
GROUP 35A

SERVICE BRAKE

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GENERAL INFORMATION

M2350000100600

The brake system has been designed to give greater reliability and durability and to provide excellent braking performance.

FEATURES

IMPROVED BRAKING PERFORMANCE

1. A 8+9 inch tandem brake booster has been adopted to provide sufficient braking force in sudden braking range.
2. Front ventilate disc brakes have been adopted to provide stable braking force and improved braking feel. <Except for South Africa and Argentina>
3. 2-piston front ventilate disc brakes have been adopted to provide stable braking force, improved braking feel, and fade-resistant characteristics. <Vehicles for South Africa and Argentina>
4. 9-inch leading trailing-type rear drum brakes have been adopted to provide sufficient braking force in sudden braking range. <Except for South Africa, Argentina, Australia and New Zealand>
5. 14-inch solid disk brakes have been adopted to provide stable braking force and fade-resistant characteristics. <Vehicles for South Africa, Argentina, Australia and New Zealand>

IMPROVED STABILITY

1. A 4-wheel anti-skid braking system (4ABS) has been adopted to prevent slipping caused by the vehicle wheels locking up, in order to maintain an appropriate braking distance, and also to maintain a stable vehicle posture and steering performance.

2. An electronic brake-force distribution (EBD) which makes it possible to maintain the maximum amount of braking force even when the vehicle's load is unevenly distributed. <Vehicles with ABS>
3. A rear wheel early lock-prevention proportioning valve has been adopted. <Vehicles without ABS>
4. Front- and rear-wheel X-type brake line layout has been adopted.
5. Ventilated discs have been adopted for front brakes in order to improve anti-fading performance.
6. A brake pedal retraction suppression structure that restrains the retraction of the brake pedal and reduces the shock to the feet of the driver in the event of a frontal collision has been adopted.

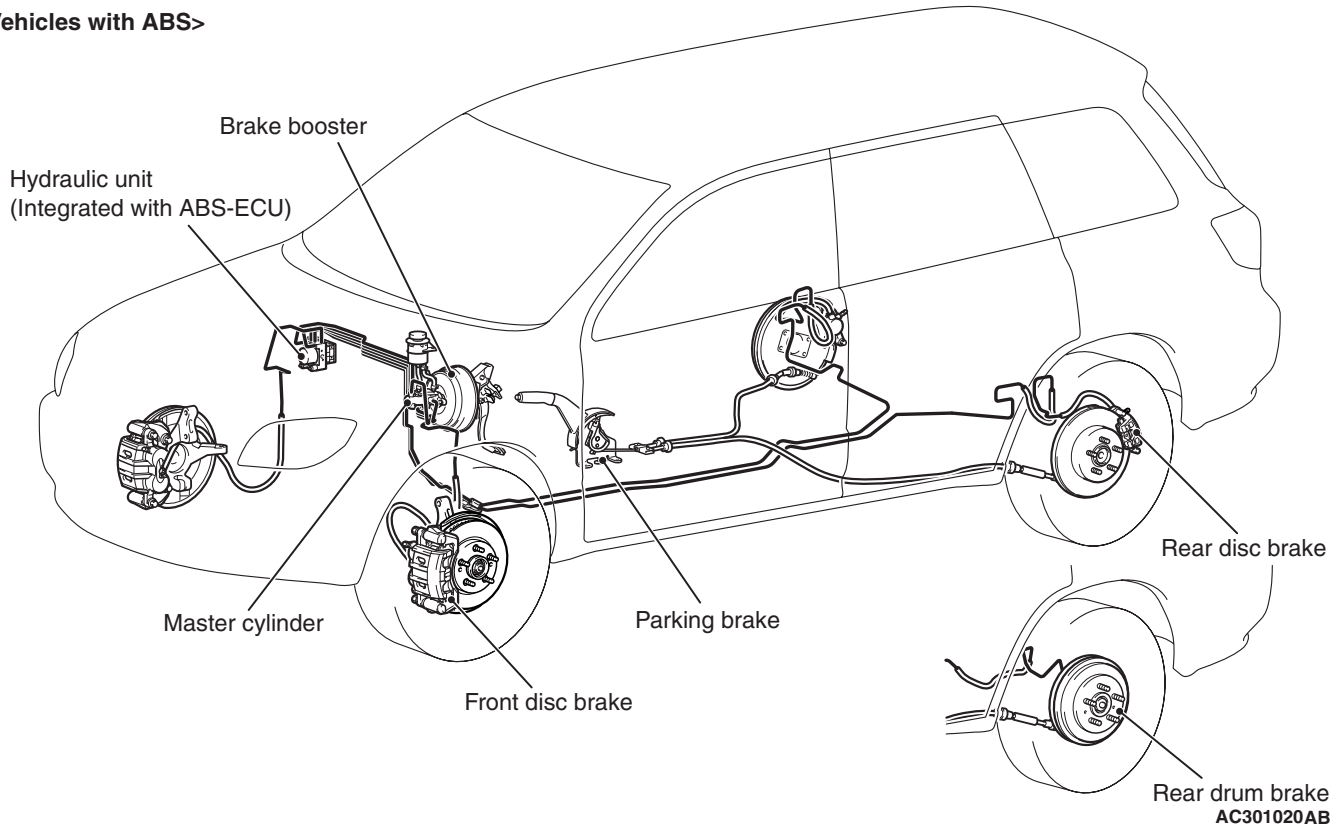
IMPROVED SERVICEABILITY

1. A diagnosis function has been adopted for the ABS system in order to make inspection easier. <Vehicles with ABS>
2. For the front and rear disc brakes, an outer disc separated hub and rotor has been adopted to make removal and installation easier.
3. The master cylinder reservoir tank cap has been colored white to make identification easier.
4. The ABS-ECU and hydraulic unit have been integrated to make them more compact and light weight.

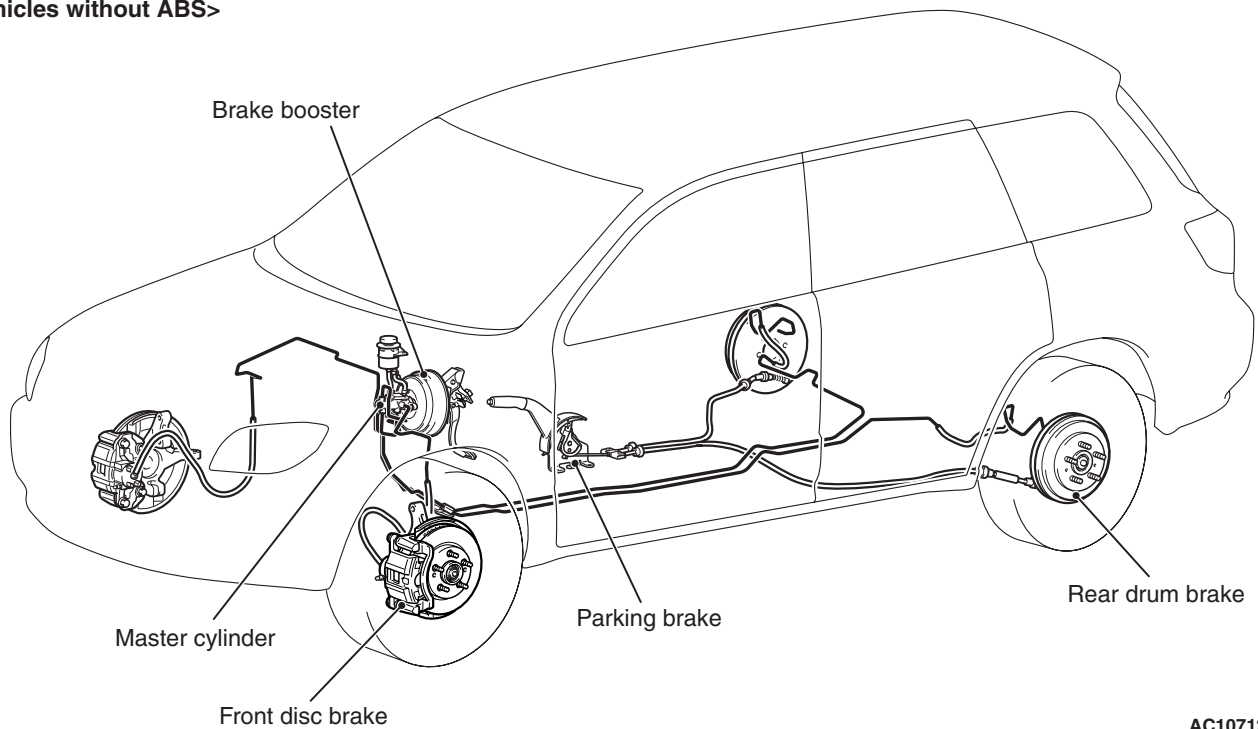
CONSTRUCTION DIAGRAM

<L.H. drive vehicles>

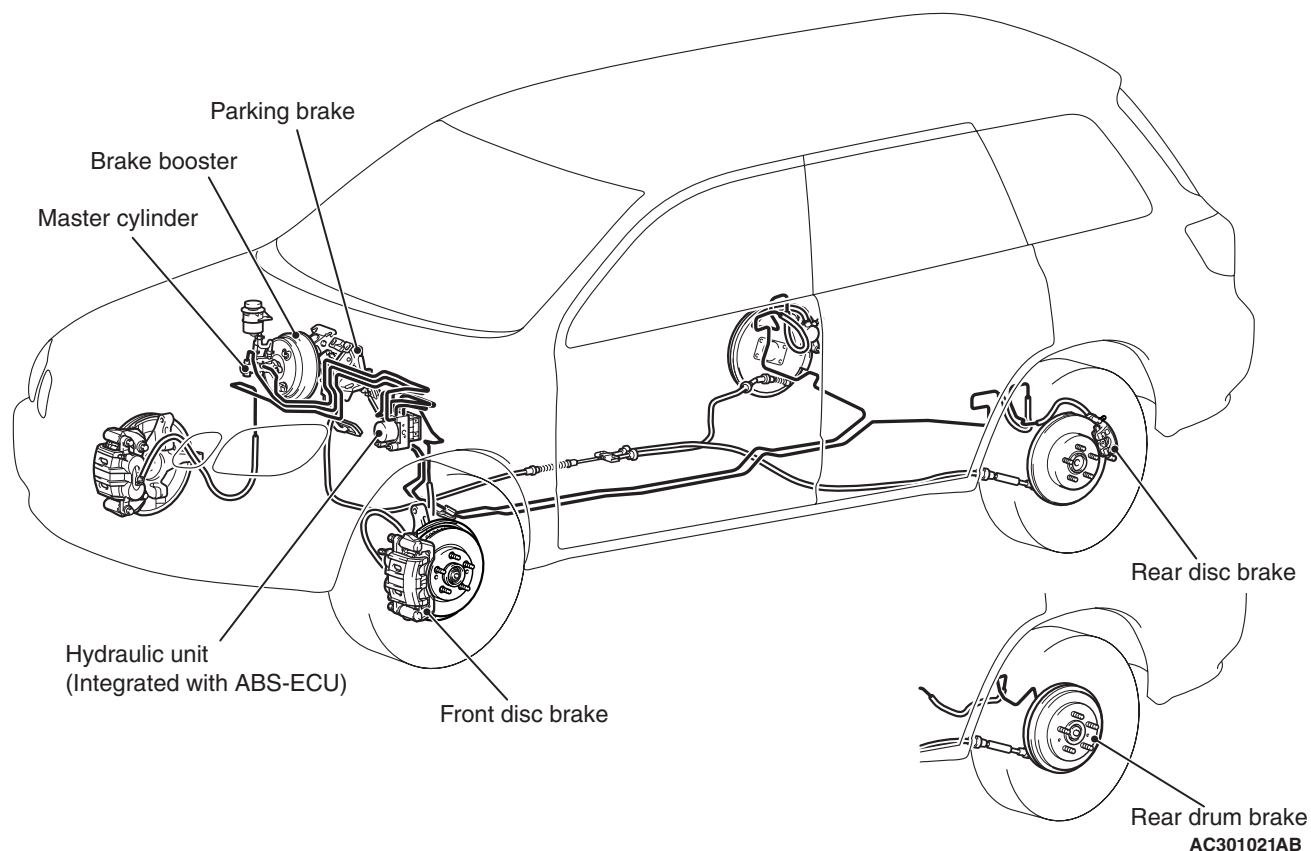
<Vehicles with ABS>



<Vehicles without ABS>



<R.H. drive vehicles>



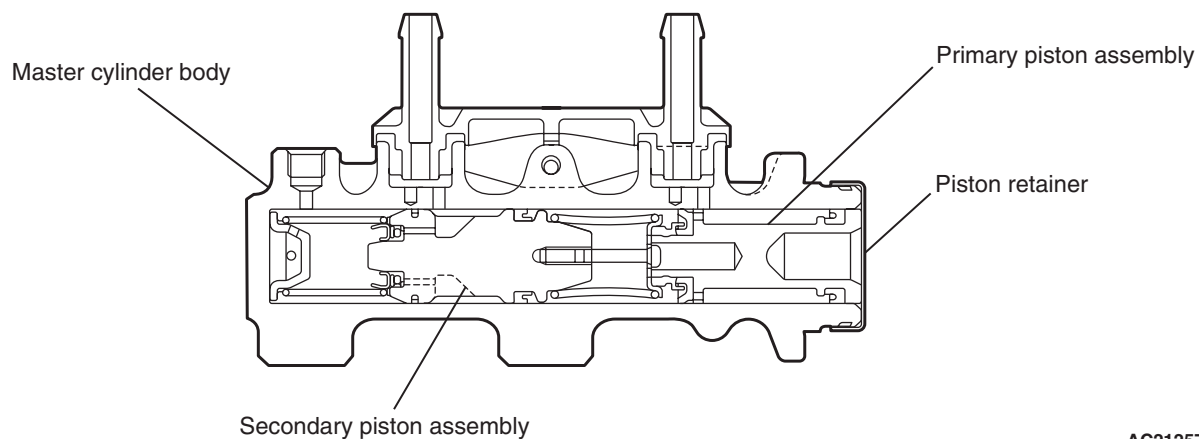
SPECIFICATIONS

Items		Except for South Africa, Argentina, Australia and New Zealand	Vehicles for South Africa, Argentina, Australia and New Zealand
Master cylinder	Type	Tandem type (with level sensor)	Tandem type (with level sensor)
	I.D. mm	25.4	25.4
Brake booster	Type	Vacuum type, tandem	Vacuum type, tandem
	Effective dia. of power cylinder mm	205 + 230	205 + 230
	Boosting ratio	7.5	7.5
Rear wheel hydraulic control method		Proportioning valves <Vehicles without ABS> Electronic brake-force distribution (EBD) <Vehicles with ABS>	Electronic brake-force distribution (EBD) <Vehicles with ABS>

Items		Except for South Africa, Argentina, Australia and New Zealand	Vehicles for South Africa, Argentina, Australia and New Zealand
Front brakes	Type	Floating caliper, 1 piston, ventilated disc	Floating caliper, 2 piston, ventilated disc <South Africa and Argentina> Floating caliper, 1 piston, ventilated disc <Australia and New Zealand>
	Disc effective dia × thickness mm	222 × 26	226 × 24 <South Africa and Argentina> 222 × 26 <Australia and New Zealand>
	Wheel cylinder I.D. mm	60.3	42.9 <South Africa and Argentina> 60.3 <Australia and New Zealand>
	Pad thickness mm	10.0	10.0
	Clearance adjustment	Automatic	Automatic
Rear disc brakes	Type	—	Floating caliper, 1 piston, solid disc
	Disc effective dia × thickness mm	—	226 × 10
	Wheel cylinder I.D. mm	—	38.1
	Pad thickness mm	—	10.0
	Clearance adjustment	—	Automatic
Rear drum brakes	Type	Leading trailing	—
	Drum I.D. mm	228.6	—
	Wheel cylinder I.D. mm	20.6	—
	Lining thickness mm	4.9	—
	Lining thickness mm	Automatic	—
Brake fluid		DOT3 or DOT4	DOT3 or DOT4

MASTER CYLINDER

M2350001000316



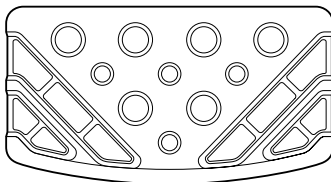
AC212572 AB

The master cylinder is a tandem-type, with a structure that emphasizes safety.

BRAKE PEDAL

M2350007000251

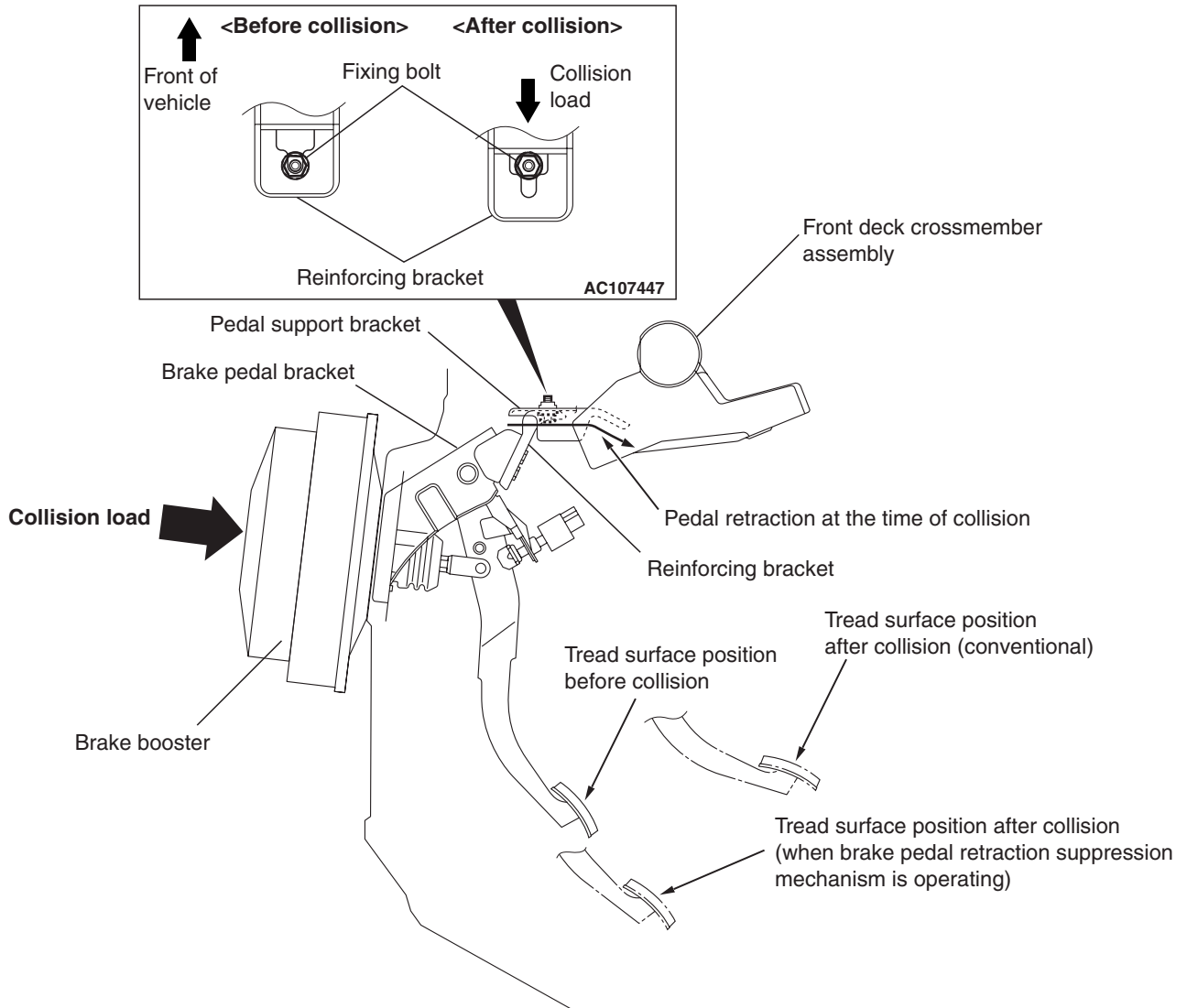
PEDAL PAD



AC504373AB

The aluminum pedal pad has been adopted in order to improve the drivability and to enhance the sporty image.<VR-X: standard, GLS: Option>

BRAKE PEDAL



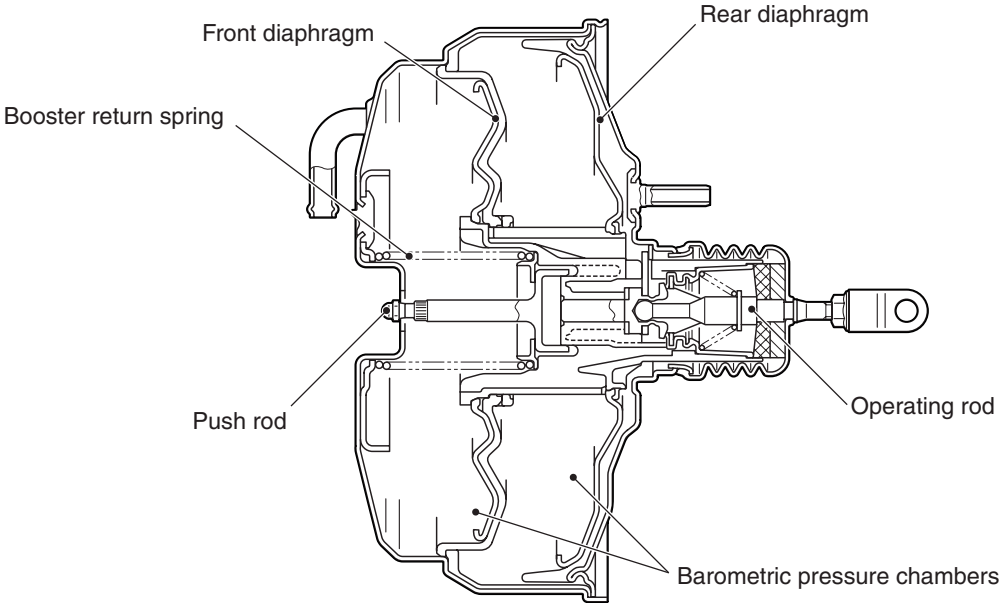
AC203540 AC

A brake pedal retraction suppression mechanism that minimizes the retraction of the brake pedal in the event of a frontal collision has been adopted to reduce the shock to the feet of the driver.

If the brake booster section is pushed in by retraction of the engine, etc. in the event of a collision, the fixing bolt on the support bracket is separated from the reinforcing bracket. The brake pedal bracket hits the support bracket and does not move backwards, and the tread surface of the brake pedal does not move backwards or upwards.

BRAKE BOOSTER

M2350002000472



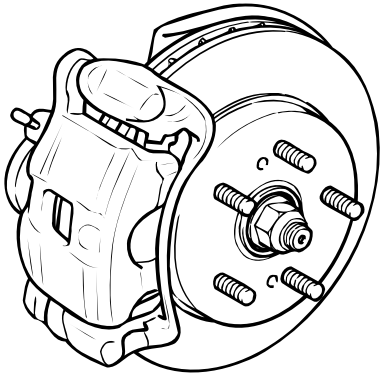
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8 + 9 inch tandem brake booster has been installed.

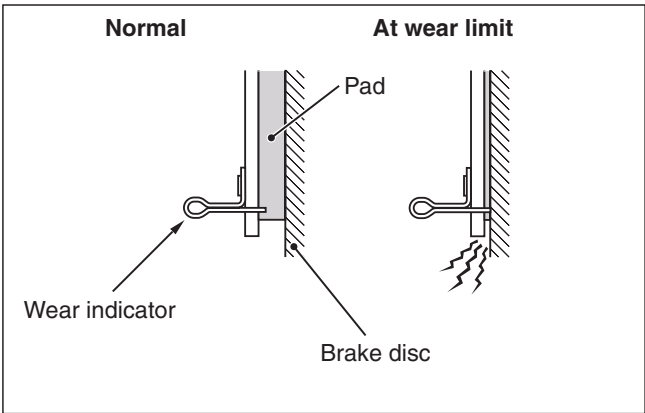
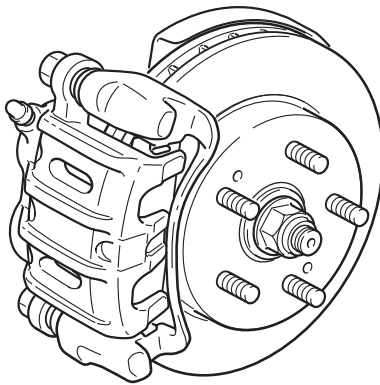
FRONT BRAKE

M2350003000431

<V5-S60>



<V6-W43>

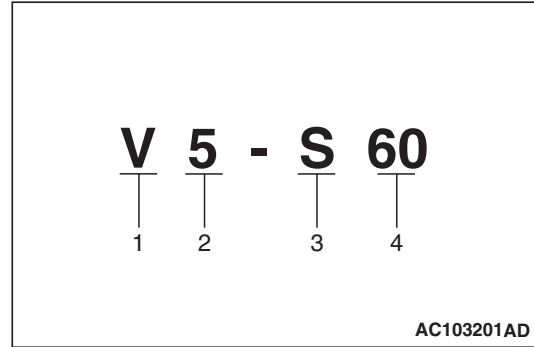


AC300031AD

Brakes with the following specifications have been adopted for the front brakes.

- V5-S60 1-piston ventilate discs South Africa and Argentina>
- V6-W43 2-piston ventilate discs <Vehicles for South Africa and Argentina>
- An outer disc method in which the wheels and discs are tightened together has been adopted to improve the ease of brake disc removal and installation.
- The brake pads are equipped with mechanical-type audible wear indicators to notify the driver when the usage limit (2 mm) has been reached.

DISC BRAKE NOMENCLATURE

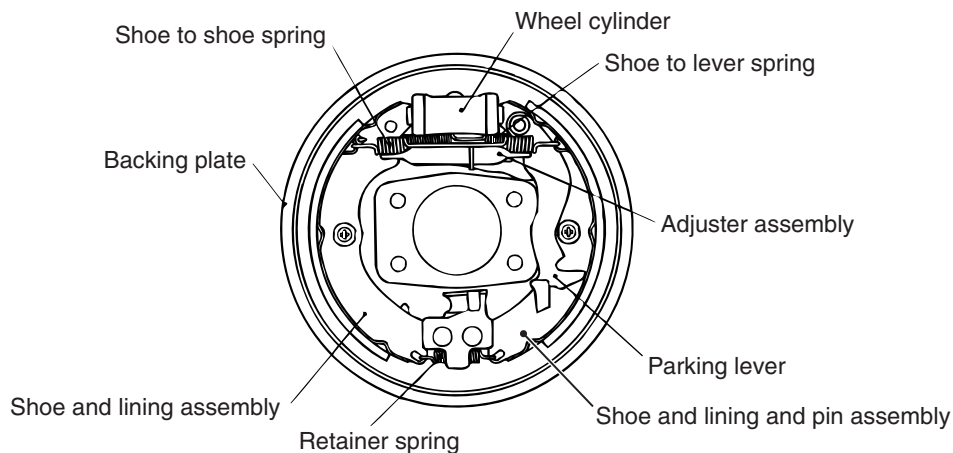


No.	Item	Contents
1	Brake disc type	S: Solid V: Ventilated
2	Brake size (Minimum applicable disc wheel)	4: 14-inch 5: 15-inch 6: 16-inch
3	No. of pistons	S: 1 piston (floating type) W: 2 piston (floating type)
4	Piston size (rounded to nearest integer)	38: $\phi 38.1$ mm 43: $\phi 42.9$ mm 60: $\phi 60.3$ mm

REAR BRAKE

M2350004000445

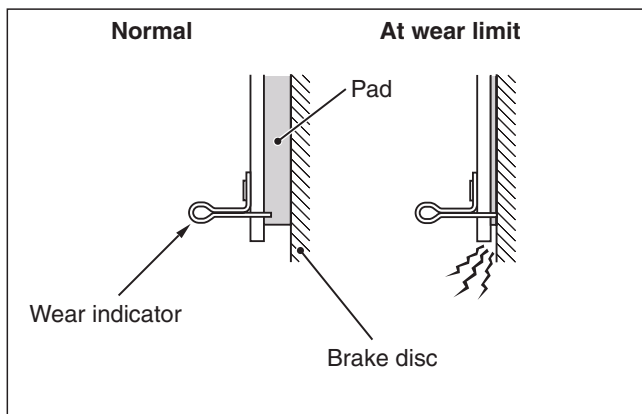
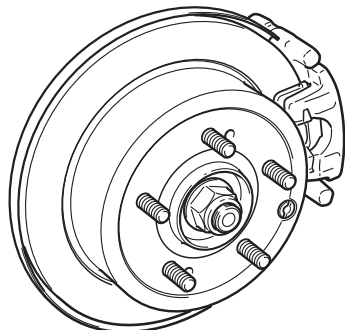
REAR DRUM BRAKE <EXCEPT FOR SOUTH AFRICA AND ARGENTINA>



AC203573AC

9-inch leading trailing-type drum brakes have been adopted for the rear brakes in order to provide stable braking force at all times both when moving forward and reversing.

REAR DISC BRAKE <VEHICLES FOR SOUTH AFRICA, ARGENTINA AND NEW ZEALAND>



AC202136AB

Brakes with the following specifications have been adopted for the rear brakes.

- S4-S38 1-piston solid discs*.
- An outer disc method in which the wheels and discs are tightened together has been adopted to improve the ease of brake disc removal and installation.

- The brake pads are equipped with mechanical-type audible wear indicators to notify the driver when the usage limit (2 mm) has been reached.

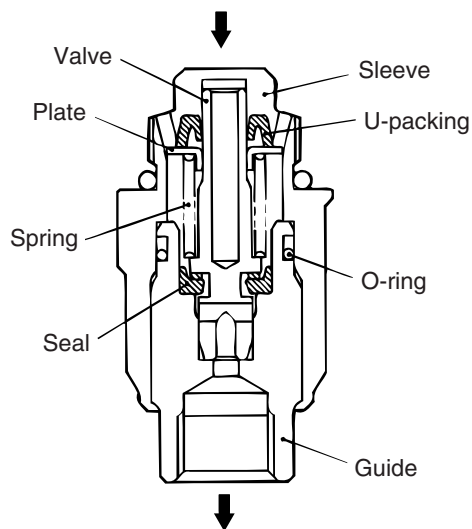
NOTE: *For the brake disc name, refer to **FRONT BRAKE P.35A-8**.

BRAKE LINE

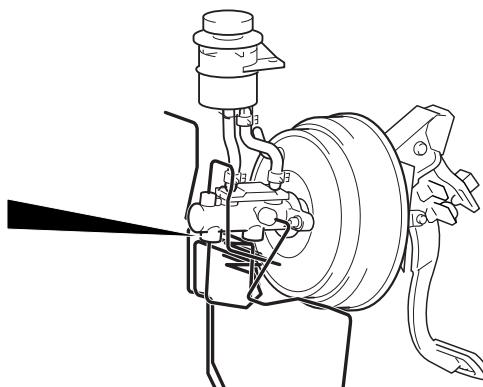
M2350005000170

PROPORTIONING VALVE <VEHICLES WITHOUT ABS>

From master cylinder rear brake system



To rear brake



A proportioning valve has been adopted to prevent early locking of the rear wheels, in order to provide

improved stability during braking.

AC200027AC