

DAIHATSU F73, F78

GI

GENERAL INFORMATION

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This service manual applies to those vehicles with the following chassis numbers onward and with the owner's manual F217-9305-E1, S1, F1, G1 or A1 furnished.

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NO. 9705

IMPORTANT SAFETY NOTICE

The vehicle is a machine comprising a great number of parts. Basically speaking, the vehicle is potentially hazard. However, one can handle it safely if he has the required knowledge.

Correct service methods and repair procedures are very vital for assuring not only the safety and reliability of a vehicle, but also the safety of service personnel concerned.

The methods and procedures contained in this manual describe in a general way the techniques which the manufacturer has recommended. Thus, they will contribute to ensuring the reliability of the products. The contents of the servicing operations come in a wide variety of ways. Moreover, techniques, tools and parts necessary for each operation are different widely from each other.

This manual does not cover all details of techniques, procedures, parts, tools and handling instructions which are necessary for these operations, for such coverage is impossible. Hence, any one who obtains this manual is expected first to make his responsible selection as to techniques, tools and parts which are necessary for servicing the vehicle concerned properly. Furthermore, he must assume responsibility for his actions in connection with his own safety.

Therefore, one should not perform any service if he is not capable of making responsible selection and/or if he can not understand the contents herein described, for this manual has been prepared for experienced service personnel.

WARNINGS, CAUTIONS AND NOTES

All these symbols have their specific purposes, respectively.

WARNING:

- This symbol means that there is a possibility of personal injury of the operator himself or the nearby workers if the operator fails to follow the operating procedure prescribed in this manual.

CAUTION:

- This symbol means that there is a possibility of damage to the component being repaired if the operator fails to follow the operating procedure prescribed in this manual.

NOTE:

- To accomplish the operation in an efficient manner, additional instructions concerning the operation are given in this section.

The following list describes general WARNINGS:

- Always wear safety glasses for eye protection.
- Use safety stands whenever a procedure requires you to be under the vehicle.
- Be sure that the ignition switch is always in the OFF position, unless otherwise required by the procedure.
- Set the parking brake when working on the vehicle.
- Operate the engine only in a well-ventilated area to avoid the danger of carbon monoxide.
- Keep yourself and your clothing away moving parts, when the engine is running, especially from the fan and belts.
- To prevent serious burns, avoid contact with hot metal parts such as the radiator, exhaust manifold, tail pipe, and muffler.
- Do not smoke while working on a vehicle.
- To avoid injury, always remove rings, watches, loose hanging jewelry, and loose clothing before beginning to work on a vehicle.
- Keep hands and other objects clear of radiator fan blades! The electric cooling fan is mounted on the radiator and can start to operate at any time by an increase in under hood temperature. The electric cooling fan is also mounted on the condenser for air conditioner and start to operate in anytime during air conditioner switch "ON". For this reason care should be taken to ensure that the electric cooling fan motor is completely disconnected when working under the hood.

1. MODEL VARIATION

Market			Europe		Australia			General		
Model	Grade		SE	SX	DX	SE	SX	DX	SE	SX
Hard-Top	DL-42	RHD	F73RG-MMHSW	—	F73RG-MMDSQ	—	—	F73RG-MMDS	—	—
		LHD	F73LG-MMHSW	—	—	—	—	F73LG-MMDS	—	—
	DL-52 (Turbo)	RHD	F73RG-MMHTW	—	—	F73RG-MMHTQ	—	—	—	—
		LHD	F73LG-MMHTW	—	—	—	—	—	F73LG-MMHT	—
Wagon	DL-42	RHD	F78RG-BMHSW	—	—	F78RG-BMHSQ	—	F78RG-BMDS	—	—
		LHD	F78LG-BMHSW	—	—	—	—	F78LG-BMDS	—	—
	DL-52 (Turbo)	RHD	F78RG-BMHTW	F78RG-BMXTW	—	F78RG-BMHTQ	F78RG-BMXTQ	—	F78RG-BMHT	F78RG-BMXT
		LHD	F78LG-BMHTW	F78LG-BMXTW	—	—	—	—	F78LG-BMHT	F78LG-BMXT

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DESCRIPTION OF VEHICLE MODEL CODE

F 73 R G - M M H S W

Market

- Non : General Market Model
- Q : Australian Market Model
- W : European Market Model

Engine

- S : Non-turbo
- T : Turbo

Grade

- D : DX
- H : SE
- X : SX

Transmission Specification

- M : 5-speed

Body Specification

- M : Hard Top
- B : Wagon

Body Type

- G : Wagon

Steering Wheel Position

- R : Right Hand drive
- L : Left Hand drive

Vehicle Model

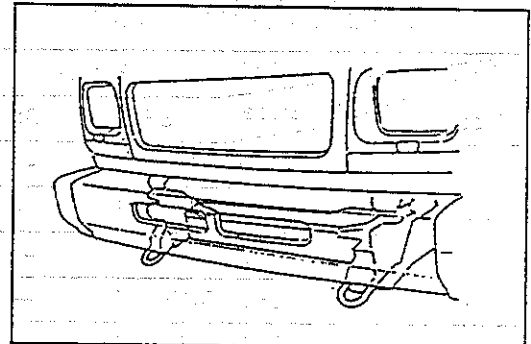
- 73 : Short Wheelbase
- 78 : Long Wheelbase

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GI-4

2. CHASSIS SERIAL NUMBER STAMPED POSITION

The chassis number is stamped on the right side of the front frame.



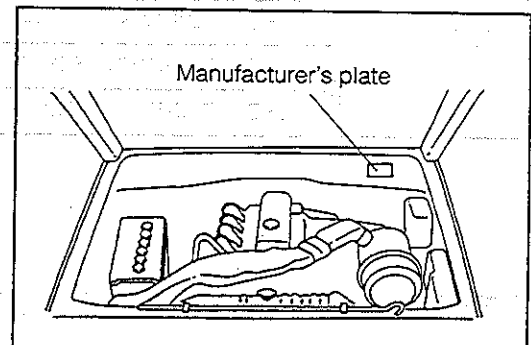
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3. MANUFACTURER'S PLATE POSITION

The manufacturer's plate is attached on the cowl panel.

RHD: On the left hand side

LHD: On the right hand side



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CONTENTS OF MANUFACTURER'S PLATE

(1) General & Australian Specification

①	DAIHATSU MOTOR CO. LTD. JAPAN	
②	TYPE	
③	CHASSIS NO	
④	ENGINE	
⑤	⑤	
⑥	COLOR	TRIM
⑦	⑦	
⑧	BUILT DATE	
⑨	⑨	
⑩	ENGINE NO	
⑪	⑪	
⑫	⑫	
⑬	⑬	
⑭	⑭	
⑮	⑮	
⑯	⑯	
⑰	⑰	
⑱	⑱	
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- ① Manufacturer's name, Country
- ② Vehicle model
- ③ Chassis No.
- ④ Engine type
- ⑤ Engine displacement
- ⑥ Body colors
- ⑦ Trim code
- ⑧ Engine number
- ⑨ Manufacturer's name in Japanese
- ⑩ Gross vehicle weight
- ⑪ Gross combination weight
- ⑫ Maximum permissible front axle weight
- ⑬ Maximum permissible rear axle weight
- ⑭ Production month-year. (Only for AUS spec.)

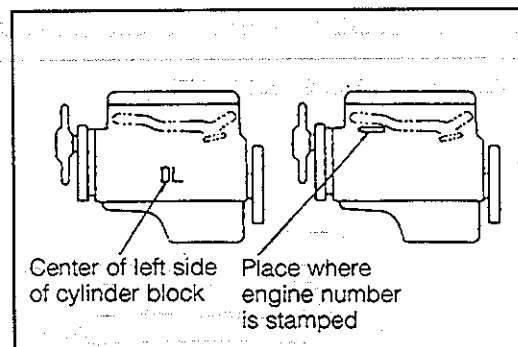
(2) European Specification

①	DAIHATSU MOTOR CO. LTD	
②	TYPE	
③	③	
④	ENGINE	
⑤	⑤	
⑥	⑥	
⑦	⑦	
⑧	⑧	
⑨	⑨	
⑩	⑩	
⑪	⑪	
⑫	⑫	
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4. ENGINE NUMBER AND ENGINE TYPE STAMPED POSITIONS

The engine number and serial number is stamped on the place as shown in the illustration.



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5. BODY COLOR INFORMATION

Mono. color	Code
White	045
Red	3E7
Grey Metallic	168
Dark Grey Mica	S16
Green Metallic	G12

Two tone color	Code
Green Metallic / Grey Metallic	NB3 (G12/168)
Dark Grey Mica / Grey Metallic	NB8 (S16/168)
Red Mica / Grey Metallic	25L (3H1/168)

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5-1. COLOR CODE IN THE WORLD

Color	Code					
	DAIHATSU	AKZO	DUPONT	ICI	SPIES HECKER	STANDOX
White	045	DAH045	L8997	NW80	16067	045
Red	3E7	DAH3E7	G8690	KK26	38299	3E7
Grey Metallic	168	DAH168	N8832	B936B	97728	168
Dark Grey Mica	S16	DAHS16	W9959	5SY1B	70710	S16
Green Metallic	G12	DAHG12	L9651	D576B	90150	G12
Two tone	NB3	DAHNB3	L9652/N8832	D575B/B936B	48715	NB3
Two tone	NB8	DAHNB8	W9959/N8832	5SY1B/B936B	48906	NB8
Two tone	25L	DAH25L	G8730/N8832	PC86B/B936B	48234	25L

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5-2. TRIM COLOR CODE

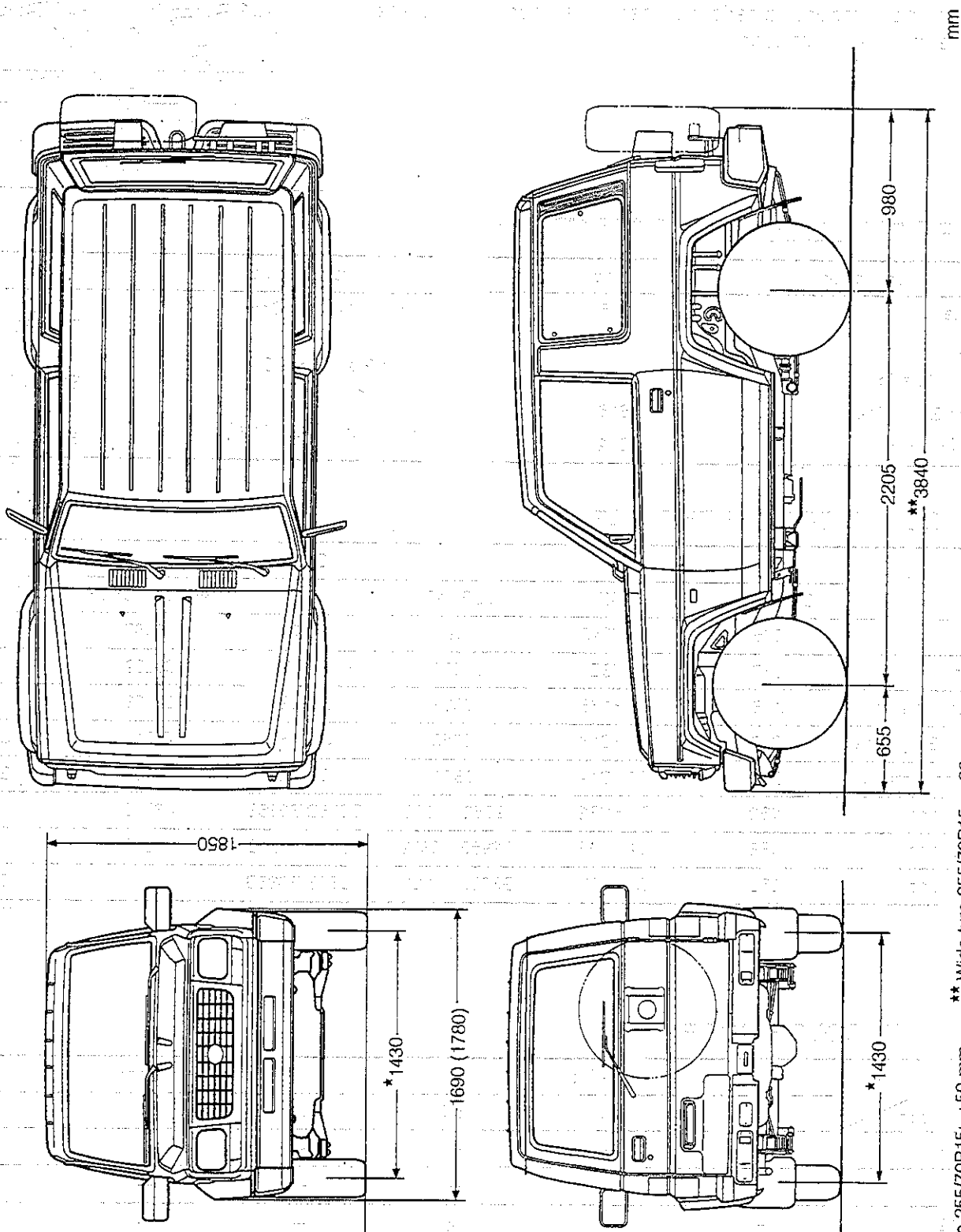
Model	Hard-Top			Wagon		
	DX	SE	SX	DX	SE	SX
FK12	X	—	—	—	—	—
FF12	X	X	—	—	—	—
FG12	—	—	X	—	—	—
FL12	—	—	—	X	—	—
FH12	—	—	—	X	X	—
FJ12	—	—	—	—	—	X

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6. VEHICLE 4-PLANE DIAGRAMS

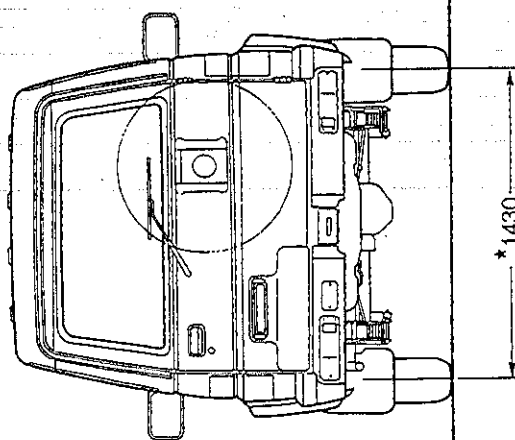
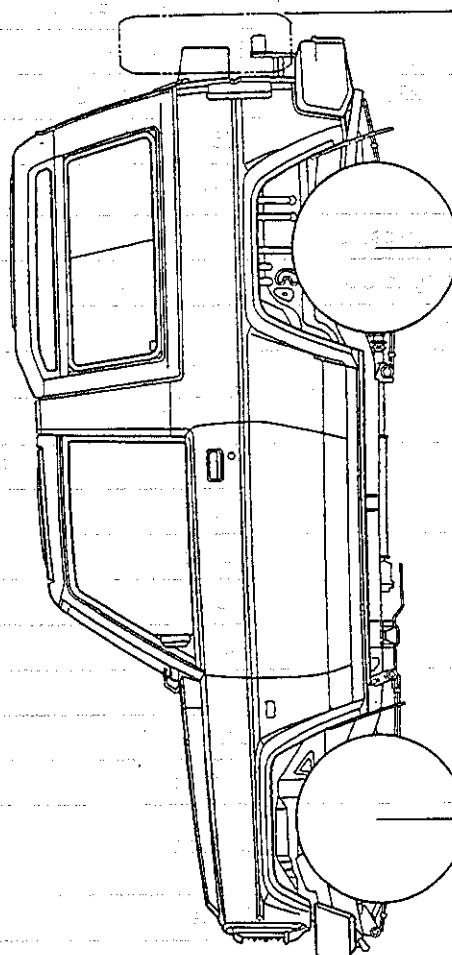
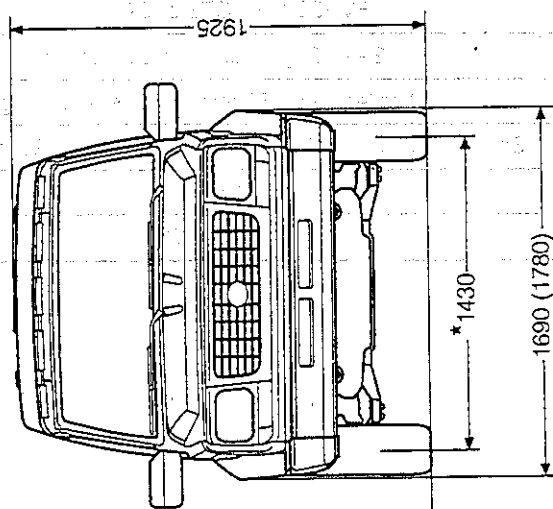
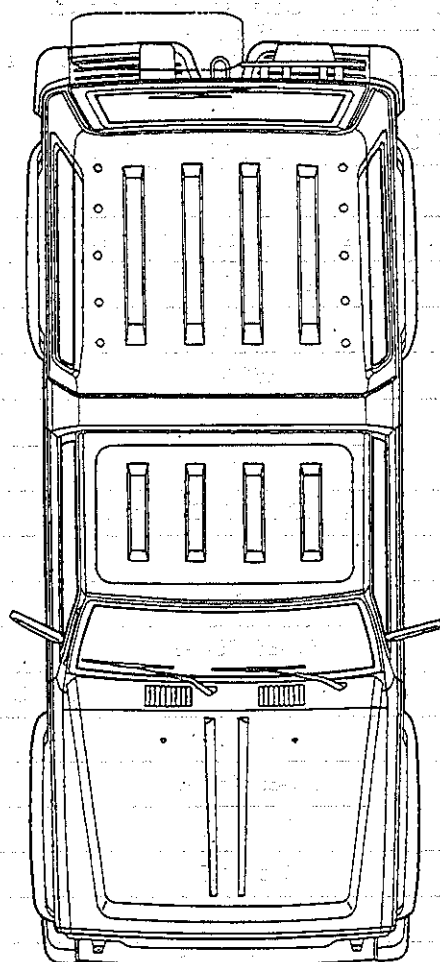
Version: A (F73: 215/80R15 Tire)



** Wide tyre 255/70R15: +20 mm

* Wide tyre 255/70R15: +50 mm

Version: B (F78: 215/80R15 Tire)



mm

980

2530

**4165

655

* Wide tyre 255/70R15: +50 mm ** Wide tyre 255/70R15: +20 mm

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7. SPECIFICATIONS

7-1. PRE-DELIVERY INSPECTION SPECIFICATIONS

Items		Specifications	
Tire inflation pressure Front/Rear kPa (kgf/cm ²)	6.00-16-6 (RIBLUG)	STD: 180/240 (1.8/2.4)	Detail shows as follows. AUS market: The pressure label is on the glove compartment door. OTHERS market: The pressure label is on the lower part of the door pillar.
	6.50-16-4 (SAND)	STD: 160/200 (1.6/2.0)	
	215/80R15 100Q	STD: 200/180 (2.0/1.8)	
	255/70R15 108Q	STD: 200/180 (2.0/1.8)	
	H78-15-4	STD: 200/180 (2.0/1.8)	
Spare tire inflation pressure		Same as above full load max. pressure.	
Wheel nut tightening torque N-m (kgf-m)		88.2 - 117.6 (9 - 12)	
Accelerator cable free play mm		1 - 5	
Engine idling speed rpm	DL-42	650 ⁺⁵⁰ / ₋₂₅	
	DL-52 (Turbo)	650 ⁺⁵⁰ / ₋₂₅	
Engine oil	Capacity ℓ	6.4	
	Grade	DL-42: CC or CD, DL-52: CD	
Transmission oil	Capacity ℓ	2.0	
	Grade	API GL-3	
	Viscosity	75W-85, 75W-90	
Transfer oil	Capacity ℓ	2.4 (w/ PTO)	1.4 (w/o PTO)
	Grade	API GL-3	
	Viscosity	75W-85, 75W-90	
Differential oil	Capacity ℓ	Front: 1.5	
		Rear: 1.5	
	Grade	API GL-5	
	Viscosity	90 or 80W-90	
Brake fluid	Grade	FMVSS 116DOT3 or SAE J1703	
Brake pedal (While engine is running)	Free travel mm	2 - 4 (Engine-off, with out vacuum)	
	Reserve travel mm	Not less than 80 mm (Engine is running)	
Parking brake working travel		Should "set" within 7 - 8 notches when apply 25 kgf by hand	
Clutch pedal free travel mm		18 - 27	
Steering wheel play mm		Within 30	

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7-2. VEHICLE SPECIFICATIONS

Items				Specifications	
ENGINE	Type		DL-42	Diesel, 4 cycle, in-line 4	
			DL-52	Diesel, Turbo charged, 4 cycle, in-line 4	
	Displacement (Bore x Stroke) ℓ			2.765 (92.0 × 104.0 mm)	
	Compression ratio			21.2	
	Firing order			1-3-4-2	
	Combustion chamber type			Swirl chamber type	
	Injection timing		DL-42	0° B.T.D.C.	
			DL-52	0° B.T.D.C.	
	Valve mechanism			Belt-driven, O.H.V.	
	Valve clearance mm		Intake	0.25 (Hot)	
			Exhaust	DL-42: 0.25 (Hot), DL-52: 0.35 (Hot)	
	Valve timing		Intake	Open	25° B.T.D.C.
				Close	55° A.B.D.C.
			Exhaust	Open	60° B.B.D.C.
				Close	20° A.T.D.C.
	Injection pump			BOSCH VE Type	
	Cold start system			Glow plug	
	Coolant capacity ℓ			10.6	
	Max. output power kw/rpm, *DIN		DL-42	54/3800, 56/3800	
			DL-52	75/3400	
	Max. output torque N-m/rpm		DL-42	170/2200	
			DL-52	245/1900	
	Fuel tank capacity ℓ			60	
CLUTCH	Type			Dry Single plate, Diaphragm	
	Operation			Mechanical	
TRANSMISSION	Type			Manual, 5 forward speed, Synchromesh	
	Gear ratio		DL-42	1st	3.647
			2nd	2.136	
			3rd	1.484	
			4th	1.000	
			5th	0.860	
			Reverse	4.351	
	DL-52		1st	3.477	
			2nd	2.037	
			3rd	1.317	
			4th	1.000	
			5th	0.820	
			Reverse	4.148	
TRANSFER	Type			Part-time, Manual, Constant mesh	
	Gear ratio		High	1.297	
			Low	2.370	

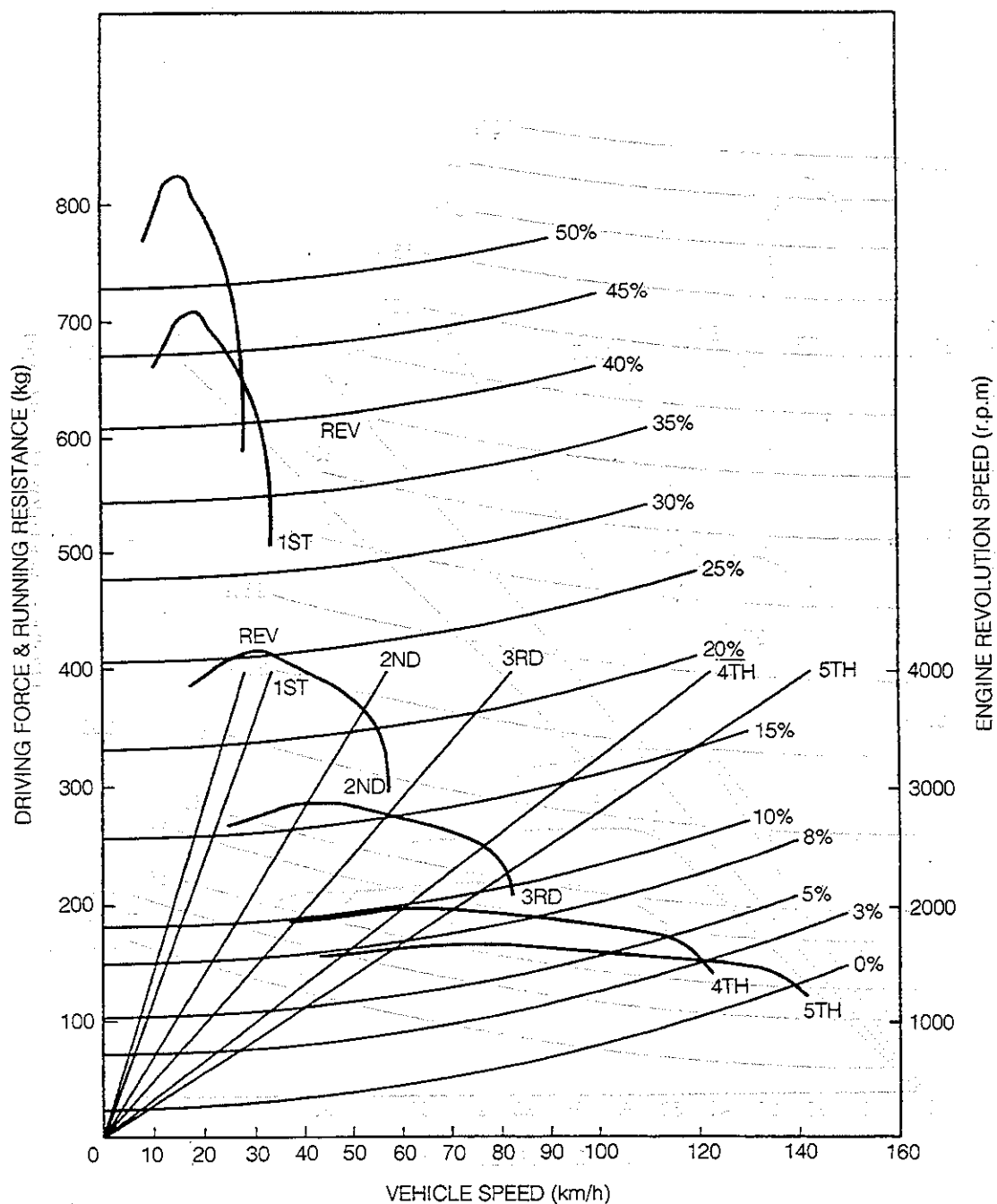
GI-10

Items			Specifications
DIFFERENTIAL	Gear ratio		3.363
AXLE & SUSPENSION	Axle	Type	Full-floating axle type
		Toe-in mm	2 ± 1
		Camber	0°30' ± 30'
		Caster	2°20' ± 45'
		King-pin angle	10°
		Type	Semi-floating axle type
		Toe-in mm	0
		Camber	0°
	Spring	Front	Torsion bar spring
		Rear	Coil spring
	Shock absorber	Front	Double-acting telescopic, 3 stage: option
		Rear	Double-acting telescopic, 3 stage: option
STEERING	Type		Ball-recirculation and nut
	Gear ratio		24 - 28
	Power assist		Integral, Hydraulic power
BRAKES	Type	Front	Disc, ventilated disc: option
		Rear	Drum, leading and trailing
	Service brake system		Hydraulic tandem master cylinder
	Power assist		Vacuum booster with vacuum pump
	Emergency brake system		Dual hydraulic circuits
	Parking brake system		Mechanical hand operation, which applies to rear wheels
DISC WHEEL	Off-set mm	16 x 4.50 E	10 (6.00-16C-6)
		16 x 5.00 E	9 (6.50-16C-4)
		15 x 6 JJ	10 (H78-15-4, 215R15)
		15 x 7 JJ	-15 (255/70R15)
BULB	Head lights W	Candescant	45/40
		Halogen	60/55
		Yellow	60/55
	Front combination W	Clearance lights	5 (White)
		Turn signal lights	21 (Amber)
	Rear combination W	Stop/Tail lights	21/5 (Red)
		Turn signal lights	21 (Amber)
	Back up light W		21
	License plate light W		5
	Rear fog light W		21 (Red)
	Interior light W		10
	Luggage room light W		8

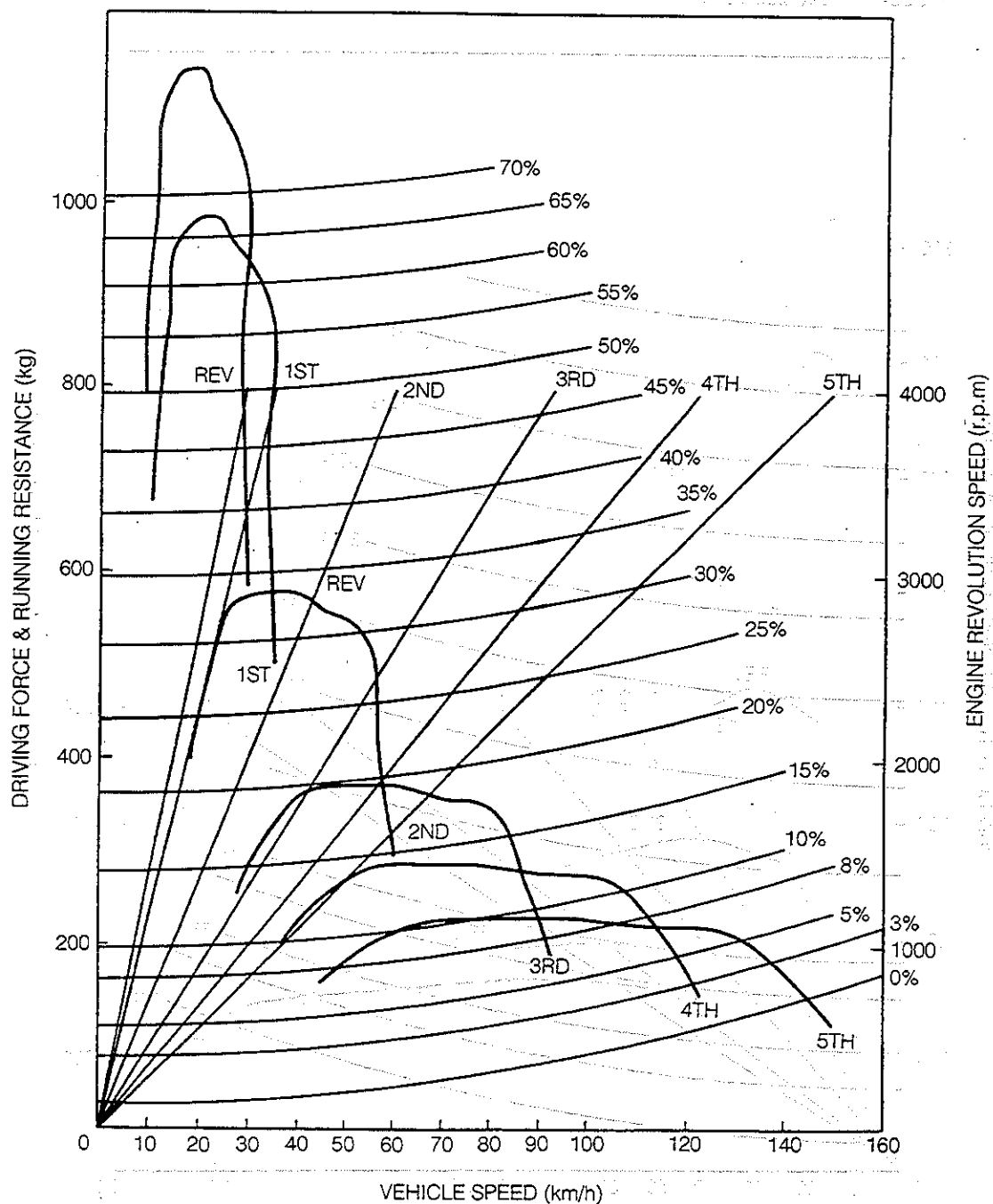
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8. PERFORMANCE DIAGRAMS

F73LG-MMHSQ (255/70-15)



F78LG-BMHTW (255/70R15)

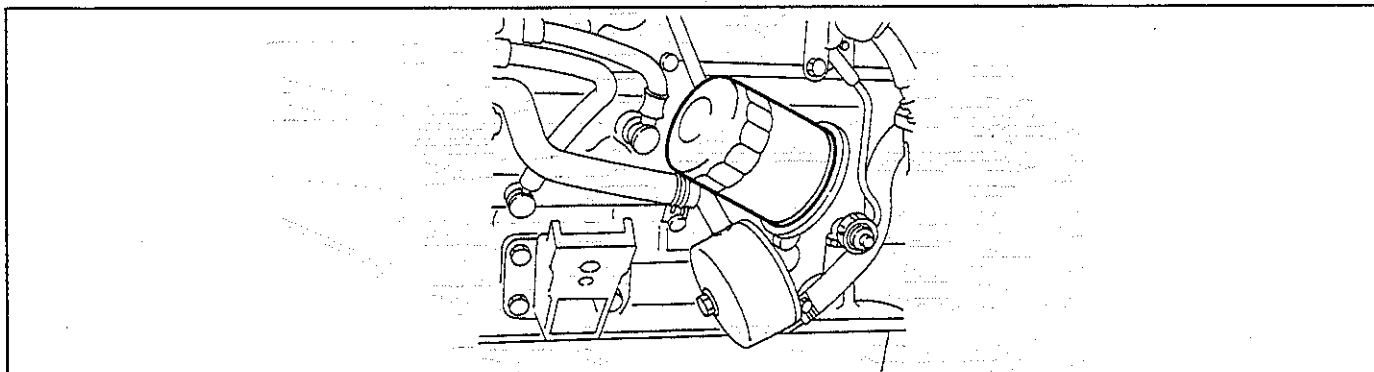


9. SUMMARY OF ENGINE CONSTRUCTION

The engine mounting positions have been changed in the model changeover of this time. Consequently, the routing of the fan shroud, air cleaner piping and radiator hoses has been altered slightly. For improved quietness of the vehicle and enhanced cooling performance of the engine, modifications have been made in the following three items given below.

9-1. OIL COOLER

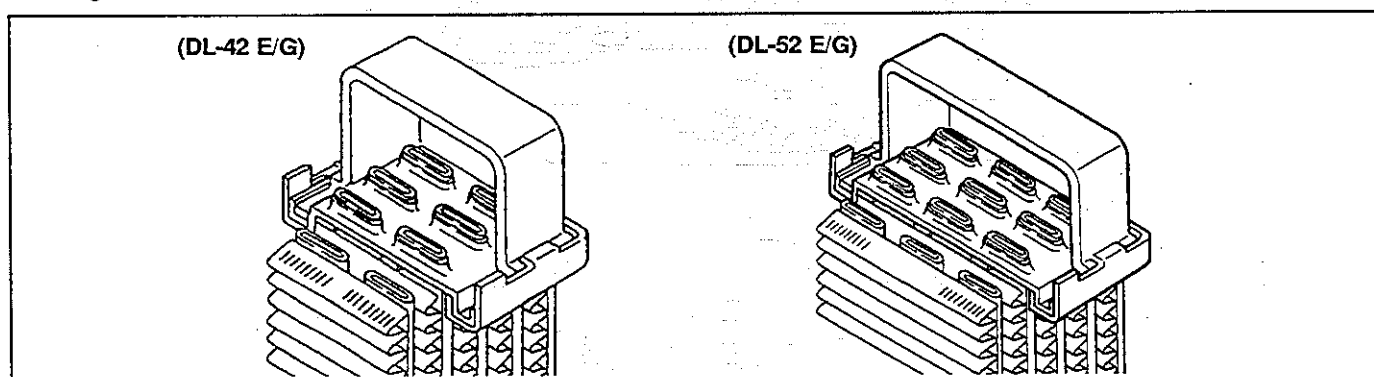
- An oil cooler has been mounted on Type DL-42 engine, too. By this change, all Type DL engines have been provided with an oil cooler. As a result, the engine cooling performance has been improved.



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9-2. RADIATOR

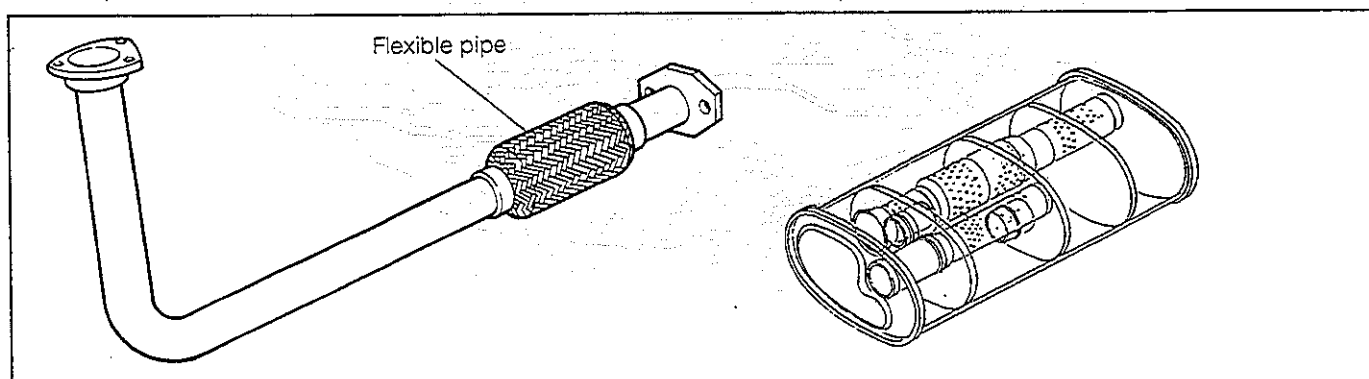
- For increased radiator capacity and improved engine cooling performance, an NWR type radiator has been employed on Type DL-42 engine, whereas an NTR type radiator has been employed on Type DL-52 engine.



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9-3. MUFFLER

- To reduce noise generation in the exhaust system and noise transmission therefrom, the main muffler capacity has been increased from 10.5 liters to 12.8 liters and the flexible type exhaust pipes have been adopted. As a result, the vehicle quietness has been enhanced.

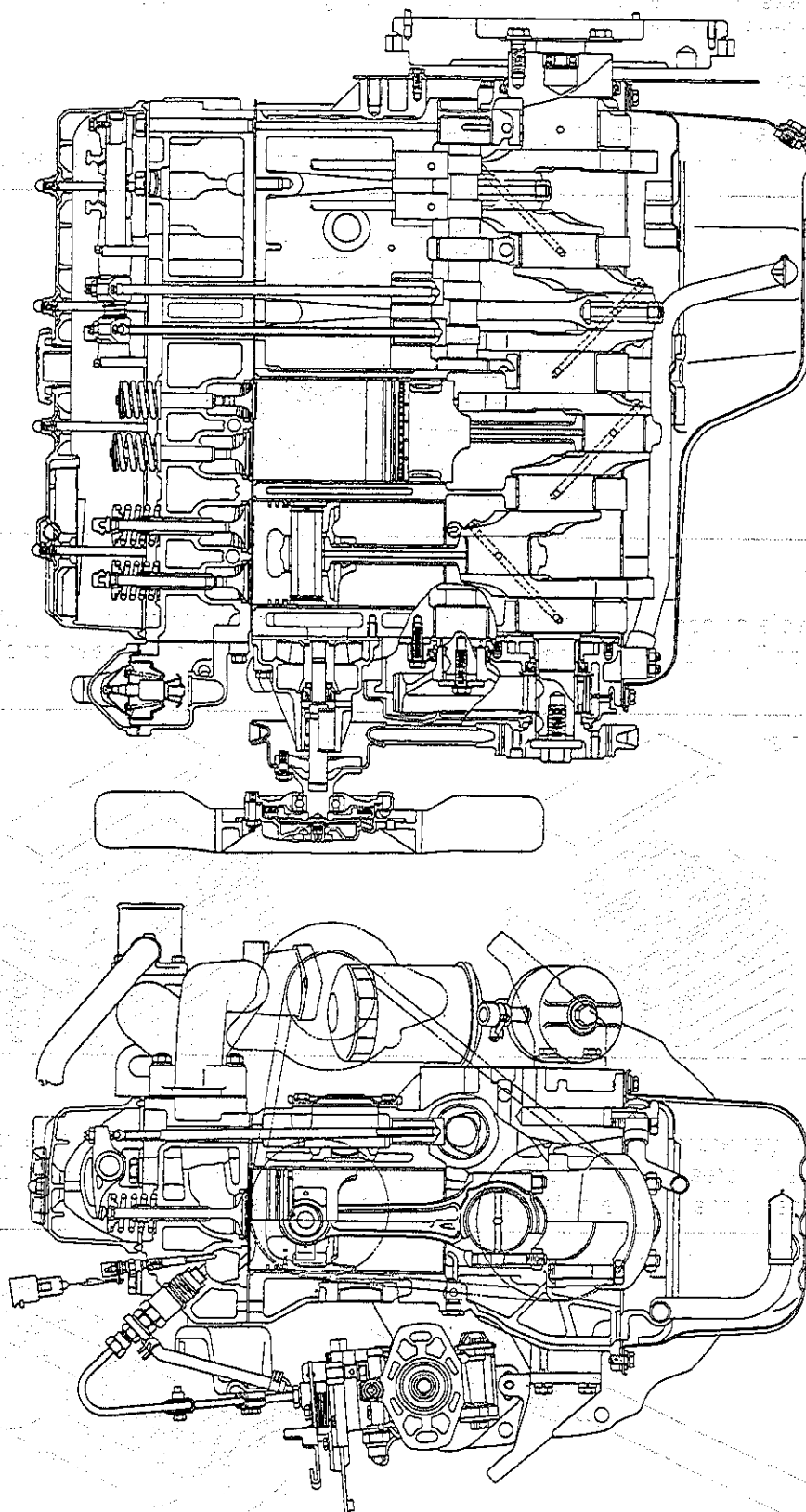


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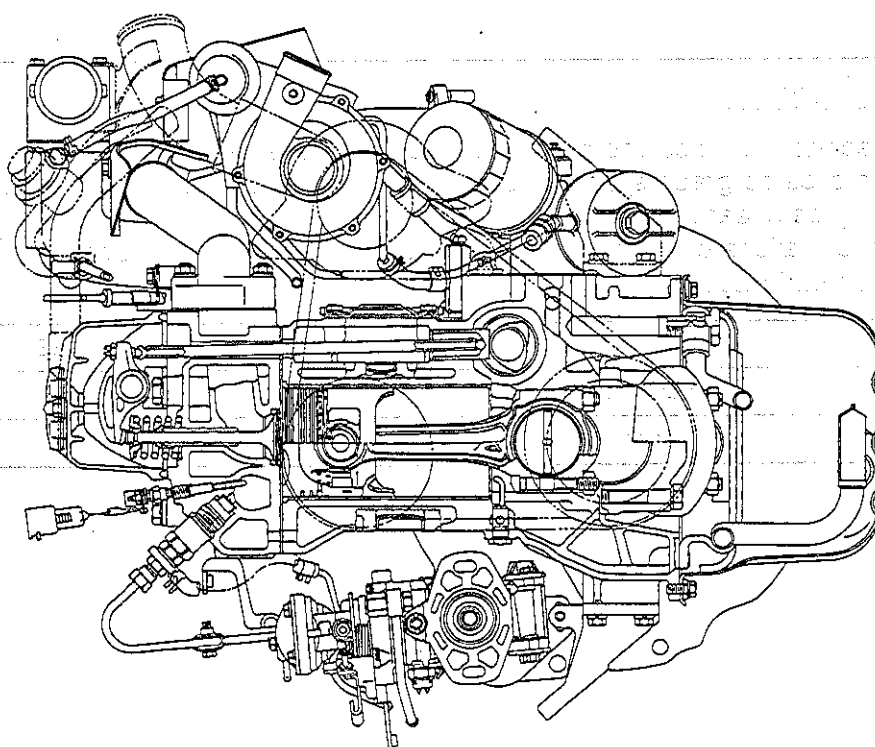
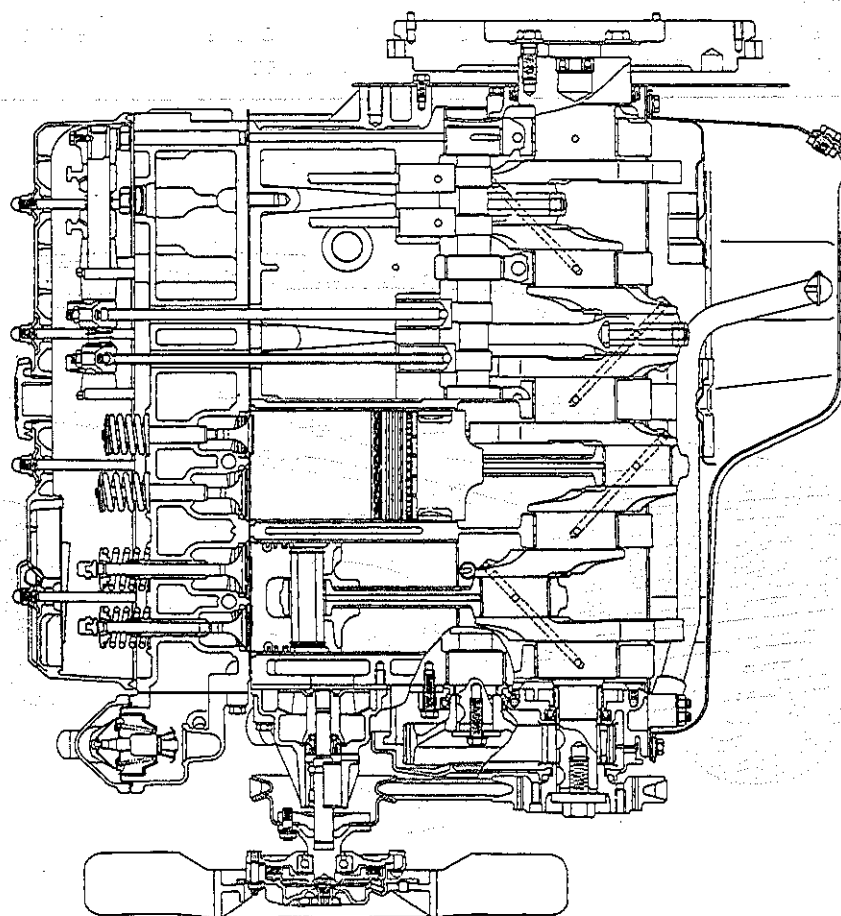
GI-14

9-4. ENGINE SECTIONAL VIEWS

Type DL-42 engine



Type DL-52 engine

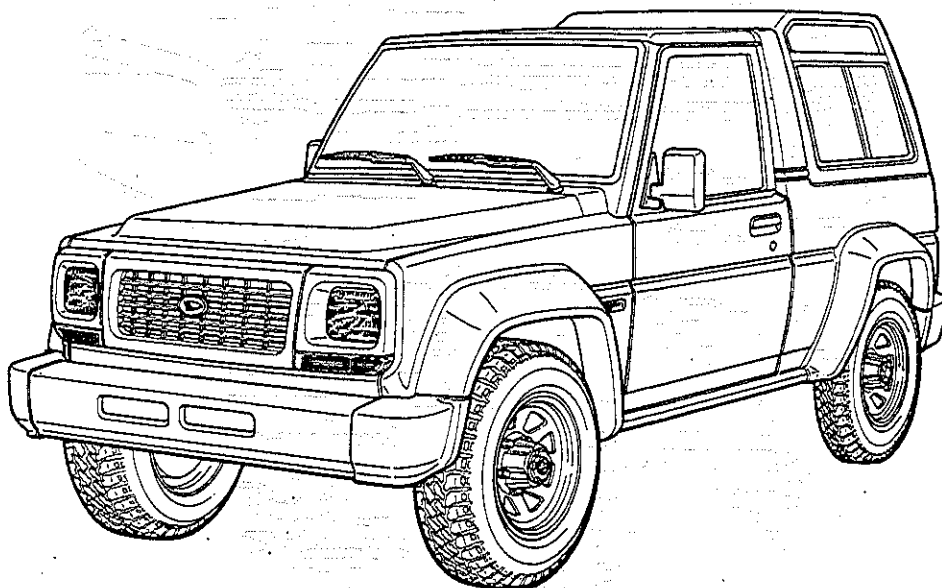


GI-16

10. SUMMARY OF BODY CONSTRUCTION

10-1. BASIC DESIGN

To emphasize dynamic and dauntless appearance and to improve stability and quality, the real off-road vehicle styling of the former model has been further developed.



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10-2. MODEL VARIATION

On new models, soft-top vehicles and pickup vehicles have been abolished to simplify the vehicle type. Moreover, the complicated grade systems have been reviewed and rearranged so that three grades of DX, SE and SX may be streamlined.

Moreover, the specifications of the new grades have been reviewed in order that the specifications of each grade may be optimized.

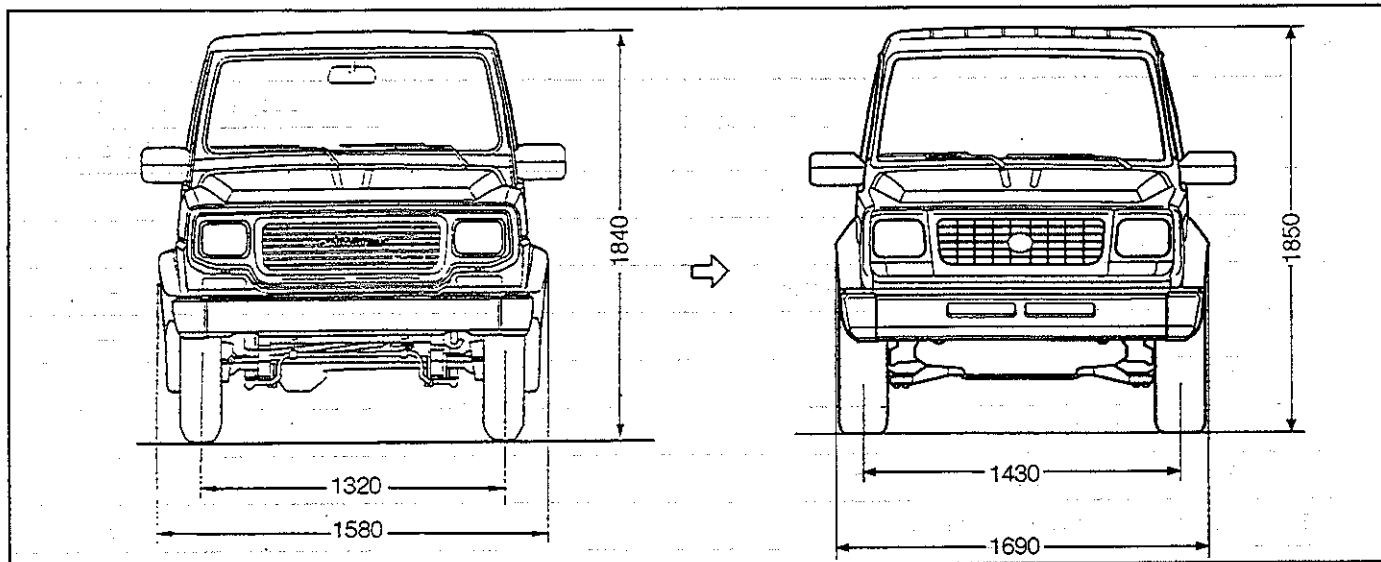
		DX	SE	SX
Short wheelbase	Hard top	×	×	×
Long wheelbase	Wagon	×	×	×

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10-3. EXTERIOR MODIFICATIONS

(1) Body dimensions

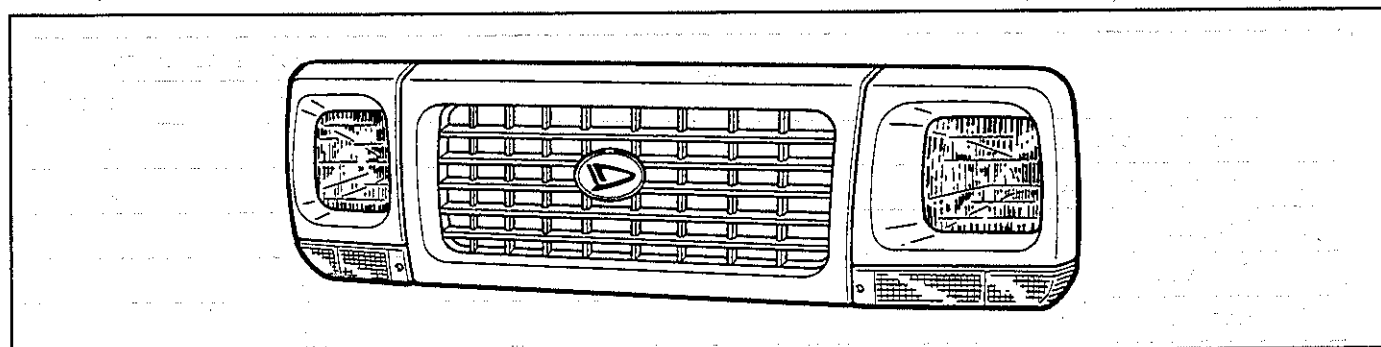
The overall width of the vehicle has been increased 110 mm, compared with the former model, so as to improve the length-and-width ratio of the vehicle. Consequently, more stable design has been achieved.



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(2) Front grill

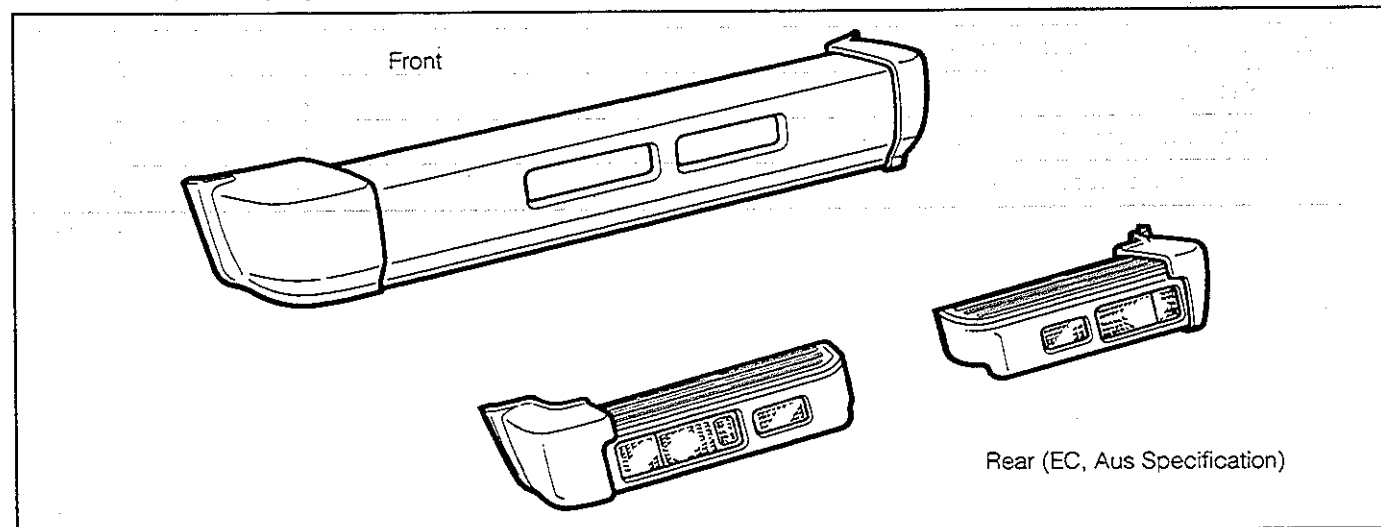
The new front grill is integrated with the front combination lamp. The front grill has been designed with emphasis placed on massiveness.



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(3) Bumper

The bumper employs a large-sized and rounded type.



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GI-18

(4) Enhanced safety

For further enhanced occupant protection at time of frontal collision and side collision, the vehicle rigidity has been enhanced. For this purpose, the following reinforcements have been added and the thickness of the member has been increased to improve the strength.

<Added reinforcement>

	Nomenclature of reinforcement	Body specifications	
		Wagon	Hard top
1.	Front door impact protection No. 1 beam	×	×
2.	Front door lock reinforcement	×	×
3.	*Front body pillar upper corner reinforcement	×	—
4.	*Roof side rail outer reinforcement	×	—
5.	Roll bar lower inner reinforcement	×	—
6.	*Fender apron reinforcement	×	×
7.	Front body pillar upper reinforcement	×	×
8.	*Roof side rail inner reinforcement	—	×
9.	*Quarter inner panel reinforcement	—	×

The members bearing an asterisk mark "*" are installed on vehicles for general export (severe pack only).

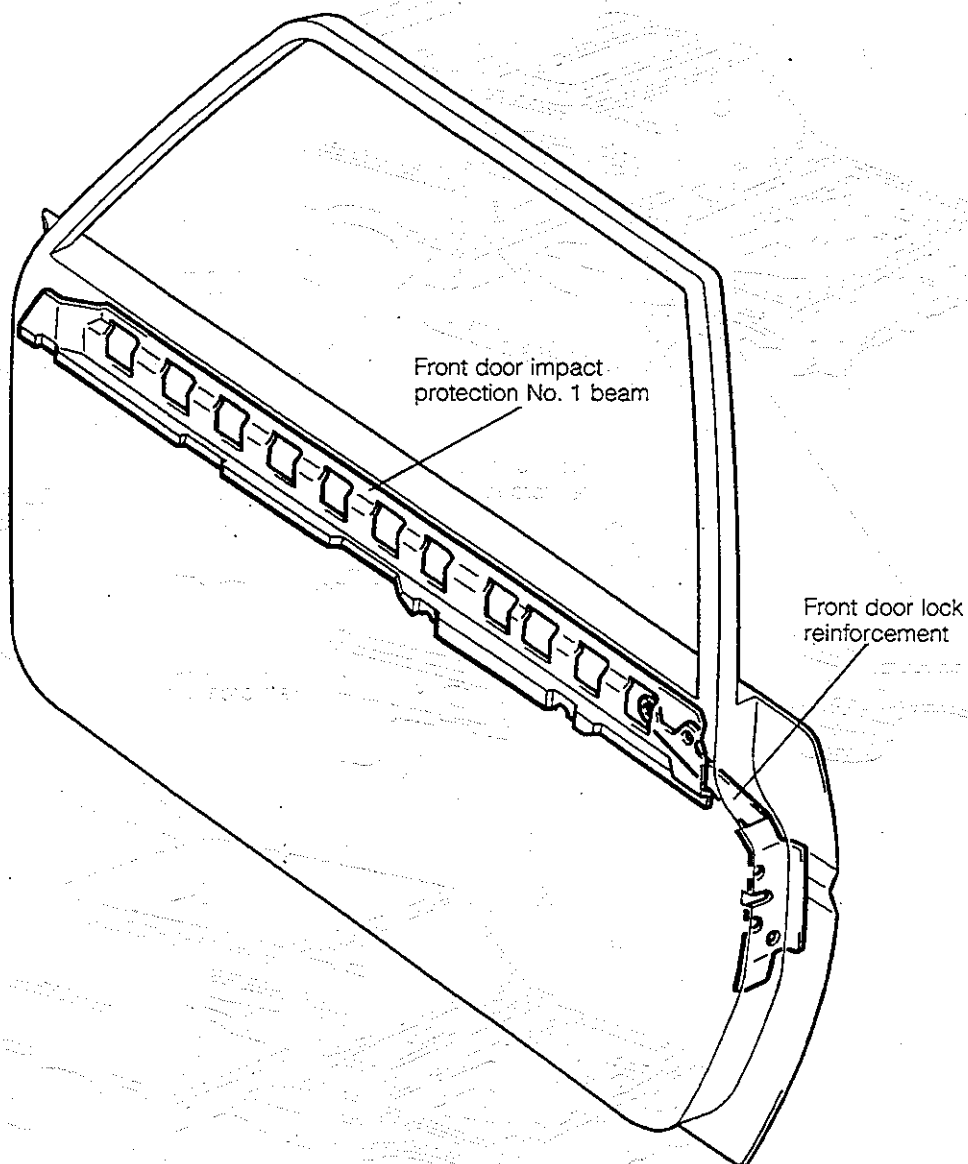
R7GI00028-00000

<Strengthened member>

	Nomenclature of member	Body specifications	
		Wagon	Hard top
1.	Radiator support	×	×
2.	Apron fender support	×	×
3.	Cowl top outer panel	×	×
4.	Cowl side panel	×	×
5.	Front body outer pillar	×	×
6.	Rim-bubble roof housing frame	×	—
7.	Windshield header inner panel	×	—
8.	Floor side inner member	×	×
9.	Quarter wheel house inner panel	×	×
10.	Rear floor pan	×	×
11.	Back door opening upper outer frame	×	×
12.	Quarter inner upper panel	—	×

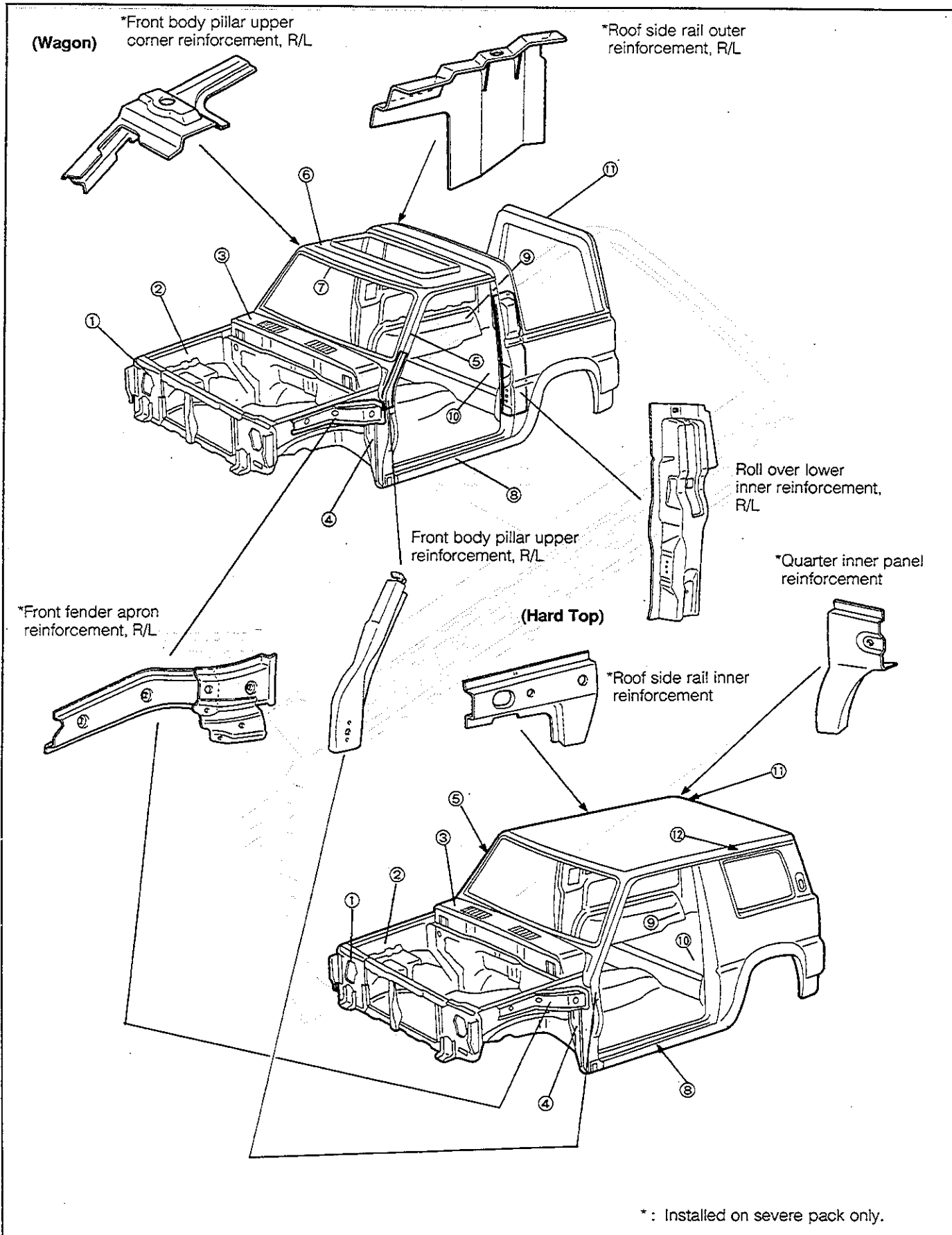
R7GI00029-00000

① Strengthening of front door (Only EC and Aus Specification)



GI-20

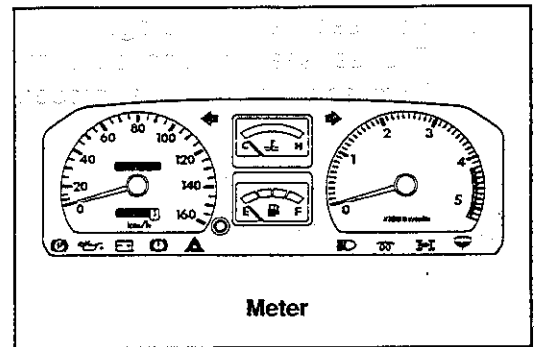
② Strengthening of body



10-4. INTERIOR MODIFICATIONS

(1) Meters

For improved conspicuousness, the designs of the speedometer, tachometer, fuel gauge, water temperature gauge and various warning lamps have been altered.

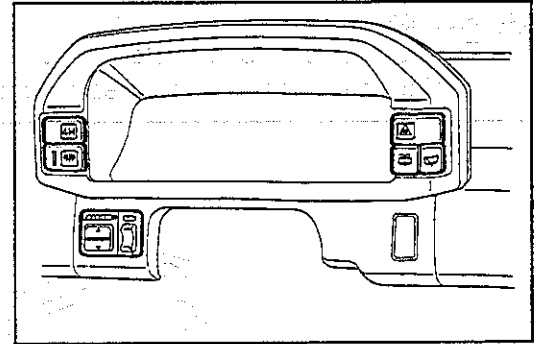


Meter

R7GI00032-99999

(2) Switches

For easier operation, the designs of the power shift switch, 4H switch, rear wiper & washer switch, hazard switch, turn switch and meter cluster have been altered. Furthermore, these switches have been centralized at the side of the meter cluster.

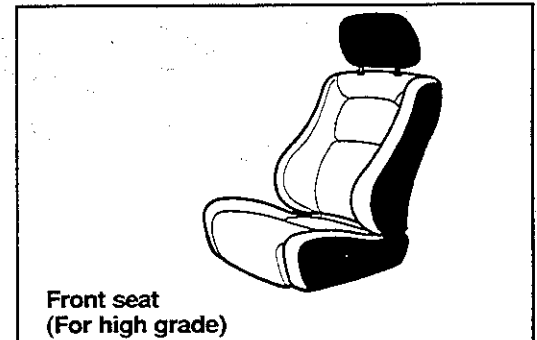


R7GI00033-99999

(3) Seats

a) Front seat

The shape of the seat has been changed to bucket type. Moreover, for improved seating comfort, the seat material has been changed. (SE and SX grade vehicles)

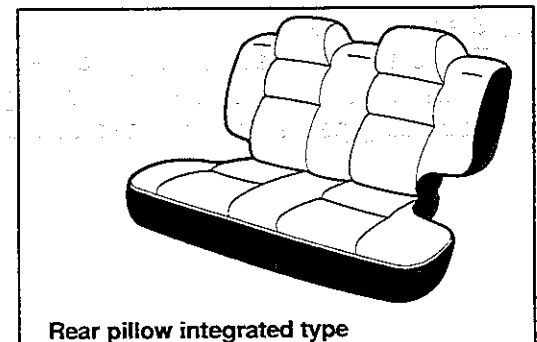


Front seat
(For high grade)

R7GI00034-99999

b) Rear seat

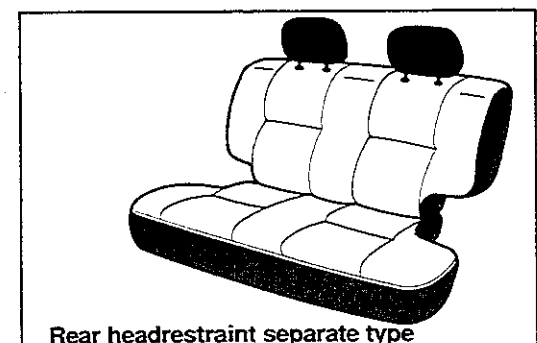
On SE and SX grades, a pillow integrated type seat is newly provided as standard equipment. (On DX grade, optional equipment)



Rear pillow integrated type

R7GI00035-99999

On SE and SX grades, a headrest separate type seat employing a large-sized headrest is available as optional equipment.



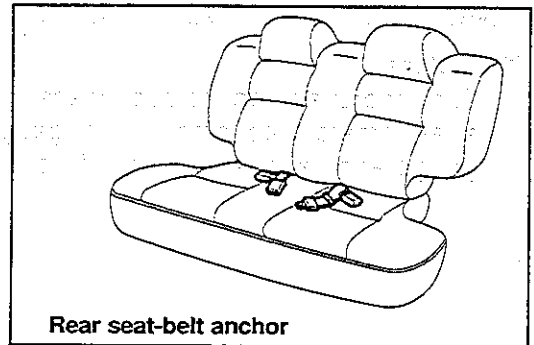
Rear headrest separate type

R7GI00036-99999

GI-22

c) Rear seat belt anchorage

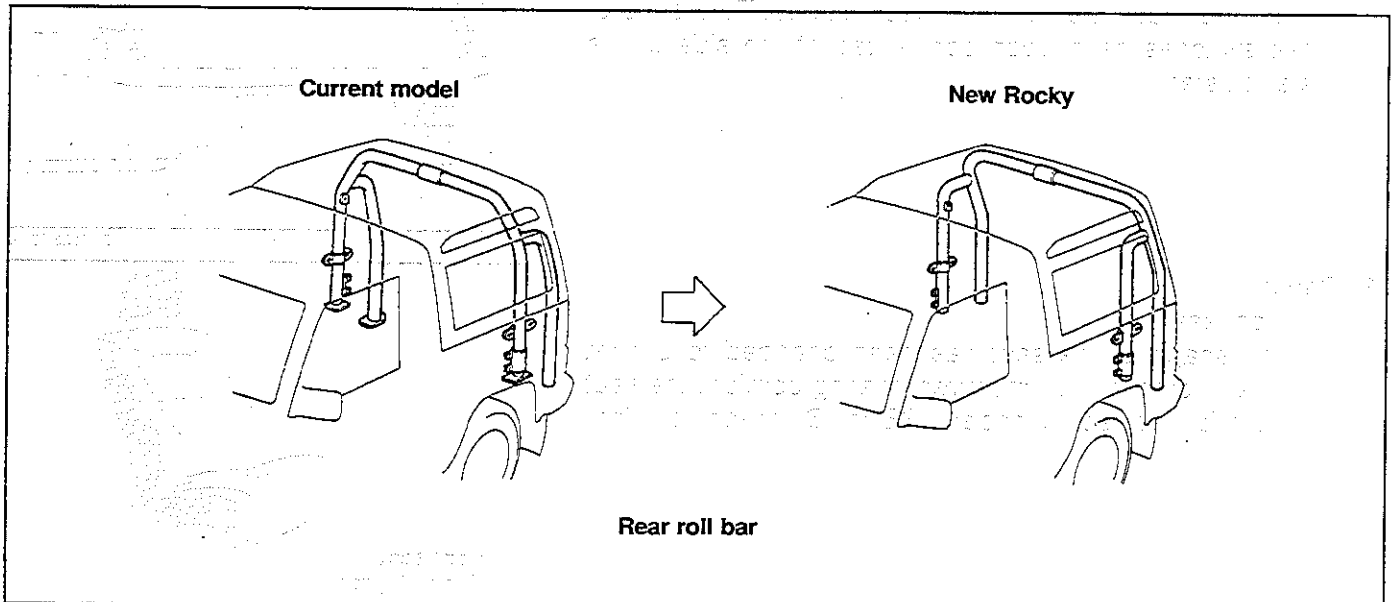
The rear seat belt anchors at the inner side have been installed to the rear seat proper.



R7GI00037-99999

(4) Roll bar

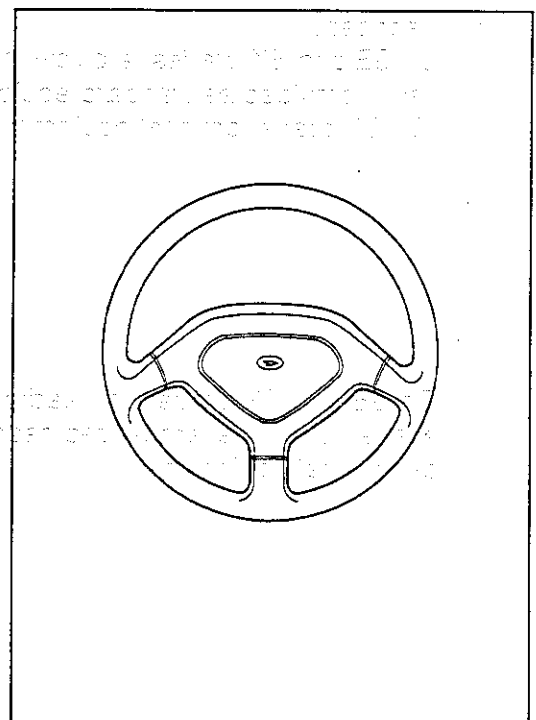
To provide roomier vehicle interior, the rear roll bar on the wagon has been moved from a place just behind the rear seat to the rearmost corner of the vehicle interior.



R7GI00038-99999

(5) Steering wheel

The steering wheel employs a newly-designed steering wheel which is equipped with a large capacity of shock absorbing pad at the horn pad section.

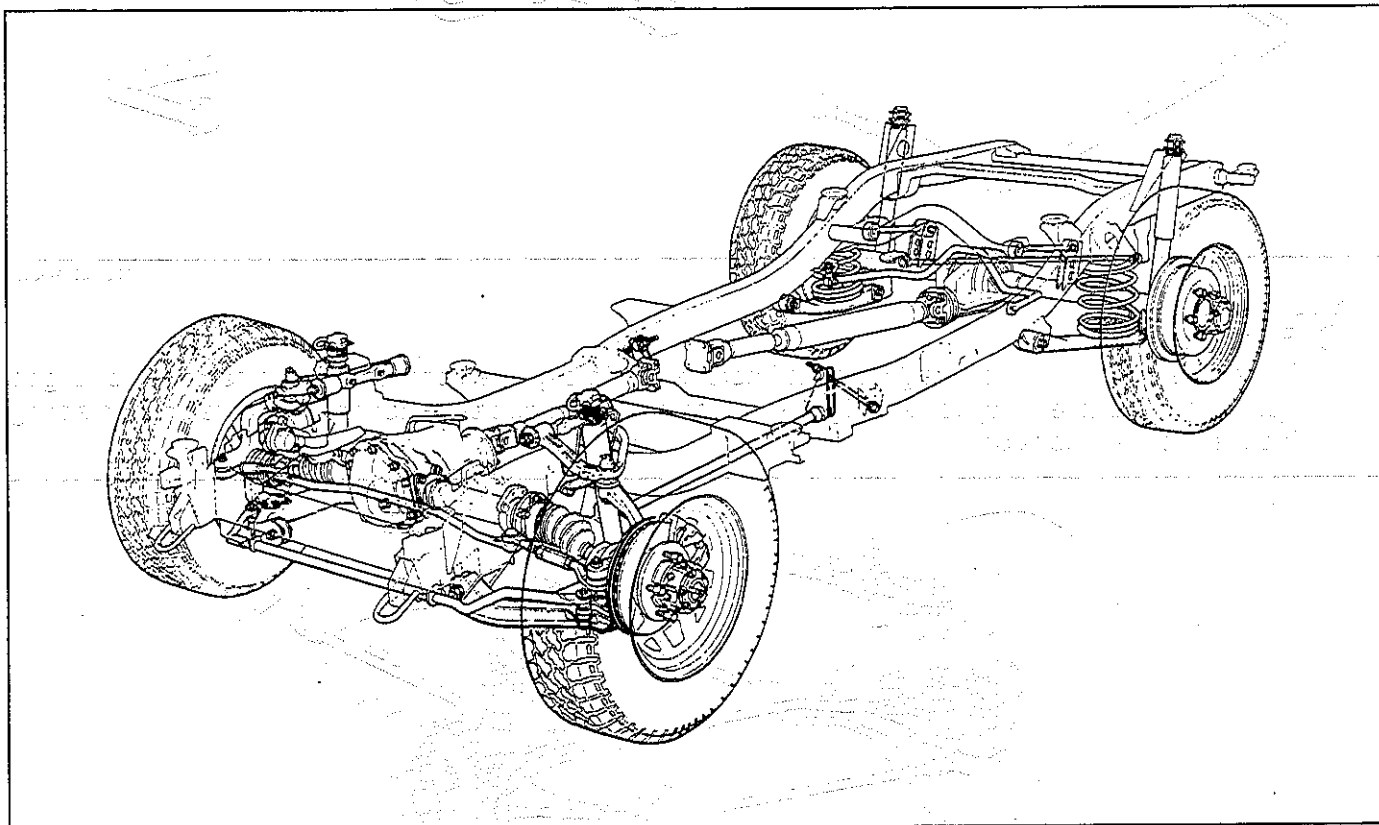


R7GI00039-99999

11. SUMMARY OF CHASSIS CONSTRUCTION

For improved controllability and superior riding comfort, the following modifications have been enforced.

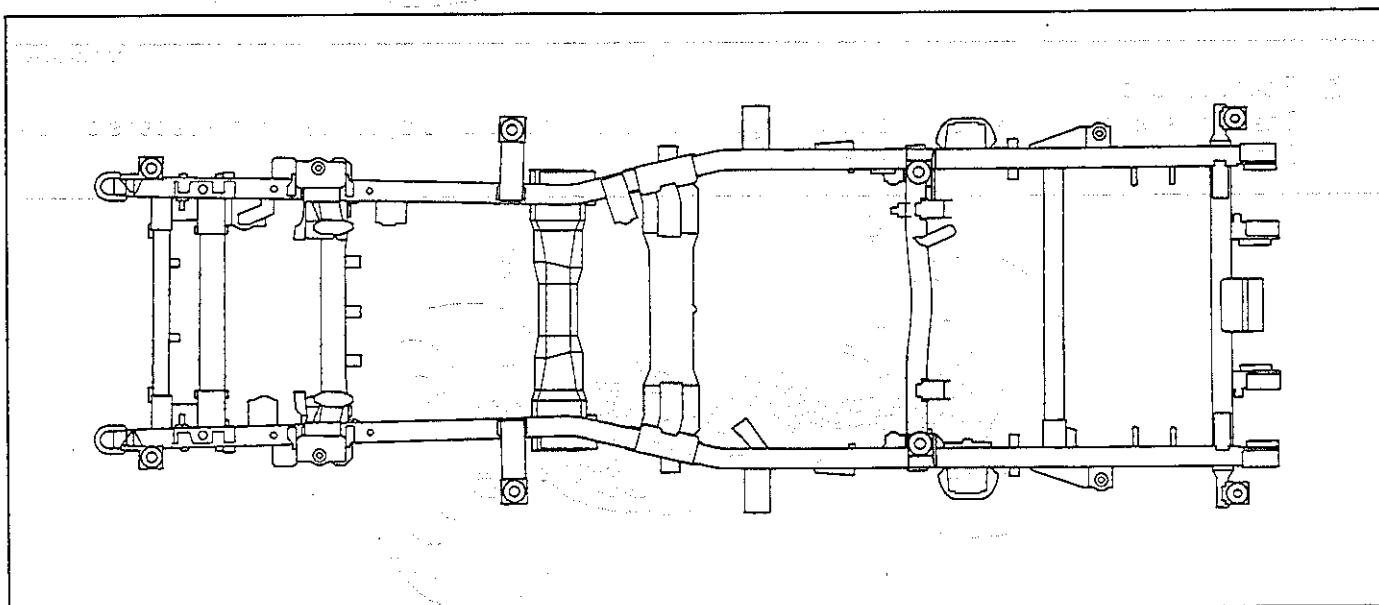
- (1) Improved rigidity of chassis frame
- (2) Improved rigidity of front stabilizer
- (3) Addition of rear stabilizer
- (4) Change in suspending method of front suspension
- (5) Change in suspending method of rear suspension



R7GI00040-99999

(1) Chassis frame

For enhanced safety at time of frontal collision, the shape of the frame cross section has been changed and the cross member has been added. As a result, the frame rigidity has been increased.

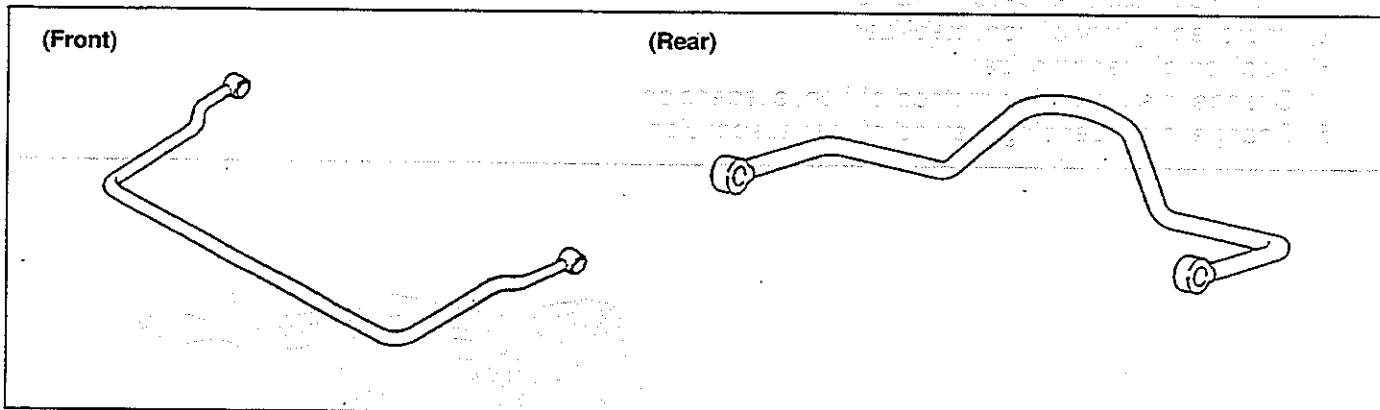


R7GI00041-99999

GI-24

(2) Stabilizer

The rear stabilizer has been newly employed from this model. Furthermore, the diameter of the front stabilizer has been changed from 22 mm to 24 mm, thus improving the rigidity in the lateral direction.

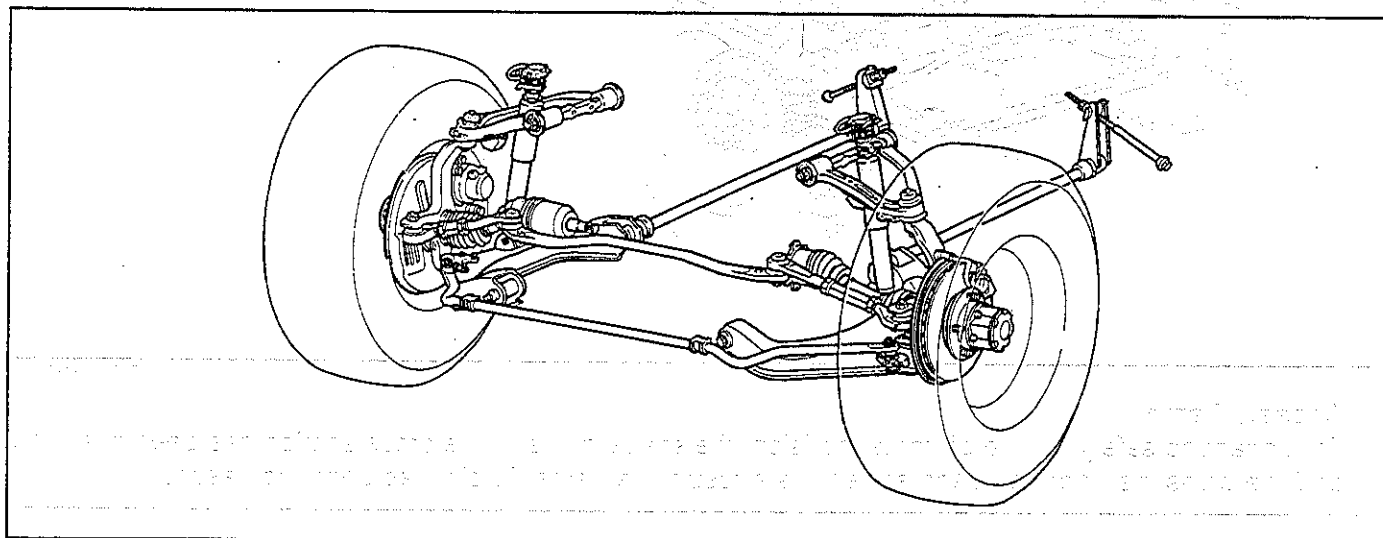


R7GI00042-99999

(3) Suspensions

① Front suspension

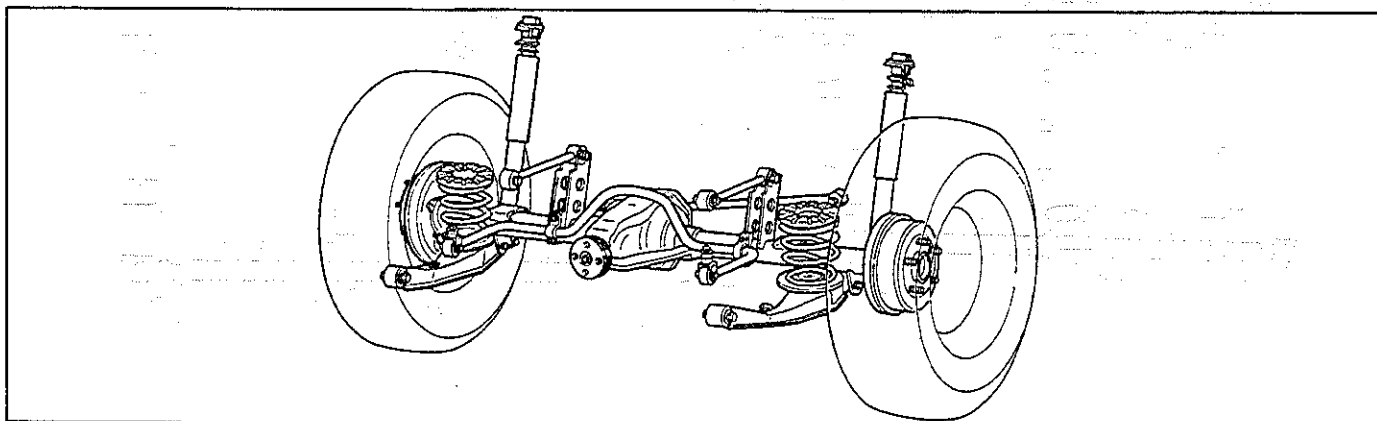
To reduce the suspension weight and to improve the rigidity, the front suspension has been changed from the hitherto-employed leaf rigid suspension to a double-wishbone type torsion bar spring independent suspension.



R7GI00043-99999

② Rear suspension

The rear suspension has been also changed from the hitherto-employed leaf rigid suspension to a five-link type coil spring axle suspension.



R7GI00044-99999

③ Three-stage dampers

The three-stage dampers allows switching the damping force of the shock absorbers in three steps depending on the road and traveling conditions. It is used in the all model as optional equipment. The dampers are operated from the switch in the center console box.

(1) SOFT

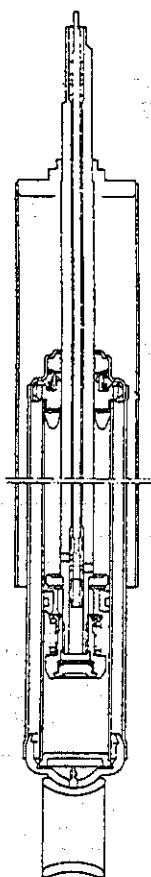
Both of the two holes provided in the control rod and the shaft align with each other. This increases the amount of gas which is passed, decreasing the damping force.

(2) NORMAL

Only one of the two hole align, increasing the damping force to the medium level.

(3) HARD

Both of the holes are out of alignment, maximizing the damping force. The damping force is generated by these holes and the piston valve section.

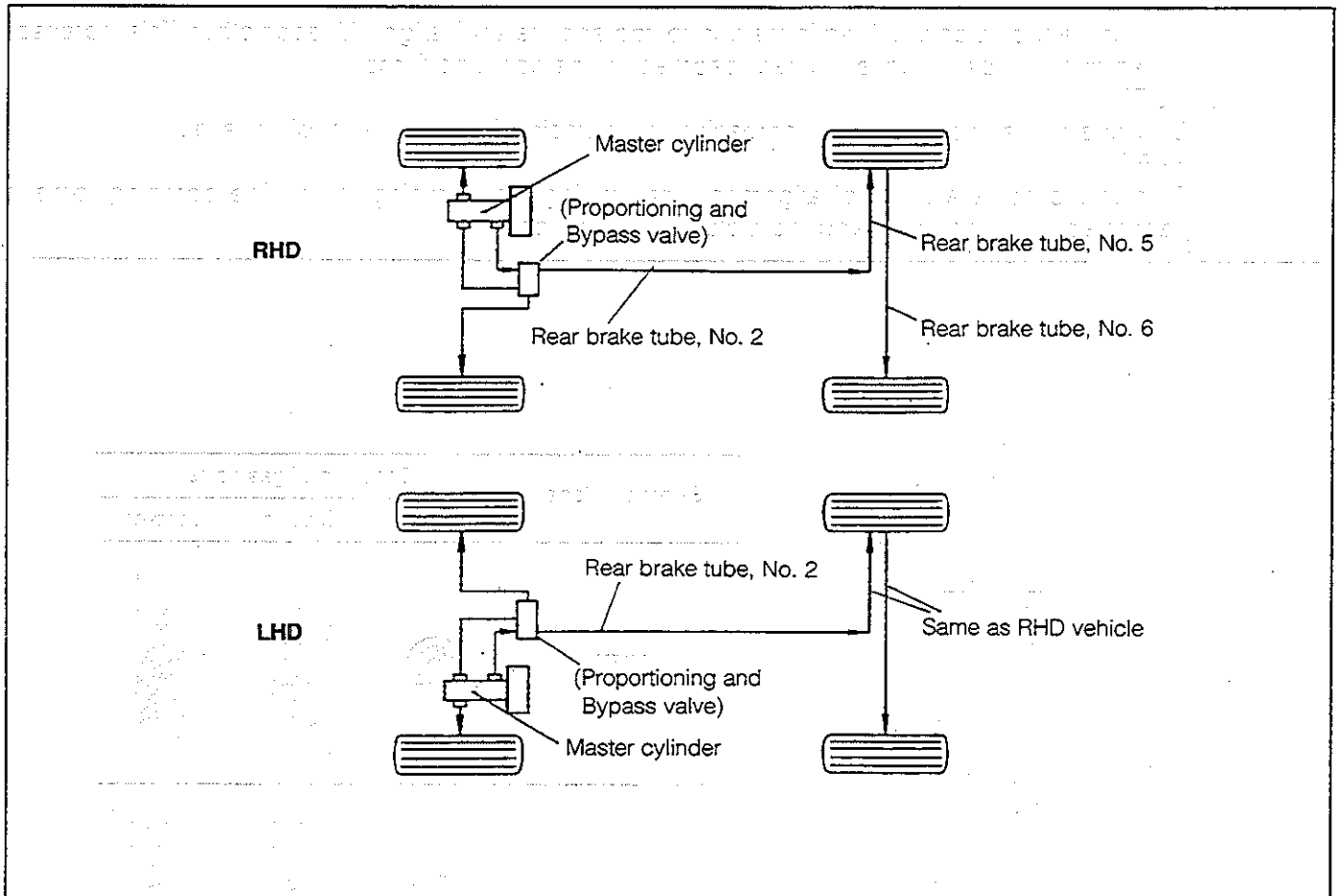


Selection Mode	Condition of gas holes		
	Shaft	Expand	Contact
SOFT			
NORMAL			
HARD	 		

GI-26

(4) Brakes

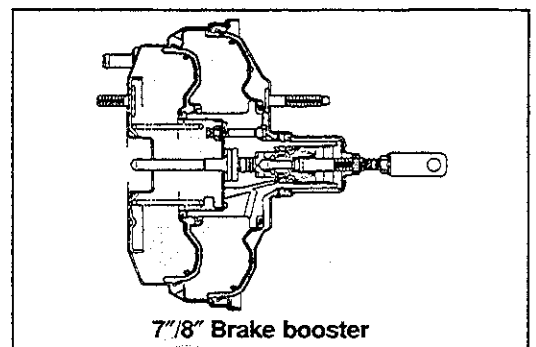
To increase the braking force, a tandem booster has been employed. The drum diameter of the rear brake has been changed. Furthermore, to improve the braking characteristics, the P & B valve has been employed.



R7GI00046-99999

① Brake booster

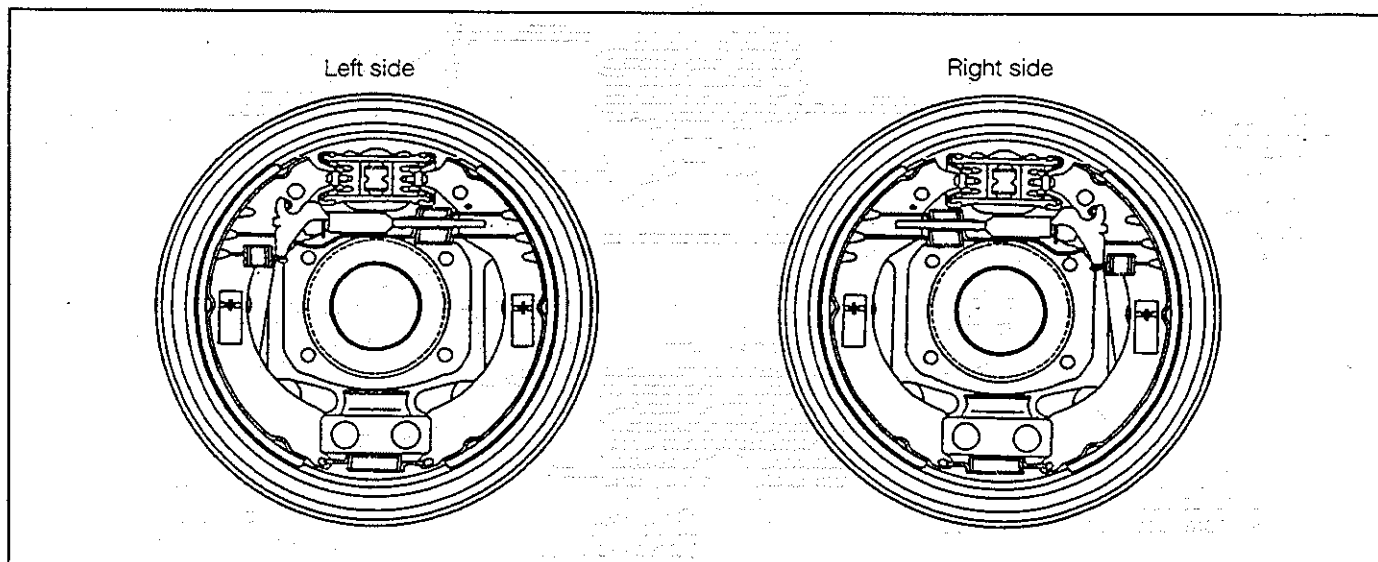
The 7"/8" tandem booster has been employed. As a result, sufficient braking force can be obtained with lighter depressing force.



R7GI00047-99999

② Rear drum brake

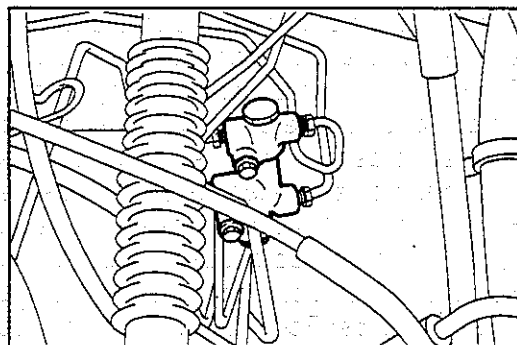
The diameter of the drum and width of the lining have been changed, thus increasing greatly the contact area between the drum and the lining. Consequently, adequate braking forces have been ensured.



R7GI00048-99999

③ Proportioning valve

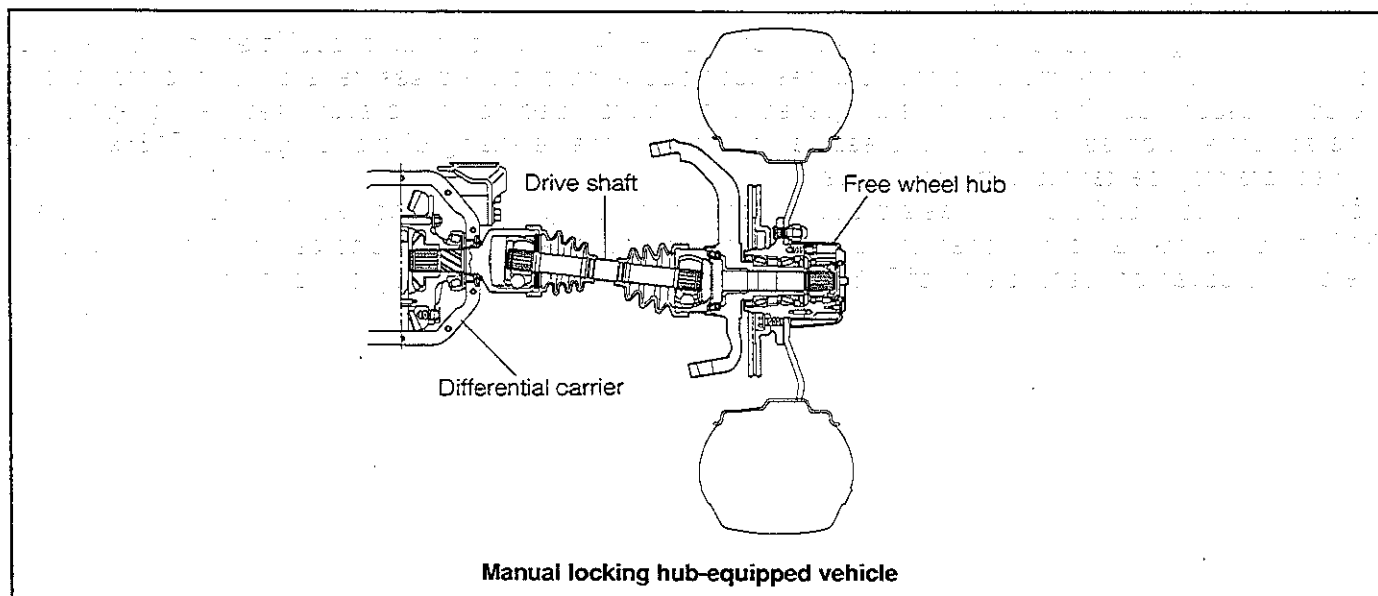
The proportioning valve with bypass has been employed from this model, thus optimizing the distribution of the brake fluid pressure to the front and rear sides. In this way, more comfortable braking characteristics have been assured.



R7GI00049-99999

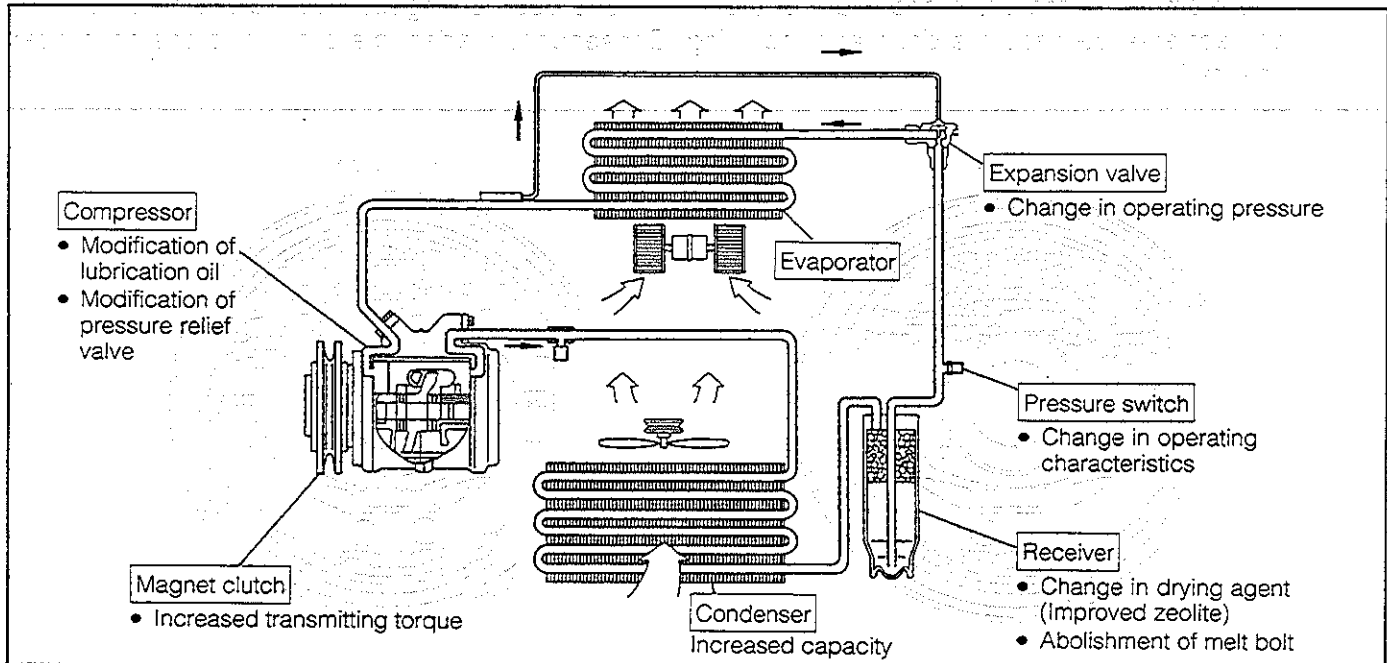
(5) Manual free wheel hub

The manual free wheel hub, which has been provided as optional equipment, becomes standard equipment on all models, starting from this model.



R7GI00050-99999

12. AIR CONDITIONER



The air conditioner has adopted one compatible with alternate flon HFC 134a (R134a) that has an extremely small coefficient of ozone layer destruction. In addition, the air conditioning capacity has been increased. The R134a, which is expressed by a chemical formula of CH_2FCF_3 , does not contain Cl group (chlorine group) which constitutes a principal cause of the ozone layer destruction. Therefore, the R134a is the most expected substance as an alternate flon which has an extremely low coefficient of ozone layer destruction and stable physical property. Also, its safety has been confirmed.

Furthermore, R134a also meets the requirements that the coefficient of global warming effect must be low and that the characteristics are similar to those of hitherto-employed CFC12 (R12).

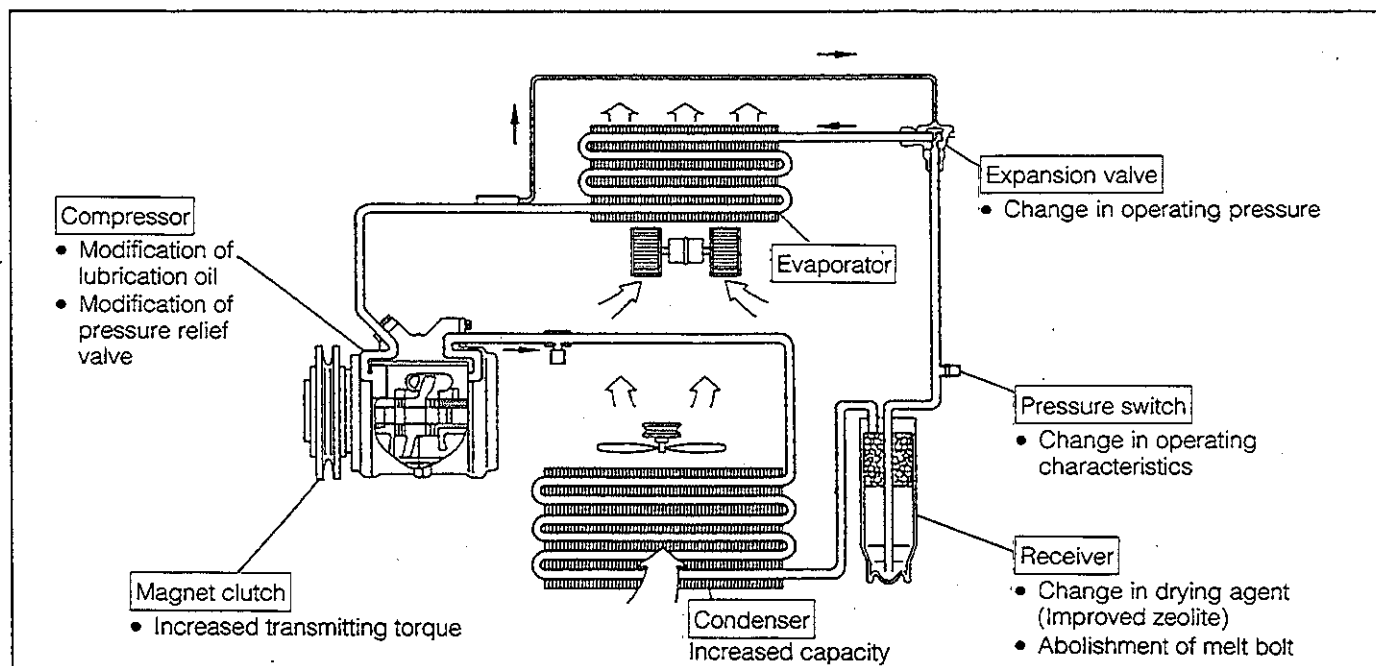
However, R134a can not be used in the air conditioners for hitherto-employed R12 use owing to the following characteristics: Poor solubility with the compressor oil (mineral oil), a greater water solubility (easy-to-take-in water) and a greater degree of swelling against sealing materials and hose materials.

To realize an air conditioner compatible with R134a, the following modifications have been enforced: Change in each sealing material and sealing construction, change in the drying agent, increased capacities of the magnet clutch and condenser, etc., change in the pressure switch and expansion valve and development/employment of new lubricating oil.

Moreover, taking into consideration the fact that even R134a has not a zero coefficient of ozone layer destruction, the hitherto-employed melt bolt has been abolished and the pressure relief valve is provided at the compressor side. This relief valve is opened to a required degree, in the event that the high-pressure rises abnormally, so as to lower the pressure. In this way, the releasing of the refrigerant (R134a) to the atmosphere may be kept to a minimum level.

From the viewpoint of the service, as a precautionary measure to prevent wrong use of the former refrigerant (R12) onto the new air conditioner, the piping joint sections, charging valve and service tools have been altered. Moreover, an identification of R134-use has been made conspicuously on each unit.

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