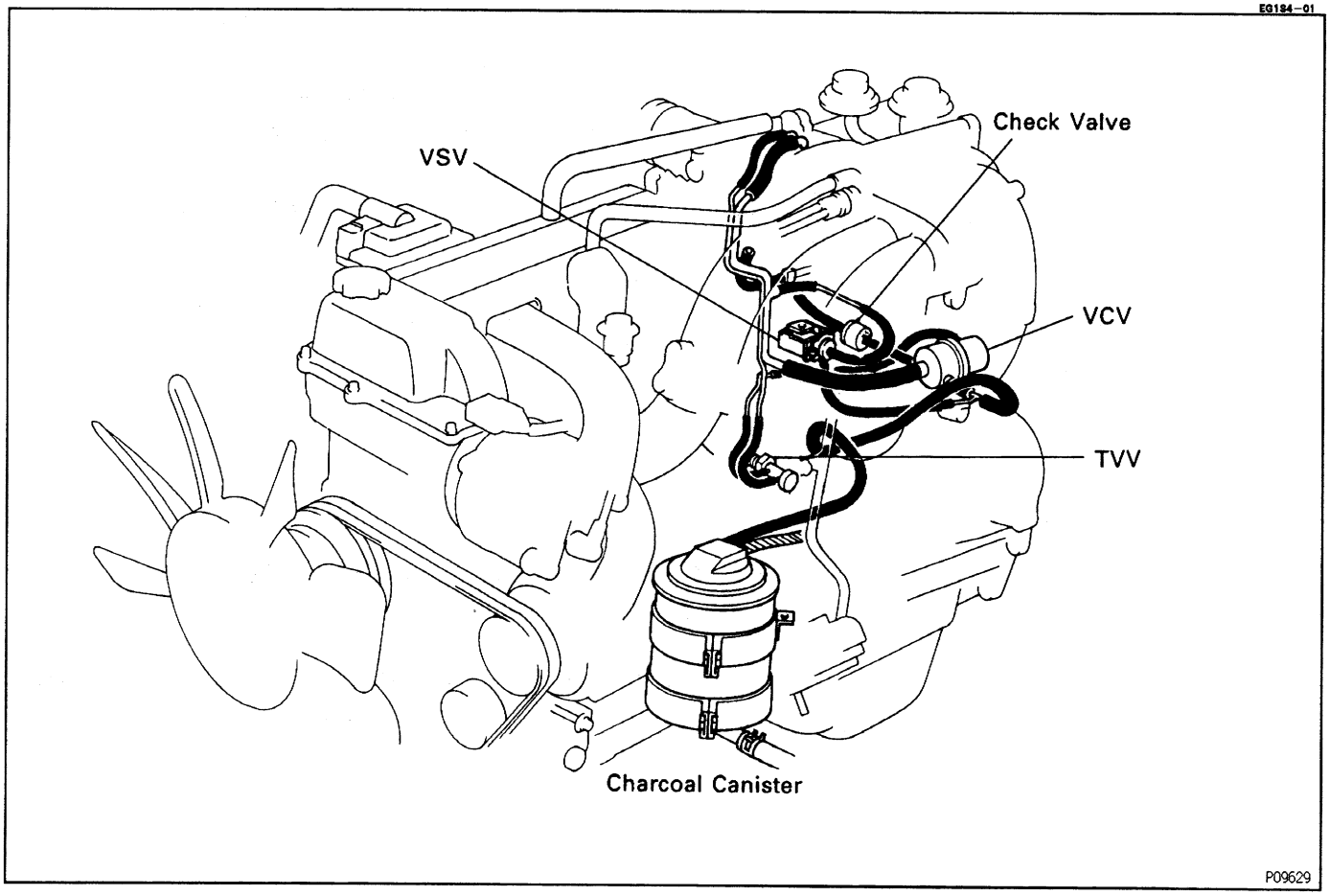
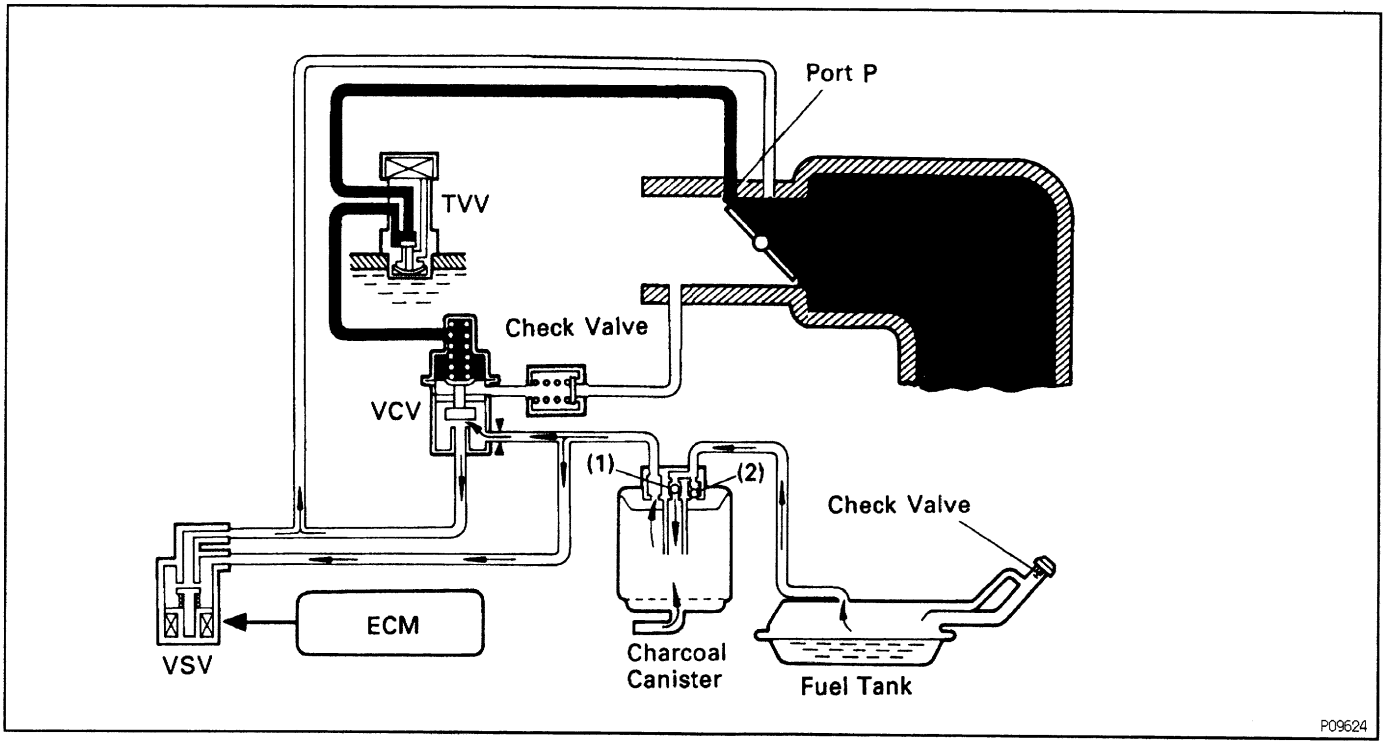
EVAPORATIVE EMISSION (EVAP) CONTROL SYSTEM



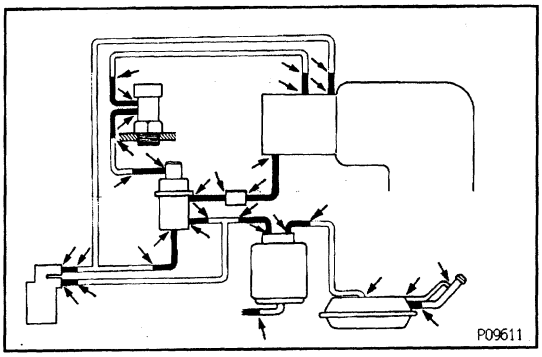


To reduce HC emission, evaporated fuel from the fuel tank is routed through the charcoal canister to the intake manifold for combustion in the cylinders.

ECT	TVV	Throttle Position	VCV	VSV	Check Valve (1)	Check Valve (2)	Check Valve In Cap	Evaporated Fuel (HC)
Below 45°C (13°F)	CLOSED	–	CLOSED	–	–	–	–	HC from tank is absorbed into the canister.
Above 64°C(147°F)	OPEN	Below port P	CLOSED	–	–	–	–	
		Above port P	OPEN	–	–	–	–	HC from canister is led into air intake chamber.
Above 35°C(95°F)	–	Idling (A/C idle–up)	–	*VARIABLE OPEN	–	–	–	HC from canister is led into air intake chamber.
		Others	–	CLOSE	–	–	–	HC from tank is absorbed into the canister.
High pressure in tank	–	–	–	–	OPEN .	CLOSED	CLOSED	HC from tank is absorbed into the canister.
High vacuum in tank	–	–	–	–	CLOSED	OPEN	OPEN	Air is led into the fuel tank.

*The ECM controls the on–off period of the VSV to adjust the EVAP purge quantity in accordance with the engine load.

V02008



E0116-01

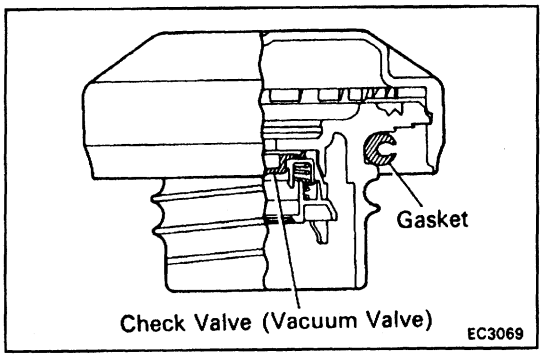
EVAP CONTROL SYSTEM INSPECTION

1. VISUALLY INSPECT LINES AND CONNECTIONS

Look for loosen connections, sharp bends or damage.

2. VISUALLY INSPECT FUEL TANK

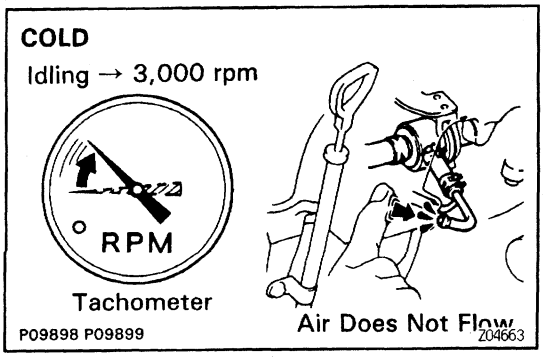
Look for deformation, cracks or fuel leakage.



3. VISUALLY INSPECT FUEL TANK CAP

Check if the cap and/or gasket are deformed or damaged.

If necessary, repair or replace the cap.



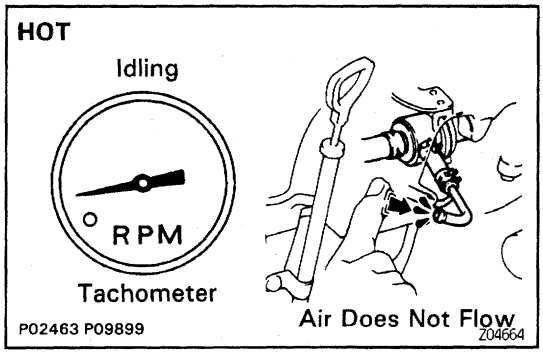
4. INSPECT TVV OPERATION WITH COLD ENGINE

(a) The engine coolant temperature should be below 45°C (113°F).

(b) Disconnect the EVAP hose from the union pipe.

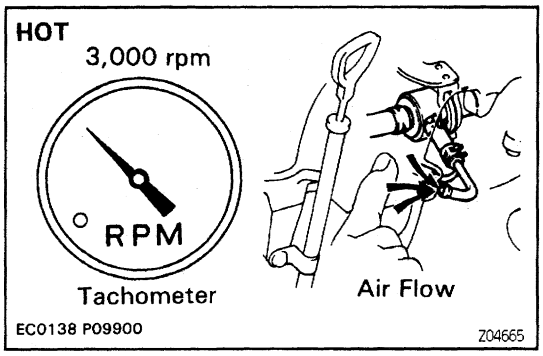
(c) Start the engine.

(d) Gradually increase the engine speed from idling to 3,000 rpm and check that air suction is not felt at the union pipe.



5. INSPECT OPERATION OF VSV AND VCV WITH HOT ENGINE

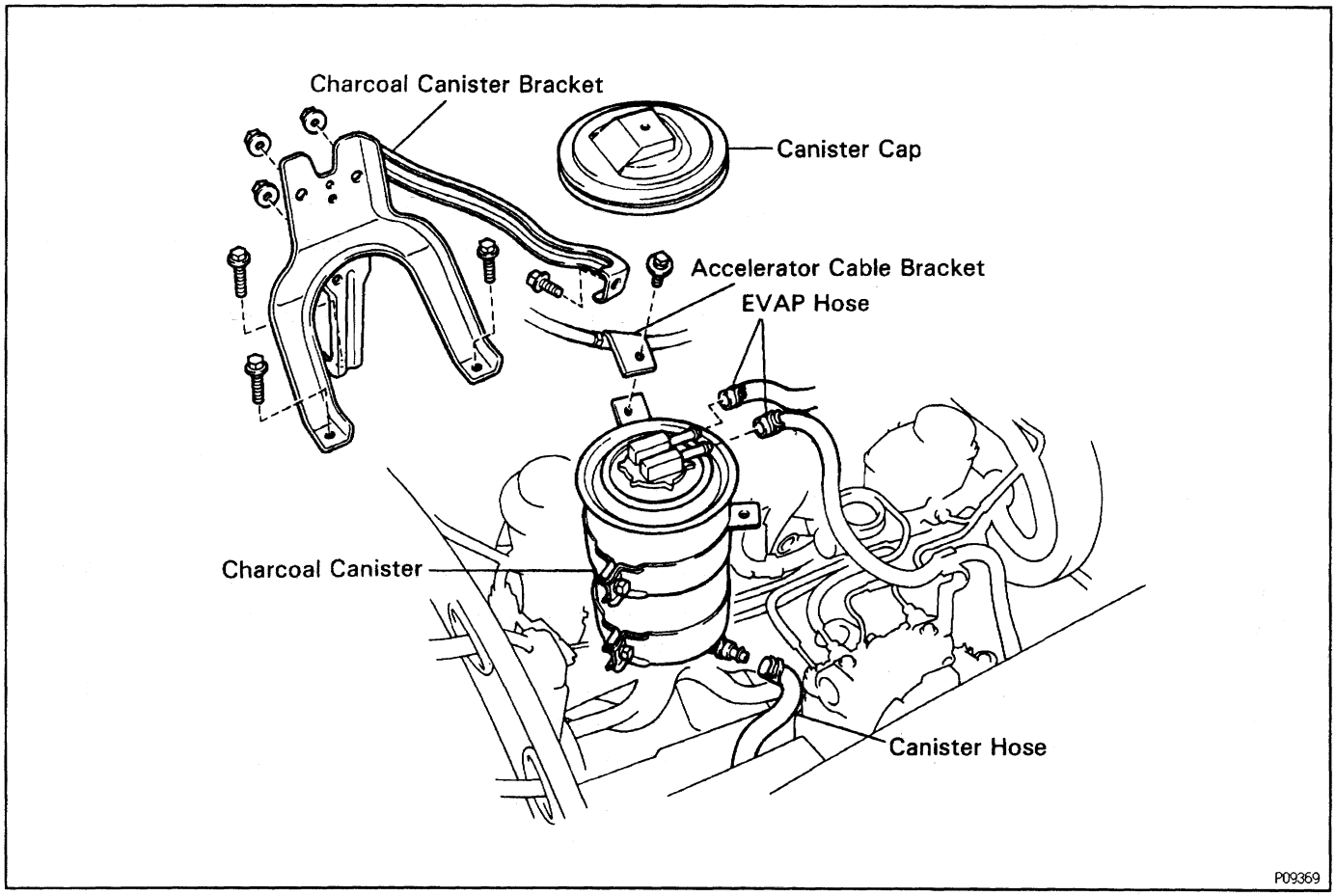
(a) Warm up the engine and turn off the A/C switch.
(b) With the engine idling, check that air suction is not felt at union pipe.

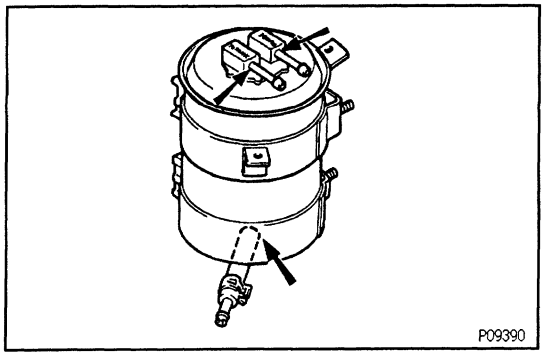


(c) Gradually increase the engine speed to 3,000 rpm and check that there is air suction at the union pipe.
(d) Reconnect the EVAP hose to the union pipe.

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

COMPONENTS FOR CHARCOAL CANISTER REMOVAL AND INSTALLATION





CHARCOAL CANISTER INSPECTION

(See Components for Charcoal Canister Removal end Installation)

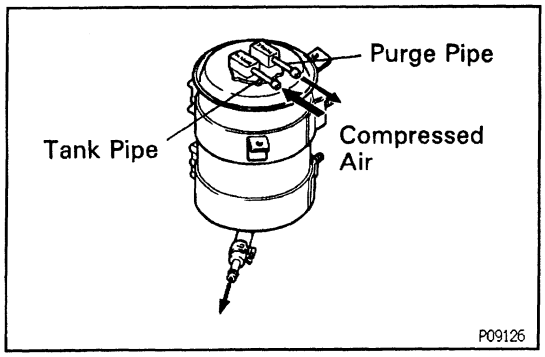
1. REMOVE CHARCOAL CANISTER AND BRACKET

2. DISCONNECT CHARCOAL CANISTER FROM BRACKET

3. REMOVE CAP FROM CHARCOAL CANISTER

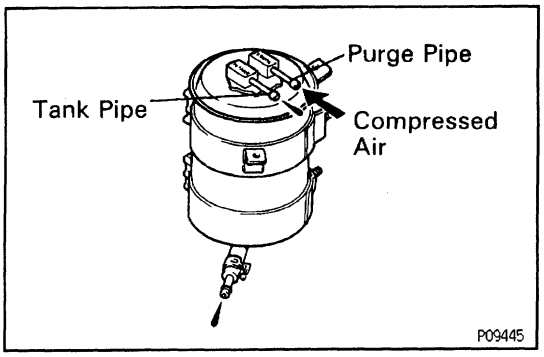
4. VISUALLY INSPECT CHARCOAL CANISTER

Lock for cracks or damage.



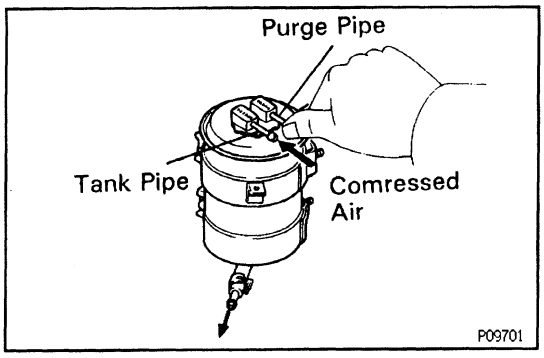
5. INSPECT FOR CLOGGED FILTER AND STUCK CHECK VALVE

(a) Using tow pressure compressed air (4.71 kPa, 48 gf/cm^2, 0.68 psi), blow into tank pipe and check that air flows without resistance from the other pipes.



(b) Blow air (4.71 kPa, 48 gf/cm^2, 0.68 psi) into purge pipe and check that air does not flow from the other pipes.

If a problem is found, replace the charcoal canister.



6. CLEAN FILTER IN CANISTER

Clean the filter by blowing 294 kPa (3 kgf/cm^2, 43 psi) of compressed air into tank pipe while holding purge pipe closed.

NOTICE:

- **Do not attempt to wash the canister.**
- **No activated carbon should come out.**

7. REINSTALL CAP TO CHARCOAL CANISTER

8. RECONNECT CHARCOAL CANISTER TO BRACKET

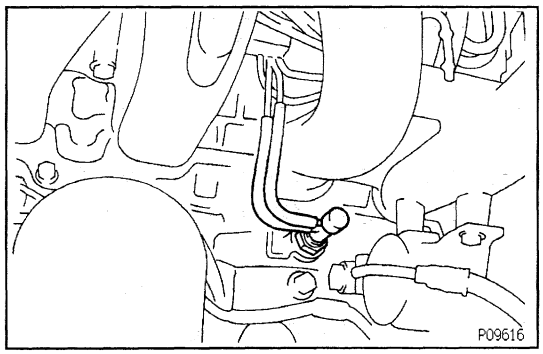
Torque: 14 N–m (145 kgf–cm, 10 ft–lbf)

9. REINSTALL CHARCOAL CANISTER AND BRACKET

Torque: 18 N–m (185 kgf–cm, 13 ft–lbf)

EG1S7–02

TVV INSPECTION

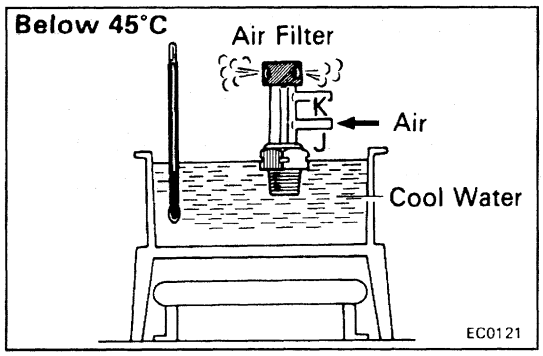


1. DRAIN ENGINE COOLANT

2. REMOVE TVV FROM CLINDER HEAD

(a) Disconnect the 2 vacuum hoses.

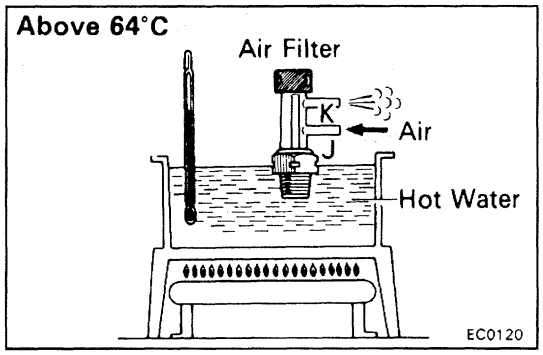
(b) Remove the TVV.



3. INSPECT TVV OPERATION

(a) Cool the TVV to below 45°C (1 13°F) with cool water.

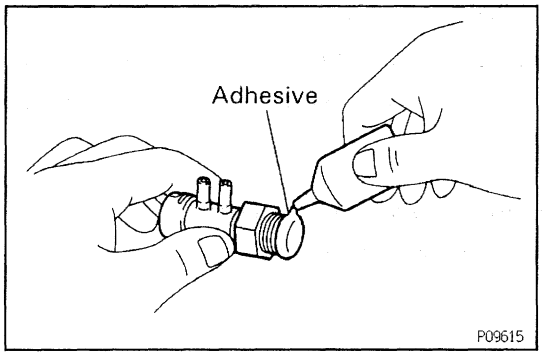
(b) Check that air flows from pipe J to the air filter.



(c) Heat the TVV to above 64° C (147° F) with hot water.

(d) Check that air flows from pipe J to pipe K.

If operation is not as specified, replace the TVV.



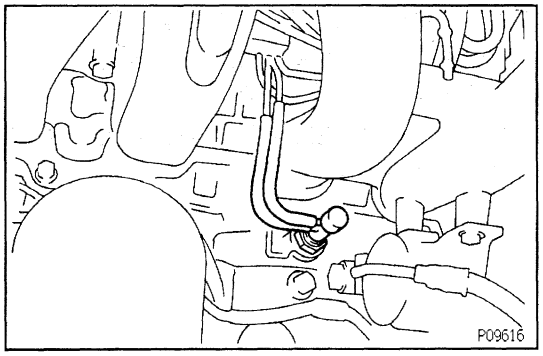
4. REINSTALL TVV

(a) Apply adhesive to 2 or 3 threads of the TVV, and install it.

Adhesive:

Part No. 08833–00070, THREE BOND 1324 or equivalent

Torque: 29 N–m (300 kgf–cm, 22 ft–lbf)



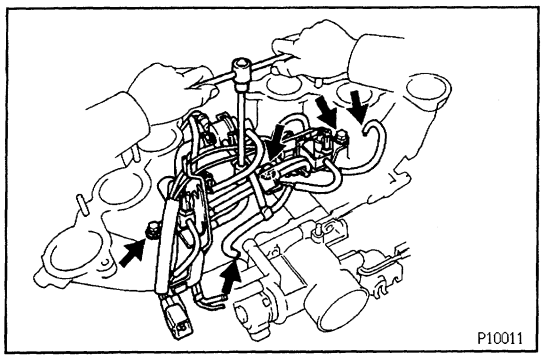
(b) Reconnect 2 vacuum hoses.

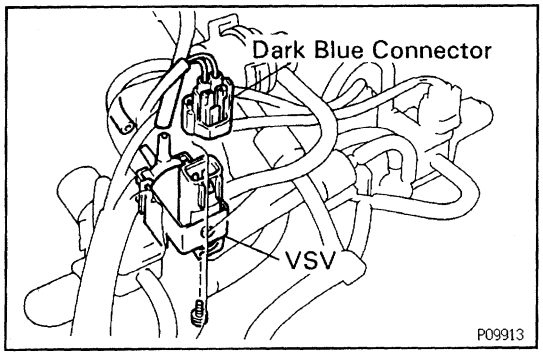
5. REFILL WITH ENGINE COOLANT

EG1SV–02

VSV INSPECTION

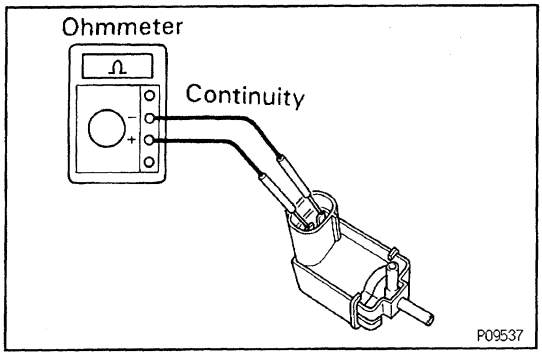
1. REMOVE AIR INTAKE CHAMBER
(See pages EG–269 and 270)
2. REMOVE VSV
(a) Disconnect the air hose and vacuum hose from the air intake chamber.
(b) Remove the 4 bolts and emission control valve set assembly.



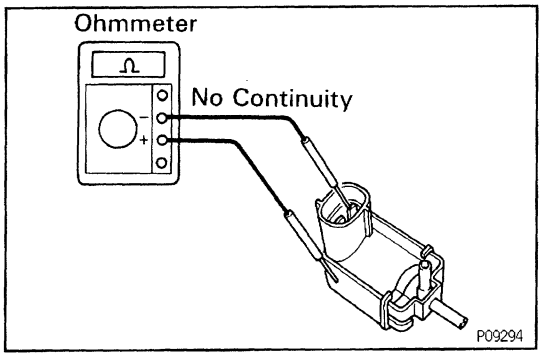


(c) Disconnect the connector and 2 vacuum hoses, and remove the screw and VSV.

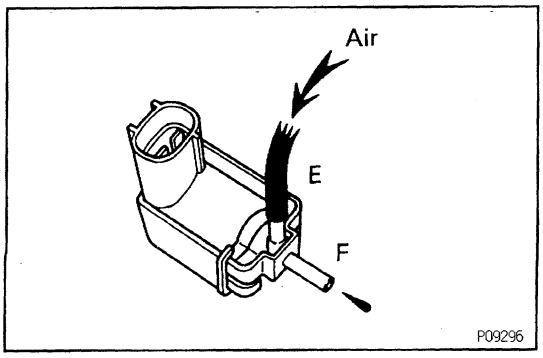
3. INSPECT VSV
A. Inspect VSV for open circuit
Using an ohmmeter, check that there is continuity between the terminals.
Resistance:
30 – 33Ω at 20°C (68°F)
If there is no continuity, replace the VSV.

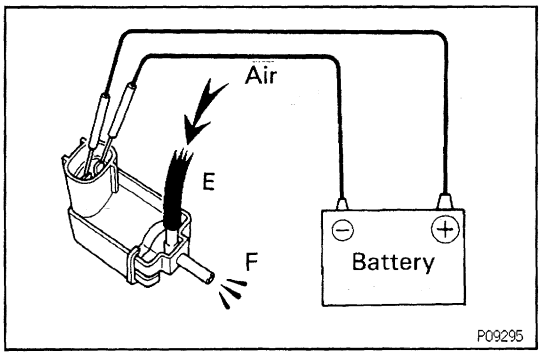


B. Inspect VSV for ground
Using an ohmmeter, check that there is no continuity between each terminal and the body.
If there is continuity, replace the VSV.

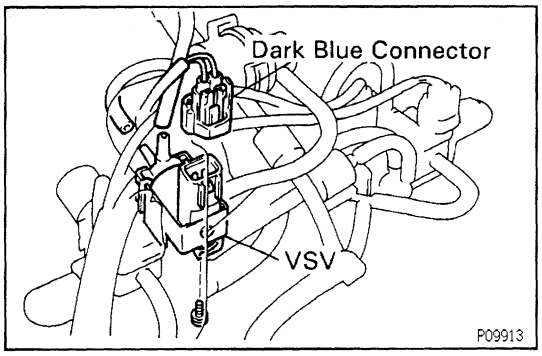


C. Inspect VSV operation
(a) Check that the air does not flow from pipe E to pipe F.

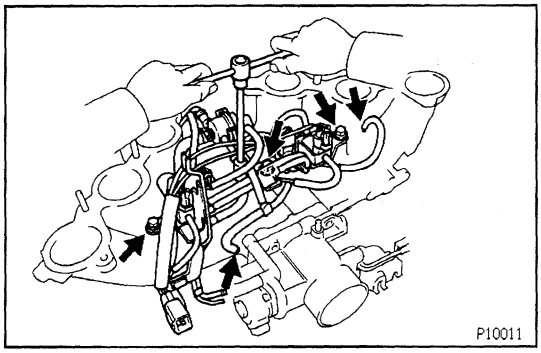




(b) Apply battery voltage across the terminals.
(c) Check that the air flows from pipe E to the pipe F.
If operation is not as specified, replace the VSV.



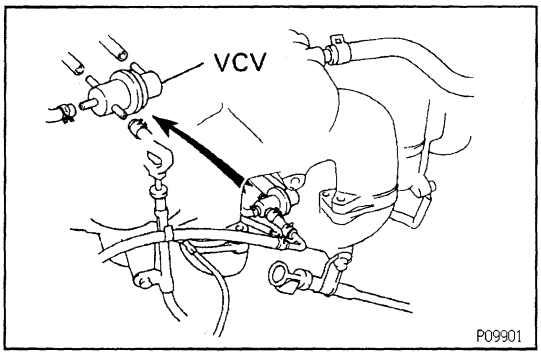
4. REINSTALL VSV
(a) Install the VSV with the screws.
(b) Connect the connector and 2 vacuum hoses to the VSV.



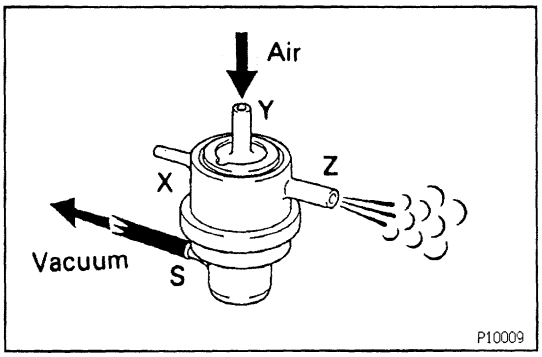
(c) Install the emission control valve set assembly with the 4 bolts.
Torque: 20 N–m (200 kgf–cm, 14 ft–lbf)
(d) Connect the air hose and vacuum hose to the air intake chamber.
5. REINSTALL AIR INTAKE CHAMBER
(See pages EG–276 **and 277)**

EG18W–01

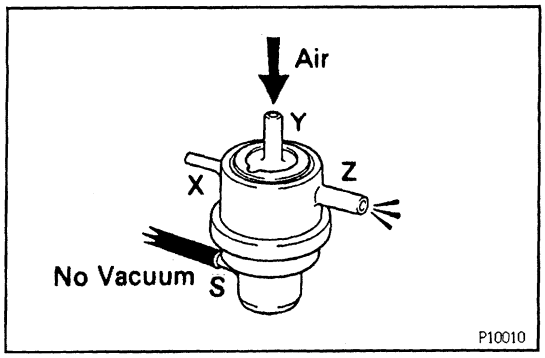
VCV INSPECTION



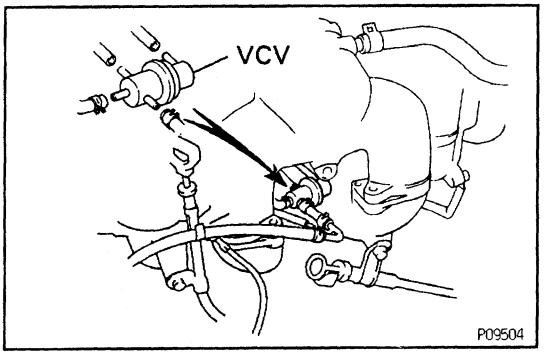
1. REMOVE VCV



2. INSPECT VCV
(a) Apply vacuum above 9.3 kPa (70 mmHg, 2.76 in.Hg) to pipe S.
(b) Blow air into pipe * and check that air comes out of pipe Z.



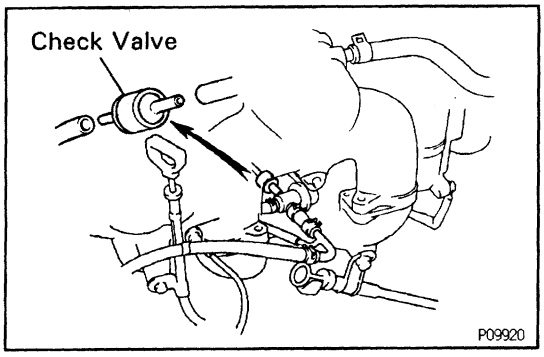
(c) Stop the applied vacuum.
(b) Blow air into pipe * and check that air does not come out of pipe Z.
If operation is not as specified, replace the VCV.



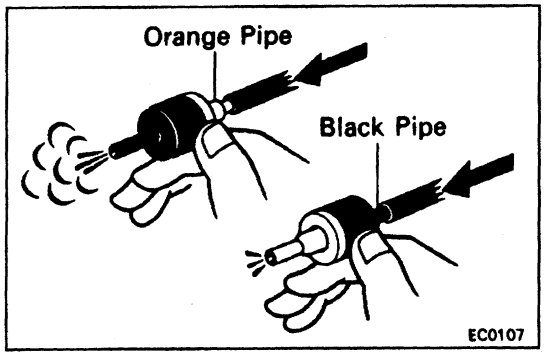
3. REINSTALL VCV

CHECK VALVE INSPECTION

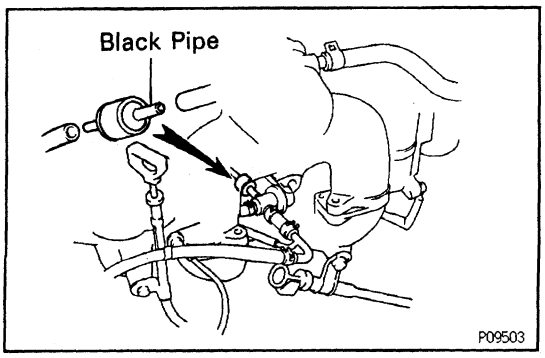
EG1SX–01



7. REMOVE CHECK VALVE



2. INSPECT CHECK VALVE
(a) Check that air flows from the orange pipe to the black pipe.
(b) Check that air does not flow from the black pipe to the orange pipe
If operation is not as specified, replace the check valve.



3. REINSTALL CHECK VALVE
HINT: Reinstall the check valve with the black pipe facing the VCV side.