

BRAKE MASTER CYLINDER SUB-ASSY

32174-02

OVERHAUL

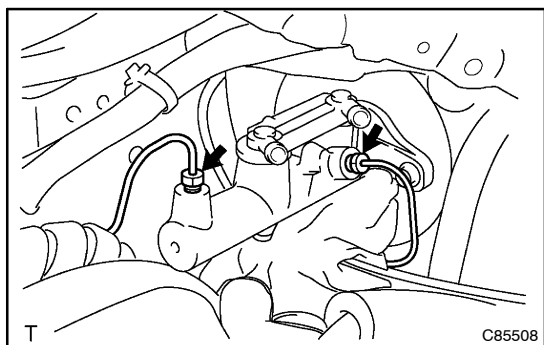
1. DRAIN BRAKE FLUID

NOTICE:

Wash brake fluid off immediately if it adheres to on any painted surface.

2. REMOVE AIR CLEANER ASSY (LHD STEERING POSITION TYPE)

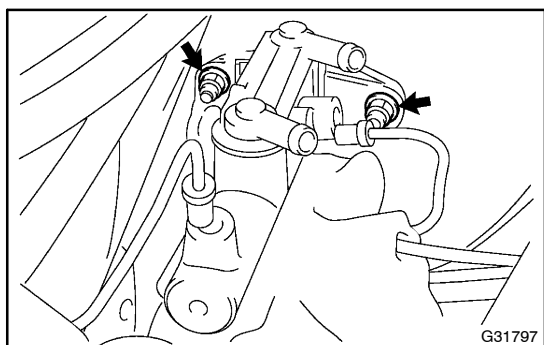
3. REMOVE CHARCOAL CANISTER ASSY (LHD STEERING POSITION TYPE, 1AZ-FE ENGINE TYPE)



4. REMOVE BRAKE MASTER CYLINDER SUB-ASSY

- (a) Remove the 2 clips and disconnect the 2 reservoir tubes.
- (b) Using SST, disconnect the 2 brake lines from the master cylinder sub-assy.

SST 09023-00100



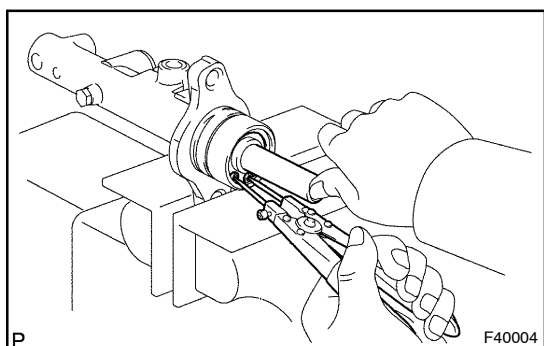
- (c) RHD:
Remove the 2 nuts and pull out the master cylinder sub-assy.
- (d) LHD:
Remove the 2 nuts and vacuum check valve bracket, and pull out the master cylinder sub-assy.

5. REMOVE BRAKE MASTER CYLINDER UNION

- (a) Remove the screw and union.

6. REMOVE MASTER CYLINDER RESERVOIR GROMMET

- (a) Remove the 2 grommets from the master cylinder body.

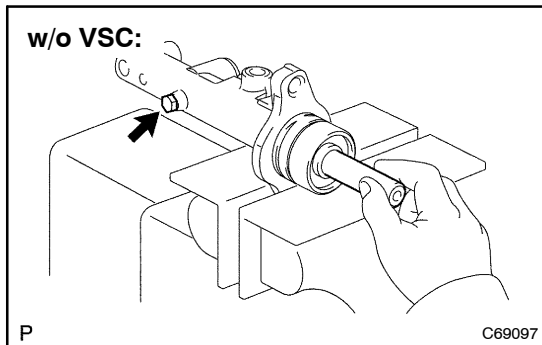


7. REMOVE BRAKE MASTER CYLINDER KIT

- (a) Place master cylinder sub-assy in a vise.
- (b) Remove the O-ring from the master cylinder body.
- (c) Push in the piston and using snap ring pliers, remove the snap ring.

NOTICE:

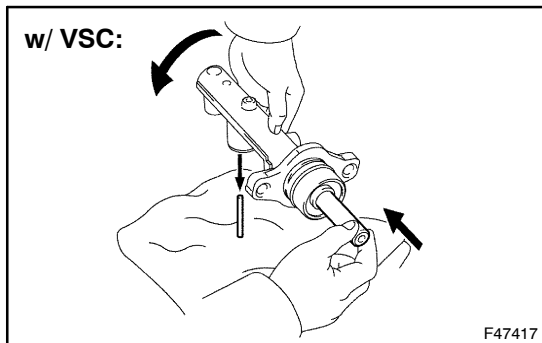
When pushing in the piston by hand, the oil left in the cylinder may spatter.



- (d) w/o VSC:
Push in the piston and remove the piston stopper bolt and gasket.

NOTICE:

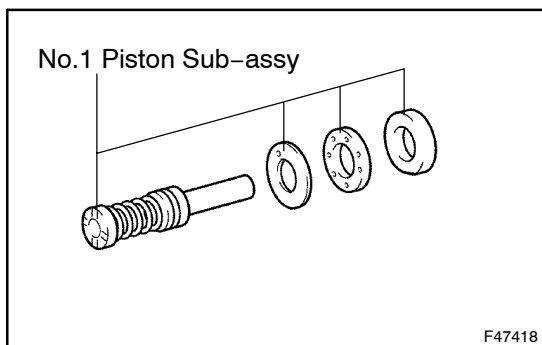
When pushing in the piston by hand, the oil left in the cylinder may spatter.



- (e) w/ VSC:
Push the piston by hand and remove the straight pin by turning over the cylinder body.

NOTICE:

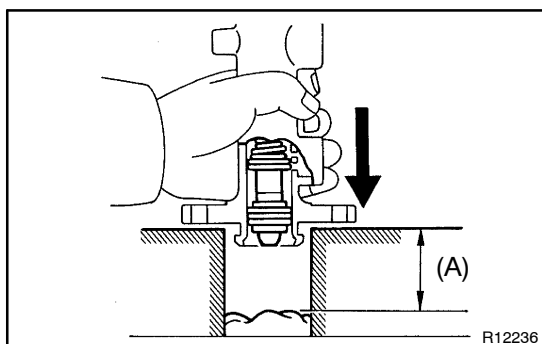
When pushing in the piston by hand, the oil left in the cylinder may spatter.



- (f) Remove the No.1 piston sub-assy, pulling straight out not at an angle.

NOTICE:

If pulled out at an angle, there is a possibility that the cylinder bore could be damaged.



- (g) Place a rag and 2 wooden blocks on the work table and lightly tap the cylinder on the block edges until No.2 piston sub-assy drops out of the cylinder.

HINT:

Make sure the distance (A) from the rag to the top of the blocks is at least 100 mm (3.94 in.).

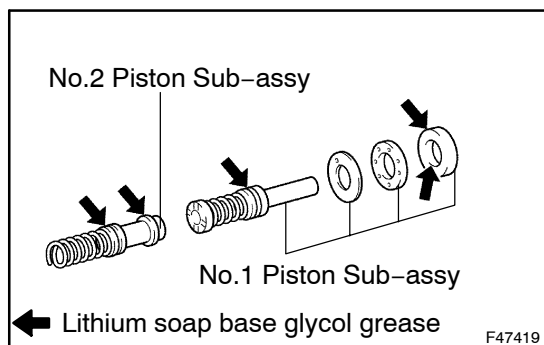
NOTICE:

If pulled out at an angle, there is a possibility that the cylinder bore could be damaged.

8. INSPECT MASTER CYLINDER BODY

- (a) Check the cylinder bore for rust or scoring.

If there are any problems with the cylinder body, replace the brake master cylinder sub-assy.



9. INSTALL BRAKE MASTER CYLINDER KIT

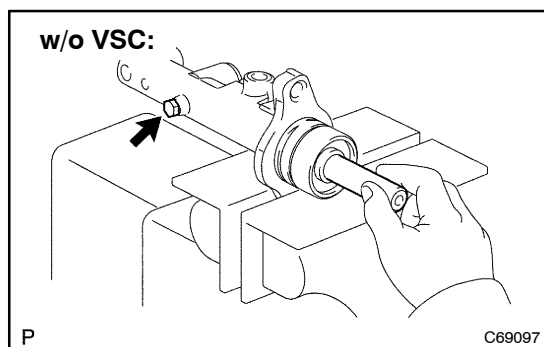
- Place the master cylinder in a vise.
- Apply lithium soap base glycol grease to new No.1 and No.2 pistons sub-assy.
- Install the No.2 and No.1 pistons sub-assy.

NOTICE:

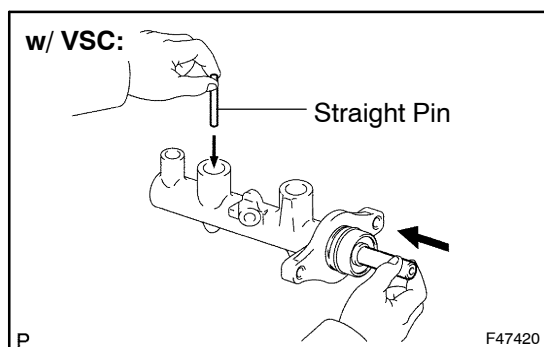
- If the piston is inserted at an angle, there is a possibility that the cylinder bore could be damaged.
- Be careful not to damage the rubber lips on the pistons.

- w/o VSC:
Push in the piston, and install a new gasket and a new piston stopper bolt.

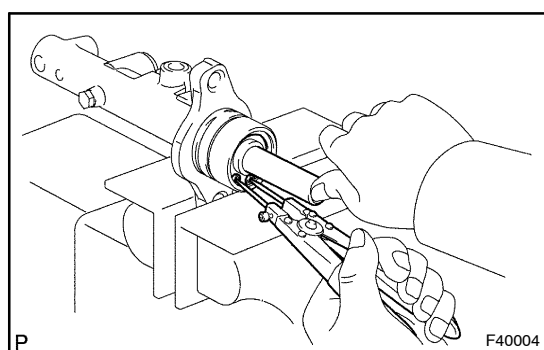
Torque: 10 N·m (102 kgf·cm, 7 ft·lbf)



- w/ VSC:
Push in the piston, and install the straight pin in the cylinder body.



- Push in the piston and using snapping pliers, install the snap ring.
- Apply lithium soap base glycol grease to a new O-ring and install the O-ring to the master cylinder.



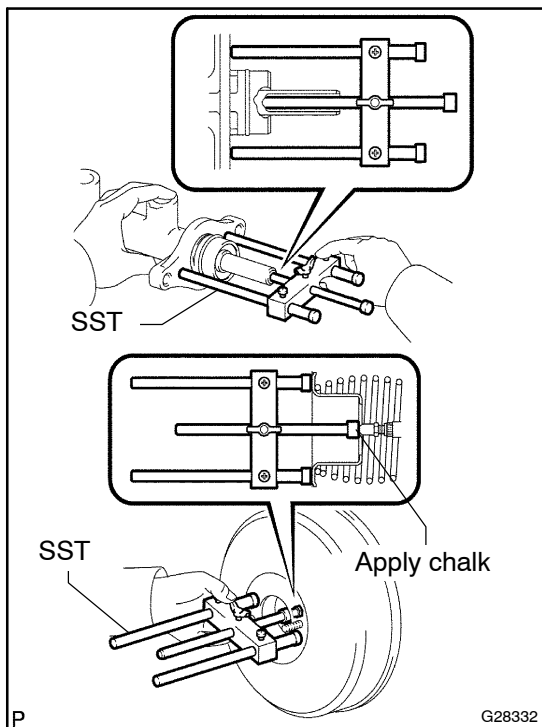
10. INSTALL MASTER CYLINDER RESERVOIR GROMMET

- Apply lithium soap base glycol grease to 2 new grommets.
- Install the 2 grommets to the master cylinder body.

11. INSTALL BRAKE MASTER CYLINDER UNION

- Install the master cylinder union to the master cylinder body with the screw.

Torque: 1.7 N·m (17 kgf·cm, 15 in·lbf)

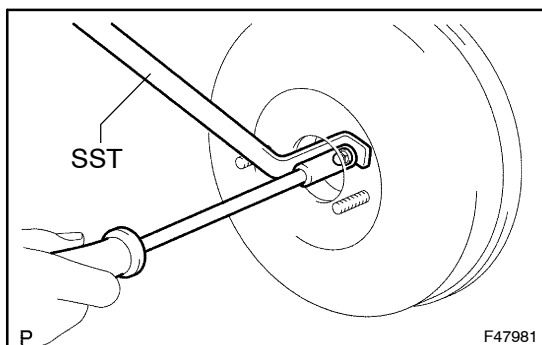


12. INSPECT AND ADJUST BRAKE BOOSTER PUSH ROD

- Set SST on the master cylinder and lower the rod of the SST until it slightly touches the piston.
SST 09737-00013
- Apply chalk to the flat surfaced tip of the SST pin.
- Turn the SST upside down and measure the clearance between the brake booster push rod and SST.
Clearance: -0.1 mm (-0.0039 in.)

HINT:

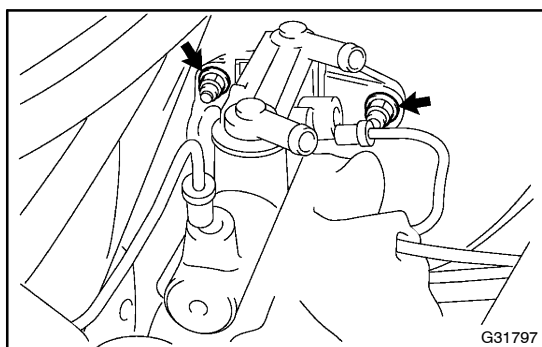
- If there is a clearance between the SST main body and the booster shell, it means the specified value, and no chalk attachment on the booster push rod means that it is more than the specified value.
- Brake booster push rod clearance before shipment is adjusted to -0.21 to 0 mm (-0.0083 to 0 in.).



- If the clearance is not within the standard value, adjust the length by holding the rod using SST and turning the tip of the rod using the socket driver (7 mm).
SST 09737-00020

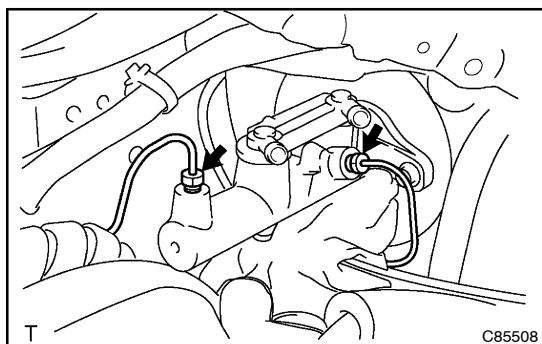
HINT:

Check the push rod clearance again after adjustment.



13. INSTALL BRAKE MASTER CYLINDER SUB-ASSY

- RHD:
Install the master cylinder with the 2 nuts.
Torque: 13 N·m (128 kgf·cm, 9 ft·lbf)
- LHD:
Install the master cylinder and vacuum check valve bracket with the 2 nuts.
Torque: 13 N·m (128 kgf·cm, 9 ft·lbf)
- Using SST, connect the 2 brake lines to the master cylinder sub-assy.
SST 09023-00100
Torque: 15 N·m (153 kgf·cm, 11 ft·lbf)
- Connect the 2 reservoir tubes with the 2 clips.



14. INSTALL CHARCOAL CANISTER ASSY (LHD STEERING POSITION TYPE, 1AZ-FE ENGINE TYPE)
15. INSTALL AIR CLEANER ASSY (LHD STEERING POSITION TYPE)
16. FILL RESERVOIR WITH BRAKE FLUID (SEE PAGE 32-1)
17. BLEED MASTER CYLINDER (SEE PAGE 32-1)
SST 09023-00100
18. BLEED BRAKE LINE (SEE PAGE 32-1)
19. CHECK FLUID LEVEL IN RESERVOIR (SEE PAGE 32-1)
20. CHECK BRAKE FLUID LEAKAGE