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Internal Combustion Engines - 1997

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Information on the scope of the survey, methodology, explanation of terms and historical notes for this survey may be found in the introduction of the 1996 Manufacturing Profiles, issued July 1998.

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Table 1. Internal Combustion Engines by type of Engine: 1997 and 1996
[Engines and quantity in units. Value in thousands of dollars]

Product description	Engines produced and incorporated		Total shipments and interplant transfers	
	Engines produced 1/	Engines produced and incorporated 2/	Quantity	Value f.o.b. plant
1997				
Total.	23,874,385	8,271,850	(D)	11,511,147
Gasoline (except automotive).	22,788,206	8,247,040	(D)	2,405,706
Nonautomotive diesel.	313,918	(D)	289,262	2,707,749
Automotive diesel.	763,075	-	763,075	6,014,021
Natural gas and LPG.	9,186	(D)	(D)	(D)
1996				
Total.	23,352,739	(D)	(D)	9,865,306
Gasoline (except automotive).	22,658,575	8,859,280	(D)	2,251,561
Nonautomotive diesel.	r/ 269,727	(D)	(D)	r/ 2,235,768
Automotive diesel.	685,072	(D)	685,031	5,051,380
Natural gas and LPG.	9,092	(D)	(D)	(D)
	Shipments to other companies		Interplant transfers	
	Quantity	Value f.o.b. plant	Quantity	Value f.o.b. plant
1997				
Total.	(D)	(D)	(D)	(D)
Gasoline (except automotive).	(D)	2,091,504	544,834	314,202
Nonautomotive diesel.	204,538	1,797,578	84,724	910,171
Automotive diesel.	587,289	4,788,280	175,786	1,225,741
Natural gas and LPG.	8,833	369,691	(D)	(D)
1996				
Total.	(D)	(D)	874,658	(D)
Gasoline (except automotive).	(D)	1,953,414	643,695	298,147
Nonautomotive diesel.	r/ 185,081	r/ 1,565,740	(D)	670,028
Automotive diesel.	518,991	4,101,925	166,040	949,455
Natural gas and LPG.	8,750	307,683	(D)	(D)

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

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

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

Table 2. Gasoline Engines by Horsepower Rating: 1997 and 1996
[Engines and quantity in units. Value in thousands of dollars]

Product code	Product description	No. of cos.	Engines produced 1/	Engines produced and in-	Total shipments and interplant transfers	
				corporated 2/	Quantity	Value f.o.b. plant
1997						
35191	Gasoline engines.	23	22,788,206	8,247,040	(D)	2,405,706
35191 01	Under 11 hp	14	20,181,320	8,218,085	(D)	(D)
35191 02	11 to under 21 hp	6	2,192,033	(D)	(D)	(D)
35191 03	21 to under 61 hp	7	137,830	(D)	129,444	(D)
35191 07	61 hp and over.	8	277,023	-	277,023	430,235
1996						
35191	Gasoline engines.	23	22,737,214	8,859,280	(D)	2,251,561
35191 01	Under 11 hp	14	20,412,192	8,827,343	(D)	(D)
35191 02	11 to under 21 hp	5	1,945,060	(D)	1,924,051	641,978
35191 03	21 to under 61 hp	7	126,502	(D)	(D)	(D)
35191 07	61 hp and over.	8	253,458	-	253,227	386,511
				Shipments to other companies	Interplant transfers	
				Quantity	Value f.o.b. plant	Value f.o.b. plant
1997						
35191	Gasoline engines.	23	(D)	2,091,504	544,834	314,202
35191 01	Under 11 hp	14	(D)	(D)	356,732	46,122
35191 02	11 to under 21 hp	6	2,147,393	733,410	(D)	(D)
35191 03	21 to under 61 hp	7	(D)	88,869	(D)	(D)
35191 07	61 hp and over.	8	(D)	(D)	(D)	(D)
1996						
35191	Gasoline engines.	23	(D)	1,953,414	643,695	298,147
35191 01	Under 11 hp	13	(D)	(D)	472,359	45,815
35191 02	11 to under 21 hp	6	(D)	(D)	(D)	(D)
35191 03	21 to under 61 hp	8	101,089	79,266	(D)	(D)
35191 07	61 hp and over.	8	(D)	(D)	(D)	(D)

- Represents zero. D Withheld to avoid disclosing data for individual companies.

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

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

Note: Horsepower is defined as maximum published horsepower rating at maximum recommended rpm.

Table 3. Nonautomotive Diesel Engines by Horsepower Rating: 1997 and 1996
 [Engines and quantity in units. Value in thousands of dollars]

					Total shipments and interplants transfers	
Product code	Product description	No. of cos.	Engines produced 1/	Engines produced and incorporated 2/		
					Quantity	Value f.o.b. plant
1997						
35193	Nonautomotive diesel engines.	16	313,918	(D)	289,262	2,707,749
35193 31	Under 101 hp.	9	(D)	(D)	(D)	(D)
35193 33	101 to under 151 hp.		(D)	(D)	87,943	292,268
35193 35	151 to under 176 hp.	6	34,605	(D)	33,968	139,443
35193 37	176 to under 251 hp.	7	44,582	(D)	(D)	(D)
35193 39	251 to under 301 hp.	6	(D)	(D)	47,349	313,325
35193 41	301 to under 401 hp.	6	27,754	(D)	25,218	351,958
35193 43	401 to under 451 hp.	5	7,072	(D)	(D)	(D)
35193 45	451 to under 601 hp.	3	13,655	(D)	(D)	(D)
35193 47	601 to under 701 hp.	3	3,865	(D)	(D)	(D)
35193 49	701 to under 801 hp.	3	(D)	-	(D)	(D)
35193 51	801 to under 1,501 hp.	5	4,873	(D)	(D)	(D)
35193 28	1,501 hp and over.	6	3,291	(D)	(D)	(D)
1996						
35193	Nonautomotive diesel engines.	16	r/ 269,727	(D)	(D)	r/ 2,235,768
35193 31	Under 101 hp.	9	18,112	(D)	(D)	(D)
35193 33	101 to under 151 hp.	6	(D)	(D)	71,056	235,093
35193 35	151 to under 176 hp.	6	40,470	(D)	39,080	(D)
35193 37	176 to under 251 hp.	6	38,104	(D)	(D)	(D)
35193 39	251 to under 301 hp.	6	19,092	(D)	(D)	(D)
35193 41	301 to under 401 hp.	7	17,723	(D)	r/ 16,143	r/ 209,608
35193 43	401 to under 451 hp.	5	6,598	-	6,598	125,126
35193 45	451 to under 601 hp.	3	10,433	(D)	(D)	(D)
35193 47	601 to under 701 hp.	4	(D)	(D)	2,573	71,522
35193 49	701 to under 801 hp.	3	4,709	(D)	(D)	(D)
35193 51	801 to under 1,501 hp.	4	3,712	(D)	2,920	(D)
35193 28	1,501 hp and over.	6	3,718	(D)	(D)	(D)

Continued

Table 3. Nonautomotive Diesel Engines by Horsepower Rating: 1997 and 1996
[Engines and quantity in units. Value in thousands of dollars]

Product description			Shipment to other companies		Interplant transfers	
			Quantity	Value f.o.b. plant	Quantity	Value f.o.b. plant
1997						
35193	Nonautomotive diesel engines.	16	204,538	1,797,578	84,724	910,171
35193 31	Under 101 hp.	9	15,546	53,724	(D)	(D)
35193 33	101 to under 151 hp.	6	(D)	(D)	(D)	(D)
35193 35	151 to under 176 hp.	6	(D)	(D)	(D)	(D)
35193 37	176 to under 251 hp.	7	21,761	142,750	(D)	(D)
35193 39	251 to under 301 hp.	6	38,402	234,705	8,974	78,620
35193 41	301 to under 401 hp.	6	14,551	213,456	10,667	138,502
35193 43	401 to under 451 hp.	5	(D)	(D)	3,717	62,475
35193 45	451 to under 601 hp.	3	9,634	215,170	(D)	(D)
35193 47	601 to under 701 hp.	3	2,633	72,251	(D)	(D)
35193 49	701 to under 801 hp.	3	1,791	62,716	(D)	(D)
35193 51	801 to under 1,501 hp.	5	3,446	202,805	(D)	(D)
35193 28	1,501 hp and over.	6	1,092	275,671	(D)	(D)
1996						
35193	Nonautomotive diesel engines.	16	r/ 185,081	r/ 1,565,740	(D)	670,028
35193 31	Under 101 hp.	9	15,438	54,071	(D)	(D)
35193 33	101 to under 151 hp.	6	(D)	(D)	(D)	(D)
35193 35	151 to under 176 hp.	6	(D)	90,933	(D)	(D)
35193 37	176 to under 251 hp.	6	19,466	112,940	(D)	(D)
35193 39	251 to under 301 hp.	6	r/ 10,763	118,618	(D)	(D)
35193 41	301 to under 401 hp.	7	r/ 10,879	r/ 141,420	r/ 5,264	r/ 68,188
35193 43	401 to under 451 hp.	5	4,421	76,918	2,177	48,208
35193 45	451 to under 601 hp.	3	8,330	178,170	(D)	(D)
35193 47	601 to under 701 hp.	4	(D)	(D)	(D)	(D)
35193 49	701 to under 801 hp.	3	1,486	47,529	(D)	(D)
35193 51	801 to under 1,501 hp.	4	(D)	150,085	(D)	(D)
35193 28	1,501 hp and over.	6	1,061	250,515	(D)	(D)

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

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

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

Note: Horsepower is defined as maximum published horsepower rating at maximum recommended rpm.

Table 4. Automotive Diesel Engines by Horsepower Rating: 1997 and 1996
 [Engines in units. Value in thousands of dollars]

Product code	Product description	No. of cos.	1997		1996	
			Engines 1/	Value 2/	Engines 1/	Value 2/
35194	Automotive diesel engines.....	9	763,075	6,014,021	685,072	5,051,380
35194 11	Under 226 hp.....	8	466,234	2,272,618	431,800	2,030,348
35194 14	226 to under 251 hp.....	7	27,336	167,876	19,331	131,957
35194 15	251 hp and over.....	7	269,505	3,573,112	233,900	2,889,110

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

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

Table 5. Gas Engines (Except Automotive) by Horsepower Rating: 1997 and 1996
[Engines and quantity in units. Value in thousands of dollars]

Product code	Product description	No. of cos.	Engines produced 1/	Total shipments including interplant transfers		Engines produced and incorporated 2/
				Quantity	Value f.o.b. plant	
1997						
35196	Natural gas and LPG engines.	10	9,148	9,032	383,671	(D)
35196 11	Under 501 hp.	9	(D)	7,355	57,987	(D)
35196 12	501 hp and over.	4	(D)	1,677	325,684	(D)
1996						
35196	Natural gas and LPG engines.	11	9,092	8,981	326,597	(D)
35196 11	Under 501 hp.	10	(D)	7,418	47,220	(D)
35196 12	501 hp and over.	4	(D)	1,563	279,377	(D)

D Withheld to avoid disclosing data for individual companies.

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

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

Table 6. Engines Produced by Piston Displacement and Fuel System: 1997 and 1996

Piston displacement	1997	1996
Total.	25,105,267	23,446,849
Gasoline.	24,027,909	22,761,794
Under 251 cc.	21,572,878	19,980,422
251 and over.	2,455,031	2,781,372
Nonautomotive diesel.	314,312	r/ 265,787
Under 251 cc.	(D)	(D)
251 to 3,700 cc.	(D)	(D)
3,701 and over cc.	268,300	r/ 229,363
Automotive diesel.	763,046	685,055
Under 251 to 3,700 cc.	192,556	157,860
3,701 and over cc.	570,490	525,552

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

Table 7. Engines Produced (Except Outboard, Automotive, and Aircraft) by Type of Engine and End Application: 1997 and 1996

End application	Gasoline engines		Nonautomotive diesel engines	
	1997	1996	1997	1996
Total.	24,027,909	22,828,218	314,312	r/ 269,810
Oil field and petroleum related generating and stationary equipment.	-	-	(D)	(D)
Other generator sets.	(D)	(D)	36,130	37,530
Irrigation.	(D)	(D)	(D)	(D)
Agricultural vehicular.	(D)	(D)	(D)	(D)
Off-highway mobile construction equipment.	(D)	(D)	(D)	(D)
Marine (except outboard).	(D)	(D)	15,057	13,443
Railroad, motive power type.	-	-	1,328	1,361
Chain saws.	2,863,893	2,521,025	-	-
Garden tractors.	(D)	(D)	-	-
Lawn, home, and recreational equipment.	15,903,683	15,783,750	-	-
Other general industrial.	(D)	1,158,277	45,413	r/ 31,181

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

Table 8. Production, Exports, and Imports of Internal Combustion Engines: 1997 and 1996
[Quantity in units. Value in thousands of dollars]

		Manufacturers' production		Exports of domestic merchandise 2/		Imports for consumption 3/	
Product code	Product description	Value of shipments f.o.b. plant 1/		Value at port		Value	
		Quantity		Quantity		Quantity	
1997							
	Total.....	15,602,535	11,511,147	2,061,851	2,590,940	2,571,759	2,002,966
35194	Automotive diesel engines.....	763,075	6,014,021	81,260	815,651	18,721	143,697
35193	Nonautomotive diesel engines...	289,262	2,707,749	102,767	1,390,782	339,928	885,494
35191	Gasoline engines.....	14,541,166	2,405,706	1,873,972	314,703	2,169,196	948,768
35196	Gas and liquefied petroleum gas and engines.....	9,032	383,671	3,852	69,804	43,914	25,007
1996							
	Total.....	14,743,080	9,865,306	1,891,809	2,025,455	2,440,382	2,014,740
35194	Automotive diesel engines.....	685,031	5,051,380	65,199	600,789	18,202	115,488
35193	Nonautomotive diesel engines...	249,773	2,235,768	73,544	1,062,311	300,720	822,549
35191	Gasoline engines.....	13,799,295	2,251,561	1,750,109	301,032	2,105,317	1,056,756
35196	Gas and liquefied petroleum gas and engines.....	8,981	326,597	2,957	61,323	16,143	19,947

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

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

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

Table 9. Comparison of Standard Industrial Classification-Based Product Codes with
Schedule B Export Numbers and HTSUSA Import Numbers: 1997

Product code	Product description	Export number 1/	Import number 2/
35191	Gasoline engines (except outboard marine, aircraft, automobile, highway truck, bus, and tank)	8407.29.0010	8407.29.0010
		8407.29.0050	8407.29.0020
		8407.31.0000	8407.29.0030
		8407.32.5000	8407.29.0040
		8407.33.5000	8407.31.0040
		8407.34.5000	8407.31.0080
		8407.90.1010	8407.32.1000
		8407.90.1050	8407.32.9040
		8407.90.9030	8407.32.9080
		8407.90.9050	8407.33.1030
			8407.33.1060
			8407.33.1090
			8407.33.9040
			8407.33.9080
			8407.34.0560
			8407.34.0590
			8407.34.1030
			8407.34.1060
			8407.34.1090
			8407.34.9000
			8407.90.1010
			8407.90.1020
			8407.90.1060
			8407.90.1080
			8407.90.9020
			8407.90.9040
			8407.90.9060
			8407.90.9080
			8411.99.9030
			8411.99.9060
35193	Nonautomotive diesel, semidiesel, and dual fuel engines	8408.10.0010	8408.10.0005
		8408.10.0020	8408.10.0015
		8408.10.0030	8408.10.0020
		8408.10.0040	8408.10.0030
		8408.10.0050	8408.10.0040
		8408.20.5000	8408.10.0050
		8408.90.1000	8408.20.1040
		8408.90.9010	8408.20.1080
		8408.90.9020	8408.20.9000
		8408.90.9030	8408.90.1040
		8408.90.9040	8408.90.1080
		8408.90.9050	8408.90.9010
			8408.90.9020
			8408.90.9030
			8408.90.9040
			8408.90.9050
35194	Automotive diesel, semidiesel, and dual fuel engines	8408.20.2000	8408.20.2000
35196	Piston-type natural gas engines, including LPG engines	8407.90.9010	8407.90.9010

1/ Source: 1997 edition, Harmonized System-Based Schedule B, Statistical Classification of Domestic and Foreign Commodities Exported from the United States.

2/Source: Harmonized Tariff Schedule of the United States Annotated (1997).