# 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 | $cm^3$ (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<br>**CAUTION:**<br>**• Avoid mixing brake fluid of different brands to prevent fluid performance from degrading.**<br>**• When filling with brake fluid, be careful not to allow any dust to enter the reservoir.**<br>**• Use new SUBARU genuine brake fluid when replacing or refilling the fluid.** | | | FMVSS No. 116, DOT3, or DOT4 |

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

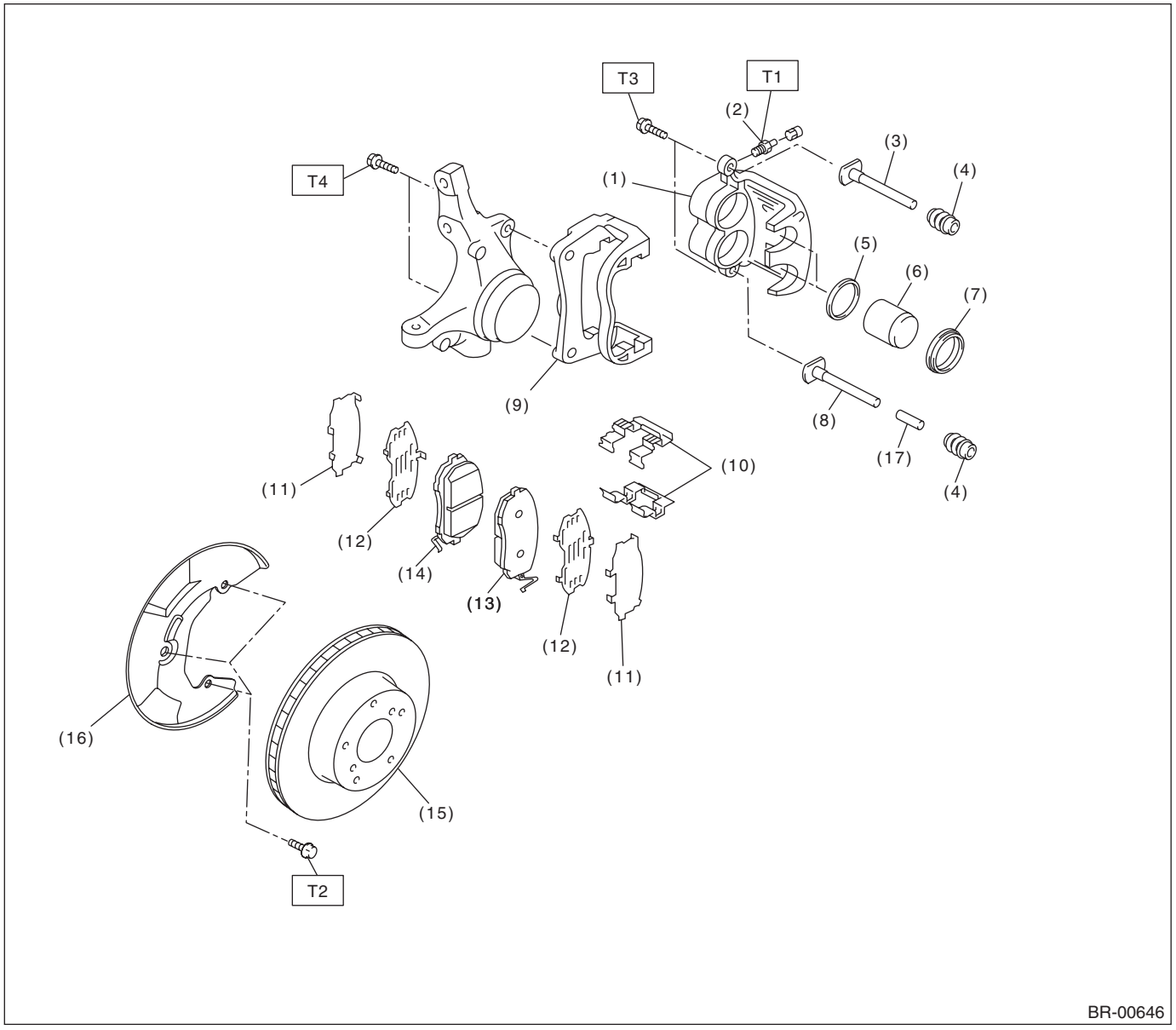
| Item | | | Specification | Service limit |
|---|---|---|---|---|
| Front brake | Pad thickness | mm (in) | 11 (0.43) | 1.5 (0.059) |
| | Disc thickness | mm (in) | 30 (1.18) | 28 (1.10) |
| | Disc runout | mm (in) | — | 0.05 (0.0020) |
| Rear brake (disc type) | Pad thickness | mm (in) | 11.0 (0.433) | 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$^2$, 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)<br>[When pulling the brake pedal upward with a force of less than 10 N (1 kgf, 2 lb).] |

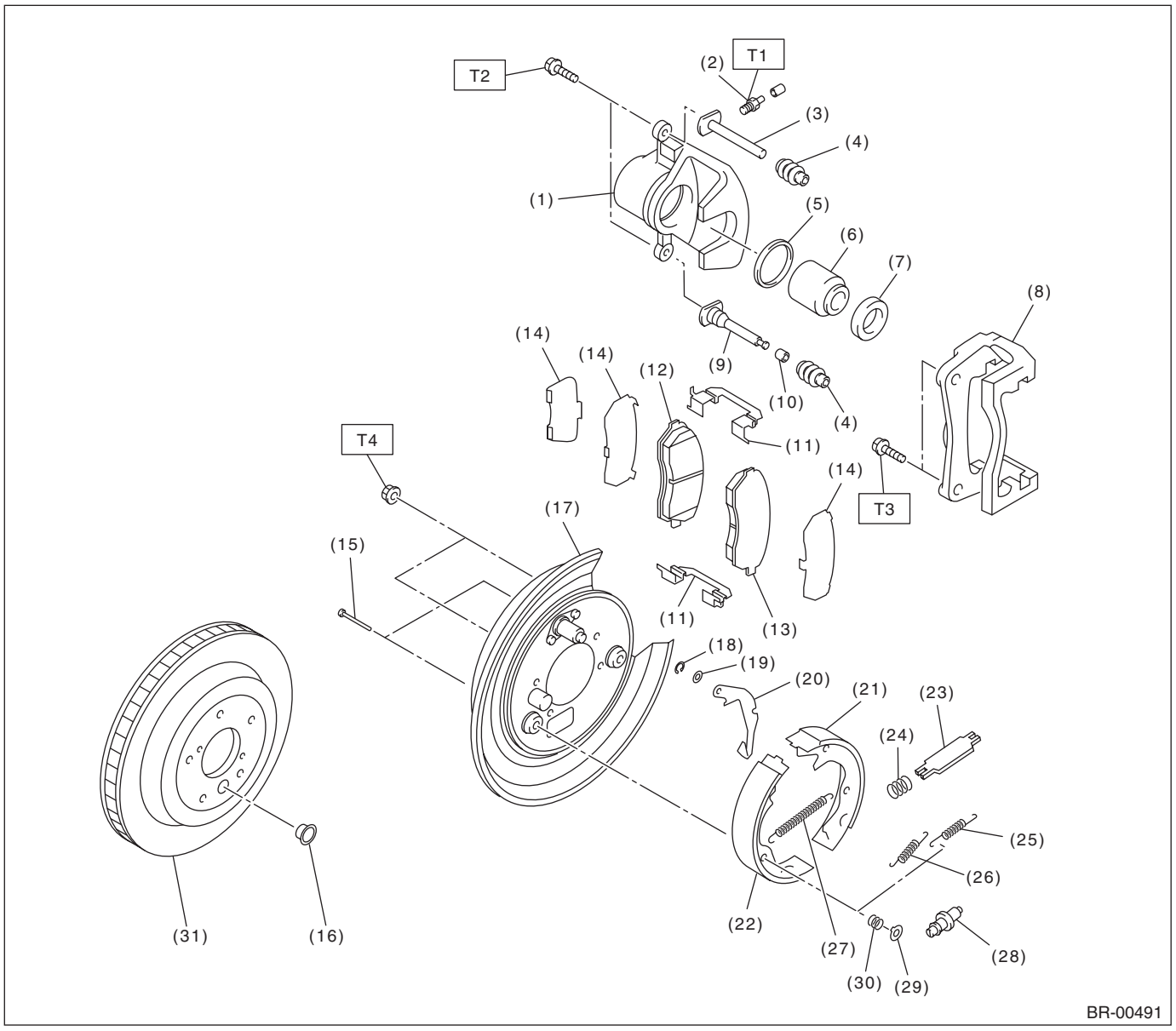
# B: COMPONENT

## 1. FRONT DISC BRAKE




| | | | | | |
|---|---|---|---|---|---|
| (1) | Caliper body | (9) | Support | (17) | Bushing |
| (2) | Air bleeder screw | (10) | Pad clip | | |
| (3) | Guide pin (Green) | (11) | Outer shim | ***Tightening torque:N·m (kgf-m, ft-lb)*** | |
| (4) | Pin boot | (12) | Inner shim | ***T1:*** | ***8 (0.8, 5.8)*** |
| (5) | Piston seal | (13) | Pad (Outside) | ***T2:*** | ***18 (1.8, 13.3)*** |
| (6) | Piston | (14) | Pad (Inside) | ***T3:*** | ***27 (2.8, 19.9)*** |
| (7) | Piston boot | (15) | Disc rotor | ***T4:*** | ***120 (12.2, 88.5)*** |
| (8) | Lock pin (Yellow) | (16) | Disc cover | | |

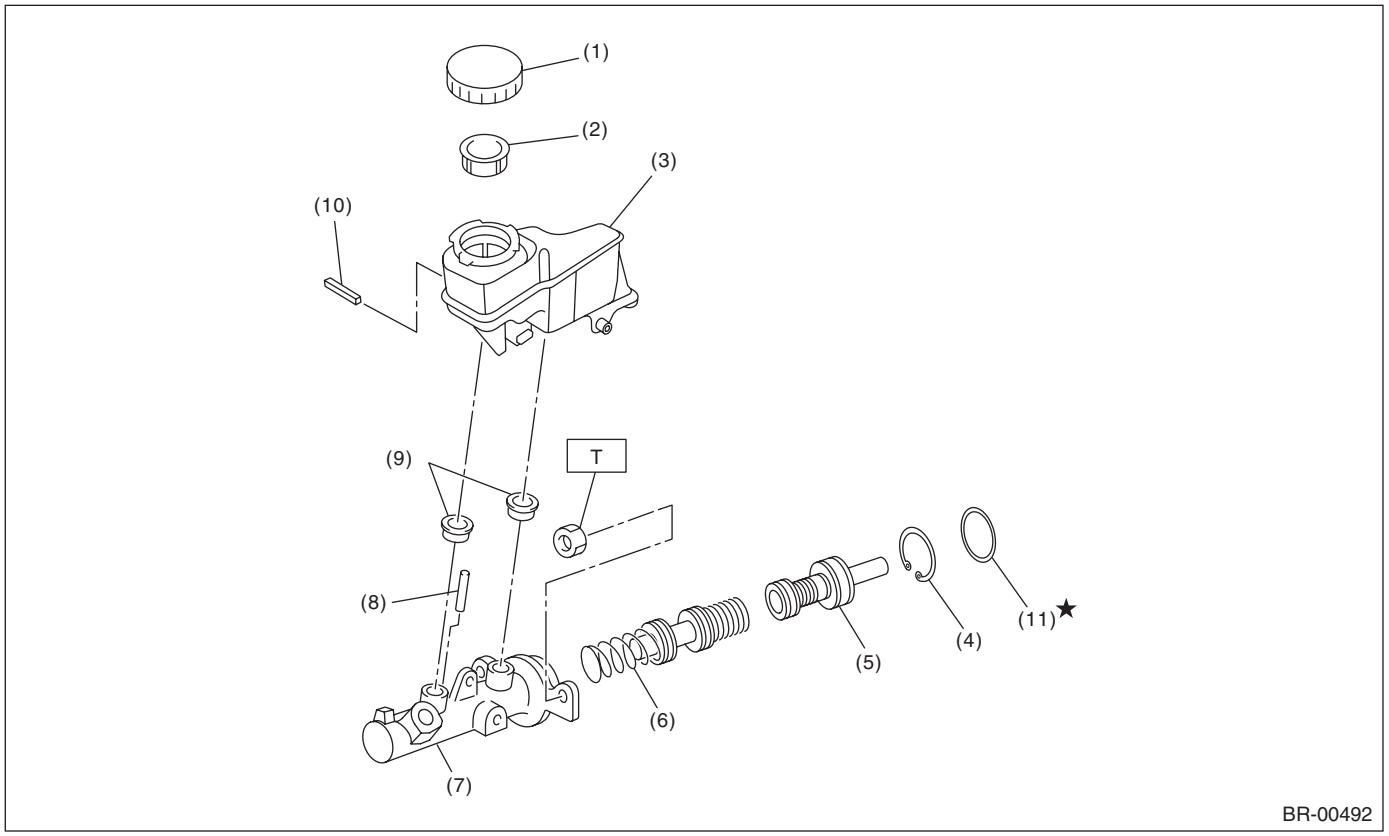
## 2. REAR DISC BRAKE




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

***Tightening torque:N·m (kgf-m, ft-lb)***
***T1: 8 (0.8, 5.8)***
***T2: 27 (2.8, 19.9)***
***T3: 66 (6.7, 48.7)***
***T4: 75 (7.6, 55.3)***

## 3. MASTER CYLINDER

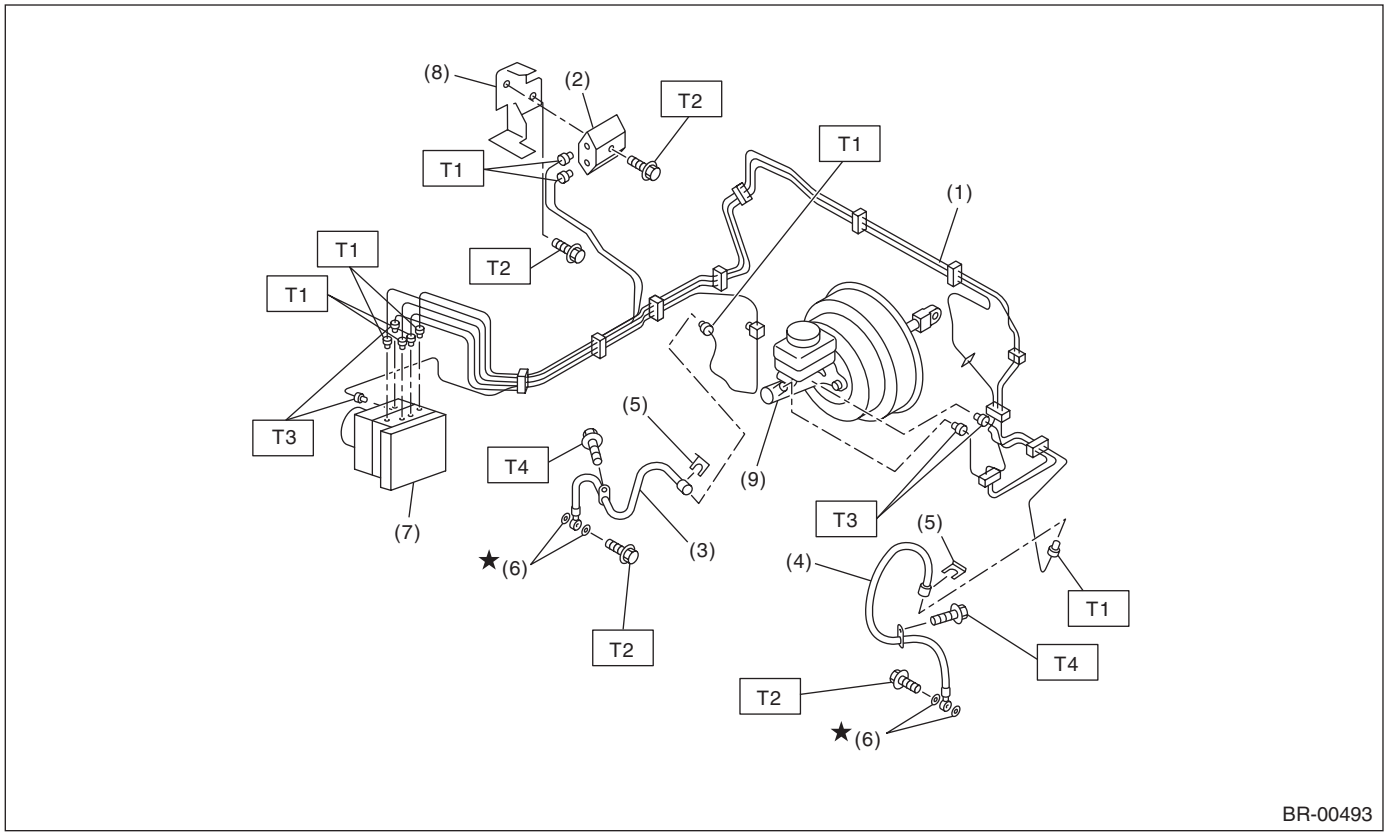



(1) Cap
(2) Filter
(3) Reservoir tank
(4) C-ring
(5) Primary piston
(6) Secondary piston
(7) Cylinder body
(8) Cylinder pin
(9) Seal
(10) Pin
(11) O-ring

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

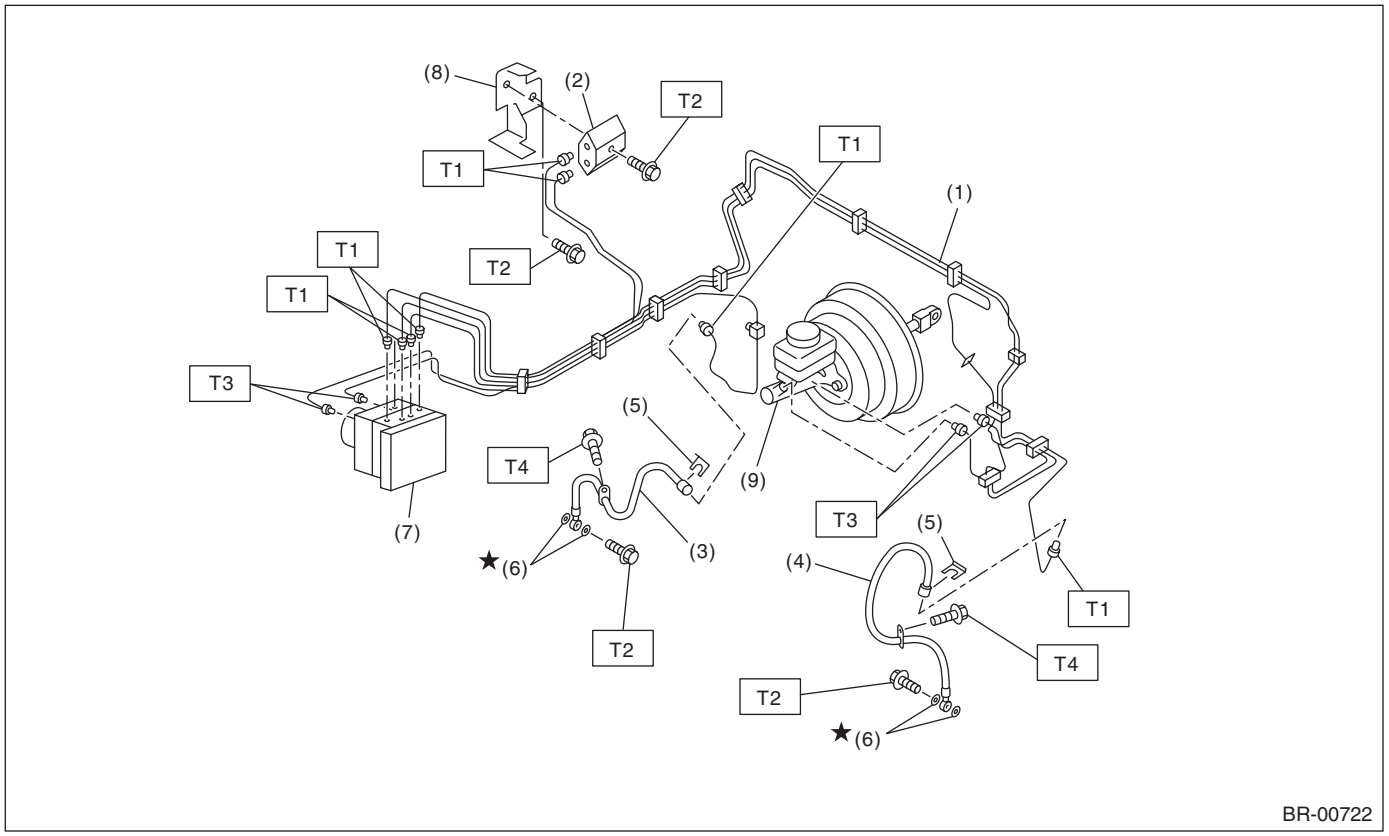
## 4. FRONT BRAKE PIPES AND HOSES

- VDC control module identification mark W2



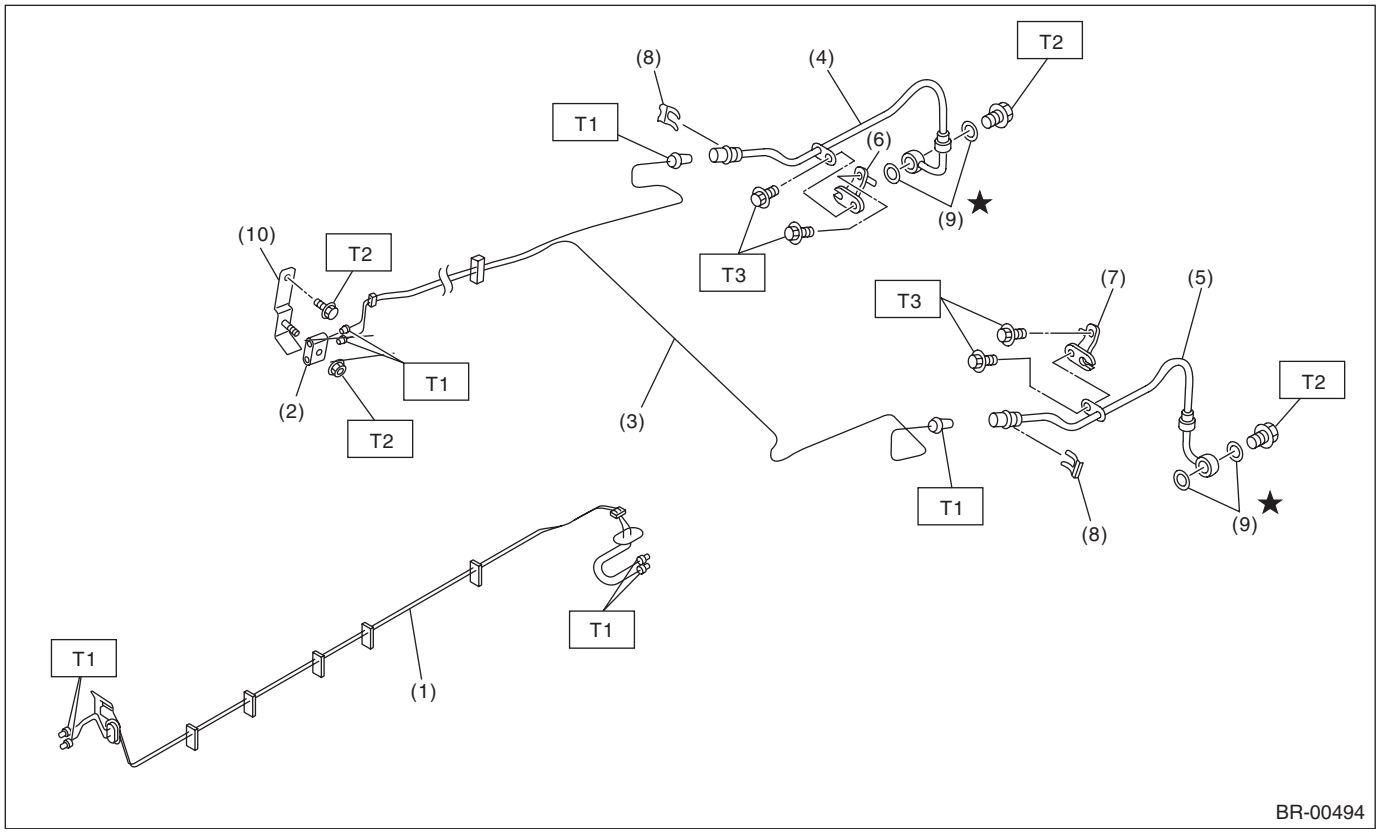

| | | | | |
|---|---|---|---|---|
| (1) | Front brake pipe ASSY | (6) | Gasket | ***Tightening torque:N·m (kgf-m, ft-lb)*** |
| (2) | Two-way connector | (7) | VDC control module & hydraulic control unit (VDCCM&H/U) | ***T1: 15 (1.5, 10.8)*** |
| (3) | Front brake hose RH | | | ***T2: 18 (1.8, 13.0)*** |
| (4) | Front brake hose LH | (8) | Bracket | ***T3: 19 (1.9, 14.0)*** |
| (5) | Clamp | (9) | Master cylinder | ***T4: 33 (3.4, 24.3)*** |

- VDC control module identification mark W3




| | | | | |
|---|---|---|---|---|
| (1) | Front brake pipe ASSY | (6) | Gasket | ***Tightening torque:N·m (kgf-m, ft-lb)*** |
| (2) | Two-way connector | (7) | VDC control module & hydraulic control unit (VDCCM&H/U) | ***T1: 15 (1.5, 10.8)*** |
| (3) | Front brake hose RH | | | ***T2: 18 (1.8, 13.0)*** |
| (4) | Front brake hose LH | (8) | Bracket | ***T3: 19 (1.9, 14.0)*** |
| (5) | Clamp | (9) | Master cylinder | ***T4: 33 (3.4, 24.3)*** |

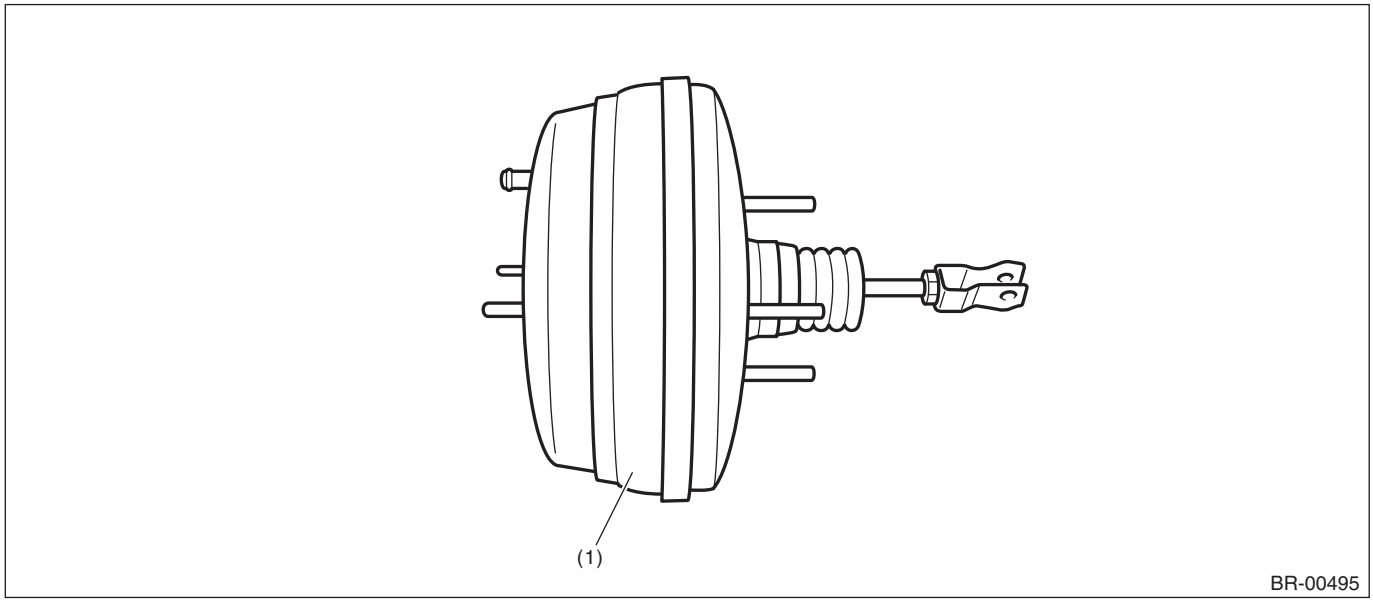
## 5. CENTER AND REAR BRAKE PIPES AND HOSES




| | | | |
|---|---|---|---|
| (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 |

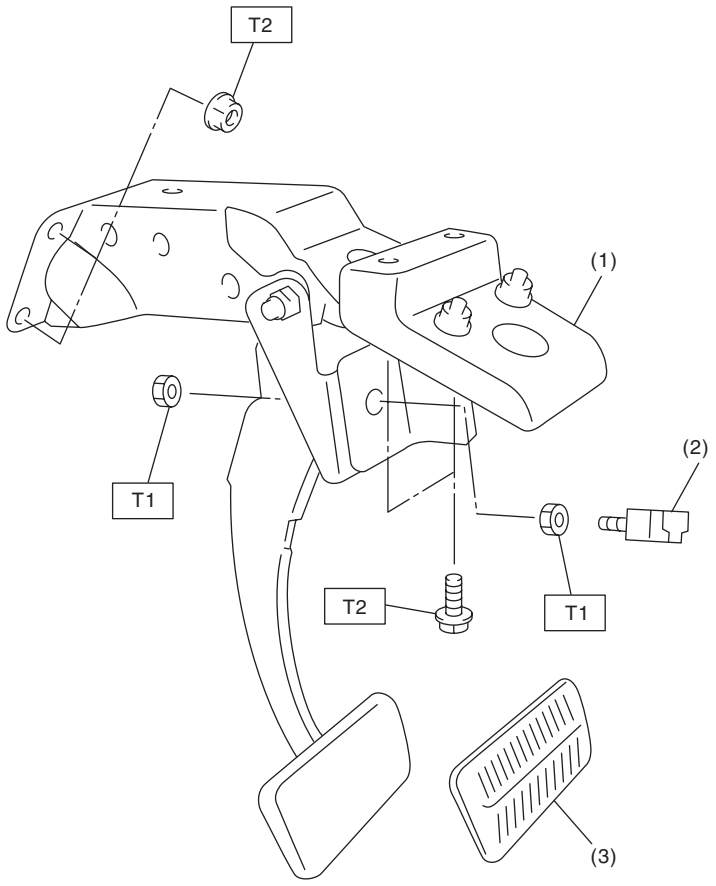
***Tightening torque:N·m (kgf-m, ft-lb)***
***T1: 15 (1.5, 10.8)***
***T2: 18 (1.8, 13.0)***
***T3: 33 (3.4, 24.3)***

## 6. BRAKE BOOSTER




(1) Brake booster

## 7. BRAKE PEDAL

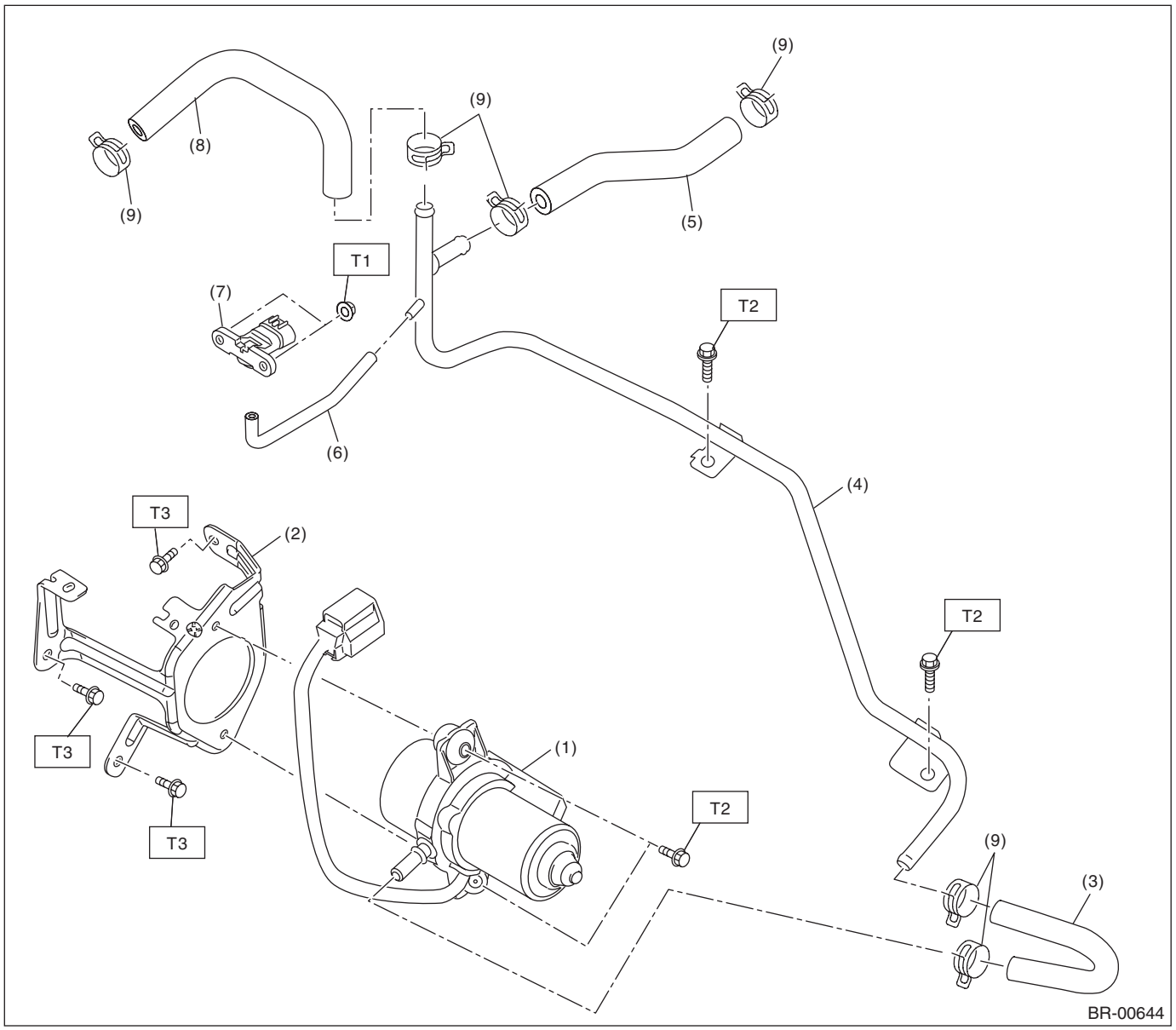



BR-00338

(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, 13.0)***

## 8. BRAKE VACUUM PUMP




(1) Vacuum pump
(2) Vacuum pump bracket
(3) Vacuum hose (Vacuum pump)
(4) Vacuum pipe
(5) Vacuum hose (Engine)
(6) Vacuum hose (Vacuum sensor)
(7) Vacuum sensor
(8) Vacuum hose (Brake booster)
(9) Hose clamp

***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. |