

GENERAL DESCRIPTION

Brake

1. General Description S405001

A: SPECIFICATIONS S405001E49

	Size	14 inch type	15 inch type	16 inch type
Front disc brake	Type	Disc (Floating type, ventilated)		
	Effective disc diameter	210 mm (8.27 in)	228 mm (8.98 in)	248 mm (9.76 in)
	Disc thickness × Outer diameter	24 × 260 mm (0.94 × 10.24 in)	24 × 277 mm (0.94 × 10.91 in)	24 × 294 mm (0.94 × 11.57 in)
	Effective cylinder diameter	57.2 mm (2.252 in)	42.8 mm (1.685 in) × 2	
	Pad dimensions (length × width × thickness)	112.4 × 44.3 × 11.0 mm (4.425 × 1.744 × 0.433 in)	112.3 × 50.0 × 11.0 mm (4.421 × 1.969 × 0.433 in)	
	Clearance adjustment	Automatic adjustment		
	Rear disc brake	Type	—	Disc (Floating type)
Effective disc diameter		—	254 mm (10.0 in)	
Disc thickness × Outer diameter		—	10 × 290 mm (0.39 × 11.42 in)	
Effective cylinder diameter		—	38.1 mm (1.500 in)	
Pad dimensions (length × width × thickness)		—	82.4 × 33.7 × 9.0 mm (3.244 × 1.327 × 0.354 in)	
Clearance adjustment		—	Automatic adjustment	
Rear drum brake	Type	Drum (Leading-Trailing type)	—	—
	Effective drum diameter	228.6 mm (9 in)	—	—
	Effective cylinder diameter	20.6 mm (0.811 in)	—	—
	Lining dimensions (length × width × thickness)	218.8 × 35.0 × 4.1 mm (8.61 × 1.378 × 0.161 in)	—	—
	Clearance adjustment	Automatic adjustment	—	—
Master cylinder	Type	Tandem		
	Effective diameter	25.4 mm (1 in)	26.99 mm (1-1/16 in)	
	Reservoir type	Sealed type		
	Brake fluid reservoir capacity	205 cm ³ (12.51 cu in)		
Brake booster	Type	Vacuum suspended		
	Effective diameter	180 + 205 mm (7.09 + 8.07 in)	205 + 230 mm (8.07 + 9.06 in)	
Proportioning valve	Split point	3,678 kPa (37.5 kg/cm ² , 533 psi)	2,942 kPa (30 kg/cm ² , 427 psi)	3,678 kPa (37.5 kg/cm ² , 533 psi)
	Reducing ratio	0.3		
Brake line	Dual circuit system			
Brake fluid CAUTION: ● Avoid mixing brake fluid of different brands to prevent the fluid performance from degrading. ● When brake fluid is supplemented, be careful not to allow any dust into the reservoir. ● Use fresh DOT3 or 4 brake fluid when replacing or refilling the fluid.	FMVSS No. 116, DOT3 or DOT4			

NOTE:
Refer to “PB section” for parking brake SPECIFICATIONS.

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ITEM		STANDARD	SERVICE LIMIT
Front brake	Pad thickness (including back metal)	17 mm (0.67 in)	7.5 mm (0.295 in)
	Disc thickness	24 mm (0.94 in)	22 mm (0.87 in)
	Disc runout	—	0.075 mm (0.0030 in)
Rear brake (Disc type)	Pad thickness (including back metal)	14 mm (0.55 in)	6.5 mm (0.256 in)
	Disc thickness	10 mm (0.39 in)	8.5 mm (0.335 in)
	Disc runout	—	0.075 mm (0.0030 in)
Rear brake (Drum type)	Inside diameter	228.6 mm (9 in)	230.6 mm (9.08 in)
	Lining thickness	4.1 mm (0.161 in)	1.5 mm (0.059 in)
Rear brake (Disc type parking)	Inside diameter	170 mm (6.69 in)	171 mm (6.73 in)
	Lining thickness	3.2 mm (0.126 in)	1.5 mm (0.059 in)
Parking brake	Lever stroke	7 to 8 notches/196 N (20 kg, 44 lb)	

		Brake pedal force	Fluid pressure		
			14 inch type	15 inch type	16 inch type
Brake booster	Brake fluid pressure without engine running	147 N (15 kg, 33 lb)	785 kPa (8 kg/cm ² , 114 psi)	686 kPa (7 kg/cm ² , 100 psi)	
		294 N (30 kg, 66 lb)	1,961 kPa (20 kg/cm ² , 284 psi)	1,765 kPa (18 kg/cm ² , 256 psi)	
	Brake fluid pressure with engine running and vacuum at 66.7 kPa (500 mmHg, 19.69 inHg)	147 N (15 kg, 33 lb)	6,375 kPa (65 kg/cm ² , 924 psi)	5,688 kPa (58 kg/cm ² , 825 psi)	
		294 N (30 kg, 66 lb)	9,121 kPa (93 kg/cm ² , 1,322 psi)	9,905 kPa (101 kg/cm ² , 1,436 psi)	

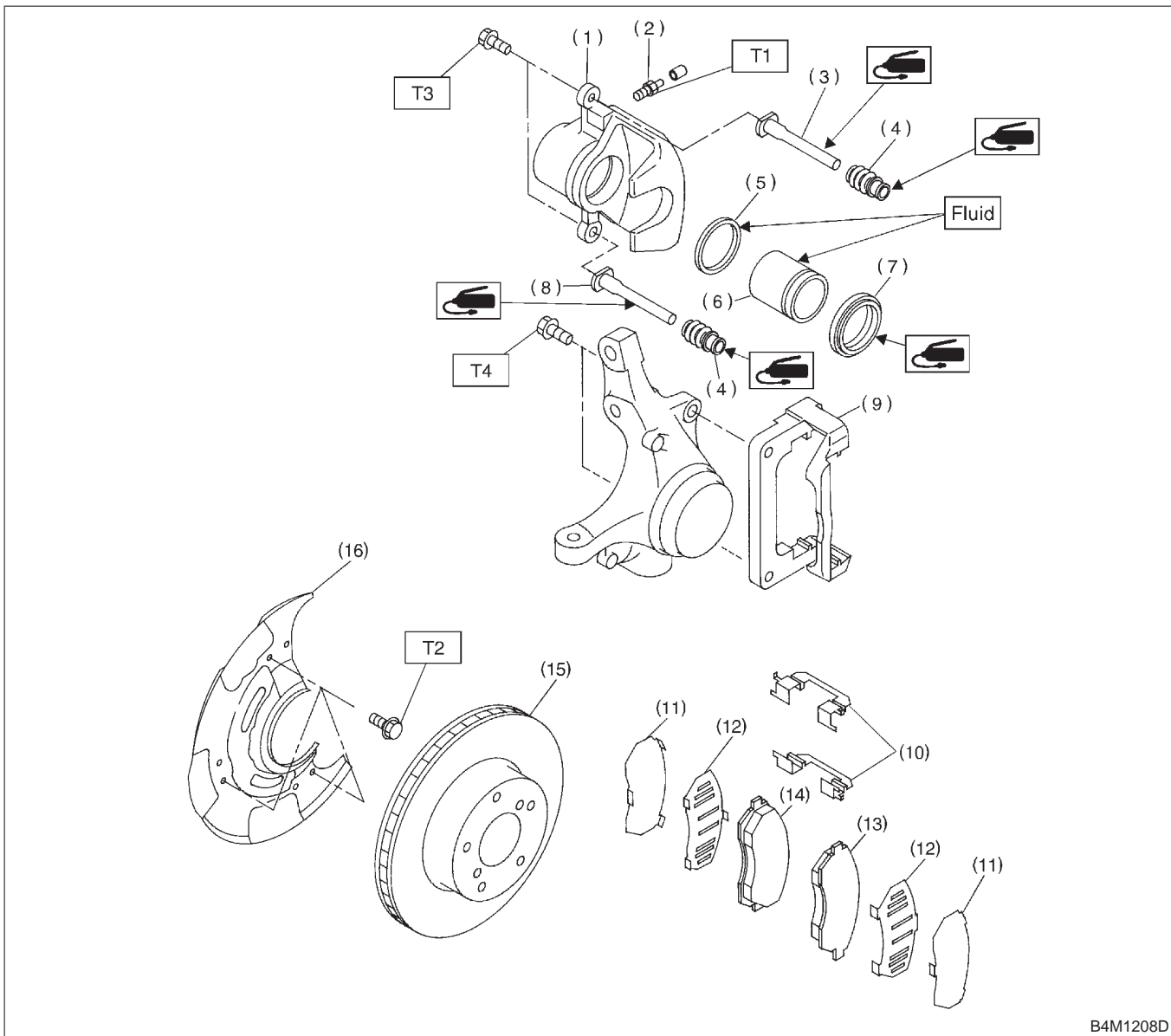
Brake pedal	Free play	1 — 3 mm (0.04 — 0.12 in) [Depress brake pedal pad with a force of less than 10 N (1 kg, 2 lb).]
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B: COMPONENT S405001A05

1. 14 inch TYPE S405001A0501



- (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

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

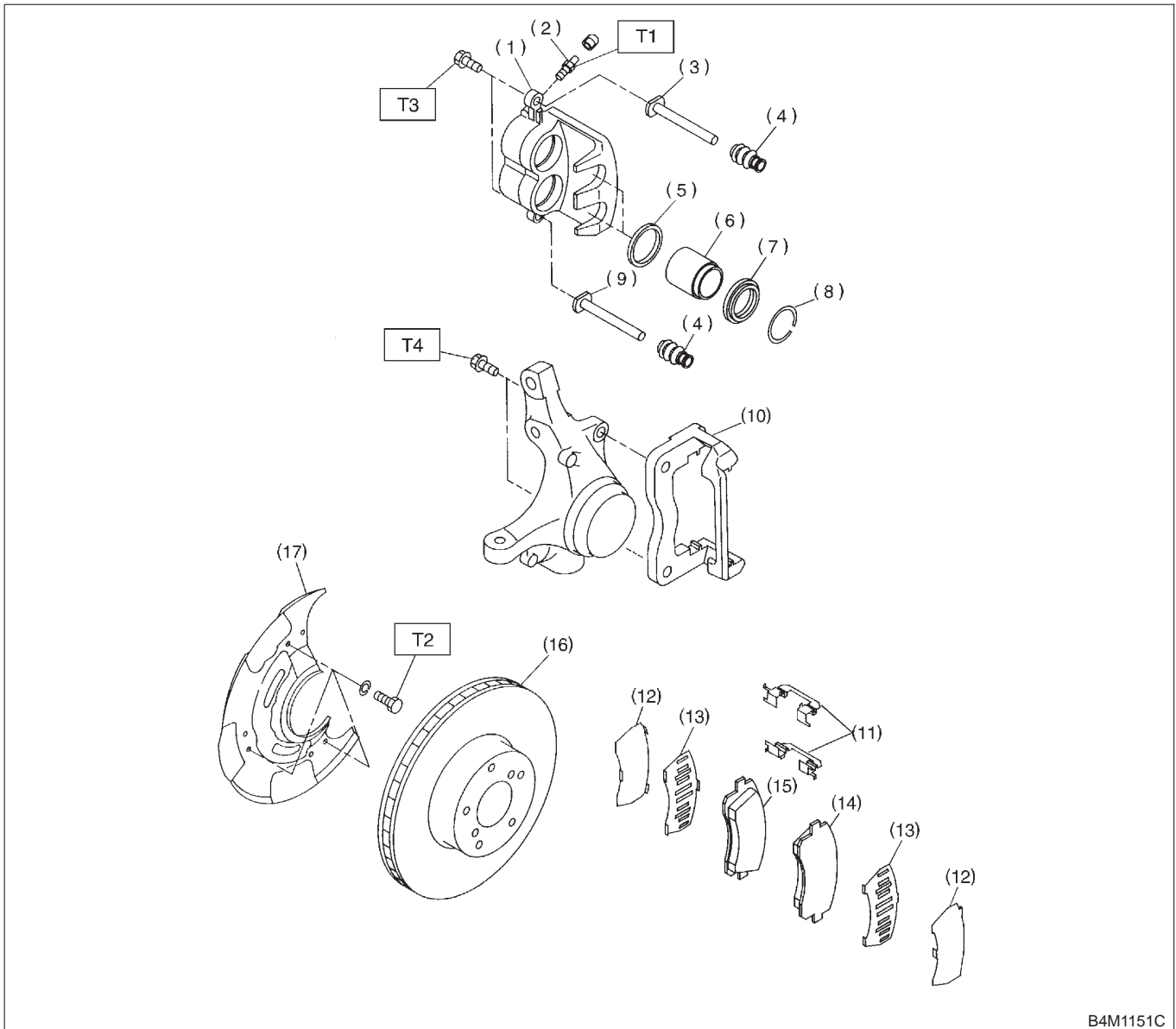
T1: 8 (0.8, 5.8)

T2: 18 (1.8, 13.0)

T3: 37 (3.8, 27.5)

T4: 78 (8.0, 58)

2. 15 inch AND 16 inch TYPE S405001A0502



- (1) Caliper body
- (2) Air bleeder screw
- (3) Guide pin (Green)
- (4) Pin boot
- (5) Piston seal
- (6) Piston
- (7) Piston boot
- (8) Boot ring

- (9) Lock pin (Yellow)
- (10) Support
- (11) Pad clip
- (12) Outer shim
- (13) Inner shim
- (14) Pad (Outside)
- (15) Pad (Inside)
- (16) Disc rotor

- (17) Disc cover

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

T1: 8 (0.8, 5.8)

T2: 18 (1.8, 13.0)

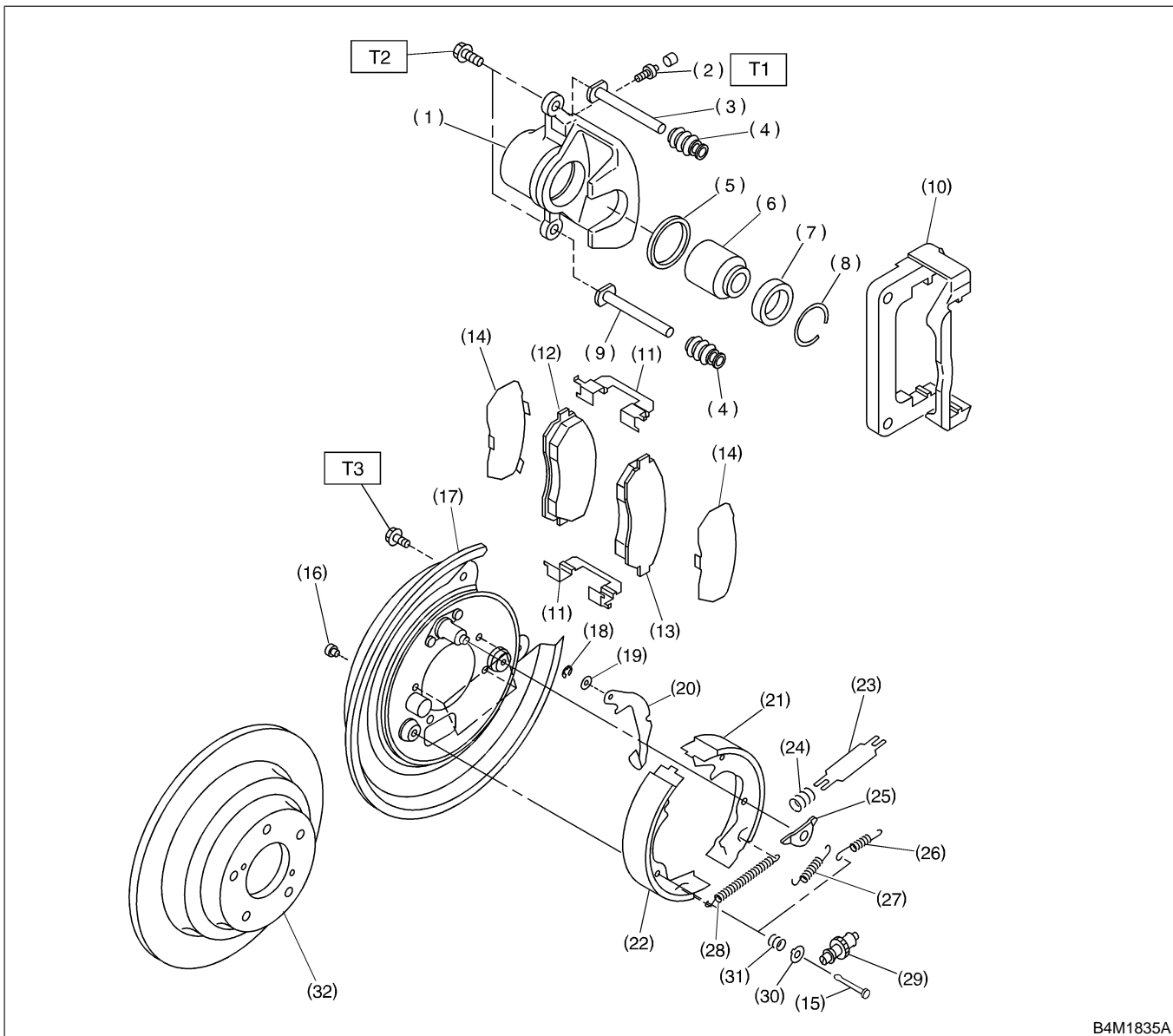
T3: 39 (4.0, 28.9)

T4: 78 (8.0, 58)

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3. REAR DISC BRAKE S405001A0503



B4M1835A

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

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

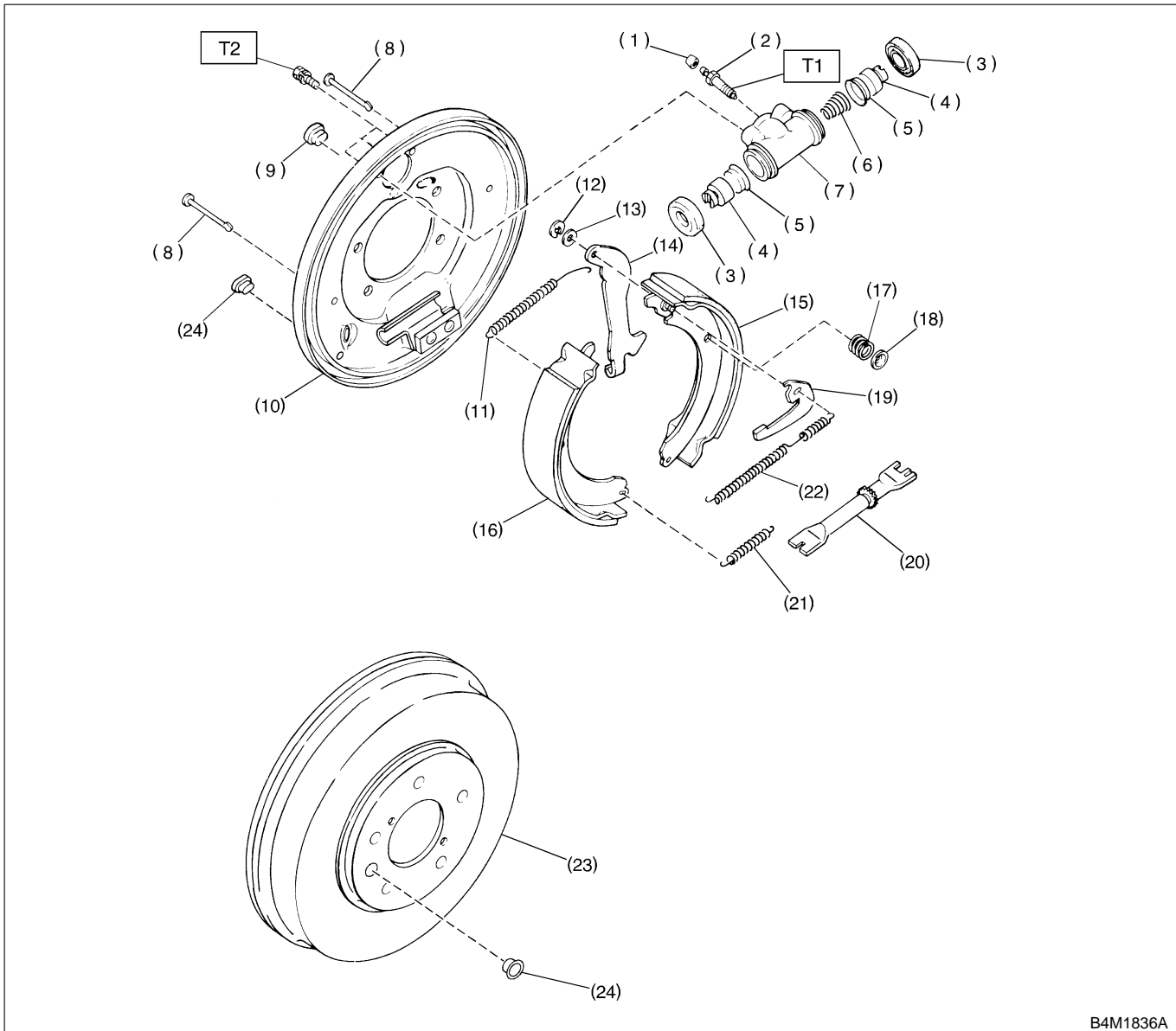
T1: 8 (0.8, 5.8)

T2: 39 (4.0, 28.9)

T3: 52 (5.3, 38.3)

BR-6

4. REAR DRUM BRAKE S405001A0504



B4M1836A

- | | | |
|-------------------------|-------------------------------|-------------------------------|
| (1) Air bleeder cap | (11) Upper shoe return spring | (21) Lower shoe return spring |
| (2) Air bleeder screw | (12) Retainer | (22) Adjusting spring |
| (3) Boot | (13) Washer | (23) Drum |
| (4) Piston | (14) Parking brake lever | (24) Plug |
| (5) Cup | (15) Brake shoe (Trailing) | |
| (6) Spring | (16) Brake shoe (Leading) | |
| (7) Wheel cylinder body | (17) Shoe hold-down spring | |
| (8) Pin | (18) Cup | |
| (9) Plug | (19) Adjusting lever | |
| (10) Back plate | (20) Adjuster | |

Tightening torque: N·m (kgf·m, ft·lb)

T1: 8 (0.8, 5.8)

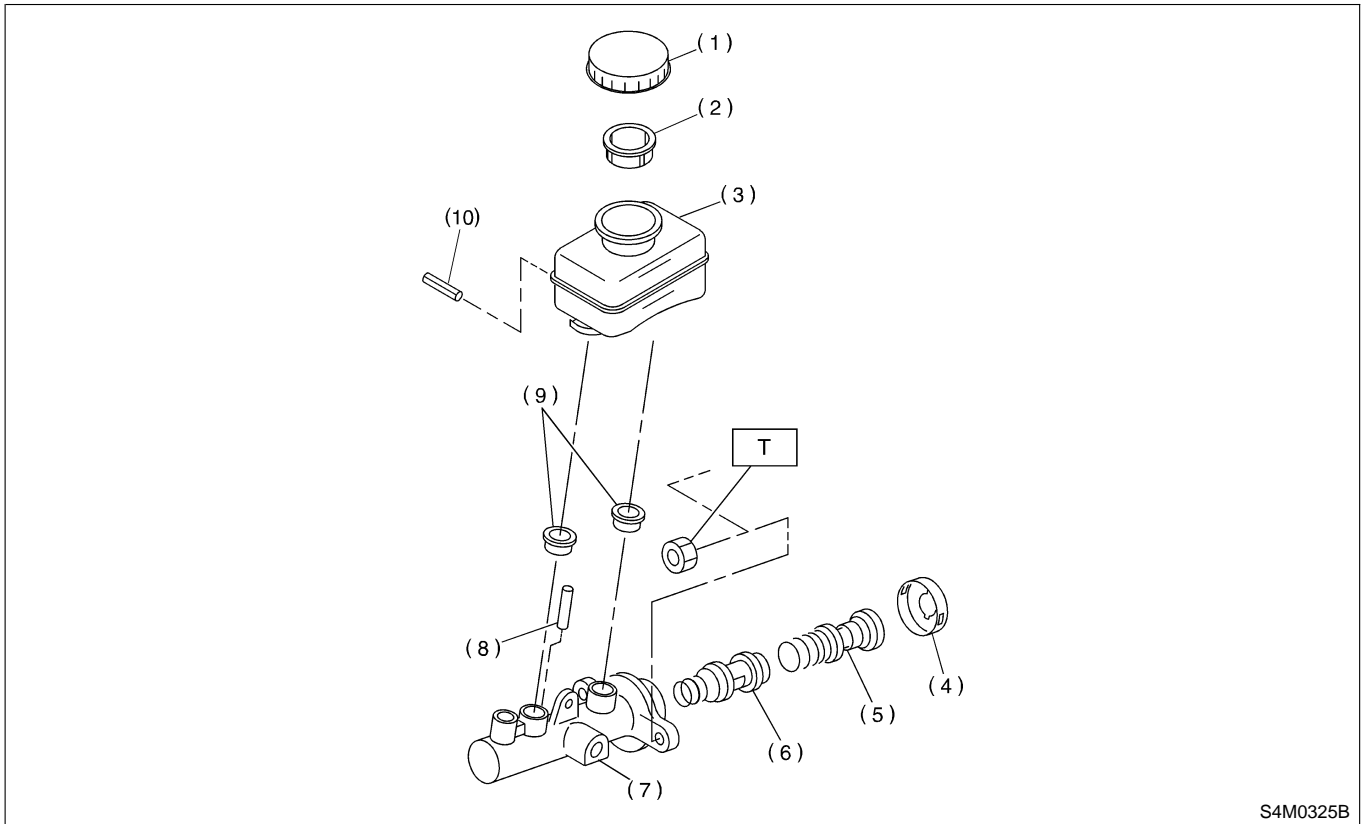
T2: 10 (1.0, 7.2)

GENERAL DESCRIPTION

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5. MASTER CYLINDER S405001A0505

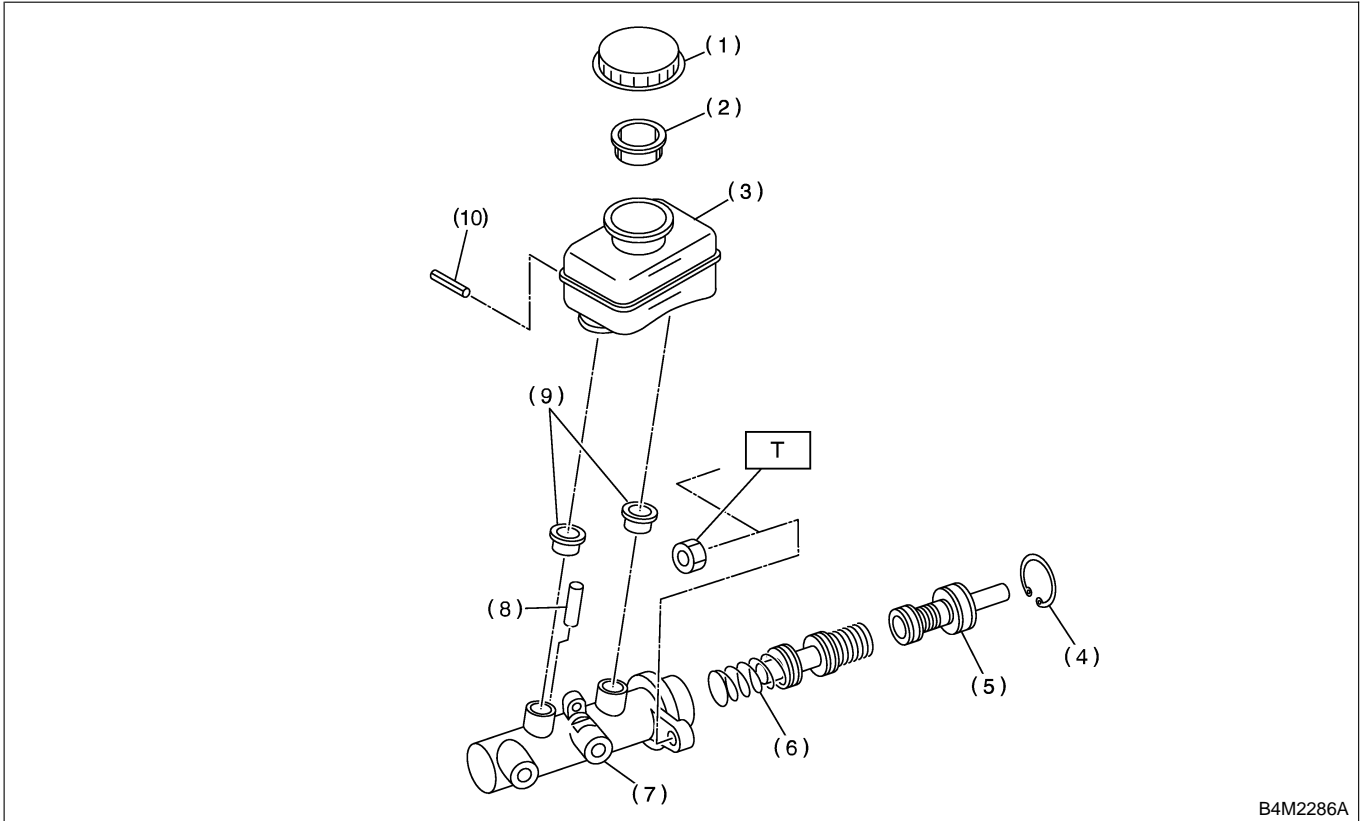
● Without VDC model



- | | |
|---------------------|-----------------------------|
| (1) Cap | (6) Secondary piston |
| (2) Filter | (7) Cylinder body |
| (3) Reservoir tank | (8) Cylinder pin (With ABS) |
| (4) Piston retainer | (9) Seal |
| (5) Primary piston | (10) Pin |

Tightening torque: N·m (kgf·m, ft·lb)
T: 14 (1.4, 10.1)

● With VDC model



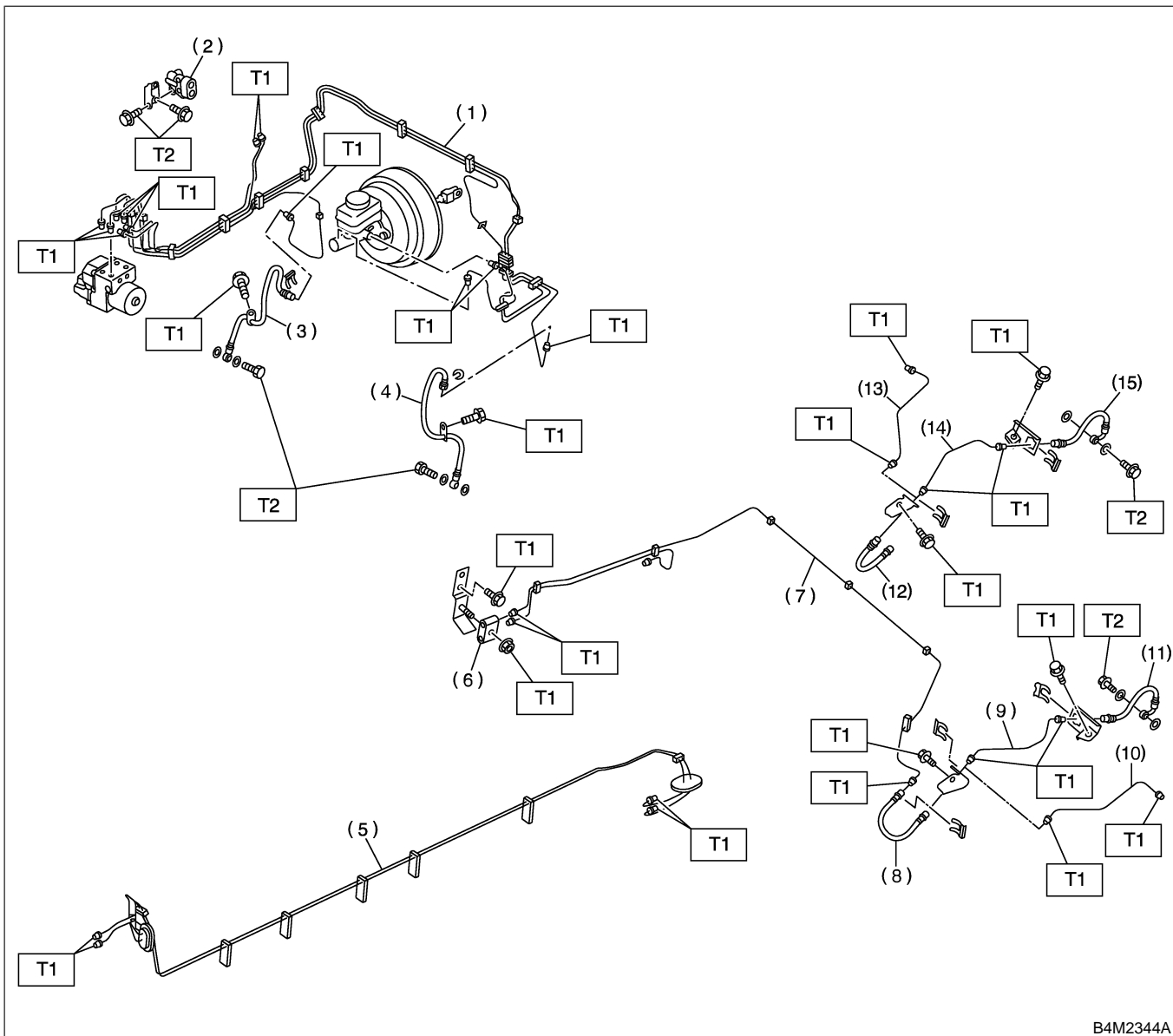
- | | |
|--------------------|----------------------|
| (1) Cap | (6) Secondary piston |
| (2) Filter | (7) Cylinder body |
| (3) Reservoir tank | (8) Cylinder pin |
| (4) C-ring | (9) Seal |
| (5) Primary piston | (10) Pin |

Tightening torque: N·m (kgf·m, ft·lb)
T: 14 (1.4, 10.1)

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6. BRAKE PIPES AND HOSE S405001A0506



B4M2344A

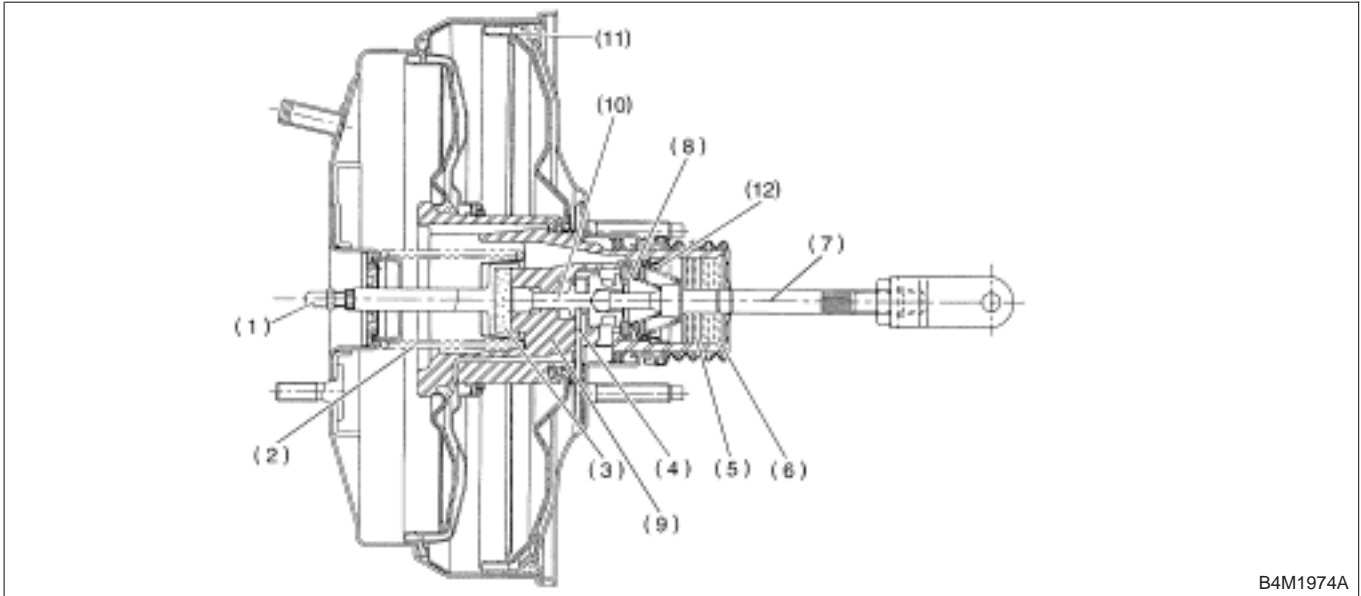
- | | | |
|--------------------------------|--|--|
| (1) Front brake pipe assembly | (9) Rear brake pipe LH (Disc brake model) | (14) Rear brake pipe RH (Disc brake model) |
| (2) Proportioning valve | (10) Rear brake pipe LH (Drum brake model) | (15) Rear brake hose rear RH |
| (3) Front brake hose RH | (11) Rear brake hose rear LH | |
| (4) Front brake hose LH | (12) Rear brake hose RH | |
| (5) Center brake pipe assembly | (13) Rear brake pipe RH (Drum brake model) | |
| (6) Two-way connector | | |
| (7) Rear brake pipe assembly | | |
| (8) Rear brake hose LH | | |

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

T1: 15 (1.5, 10.8)

T2: 18 (1.8, 13.0)

7. BRAKE BOOSTER S405001A0507



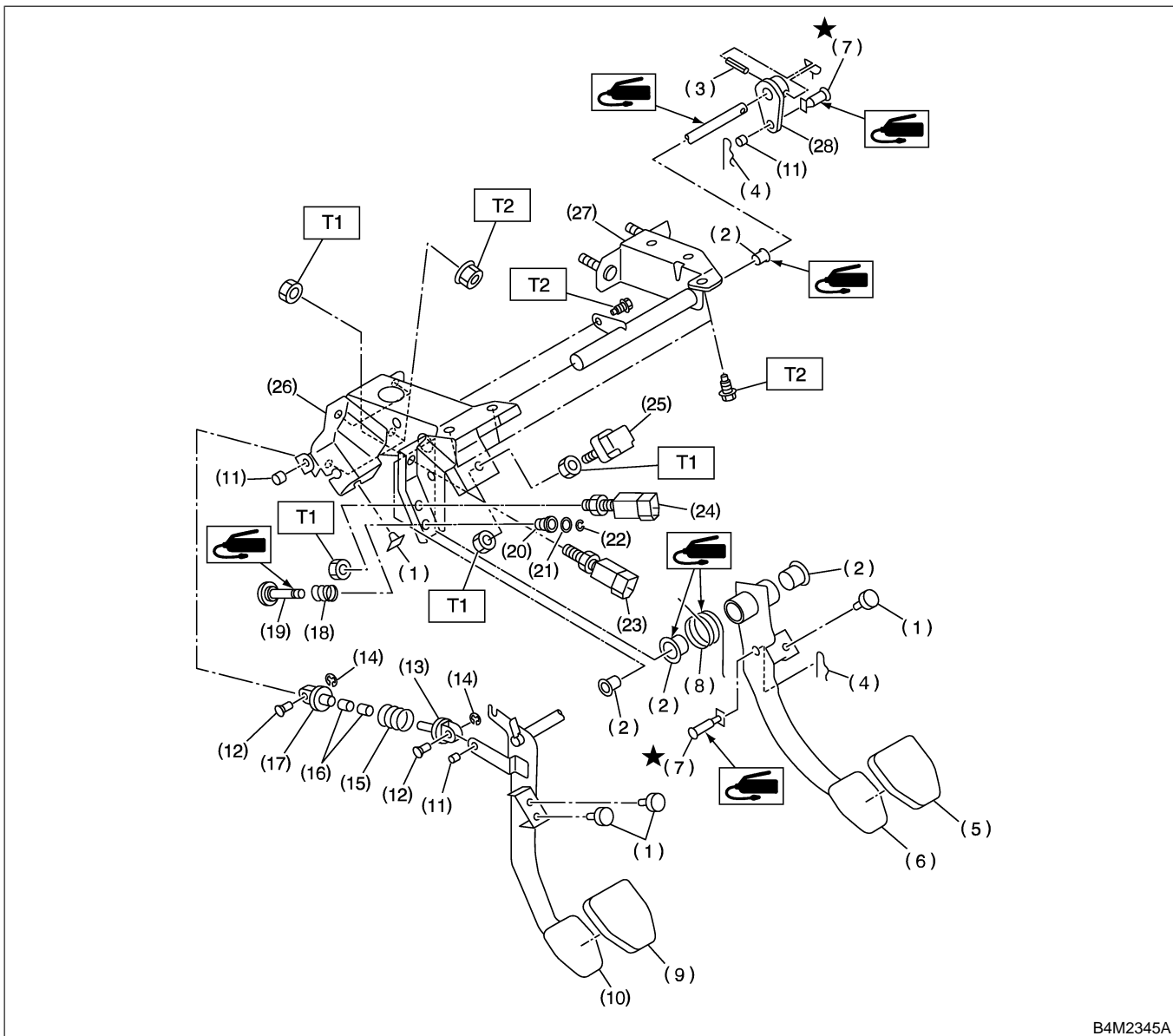
B4M1974A

- | | | |
|-------------------|-------------------|--------------------------|
| (1) Push rod | (5) Filter | (9) Valve body |
| (2) Return spring | (6) Silencer | (10) Plunger valve |
| (3) Reaction disc | (7) Operating rod | (11) Diaphragm plate |
| (4) Key | (8) Poppet valve | (12) Valve return spring |

GENERAL DESCRIPTION

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8. BRAKE PEDAL FOR MT MODEL S405001A0508



B4M2345A

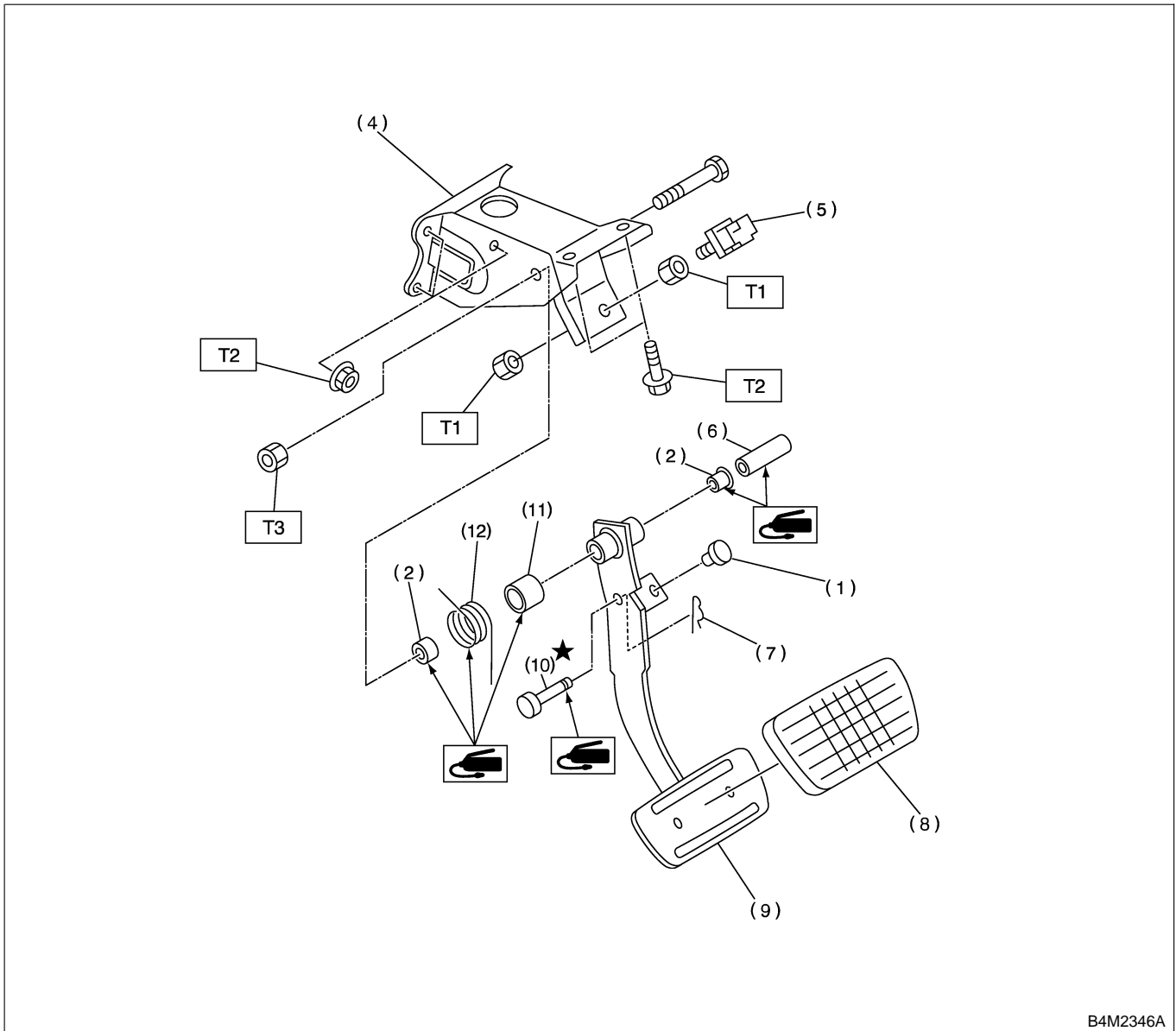
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|------------------------|--|--|
| (1) Stopper | (13) Assist rod A | (24) Clutch switch (With cruise control) |
| (2) Bushing | (14) Clip | (25) Stop light switch |
| (3) Spring pin | (15) Assist spring | (26) Pedal bracket |
| (4) Snap pin | (16) Assist bushing | (27) Clutch master cylinder bracket |
| (5) Brake pedal pad | (17) Assist rod B | (28) Lever |
| (6) Brake pedal | (18) Spring S | |
| (7) Clevis pin | (19) Rod S | |
| (8) Brake pedal spring | (20) Bushing S | |
| (9) Clutch pedal pad | (21) O-ring | |
| (10) Clutch pedal | (22) Clip | |
| (11) Bushing C | (23) Clutch switch (Starter interlock) | |
| (12) Clutch clevis pin | | |

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

T1: 8 (0.8, 5.8)

T2: 18 (1.8, 13.0)

9. BRAKE PEDAL FOR AT MODEL S405001A0509



B4M2346A

- | | |
|-----------------------|-------------------------|
| (1) Stopper | (7) Snap pin |
| (2) Bushing | (8) Brake pedal pad |
| (3) Plug | (9) Brake pedal |
| (4) Pedal bracket | (10) Clevis pin |
| (5) Stop light switch | (11) Brake spacer |
| (6) Spacer | (12) Brake pedal spring |

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

T1: 8 (0.8, 5.8)

T2: 18 (1.8, 13.0)

T3: 29 (3.0, 21.7)

C: CAUTION S405001A03

- Wear working clothing, including a cap, protective goggles, and protective shoes during operation.
- Remove contamination including dirt and corrosion before removal, installation or disassembly.
- Keep the disassembled parts in order and protect them from dust or dirt
- Before removal, installation or disassembly, be sure to clarify the failure. Avoid unnecessary removal, installation, disassembly, and replacement.
- Be careful not to burn your hands, because each part in the vehicle is hot after running.
- Use SUBARU genuine grease etc. or the equivalent. Do not mix grease etc. with that of another grade or from other manufacturers.
- Be sure to tighten fasteners including bolts and nuts to the specified torque.
- Place shop jacks or safety stands at the specified points.
- Apply grease onto sliding or revolution surfaces before installation.
- Before installing O-rings or snap rings, apply sufficient amount of grease to avoid damage and deformation
- 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.
- Do not put fluid on body. If the body is tainted, wash away with water.

