CHASSIS

SUSPENSION AND AXLE

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BRAKE

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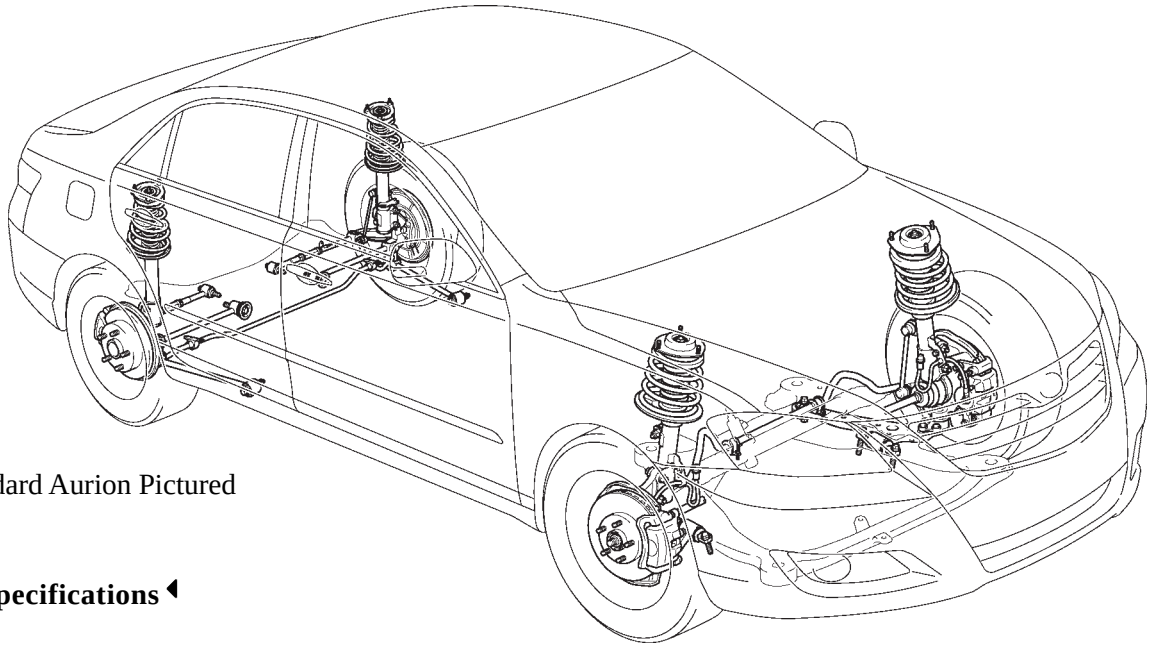
CHASSIS

SUSPENSION AND AXLE

✹ SUSPENSION

1. General

- MacPherson strut type independent suspension is used for the front.
- Dual link MacPherson strut type independent suspension is used for the rear.



Standard Aurion Pictured

Specifications

			Standard Aurion	TRD Aurion
Front Wheel Alignment	Type		MacPherson Strut	←
	Tread*[1]	mm	1,575	1,572
	Caster*[1]	degrees	2°45'*[3] 2°50'	2° ± 45'
	Camber*[1]	degrees	-0°40' -0°45'*[3]	-1°15' + 30' – 15'
	Toe-in*1	mm	0	3 ± 0.5
	King Pin Inclination*[1]	degrees	12°20'	12°20' ± 45'
Rear Wheel Alignment	Type		Dual Link MacPherson Strut	←
	Tread*[1]	mm	1,565	1,562
	Camber*[1]	degrees	1°05'*[2] 1°22' 1°27'*[3]	1°15' +30' -15'
	Toe-in*[1]	mm	3±2	1 ± 0.5mm

*[1] : Unloaded Vehicle Condition

*[2] : Rough Road Package

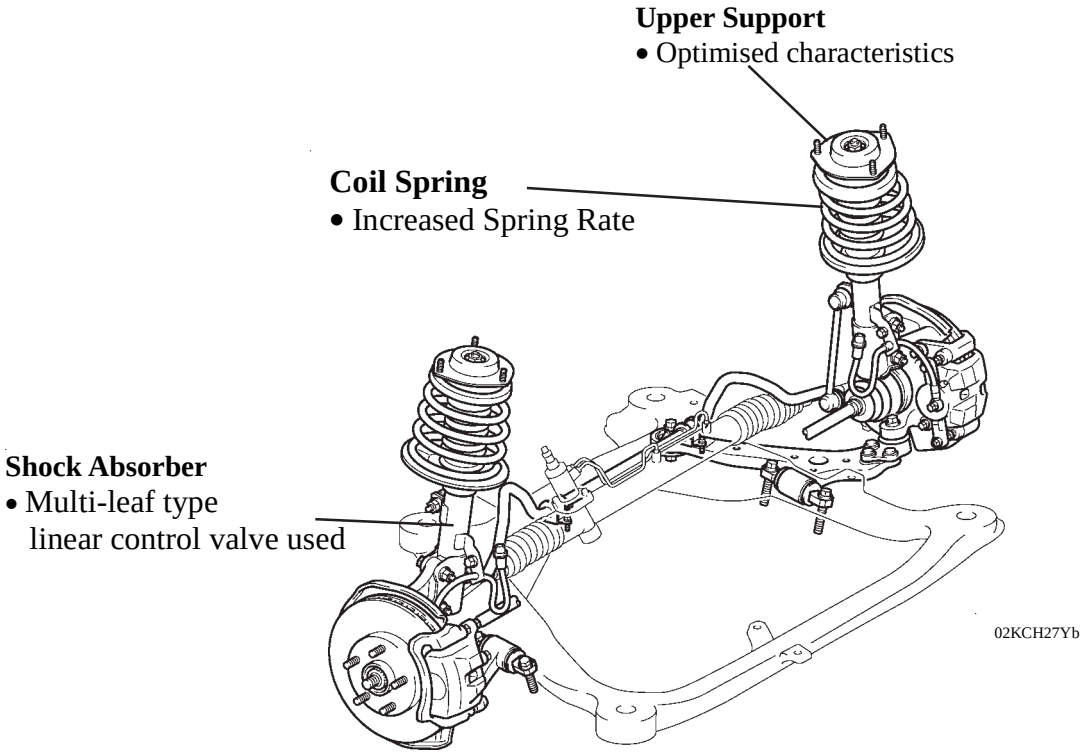
*[3] : Sportivo grade

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2. Front Suspension

General

Through the optimal location of components, and the use of Nachlauf geometry, the front suspension provides excellent riding comfort and controllability.

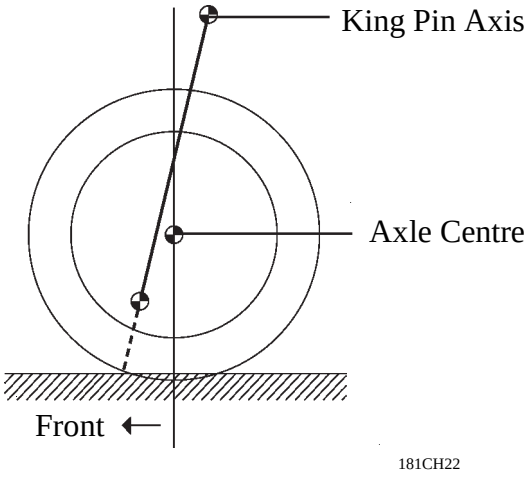


Service Tip

To prevent hazardous conditions, make sure to empty the gas from the shock absorber before discarding a low-pressure (N_2) gas sealed shock absorber. For details, see the Aurion Repair Manual.

Nachlauf Geometry

The front suspension uses the Nachlauf geometry in which the king pin axis is located ahead of the axle centre. As a result, excellent straight-line stability and steering feel has been improved.



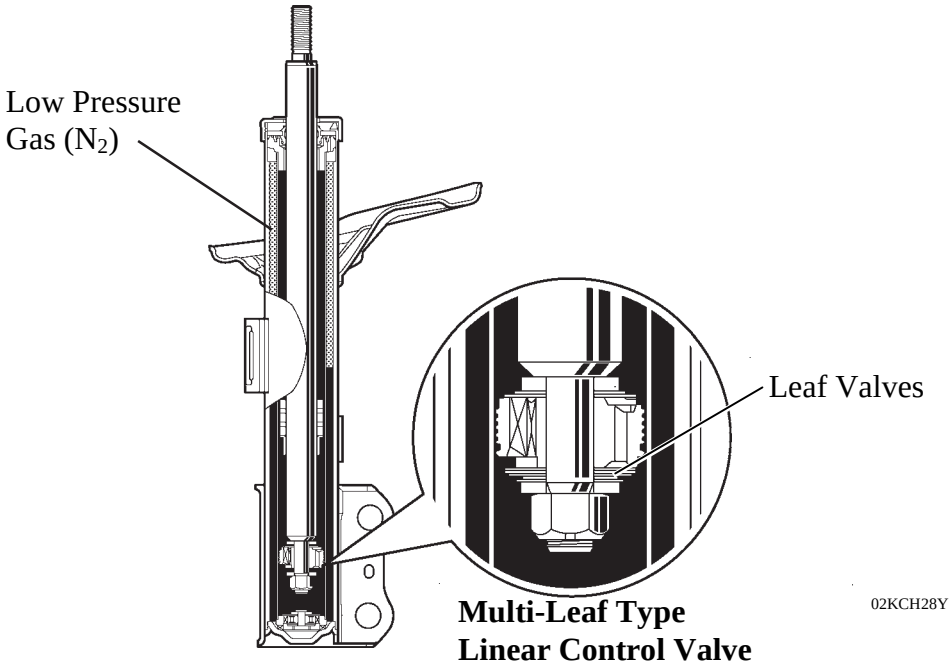
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Shock Absorber

1) General

New front struts (shock absorbers) are fitted with Optimised damping rates for improved ride and handling performance.

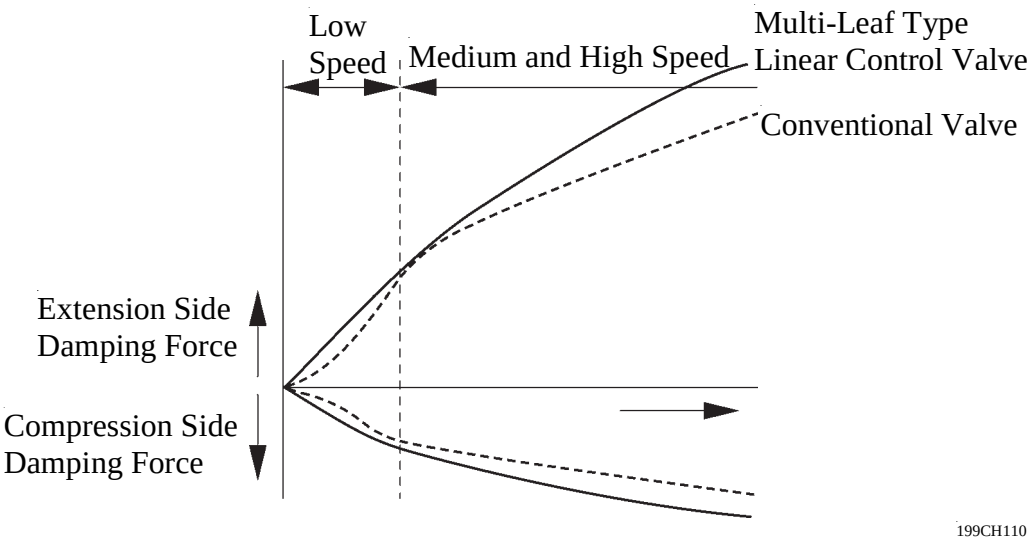
- A low-pressure (N_2) gas sealed type construction is used to suppress cavitation.
- A multi-leaf type linear control valve is used to attain linear damping force characteristics.



Multi-Leaf Type Linear Control Valve

2) Construction of Multi-Leaf type Linear Control Valve

The multi-leaf type linear control valve has a structure consisting of several layered leaf valves with different diameters. Through use of the multi-leaf type linear control valve, changes in the damping force are made constant at low piston speeds, thus realising excellent riding comfort and controllability.



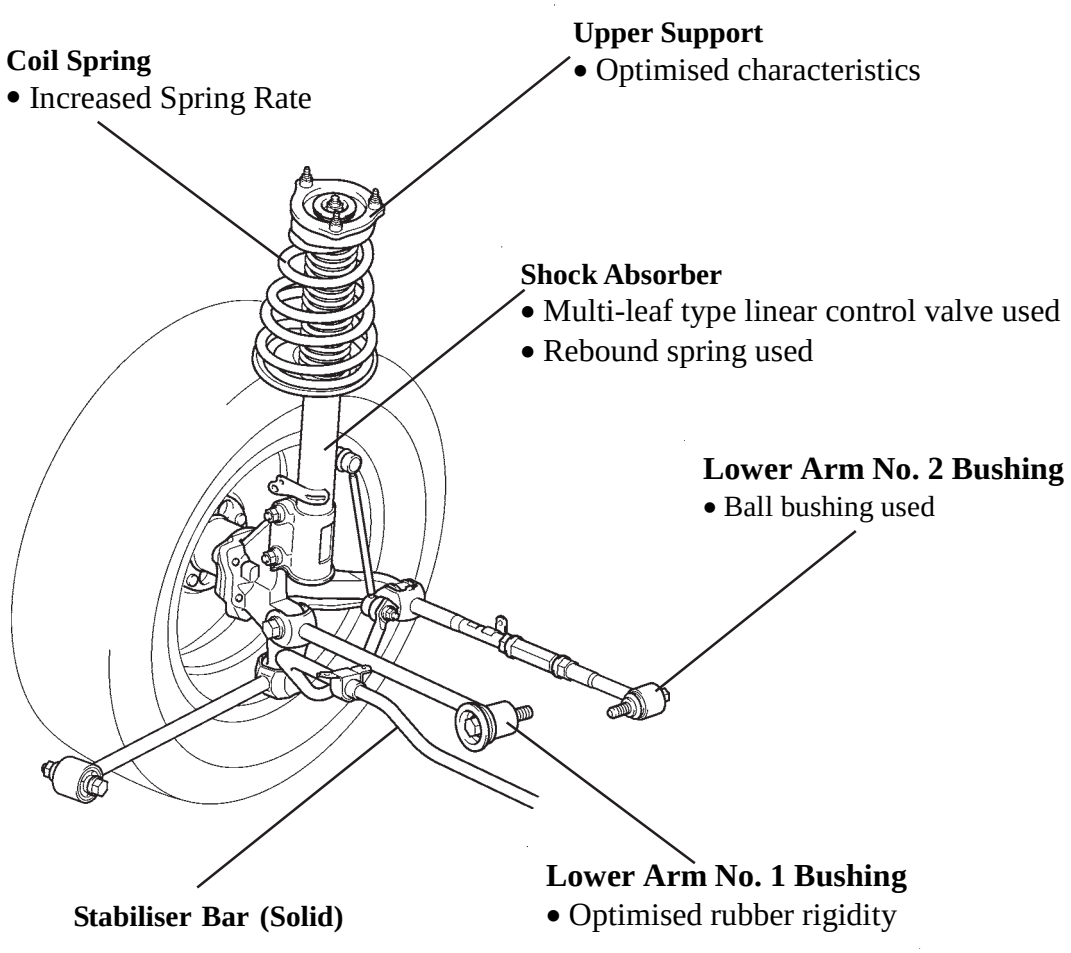
Damping Force Characteristics

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3. Rear Suspension

General

Excellent stability and controllability have been realised by optimising the suspension geometry and allocation of components.



Service Tip

To prevent hazardous conditions, make sure to empty the gas from the shock absorber before discarding a low-pressure (N_2) gas sealed shock absorber. For details, see the Aurion Repair Manual.

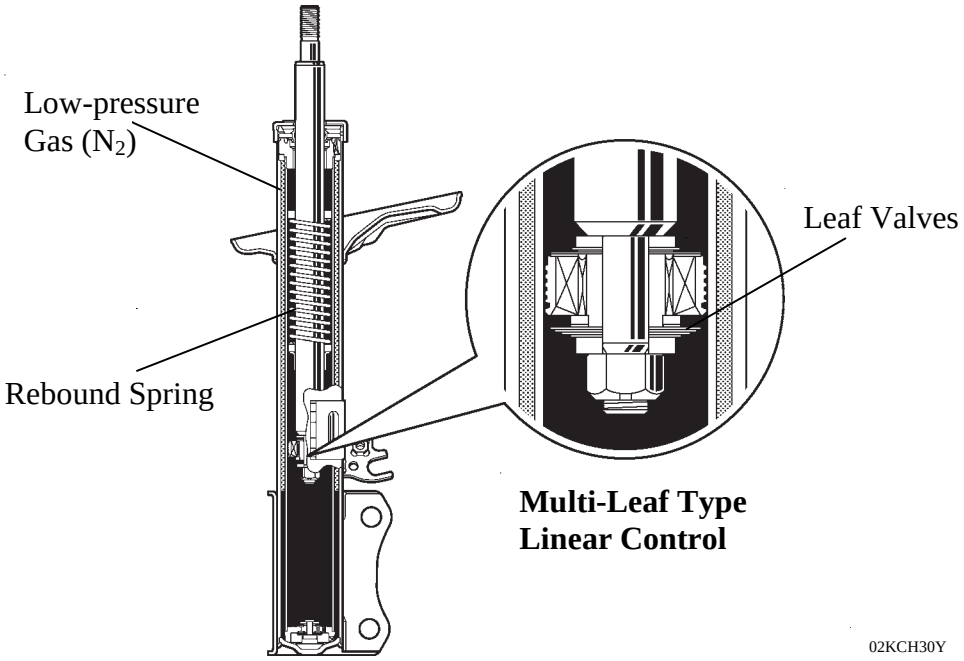
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Shock Absorber

1) General

New rear struts (shock absorbers) are fitted with Optimised damping rates for improved ride and handling performance. The three functions listed below are used for the shock absorber to realise both driving stability and riding comfort.

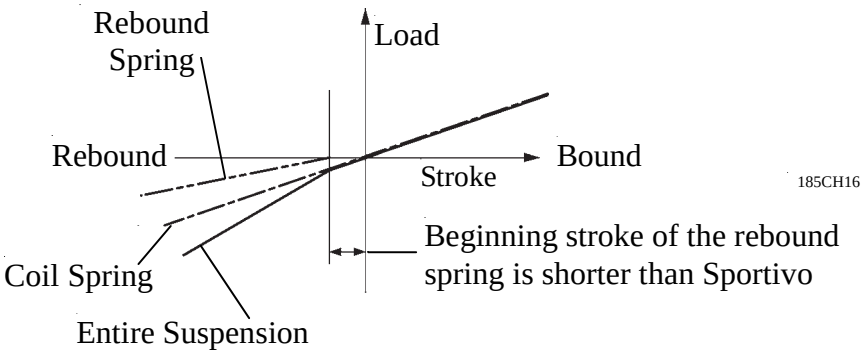
- A low-pressure (N_2) gas sealed type construction is used to suppress cavitation.
- A multi-leaf type linear control valve is used to attain linear damping force characteristics. For details, refer to Front Suspension section on page CH-4.
- A new rebound spring is fitted to further improve vehicle stability during cornering.



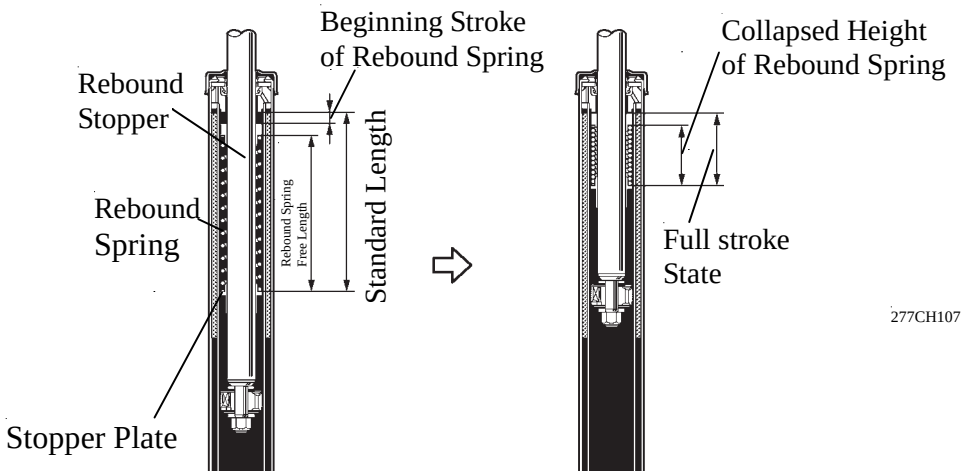
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2) Rebound Spring

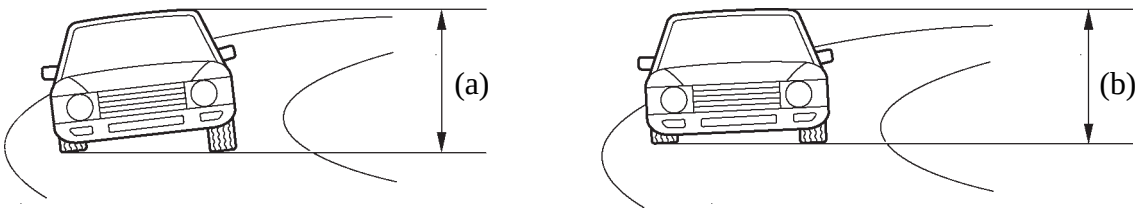
The function of the built-in rebound spring is to combine with the function of the coil spring in order to restrain the elongation of the entire suspension during rebounds. Consequently, only the function of the coil spring is applied when the suspension stroke is small during normal driving, in order to realise a soft and comfortable ride. However, when the inner wheel makes large rebounds, such as when the vehicle is cornering, the functions of both the rebound spring and the coil spring are combined in order to reduce the elongation of the entire suspension. As a result, the vehicle has excellent manoeuvrability and stability.
A redesigned rebound spring with earlier engagement is fitted in the rear shock absorbers to further improve roll control whilst maintaining a high quality ride, as compared to Sportivo.



Characteristic of Shock Absorber with Built-in Rebound Spring



During Cornering



Without Rebound Spring **With Rebound Spring**

(a) > (b)

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BRAKE

DESCRIPTION

1. General

- All models have a brake control system consisting of ABS with EBD, Brake Assist, TRC and VSC and use an electrical type brake assist, which effects brake assist control through the brake actuator.
- The TRD Aurion has a brake system with the following specifications:

	Aurion	TRD Aurion
Front Brake Type	Ventilated Disc	←
Rear Brake Type	Solid Disc	Ventilated Disc
Brake Control System	ABS with EBD, Brake Assist, TRC and VSC	←
Parking Brake Type	Pedal	←

Specifications

			Aurion	TRD Aurion
Master Cylinder	Type		Tandem (Plunger type)	←
	Diameter	mm	22.22	←
Brake Booster	Type		Single, Tie Rod Type	←
	Size	in.	10	←
Front Disc Brake	Caliper Type		PBR63 Single Piston Cast Iron	PBR 2 Piston Aluminium
	Wheel Cylinder Dia.	mm	63.5	2 x 40.5
	Rotor Size (D×T)*	mm	296 × 28	325 × 32
	Pad Material		NF107	Ferodo VS12/1
Rear Disc Brake	Caliper Type		PBR38R	PBR Single Piston Aluminium
	Wheel Cylinder Dia.	mm	38.1	40.5
	Rotor Size (D×T)*	mm	286 × 10	310 × 18
	Pad Material		NF111	Ferodo VS12/1
Parking Brake	Type		Banksia	←
	Drum Inner Dia.	mm	190.0	←
Brake Actuator Supplier	For ABS with EBD, Brake Assist, TRC and VSC		Bosch	←

*: D: Outer Diameter, T: Thickness

Service Tip

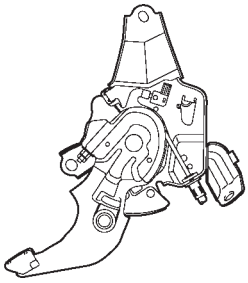
- To ensure the performance and reliability of the plunger type master cylinder, it must not be disassembled. If it malfunctions, replace the entire assembly.
- Before removing the plunger type master cylinder from the brake booster, discharge the vacuum from the brake booster. Otherwise, the piston of the master cylinder may be left inside the brake booster.

For details, see the Aurion Repair Manual.

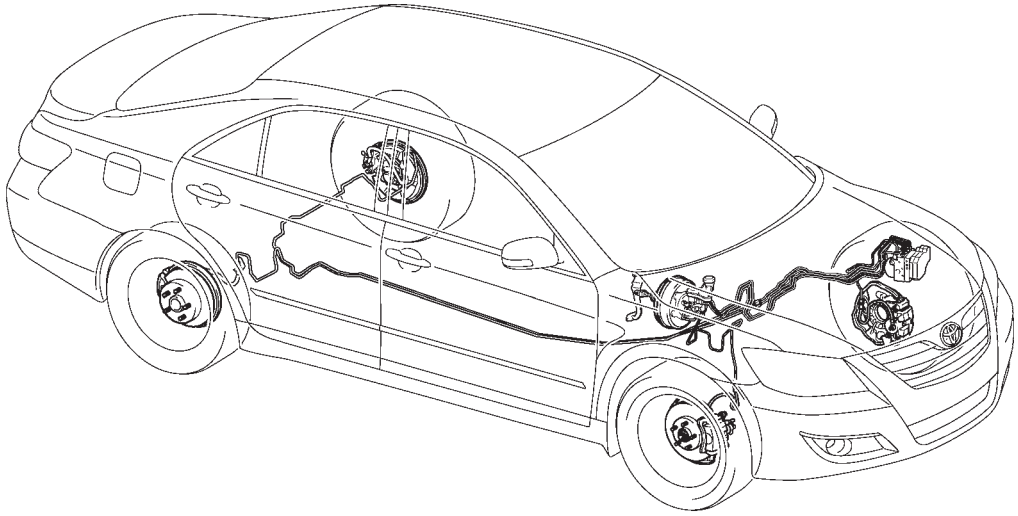
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2. Component of Brake System

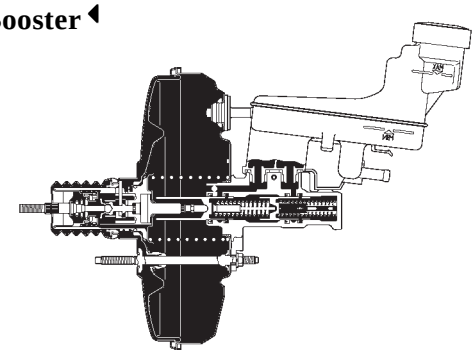
Parking Brake



Lever Type



Master Cylinder and Brake Booster



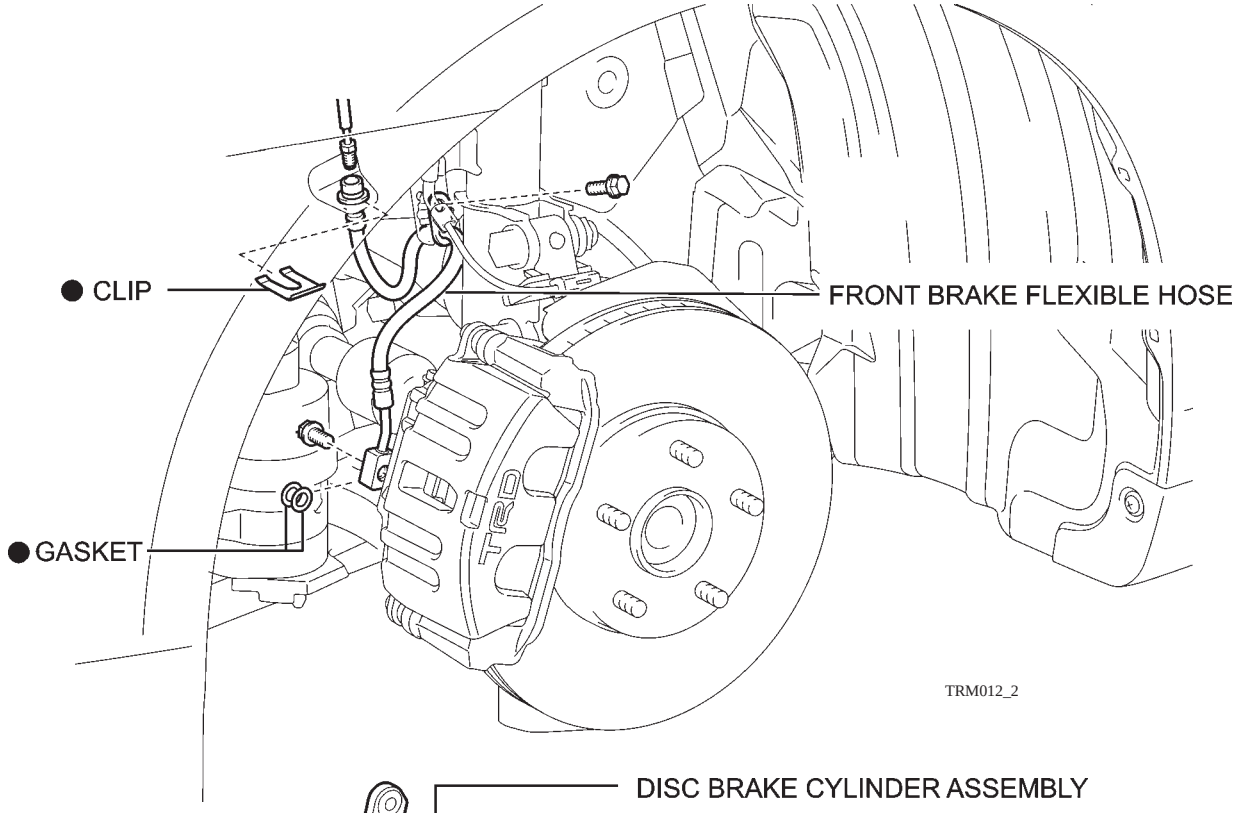
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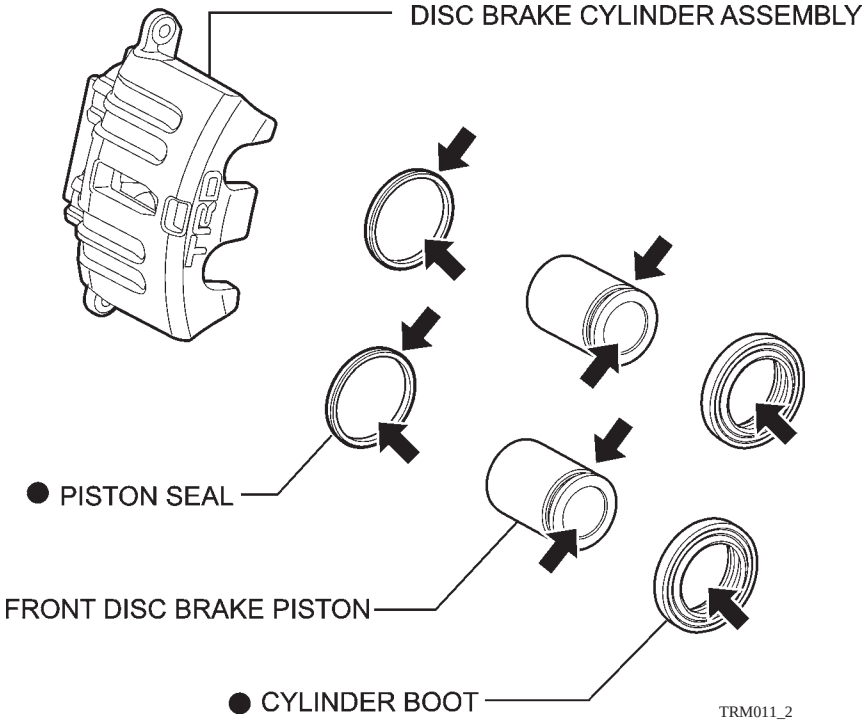
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FRONT BRAKE

- The diameter of the front rotor is 325mm. The front rotor is the ventilated type that excels in heat dissipation to ensure reliability.
- The shape of the front dust cover has been optimised to efficiently direct cool air to the ventilated disc, thus ensuring excellent cooling performance.
- For weight reduction and improved brake force, aluminium 2 piston type calipers are used.

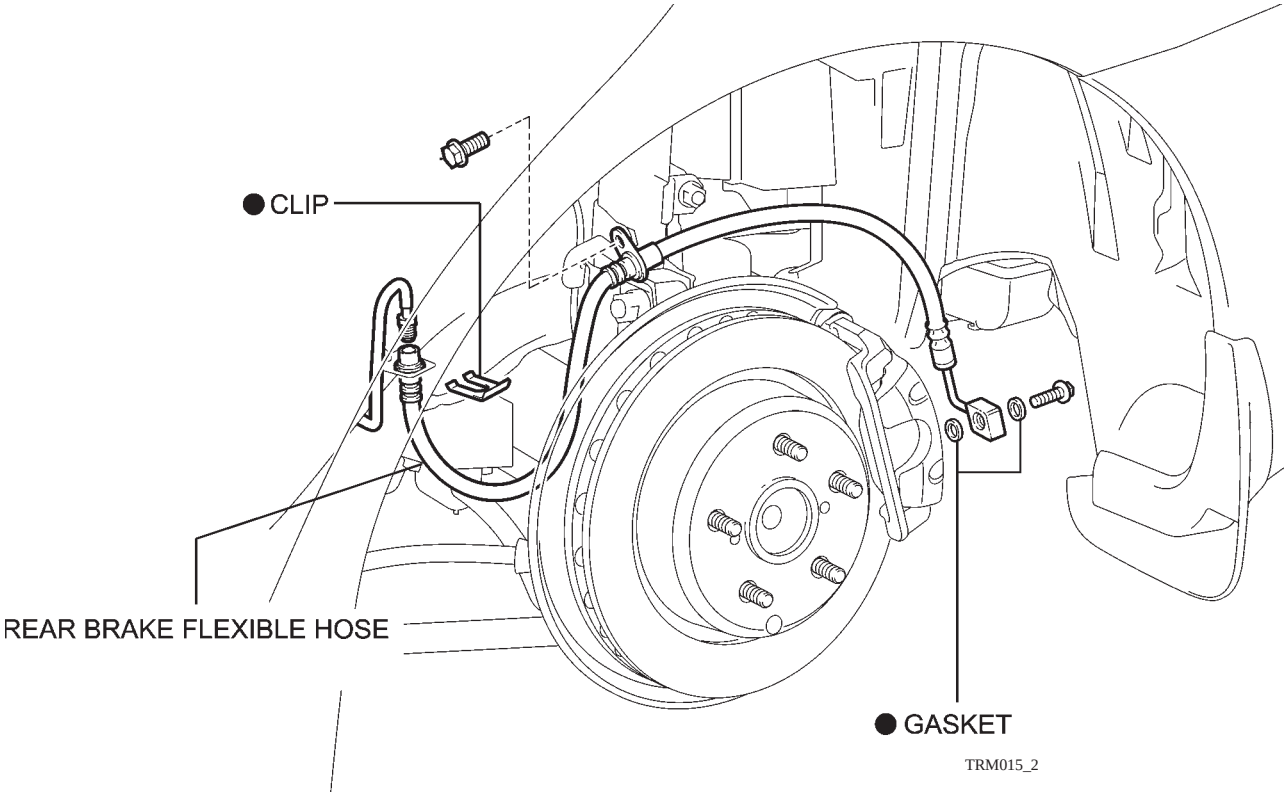


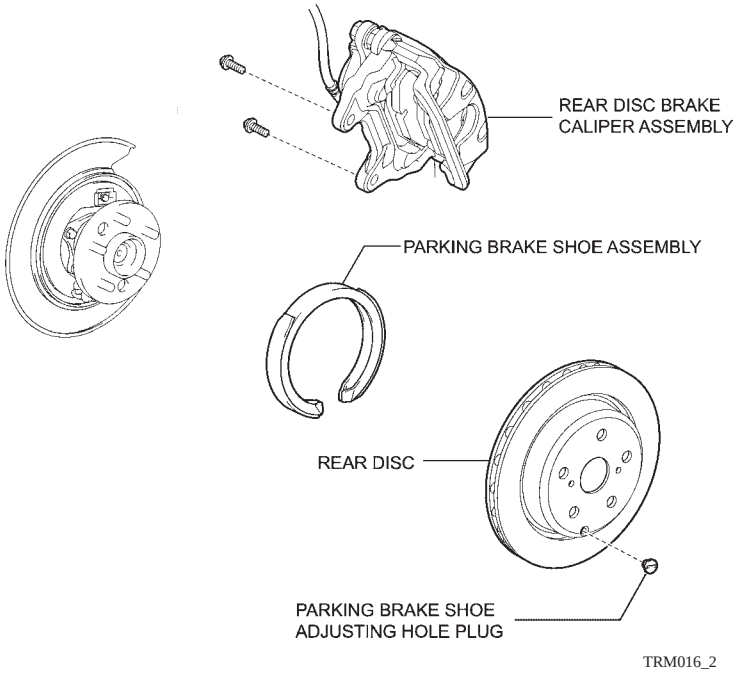


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REAR BRAKE

- The diameter of the rear rotor is 310 mm. It has a drum in disc type parking brake.
- For weight reduction, a rear caliper cylinder made of aluminium is used.





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