1998
THE MOTOR INDUSTRY OF JAPAN

Japan Automobile Manufacturers Association, Inc.

Introduction

This booklet offers our readers a brief overview of the Japanese automobile industry today. It contains a wide range of pertinent statistics on the industry's status and looks at relevant trends and developments.

The Japan Automobile Manufacturers Association, Inc. (JAMA) aims to facilitate understanding of the Japanese auto industry by providing helpful insights into the industry. We hope that you will find this publication informative, and we welcome your questions and comments.

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Passenger Car Classifications

Throughout this booklet, passenger cars are referred to as standard, small or mini cars. These categories are based primarily on engine displacement: standard is over 2000cc, small is 661-2000cc, and mini is 660cc and under.

Most passenger cars in Japan are in the small category, but the other two sectors have been expanding in recent years. For more details, see *Motor Vehicle Classification* on *page 20* and *Car Market Sectors* on *page 7*.

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JAPAN AUTOMOBILE MANUFACTURERS ASSOCIATION, INC.

1997 In Summary

SUMMARY: 1997 DOMESTIC PERFORMANCE AND EXPORTS

	Cars	Trucks	Buses	Total
Production	8,491,440	2,421,413	62,234	10,975,087
	+8.0%	**-0.3%**	**+17.1%**	**+6.1%**
New Registrations	4,492,006	2,217,257	15,763	6,725,026
	-3.8%	**-7.3%**	**-8.5%**	**-5.0%**
Exports	3,578,658	919,908	54,602	4,553,168
	+25.1%	**+13.9%**	**+24.5%**	**+22.7%**

Notes: 1. New registrations include imported vehicles.
2. Percentage figures represent the change from the preceding year.
Sources: Japan Automobile Manufacturers Association, Japan Automobile Dealers Association, Japan Mini-Vehicles Association.

SUMMARY: 1997 DOMESTIC MOTORCYCLE PERFORMANCE AND EXPORTS

	50cc & under	Over 50cc	Total
Production	933,921	1,741,762	2,675,683
	-1.5%	**+6.5%**	**+3.5%**
Demand in Japan	864,396	324,135	1,188,531
	-1.4%	**-5.7%**	**-2.6%**
Exports	864,395	323,843	1,188,238
	+37.3%	**+6.3%**	**+7.5%**

Note: Percentage figures represent the change from the preceding year.
Source: Japan Automobile Manufacturers Association.

JAPAN'S CAR/TRUCK/BUS PRODUCTION, SALES AND EXPORTS BY MAKE (1997)

	Production	Sales	Exports
Cars	374,174	275,211	74,252
Trucks	178,733	173,114	29,793
Daihatsu	**552,947**	**448,325**	**104,045**
Cars	334,263	204,723	122,734
Trucks	95,255	100,760	120
Fuji	**429,518**	**305,483**	**122,854**
Trucks	67,845	41,952	24,679
Buses	6,663	2,554	4,308
Hino	**74,478**	**44,506**	**28,987**
Cars	1,186,343	647,034	544,476
Trucks	120,696	124,774	—
Honda	**1,307,039**	**771,808**	**544,476**
Cars	25,532	3,110	29,997
Trucks	330,710	118,453	191,395
Buses	3,458	1,517	2,574
Isuzu	**359,700**	**123,080**	**223,966**
Cars	688,478	225,009	447,637
Trucks	180,455	112,170	90,330
Buses	76	—	3,384
Mazda	**869,009**	**337,179**	**541,351**
Cars	820,703	344,928	390,882
Trucks	411,436	328,926	158,482
Buses	7,443	5,028	2,265
Mitsubishi	**1,239,582**	**678,882**	**551,629**
Cars	1,511,702	744,386	597,571
Trucks	206,875	287,550	89,659
Buses	7,054	1,802	4,745
Nissan	**1,725,631**	**1,033,738**	**691,975**
Trucks	45,883	29,169	18,814
Buses	3,106	856	2,230
Nissan Diesel	**48,989**	**30,025**	**21,044**
Cars	640,778	382,228	210,896
Trucks	225,552	213,587	17,637
Suzuki	**866,330**	**595,815**	**228,533**
Cars	2,910,107	1,323,879	1,160,213
Trucks	557,475	663,427	298,999
Buses	34,464	3,997	35,096
Toyota	**3,502,046**	**1,991,303**	**1,494,308**
Other (Imports)	**458**	**364,882**	**—**
Total Cars	**8,492,080**	**4,492,003**	**3,578,658**
Total Trucks	**2,421,413**	**2,217,260**	**919,908**
Total Buses	**62,234**	**15,763**	**54,602**
Total	**10,975,727**	**6,725,026**	**4,553,168**

Sources: Japan Automobile Manufacturers Association, Japan Automobile Dealers Association, Japan Mini-Vehicles Association.

JAPAN'S TOP SELLERS

		1997	*% Change from 1996*
1	Toyota *Corolla*	238,098	+6.7
2	Nissan *March*	143,965	+9.2
3	Toyota *Mark II*	126,656	+10.6
4	Toyota *Starlet*	117,182	-3.8
5	Honda *Step Wagon*	109,894	+33.5
6	Toyota *Crown*	109,711	-20.3
7	Toyota *Ipsum*	92,822	+4.6
8	Mazda *Demio*	88,293	+208.4
9	Honda *Odyssey*	82,350	-25.3
10	Nissan *Sunny*	71,384	-23.8
11	Honda *S-MX*	69,910	N.A.
12	Honda *Logo*	68,002	+265.3
13	Subaru *Legacy*	66,576	-27.2
14	Toyota *Camry*	63,241	+40.7
15	Toyota *Carina*	59,884	-18.2
16	Nissan *Pulsar*	58,788	-11.6
17	Mitsubishi *Legnum*	58,304	+240.0
18	Toyota *Corona*	57,323	-33.8
19	Toyota *Caldina Wagon*	54,999	-19.5
20	Nissan *Cefiro*	51,098	+10.6
21	Honda *Civic*	50,530	-26.5
22	Toyota *Sprinter*	50,020	-27.6
23	Nissan *Stagea*	48,347	+168.5
24	Toyota *Chaser*	47,492	+13.5
25	Honda *CR-V*	44,651	-56.6
26	Nissan *Bluebird*	43,561	-30.4
27	Nissan *Primera*	42,169	+6.1
28	Nissan *Wingroad*	41,650	+33.7
29	Subaru *Impreza*	38,986	-4.3
30	Toyota *Corsa*	38,089	-17.8

Note: N.A. = Not available.
Source: Japan Automobile Dealers Association.

Motor Vehicle Production

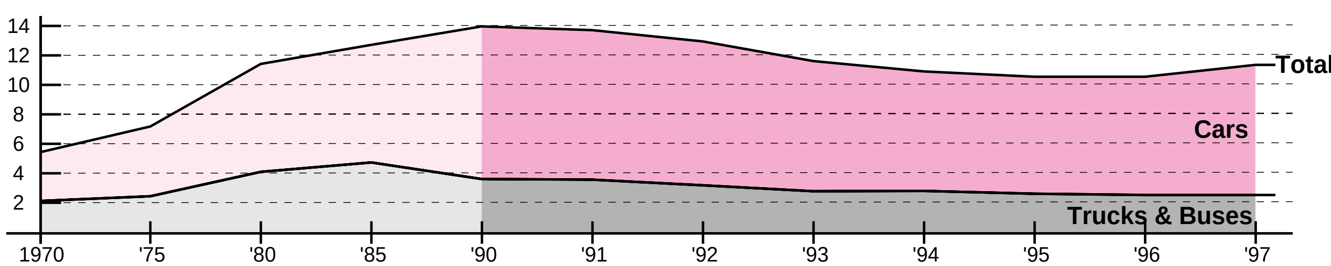
Car production in Japan showed a year-on-year gain of 6.1% in 1997, totaling 10.97 million units. Despite a downturn in domestic sales, overall production scored a second consecutive year of growth, benefiting from a favorable trend in overall exports prompted in part by the strong performance of the world's major markets excepting Asia, where demand plunged due to the currency crisis, and in part by the depreciation of the yen throughout the year.

Passenger car production posted a year-on-year rise of 8% for the second straight year to reach 8.49 million units. Standard cars and small cars recorded gains of 17.8% and 4.7% respectively, while minicars, which are largely aimed at the domestic market, dropped 4.2%.

Truck production registered a marginal decline of 0.3%, totaling 2.42 million units, to remain essentially unchanged. Production of standard trucks jumped 19.6% against declines of 12.7% and 6.7% in small truck and minitruck sectors. Production of buses rose by 17.1% to 62,234 units.

Japan maintained its rank as the world's second-largest producer of motor vehicles following the United States. The country's total domestic output of motor vehicles accounted for about 20% of world production for the year.

MOTOR VEHICLE PRODUCTION



Year	Cars	%Chg.	Trucks	%Chg.	Buses	%Chg.	Total	%Chg.
1997	8,491,440	8.0	2,421,413	-0.3	62,234	17.1	10,975,087	6.1
1996	7,864,676	3.3	2,428,897	-4.3	53,126	12.4	10,346,699	1.5
1995	7,610,533	-2.5	2,537,737	-6.1	47,266	-3.8	10,195,536	-3.4
1994	7,802,037	-8.1	2,702,970	0.6	49,112	2.2	10,554,119	-6.0
1993	8,493,943	-9.4	2,685,528	-12.5	48,074	-7.6	11,227,545	-10.2
1992	9,378,694	-3.8	3,068,585	-11.0	52,005	17.0	12,499,284	-5.6
1991	9,753,069	-2.0	3,447,914	-1.4	44,449	10.6	13,245,432	-1.8
1990	9,947,972	9.9	3,498,639	-11.0	40,185	-4.5	13,486,796	3.5
1985	7,646,816	8.1	4,544,688	5.2	79,591	10.2	12,271,095	7.0
1980	7,038,108	14.0	3,913,188	15.2	91,588	46.4	11,042,884	14.6
1975	4,567,854	16.2	2,337,632	-9.2	36,105	-21.2	6,941,591	5.9
1970	3,178,708	21.7	2,063,883	2.1	46,566	11.3	5,289,157	13.1
1965	696,176	20.1	1,160,090	4.6	19,348	41.5	1,875,614	10.2
1960	165,094	110.0	308,020	73.5	8,437	25.3	481,551	83.2
1955	20,268	40.0	43,857	-11.5	4,807	-16.4	68,932	-1.6
1950	1,594	–	26,501	–	3,503	–	31,597	–

Note: Percentage figures represent the change from the preceding year.
Source: Japan Automobile Manufacturers Association.

1997 DOMESTIC PRODUCTION BY MANUFACTURER

	Cars	%Chg.	Trucks	%Chg.	Buses	%Chg.	Total	%Chg.
Daihatsu	374,174	6.7	178,733	-3.3	—	—	552,947	3.2
Fuji Hvy. Ind.	334,263	5.6	95,255	-5.1	—	—	429,518	3.0
Hino	—	—	67,845	-6.9	6,663	24.3	74,478	-4.8
Honda	1,185,703	24.8	120,696	-15.7	—	—	1,306,399	19.5
Isuzu	25,532	-41.2	330,710	15.9	3,458	34.8	359,700	8.6
Mazda	688,478	14.9	180,455	3.8	76	-60.4	869,009	12.3
Mitsubishi	820,703	4.9	411,436	0.2	7,443	6.8	1,239,582	3.3
Nissan	1,511,702	7.3	206,875	5.9	7,054	15.0	1,725,631	7.1
Nissan Diesel	—	—	45,883	-2.8	3,106	54.7	48,989	-0.5
Suzuki	640,778	4.0	225,552	-2.7	—	—	866,330	2.2
Toyota	2,910,107	4.0	557,475	-4.4	34,464	15.2	3,502,046	2.7
Other	—	—	458	18.0	—	—	458	18.0
Total	**8,491,440**	**8.0**	**2,421,413**	**-0.3**	**62,234**	**17.1**	**10,975,087**	**6.1**

Note: Percentage figures represent the change from the preceding year.

Domestic Sales of New Motor Vehicles

New motor vehicle registrations dropped 5% in 1997, amounting to only 6.72 million units and marking the first decline in domestic sales in four years. Demand in the first quarter of the year surged enormously, driven by buyers seeking to beat the increase in the consumption tax that took effect on April 1st. Throughout the rest of the year, the market remained locked in a slump due to the effects of a number of negative factors, including the backrush from the aforementioned rush-in demand, the end of a special cut in income tax, and reduced consumer confidence due to uncertainty in the overall economy. The result was a slump in demand for the year as a whole.

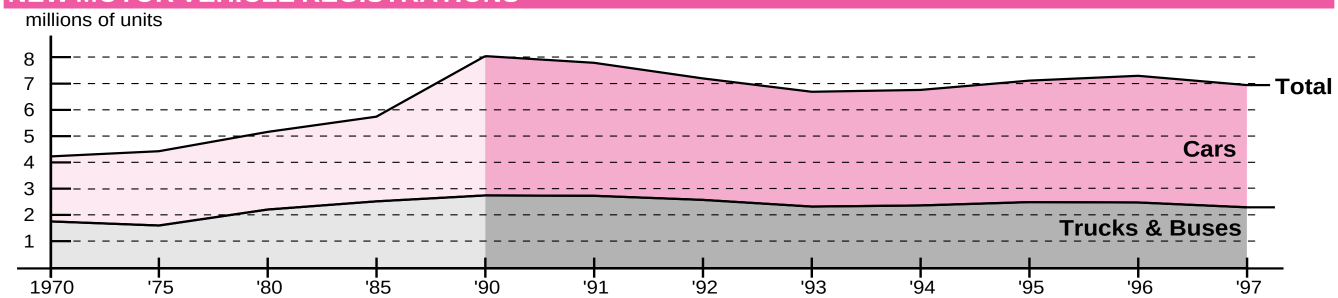
Passenger car sales slipped 3.8% to 4.5 million units, the first fall in four years. All sectors posted declines, with standard car sales down 2.8%, small car sales dropping 4.0%, and minicar sales sagging 4.2%.

Sales of minivans, station wagons, sport-utility and other recreational vehicles remained favorable, bucking the overall downward trend. According to a survey by the Japan Automobile Dealers Association, so-called RVs accounted for over 45% of the total of domestically-produced cars and small trucks, the highest proportion ever. Automakers are expected to continue pursuing this trend.

Sales of trucks sank by 7.3% to drop to 2.22 million units, for the second straight year of retreat. In this area too, all sectors suffered declines, with standard trucks down 10.4%, small trucks down 7.3%, and minitrucks down 6.6%.

New bus registrations fell 8.5%, marking the seventh straight year of decline.

NEW MOTOR VEHICLE REGISTRATIONS



Year	Cars	%Chg.	Trucks	%Chg.	Buses	%Chg.	Total	%Chg.
1997	4,492,006	-3.8	2,217,257	-7.3	15,763	-8.5	6,725,026	-5.0
1996	4,668,728	5.1	2,391,790	-0.5	17,227	-0.4	7,077,745	3.1
1995	4,443,906	5.6	2,403,825	4.6	17,303	-3.0	6,865,034	5.2
1994	4,210,168	0.3	2,298,685	2.2	17,843	-6.2	6,526,696	0.9
1993	4,199,451	-5.7	2,248,803	-9.4	19,025	-11.8	6,467,279	-7.1
1992	4,454,012	-8.5	2,483,484	-6.3	21,577	-9.3	6,959,073	-7.5
1991	4,868,233	-4.6	2,632,730	-0.6	23,796	-4.5	7,524,759	-3.2
1990	5,102,659	15.9	2,649,909	-6.3	24,925	-5.9	7,777,493	7.2
1985	3,104,083	3.3	2,431,178	4.7	21,573	6.4	5,556,834	2.2
1980	2,854,176	-6.0	2,137,947	2.2	23,387	-2.5	5,015,510	-2.7
1975	2,737,641	19.7	1,551,454	0.7	19,836	-12.6	4,308,931	11.9
1970	2,379,137	16.8	1,693,502	-4.4	27,828	4.2	4,100,467	6.9
1965	586,287	18.8	1,073,832	9.0	14,843	-2.4	1,674,962	12.1
1960	145,227	98.8	255,693	61.2	7,260	12.2	408,180	71.4
1955	20,055	–	40,498	–	3,977	–	64,530	–

Notes: 1. Figures include imported vehicles.
2. Percentage figures represent the change from the preceding year.
Sources: Japan Automobile Dealers Association, Japan Mini-Vehicles Association.

1997 DOMESTIC REGISTRATIONS BY MANUFACTURER

	Cars	%Chg.	Trucks	%Chg.	Buses	%Chg.	Total	%Chg.
Daihatsu	275,211	-7.9	173,114	1.5	—	—	448,325	-4.5
Fuji Hvy. Ind.	204,723	-14.9	100,760	-6.6	—	—	305,483	-12.3
Hino	—	—	41,952	-5.5	2,554	-5.7	44,506	-5.5
Honda	647,037	15.1	124,771	-12.0	—	—	771,808	9.6
Isuzu	3,110	1.1	118,453	-10.2	1,517	-1.6	123,080	-9.9
Mazda	225,009	13.9	112,170	-18.0	—	—	337,179	0.8
Mitsubishi	344,928	-4.0	328,926	-15.4	5,028	-2.6	678,882	-9.9
Nissan	744,386	-8.5	287,550	1.7	1,802	-9.9	1,033,738	-5.9
Nissan Diesel	—	—	29,169	-5.4	856	-22.1	30,025	-6.0
Suzuki	382,228	-3.5	213,587	-5.4	—	—	595,815	-4.2
Toyota	1,323,879	-5.7	663,427	-4.6	3,997	-14.7	1,991,303	-5.4
Imports	341,495	-13.2	23,378	-31.5	9	-69.0	364,882	-14.7
Total	**4,492,006**	**-3.8**	**2,217,257**	**-7.3**	**15,763**	**-8.5**	**6,725,026**	**-5.0**

Note: Percentage figures represent the change from the preceding year.
Sources: Japan Automobile Dealers Association, Japan Automobile Importers Association.

Sales of Imported Cars in Japan

New registrations of imported cars (including commercial vehicles) dropped in 1997, marking the first decline after four years of growth, three of which were record-setting years. Sales amounted to 364,882 units, down 14.7% from the previous year. Sales of imported passenger cars tallied 341,495 units, down 13.2%.

Sales of standard imported passenger cars suffered a sharp drop of 19.3% to 224,181 units, reflecting the impact of the weak yen, the increase in the consumption tax in April, the end of the special cut in income tax, and the on-going economic slump. Sales of small imported motor vehicles, in contrast, hit 117,314 units, a rise of 1.5%.

As a result, the share of Japan's passenger car market held by imports (excluding the minicar sector as no foreign automakers market minicars in Japan) was 9.6%. (If minicars were included, the figure would be 7.6%.)

Although sales of imports from non-Japanese automakers (pure imports as opposed to reverse imports) declined by 6.7% to 31,4281 units, sales of imported vehicles produced at Japanese automakers' foreign facilities fell to 50,601 units, a massive drop of 44.2%. This sharp decline is attributable not only to the strong demand for Japanese-brand vehicles in Western countries (especially the United States), which reduced the number of units to be exported to Japan from local facilities, but also to the weaker yen.

European cars continue to be the pace-setters in the imported car market, taking an overall share of 78.1%, or 266,741 units. Sales of British and Italian cars posted gains of 3.6% and 14.4%, respectively, while sales of German-, French-, and Swedish-made cars slipped by 3.8%, 2.3%, and 19.5%, respectively. Imports of U.S.-made passenger cars amounted to 83,344 units, an overall decline of 32.0%. However, sales by the Big Three automakers (including sales of the *Saturn*) declined only 17.8%, totaling 43,579 units.

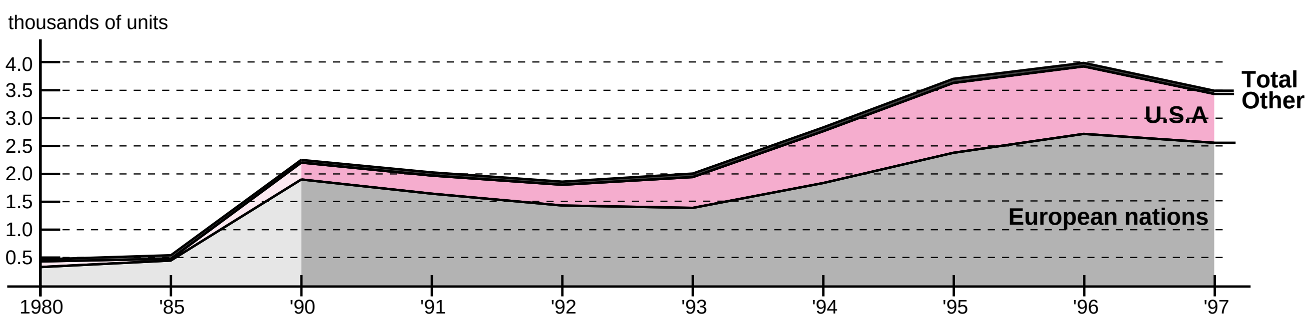
The outlook for the imported car market in 1998 is not particularly bright. Sales are expected to proceed more or less at the pace of 1997, with no return to the high levels of recent years expected for the time being.

BEST-SELLING FOREIGN MAKES (1997)

1	Volkswagen	49,340 units
2	Mercedes Benz	41,905
3	BMW	36,489
4	Opel	34,397
5	Honda	29,968
6	Rover	27,508
7	Volvo	19,875
8	GM	19,692
9	Chrysler	14,432
10	Ford	13,983

Note: GM includes the GM-made Toyota Cavalier, Ford includes Ford Europe, BMW includes units manufactured in the U.S., and Volvo includes units manufactured in the Netherlands.

NEW REGISTRATIONS OF IMPORTED CARS



Country of Origin	1980	1985	1990	1991	1992	1993	1994	1995	1996	1997
European nations	33,813	48,204	190,750	165,149	142,567	138,703	182,335	236,307	268,700	256,485
(German cars included)	(26,038)	(40,157)	(137,442)	(119,048)	(104,680)	(97,684)	(120,886)	(156,216)	(184,133)	(177,075)
U.S.A.	11,058	1,816	28,602	30,128	37,085	54,493	91,643	122,872	122,559	83,344
(U.S.-made Japanese cars included)	(0)	(0)	(12,598)	(16,328)	(22,765)	(35,083)	(57,368)	(84,722)	(69,534)	(36,206)
Other	0	152	2,354	1,907	1,765	1,894	2,183	3,086	2,133	1,666
Total	**44,871**	**50,172**	**221,706**	**197,184**	**181,417**	**195,090**	**276,161**	**362,265**	**393,392**	**341,495**
%Chg.	–	–	22.9	-11.1	-8.0	7.5	41.6	31.2	8.6	-13.2

Note: Percentage figures represent the change from the preceding year.
Source: Japan Automobile Importers Association.

Car Market Sectors

In Japan, engine size is the main criterion for dividing passenger cars into categories. Engine displacement for standard cars is 2000cc or more, for small cars 661-2000cc, and for minicars 660cc and under.

One key characteristic of the Japanese car market is the high proportion represented by the small and minicar sectors, that is, cars with engine displacement under 2000cc. In 1997, these sectors accounted for an overwhelming portion of the market, with small cars holding a 60.1% share and minicars holding 20.4%, for a combined total of 80.6%. Meanwhile, the share taken by standard cars has remained flat at around 20% for the past three years.

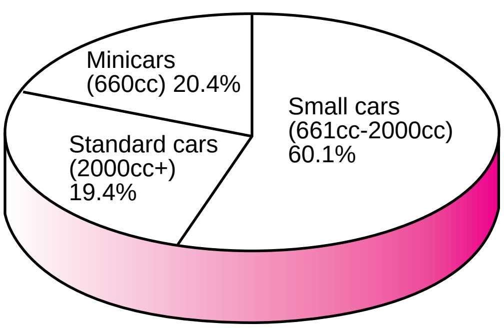
A second characteristic of the market is standard cars' high share of the imported car market in contrast to their low share of the total market. The share of the imported car market taken by standard cars has been 71.1%, 70.6%, and 65.6%, respectively, over the past three years.

Minicars, which were first introduced into the Japanese market in 1955, have proven to be well-suited to Japan's narrow roads and tight parking conditions. In addition, engines with displacement of 660cc offer attractive fuel economy and receive preferential tax treatment. Regulations on the overall length and width of minicars are scheduled to be broadened in 1998 in order to improve the safety of the category.

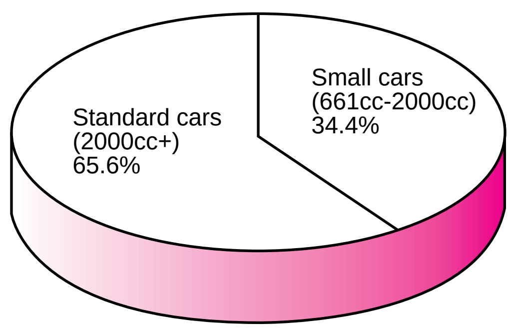
A third characteristic is the increasing presence of RV models in the car market. Recreational-type vehicles such as minivans, station wagons and "sport-utilities" topped the 45% level in 1997 sales (excluding import models), and this growth trend is expected to continue.

A breakdown of the car market by fuel type reveals that as of December 1996, cars with gasoline-powered engines numbered 41,509,579 units, accounting for 88.6% of cars on the road. Diesel-powered cars numbered 5,072,757 units, accounting for 10.8% of cars on the road. Cars powered by LPG or other means numbered 286,376 units, accounting for only 0.6% of cars on the road.

1997 CAR MARKET SHARE BY CATEGORY



1997 IMPORTED CAR MARKET SHARE BY CATEGORY



PASSENGER CAR SALES IN JAPAN BY MARKET SECTOR

	1980	1985	1990	1991	1992	1993	1994	1995	1996	1997
SMALL CARS	**2,608,215**	**2,869,527**	**3,839,221**	**3,364,285**	**2,966,003**	**2,743,336**	**2,712,682**	**2,654,291**	**2,813,362**	**2,701,686**
Growth rate	-6.2%	1.8%	2.8%	-12.4%	-22.7%	-7.5%	-1.1%	-2.2%	6.0%	-4.0%
Market share	*91.4%*	*92.4%*	*75.2%*	*69.1%*	*66.6%*	*65.3%*	*64.4%*	*59.7%*	*60.3%*	*60.1%*
STANDARD CARS	**71,931**	**73,539**	**467,490**	**663,611**	**713,828**	**683,750**	**687,463**	**889,260**	**897,985**	**873,220**
Growth rate	-15.1%	-10.4%	69.1%	42.0%	7.6%	-4.3%	0.5%	29.4%	1.0%	-2.8%
Market share	*2.5%*	*2.4%*	*9.2%*	*13.6%*	*16.0%*	*16.3%*	*16.3%*	*20.0%*	*19.2%*	*19.4%*
MINICARS	**174,030**	**161,017**	**795,948**	**840,337**	**774,181**	**772,365**	**810,023**	**900,355**	**957,381**	**917,100**
Growth rate	2.2%	-16.8%	102.8%	5.6%	-7.9%	-0.2%	4.9%	11.2%	6.3%	-4.2%
Market share	*6.1%*	*5.2%*	*15.6%*	*17.3%*	*17.4%*	*18.4%*	*19.3%*	*20.3%*	*20.5%*	*20.4%*
TOTAL MARKET	**2,854,176**	**3,104,083**	**5,102,659**	**4,868,233**	**4,454,012**	**4,199,451**	**4,210,168**	**4,443,906**	**4,668,728**	**4,492,006**
Growth rate	-6.0%	3.3%	15.9%	-4.6%	-8.5%	-5.7%	0.3%	5.6%	5.1%	-3.8%

Note: Figures include imports.
Source: Japan Automobile Manufacturers Association.

Motor Vehicle Exports

Following a long downtrend, motor vehicle exports in 1997 jumped by 22.7% to 4,553,168 units, marking their first year-on-year growth in seven years.

This growth is attributable to a number of factors, including an economic recovery or the continuation of favorable economic conditions in Europe, North America, and other export destinations, as well as the increased demand for sport-utility vehicles and other models that are not produced by Japanese automakers in overseas plants.

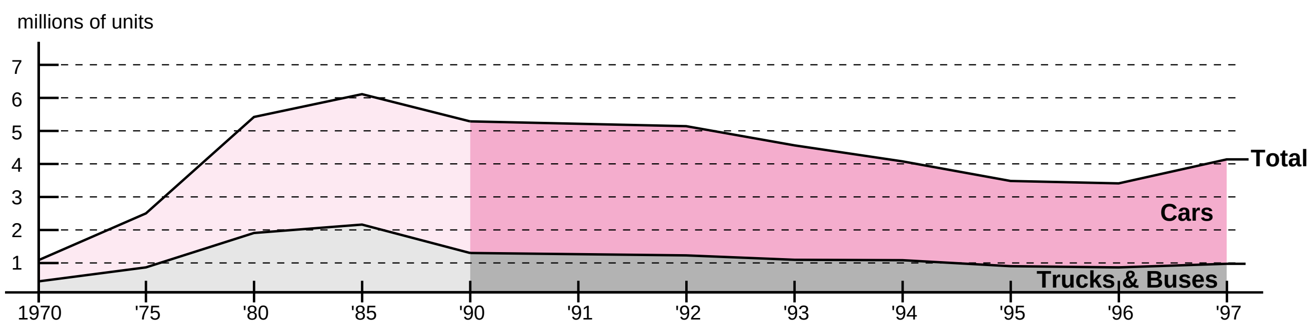
A closer look by destination reveals that exports to Asia declined by 2.2%. In contrast, exports to Europe and North America, which account for the bulk of motor vehicle exports, surged by 32.2% and 20.8%, respectively. Other destinations likewise recorded double-digit growth. Although the United States remained Japan's leading export destination, its share of total motor vehicle exports decreased in the year to 28%.

Exports as a proportion of total domestic production increased by 5.6 points to 41.0%. Nonetheless, Japanese automakers continue to press ahead to make steady progress in their globalization efforts. Overseas production in 1997 amounted to 6,342,170 units.

EXPORTS BY DESTINATION

	1965	1970	1975	1980	1985	1990	1995	1996	1997
Asia	56,879	149,787	290,134	581,116	710,573	569,143	616,027	620,016	606,389
Middle East	8,400	26,635	241,511	542,955	401,598	284,194	206,446	284,881	346,154
Europe	16,458	126,275	528,486	1,226,954	1,363,694	1,750,497	918,831	948,712	1,254,879
(EU)	(1,425)	(51,514)	(383,589)	(955,974)	(972,959)	(1,256,328)	(792,058)	(801,858)	(1,025,688)
North America	40,404	495,608	1,003,954	2,592,577	3,384,563	2,521,823	1,301,218	1,169,073	1,412,055
(U.S.A.)	(34,441)	(422,464)	(919,949)	(2,407,645)	(3,131,998)	(2,236,988)	(1,228,096)	(1,098,504)	(1,272,093)
Latin America	14,117	79,678	143,509	382,231	290,417	216,375	329,064	279,641	437,848
Africa	21,595	111,244	217,294	322,329	137,729	129,293	137,718	134,027	174,325
Oceania	36,176	97,316	251,426	316,865	426,075	344,236	274,828	265,478	310,778
Other	139	233	1,298	1,934	15,809	15,994	6,676	9,626	10,776
Total	**194,168**	**1,086,776**	**2,677,612**	**5,966,961**	**6,730,458**	**5,831,555**	**3,790,809**	**3,711,454**	**4,553,204**

MOTOR VEHICLE EXPORTS



Year	Cars	%Chg.	Trucks	%Chg.	Buses	%Chg.	Total	%Chg.
1997	3,578,699	+25.1	919,903	+13.9	54,602	+24.5	4,553,204	+22.7
1996	2,860,080	-1.2	807,508	-5.0	43,866	-2.0	3,711,454	-2.1
1995	2,896,216	-13.8	849,859	-17.2	44,734	-39.2	3,790,809	-15.0
1994	3,359,814	-14.1	1,026,878	-0.7	73,600	-0.6	4,460,292	-11.1
1993	3,910,584	-11.3	1,033,063	-12.7	74,009	-1.4	5,017,656	-11.5
1992	4,408,864	-1.0	1,183,686	-5.1	75,096	39.4	5,667,646	-1.5
1991	4,452,233	-0.7	1,247,263	-4.7	53,883	34.8	5,753,379	-1.3
1990	4,482,130	1.8	1,309,121	-9.4	39,961	13.7	5,831,212	-0.9
1985	4,426,762	11.2	2,238,104	8.0	65,606	16.7	6,730,472	10.2
1980	3,947,160	27.2	1,953,685	37.2	66,116	79.4	5,966,961	30.8
1975	1,827,286	5.8	833,672	-4.7	16,654	4.3	2,677,612	2.3
1970	725,586	29.5	351,611	20.9	9,579	41.6	1,086,776	26.7
1965	100,716	50.4	90,923	11.3	2,529	45.8	194,168	29.1
1960	7,013	43.6	31,028	122.3	768	73.8	38,809	24.6
1955	2	100.0	907	33.6	322	4.5	1,231	24.6
1950	7	–	5,409	–	93	–	5,509	–

Note: Percentage figures represent the change from the preceding year.
Source: Japan Automobile Manufacturers Association.

Motor Vehicles In Use and Cars Per Capita

The number of vehicles in use on Japanese roads is rising. As of December 1997, the number of vehicles in use had increased by 1.7% over the previous year to reach a total of 70,003,297 units. Over the past ten years, the number of vehicles in use has grown substantially, at a pace of around 2 million units per year. In 1997, however, that pace slowed down to approximately 1.2 million units.

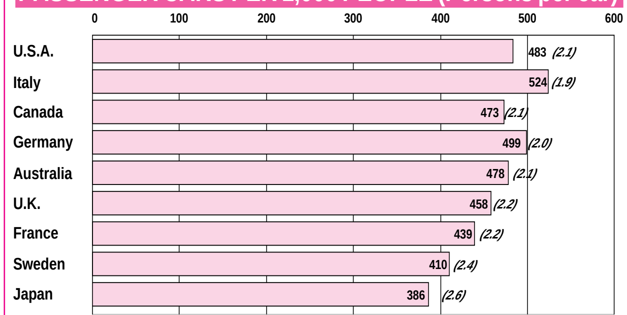
From a worldwide perspective, the United States retains an overwhelming lead in terms of the number of vehicles in use, which in the U.S. total approximately 203 million units and account for about one out of every three motor vehicles in the world.

Japan ranks second in motorization, holding a share of about one-tenth of the estimated world total of nearly 700 million units.

The average age of cars on Japanese roads is also rising. As of March 1997, the average age had lengthened to a record-setting 5.14 years, up 0.1%. The average service life, from purchase to scrapping, increased by 0.1 point to 9.28 years.

Japan ranks lower than the United States or Europe in terms of passenger cars per capita. According to 1996 statistics, Japan had only 386 cars per thousand persons, or one car for every 2.6 persons.

PASSENGER CARS PER 1,000 PEOPLE (Persons per car)



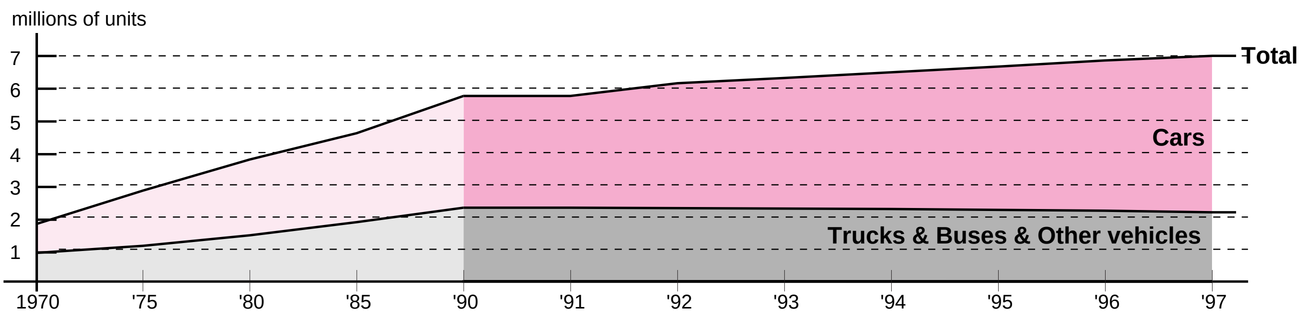
Note: Based on 1996 statistics from each country.

PASSENGER CARS' AVERAGE SERVICE LIFE (as of March of each year)

Year	Life in Years
1975	6.72
1980	8.29
1985	9.17
1990	9.26
1995	9.43
1996	9.27
1997	9.28

Source: Japan Automobile Inspection and Registration Association.

MOTOR VEHICLES IN USE (as of the end of each year)



Year	Cars	Trucks	Buses	Other vehicles	Total	%Chg.
1997	48,611,230	19,654,917	240,354	1,500,548	70,003,297	1.7
1996	46,868,712	20,092,120	242,243	1,601,444	68,805,073	2.9
1995	44,680,254	20,432,988	243,095	1,500,784	66,857,121	2.8
1994	42,678,566	20,670,360	245,387	1,420,734	65,015,047	2.8
1993	40,772,407	20,884,257	247,794	1,361,722	63,266,180	2.6
1992	38,963,861	21,134,660	248,624	1,314,761	61,661,906	2.9
1991	37,076,065	21,326,629	248,258	1,267,569	59,918,521	3.8
1990	34,924,213	21,324,848	245,668	1,206,996	57,701,725	4.7
1985	27,844,601	17,145,178	231,228	942,377	46,163,384	3.7
1980	23,659,528	13,193,439	230,020	790,911	37,873,898	10.4
1975	17,236,326	10,089,051	226,284	586,895	28,138,556	4.6
1970	8,778,975	8,517,507	187,980	341,315	17,825,777	15.4
1965	2,181,287	4,539,728	102,695	159,259	6,882,969	19.3
1960	457,451	1,589,965	56,192	72,077	2,175,685	24.2
1955	153,924	679,880	34,421	32,572	900,797	8.5
1950	45,006	261,579	18,306	12,494	337,385	9.4
1945	25,533	101,408	12,792	2,314	142,047	–

Note: Percentage figures represent the change from the preceding year.
Source: Ministry of Transport.

Motorcycle Production and Domestic Sales

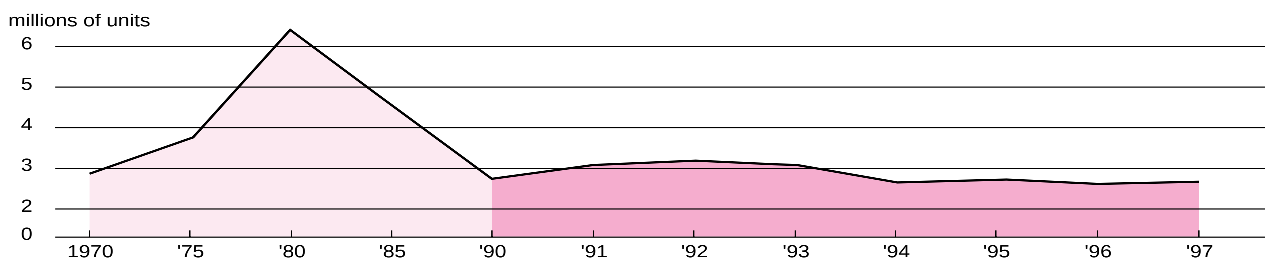
Domestic demand for motorcycles declined for the first time in three years, resulting in total sales of 1.19 million units, a year-on-year drop of 2.6%.

Most categories experienced declines. In contrast to the modest decline of 1.4% posted by the market-dominating 50cc & under category, total figures for larger motorcycles fell by 5.7%. The 51-125cc category plunged by 8.7% and the 251cc & over category dropped 6.2%, while the 126-250cc category displayed a modest gain of 1.0%.

Nevertheless, total motorcycle production in 1997 registered a year-on-year rise of 3.5% to 2.68 million units. Production of the 50cc & under category slipped 1.5%, reflecting the limp domestic demand, and the 51-125cc category similarly declined by 1.3%. In sharp contrast, the 126-250cc and over 250cc categories posted record-setting double-digit gains, up 15.9% and 13.8%, respectively.

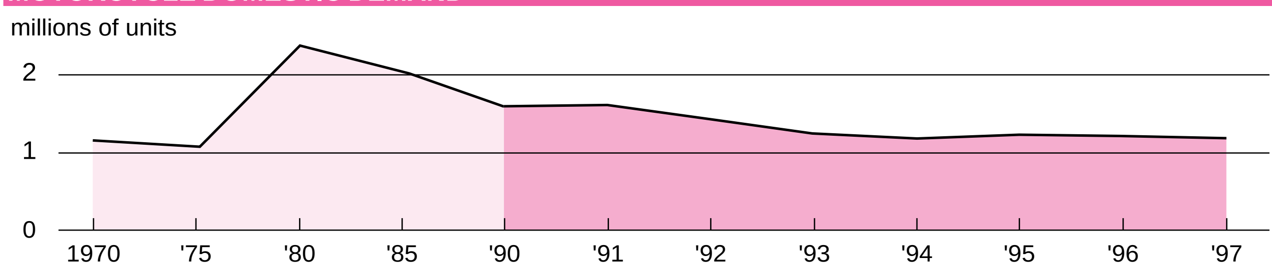
The number of motorcycles on the road in Japan has been on a downtrend for over ten years, standing as of the end of March 1997 at 14.89 million units, or about 12% of the worldwide total. This is third place on the global scale, following India and China.

MOTORCYCLE PRODUCTION



Year	50cc & under	Over 50cc 51~125cc	126~250cc	Over 250cc	Subtotal	Total	%Chg.
1997	933,921	817,284	275,847	648,631	1,741,762	2,675,683	3.5
1996	948,298	828,299	238,045	569,775	1,636,119	2,584,417	-6.1
1995	951,803	1,038,938	217,738	544,760	1,801,436	2,753,239	1.0
1994	874,919	1,062,560	237,386	550,421	1,850,367	2,725,286	-9.9
1993	972,362	1,182,554	231,159	637,079	2,050,792	3,023,154	-5.4
1992	1,180,702	1,053,167	279,707	682,959	2,015,833	3,196,535	5.5
1991	1,340,241	807,397	285,281	595,697	1,688,375	3,028,616	7.9
1990	1,343,220	686,734	270,304	506,637	1,463,675	2,806,895	0.4
1985	2,014,850	1,373,423	469,728	678,346	2,521,497	4,536,347	12.7
1980	2,493,910	2,181,206	660,831	1,098,577	3,940,614	6,434,524	43.8
1975	1,030,822	1,887,701	331,733	552,291	2,771,725	3,802,547	-15.7
1970	895,599	1,407,205	259,145	385,723	2,052,073	2,947,672	14.4

MOTORCYCLE DOMESTIC DEMAND



Year	50cc & under	Over 50cc 51~125cc	126~250cc	Over 250cc	Subtotal	Total	%Chg.
1997	864,396	156,226	84,893	83,016	324,135	1,188,531	-2.6
1996	876,524	171,186	84,055	83,016	343,746	1,220,270	0.6
1995	895,646	139,619	99,759	91,245	330,623	1,226,269	1.6
1994	809,212	153,270	94,974	116,011	364,255	1,173,467	-5.8
1993	841,986	184,570	101,668	120,201	406,439	1,248,425	-13.2
1992	971,481	205,830	129,727	115,860	451,417	1,422,898	-10.5
'91	1,156,257	200,006	151,551	82,839	434,396	1,590,653	-1.1
'90	1,201,472	169,668	160,062	76,913	406,643	1,608,115	-3.0
1985	1,617,770	131,419	172,491	142,033	445,943	2,063,713	3.7
1980	1,962,816	200,236	91,275	105,660	397,171	2,359,987	23.7
1975	769,459	302,581	16,077	30,609	349,267	1,118,726	-3.6
1970	589,932	455,305	67,371	72,613	595,289	1,185,221	-4.9

Note: Percentage figures represent the change from the preceding year.
Source: Japan Automobile Manufacturers Association.

Motorcycle Exports

Exports of motorcycles amounted to 1,459,708 units in 1997, surpassing the previous year's total by approximately 100,000 units to post a year-on-year gain of 7.5%. This marked the second year of growth in exports, following an increase of 2.4% in 1996.

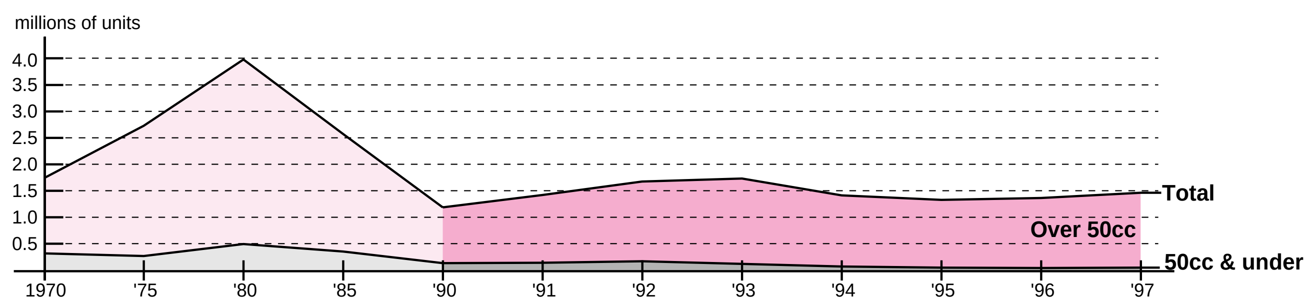
Due to the recent currency crisis in Asia and the subsequent economic turmoil, shipments to that region slipped sharply, dropping 22.3%, while shipments to Europe continued to soar, rising 24.1%. As a result, Europe retained its position as Japan's largest motorcycle export market for the second straight year, edging out Asia which had previously held the top spot. At the same time, shipments to the Middle East, Central and South America, and Oceania registered double-digit growth, while shipments to Africa and the United States remained flat.

Exports rose in all but one category. The 50cc & under category, the 126-250cc, and the over 250cc categories grew 37.3%, 22.0%, and 13.4%, respectively. Meanwhile, the 51-125cc category fell 2.5%.

EXPORTS BY DESTINATION

	1985	1990	1991	1992	1993	1994	1995	1996	1997
Asia	936,990	250,846	299,743	460,619	643,505	504,082	464,979	420,903	326,985
Middle East	178,395	41,766	113,205	78,099	29,512	25,473	16,131	26,489	46,417
Europe	415,830	527,040	563,130	535,761	484,742	355,761	340,585	440,674	546,882
(EU)	(351,831)	(448,923)	(492,699)	(500,021)	(457,932)	(335,526)	(322,957)	(415,803)	(514,161)
North America	800,386	182,933	214,347	270,412	268,620	244,666	267,831	246,259	244,622
(U.S.A.)	(735,683)	(167,202)	(202,340)	(255,358)	(253,732)	(229,330)	(251,880)	(227,022)	(227,461)
Latin America	60,578	92,001	128,817	241,528	223,677	219,985	178,175	157,535	218,131
Africa	63,996	52,721	55,230	51,466	36,924	25,027	26,329	34,398	34,929
Oceania	85,307	36,437	36,330	30,752	32,730	32,862	31,680	31,077	41,742
Total	**2,541,482**	**1,183,744**	**1,410,802**	**1,668,637**	**1,719,710**	**1,407,856**	**1,325,710**	**1,357,3350**	**1,459,708**

MOTORCYCLE EXPORTS



Year	50cc & under	Over 50cc			Subtotal	Total	
		51~125cc	126~250cc	Over 250cc			%Chg.
1997	75,513	649,825	187,981	546,389	1,384,195	1,459,708	7.5
1996	55,016	666,593	154,103	481,623	1,302,319	1,357,335	2.4
1995	61,627	691,433	129,961	442,689	1,264,083	1,325,710	-5.8
1994	88,002	741,486	132,850	445,518	1,319,854	1,407,856	-18.1
1993	138,690	925,447	136,325	519,248	1,581,020	1,719,710	3.1
1992	188,885	788,404	153,631	537,717	1,479,752	1,668,637	18.3
1991	155,461	603,471	134,915	516,955	1,255,341	1,410,802	19.2
1990	147,301	507,840	117,222	411,381	1,036,443	1,183,744	7.3
1985	369,167	1,350,412	296,865	525,038	2,172,315	2,541,482	19.7
1980	501,027	1,907,481	548,306	972,226	3,428,013	3,929,040	44.0
1975	288,974	1,546,170	328,313	527,344	2,401,827	2,690,801	-17.0
1970	326,815	914,325	187,185	309,277	1,410,787	1,737,602	33.8

Note: Percentage figures regresent the change from the preceding year.
Source: Japan Automobile Manufacturers Association.

North American Manufacturing Operations

In 1982 Japanese automakers commenced production in the United States, led by Honda, and sixteen years later there are seven Japanese automakers with an established presence in the American market. This is in line with the automakers' global strategies for supplying local demand with locally-built vehicles. Collectively, they now have seven U.S. manufacturing operations, in which they have invested a total of $14.0 billion in infrastructure and equipment. Taken together, these installations constitute the Japanese industry's largest offshore presence in a single country. In Canada, the automakers are operating three production plants, including one joint venture with GM. There is also a separate plant which produces aluminum wheels.

The implementation of new global business plans that Japanese automakers announced in June 1995 has resulted in additional investment. For example: Toyota has constructed a fourth North American plant in Indiana; Nissan finalized plans to build an engine and transmission assembly plant in Tennessee; and in December 1996, Honda installed a second production line at its plant in Ontario, Canada. Toyota's new engine plant in West Virginia is slated to go into service from autumn 1998.

Although Japanese automakers boosted their investment in production facilities during 1997, total production at Japanese automakers' American manufacturing plants declined by 1% to 1,924,794 units as production shifted to an emphasis on sport-utility vehicles. At the same time, Japanese-affiliated manufacturers increased their production supplied to the U.S. Big Three automakers by 2.4%, with the total rising to 139,579 units.

The operations of Japanese automakers not only provide significant local employment opportunities, but also contribute to the growing export of vehicles from the U.S. It comes thus as no surprise that Honda was the U.S.'s largest exporter of passenger cars in 1997 (excluding vehicles exported to Canada). Japanese-badged car exports accounted for about 60% of total U.S. car exports in 1997. Nevertheless, sales of American-made, Japanese-badged imports into Japan declined 44.2% during 1997 (see page 6).

Japanese automakers are further expanding their local procurement of parts and materials in keeping with their localization drive. This is why they are collaborating tightly with the American and Canadian auto parts industries. At the same time, their technological assistance and other cooperative initiatives are paving the way to greater cost-effectiveness and higher productivity and quality levels among local suppliers. In addition, North American parts makers are enjoying more business opportunities due to the increased local production of major components such as engines and transmissions, which further boosts local content.

Local R&D is also being reinforced through the process known as "design-in" development, in which suppliers get involved from the early stages of vehicle development. This process enables more local vehicle development and facilitates closer collaboration with local suppliers. The nine U.S. R&D subsidiaries of Japanese automakers currently maintain 29 U.S. R&D centers, which provide jobs to over 3,500 Americans in total.

Japanese automakers' purchases of American-made parts are also growing as a result of their localization drive and rising local production levels. The collective total of U.S. parts purchases by Japanese automakers, which was $2.5 billion in fiscal 1986, reached $22.7 billion in fiscal 1996 (April 1, 1996-March 31, 1997).

Complementing such company-to-company initiatives, JAMA pursues a wide range of constructive approaches intended to underpin mutual cooperation and awareness and facilitate local components manufacturing and procurement. JAMA cooperates routinely with American trade organizations such as the Motor and Equipment Manufacturers Association (MEMA) and with the U.S. Department of Commerce and other government agencies. One recent example was the joint hosting of a business conference in San Francisco in February 1997 by JAMA and MEMA.

Japanese automakers are also active in cooperative initiatives at the industry level. Here JAMA has long played a leading role in the encouragement of international cooperation and exchange. Through periodic meetings of the JAMA-AAMA Joint Cooperation Committee, for example, both JAMA and the American Automobile Manufacturers Association seek to further develop specific measures in the areas of standards and certification harmonization and environmental protection. The JAMA-AAMA Joint Cooperation Committee has already met three times.

JAPANESE AUTOMAKERS' NORTH AMERICAN R&D CENTERS

Name of Company	Headquarters, *Division Offices*	Current Employees	Current (Planned) Functions
Honda R&D North America, Inc.	Torrance, CA, *Raymond & East Liberty, OH, Denver, CO, Mojave Desert, CA*	850	1,2,3,4,5,6,7
Isuzu Motors America, Inc.	Los Angeles, CA, *Detroit, MI*	192	1,2,3
Mazda North American Operations, Inc.	Irvine, CA, *Flat Rock, MI, Ann Arbor, MI*	1,344	1,2,3,4,(5),(6),7
Mitsubishi Motors R&D of America, Inc.	Bloomington-Normal, IL, *Ann Arbor, MI, Cypress, CA Bridgeport, NJ, Washington, D.C., New York, N.Y.*	117	1,2,3,4,5,6,7
Nissan Design International, Inc.	San Diego, CA	50	4
Nissan R&D, Inc.	Farmington Hills, MI, *Ann Arbor, MI, Los Angeles, CA, Stanfield, AZ Boston, MA, Smyrna, TN*	500	1,2,3,5,6,7
Subaru R&D, Inc.	Garden Grove, CA	40	1,3,4,6
Toyota Technical Center U.S.A, Inc.	Ann Arbor, MI *(with offices in California and Arizona)*	458	1,2,3
Calty Design Research, Inc. (Toyota)	Newport Beach, CA	50	4

Key to Functions

1) Technical support for procurement of parts for local production
2) Evaluation of parts
3) Evaluation of vehicles
4) Styling & general design
5) Parts design
6) Vehicle design
7) Prototype production

JAPANESE AUTOMAKERS' NORTH AMERICAN MANUFACTURING OPERATIONS

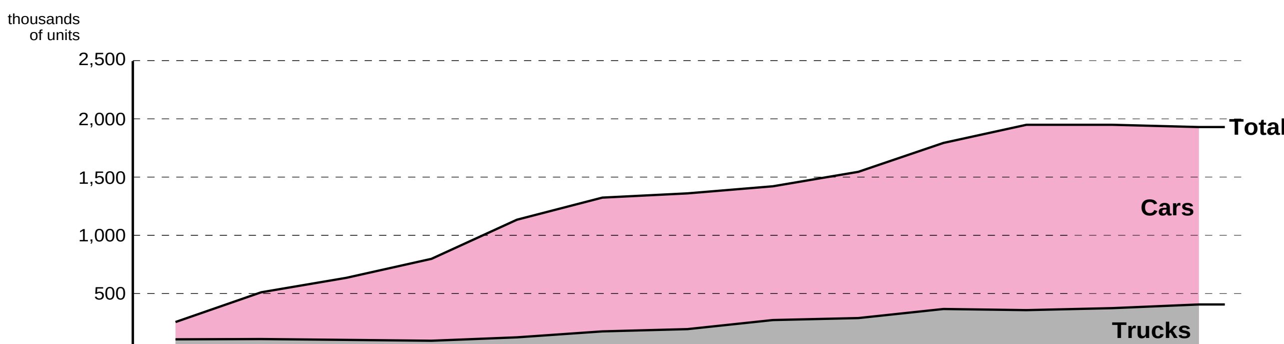
United States

Name of Company	Location (Status)	Products	Start-Up	Employees	Total Investment (million)
Honda of America Manufacturing, Inc.	Marysville,East Liberty,Anna, Ohio (Sole Entry)	Accord, Civic, Acura CL, Engines, Steering Components	Nov. 1982	11,500	$3,229
Nissan Motor Mfg. Corporation USA	Smyrna, Tennessee (Sole Entry)	Altima, Sentra, Pickup Truck Engines & Axles	June 1983	6,000	$1,430
AutoAlliance International, Inc. (Mazda)	Flat Rock, Michigan (Joint Venture: Ford)	Mazda: 626	Sept. 1987	3,100	$1,000
Mitsubishi Motor Manufacturing of America, Inc.	Bloomington-Normal, Illinois (Sole Entry)	Mitsubishi: Eclipse, Galant Chrysler: Avenger, Sebring	Sept. 1988	3,900	$1,040
New United Motor Mfg., Inc. (Toyota)	Fremont, California (Joint Venture: General Motors)	Toyota: Corolla & Tacoma GM: Geo Prizm	Dec. 1984	4,800	$930
Toyota Motor Mfg. Kentucky, Inc.	Georgetown, Kentucky (Sole Entry)	Camry, Avalon, Sienna, Engines	May 1988	7,700	$4,500
Subaru-Isuzu Automotive, Inc.	Lafayette, Indiana (Joint Venture)	Fuji: Legacy Isuzu: Rodeo Amigo & Honda Passport	Sept. 1989	3,060	$760

Canada

Name of Company	Location (Status)	Products	Start-Up	Employees	Total Investment (million)
Honda Canada Inc.	Alliston, Ontario (Sole Entry)	Civic, Acura EL	Nov. 1986	1,700	C$800
Toyota Motor Mfg., Canada Inc.	Cambridge, Ontario (Sole Entry)	Corolla	Nov. 1988	2,300	C$1,800
CAMI Automotive Inc. (Suzuki)	Ingersoll, Ontario (Joint Venture: GM Canada)	Cultus, Escudo	April 1989	2,500	C$615

PRODUCTION AT U.S. MANUFACTURING OPERATIONS



		1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
Cars	Honda	145,337	238,159	324,064	366,355	362,351	435,437	451,197	458,251	403,775	498,710	552,995	634,374	648,268
	Nissan	43,810	65,147	117,334	109,897	115,584	95,844	133,504	171,402	293,182	312,654	333,234	277,869	279,510
	*NUMMI	64,610	191,549	143,652	129,978	192,235	205,287	206,634	180,960	207,025	229,327	228,920	224,422	210,462
	*Toyota	–	14,264	43,726	18,527	151,150	218,195	187,726	240,382	234,060	275,678	381,445	385,657	394,894
	*AutoAlliance	–	–	4,200	167,205	216,200	184,428	165,314	167,940	219,096	247,004	149,562	129,441	100,394
	*Mitsubishi	–	–	–	2,409	90,741	148,379	153,936	139,783	136,022	169,829	218,161	192,961	189,086
	SIA	–	–	–	–	2,600	32,461	57,945	57,623	47,117	54,002	80,660	98,747	102,180
Subtotal		253,757	509,101	632,976	794,371	1,130,180	1,320,031	1,356,261	1,416,261	1,540,277	1,787,204	1,944,977	1,943,471	1,924,794
Trucks	Nissan	107,422	108,048	102,718	95,919	123,056	139,404	131,519	128,924	93,791	131,954	132,552	136,162	118,798
	NUMMI	–	–	–	–	–	–	2,535	75,287	114,403	133,713	123,755	141,047	147,976
	SIA	–	–	–	–	–	34,499	58,352	66,868	79,441	99,881	99,514	96,124	84,711
	Toyota	–	–	–	–	–	–	–	–	–	–	–	–	26,756
Subtotal		107,422	108,048	102,718	95,919	123,056	173,903	192,406	271,079	287,635	365,548	355,821	373,333	378,241
Total		361,170	617,149	735,694	890,290	1,253,236	1,493,934	1,548,667	1,687,340	1,827,912	2,152,752	2,300,798	2,316,804	2,303,035

*Note: *Figures include units produced for Big Three automakers (NUMMI/GM, AutoAlliance/Ford, Mitsubishi Motor Mfg. of America/Chrysler).*
Source: Ward's Automotive Reports.

European Manufacturing Operations

Japanese automakers currently run affiliated plants at six locations in continental Europe—in Spain, the Netherlands, Portugal, and Hungary— where their presence is growing significantly, as well as at four locations in the U.K. Their plants in Europe already provide jobs for a total of 27,700 Europeans. This figure will increase, as Toyota, for example, announced in December 1997 that it will soon launch production in northern France.

Contributing to the separate, distinct character of their European operations, Japanese automakers now maintain nine R&D and technical centers in Europe, providing jobs for about 1,000 European technical personnel and other workers. The main objective of these facilities is to facilitate steady increases in local content levels. However, they also provide support for market research, product planning, and technical assistance and exchange.

European R&D centers perform crucial tasks such as evaluating potential local suppliers and providing technological assistance to those suppliers selected, as well as overseeing compliance with local regulations. As a direct result of their efforts, about 200 European suppliers are already supplying parts to Nissan U.K. Consequently, the local content of Europe-made Nissan models has already reached over 80%. Other automakers are poised to attain similar levels, with Toyota being supplied by about 160 local firms and Honda by about 250.

Japanese automakers also cooperate energetically at the industry level to reinforce local parts manufacturing and procurement in Europe.

JAMA has been collaborating with the Comité de Liaison de la Construction d'Équipments et de Pièces d'Automobiles (CLEPA) since March 1995, when the first joint JAMA-CLEPA conference was held in Paris. Featuring the participation of representatives of European suppliers and Japanese automakers, it staged the first comprehensive series of meetings to explore joint business opportunities. Following the success of that first conference, a second conference was held in Berlin on a larger scale in May 1996. The third JAMA-CLEPA conference was held in London in November 1997, and a fourth is slated for April 1999 in Amsterdam.

Another example of Japanese-European cooperation was the October 1996 business conference co-sponsored by motorcycle producers that are members of JAMA and their counterparts in Europe, the Association des Constructeurs Européens de Motocycles (ACEM). This conference promoted broader opportunities for Japanese motorcycle manufacturers to do business with European suppliers.

As a means to provide support to strengthen the fundamentals of the U.K.'s automotive parts industry, JAMA cooperates with the Industry Forum, a project initiated by the U.K.'s Department of Trade and Industry and the Society of Motor Manufacturers and Traders (SMMT) to formulate a Master Engineer program. Under this program, the three Japanese automakers that manufacture in the U.K.—Toyota, Nissan, and Honda—will send outstanding engineers to Britain. The engineers will provide on-site *kaizen* training for a period of two years, aiming to nurture master engineers at the U.K. suppliers, in an effort to enhance the competitiveness of the British auto parts industry.

Production by Toyota, Nissan, and Honda in the U.K. hit 484,378 units in 1997, a gain of 6.6%. Holding a 25.0% share of total U.K. auto production, Japanese automakers are helping greatly to raise the competitiveness of the British auto industry as a whole.

One significant feature of Japanese automakers' local production in Europe is their high proportion of exports. Nissan commenced exports from the U.K. in 1988 with exports of 1,080 units. By 1997, this figure had risen to 206,639 units, accounting for 76% of Nissan's U.K. production.

JAPANESE AUTOMAKERS' EUROPEAN R&D CENTERS

Name of Company	Headquarters, *Division Offices*	Current Employees	Current Functions
Honda R&D Europe G.m.b.H.	Offenbach, Germany, *Swindon, U.K.*	130	1,2,3,4,6,7
Mazda Europe R&D Representative Office	Oberursel, Germany	100	3,4,6,7
Mitsubishi Motors R&D Europe G.m.b.H.	Trebur, Germany	73	1,3,4,6
Nissan Design Europe G.m.b.H	Geretsried, Germany	10	4
Nissan European Technology Centre (Brussels) Ltd.	Brussels, Belgium	60	2,3
Nissan European Technology Centre Ltd.	Cranfield, U.K.	360	1,2,3,4,5,6,7
Nissan European Technology Centre España, S.A.	Barcelona, Spain	200	1,2,3,4,5,6,7
N.V. Toyota Motor Europe Marketing & Engineering S.A. (Technical Div./Design Div.)	Zaventem, Brabant, Belgium	60 in Technical Div. and Design Div.	2,3,4

Key to Functions

1) Technical support for procurement of parts for local production
2) Evaluation of parts
3) Evaluation of vehicles
4) Styling & general design
5) Parts design
6) Vehicle design
7) Prototype production

JAPANESE AUTOMAKERS' EUROPEAN MANUFACTURING OPERATIONS

United Kingdom

Name of Company	Location (Status)	Products	Start-Up	Employees	Total Investment (million)
Nissan Motor Mfg. (U.K.) Limited	Sunderland (Sole Entry)	Primera, Primera Estate, Micra	July 1986	4,400	£1250
Honda of the U.K. Mfg., Limited	Swindon (Sole Entry)	Accord, Civic, Engines	Aug. 1986	2,400	£ 460
IBC Vehicles Limited (Isuzu)	Luton (Joint Venture: GM)	Frontera	Sept. 1987	1,800	£ 53
Toyota Motor Mfg. (U.K.) Limited	Burnaston, Derbyshire (Sole Entry) Deeside (Sole Entry)	Avensis, Engines	Sept. 1992	2,700	£1,000

Spain

Santana-Motor, S.A. (Suzuki)	Madrid (Technical Support)	Jimny, Escudo	March 1985	1,900	N.A.
Nissan Motor Ibérica, S.A.	Barcelona (Capital Participation)	Patrol, Terrano II, Vannette, Serena, Trade, Trucks, Parts, Engines & Transmissions	Jan. 1983	4,500	N.A.

Portugal

Salvador Caetano I.M.V.T., S.A. (Toyota)	Ovar (Joint Venture: Salvador Caetano)	Dyna, Hiace, Optimo	Nov. 1968	2,000	N.A.
Mitsubishi Trucks Europe-Sociedade Europeia de Automoveis, S.A.	Tramagal	Canter	March 1996	375	N.A.

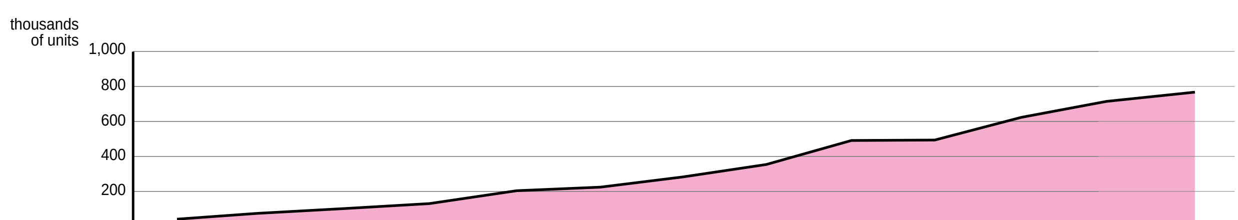
The Netherlands

Netherlands Car B.V. (Mitsubishi)	Born, Linburg (Joint Venture)	Mitsubishi: Carisma Volvo: S40, V40	May 1995	6,400	N.A.

Hungary

Magyar Suzuki Corporation	Esztergom (Joint Venture)	Cultus, Subaru Justy	Oct. 1992	1,400	N.A.

EUROPEAN PRODUCTION BY JAPANESE AUTOMAKERS



		1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
U.K.	Honda	–	–	6,658	5,044	3,630	26,454	35,952	33,445	50,545	51,531	93,283	105,810	108,097
	Nissan	–	–	–	56,541	77,282	76,190	124,666	179,009	246,281	204,944	215,346	231,627	271,666
	Toyota	–	–	–	–	–	–	–	–	37,314	85,467	88,440	116,973	104,615
	Subtotal	–	–	6,658	61,585	80,912	102,644	160,618	212,454	334,140	341,942	397,069	454,410	484,378
Germany	*Toyota	–	–	–	–	–	4,105	6,019	6,780	4,854	3,009	3,509	3,994	524
Spain	Nissan	27,557	46,419	53,525	26,888	85,879	79,662	70,992	76,676	82,036	101,172	117,324	107,332	101,780
	Suzuki	9,238	17,514	23,158	22,362	18,383	21,203	25,505	32,511	30,476	14,668	25,843	29,726	32,133
	Subtotal	36,795	63,933	76,683	49,250	104,262	100,865	96,497	109,187	112,512	115,840	143,167	137,058	133,913
Portugal	Toyota	4,542	7,694	12,706	13,684	12,545	10,528	12,033	13,801	10,888	8,808	6,251	5,475	6,364
	Mitsubishi	1,838	2,276	4,747	5,807	5,496	5,022	7,111	9,074	8,577	6,920	7,176	5,562	7,265
	Isuzu	–	–	–	–	–	–	–	–	1,773	1,209	1,031	0	0
	Subtotal	6,380	9,970	17,453	19,491	18,041	15,550	19,144	22,875	21,238	16,937	14,458	11,037	13,629
Netherlands	Mitsubishi	–	–	–	–	–	–	–	–	–	–	20,879	44,491	81,698
Hungary	Suzuki	–	–	–	–	–	–	–	996	13,151	19,412	36,473	51,778	63,540
	Total	43,175	73,903	100,794	130,326	203,215	223,164	282,278	352,292	485,895	497,140	615,555	702,768	777,682

*Note: *The joint production agreement with VW was terminated in February 1997.*
Source: Automobile industry associations from each country.

Asian Manufacturing Operations

More than ten years have passed since Japanese automakers moved beyond simply supplying KD (knock-down) kits for local assembly, which commenced in the 1960s, and began to be actively involved in contributing to the growth of an Asian motor vehicle industry. Local production in Asia has steadily

JAPANESE AUTOMAKERS' ASIAN MANUFACTURING OPERATIONS

	Daihatsu	Fuji Hvy. Ind.	Hino	Honda	Isuzu	Mazda	Mitsubishi	Nissan	Nissan Diesel	Suzuki	Toyota
Bangladesh			CVs		CVs		CVs				CVs
China	Cars & CVs	Cars	CVs		CVs	Cars & CVs	CVs	CVs	CVs	Cars & CVs	CVs
India				Cars		CVs	CVs			Cars & CVs	
Indonesia	Cars & CVs		CVs	Cars	CVs	Cars & CVs	Cars & CVs	Cars & CVs	CVs	Cars & CVs	Cars & CVs
Malaysia	Cars & CVs	CVs	CVs	Cars	CVs	Cars & CVs	Cars & CVs	Cars & CVs		Cars & CVs	Cars & CVs
Myanmar											
Pakistan			CVs	Cars	CVs	CVs		Cars	CVs	Cars & CVs	Cars & CVs
Philippines	Cars & CVs		CVs	Cars	CVs	Cars & CVs	Cars & CVs	Cars & CVs	CVs	Cars & CVs	Cars & CVs
S. Korea	CVs					Cars & CVs	Cars & CVs			Cars & CVs	
Taiwan		Cars & CVs	CVs	Cars	CVs	Cars & CVs	Cars & CVs	Cars & CVs		Cars & CVs	Cars & CVs
Thailand	Cars & CVs		CVs	Cars	CVs	Cars & CVs	Cars & CVs	Cars & CVs	CVs	Cars & CVs	Cars & CVs
Vietnam	CVs	Cars	CVs		CVs	Cars & CVs	Cars & CVs			CVs	Cars & CVs
Turkey			CVs	Cars	CVs		CVs				Cars

Notes: Includes assembly operations.
CVs = Commercial vehicles.

expanded since then, guided by a new concept centered on meeting the needs of rapidly emerging middle-income families by locally producing cars to specifically satisfy local requirements.

At the same time that Japanese automakers are accelerating the pace of their localization drive in Asia, they are making comprehensive efforts to contribute to regional economies. They have invested millions of dollars and provided jobs for around 50,000 local personnel in sales and production. In addition, they are transferring technological expertise through joint ventures, technical agreements and the training of local personnel, and providing crucial support for peripheral industries such as metals and electronics.

Japanese automakers have also been increasing the number of model lines made in Asia and parts exports from Asia in an effort to offset the slump in internal demand that Asia has experienced since the onset of the Asian financial crisis in mid-1997. Through such efforts, Thailand, for example, became a net exporter of finished vehicles in 1997.

Japanese automakers have been enthusiastic supporters of the BBC (Brand-to-Brand Complementation) program launched by ASEAN. Under this program, the flow of auto components between member nations is unrestricted. This allows economies of scale to cover the region as a whole. For example, Toyota's production of vehicles for ASEAN' s domestic markets efficiently concentrates the production of steering gears in Malaysia, gasoline engines in Indonesia, transmissions in the Philippines, and diesel engines in Thailand.

The scheme succeeding BBC, known as AICO (ASEAN Industrial Cooperation), has also won the wholehearted endorsement of Japanese automakers. Like the BBC program, the AICO scheme is designed to facilitate cooperative industrial production in the region, but AICO covers a much broader range of manufacturing than BBC, which was limited to automobiles.

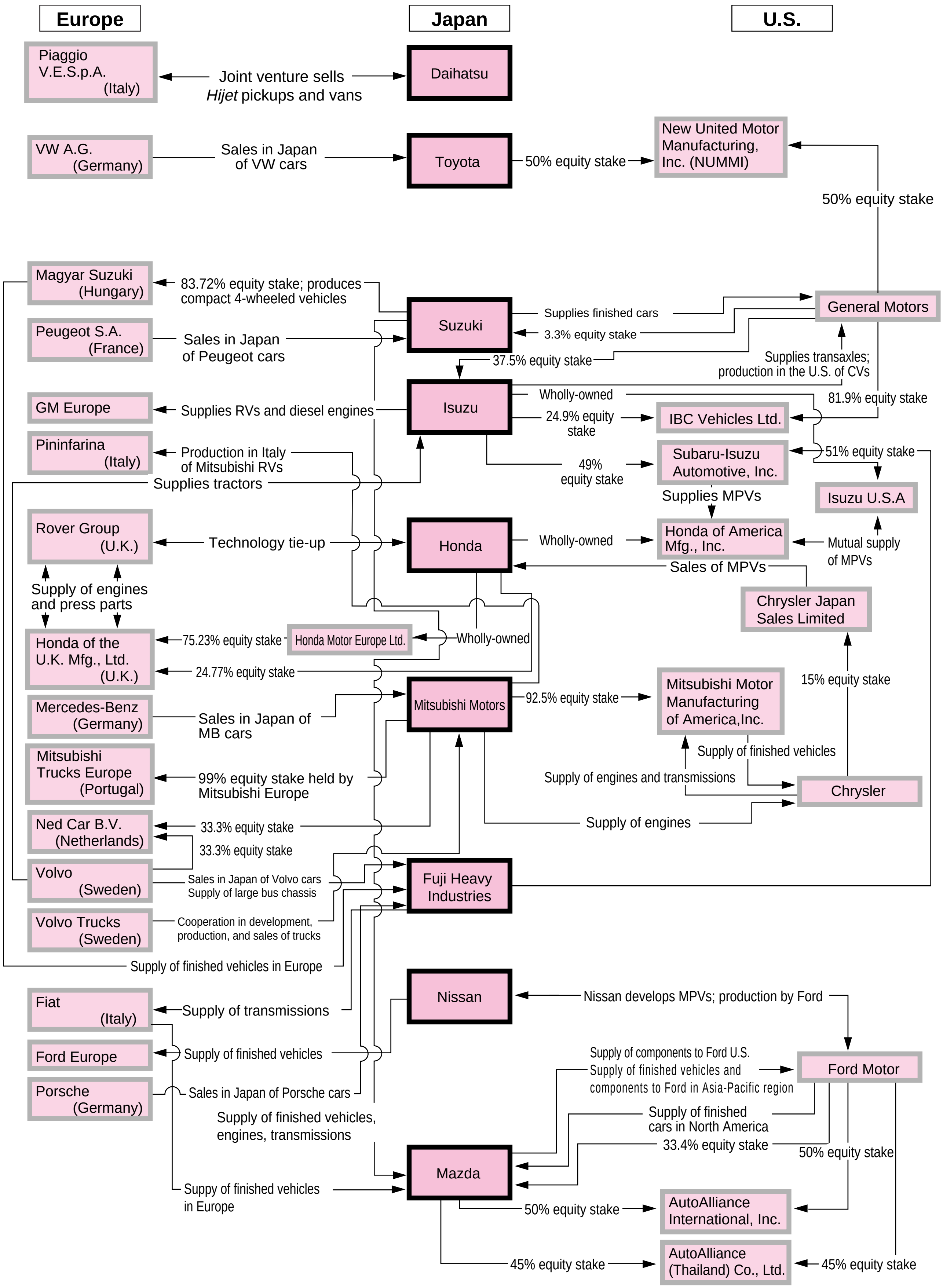
In March 1997, JAMA was co-sponsor of an important conference in Bangkok that had the objective of reinforcing the ties between the Japanese auto industry and its counterparts in ASEAN. The procurement policies of Japanese automakers, the development of ASEAN's automotive supporting industries and similar topics were examined in conferences and seminars. A delegation from the Japan External Trade Organization (JETRO) presented a new database designed to better match Japanese buyers with Asian suppliers. The conference is expected to lead to increases in both the capacity and capabilities of local production in ASEAN.

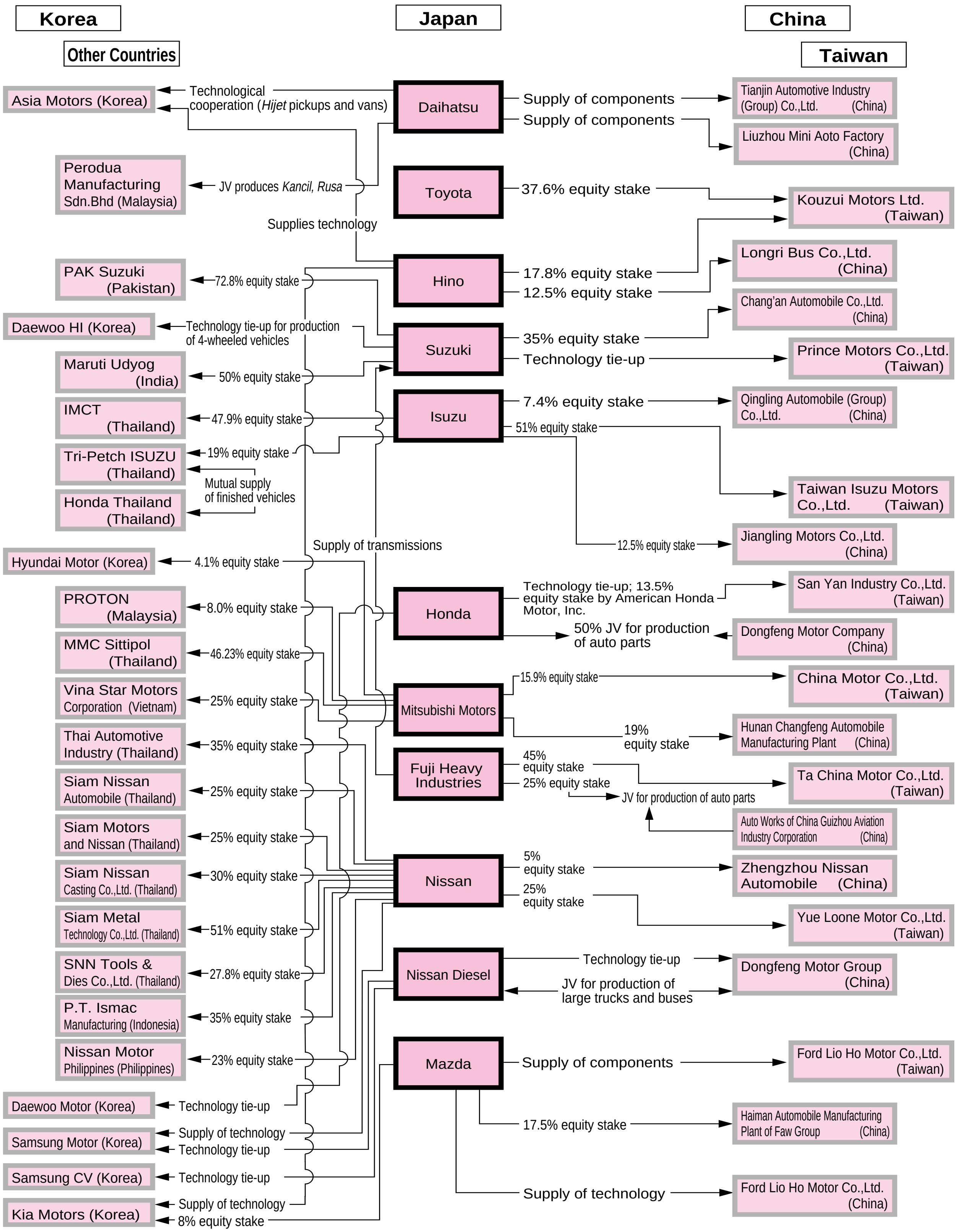
International Automotive Industry Ties

Japanese auto manufacturers are forging cooperative ties on a worldwide scale as they increasingly globalize their business operations and seek to use business resources more efficiently.

As the market matures, demand for cars is changing and diversifying. At the same time, costs for the development of new models is rising as automakers attempt to accommodate the changes in demand. To cut development costs and launch models quickly into waiting markets, automakers are engaging in a wide range of strategic alliances, including capital and technological tie-ups, joint and subcontracted development, joint and subcontracted production, supplemental sales networks, and the supply of finished vehicles *(see pages 18 & 19)*.

International Automotive Industry Ties





Notes: 1. *This chart illustrates the Japanese automobile industry's main automaker-to-automaker ties in the United States, Europe, and Asia. Even more complex ties exist among other world automakers, and the trend to such complex interrelationships is growing in step with the advance of globalization.*

2. *GM Europe includes the subsidiaries Opel (Germany) and Vauxhall (U.K.). Ford Europe includes subsidiaries such as Ford of Britain, Ford of Germany, and so on.*

Sources: *Materials supplied by Japanese automakers and information extracted from industry magazines throughout the world.*

Motor Vehicle Classification

Japan classifies motor vehicles in various categories according to the provisions of two basic laws: the Road Vehicles Act and the Road Traffic Act.

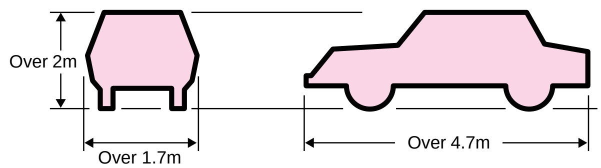
The Road Vehicles Act divides passenger cars into three categories and motorcycles into four categories, based on the vehicle's dimensions and engine displacement. The classifications of the Road Vehicles Act are used for registration statistics as well as inspections and related maintenance and repair purposes. When a vehicle exceeds any of the determining conditions listed under the Road Vehicles Act, the vehicle is automatically placed in the model category above.

The Road Traffic Act, which divides vehicles and motorcycles into two categories each, determines the classification of drivers' licenses.

Recreational vehicles (RVs) that are based on passenger car chassis are classified as passenger cars, while RVs that are based on truck chassis are classified as commercial vehicles.

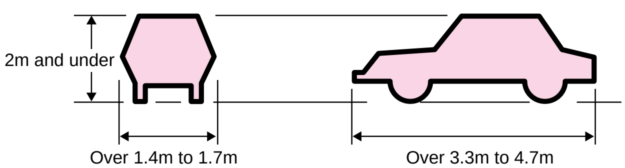
CLASSIFICATION BY THE ROAD VEHICLES ACT

Standard



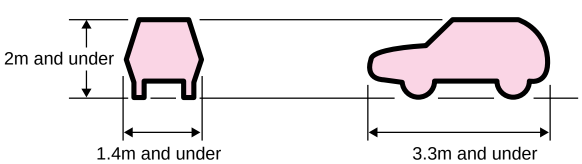
(Over 2000cc in engine displacement)

Small



(661cc to 2000cc in engine displacement)

Mini



(660cc and under in engine displacement)

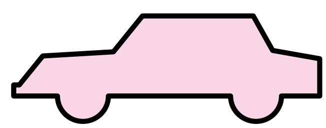
Note: Maximum length and width of mini-vehicles are scheduled to be altered — up to 3.4m and 1.48m, respectively.

CLASSIFICATION BY THE ROAD TRAFFIC ACT

Large Motor Vehicles

Gross vehicle weight	8 tons or more
Maximum payload	5 tons or more
or Occupants	11 persons or more

Ordinary Motor Vehicles



Gross vehicle weight	less than 8 tons
Maximum payload	less than 5 tons
or Occupants	less than 11 persons

CLASSIFICATION OF MOTORCYCLES

Road Vehicles Act						Road Traffic Act	
Type		**Engine Displacement**	**Width**	**Height**	**Length**	**Type**	**Engine Displacement**
Two-wheeled motor vehicles	**Small-sized**	Over 250cc	Over 1.3m	Over 2.0m	Over 2.5m	**Two-wheeled motor vehicles**	Over 50cc
	Mini-sized	126 to 250cc	1.3m and under	2.0m and under	2.5m and under		
Motor-driven cycles	**Class 2**	51cc to 125cc	1.3m and under	2.0m and under	2.5m and under		
	Class 1	50cc and under	1.3m and under	2.0m and under	2.5m and under	**Motor-driven cycles**	50cc and under

Note: A motorcycle that exceeds any one of the requisites for a category is classified in the higher category.

Domestic Taxes on Automobiles

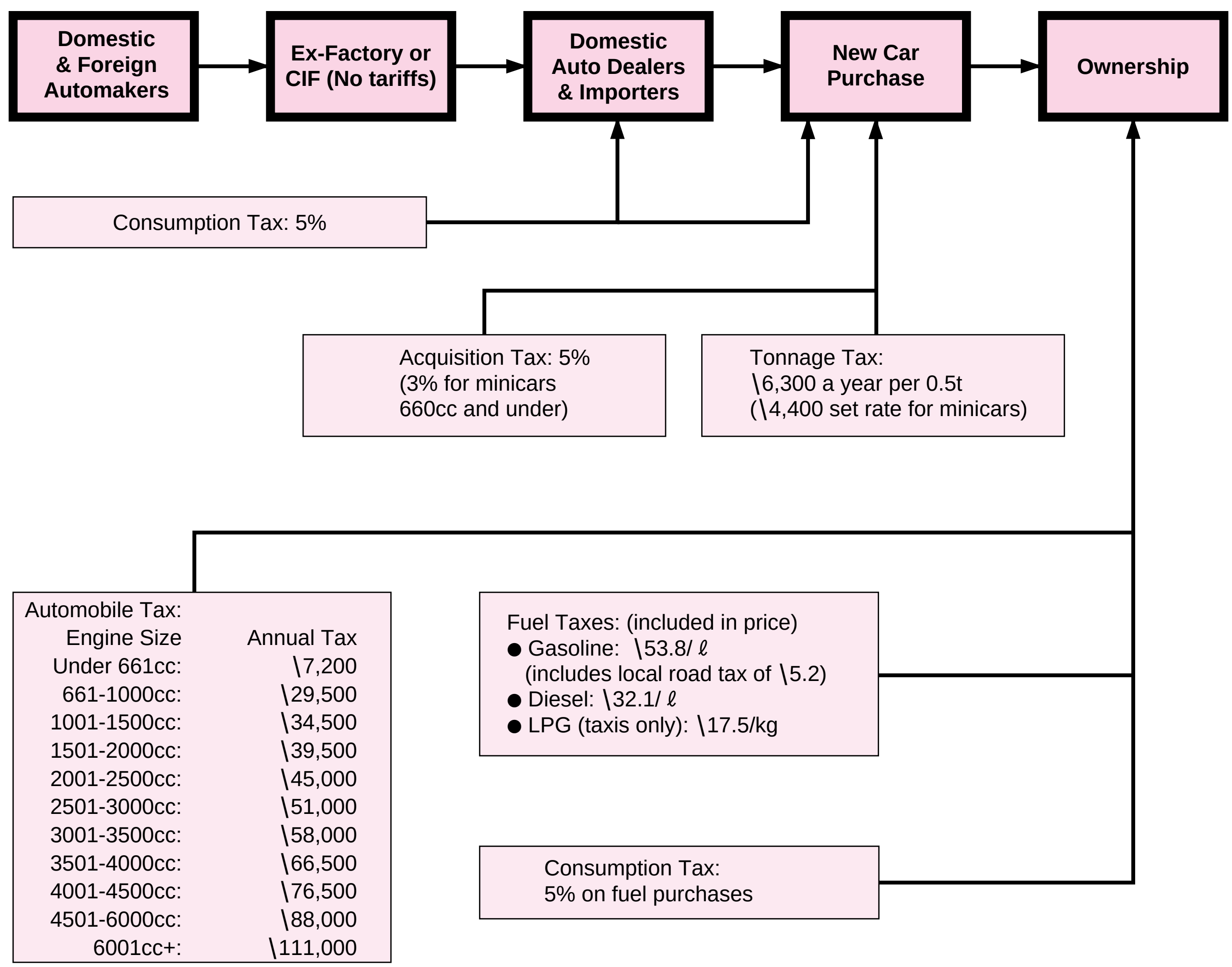
A national tax (the Consumption Tax) and a municipal tax (the Acquisition Tax) are assessed on the purchase of passenger cars for private use in Japan. In addition to fuel taxes, a national tax (the Tonnage Tax) and a municipal tax (the Automobile Tax) apply every year the car is owned. These taxes apply equally to imported and domestically produced vehicles.

The structure of Japan's vehicle taxes has undergone many revisions since the 1950s. The national Consumption Tax is the tax that most affects domestic sales of motor vehicles. First instituted in 1989, this tax replaced a Commodity Tax on certain high-priced items, including the ex-factory or CIF prices of passenger cars, at rates ranging from 15.5 to 23%. Whereas a 3% tax rate was applied to most goods and services, a 6% tax was levied on the purchase of all automobiles except minicars.

The consumption tax on autos was reduced to 4.5% in April 1992 as part of the economic stimulus measures applied by the Japanese government. In April of 1994, it was further reduced to 3%, equal to the level that applied to all other goods and services. The consumption tax on goods and services was increased to 5% in April of 1997, which prompted a spate of anticipatory purchases as buyers tried to beat the tax hike by buying just ahead of the scheduled increase.

In view of the fact that Japan's auto-related taxes are among the highest in the industrialized world, JAMA has been lobbying for tax cuts applying to the purchase and ownership of vehicles. Specifically, the association is calling for the abolition of the Acquisition Tax, which is perceived as double taxation, as both it and the Consumption Tax are essentially sales taxes. In addition, JAMA has called for a reduction of the temporary tax on GVW (currently standing at ¥6,300 per 0.5 ton), which was originally due to expire in April 1998.

AUTOMOBILE-RELATED TAXES (Passenger Cars for Private Use, as of April 1997)



Automobile Certification and Standards

Japan has in recent years undertaken wide-ranging measures designed to streamline the regulatory system in the areas of automobile certification and standards. The objective has been to facilitate and ensure unhindered market access by foreign manufacturers.

Japan's automobile market is not restricted by customs duties, quotas or local content requirements of any kind, and auto imports receive equal and, in some cases, preferential treatment with regard to taxes, insurance premiums and the standards and certification system.

Automobile Certification

The main certification process in Japan is the Type Designation System (TDS). It applies equally to imported and domestic vehicles and is applied to most mass-produced models. The Preferential Handling Procedure for Imported Motor Vehicles (PHP) is an alternative system used to expedite the certification of cars imported in small quantities. In 1992, the PHP ceiling was raised to 2,000 units a year. The Type Notification System, a third motor vehicle certification system, applies primarily to large trucks.

AUTOMOBILE CERTIFICATION SYSTEM IN JAPAN

THE TYPE DESIGNATION SYSTEM

- *Applies equally to domestic and imported vehicles.*
- *Requires less documentation and time than the equivalent procedure in any other country.*

Maker or importer applies to the Ministry of Transport (MOT).
The ministry checks documentation, one sample vehicle, and the maker's quality control system.
Certification process completed within two months.

- *Following approved certifications, the maker inspects individual vehicles upon completion and MOT makes periodic inspection of the maker's quality control system.*

Features of the Type Designation System designed to facilitate imports include:

- *MOT engineers are dispatched at Japanese government expense to conduct certification tests on sample vehicles abroad.*
- *MOT is accepting an increasing amount of test results from a growing list of designated foreign institutes.*
- *In some instances data obtained from tests on similar vehicles can be accepted.*
- *A grace period is routinely given to imports on implementation of new domestic standards.*

THE PREFERENTIAL HANDLING PROCEDURE FOR IMPORTED MOTOR VEHICLES

- *Used for any individual model imported to Japan in quantities of less than 2,000 units a year.*
- *Simpler and faster than the Type Designation System.*

Maker or importer applies to MOT.
MOT checks documentation only and completes the certification process within one month.

- *Following approved certifications, MOT inspects individual vehicles at MOT facilities or at dealerships in Japan prior to registration.*

Features of the Preferential Handling Procedure for Imported Motor Vehicles designed to facilitate imports include:

- *Exhaust emission and noise level tests can be carried out at maker's home facilities under the supervision of MOT-approved inspectors.*
- *MOT is accepting an increasing amount of test results from a growing list of designated foreign institutes.*
- *In some instances data obtained from tests on similar vehicles can be accepted.*
- *Minor changes in vehicle specifications do not have to be reported.*

EFFECTIVE DUTIES IN JAPAN, THE U.S. AND THE EUROPEAN UNION (as of April 1997)

	Japan	U.S.	European Union
Passenger Cars	0%	2.5%	10%
Commercial Vehicles	0%	25%	Class I: 22%, Class II: 11%

Note: Class I refers to gasoline-fueled trucks of 2800cc or more, and diesel-fueled trucks of 2500cc or more. Class II refers to gasoline-fueled trucks of less than 2800cc, and diesel-fueled trucks of less than 2500cc.

As sales of imported cars remain basically on the upswing, more models will undergo TDS. The Japanese government provides additional support by stationing Ministry of Transport (MOT) officials overseas on a permanent basis. Performing type designation tests locally, in liaison with MOT, these officials provide foreign automakers with guidance and technical consultation on standards and certification matters.

Harmonization of Motor Vehicle Standards

Automobile standards currently vary from country to country. The international harmonization of standards is being encouraged to ease the burden on manufacturers, which must ensure compliance with local regulations in all of their markets.

MOT, working in collaboration with other government agencies, has been overseeing Japan's efforts to harmonize its rules with international standards. MOT is an active participant in the Group of Experts on the Construction of Vehicles, of the United Nations Economic Commission for Europe (ECE/WP29), the principal international forum for harmonization issues.

In consultation with its counterparts in other nations, MOT has spearheaded the drive to adjust many Japanese standards to make them compatible with those of other countries. By the same token, the Ministry has declared various foreign standards to be equivalent to Japan's, and accepts data compiled by designated foreign testing institutes. The implementation of such initiatives will continue to be promoted, in accordance with Japan's deregulation program. As of March 1995, 26 foreign standards had been accepted as equivalent to Japanese standards.

In 1995, the Japanese government announced its intention to participate in the UN-ECE 1958 Agreement, which allows reciprocal recognition of certification among various countries. When the process of joining the Agreement has been completed and Japan becomes an official member (scheduled for 1998), domestic certification procedures for items already certified in other member countries will be eliminated.

JASIC

The Japan Automobile Standards Internationalization Center (JASIC) was established in 1987 in a cooperative public-private sector initiative to promote the harmonization of standards and to help to improve standards certification systems in developing countries through the collection and dissemination of data on inspections, surveys, and related information.

In March 1988, JASIC opened an office in Geneva, where the WP29 conferences have been held. There it plays a key role in cooperating in the creation of internationally harmonized standards for lamps, brakes, and other equipment while maintaining close liaison with the countries concerned.

In association with Asian governments, JASIC sponsors conferences on automobile safety standards, emission regulations, and inspection systems. It also dispatches experts to Asian countries to discuss the issues raised at these conferences.

JASIC promotes standards harmonization activities in the APEC (Asia-Pacific Economic Cooperation) region by undertaking surveys of standards within the region at the request of APEC authorities. It also publishes an annual bluebook on Japan's Type Designation System for automobiles. This handbook, which covers laws and procurement related to standards and certification, is intended to spread awareness and understanding overseas concerning standards and certification in Japan.

Motor Vehicle Inspection System

The motor vehicle inspection system (familiarly known as the "*shaken* system") consists of periodic vehicle checks mandated under the Road Vehicles Act to verify that the vehicle complies with technical standards related to safety and the protection of the environment.

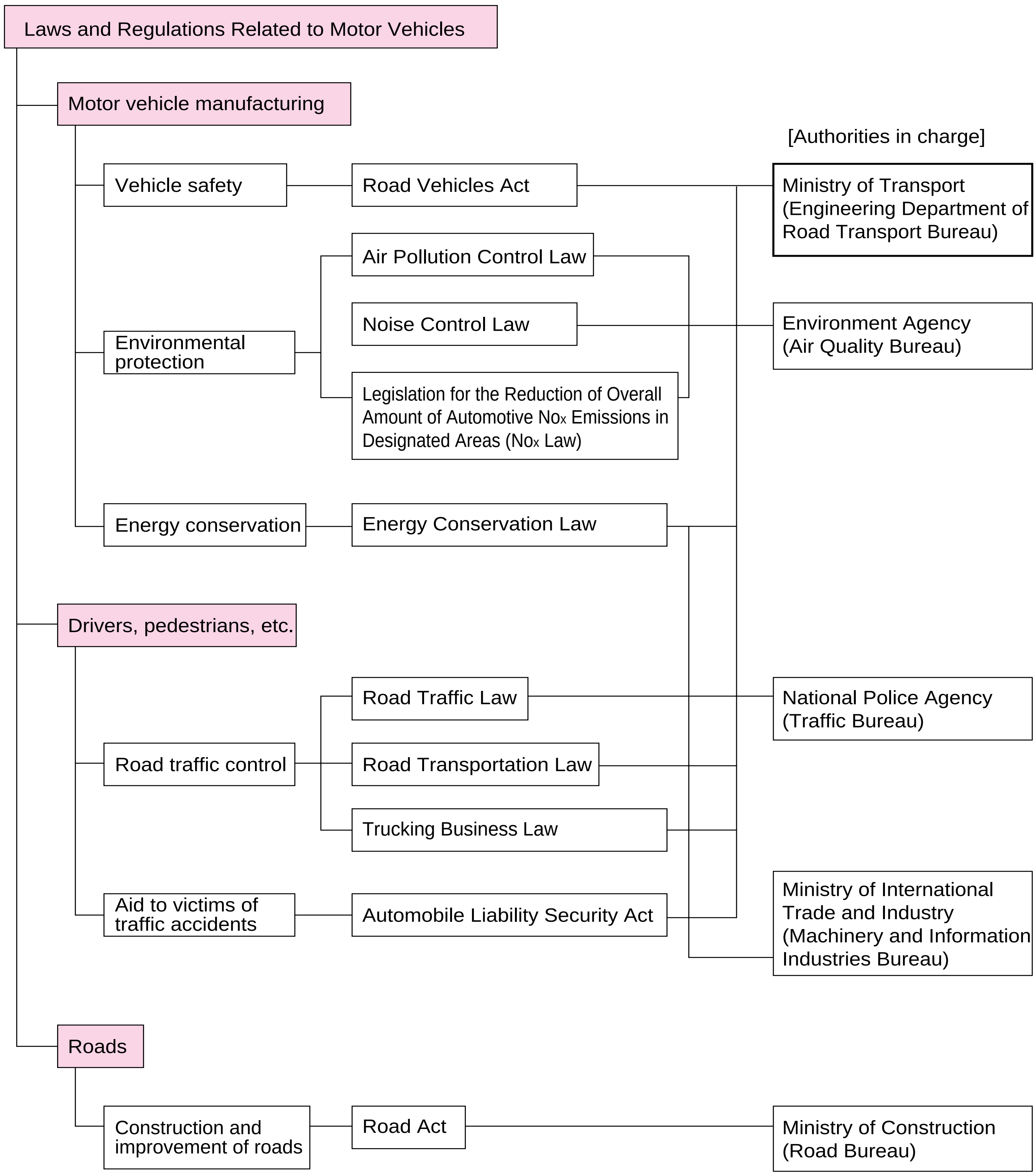
For passenger cars, the New Car Inspection (initial *shaken* inspection), which is valid for three years, may be carried out at any MOT Land Transport Office or office for the registration of automobile *shaken* inspections. In cases where the model has received Type Designation approval, all the owner needs to do is present the attestation issued by the automaker that the vehicle has passed the complete vehicle inspection. There is no need to present that actual vehicle for inspection.

In cases in which New Type Notification or the Preferential Handling Procedure for Imported Motor Vehicles (PHP) apply, the actual vehicle must be presented to verify that it has received approval.

The Continuing Inspection (*shaken* inspections after the initial New Car Inspection), which is valid for two years, may be carried out at any Land Transport Office or at any designated service garage that is qualified to conduct the *shaken* inspection, whichever is more convenient.

Laws and Regulations Concerning Automobiles

The chart below outlines the systemic relationships of the various laws and regulations governing motor vehicles in Japan, which are formulated to ensure motor vehicle traffic safety, prevent pollution, assist victims of traffic accidents, and promote the efficient use of resources. The laws and regulations are classified into three categories: those covering motor vehicle structure and equipment, those pertaining to people (drivers and pedestrians), and those pertaining to roads.



Attention to the Environment

Japan's automakers have long taken a responsible, responsive attitude towards environmental issues. Working through JAMA, as well as individually, they are undertaking positive, concerted efforts to respond to the challenge of ameliorating the environmental impact of the vehicles they produce and the manufacturing process itself.

JAMA's role and objective is to enable Japanese automakers to implement decisive, effective measures across the board, from development and design, through manufacturing and sales, to the eventual scrapping and recycling of their products.

The United Nations Framework Convention on Climate Change / COP3, a conference on global warming held in Kyoto in December 1997, set targets for the reduction of greenhouse gases. To attain these targets, the Japanese automobile industry bears a heavy responsibility for the development, production, and popularization of vehicles that are friendly to the environment, and it is now acting on its intention to accelerate the introduction of cars featuring greatly improved fuel efficiency and the use of alternative energy technologies.

Nonetheless, vehicle-by-vehicle improvements in fuel economy undertaken by the automobile industry will not be sufficient to achieve effective reductions of CO_2 emissions. A bolder, broader approach that covers the entire transportation sector will be needed, one that results in more efficient transportation, facilitates the flow of traffic as a result of improvements in traffic infrastructure, and cultivates an attitude of energy-saving among vehicle users. Towards this end, the industry is cooperating with pertinent institutions in the study and development of ITS (Intelligent Transport Systems; *see page 29*), and is expanding its efforts in the research of measures that will increase goods distribution efficiency and improve traffic flow.

Fuel efficiency: Although Japanese automakers have achieved outstanding progress in developing fuel-efficient technologies, the increasing demand for larger vehicles has had a negative effect on fuel consumption per vehicle. Automakers are therefore seeking further improvements in the areas of fuel economy, vehicle safety and exhaust emission levels in order to achieve the fuel efficiency targets for gasoline passenger cars for the year 2000 that were established by the Ministry of Transport and the Ministry of International Trade and Industry in 1993 (a separate fuel efficiency target for gasoline-powered commercial vehicles for the year 2003 was established in 1996).

As always, Japanese automakers are pursuing step-by-step increases in fuel efficiency. The areas promising the biggest increases are improvements in engine efficiency through the application of multivalve, DOHC and other technologies, further reductions in vehicle weight, and the wider application of electronic control technology.

Other fuel-saving technologies, such as lean-burn, direct injection, Miller-cycle, and hybrid systems, are also being implemented.

Emissions: Japanese motor vehicle exhaust emission standards, which are among the most stringent in the world, date from the late 1970s, when over 90% reductions in carbon monoxide (CO), nitrogen oxides (NOx) and hydrocarbons (HC) were implemented. Additional requirements were announced in mid-1997 by the Central Council for the Environment to reduce CO, NOx and HC emissions by a further 70% by early 2003. The Council's next recommendation is expected to mandate reductions in CO, NOx, HC, particulate matter (PM) and smoke emissions from diesel-powered vehicles.

The automakers must draw extensively on their

EXHAUST EMISSIONS STANDARDS IN JAPAN

			CO	HC	NOx	Particulate Matter	Smoke
Gasoline-powered vehicles	Passenger Cars		2.70 g/km	0.39 g/km	0.48 g/km	N.A.	N.A.
	Commercial Vehicles	GVW ≤ 1.7t	2.70 g/km	0.39 g/km	0.48 g/km		
		1.7 < GVW ≤ 2.5t	17.0 g/km	2.70 g/km	0.63 g/km		
		2.5t < GVW	136 g/kWh	7.9 g/kWh	5.9 g/kWh		
Diesel-powered vehicles	Passenger Cars		2.70 g/km	0.62 g/km	0.55 g/km*	0.14 g/km*	25%*
	Commercial Vehicles	GVW ≤ 1.7t	2.70 g/km	0.62 g/km	0.55 g/km	0.14 g/km	25%
		1.7 < GVW ≤ 2.5t	2.70 g/km	0.62 g/km	0.55 g/km**	0.18 g/km**	25%**
		2.5t < GVW	9.2 g/kWh	3.8 g/kWh	5.8 g/kWh***	0.49 g/kWh***	25%***

Notes: ** Figures are applicable to models of 1250kg < EIW (Equivalent Inertia Weight) from October 1998.*
*** Figures are applicable to automatic transmission models from October 1998.*
**** Figures are applicable to models of 3.5t ≤ GVW < 12t from October 1998 and to models of 12t < GVW from October.*
GVW = Gross Vehicle Weight
Figures are applicable to new domestic models. Existing domestic models and imports are granted certain grace periods on part of the above standards.
Sources: Ministry of Transport, Environment Agency.

R&D resources to meet these demands. In doing so, they vigorously confront every challenge involved in the improvement of combustion-engine technology, including the entire emission process. Here their achievements include exhaust gas recirculation systems, catalytic converters with O_2 sensors, and a ceramic filtering system that eliminates up to 100% of the smoke from diesel engines and reduces particulate matter by approximately 80%. In addition, diesel engines are now appearing that are equipped with common-rail-type electronic fuel injection systems. Such systems, which feature high pressure injection, are completely different from conventional fuel injection systems. As such, they are expected to dramatically reduce both NOx and PM emissions.

Alternative energy technologies: Already approximately 2,300 electric vehicles (EVs) are on Japanese roads today, and more sophisticated EVs are being introduced into the market. Hybrid vehicles that convert braking energy into either electricity or hydraulic pressure are also being introduced. In December 1997, to much acclaim, hybrid vehicles equipped with both a gasoline engine and an electric motor were placed on sale in Japan, marking the world's first mass production and commercialization of these environmentally friendly vehicles. A significant number of delivery trucks and city buses, which must constantly accelerate and decelerate, have been equipped with such technology. In Japan many urban taxis operate on liquefied petroleum gas (LPG), and overall about 300,000 LPG-equipped vehicles, including trucks, are currently in use. In addition, a number of vehicles on the road operate on compressed natural gas (CNG). One sidelight of the 1998 Nagano Winter Olympic Games was the use of 60 CNG vehicles, which are well-adapted for use in cold regions yet feature low emissions. Meanwhile, automakers continue to fund and conduct research into methanol, hydrogen and solar-power technologies.

Recycling: The Japanese auto industry has greatly improved its performance in recycling, with the current system enabling 75% by weight of each vehicle to be reused or recycled. In May 1997, MITI's Industrial Structure Council issued its "Recycling Initiative" for the recycling of end-of-life vehicles (ELVs). Under that initiative, the ratio of recyclable parts for new vehicles will be 90% or higher and the volume of automotive shredder residue will be cut to three-fifths or

Comparison of Different Types of Clean-Energy Vehicles

				Exhaust emissions				Vehicle performance	
				Urban area			Global scale	Output	Driving range
				NOx	CO/HC	CO/HC	CO_2		
Gasoline vehicles				○	○	○	○	○	○
Diesel vehicles				▲ ~ △	○	▲	◎	△	◎
Clean-energy vehicles	CNG (compressed natural gas) vehicles			○	○	○	◎	△	▲
	LNG (liquefied natural gas) vehicles			○	○	○	◎	△	△
	Methanol vehicles	Otto-type engine		○	○	○	○	○	△
		Diesel-type engine		△	○	○	○	△	△
	Hybrid vehicles	Parallel type	Diesel engine & pressure accumulator	△	○	△	◎ ~ ☆	△	◎ ~ ☆
			Diesel engine & electric motor	△	○	△	◎ ~ ☆	△	◎ ~ ☆
			Otto engine & electric motor	○ ~ ◎	○ ~ ◎	○ ~ ◎	◎ ~ ☆	△ ~ ○	○ ~ ☆
		Serial type	Otto engine & electric motor	○ ~ ◎	○ ~ ◎	○ ~ ◎	◎ ~ ☆	△ ~ ○	○ ~ ☆
		Serial & parallel type	Otto engine & electric motor	○ ~ ◎	○ ~ ◎	○ ~ ◎	◎ ~ ☆	△ ~ ○	○ ~ ☆
	Electric vehicles			☆	☆	☆	☆	▲	▲
	Fuel cell-powered vehicles			☆	☆	☆	☆	▲	▲
	Hydrogen vehicles			○	☆	☆	☆	△	▲
	LPG (liquefied petroleum gas) vehicles			○	○	○	○	△	△ ~ ○
	Solar cars			☆	☆	☆	☆	▲	▲

Notes: Based on vehicle performance relative to that of gasoline vehicles (indicated as ○).
Exhaust emissions do not include the volume of gases generated in the fuel production process.
Key : Inferior ▲ ← △ ← ○ → ◎ → ☆ Superior.

less of the 1996 levels by the year 2002. Furthermore, the amount of lead used in cars is to be reduced to one-third or less of 1996 levels by the end of 2005.

JAMA plays a significant role here. For example, in keeping with its current four-year plan to promote recycling which began in 1996, JAMA has succeeded in developing dry-distillation and gasification technologies to promote reductions in the volume and the effective use of automotive shredder residue.

JAMA and the Japanese auto industry have taken other important steps to encourage recycling. These include the introduction of a uniform marking code to identify plastic parts, expansion of the use of thermoplastics that are relatively easy to recycle, and the operation of a bumper recycling program. Moreover, JAMA cooperates with industry partners to help support operations involved in the disposal of abandoned vehicles as well as a non-profit organization that promotes businesses handling the disposal of industrial waste.

Facilities and infrastructure enhancement: Japanese automakers devote much effort to improvements in recycling capability at the basic levels of the production and delivery processes. They place great emphasis on running cleaner factories, which leads to even greater reductions in air, water, and noise pollution. A wide range of energy-saving measures have been and continue to be undertaken to bring down and stabilize factory emissions of CO_2 by the year 2000 to the levels that prevailed in 1990.

Elimination/recovery of CFCs: All automakers, having pushed hard for the complete elimination of CFC12, as mandated in the Montreal Protocol on Substances that Deplete the Ozone Layer, succeeded in eliminating the use of this chemical by 1994, ahead of schedule. In 1991, Japan led the world in developing a car air conditioner system using the new refrigerant, HFC134a, which is not destructive to the ozone layer. In addition, other CFCs used in auto manufacturing in Japan—a forming agent used in bumpers, for example, and solvents for cleaning parts—were eliminated by 1993, also well ahead of the schedule mandated in the Montreal Protocol. A system to recover and destroy CFC refrigerants from end-of-life vehicles was jointly developed by JAMA and the Japan Auto Parts Industries Association (JAPIA), and January 1998 saw the launch of a pilot project to test it in Tokyo and three neighboring prefectures. The year 2000 will see the start of efforts for the recovery and disposal of alternative CFCs.

TRENDS IN NOx EMISSIONS REDUCTION IN DIESEL-POWERED COMMERCIAL VEHICLES

Medium-Duty Vehicles (1.7 t < GVW ≤ 2.5 t)

	Sub-chamber	Direct Injection	
Before 1974 (No regulation)	100%	100%	Before 1974 (No regulation)
1974 Regulation	80%	80%	1974 Regulation
1977 Regulation	68%	68%	1977 Regulation
1979 Regulation	60%	56%	1979 Regulation
1982 Regulation	52%	49%	1983 Regulation
1988 Regulation	47%	40%	1988 Regulation
1994 Regulation (1.3 g/km)	47%	26%	1994 Regulation (1.3 g/km)
Long-term target (0.7 g/km)	25%	14%	Long-term target (0.7 g/km)

Heavy-Duty Vehicles (2.5 t < GVW)

	Sub-chamber	Direct Injection	
Before 1974 (No regulation)	100%	100%	Before 1974 (No regulation)
1974 Regulation	80%	80%	1974 Regulation
1977 Regulation	68%	68%	1977 Regulation
1979 Regulation	60%	56%	1979 Regulation
1982 Regulation	52%	49%	1983 Regulation
1989 Regulation	47%	42%	1988-1990 Regulation (400ppm)
1995 Regulation (5.0 g/kWh)	46%	35%	1995 Regulation (6.0 g/kWh)
Long-term target (4.5 g/kWh)	41%	26%	Long-term target (4.5 g/kWh)

Note: GVW=Gross Vehicle Weight.

Traffic Safety

Japan was jolted in 1970 by accident statistics showing 6.3 traffic fatalities and 369 injuries per 10,000 vehicles on the road. These appalling figures led to concerted efforts by government and industry to reduce their high rate, and the result was a dramatic improvement in accident statistics.

The rate of traffic fatalities and injuries per 10,000 vehicles has remained largely unchanged over the past ten years, although the number of vehicles on Japanese roads has risen steadily. In 1997, there were 9,640 traffic fatalities, a decrease of 3.0 percent from the previous year.

Traffic safety is a major priority of Japanese automakers. They are leading the way in finding innovative solutions to improve vehicle safety, in tandem with JAMA, which for its part continuously and strenuously pursues a variety of programs intended to encourage traffic safety. One of JAMA's initiatives was the establishment of a special research body designed to provide the support of experts to the activities of JAMA's Traffic Safety Committee. These efforts have resulted in a comprehensive plan of action, which is currently under way. The main aspects of the plan are described below.

Further improvements in vehicle safety features: Japanese automakers continue to work on advanced technologies, including car navigation systems, rearwatch devices, head-up displays and methods to alert pedestrians of intended turns, as well as on features such as anti-lock brakes and air bags, which have by now become conventional equipment. These advanced technologies are part of the industry's overall efforts to promote the establishment of intelligent transport systems (ITS) (*see page 29*). Manufacturers are also extending support to the Advanced Safety Vehicle program, administered by the Ministry of Transport. As of 1997, 69.3% of passenger cars produced for the domestic market were equipped with anti-lock brake systems, and 87.5% with driver and passenger air bags (as standard or optional equipment).

Traffic safety campaigns and educational activities: JAMA and its member manufacturers focus their efforts on four areas: conducting driving seminars; distributing traffic safety materials; promoting PR activities; and providing support for traffic safety education. JAMA's semiannual traffic safety campaigns are an instructive example. During these campaigns, safety is widely promoted throughout the media. Individual automakers contribute by conducting driving seminars, which range from covering basic defensive driving skills to exploring the limits of participants' driving skills, as well as providing practical experience with various driving conditions and vehicle capabilities.

Improving road conditions: JAMA constantly updates its proposals to relevant government agencies on ways to enhance road conditions, based on comprehensive studies. Typical examples include presentations on the results of studies on potential road improvements, submission of JAMA proposals regarding government plans for the construction of transportation infrastructure, and reports on urban space utilization and parking problems.

Government-industry cooperation on accident analysis: The Institute for Traffic Accident Research & Data Analysis (ITARDA) was established in 1992 as a joint initiative by the government and private sector with the objective of conducting comprehensive analysis and assessment of traffic accidents in Japan. In addition to contributing to the institute's initial funding, JAMA has been providing the institute with extensive cooperation and support, particularly in the areas of research and vehicular studies.

TRAFFIC ACCIDENT CASUALTIES (including motorcycle accident casualties)

Year	1970	1975	1980	1985	1990	1991	1992	1993	1994	1995	1996	1997
Traffic Accidents	718,080	472,938	476,677	552,788	643,097	662,388	695,345	724,675	729,457	761,789	771,084	779,590
Index	100	66	66	77	90	92	97	101	102	106	107	108.5
Fatalities	16,765	10,792	8,760	9,261	11,227	11,105	11,451	10,942	10,649	10,679	9,942	9,640
Index	100	64	52	55	67	66	68	65	64	64	59	57.5
Injuries	981,096	622,467	598,719	681,346	790,295	810,245	844,003	878,633	881,723	922,677	942,203	975,481
Index	100	63	61	69	81	83	86	90	90	94	96	97.5
Vehicles in Use* (ten thousands)	2,839	3,859	5,225	6,704	7,811	7,984	8,109	8,220	8,349	8,497	8,655	8,754
Index	100	136	184	236	275	281	286	290	294	299	305	308
Per 10,000 vehicles:												
Fatalities	6.3	2.9	1.8	1.4	1.5	1.4	1.5	1.4	1.3	1.3	1.2	1.1
Injuries	369	169	120	106	105	105	107	110	109	112	112	111

*Note: *Figures include motor vehicles in use (as of end of December each year) and motorcycles in use (as of end of March).*
Sources: National Police Agency, Ministry of Transport.

Intelligent Transport Systems

By transporting people and goods, automobiles play an essential role in contemporary society. However, certain auto-related problems—traffic accidents, congestion, environmental pollution, and massive consumption of fossil fuels—are becoming global issues that concern all humankind and urgently require solutions.

Research and development that addresses these issues is being conducted around the world, under an innovative concept known as "Intelligent Transport Systems" (ITS). The subjects of study are systems that link road infrastructure and telecommunications using computers, electronics, and advanced sensing technologies.

Japan's project initiative, which is called the Vehicle, Road, and Traffic Intelligence Society (VERTIS), was established in January 1995 with the full support of the National Police Agency, Ministry of International Trade and Industry, Ministry of Transport, Ministry of Posts and Telecommunications, and Ministry of Construction.

As a national project, VERTIS is composed of members from industrial organizations, private-sector companies, research institutes, and universities. Its current corporate membership includes representatives from Japan's leading companies in the automobile manufacturing, electronics, telecommunications, and cable and wire industries.

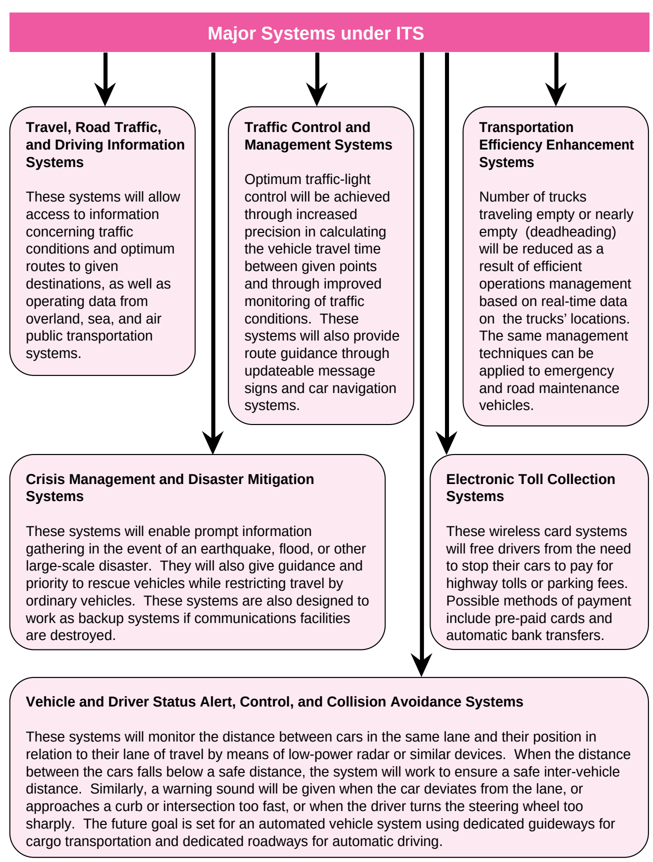
VERTIS has four main objectives: to promote research and development into ITS and related fields, including the deployment of ITS infrastructure; to exchange information with Europe and North America; to suggest potential applications of ITS; and to host the ITS World Congress in the Asia-Pacific region every three years.

Recent developments: The Ministry of Construction (MOC) announced in December 1995 the development of a five-year ITS strategy centered around research programs conducted jointly by automakers, NTT, and other private-sector companies. These research programs include the development and implementation of an electronic toll collection system, which will be an integral part of the Automated Highway System (AHS). Pilot studies at six toll gates have all demonstrated that the system can significantly reduce the waiting time at toll-gates. Implementation of the system is scheduled to begin around the year 2000.

AHS underwent its first tests by MOC from September through November 1996 on the Shin-Etsu Expressway. In this experiment, purpose-designed vehicles made by Toyota, Nissan, Mitsubishi and Honda measured the effects of surface elevations and local high-voltage power lines on information processing and the driving performance of driver-controlled vehicles. The target date for complete AHS with autonomous vehicles and roadway infrastructure has been set for 2010. The MOC, working in concert with the Ministry of Posts and Telecommunications, is currently seeking to complete the construction of nationwide fiberoptic information networks along major expressways by 2000. The Vehicle Information and Communication System (VICS), a sophisticated navigation system, has been in service since April 1996, utilizing existing fiberoptic networks. This service is available on ordinary roads in the Tokyo metropolitan area and within 100 kilometers of Tokyo on the Tomei Expressway, which links Tokyo and Nagoya. VICS was also put to use during the February 1998 Nagano Winter Olympic Games.

Another technology known as the Universal Traffic Management System (UTMS) supplied traffic information to Games-related vehicles during the Winter Games in an effort to facilitate traffic flow.

The auto manufacturers that participated in the Advanced Safety Vehicle (ASV) project, which was supervised by the Ministry of Transport (MOT), completed their test models in 1995. Of course, the automakers' efforts are mainly focused on passenger cars. However, MOT is seeking to integrate trucks, buses, and other commercial vehicles into the ITS scheme in order to improve Japan's entire transport system.

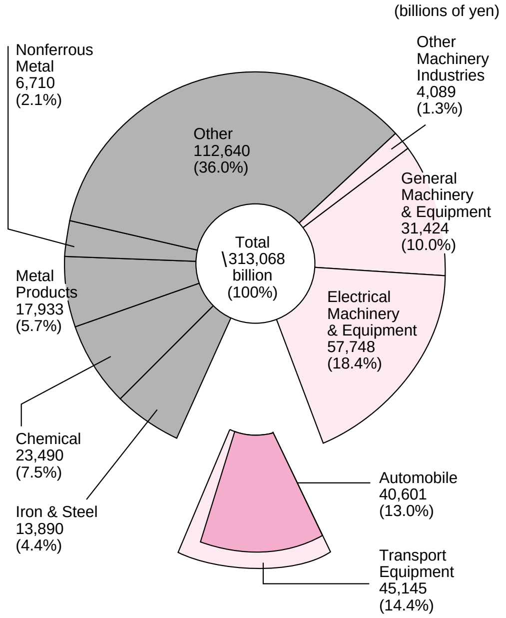


Automotive Shipments in Value Terms (1996)

Automotive shipments are the second largest industrial sector of the Japanese economy (after electrical machinery & equipment). By the latest accounts, they represent nearly 13% of the value of the nation's total manufacturing shipments and 29.3% of the value of the machinery industries' combined shipments. In 1996 the value of domestic automotive shipments increased 2.6% from the previous year, to ¥40,601 billion.

The number of people in Japan engaged in work related to automobiles is approximately 7.1 million. Given that there are currently around 64.6 million workers in Japan, this means that about one in every ten workers is employed directly or indirectly by the automobile industry.

1996 SHIPMENTS OF MAJOR MANUFACTURING INDUSTRIES



<Breakdown of Automotive Shipments>

- Automobile Manufacturers (including motorcycles) 20,536
- Automobile Body & Related Manufacturers 2,816
- Automobile Parts & Accessories Manufacturers 17,249

SHIPMENTS OF MAJOR MANUFACTURING INDUSTRIES IN VALUE TERMS (billions of yen)

Year	Chemical	Iron & Steel	Nonferrous Metal	Metal Products	Machinery Industries						Other	Total	Automotive Shipments	
					General Machinery/ Equipment	Electrical Machinery/ Equipment	Transport Equipment	Automotive	Other Machinery Industries	Machinery Industries Subtotal			% of Machinery Industries Value	% of Manufacturing Industries Value
1996	23,490	13,890	6,710	17,933	31,424	57,748	45,145	40,601	4,089	138,406	112,640	313,069	29.3	13.0
1995	23,362	14,073	6,490	17,647	29,884	54,831	44,215	39,561	4,107	133,037	111,421	306,030	29.7	12.9
1994	22,519	13,574	5,931	17,488	27,594	51,928	44,652	39,682	4,209	128,383	111,132	299,027	30.9	13.3
1993	23,260	14,932	6,140	18,732	29,171	52,103	47,065	41,767	4,488	132,827	115,309	311,200	31.4	13.4
1992	24,169	16,558	6,865	19,805	33,192	54,566	49,426	44,295	5,051	142,235	119,888	329,520	31.1	13.4
1991	24,270	18,631	7,697	20,230	35,847	58,624	48,960	44,192	5,510	148,941	121,066	340,835	29.7	13.0
1990	23,503	18,269	7,822	18,573	33,225	54,529	46,858	42,311	5,132	139,744	115,462	323,373	30.3	13.1
1985	20,552	17,754	6,384	13,094	24,191	40,842	36,179	27,693	4,381	105,593	101,943	265,320	26.2	10.4
1980	17,979	17,896	8,118	10,646	17,600	22,235	24,954	21,235	3,457	68,246	91,815	214,700	31.1	9.9
1975	10,438	11,306	3,909	6,573	10,611	10,821	14,794	10,524	1,729	37,955	57,252	127,433	27.7	8.3
1970	5,540	6,565	3,055	3,728	6,803	7,330	7,276	5,467	892	22,301	27,846	69,035	24.5	7.9

Source: Industry Statistics, Ministry of International Trade and Industry.

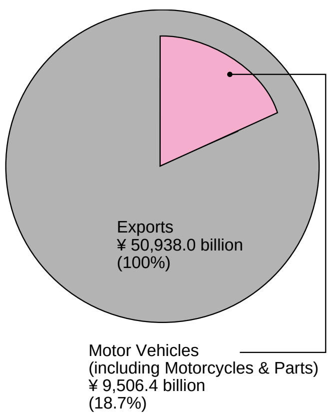
Automotive Trade

Japan's multilateral merchandise trade surplus rose 48.1% in 1997 to ¥9,982 billion. Total imports showed a gain of 8.0% over 1996 to ¥40,956 billion and total exports also increased 13.9% to ¥50,938 billion.

In 1997, the value of motor vehicle exports (including motorcycles and parts) increased for the second consecutive year, by 20.3% to ¥9,506 billion.

The value of motor vehicle imports (including parts) declined 10.6% in 1997 to ¥1,190 billion.

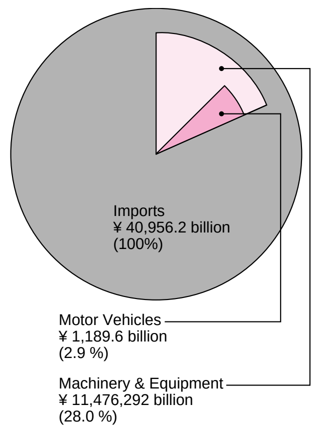
1997 EXPORTS BY PRINCIPAL COMMODITY (FOB)



Export Value (millions of yen)

- Non-Electrical Machinery ¥12,130,058 (23.8%)
- Iron & Steel Products ¥1,929,427 (3.8%)
- Chemicals ¥3,623,238 (7.1%)
- Visual & Audio Apparatus ¥1,556,414 (3.1%)
- Scientific & Optical Equipment ¥2,211,045 (4.3%)
- Textiles ¥1,002,809 (2.0%)
- Metal Products & Nonferrous Metals ¥1,317,031 (2.6%)
- Ships ¥1,126,624 (2.2%)
- Other ¥16,534,910 (32.5%)

1997 IMPORTS BY PRINCIPAL COMMODITY (CIF)



Import Value (millions of yen)

- Mineral Fuels ¥7,542,456 (18.4%)
- Foodstuffs ¥5,578,883 (13.6%)
- Raw Materials ¥3,557,167 (8.7%)
- Chemicals ¥2,840,862 (6.9%)
- Metals ¥2,161,297 (5.3%)
- Textiles ¥2,708,416 (6.6%)
- Other ¥5,090,810 (12.4%)

AUTOMOTIVE EXPORTS IN VALUE TERMS (FOB) (billions of yen)

Year	Motor Vehicles				% Change	Merchandise Export Total
	Four-Wheelers	Parts & Components	Motorcycles	Subtotal		
1997	7,112.3	1,789.5	604.6	9,506.4	20.3%	50,938.0
1996	5,513.8	1,840.5	548.9	7,903.2	9.1%	44,731.3
1995	4,979.7	1,781.5	480.7	7,241.9	-10.9%	41,530.9
1994	5,836.6	1,798.2	494.3	8,129.1	-7.3%	40,497.6
1993	6,550.5	1,654.4	564.6	8,769.5	-10.4%	40,202.4
1992	7,657.7	1,584.7	549.6	9,792.0	4.7%	43,012.3
1991	7,370.5	1,523.9	458.9	9,353.3	0.3%	42,359.9
1990	7,358.7	1,566.8	396.4	9,321.9	11.7%	41,456.9
1985	8,195.1	1,242.0	624.1	10,061.2	14.4%	41,955.7

Source: The Summary Report on Trade of Japan, Ministry of Finance.

AUTOMOTIVE IMPORTS IN VALUE TERMS (CIF) (billions of yen)

Year	Motor Vehicles			% Change	Merchandise Import Total
	Four-Wheelers	Parts & Components	Subtotal		
1997	974.0	215.6	1,189.6	-10.6%	40.956.2
1996	1,152.1	177.4	1,329.5	21.4%	37,933.4
1995	958.5	136.4	1,094.9	28.2%	31,548.8
1994	737.8	116.2	854.0	22.1%	28,104.3
1993	583.0	116.6	699.6	-11.3%	26,826.4
1992	655.0	133.4	788.4	-7.6%	29,527.4
1991	727.8	125.5	853.3	-17.6%	31,900.2
1990	923.3	111.9	1,035.2	58.9%	33,855.2
1985	129.0	44.6	173.6	–	31,084.9

Source: The Summary Report on Trade of Japan, Ministry of Finance.

JAMA Organization and Information Services

The Japan Automobile Manufacturers Association, Inc. (JAMA) is a nonprofit trade association which was established in 1967. The organization is comprised of the thirteen manufacturers of cars, trucks, buses and motorcycles in Japan.

JAMA's activities are administered under the guidance of various committees composed of member-company representatives. The administrative structure of JAMA is headed by a chairman, who is elected from among the chief executives of the member companies. Reporting to the chairman are five vice-chairmen, one of whom also serves as executive managing director; a managing director; and a secretary general. Final authority for decisions on JAMA's major activities and overall administration is vested in the Board of Directors.

Chairman
Vice-Chairmen

– Committees –

General Assembly
Board of Directors
Executive Committee

General Committees:
Technical Administration Committee
Research Administration Committee
Safety & Environmental Technology Committee
International Affairs Committee
Distribution Committee
Traffic Affairs Committee
Taxation Committee
Public Relations Committee
Parts & Materials Committee
Factory Facilities Committee
Economic Research Committee
Environment Committee
Electronic Information Exchange Committee

Special Vehicle Committees:
Mini-Vehicle Committee
Motorcycle Committee
Heavy Vehicle Committee

– Administration –

Executive Managing Director
Managing Director
Secretary General

Administration Dept.
Public Relations Dept.
Planning and Coordination Office
Environment Dept.
Economic Research Dept.
International Dept.
Business Affairs Dept.
Traffic Affairs Dept.
Parts and Materials Dept.
Technical Dept.
Liaison Office for International Parts and Procurement
Recycling Technologies Promotion Office
Center for CFC Recovery and Disposal

JAMA INFORMATION SERVICES

Periodicals

Motor Vehicle Statistics of Japan
Historical compilation of Japanese motor vehicle production, export, and new registration statistics. Annual, in English.

JAMA FORUM
Independent commentary and interviews on issues involving trade and the international automotive industry. Quarterly, in English.

News from JAMA
Brief articles and current production, export, and new registration statistics. Monthly in French, English and German.

News from JAMA Motorcycle
News, views and developments related to Japan's motorcycle industry. Published quarterly, in English.

Other Publications

The Japanese Automobile Industry–On the Move Toward Globalization
Facts, figures and trends relevant to local procurement, production and collaboration (1997).

How Japanese Automakers Contribute to the U.S. Economy
Trends, and other data relating to sales, employment and investment in the United States (1997).

Japanese Automakers Contributing to Europe—Investing in a Common Future
A detailed look at how Japanese automakers are working within the European Community to build cars in Europe for Europeans (January 1998).

Voluntary Action Plan for End-of-Life Vehicles
Japanese automakers' measures as well as industrywide efforts in response to a comprehensive package to further promote the recycling of end-of-life vehicles (January 1998).

Videos

Man and the Automobile–A Look at the Future
A 20-minute video on recent technology trends in the Japanese motor vehicle industry. Statistics on production, sales and exports are also included. In Japanese and English (1993, NTSC).

Automobile Recycling in 1998–Towards the Technology of Tomorrow
A 20-minute presentation which reviews the industry's voluntary initiatives to further promote end-of-life vehicle recycling, explaining the latest technologies in shredder residue processing and other systems. In Japanese and English (1998, NTSC/PAL).

Note: Publications can be obtained from JAMA free of charge by contacting any of the offices listed inside the cover of this booklet. For information on video availability, please contact JAMA's head office.

Significant Events of 1997

Domestic

- Mazda Motor Corporation announces its withdrawal from the development and production of mini-vehicles; Mazda will receive OEM supplies of mini-vehicles from Suzuki. (January)
- Number of holders of driver's licenses in Japan tops 70 million. (March)
- Japan's Environment Agency tightens regulations on automobile emissions and introduces emission regulations on motorcycles. (March)
- MITI formulates initiative to encourage recycling of ELVs (end-of-life vehicles). (March)
- JAMA completes prototype plant for sorting and solidifying shredder residue from ELVs. (March)
- Ministry of Trade and Industry (MITI) and Ministry of Transport (MOT) set up a joint body to deliberate the introduction of fuel standards for diesel engine vehicles. (April)
- MOT formulates method for passenger escape from vehicles submerged in water. (April)
- MOT revises some vehicle safety standards and undertakes step-by-step tightening of emission regulations. (April)
- MOT introduces system allowing vehicle owners to obtain custom license plate numbers. (April)
- Japan Automobile Manufacturers Association (JAMA) celebrates 30th anniversary of its founding. (April)
- Mr. Hiroshi Yuasa appointed president of Hino Motors, Ltd. (April)
- Mr. Toshiro Kamei appointed president of Kawasaki Heavy Industries, Ltd. (April)
- Revised law enacted on the processing of industrial waste. (June)
- Mazda Motor Corporation produces new brand logo. (June)
- Honda opens Twin Rink Motegi, a multipurpose motor sports complex. (August)
- Five government ministries and agencies formulate basic plan to improve gasoline fuel efficiency by 20% as a measure to combat global warming. (October)
- Japan and the EU agree on vehicle export framework of 1,114,000 units. (October)
- 32nd Tokyo Motor Show held at Makuhari Messe trade fair grounds. (October)
- Mr. James E. Miller appointed president of Mazda. (November)
- Mr. Katsuhiko Kawasoe appointed president of Mitsubishi Motors. (November)

International

- Yamaha Motor Co., Ltd. establishes joint-venture company in Taiwan to conduct R&D on motorcycles. (January)
- Mitsubishi Motors Corporation secures permission to establish a joint venture with a Chinese firm, Hunan Chang Feng Automobile Production Ltd. (January)
- 6th JAMA / MEMA (Motor & Equipment Manufacturers Association) One-on-One Business Meeting held in San Francisco. (February)
- Nissan Motor Co., Ltd. holds opening ceremony for engine plant in Thailand. (February)
- Honda Motor Co., Ltd. holds opening ceremony for second joint-venture motorcycle plant in India. (February)
- JAMA announces that Japanese purchases of U.S.-made auto parts reach $22.7 billion for fiscal 1996 (April '96-March '97). (July)
- Mitsubishi Motors and Volvo reach formal agreement on a comprehensive tie-up for the OEM supply of compact trucks to Volvo. (October)
- Japan, the U.S. and the EU issue joint statement on the international harmonization of automotive technical standards. (October)
- Fourth World Congress on ITS (Intelligent Transport Systems) held in Berlin. (October)
- Toyota Motor Corporation announces the creation of its second European plant in Valenciennes in northern France. (December)
- JAMA holds ETI / Japan Technical Week Seminar in U.S. in association with the Equipment and Tool Institute (ETI). (December)

Member Manufacturers

DAIHATSU MOTOR CO., LTD.

1, Daihatsu-cho 1-chome
Ikeda City, Osaka Pref. 563-8651
Tel: (0727) 51-8811
Telefax: (0727) 53-6880
Tokyo Office:
2-10, Nihonbashi Hon-cho 2-chome
Chuo-ku, Tokyo 103-8408
Tel: (03) 3279-0813
Telefax: (03) 3279-0038
Products: Cars and Trucks
Internet: http://www.daihatsu.co.jp/

FUJI HEAVY INDUSTRIES LTD.

7-2, Nishi-Shinjuku 1-chome
Shinjuku-ku, Tokyo 160-8316
Tel: (03) 3347-2111
Telefax: (03) 3347-2338
Products: Cars, Trucks and Buses
Internet: http://www.subaru-fhi.co.jp/fhi.htm

HINO MOTORS, LTD.

1-1, Hinodai 3-chome
Hino City, Tokyo 191-8860
Tel: (042) 586-5011
Telefax: (042) 586-5038
Nihonbashi Office
7-17, Nihonbashi 1-chome
Chuo-ku, Tokyo 103-8256
Tel: (03) 3272-1891
Telefax: (03) 3272-4822
Products: Trucks and Buses
Internet: http://www.hino.co.jp/

HONDA MOTOR CO., LTD.

1-1, Minami-Aoyama 2-chome
Minato-ku, Tokyo 107-8556
Tel: (03) 3423-1111
Telefax: (03) 3423-0511
Products: Cars, Trucks and Motorcycles
Internet: http://www.honda.co.jp/

ISUZU MOTORS LIMITED

26-1, Minami-Oi 6-chome
Shinagawa-ku, Tokyo 140-8722
Tel: (03) 5471-1111
Telefax: (03) 5471-1043
Products: Cars, Trucks and Buses
Internet: http://www.isuzu.co.jp/

KAWASAKI HEAVY INDUSTRIES, LTD.

Akashi Office:
1, Kawasaki-cho 1-chome
Akashi City, Hyogo Pref. 673-8666
Tel: (078) 921-1301
Telefax: (078) 371-9568
Tokyo Head Office:
World Trade Center Bldg.
4-1, Hamamatsu-cho 2-chome
Minato-ku, Tokyo 105-6116
Tel: (03) 3435-2111
Telefax: (03) 3436-3037
Products: Motorcycles
Internet: http://www.khi.co.jp/

MAZDA MOTOR CORPORATION

3-1, Shinchi, Fuchu-cho
Aki-gun, Hiroshima Pref. 730-8670
Tel: (082) 282-1111
Telefax: (082) 287-5190
Tokyo Office:
Yamato Seimei Bldg.
1-7, Uchisaiwai-cho 1-chome
Chiyoda-ku, Tokyo 100-0011
Tel: (03) 3508-5031
Telefax: (03) 3508-5044
Products: Cars, Trucks and Buses
Internet: http://www.mazda.com/

MITSUBISHI MOTORS CORPORATION

33-8, Shiba 5-chome
Minato-ku, Tokyo 108-8410
Tel: (03) 3456-1111
Telefax: (03) 5232-7731
Products: Cars, Trucks and Buses
Internet: http://www.mitsubishi-motors.co.jp/

NISSAN DIESEL MOTOR CO., LTD.

1, Oaza 1-chome
Ageo City, Saitama Pref. 362-8523
Tel: (0487) 81-2301
Telefax: (0487) 81-7505
Tokyo Office:
Kowa Hitotsubashi Bldg.
7-1, Kanda Nishiki-cho 3-chome
Chiyoda-ku, Tokyo 101-0054
Tel: (03) 3294-9168
Telefax: (03) 3294-9168
Products: Trucks and Buses
Internet: http://www.nissandiesel.co.jp/

NISSAN MOTOR CO., LTD.

17-1, Ginza 6-chome
Chuo-ku, Tokyo 104-8023
Tel: (03) 3543-5523
Telefax: (03) 3546-2669
Products: Cars, Trucks and Buses
Internet: http://www.nissan.co.jp/NISSAN/

SUZUKI MOTOR CORPORATION

300, Takatsuka
Hamamatsu, Shizuoka Pref. 432-8611
Tel: (053) 440-2061
Telefax: (053) 445-0040
Tokyo Branch Office:
Suzuki Bldg.
2-8, Higashi-Shimbashi 2-chome
Minato-ku, Tokyo 105-0021
Tel: (03) 5473-1601
Telefax: (03) 5473-1602
Products: Cars, Trucks and Motorcycles
Internet: http://www.suzuki.co.jp/

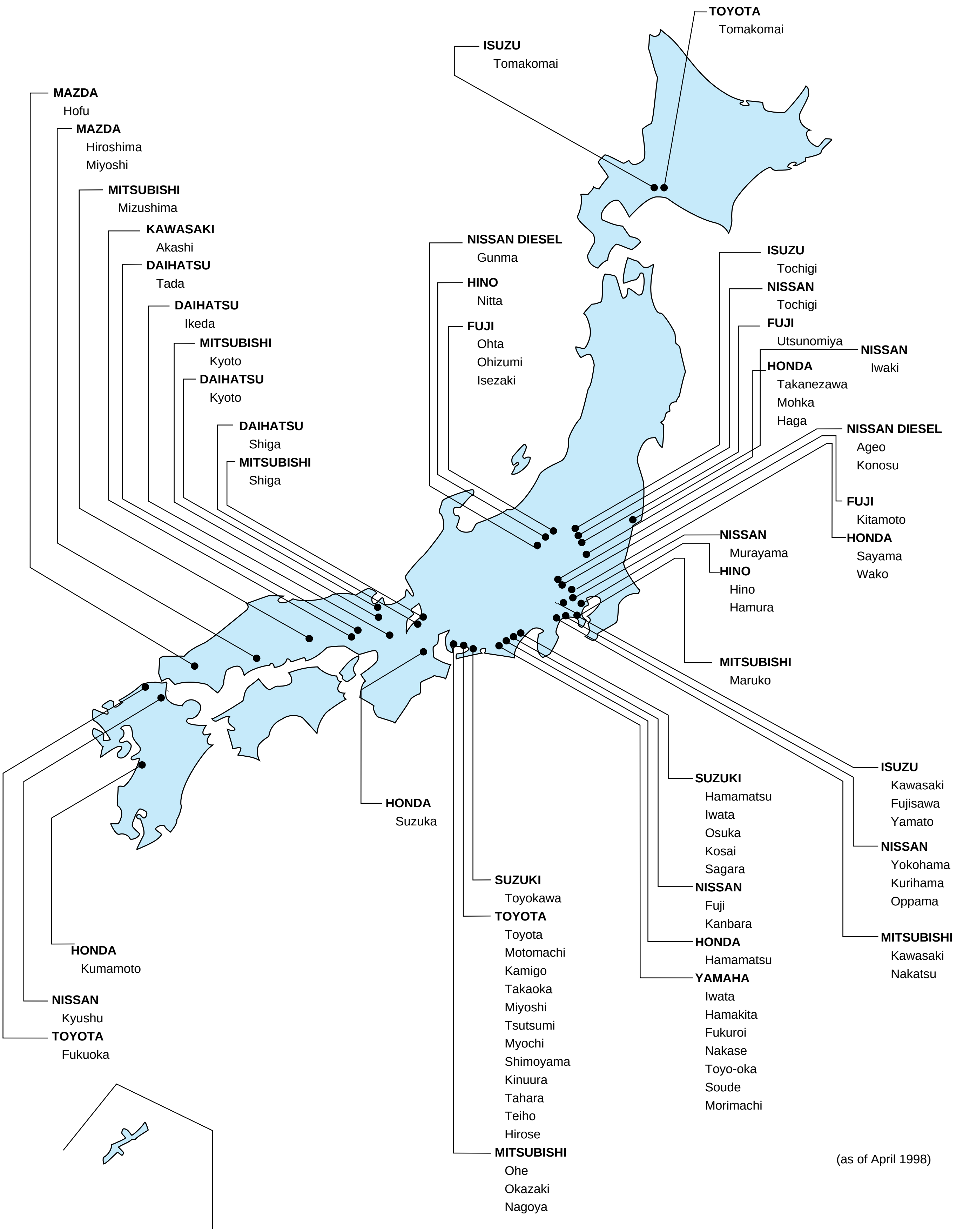
TOYOTA MOTOR CORPORATION

Head Office:
1, Toyota-cho
Toyota City, Aichi Pref. 471-8571
Tel: (0565) 28 -2121
Telefax: (0565) 80-1116
Tokyo Head Office:
4-18, Koraku 1-chome
Bunkyo-ku, Tokyo 112-8701
Tel: (03) 3817-7111
Telefax: (03) 3817-9037
Products: Cars, Trucks and Buses
Internet: http://www.toyota.co.jp/

YAMAHA MOTOR CO., LTD.

2500, Shingai
Iwata City, Shizuoka Pref. 438-8501
Tel: (0538) 32-1115
Telefax: (0538) 37-4250
Tokyo Representative Office:
Yoei Ginza Bldg.
8-5, Ginza 8-chome
Chuo-ku, Tokyo 104-0061
Tel: (03) 3571-8191
Telefax: (03) 3574-9596
Products: Motorcycles
Internet: http://www.yamaha-motor.co.jp/

Plant Locations of Member Manufacturers in Japan



(as of April 1998)

Related Automotive Associations

Japan Motor Industrial Federation Inc. (JMIF)

Otemachi Bldg., 6-1, Otemachi 1-chome
Chiyoda-ku, Tokyo 100-0004
Tel: (03) 3211-8829
Telefax: (03) 3211-8829
Internet: http://www.motorshow.or.JP/
Objectives: To organize the biennial Tokyo Motor show, to publish books and to produce videotapes that promote the automotive industry.

Japan Auto Parts Industries Association (JAPIA)

16-15, Takanawa 1-chome
Minato-ku, Tokyo 108-0074
Tel: (03) 3445-4211
Telefax: (03) 3447-5372
Objectives: To establish and promote policies to streamline parts manufacturing, and to research, develop and improve production engineering.

Japan Auto-Body Industries Association, Inc. (JABIA)

Kishimoto Bldg., 2-1 Marunouchi 2-chome
Chiyoda-ku, Tokyo 100-0005
Tel: (03) 3213-2031
Telefax: (03) 3213-2034
Objectives: To research and promote policies to streamline auto-body manufacturing and assembly.

Japan Automotive Machinery and Tool Manufacturers Association (JAMTA)

Kikaishinko Bldg.
5-8, Shibakoen 3-chome
Minato-ku, Tokyo 105-0011
Tel: (03) 3431-3773
Telefax: (03) 3431-5880
Objectives: To conduct research on the engineering technology of automotive servicing equipment and tools, and to disseminate the resulting information among its members.

Japan Electric Vehicle Association (JEVA)

22-15, Toranomon 1-chome
Minato-ku, Tokyo 105-0001
Tel: (03) 3503-3651
Telefax: (03) 3503-8493
Objectives: To promote the utilization of electric vehicles, and conduct information-gathering and analysis on electric vehicles at home and abroad.

Japan Automobile Research Institute, Inc. (JARI)

Rotary Bldg., 27, Kanda-Nishiki-cho 1-chome
Chiyoda-ku, Tokyo 101-0054
Tel: (03) 3293-9123
Telefax: (03) 3295-2386
Laboratory:
2530 Karima, Tsukuba City
Ibaraki Pref. 305-0822
Tel: (0298) 56-1111
Objectives: To conduct comprehensive research aimed at the long-range development of automotive technologies, including safety, emissions, noise and vibration.

Society of Automotive Engineers of Japan, Inc. (JSAE)

10-2, Goban-cho, Chiyoda-ku, Tokyo 102-0076
Tel: (03) 3262-8211
Telefax: (03) 3261-2204
Objectives: To research, study and experiment in automotive science and technologies.

Japan Automobile Dealers Association (JADA)

7-17, Minami-Aoyama 5-chome
Minato-ku, Tokyo 107-0062
Tel: (03) 3400-8404
Telefax: (03) 3400-8413
Objectives: To promote the use of automobiles and improve their distribution, thereby contributing to the development of the national economy.

Japan Automobile Importers Association (JAIA)

TBR Bldg., 5-7 Kojimachi
Chiyoda-ku, Tokyo 102-0083
Tel: (03) 3222-5421
Telefax: (03) 3222-1730
Objectives: To establish orderly import transactions and advance the interests of member companies, thereby promoting the growth of automobile import businesses.

Japan Automobile Federation (JAF)

Kikaishinko Kaikan, Room 103
5-8, Shibakoen 3-chome
Minato-ku, Tokyo 105-0014
Tel: (03) 3436-2811
Telefax: (03) 3436-3008
Objectives: To promote an understanding of traffic issues and traffic safety, protect the interests of members, encourage international friendship through automobiles, and develop motor sports programs, thereby contributing to the welfare of the public.

Japan Automobile Service Promotion Association (JASPA)

1-16, Moto-Akasaka 1-chome
Minato-ku, Tokyo 107-0051
Tel: (03) 3404-6141
Telefax: (03) 3404-6478
Objectives: To promote the advancement of automobile service technologies and equipment, in order to help prevent automobile accidents and pollution.

Japan Automobile Standards Internationalization Center (JASIC)

TBR Bldg., 5-7 Kojimachi
Chiyoda-ku, Tokyo 102-0083
Tel: (03) 5216-7241
Telefax: (03) 5216-7244
Objectives: To promote the harmonization of standards and to help to improve standards certification systems in developing countries through the collection and dissemination of data on inspections, surveys, and related information.