

2004 BRAKES

ABS And VSC Actuator - RAV4

ON-VEHICLE INSPECTION

1. CONNECT HAND-HELD TESTER

- a. Connect the hand-held tester to the DLC3.

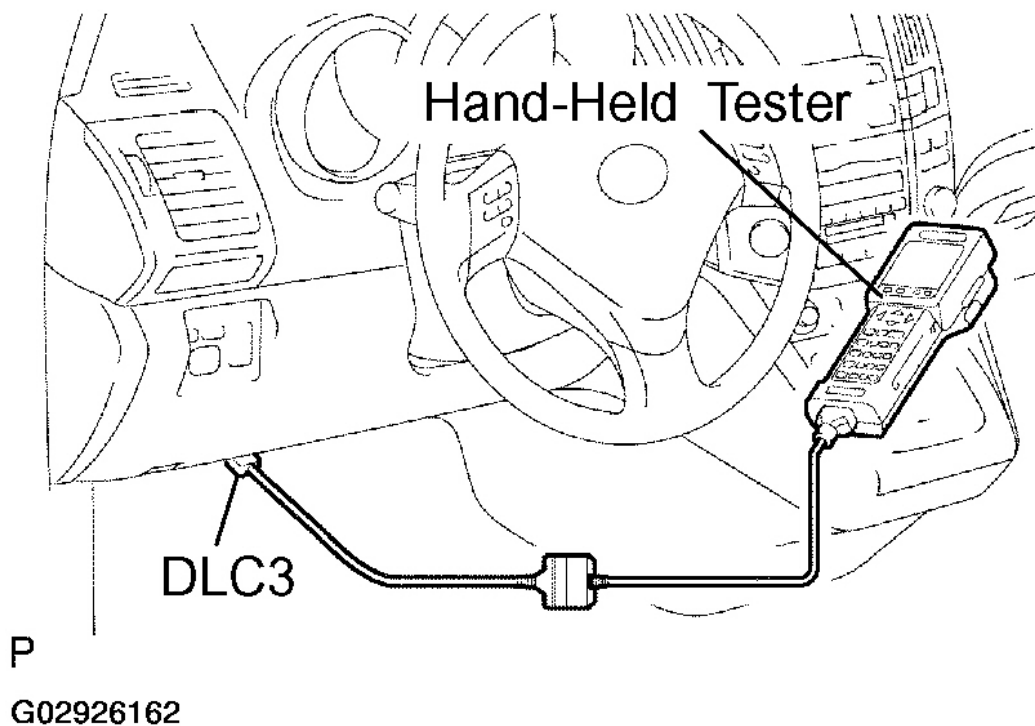


Fig. 1: Connecting Hand Held Tester To DLC3 Connector
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

- b. Start the engine and run at idle.
- c. Select the ACTIVE TEST mode on the hand-held tester.

HINT:

Please refer to the hand-held tester operator's manual for further details.

2. INSPECT ACTUATOR MOTOR OPERATION

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- a. With the motor relay on, check the actuator motor operation noise.
- b. Turn the motor relay off.
- c. Depress the brake pedal and hold it for about 15 seconds. Check that the brake pedal cannot be depressed.
- d. With the motor relay on, check that the pedal does not pulsate.

NOTE: Do not keep a motor relay on for more than 5 seconds continuously. When operating it continuously, set an interval of more than 20 seconds.

- e. Turn the motor relay off and release the brake pedal.

3. INSPECT RIGHT FRONT WHEEL OPERATION

NOTE: Never turn on a solenoid in a manner different to those described below.

- a. With the brake pedal depressed, perform the following operations.
- b. Turn the SFRH and SFRR solenoid on simultaneously, and check that the pedal cannot be depressed.

NOTE: Do not keep a solenoid turned on for more than 10 seconds continuously. When operating it continuously, set an interval of more than 20 seconds.

- c. Turn the SFRH and SFRR solenoid off simultaneously, and check that the pedal can be depressed.
- d. Turn the motor relay on, and check that the pedal returns.

NOTE: Do not keep a motor relay turned on for more than 5 seconds continuously. When operating it continuously, set an interval of more than 20 seconds.

- e. Turn the motor relay off and release the brake pedal.

4. INSPECT OTHER WHEEL OPERATION

- a. Using the same procedure, check the solenoids of the other wheels.

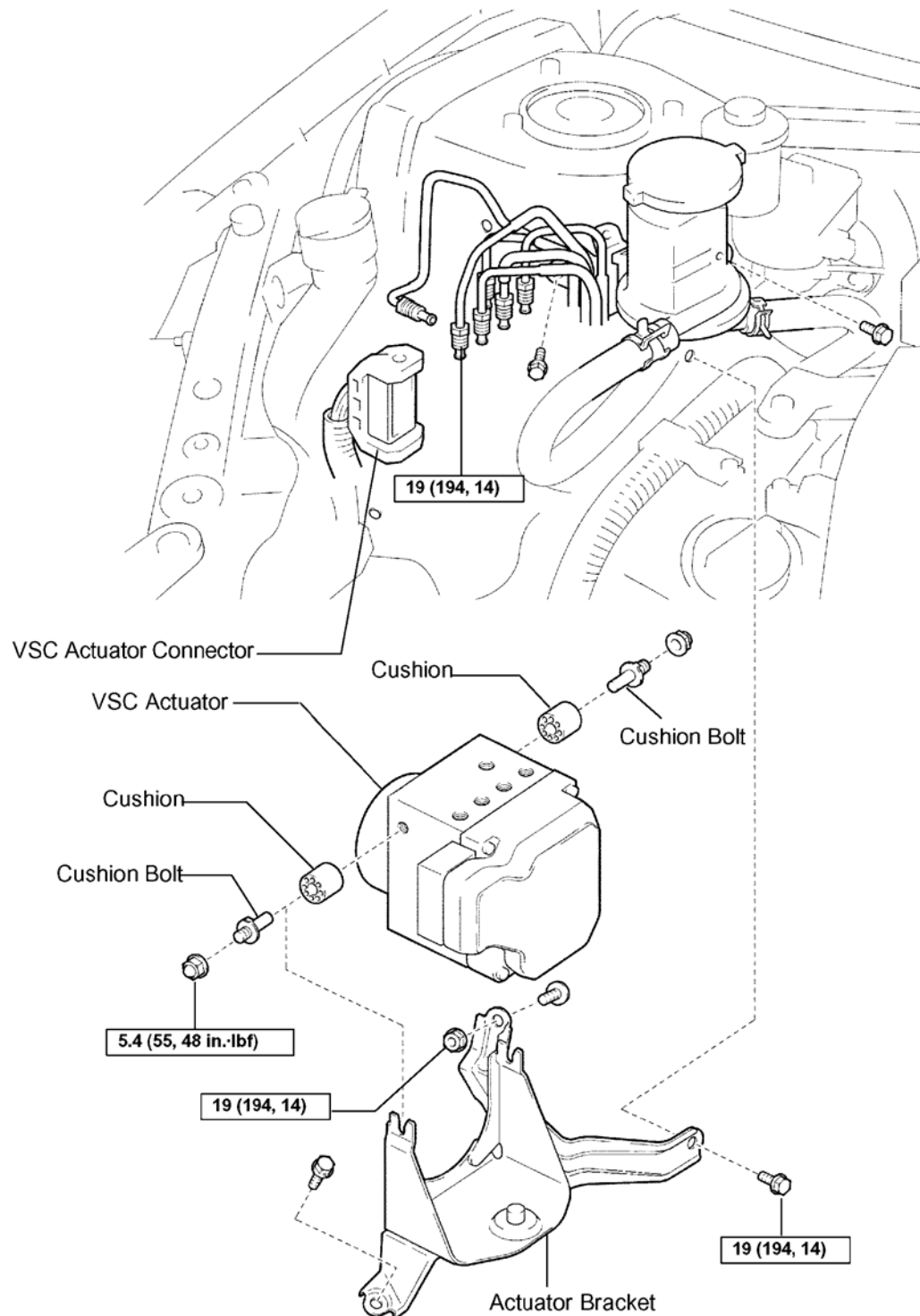
HINT:

- Left front wheel: SFLH, SFLR
- Right rear wheel: SRRH, SRRR
- Left rear wheel: SRLH, SRLR

COMPONENTS

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$\text{N}\cdot\text{m}$ (kgf-cm, ft-lbf) : Specified torque

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Fig. 2: Locating ABS & VSC Actuator Components
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

REMOVAL

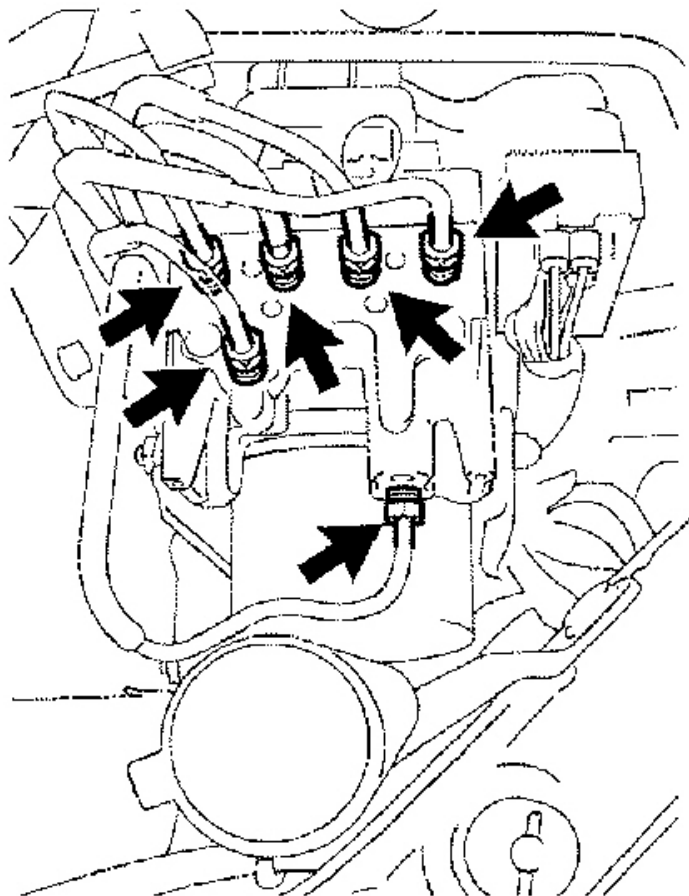
1. DRAIN BRAKE FLUID

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

2. DISCONNECT BRAKE LINES

- a. Using SST(s), disconnect the 6 brake tubes from the actuator with bracket.

SST 09023-00100



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Fig. 3: Disconnecting Brake Lines From Actuator With Bracket

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Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

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

- b. Use tags or make memo to identify the places for reconnect.

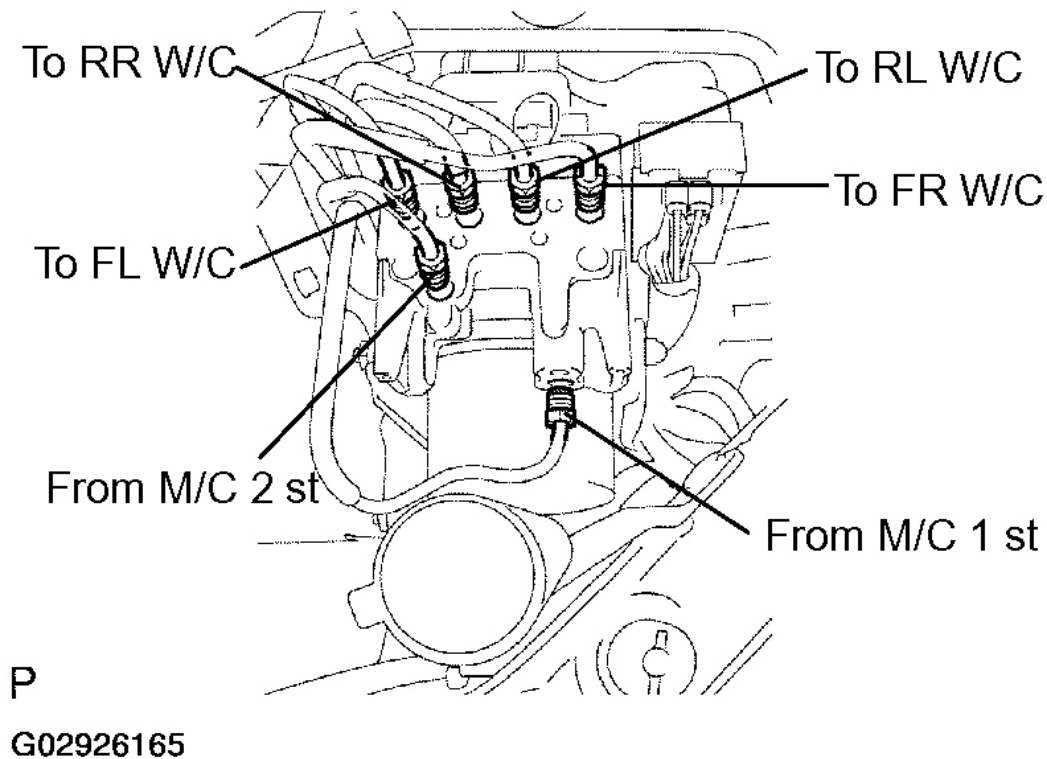


Fig. 4: Locating Brake Lines Tag Marks

Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

3. REMOVE VSC ACTUATOR ASSEMBLY

- a. Pull the lock lever upward.
- b. Disconnect the actuator connector.

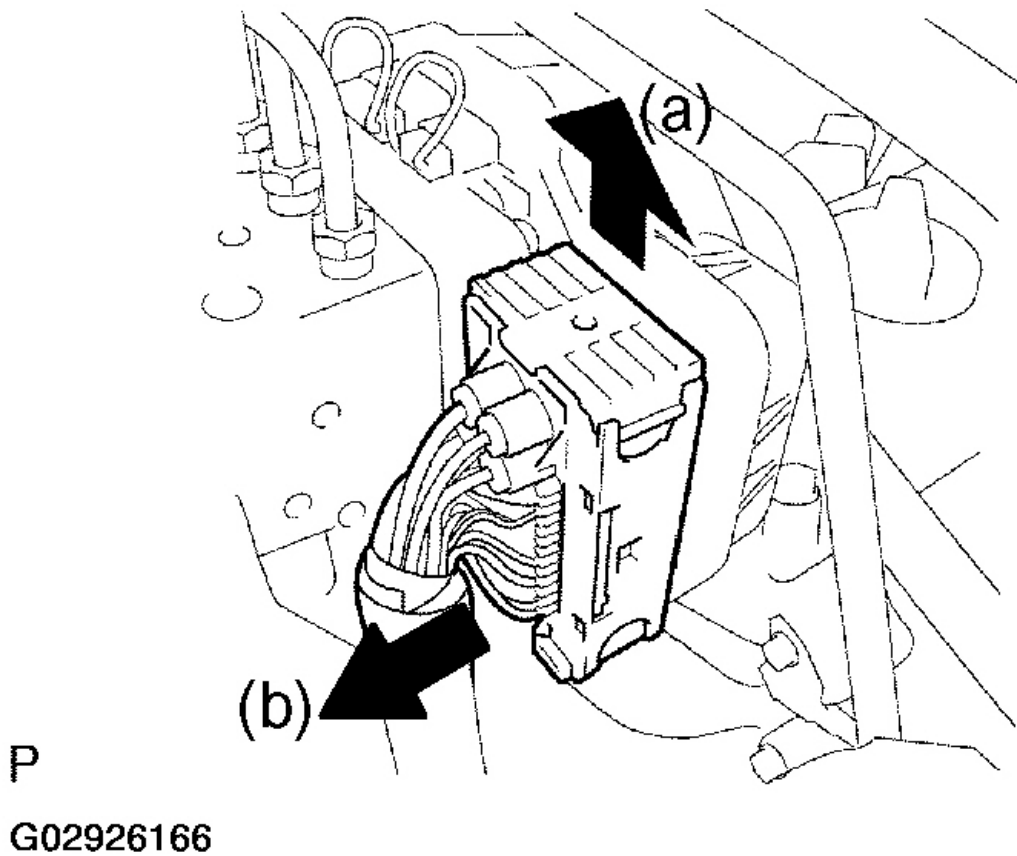


Fig. 5: Pulling Lock Lever Upward & Disconnecting Actuator Connector
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- c. Remove the 2 bolts, nut and actuator from the actuator with bracket.

Torque: 19 N.m (194 kgf.cm, 14 ft.lbf)

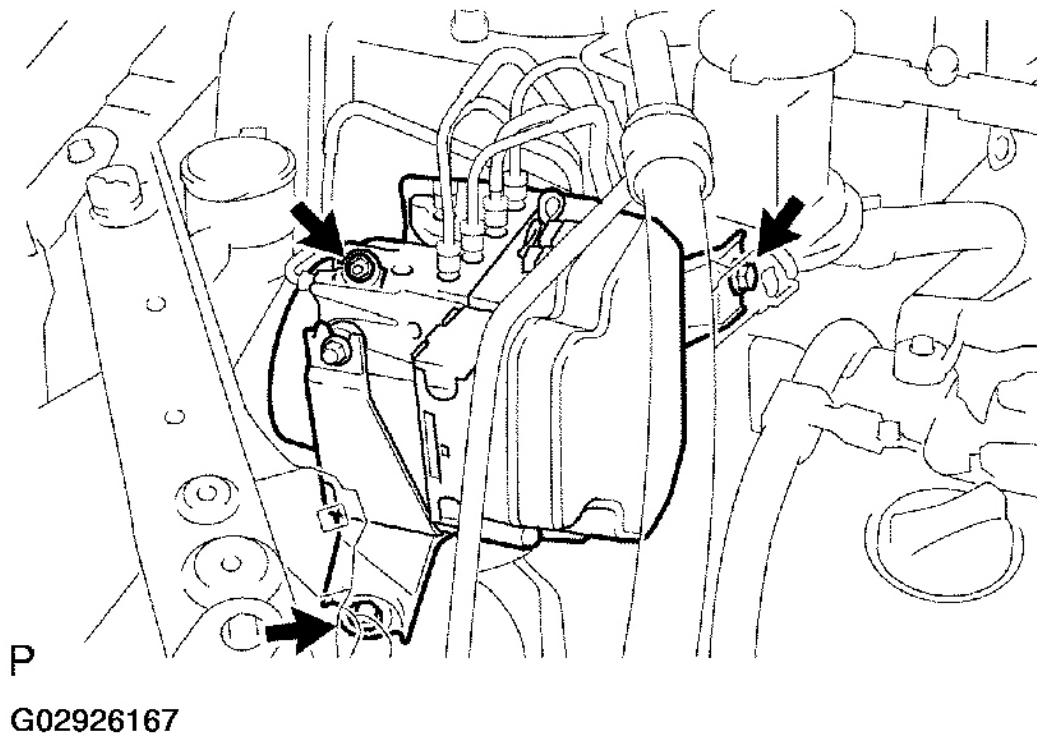


Fig. 6: Removing Actuator Assembly Nut, Bolts And Bracket
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

NOTE: Be careful not to damage the brake tubes.

4. REMOVE VSC ACTUATOR

Remove the 2 nuts and actuator from the actuator bracket.

Torque: 5.4 N.m (55 kgf.cm, 48in.lbf)

5. REMOVE 2 CUSHION BOLTS AND 2 CUSHIONS

INSTALLATION

Installation procedures are removal in reverse order (see REMOVAL).

HINT:

- Check for fluid level in reservoir.

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- Check for fluid leaks.
- Check for brake actuator with hand-held tester (see **PRE-CHECK**).