

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

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

Industry and year <sup>1</sup>	Com- panies <sup>2</sup>	All estab- lish- ments <sup>3</sup>	All employees		Production workers			Value added (\$1,000)	Total cost of materials (\$1,000)	Total value of shipments (\$1,000)	Total capital expendi- tures (\$1,000)	
			Number <sup>4</sup>	Payroll (\$1,000)	Number <sup>4</sup>	Hours (1,000)	Wages (\$1,000)					
336412, Aircraft engine and engine parts manufacturing .....	2002..	297	412	72 284	4 113 338	40 571	82 995	1 934 940	12 358 820	11 629 474	24 246 374	'829 653
	2001..	N	N	79 914	4 522 857	47 352	94 016	2 115 547	14 093 813	13 566 069	27 490 309	895 672
	2000..	N	N	81 961	4 503 839	47 153	94 732	2 014 505	12 633 195	12 430 469	25 124 669	695 490
	1999..	N	N	85 111	4 520 839	49 642	99 084	1 985 607	11 724 627	12 040 018	24 343 001	787 085
	1998..	N	N	84 617	4 292 039	49 398	103 820	2 034 279	12 959 853	12 031 522	24 868 538	733 431
	1997..	281	372	84 373	4 298 767	49 122	100 963	1 971 070	11 679 669	11 437 209	22 859 270	679 800

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

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

<sup>3</sup>Includes establishments with payroll at any time during the year.

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

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

**Table 2. Industry Statistics for Selected States: 2002**

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

Industry and geographic area	All establishments <sup>2</sup>		All employees		Production workers			Value added (\$1,000)	Total cost of materials (\$1,000)	Total value of shipments (\$1,000)	Total capital expenditures (\$1,000)	
	E <sup>1</sup>	Total	With 20 employees or more	Number <sup>3</sup>	Payroll (\$1,000)	Number <sup>3</sup>	Hours (1,000)					Wages (\$1,000)
<b>336412, Aircraft engine and engine parts manufacturing</b>												
United States .....	—	412	249	72 284	4 113 338	40 571	82 995	1 934 940	12 358 820	11 629 474	24 246 374	1829 653
Arizona .....	—	28	15	5 577	311 891	2 411	4 481	92 123	2 001 386	963 015	2 992 104	140 829
Florida .....	5	27	15	1 833	79 016	1 067	2 685	45 131	163 140	149 683	325 763	18 450
Georgia .....	—	9	8	1 948	64 559	1 594	3 114	47 435	236 711	138 952	369 543	5 977
Indiana .....	—	14	10	5 815	393 023	2 710	5 111	166 848	1 132 221	603 050	1 749 387	133 689
Michigan .....	—	21	16	3 160	152 629	2 169	3 315	93 342	276 271	185 862	463 075	29 241
New York .....	2	19	13	2 846	120 014	1 910	4 184	69 377	259 019	171 714	430 024	17 955
Pennsylvania .....	—	9	6	1 211	57 477	794	1 605	32 509	79 571	202 294	281 584	5 365

<sup>1</sup>Some payroll and sales data for small single-establishment companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate statistics for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at the time data were tabulated. The following symbols are shown where estimated data account for 10 percent or more of the figures shown: 1–10 to 19 percent; 2–20 to 29 percent; 3–30 to 39 percent; 4–40 to 49 percent; 5–50 to 59 percent; 6–60 to 69 percent; 7–70 to 79 percent; 8–80 to 89 percent; 9–90 percent or more.

<sup>2</sup>Includes establishments with payroll at any time during the year.

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

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

**Table 3. Detailed Statistics by Industry: 2002**

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

Item	Value
<b>336412, Aircraft engine and engine parts manufacturing</b>	
Companies <sup>1</sup> .....	number.. 297
All establishments <sup>2</sup> .....	number.. 412
Establishments with 1 to 19 employees .....	number.. 162
Establishments with 20 to 99 employees .....	number.. 119
Establishments with 100 employees or more .....	number.. 130
All employees <sup>3</sup> .....	number.. 72 284
Total compensation .....	\$1,000.. 5 398 771
Annual payroll .....	\$1,000.. 4 113 338
Total fringe benefits .....	\$1,000.. 1 285 433
Production workers, average for year .....	number.. 40 571
Production workers on March 12 .....	number.. 39 760
Production workers on May 12 .....	number.. 41 378
Production workers on August 12 .....	number.. 40 875
Production workers on November 12 .....	number.. 40 210
Production worker hours .....	1,000.. 82 995
Production worker wages .....	\$1,000.. 1 934 940
Total cost of materials .....	\$1,000.. 11 629 474
Materials, parts, containers, packaging, etc., used .....	\$1,000.. 9 713 736
Resales .....	\$1,000.. 1 038 137
Purchased fuels .....	\$1,000.. 53 074
Purchased electricity .....	\$1,000.. 130 001
Contract work .....	\$1,000.. 694 526
Quantity of electricity purchased for heat and power .....	1,000 kWh.. 2 173 419
Quantity of electricity generated less sold for heat and power .....	1,000 kWh.. 205 473
Total value of shipments .....	\$1,000.. 24 246 374
Primary products value of shipments .....	\$1,000.. 20 616 800
Secondary products value of shipments .....	\$1,000.. 2 547 420
Total miscellaneous receipts .....	\$1,000.. 1 082 154
Value of resales .....	\$1,000.. 1 057 767
Contract receipts .....	\$1,000.. 12 729
Other miscellaneous receipts .....	\$1,000.. 11 658
Primary products specialization ratio .....	percent.. 89
Value of primary products shipments made in all industries .....	\$1,000.. 21 267 717
Value of primary products shipments made in this industry .....	\$1,000.. 20 616 800
Value of primary products shipments made in other industries .....	\$1,000.. 650 917
Coverage ratio .....	percent.. 97
Value added .....	\$1,000.. 12 358 820
Total inventories, beginning of year .....	\$1,000.. 3 205 424
Finished goods inventories .....	\$1,000.. 1 169 432
Work-in-process inventories .....	\$1,000.. 1 515 626
Materials and supplies inventories .....	\$1,000.. 520 366
Total inventories, end of year .....	\$1,000.. 3 083 230
Finished goods inventories .....	\$1,000.. 1 026 246
Work-in-process inventories .....	\$1,000.. 1 400 732
Materials and supplies inventories .....	\$1,000.. 656 252
Gross value of depreciable assets (acquisition costs) at beginning of year .....	\$1,000.. '6 813 093
Total capital expenditures (new and used) .....	\$1,000.. '829 653
Buildings and other structures (new and used) .....	\$1,000.. '101 700
Machinery and equipment (new and used) .....	\$1,000.. '727 953
Automobiles, trucks, etc., for highway use .....	\$1,000.. '5 675
Computers and peripheral data processing equipment .....	\$1,000.. '69 325
All other expenditures for machinery and equipment .....	\$1,000.. '652 953
Total retirements .....	\$1,000.. '420 859
Gross value of depreciable assets at end of year .....	\$1,000.. '7 221 887
Depreciation charges during year .....	\$1,000.. '433 656
Total rental payments .....	\$1,000.. 118 135
Buildings and other structures .....	\$1,000.. 63 532
Machinery and equipment .....	\$1,000.. 54 603
Total other expenses <sup>4</sup> .....	\$1,000.. 1 165 730
Response coverage ratio <sup>5</sup> .....	percent.. 61
Repair and maintenance services of buildings and/or machinery <sup>4</sup> .....	\$1,000.. 76 128
Communications services <sup>4</sup> .....	\$1,000.. 30 525
Legal services <sup>4</sup> .....	\$1,000.. 115 833
Accounting, auditing, and bookkeeping services <sup>4</sup> .....	\$1,000.. 15 978
Advertising and promotional services <sup>4</sup> .....	\$1,000.. 10 208
Expensed computer hardware and supplies and purchased computer services <sup>4</sup> .....	\$1,000.. 111 569
Refuse removal (including hazardous waste) services <sup>4</sup> .....	\$1,000.. 11 328
Management consulting and administrative services <sup>4</sup> .....	\$1,000.. 279 322
Taxes and license fees <sup>4</sup> .....	\$1,000.. 30 945
All other expenses <sup>4</sup> .....	\$1,000.. 483 893

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

<sup>2</sup>Includes establishments with payroll at any time during the year.

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

<sup>4</sup>Based on 2002 Annual Survey of Manufactures (ASM) sample data.

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

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

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

**Table 4. Industry Statistics by Employment Size: 2002**

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

Employment size class	E <sup>1</sup>	All establishments <sup>2</sup>	All employees		Production workers			Value added (\$1,000)	Total cost of materials (\$1,000)	Total value of shipments (\$1,000)	Total capital expenditures (\$1,000)
			Number <sup>3</sup>	Payroll (\$1,000)	Number <sup>3</sup>	Hours (1,000)	Wages (\$1,000)				
336412, Aircraft engine and engine parts manufacturing											
All establishments .....	-	412	72 284	4 113 338	40 571	82 995	1 934 940	12 358 820	11 629 474	24 246 374	'829 653
Establishments with—											
1 to 4 employees .....	7	83	198	11 393	143	293	8 108	23 267	21 079	44 442	'852
5 to 9 employees .....	6	39	261	13 234	196	388	8 379	34 439	36 555	70 528	'1 884
10 to 19 employees .....	6	41	565	28 210	411	845	17 467	58 386	61 045	120 934	'2 738
20 to 49 employees .....	2	59	1 974	88 610	1 388	2 858	51 630	203 023	159 352	352 126	'15 678
50 to 99 employees .....	-	60	4 405	199 883	3 021	6 094	114 639	373 006	268 397	645 530	'36 292
100 to 249 employees .....	1	81	12 867	621 187	8 462	17 536	355 018	1 346 211	1 882 457	3 222 706	'89 832
250 to 499 employees .....	1	23	7 795	350 619	5 842	12 236	229 450	1 017 672	742 402	1 739 808	'56 030
500 to 999 employees .....	-	17	11 564	570 985	8 588	17 700	384 141	1 606 789	1 869 839	3 547 231	'73 643
1,000 to 2,499 employees .....	-	3	3 590	180 346	2 952	5 051	142 099	398 482	366 332	802 480	'32 742
2,500 employees or more .....	-	6	29 065	2 048 871	9 568	19 994	624 009	7 297 545	6 222 016	13 700 589	'519 962
Administrative records <sup>4</sup> .....	9	110	628	32 143	472	987	19 888	69 207	73 639	142 840	'3 315

<sup>1</sup>Some payroll and sales data for small single-establishment companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate statistics for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at the time data were tabulated. The following symbols are shown where estimated data account for 10 percent or more of the figures shown: 1—10 to 19 percent; 2—20 to 29 percent; 3—30 to 39 percent; 4—40 to 49 percent; 5—50 to 59 percent; 6—60 to 69 percent; 7—70 to 79 percent; 8—80 to 89 percent; 9—90 percent or more.

<sup>2</sup>Includes establishments with payroll at any time during the year.

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

<sup>4</sup>Some payroll and sales data for small single-establishment companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate statistics for these small establishments. Data are also included in respective size classes shown.

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

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

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

Industry or product class code	Industry or primary product class	All establishments <sup>1</sup>	All employees		Production workers			Value added (\$1,000)	Total cost of materials (\$1,000)	Total value of shipments (\$1,000)	Total capital expenditures (\$1,000)
			Number <sup>2</sup>	Payroll (\$1,000)	Number <sup>2</sup>	Hours (1,000)	Wages (\$1,000)				
336412	Aircraft engine and engine parts manufacturing .....	412	72 284	4 113 338	40 571	82 995	1 934 940	12 358 820	11 629 474	24 246 374	'829 653
3364121	Military aircraft engines (including other aircraft engines built to military specifications) .....	13	1 155	52 585	843	1 737	35 941	138 678	140 563	279 076	'4 585
3364123	Civilian aircraft engines .....	53	30 368	1 945 663	13 235	27 187	733 321	5 222 768	5 168 577	10 583 421	'491 457
3364125	Aeronautical services on aircraft engines .....	32	3 988	209 213	2 904	6 481	135 065	527 675	977 229	1 506 776	'24 384
3364127	Aircraft engine parts and accessories .....	154	34 124	1 772 972	21 639	43 488	950 155	6 204 476	5 073 855	11 321 687	'280 481

<sup>1</sup>Includes establishments with payroll at any time during the year.

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

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

**Table 6a. Products Statistics: 2002 and 1997**

[Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. Data based on the 2002 Economic Census. For information on confidentiality protection, nonsampling error, and explanation of terms, see note 2 at end of table. For meaning of abbreviations and symbols, see introductory text]

Product code	Product	Number of companies with shipments of \$100,000 or more	Quantity of production for all purposes	Product shipments	
				Quantity	Value (\$1,000)
336412	Aircraft engine and engine parts manufacturing .....	2002.. N 1997.. N	X X	X X	21 267 717 20 077 240
3364121	Military aircraft engines (including other aircraft engines built to military specifications) .....	2002.. N 1997.. N	X X	X X	1 805 031 1 714 270
33641211	Military aircraft engines (including other aircraft engines built to military specifications) .....	2002.. N 1997.. N	X X	X X	1 805 031 1 714 270
3364121100	Military aircraft engines (including other aircraft engines built to military specifications) .....	2002.. 27 1997.. 21	X X	X X	1 805 031 1 714 270
3364123	Civilian aircraft engines .....	2002.. N 1997.. N	X X	X X	5 949 864 5 372 076
33641231	Civilian aircraft engines .....	2002.. N 1997.. N	X X	X X	5 949 864 5 372 076
3364123100	Civilian aircraft engines <sup>1</sup> .....	2002.. 56 1997.. 42	X X	X X	5 949 864 5 372 076
3364125	Aeronautical services on aircraft engines .....	2002.. N 1997.. N	X X	X X	3 539 697 3 220 840
33641251	Aeronautical services on aircraft engines .....	2002.. N 1997.. N	X X	X X	3 274 994 3 008 837
3364125101	Research and development work on military aircraft engines (including other aircraft engines built to military specifications) .....	2002.. 8 1997.. 9	X X	X X	D D
3364125104	Research and development work on civilian aircraft engines .....	2002.. 6 1997.. 8	X X	X X	D D
3364125107	All other aeronautical services on military aircraft engines (including other aircraft engines built to military specifications) .....	2002.. 11 1997.. 15	X X	X X	517 319 732 241
3364125111	All other aeronautical services on civilian aircraft engines .....	2002.. 21 1997.. 20	X X	X X	2 394 033 1 513 859
3364125Y	Aeronautical services on aircraft engines, nsk .....	2002.. N 1997.. N	X X	X X	264 703 212 003
3364125YVW	Aeronautical services on aircraft engines, nsk .....	2002.. N 1997.. N	X X	X X	264 703 212 003
3364127	Aircraft engine parts and accessories .....	2002.. N 1997.. N	X X	X X	9 578 838 9 355 897
33641271	Parts and accessories for spark ignition reciprocating and rotary internal combustion military aircraft engines .....	2002.. N 1997.. N	X X	X X	1 044 563 1 880 583
3364127101	Parts and accessories for spark ignition reciprocating and rotary internal combustion military aircraft engines .....	2002.. 34 1997.. 32	X X	X X	1 044 563 1 880 583
33641272	Parts and accessories for other military aircraft engines .....	2002.. N 1997.. N	X X	X X	1 270 675 646 988
3364127204	Parts and accessories for other military aircraft engines .....	2002.. 59 1997.. 67	X X	X X	1 270 675 646 988
33641273	Parts and accessories for spark ignition reciprocating and rotary internal combustion civilian aircraft engines .....	2002.. N 1997.. N	X X	X X	3 270 355 4 158 356
3364127307	Parts and accessories for spark ignition reciprocating and rotary internal combustion civilian aircraft engines .....	2002.. 52 1997.. 59	X X	X X	3 270 355 4 158 356
33641274	Parts and accessories for other civilian aircraft engines .....	2002.. N 1997.. N	X X	X X	3 706 623 2 058 653
3364127411	Parts and accessories for other civilian aircraft engines .....	2002.. 76 1997.. 84	X X	X X	3 706 623 2 058 653
3364127Y	Aircraft engine parts and accessories, nsk .....	2002.. N 1997.. N	X X	X X	286 622 611 317
3364127YVW	Aircraft engine parts and accessories, nsk .....	2002.. N 1997.. N	X X	X X	286 622 611 317
336412W	Aircraft engine and engine parts manufacturing, nsk, total .....	2002.. N 1997.. N	X X	X X	394 287 414 157
336412WY	Aircraft engine and engine parts manufacturing, nsk, total .....	2002.. N 1997.. N	X X	X X	394 287 414 157
336412WYVW	Aircraft engine and engine parts manufacturing, nsk, for nonadministrative-record establishments .....	2002.. N 1997.. N	X X	X X	258 824 364 729
336412WYVY	Aircraft engine and engine parts manufacturing, nsk, for administrative-record establishments .....	2002.. N 1997.. N	X X	X X	135 463 49 428

<sup>1</sup>For additional detail, see Current Industrial Report M336G, Civil Aircraft and Aircraft Engines.

Note 1: For some establishments, data have been estimated from central unit values that are based on quantity-value relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figure: p-10 to 19 percent estimated; q-20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by S.

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

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

[Product classes covered are those that are economically significant and whose production is geographically dispersed, provided dispersion is not approximated by data in Table 2. Also, product classes are not shown if they are miscellaneous or "not specified by kind" classes. Statistics for some states are withheld because they are either less than \$2 million in product class shipments or they disclose data for individual companies in 2002. Data based on the 2002 Economic Census. For information on confidentiality protection, nonsampling error, explanation of terms, and geographic definitions, see note at end of table. For information on geographic areas followed by \*, see Appendix D. For meaning of abbreviations and symbols, see introductory text]

NAICS product class code	Product class and geographic area	Value of product shipments (\$1,000)
3364121	Military aircraft engines (including other aircraft engines built to military specifications)	
	United States .....	2002.. 1 805 031 1997.. 1 714 270
3364123	Civilian aircraft engines	
	United States .....	2002.. 5 949 864 1997.. 5 372 076
	Michigan .....	2002.. 46 048 1997.. 44 576
	Aeronautical services on aircraft engines	
3364125	United States .....	2002.. 3 539 697 1997.. 3 220 840
	Aircraft engine parts and accessories	
3364127	United States .....	2002.. 9 578 838 1997.. 9 355 897
	Arizona .....	2002.. 1 031 664 1997.. 497 197
	Florida .....	2002.. 143 180 1997.. 823 570
	Georgia .....	2002.. 238 669 1997.. 301 296
	Indiana .....	2002.. 508 264 1997.. 485 346
	Michigan .....	2002.. 272 448 1997.. 234 337
	New York .....	2002.. 293 367 1997.. 287 550
	Pennsylvania .....	2002.. 110 073 1997.. 185 737

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

**Table 7. Materials Consumed by Kind: 2002 and 1997**

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

Material code	Material consumed	Quantity	Delivered cost (\$1,000)
336412	Aircraft engine and engine parts manufacturing		
0090001	Total materials .....	2002.. X	9 713 736
		1997.. X	9 259 160
33641201	Aircraft engines .....	2002.. X	D
		1997.. X	249 248
33641203	Aircraft engine parts (excluding instruments) .....	2002.. X	5 189 708
		1997.. X	5 174 339
33641303	Structural fuselage components (excluding instruments) .....	2002.. X	594
		1997.. X	N
33641305	Structural empennage (tail) components (excluding instruments) .....	2002.. X	D
		1997.. X	N
33641307	Structural wing components (excluding instruments) .....	2002.. X	D
		1997.. X	N
33641309	Structural landing gear components .....	2002.. X	D
		1997.. X	N
33641311	Other structural components (airframe), including engine mounts (excluding instruments) .....	2002.. X	D
		1997.. X	N
33641301	Aircraft propellers and parts .....	2002.. X	520
		1997.. X	N
33422003	Radio communication systems and equipment, including airborne transmitters and receivers (microwave, UHF, VHF, etc.) .....	2002.. X	D
		1997.. X	N
33451103	Navigational systems and equipment (NAVAIDS) .....	2002.. X	D
		1997.. X	N
001900D5	Search, detection, tracking, and electronic communication systems and equipment (RADAR, SONAR, and optical) .....	2002.. X	D
		1997.. X	N
33400025	Flight, navigational, airframe, and engine indicators, instruments, and clusters (including sensors, displays, etc.) .....	2002.. X	D
		1997.. X	N
001900B7	Resistors, capacitors, transformers, electron tubes, semiconductors, and other electronic components .....	2002.. X	84 621
		1997.. X	N
00190070	Resin matrix composites .....	2002.. X	9 974
		1997.. X	N
00190071	Other matrix composites (including ceramic, carbon, metal, etc.) .....	2002.. X	23 714
		1997.. X	16 014
33291209	Complete mechanical, hydraulic and pneumatic subassemblies .....	2002.. X	71 650
		1997.. X	20 606
33399601	Fluid power pumps, motors, and hydrostatic transmissions (hydraulic and pneumatic) .....	2002.. X	D
		1997.. X	N
33291201	Fluid power valves (excluding complete assemblies) .....	2002.. X	D
		1997.. X	N
33291203	Fluid power hose and tube fittings and assemblies (hydraulic and pneumatic) .....	2002.. X	12 174
		1997.. X	N
33399503	Fluid power cylinders and rotary actuators (excluding complete assemblies) .....	2002.. X	1 488
		1997.. X	N
33399901	Fluid power filters (hydraulic and pneumatic) .....	2002.. X	2 122
		1997.. X	N
00190087	Other transportation related fluid power products, hydraulic and pneumatic .....	2002.. X	D
		1997.. X	N
33299101	Ball and roller bearings (mounted or unmounted) .....	2002.. X	38 011
		1997.. X	24 151
33351503	Cutting tools for machine tools .....	2002.. X	26 481
		1997.. X	16 270
33251015	Aircraft metal hardware (excluding forgings) .....	2002.. X	D
		1997.. X	181 081
33272203	Metal bolts, nuts, screws, washers, rivets, and other screw machine products .....	2002.. X	40 710
		1997.. X	29 104
33200009	Other fabricated metal products (excluding fluid power, forgings, aircraft metal hardware and bolts, nuts, screws, washers, rivets, and other screw machine products) .....	2002.. X	35 461
		1997.. X	51 984
33211101	Iron and steel forgings .....	2002.. X	80 359
		1997.. X	185 520
33211203	Aluminum and aluminum-base alloy forgings .....	2002.. X	39 758
		1997.. X	19 800
33211205	Titanium and titanium-base alloy forgings .....	2002.. X	156 774
		1997.. X	114 733
33210003	Other forgings .....	2002.. X	67 635
		1997.. X	58 714
33151001	Iron and steel castings (rough and semifinished) .....	2002.. X	266 920
		1997.. X	223 091
33152005	Aluminum and aluminum-base alloy castings (rough and semifinished) .....	2002.. X	23 362
		1997.. X	28 193
33152003	Other nonferrous metal castings, rough and semifinished (including aluminum and aluminum-base alloy) .....	2002.. X	83 853
		1997.. X	77 723
33120007	Steel bars, bar shapes, and plate (excluding castings, forgings, and fabricated metal products) .....	2002.. X	37 224
		1997.. X	110 184
33120016	Steel sheet and strip (including tinplate) .....	2002.. X	42 946
		1997.. X	N
33120033	All other steel shapes and forms (excluding castings, forgings, and fabricated metal products) .....	2002.. X	13 136
		1997.. X	10 883
33131500	Aluminum and aluminum-base alloy sheet, plate, foil, and welded tubing .....	2002.. X	5 022
		1997.. X	N
33100055	All other aluminum and aluminum-base alloy shapes and forms (excluding castings, forgings, and fabricated metal products) .....	2002.. X	11 524
		1997.. X	1 391
33142111	Copper and copper-base alloy shapes and forms (excluding castings, forgings, and fabricated metal products) .....	2002.. X	1 994
		1997.. X	230
33149100	Titanium and titanium-base alloy shapes and forms (excluding castings, forgings, and fabricated metal products) .....	2002.. X	30 692
		1997.. X	N

See footnotes at end of table.

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

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

Material code	Material consumed	Quantity	Delivered cost (\$1,000)
336412	Aircraft engine and engine parts manufacturing—Con.		
33100065	Other nonferrous shapes and forms (excluding aluminum and aluminum-base alloy, copper and copper-base alloy, and titanium and titanium-base alloy castings, forgings, and fabricated metal products) .....	X	28 288
	.....2002..	X	32 263
	.....1997..	X	1 211
32551002	Paints, varnishes, stains, lacquers, shellacs, japans, enamels, and allied product .....	X	N
	.....2002..	X	226 084
	.....1997..	X	609 624
00970099	All other materials and components, parts, containers, and supplies .....	X	1 694 731
	.....2002..	X	2 024 014
	.....1997..	X	
00971000	Materials, ingredients, containers, and supplies, nsk .....	X	
	.....2002..	X	
	.....1997..	X	

Note 1: For some establishments, data have been estimated from central unit values that are based on quantity-value relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figure: p-10 to 19 percent estimated; q-20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by S.

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