
MAINTENANCE AND SERVICEABILITY

1 Introduction

The COVID-19 virus started spreading early in 2020, and the government invoked the amended Act on Special Measures for Pandemic Influenza and New Infectious Diseases to declare a state of emergency on April 7. That decision was made to prevent a dramatic outbreak and avoid the collapse of the health system. People were requested to refrain from going out and curtail business activities, and the impact of the pandemic on day-to-day life, society, and the economy was felt throughout the year.

At the same time, the “maintenance services of private vehicles” was listed among the business operators who are required to continue their business essential to ensuring the stability of people’s lives and the national economy in the Basic Policies for Novel Coronavirus Disease Control. Industry-specific guidelines were prepared, with industries requested to voluntarily carry out initiatives to prevent the spread of the disease. On May 14, the Japan Automobile Service Promotion Association (JASPA) therefore formulated the Guidelines on Measures to Prevent the Spread of the Novel Coronavirus in Automobile Maintenance Operator Workplaces, which stipulates the basic actions necessary to maintaining business operations while preventing the spread of the disease. The Association then announced the guidelines and sent them to automobile maintenance operators and to each prefectural automobile service promotion association. Automobile maintenance operators were therefore able to continue operations while closely following the guidelines in the applicable regions under the state of emergency during the applicable period.

Conversely, the stipulation making the safety regulations applicable to automated driving systems in the legislative system supported by the amended Road Transport Vehicle Act has led to the introduction of a special maintenance system. Preparations were made for special

modifications, which use communication to modify programs in the automated driving system or change their performance, OBD inspections which perform and electronic inspection of driver support and automated driving systems during renewal inspections, and the digitalization of vehicle inspections, which enable specified maintenance operators to enter the shaken certificate information from their own workplace during renewal inspections, as well as the printing of the inspection badge.

With the amended Road Transport Vehicle Act coming into force on April 1, 2020, the previous disassembly and maintenance designation was changed to special maintenance. Disassembly and maintenance operators who want to become automobile special maintenance operators allowed to perform special maintenance, including that of automated driving systems, must obtain an electronic control system maintenance certification from the director of their regional transport bureau.

A transitional measure allows operators who carried out maintenance on electronic control systems before April 1 to continue those operations for four years without obtaining the certification. However, after the revised inspection criteria come into effect on October 1, 2020, special maintenance operators who have not obtained the electronic control system maintenance certification will no longer be able to issue certificates of compliance with the safety regulations.

As of the end of 2020, 7,799 operators had obtained an automobile special maintenance operation certification. More specifically, only 119 operators obtained electronic control system maintenance certification, and a total of 7,680 operators obtained an electronic control system maintenance certification in addition to disassembly and maintenance. The number of operators that will obtain the electronic control system maintenance certification is anticipated to rise as October 1 approaches.

The Ministry of Land, Infrastructure, Transport and Tourism (MLIT) has established signs for automobile

special maintenance businesses in conjunction with their introduction. Operators allowed to perform maintenance on electronic control systems in addition to all disassembly and maintenance tasks can use a bright green sign, while other operators will continue to use the current orange sign.

1. 1. Vehicle Market in 2020

In 2020 4,598,615 new vehicles were sold in Japan. This was a decrease of 596,601 vehicles or 11.5% compared to the previous year, when 5,195,216 new vehicles were sold.

A more detailed analysis of new vehicle sales reveals that the number of registered vehicles was 2,880,527, a decrease of 404,343 (12.3%) from the previous year. Used mini-vehicle sales were 1,718,088, a decrease of 192,258 (10.1%) from the previous year. Mini-vehicles accounted for 37.4% of new car sales, increasing for the fourth consecutive year.

In terms of used vehicle sales, the number of registered vehicles was 3,831,028, a decrease of 10,660 (0.3%) from the previous year. At the same time, the number of mini-vehicles was 3,035,839, an increase of 110,631 or 3.5% from the previous year.

Sales of Japanese hybrid vehicles (HVs) among registered vehicles in 2020 were 884,138 vehicles, a decrease of 199,276 vehicles (18.4%) from the previous year. The number of imported cars was 36,137, a significant increase of 20,847 or 136.3% from the previous year. The number of Japanese plug-in hybrid vehicles (PHVs) sold was 11,306 vehicles, a decrease of 3,618 vehicles (24.2%) from the previous year. The number of imported cars was 3,435, an increase of 737 or 27.3% from the previous year. The number of Japanese electric vehicles (EVs) was 11,792, a decrease of 8,102 (40.7%) from the previous year. The number of imported cars was 2,812, an increase of 1,385 or 97.1% from the previous year. The number of FCVs owned in Japan was 726, representing an increase of 41 vehicles (6.0%) compared to the previous year. The number of imported cars was 35, an increase of 30 or 600.0% from the previous year.

According to a summary by the Ministry of Land, Infrastructure, Transport and Tourism, the installation rate of driving assistance technology in new passenger cars produced in Japan in 2019 increased by 9.1% from 84.6% in 2018 to 93.7% for automatic braking. The installation of acceleration suppression device when the pedal is mistakenly pressed increased by 6.7% from 77.1% to 83.8%.

Lane departure warning systems increased by 13.4% from 77.6% to 91.0%. Automatic high beam installation rose by 19.2%, from 50.8% to 70.0%. The rate of driving support technologies in new vehicles continues to increase year after year.

1. 2. Vehicle Ownership Trends in 2020

The number of vehicles owned at the end of December 2020 was 82,471,678, representing an eleventh consecutive year of increase since 2010, and setting a record high again for the ninth consecutive year. It increased by 0.2% to 129,916 units from the previous year. According to model type, the number of 4-wheeled registered vehicles was 47,274,159, a decline of 106,485 (0.2%) from the previous year. The number of 4-wheeled mini-vehicles owned in Japan broke through the 30-million-vehicle mark in 2015, and continues to increase. By the end of December 2020 it stood at 31,372,882 vehicles. It increased by 0.5% to 156,273 vehicles from the previous year, but the growth rate decreased.

The number of inspected 2-wheeled vehicles owned in Japan also increased to 1,765,874. It increased by 2.5% to 35,483 vehicles from the previous year. The rise in vehicle ownership has continued for 29 consecutive years, and the growth rate also increased for three consecutive years. The number of 2-wheeled mini-vehicles owned in Japan is 2,036,165. This was 43,467 (2.2%) more than the previous year and means that it once again reached the 2 million vehicle mark.

The number of mini-vehicles owned in Japan as a percentage of the total number of 4-wheeled registered and mini-vehicles (78,647,041) rose by 0.2% from the previous year, reaching a record 39.9%, leveling off just below the 40% mark again.

According to a survey by the Automobile Inspection & Registration Information Association, the average age of registered passenger cars at the end of March 2020 was 8.72 years. This is 0.07 years longer than the previous year, and the average vehicle age has continued to rise for 28 years in succession, breaking the oldest age record for the 26th consecutive year. The average vehicle age has increased by 1.16 years compared to 10 years earlier in 2010. The average service age of registered passenger cars was 13.51 years, which was 0.25 years longer than the previous year, setting a record high for five consecutive years. The average service vehicle age has increased by 0.81 years compared to 10 years ago.

Similarly, the average age of registered trucks was

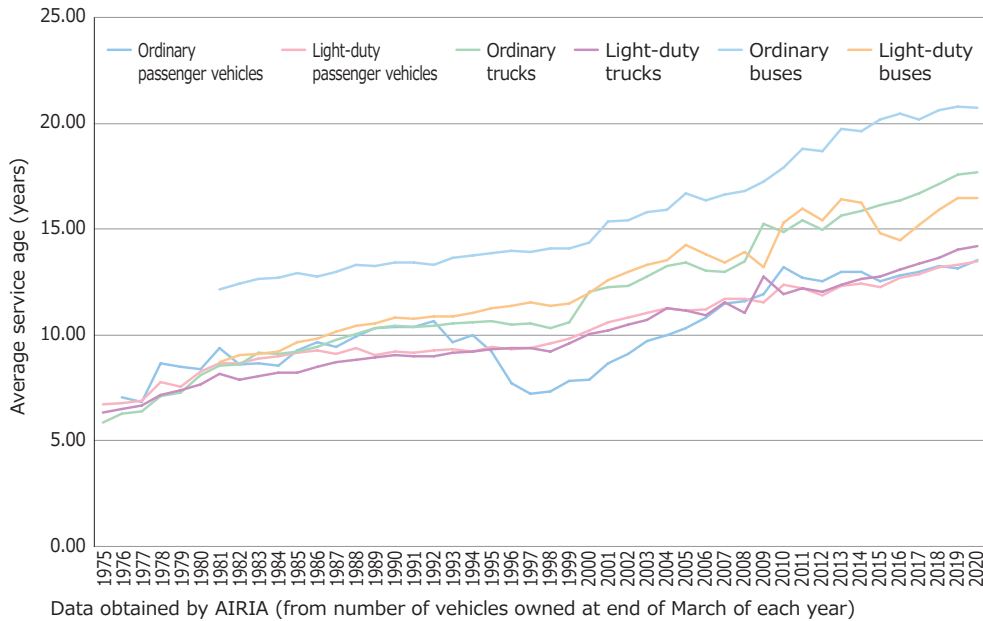


Fig. 1 Trends in average number of years of usage (average vehicle age) according to vehicle type.

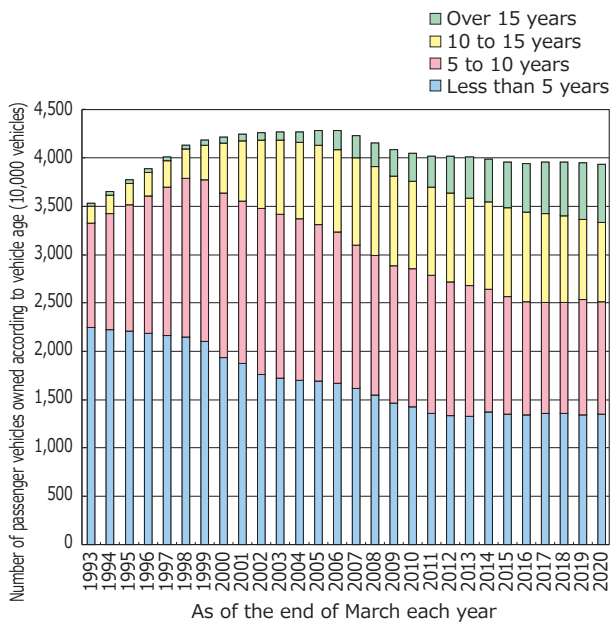


Fig. 2 Trends in vehicle age breakdown of the total number of passenger vehicles owned.

11.44 years at the end of March 2020, 0.02 years longer than the previous year, and the highest on record for the 28th year in a row. By vehicle model type, the average vehicle age of ordinary trucks was 12.21 years, 0.01 years longer than the previous year. The average vehicle age of light-duty trucks was 10.92 years, 0.02 years longer than the previous year. This sets a record for the 29th consecutive year.

The average vehicle age of buses was 11.86 years, 0.03

years longer than the previous year. In addition, the average vehicle age of special purpose vehicles was 11.13 years, 0.07 years longer than the previous year. The average vehicle age of large special purpose vehicles was 20.87 years, 0.08 years longer than the previous year, and that of light-duty 2-wheeled vehicles was 15.82 years, 0.26 years longer than the previous year.

Figure 1 shows the change in the average number of years of usage for different types of registered vehicle models. Figure 2 shows the change in the breakdown of passenger car ownership by vehicle age. As of the end of March 2020, the number of vehicles aged 10 years or older was 14,164,264, an increase of 35,805, or 0.25% from the previous year, amounting to a 0.3% rise, to 36.1%.

According to a survey by the Light Motor Vehicle Inspection Organization, the average vehicle age of registered mini-vehicles at the end of December 2020 was 8.77 years, which was 0.17 years longer than the previous year. This is 2.64 years, or 43%, longer than the 6.13 years in 2005, the first year records for mini-vehicles were taken. The average vehicle age has risen for 15 consecutive years. The average vehicle age of mini-vehicle trucks at the end of December 2020 was 13.01 years, which was 0.20 years longer than the previous year. The average years of usage of mini-vehicle trucks at the end of December 2020 was 15.20 years, which was 0.28 years longer than the previous year. Therefore, the average vehicle age has increased by 3.71 years compared the

age of 11.49 years recorded in 2005, 15 years earlier. The average years of usage of mini-vehicle trucks at the end of December 2020 was 17.10 years, which was 0.24 years longer than the previous year. Therefore, the average years of usage has increased by 4.32 years compared the usage of 12.78 years recorded in 2005, 15 years earlier.

The total number of registered HVs and PHVs owned in Japan at the end of March 2020 was 9,326,574, an increase of 841,626 vehicles (9.9%) compared to the previous year. The number of EVs owned in Japan was 119,159, which is 11,450 vehicles (10.6%) more than the previous year. The number of fuel cell vehicles was 3,758, an increase of 722 or 23.8% from the previous year. The total number of HVs, PHVs, EVs, and FCVs (electric-powered vehicles) owned in Japan was 9,449,491 vehicles, an increase of 853,798 (9.9%) compared to the previous year. This accounted for 11.5% of the total number of vehicles owned in Japan (81,849,782) and represents an increase of 1.0% from the 10.5% recorded during the previous year.

The number of electric vehicles owned among mini-vehicles at the end of March 2021 was 20,186, an increase

of 944 vehicles (4.9%) from the previous year. A breakdown of these owned vehicles reveals that 19,718 of them are type designation vehicles, 204 of them are customized type designation vehicles, and the remaining 264 are parallel imports or other types of vehicles.

2 Recent Trends in the Vehicle Maintenance Industry

The Japan Automobile Service Promotion Association conducted its 2020 survey of the vehicle repair and maintenance industry. The targets of the survey were vehicle repair and maintenance businesses defined by the Road Transport Vehicle Act. The survey was sent to approximately 20% of the 91,553 businesses in operation as of the end of June 2020 according to category and size, and responses were received from 8,444 of these workplaces.

The sales volume and other values reported were those from the accounting period closest to the time of the survey at the end of June 2020 (e.g., from the 2019 fiscal year). According to this survey, the total maintenance sales were 5,656.1 billion yen, an increase of 34.5 billion yen (0.6%) compared to the results of the previous

Table 1 Maintenance sales volume, composition ratio, and rate of change compared to previous year according to type of business and work content.

(Sales volume units: hundred million yen)

Business type		Contents			Vehicle inspection (shaken) maintenance				Regular inspection and maintenance				Collision repair	Other maintenance	Total	Number of shops and composition ratio	Number of mechanics and composition ratio
		2 years	1 year	Subtotal	1 year	6 months	3 months	Total									
Full-time	Amount of sales	5,778	3,514	9,292	357	119	298	774	3,792	5,996	19,854	56,156	163,780				
	Proportion	29.1%	17.7%	46.8%	1.8%	0.6%	1.5%	3.9%	19.1%	30.2%	100.0%	61.4%	48.2%				
	Change in sales volume compared to previous year	139	150	289	7	2	-13	-4	-291	416	410	124	2,222				
	Ratio of increase or decrease compared to previous year	102.5%	104.5%	103.2%	102.0%	101.7%	95.8%	99.5%	92.9%	107.5%	102.1%	100.2%	101.4%				
Additional business	Amount of sales	2,419	652	3,071	170	34	48	252	1,169	2,304	6,796	15,498	49,714				
	Proportion	35.6%	9.6%	45.2%	2.5%	0.5%	0.7%	3.7%	17.2%	33.9%	100.0%	16.9%	14.6%				
	Change in sales volume compared to previous year	-40	30	-10	-8	0	0	-8	-156	140	-34	-204	-645				
	Ratio of increase or decrease compared to previous year	98.4%	104.8%	99.7%	95.5%	100.0%	100.0%	96.9%	88.2%	106.5%	99.5%	98.7%	98.7%				
Full-time + additional business	Amount of sales	8,197	4,166	12,363	527	153	346	1,026	4,961	8,300	26,650	71,654	213,494				
	Proportion	30.8%	15.6%	46.4%	2.0%	0.6%	1.3%	3.8%	18.6%	31.1%	100.0%	78.3%	62.9%				
	Change in sales volume compared to previous year	99	180	279	-1	2	-13	-12	-447	556	376	-80	1,577				
	Ratio of increase or decrease compared to previous year	101.2%	104.5%	102.3%	99.8%	101.3%	96.4%	98.8%	91.7%	107.2%	101.4%	99.9%	100.7%				
Dealer	Amount of sales	7,159	1,776	8,935	2,303	333	277	2,913	5,134	10,767	27,749	16,315	110,898				
	Proportion	25.8%	6.4%	32.2%	8.3%	1.2%	1.0%	10.5%	18.5%	38.8%	100.0%	17.8%	32.7%				
	Change in sales volume compared to previous year	-285	143	-142	228	-27	28	229	-373	363	77	-34	1,077				
	Ratio of increase or decrease compared to previous year	96.2%	108.8%	98.4%	111.0%	92.5%	111.2%	108.5%	93.2%	103.5%	100.3%	99.8%	101.0%				
Private owner-run	Amount of sales	594	392	986	54	23	56	133	369	674	2,162	3,564	15,201				
	Proportion	27.5%	18.1%	45.6%	2.5%	1.1%	2.6%	6.2%	17.1%	31.2%	100.0%	3.9%	4.5%				
	Change in sales volume compared to previous year	-110	52	-58	15	21	46	82	-72	-60	-108	42	42				
	Ratio of increase or decrease compared to previous year	84.4%	115.3%	94.4%	138.5%	1,150.0%	560.0%	260.8%	83.7%	91.8%	95.2%	101.2%	100.3%				
Total	Amount of sales	15,950	6,334	22,284	2,884	509	679	4,072	10,464	19,741	56,561	91,533	339,593				
	Proportion	28.2%	11.2%	39.4%	5.1%	0.9%	1.2%	7.2%	18.5%	34.9%	100.0%	100.0%	100.0%				
	Change in sales volume compared to previous year	-296	375	79	242	-4	61	299	-892	859	345	-72	2,696				
	Ratio of increase or decrease compared to previous year	98.2%	106.3%	100.4%	109.2%	99.2%	109.9%	107.9%	92.1%	104.5%	100.6%	99.9%	100.8%				

Table 2 Number of vehicle maintenance-related personnel.

Scale of business	A1 (2 to 3 people)	A2 (4 to 10 people)	B (11 to 20 people)	C (21 to 30 people)	D (31 people or more)	Total	Change from previous year	Rate compared to previous year
Number of shops	50,441	36,851	3,643	460	138	91,533	-72	99.9%
Number of shops that obtained designation		26,980	2,667	337	101	30,085	-2	100.0%
Acquisition ratio		73.2%	73.2%	73.3%	73.2%	32.9%		
Total number of personnel	154,083	294,281	68,927	14,856	6,939	539,086	2,593	100.5%
Number of female personnel within that total	33,355	40,794	6,294	1,070	378	81,891	2,029	102.5%
Total number of maintenance personnel	118,719	213,781	49,923	11,137	5,658	399,218	83	100.0%
Number of female maintenance personnel within that total	11,545	6,678	640	134	75	19,072	1,663	109.6%
Number of Class 1 auto mechanics	2,221	7,447	1,990	243	183	12,084	1,730	116.7%
Number of female mechanics within that total	65	46	18	4	1	134	34	134.0%
Number of Class 2 auto mechanics	76,671	153,723	34,594	6,988	3,428	275,404	-1,050	99.6%
Number of female mechanics within that total	2,311	1,681	345	26	12	4,375	465	111.9%
Number of Class 3 auto mechanics	19,680	25,115	5,057	1,546	707	52,105	2,016	104.0%
Number of female mechanics within that total	4,739	1,772	73	33	2	6,619	371	105.9%
Total number of mechanics	98,572	186,285	41,641	8,777	4,318	339,593	2,696	100.8%
Number of female mechanics within that total	7,115	3,499	436	63	15	11,128	870	108.5%

The number of women was also surveyed starting in June 2014.

Table 3 Number of businesses according to number of employees

	2 to 5 people	6 to 10 people	11 to 15 people	16 to 20 people	21 to 30 people	31 to 50 people	51 to 100 people	101 to 300 people	More than 300 people	Private company total	Public offices	Overall total
June 2010	40,279	16,400	4,428	2,088	1,922	1,747	2,047	2,629	1,832	73,372	655	74,027
June 2020	40,481	16,124	4,877	2,035	2,623	1,772	1,692	1,764	768	72,136	387	72,523
Change	202	-276	449	-53	701	25	-355	-865	-1,064	-1,236	-268	-1,504

year's survey. For the purpose of the 2016 vehicle repair and maintenance industry survey, the target vehicle repair and maintenance businesses were classified as follows: full-time vehicle maintenance shops (workplaces other than vehicle dealers where maintenance sales account for over 50% of total sales), maintenance shops run as an additional business (workplaces where sales from other businesses, such as vehicle sales, parts and accessory sales, insurance sales, or gasoline sales, account for over 50% of total sales), maintenance shops at vehicle dealers (workplaces at companies that have signed an exclusive distributor agreement with an automaker or a domestic exclusive retailer), and private owner-run maintenance shops (mainly workplaces that perform maintenance work on vehicles that are privately owned).

2. 1. Maintenance Facilities and Maintenance Personnel

(1) Outline of Maintenance Facilities The number of businesses in the vehicle repair and maintenance industry was 72,523 at the time of the survey on June 30, 2020, a decrease of 322 businesses (0.4%) compared to the

previous year. This was the sixth consecutive year that the number of companies decreased. The total number of workplaces (number of certified maintenance shops) was 91,533. This was a decrease of 72 such workplaces (0.1%) compared to the previous year. This is the fifth consecutive year that this value has decreased.

By type of business, full-time vehicle maintenance shops accounted for the majority of workplaces at 56,156 (61.4% of the total), representing an increase of 124 such workplaces (0.2%) compared to the previous year. Maintenance shops that were run as an additional business accounted for 15,498 workplaces (16.9% of the total), a decrease of 204 shops (1.3%) from the previous year. The number of maintenance shops at the dealers accounted for 16,315 (17.8% of the total), a decrease of 34 shops from the previous year. The number of private owner-run maintenance shops was 3,564 (3.9% of the total), a decrease of 42 shops or 1.2% compared to the previous year (Table 1).

The number of private workshops reached 385,000 in the 2020 survey, an increase of two shops over the previ-

ous year. The number of designated workshops had increased consistently since the system was established in 1962, but decreased for the first time, although only by two workshops. The number of workplaces that have obtained this designation (i.e., the designation acquisition ratio) is 32.9% of the total number of workplaces (Table 2).

Examining the designation acquisition ratio according to the different types of businesses shows that 13,499 of the total number of full-time vehicle maintenance shops (56,156) have obtained the designation, an increase of 39 shops (0.3%) compared to the previous year. This represents a designation acquisition ratio of 24.0%, as well as an increase of 520 shops (4.0%) compared to 10 years earlier in 2010.

Among maintenance shops run as an additional business, 4,754 of the total of 15,498 have obtained the designation, a decrease of 61 shops (1.3%) from the previous year. This represents a designation acquisition ratio of 30.7%. It also is an increase of 337 shops (7.6%) compared to the number in 2010.

Among the 16,315 maintenance shops at vehicle dealers, 10,650 plants have obtained the designation, which is the same number as in the previous year. This represents a designation acquisition ratio of 65.3%. It also is an increase of 107 shops (1.0%) compared to the number in 2010. Of the 3,564 private owner-run maintenance shops, 1,182 have obtained the designation. This is an increase of 20 shops (1.7%) from the previous year, representing a designation acquisition ratio of 33.2%. It also represents an increase of 6 shops (0.5%) from 2010.

Table 2 compares the scale of the maintenance shops based on the number of vehicle maintenance personnel employed there and other factors. At the time of this survey at the end of June 2020, there were 72,136 private companies after subtracting the number of public offices. However, at the time of the June 2010 survey 10 years earlier, there were 73,372 private companies after subtracting the number of public offices. Table 3 compares them based on the number of employees.

(2) Outline of Mechanics and Maintenance Personnel As of the end of June 2020, the total number of maintenance-related personnel was 539,086, an increase of 2,593 or 0.5% from the previous year.

According to the type of business, the number of mechanics was 258,654 people, an increase of 464 or 0.2% from the previous year. The number of mechanics for

maintenance shops run as an additional business was 88,602 people, a decrease of 1,221 people or 1.4% from the previous year. However, the number of maintenance-related personnel at maintenance shops at vehicle dealers increased to 170,778 people, 3,407 (2.0%) more than the previous year. The number of mechanics for private owner-run businesses was 21,052 people, a decrease of 57 people or 0.3% from the previous year. This is the ninth consecutive year that this value has decreased. The number of maintenance personnel (shop workers) was 399,218, 83 more than the previous year, the first increase in maintenance personnel in five years. The number of mechanics was 339,593 people, an increase of 2,696 (0.8%) from the previous year. The number of female mechanics within this total has been recorded since the June 2014 survey, and that year there were 9,527. Since then, the number increased successively in 2015 and 2016, but peaked at 10,935 in 2016, and began to decline. However, in the June 2020 survey, it was 11,128, a major increase of 870 from the previous year.

Tables 1 and 2 show the current situation of maintenance-related personnel in Japan. The average age of maintenance personnel continues to rise, reaching 45.7 years old in 2020, which was an increase of 0.2 years compared to the previous year. By type of business, full-time vehicle maintenance shops personnel showed the most significant increase with an average age of 51.2 years old, 0.3 years older compared to the previous year. The youngest were the maintenance personnel at dealers, who were nevertheless also 0.2 years older, reaching 35.7 years old.

2. 2. Demand for Vehicle Maintenance

(1) Trends in Total Maintenance Sales Volume

The total maintenance sales volume in the 2020 survey of the situation in the vehicle maintenance industry (results from the 2019 fiscal year) was 5,656.1 billion yen. Table 1 compares the maintenance sales volume generated by full-time vehicle maintenance businesses, those run as an additional business, those at dealers, and those at private owner-run businesses. It also compares the sales volume according to the content of the work performed, such as shaken vehicle inspection and maintenance, regular inspection and maintenance, collision repairs, and other maintenance (e.g., extraordinary maintenance due to a breakdown or malfunction, simple maintenance such as oil changes, voluntary inspection and maintenance requested by the owner, re-inspection

of a vehicle issued a limited vehicle inspection certificate, or customization services).

Compared by type of business, the total maintenance sales in the whole full-time vehicle maintenance businesses was 1,985.4 billion yen, an increase of 41 billion yen or 2.1% from the previous year. A breakdown of the full-time maintenance business total by type of maintenance work shows that shaken vehicle inspection and maintenance sales amounted to 929.2 billion yen, an increase of 28.9 billion yen (3.2%) compared to the previous year. This accounted for 46.8% of the total maintenance sales. The sales of regular inspection and maintenance were 77.4 billion yen, a decrease of 0.4 billion yen (0.5%) from the previous year, and accounted for 3.9% of the total. Collision repairs amounted to 379.2 billion yen, a decrease of 29.1 billion yen (7.1%) compared to the previous year, and represented 19.1% of the total. Finally, other maintenance sales amounted to 599.6 billion yen, an increase of 41.6 billion yen (7.5%) compared to the previous year, and accounted for 3.2% of the total.

The maintenance sales at vehicle maintenance businesses run as an additional business amounted to a total of 679.6 billion yen, a decrease of 3.4 billion yen (0.5%) compared to the previous year. Breaking that total down according to the different kinds of maintenance work shows that shaken vehicle inspection and maintenance sales amounted to 307.1 billion yen, a decrease of 1.0 billion yen (0.3%) compared to the previous year. This represents 45.2% of the overall sales of the vehicle maintenance businesses run as an additional business. The sales of regular inspection and maintenance were 25.2 billion yen, a decrease of 0.8 billion yen (3.1%) from the previous year, and accounted for 3.7% of the total. Collision repairs amounted to 116.9 billion yen, a decrease of 15.6 billion yen (11.8%) compared to the previous year. This accounted for 17.2% of the total. Finally, other maintenance sales amounted to 230.4 billion yen, an increase of 14.0 billion yen (6.5%) compared to the previous year, and accounted for 33.9% of the total.

In contrast, the overall sales of dealers were 2,774.9 billion yen, an increase of 77.0 billion yen (0.3%) from the previous year. If the maintenance sales at those shops are then broken down according to the different kinds of maintenance work, the shaken vehicle inspection and maintenance sales amounted to 893.5 billion yen, a decrease of 14.2 billion yen (1.6%) compared to the previous year. This accounted for 32.2% of the total sales. Regular

inspection and maintenance sales amounted to 291.3 billion yen, an increase of 22.9 billion yen (8.5%) compared to the previous year, and represented 10.5% of total dealer sales.

Collision repairs amounted to 513.4 billion yen, a decrease of 37.3 billion yen (6.8%) compared to the previous year, and represented 18.5% of total dealer sales. Finally, other maintenance sales amounted to 1 trillion 767 billion yen, an increase of 36.3 billion yen (3.5%) compared to the previous year, and represented 38.8% of total dealer sales.

The total vehicle maintenance sales at private owner-run vehicle maintenance businesses were 216.2 billion yen, a decrease of 10.8 billion yen (4.8%) compared to the previous year. The breakdown by type of maintenance work reveals that shaken vehicle inspection and maintenance sales amounted to 98.6 billion yen, an increase of 5.8 billion yen (5.6%) compared to the previous year, and accounted for 45.6% of the total sales for private owner-run shops. Regular inspection and maintenance sales amounted to 13.3 billion yen, an increase of 8.2 billion yen (160.8%) compared to the previous year, and accounted for 6.2% of the total sales for private owner-run shops. Collision repairs amounted to 36.9 billion yen, a decrease of 7.2 billion yen (16.3%) compared to the previous year, and accounted for 19.4% of the total. Finally, other maintenance sales amounted to 67.4 billion yen, a decrease of 6.0 billion yen (8.2%) compared to the previous year. This accounted for 31.2% of the total.

Breaking down the 2020 overall total maintenance sales volume of 5 trillion 656.1 billion yen by type of maintenance work shows that shaken vehicle inspection and maintenance sales amounted to 2 trillion 228.4 billion yen, an increase of 7.79 billion yen (0.4%) compared to the previous year. This accounted for 35.4% of the total maintenance sales. Regular inspection and maintenance sales amounted to 407.2 billion yen, an increase of 29.49 billion yen (7.9%) compared to the previous year. This accounted for 7.2% of the total maintenance sales. Collision repairs amounted to 1 trillion 46.4 billion yen, a decrease of 89.2 billion yen (7.9%) compared to the previous year. This accounted for 18.5% of the total maintenance sales volume. Finally, other maintenance sales amounted to 1 trillion 974.1 billion yen, an increase of 85.9 billion yen (4.5%) compared to the previous year, and made up 34.9% of the overall maintenance sales total.

(2) Average Number of Vehicles Serviced According to Type of Business and Work Content

The average number of vehicles brought in for maintenance service per shop during the year (2020) was 1,671. This was a decrease of 14 vehicles (0.8%) from the previous year. Broken down according to the content of the work that was performed, the average number of vehicles brought in for shaken vehicle inspection and maintenance service per shop was 367, or 6 fewer vehicles (1.6%) than in the previous year. The number of vehicles brought in for shaken vehicle inspection and maintenance service was 22.0% of the total number of serviced vehicles. The number of vehicles serviced for regular inspection and maintenance was 270, a decrease of 1 vehicles (0.4%) from the previous year, and accounted for 16.1% of the total. The average number of vehicles brought in for collision repairs per shop was 83. This was a decrease of 9 vehicles (9.8%) from the previous year and accounted for 5.0% of the total number of vehicles brought in. The average number of vehicles brought in for other maintenance per shop was 951, an increase of 2 vehicles (0.2%) from the previous year, and accounted for 56.9% of the total.

Looking at the average number of vehicles brought in for maintenance per shop during the year according to the type of business, the average number of vehicles brought into full-time vehicle maintenance businesses was 820, a decrease of 24 vehicles (2.9%) from the previous year. For into maintenance shops run as an additional business, the average number of vehicles brought in was 1,322 per shop, a decrease of 21 vehicles (1.6%) from the previous year. The average number of vehicles brought into maintenance shops at dealers was 4,934 vehicles per shop, an increase of 39 vehicles (0.8%) from the previous year.

Furthermore, looking at the content of maintenance work according to the type of business, the average number of vehicles brought into full-time vehicle maintenance businesses for shaken vehicle inspection and maintenance during the year was 284 per shop, a decrease of 3 vehicles (1.0%) from the previous year. This accounted for 34.7% of all the vehicles brought into those shops for maintenance. For maintenance shops run as an additional business, the average number of vehicles brought into was 343 per shop, a decrease of 10 vehicles (3.0%) from the previous year representing 26.6% of the total. At the same time, the average number of vehicles brought into

maintenance shops at dealers for shaken vehicle inspection and maintenance was 675, a decrease of 10 vehicles (1.5%) from the previous year and making up 13.7% of the total.

Next, the average number of vehicles brought into full-time vehicle maintenance businesses for regular inspection and maintenance during the year was 81 vehicles per shop, a decrease of 7 vehicles (8.0%) from the previous year. This accounted for 9.9% of all the vehicles brought in over the year. In the case of maintenance shops run as an additional business, the average number of vehicles brought in was 113 per shop, a decrease of 4 vehicles (3.4%) from the previous year, and accounted for 8.6% of the total. The average number of vehicles brought into maintenance shops at dealers was 1067 vehicles per shop, an increase of 24 vehicles (2.3%) compared to the previous year, and accounted for 21.6% of the total.

The average number of vehicles brought in for collision repairs during the year was 63 vehicles per shop at full-time vehicle maintenance businesses, a decrease of 5 vehicles (7.4%) from the previous year. This accounted for 7.7% of the total. For maintenance shops run as an additional business, the average number of vehicles brought in was 65 per shop, a decrease of 7 vehicles (9.7%) from the previous year, and accounted for 4.9% of the total. The average number of vehicles brought into maintenance shops at dealers for collision repairs was 168 vehicles per shop, a decrease of 25 vehicles (13.0%) from the previous year, and accounted for 3.4% of the total.

The category of "other maintenance" accounted for the largest portion of vehicles brought in for maintenance or service. The average number of vehicles brought into full-time vehicle maintenance businesses during the year for other maintenance was 391 per shop, a decrease of 10 vehicles (2.5%) from the previous year. This accounted for 47.7% of all the vehicles brought into those shops for maintenance during the year. At maintenance shops run as an additional business, the average number of vehicles brought in for other maintenance was 800 per shop, an increase of 2 vehicles (0.3%) from the previous year. This accounted for 60.6% of the total. The average number of vehicles brought into maintenance shops at dealers was 3,025 per shop, an increase of 51 vehicles (1.7%) from the previous year. It accounted for 61.3% of the total.

(3) Trends in Shaken Vehicle Inspection and Regular Inspection Maintenance Fees According to Type of Business

Two-year vehicle inspections account for over three-quarters of the shaken vehicle inspection sales volume. Comparing the unit prices of the 2-year vehicle inspection fees at the different types of businesses, the unit price at the full-time vehicle maintenance businesses was 47,956 yen, which was an increase of 1,632 yen (3.5%) over the unit price of the previous year. For maintenance shops run as an additional business, the unit price was 52,938 yen, an increase of 2,258 yen (4.5%) compared to the previous year. However, for maintenance shops at dealers, the unit price was 73,006 yen, a decrease of 995 yen (1.3%) compared to the previous year.

The price difference between the 2-year shaken vehicle inspection fees at full-time vehicle maintenance businesses and maintenance shops at dealers was 25,050 yen, a reduction of 2,627 yen compared to the survey results from the previous year.

A comparison of the average unit price of 1-year inspections, which accounts for about three-quarters of regular inspection and maintenance sales, by business type shows that the 1-year inspection fees at the full-time vehicle maintenance businesses were 20,358 yen, an increase of 1,751 yen (9.4%) from the previous year.

Similarly, the unit price at maintenance shops run as an additional business was 16,586 yen, a decrease of 98 yen (0.6%) compared to the previous year. However, for maintenance shops at dealers, the unit price was 19,833 yen, an increase of 927 yen (4.9%) compared to the previous year.

3 Inspection and Maintenance System Trends

3.1. Vehicle Inspections

In 2020 the total number of shaken renewal inspections (sum of data from the MLIT, the National Agency for Automobile and Land Transport Technology (NALTEC), and the Light Motor Vehicle Inspection Organization (LMVIO)) was 33,510,597 cases, an increase of 776,904 cases (2.4%) compared to the previous year.

The total number of registered vehicles and mini-vehicles specified to receive maintenance was 24,617,413 an increase of 596,056 vehicles (2.5%) compared to the previous year. The specified maintenance rate rose by 0.1% from the previous year to 73.5%. Closer analysis of the

data for registered vehicles collected by MLIT shows that the number of registered vehicles subjected to a shaken renewal inspection was 21,431,085, an increase of 635,181 vehicles (3.1%) compared to the previous year. The number of vehicles subject to specified maintenance was 16,306,971, an increase of 454,499 vehicles (2.9%). The specified maintenance rate dropped by 0.1% from the previous year to 76.1%.

In 2020, the number of inspections conducted by NALTEC at inspection centers throughout Japan to assess compliance with the Japanese Safety Regulations for Road Vehicles (total number of new inspections, shaken renewal inspections, structural change inspections, and re-inspections) was 6,956,649. This was an increase of 160,185 inspections (2.4%) compared to the previous year. The number of on-street inspections was 121,387, a decrease of 8,667 (6.7%) compared to the previous year.

The breakdown of the number of the different types of inspections indicates that there were 1,077,219 new inspections (including preliminary inspections), an increase of 22,041 (2.1%) compared to the previous year. The number of shaken renewal inspections was 5,119,398, an increase of 181,363 (3.7%) compared to the previous year. The number of structural change inspections was 69,024, an increase of 5,279 (8.3%) compared to the previous year. There were 691,008 re-inspections, a decrease of 48,498 (6.6%) compared to the previous year.

Examining the data for mini-vehicle inspections reveals that there were 120,709,512 shaken renewal inspections, an increase of 141,723 (1.2%) compared to the previous year. The number of shaken renewal inspections for mini-vehicles first exceeded 10 million in 2010 and, after exceeding 11 million for 5 years in a row since 2015, rose above 12 million for the first time.

The number of mini-vehicles specified to receive maintenance was 8,310,442 and the specified maintenance rate was 68.8%, an increase of 0.4% from the previous year. Since fiscal 2019, online renewal inspection submissions (one stop service (OSS)) were introduced for mini-vehicle specified maintenance, and the use of that service in the same year accounted for 1,256,502 (15.4%) of all specified maintenance. In 2020, there were 1,573,203 submissions, an increase of 2,829,905 (125.2%) over the previous year, and use of OSS accounted for 34.1% of all specified maintenance.

The number of vehicles brought into LMVIO for a shaken renewal inspection was 3,769,070. This total con-

sisted of 2,689,936 vehicles brought in by maintenance personnel, and 1,085,134 vehicles brought in by the owner.

3. 2. OBD Inspections

With the rapid evolution and spread of automated driving technologies typified by the over 90% installation rate of automatic brakes on new vehicles, there are fears that a system malfunction or source of operation failure could lead to serious accidents. Consequently, on-board diagnostics (OBD) inspections serve to check the functioning of electronic devices in the vehicle.

On August 5, 2020, the MLIT revised the Announcement that Prescribes Details of Safety Regulations for Road Vehicles, stipulating the start of ODB inspections in October 2024 for new models introduced in or after October 2021. Inspections for imported vehicles will apply to new models introduced in or after October 2022 and start in October 2025.

An OBD inspection involves scanning the data of the on-board diagnostics (OBD) device that monitors the state of on-board electronic devices and records failures during a shaken renewal inspection. That inspection fails if a failure code (specific diagnostic trouble code (DTC)) that does not comply with the specified safety standards is found.

In addition to introducing a pre-test for electronic inspections in October 2021, NALTEC, the organization responsible for OBD inspections, is collecting a fee of 400 yen per vehicle to cover the necessary information management expenses.

The inspections apply to (a) systems such as driver support systems, collision mitigation braking systems (automatic brakes), automatically commanded steering functions (lane keeping), (b) automated driving systems, and (c) devices related to exhaust emissions.

4 Machine Tools

Every year at the end of July, the Japan Automotive Service Equipment Association (JASEA) collects and then announces the automotive machine tool sales figures from its member companies from the previous fiscal year. The latest announced machine tool sales figures

are those from fiscal 2019 (from April 2019 to March 2020). The machine tools handled by each member company are broadly classified into 19 item categories and then added up.

In 2019, total automotive machine tool sales amounted to 111 billion 171.06million yen, an increase of 2 billion 235.93 million yen (2.1%) compared to the previous fiscal year. This is the fifth consecutive year that machine tool sales have increased, and also the seventh year in a row that they have exceeded 100 billion yen.

In the 2019 survey, sales surpassed those of the previous year in 15 of the 19 categories (integrated vehicle diagnostic equipment, inspection equipment, vehicle washing equipment, lifts, jacks, and presses, servicing equipment for air compressors, pneumatic and electric tools, manual tools, painting equipment, servicing equipment for batteries and coolers, servicing equipment for engines, servicing equipment for brakes and wheels, oil chargers, miscellaneous systems, and environmental maintenance equipment, and others). Of those, vehicle washing equipment (9 billion yen) was the highest amount on record.

In terms of proportion of total sales, the largest contributors were lifts, jacks, and presses (19.4 billion yen, a 0.3% increase over the previous year), inspection equipment (10.9 billion yen, a 1.1% increase), vehicle washing equipment (9.0 billion yen, an increase of 0.6%), manual tools (8.0 billion yen, a 2.25% increase), integrated vehicle diagnostic equipment (7.3 billion yen, a 0.1% increase), and servicing equipment for brakes and wheels (6.3 billion yen, an 8.7% increase).

Sales of scanning tools, which are essential to diagnostics, inspections, and servicing were 18,375 units (a 33.3% increase from the previous year) amounting to a total of 2 billion 6.2721 million yen and an average unit price of 142,978 yen (compared to 150,073 yen the year before).

Sales of the diagnostic software installed in scanning tools was 33,461 units (a 98.3% increase from the previous year), amounting to a total of 431.57 million yen and an average unit price of 12,898 yen (compared to 18,100 yen the year before).