

# Other Aircraft Parts and Auxiliary Equipment Manufacturing: 2002

Issued December 2004

EC02-311-336413 (RV)

## 2002 Economic Census

*Manufacturing*

Industry Series



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

*Helping You Make Informed Decisions*

U.S. Department of Commerce  
Economics and Statistics Administration  
U.S. CENSUS BUREAU



## CONTENTS

---

Introduction to the Economic Census .....	v
Manufacturing .....	ix
Tables	
1. Historical Statistics for the Industry: 2002 and Earlier Years ...	1
2. Industry Statistics for Selected States: 2002 .....	2
3. Detailed Statistics by Industry: 2002 .....	3
4. Industry Statistics by Employment Size: 2002.....	4
5. Industry Statistics by Primary Product Class Specialization: 2002 .....	5
6a. Products Statistics: 2002 and 1997 .....	6
6b. Product Class Shipments for Selected States: 2002 and 1997 .	7
7. Materials Consumed by Kind: 2002 and 1997.....	8
Appendixes	
A. Explanation of Terms .....	A-1
B. NAICS Codes, Titles, and Descriptions .....	B-1
C. Methodology.....	C-1
D. Geographic Notes .....	--
E. Metropolitan and Micropolitan Statistical Areas .....	--
F. Comparability of Product Classes and Product Codes: 2002 to 1997.....	F-1

-- Not applicable for this report.

**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)					
336413, Other aircraft parts and auxiliary equipment manufacturing .....	2002..	759	854	99 369	5 306 364	52 996	111 483	2 612 822	13 203 159	7 262 548	20 771 989	'570 651
	2001..	N	N	116 803	6 027 960	68 177	142 513	3 127 473	12 874 644	8 607 869	21 638 322	552 411
	2000..	N	N	119 727	6 048 126	70 721	148 667	3 286 417	11 868 719	8 608 373	20 750 148	581 761
	1999..	N	N	132 663	6 306 306	74 813	155 334	3 226 296	13 046 837	8 747 824	22 500 747	782 733
	1998..	N	N	140 978	6 464 831	82 689	180 306	3 473 185	14 361 166	8 829 955	22 402 746	975 201
	1997..	1 049	1 136	124 677	5 574 824	72 830	155 482	3 019 543	13 110 835	7 130 109	19 373 554	925 054

<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	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)
		Total	With 20 employees or more	Number <sup>3</sup>	Payroll (\$1,000)	Number <sup>3</sup>	Hours (1,000)	Wages (\$1,000)				
<b>336413, Other aircraft parts and auxiliary equipment manufacturing</b>												
United States .....	-	854	382	99 369	5 306 364	52 996	111 483	2 612 822	13 203 159	7 262 548	20 771 989	'570 651
California .....	-	179	89	24 567	1 502 189	9 381	20 554	483 737	3 736 128	1 689 505	5 584 693	'194 736
Illinois .....	-	12	8	4 184	227 964	1 150	2 879	60 923	1 016 487	354 694	1 369 773	'19 754
Nebraska .....	-	3	3	451	14 387	251	361	6 803	28 861	18 523	47 086	'1 865
Oklahoma .....	-	26	12	3 489	155 108	2 274	4 454	113 063	346 700	502 627	821 287	'21 983
Texas .....	3	74	33	8 498	458 485	5 239	9 734	263 408	941 107	480 261	1 408 857	'43 367

<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>336413, Other aircraft parts and auxiliary equipment manufacturing</b>	
Companies <sup>1</sup> .....	number.. 759
All establishments <sup>2</sup> .....	number.. 854
Establishments with 1 to 19 employees .....	number.. 472
Establishments with 20 to 99 employees .....	number.. 233
Establishments with 100 employees or more .....	number.. 149
All employees <sup>3</sup> .....	number.. 99 369
Total compensation .....	\$1,000.. 7 037 130
Annual payroll .....	\$1,000.. 5 306 364
Total fringe benefits .....	\$1,000.. 1 730 766
Production workers, average for year .....	number.. 52 996
Production workers on March 12 .....	number.. 55 819
Production workers on May 12 .....	number.. 53 949
Production workers on August 12 .....	number.. 51 926
Production workers on November 12 .....	number.. 50 224
Production worker hours .....	1,000.. 111 483
Production worker wages .....	\$1,000.. 2 612 822
Total cost of materials .....	\$1,000.. 7 262 548
Materials, parts, containers, packaging, etc., used .....	\$1,000.. 6 166 051
Resales .....	\$1,000.. 115 096
Purchased fuels .....	\$1,000.. 73 484
Purchased electricity .....	\$1,000.. 217 862
Contract work .....	\$1,000.. 690 055
Quantity of electricity purchased for heat and power .....	1,000 kWh.. 3 218 160
Quantity of electricity generated less sold for heat and power .....	1,000 kWh.. 15 790
Total value of shipments .....	\$1,000.. 20 771 989
Primary products value of shipments .....	\$1,000.. 17 635 704
Secondary products value of shipments .....	\$1,000.. 2 872 341
Total miscellaneous receipts .....	\$1,000.. 263 944
Value of resales .....	\$1,000.. 147 264
Contract receipts .....	\$1,000.. 42 428
Other miscellaneous receipts .....	\$1,000.. 74 252
Primary products specialization ratio .....	percent.. 86
Value of primary products shipments made in all industries .....	\$1,000.. 21 324 188
Value of primary products shipments made in this industry .....	\$1,000.. 17 635 704
Value of primary products shipments made in other industries .....	\$1,000.. 3 688 484
Coverage ratio .....	percent.. 83
Value added .....	\$1,000.. 13 203 159
Total inventories, beginning of year .....	\$1,000.. 5 612 135
Finished goods inventories .....	\$1,000.. 762 871
Work-in-process inventories .....	\$1,000.. 3 744 621
Materials and supplies inventories .....	\$1,000.. 1 104 643
Total inventories, end of year .....	\$1,000.. 5 180 488
Finished goods inventories .....	\$1,000.. 751 595
Work-in-process inventories .....	\$1,000.. 3 449 615
Materials and supplies inventories .....	\$1,000.. 979 278
Gross value of depreciable assets (acquisition costs) at beginning of year .....	\$1,000.. '8 322 963
Total capital expenditures (new and used) .....	\$1,000.. '570 651
Buildings and other structures (new and used) .....	\$1,000.. '115 933
Machinery and equipment (new and used) .....	\$1,000.. '454 718
Automobiles, trucks, etc., for highway use .....	\$1,000.. '10 133
Computers and peripheral data processing equipment .....	\$1,000.. '99 889
All other expenditures for machinery and equipment .....	\$1,000.. '344 696
Total retirements .....	\$1,000.. '299 940
Gross value of depreciable assets at end of year .....	\$1,000.. '8 593 674
Depreciation charges during year .....	\$1,000.. '606 175
Total rental payments .....	\$1,000.. 204 276
Buildings and other structures .....	\$1,000.. 117 895
Machinery and equipment .....	\$1,000.. 86 381
Total other expenses <sup>4</sup> .....	\$1,000.. 916 718
Response coverage ratio <sup>5</sup> .....	percent.. 75
Repair and maintenance services of buildings and/or machinery <sup>4</sup> .....	\$1,000.. 63 965
Communications services <sup>4</sup> .....	\$1,000.. 21 218
Legal services <sup>4</sup> .....	\$1,000.. 25 843
Accounting, auditing, and bookkeeping services <sup>4</sup> .....	\$1,000.. 5 246
Advertising and promotional services <sup>4</sup> .....	\$1,000.. 13 157
Expensed computer hardware and supplies and purchased computer services <sup>4</sup> .....	\$1,000.. 62 646
Refuse removal (including hazardous waste) services <sup>4</sup> .....	\$1,000.. 15 855
Management consulting and administrative services <sup>4</sup> .....	\$1,000.. 22 949
Taxes and license fees <sup>4</sup> .....	\$1,000.. 40 829
All other expenses <sup>4</sup> .....	\$1,000.. 645 010

<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 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)				
<b>336413, Other aircraft parts and auxiliary equipment manufacturing</b>											
All establishments .....	—	854	99 369	5 306 364	52 996	111 483	2 612 822	13 203 159	7 262 548	20 771 989	'570 651
Establishments with—											
1 to 4 employees .....	9	238	452	20 137	297	497	12 172	37 630	24 728	61 857	'1 731
5 to 9 employees .....	6	108	751	33 246	492	786	20 337	67 102	43 838	110 418	'2 733
10 to 19 employees .....	4	126	1 726	78 269	1 112	1 932	47 426	143 431	96 527	249 123	'6 873
20 to 49 employees .....	2	153	4 820	217 598	3 097	5 997	117 752	432 987	293 434	721 762	'26 618
50 to 99 employees .....	2	80	5 524	232 201	3 728	6 988	131 852	556 975	312 411	854 475	'29 894
100 to 249 employees .....	1	86	13 661	626 525	8 553	16 975	335 393	1 530 813	986 176	2 562 615	'113 954
250 to 499 employees .....	—	32	10 748	481 363	7 101	17 815	284 851	1 293 037	745 376	2 003 679	'54 039
500 to 999 employees .....	—	16	10 822	594 873	5 855	12 728	278 393	1 579 806	875 601	2 519 295	'48 428
1,000 to 2,499 employees .....	—	8	12 356	647 061	7 033	13 260	372 909	1 380 275	1 250 902	2 728 928	'102 827
2,500 employees or more .....	—	7	38 509	2 375 091	15 728	34 505	1 011 737	6 181 103	2 633 555	8 959 837	'183 554
Administrative records <sup>4</sup> .....	9	278	1 294	67 388	805	1 551	40 593	124 590	89 002	212 363	'4 895

<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)				
336413	Other aircraft parts and auxiliary equipment manufacturing .....	854	99 369	5 306 364	52 996	111 483	2 612 822	13 203 159	7 262 548	20 771 989	'570 651
3364131	Aircraft propellers and helicopter rotors .....	26	2 787	121 929	1 841	3 800	62 052	313 573	130 981	437 413	'11 143
3364133	Research and development on aircraft parts (except engines) .....	9	517	21 338	286	531	10 887	29 523	31 109	57 668	'860
3364136	Aircraft parts and auxiliary equipment, excluding hydraulic and pneumatic subassemblies and engines .....	313	87 836	4 782 991	45 524	97 284	2 314 508	12 176 366	6 624 106	19 106 188	'515 849

<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)
336413	Other aircraft parts and auxiliary equipment manufacturing	2002.. N 1997.. N	X X	X X	21 324 188 22 917 132
3364131	Aircraft propellers and helicopter rotors	2002.. N 1997.. N	X X	X X	512 335 1 021 234
33641311	Aircraft propellers and helicopter rotors	2002.. N 1997.. N	X X	X X	512 335 984 211
3364131101	Complete aircraft propellers, excluding helicopter rotors	2002.. 11 1997.. 10	X X	X X	59 291 100 679
3364131104	Aircraft propeller blades	2002.. 10 1997.. 10	X X	X X	41 821 80 490
3364131107	Aircraft propeller parts, except propeller blades	2002.. 11 1997.. 10	X X	X X	75 693 95 390
3364131111	Helicopter rotors and parts	2002.. 26 1997.. 29	X X	X X	335 530 707 652
3364131Y	Aircraft propellers and helicopter rotors, nsk	2002.. N 1997.. N	X X	X X	— 37 023
3364131YVW	Aircraft propellers and helicopter rotors, nsk	2002.. N 1997.. N	X X	X X	— 37 023
3364133	Research and development on aircraft parts (except engines)	2002.. N 1997.. N	X X	X X	604 519 1 120 600
33641331	Research and development on aircraft parts (except engines)	2002.. N 1997.. N	X X	X X	604 519 1 113 827
3364133101	Research and development on military aircraft parts (except engines), including other aircraft parts built to military specifications	2002.. 22 1997.. 22	X X	X X	562 628 1 042 508
3364133104	Research and development on civilian aircraft parts (except engines)	2002.. 18 1997.. 18	X X	X X	41 891 71 319
3364133Y	Research and development on aircraft parts (except engines), nsk	2002.. N 1997.. N	X X	X X	— 6 773
3364133YVW	Research and development on aircraft parts (except engines), nsk	2002.. N 1997.. N	X X	X X	— 6 773
3364136	Aircraft parts and auxiliary equipment, excluding hydraulic and pneumatic subassemblies and engines	2002.. N 1997.. N	X X	X X	19 072 773 N
33641361	Aircraft mechanical power transmission equipment for civilian and military aircraft	2002.. N 1997.. N	X X	X X	1 926 270 N
3364136101	Aircraft mechanical power transmission equipment for military aircraft (including other aircraft built to military specifications)	2002.. 35 1997.. N	X X	X X	1 014 210 N
3364136104	Aircraft mechanical power transmission equipment for civilian aircraft	2002.. 34 1997.. N	X X	X X	912 060 N
33641362	Aircraft landing gear for civilian and military aircraft	2002.. N 1997.. N	X X	X X	3 424 811 N
3364136207	Aircraft landing gear for military aircraft (including other aircraft built to military specifications)	2002.. 23 1997.. N	X X	X X	572 484 N
3364136211	Aircraft landing gear for civilian aircraft	2002.. 34 1997.. N	X X	X X	2 852 327 N
33641363	Other aircraft subassemblies and parts for military aircraft (including other aircraft built to military specifications)	2002.. N 1997.. N	X X	X X	5 148 946 N
3364136313	Other aircraft subassemblies and parts for military aircraft (including other aircraft built to military specifications)	2002.. 142 1997.. N	X X	X X	5 148 946 N
33641364	Other aircraft subassemblies and parts for civilian aircraft	2002.. N 1997.. N	X X	X X	8 565 399 N
3364136416	Other aircraft subassemblies and parts for civilian aircraft	2002.. 184 1997.. N	X X	X X	8 565 399 N
3364136Y	Aircraft parts and auxiliary equipment, excluding hydraulic and pneumatic subassemblies and engines, nsk	2002.. N 1997.. N	X X	X X	7 347 N
3364136YVW	Aircraft parts and auxiliary equipment, excluding hydraulic and pneumatic subassemblies and engines, nsk	2002.. N 1997.. N	X X	X X	7 347 N
336413W	Other aircraft parts and auxiliary equipment manufacturing, nsk, total	2002.. N 1997.. N	X X	X X	1 134 561 893 582
336413WY	Other aircraft parts and auxiliary equipment manufacturing, nsk, total	2002.. N 1997.. N	X X	X X	1 134 561 893 582
336413WYVW	Other aircraft parts and auxiliary equipment manufacturing, nsk, for nonadministrative-record establishments	2002.. N 1997.. N	X X	X X	914 810 418 876
336413WYVY	Other aircraft parts and auxiliary equipment manufacturing, nsk, for administrative-record establishments	2002.. N 1997.. N	X X	X X	219 751 474 706

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)
3364131	Aircraft propellers and helicopter rotors	
	United States .....	2002.. 512 335
		1997.. 1 021 234
	California .....	2002.. 49 570
		1997.. 77 728
	Connecticut .....	2002.. 80 867
		1997.. 197 624
	2002.. 3 046	
	1997.. N	
	2002.. 13 364	
	1997.. N	
3364133	Research and development on aircraft parts (except engines)	
	United States .....	2002.. 604 519
		1997.. 1 120 600
	California .....	2002.. 170 649
	1997.. N	
	2002.. 3 115	
	1997.. N	
3364136	Aircraft parts and auxiliary equipment, excluding hydraulic and pneumatic subassemblies and engines	
	United States .....	2002.. 19 072 773
		1997.. N
	Arizona .....	2002.. 1 187 918
		1997.. N
	Arkansas .....	2002.. 65 622
		1997.. N
	California .....	2002.. 4 325 683
		1997.. N
	Colorado .....	2002.. 138 389
		1997.. N
	Florida .....	2002.. 272 904
		1997.. N
	Georgia .....	2002.. 170 152
		1997.. N
	Kansas .....	2002.. 2 275 244
		1997.. N
	Maryland .....	2002.. 82 152
		1997.. N
	Michigan .....	2002.. 129 878
		1997.. N
	Minnesota .....	2002.. 20 715
		1997.. N
	Missouri .....	2002.. 292 226
		1997.. N
	New Jersey .....	2002.. 59 074
		1997.. N
	New Mexico .....	2002.. 11 436
		1997.. N
	New York .....	2002.. 506 538
		1997.. N
	Ohio .....	2002.. 1 146 458
	1997.. N	
Oklahoma .....	2002.. 767 916	
	1997.. N	
Pennsylvania .....	2002.. 261 038	
	1997.. N	
Tennessee .....	2002.. 415 638	
	1997.. N	
Texas .....	2002.. 1 277 441	
	1997.. N	
Washington .....	2002.. 2 506 006	
	1997.. N	
Wisconsin .....	2002.. 18 189	
	1997.. N	

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

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

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

Material code	Material consumed	Quantity	Delivered cost (\$1,000)
336413	Other aircraft parts and auxiliary equipment manufacturing		
0090001	Total materials .....	2002.. X	6 166 051
		1997.. X	6 037 001
33641201	Aircraft engines .....	2002.. X	D
		1997.. X	3 663
33641203	Aircraft engine parts (excluding instruments) .....	2002.. X	D
		1997.. X	48 951
33641303	Structural fuselage components (excluding instruments) .....	2002.. X	12 177
		1997.. X	211
33641305	Structural empennage (tail) components (excluding instruments) .....	2002.. X	D
		1997.. X	38 334
33641307	Structural wing components (excluding instruments) .....	2002.. X	2 942
		1997.. X	84 242
33641309	Structural landing gear components .....	2002.. X	399 769
		1997.. X	D
33641311	Other structural components (airframe), including engine mounts (excluding instruments) .....	2002.. X	85 215
		1997.. X	314 576
33641301	Aircraft propellers and parts .....	2002.. X	28 598
		1997.. X	D
33636005	Aircraft seats .....	2002.. X	1 850
		1997.. X	1 546
33422003	Radio communication systems and equipment, including airborne transmitters and receivers (microwave, UHF, VHF, etc.) .....	2002.. X	1 168
		1997.. X	D
33451103	Navigational systems and equipment (NAVAIDS) .....	2002.. X	D
		1997.. X	D
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	3 117
		1997.. X	8 500
001900B7	Resistors, capacitors, transformers, electron tubes, semiconductors, and other electronic components .....	2002.. X	86 655
		1997.. X	97 274
00190070	Resin matrix composites .....	2002.. X	35 052
		1997.. X	122 203
00190071	Other matrix composites (including ceramic, carbon, metal, etc.) .....	2002.. X	218 157
		1997.. X	209 836
33291209	Complete mechanical, hydraulic and pneumatic subassemblies .....	2002.. X	37 191
		1997.. X	201 883
33399601	Fluid power pumps, motors, and hydrostatic transmissions (hydraulic and pneumatic) .....	2002.. X	18 421
		1997.. X	4 245
33291201	Fluid power valves (excluding complete assemblies) .....	2002.. X	19 609
		1997.. X	9 546
33291203	Fluid power hose and tube fittings and assemblies (hydraulic and pneumatic) .....	2002.. X	D
		1997.. X	2 268
33399503	Fluid power cylinders and rotary actuators (excluding complete assemblies) .....	2002.. X	D
		1997.. X	3 834
33399901	Fluid power filters (hydraulic and pneumatic) .....	2002.. X	D
		1997.. X	580
00190087	Other transportation related fluid power products, hydraulic and pneumatic .....	2002.. X	14 742
		1997.. X	N
33299101	Ball and roller bearings (mounted or unmounted) .....	2002.. X	28 886
		1997.. X	27 070
33351503	Cutting tools for machine tools .....	2002.. X	14 574
		1997.. X	59 073
33251015	Aircraft metal hardware (excluding forgings) .....	2002.. X	183 886
		1997.. X	1 267 701
33272203	Metal bolts, nuts, screws, washers, rivets, and other screw machine products .....	2002.. X	96 414
		1997.. X	221 505
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	251 939
		1997.. X	213 584
33211101	Iron and steel forgings .....	2002.. X	13 173
		1997.. X	63 780
33211203	Aluminum and aluminum-base alloy forgings .....	2002.. X	46 650
		1997.. X	103 646
33211205	Titanium and titanium-base alloy forgings .....	2002.. X	D
		1997.. X	45 528
33210003	Other forgings .....	2002.. X	33 220
		1997.. X	20 485
33151001	Iron and steel castings (rough and semifinished) .....	2002.. X	14 693
		1997.. X	41 540
33152005	Aluminum and aluminum-base alloy castings (rough and semifinished) .....	2002.. X	33 841
		1997.. X	66 701
33152003	Other nonferrous metal castings, rough and semifinished (including aluminum and aluminum-base alloy) .....	2002.. X	6 902
		1997.. X	14 769
33120007	Steel bars, bar shapes, and plate (excluding castings, forgings, and fabricated metal products) .....	2002.. X	15 022
		1997.. X	56 607
33120016	Steel sheet and strip (including tinplate) .....	2002.. X	14 141
		1997.. X	N
33120033	All other steel shapes and forms (excluding castings, forgings, and fabricated metal products) .....	2002.. X	8 889
		1997.. X	8 068
33131500	Aluminum and aluminum-base alloy sheet, plate, foil, and welded tubing .....	2002.. X	272 601
		1997.. X	N
33100055	All other aluminum and aluminum-base alloy shapes and forms (excluding castings, forgings, and fabricated metal products) .....	2002.. X	99 130
		1997.. X	80 843
33142111	Copper and copper-base alloy shapes and forms (excluding castings, forgings, and fabricated metal products) .....	2002.. X	D
		1997.. X	1 009

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)
336413	Other aircraft parts and auxiliary equipment manufacturing—Con.		
33149100	Titanium and titanium-base alloy shapes and forms (excluding castings, forgings, and fabricated metal products) .....		
	.....2002..	X	65 687
	.....1997..	X	N
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) .....		
	.....2002..	X	20 976
	.....1997..	X	8 011
32551002	Paints, varnishes, stains, lacquers, shellacs, japans, enamels, and allied product .....		
	.....2002..	X	31 718
	.....1997..	X	N
00970099	All other materials and components, parts, containers, and supplies .....		
	.....2002..	X	1 316 622
	.....1997..	X	1 685 747
00971000	Materials, ingredients, containers, and supplies, nsk .....		
	.....2002..	X	2 412 235
	.....1997..	X	715 759

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.