

# General Description

## BRAKE

### 1. General Description

#### A: SPECIFICATION

Front disc brake	Type	Disc (Floating type, ventilated)
	Effective disc diameter mm (in)	261 (10.28)
	Disc thickness × Diameter mm (in)	30 × 316 (1.18 × 12.44)
	Effective cylinder diameter	42.8 (1.685) × 2
	Pad dimensions (Length × Width × Thickness) mm (in)	130.0 × 53.5 × 11.0 (5.118 × 2.106 × 0.433)
	Clearance adjustment	Automatic adjustment
Rear disc brake	Type	Disc (Floating type, ventilated)
	Effective disc diameter mm (in)	284.5 (11.2)
	Disc thickness × Diameter mm (in)	18 × 320 (0.71 × 12.59)
	Effective cylinder diameter mm (in)	40.46 (1.592)
	Pad dimensions (Length × Width × Thickness) mm (in)	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 <sup>3</sup> (cu in)	285 (17.39)
Brake booster	Type	Vacuum suspended
	Effective diameter mm (in)	238 + 261 (9.37 + 10.28)
Brake line		Dual circuit system
Brake fluid <b>CAUTION:</b> • 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.		FMVSS No. 116, DOT3, or DOT4

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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)	11 (0.43)	1.5 (0.059)
	Disc thickness                      mm (in)	30 (1.18)	28 (1.10)
	Disc runout                      mm (in)	—	0.05 (0.0020)
Rear brake (disc type)	Pad thickness                      mm (in)	11.0 (0.433)	1.5 (0.059)
	Disc thickness                      mm (in)	18 (0.71)	16 (0.63)
	Disc runout                      mm (in)	—	0.05 (0.0020)
Parking brake	Inside diameter                      mm (in)	210 (8.27)	211 (8.31)
	Lining thickness                      mm (in)	4.0 (0.157)	1.5 (0.059)
	Pedal stroke	5 to 6 notches/300 N (30 kgf, 67.5 lb)	

		Brake pedal force N (kgf, lb)	Fluid pressure kPa (kgf/cm <sup>2</sup> , psi)
Brake booster	Brake fluid pressure with engine stopped	147 (15, 33)	590 (6, 86)
		294 (30, 66)	1,654 (17, 240)
	Brake fluid pressure with engine running and vacuum pressure at 66.7 kPa (500 mmHg, 19.69 inHg)	147 (15, 33)	8,539 (87, 1,238)
		294 (30, 66)	15,373 (157, 2,229)

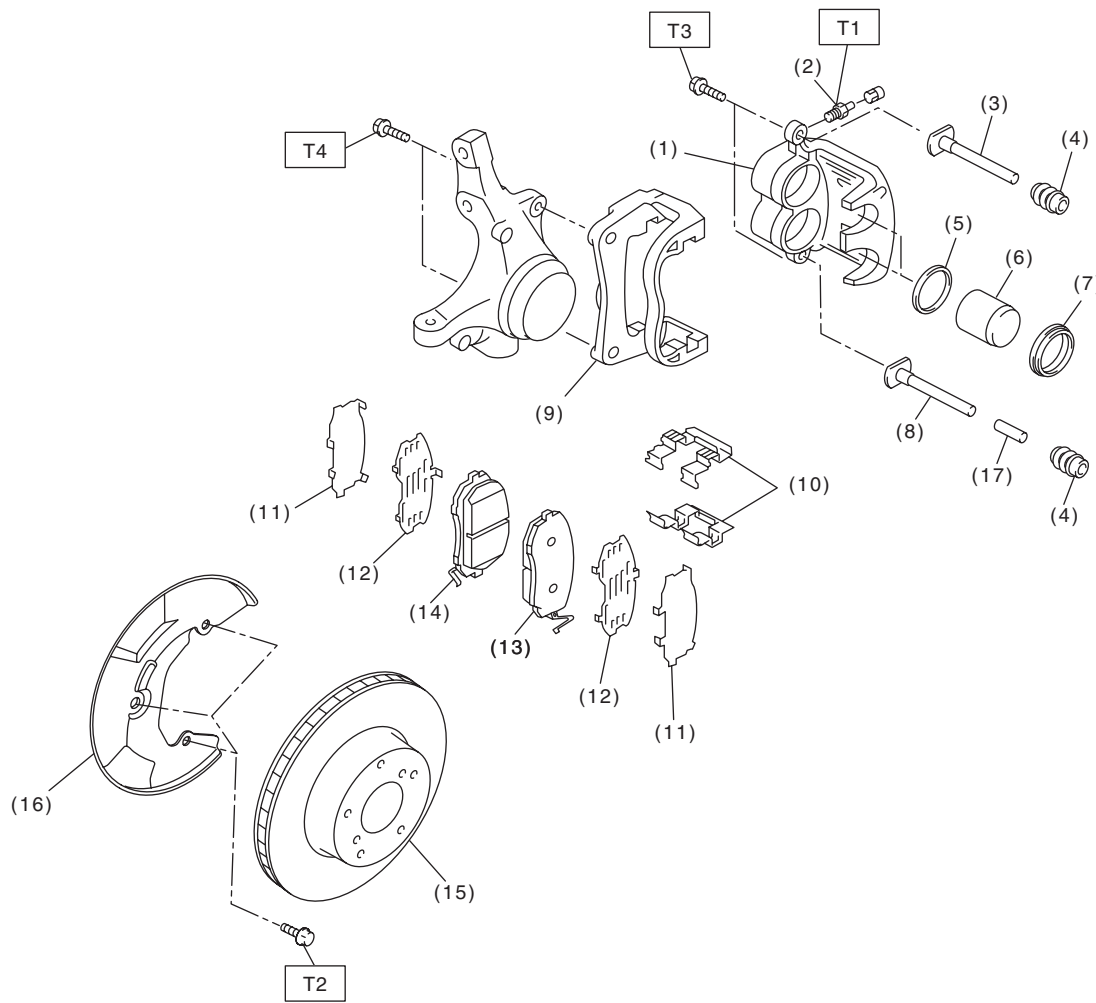
Brake pedal	Free play              mm (in)	0.5 — 2 (0.02 — 0.08) [When pulling the brake pedal upward with a force of less than 10 N (1 kgf, 2 lb)]
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### B: COMPONENT

#### 1. FRONT DISC BRAKE



BR-00646

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

- (9) Support
- (10) Pad clip
- (11) Outer shim
- (12) Inner shim
- (13) Pad (outside)
- (14) Pad (inside)
- (15) Disc rotor

- (16) Disc cover
- (17) Bushing

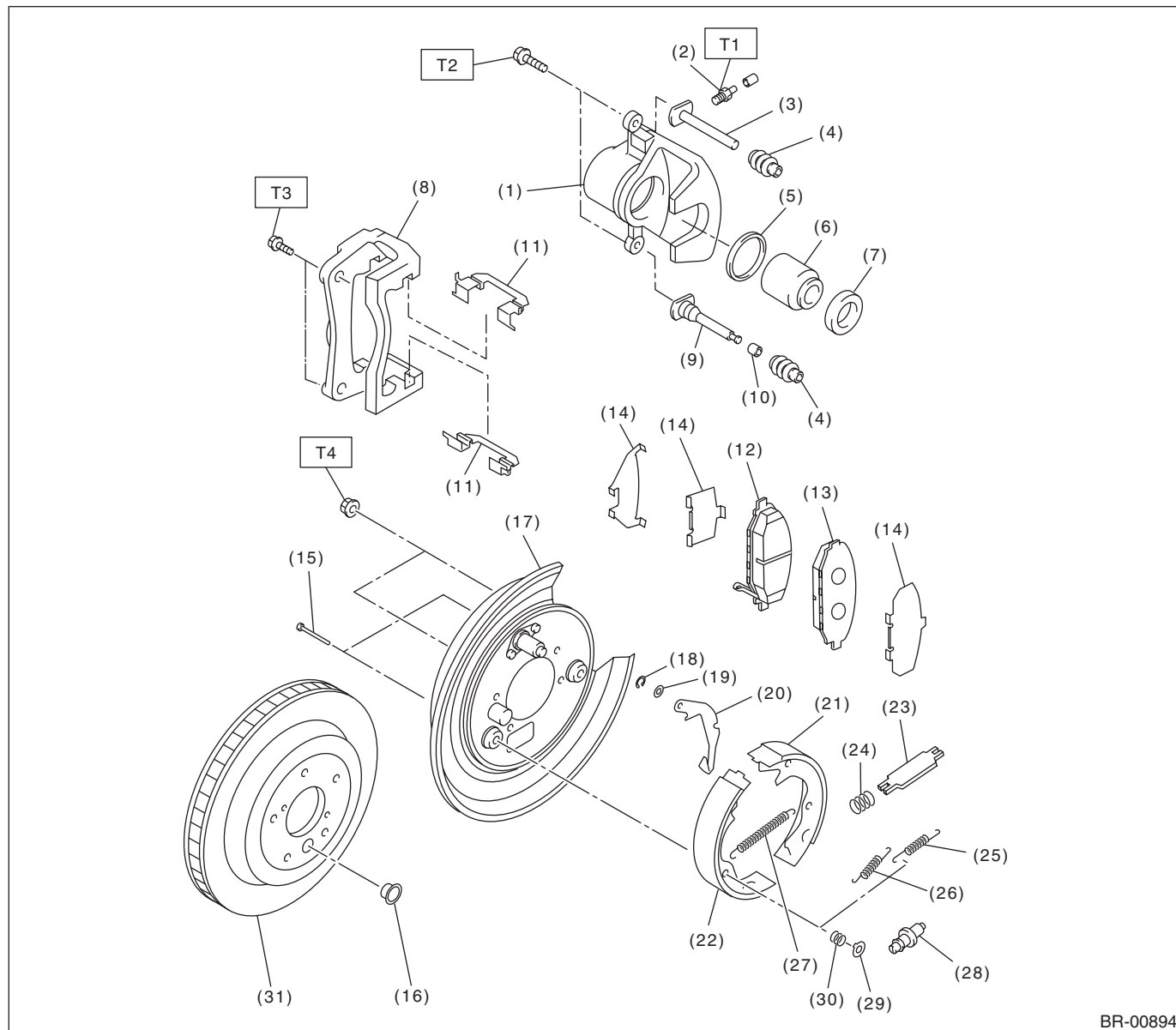
**Tightening torque: N·m (kgf-m, ft-lb)**

**T1: 8 (0.8, 5.8)**

**T2: 18 (1.8, 13.3)**

**T3: 27 (2.8, 19.9)**

**T4: 120 (12.2, 88.5)**



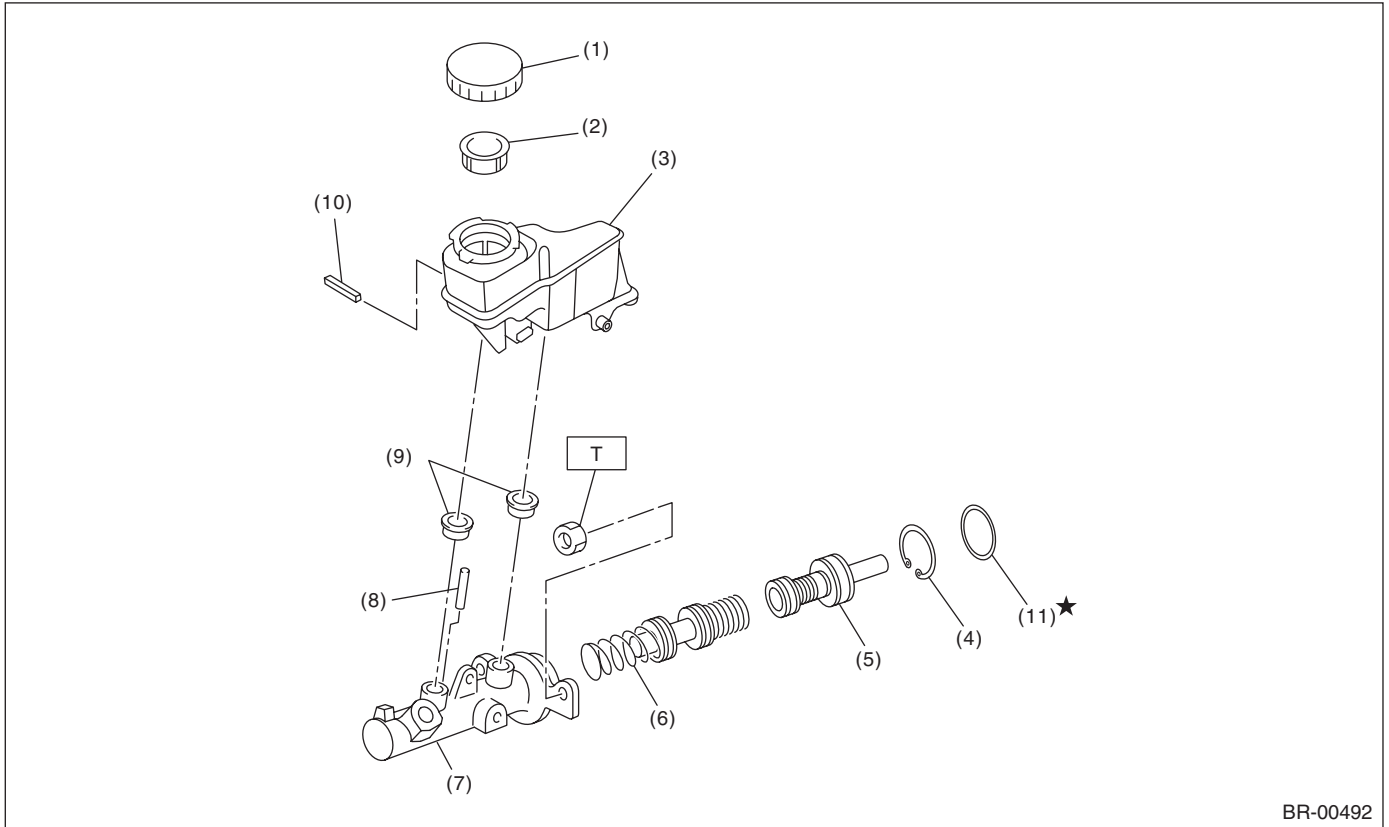
**Tightening torque: N·m (kgf·m, ft·lb)**

<b>T1:</b>	<b>8 (0.8, 5.8)</b>
<b>T2:</b>	<b>27 (2.8, 19.9)</b>
<b>T3:</b>	<b>66 (6.7, 48.7)</b>
<b>T4:</b>	<b>75 (7.6, 55.3)</b>

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## BRAKE

### 3. MASTER CYLINDER



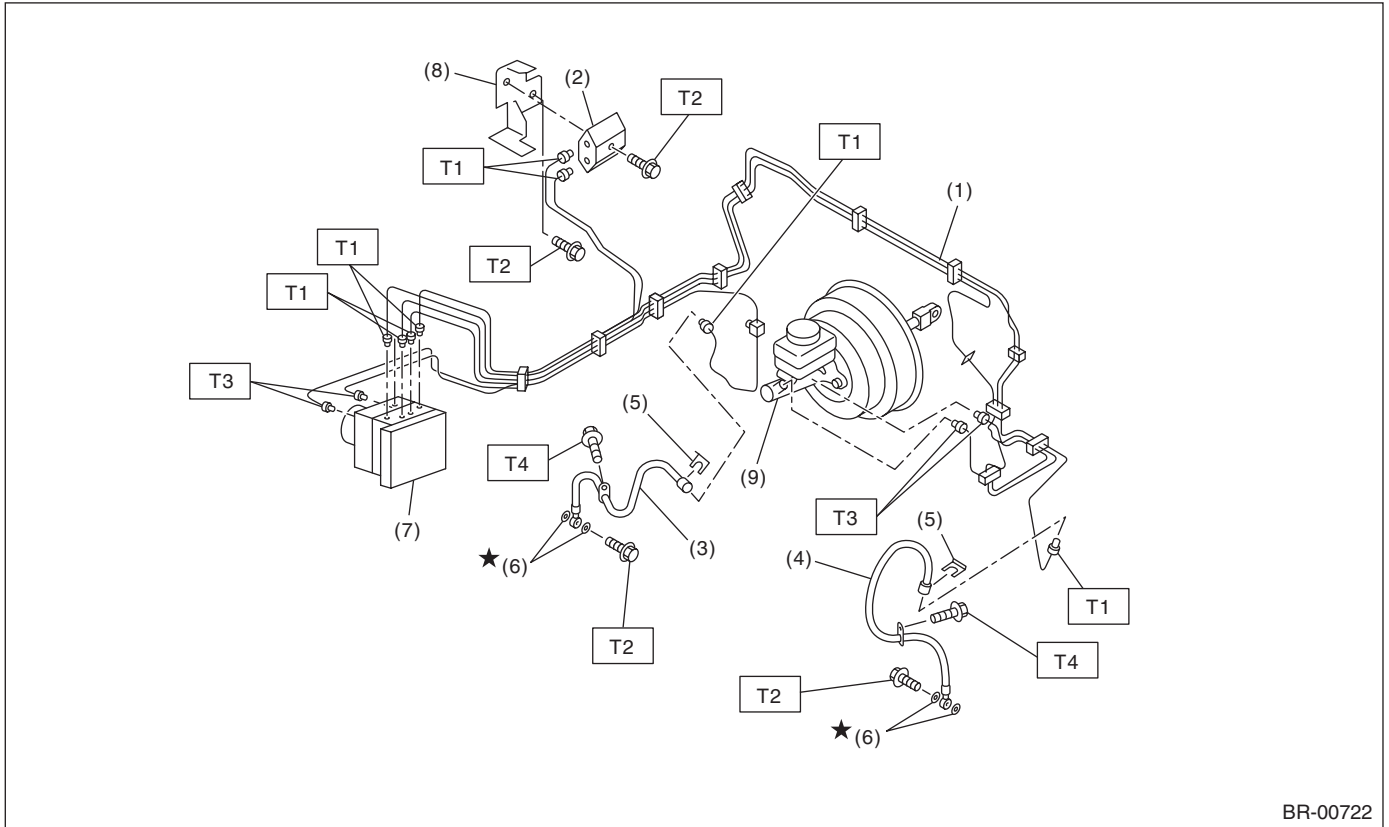
- (1) Cap
- (2) Filter
- (3) Reservoir tank
- (4) C-ring
- (5) Primary piston

- (6) Secondary piston
- (7) Cylinder body
- (8) Cylinder pin
- (9) Seal
- (10) Pin

- (11) O-ring

**Tightening torque: N·m (kgf-m, ft-lb)**  
**T: 25 (2.5, 18.4)**

## 4. FRONT BRAKE PIPES AND HOSES



- |                           |   |
|---------------------------|---|
| (1) Front brake pipe ASSY | (6) Gasket  |
| (2) Two-way connector     | (7) VDC control module & hydraulic control unit (VDCCM&H/U) |
| (3) Front brake hose RH   | (8) Bracket   |
| (4) Front brake hose LH   | (9) Master cylinder   |
| (5) Clamp                 |   |

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

**T1: 15 (1.5, 10.8)**

**T2: 18 (1.8, 13.3)**

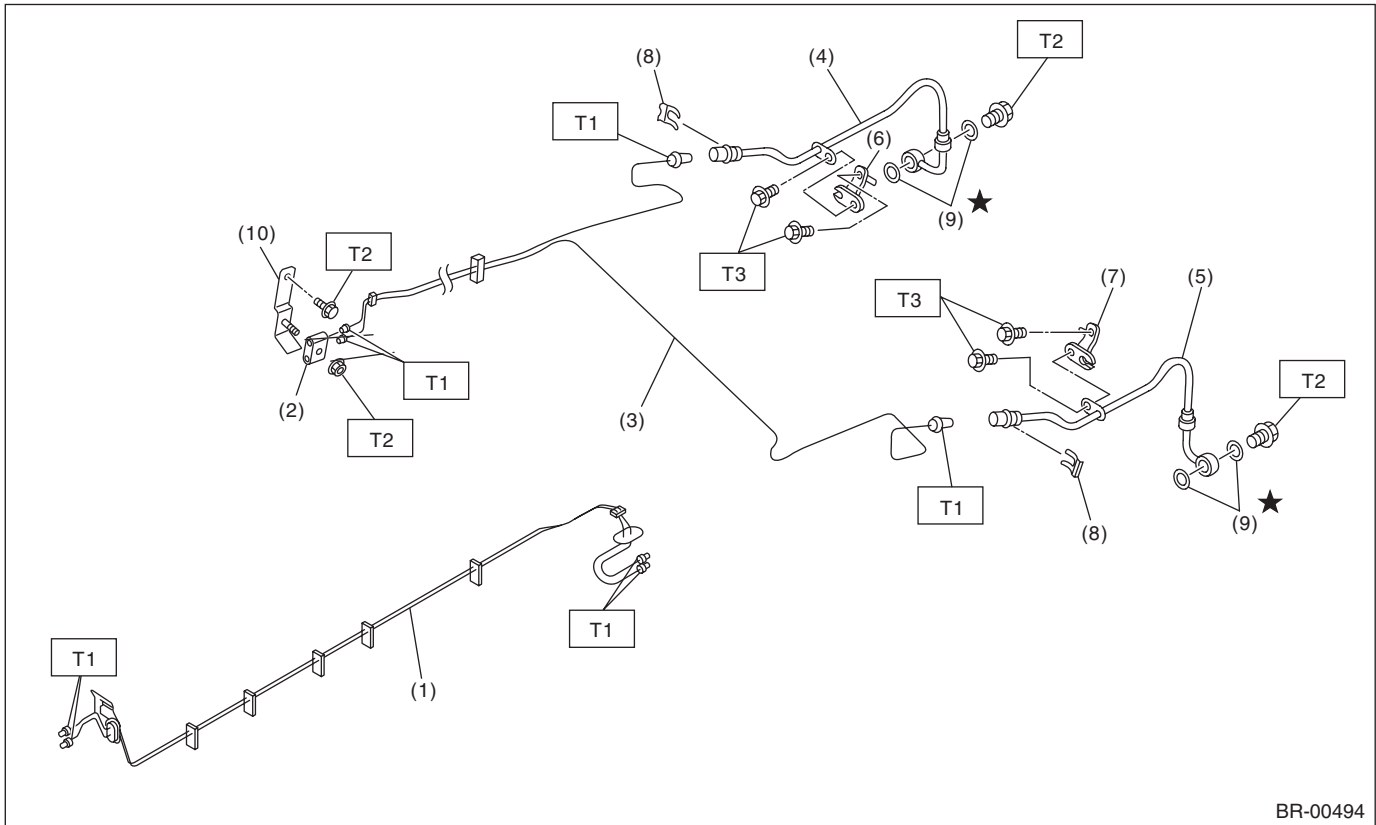
**T3: 19 (1.9, 14.0)**

**T4: 33 (3.4, 24.3)**

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### 5. CENTER AND REAR BRAKE PIPES AND HOSES



BR-00494

- |                            |                                |
|----------------------------|--------------------------------|
| (1) Center brake pipe ASSY | (6) Rear brake hose bracket RH |
| (2) Two-way connector      | (7) Rear brake hose bracket LH |
| (3) Rear brake pipe ASSY   | (8) Clamp                      |
| (4) Rear brake hose RH     | (9) Gasket                     |
| (5) Rear brake hose LH     | (10) Bracket                   |

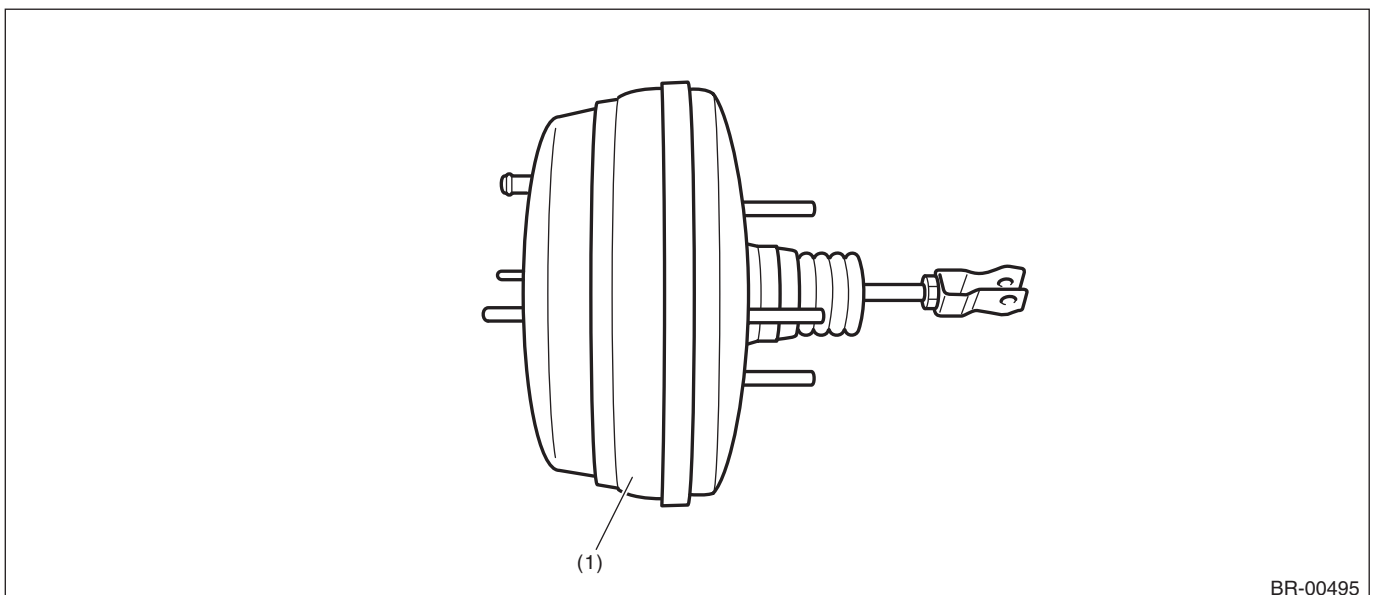
**Tightening torque: N·m (kgf-m, ft-lb)**

**T1: 15 (1.5, 10.8)**

**T2: 18 (1.8, 13.3)**

**T3: 33 (3.4, 24.3)**

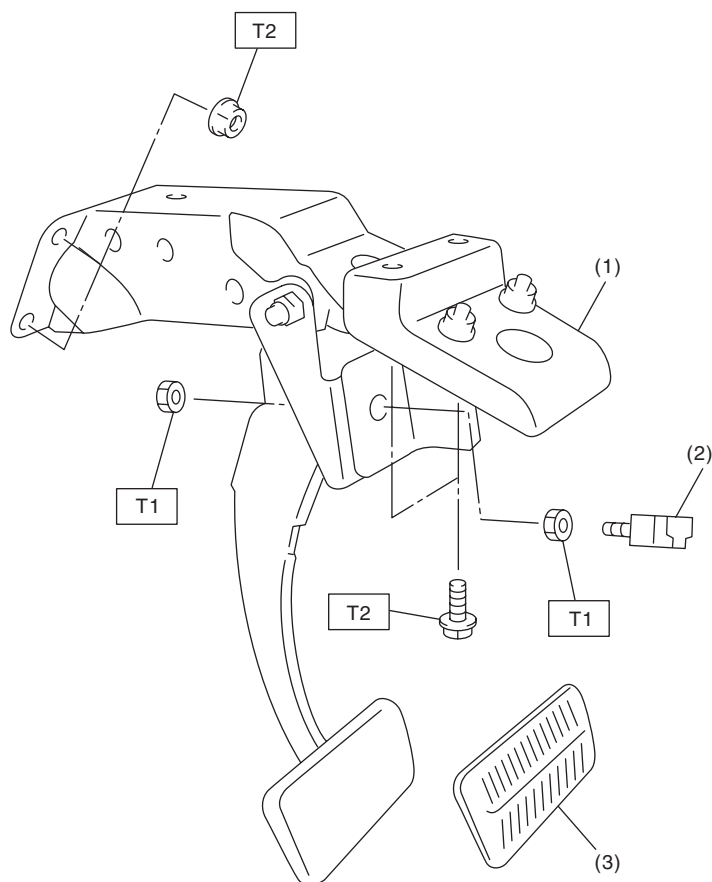
### 6. BRAKE BOOSTER



BR-00495

- (1) Brake booster

## 7. BRAKE PEDAL



BR-00338

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

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

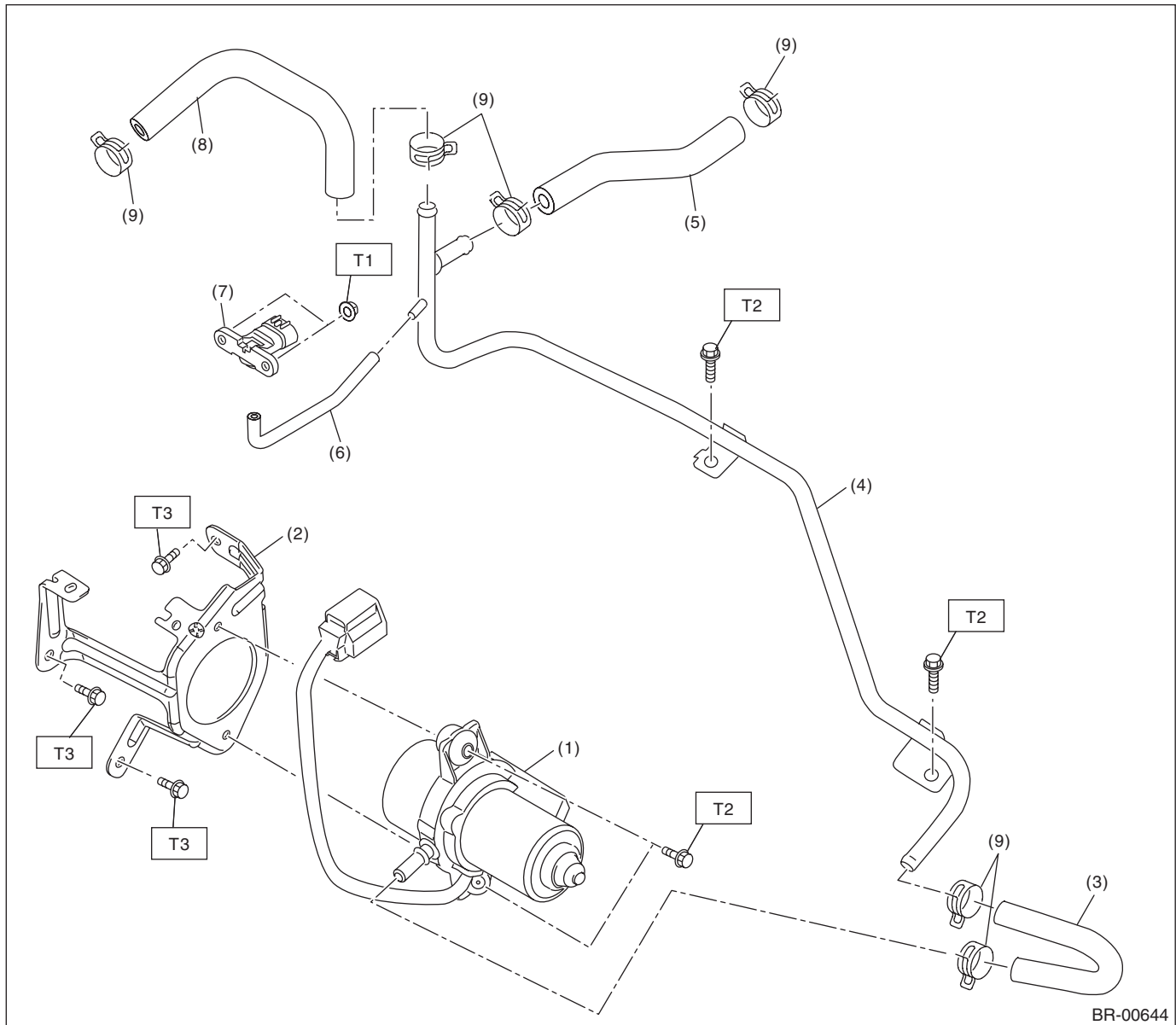
**T1: 8 (0.8, 5.8)**

**T2: 18 (1.8, 13.3)**

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### 8. BRAKE VACUUM PUMP



- |                               |                                 |
|-------------------------------|---------------------------------|
| (1) Vacuum pump               | (6) Vacuum hose (vacuum sensor) |
| (2) Vacuum pump bracket       | (7) Vacuum sensor               |
| (3) Vacuum hose (vacuum pump) | (8) Vacuum hose (brake booster) |
| (4) Vacuum pipe               | (9) Hose clamp                  |
| (5) Vacuum hose (engine)      |                                 |

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

**T1: 5 (0.5, 3.7)**

**T2: 7.5 (0.76, 5.5)**

**T3: 25 (2.5, 18.4)**

**C: CAUTION**

Please understand and adhere to the following general precautions. They must be strictly followed to avoid any injury to the person performing the work or persons in the area.

**1. OPERATION**

- Wear appropriate work clothing, including a cap, 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 in 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.

**2. OIL**

When handling oil, follow the rules below to prevent unexpected accidents.

- Prepare container and waste cloths when performing work which oil could possibly spill. If oil spills, wipe it off immediately to prevent from penetrating into floor or flowing outside, for environmental protection.
- Follow all government and local regulations concerning waste disposal.

**3. BRAKE FLUID**

If brake fluid gets in your eyes or on your skin, do the following:

- Wash out your eyes and seek immediate medical attention.
- Wash your skin with soap and then rinse thoroughly with water.

Follow all government and local regulations concerning waste disposal.

**D: PREPARATION TOOL****1. GENERAL TOOL**

TOOL NAME	REMARKS
Snap ring pliers	Used for removing and installing snap rings.