

General Description

BRAKE

1. General Description

A: SPECIFICATION

Front disc brake	Size	16-inch type	17-inch type	
	Type	Disc (Floating type, ventilated)		
	Effective disc diameter	mm (in)	244 (4.61)	261 (10.28)
	Disc thickness × Diameter	mm (in)	24 × 294 (0.94 × 11.57)	30 × 316 (1.18 × 12.44)
	Effective cylinder diameter	mm (in)	42.8 (1.685) × 2	
	Pad dimensions (Length × Width × Thickness)	mm (in)	117.8 × 50.5 × 11.0 (4.638 × 1.988 × 0.433)	130.0 × 53.5 × 11.0 (5.118 × 2.106 × 0.433)
	Clearance adjustment		Automatic adjustment	
Rear disc brake	Size	16-inch type		
	Type	Disc (Floating type, solid)	Disc (Floating type, ventilated)	
	Effective disc diameter	mm (in)	250 (9.84)	255 (10.0)
	Disc thickness × Diameter	mm (in)	10 × 286 (0.39 × 11.26)	18 × 290 (0.71 × 11.42)
	Effective cylinder diameter	mm (in)	38.1 (1.500)	40.4 (1.591)
	Pad dimensions (Length × Width × Thickness)	mm (in)	92.0 × 33.0 × 9.0 (3.622 × 1.299 × 0.354)	95.5 × 34.8 × 11.0 (3.759 × 1.370 × 0.433)
	Clearance adjustment		Automatic adjustment	
Master cylinder	Type	Tandem		
	Effective diameter	mm (in)	23.8 (15/16)	
	Reservoir type	Sealed type		
	Brake fluid reservoir capacity	cm ³ (cu in)	205 (12.51)	
Brake booster	Type	Vacuum suspended		
	Effective diameter	mm (in)	208 + 229 (8.19 + 9.02)	
Brake line		Dual circuit system		
Brake fluid		FMVSS No. 116, DOT3, or DOT4 CAUTION: <ul style="list-style-type: none"> • Avoid mixing brake fluid of different brands to prevent fluid performance from degrading. • When filling with brake fluid, be careful not to allow any dust to enter the reservoir. • Use new SUBARU genuine brake fluid when replacing or refilling the fluid. 		

General Description

BRAKE

NOTE:

Refer to “PB” section for parking brake specifications. <Ref. to PB-2, SPECIFICATION, General Description.>

Item			Standard	Limit
Front brake	Pad thickness mm (in)	16-inch type	11 (0.43)	1.5 (0.059)
		17-inch type	11 (0.43)	1.5 (0.059)
	Disc thickness mm (in)	16-inch type	24 (0.94)	22 (0.87)
		17-inch type	30 (1.18)	28 (1.10)
Disc runout mm (in)			—	0.05 (0.0020)
Rear brake (disc type)	Pad thickness mm (in)	Solid disc	9.0 (0.354)	1.5 (0.059)
		Ventilated disc	11 (0.43)	1.5 (0.059)
	Disc thickness mm (in)	Solid disc	10 (0.39)	8.5 (0.335)
		Ventilated disc	18 (0.71)	16 (0.63)
Disc runout mm (in)			—	0.05 (0.0020)
Parking brake	Inside diameter	mm (in)	190 (7.48)	191 (7.52)
	Lining thickness	mm (in)	3.5 (0.14)	1.5 (0.059)

		Brake pedal force N (kgf, lbf)	Fluid pressure kPa (kgf/cm ² , psi)
Brake booster	Brake fluid pressure with engine stopped	147 (15, 33)	553 (5, 77)
		294 (30, 66)	1,551 (16, 225)
	Brake fluid pressure with engine running and vacuum pressure at 66.7 kPa (500 mmHg, 19.69 inHg)	147 (15, 33)	6,177 (63, 896)
		294 (30, 66)	11,273 (115, 1,635)

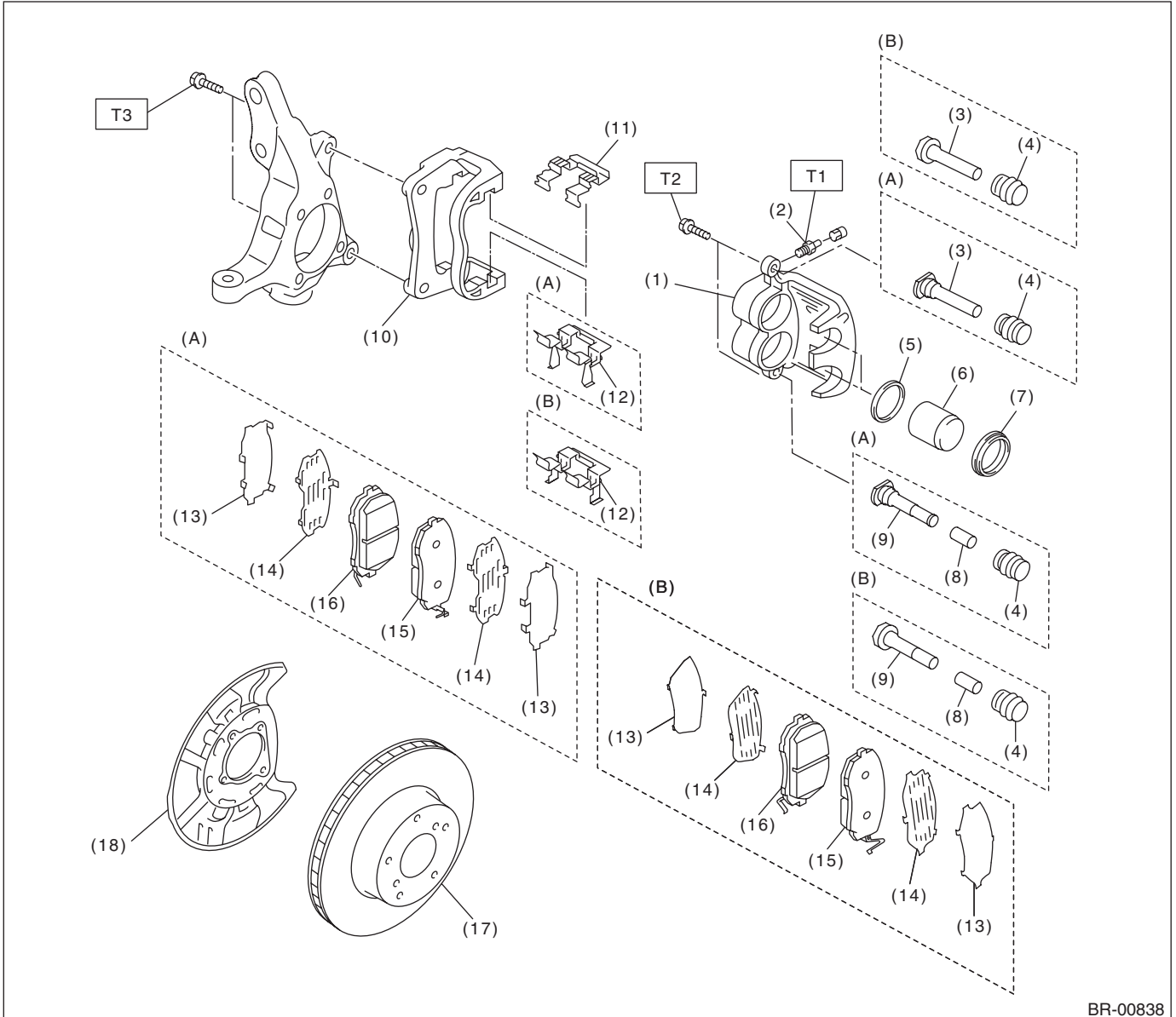
Brake pedal	Free play	mm (in)	0.5 — 2 (0.02 — 0.079) [When pulling the brake pedal upward with a force of less than 10 N (1 kgf, 2 lbf)]
-------------	-----------	---------	---

General Description

BRAKE

B: COMPONENT

1. FRONT DISC BRAKE



BR-00838

(A) 16-inch type

(B) 17-inch type

- (1) Caliper body
- (2) Air bleeder screw
- (3) Guide pin (black)
- (4) Pin boot
- (5) Piston seal
- (6) Piston
- (7) Piston boot
- (8) Bushing

- (9) Lock pin (silver)
- (10) Support
- (11) Pad clip upper
- (12) Pad clip lower
- (13) Outer shim
- (14) Inner shim
- (15) Pad (outside)
- (16) Pad (inside)

- (17) Disc rotor
- (18) Disc cover

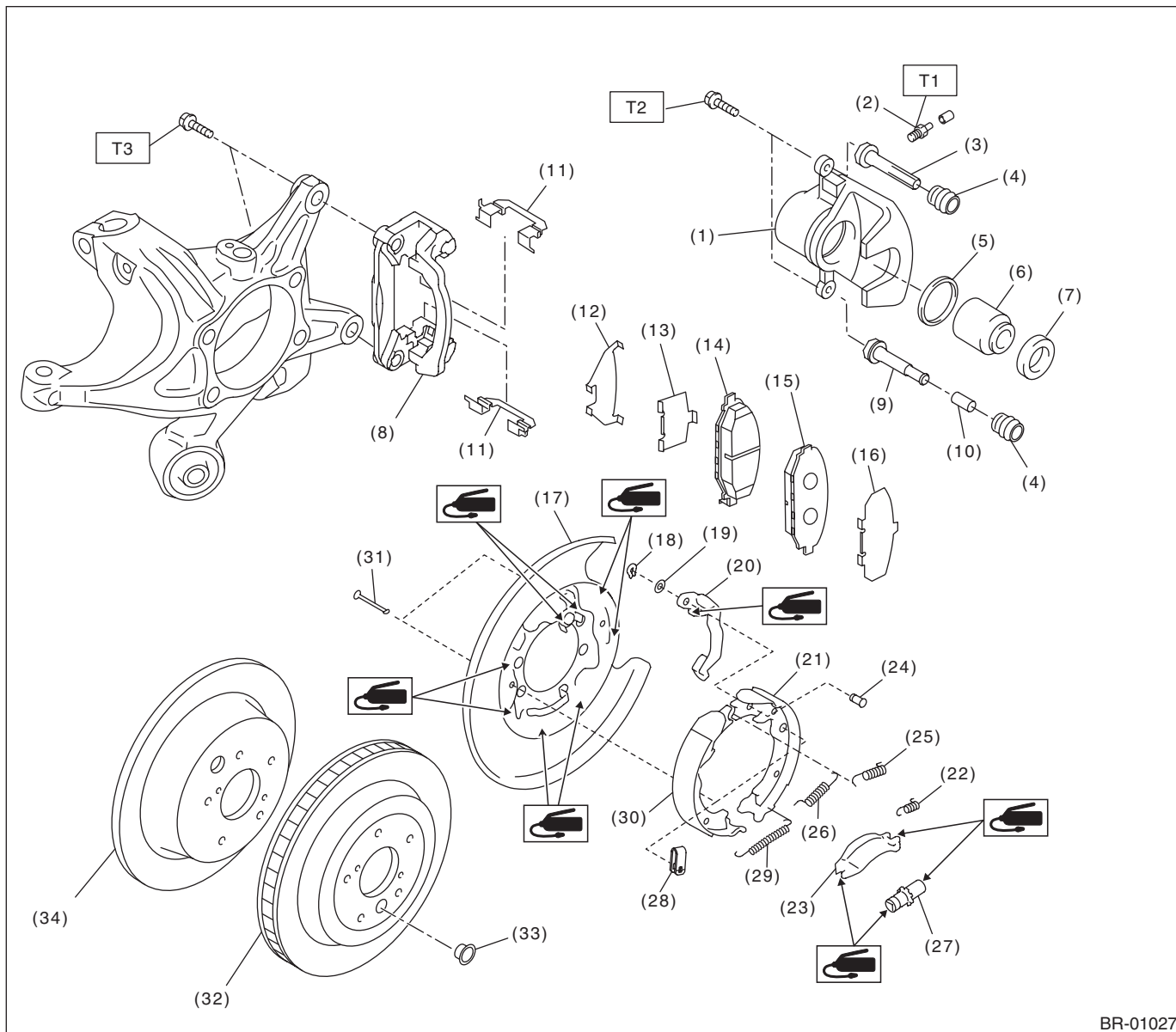
Tightening torque: N-m (kgf-m, ft-lb)

T1: 8 (0.82, 5.9)

T2: 27 (2.75, 19.9)

T3: 120 (12.24, 88.5)

2. REAR DISC BRAKE



BR-01027

- | | | |
|-----------------------|-------------------------------------|-----------------------------------|
| (1) Caliper body | (14) Inner pad | (27) Adjusting screw |
| (2) Air bleeder screw | (15) Outer pad | (28) Shoe hold-down spring |
| (3) Guide pin (black) | (16) Shim | (29) Adjusting spring |
| (4) Pin boot | (17) Back plate | (30) Parking brake shoe (primary) |
| (5) Piston seal | (18) Retainer | (31) Shoe hold-down pin |
| (6) Piston | (19) Wave washer | (32) Disc rotor (ventilated type) |
| (7) Piston boot | (20) Lever | (33) Adjusting hole cover |
| (8) Support | (21) Parking brake shoe (secondary) | (34) Disc rotor (solid type) |
| (9) Lock pin (silver) | (22) Spring - strut | |
| (10) Bushing | (23) Strut | |
| (11) Pad clip | (24) Pin - parking brake lever | |
| (12) Outer shim | (25) Secondary return spring | |
| (13) Inner shim | (26) Primary return spring | |

Tightening torque: N·m (kgf·m, ft·lb)

T1: 8 (0.82, 5.9)

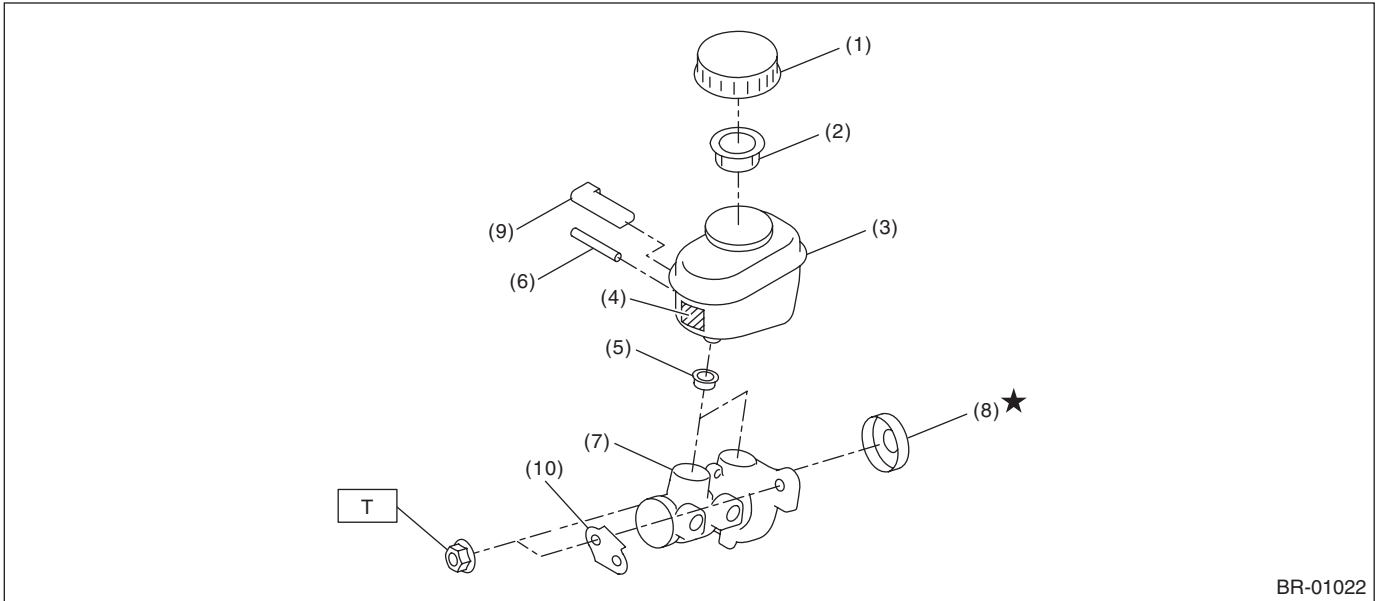
T2: 27 (2.75, 19.9)

T3: 66 (6.73, 48.7)

General Description

BRAKE

3. MASTER CYLINDER



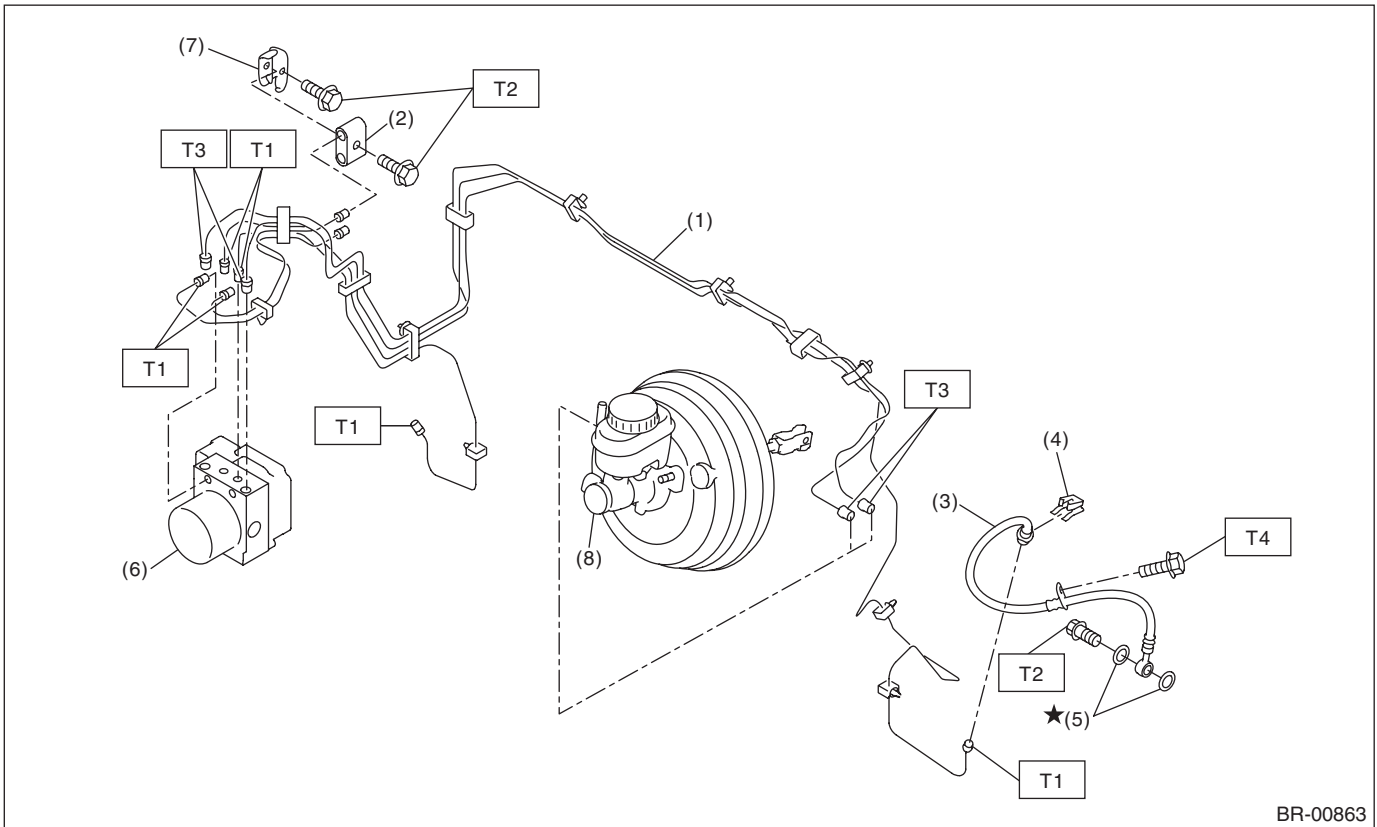
- | | | |
|--------------------|------------------------|------------------------------|
| (1) Cap | (6) Cylinder body ASSY | (10) Master cylinder bracket |
| (2) Filter | (7) Bracket | |
| (3) Reservoir tank | (8) Seal sub ASSY | |
| (4) Seal | (9) Level sensor | |
| (5) Pin | | |

Tightening torque: N·m (kgf·m, ft·lb)

T: 13 (1.33, 9.6)

4. FRONT BRAKE PIPES AND HOSES

- Models without EyeSight



BR-00863

- | | |
|----------------------------|---|
| (1) Front brake pipe ASSY | (6) VDC control module and hydraulic control unit (VDCCM&H/U) |
| (2) Two-way connector | (7) Bracket |
| (3) Front brake hose RH/LH | (8) Master cylinder |
| (4) Clamp | |
| (5) Gasket | |

Tightening torque: N-m (kgf-m, ft-lb)

T1: 15 (1.53, 11.1)

T2: 18 (1.84, 13.3)

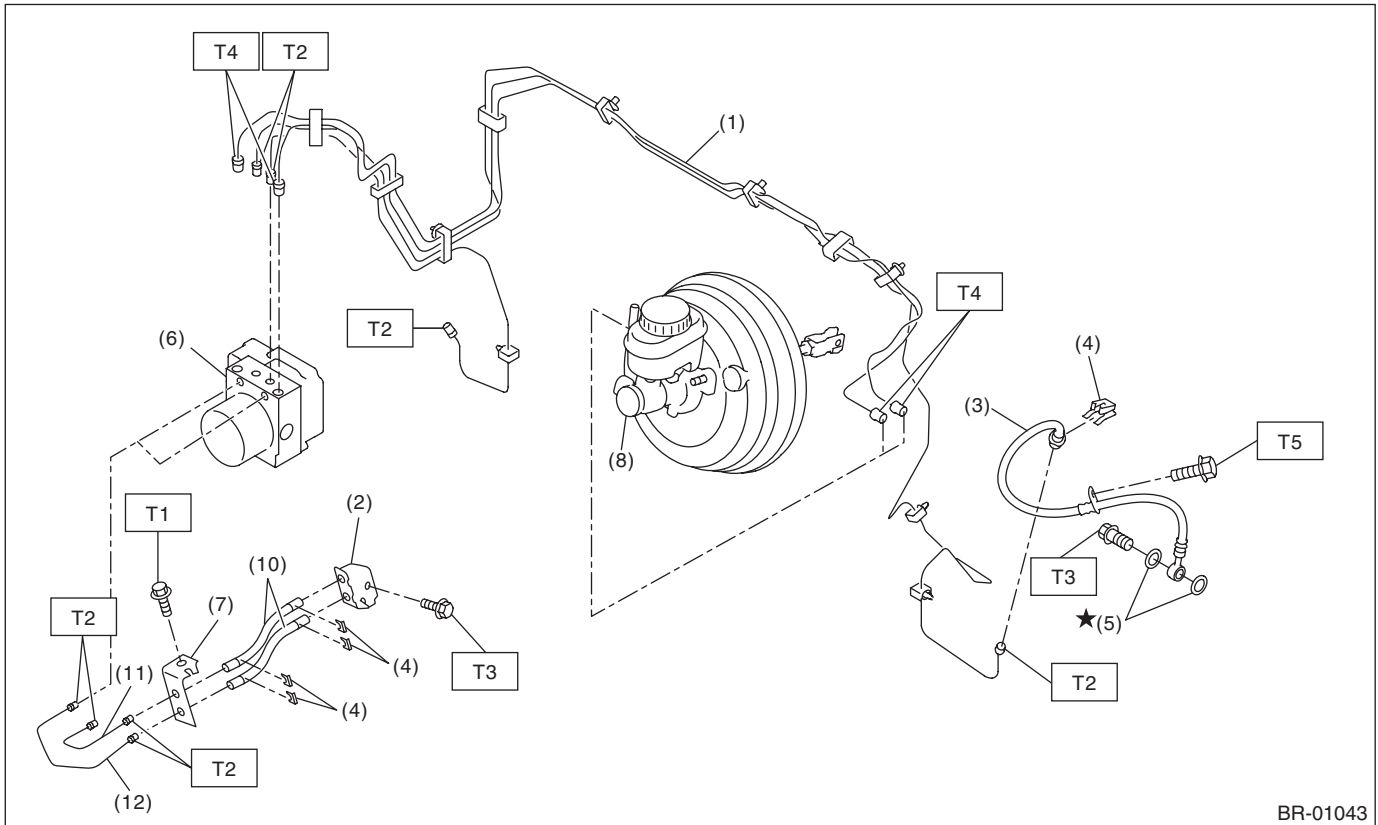
T3: 19 (1.94, 14.0)

T4: 33 (3.36, 24.3)

General Description

BRAKE

- Models with EyeSight



BR-01043

- | | |
|---|---------------------------|
| (1) Front brake pipe ASSY | (8) Master cylinder |
| (2) Bracket | (9) Front brake pipe (P) |
| (3) Front brake hose RH/LH | (10) Front brake pipe (S) |
| (4) Clamp | (11) Brake hose ASSY |
| (5) Gasket | (12) Pipe A |
| (6) VDC control module and hydraulic control unit (VDCCM&H/U) | (13) Pipe B |
| (7) Bracket | |

Tightening torque: N·m (kgf·m, ft·lb)

T1: 7.5 (0.76, 5.5)

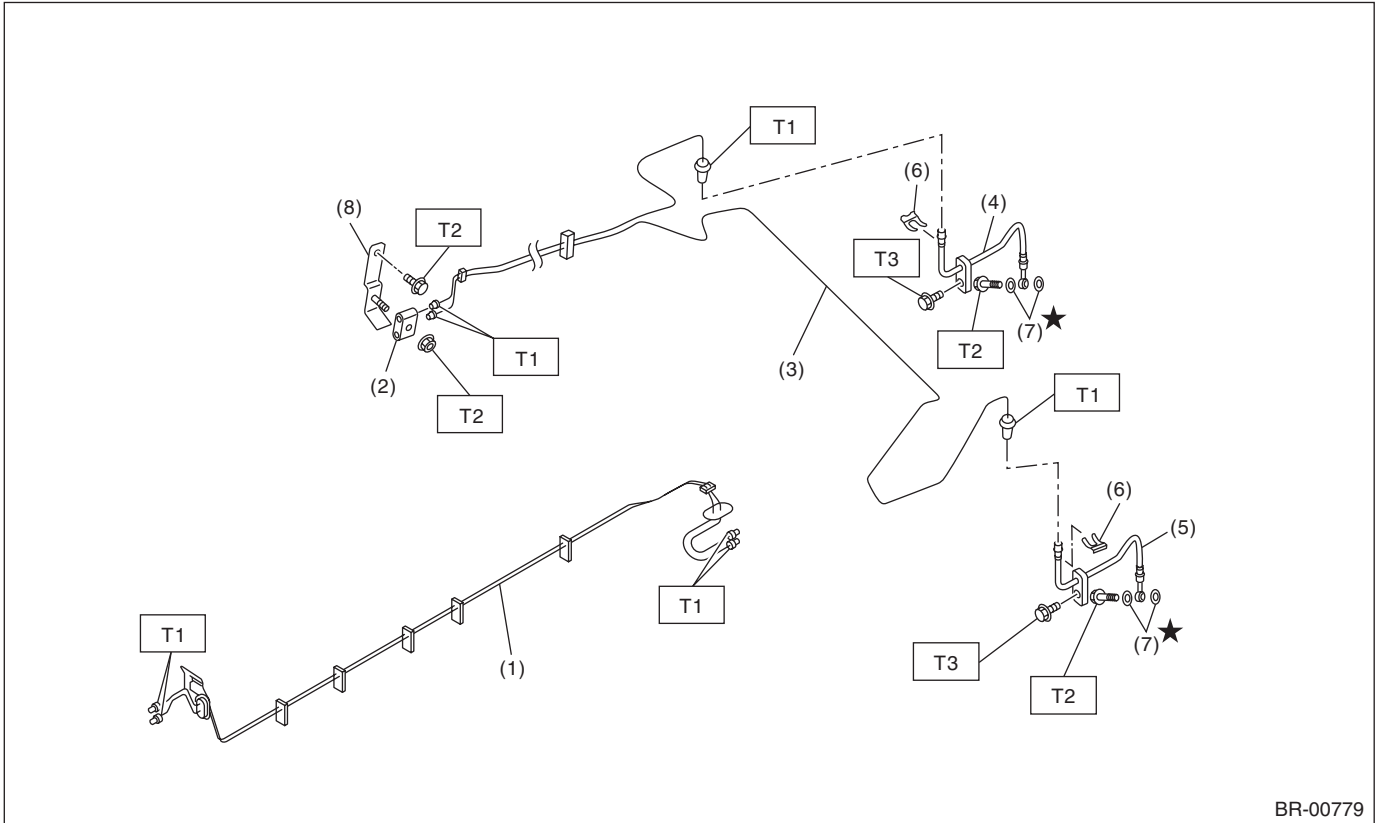
T2: 15 (1.53, 11.1)

T3: 18 (1.84, 13.3)

T4: 19 (1.94, 14.0)

T5: 33 (3.36, 24.3)

5. CENTER AND REAR BRAKE PIPES AND HOSES



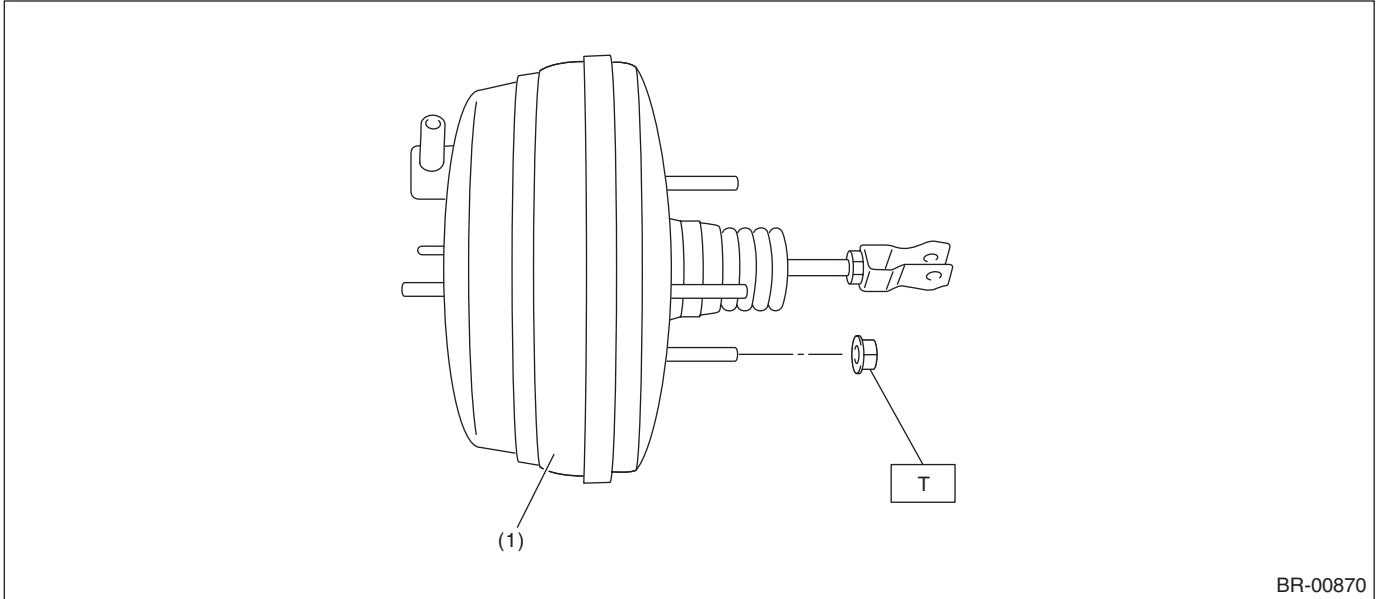
- | | |
|----------------------------|------------------------|
| (1) Center brake pipe ASSY | (5) Rear brake hose LH |
| (2) Connector | (6) Clamp |
| (3) Rear brake pipe ASSY | (7) Gasket |
| (4) Rear brake hose RH | (8) Bracket |

Tightening torque: N·m (kgf·m, ft·lb)
T1: 15 (1.53, 11.1)
T2: 18 (1.84, 13.3)
T3: 33 (3.36, 24.3)

General Description

BRAKE

6. BRAKE BOOSTER



BR-00870

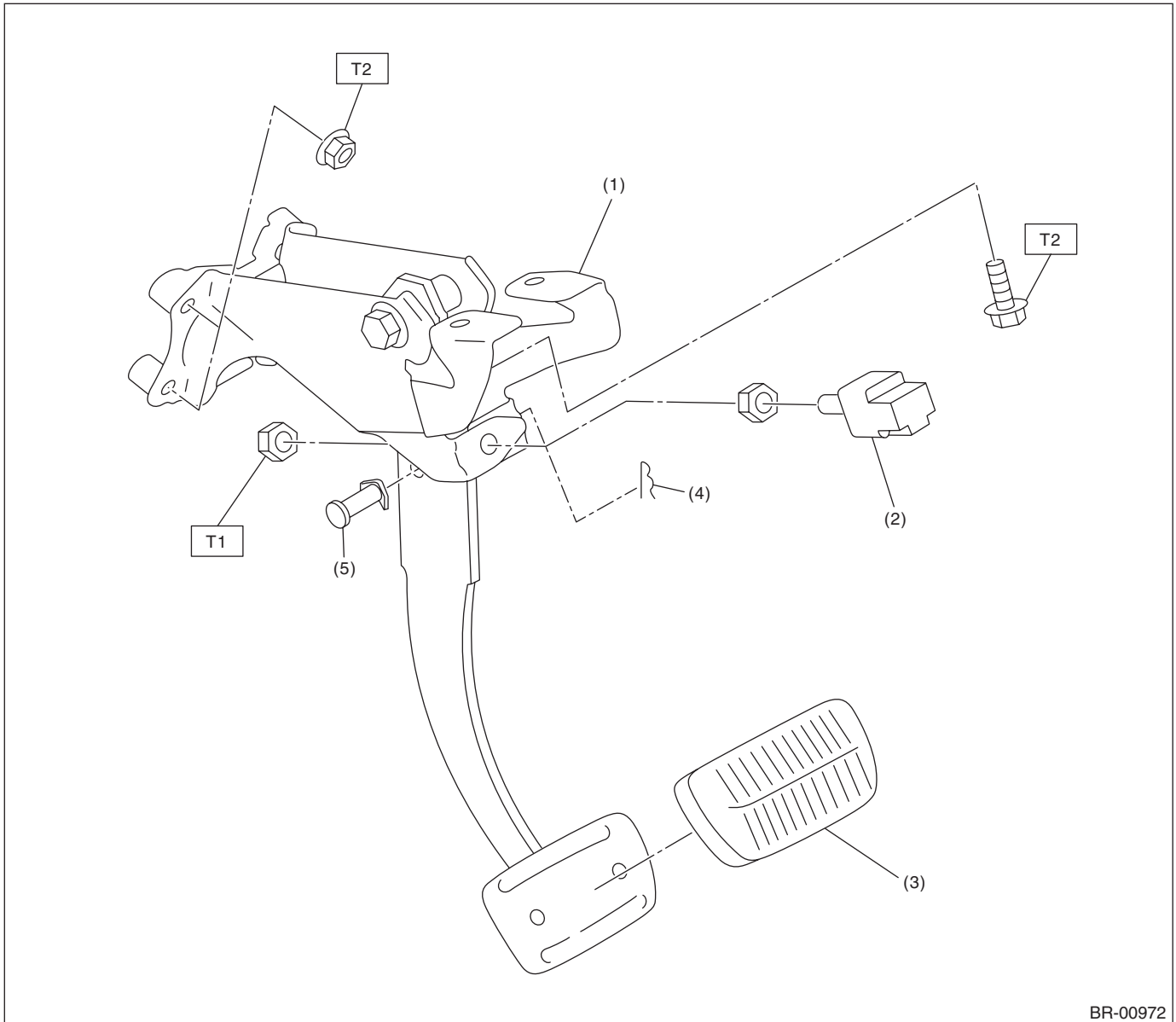
(1) Brake booster

Tightening torque: N·m (kgf·m, ft·lb)

T: 18 (1.84, 13.3)

7. BRAKE PEDAL

- AT model



BR-00972

- (1) Brake pedal ASSY
- (2) Stop light switch
- (3) Brake pedal pad

- (4) Snap pin
- (5) Clevis pin

Tightening torque: N·m (kgf-m, ft-lb)

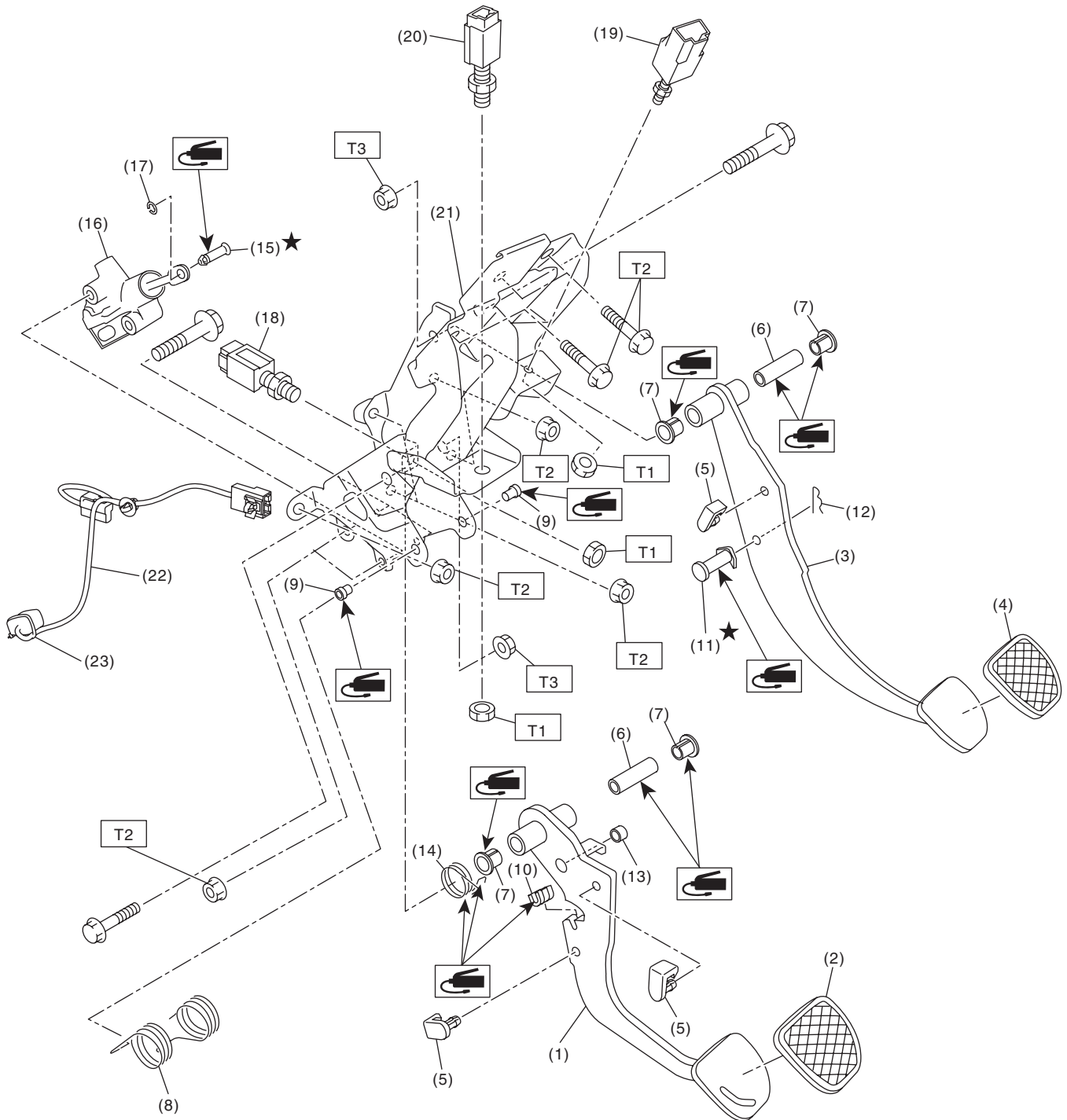
T1: 8 (0.82, 5.9)

T2: 18 (1.84, 13.3)

General Description

BRAKE

- MT model



CL-00760

General Description

BRAKE

(1) Clutch pedal	(11) Clevis pin	(21) Pedal bracket
(2) Clutch pedal pad	(12) Snap pin	(22) Sensor harness
(3) Brake pedal	(13) Bushing A	(23) Band
(4) Brake pedal pad	(14) Assist spring	
(5) Stopper	(15) Clevis pin	
(6) Spacer	(16) Master cylinder ASSY	
(7) Bushing	(17) Clip	
(8) Torsion spring	(18) Clutch switch (clutch start)	
(9) Assist bushing	(19) Stop & brake switch	
(10) Torsion spring bushing	(20) Clutch switch (cruise control)	

Tightening torque: N·m (kgf·m, ft·lb)

T1: 8 (0.82, 5.9)

T2: 18 (1.84, 13.3)

T3: 30 (3.06, 22.1)

C: CAUTION

- Wear appropriate work clothing, including a helmet, protective goggles and protective shoes when performing any work.
- Before removal, installation or disassembly, be sure to clarify the failure. Avoid unnecessary removal, installation, disassembly and replacement.
- Use SUBARU genuine grease etc. or equivalent. Do not mix grease etc. of different grades or manufacturers.
- Before securing a part on a vise, place cushioning material such as wood blocks, aluminum plate, or cloth between the part and the vise.
- Be sure to tighten fasteners including bolts and nuts to the specified torque.
- Place shop jacks or rigid racks at the specified points.

D: PREPARATION TOOL

1. GENERAL TOOL

TOOL NAME	REMARKS
Circuit tester	Used for measuring resistance and voltage.
Pressure gauge	Used for measuring the operation and airtightness of the brake booster.
Vacuum gauge	Used for measuring the operation and airtightness of the brake booster.
Dial gauge	Used for measuring brake disc rotor run-out.