

GENERAL DESCRIPTION

Brake

1. General Description

S405001

A: SPECIFICATIONS

S405001E49

	Engine (cc)	2200			
	Driving system	AWD			
		Without ABS	With ABS		
Front brake	Type	Disc (Floating type, ventilated)			
	Effective disc diameter	210 mm (8.27 in)			
	Disc thickness × outer diameter	24 × 260 mm (0.94 × 10.24 in)			
	Effective cylinder diameter	57.15 mm (2.2500 in)			
	Pad dimensions (length × width × thickness)	112.4 × 44.3 × 11.0 mm (4.43 × 1.744 × 0.433 in)			
	Clearance adjustment	Automatic adjustment			
Rear brake	Type	Drum (Leading-trailing type)			
	Effective drum diameter	228.6 mm (9 in)			
	Effective cylinder diameter	19.05 mm (0.7500 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	23.81 mm (0.9374 in)	25.40 mm (1 in)		
	Reservoir type	Sealed type			
	Brake fluid reservoir capacity	205 cm ³ (12.51 cu in)			
Brake booster	Type	Vacuum suspended			
	Effective diameter	230 mm (9.06 in)	180 + 205 mm (7.09 + 8.07 in)		
Proportioning valve	Split point	2,942 kPa (30.0 kg/cm ² , 427 psi)			
	Reducing ratio	0.4			
Brake line	Dual circuit system				
Brake fluid CAUTION: <ul style="list-style-type: none">● 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.

GENERAL DESCRIPTION

Brake

	Engine (cc)	2500
	Driving system	AWD
		With ABS
Front brake	Type	Disc (Floating type, ventilated)
	Effective disc diameter	228 mm (8.98 in)
	Disc thickness × Outer diameter	24 × 277 mm (0.94 × 10.91 in)
	Effective cylinder diameter	42.8 mm (1.685 in) × 2
	Pad dimensions (length × width × thickness)	112.3 × 50.0 × 11.0 mm (4.42 × 1.969 × 0.433 in)
	Clearance adjustment	Automatic adjustment
Rear brake	Type	Disc (Floating type)
	Effective disc diameter	230 mm (9.06 in)
	Disc thickness × Outer diameter	10 × 266 mm (0.39 × 10.47 in)
	Effective cylinder diameter	38.1 mm (1.500 in)
	Pad dimensions (length × width × thickness)	92.4 × 33.7 × 10.0 mm (3.638 × 1.327 × 0.394 in)
	Clearance adjustment	Automatic adjustment
Master cylinder	Type	Tandem
	Effective diameter	25.40 mm (1 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)
Proportioning valve	Split point	2,942 kPa (30.0 kg/cm ² , 427 psi)
	Reducing ratio	0.4
Brake line		Dual circuit system
Brake fluid		FMVSS No. 116, DOT3 or DOT4
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.		

NOTE:

Refer to "PB" section for parking brake SPECIFICATIONS.

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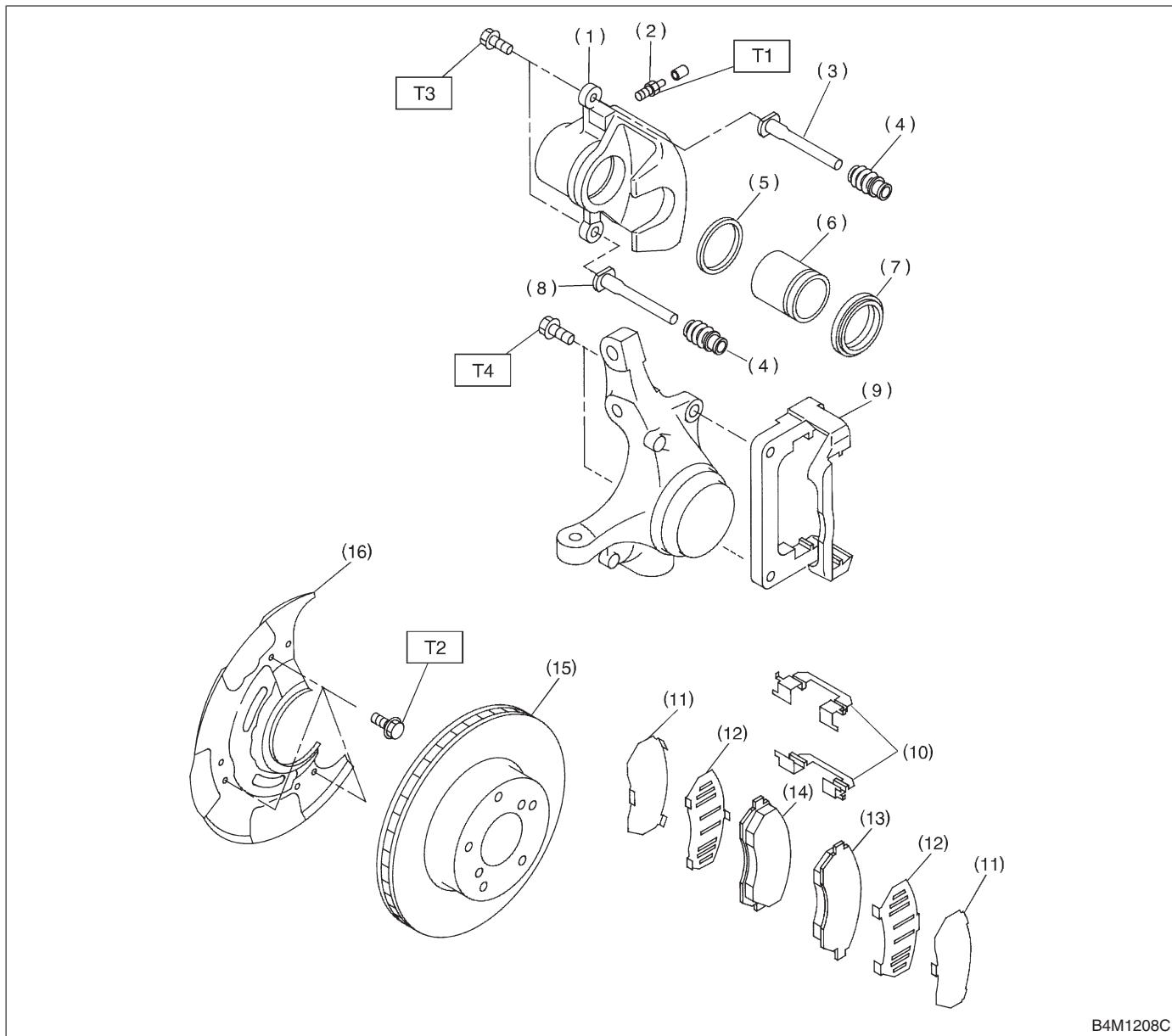
ITEM		STANDARD	SERVICE LIMIT
Front brake	Pad thickness (including back metal)	17 mm (0.67 in)	7.5 mm (0.295 in)
	Disc thickness	24 mm (0.94 in)	22 mm (0.87 in)
	Disc runout	—	0.075 mm (0.0030 in)
Rear brake (Disc type)	Pad thickness (including back metal)	15 mm (0.59 in)	6.5 mm (0.256 in)
	Disc thickness	10 mm (0.39 in)	8.5 mm (0.335 in)
	Disc runout	—	0.1 mm (0.004 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)
		Without ABS	With ABS
Brake booster	Brake fluid pressure without engine running	Brake pedal force	Fluid pressure
		147 N (15 kgf, 33 lb)	785 kPa (8 kg/cm ² , 114 psi)
		294 N (30 kgf, 66 lb)	2,158 kPa (22 kg/cm ² , 313 psi)
	Brake fluid pressure with engine running and vacuum at 66.7 kPa (500 mmHg, 19.69 inHg)	147 N (15 kgf, 33 lb)	5,492 kPa (56 kg/cm ² , 796 psi)
		294 N (30 kgf, 66 lb)	8,434 kPa (86 kg/cm ² , 1,223 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 kgf, 2 lb).]	

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B: COMPONENT S405001A05

1. 14 inch TYPE S405001A0501



(1) Caliper body	(9) Support
(2) Air bleeder screw	(10) Pad clip
(3) Guide pin (Green)	(11) Outer shim
(4) Pin boot	(12) Inner shim
(5) Piston seal	(13) Pad (Outside)
(6) Piston	(14) Pad (Inside)
(7) Piston boot	(15) Disc rotor
(8) Lock pin (Yellow)	(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)

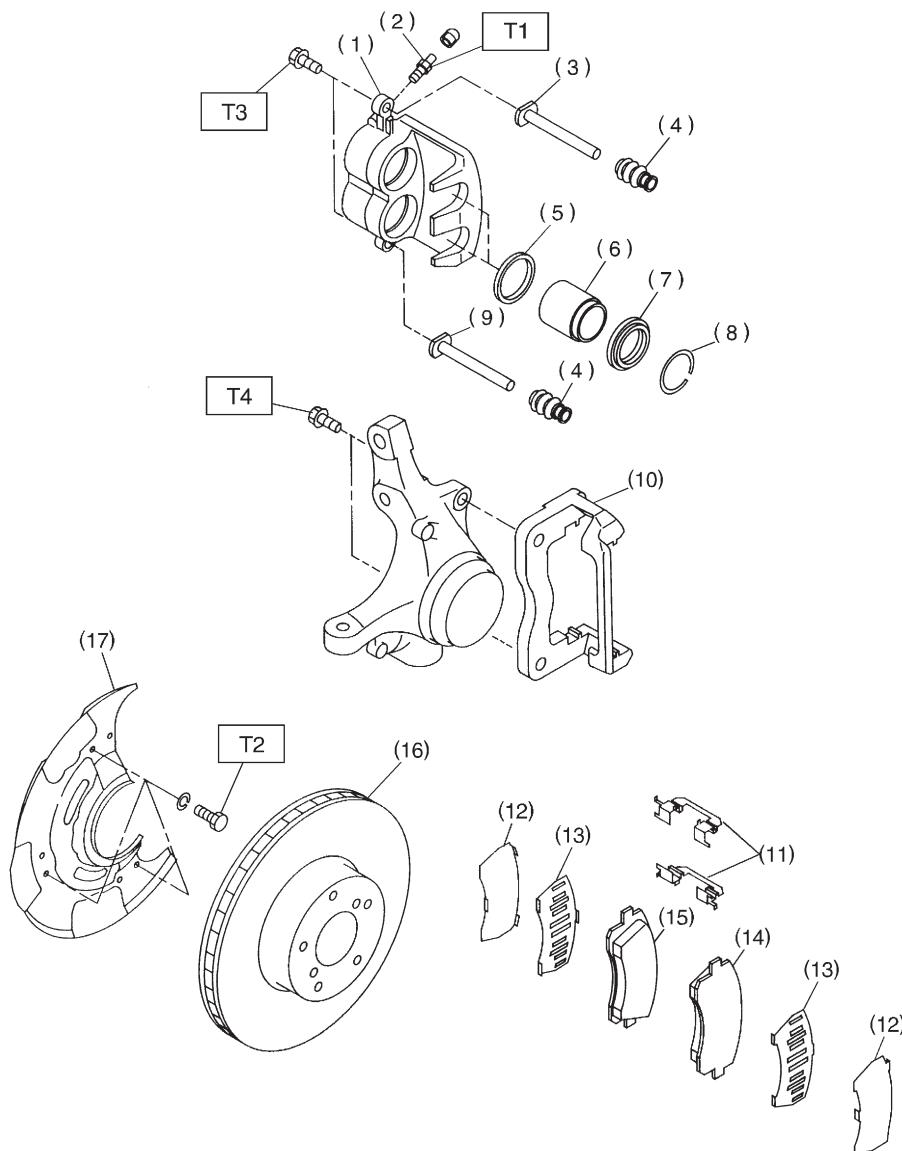
T4: 78 (8.0, 58)

GENERAL DESCRIPTION

Brake

2. 15 inch AND 16 inch TYPE

S405001A0502



B4M1151C

- (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: 37 (3.8, 27.5)

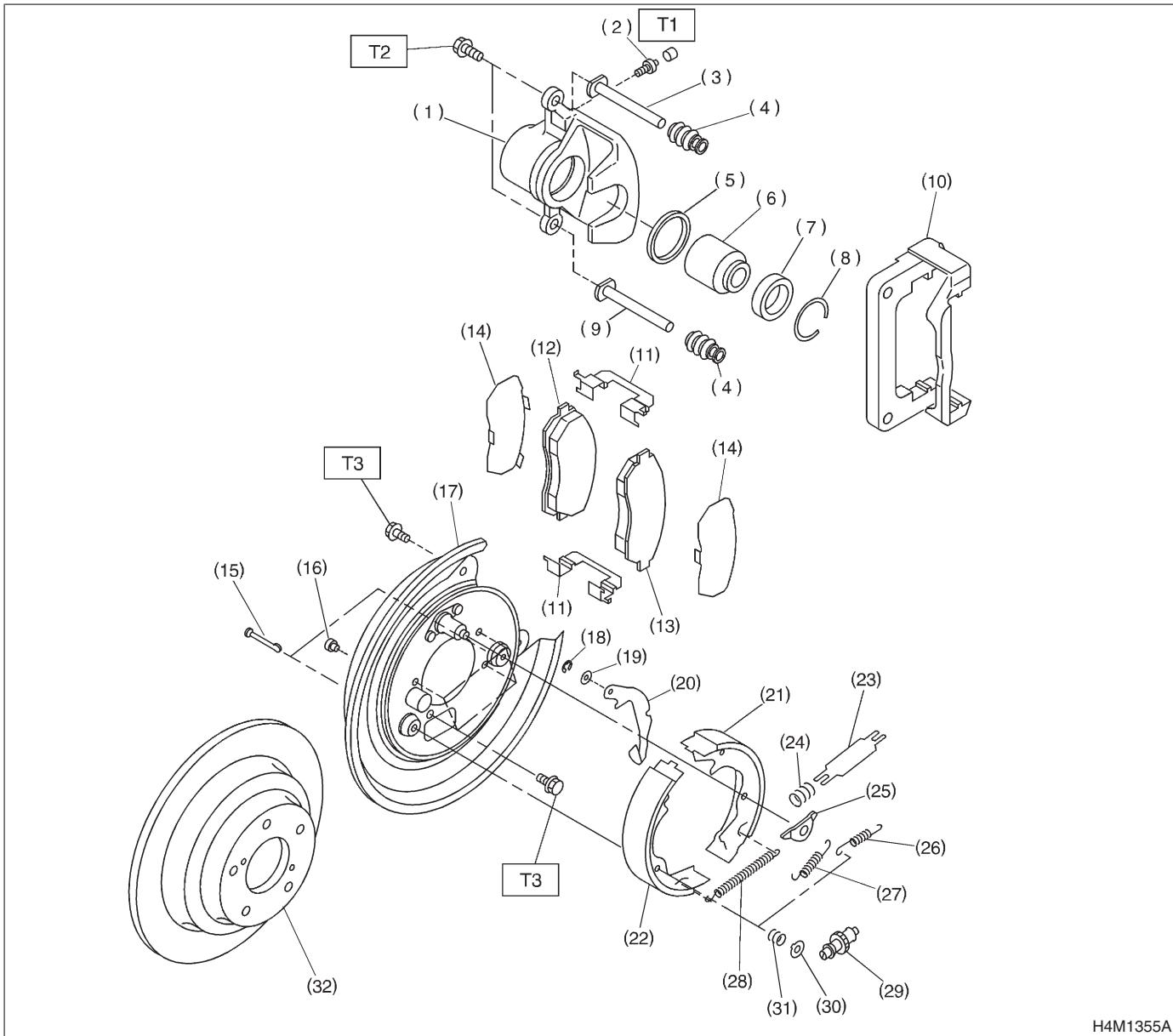
T4: 78 (8.0, 58)

GENERAL DESCRIPTION

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3. REAR DISC BRAKE

S405001A0503



H4M1355A

(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)

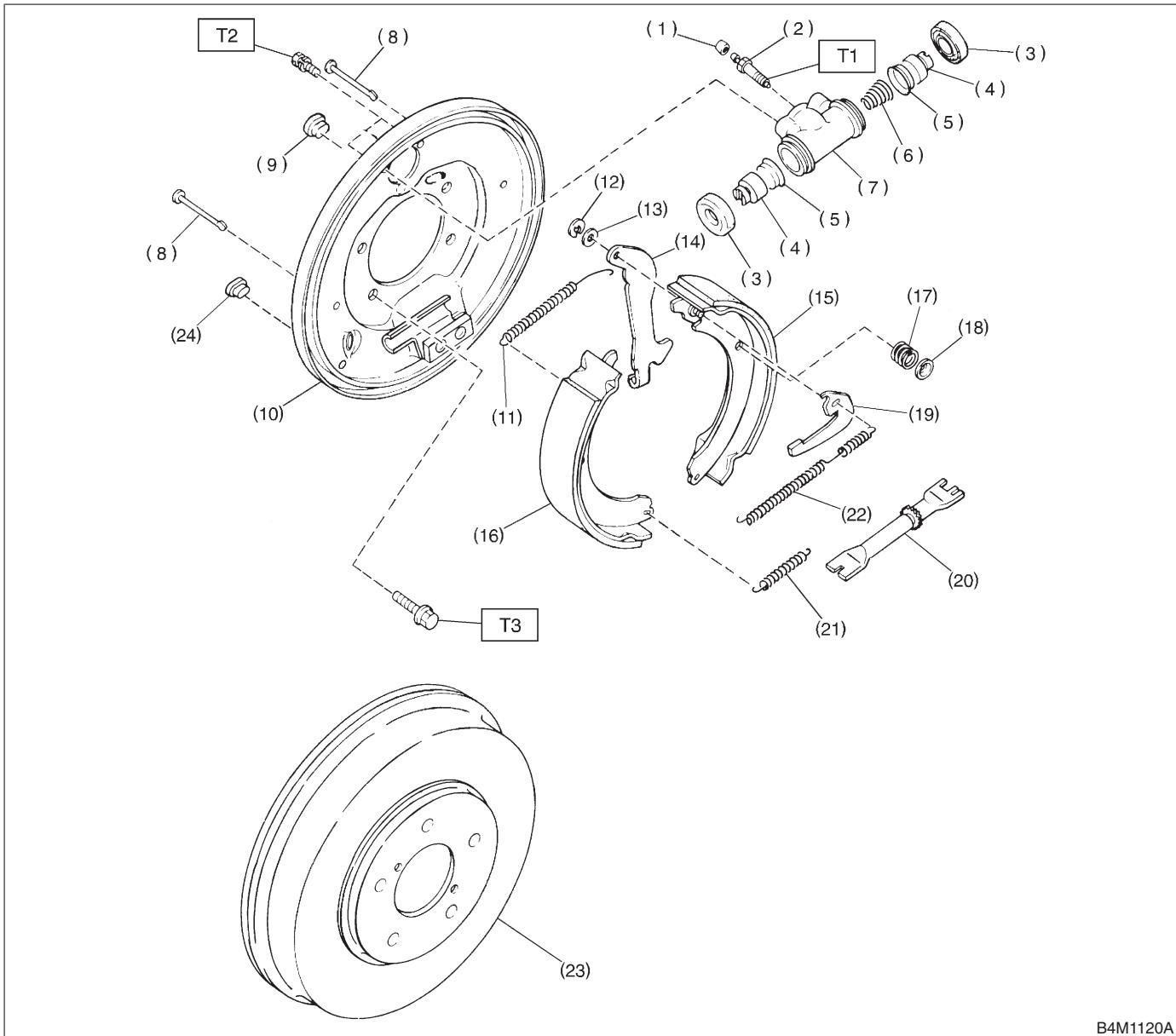
T3: 52 (5.3, 38.3)

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4. REAR DRUM BRAKE

S405001A0504



B4M1120A

- (1) Air bleeder cap
- (2) Air bleeder screw
- (3) Boot
- (4) Piston
- (5) Cup
- (6) Spring
- (7) Wheel cylinder body
- (8) Pin
- (9) Plug
- (10) Back plate

- (11) Upper shoe return spring
- (12) Retainer
- (13) Washer
- (14) Parking brake lever
- (15) Brake shoe (Trailing)
- (16) Brake shoe (Leading)
- (17) Shoe hold-down spring
- (18) Cup
- (19) Adjusting lever
- (20) Adjuster

- (21) Lower shoe return spring
- (22) Adjusting spring
- (23) Drum
- (24) Plug

Tightening torque: N·m (kgf·m, ft·lb)

T1: 8 (0.8, 5.8)

T2: 10 (1.0, 7.2)

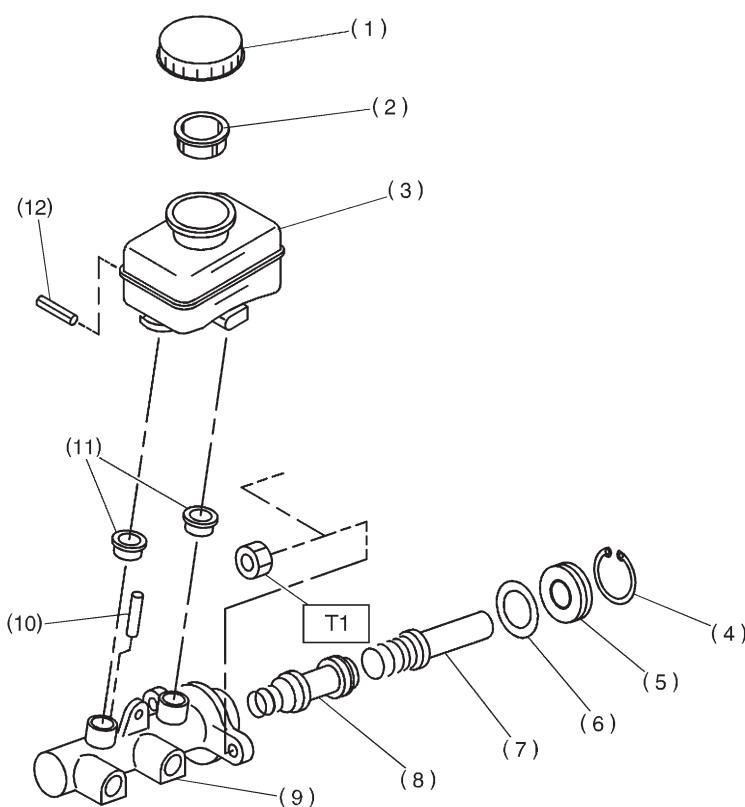
T3: 52 (5.3, 38.3)

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5. MASTER CYLINDER S405001A0505

● With ABS vehicles



B4M1440A

- (1) Cap
- (2) Filter
- (3) Reservoir tank
- (4) C-ring
- (5) Guide ASSY

- (6) Plate
- (7) Primary piston
- (8) Secondary piston
- (9) Cylinder body
- (10) Cylinder pin

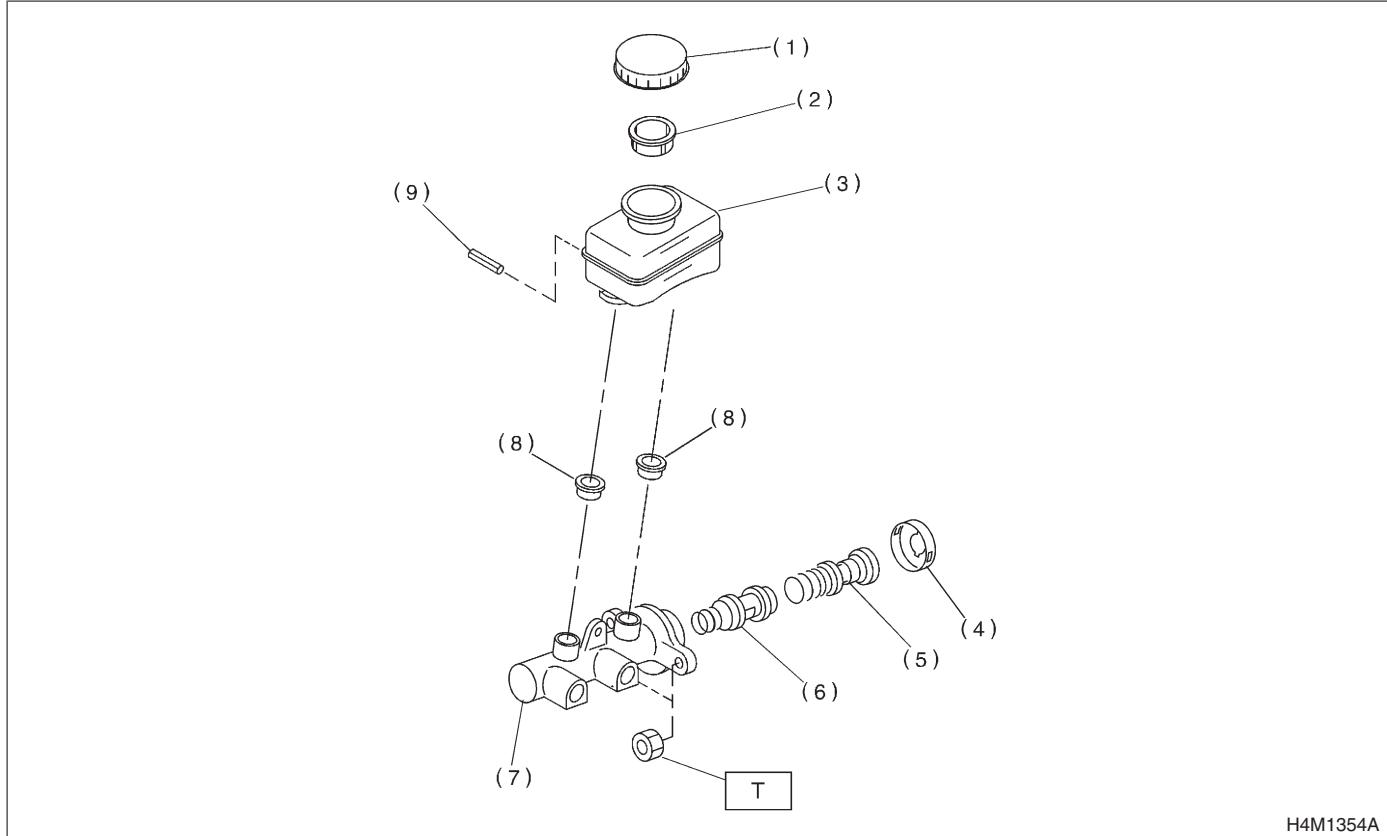
- (11) Seal
- (12) Pin

Tightening torque: N·m (kgf·m, ft-lb)
T1: 14 (1.4, 10.1)

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● Without ABS vehicles



- (1) Cap
- (2) Filter
- (3) Reservoir tank
- (4) Piston retainer

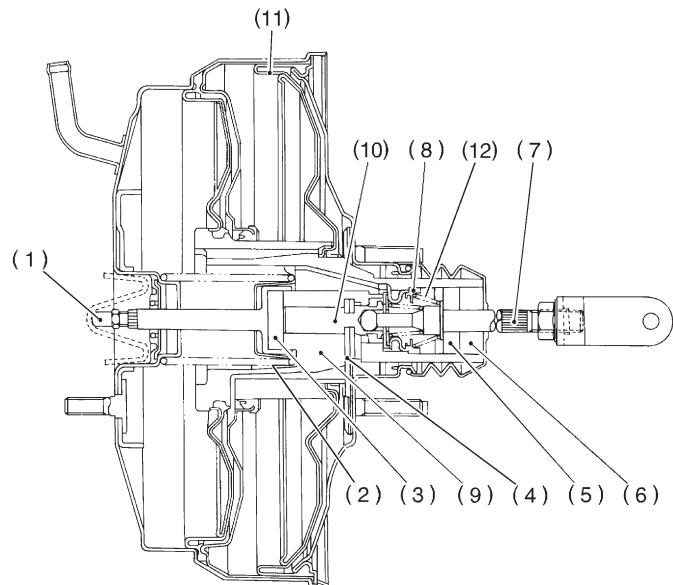
- (5) Primary piston
- (6) Secondary piston
- (7) Cylinder body
- (8) Seal

- (9) Pin

Tightening torque: N·m (kgf·m, ft-lb)
T1: 14 (1.4, 10.1)

6. BRAKE BOOSTER S405001A0507

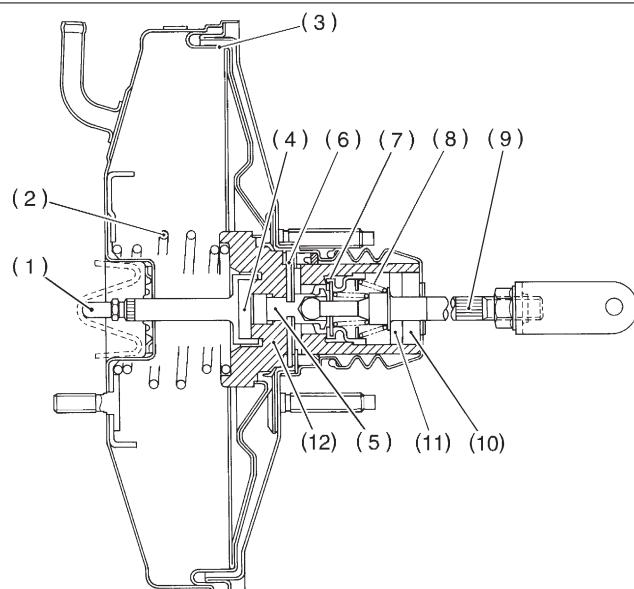
● Models with ABS



B4M1121A

(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

● Models without ABS



B4M1122A

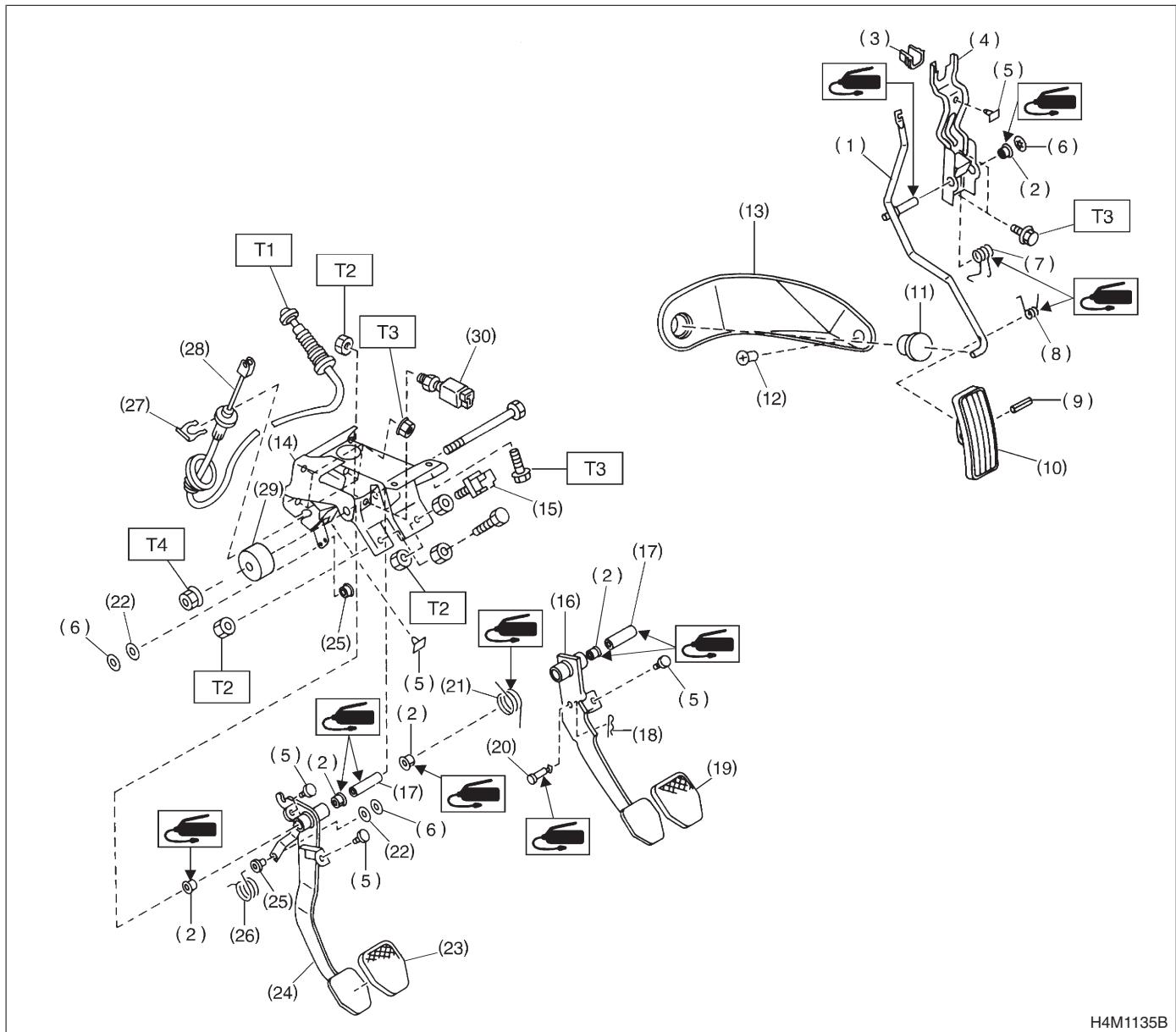
(1) Push rod	(5) Plunger valve	(9) Operating rod
(2) Return spring	(6) Key	(10) Silencer
(3) Diaphragm plate	(7) Poppet valve	(11) Filter
(4) Reaction disc	(8) Valve return spring	(12) Valve body

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7. BRAKE PEDAL FOR MT MODEL S405001A0508

● 2200 cc Model



H4M1135B

(1) Accelerator pedal	(14) Pedal bracket	(27) Clutch cable clamp
(2) Bushing	(15) Stop light switch	(28) Clutch cable
(3) Holder	(16) Brake pedal	(29) Mass damper
(4) Accelerator bracket	(17) Spacer	(30) Clutch switch (Starter interlock)
(5) Stopper	(18) Snap pin	
(6) Clip	(19) Brake pedal pad	
(7) Accelerator spring	(20) Clevis pin	
(8) Accelerator pedal spring	(21) Brake pedal spring	
(9) Spring pin	(22) Washer	
(10) Accelerator pedal pad	(23) Clutch pedal pad	
(11) Accelerator stopper	(24) Clutch pedal	
(12) Clip	(25) Bushing assist	
(13) Accelerator plate	(26) Spring assist	

Tightening torque: N·m (kgf·m, ft·lb)

T1: 5.9 (0.60, 4.3)

T2: 8 (0.8, 5.8)

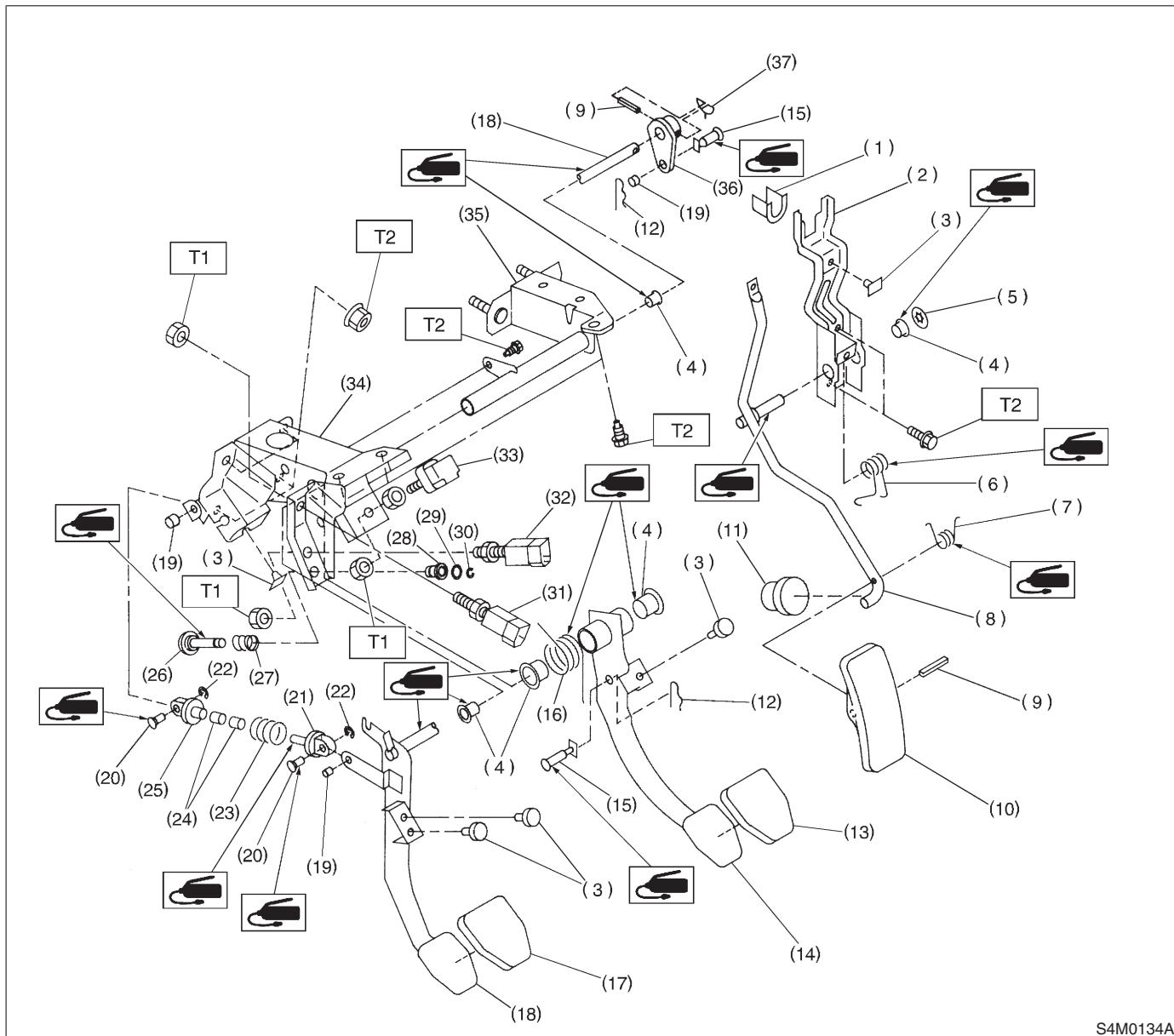
T3: 18 (1.8, 13.0)

T4: 29 (3.0, 21.7)

GENERAL DESCRIPTION

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● 2500 cc Model



S4M0134A

- (1) Holder
- (2) Accelerator bracket
- (3) Stopper
- (4) Bushing
- (5) Clip
- (6) Accelerator spring
- (7) Accelerator pedal
- (8) Accelerator pedal
- (9) Spring pin
- (10) Accelerator pedal pad
- (11) Accelerator stopper
- (12) Snap pin
- (13) Brake pedal pad
- (14) Brake pedal
- (15) Clevis pin

- (16) Brake pedal spring
- (17) Clutch pedal pad
- (18) Clutch pedal
- (19) Bushing C
- (20) Clutch clevis pin
- (21) Assist rod A
- (22) Clip
- (23) Assist spring
- (24) Assist bushing
- (25) Assist rod B
- (26) Rod S
- (27) Spring S
- (28) Bushing S
- (29) O-ring
- (30) Clip

- (31) Clutch switch (Starter interlock)
- (32) Clutch switch (With cruise control)
- (33) Stop light switch
- (34) Pedal bracket
- (35) Clutch master cylinder bracket
- (36) Lever
- (37) Lock wire

Tightening torque: N·m (kgf·m, ft·lb)

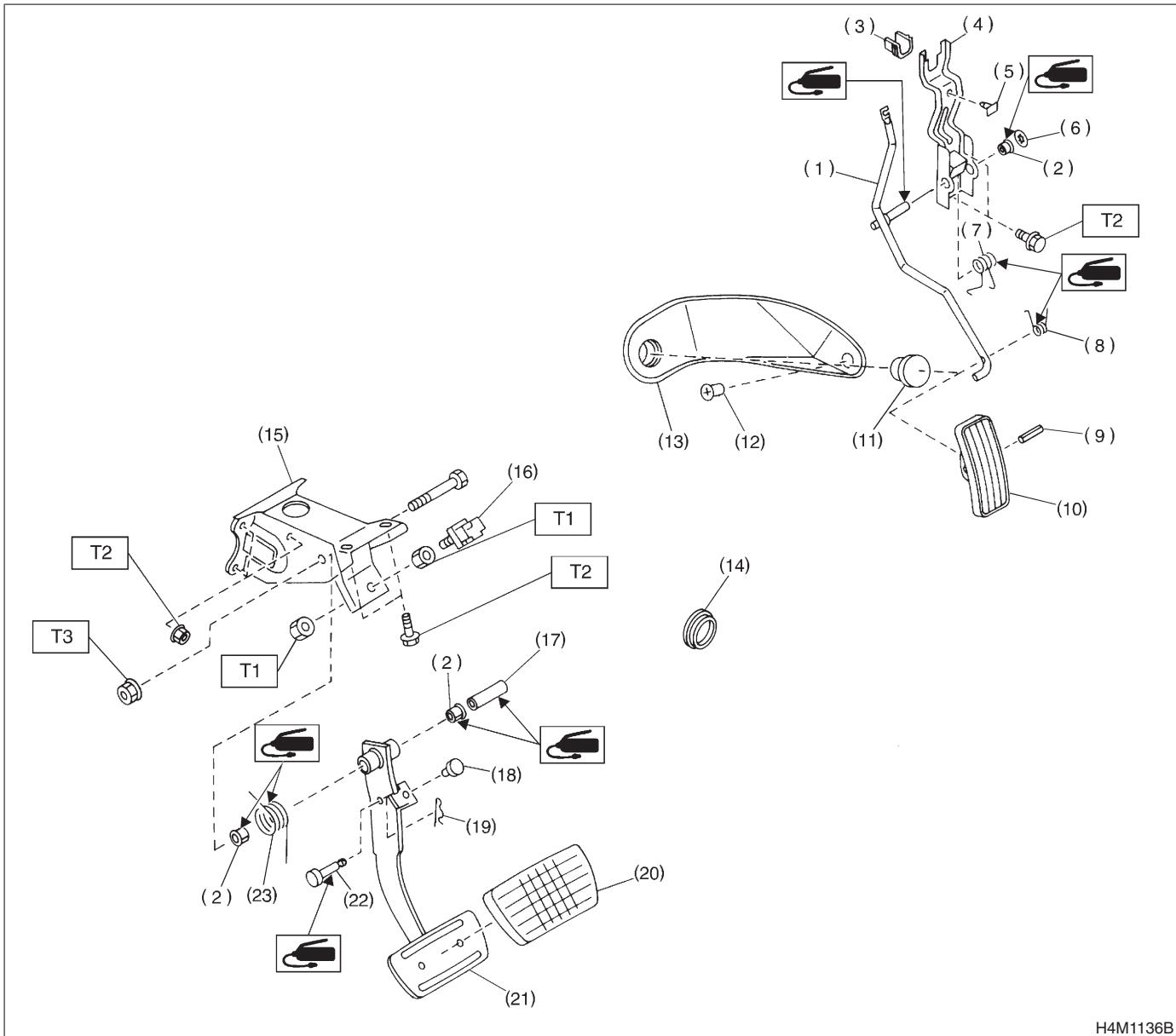
T1: 8 (0.8, 5.8)

T2: 18 (1.8, 13.0)

GENERAL DESCRIPTION

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8. BRAKE PEDAL FOR AT MODEL S405001A0509



H4M1136B

- (1) Accelerator pedal
- (2) Bushing
- (3) Holder
- (4) Accelerator bracket
- (5) Stopper
- (6) Clip
- (7) Accelerator spring
- (8) Accelerator pedal spring
- (9) Spring pin
- (10) Accelerator pedal
- (11) Accelerator stopper
- (12) Clip
- (13) Accelerator plate
- (14) Plug
- (15) Pedal bracket
- (16) Stop light switch
- (17) Spacer
- (18) Stopper
- (19) Snap pin
- (20) Brake pedal pad

- (21) Brake pedal
- (22) Clevis pin
- (23) 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

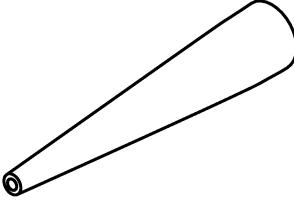
- Wear working clothing, including a cap, protective goggles, and protective shoes during operation.
- Remove contamination including dirt and corrosion before removal, installation or disassembly.
- Keep the disassembled parts in order and protect them from dust or dirt.
- Before removal, installation 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.

GENERAL DESCRIPTION

Brake

D: PREPARATION TOOL S405001A17

1. SPECIAL TOOL S405001A1703

ILLUSTRATION	TOOL NUMBER	DESCRIPTION	REMARKS
 B4M2406	926460000	WHEEL CYLINDER 3/4" ADAPTER	Used for installing cup onto wheel cylinder piston (Size 3/4 in).

2. GENERAL TOOL S405001A1704

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