BRAKE

■ DESCRIPTION

1. General

The new model brake system has the following setting and specifications:

●: Standard OP: Option —: None

Destination		Europe		Australia	
Body Type		Hatchback		Hatchback	Sedan
Manufacturer		TMC	TMMF	TMC	TMC
Front Brake Type	14 in. Ventilated Disc	●	●	●	●
	15 in. Ventilated Disc	OP	—	—	—
Rear Brake Type	Leading-trailing Drum	●	●	●	●
	Solid Disc	OP	OP	—	—
Brake Control	ABS with EBD	●	●	●	●
	TRC*	OP	OP	—	—
	VSC*	OP	OP	—	—
Brake Assist	Mechanical Type	●	●	●	●
	Electrical Type*	OP	OP	—	—
Lever Type Parking Brake		●	●	●	●

*: TRC, VSC and electrical Brake Assist are provided as a set.

●: Standard OP: Option —: None

Destination		G.C.C. Countries		General Countries	
Body Type		Hatchback	Sedan	Hatchback	Sedan
Manufacturer		TMC	TMC	TMC	TMC
Front Brake Type	14 in. Ventilated Disc	●	●	●	●
	15 in. Ventilated Disc	—	—	—	—
Rear Brake Type	Leading-trailing Drum	●	●	●	●
	Solid Disc	—	—	—	—
Brake Control	ABS with EBD	●	●	●	●*1/OP*2
	TRC*3	—	—	—	—
	VSC*3	—	—	—	—
Brake Assist	Mechanical Type	●	●	●*4	●*4
	Electrical Type*3	—	—	—	—
Lever Type Parking Brake		●	●	●	●

*1: Only for A/T Models and RHD Models
*2: Only for MT LHD Models
*3: TRC, VSC and Electrical Brake Assist are provided as a set.
*4: Only for RHD Models

▶ Specifications (TMC Models) ◀

Master Cylinder	Type			Tandem
	Diameter		mm (in.)	20.64 (0.81)
Brake Booster	Type			Single
	Size		in.	9
Front Disc Brake	Pad Area		cm^2 ($in.^2$)	39.0 (6.0) x 2, 44.0 (6.8) x 2*2
	Wheel Cylinder Diameter		mm (in.)	54.0 (2.12), 57.22 (2.25)*2
	Rotor Size (D x T)*1		mm (in.)	255 x 22 (10.03 x 0.87), 275 x 22 (10.83 x 0.87)*2
Rear Drum Brake	Lining Area		cm^2 ($in.^2$)	52.0 (8.1) x 2
	Wheel Cylinder Diameter		mm (in.)	19.05 (0.75), 20.64 (0.81)*3
	Drum Inner Diameter		mm (in.)	200 (7.87)
Rear Disc Brake	Pad Area		cm^2 ($in.^2$)	26.0 (4.03) x 2
	Wheel Cylinder Diameter		mm (in.)	33.96 (1.34)
	Rotor Size (D x T)*1		mm (in.)	259 x 9 (10.19 x 0.35)
Parking Brake	Drum Type	Drum Inner Diameter	mm (in.)	200 (7.87)
	Built-in Type	Rotor Size (D x T)*1	mm (in.)	259 x 9 (10.19 x 0.35)
Brake Actuator Supplier	For ABS with EBD			ADVICS
	For ABS with EBD, Brake Assist, TRC and VSC			ADVICS

*1: (Diameter x Thickness)
*2: Option for Europe Models
*3: For Europe and G.C.C. Countries Models

▶ Specifications (TMMF Models) ◀

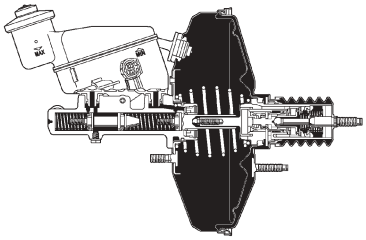
Master Cylinder	Type			Tandem
	Diameter		mm (in.)	22.20 (0.87)
Brake Booster	Type			Single
	Size		in.	9
Front Disc Brake	Pad Area		cm^2 ($in.^2$)	43.0 (6.8) x 2
	Wheel Cylinder Diameter		mm (in.)	54.0 (2.12)
	Rotor Size (D x T)*		mm (in.)	258 x 22 (10.15 x 0.87)
Rear Drum Brake	Lining Area		cm^2 ($in.^2$)	64.0 (10.24) & 57.7 (9.23)
	Wheel Cylinder Diameter		mm (in.)	20.64 (0.81)
	Drum Inner Diameter		mm (in.)	203 (7.99)
Rear Disc Brake	Pad Area		cm^2 ($in.^2$)	25.0 (4.0) x 2
	Wheel Cylinder Diameter		mm (in.)	34.0 (1.34)
	Rotor Size (D x T)*		mm (in.)	278 x 9 (10.94 x 0.35)
Parking Brake	Drum Type	Drum Inner Diameter	mm (in.)	203 (7.99)
	Built-in Type	Rotor Size (D x T)*	mm (in.)	278 x 9 (10.94 x 0.35)
Brake Actuator Supplier	For ABS with EBD			Continental Teves
	For ABS with EBD, Brake Assist, TRC and VSC			Continental Teves

*: (Diameter x Thickness)

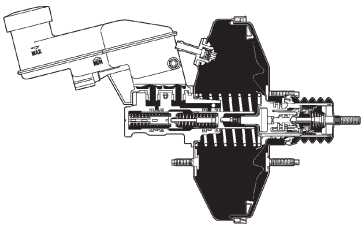
2. Component of Brake System

TMC Models

▶ Master Cylinder & Brake Booster ◀

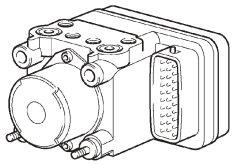


LHD Model

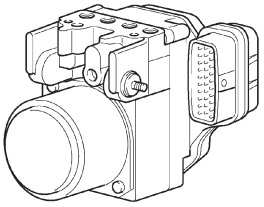


RHD Model

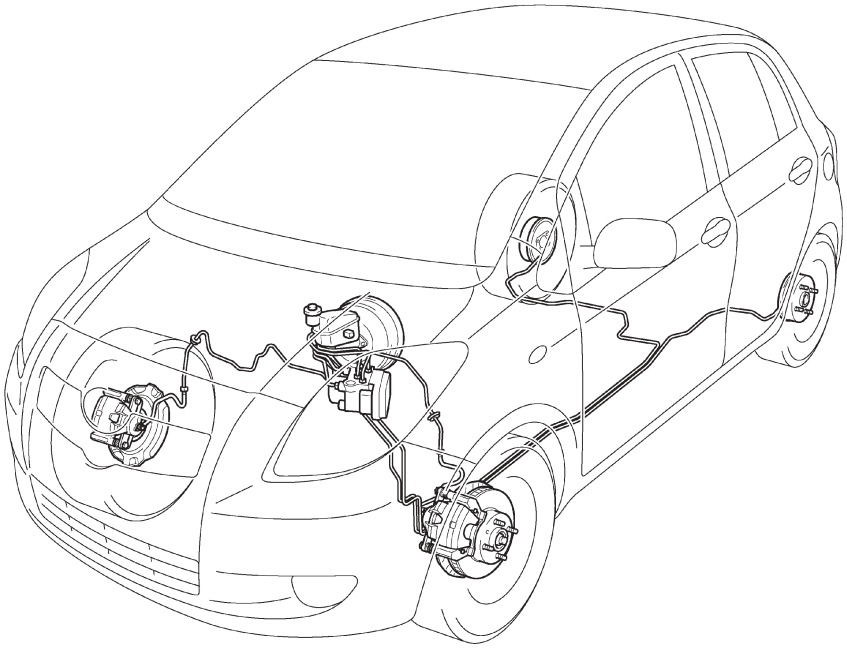
▶ Brake Actuator ◀



ABS with EBD Type

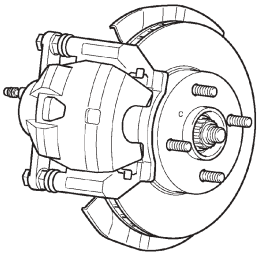


ABS with EBD, Brake Assist, TRC and VSC Type

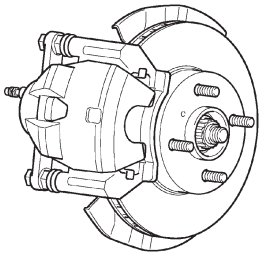


5-door Hatchback Model

▶ Front Brake ◀

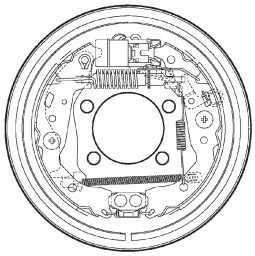


14” Type

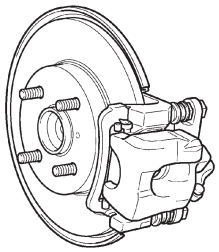


15” Type

▶ Rear Brake ◀



Drum Type

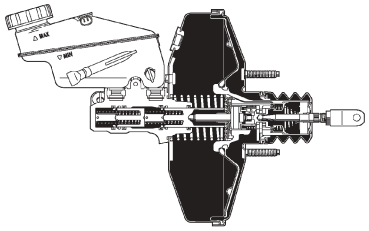


Disc Type

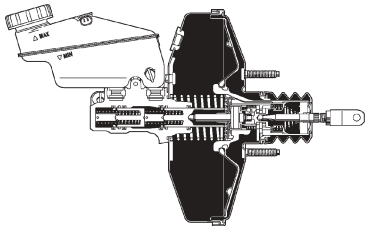
00SCH64Y

TMMF Models

▶ Master Cylinder & Brake Booster ◀

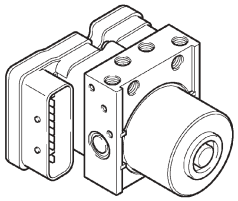


LHD Model

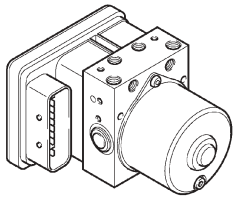


RHD Model

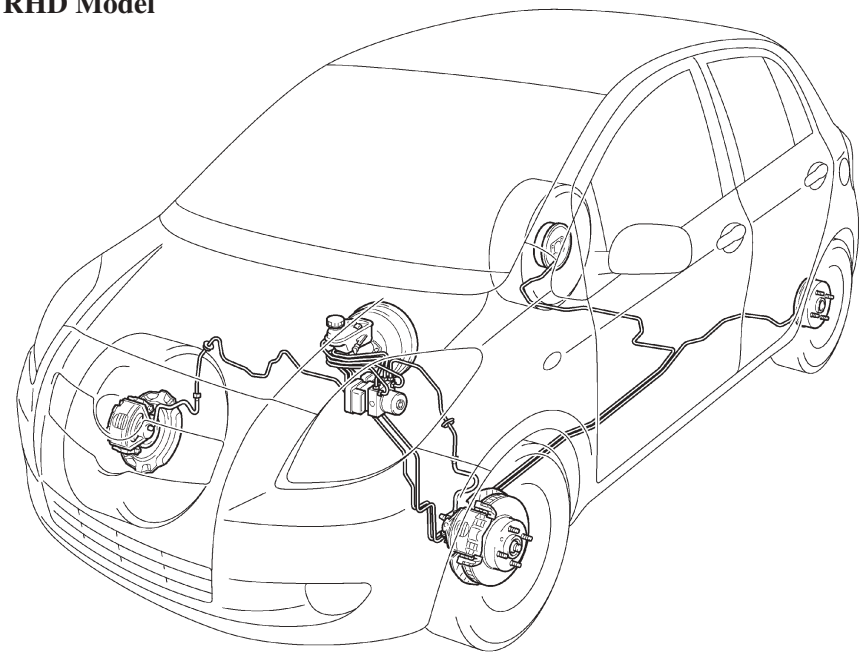
▶ Brake Actuator ◀



ABS with EBD Type

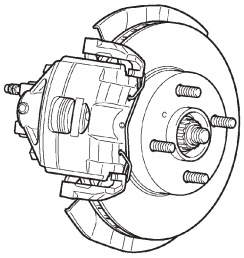


ABS with EBD, Brake Assist, TRC and VSC Type

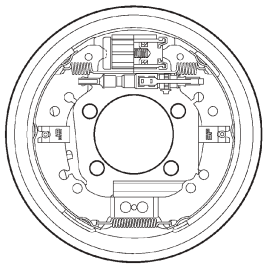


5-door Hatchback Model

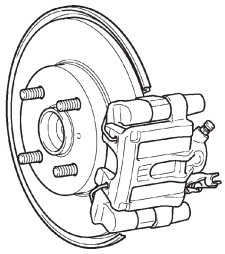
▶ Front Brake ◀



▶ Rear Brake ◀



Drum Type



Disc Type

00SCH112Y

3. Rear Disc Brake

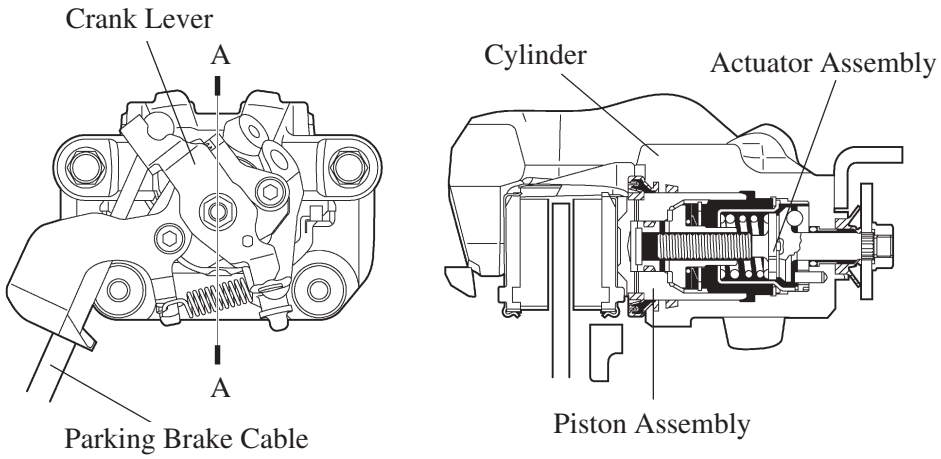
General

A built-in type disc brake that has a built-in parking brake mechanism is provided as optional equipment on all the models for Europe.

This section explains the built-in type disc brake of the TMC models.

Construction and Operation

The built-in type brake caliper assembly is comprised of a cylinder, piston assembly and actuator assembly, and has a built-in parking brake mechanism.

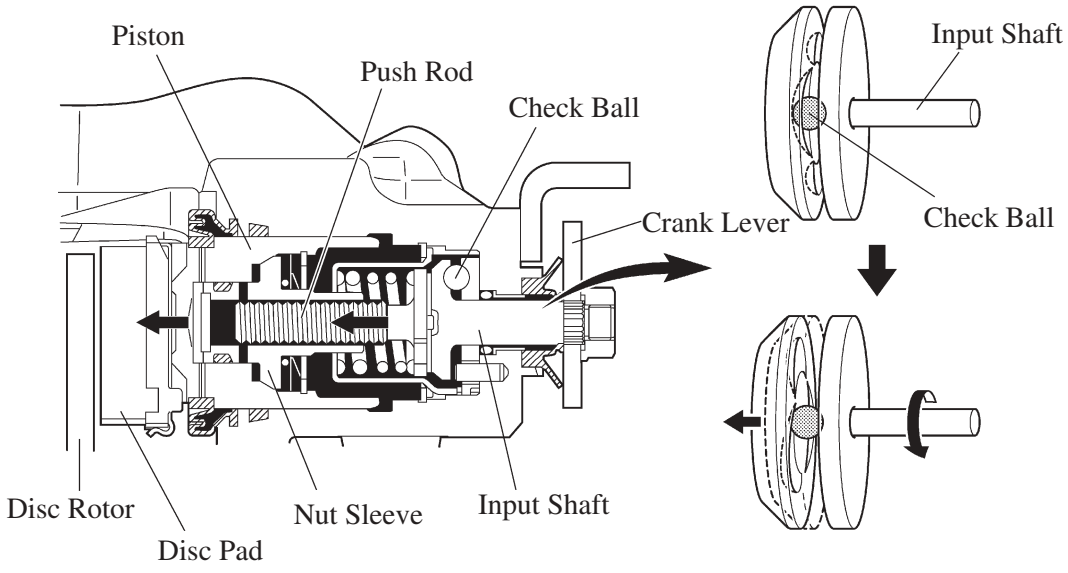


A – A Cross Section

00SCH22Y

1) Parking Brake Operation

- When the parking brake lever is operated, the crank lever and the push rod (actuator assembly) that is connected to the crank lever rotate via the parking brake cable.
- At the same time, the input shaft slides the push rod through the movement of the check ball.
- The nut sleeve in the piston that is connected to the push rod also slides, pushing out the piston and disc pad to generate braking force.

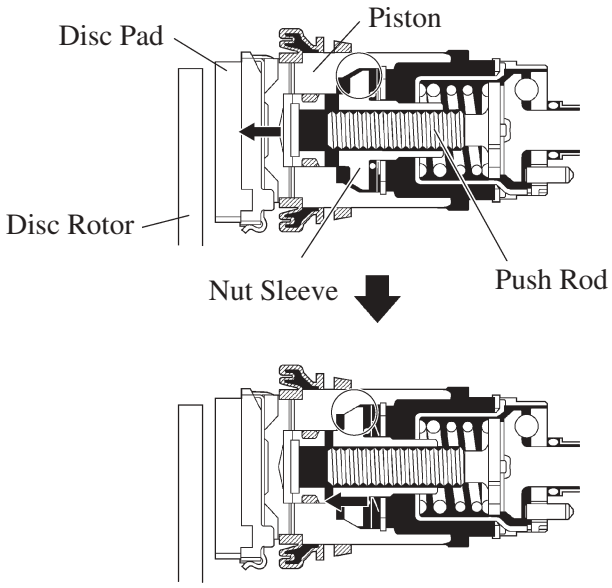


00SCH66Y

2) Adjust Operation

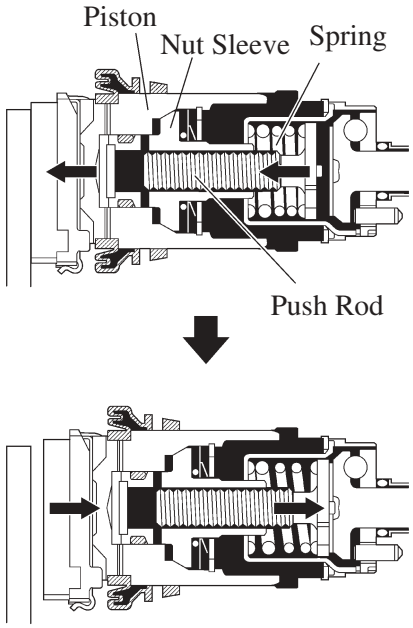
When the disc pad is worn and the clearance between the disc pad and disc rotor reaches a predetermined level, auto adjust operation is performed through hydraulic pressure when the brake pedal is operated.

- The piston slides until the disc pad makes contact with the disc rotor, and a clearance is created between the piston and nut sleeve. At this time, while rotating around the push rod, the nut sleeve moves until it makes contact with the piston and performs the adjust operation.



00SCH67Y

- When the hydraulic pressure rises further, the nut sleeve does not rotate and the push rod pushes down the spring. Over adjustment is prevented by the push rod sliding together with the piston, and the correct clearance between the disc pad and disc rotor is maintained.



00SCH68Y