

# General Description

BRAKE

## 1. General Description

### A: SPECIFICATION

Model		2.5 i	2.5 i-LTD, OUTBACK 2.5 i, -LTD, OUTBACK 3.0 R, -LTD, -LLB	2.5 GT, -LTD, OUTBACK 2.5 GT
Front disc brake	Size	15-inch type	16-inch type	17-inch type
	Type	Disc (Floating type, ventilated)		
	Effective disc diameter mm (in)	228 (8.98)	244 (4.61)	261 (10.28)
	Disc thickness × Outer diameter mm (in)	24 × 277 (0.94 × 10.91)	24 × 294 (0.94 × 11.57)	30 × 316 (1.18 × 12.44)
	Effective cylinder diameter	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	15-inch type		
	Type	Disc (Floating type, solid)	Disc (Floating type, ventilated)	
	Effective disc diameter mm (in)	238 (9.37)	254 (10.0)	
	Disc thickness × Outer diameter mm (in)	10 × 274 (0.39 × 10.79)	18 × 290 (0.71 × 11.42)	
	Effective cylinder diameter mm (in)	38.1 (1.500)		
	Pad dimensions (length × width × thickness) mm (in)	92.0 × 33.0 × 9.0 (3.622 × 1.299 × 0.354)	82.4 × 33.7 × 9.0 (3.244 × 1.327 × 0.354)	
	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)	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 <b>CAUTION:</b> • Avoid mixing brake fluid of different brands to prevent fluid performance from degrading. • When filling brake fluid, be careful not to allow any dust into the reservoir. • Use fresh brake fluid when replacing or refilling the fluid.		FMVSS No. 116, DOT3		

**NOTE:**

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

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Item			Standard value	Limit	
Front brake	Pad thick- ness	mm (in)	Except 17-inch type	11 (0.43)	1.5 (0.059)
			17-inch type	11 (0.43)	1.5 (0.059)
	Disc thick- ness	mm (in)	Except 17-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 thick- ness	mm (in)	Solid disc	9.0 (0.354)	1.5 (0.059)
			Ventilated disc	9.0 (0.354)	1.5 (0.059)
	Disc thick- ness	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)	170 (6.69)	171 (6.73)
	Lining thickness		mm (in)	3.2 (0.126)	1.5 (0.059)
	Lever stroke			5 — 6 notches/200 N (20 kgf, 45 lb)	

		Brake pedal force N (kgf, lb)	Fluid pressure kPa (kg/cm <sup>2</sup> , psi)		
			15-inch type	16-inch type	17-inch type
Brake Booster	Brake fluid pressure without engine running	147 (15, 33)	545 (6, 79)		
		294 (30, 66)	1,564 (16, 227)		
	Brake fluid pressure with engine running and vacuuming at 66.7 kPa (500 mmHg, 19.69 inHg)	147 (15, 33)	6,003 (61, 871)	5,381 (55, 780)	4,963 (51, 720)
		294 (30, 66)	11,273 (115, 1,635)	10,982 (112, 1,593)	10,055 (103, 1,458)

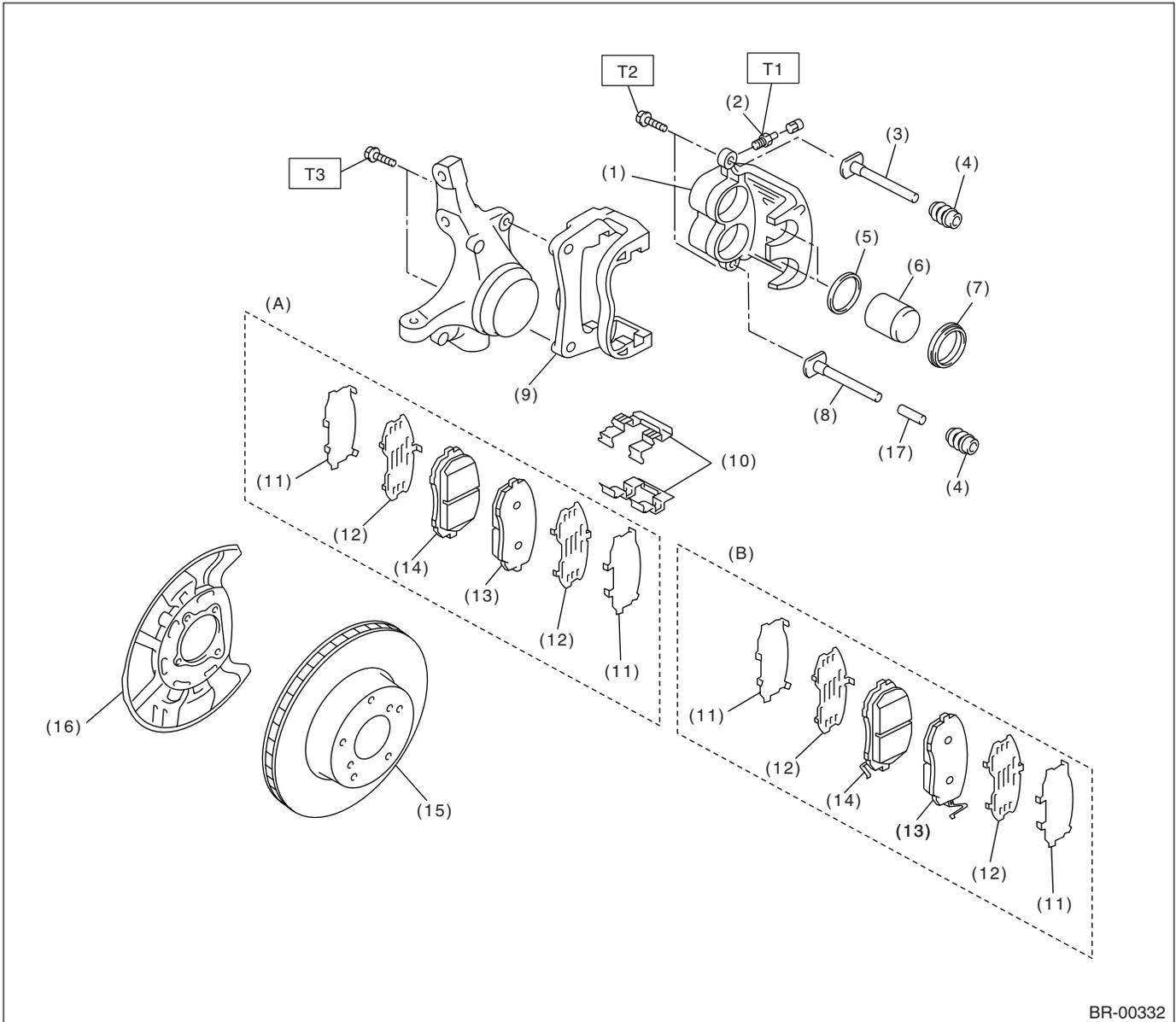
Brake pedal	Free play	mm (in)	0.5 — 2 (0.02 — 0.08) [When pulling the brake pedal upward with a force of less than 10 N (1 kgf, 2 lb).]
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## B: COMPONENT

### 1. FRONT DISK BRAKE



BR-00332

(A) 15, 16-inch type

(B) 17-inch type

(1) Caliper body

(2) Air bleeder screw

(3) Guide pin (Green)

(4) Pin boot

(5) Piston seal

(6) Piston

(7) Piston boot

(8) Lock pin (Yellow)

(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

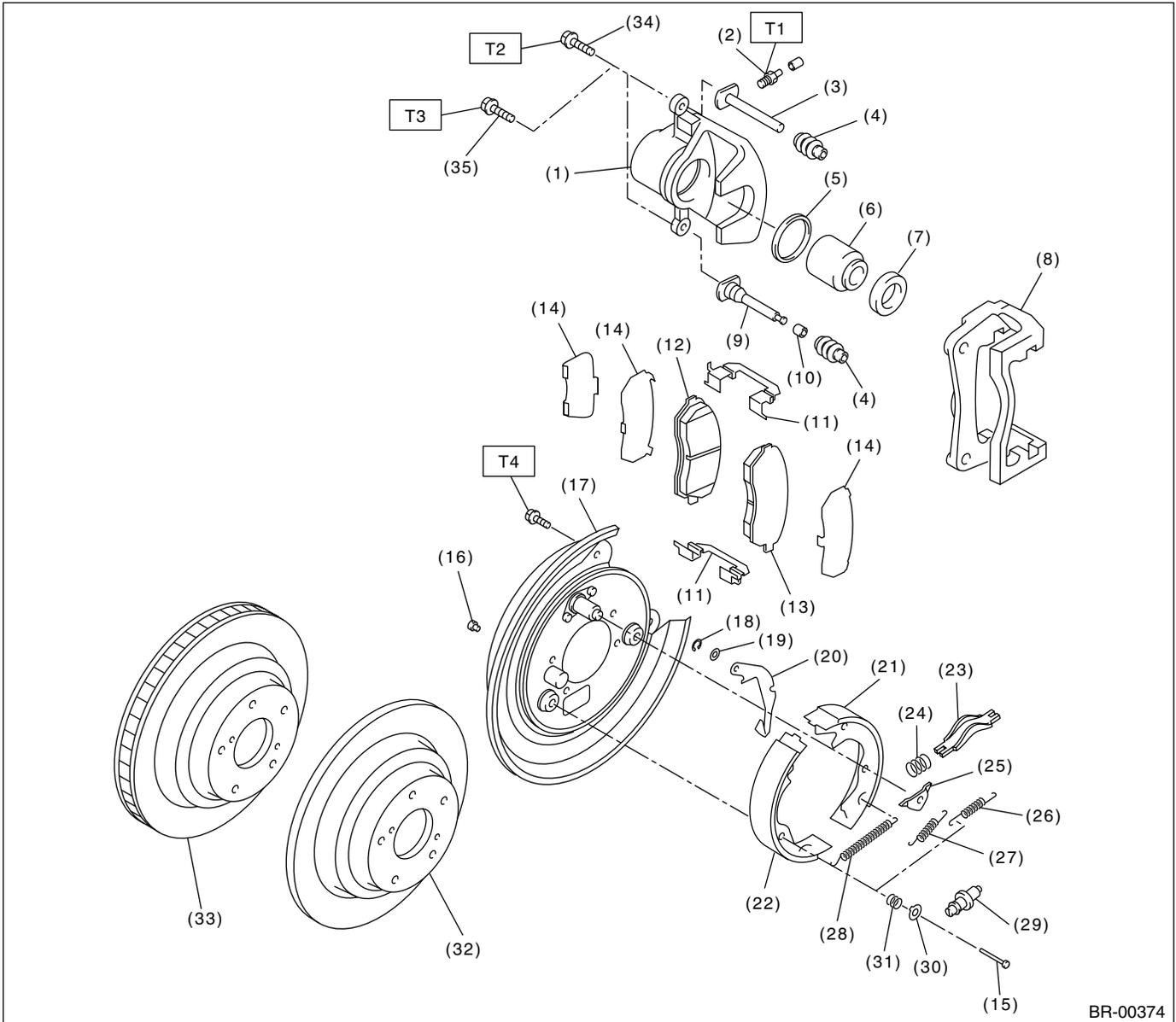
**Tightening torque: N-m (kgf-m, ft-lb)**

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

**T2: 27 (2.8, 19.9)**

**T3: 80 (8.2, 59)**

## 2. REAR DISC BRAKE



- |                       |                                     |                                       |
|-----------------------|-------------------------------------|---------------------------------------|
| (1) Caliper body      | (15) Shoe hold-down pin             | (29) Adjuster                         |
| (2) Air bleeder screw | (16) Cover                          | (30) Shoe hold-down cup               |
| (3) Guide pin (Green) | (17) Back plate                     | (31) Shoe hold-down spring            |
| (4) Pin boot          | (18) Retainer                       | (32) Disc rotor (Solid type)          |
| (5) Piston seal       | (19) Spring washer                  | (33) Disc rotor (Ventilated type)     |
| (6) Piston            | (20) Parking brake lever            | (34) Bolt (For solid disc brake)      |
| (7) Piston boot       | (21) Parking brake shoe (Secondary) | (35) Bolt (For ventilated disc brake) |
| (8) Support           | (22) Parking brake shoe (Primary)   |                                       |
| (9) Lock pin (Yellow) | (23) Strut                          |                                       |
| (10) Bushing          | (24) Strut shoe spring              |                                       |
| (11) Pad clip         | (25) Shoe guide plate               |                                       |
| (12) Inner pad        | (26) Secondary shoe return spring   |                                       |
| (13) Outer pad        | (27) Primary shoe return spring     |                                       |
| (14) Shim             | (28) Adjusting spring               |                                       |

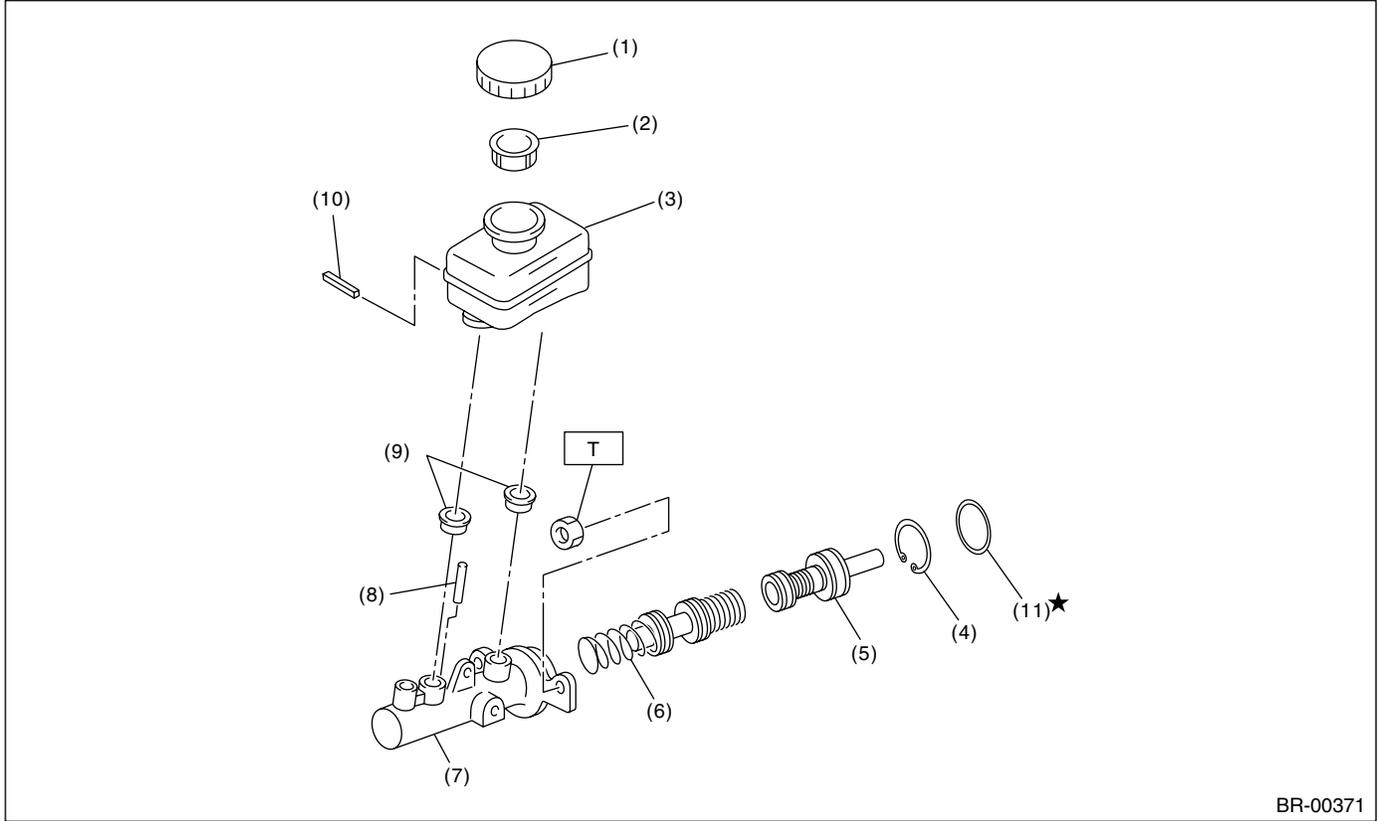
**Tightening torque: N-m (kgf-m, ft-lb)**

- T1: 8 (0.8, 5.8)**  
**T2: 27 (2.8, 19.9)**  
**T3: 37 (3.7, 27.2)**  
**T4: 53 (5.4, 39.1)**

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## 3. MASTER CYLINDER



BR-00371

- (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

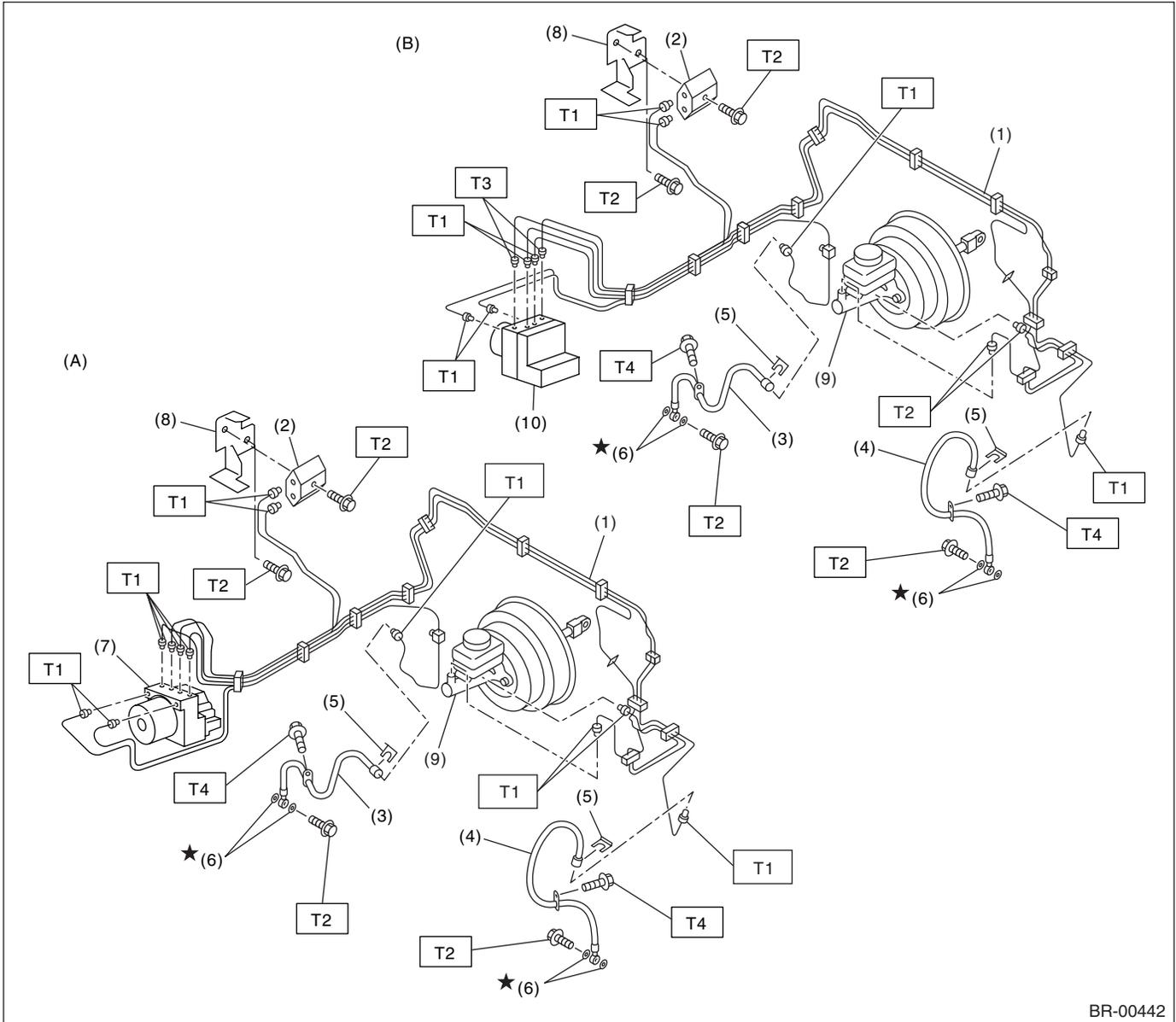
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**Tightening torque: N·m (kgf·m, ft·lb)**

**T: 13 (1.3, 9.6)**

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## 4. FRONT BRAKE PIPES AND HOSE



BR-00442

- |   |   |
|---|---|
| (A) Model with ABS                            | (5) Clamp   |
| (B) Model with vehicle dynamics control (VDC) | (6) Gasket  |
| (1) Front brake pipe ASSY                     | (7) ABS control module and hydraulic control unit (ABSCM&H/U) |
| (2) Two-way connector                         | (8) Bracket   |
| (3) Front brake hose RH                       | (9) Master cylinder   |
| (4) Front brake hose LH                       | (10) VDC control module & hydraulic control unit (VDCCM&H/U)  |

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

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

**T2: 18 (1.8, 13.0)**

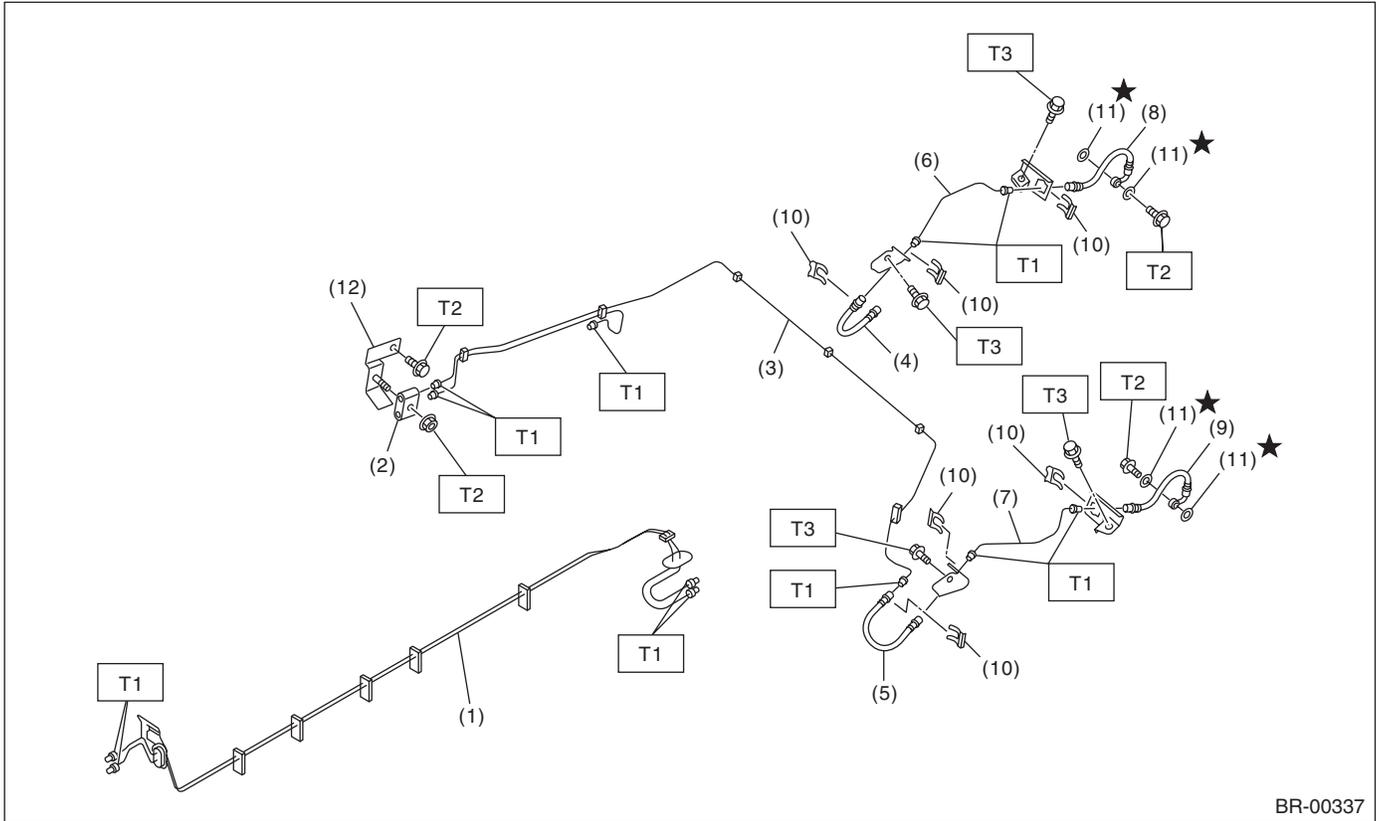
**T3: 19 (1.9, 14.0)**

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

# General Description

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



BR-00337

- |                            |                             |
|----------------------------|-----------------------------|
| (1) Center brake pipe ASSY | (7) Rear brake pipe LH      |
| (2) Two-way connector      | (8) Rear brake hose rear RH |
| (3) Rear brake pipe ASSY   | (9) Rear brake hose rear LH |
| (4) Rear brake hose RH     | (10) Clamp                  |
| (5) Rear brake hose LH     | (11) Gasket                 |
| (6) Rear brake pipe RH     | (12) Bracket                |

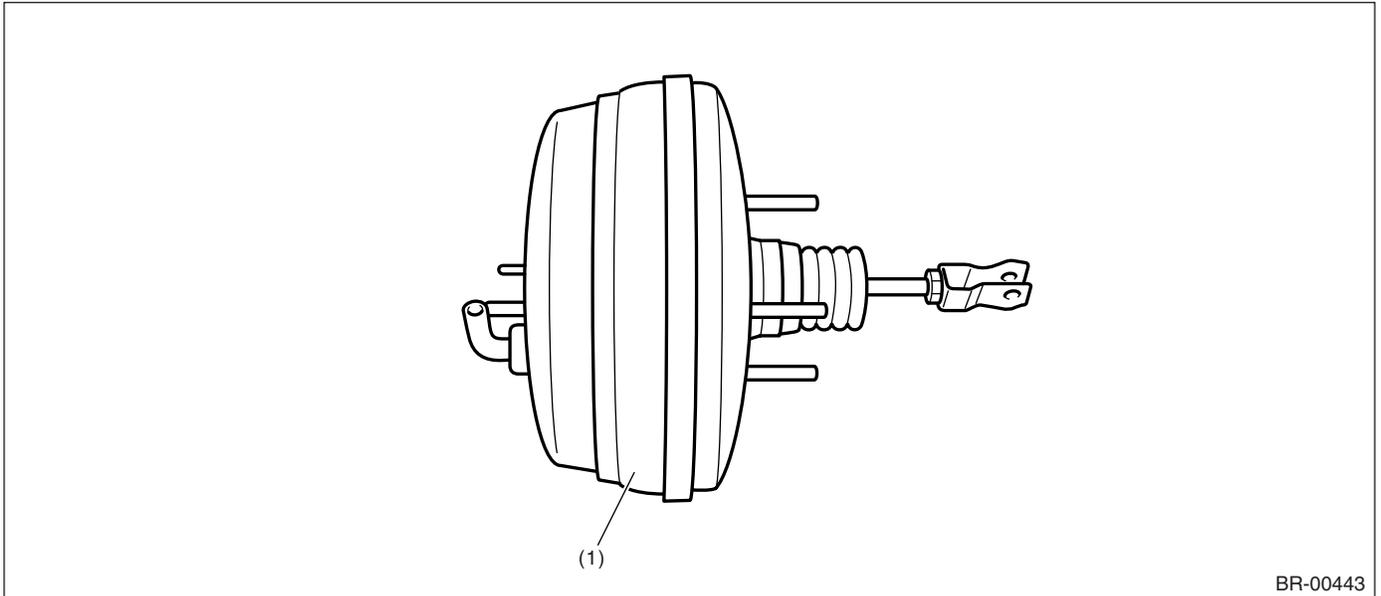
**Tightening torque: N-m (kgf-m, ft-lb)**

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

**T2: 18 (1.8, 13.0)**

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

## 6. BRAKE BOOSTER



(1) Brake booster

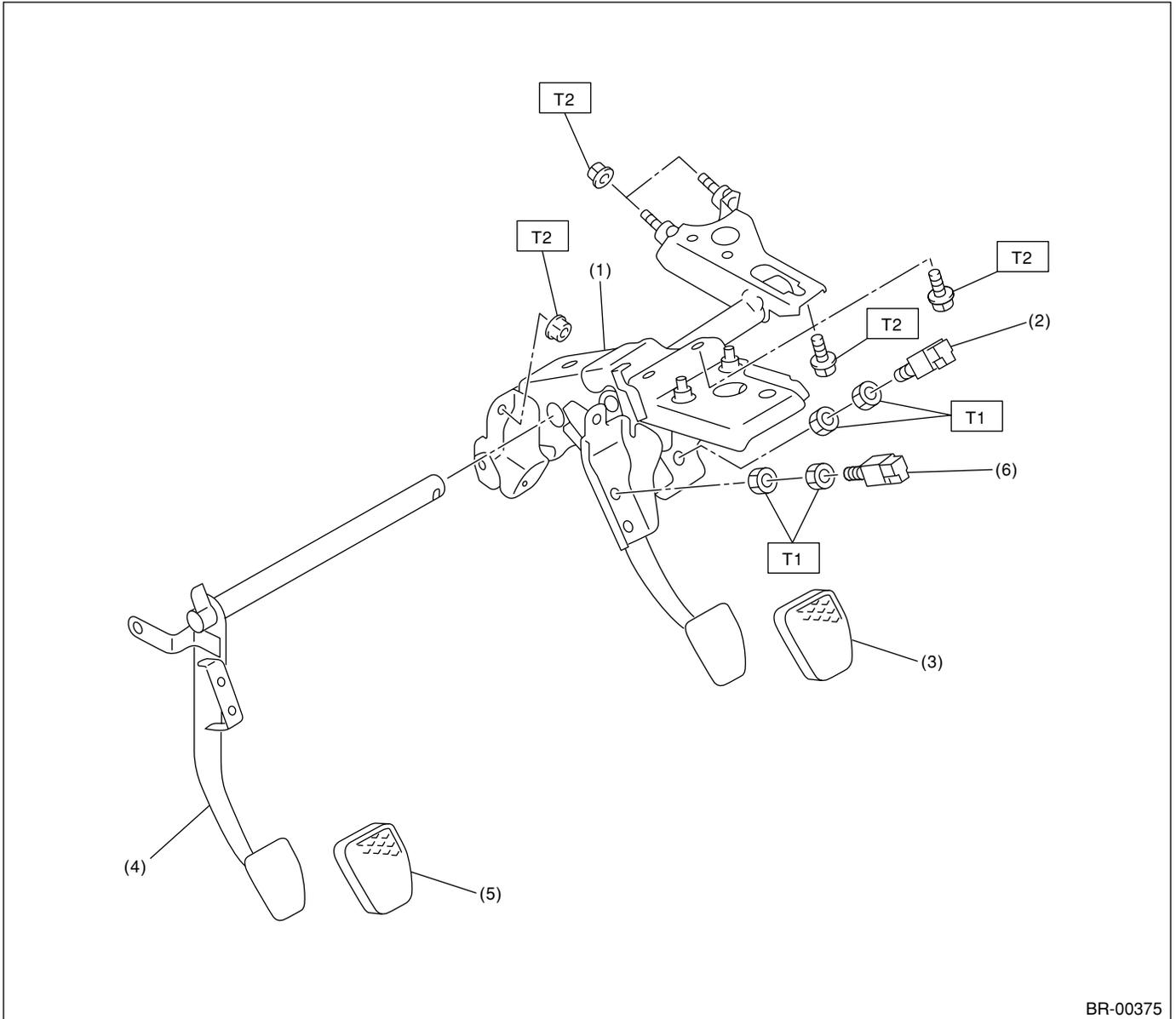
BR-00443

# General Description

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## 7. BRAKE PEDAL

- MT model



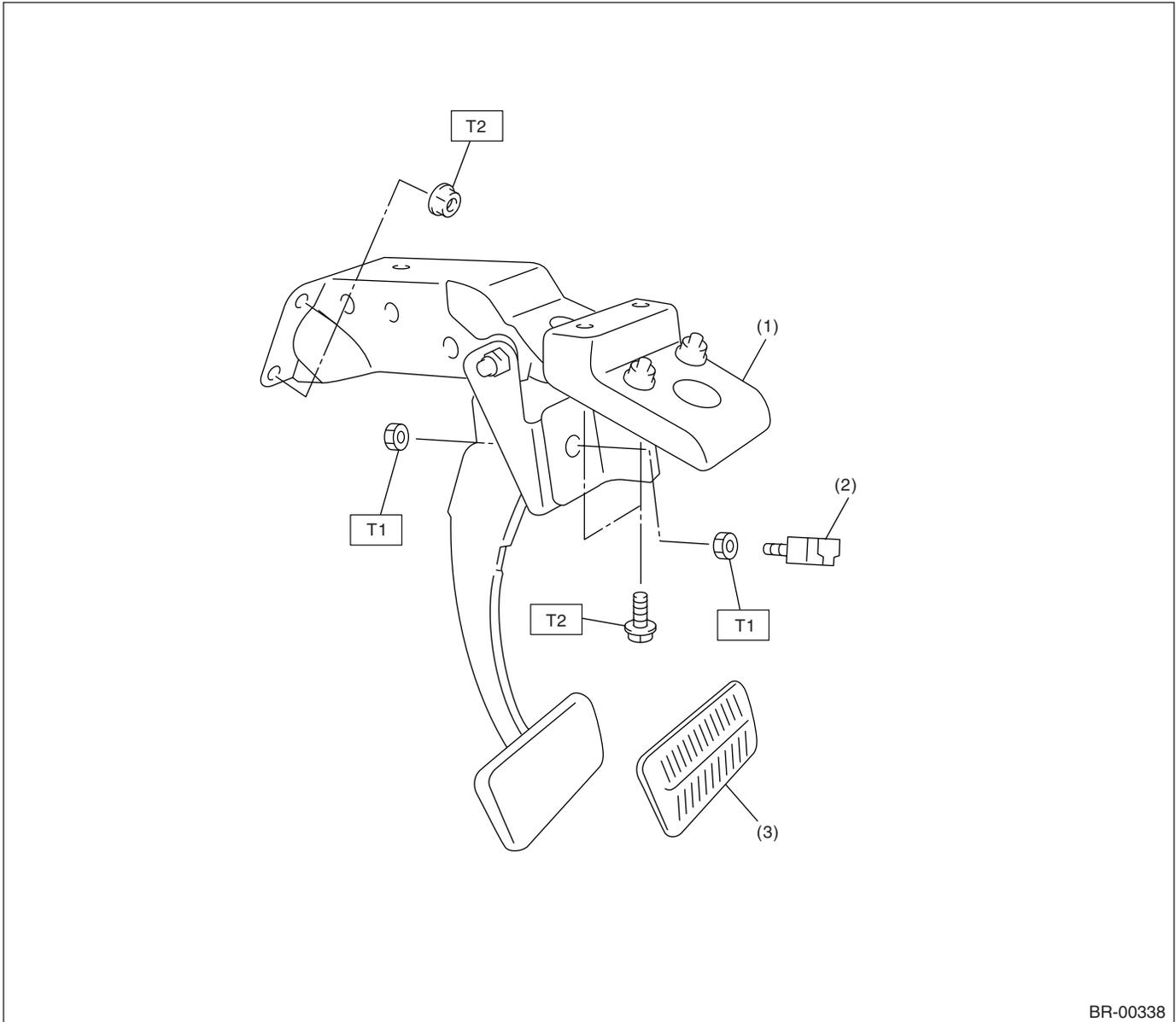
- |                       |                      |
|-----------------------|----------------------|
| (1) Brake pedal ASSY  | (4) Clutch pedal     |
| (2) Stop light switch | (5) Clutch pedal pad |
| (3) Brake pedal pad   | (6) Clutch switch    |

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

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

**T2: 18 (1.8, 13.0)**

- AT model



- (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, 13.0)**

## C: CAUTION

- Wear work clothing, including a cap, protective goggles, and protective shoes during operation.
- 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. with that of another grade or from other manufacturers.
- Before securing a part on a vice, place cushioning material such as wood blocks, aluminum plate, or shop cloth between the part and the vice.

- Be sure to tighten fasteners including bolts and nuts to the specified torque.
- Place shop jacks or rigid racks at the specified points.

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### D: PREPARATION TOOL

#### 1. GENERAL TOOL

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