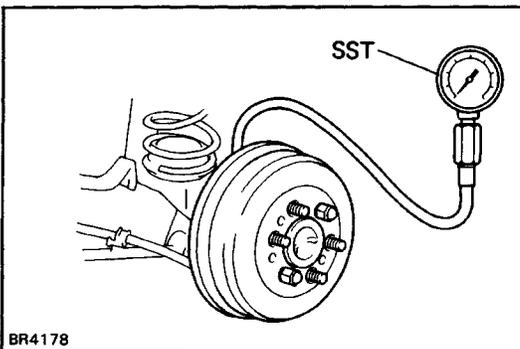
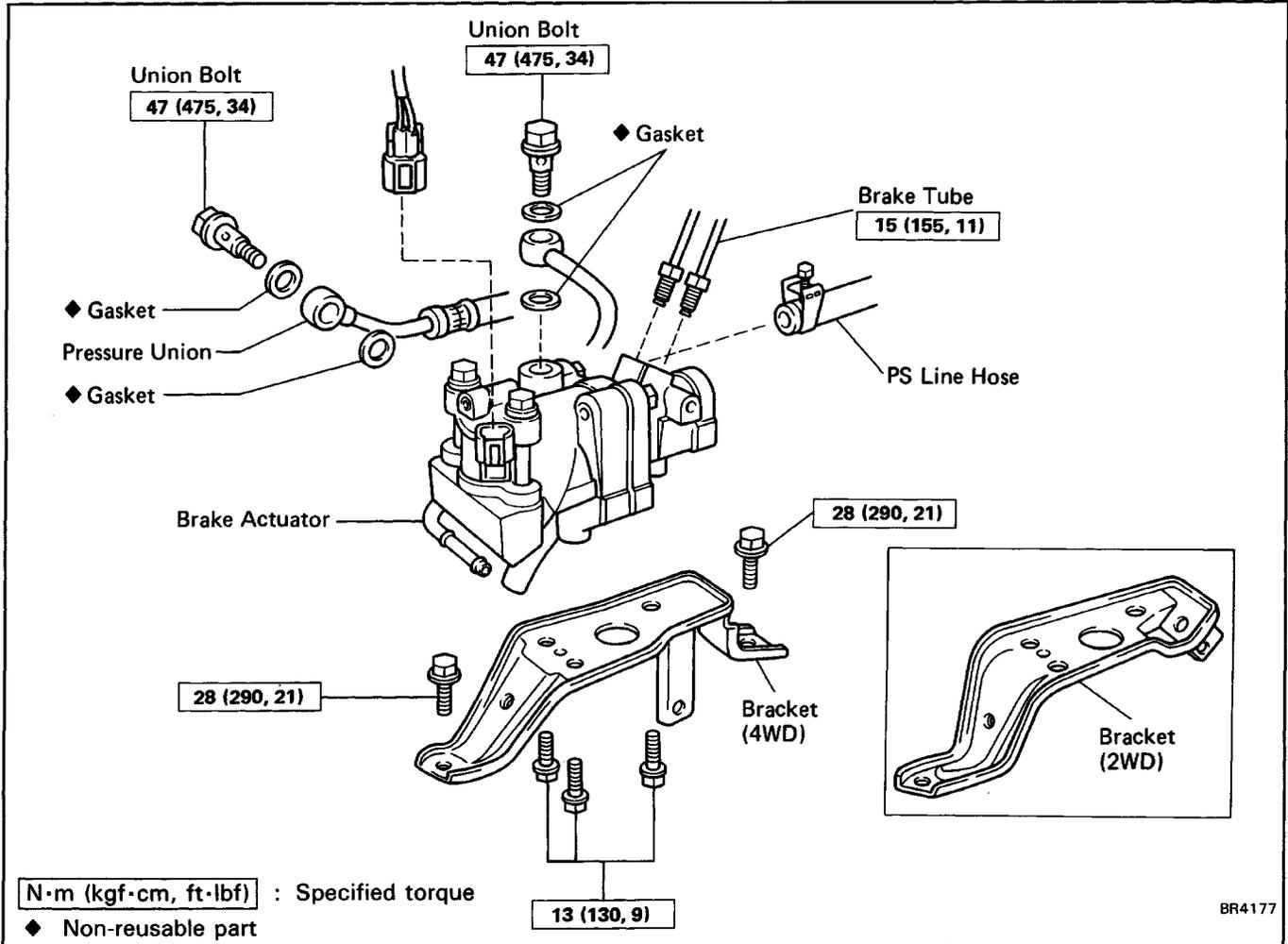


Brake Actuator COMPONENTS



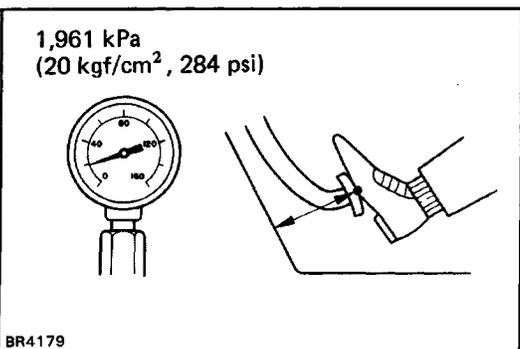
INSPECTION OF BRAKE ACTUATOR

1. CHECK BRAKE FLUID PRESSURE

(a) Remove the bleeder plug from the rear wheel cylinder and connect SST.

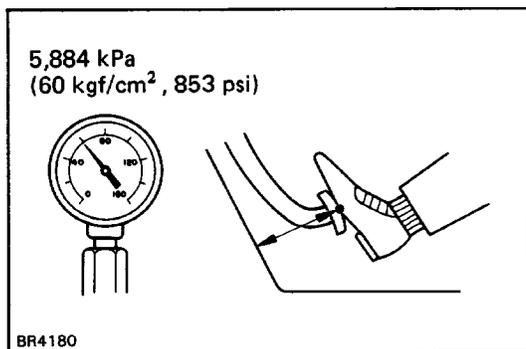
SST 09709-29017

(b) Bleed the air from SST.

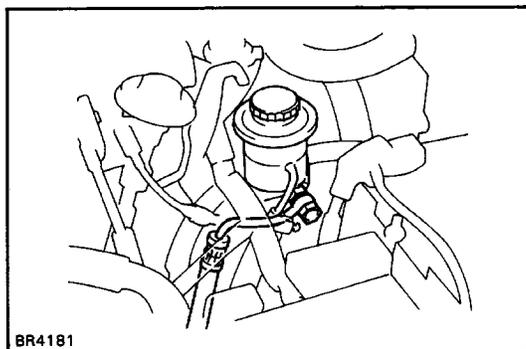


(c) With the engine off, hold the brake pedal depressed for about 10 seconds with the pressure at 1,961 kPa (20 kgf/cm², 284 psi), and check that there is no change in the pedal reserve distance.

If there is a change in the brake pedal reserve distance, check the brake line, master cylinder and wheel cylinder for fluid leakage.



- (d) With the engine running, hold the brake pedal depressed for about 10 seconds with the pressure at 5,844 kPa (60 kgf/cm², 853 psi), and check that there is no change in the pedal reserve distance. If there is a change in the brake pedal reserve distance, inspect the brake actuator.



2. CHECK POWER STEERING FLUID PRESSURE

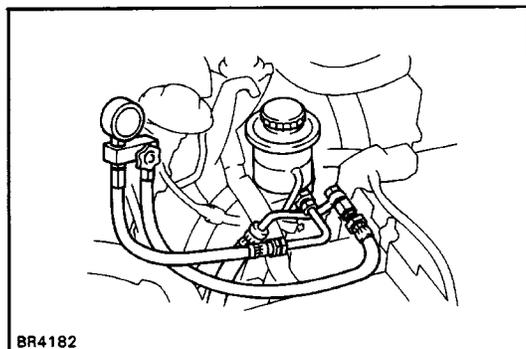
- (a) (4WD w/ 22R-E Engine)

Using SST, disconnect the power steering pressure line from the power steering pump.

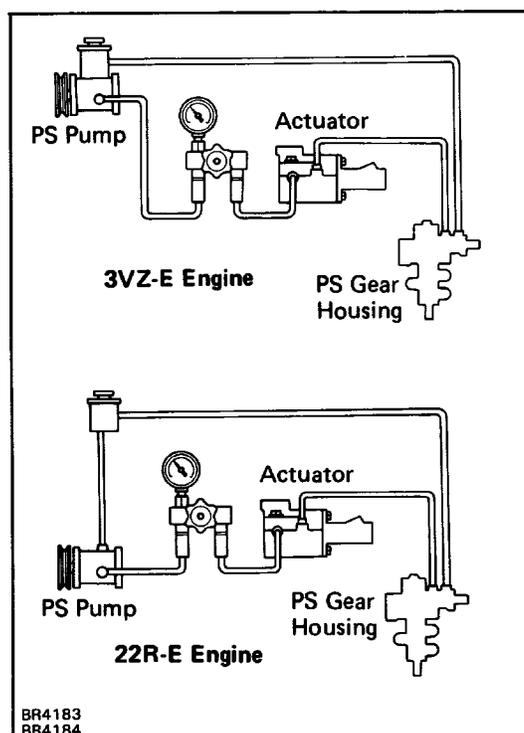
SST 0963 1-22020

- (b) (Except 4WD w/ 22R-E Engine)

Remove the union bolt and disconnect the power steering pressure line from the power steering pump.



- (c) Connect the power steering pressure gauge between the power steering pump and hose with the gauge valve on the actuator side.
- (d) Bleed the system and check that the fluid level is correct.
(See page [BR-94](#))



- (e) Start the engine and run it at idle.

- (f) Close the pressure gauge valve and observe the reading on the gauge.

Minimum pressure: 7,355 kPa (75 kgf/cm², 1,067 psi)

HINT:

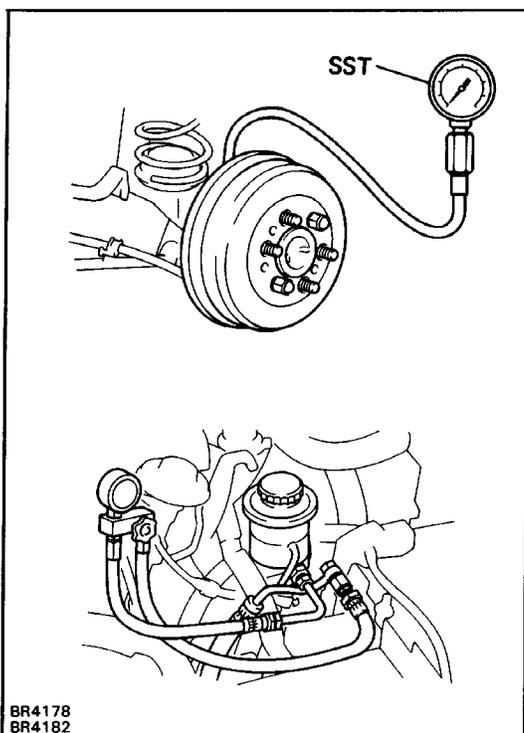
- Do not keep the valve closed for more than 10 seconds.
- Check with the fluid temperature at least 80°C (176°F).

If pressure is low, repair or replace the power steering pump.

3. CHECK RELATION BETWEEN BRAKE FLUID AND POWER STEERING FLUID PRESSURE

HINT:

- Be sure the tires in the straight-ahead position.
- Be sure the power steering pressure gauge valve is fully open.
- Check with the power steering fluid temperature at least 80°C (176°F).

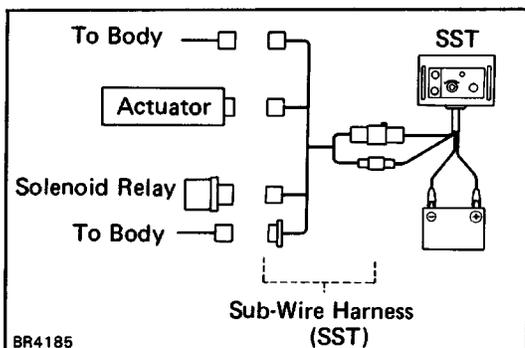


With the engine running, the brake and power steering fluid pressure should conform to the following table.

kPa (kgf/cm², psi)

Brake Fluid Pressure	2,941 (30, 427)	9,807 (100, 1,422)
PS Fluid Pressure	1,569 - 2,550 (16 - 26, 228 - 370)	3,236 - 4,609 (33 - 47, 469 - 668)

If not within specification, check the actuator.



4. CHECK ACTUATOR OPERATION

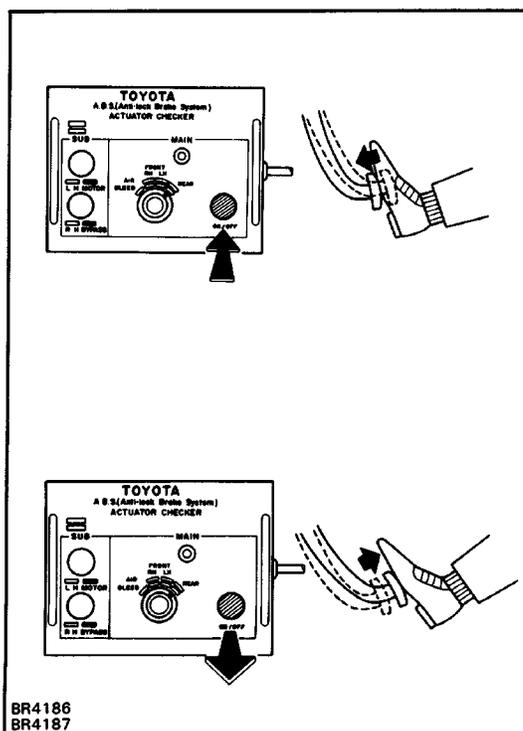
- Disconnect the connector from the actuator.
- Disconnect the connector from the solenoid relay.
- Connect the actuator checker (SST) to the actuator, solenoid relay and body side wire harness through the sub-wire harness (SST) as shown.
SST 09990-00150 and 09990-00205
- Connect the red cable of the checker to the battery positive (+) terminal and black to the negative (-) terminal.
- Start the engine, and run it at idle.
- Turn the selector switch of actuator checker to "REAR" position.
- Strongly depress the brake pedal and hold it.
- Push the ON/OFF switch, and check that the brake pedal sinks a little and that it returns to the original position when the switch is released.

NOTICE:

- To avoid damaging the master cylinder piston cup, do not push on SST switch before depressing the brake pedal and do not release your foot from the brake pedal while SST switch is pushing on.
- Do not keep the ON/OFF switch pushing more than 10 seconds.

If operation is not as specified, replace the actuator.

- Release the switch, then release the brake pedal.



5. REMOVE ACTUATOR CHECKER (SST)

Remove SST, then connect the connectors of the actuator and solenoid relay.

SST 09990-00150 and 09990-00205

6. REMOVE SST FROM WHEEL CYLINDER

SST 09709-29017

7. REMOVE PRESSURE GAUGE FROM PS PUMP

Remove the pressure gauge from the PS line, then bleed the power steering system.

8. BLEED SYSTEM

(a) Fill brake reservoir with brake fluid.

(b) Fill PS reservoir with fluid.

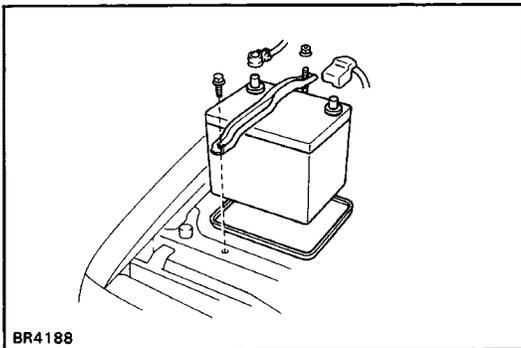
Fluid type: ATF DEXRON® II

(c) Bleed the system.

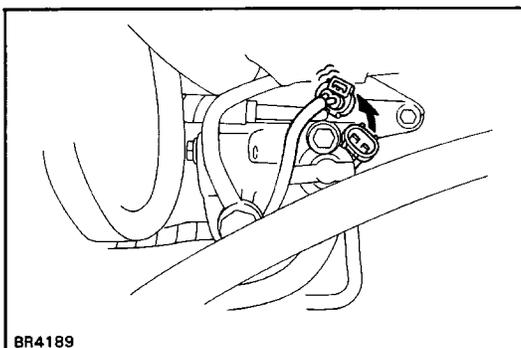
(See page [BR-94](#))

REMOVAL OF BRAKE ACTUATOR**1. REMOVE BATTERY**

Disconnect the wire harnesses from the terminals and remove the battery and tray.

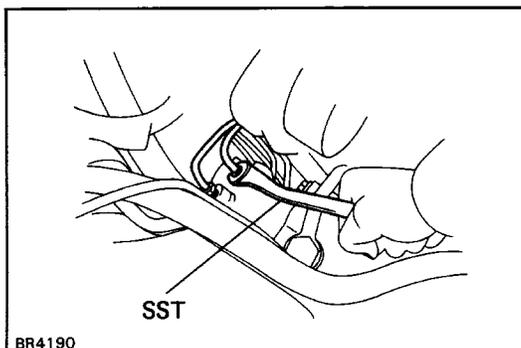
**2. DISCONNECT CONNECTOR**

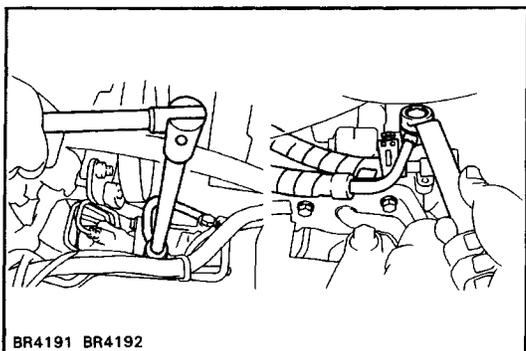
Disconnect the connector from the actuator.

**3. DISCONNECT TWO BRAKE TUBES**

Using SST, disconnect the two brake tubes.

SST 09751-36011

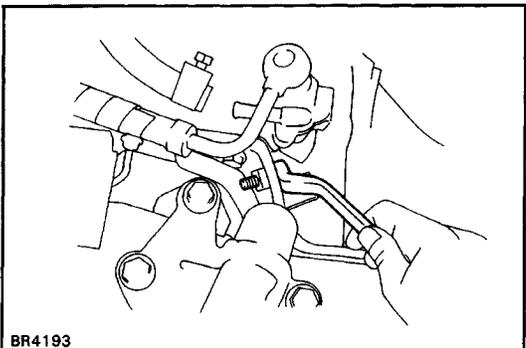




4. DISCONNECT POWER STEERING LINES FROM ACTUATOR

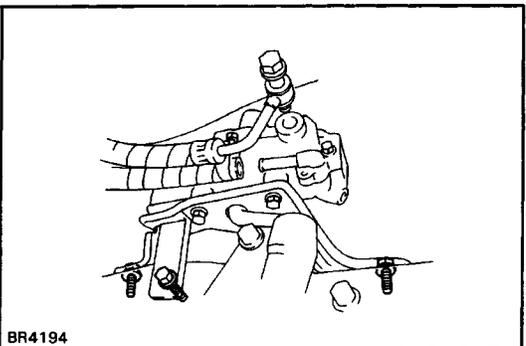
HINT: Turn the steering wheel clockwise until it locks before disconnecting the PS lines. And if you cannot work from the upper side, work from the wheel house.

- (a) Remove the two union bolts and disconnect the two power steering pressure tubes.
- (b) (22R-E Engine)
Disconnect the power steering line hose.
- (c) (3VZ-E Engine)
Disconnect the two power steering line hoses.



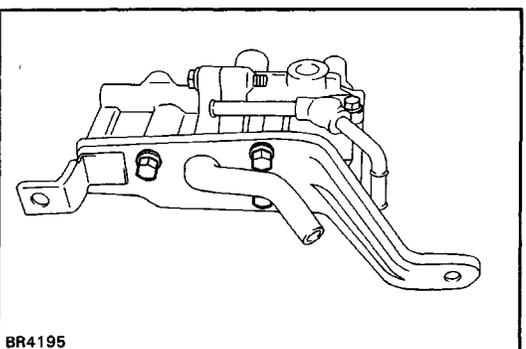
5. REMOVE PS TUBE CLAMP INSTALLATION BOLT

Remove the installation bolt of the power steering tube clamp.



6. REMOVE ACTUATOR

Remove the three bolts and remove the actuator from the wheel house.



7. REMOVE BRACKET FROM ACTUATOR

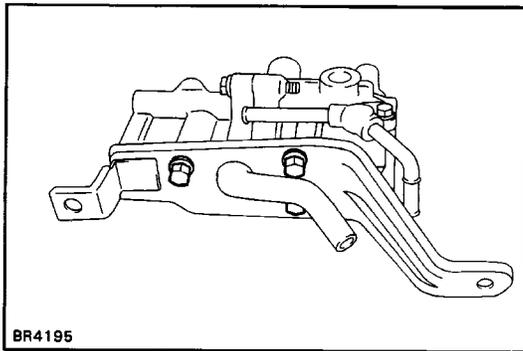
Remove the three bolts and separate the actuator and bracket.

INSTALLATION OF BRAKE ACTUATOR

1. INSTALL BRACKET TO ACTUATOR

Install the bracket to the actuator with the three bolts.

Torque: 13 N-m (130 kgf-cm, 9 ft-lbf)



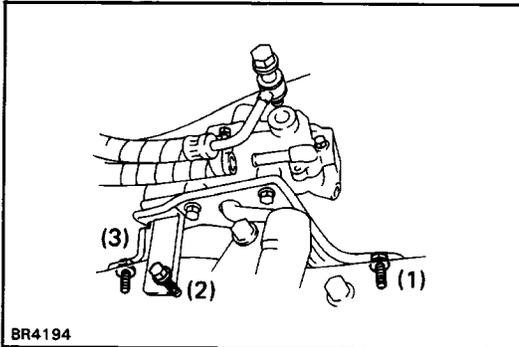
2. INSTALL ACTUATOR

Install the actuator in place and tighten the three bolts.

Torque: 28 N-m (290 kgf-cm, 21 ft-lbf)

HINT: Install the bolts in following order.

- (1) Front side bolt
- (2) Wheel house side bolt of rear bolts
- (3) Upper side bolt on frame of rear bolts

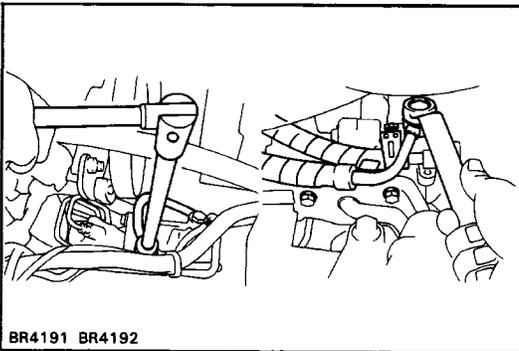


3. CONNECT POWER STEERING LINES

- (a) Set the pressure union and new gaskets in place, then install the union bolt.

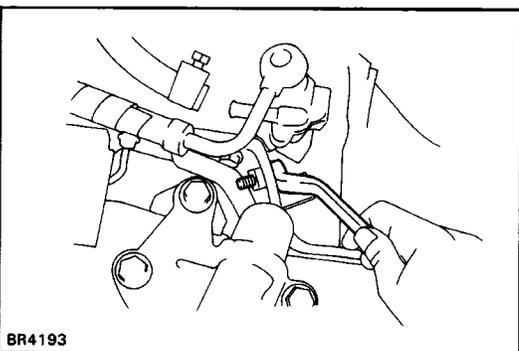
Torque: 47 N-m (475 kgf-cm, 34 ft-lbf)

- (b) Similarly connect the other pressure tube.
- (c) Connect the PS line hose to the actuator, then fix it with the hose clamp.
- (d) (3VZ-E Engine)
Similarly connect the other PS line hose.



4. INSTALL PS TUBE CLAMP

Install the PS pressure tube clamp in place and tighten the bolt.

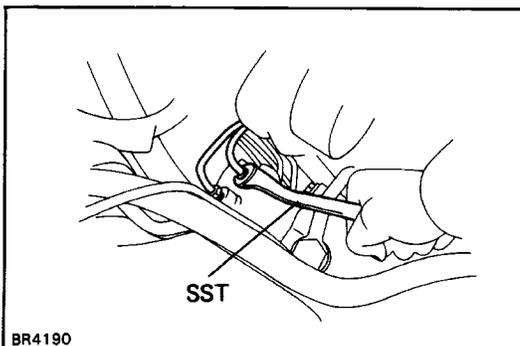


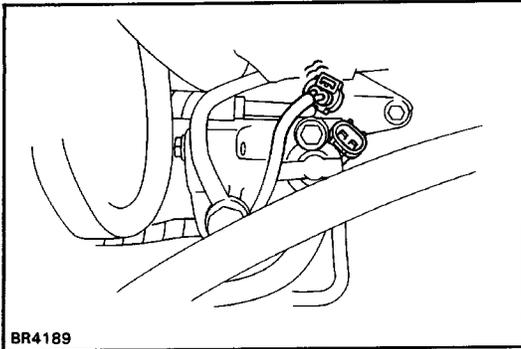
5. CONNECT TWO BRAKE TUBES

Using SST, connect the two brake tubes to the actuator.
SST 09751-36011

Torque: 15 N-m (155 kgf-cm, 11 ft-lbf)

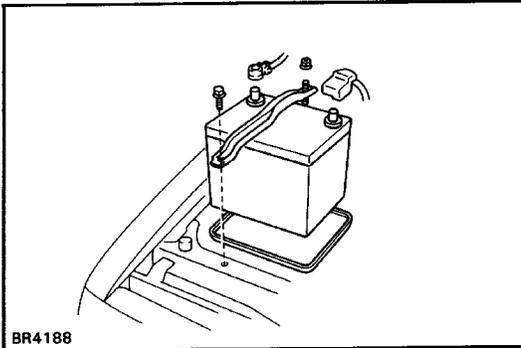
HINT: First connect the painted brake tube to the painted hole of the actuator, then the other.





6. CONNECT CONNECTOR

Connect the connector to the actuator.



7. INSTALL BATTERY

Install the tray and battery in place, then connect the wire harnesses to the terminals.

8. BLEED SYSTEM

- (a) Fill brake reservoir with brake fluid.
- (b) Fill PS reservoir with fluid.

Fluid type: ATF DEXRON[®]II

- (c) Bleed the system.

(See page [BR-94](#))

BLEEDING OF REAR-WHEEL ANTI-LOCK BRAKE SYSTEM

HINT: Whenever PS hoses or PS pressure tube are disconnected or actuator is removed from the vehicle, the Rear-Wheel Anti-Lock Brake System should be bled in the following procedure.

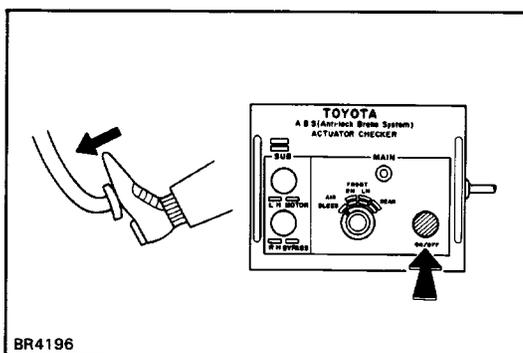
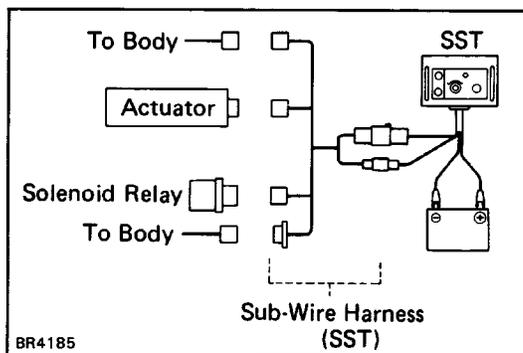
At the other times, use the conventional procedure.

1. BLEED POWER STEERING SYSTEM

Use the conventional procedure.

2. BLEED BRAKE SYSTEM

- (a) Bleed the system with the engine running.
- (b) Bleed the system with the engine off.



3. BLEED POWER STEERING SYSTEM AGAIN

- (a) Disconnect the connector from the actuator.
- (b) Disconnect the connector from the solenoid relay.
- (c) Connect the actuator checker (SST) to the actuator, solenoid relay and body side wire harness through the sub-wire harness (SST) as shown.
SST 09990-00150 and 09990-00205
- (d) Connect the red cable of the checker to the battery positive (+) terminal and black to the negative (-) terminal.
- (e) Start the engine, and run it at idle.
- (f) Turn the selector switch of actuator checker to "AIR BLEED" position.
- (g) Strongly depress the brake pedal and hold it.
- (h) Push on and release the ON/OFF switch three seconds each for five times.

NOTICE:

- To avoid damaging the master cylinder piston cup, do not push on SST switch before depressing the brake pedal and do not release your foot from the brake pedal while SST switch is pushing on.
 - Do not keep the ON/OFF switch pushing more than 10 seconds.
- (i) Release the switch, then release the brake pedal.
 - (j) Check the PS and brake fluid level, and add the fluid if necessary.
 - (k) Remove SST, then connect the connectors of the actuator and solenoid relay.
SST 09990-00150 and 09990-00205