

General Description

BRAKE

1. General Description

A: SPECIFICATION

| Model | | 2.5 i, 2.5 i-LTD, OUTBACK 2.5i, -LTD OUTBACK 3.0 R, -LTD, -LLB, OUTBACK 2.5GT, -LTD | 2.5GT, -LTD |
|---|--|--|--|
| Front disc brake | Size | 16-inch type | |
| | Type | Disc (Floating type, ventilated) | |
| | Effective disc diameter | mm (in) | 244 (4.61) |
| | Disc thickness × Diameter | mm (in) | 24 × 294 (0.94 × 11.57) |
| | 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) |
| | 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) |
| | Disc thickness × Diameter | mm (in) | 10 × 274 (0.39 × 10.79) |
| | 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) |
| 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 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. | | 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) | Excluding 17-inch type | 11 (0.43) | 1.5 (0.059) |
| | | | 17-inch type | 11 (0.43) | 1.5 (0.059) |
| | Disc thickness | mm (in) | Excluding 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 thickness | mm (in) | Solid disc | 9.0 (0.354) | 1.5 (0.059) |
| | | | Ventilated disc | 9.0 (0.354) | 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) | | 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 (kgf/cm ² , psi) | | |
|---------------|---|----------------------------------|--|---------------------|--|
| | | | 16-inch type | 17-inch type | |
| Brake booster | Brake fluid pressure with engine stopped | 147 (15, 33) | 545 (6, 79) | | |
| | | 294 (30, 66) | 1,564 (16, 227) | | |
| | Brake fluid pressure with engine running and vacuum pressure at 66.7 kPa (500 mmHg, 19.69 inHg) | 147 (15, 33) | 5,381 (55, 780) | 4,963 (51, 720) | |
| | | 294 (30, 66) | 10,982 (112, 1,593) | 10,055 (103, 1,458) | |

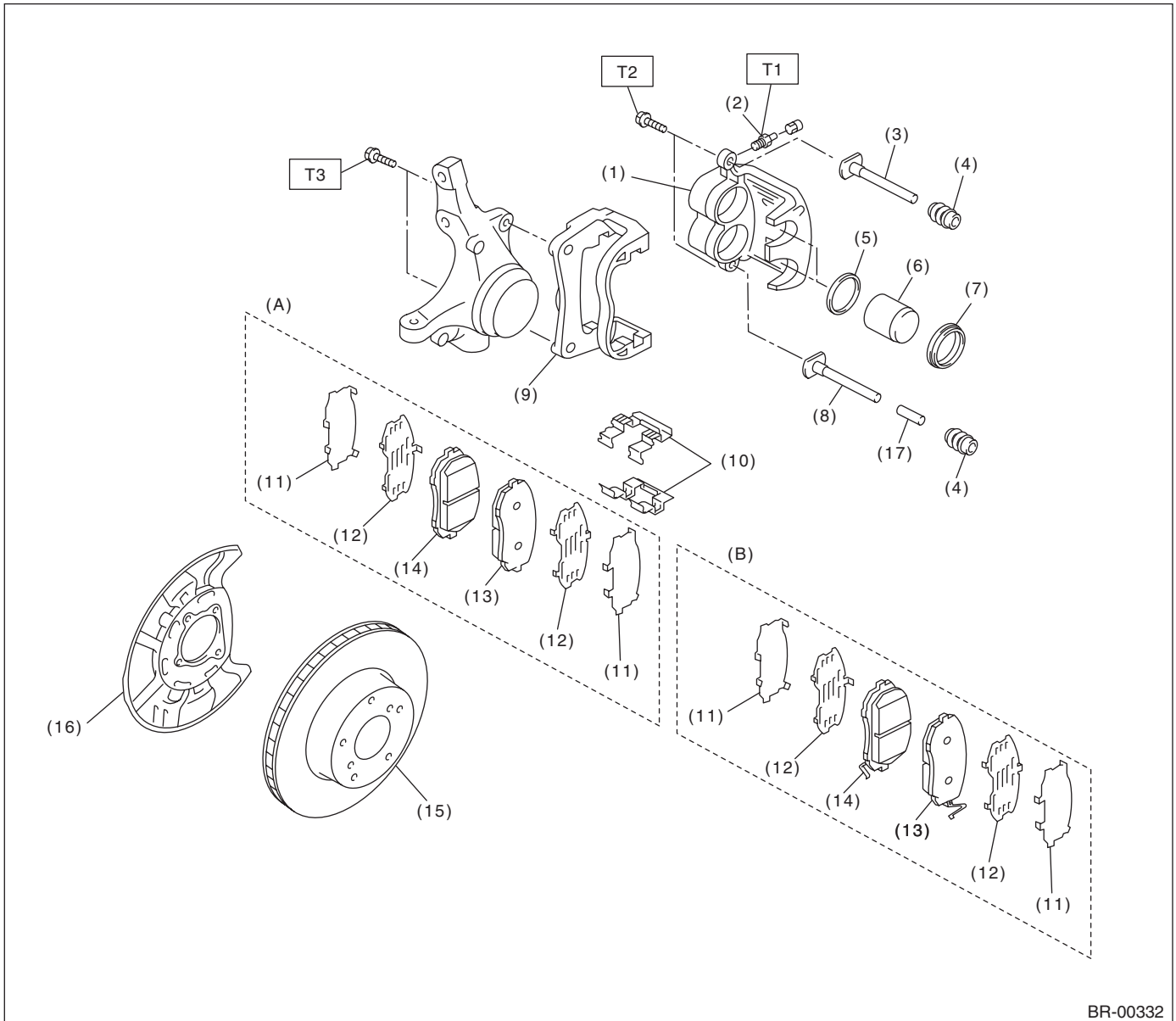
| | | | |
|-------------|-----------|---------|--|
| Brake pedal | Free play | mm (in) | 0.5 — 2 (0.02 — 0.08) [When pulling the brake pedal upward with a force of less than 10 N (1 kgf, 2 lb).] |
|-------------|-----------|---------|--|

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B: COMPONENT

1. FRONT DISC BRAKE



BR-00332

(A) 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

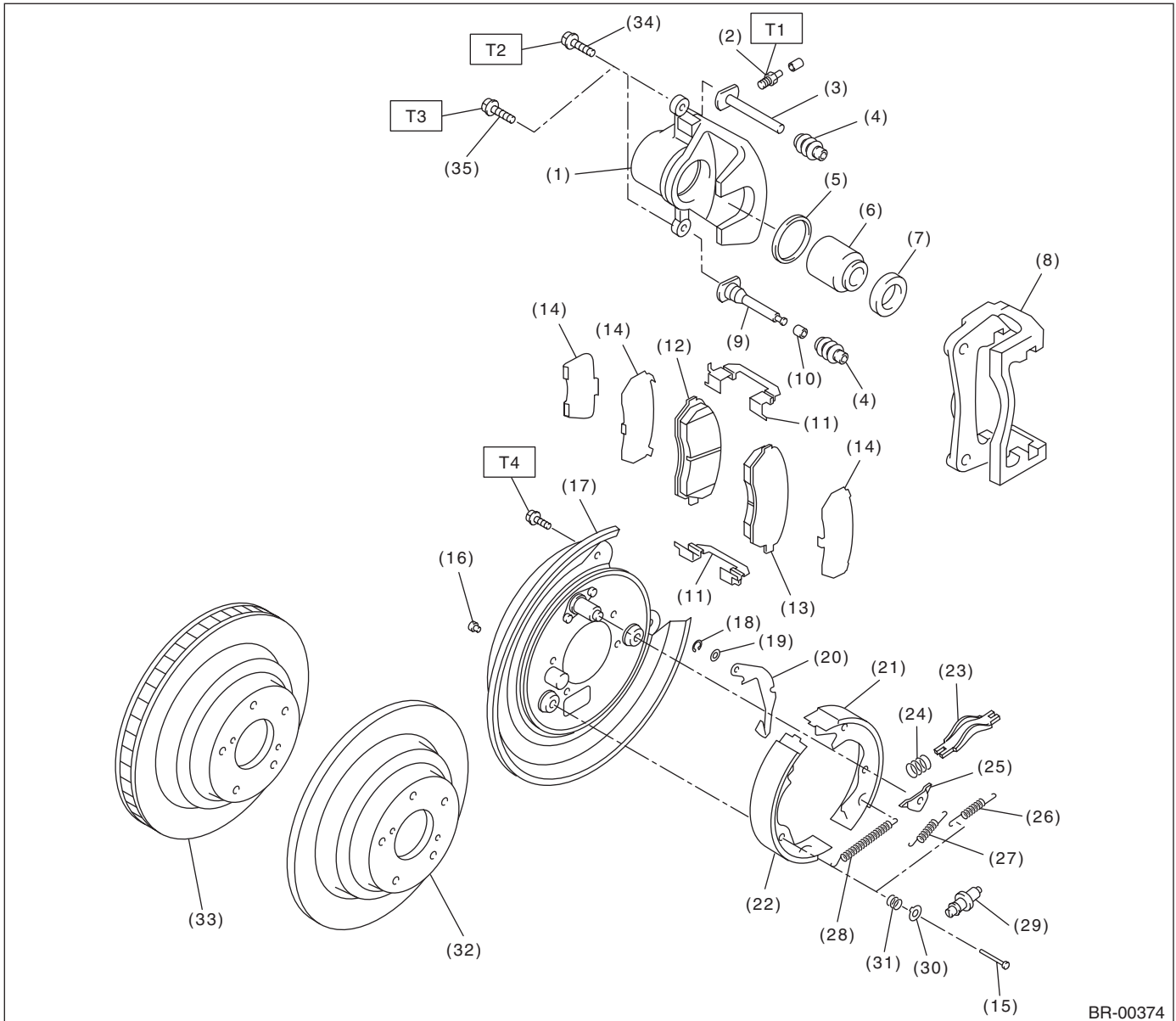
Tightening torque: N-m (kgf-m, ft-lb)

T1: 8 (0.8, 5.8)

T2: 27 (2.8, 19.9)

T3: 80 (8.2, 59)

2. REAR DISC BRAKE



BR-00374

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

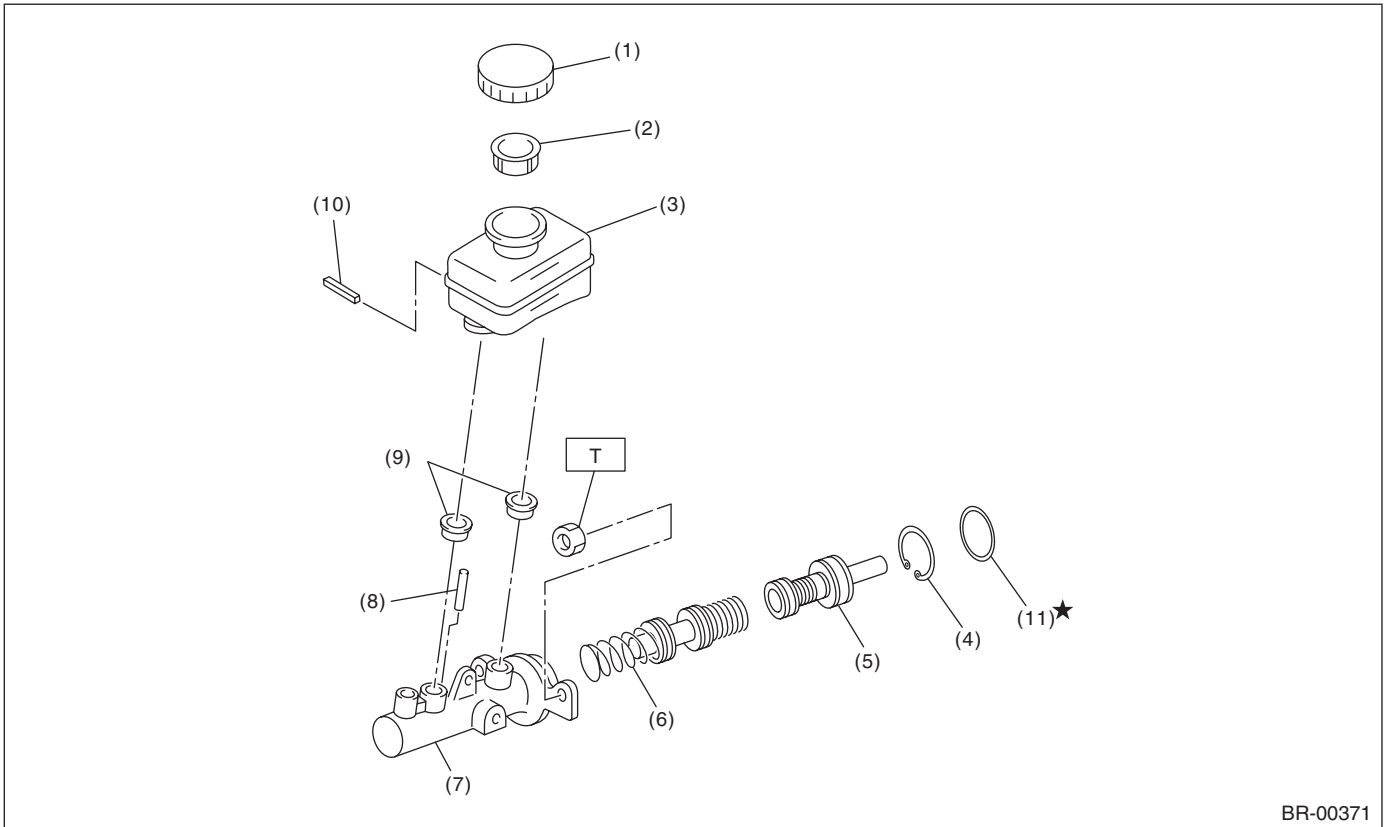
T3: 37 (3.7, 27.2)

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

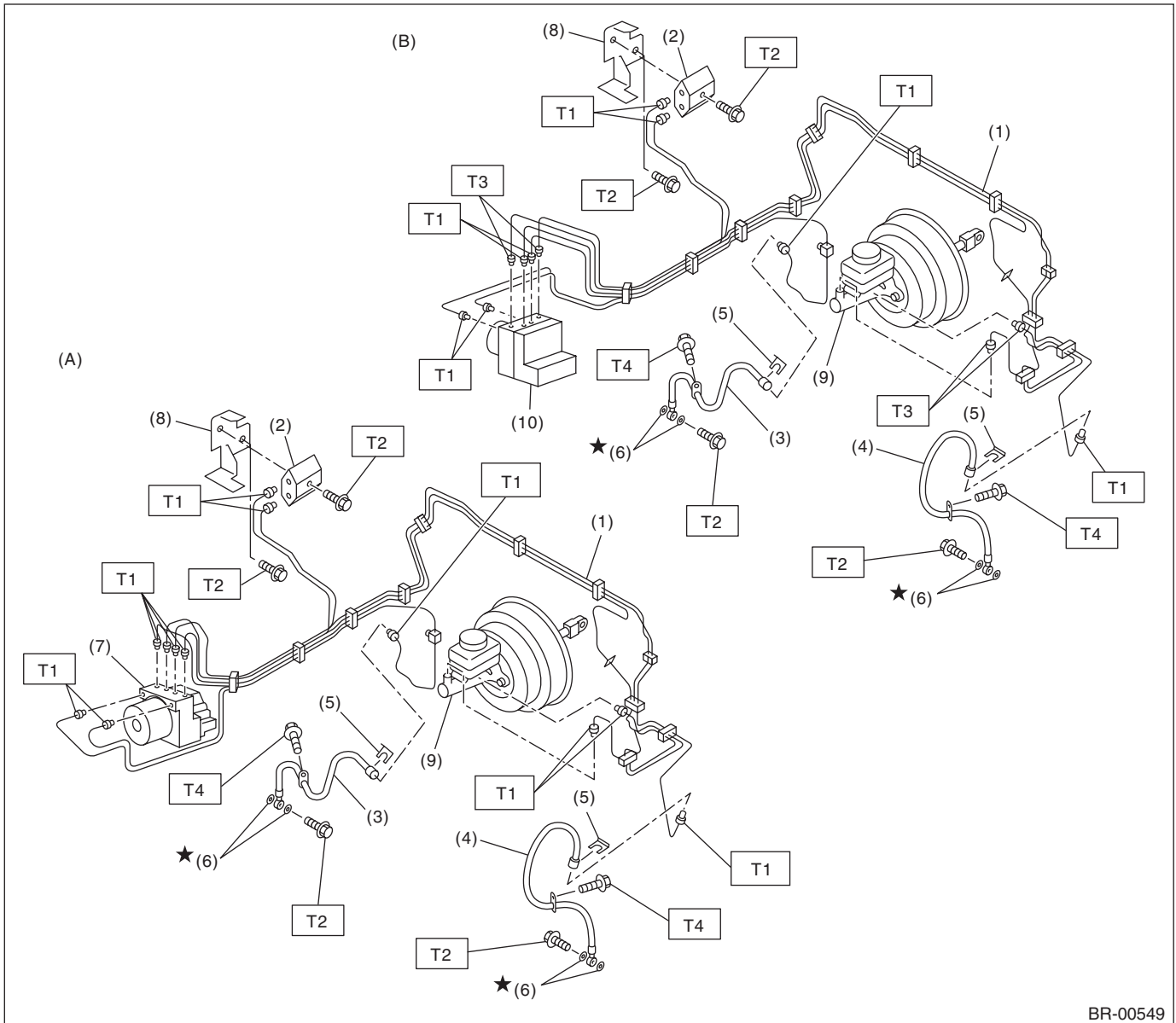
- (6) Secondary piston
- (7) Cylinder body
- (8) Cylinder pin
- (9) Seal
- (10) Pin

- (11) O-ring

Tightening torque: N·m (kgf·m, ft·lb)

T: 13 (1.3, 9.6)

4. FRONT BRAKE PIPES AND HOSES



BR-00549

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

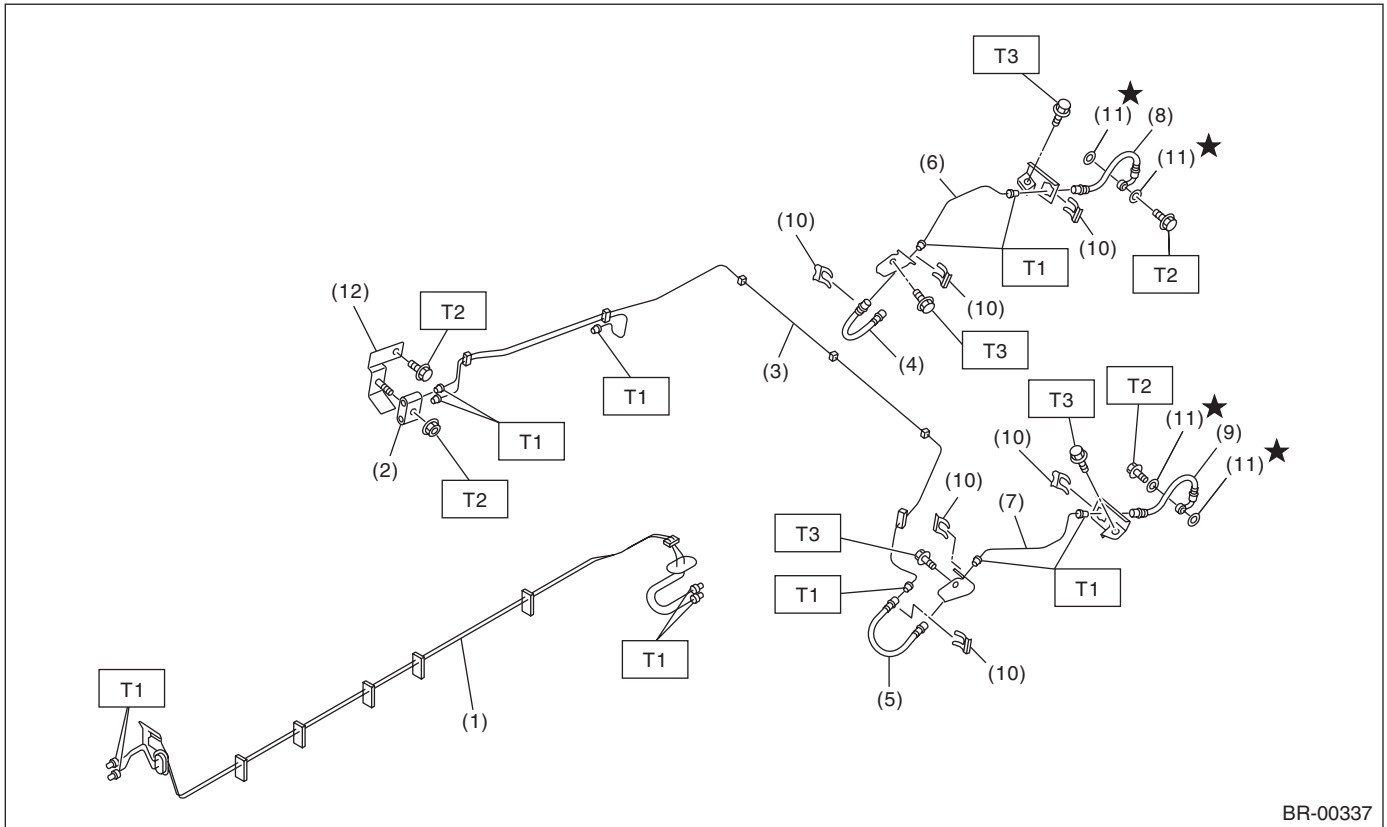
T3: 19 (1.9, 14.0)

T4: 33 (3.4, 24.3)

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5. CENTER AND REAR BRAKE PIPES AND HOSES



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 |

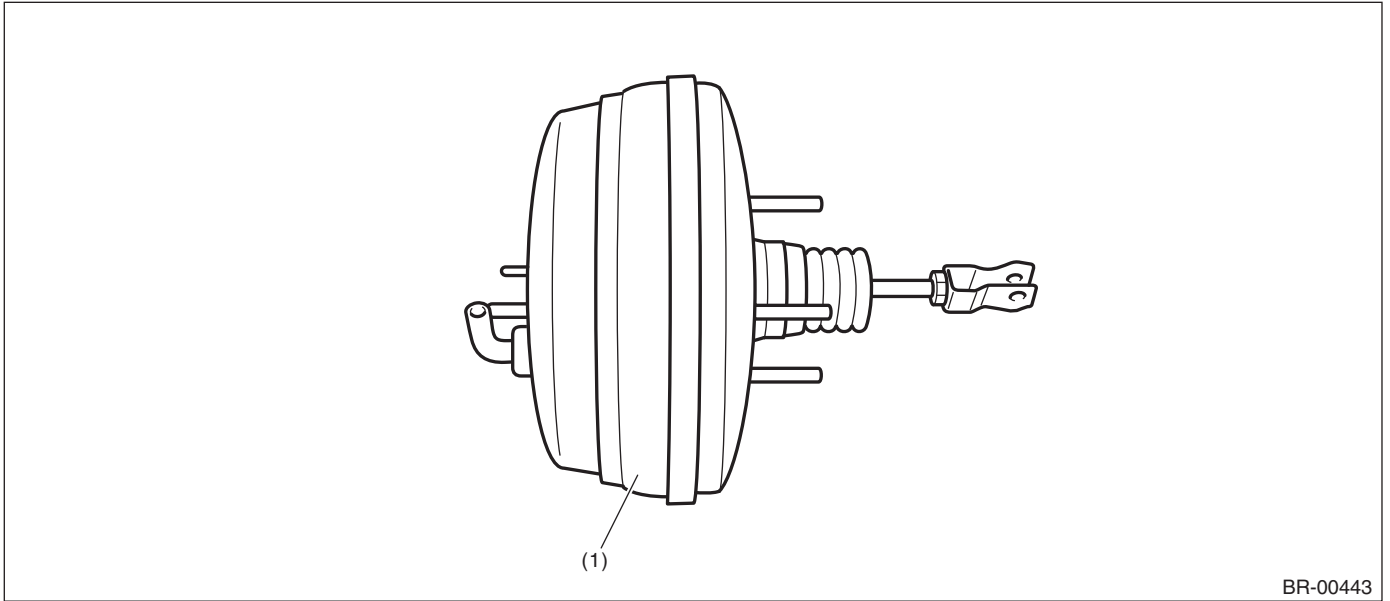
Tightening torque: N·m (kgf·m, ft·lb)

T1: 15 (1.5, 10.8)

T2: 18 (1.8, 13.0)

T3: 33 (3.4, 24.3)

6. BRAKE BOOSTER



BR-00443

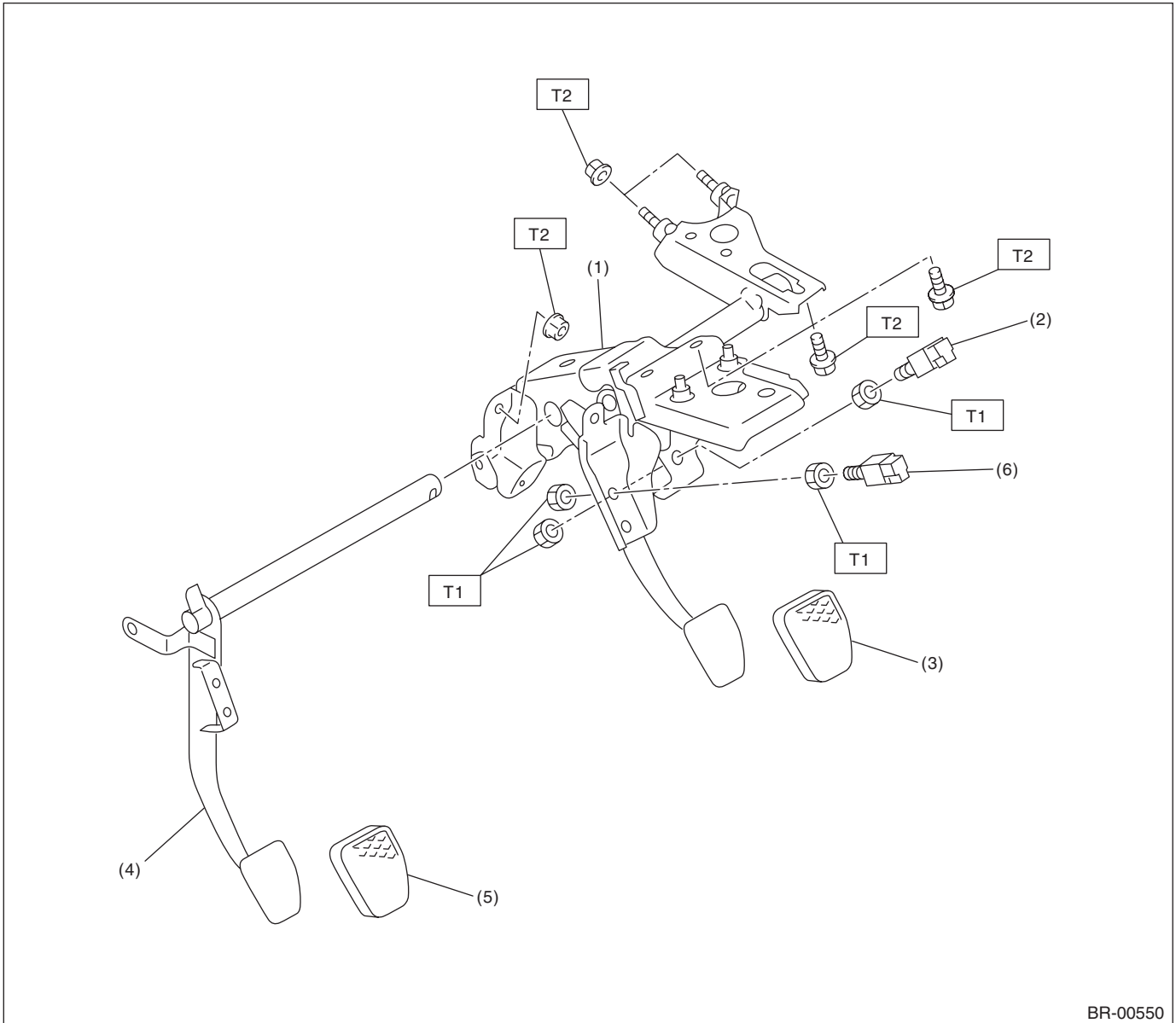
(1) Brake booster

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7. BRAKE PEDAL

- MT model



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

- (4) Clutch pedal
- (5) Clutch pedal pad
- (6) Clutch switch

Tightening torque: N·m (kgf·m, ft·lb)

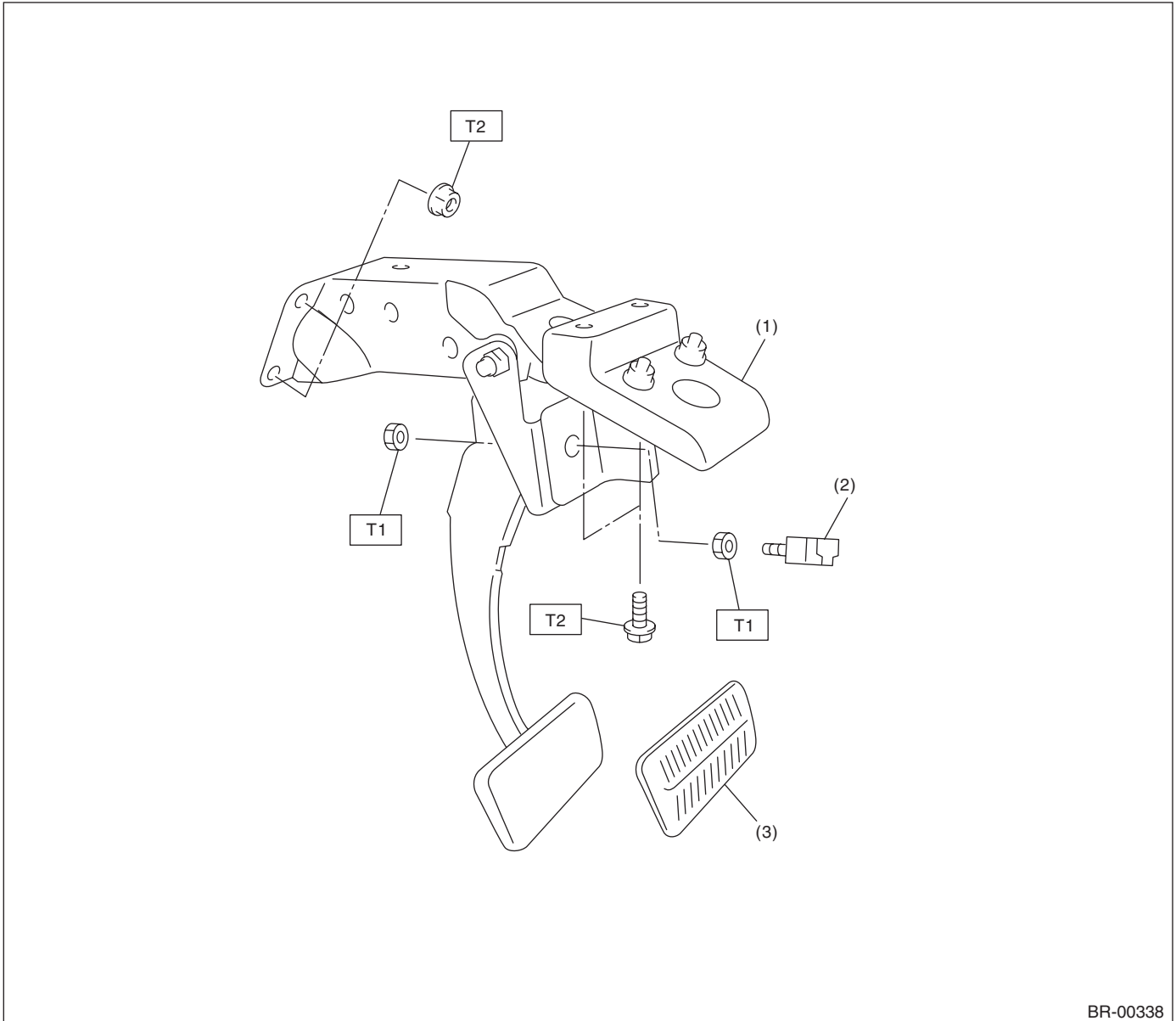
T1: 8 (0.8, 5.8)

T2: 18 (1.8, 13.0)

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- AT model



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, 13.0)

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C: CAUTION

- 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.

D: PREPARATION TOOL

1. GENERAL TOOL

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