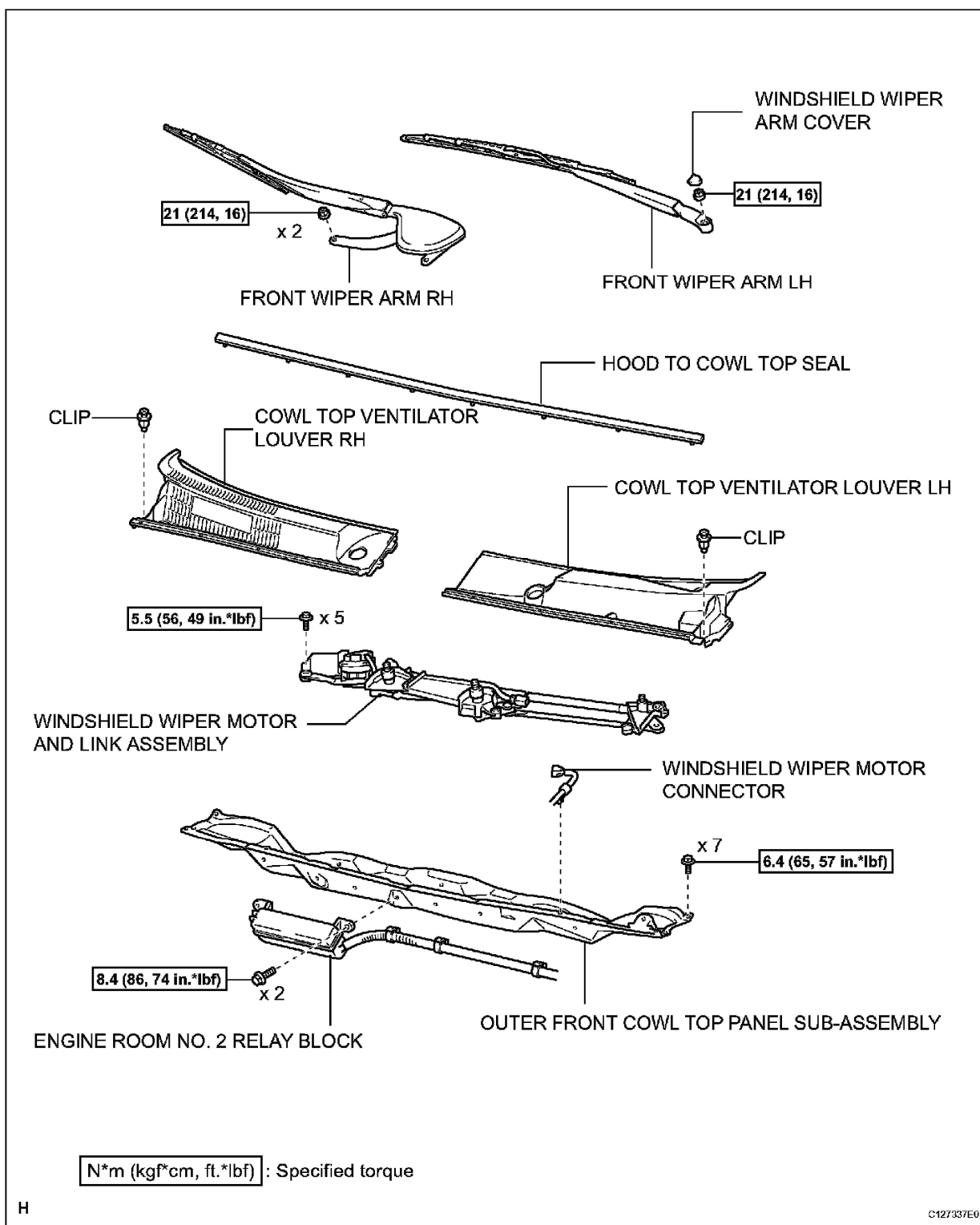
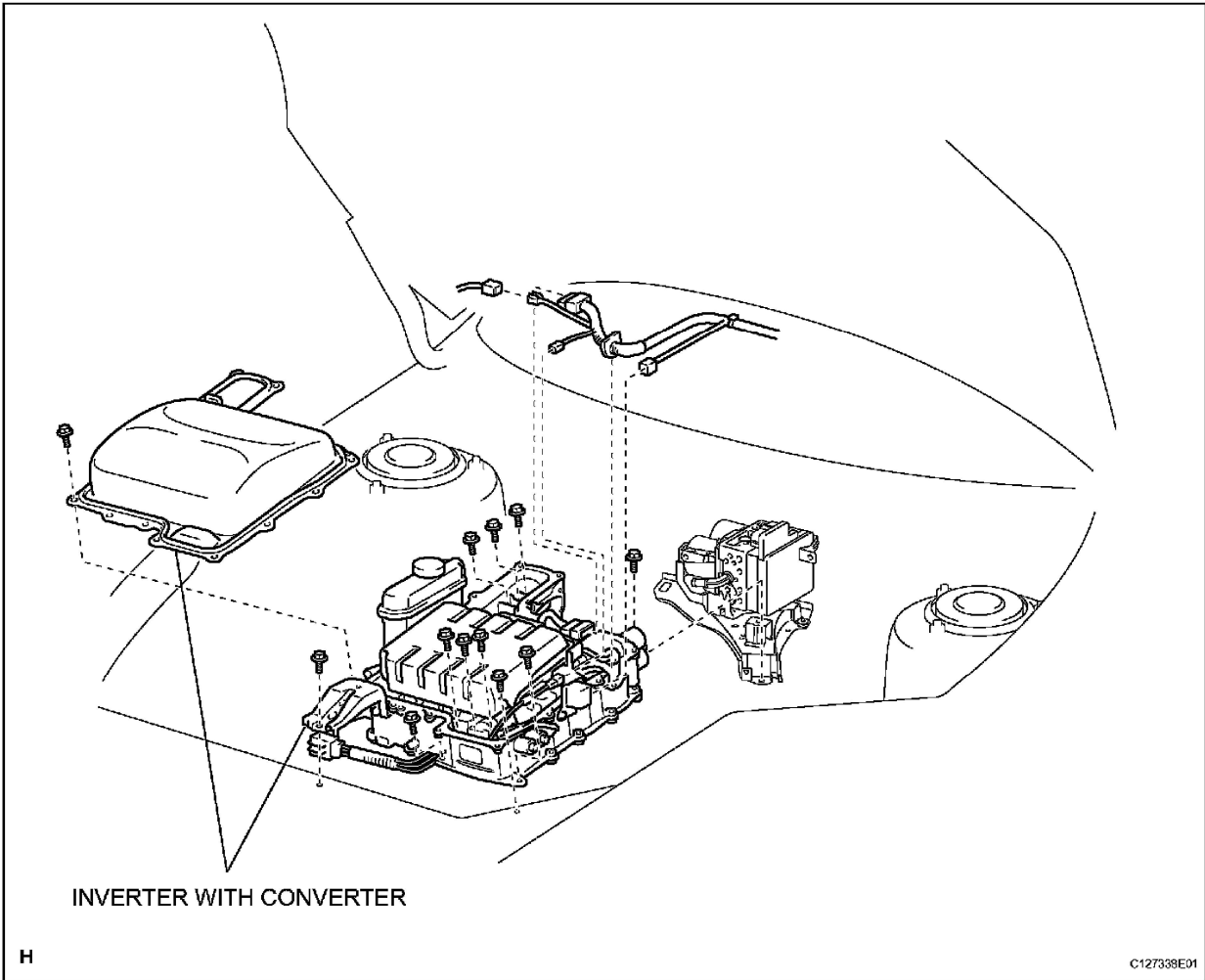


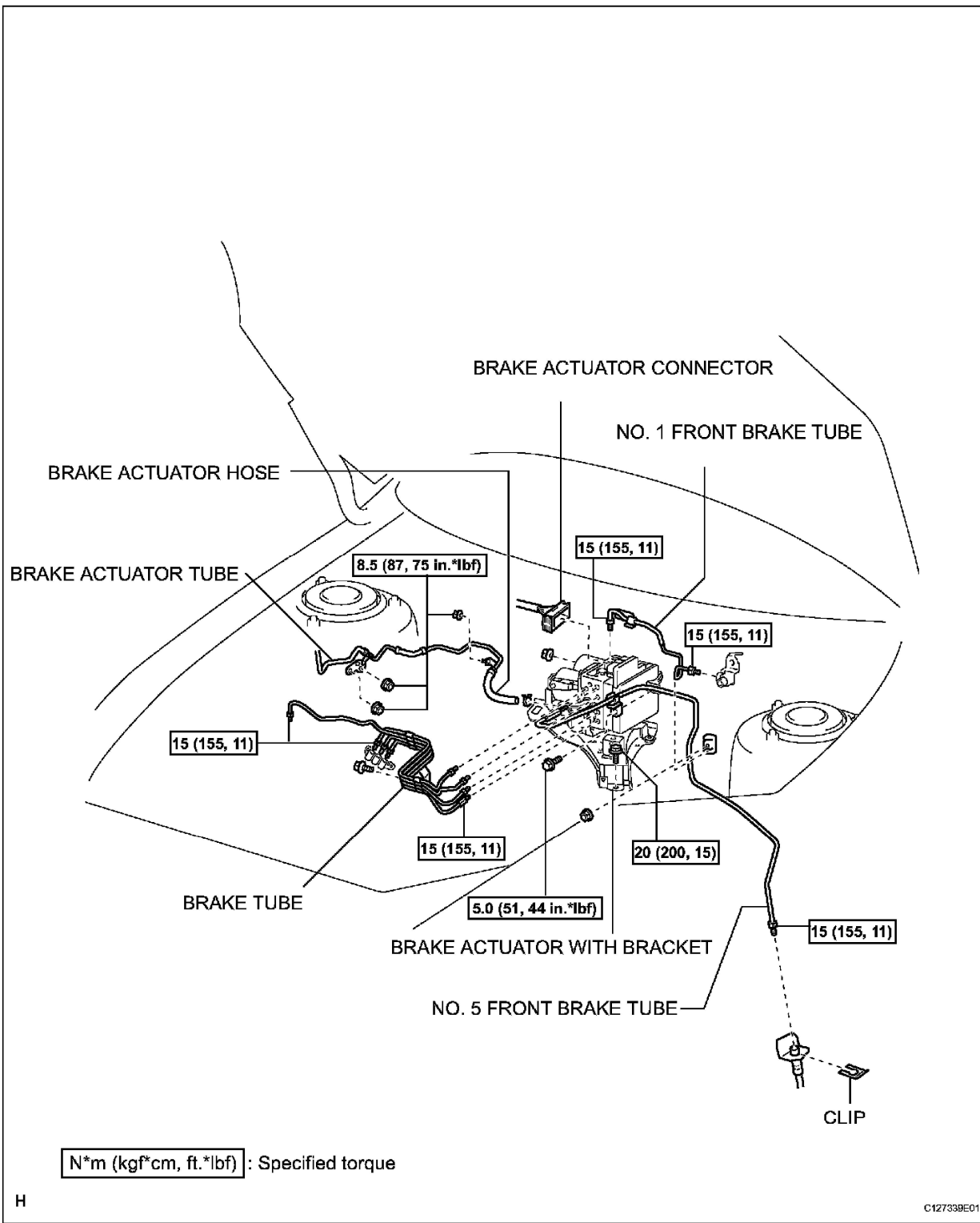
Hydraulic Control Assembly - Antilock Brakes: Removal and Replacement



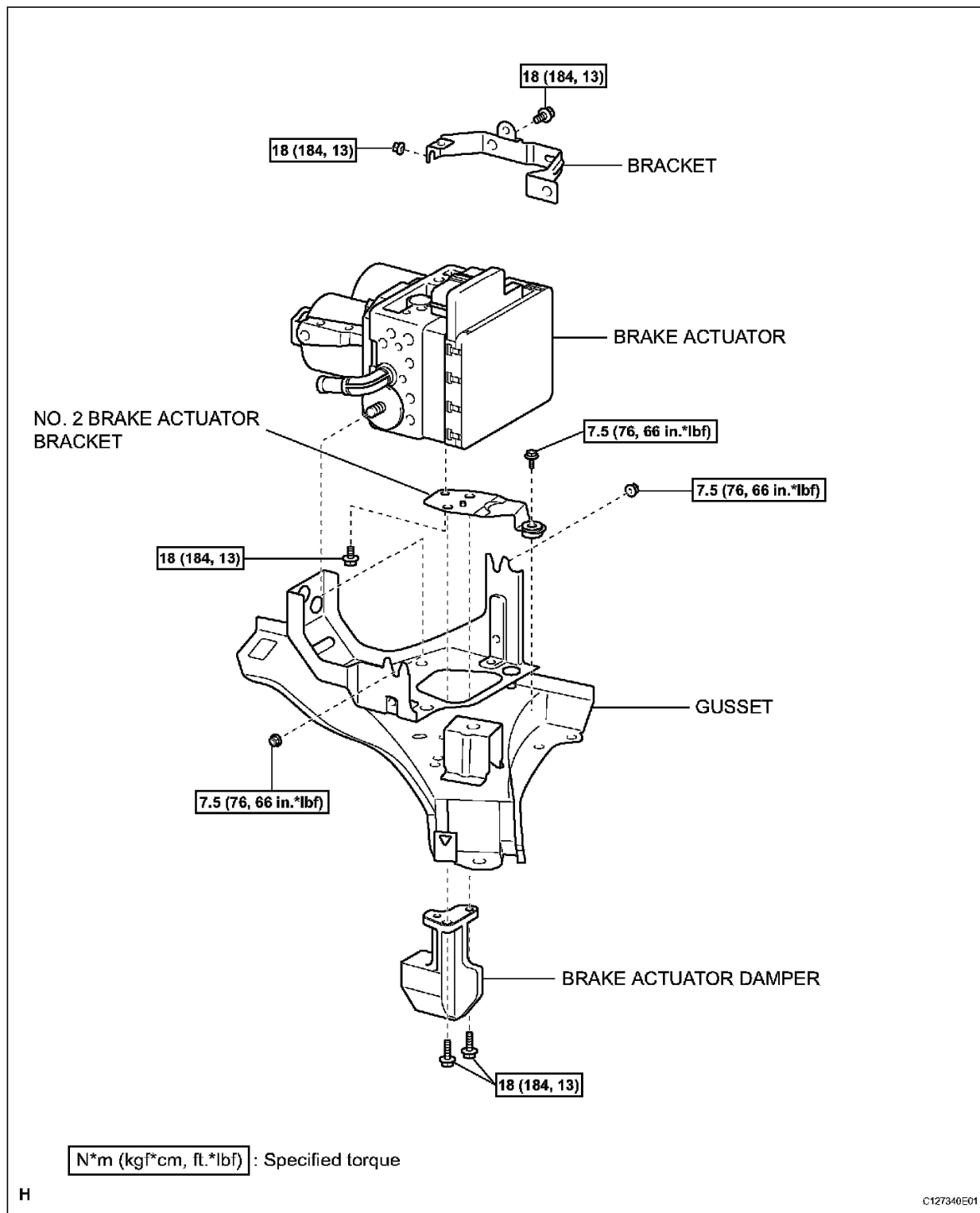
Brake Actuator



Brake Actuator



Brake Actuator



Brake Actuator

REPLACEMENT

NOTE: Be sure to replace the actuator and the resistor together. If they are not replaced together, motor noise may be increased.

1. REPLACE BRAKE ACTUATOR ASSEMBLY
 - a. Remove the windshield wiper motor and link.

HINT: Refer to the procedures from the removal of the front wiper arm LH/RH up until the removal of the windshield wiper motor and link assembly.

- b. Perform the accumulator pressure "ZERO DOWN" operation.

NOTE: Carry out the accumulator "ZERO DOWN" operation and lower the internal pressure before removing the brake actuator.

1. Move the shift lever to the P position. Apply the parking brake and connect the intelligent tester to the DLC3.
2. Turn the power switch ON (IG).
3. Turn on the intelligent tester. Select "ZERO DOWN".

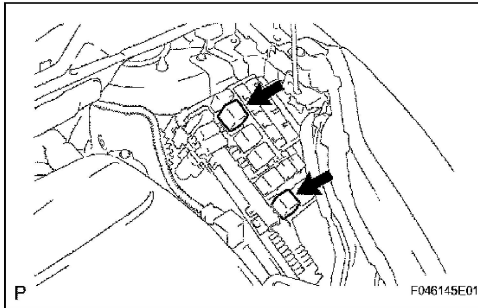
NOTE: Keep the fluid inside the reservoir above the "LOW" level by replenishing.

HINT:

- Accumulator pressure is released and accumulated repeatedly, which circulates the fluid inside the accumulator when performing this procedure.
 - The pump motor rotates and the accumulator is pressurized every time turning the power switch from OFF to ON (IG).
4. Turn the power switch OFF.
- c. Set the brake control (ELECTRONICALLY CONTROLLED BRAKE SYSTEM) off.

NOTE:

- Prohibit the brake control (ELECTRONICALLY CONTROLLED BRAKE SYSTEM) before air bleeding.
- Be sure to remove the No. 1 and No. 2 motor relays first, then the brake actuator.



1. With the power switch OFF to prohibit brake control, remove the No. 1 and No. 2 motor relays.

NOTE: If the pump motor operates while there is air remaining inside the brake actuator hose, the air will enter the actuator, resulting in difficulty in air bleeding.

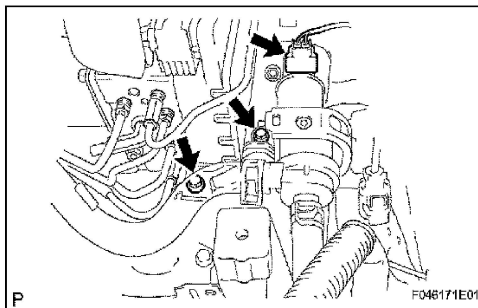
- d. Remove the outer front cowl top panel.
- e. Remove the inverter with converter.

HINT: Refer to the procedures from the removal of the engine under cover LH up until the removal of the inverter with converter.

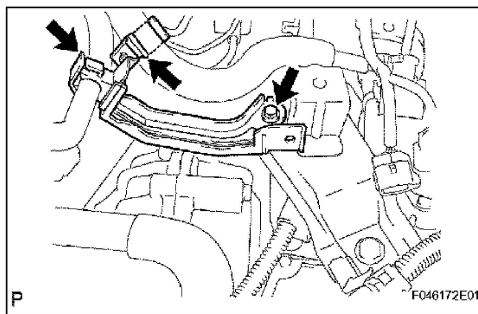
- f. Drain brake fluid.

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

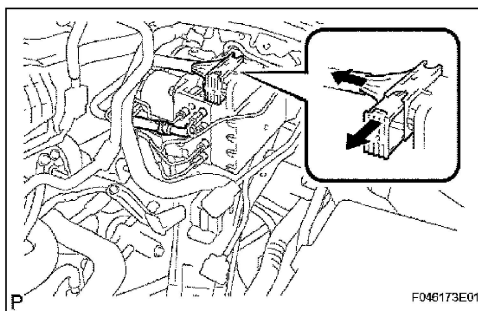
- g. Separate the water pump with motor and bracket.



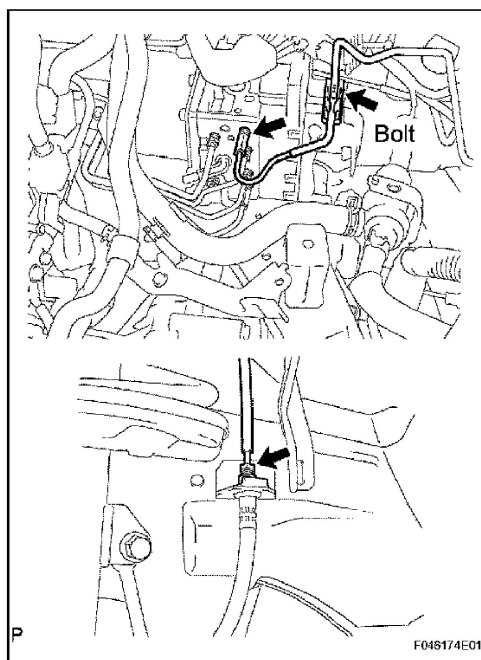
1. Disconnect the connector.
2. Remove the 2 bolts and disconnect the water pump from the gusset.



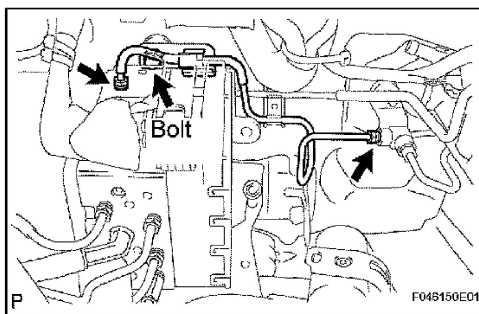
3. Remove the 2 clamps, bolt and heater hose bracket from the gusset.
- h. Remove the brake actuator with bracket.



1. Release the lock and disconnect the brake actuator connector.
2. Remove the clip and disconnect the No. 2 brake actuator hose from the brake actuator.



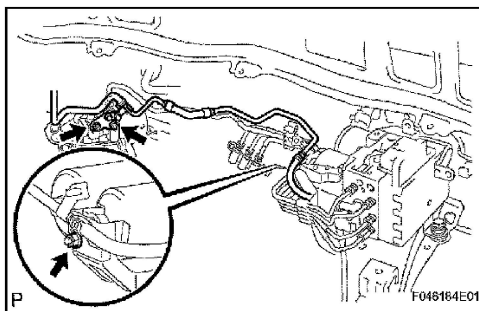
3. Using SST, disconnect the No. 5 front brake tube from the brake actuator and front brake flexible hose.
SST 09023-00101
4. Remove the bolt and No. 5 front brake tube from the bracket of the brake actuator.



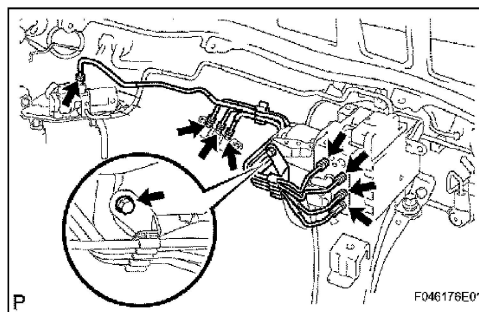
5. Using SST, disconnect the No. 1 front brake tube.

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6. Remove the bolt and No. 1 front brake tube from the bracket of the brake actuator.



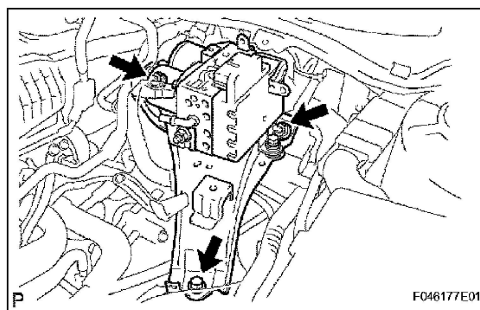
7. Remove the 3 nuts and brake actuator tubes from the brake stroke simulator cylinder and brake actuator.



8. Remove the bolt from the brake actuator.

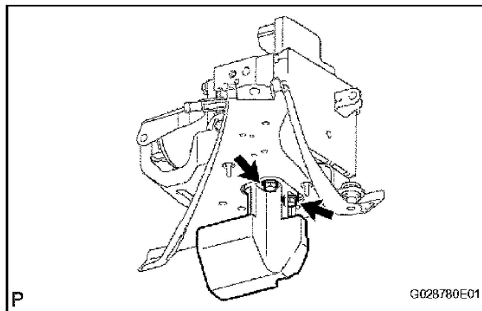
9. Using SST, remove the 4 brake tubes from the brake stroke simulator cylinder and brake actuator.

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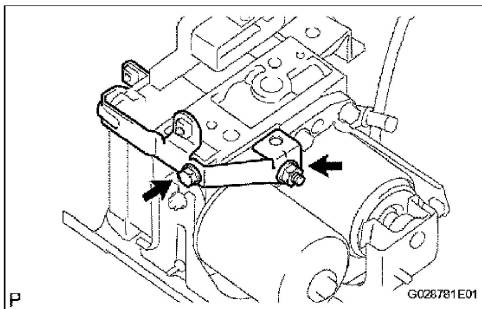


10. Remove the bolt, 2 nuts and brake actuator with gusset.

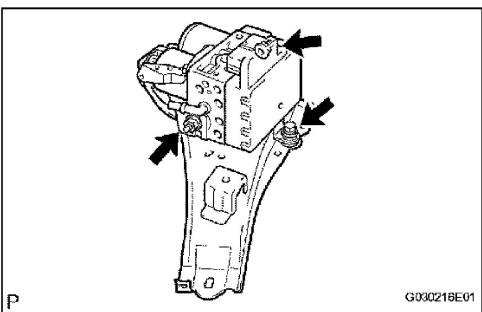
- i. Remove the brake actuator.



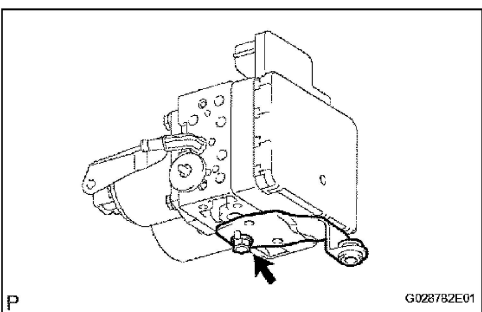
1. Remove the 2 bolts and brake actuator damper.



2. Remove the bolt, nut and bracket from the brake actuator.

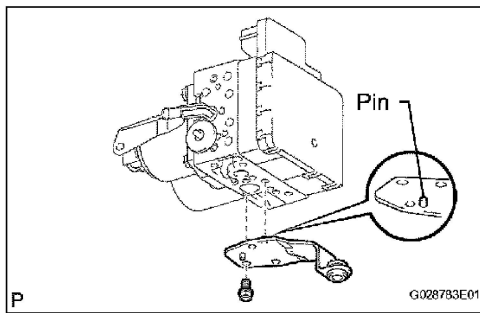


3. Remove the 2 nuts, bolt and brake actuator from the gusset.



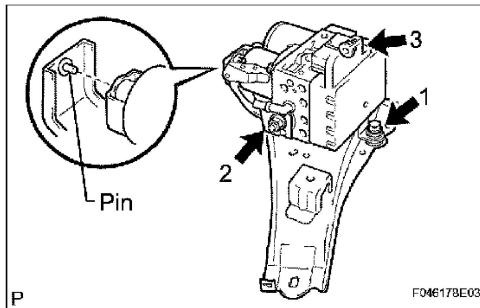
4. Remove the bolt and No. 2 brake actuator bracket from the brake actuator.

- j. Install the brake actuator.



1. Aligning the positioning pin, install the No. 2 brake actuator bracket to the brake actuator with the bolt.

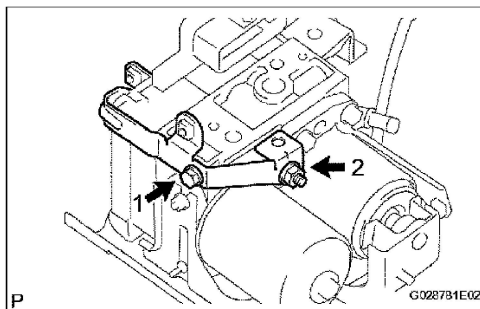
Torque: **18 N.m (184 kgf.cm, 13 ft.lbf)**



2. Aligning the positioning pin, install the brake actuator to the gusset with the 2 nuts and bolt.

Torque: **7.5 N.m (76 kgf.cm, 66 in.lbf)**

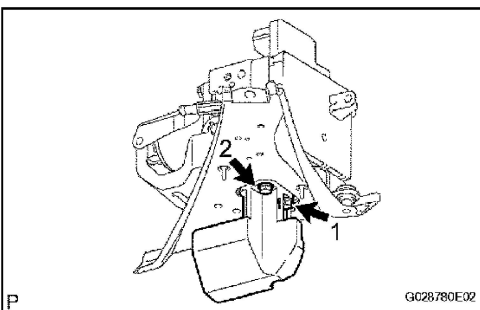
NOTE: Tighten the nuts and bolt in the order shown in the illustration.



3. Install the bracket to the brake actuator with the bolt and nut.

Torque: **18 N.m (184 kgf.cm, 13 ft.lbf)**

NOTE: Tighten the nut and bolt in the order shown in the illustration.

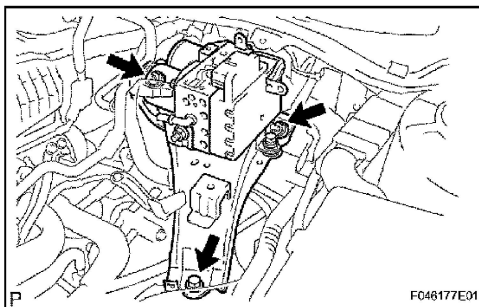


4. Install the brake actuator damper to the brake actuator with the 2 bolts.

Torque: **18 N.m (184 kgf.cm, 13 ft.lbf)**

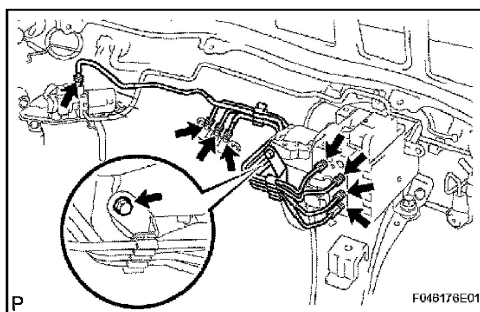
NOTE: Tighten the bolts in the order shown in the illustration.

- k. Install the brake actuator with bracket.



1. Install the brake actuator with gusset with the bolt and 2 nuts.

Torque: **20 N.m (200 kgf.cm, 15 ft.lbf)**



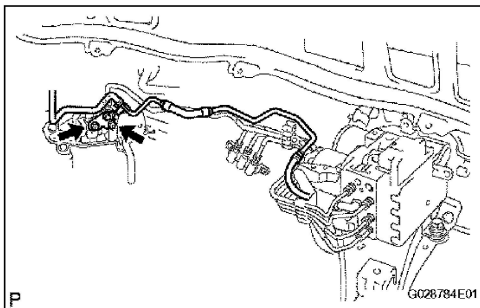
2. Using SST, install the 4 brake tubes to the brake stroke simulator cylinder and brake actuator.

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

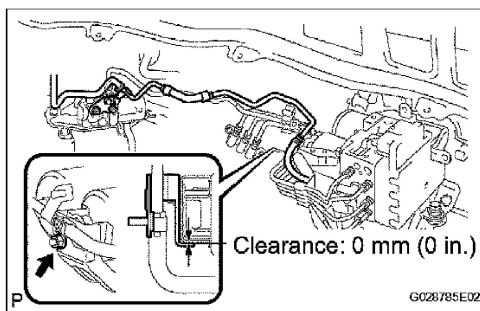
3. Set the brake tube with the clamp bracket bolt.

Torque: **5.0 N.m (51 kgf.cm, 44 in.lbf)**



4. Install the brake actuator tube with the 2 nuts.

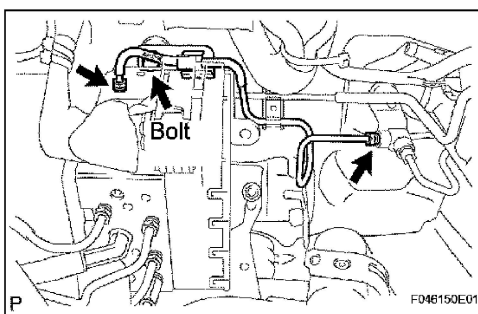
Torque: **8.5 N.m (87 kgf.cm, 75 in.lbf)**



5. Set the brake actuator tube with the nut.

Torque: **8.5 N.m (87 kgf.cm, 75 in.lbf)**

NOTE: Press the brake actuator tube so that there is no clearance between the bracket and the actuator tube as shown in the illustration, and tighten the nut.



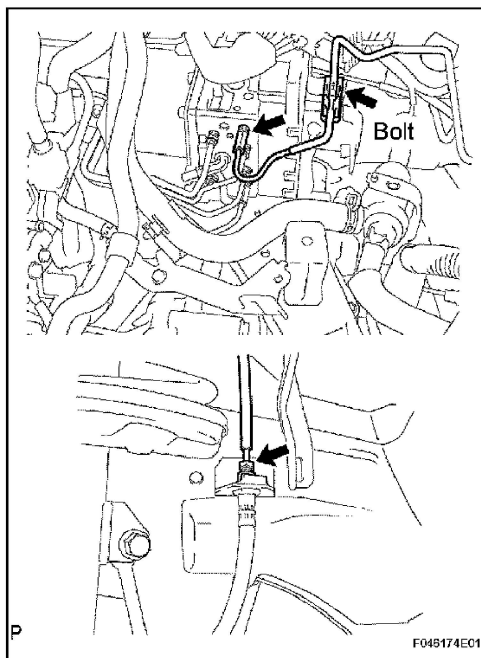
6. Using SST, install the No. 1 front brake tube to the brake actuator and 2-way.

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

7. Install the No. 1 front brake tube to the bracket of the brake actuator with the bolt.

Torque: **5.0 N.m (51 kgf.cm, 44 in.lbf)**



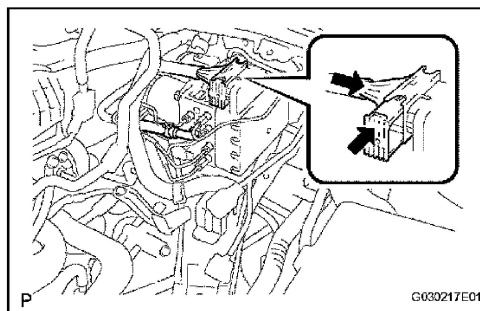
8. Using SST, connect the No. 5 front brake tube.

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

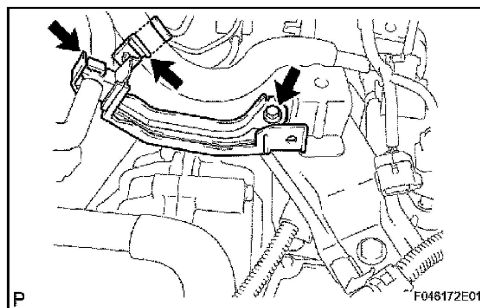
9. Install the bracket of the No. 5 front brake tube with the bolt.

Torque: **5.0 N.m (51 kgf.cm, 44 in.lbf)**

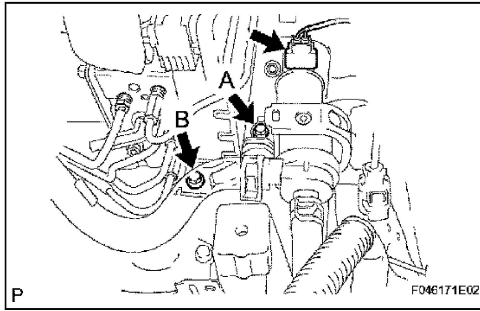


10. Connect the brake actuator connector and fix it with the lock.
 11. Install the No. 2 brake actuator hose to the brake actuator with the clip.

- l. Connect the water pump with motor and bracket.



1. Install the heater hose bracket to the gusset with the 2 clamps and bolt.



2. Install the heater water pump with the 2 bolts.

NOTE: Tighten bolt A and then bolt B.

3. Connect the heater water pump connector.

- m. Install the inverter with converter.

HINT: Refer to the procedures from the installation of the inverter with converter up until the installation of the engine under cover LH.

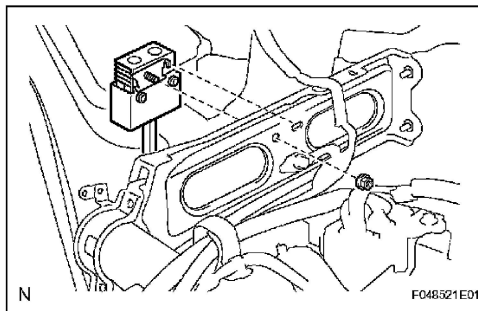
- n. Install the outer front cowl top panel.
- o. Install the windshield wiper motor and link.

HINT: Refer to the procedures from the installation of the windshield wiper motor and link assembly up until the installation of the front wiper arm LH/RH.

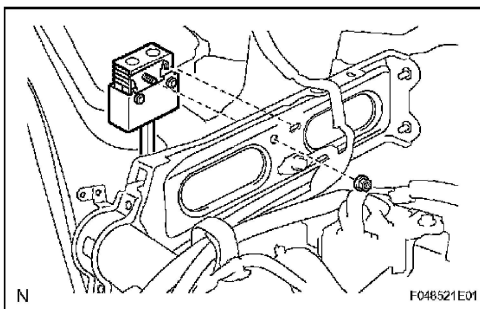
2. REPLACE BRAKE ACTUATOR RESISTOR

- a. Remove the instrument panel.

HINT: Refer to the procedures from the removal of the No. 1 instrument panel register assembly up until the removal of the instrument panel sub-assembly.



- b. Remove the brake actuator resistor.
 1. Remove the nut.
 2. Disconnect the connector and remove the resistor.



- c. Install the brake actuator resistor.
 1. Connect the connector and install the resistor.
 2. Install the nut.

Torque: **5.0 N.m (51 kgf.cm, 44 in.lbf)**

- d. Install the instrument panel.

HINT: Refer to the procedures from the installation of the instrument panel sub-assembly up until the installation of the No. 1 instrument panel register assembly.

3. FILL RESERVOIR WITH BRAKE FLUID
4. BLEED AIR FROM BRAKE ACTUATOR
5. CHECK FOR BRAKE FLUID LEAKAGE
6. CHECK FLUID LEVEL IN RESERVOIR
7. CHECK AND CLEAR DTC
 - a. Check and clear the DTC.

8. PERFORM INITIALIZATION
 - a. Perform initialization.

NOTE: Certain systems need to be initialized after disconnecting and reconnecting the cable from the negative (-) battery terminal.

9. PERFORM SYSTEM INITIALIZATION

- a. Perform the brake system initialization. See: Antilock Brakes / Traction Control Systems/Testing and Inspection/Programming and Relearning/Initialization

10. PERFORM ACTIVE TEST

- a. Perform the Active Test. See: Antilock Brakes / Traction Control Systems/Testing and Inspection/Scan Tool Testing and Procedures/Perform Active Test