TO INDEX

E1 BRAKE

1 BRAKE

1-1 ARTICLES TO BE PREPARED

Instrument

Foot pressure gauge,Torque wrench

Lubricant,adhesive,others

Brake fluid(DOT3),Brake grease

1-2 BASIC CHECK AND ADJUSTMENT

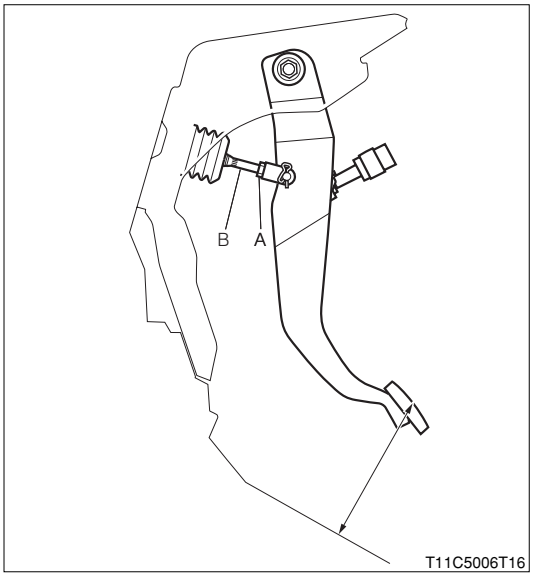
1-2-1 BRAKE PEDAL

(1) Height check

1.Turn over the carpet near the brake pedal.

2.Measure the height from the central section of the brake pedal depressing surface to the upper surface of the dash panel.

SPECIFIED VALUE: 135.7±5mm (RHD vehicles)
134.9±5mm (LHD vehicles)



(2) Height adjustment

1.Remove the instrument panel finish lower panel S/A.

2.Loosen the attaching bolt of the shift lock release cable. (Shift lock release cable Ay equipped vehicle)

3.Disconnect the connector of the stop lamp switch Ay.

4.Remove the stop lamp switch assembly by turning it counterclockwise so that the brake pedal may have a free play.

5.Loosen the nut (A) indicated in the figure. Adjust the brake pedal height by turning the push rod (B).

TIGHTENING TORQUE: 13.0±3.0N·m{133±30kgf·cm}

6.Adjust the installing position of the shift lock release cable Ay. (Shift lock release cable Ay equipped vehicle)

Refer to Page F3-37.

7.Lock the stop lamp switch assembly by turning the main body of the assembly clockwise. Confirm the protruding amount of the shaft of the stop lamp switch assembly.

SPECIFIED VALUE: 2 mm or less (A clearance shall be provided so that the screw end surface of the stop lamp switch assembly may not be brought into contact with the bracket cushion at the brake pedal side.)

8.Connect the connector of the stop lamp switch Ay.

9.Check the brake pedal play. Ensure that the stop lamp is illuminated.

10.Install the instrument panel finish lower panel S/A.

(3) Free play check

1.After stopping the engine, depress strongly the brake pedal several times so that the negative pressure inside the brake booster no longer exists.

2.Measure the play of the pedal (Excessive play between the clevis and the clevis pin) by pulling the brake pedal toward your side. (The stop lamp switch side)

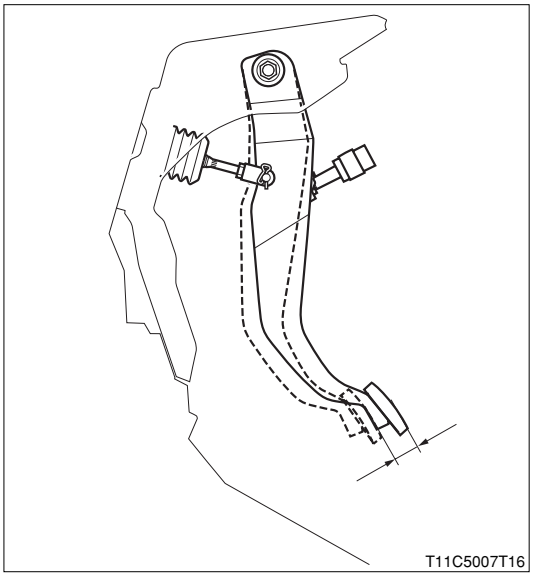
SPECIFIED VALUE: 0.5 - 3.0 mm

NOTE

- If the measured value is out of the specification, check and adjust the protruding amount of the stop lamp SW and that of the shift lock release cable lock mechanism. (If so equipped)

Refer to Page E1-16.

Refer to Page F3-37.



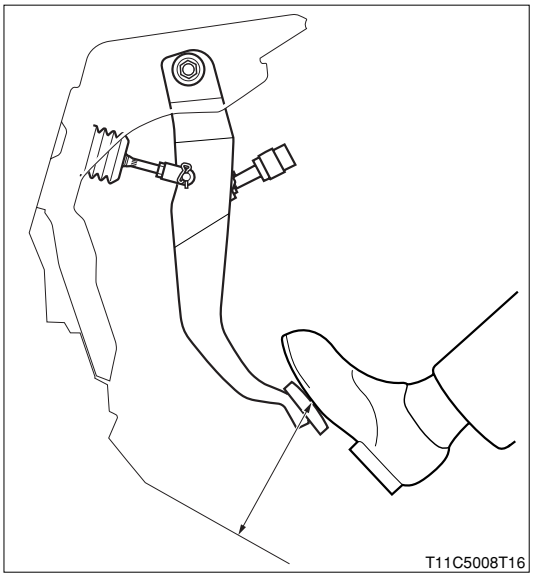
(4) Reserve travel check

1.Turn over the carpet near the brake pedal.

2.Release the parking brake while the engine is idling.

3.While the brake pedal is being depressed by the specified depressing force, measure the height from the central section of the brake pedal depressing surface to the upper surface of the dash panel.

SPECIFIED VALUE: 70 mm or more (Depressing force 294N {30kgf}) (RHD vehicles)
60 mm or more (Depressing force 294N {30kgf}) (LHD vehicles)



(5) Check of depressing state

1.Depress the brake pedal. Carry out the following checks.

(1) Ensure that there exists no ingress of air by checking the depression state.

(2) Ensure that there exists no abnormal noise due to looseness at the installing section's.

(3) Ensure that there exists no excessive play due to wear or looseness at the installing section.

(6) Brake working condition check

① Check through actual running

1.Run on dry road surface and depress the brake pedal. Ensure that you can get the braking force equivalent to the depressing force and the vehicle can stop straight in the advancing direction.

(7) Check of brake operation state

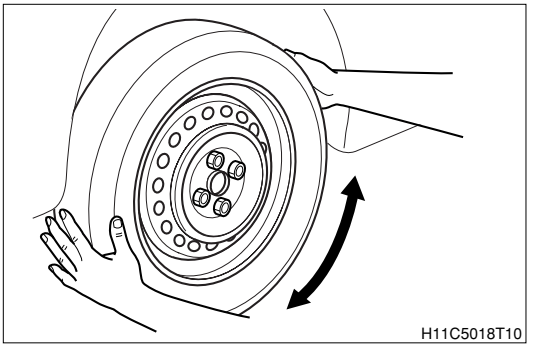
1.Ensure that the brake master cylinder, front brake calipers and rear wheel cylinder are operating correctly, based on the check results of the brake pedal free play, reserve travel and braking performance.

1-2-2 CHECK OF BRAKE DRAGGING

(1) Dragging check

1.Jack up the vehicle.

2.Operate the brake pedal and parking brake several times so as to stabilize the front brake pads and rear brake shoe linings. Then, turn the wheels by hand to see if the brake exhibits no dragging.



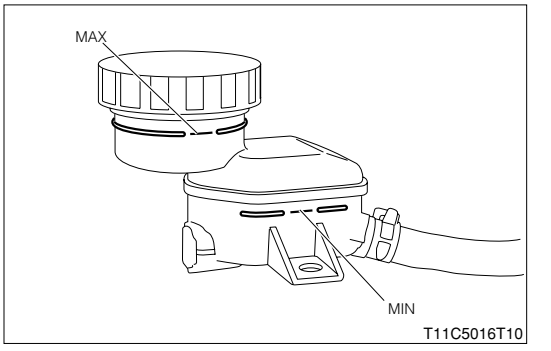
1-2-3 CHECK AND REPLENISHING OF BRAKE FLUID

CAUTION

- Never reuse the wiped-out brake fluid.
- Care must be exercised so that no brake fluid may adhere to the paint surface. If brake fluid is adhered to the paint surface, immediately wipe it out and wash it with water.

(1) Fluid level check

1.Check that the fluid level of the reservoir tank is within the specified range. (Between MIN and MAX)



(2) Replenishment

1.If the fluid level is below the MIN level, after the following check has been conducted, replenish brake fluid up to a level between MIN and MAX levels of the reservoir tank.

LUBRICANT: Brake fluid(DOT3)

(1) Brake pad thickness check

Refer to Page E1-5.

(2) Brake master cylinder fluid leakage check

Refer to Page E1-4.

(3) Check of brake hoses and pipes for fluid leakage

Refer to Page E1-5.

(4) Front brake caliper fluid leakage check

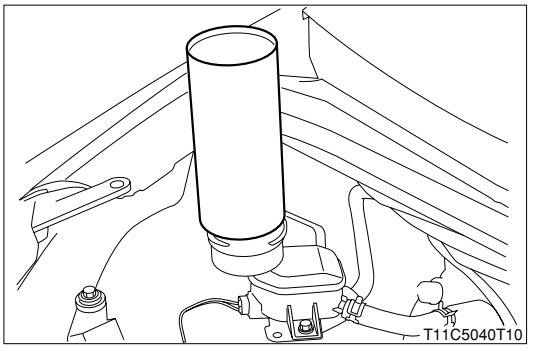
Refer to Page E1-5.

(5) Rear wheel cylinder fluid leakage check

Refer to Page E1-7.

(3) Air bleeding

1.Jack up the vehicle.
2.Remove the disc wheels.
3.Replenish the brake fluid by placing the container of brake fluid upside down on the reservoir tank.
LUBRICANT: Brake fluid(DOT3)



CAUTION

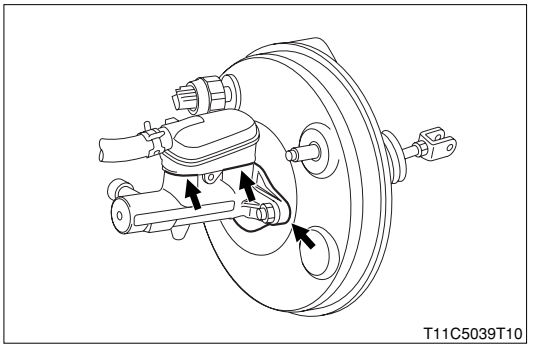
- Ensure that the container contains an adequate amount of brake fluid.
- When replenishing, ensure that the master cylinder reservoir at the upper section of the master cylinder Ay is filled with brake fluid fully. Then, proceed to the operation.
- To avoid any ingress of air, keep refilling the brake fluid at all times so that the reservoir tank may not become empty.

4.Install a transparent tube to the bleeder plug and receive the brake fluid in a container.
5.Depress the brake pedal several times.
6.Carry out air bleeding by loosening the bleeder plug with the brake pedal in the depressed state.
7.When the brake fluid stops coming out strongly, temporarily tighten the bleeder plug and return the brake pedal.
8.Repeat the operations posted in Items 5 through 7 until the air is no longer emitted.
9.Tighten the bleeder plug.
TIGHTENING TORQUE: 8.4±1.4N·m{85±14kgf·cm}
10.Carry out the operations posted in Items 4 through 9 for each wheel.
11.Check the fluid level of the reservoir tank.
Refer to Page E1-3.

1-2-4 CHECK OF EACH PART OF BRAKE MASTER CYLINDER

(1) Check of fluid leakage

1.Visually check around the reservoir tank to ensure that no fluid leakage is present.
2.Visually check around the brake master cylinder to ensure that no fluid leakage is present.



(2) Check of wear and damage

1.Visually check the external view of the brake master cylinder to ensure that no damage or fluid leakage is present.
2.When disassembling the brake master cylinder, check the following items given below.
(1) Scores on bore surfaces of the brake master cylinder
(2) Deformation and damage of cylinder

1-2-5 CHECK OF BRAKE HOSES AND PIPES

(1) Operations prior to check

1.Jack up the vehicle.

(2) Check of fluid leakage

1.Visually check the connections of the brake hoses and pipes to ensure that no fluid leakage is present.

(3) Check of damage

1.Visually check the brake hoses for bulge or cracks due to deterioration; the pipes for cracks or damage.

(4) Check of installing conditions

1.Check that the clamps are installed to the brake hoses or pipes securely.

2.Visually check that the brake hoses and pipes do not interfere with the body or other sections due to vibration during running. Furthermore, fully turn the steering wheel to the right and left sides to ensure that the brake hoses will not interfere with other parts.

(5) Check of tightening conditions

1.Check the connections and clamps for loosening, using spanners or the like.

1-2-6 CHECK OF EACH PART OF FRONT BRAKE SYSTEM

(1) Operations prior to check

1.Jack up the vehicle.

2.Remove the front disc wheels.

Refer to Page C3-3.

(2) Check of front brake pads

① Thickness check

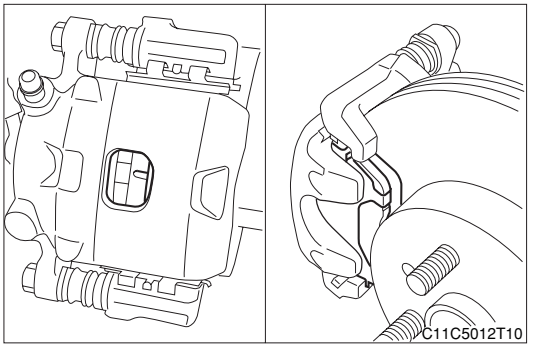
1.Check the pad thickness.

ALLOWABLE LIMIT: 1mm

NOTE

- New part

	Front disc 234 mm dai	Front disc 246 mm dai
Standard value [mm]	10	9.5



2.If the pad thickness is below the limit, replace the pad.

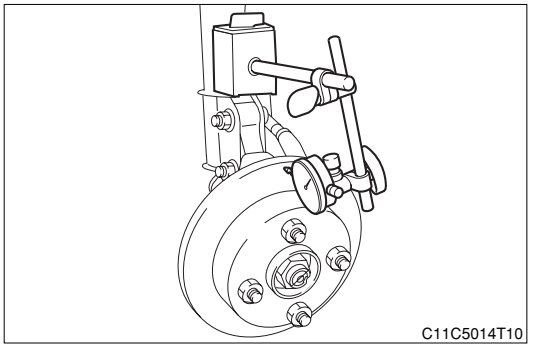
(3) Check of front brake disc

① Runout check

1.Secure the front brake disc by attaching proper four wheel nuts (Penetration type) and tightening them to a uniform torque.

2.Ensure that the front hub bearing exhibit no excessive looseness.

Refer to Page D2-1.



3.Measure the runout of the disc edge at a point 10 mm from the outer periphery of the disc, using a dial gauge.

ALLOWABLE LIMIT: 0.10mm

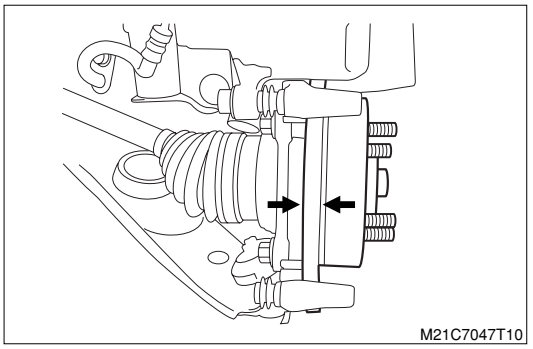
4.If the runout of the front brake disc exceeds the limit, check the axle hub for runout. If no abnormality is found, replace the front brake disc.

② **Check of wear, damage and thickness**

1.Visually check the front brake disc to ensure that no excessive wear or damage is present.

2.Measure the thickness of the front brake disc.

ALLOWABLE LIMIT:



	Front disc 234 mm dai	Front disc 246 mm dai
Standard value [mm]	15	16

NOTE

- New part

	Front disc 234 mm dai	Front disc 246 mm dai
Standard value [mm]	16	17

3.If the front brake disc thickness becomes below the limit or the brake disc exhibits excessive uneven wear or damage, replace the front brake disc.

(4) Check of front brake caliper

① **Check of fluid leakage**

1.Visually check around the front brake caliper to ensure that no fluid leakage is present.

② **Check of wear and damage**

1.Visually check the external view of the front brake caliper to ensure that no fluid leakage is present.

2.When the front brake caliper is disassembled, check the following items.

(1) Disc brake cylinder bore surface

(2) Wear and damage of disc brake piston

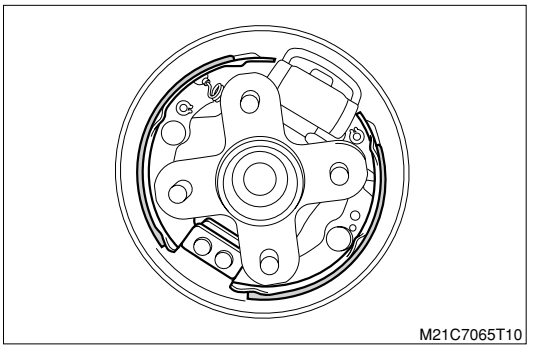
1-2-7 CHECK OF EACH SECTION OF REAR BRAKE SYSTEM

(1) Operations prior to check

1.Remove the rear brake drum.
Refer to Page E1-65.

(2) Check of rear brake shoe linings

① Check of wear, damage and thickness


M21C7065T10

1.Visually check the shoe linings to ensure that no excessive uneven wear, damage or peeling off is present.
2.Measure the thickness of the shoe lining.
ALLOWABLE LIMIT: 1mm
NOTE
- New part: 4 mm

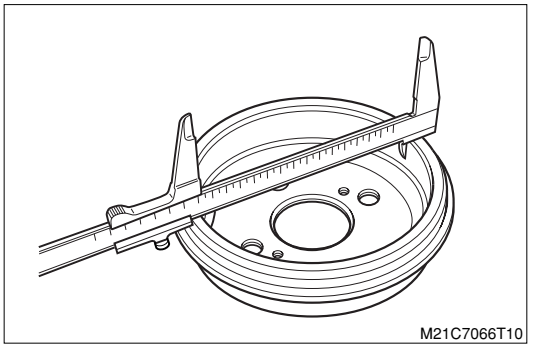
3.If the shoe lining thickness becomes below the limit or the shoe linings exhibit excessive uneven wear, damage or peeling off, replace the brake shoes.
CAUTION
- When replacing the rear brake shoe Ay, replace both shoes in right and left wheels as a set in order to prevent the pulling of brake.

4.When the rear brake shoe is disassembled, check the following items.
(1) Excessive wear at the contact surface between the rear brake backing plate and the rear brake shoe.
CAUTION
- Lack of grease at the contact surface between the rear brake backing plate and the rear brake shoe causes premature wear or abnormal noise. Therefore, apply grease here at the time of checking.

LUBRICANT: Brake grease
(2) Flattened return spring
(3) Smooth operation of adjusting device

(3) Check of rear brake drum

① Check of wear, damage and bore diameter


M21C7066T10

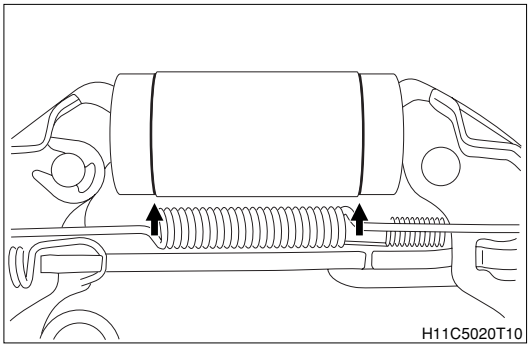
1.Visually check the inner surface of the rear brake drum to ensure that no excessive uneven wear, cracks or damage, etc. is present.
2.Measure the rear brake drum inner diameter.
ALLOWABLE LIMIT: 181mm
NOTE
- New part: 180 mm

3.If the rear brake drum exhibits excessive uneven wear, cracks, or damage, grind or replace the rear brake drum.

(4) Check of rear wheel cylinder

① Check of fluid leakage

1.Visually check around the rear wheel cylinder boot to ensure that no fluid leakage is present.



② Check of wear and damage

1.Visually check the external view of the rear wheel cylinder to ensure that no damage or fluid leakage is present.

2.When the rear wheel cylinder is disassembled, check the following items

(1) Wear and damage of wheel brake cylinder piston

(2) Wear and damage of rear body bore of wheel brake cylinder

2 BRAKE FLUID

2-1 REPLACEMENT

CAUTION

- Never reuse the wiped-out brake fluid.
- Care must be exercised so that no brake fluid may adhere to the paint surface. If brake fluid is adhered to the paint surface, immediately wipe it out and wash it with water.

2-1-1 ARTICLES TO BE PREPARED

Instrument

Torque wrench

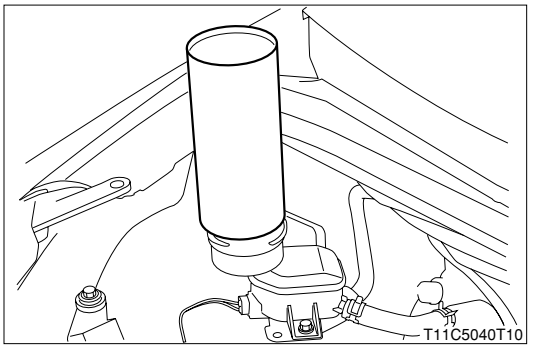
Lubricant,adhesive,others

Brake fluid(DOT3)

2-1-2 OPERATION BEFORE REPLACEMENT

1.Jack up the vehicle.
2.Remove the disc wheels.
Refer to Page C3-3.

2-1-3 REPLACING PROCEDURE



1.Replenish the brake fluid by placing the container of brake fluid upside down on the reservoir tank.
LUBRICANT: Brake fluid(DOT3)

CAUTION

- Ensure that the container contains an adequate amount of brake fluid.
- When replenishing, ensure that the master cylinder reservoir at the upper section of the master cylinder Ay is filled with brake fluid fully. Then, proceed to the operation.
- To avoid any ingress of air, keep refilling the brake fluid at all times so that the reservoir tank may not become empty.

2.Install a transparent tube to the bleeder plug and receive the brake fluid in a container.
3.Loosen the bleeder plug. Slowly depress the brake pedal and return the pedal.
4.Repeat the operations posted in Item 3 at intervals of two or three seconds. At the time when the fresh brake fluid starts emitting, depress the brake pedal and tighten the bleeder plug.
TIGHTENING TORQUE: 8.4±1.4N·m{85±14kgf·cm}
5.Conduct the operations posted in Items 2 through 4 above for each wheel.
6.Check the fluid level of the reservoir tank.
Refer to Page E1-3.

2-1-4 OPERATION AFTER REPLACEMENT

1.Install the disc wheels.
Refer to Page C3-3.

2.Jack down the vehicle.

3 BRAKE PEDAL

3-1 REMOVAL AND INSTALLATION (RHD VEHICLES)

3-1-1 ARTICLES TO BE PREPARED

Instrument

Torque wrench

Lubricant,adhesive,others

MP grease

3-1-2 OPERATION BEFORE REMOVAL

1.Remove the instrument panel finish panel subassembly lower.
Refer to Page I2-23.

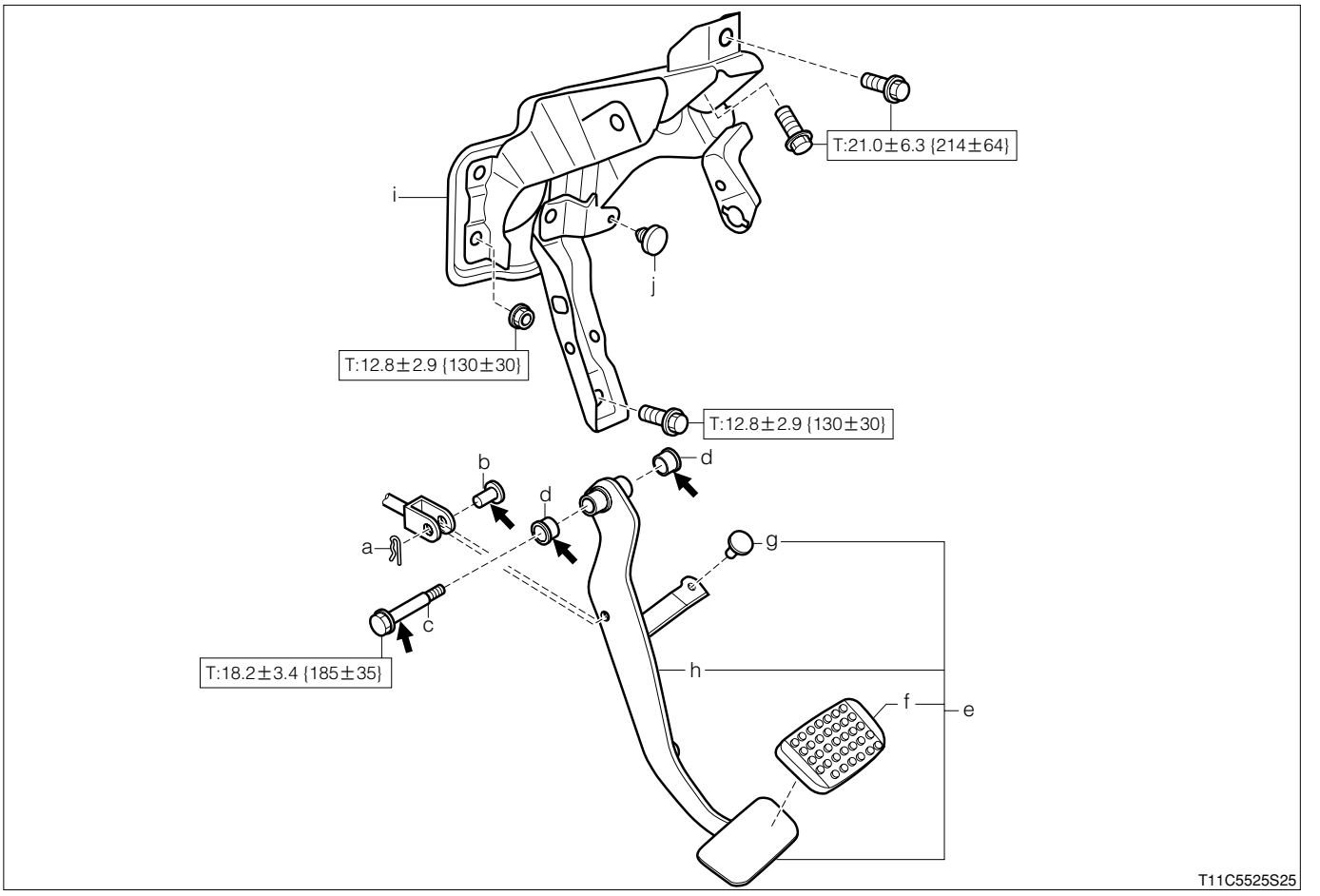
2.Remove the steering column cover lower.
Refer to Page G1-5.

3.Remove the stop lamp switch assembly.
Refer to Page E1-16.

4.Remove the accelerator pedal assembly.

3-1-3 REMOVAL AND INSTALLATION PROCEDURES

(1) Components



Unit: N·m{kgf·cm}

➡: MP grease

(2) Removal and installation procedures

1 a Clip
2 b Pin, w/hall
3 c Shaft, pedal
4 d Bush
5 e Pedal Ay, brake
6 f Pad, pedal
7 g Cushion
8 h Pedal S/A, brake
9 i Support S/A, brake pedal
10 j Cushion

3-1-4 OPERATION AFTER INSTALLATION

1.Install the accelerator pedal assembly.
2.Install the stop lamp switch assembly.
Refer to Page E1-16.

3.Install the steering column cover lower.
Refer to Page G1-5.

4.Install the instrument panel finish panel subassembly lower.
Refer to Page I2-23.

5.Check and adjust the brake pedal Ay.
Refer to Page E1-1.

3-2 REMOVAL AND INSTALLATION (LHD VEHICLES)

3-2-1 ARTICLES TO BE PREPARED

Instrument

Torque wrench

Lubricant,adhesive,others

MP grease

3-2-2 OPERATION BEFORE REMOVAL

1.Remove the instrument panel finish panel subassembly lower.
Refer to Page I2-23.

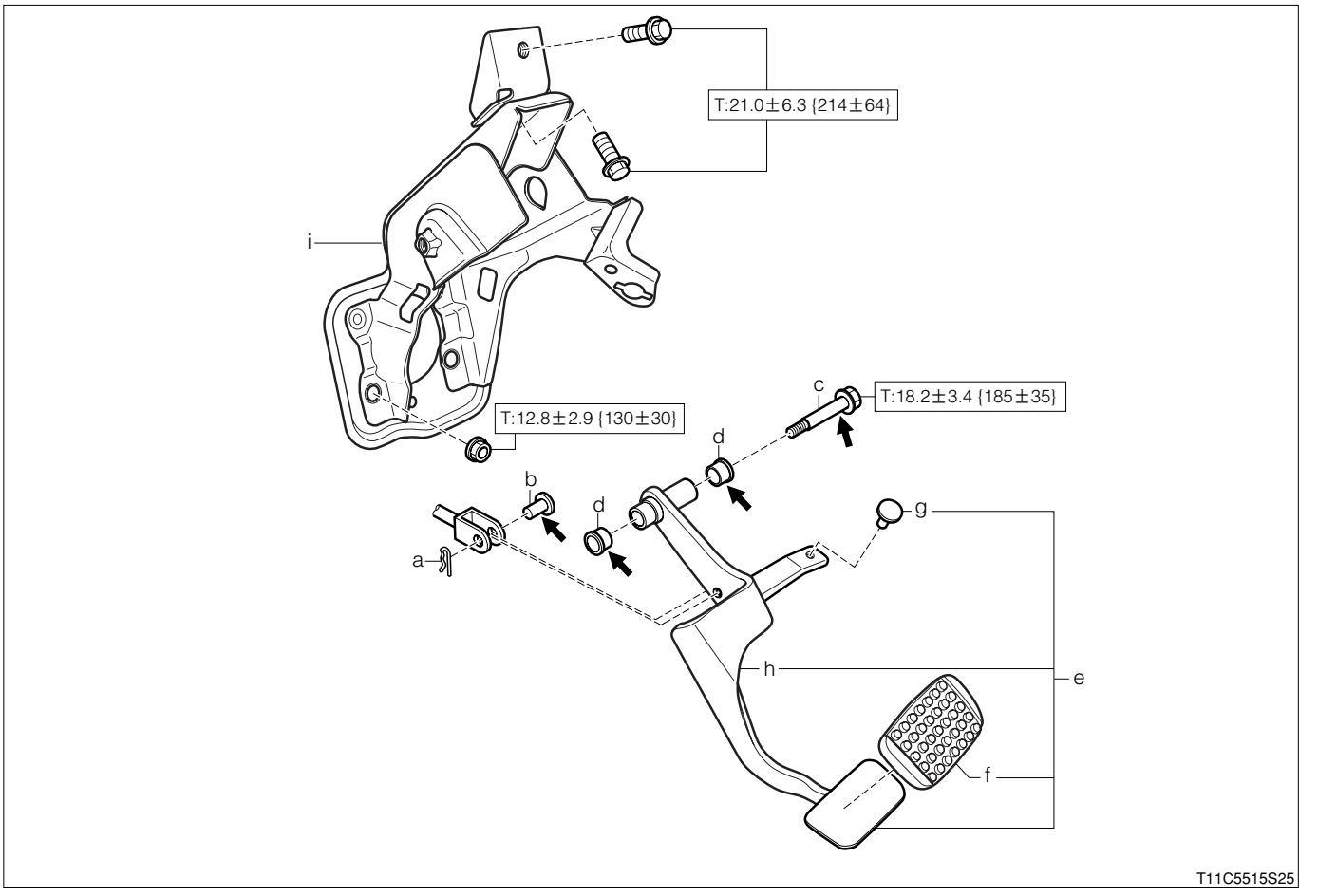
2.Remove the steering column cover lower.
Refer to Page G1-5.

3.Remove the stop lamp switch assembly.
Refer to Page E1-16.

4.Remove the shift lock release cable assembly. (If so equipped)
Refer to Page F3-38.

3-2-3 REMOVAL AND INSTALLATION PROCEDURES

(1) Components



Unit: N·m{kgf·cm}

➡: MP grease

(2) Removal and installation procedures

1	a	Clip	6	f	Pad, pedal
2	b	Pin, w/hall	7	g	Cushion
3	c	Shaft, pedal	▼ 8	h	Pedal S/A, brake
4	d	Bush	9	i	Cushion
5	e	Pedal Ay, brake			

3-2-4 POINTS OF REMOVAL

(1) Support S/A, brake pedal

1.With the brake pedal Ay installed, remove the support S/A from the vehicle.

3-2-5 OPERATION AFTER INSTALLATION

1.Install the shift lock release cable assembly. (If so equipped)
Refer to Page F3-38.

2.Install the stop lamp switch assembly.
Refer to Page E1-16.

3.Install the steering column cover lower.
Refer to Page G1-5.

4.Install the instrument panel finish panel subassembly lower.
Refer to Page I2-23.

5.Check and adjust the brake pedal Ay.
Refer to Page E1-1.

4 STOP LAMP SWITCH

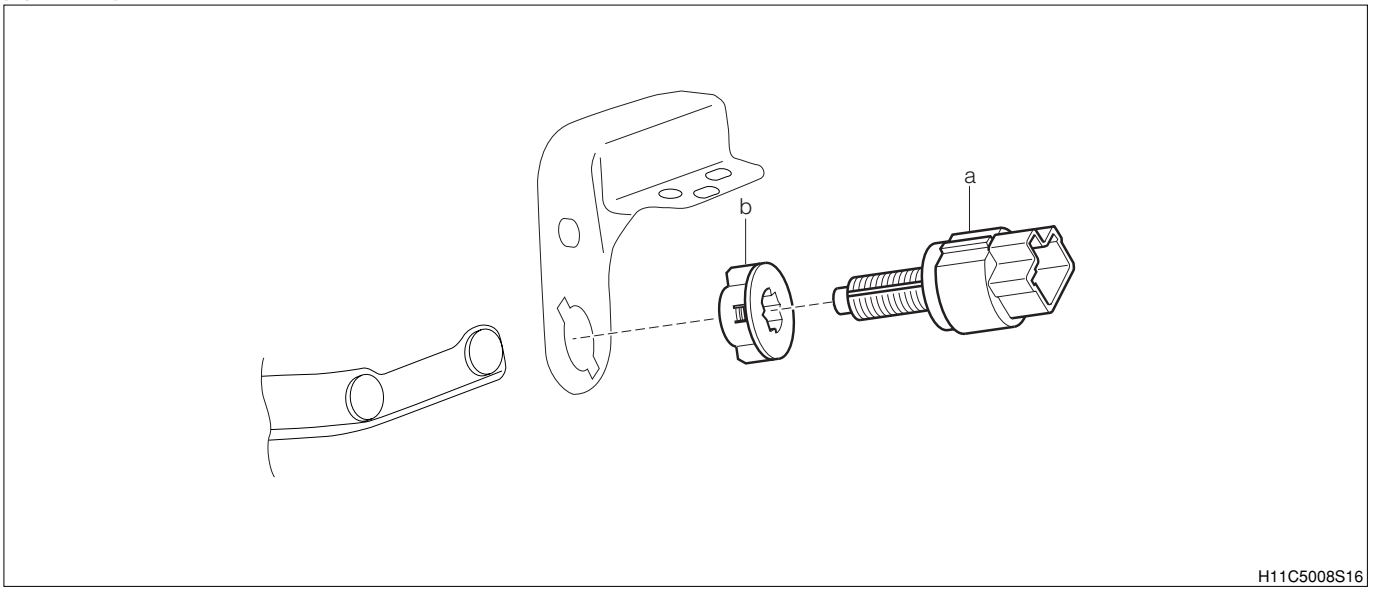
4-1 REMOVAL AND INSTALLATION

4-1-1 OPERATION BEFORE REMOVAL

1.Disconnect the connector of the stop lamp switch Ay.

4-1-2 REMOVAL AND INSTALLATION PROCEDURES

(1) Components



(2) Removal and installation procedures

▼ ▲ 1 a Switch Ay, stop lamp
2 b Adjuster, stop lamp switch mounting

4-1-3 POINTS OF REMOVAL

(1) SW AY, stop lamp

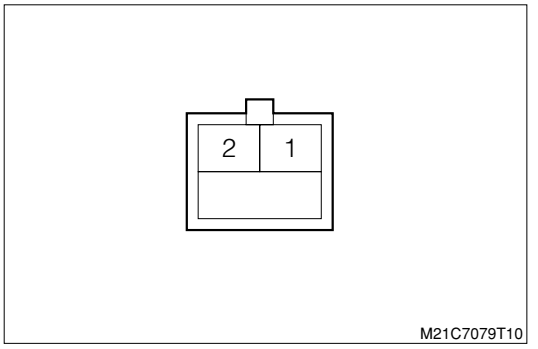
1.Remove the switch assembly by turning it counterclockwise.

4-1-4 INSPECTION

1.Check continuity between the connector terminals of the stop lamp switch Ay.

SPECIFIED VALUE:

Switch conditions	Continuity
When released	Exists
When pushed	Not exists



4-1-5 POINTS OF INSTALLATION

(1) SW AY, stop lamp

1.Lightly push the edge surface of the threaded section of the switch Ay to the bracket of the brake pedal Ay.

CAUTION

- Make sure that the edge surface of the threaded portion of the switch assembly will not push the brake pedal assembly.

2.Turn the main body of the switch assembly clockwise in order to lock it. At this time, ensure that the shaft protruding amount of the switch assembly is 2 mm or less.

4-1-6 OPERATION AFTER INSTALLATION

1.Connect the connector of the stop lamp switch Ay.
2.Depress the brake pedal Ay. At this time, ensure that the stop lamp functions properly.
3.Check the free travel of the brake pedal Ay.
Refer to Page E1-2.

5 BRAKE MASTER CYLINDER

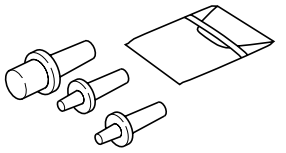
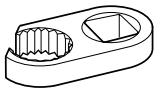
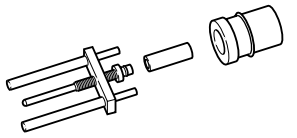
5-1 REMOVAL AND INSTALLATION

CAUTION

- Care must be exercised so that no brake fluid may adhere to the paint surface. If brake fluid is adhered to the paint surface, immediately wipe it out and wash it with water.
- Never reuse the wiped-out brake fluid.

5-1-1 ARTICLES TO BE PREPARED

SST

Shape	Part No.	Part name
	09258-00030-000	Plug set,hose
	09023-00100-000	Wrench,union nut
	09730-87401-000	Gauge set,brake booster gauge

Lubricant,adhesive,others

Brake fluid(DOT3),Brake grease,Silicon grease

5-1-2 OPERATION BEFORE REMOVAL

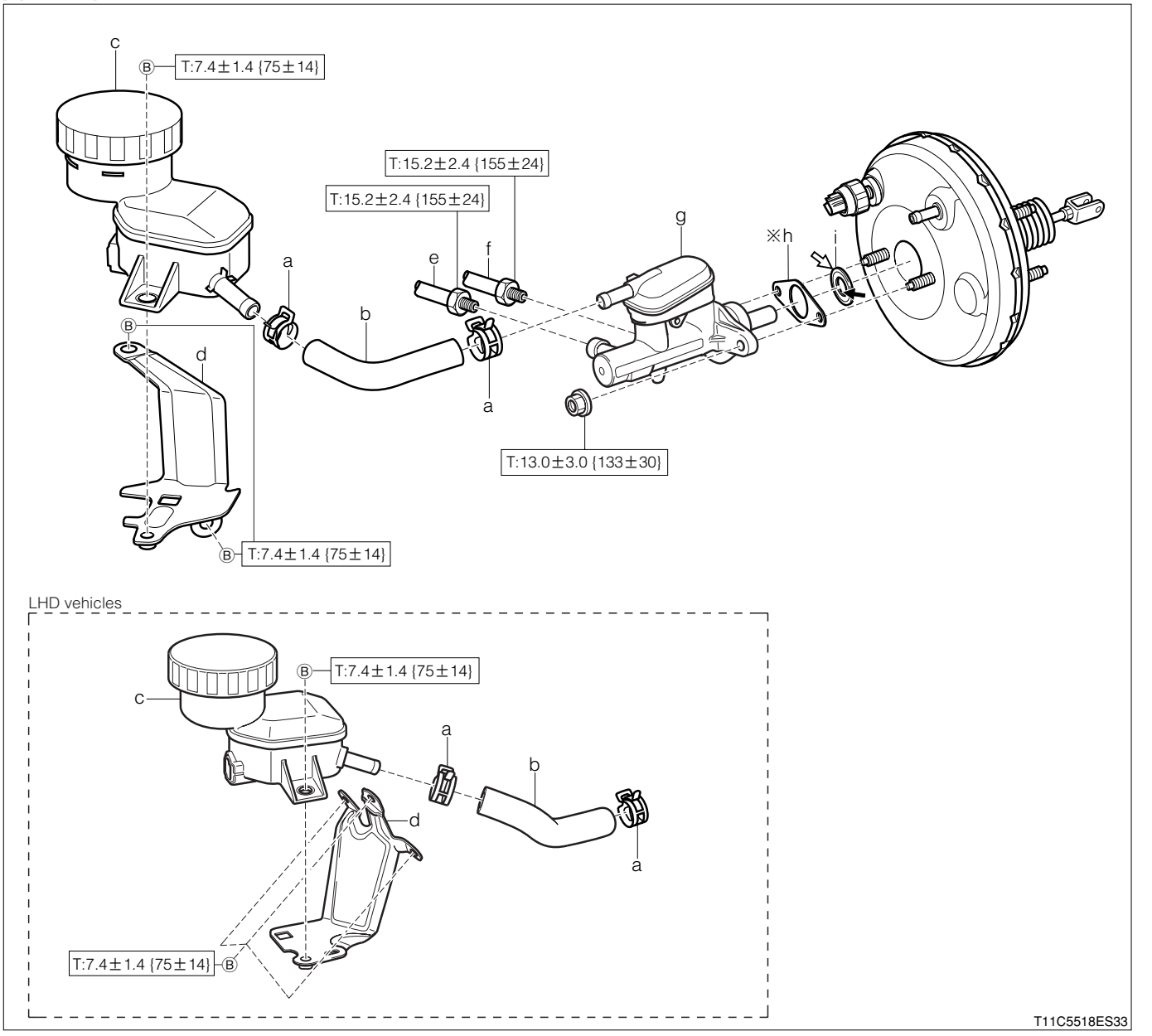
1.Remove the disc wheels.
2.On ABS-equipped vehicles, perform the following operations.
  (1) After setting the IG SW "LOCK"
  (2) Disconnect the connector of the brake actuator Ay.
3.Disconnect the air cleaner hose No.1. (RHD vehicles)
  (1) Vehicle mounted with Type 1KR engine
  Refer to Page B3-1.

  (2) Vehicle mounted with Type K3 engine
  Refer to Page B3-9.

4.Remove the battery. (LHD vehicles)
5.Disconnect the connector of the level warning switch to the brake master reservoir S/A.

5-1-3 REMOVAL AND INSTALLATION PROCEDURES (ABS-EQUIPPED VEHICLES)

(1) Components



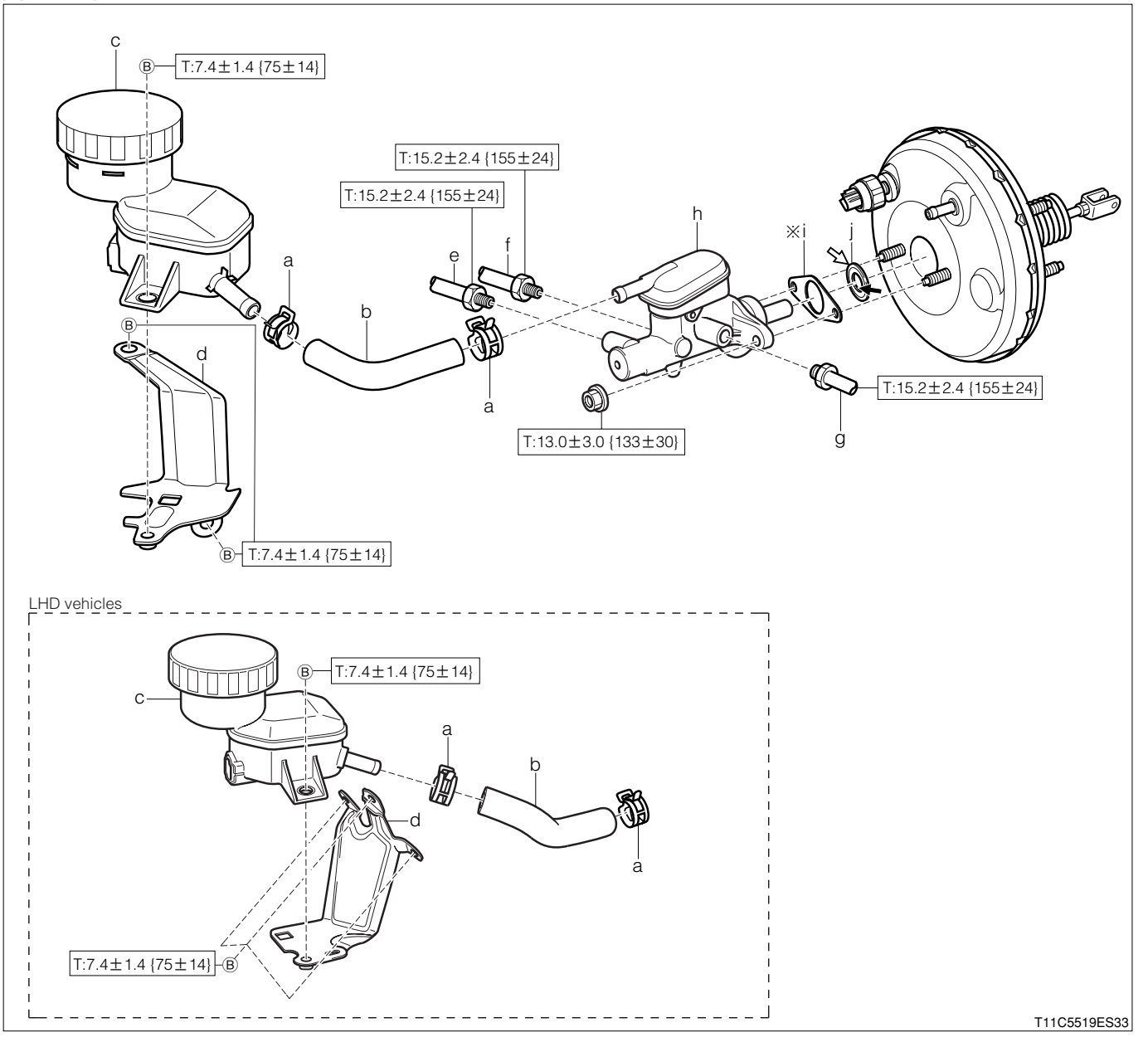
Unit: N·m{kgf·cm}
※: Non-reusable parts
➡: Brake grease
⇨: Silicone grease

(2) Removal and installation procedures

	1	a	Clip
▼ ▲	2	b	Hose, reservoir, No.1
	3	c	Reservoir Ay, master cylinder
	4	d	Bracket, reservoir
▼ ▲	5	e	Tube, front brake, No.1
▼ ▲	6	f	Tube, front brake, No.3
▲	7	g	Cylinder S/A, brake master
	8	h	Gasket, master cylinder
	9	i	Seal, master cylinder

5-1-4 REMOVAL AND INSTALLATION PROCEDURES (VEHICLES NOT EQUIPPED WITH ABS)

(1) Components



Unit: N·m{kgf·cm}
※: Non-reusable parts
➡: Brake grease
⇨: Silicone grease

(2) Removal and installation procedures

	1	a	Clip		
▼ ▲	2	b	Hose, reservoir, No.1		
	3	c	Reservoir Ay, master cylinder		
	4	d	Bracket, reservoir		
▼ ▲	5	e	Tube, front brake, No.1		
▼ ▲	6	f	Tube, front brake, No.3		
▼ ▲	7	g	Tube, front brake, No.4		
▲	8	h	Cylinder S/A, brake master		
	9	i	Gasket, master cylinder		
	10	j	Seal, master cylinder		

5-1-5 POINTS OF REMOVAL

(1) Hose, reservoir, No.1

1.Disconnect the hose at the brake master cylinder S/A. side. Plug the hose tip end with the SST.
SST: 09258-00030-000

(2) Tube, front brake

1.Disconnect the tube from the brake master cylinder S/A.

2.Plug the disconnected tube with the bleeder plug cap or the like.

5-1-6 POINTS OF INSTALLATION

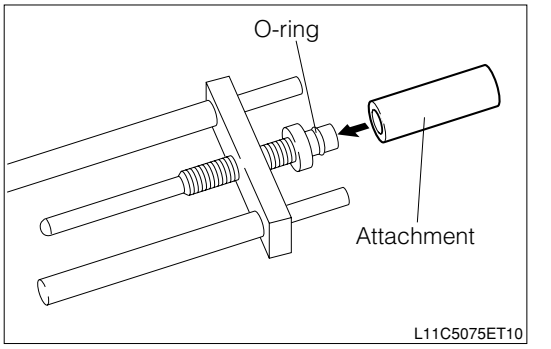
(1) Cylinder S/A, brake master

1.Check the push rod gap of the brake booster Ay, following the next procedure given below.

(1) Fit an O-ring (SST) into the groove at the rod section of the gauge (SST). Then, install an attachment (SST) to the same place. Moreover, apply brake grease to the surface of the attachment (SST) in advance.

SST: 09730-87401-000

LUBRICANT: Brake grease



(2) Install the vacuum hose Ay to the brake booster Ay.

(3) Apply brake grease to the bore lip section of the master cylinder seal attached between the cylinder S/A and the brake booster Ay. Also, apply silicone grease to its outer circumference.

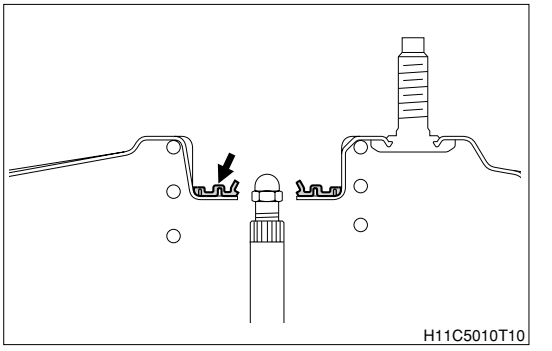
LUBRICANT: Brake grease
Silicon grease

(4) Install the master cylinder seal to the brake booster Ay side.

CAUTION

- Make sure that the master cylinder seal is attached in the correct direction.

(5) Install the master cylinder gasket to the brake master cylinder Ay.



(6) Set the gauge (SST) to a position where the rod of the gauge (SST) may come in contact lightly with the master cylinder piston S/A No.1 of the cylinder S/A.

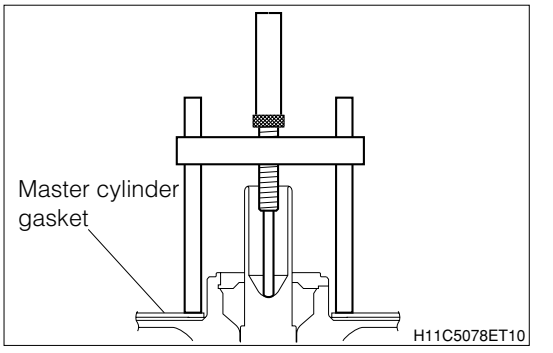
(7) Install the negative terminal of the battery. Start the engine. Apply a negative pressure of about 66.7kPa{500mmHg} to the booster.

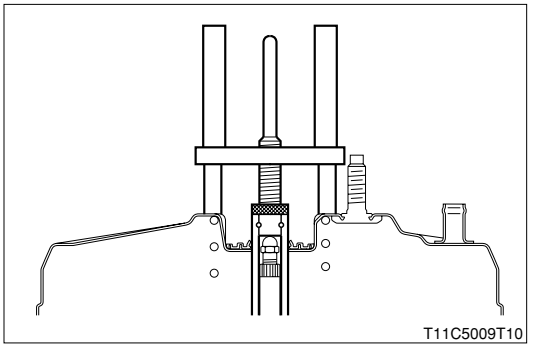
CAUTION

- Connect the negative terminal of the battery with the connector of the brake actuator Ay disconnected.

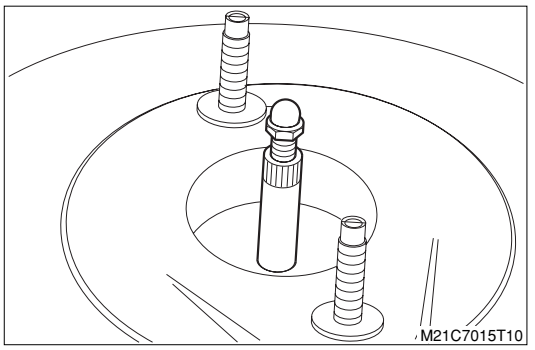
(8) Install the SST at the brake booster Ay side in an inverted state. Then, check the clearance between the rod of the SST and the push rod of the brake booster Ay.

SPECIFIED VALUE: Clearance: 0 mm

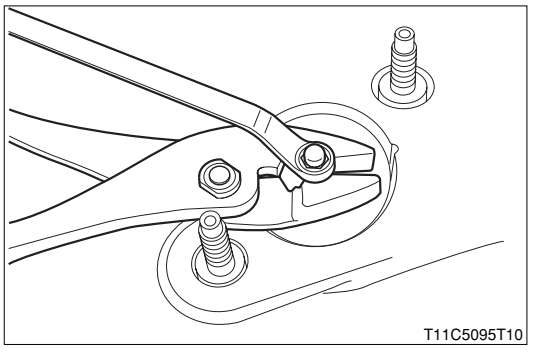




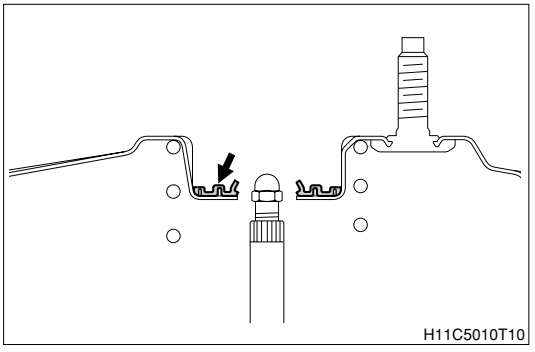
2.If the clearance of the brake booster push rod fails to conform to the specified value, perform the adjustment, following the procedure given below.
(1) Retain the push rod in a pushed-out state.



(2) Secure the push rod, using pliers or the like. Then, adjust the length by turning the bolt provided at the tip end of the push rod.
3.Apply silicone grease to the tip-end of the push rod of the brake booster Ay.
LUBRICANT: Silicon grease



4.Ensure that the master cylinder seal is correctly installed. Then, install the cylinder subassembly to the brake booster assembly.



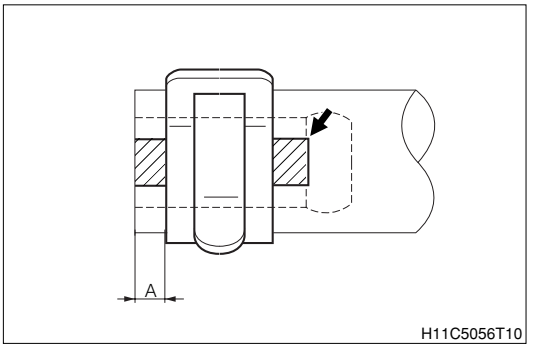
(2) Tube, front brake

1.When the brake master cylinder S/A has been removed and installed, before the tube is connected, carry out air bleeding of the brake master cylinder S/A.
Refer to Page E1-29.

2.Temporarily tighten the union nut until the tube flare section contacts closely with the seat.
3.Using the SST, connect the tube to the brake master cylinder S/A and tighten it to the specified torque.
SST: 09023-00100-000

(3) Hose, reservoir, No.1

1.Install the hose, using the following procedure.
(1) The installation must be in such a way that the paint line at both ends of the hose come at the upper side of the vehicle.
(2) Be sure to insert the hose up to the stopper surface of the union.
(3) The installation positions of the clips at the both ends of the hose are such that the point (A) in the figure comes in a range of 4±2mm.



5-1-7 OPERATION AFTER INSTALLATION

1.Connect the connector of the level warning switch to the brake master reservoir S/A.
2.Connect the air cleaner hose No.1. (RHD vehicles)
(1) Vehicle mounted with Type 1KR engine
Refer to Page B3-1.

(2) Vehicle mounted with Type K3 engine
Refer to Page B3-9.

3.Install the battery. (LHD vehicles)
4.Carry out the air bleeding of the brake.
Refer to Page E1-4.

5.On ABS-equipped vehicles, perform the following operations.
(1) Connect the connector of the brake actuator Ay.
(2) Connect the negative (-) terminal of the battery.
6.Install the disc wheels.
Refer to Page C3-3.

7.Confirm that there is no brake dragging.
Refer to Page C1-3.

8.Jack down the vehicle.

5-2 DISASSEMBLING AND ASSEMBLING (ABS-EQUIPPED VEHICLES)

5-2-1 ARTICLES TO BE PREPARED

Tool

Snap ring pliers

Lubricant, adhesive, others

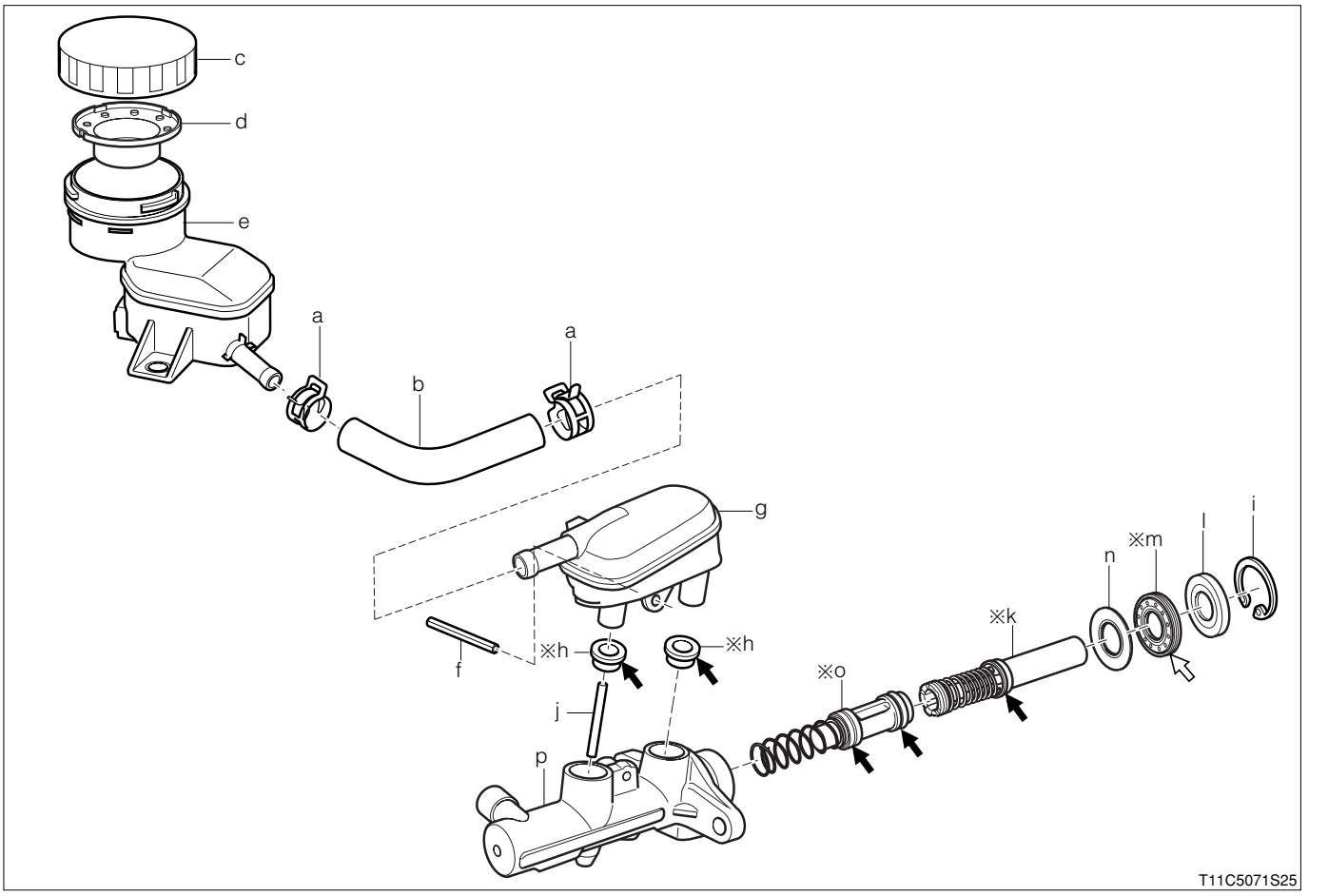
Brake fluid(DOT3),Brake grease,Silicon grease

5-2-2 OPERATION BEFORE DISASSEMBLY

1.Remove the brake master cylinder S/A.
Refer to Page E1-18.

5-2-3 DISASSEMBLY AND ASSEMBLY PROCEDURES

(1) Components



※: Non-reusable parts
➡: Brake fluid (Equivalent to DOT3)
⇨: Brake grease

(2) Disassembling and assembling procedure

	1	a	Clip	▼▲	9	i	Ring, hole snap
▲	2	b	Hose, reservoir, No.1	▼▲	10	j	Pin
	3	c	Cap Ay, reservoir filler	▼▲	11	k	Piston S/A, master cylinder No.1
	4	d	Strainer, master cylinder reservoir		12	l	Guide, master cylinder piston
	5	e	Reservoir S/A, master cylinder	▲	13	m	Cup, cylinder
	6	f	Pin		14	n	Plate, master cylinder piston stop
	7	g	Reservoir, master cylinder	▼▲	15	o	Piston S/A, master cylinder, No.2
▲	8	h	Grommet, reservoir		16	p	Body, master cylinder

5-2-4 POINTS OF DISASSEMBLY

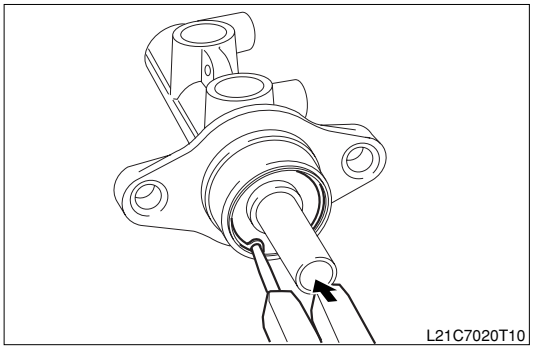
(1) Ring, hole snap

1.Remove the residual brake fluid inside the brake master cylinder S/A by pushing the master cylinder piston S/A No.1 several times.

CAUTION

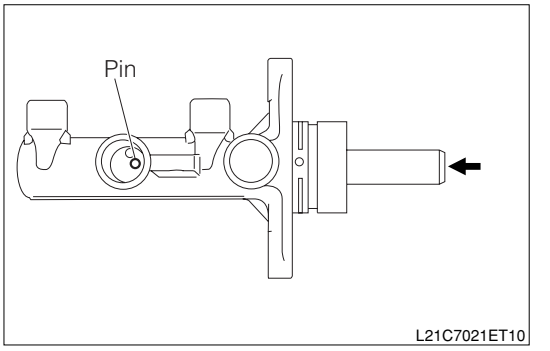
- Be careful so that the fluid may not scatter when pushing the master cylinder piston S/A No.1.

2.With the master cylinder piston S/A No.1 pushed in, remove the ring, using snap ring pliers.
TOOL: Snap ring pliers



(2) Pin

1.With the master cylinder piston S/A No.1 pushed in, remove the pin.



(3) Piston S/A, master cylinder, No.1

1.Take out the piston S/A straight.

CAUTION

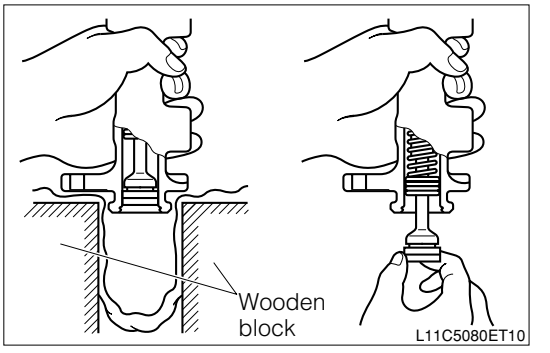
- The removal must be made in such a way that no score be made to the bore surface of the master cylinder body.

(4) Piston S/A, master cylinder, No.2

1.Tap flange portion lightly against a chip of wood until the end of the piston S/A comes out.
2.When the end of the piston S/A comes out, then pull out the piston S/A straight.

CAUTION

- The removal must be made in such a way that no score be made to the bore surface of the master cylinder body.



5-2-5 INSPECTION

(1) body, master cylinder

1.Check to see if the cylinder bore exhibits scratches.
2.Check to see if the cylinder exhibits deformation and scratches.

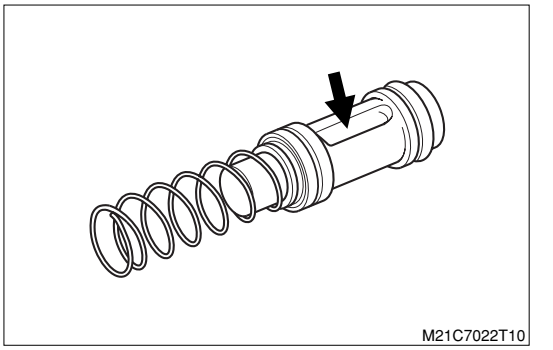
5-2-6 POINTS OF ASSEMBLY

(1) Piston S/A, master cylinder, No.2

1.Apply brake fluid to the entire periphery of the cylinder inner surface of the master cylinder body.
LUBRICANT: Brake fluid(DOT3)

2.Apply brake fluid to the entire periphery of the cup of the piston subassembly.
LUBRICANT: Brake fluid(DOT3)

3.Insert the piston S/A in such a way that the elongated hole of it is aligned with the pin attaching hole of the master cylinder body.


M21C7022T10

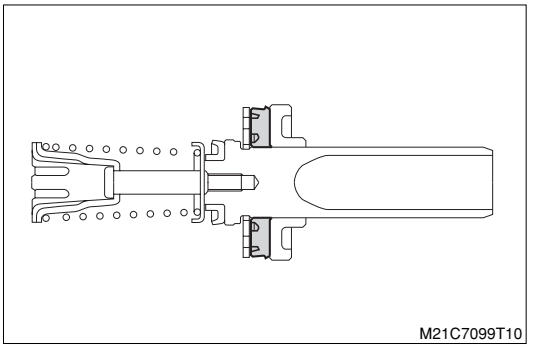
(2) Cup, cylinder

1.Apply brake grease to the entire periphery of the inner and outer surfaces of the cup.
LUBRICANT: Brake grease

2.Install the cup to the master cylinder piston S/A No.1.

CAUTION

- Install the cup in such a way that the side having the groove comes at the master cylinder piston stop plate side.


M21C7099T10

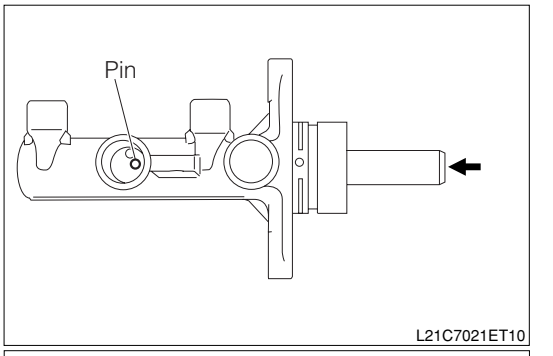
(3) Piston S/A, master cylinder, No.1

1.Apply brake fluid to the entire periphery of the cup of the piston subassembly.
LUBRICANT: Brake fluid(DOT3)

2.Insert the piston S/A into the master cylinder body.

(4) Pin

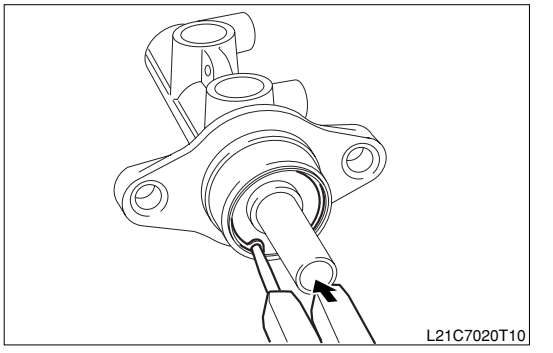
1.With the master cylinder piston S/A No.1 pushed in, remove the pin.



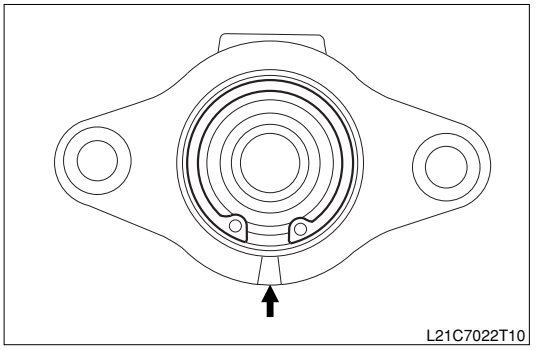
L21C7021ET10

(5) Ring, hole snap

1.With the master cylinder piston S/A No. 1 pushed in, assemble the ring, using snap ring pliers.
TOOL: Snap ring pliers


L21C7020T10

2.Install the ring in such a way that the opening may face downward.

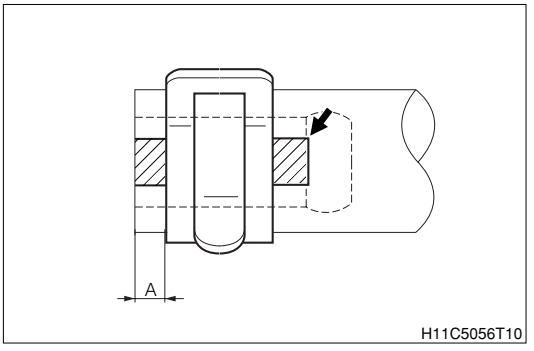


(6) Grommet, reservoir

1.Apply brake fluid to the entire periphery of the inner and outer surfaces of the grommet.
LUBRICANT: Brake fluid(DOT3)

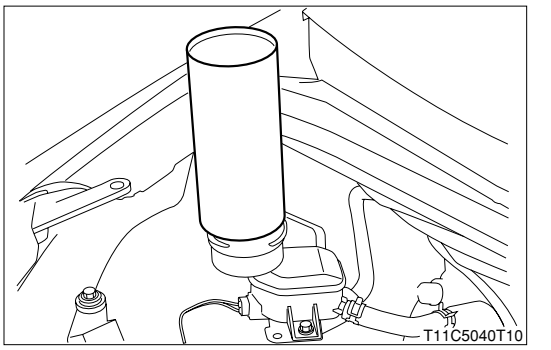
(7) Hose, reservoir, No.1

1.Install the hose, using the following procedure.
(1) The installation must be in performed in such a way that the paint line at both ends of the hose come at the upper side of the vehicle.
(2) Be sure to insert the hose up to the stopper surface of the union.
(3) The installation positions of the clips at the both ends of the hose are such that the point (A) in the figure comes in a range of 4±2mm.



5-2-7 OPERATION AFTER ASSEMBLY

1.With the brake tube only disconnected, install the brake master cylinder S/A.
Refer to Page E1-18.



2.Carry out the air bleeding of the brake master cylinder S/A, using the following procedure given below.

(1) Replenish the brake fluid by placing the container of brake fluid upside down on the master cylinder reservoir S/A.

LUBRICANT: Brake fluid(DOT3)

CAUTION

- Ensure that the container contains an adequate amount of brake fluid.
- When replenishing, ensure that the master cylinder reservoir at the upper section of the brake master cylinder S/A is filled with brake fluid fully. Then, proceed to the operation.
- To avoid any ingress of air, keep refilling the brake fluid at all times so that the master cylinder reservoir S/A may not become empty.

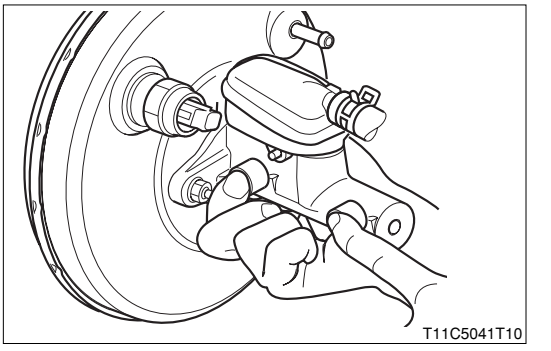
(2) Slowly depress the brake pedal and maintain this state.

(3) Plug the installing hole of the brake tube with your finger. Return the brake pedal.

(4) Release your finger from the installing hole of the brake tube.

(5) Repeat the operations posted in Items (2) through (4) above three or four times. Thus, fill the brake master cylinder S/A with brake fluid.

(6) Install the brake tube to the brake master cylinder S/A.
Refer to Page E1-18.



5-3 DISASSEMBLING AND ASSEMBLING (VEHICLES NOT EQUIPPED WITH ABS)

5-3-1 ARTICLES TO BE PREPARED

Tool

Snap ring pliers

Instrument

Torque wrench

Lubricant, adhesive, others

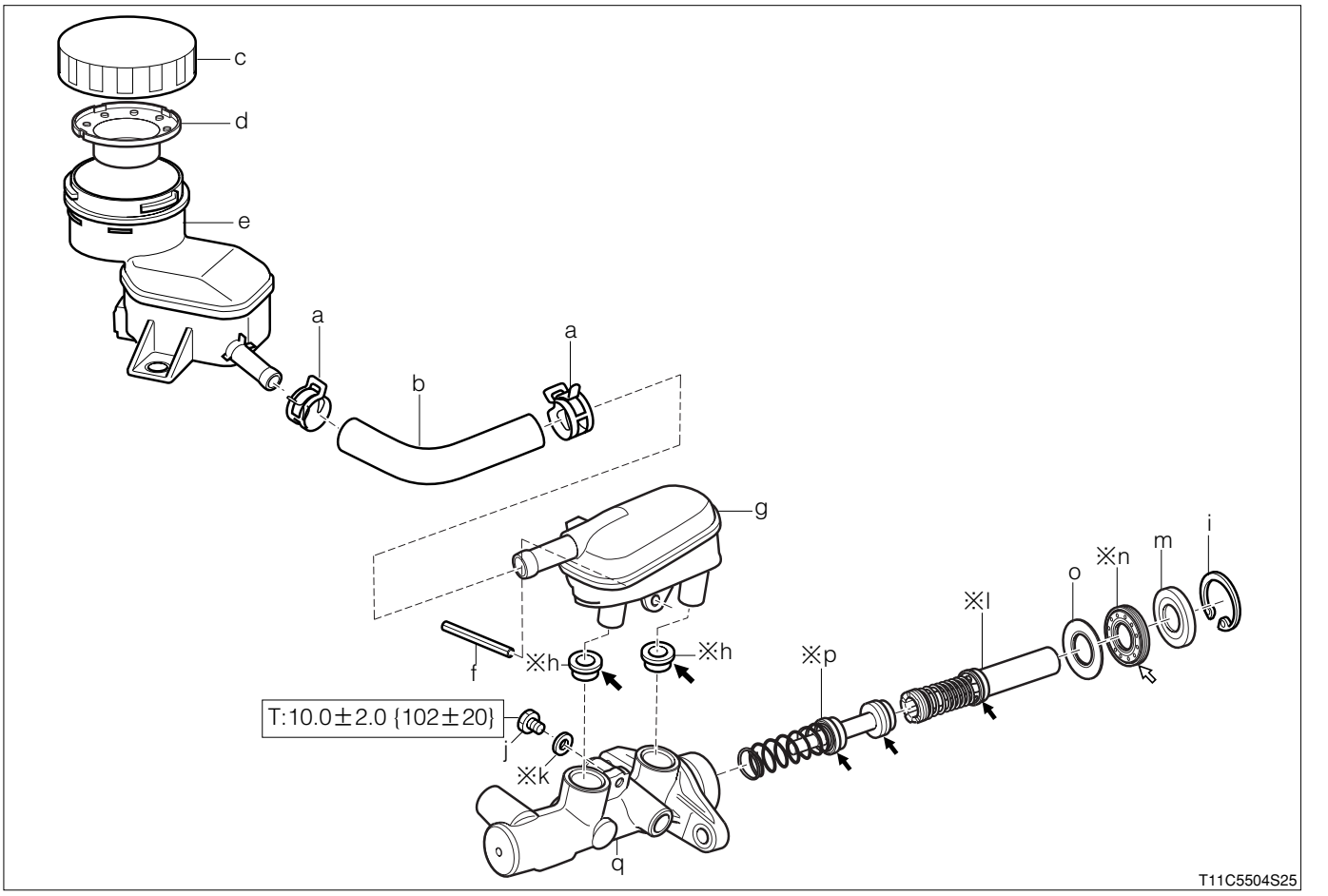
Brake fluid(DOT3),Brake grease,Silicon grease

5-3-2 OPERATION BEFORE DISASSEMBLY

1.Remove the brake master cylinder S/A.
Refer to Page E1-18.

5-3-3 DISASSEMBLY AND ASSEMBLY PROCEDURES

(1) Components



Unit: N·m{kgf·cm}
※: Non-reusable parts
➡: Brake fluid (Equivalent to DOT3)
⇨: Brake grease

(2) Disassembling and assembling procedure

	1	a	Clip		
▲	2	b	Hose, reservoir, No.1		
	3	c	Cap Ay, reservoir filler		
	4	d	Strainer, master cylinder reservoir		
	5	e	Reservoir S/A, master cylinder		
	6	f	Pin		
	7	g	Reservoir, master cylinder		
▲	8	h	Grommet, reservoir		
▼ ▲	9	i	Ring, hole snap		
▼ ▲	10	j	Bolt, hexagon		
	11	k	Gasket		
▼ ▲	12	l	Piston S/A, master cylinder No.1		
	13	m	Guide, master cylinder piston		
▲	14	n	Cup, cylinder		
	15	o	Plate, master cylinder piston stop		
▼ ▲	16	p	Piston S/A, master cylinder, No.2		
	17	q	Body, master cylinder		

5-3-4 POINTS OF DISASSEMBLY

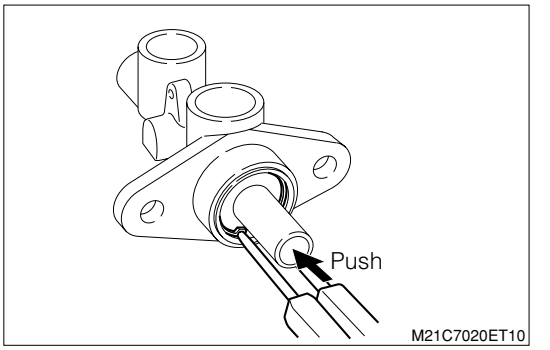
(1) Ring, hole snap

1.Remove the residual brake fluid inside the brake master cylinder S/A by pushing the master cylinder piston S/A No.1 several times.

CAUTION

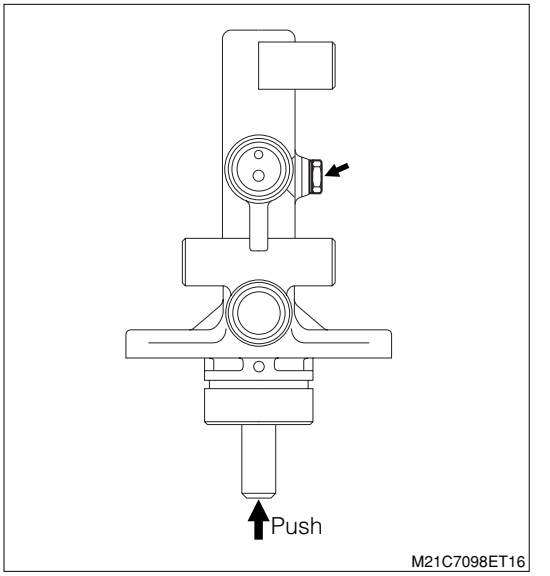
- Be careful so that the fluid may not scatter when pushing the master cylinder piston S/A No.1.

2.With the master cylinder piston S/A No.1 pushed in, remove the hole snap ring, using snap ring pliers.
TOOL: Snap ring pliers



(2) Bolt, hexagon

1.With the master cylinder piston S/A No.1 pushed in, remove the bolt.



(3) Piston S/A, master cylinder, No.1

1.Take out the piston S/A straight.

CAUTION

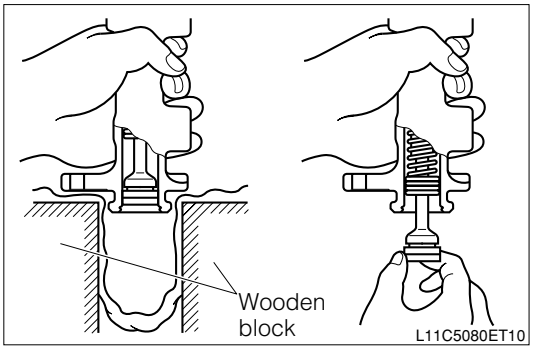
- Remove the master cylinder body, while paying attention not to score the cylinder bore surface.

(4) Piston S/A, master cylinder, No.2

1.Tap flange portion lightly against a chip of wood until the end of the piston S/A comes out.
2.When the end of the piston S/A comes out, then pull out the piston S/A straight.

CAUTION

- Remove the master cylinder body, while paying attention not to score the cylinder bore surface.



5-3-5 INSPECTION

(1) Body, master cylinder

1.Check to see if the cylinder bore exhibits scratches.
2.Check to see if the cylinder exhibits deformation and scratches.

5-3-6 POINTS OF ASSEMBLY

(1) Piston S/A, master cylinder, No.2

1.Apply brake fluid to the entire periphery of the cylinder inner surface of the master cylinder body.
LUBRICANT: Brake fluid(DOT3)

2.Apply brake fluid to the entire periphery of the cup of the piston subassembly.
LUBRICANT: Brake fluid(DOT3)

3.Insert the piston S/A into the master cylinder body.

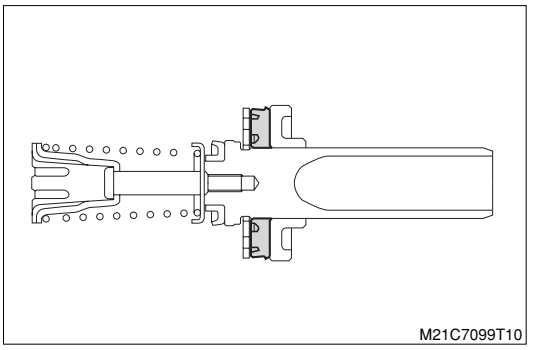
(2) Cup, cylinder

1.Apply brake grease to the entire periphery of the inner and outer surfaces of the cup.
LUBRICANT: Brake fluid(DOT3)

2.Install the cup to the master cylinder piston S/A No.1.

CAUTION

- Install the cup in such a way that the side having the groove comes at the master cylinder piston stop plate side.



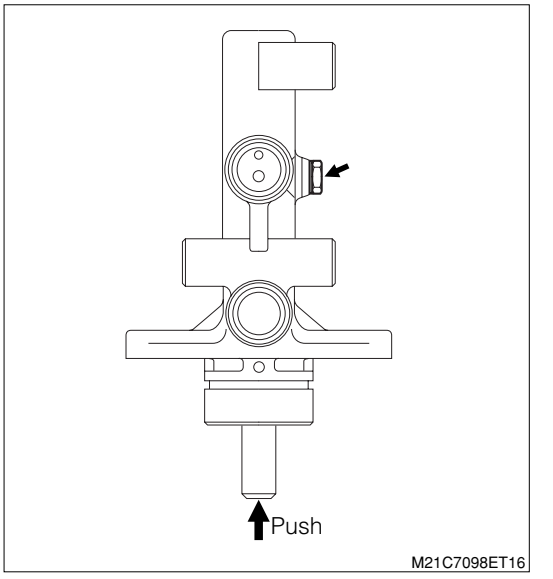
(3) Piston S/A, master cylinder, No.1

1.Apply brake fluid to the entire periphery of the cup of the piston subassembly.
LUBRICANT: Brake fluid(DOT3)

2.Insert the piston S/A into the master cylinder body.

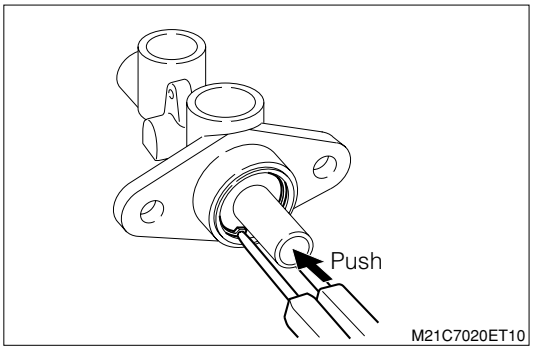
(4) Bolt, hexagon

1.With the piston S/A in a pushed state, install the gasket and bolt.

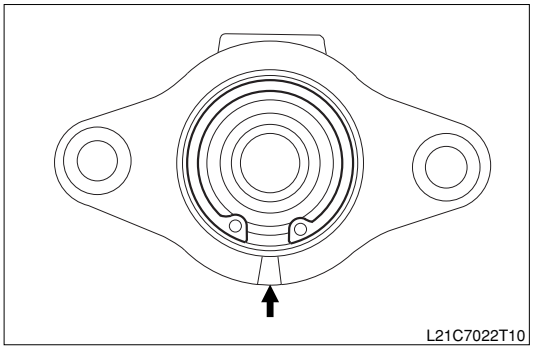


(5) Ring, hole snap

1.With the master cylinder piston S/A No.1 pushed in, install the ring, using snap ring pliers.
TOOL: Snap ring pliers



2.Install the ring in such a way that the opening may face downward.

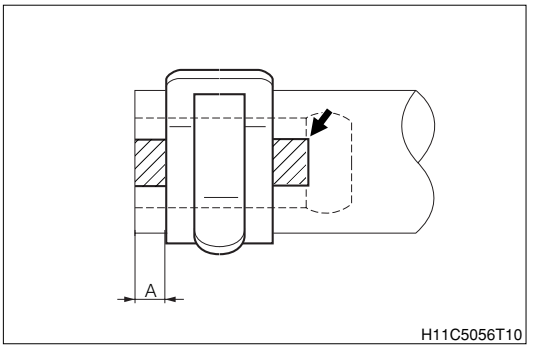


(6) Grommet, reservoir

1.Apply brake fluid to the entire periphery of the inner and outer surfaces of the grommet.
LUBRICANT: Brake fluid(DOT3)

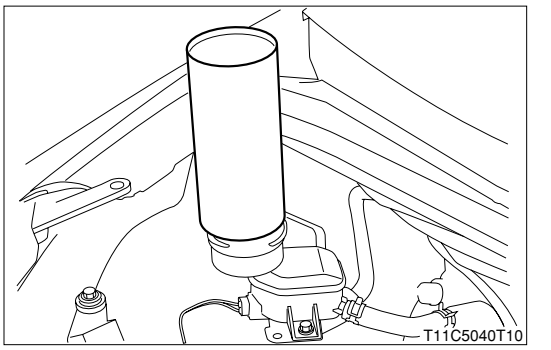
(7) Hose, reservoir, No.1

1.Install the hose, using the following procedure.
(1) The installation must be performed in such a way that the paint line at both ends of the hose come at the upper side of the vehicle.
(2) Be sure to insert the hose up to the stopper surface of the union.
(3) The installation positions of the clips at the both ends of the hose are such that the point (A) in the figure comes in a range of 4±2mm.



5-3-7 OPERATION AFTER ASSEMBLY

1.With the brake tube only disconnected, install the brake master cylinder S/A.
Refer to Page E1-18.



2.Carry out the air bleeding of the brake master cylinder S/A, using the following procedure given below.

(1) Replenish the brake fluid by placing the container of brake fluid upside down on the master cylinder reservoir S/A.

LUBRICANT: Brake fluid(DOT3)

CAUTION

- Ensure that the container contains an adequate amount of brake fluid.
- When replenishing, ensure that the master cylinder reservoir at the upper section of the brake master cylinder S/A is filled with brake fluid fully. Then, proceed to the operation.
- To avoid any ingress of air, keep refilling the brake fluid at all times so that the master cylinder reservoir S/A may not become empty.

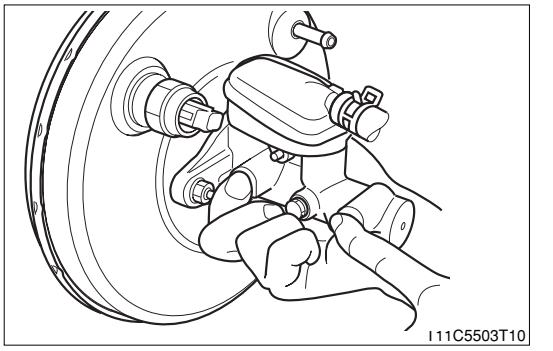
(2) Slowly depress the brake pedal and maintain this state.

(3) Plug the installing hole of the brake tube with your finger. Return the brake pedal.

(4) Release your finger from the installing hole of the brake tube.

(5) Repeat the operations posted in Items (2) through (4) above three or four times. Thus, fill the brake master cylinder S/A with brake fluid.

(6) Install the brake tube to the brake master cylinder S/A.
Refer to Page E1-18.



6 BRAKE BOOSTER

6-1 REMOVAL AND INSTALLATION

NOTE

- Never turn "ON" the IG SW until the air bleeding is completed. Failure to observe this caution causes air to be trapped into the brake actuator Ay, making it difficult to carry out air bleeding.

6-1-1 ARTICLES TO BE PREPARED

Instrument

MityVac,Torque wrench

Lubricant,adhesive,others

Brake fluid(DOT3),MP grease

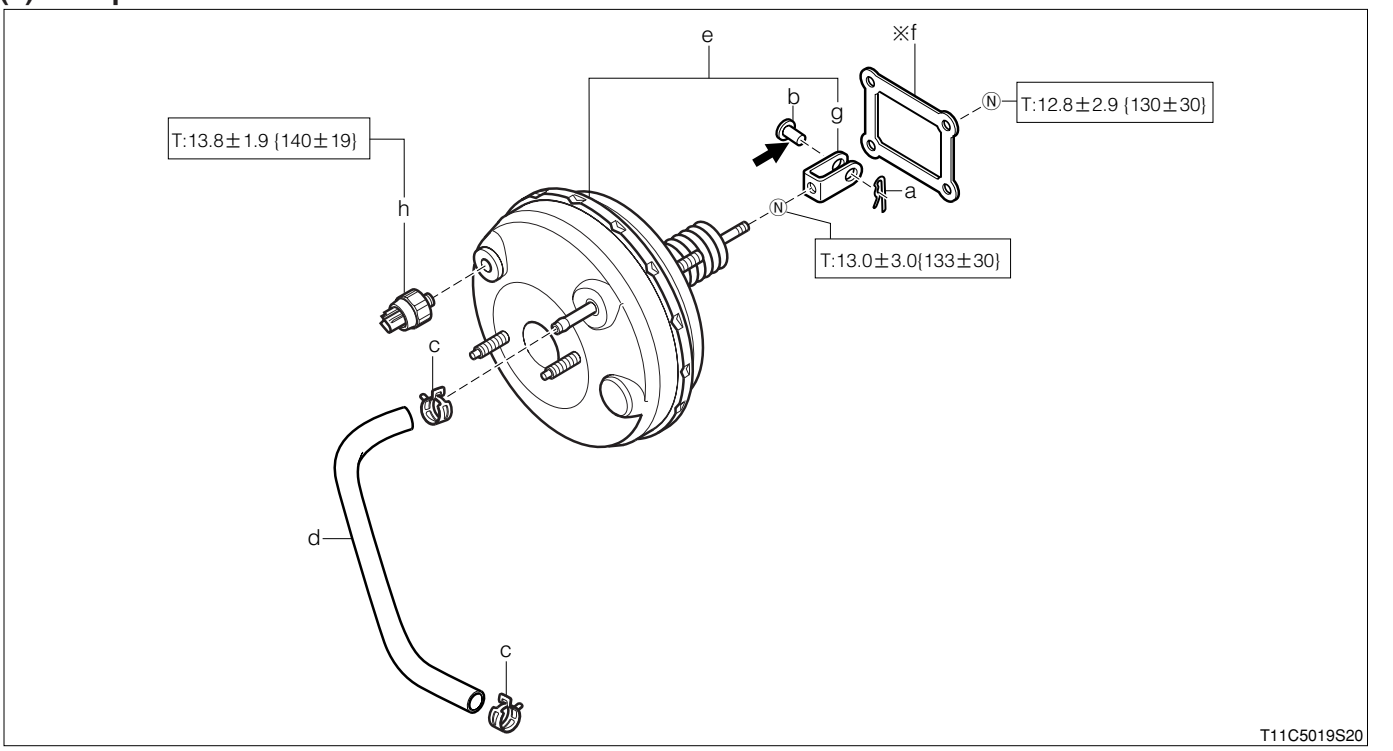
6-1-2 OPERATION BEFORE REMOVAL

1.Remove the brake master cylinder S/A.
Refer to Page E1-18.

2.Disconnect the connector of the vacuum SW Ay. (A/T vehicle)
3.Remove the instrument panel finish panel subassembly lower.
Refer to Page I2-23.

6-1-3 REMOVAL AND INSTALLATION PROCEDURES (RHD VEHICLES)

(1) Components



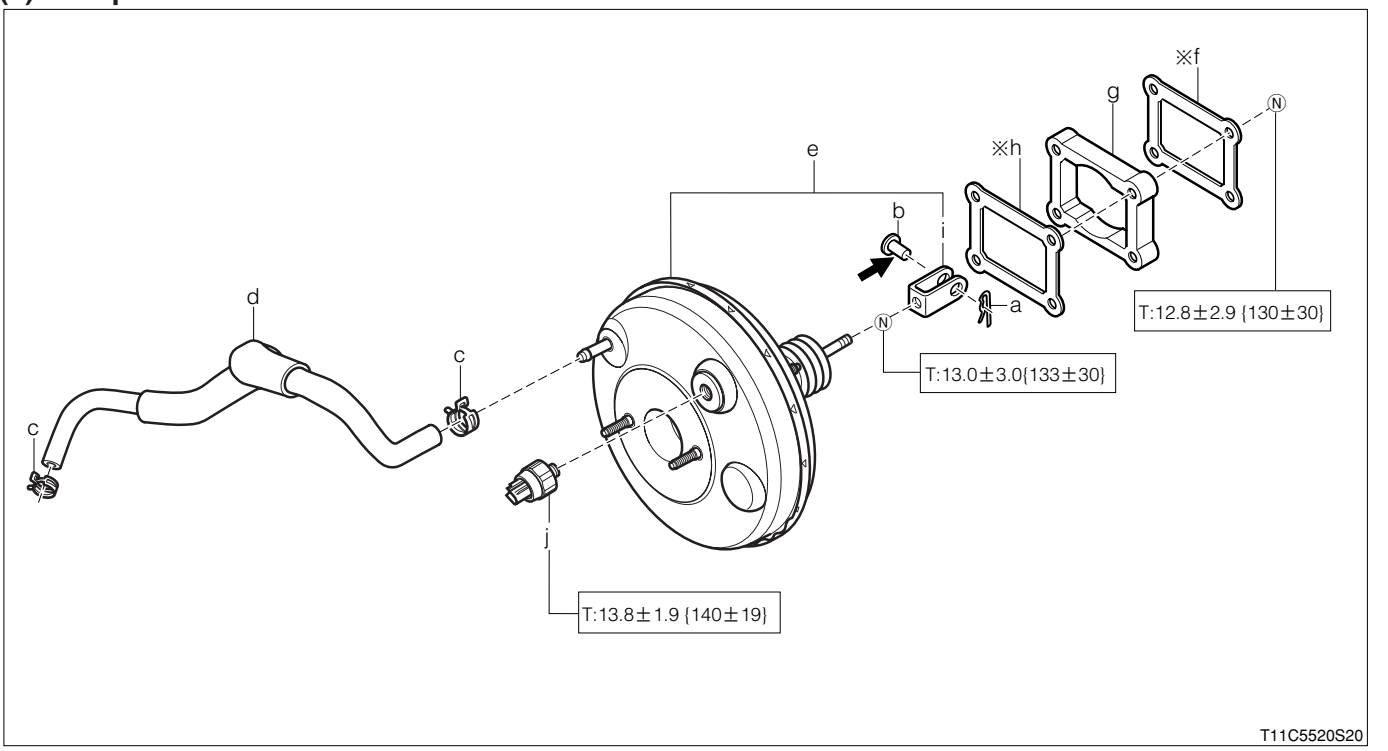
Unit: N·m{kgf·cm}
※: Non-reusable parts
➡: MP grease

(2) Removal and installation procedures

1 a Clip
2 b Pin, w/hole
3 c Clip
▲ 4 d Hose Ay, vacuum
5 e Booster Ay, brake
6 f Gasket, master cylinder bracket
7 g Clevis, master cylinder push rod
8 h SW Ay, vacuum

6-1-4 REMOVAL AND INSTALLATION PROCEDURES (LHD VEHICLES)

(1) Components



Unit: N·m{kgf·cm}
※: Non-reusable parts
➡: MP grease

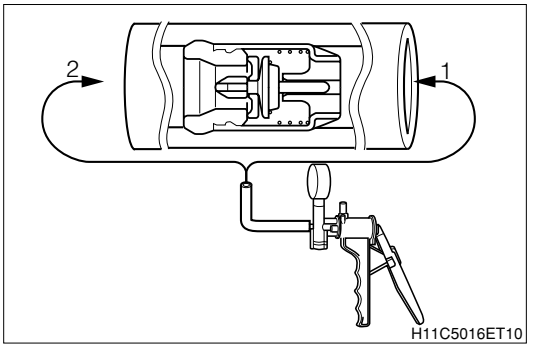
(2) Removal and installation procedures

1 a Clip
2 b Pin, w/hole
3 c Clip
▲ 4 d Hose Ay, vacuum
5 e Booster Ay, brake
6 f Gasket, master cylinder bracket (9-inch brake booster-equipped vehicles)
7 g Spacer, master cylinder (9-inch brake booster-equipped vehicles)
8 h Gasket, master cylinder bracket
9 i Clevis, master cylinder push rod
10 j SW Ay, vacuum

6-1-5 INSPECTION

(1) Hose Ay, vacuum

1.Connect a MityVac to the engine side (1). Then, check that air continuity exists from the booster side (2) to the engine side (1) (No negative pressure is applied).
2.Connect a MityVac to the booster side (2). Then, check that no air continuity exists from the engine side (1) to the booster side (2) (Negative pressure is applied).
3.Replace the hose Ay in case that the above condition is not satisfied.



(2) Booster Ay, brake

1.Check and adjust the push rod clearance of the brake booster Ay.
Refer to Page E1-18.

6-1-6 POINTS OF INSTALLATION

(1) Hose Ay, vacuum

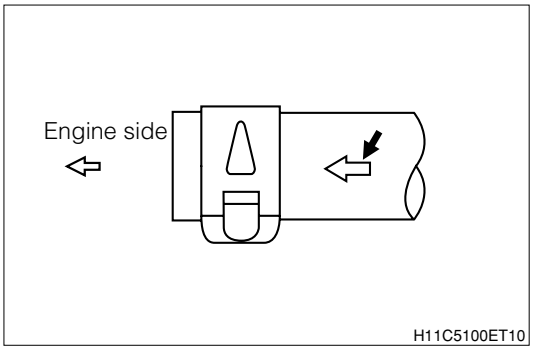
1.Install the hose Ay, using the following procedure.

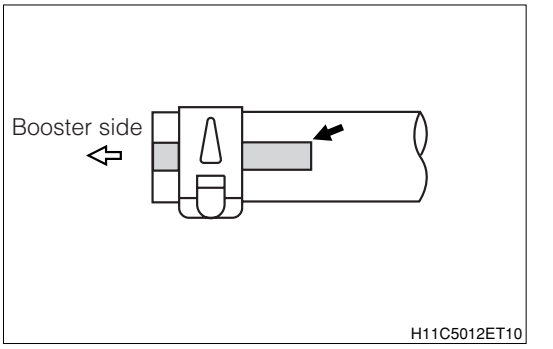
(1) The installation must be made in such a way that the side having the arrow-marked paint comes at the intake manifold Ay side of the engine Ay.

(2) If the mark is no longer visible, check continuity. The installation must be made in such a way that continuity exists from the brake booster Ay to the intake manifold Ay.

(3) The installation must be made in such a way that the arrow-marked paint comes at the upper side of the vehicle.

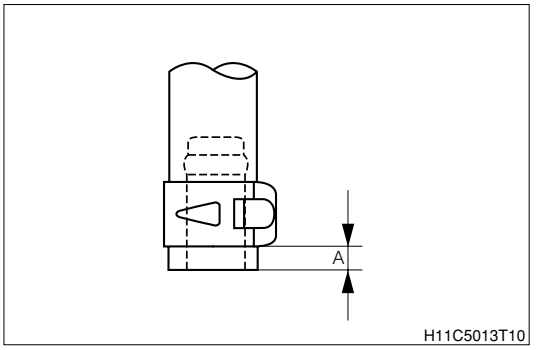
(4) Connection at the brake booster Ay side should be performed in such a way that the paint line faces the vehicle upward.





(5) Be sure to insert the hose Ay up to the stopper surface of the union.

(6) The installing position of the clip is such that point (A) in the figure comes within a range of 2 to 4.5 mm.



6-1-7 OPERATION AFTER INSTALLATION

1.Connect the connector of the vacuum SW Ay. (A/T vehicle)

2.Install the brake master cylinder S/A.
Refer to Page E1-18.

3.Install the instrument panel finish panel subassembly lower.
Refer to Page I2-23.

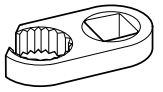
4.Check and adjust the brake pedal Ay.
Refer to Page E1-1.

7 PROPORTIONING VALVE (VEHICLES NOT EQUIPPED WITH ABS)

7-1 REMOVAL AND INSTALLATION

7-1-1 ARTICLES TO BE PREPARED

SST

Shape	Part No.	Part name
	09023-00100-000	Wrench,union nut

Tool

Brake pedal pusher

Instrument

Torque wrench

Lubricant,adhesive,others

Brake fluid(DOT3)

7-1-2 OPERATION BEFORE REMOVAL

1.Prevent brake fluid from flowing out, following the procedure given below.

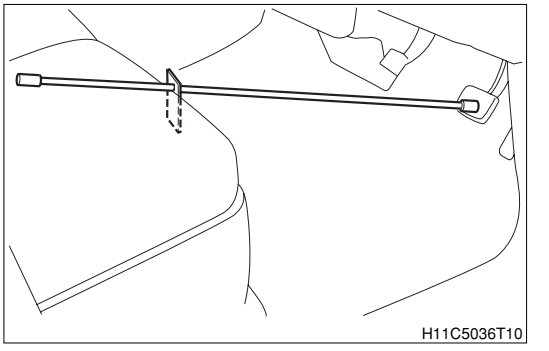
(1) Remove the disc wheels.

Refer to Page C3-3.

(2) Connect a bottle for air bleeding to the bleeder plug of the RH/LH front disc brake caliper Ay. Open the bleeder plug.

(3) Fully depress the brake pedal Ay. At this point, secure the brake pedal Ay.

TOOL: Brake pedal pusher



NOTE

- This causes the port of the brake master cylinder S/A to close. Therefore, any escape of brake fluid from the brake hydraulic circuit can be prevented.

(4) Close the bleeder plug of the front wheels at the right and left sides.

2.Remove the intake manifold Ay.

(1) Vehicle mounted with Type 1KR engine

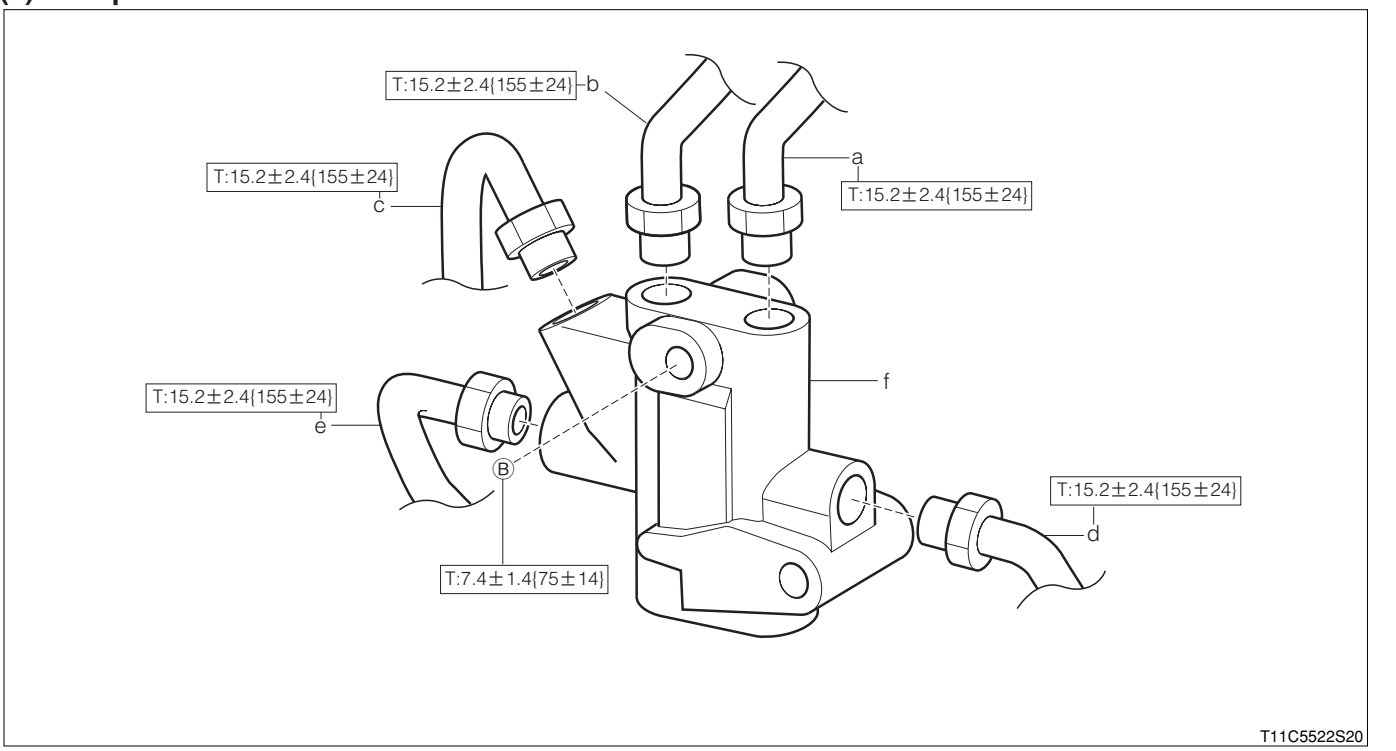
Refer to Page B3-5.

(2) Vehicle mounted with Type K3 engine

Refer to Page B3-14.

7-1-3 REMOVAL AND INSTALLATION PROCEDURES

(1) Components



Unit: N·m{kgf·cm}

(2) Removal and installation procedures

▼ ▲ 1 a Tube, rear brake, No.2
▼ ▲ 2 b Tube, rear brake, No.4
▼ ▲ 3 c Tube, front brake, No.2
▼ ▲ 4 d Tube, front brake, No.3
▼ ▲ 5 e Tube, front brake, No.1
6 f Valve Ay, proportioning

7-1-4 POINTS OF REMOVAL

(1) Tube, brake

1.Disconnect the tube from the proportioning valve Ay.
2.Plug the disconnected tube with the bleeder plug cap or the like.

7-1-5 POINTS OF INSTALLATION

(1) Tube, brake

1.Temporarily tighten the union nut by hand until the tube flare section contacts closely with the seat.
2.Using the SST, connect the tube to the proportioning valve Ay and tighten it to the specified torque.
SST: 09023-00100-000

7-1-6 OPERATION AFTER INSTALLATION

1.Remove the intake manifold Ay.
(1) Vehicle mounted with Type 1KR engine
Refer to Page B3-5.

(2) Vehicle mounted with Type K3 engine
Refer to Page B3-14.

2.Release the securing of the brake pedal Ay.
3.Perform air bleeding of the brake.
Refer to Page E1-4.

4.Remove the disc wheels.
Refer to Page C3-3.

5.Jack down the vehicle.

8 BRAKE HOSE

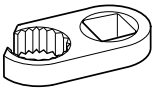
8-1 REMOVAL AND INSTALLATION (FRONT)

CAUTION

- Care must be exercised so that no brake fluid may adhere to the paint surface. If brake fluid is adhered to the paint surface, immediately wipe it out and wash it with water.
- Never reuse the wiped-out brake fluid.
- Care must be exercised so that no brake fluid or oil, etc. may adhere to the flexible hose.

8-1-1 ARTICLES TO BE PREPARED

SST

Shape	Part No.	Part name
	09023-00100-000	Wrench,union nut

Tool

Brake pedal pusher

Instrument

Torque wrench

Lubricant,adhesive,others

Brake fluid(DOT3)

8-1-2 OPERATION BEFORE REMOVAL

1.Remove the disc wheels. (Front)
Refer to Page C3-3.

2.Prevent brake fluid from flowing out, using the following procedure.

(1) Connect a bottle for air bleeding to the bleeder plug of the RH/LH front disc brake caliper Ay. Open the bleeder plug.

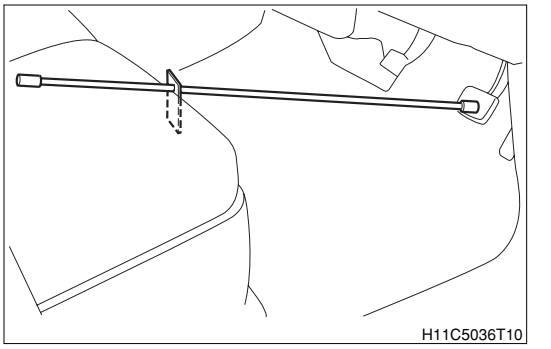
(2) Fully depress the brake pedal. At this point, secure the brake pedal Ay.

TOOL: Brake pedal pusher

NOTE

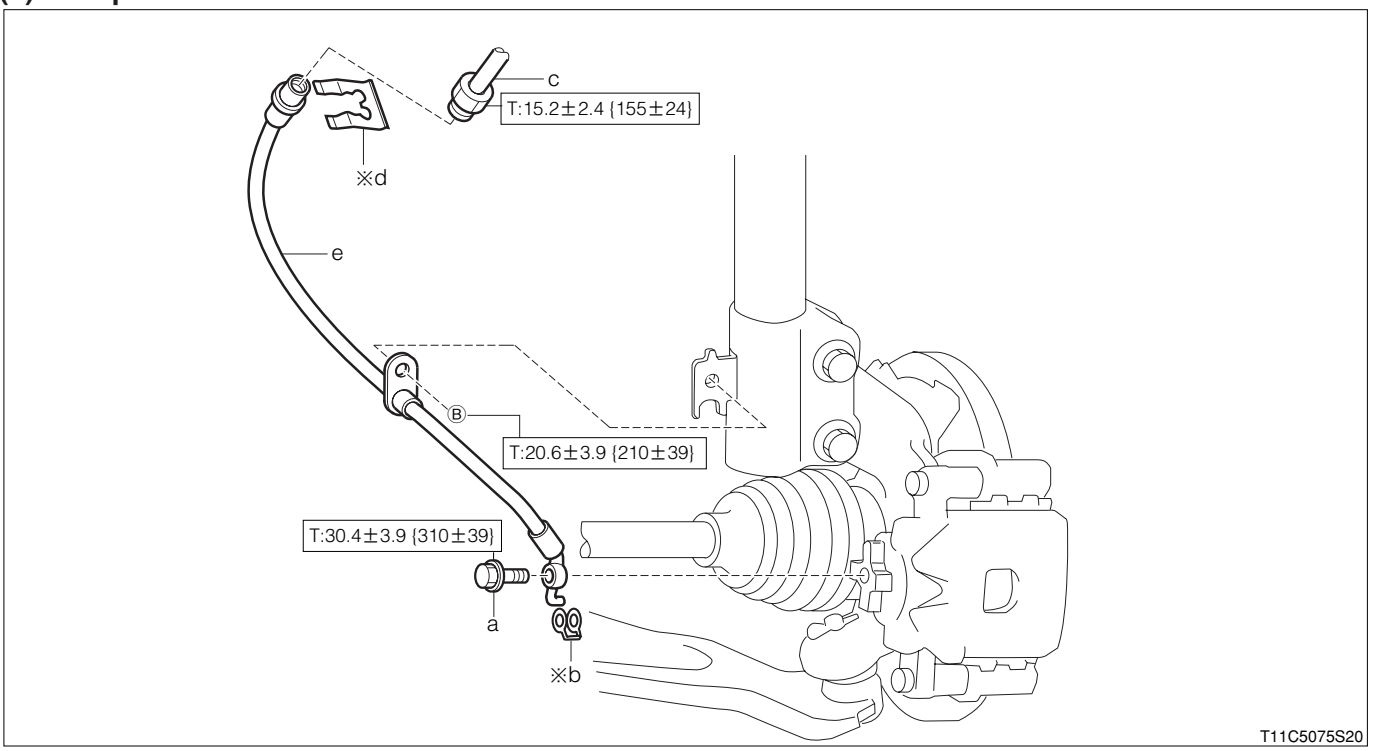
- This causes the port of the brake master cylinder S/A to close. Therefore, any escape of brake fluid from the brake hydraulic circuit can be prevented.

(3) Close the bleeder plug of the RH/LH front disc brake caliper Ay.



8-1-3 REMOVAL AND INSTALLATION PROCEDURES

(1) Components



Unit: N·m{kgf·cm}
※: Non-reusable parts

(2) Removal procedures

1 a Bolt, union
2 b Gasket, fiexible hose
▼ 3 c Tube, front brake, No.2(RH)/No.4(LH)
4 d Clamp
5 e Hose, fiexible

(3) Installation procedures

▲ 1 c Tube, front brake No.2(RH)/No.4(LH)
▲ 2 e Hose, flexible
▲ 3 d Clamp
4 b Gasket, flexible hose
5 a Bolt, union

8-1-4 POINTS OF REMOVAL

(1) Tube, front brake

1.Disconnect the tube from the flexible hose.
2.Plug the disconnected tube with the bleeder plug cap or the like.

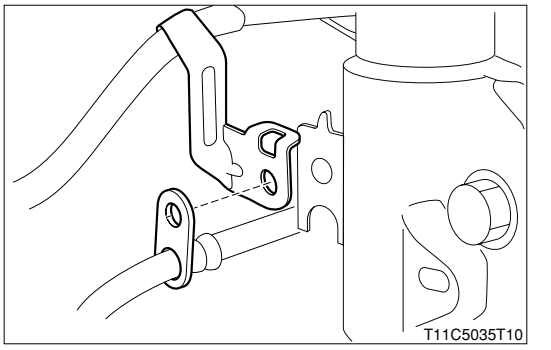
8-1-5 POINTS OF INSTALLATION

(1) Tube, front brake

1.Temporarily tighten the union nut until the tube flare section contacts closely with the seat.

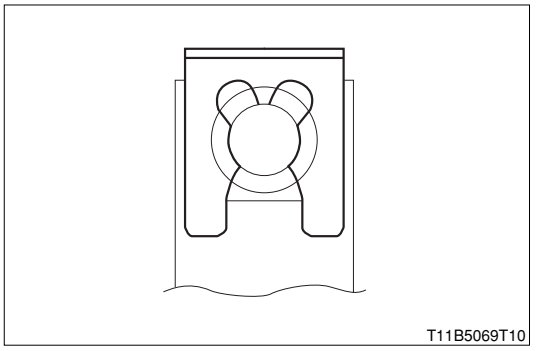
(2) Hose, flexible

1.Install the hose bracket as indicated in the right figure so that it may be interposed by the RH/LH front speed sensor brackets.



(3) Clamp

1.Positively insert the clamp until it touches the hose metal fitting. Be very careful not to mistake the installing direction.



(4) Tube, front brake

1.Using the SST, connect the tube to the RH/LH flexible hose and tighten it to the specified torque.
SST: 09023-00100-000

8-1-6 OPERATION AFTER INSTALLATION

1.Release the securing of the brake pedal Ay.
2.Perform air bleeding of the brake.
Refer to Page E1-4.

3.Install the disc wheels. (Front)
Refer to Page C3-3.

4.Confirm that there is no brake dragging.
Refer to Page E1-3.

5.Jack down the vehicle.

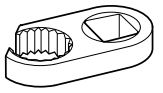
8-2 REMOVAL AND INSTALLATION (REAR)

CAUTION

- Care must be exercised so that no brake fluid may adhere to the paint surface. If brake fluid is adhered to the paint surface, immediately wipe it out and wash it with water.
- Never reuse the wiped-out brake fluid.
- Care must be exercised so that no brake fluid or oil, etc. may adhere to the flexible hose.

8-2-1 ARTICLES TO BE PREPARED

SST

Shape	Part No.	Part name
	09023-00100-000	Wrench,union nut

Tool

Brake pedal pusher

Instrument

Torque wrench

Lubricant,adhesive,others

Brake fluid(DOT3)

8-2-2 OPERATION BEFORE REMOVAL

1.Remove the disc wheels. (Rear)
Refer to Page C3-3.

2.Prevent brake fluid from flowing out, using the following procedure.

(1) Connect a bottle for air bleeding to the bleeder plug of the rear wheel brake cylinder Ay. Open the bleeder plug,

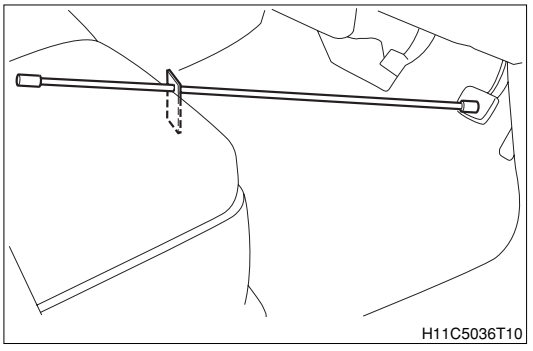
(2) Fully depress the brake pedal Ay. At this point, secure the brake pedal Ay.

TOOL: Brake pedal pusher

NOTE

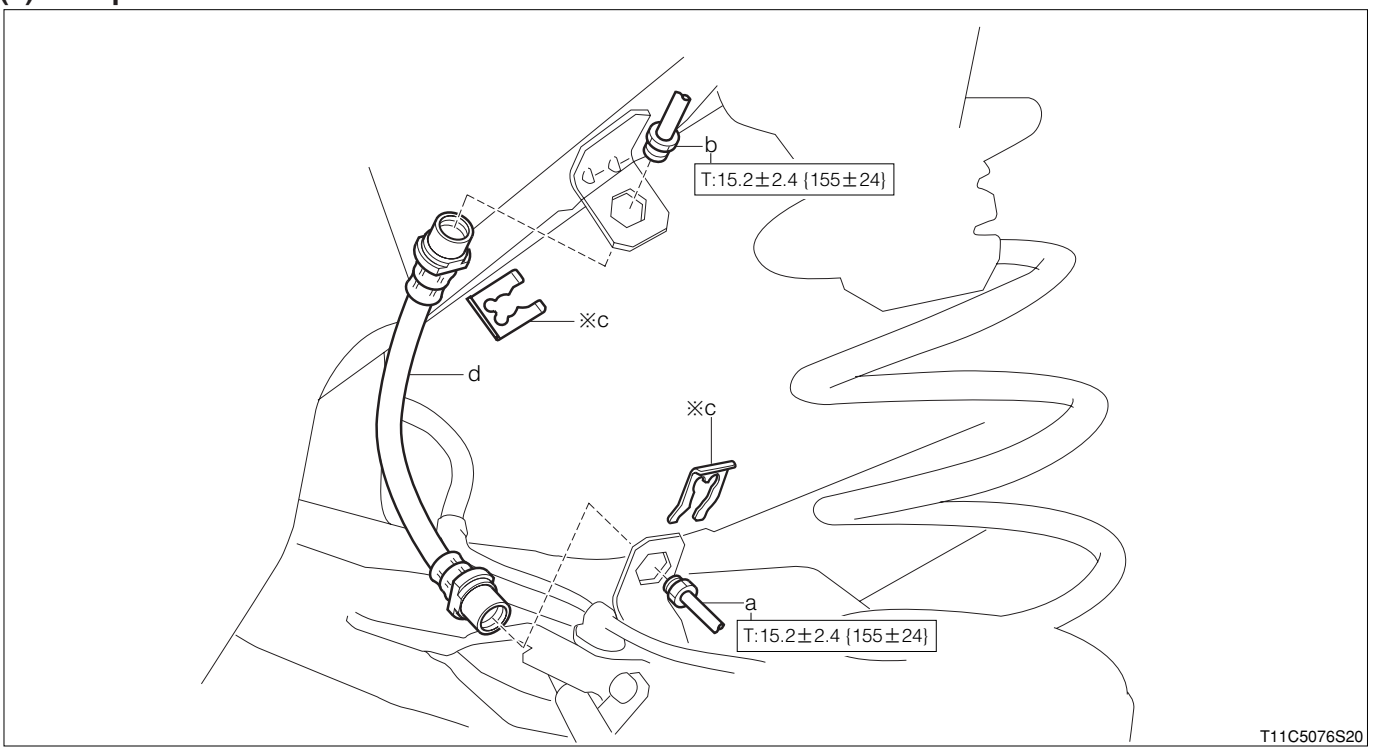
- This causes the port of the brake master cylinder S/A to close. Therefore, any escape of brake fluid from the brake hydraulic circuit can be prevented.

(3) Close the bleeder plug of the rear wheel brake cylinder Ay.



8-2-3 REMOVAL AND INSTALLATION PROCEDURES

(1) Components



Unit: N·m{kgf·cm}
※: Non-reusable parts

(2) Removal procedures

▼ 1 a Tube, rear brake No.5(RH)/No.6(LH)
▼ 2 b Tube, rear brake, No.2(RH)/No.4(LH)
3 c Clamp
4 d Hose, flexible

(3) Installation procedures

1 d Hose, flexible
▲ 2 b Tube, rear brake, No.2(RH)/No.4(LH)
▲ 3 a Tube, rear brake No.5(RH)/No.6(LH)
▲ 4 c Clamp

8-2-4 POINTS OF REMOVAL

(1) Tube, rear brake

1.Disconnect the tube from the flexible hose.
2.Plug the disconnected tube with the bleeder plug cap or the like.

8-2-5 POINTS OF INSTALLATION

(1) Tube, rear brake

1.Temporarily tighten the union nut by hand until the tube flare section contacts closely with the seat.

(2) Clamp

1.Positively insert the clamp until it touches the hose metal fitting. Be very careful not to mistake the installing direction.

(3) Tube, rear brake

1.Using the SST, connect the tube to the flexible hose and tighten it to the specified torque.
SST: 09023-00100-000

8-2-6 OPERATION AFTER INSTALLATION

1.Release the securing of the brake pedal Ay.
2.Perform air bleeding of the brake.
Refer to Page E1-4.

3.Install the disc wheels. (Rear)
Refer to Page C3-3.

4.Confirm that there is no brake dragging.
Refer to Page E1-3.

5.Jack down the vehicle.

9 FRONT DISC BRAKE PAD

9-1 REMOVAL AND INSTALLATION

CAUTION

- Care must be exercised so that no oil, grease, etc. may adhere to the sliding surface between the disc brake pad and the front disc.
- Care must be exercised so that no brake fluid may adhere to the paint surface. If brake fluid is adhered to the paint surface, immediately wipe it out and wash it with water.

9-1-1 ARTICLES TO BE PREPARED

Instrument

Torque wrench

Lubricant,adhesive,others

Wire

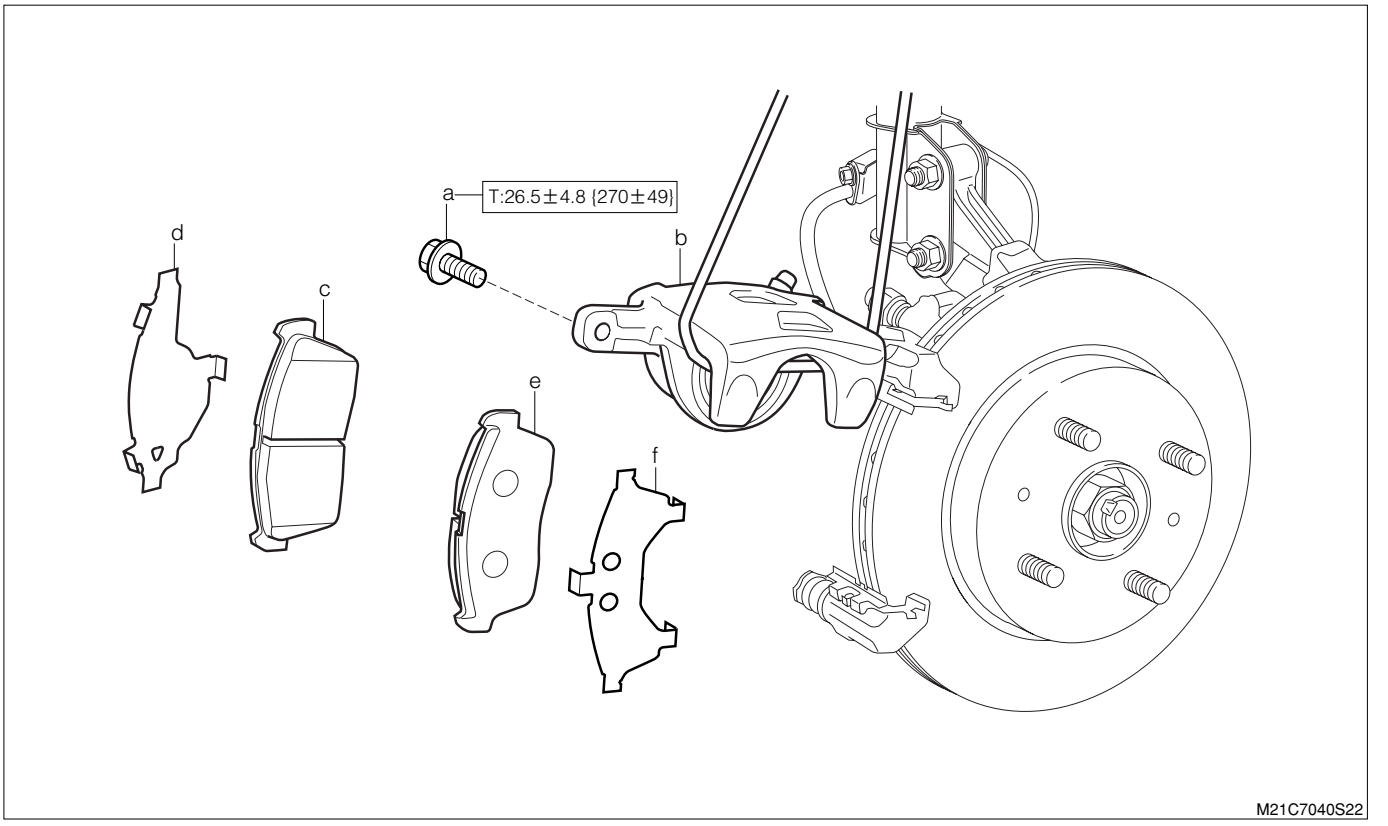
9-1-2 OPERATION BEFORE REMOVAL

1.Remove the disc wheels. (Front)

Refer to Page C3-3.

9-1-3 REMOVAL AND INSTALLATION PROCEDURES(FRONT DISC 234MM DAI)

(1) Components



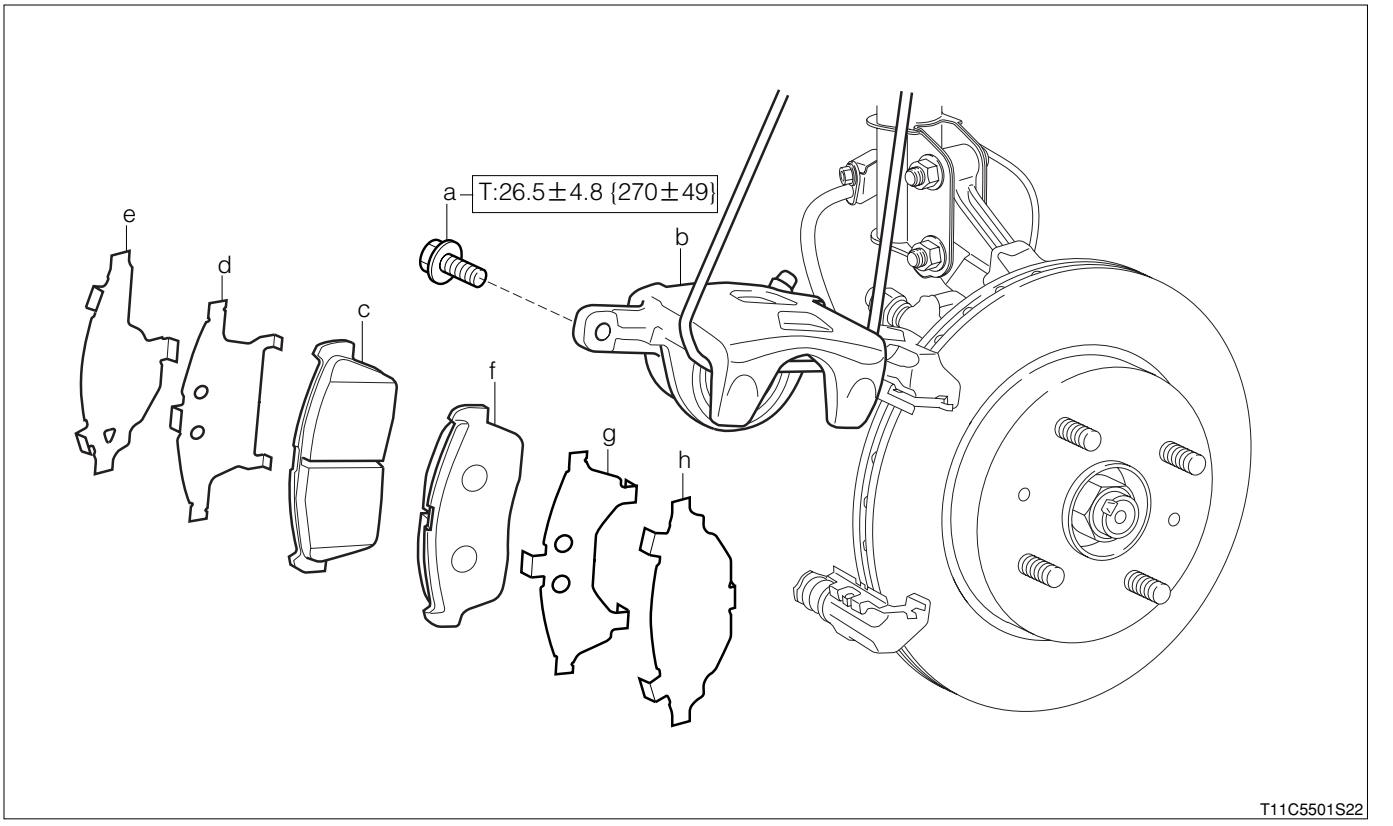
Unit:N·m{kgf·cm}

(2) Removal and installation procedures

		1	a	Bolt,disc brake cylinder	
▼	▲	2	b	Cylinder Ay, disc brake, RH/LH	
	▲	3	c	Pad, disc brake, No.1	
		4	d	Shim, anti squeal, No.3	
		5	e	Pad, disc brake, No.2	
		6	f	Shim, anti squeal, No.2	

9-1-4 REMOVAL AND INSTALLATION PROCEDURES(FRONT DISC 246MM DAI)

(1) Components



Unit:N·m{kgf·cm}

(2) Removal and installation procedures

	1	a	Bolt, disc brake cylinder	6	f Pad, disc brake, No.2
▼ ▲	2	b	Cylinder Ay, diac brake, RH/LH	7	g Shim, anti squeal, No.2
▲	3	c	Pad, disc brake W/wear indicator, No.1	8	h Shim, anti squeal, No.4
	4	d	Shim, anti squeal, No.1		
	5	e	Shim, anti squeal, No.3		

9-1-5 POINTS OF REMOVAL

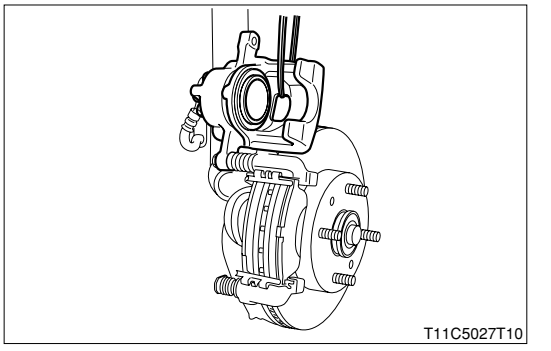
(1) Cylinder Ay, disc brake, RH/LH

1.After removing the disc brake cylinder bolt, raise the cylinder Ay.

2.Suspend the cylinder assembly, using a wire or the like.

CAUTION

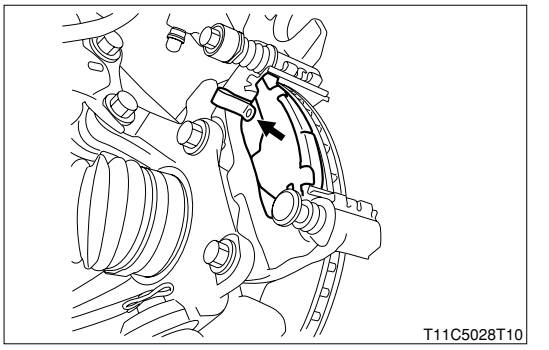
- Do not pull the flexible hose. Also, be very careful not to damage the flexible hose.



9-1-6 POINTS OF INSTALLATION

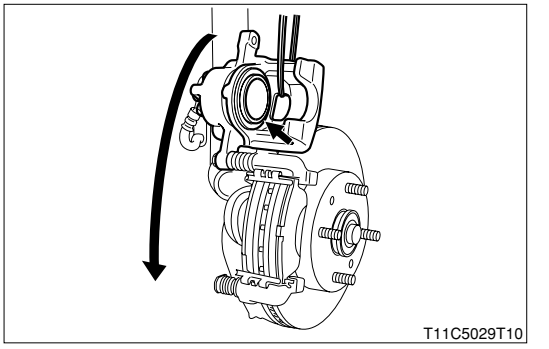
(1) Pad, disc brake, No.1 / Pad, disk brake W/wear indicator, No.1

1.Install the pad with a wear indicator at the inner side of the vehicle. At this time, make sure that the wear indicator comes at the vehicle upper side during the installation.


T11C5028T10

(2) Cylinder Ay, disc brake, RH/LH

1.Check the brake fluid level of the brake master reservoir S/A.
2.Slowly push the disc brake piston.
3.Ensure that no brake fluid is leaking from the brake master reservoir S/A.
4.Remove the wire that has been supporting the cylinder assembly and return the cylinder assembly to the original position.


T11C5029T10

9-1-7 OPERATION AFTER INSTALLATION

1.Depress the brake pedal Ay several times so that the brake disc piston of the disc brake cylinder Ay RH/LH may be pushed out.
2.Check the brake fluid level of the brake master reservoir S/A.
Refer to Page E1-3.

3.Install the disc wheels. (Front)
Refer to Page C3-3.

4.Confirm that there is no brake dragging.
Refer to Page E1-3.

5.Jack down the vehicle.

10 FRONT DISC CALIPER

10-1 REMOVAL AND INSTALLATION

CAUTION

- Care must be exercised so that no brake fluid may adhere to the paint surface. If brake fluid is adhered to the paint surface, immediately wipe it out and wash it with water.
- Never reuse the wiped-out brake fluid.
- Care must be exercised so that no oil, grease, etc. may adhere to the sliding surface between the disc brake pad and the front disc.

10-1-1 ARTICLES TO BE PREPARED

Tool

Brake pedal pusher

Instrument

Torque wrench

Lubricant,adhesive,others

Brake fluid(DOT3)

10-1-2 OPERATION BEFORE REMOVAL

1.Remove the disc wheels. (Front)
Refer to Page C3-3.

2.Prevent brake fluid from flowing out, using the following procedure.

(1) Connect a bottle for air bleeding to the bleeder plug of the RH/LH front disc brake caliper Ay. Open the bleeder plug.

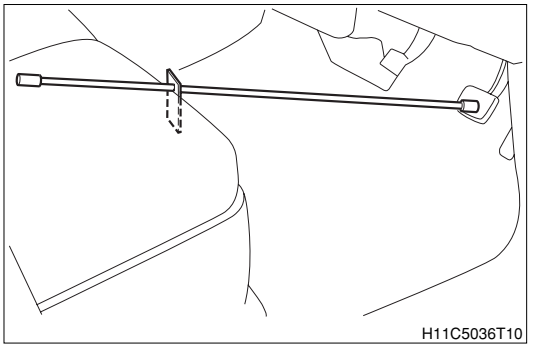
(2) Fully depress the brake pedal. At this point, secure the brake pedal Ay.

TOOL: Brake pedal pusher

NOTE

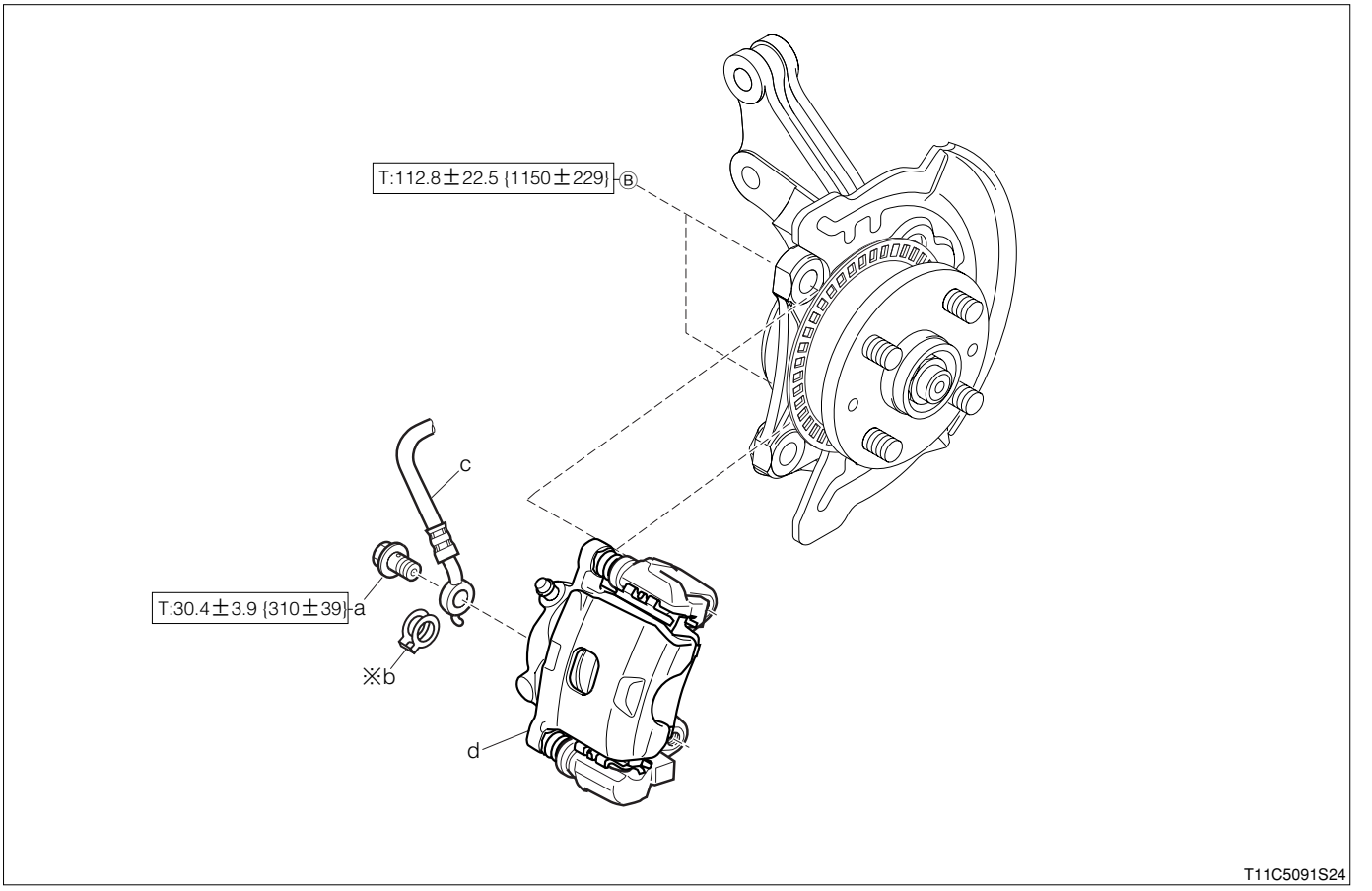
- This causes the port of the brake master cylinder S/A to close. Therefore, any escape of brake fluid from the brake hydraulic circuit can be prevented.

(3) Close the bleeder plugs of the front RH/LH disc brake caliper Ay.



10-1-3 REMOVAL AND INSTALLATION PROCEDURES

(1) Components



Unit: N·m{kgf·cm}
※: Non-reusable parts

(2) Removal and installation procedures

1 a Bolt, union
2 b Gasket, flexible, hose
3 c Hose, flexible
4 d Caliper Ay, disc brake, front RH/LH

10-1-4 OPERATION AFTER INSTALLATION

1.Release the securing of the brake pedal Ay.
2.Perform air bleeding of the brake.
Refer to Page E1-4.

3.Install the disc wheels. (Front)
Refer to Page C3-3.

4.Confirm that there is no brake dragging.
Refer to Page E1-3.

5.Jack down the vehicle.

10-2 DISASSEMBLING AND ASSEMBLING

WARNING

- Be sure to wear protective goggles when using compressed air.

CAUTION

- Never reuse the wiped-out brake fluid.
- Care must be exercised so that no oil, grease, etc. may adhere to the sliding surface between the disc brake pad and the front disc.

10-2-1 ARTICLES TO BE PREPARED

Instrument

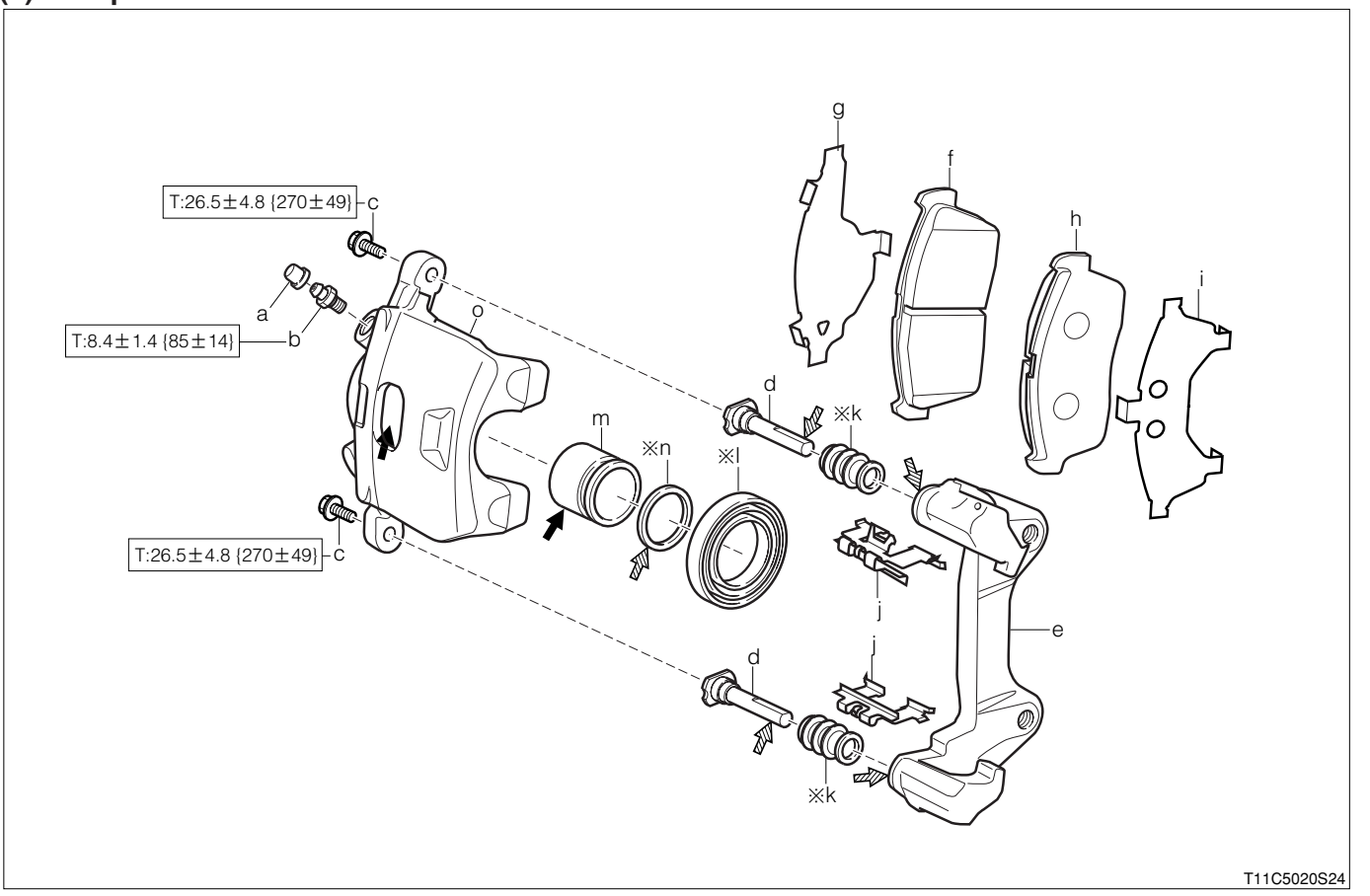
Torque wrench

Lubricant, adhesive, others

Brake fluid(DOT3),Brake grease,Cloth

10-2-2 DISASSEMBLY AND ASSEMBLY PROCEDURES(FRONT DISC 234MM DAI)

(1) Components



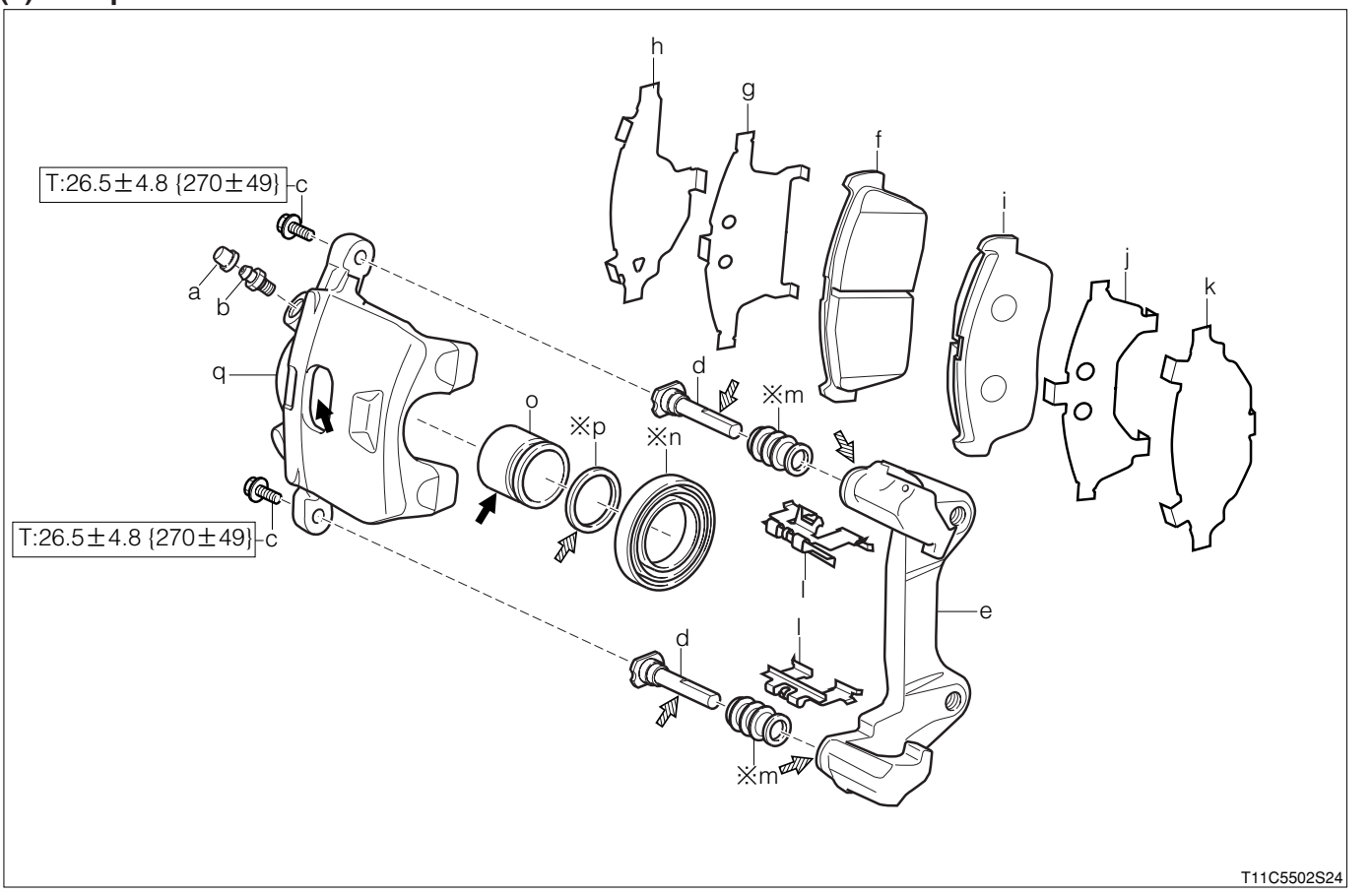
Unit: N·m{kgf·cm}
※: Non-reusable parts
➡: Brake fluid (Equivalent to DOT3)
⇨: Brake grease

(2) Disassembling and assembling procedure

	1	a	Cap, bleeder plug	9	i	Shim, anti squeal, No.2
	2	b	Plug, bleeder	10	j	Plate, disc brake pad guide
	3	c	Bolt,disc brake cylinder	11	k	Boot, pin
▲	4	d	Pin, cylinder slide	▲	12	l	Boot, cylinder
▲	5	e	Mounting, disc brake cylinder	▼ ▲	13	m	Piston, disc brake
▲	6	f	Pad, disc brake, No.1	▼ ▲	14	n	Seal, piston
	7	g	Shim, anti squeal, No.3		15	o	Cylinder, disc brake, RH/LH
	8	h	Pad, disc brake, No.2				

10-2-3 DISASSEMBLY AND ASSEMBLY PROCEDURES(FRONT DISC 246MM DAI)

(1) Components



Unit: N·m{kgf·cm}
※: Non-reusable parts
➡: Brake fluid (Equivalent to DOT3)
⇨: Brake grease

(2) Disassembly and assembly procedures

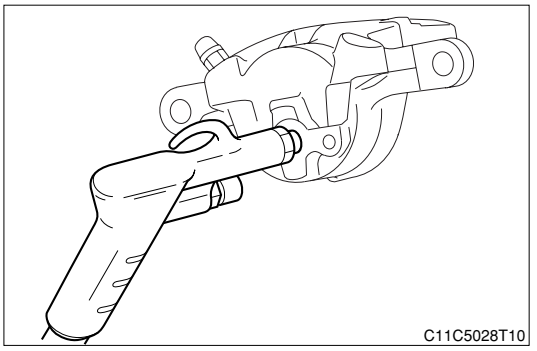
	1	a	Cap, bleeder plug		
	2	b	plug, bleeder		
	3	c	Bolt,disc brake cylinder		
▲	4	d	Pin, cylinder slide		
▲	5	e	Mounting, disc brake cyinder		
▲	6	f	Pad, disc brake W/wear indicator, No.1		
	7	g	Shim, anti squeal, No.1		
	8	h	Shim, anti squeal, No.3		
	9	i	Pad, disc brake, No.2		
	10	j	Shim, anti squeal, No.2		
	11	k	Shim, anti squeal, No.4		
	12	l	Piate, disc brake pad guide		
	13	m	Boot, pin		
▲	14	n	Boot, cylinder		
▼	▲	15	o	Piston, disc brake	
▼	▲	16	p	Seal, piston	
	17	q	Cylinder, disc brake, RH/LH		

10-2-4 POINTS OF DISASSEMBLY

(1) Piston, disc brake

1.Drain the residual brake fluid in the disc brake cylinder RH/LH from the flexible hose installation section.

2.To prevent damages, be sure to interpose a cloth or the like in the disc brake cylinder Rh/LH. While holding the bleeder plug installation section, apply compressed air from the flexible hose installation section in order to pull out the piston.


C11C5028T10

WARNING

- Care must be exercised to prevent your finger from being pinched by the piston that may jump up strongly.

CAUTION

- Care must be exercised to ensure that the bore of the RH/LH disc brake cylinder may not be scored.

(2) Seal, piston

1.Remove the seal from the disc brake piston, using a toothpick or the like.

10-2-5 POINTS OF ASSEMBLY

Prior to the assembling, wash each part with brake fluid that is the same as the one to be used.

LUBRICANT: Brake fluid(DOT3)

(1) Seal, piston

1.Apply brake grease to the entire periphery of the inner and outer surfaces of the seal.

LUBRICANT: Brake grease

2.Securely assemble the piston seal into the groove of the disc brake cylinder RH/LH in such a way that the seal may not be twisted.

(2) Piston, disc brake

1.Apply brake fluid to the cylinder inner surface of the disc brake cylinder RH/LH.

2.Apply brake fluid to the outer periphery of the piston.

LUBRICANT: Brake fluid(DOT3)

3.Assemble the piston to the disc brake cylinder RH/LH by your hand.

CAUTION

- Be sure to insert the piston straight. Be very careful not to insert it diagonally nor push it with an excessive force.

(3) Boot, cylinder

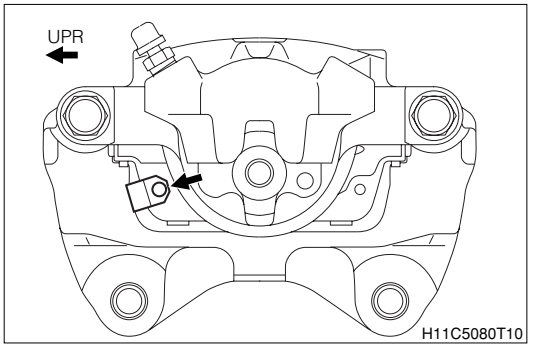
1.Attach the boot to the groove at the edge of the disc brake piston.

2.Securely install the boot to the boot groove at the bore surface of the RH/LH disc brake cylinders.

3.Ensure that the boot is securely installed in the boot groove.

(4) Pad, disc brake, No.1/Pad, disk brake w/wear indicator, No.1

1.Install the pad with a wear indicator at the inner side of the vehicle. At this time, make sure that the wear indicator comes at the vehicle upper side during the installation.



H11C5080T10

(5) Mounting, disc brake cylinder

1.Apply brake grease to the pin boot installation groove of the mounting and the inner periphery of the cylinder slide pin sliding hole.
LUBRICANT: Brake grease

(6) Pin, cylinder slide

1.Apply brake grease to the pin boot installation groove of the pin and the entire periphery of the sliding section.
LUBRICANT: Brale grease

11 FRONT BRAKE DISC

11-1 REMOVAL AND INSTALLATION

CAUTION

- Care must be exercised so that no oil, grease, etc. may adhere to the sliding surface between the disc brake pad and the front disc.

11-1-1 ARTICLES TO BE PREPARED

Instrument

Torque wrench

Lubricant,adhesive,others

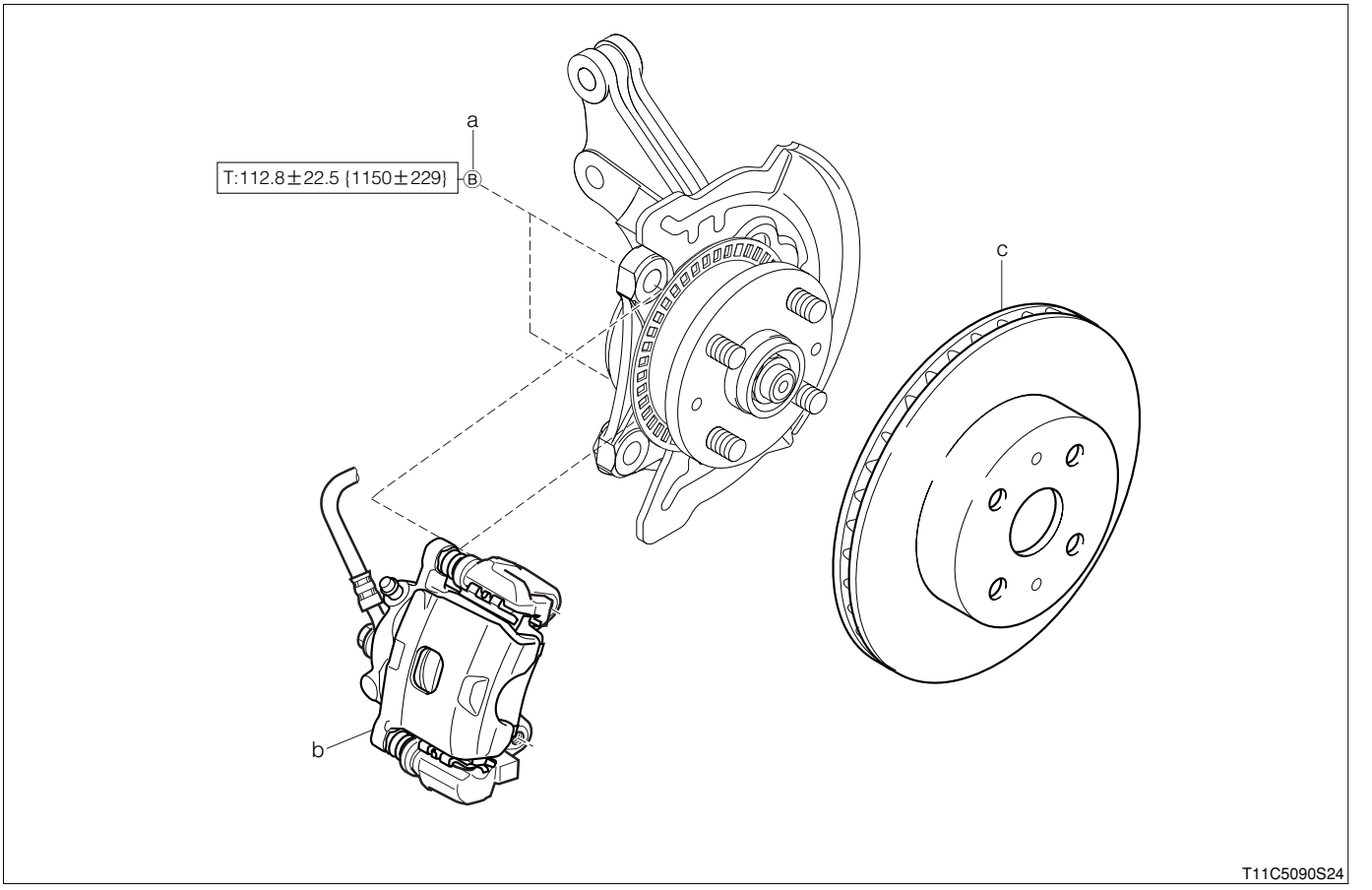
Wire

11-1-2 OPERATION BEFORE REMOVAL

1.Remove the disc wheels. (Front)
Refer to Page C3-3.

11-1-3 REMOVAL AND INSTALLATION PROCEDURES

(1) COMPONENTS



Unit:N·m{kgf·cm}

(2) Removal and installation procedures

		1	a Bolt, washer based head hexagon
▼	▲	2	b Caliper Ay, disc brake, front RH/LH
▼		3	c Disc, front

11-1-4 POINTS OF REMOVAL

(1) Caliper Ay, disc brake, front RH/LH

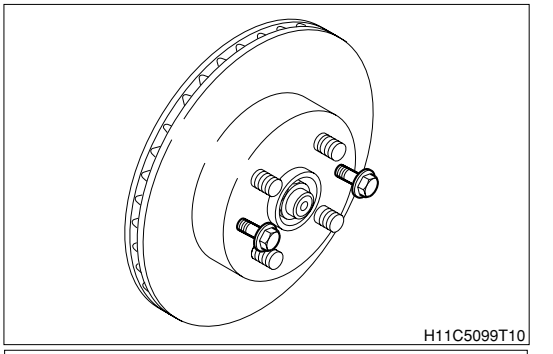
1.Remove the caliper Ay from the RH/LH steering knuckles. Suspend it with a wire or the like.

CAUTION

- Do not pull the flexible hose. Also, be very careful not to damage the flexible hose.

(2) Disc, front

1.If the disc cannot be removed because it has seized to the front axle hub S/A, screw two appropriate bolts (M8×1.25) in the screw holes of the disc, thus removing the disc.


H11C5099T10

11-1-5 POINTS OF INSTALLATION

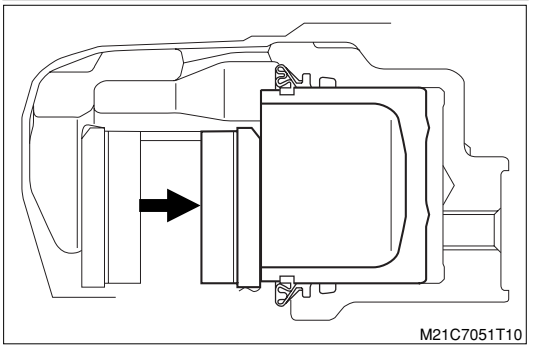
(1) Caliper Ay, Disc brake, front RH/LH

1.Check the brake fluid level of the brake master reservoir S/A.

2.Slowly push the disc brake piston.

3.Ensure that no brake fluid is leaking from the brake master reservoir S/A.

4.Remove the wire suspending the caliper Ay. Install the caliper Ay to the RH/LH steering knuckles.


M21C7051T10

11-1-6 OPERATION AFTER INSTALLATION

1.Depress the brake pedal Ay several times so that the brake disc piston of the disc brake cylinder Ay RH/LH may be pushed out.

2.Check the brake fluid level of the brake master reservoir S/A.
Refer to Page E1-3.

3.Install the disc wheels. (Front)
Refer to Page C3-3.

4.Confirm that there is no brake dragging.
Refer to Page E1-3.

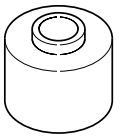
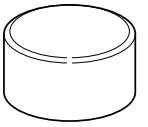
5.Jack down the vehicle.

12 FRONT BREAK DUST COVER

12-1 REMOVAL AND INSTALLATION

12-1-1 ARTICLES TO BE PREPARED

SST

Shape	Part No.	Part name
	09506-87302-000	Replacer,differential drive pinion bearing corn,rear
	09718-87701-000	Replacer,dust cover

12-1-2 OPERATION BEFORE REMOVAL

1.Remove the disc wheels. (Front)
Refer to Page C3-3.

2.Remove the front speed sensor RH/LH.
Refer to Page E3-4.

3.Remove the front disc brake caliper assembly RH/LH from the steering knuckle RH/LH without cutting the brake pipe. Then, suspend the front brake caliper assembly, RH/LH using a wire or the like.

CAUTION

- Do not pull the flexible hose. Also, be very careful not to damage the flexible hose.

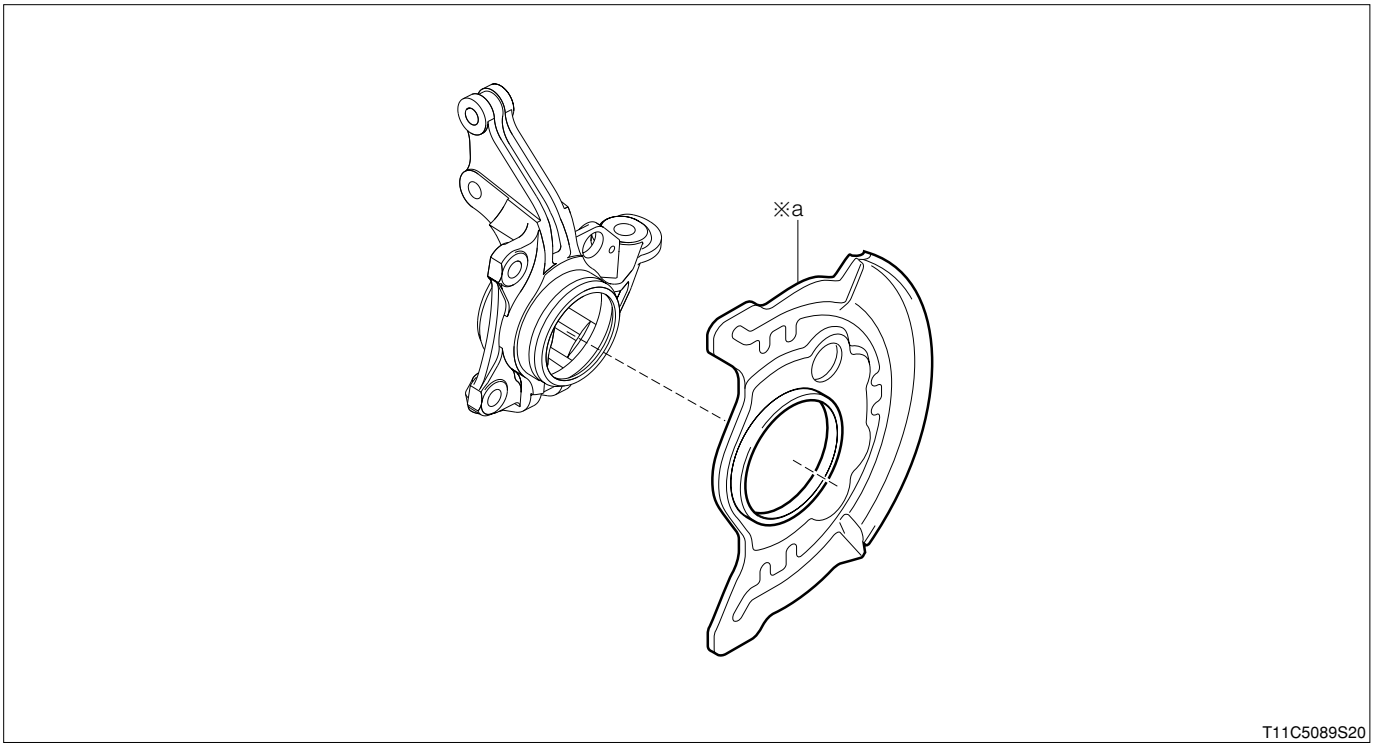
Refer to Page E1-53.

4.Remove the front disc.
Refer to Page E1-60.

5.Remove the front axle hub subassembly. Then, remove the steering knuckle RH/LH together with the radial ball bearing and disc brake dust front cover.
Refer to Page D2-2.

12-1-3 REMOVAL AND INSTALLATION PROCEDURES

(1) Components



※: Non-reusable parts

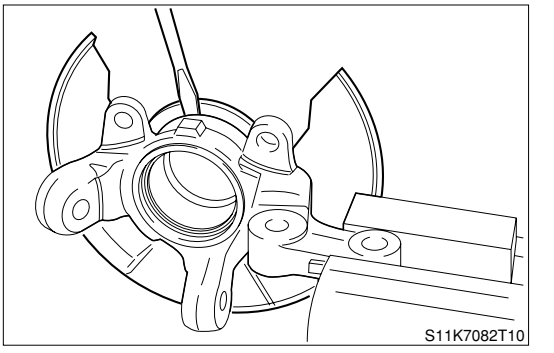
(2) Removal and installation procedures

▼ ▲ 1 a Cover, disc brake dust, front RH/LH

12-1-4 POINTS OF REMOVAL

(1) Cover, disc brake dust, front RH/LH

1.Lightly tap the outer periphery to make a clearance. Then, remove the cover, using a flat screwdriver or the like.

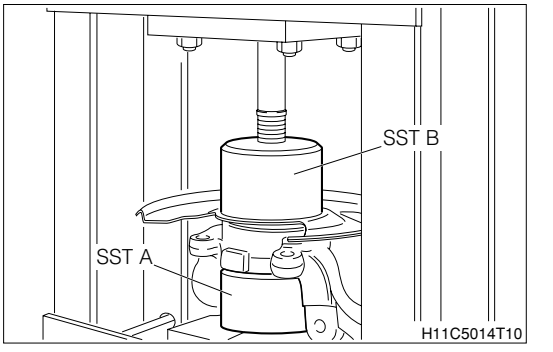


12-1-5 POINTS OF INSTALLATION

(1) Cover, disc brake dust, front RH/LH

1.Install the disc cover to the steering knuckle, using a press in combination with the SST.

SST: 09506-87302-000:A
09718-87701-000:B



12-1-6 OPERATION AFTER INSTALLATION

1. Install the steering knuckle RH/LH together with the radial ball bearing and disc brake dust front cover RH/LH.
2. Install the front axle hub subassembly.
   Refer to Page D2-2.
3. Remove the front disc.
   Refer to Page E1-60.
4. Install the front disc brake caliper assembly RH/LH.
   Refer to Page E1-53.
5. Install the front speed sensor RH/LH.
   Refer to Page E3-4.
6. Install the disc wheels. (Front)
   Refer to Page C3-3.
7. Check and adjust the front wheel alignment.
   Refer to Page C1-1.

13 REAR BRAKE DRUM

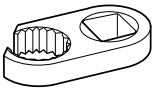
13-1 REMOVAL AND INSTALLATION

CAUTION

- Care must be exercised so that no brake fluid may adhere to the paint surface. If brake fluid is adhered to the paint surface, immediately wipe it out and wash it with water.
- Care must be exercised so that no lubricant, etc. may adhere to the sliding surfaces of the brake shoe linings and brake drums.

13-1-1 ARTICLES TO BE PREPARED

SST

Shape	Part No.	Part name
	09023-00100-000	Wrench,union nut

Tool

Long TORX® wrench T55,Brake pedal pusher

Instrument

Torque wrench

Lubricant,adhesive,others

Brake fluid(DOT3),Brake grease

13-1-2 OPERATION BEFORE REMOVAL

1.Remove the disc wheels. (Rear)
Refer to Page C3-3.

2.Prevent brake fluid from flowing out, using the following procedure.

(1) Connect a bottle for air bleeding to the bleeder plug of the rear wheel brake cylinder Ay. Open the bleeder plug.

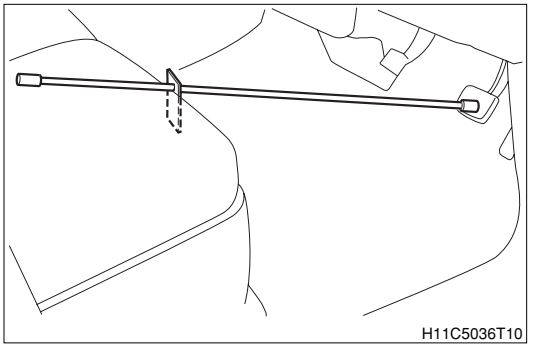
(2) Fully depress the brake pedal Ay. At this point, secure the brake pedal Ay.

TOOL: Brake pedal pusher

NOTE

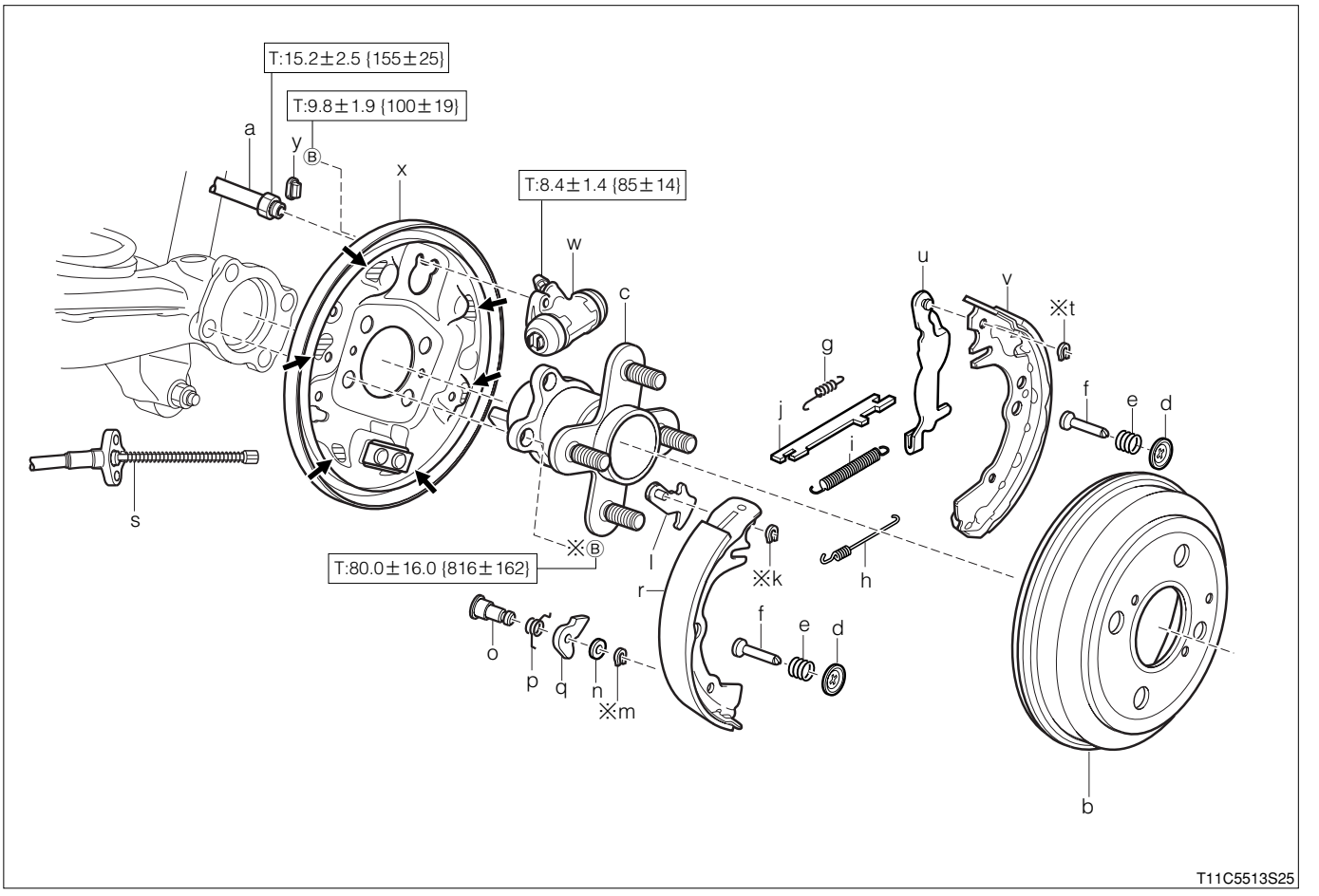
- This causes the port of the brake master cylinder S/A to close. Therefore, any escape of brake fluid from the brake hydraulic circuit can be prevented.

(3) Close the bleeder plug of the rear wheel brake cylinder Ay.



13-1-3 REMOVAL AND INSTALLATION PROCEDURES

(1) Components



Unit: N·m{kgf·cm}
※: Non-reusable parts
➡: Brake grease

(2) Removal and installation procedures

▼ ▲ 1 a Tube, rear brake, No.5(RH)/No.6(LH)
▼ ▲ 2 b Drum, brake
▼ ▲ 3 c Hub & bearing Ay, rear axle
4 d Cup, shoe hold down spring
5 e Spring, compression
6 f Pin, shoe hold down spring
7 g Spring, tension
8 h Spring, tension
9 i Spring, tension
10 j Strut, parking brake shoe
11 k Washer, type C
12 l Lever S/A, automatic adjust, RH/LH
13 m Washer, type C
14 n Washer, wave
15 o Pin, automatic adjust lever
16 p Spring, torsion
17 q Latch, automatic adjust RH/LH
18 r Shoe Ay, brake, No.3
19 s Cable Ay, parking brake, No.2(RH)/No.3(LH)
20 t Washer, type C
21 u Lever S/A, parking brake shoe RH/LH
22 v Shoe Ay, brake, No.3
23 w Cylinder Ay, disc brake, rear RH/LH
24 x Plate S/A, brake backing, rear RH/LH
25 y Plug, shoe adjusting hole

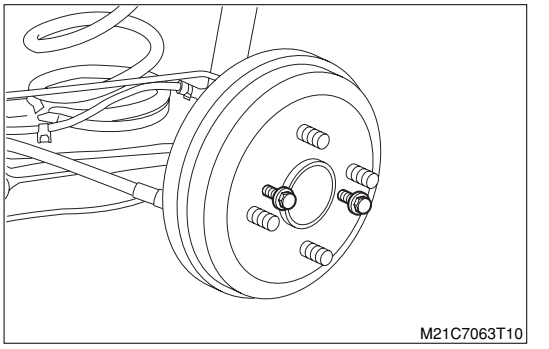
13-1-4 POINTS OF REMOVAL

(1) Tube, rear brake, No.5 (RH)/No.6 (LH)

1.Disconnect the tube from the rear wheel brake cylinder Ay.
2.Plug the disconnected tube with the bleeder plug cap or the like.

(2) Drum, brake

1.If the drum cannot be removed because it has seized to the rear axle hub & bearing Ay, screw two appropriate bolts (M6×1.00) into the screw holes of the drum and remove it.



(3) Hub & bearing Ay, rear axle

1.Remove the bolt retaining the hub & bearing assembly, using a long Torx wrench T55.
TOOL: Long TORX® wrench T55

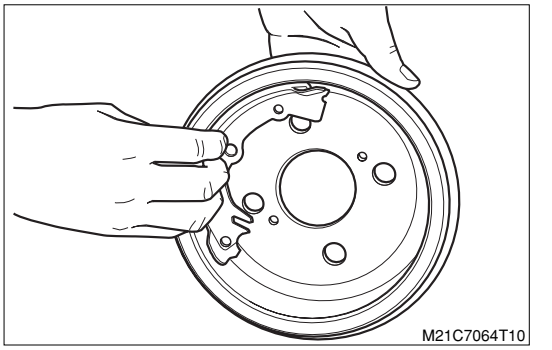
2.Slowly pull out the hub & bearing assembly from the rear suspension arm assembly. Disconnect the connector from the speed sensor wire.

13-1-5 INSPECTION

(1) Contact between brake shoe lining and brake drum

1.Apply chalk to the inner surface of the drum. Slide the lining, while it is being pressed against the inner surface of the drum. If poor contact is present, be sure to grind the lining.
SPECIFIED VALUE: No significant poor contact is present.

2.Be sure to wipe off the chalk.



(2) Cylinder Ay, disc brake, rear

1.Check the cylinder assembly for corrosion and damage.

(3) Plate S/A, brake backing, rear RH/LH

1.Check the plate subassembly for wear and damage.

13-1-6 POINTS OF INSTALLATION

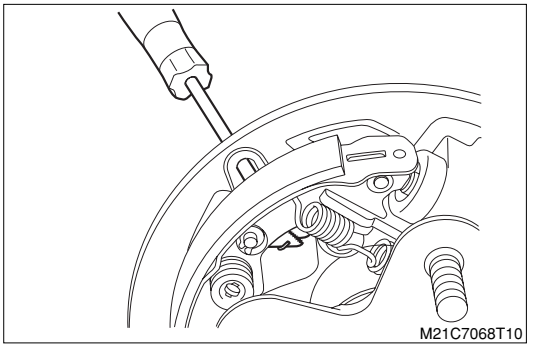
(1) Hub & bearing Ay, rear axle

1.Connect the connector of the speed sensor wire to the hub & bearing assembly. Then, install the hub & bearing assembly to the rear suspension arm assembly.

2.Secure the hub & bearing assembly and brake backing rear plate subassembly RH/LH, using a long Torx wrench T55.
TOOL: Long TORX® wrench T55

(2) Drum, brake

1.Insert a flat screwdriver through the shoe adjusting hole of the RH/LH rear brake backing plate S/A and turn the RH/LH automatic adjusting ratchets by . In this way, release the engagement with the RH/LH automatic adjusting lever S/A. Then, fully contract the brake shoe Ay No. 3 at the leading side and the trailing side. Under this condition, install the drum into position.



(3) Tube, rear brake, No.5 (RH)/No.6 (LH)

1.Temporarily tighten the union nut until the tube flare section contacts closely with the seat.
2.Using the SST, connect tube to the rear wheel brake cylinder Ay and tighten it to the specified torque.
SST: 09023-00100-000

13-1-7 OPERATION AFTER INSTALLATION

1.Release the securing of the brake pedal Ay.
2.Perform air bleeding of the brake.
Refer to Page E1-4.

3.Depress the brake pedal several times to actuate the adjusting mechanism of the brake shoe adjuster mechanism. In this way, adjust the clearance between the brake shoe linings.
4.Check and adjust the reserve travel of the parking brake.
Refer to Page E2-1.

5.Install the disc wheels. (Rear)
Refer to Page C3-3.

6.Confirm that there is no brake dragging.
Refer to Page E1-3.

7.Jack down the vehicle.

14 REAR WHEEL CYLINDER

14-1 DISASSEMBLING AND ASSEMBLING

CAUTION

- Never reuse the wiped-out brake fluid.

14-1-1 ARTICLES TO BE PREPARED

Instrument

Torque wrench

Lubricant,adhesive,others

Brake fluid(DOT3),Brake grease

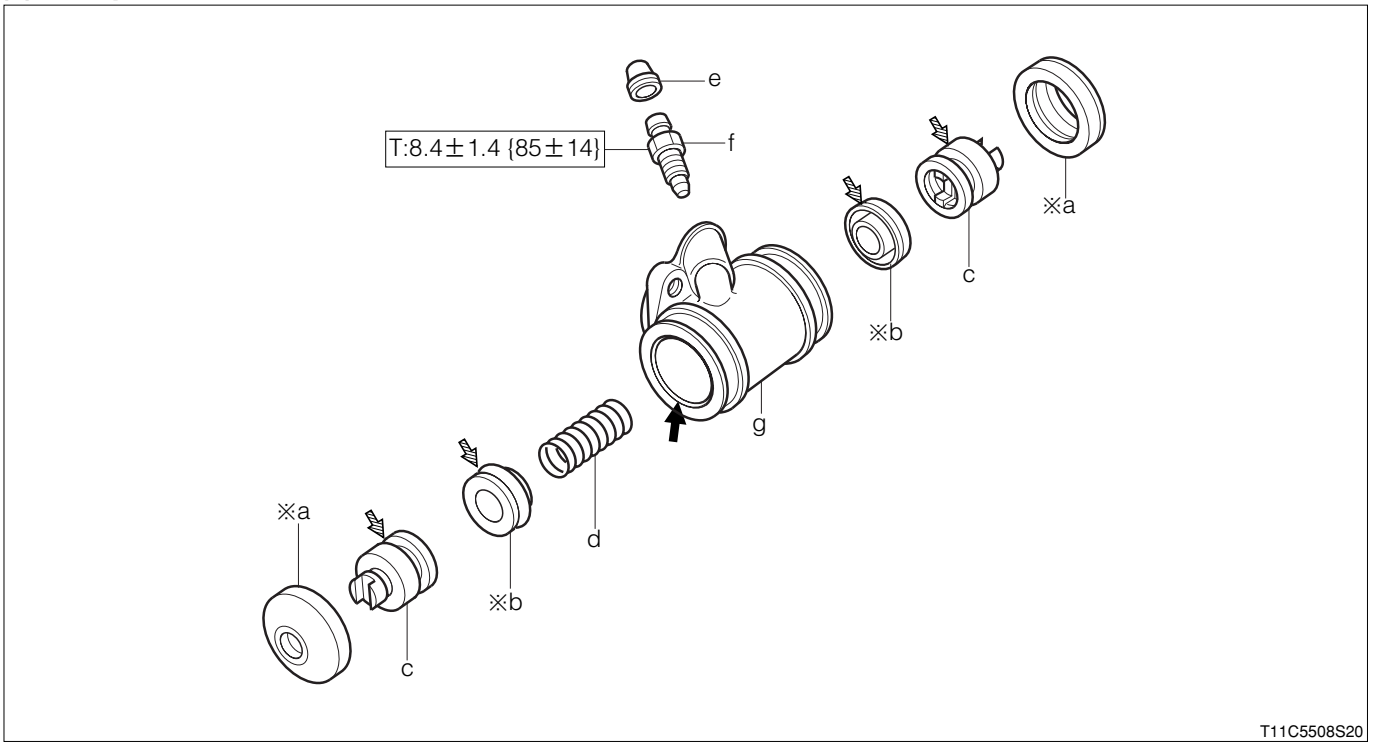
14-1-2 OPERATION BEFORE DISASSEMBLY

1.Remove the rear wheel brake cylinder assembly.
Refer to Page E1-65.

2.Drain the remaining brake fluid in the rear wheel brake cylinder Ay from the installing sections of the rear brake tube No. 5 and No. 6.

14-1-3 DISASSEMBLY AND ASSEMBLY PROCEDURES

(1) Components



Unit: N·m{kgf·cm}
※: Non-reusable parts
➡: Brake fluid (Equivalent to DOT3)
⇨: Brake grease

(2) Disassembling and assembling procedure

1 a Boot, wheel cylinder
▲ 2 b Cup, cylinder
▲ 3 c Piston S/A, wheel brake cylinder
4 d Spring, compression
5 e Cap, bleeder plug
6 f Plug, bleeder
▲ 7 g Body, wheel brake cylinder, rear RH/LH

14-1-4 INSPECTION

(1) Piston S/A, wheel brake cylinder

1.Check for wear and damage.

(2) Body, wheel brake cylinder, rear

1.Check the cylinder inner surface for wear and damage.

14-1-5 POINTS OF ASSEMBLY

(1) Body, wheel brake cylinder, rear

1.Apply brake fluid to the entire periphery of the cylinder inner surface of the body.
LUBRICANT: Brake fluid(DOT3)

(2) Piston S/A, wheel brake cylinder

1.Apply brake grease to the entire periphery of the piston S/A.
LUBRICANT: Brake grease

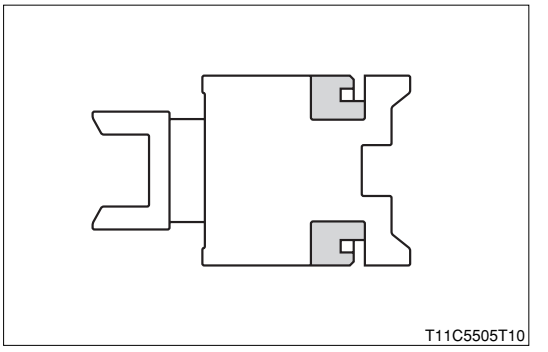
(3) Cup, cylinder

1.Apply brake grease to the entire periphery of the inner and outer surfaces of the cup.
LUBRICANT: Brake grease

2.Install the cup to the wheel brake cylinder piston S/A.

CAUTION

- Make sure that the cup is installed in the correct direction.



14-1-6 OPERATION AFTER ASSEMBLY

1.Install the rear wheel brake cylinder assembly.
Refer to Page E1-65.