

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: • 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.			

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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)

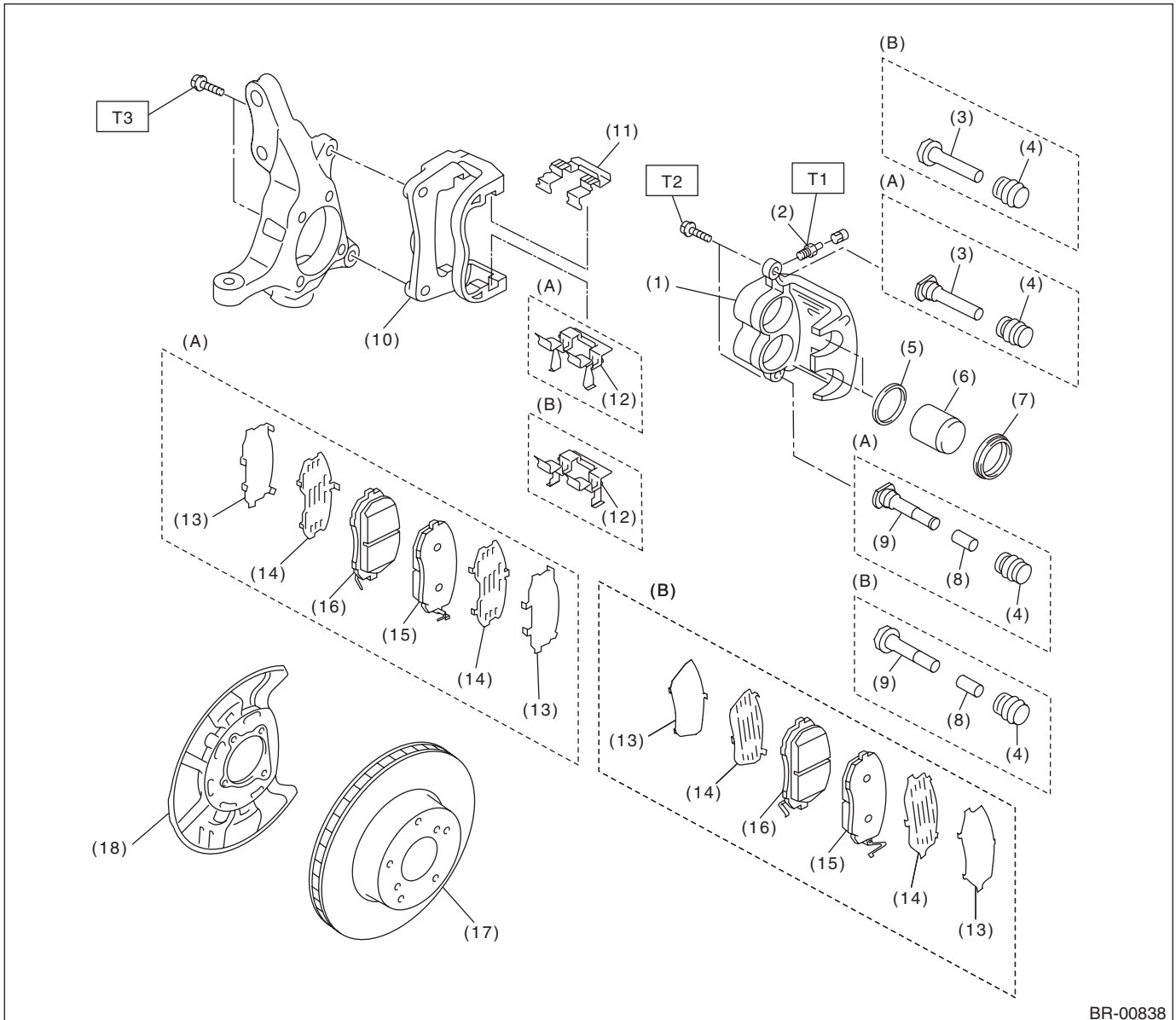
Brake pedal	Free play mm (in)	0.5 — 2 (0.02 — 0.079) [When pulling the brake pedal upward with a force of less than 10 N (1 kgf, 2 lbf)]
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B: COMPONENT

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

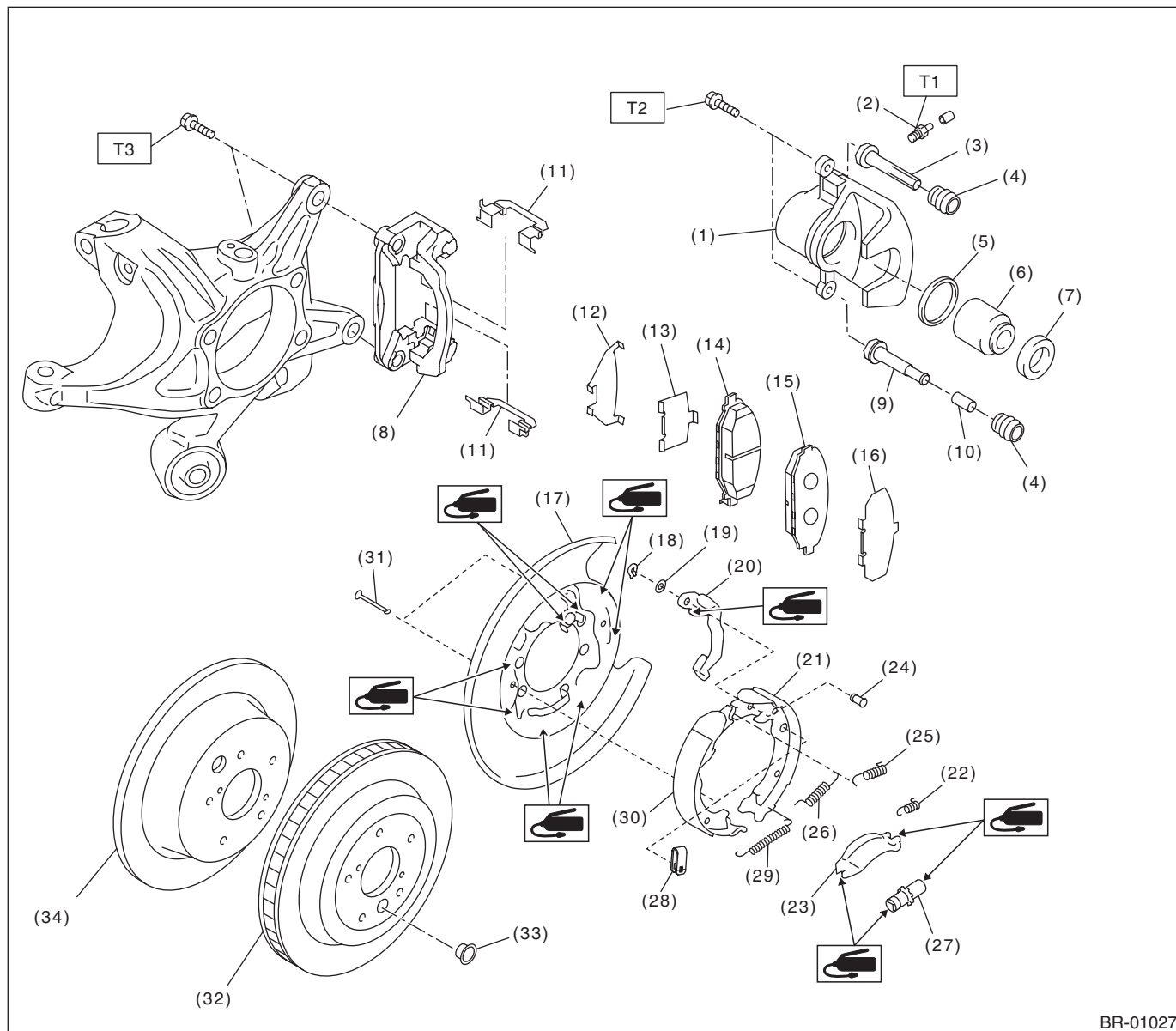
Tightening torque: N·m (kgf·m, ft·lb)

T1: 8 (0.82, 5.9)

T2: 27 (2.75, 19.9)

T3: 120 (12.24, 88.5)

2. REAR DISC BRAKE



BR-01027

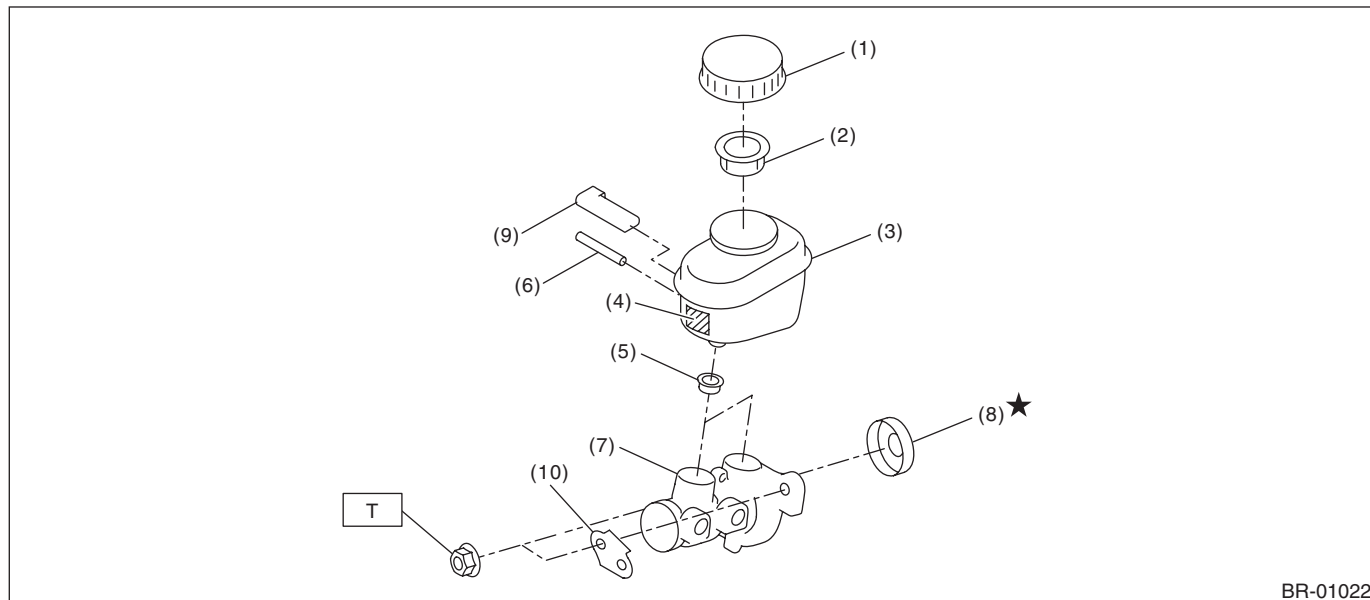
- | | | |
|-----------------------|-------------------------------------|-----------------------------------|
| (1) Caliper body | (14) Inner pad | (27) Adjusting screw |
| (2) Air bleeder screw | (15) Outer pad | (28) Shoe hold-down spring |
| (3) Guide pin (black) | (16) Shim | (29) Adjusting spring |
| (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)**

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3. MASTER CYLINDER



BR-01022

- (1) Cap
- (2) Filter
- (3) Reservoir tank
- (4) Seal
- (5) Pin

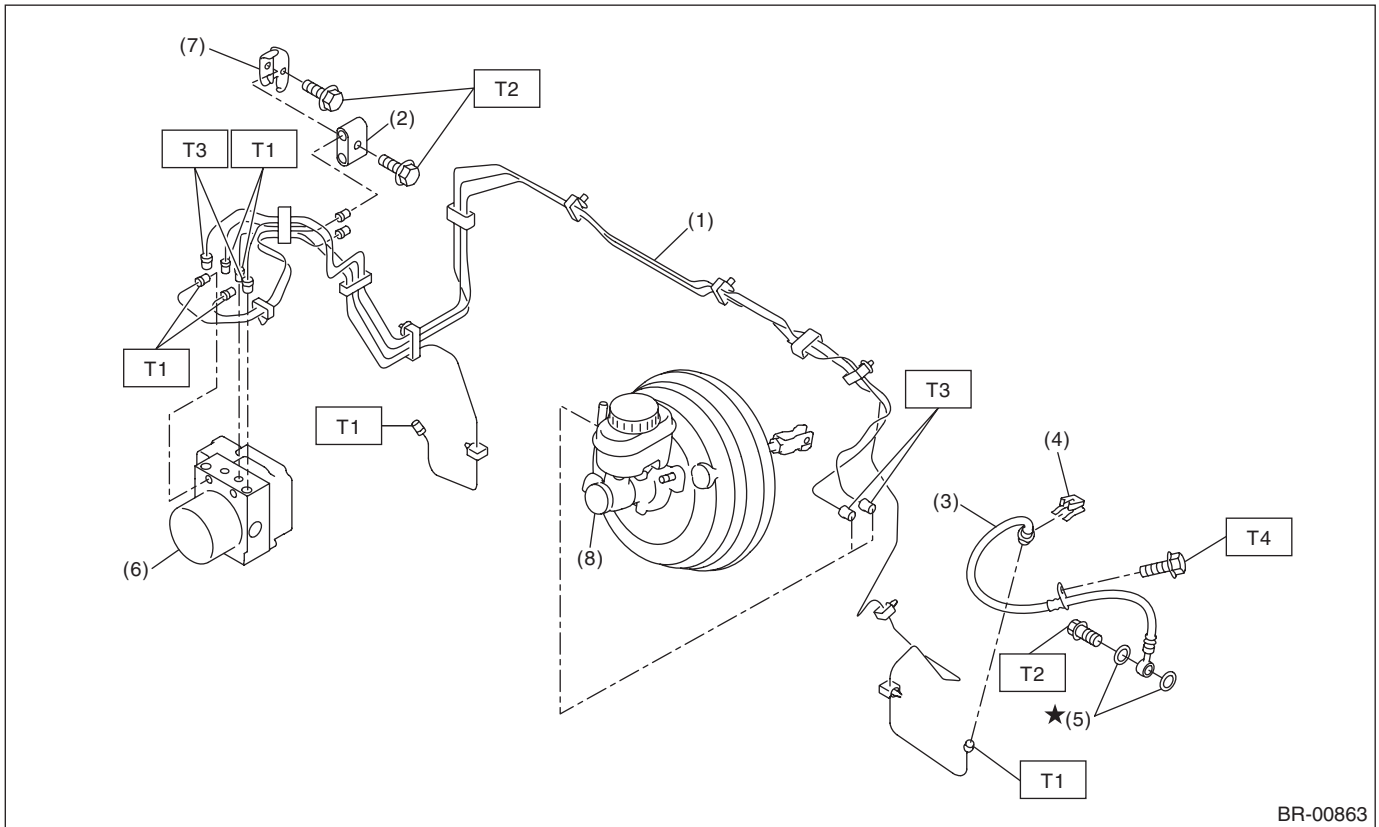
- (6) Cylinder body ASSY
- (7) Bracket
- (8) Seal sub ASSY
- (9) Level sensor

- (10) Master cylinder bracket

Tightening torque: N·m (kgf-m, ft-lb)
T: 13 (1.33, 9.6)

4. FRONT BRAKE PIPES AND HOSES

- Models without EyeSight



(1) Front brake pipe ASSY

(2) Two-way connector

(3) Front brake hose RH/LH

(4) Clamp

(5) Gasket

(6) VDC control module and hydraulic control unit (VDCCM&H/U)

(7) Bracket

(8) Master cylinder

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

T1: 15 (1.53, 11.1)

T2: 18 (1.84, 13.3)

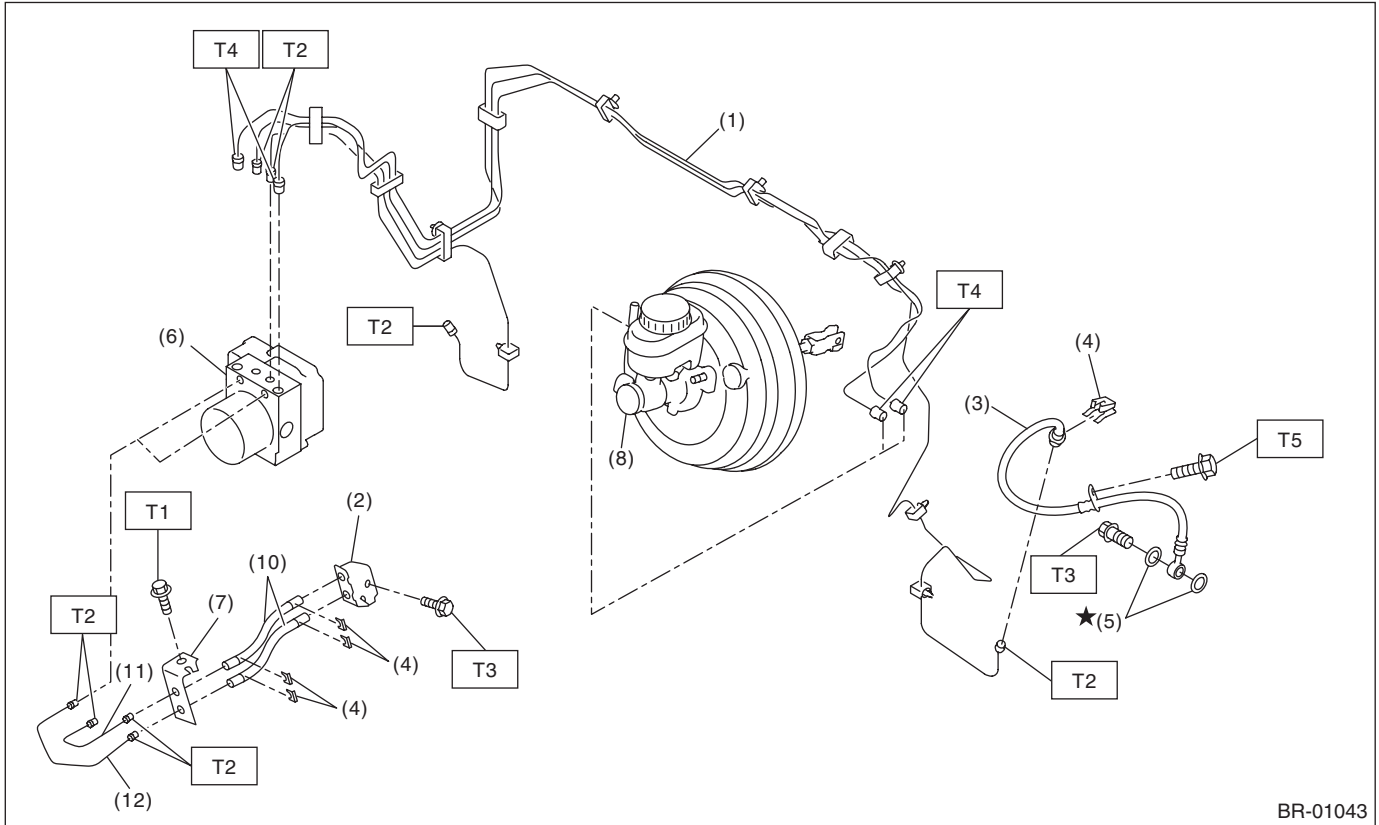
T3: 19 (1.94, 14.0)

T4: 33 (3.36, 24.3)

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- 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)

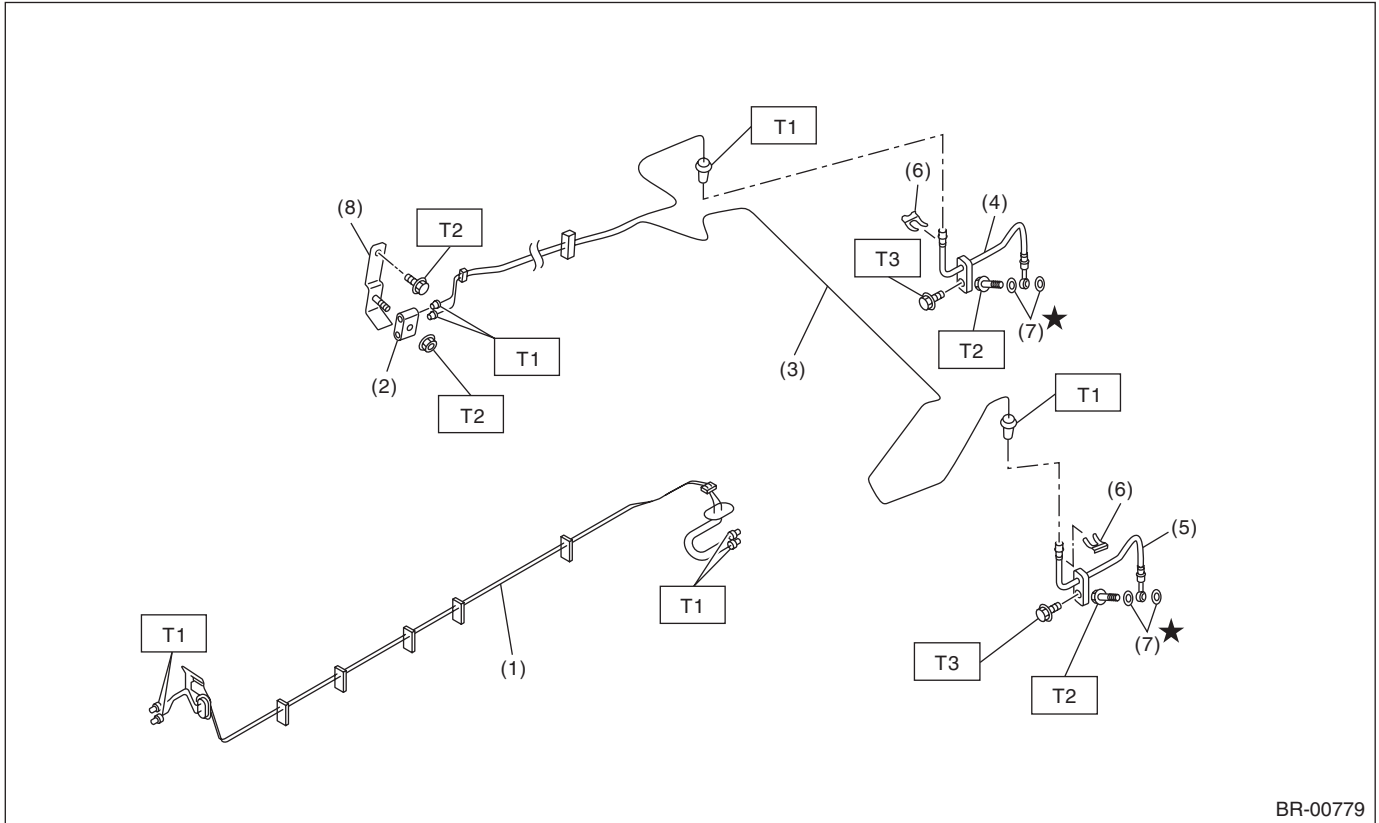
T2: 15 (1.53, 11.1)

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



BR-00779

- | | |
|----------------------------|------------------------|
| (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)

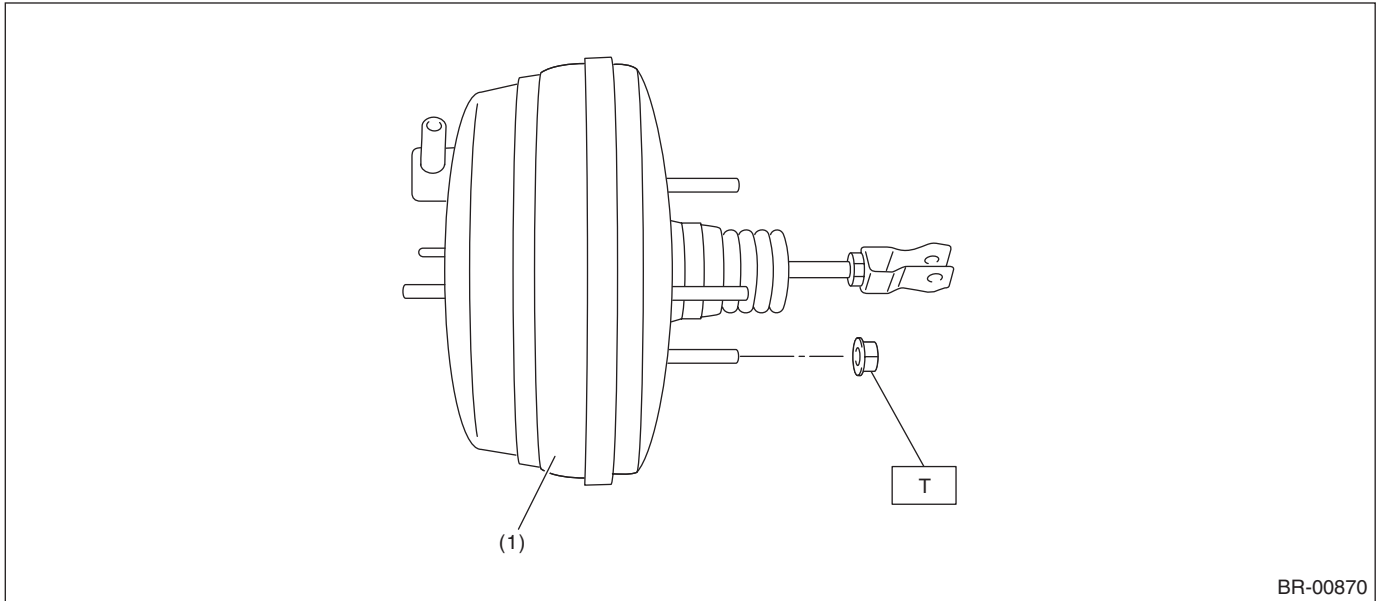
T2: 18 (1.84, 13.3)

T3: 33 (3.36, 24.3)

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6. BRAKE BOOSTER



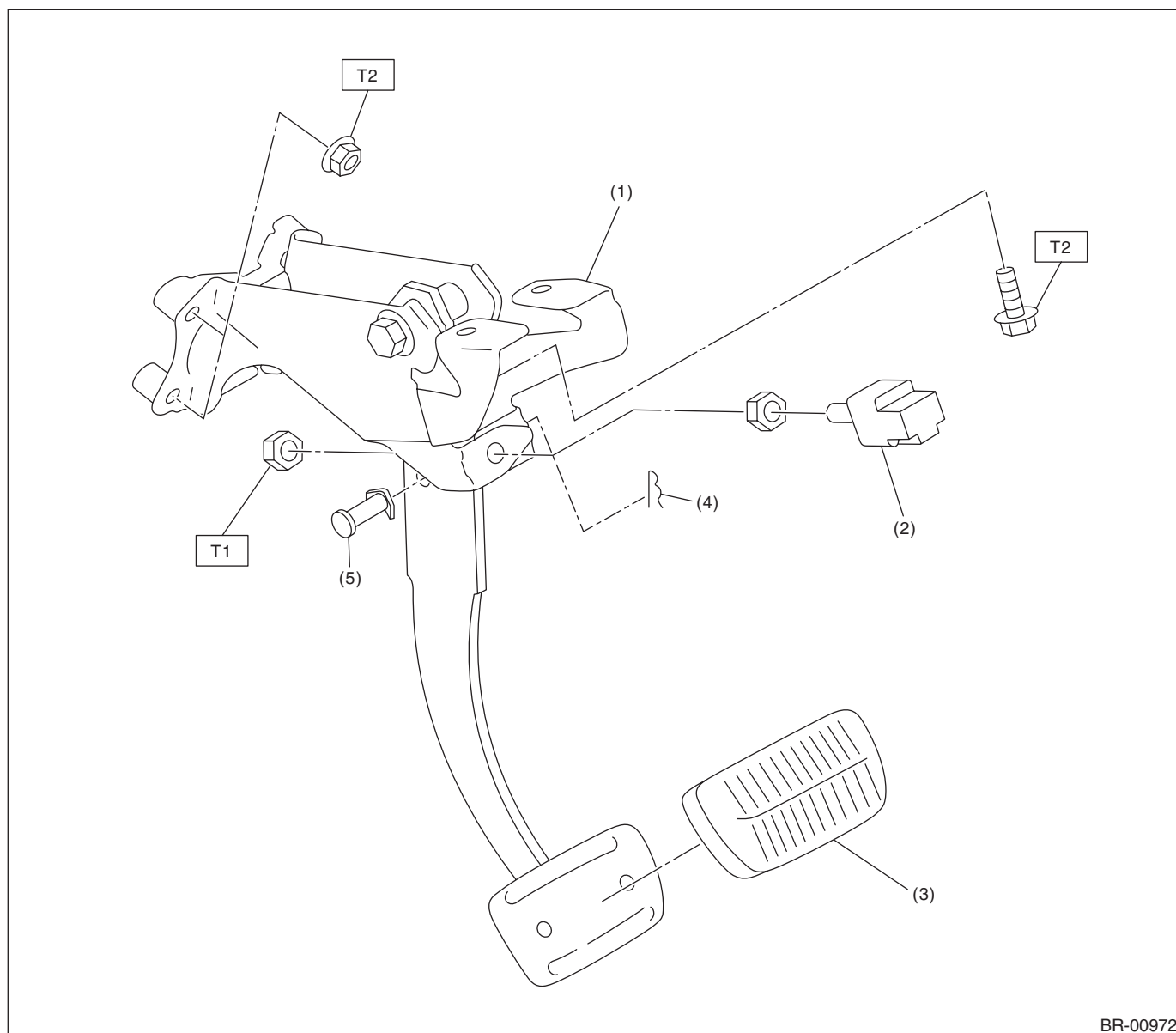
(1) Brake booster

Tightening torque: N·m (kgf-m, ft-lb)

T: 18 (1.84, 13.3)

7. BRAKE PEDAL

- AT model



- (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)

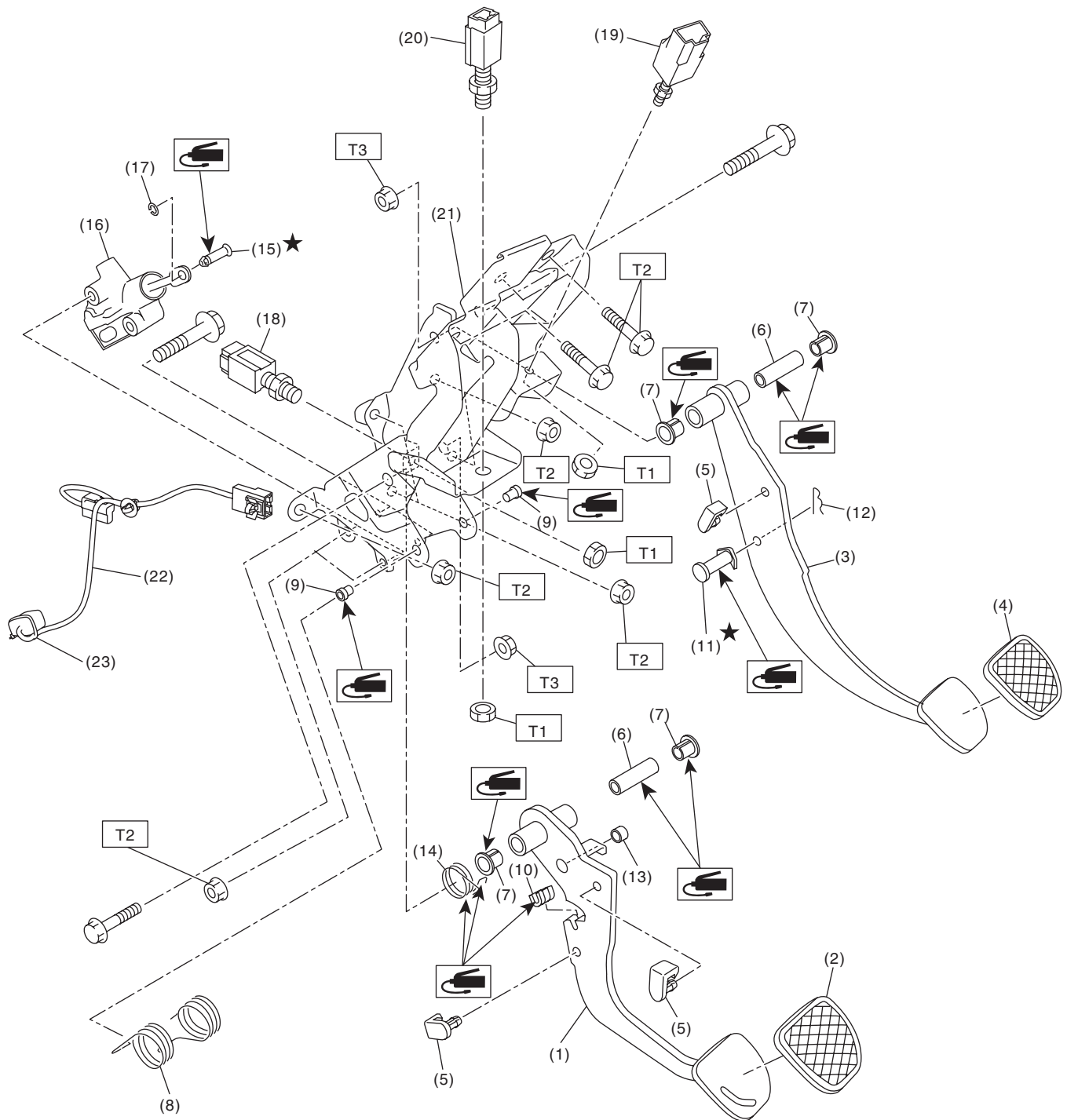
T1: 8 (0.82, 5.9)

T2: 18 (1.84, 13.3)

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- MT model



CL-00760

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(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.