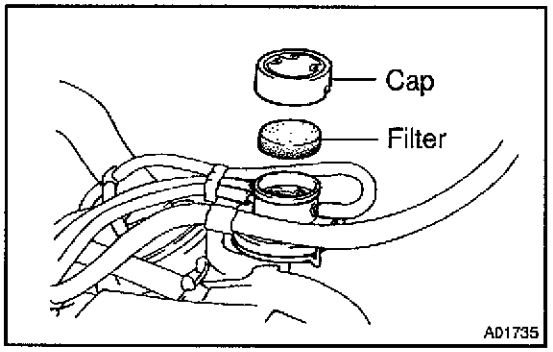
EXHAUST GAS RECIRCULATION (EGR) SYSTEM (2RZ–FE)

EC03P–01

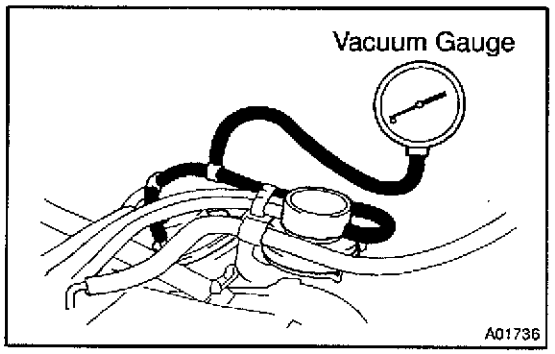
INSPECTION



1. INSPECT AND CLEAN FILTER IN EGR VACUUM MODULATOR

(a) Remove the cap and filter.
(b) Check the filter for contamination or damage.
(c) Using compressed air, clean the filter.
(d) Reinstall the filter and cap.

HINT:
Install the filter with the coarser surface facing the atmospheric side (outward).

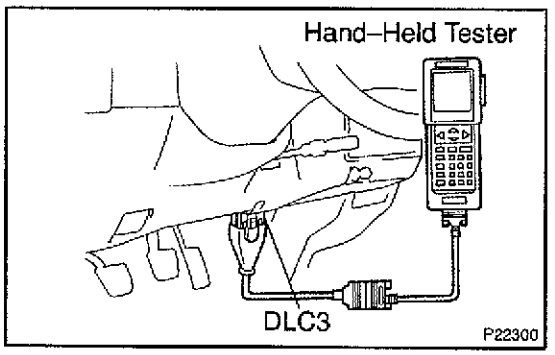


2. INSTALL VACUUM GAUGE

Using a 3–way connector, connect a vacuum gauge to the hose between the EGR valve and EGR vacuum modulator.

3. INSPECT SEATING OF EGR VALVE

Start the engine and check that the engine starts and runs at idle.



4. CONNECT HAND–HELD TESTER.

(a) Connect the hand–held tester to the DLC3.
(b) Please refer to the hand–held tester operators manual for further details.

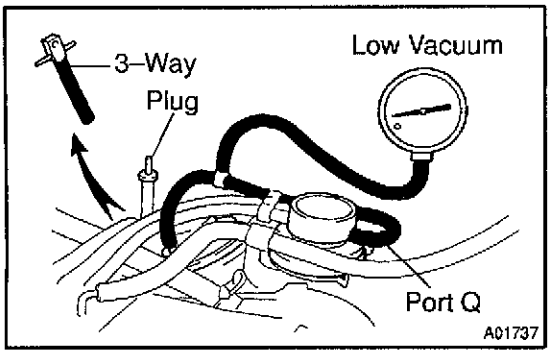
5. INSPECT VSV OPERATION WITH COLD ENGINE

(a) The engine coolant temperature should be below 50°C (122°F).
(b) Check that the vacuum gauge indicates zero at 3,000 rpm.
(c) Check that the EGR pipe is not hot.

6. INSPECT OPERATION OF VSV AND EGR VACUUM MODULATOR

(a) Select the active test mode on the hand–held tester (VSV is closed.).

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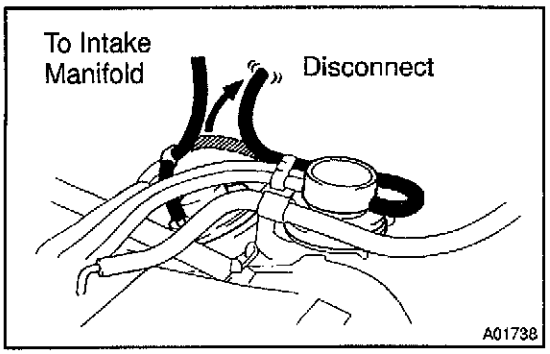
(b) If you have no hand–held tester, check these procedures:
(1) Remove the 3–way connector with the vacuum hose.
(2) Connect the vacuum hose (from port Q of EGR vacuum modulator) to the EGR valve.
(3) Plug the vacuum hose (from VSV for EGR).
(c) Check that the vacuum gauge indicates low vacuum at 3,000 rpm.

7. DISCONNECT HAND–HELD TESTER.

8. REMOVE VACUUM GAUGE

Remove the vacuum gauge, and reconnect the vacuum hoses to the proper locations.

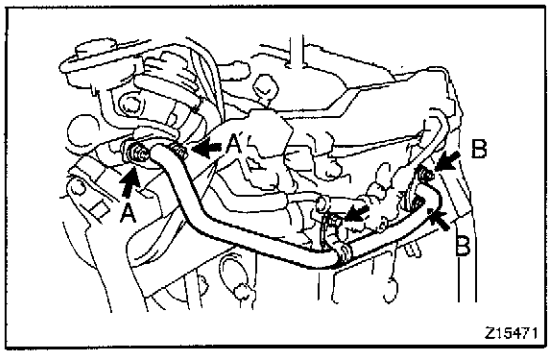
EC



9. INSPECT EGR VALVE

(a) Apply vacuum directly to the EGR valve with the engine idling.
(b) Check that the engine runs rough or dies.
(c) Reconnect the vacuum hoses to the proper locations.

IF NO PROBLEM IS FOUND WITH THIS INSPECTION, SYSTEM IS NORMAL; OTHERWISE INSPECT EACH PART



10. REMOVE EGR PIPE

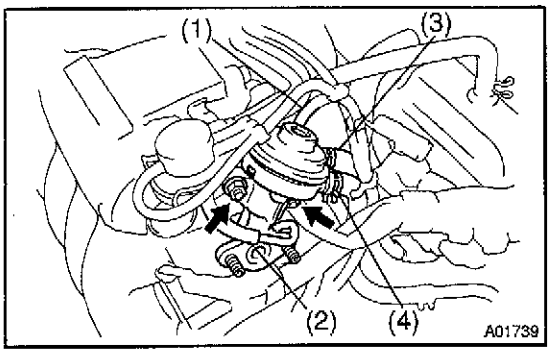
Remove the bolt, 4 nuts, EGR pipe and 2 gaskets.

HINT:

At the time of assembly, please refer to the following items.

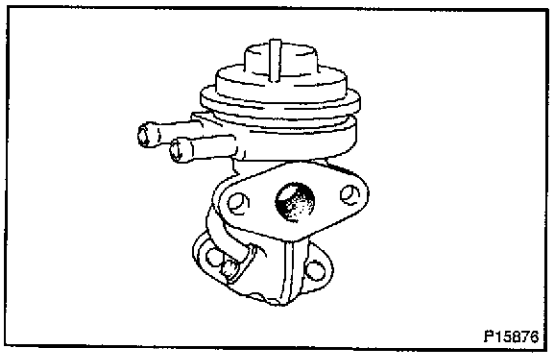
Install the EGR pipe with a 2 new gaskets.

Torque:
Bolt: 18 N.m (185 kgf·cm, 13 ft·lbf)
Nut A: 19 N.m (195 kgf·cm, 14 ft·lbf)
Nut B: 20 N.m (200 kgf·cm, 15 ft·lbf)



11. REMOVE EGR VALVE

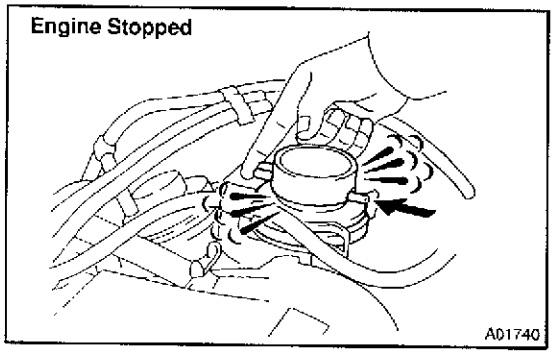
(a) Disconnect these hoses:
(1) Vacuum hose
(2) EGR hose
(3) Water bypass hose (from ISC valve)
(4) Water bypass hose (from water bypass pipe)
(b) Remove the 2 nuts, EGR valve and gasket.
Torque: 19 N.m (195 kgf·cm, 14 ft·lbf)



12. INSPECT EGR VALVE

Check for sticking and heavy carbon deposits.

If a problem is found, replace the EGR valve.

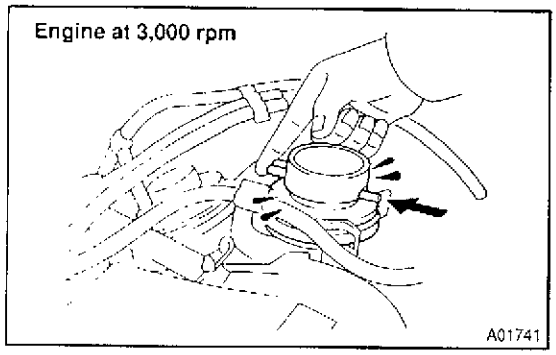


13. DISCONNECT VACUUM HOSES FROM EGR VACUUM MODULATOR

14. INSPECT EGR VACUUM MODULATOR OPERATION

(a) Block ports P and R with your finger.

(b) Blow air into port Q, and check that the air passes through to the air filter side freely.



(c) Start the engine, and maintain speed at 3,000 rpm.

(d) Repeat the above test. Check that there is a strong resistance to air flow.

If operation is not as specified, replace the EGR vacuum modulator.

15. RECONNECT VACUUM HOSES TO EGR VACUUM MODULATOR

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