

# BRAKE MASTER CYLINDER SUB-ASSY

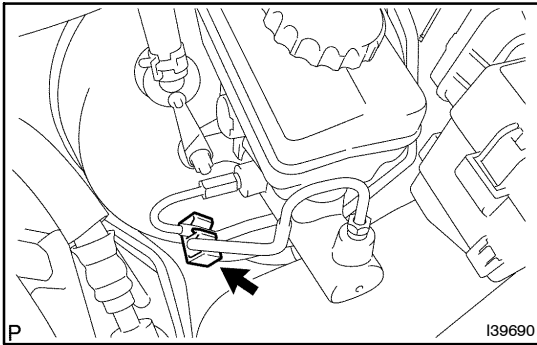
3213P-02

## OVERHAUL

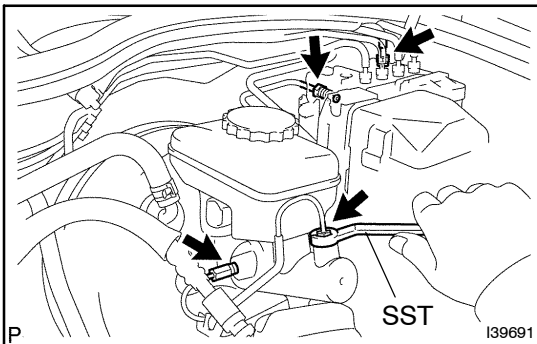
1. REMOVE ENGINE ROOM SIDE COVER
2. SEPARATE ENGINE ROOM NO.3 R/B
  - (a) Remove the bolt and separate the engine room No.3 R/B.
3. DRAIN BRAKE FLUID
  - (a) Draw out fluid with syringe.

### NOTICE:

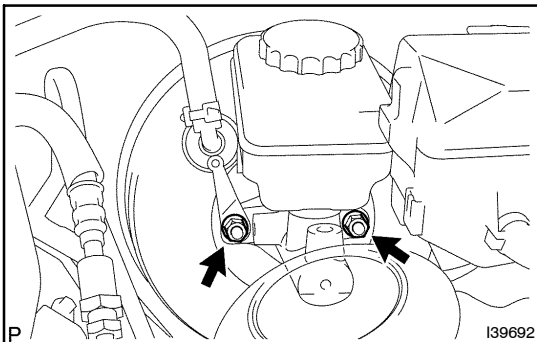
Wash brake fluid off immediately if it adheres to any painted surfaces.



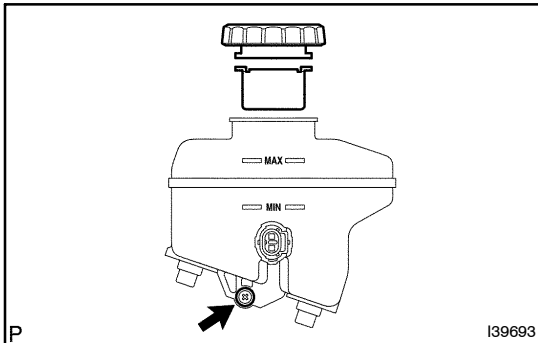
4. REMOVE BRAKE MASTER CYLINDER SUB-ASSY
  - (a) Remove the clamp from the 2 brake tubes.



- (b) Using SST, remove the 2 brake tubes from the master cylinder and ABS & TRACTION actuator assy.  
SST 09751-36011



- (c) Disconnect the brake fluid level warning switch connector from the brake master cylinder reservoir.
  - (d) Remove the 2 nuts, vacuum check valve bracket and brake master cylinder sub-assy.



## 5. REMOVE BRAKE MASTER CYLINDER RESERVOIR SUB-ASSY

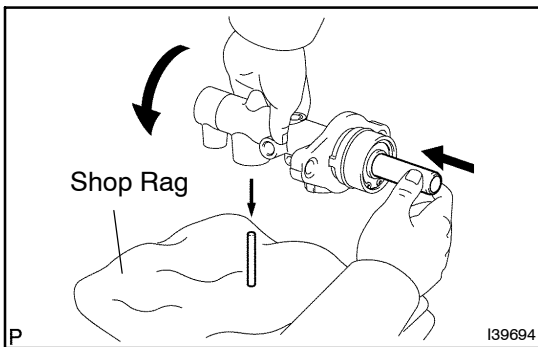
- (a) Remove the brake master cylinder reservoir filler cap and master cylinder reservoir strainer.

### HINT:

Using 2 fingers, pull up and turn the master cylinder reservoir strainer counterclockwise to remove.

- (b) Remove the set screw and pull out the reservoir.

## 6. REMOVE MASTER CYLINDER RESERVOIR GROMMET

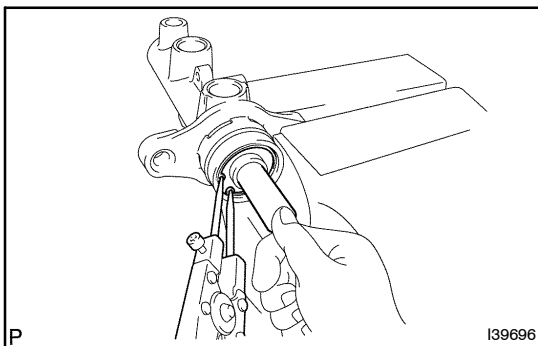


## 7. REMOVE BRAKE MASTER CYLINDER STRAIGHT PIN

- (a) Push in the piston by hand and remove the master cylinder straight pin by turning over the cylinder body.

### HINT:

Place a shop rag to avoid the master cylinder straight pin from getting damaged.



## 8. REMOVE BRAKE MASTER CYLINDER KIT

- (a) Place the brake master cylinder sub-assy in a vise.

### NOTICE:

**Do not damage the brake master cylinder sub-assy by over tightening the vise.**

- (b) Push in the No.1 piston by hand, and remove the snap ring with snap ring pliers.
- (c) Remove the No.1 piston by hand, pulling straight out, not at an angle.

### NOTICE:

- If they are pulled out and installed at an angle, there is a possibility that the cylinder bore could be damaged.
- At the time of reassembly, be careful not to damage the rubber lips on the pistons.

- (d) Place a shop rag and 2 wooden blocks on the work table, and lightly tap the cylinder flange against the block edges until the No.2 piston drops out of the cylinder.

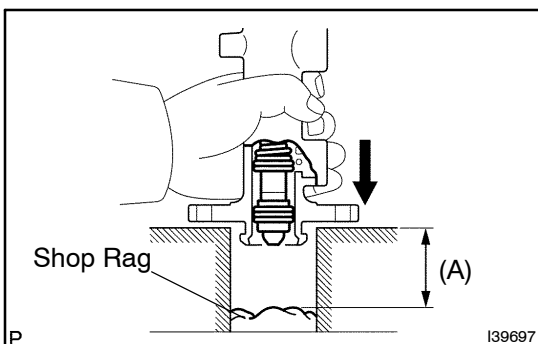
### NOTICE:

**Be careful not to scratch the master cylinder bore.**

### HINT:

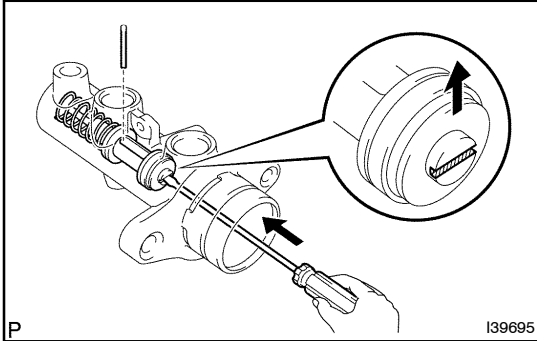
Make sure that the distance (A) from the shop rag to the top of the blocks is at least 100 mm (3.94 in.).

- (e) Remove the O-ring from the master cylinder body.



**9. INSTALL BRAKE MASTER CYLINDER KIT**

- (a) Place the brake master cylinder sub-assy in a vise.
- (b) Apply lithium soap base glycol grease to new No.1 piston sub-assy and No.2 piston sub-assy.



- (c) Using a flat tip driver, insert the No.2 piston sub-assy horizontally and insert the master cylinder straight.

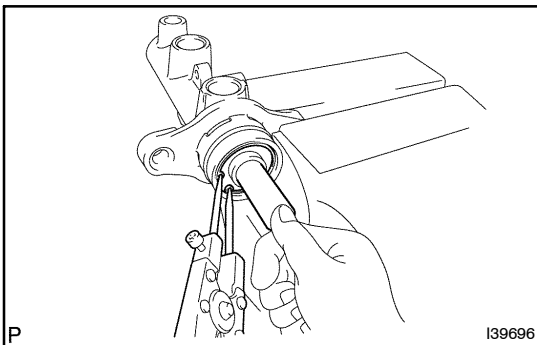
**NOTICE:**

**Make sure that the No.2 piston sub-assy and master cylinder straight pin are installed properly.**

- (d) Install the No.1 piston sub-assy straight.

**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.**



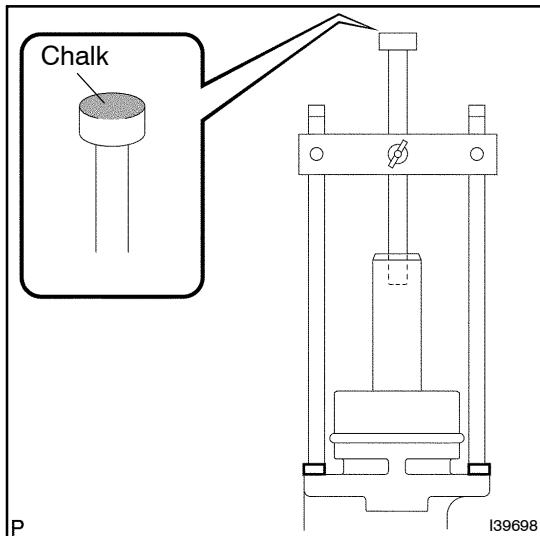
- (e) Push in the piston by hand and install the snap ring using snap ring pliers.
- (f) Apply lithium soap base glycol grease to a new O-ring and install the O-ring to the master cylinder.

**10. INSTALL MASTER CYLINDER RESERVOIR GROMMET**

- (a) Apply lithium soap base glycol grease to the 2 master cylinder reservoir grommets.
- (b) Install the 2 master cylinder reservoir grommets to the master cylinder reservoir sub-assy.

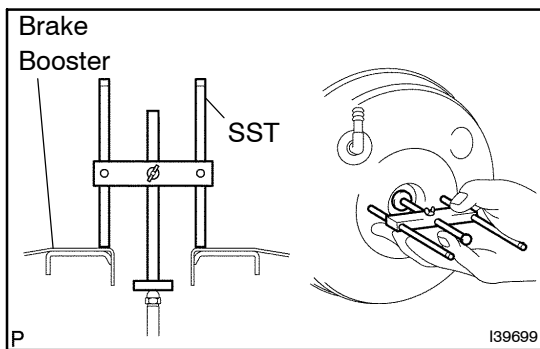
**11. INSTALL BRAKE MASTER CYLINDER RESERVOIR SUB-ASSY**

- (a) Install the master cylinder reservoir sub-assy to the master cylinder sub-assy with the set screw.
- (b) Install the master cylinder reservoir strainer and master cylinder reservoir filler cap.
- (c) Connect the brake fluid warning switch connector.



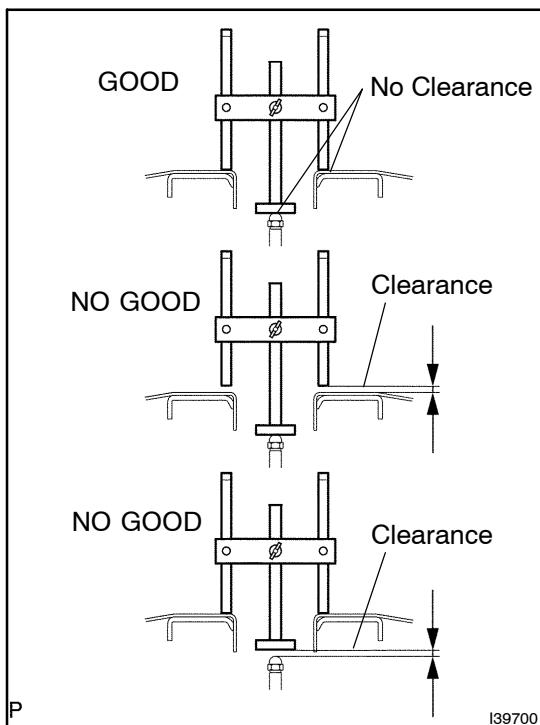
## 12. INSPECT AND ADJUST BRAKE BOOSTER PUSH ROD

- (a) Depress the brake pedal several times while the engine is stopped to release the pressure.
- (b) Set SST on the brake master cylinder sub-assy and lower the pin of the SST until it slightly touches the piston.
- (c) Apply chalk to the flat surfaced tip of the SST pin.  
SST 09737-00013



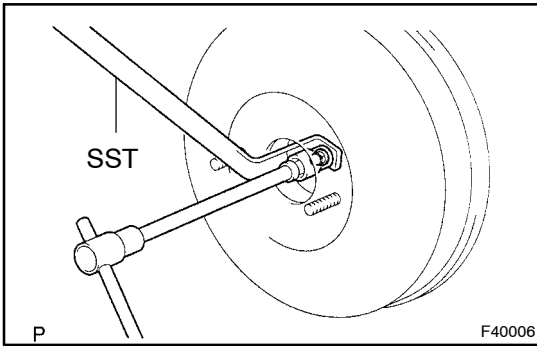
- (d) Turn SST upside down and place it on brake booster assy. Measure the clearance between the brake booster assy and SST.

**Clearance: 0 mm (0 in.)**

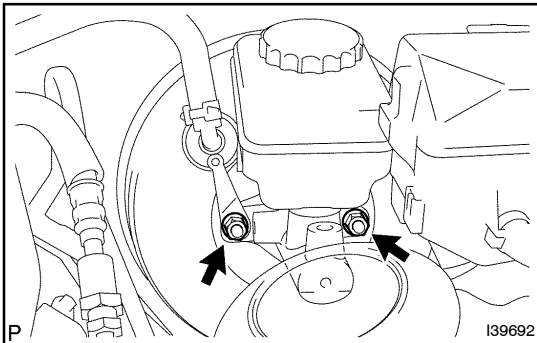


### HINT:

- If there is a clearance between the SST main body and the shell of the brake booster assy (floating SST main body), the push rod is protruding too far.
- If the chalk does not stick on the brake booster push rod, the push rod protrusion is insufficient.
- Adjust the clearance if either of the above conditions is detected.

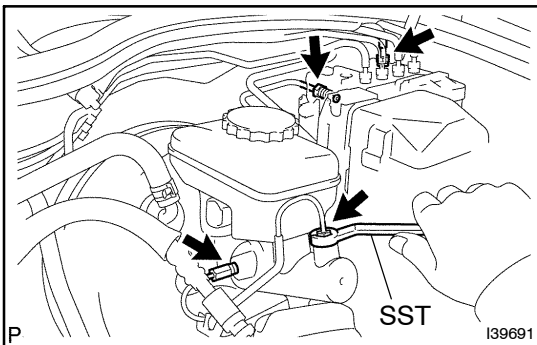


- (e) Using SST, adjust the booster push rod length until the push rod lightly touches the pin head.  
SST 09737-00020



### 13. INSTALL BRAKE MASTER CYLINDER SUB-ASSY

- (a) Install the brake master cylinder sub-assy and vacuum check valve bracket with 2 nuts.  
**Torque: 13 N·m (130 kgf·cm, 9 ft·lbf)**
- (b) Connect the brake fluid level warning switch connector to the master cylinder reservoir.



- (c) Using SST, install the brake tube to the brake master cylinder sub-assy and ABS & TRACTION actuator assy.  
SST 09751-36011  
**Torque: 15 N·m (155 kgf·cm, 11 ft·lbf)**
- (d) Install the clamp.

### 14. FILL RESERVOIR WITH BRAKE FLUID

### 15. BLEED MASTER CYLINDER (SEE PAGE 32-4)

### 16. BLEED BRAKE LINE (SEE PAGE 32-4)

### 17. CHECK FLUID LEVEL IN RESERVOIR

### 18. CHECK FOR BRAKE FLUID LEAKAGE

If fluid leaks, tighten or replace the leaking part.

### 19. INSTALL ENGINE ROOM NO.3 R/B

- (a) Install the engine room No.3 R/B with a bolt.

### 20. INSTALL ENGINE ROOM SIDE COVER