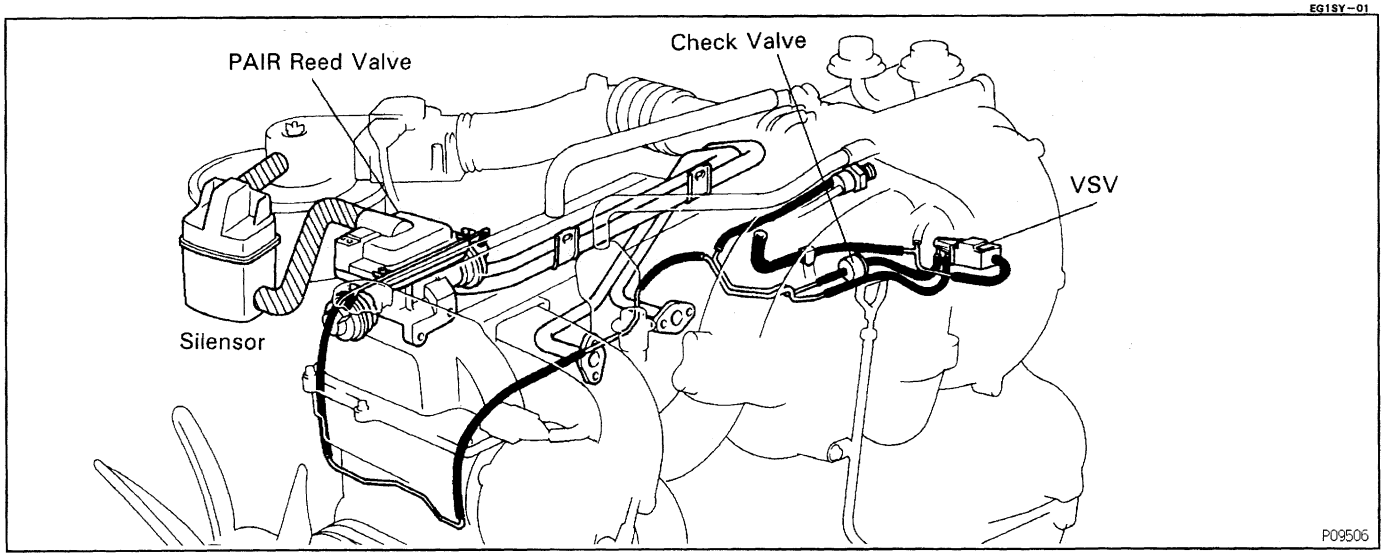
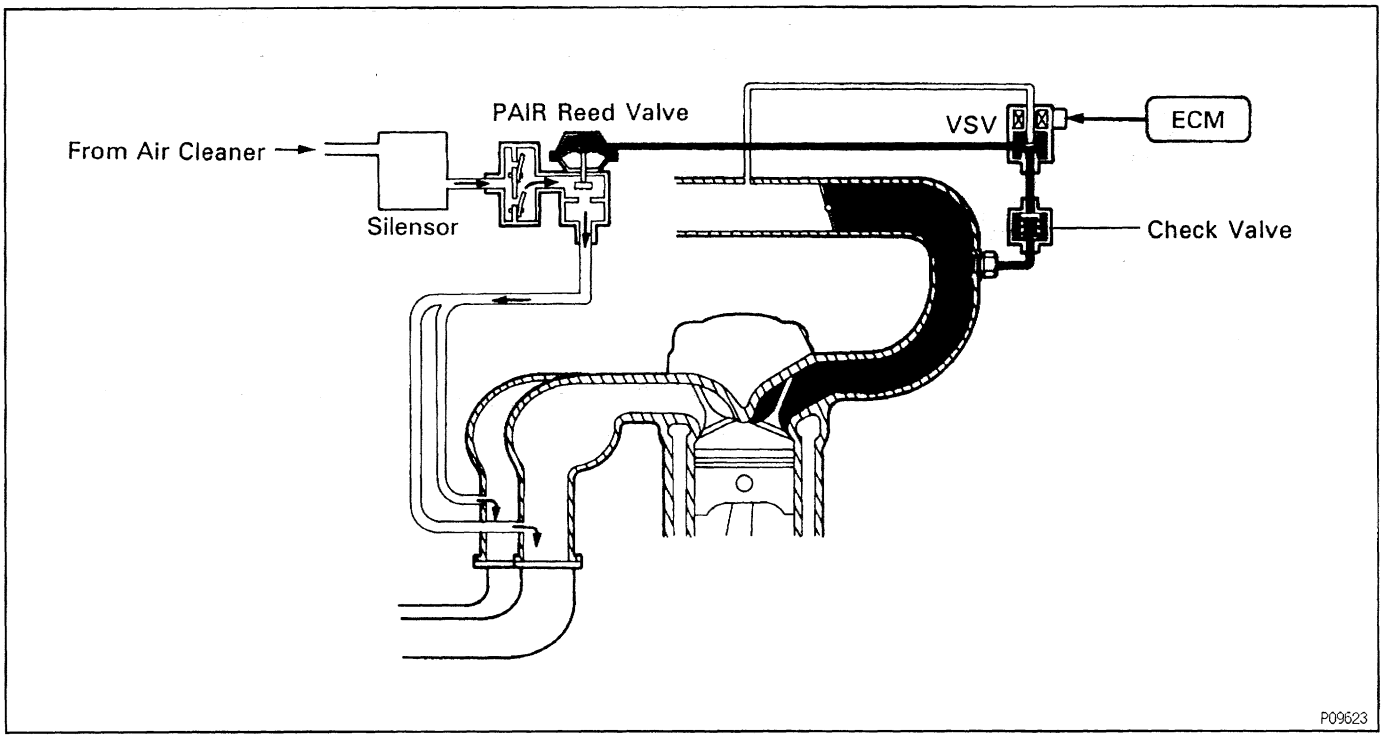
PULSED SECONDARY AIR INJECTION (PAIR) SYSTEM



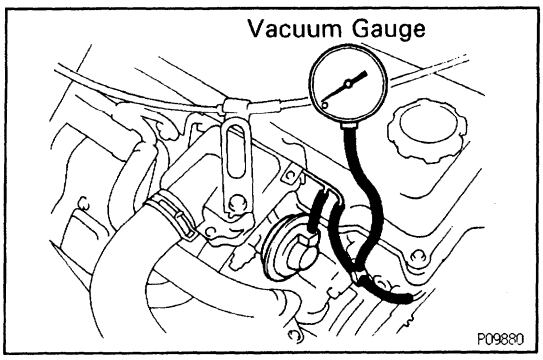


To reduce HC and CO emissions, this system draws in air into exhaust ports to accelerate oxidation, using vacuum generated by the exhaust pulsation in the exhaust manifold.						
Condition	ECT	Throttle position	Vehicle speed	RPM	VSV	PAIR
Normal driving	Below 35°C (95°F)		–	Below 3,150 rpm	ON	ON
				Above 3,150 rpm	OFF	OFF
Deceleration	Above 35°C (95°F)	Idling	Below 15 km/h¿9 mph)	Below 1,200 (1,500) rpm	OFF	OFF
				Above 1,400 (1,700) rpm	ON	ON
			Above 15 km/h (9 mph)	–	ON	ON
Remarks: ( ) is A/C ON.						

v01993

EG18Z–01

PAIR SYSTEM INSPECTION



1. VISUALLY INSPECT HOSES AND PIPES FOR CRACKS, KINKS, DAMAGE OR LOOSE CONNEC–TIONS

2. INSTALL VACUUM GAUGE

Using a 3–way connector, connect a vacuum gauge to the hose between the reed valve and No.2 water by –pass pipe.

3. INSPECT PAIR SYSTEM OPERATION WITH COLD ENGINE

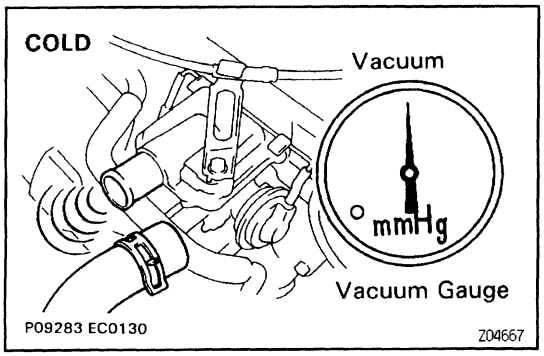
(a) The engine coolant temperature should be below 35° C (95° F).

(b) Disconnect the No.2 air hose from the PAIR reed valve.

(c) Start the engine.

(d) Check that the vacuum gauge indicates vacuum at idle.

(e) Check that a bubbling noise is heard from the PAIR reed valve.

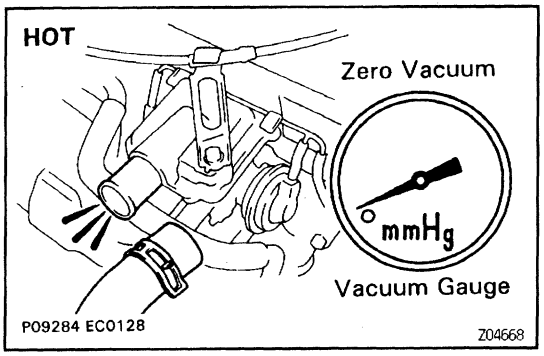


4. INSPECT PAIR SYSTEM OPERATION WITH HOT ENGINE

(a) Warm up the engine.

(b) Check that the vacuum gauge indicates zero vacuum at idle.

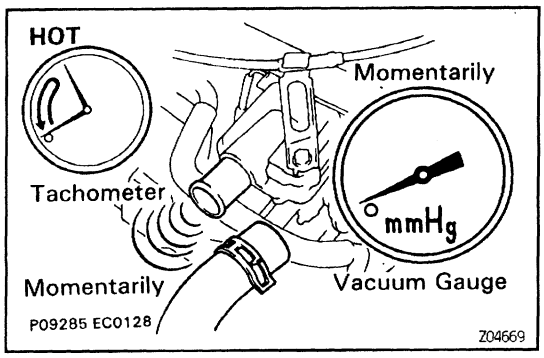
(c) With the engine idling, check that a bubbling noise is not heard from the PAIR reed valve.



(d) Race the engine about 2,500 rpm and quickly close the throttle valve.

(e) Check that the vacuum gauge indicates zero vacuum momentarily.

(f) Check that a bubbling noise stops momentarily.



(g) Reconnect the No.2 air hose to the PAIR reed valve.

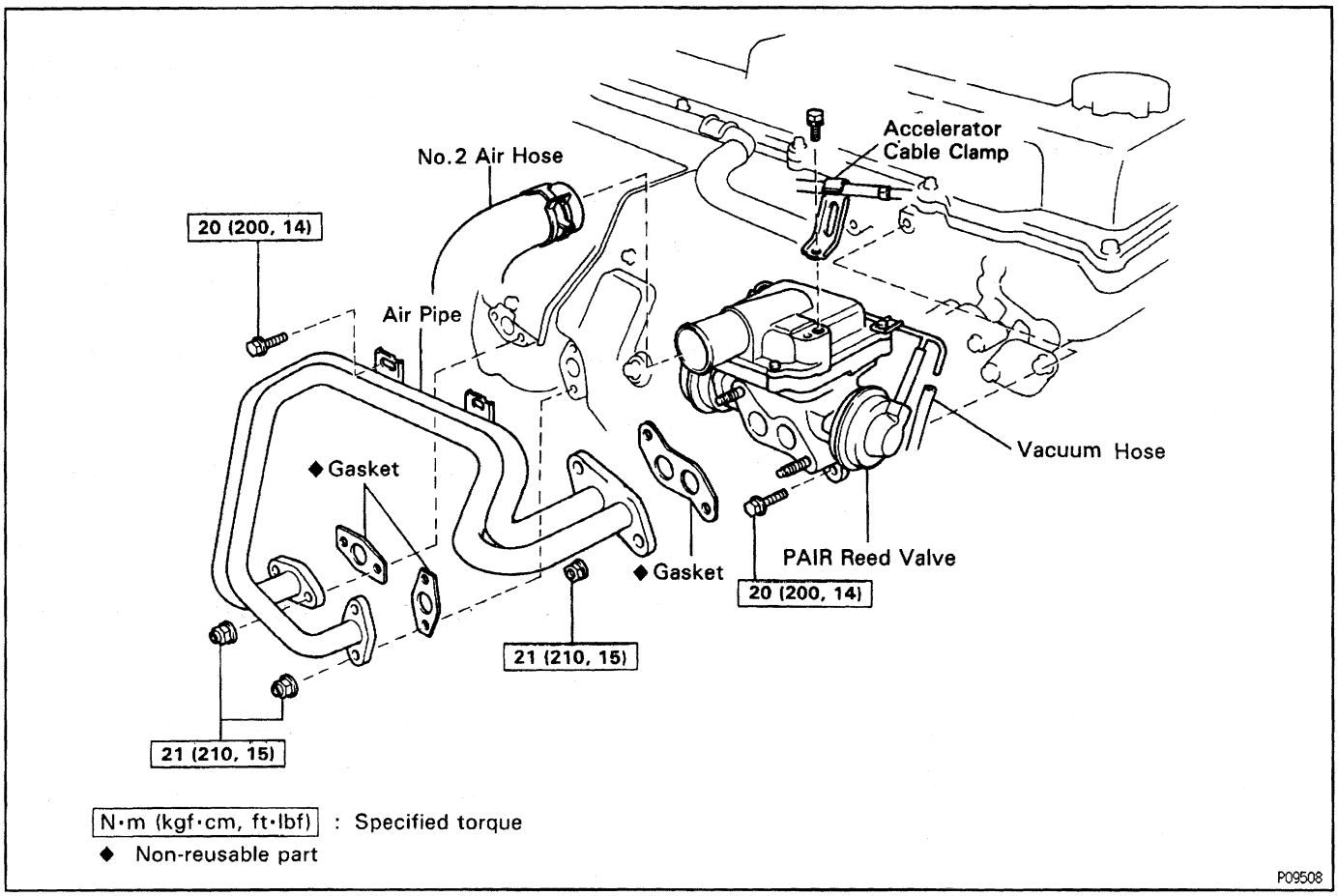
5. REMOVE VACUUM GAUGE

Remove the vacuum gauge, and reconnect the vacuum hose to the proper location.

IF NO PROBLEM IS FOUND WITH THIS INSPEC–TION, SYSTEM IS NORMAL; OTHERWISE INSPECT EACH PART

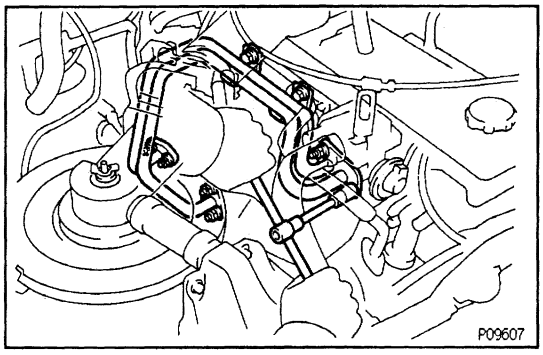
COMPONENTS FOR PAIR REED VALVE REMOVAL AND INSTALLATION

EG1T0–01



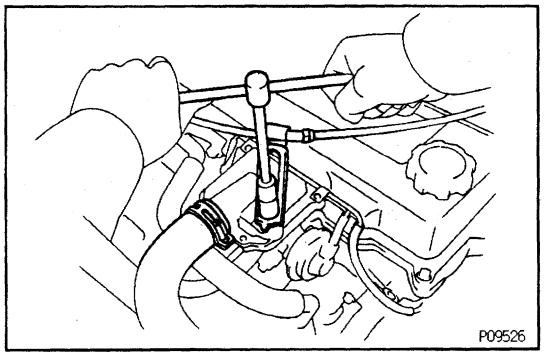
EG1T1–02

PAIR REED VALVE INSPECTION



1. REMOVE AIR PIPE

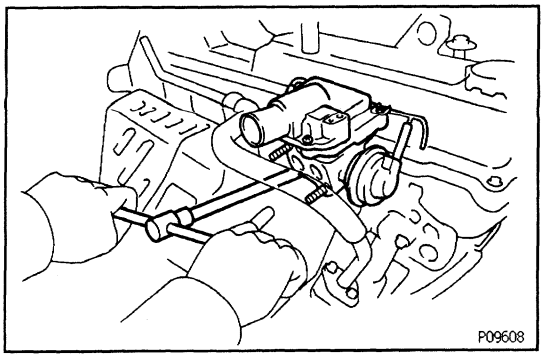
Remove the 2 bolts, 6 nuts, air pipe and 3 gaskets.



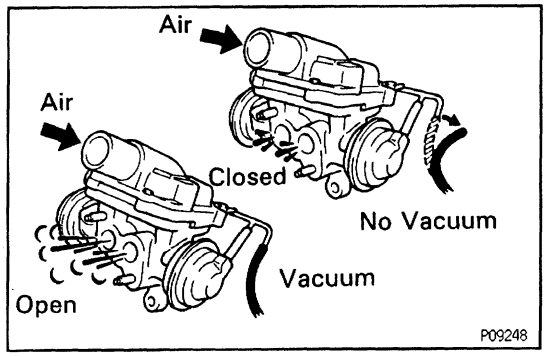
2. REMOVE PAIR REED VALVE

(a) Remove the bolt and disconnect accelerator cable clamp.

(b) Disconnect the vacuum hose and No.2 air hose.

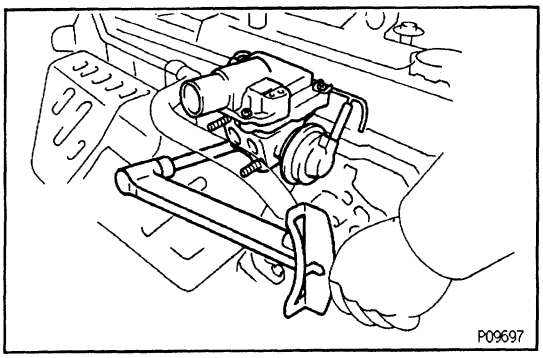


(c) Remove the 2 bolts and PAIR reed valve.



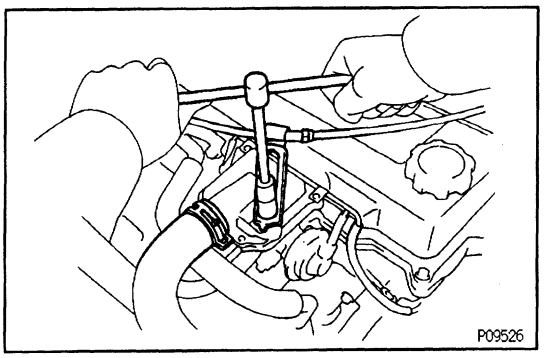
3. INSPECT PAIR REED VALVE

(a) Apply vacuum to the reed valve diaphragm.
(b) Blow air into a pipe and check that the reed valve is open.
(c) Release the vacuum and check that the reed valve is closed.
If operation is not as specified, replace the reed valve.

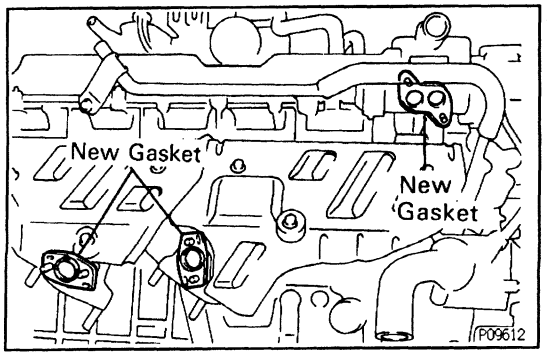


4. REINSTALL PAIR REED VALVE

(a) Install the PAIR reed valve with the 2 bolts.
Torque: 20 N–m (200 kgf–cm, 14 ft–lbf)

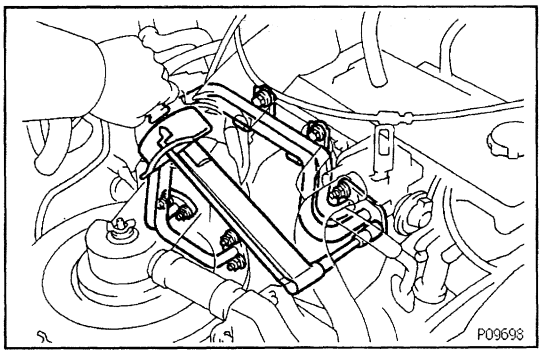


(b) Connect the No–2 air hose and vacuum hose.
(c) Connect the accelerator cable clamp with the bolt.

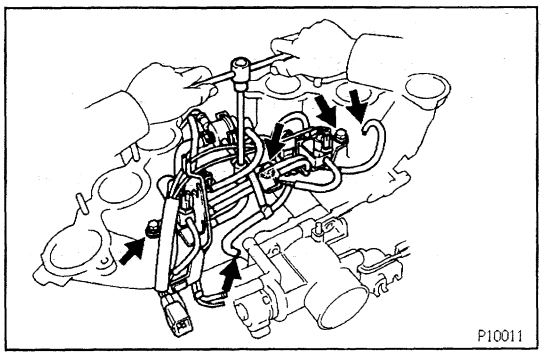


5. REINSTALL AIR PIPE

(a) install 3 new gaskets on the exhaust manifolds and PAIR reed valve.



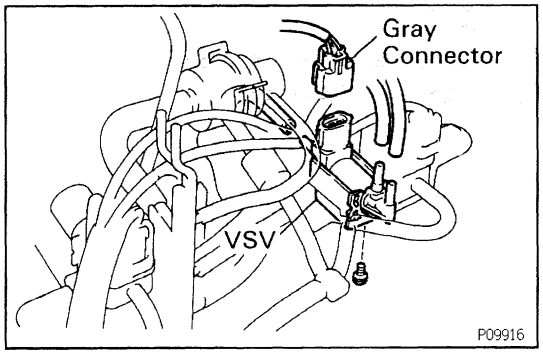
(b) Install the air pipe with the 2 bolts and 6 nuts.
Torque:
20 N–m (200 kgf–cm, 14 ft–lbf) for Bolt
21 N–m (210 kgf–cm, 15 ft–lbf) for Nut



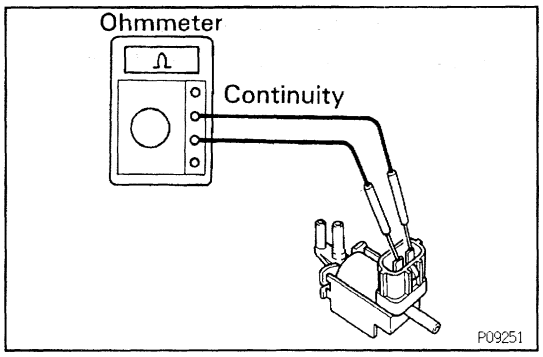
VSV INSPECTION

EG1T2–02

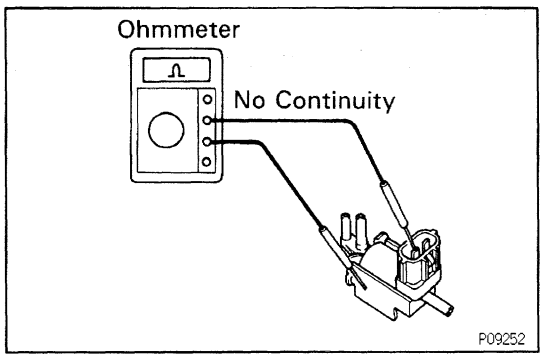
1. REMOVE AIR INTAKE CHAMBER
(See pages EG–269 and 270)
2. REMOVE VSV
(a) Disconnect the air hose and vacuum hose from the air intake chamber.
(b) Remove the 4 bolts and emission control valve set assembly.



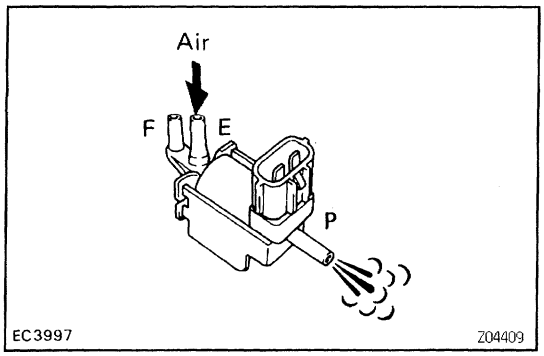
(c) Disconnect the connector and 3 vacuum hoses, and remove the screw and VSV.



3. INSPECT VSV
A. Inspect VSV for open circuit
Using an ohmmeter, check that there is continuity between the terminals.
Resistance:
37 – 44 Ω at 20° C (68° F)
If there is no continuity, replace the VSV.

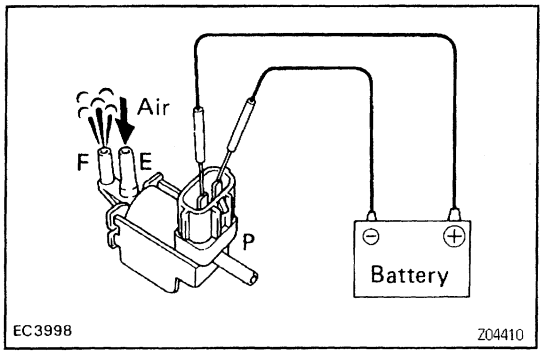


B. Inspect VSV for ground
Using an ohmmeter–, check that there is no continuity between each terminal and the body.
If there is continuity, replace the VSV.



C. Inspect VSV operation

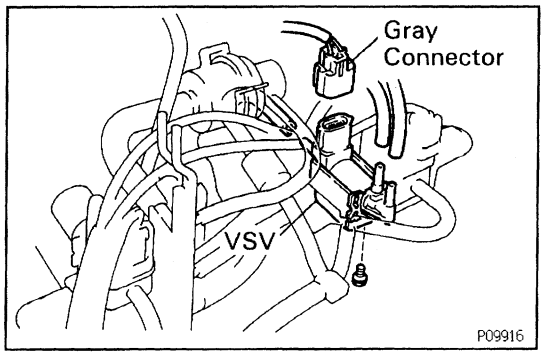
(a) Check that the air flows from pipe E to pipe P.



(b) Apply battery voltage across the terminals.

(c) Check that the air flows from pipe E to pipe F.

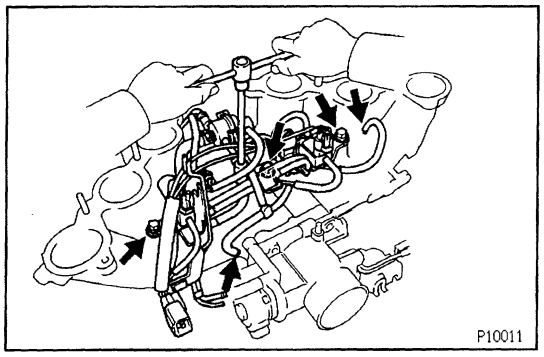
If operation is not as specified, replace the VSV.



4. REINSTALL VSV

(a) Install the VSV with the screws.

(b) Connect the connector and 3 vacuum hoses to the VSV.



(c) Install the emission control valve set assembly with the 4 bolts.

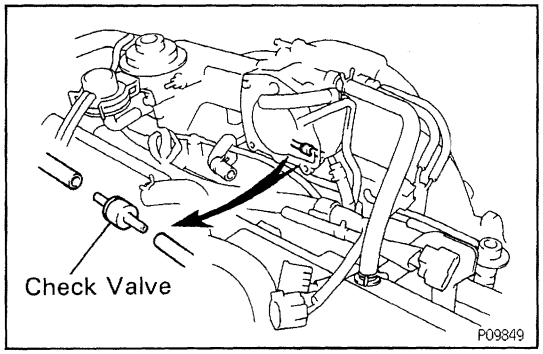
Torque: 20 N–m (200 kgf–cm, 14 ft–lbf)

(d) Connect the air– hose and vacuum hose to the air intake chamber.

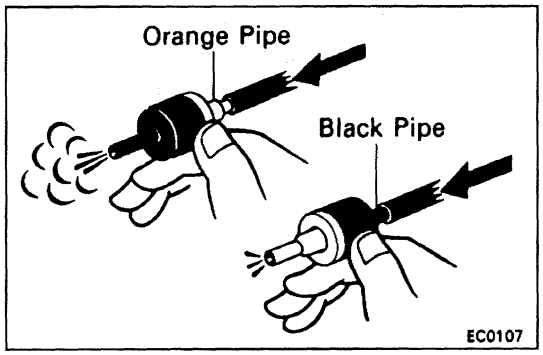
5. REINSTALL AIR INTAKE CHAMBER (SEE PAGES EG–276 AND 277)

CHECK VALVE INSPECTION

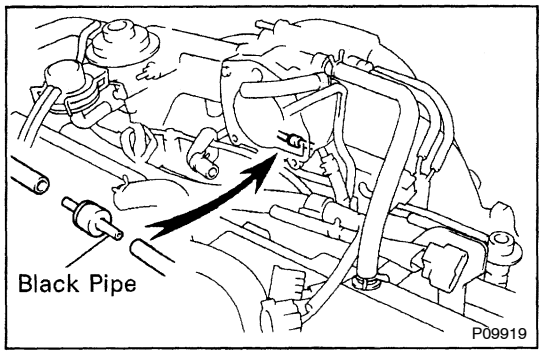
EG1T3–01



1. REMOVE THROTTLE BODY
(See page EG–284)
2. REMOVE CHECK VALVE



3. 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.



4. REINSTALL CHECK VALVE
HINT: Reinstall the check valve with the black pipe facing the front of the vehicle.

5. REINSTALL THROTTLE BODY
(SEE PAGE EG–287)