"/>	0963 <input type="checkbox"/>
a. Bundling or kitting (combining multiple items into a prepackaged product)			
0924 <input type="checkbox"/>	8073 <input type="checkbox"/>	0944 <input type="checkbox"/>	0964 <input type="checkbox"/>
b. Pick and pack (taking goods from inventory and packaging them to fill orders).			
0925 <input type="checkbox"/>	8074 <input type="checkbox"/>	0945 <input type="checkbox"/>	0965 <input type="checkbox"/>
c. Warehousing of finished products			
0926 <input type="checkbox"/>	8075 <input type="checkbox"/>	0946 <input type="checkbox"/>	0966 <input type="checkbox"/>
d. Breaking bulk (reducing large shipments into smaller portions for customers)			
0927 <input type="checkbox"/>	8076 <input type="checkbox"/>	0947 <input type="checkbox"/>	0967 <input type="checkbox"/>
e. Local delivery (within a city, town, or other local area, including adjoining towns and suburban areas)			
0928 <input type="checkbox"/>	8077 <input type="checkbox"/>	0948 <input type="checkbox"/>	0968 <input type="checkbox"/>
f. Long distance delivery (beyond local areas and commercial zones)			
0932 <input type="checkbox"/>	8078 <input type="checkbox"/>	0952 <input type="checkbox"/>	0972 <input type="checkbox"/>
g. Processing of returned merchandise			

B. During 2002 did this establishment:

- 1. Manage inventory owned by this establishment AND held at this location? 0936 Yes 0937 No
- 2. Manage inventory owned by this establishment BUT held at a customer's location?. 0956 Yes 0957 No
- 3. Manage inventory owned by another company BUT held at this location? 0976 Yes 0977 No
- 4. Manage inventory owned by another company AND held somewhere other than at this location?. 0994 Yes 0995 No
- 5. Contract with another firm for any of your production using materials owned by this location? 8041 Yes 8042 No
- 6. Send any partially completed products to a foreign facility for processing that were then returned to this establishment for completion? 8044 Yes 8045 No
- 7. Manufacture products for a government to their specifications? 8047 Yes 8048 No
- 8. Manufacture products for another business to their specifications? 8016 Yes 8017 No
- 9. Manufacture products for a final retail customer to their specifications? 8060 Yes 8062 No



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29 OPERATIONAL STATUS

Activity that best describes this establishment's status at the end of 2002
(Mark "X" only ONE box.)

0011 <input type="checkbox"/> In operation	0013 <input type="checkbox"/> Temporarily or seasonally inactive							
0012 <input type="checkbox"/> Under construction, development, or exploration	0014 <input type="checkbox"/> Ceased operation - Give date at right →	0018 <table border="1"> <tr> <th>Month</th> <th>Day</th> <th>Year</th> </tr> <tr> <td> </td> <td> </td> <td> </td> </tr> </table>	Month	Day	Year			
Month	Day	Year						
	0015 <input type="checkbox"/> Sold or leased to another operator - Give date at right AND enter new name and mailing address below ↴	→						

0060 Name of new owner or operator	0061 Employer Identification Number		
	Enter EIN of new owner (9 digits) →		-
0062 Mailing address (number and street, P.O. Box, etc.)			
0063 City, town, village, etc.	0064 State	0065 ZIP Code	
			-

Remarks (Please use this space for any explanations that may be essential in understanding your reported data.)

30 CERTIFICATION - This report is substantially accurate and was prepared in accordance with the instructions.

Is the time period covered by this report a calendar year?						
0078 <input type="checkbox"/> Yes	0079 <input type="checkbox"/> No - Enter time period covered →	FROM	Month	Year	TO	Month
		0070			0071	
0072 Name of person to contact regarding this report				0073 Title		
Telephone	Area code	Number	Extension	Fax	Area code	Number
0074		-		0075		-
0076 Internet e-mail address				Date completed	Month	Day
				0069		

Thank you for completing your 2002 Economic Census form.
PLEASE PHOTOCOPY THIS FORM FOR YOUR RECORDS AND RETURN THE ORIGINAL.

33319187