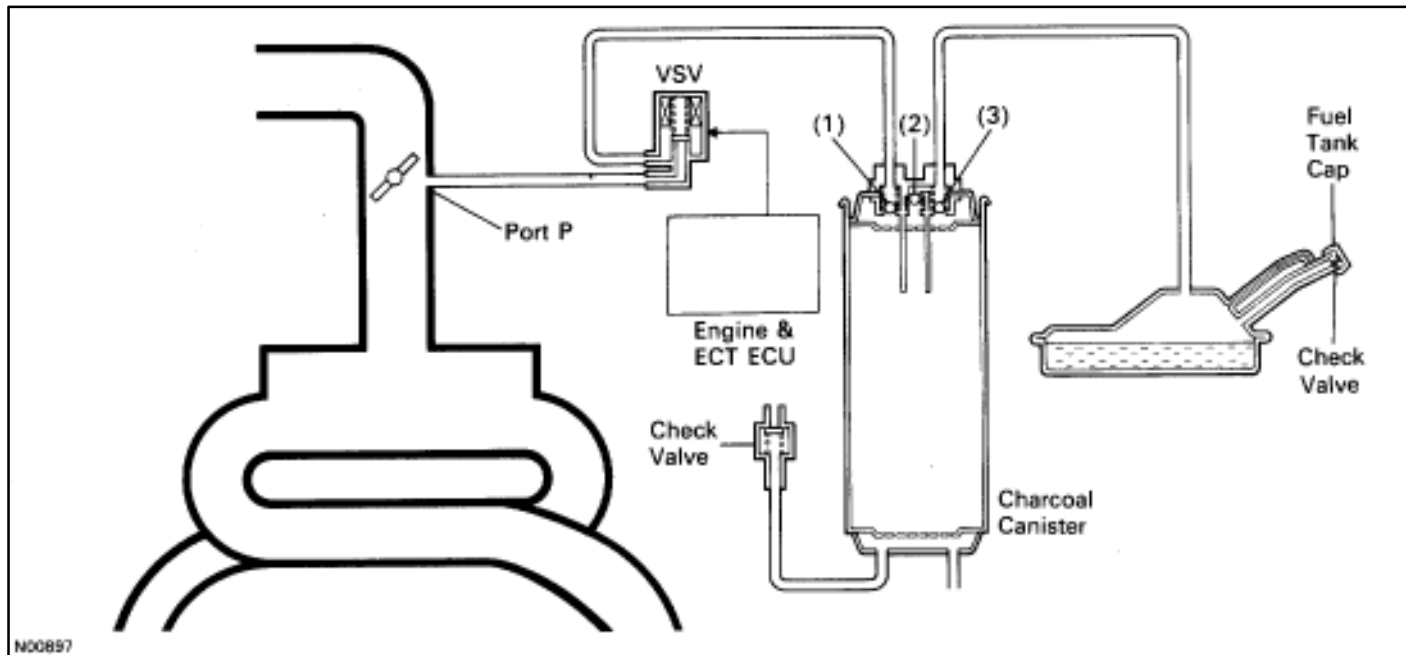


# FUEL EVAPORATIVE EMISSION CONTROL (EVAP) SYSTEM

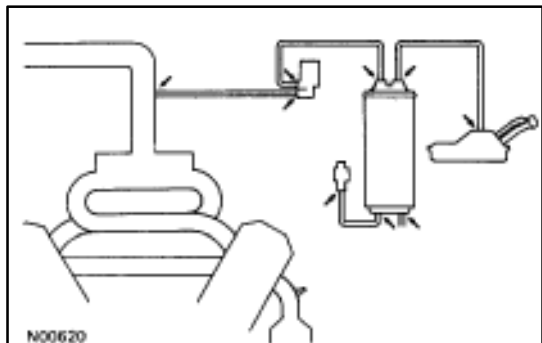
## DESCRIPTION

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.

## OPERATION

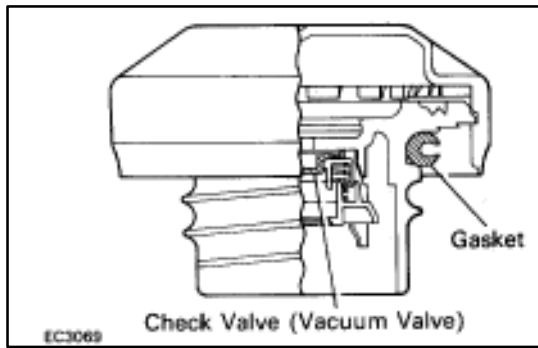


Coolant Temp.	VSV	Throttle Valve Opening	Canister Check Valve			Check Valve in Cap	Evaporated Fuel (HC)
			(1)	(2)	(3)		
Below 40°C (104°F)	No Operation	Fully closed.	–	–	–	–	Small volume of HC from canister enters air intake chamber.
Above 40°C (104°F)	Operation	Fully closed or below Specified air volume.	–	–	–	–	
		Conditions other than above.	–	–	–	–	HC from canister enters air intake chamber in the amount programmed in accordance with the intake air volume.
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.



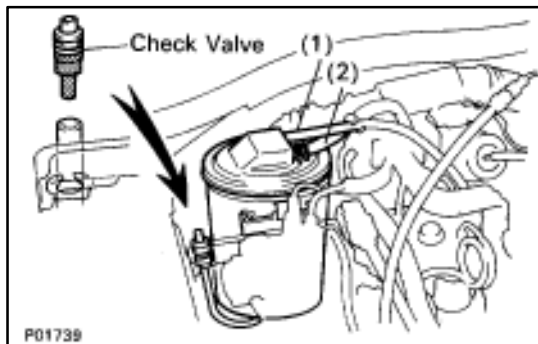
## INSPECTION OF FUEL VAPOR LINES, FUEL TANK AND TANK CAP

- 1. VISUALLY INSPECT LINES AND CONNECTIONS**  
Look for loose connections, sharp bends or damage.
- 2. VISUALLY INSPECT FUEL TANK**  
Look for deformation, cracks or fuel leakage.



### 3. VISUALLY INSPECT FUEL TANK CAP

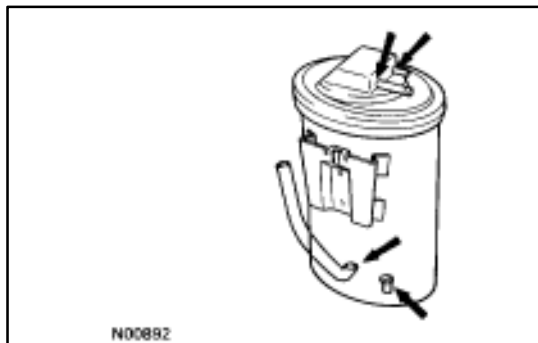
Check if the cap and/or gasket are deformed or damaged. If necessary, repair or replace the cap.



## INSPECTION OF CHARCOAL CANISTER

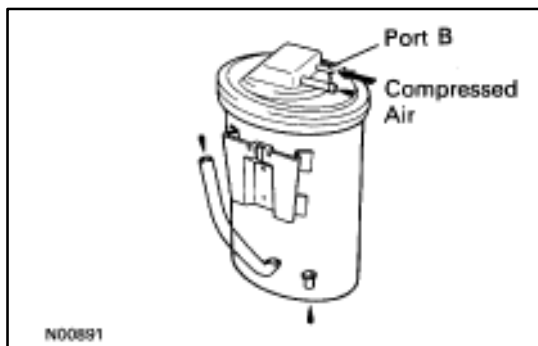
### 1. REMOVE CHARCOAL CANISTER

- Disconnect the following hoses:
  - (1) Vacuum hose (from VSV) from charcoal canister
  - (2) EVAP hose from charcoal canister
- Disconnect the grommet on the check valve from the bracket, and remove the charcoal canister.
- Remove the check valve from the hose end on the charcoal canister.



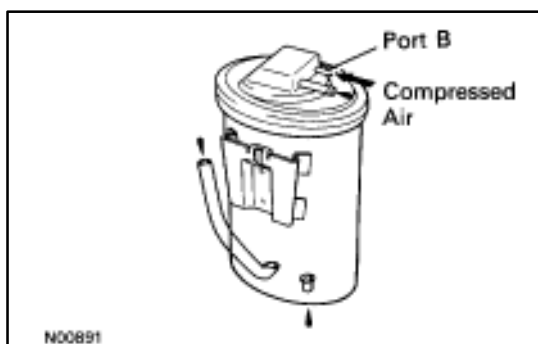
### 2. VISUALLY INSPECT CHARCOAL CANISTER

Look for cracks or damage.



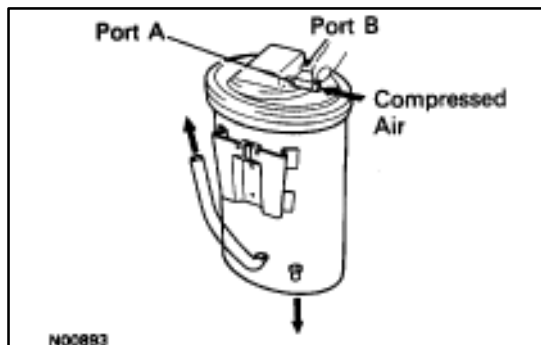
### 3. CHECK FOR CLOGGED FILTER AND STUCK CHECK VALVE

- Using low pressure compressed air, blow into port A and check that air flows without resistance from the other ports.



- Blow into port B and check that air does not flow from the other ports.

If a problem is found, replace the charcoal canister.

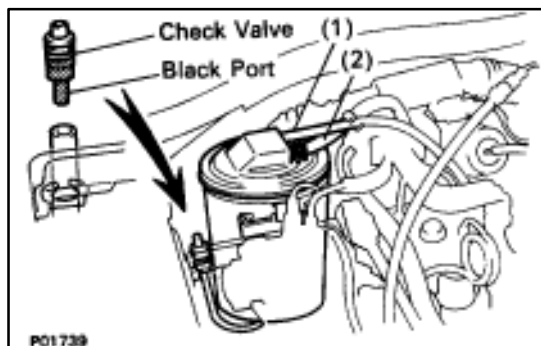


#### 4. CLEAN FILTER IN CANISTER

Clean the filter by blowing 294 kPa (3 kgf/cm<sup>2</sup>, 43 psi) of compressed air into port A while holding port B closed.

##### NOTICE:

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

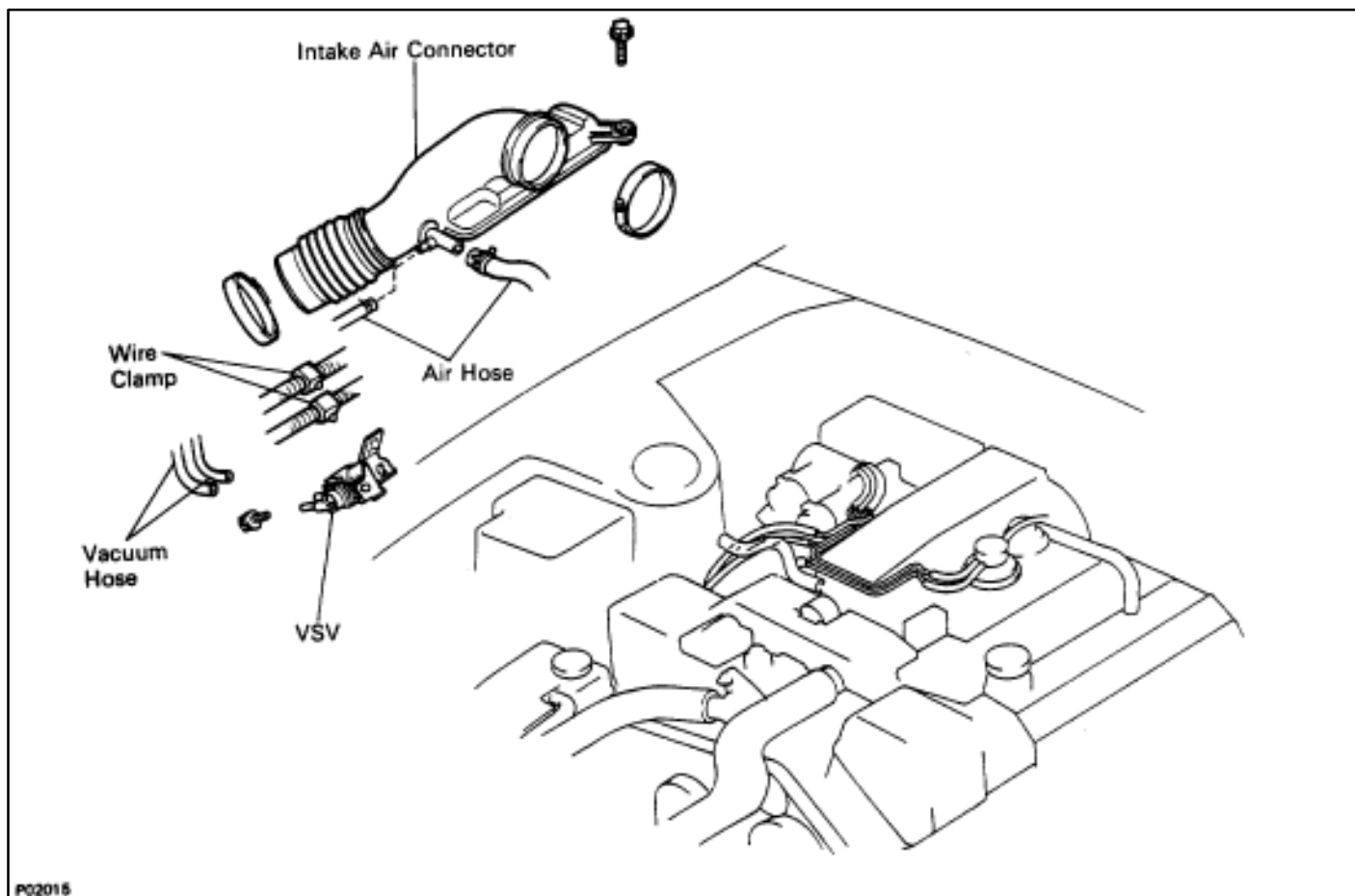


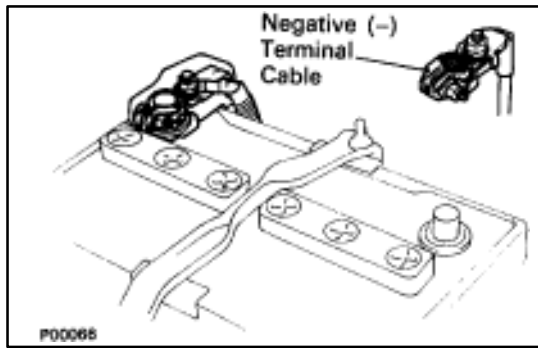
#### 5. REINSTALL CHARCOAL CANISTER

HINT: Install the check valve with black port facing the charcoal canister side.

- Install the check valve to the hose end on the charcoal canister.
- Install the charcoal canister.
- Install the grommet on the check valve to the bracket.
- Connect the following hoses:
  - Vacuum hose (from VSV) to charcoal canister
  - EVAP hose to charcoal canister

## COMPONENTS FOR REMOVAL AND INSTALLATION OF VSV

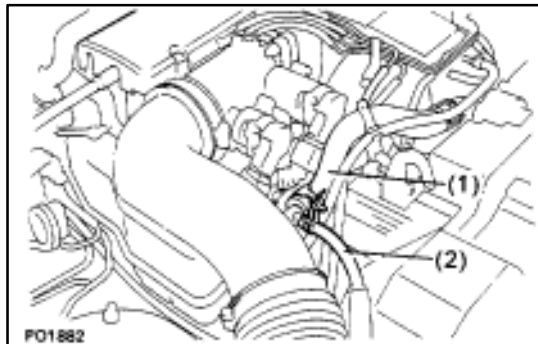




## INSPECTION OF VSV

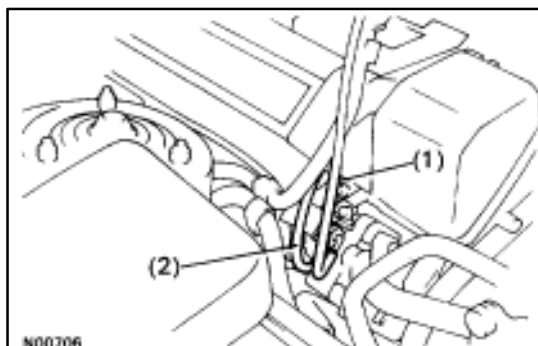
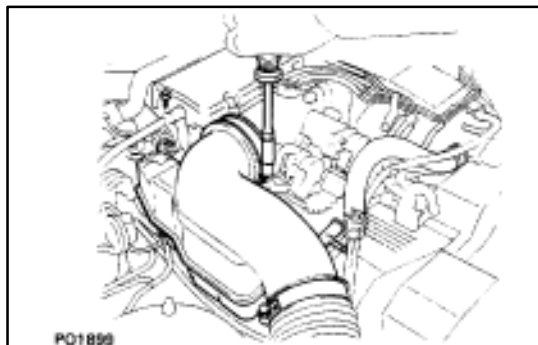
### 1. DISCONNECT CABLE FROM NEGATIVE TERMINAL OF BATTERY

**CAUTION:** Work must be started after approx. 20 seconds or longer from the time the ignition switch is turned to the "LOCK" position and the negative (-) terminal cable is disconnected from the battery.



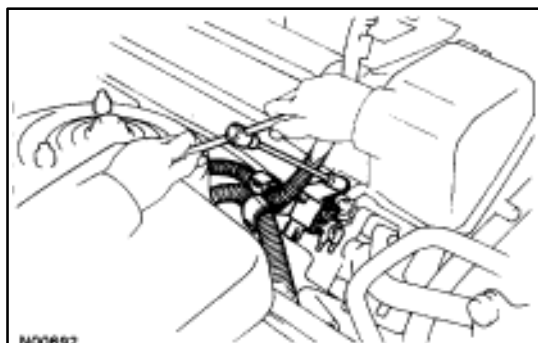
### 2. REMOVE INTAKE AIR CONNECTOR

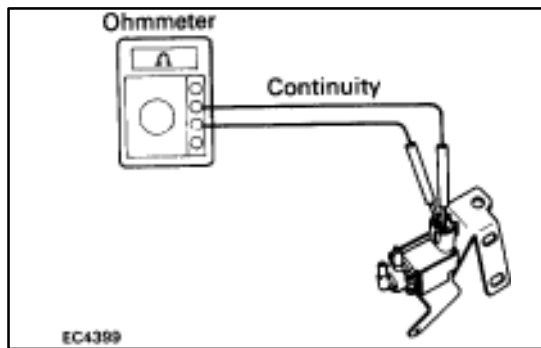
- (a) Disconnect the following hoses:
  - (1) Air hose (from ISC valve) from intake air connector
  - (2) Air hose (from PS air control valve) from intake air connector
- (b) Remove the bolt holding the intake air connector to the cylinder head cover.
- (c) Loosen the two hose clamps.
- (d) Disconnect the intake air connector from the throttle body and air cleaner hose, and remove the intake air connector.



### 3. REMOVE VSV

- (a) Disconnect the VSV connector.
- (b) Disconnect the following hoses:
  - (1) Vacuum hose (from vacuum pipe) from VSV
  - (2) Vacuum hose (from charcoal canister) from VSV
- (c) Remove the two bolts and VSV from the cylinder head.
- (d) Disconnect the two wire clamps from the VSV bracket, and remove the VSV.





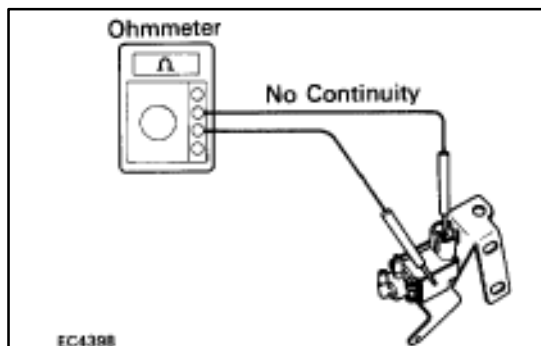
#### 4. INSPECT VSV

##### A. Inspect VSV for open circuit

Using an ohmmeter, check that there is continuity between the terminals.

**Resistance (Cold): 30–34  $\Omega$**

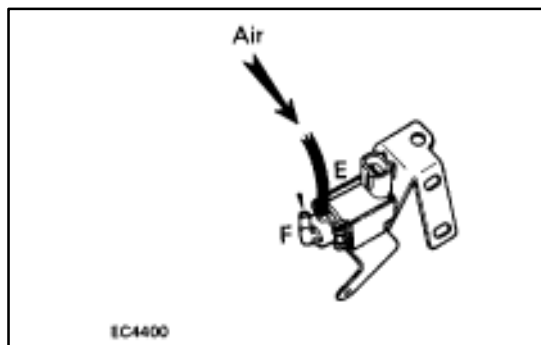
If there is no continuity, replace the VSV.



##### 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.



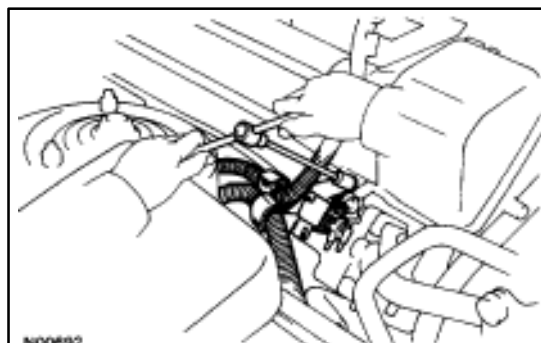
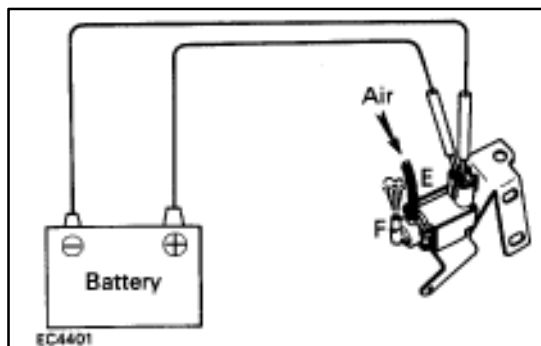
##### C. Inspect VSV operation

(a) Check that the air flows with difficulty from ports E to F.

(b) Apply battery voltage across the terminals.

(c) Check that the air flows without resistance from port E to F.

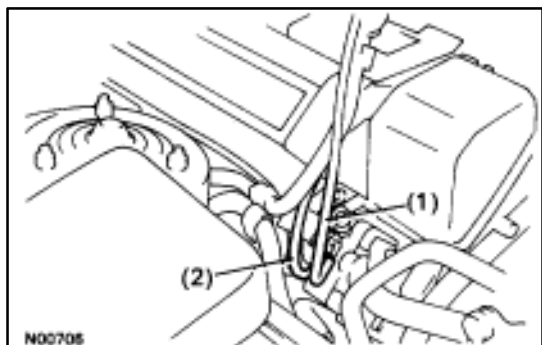
If operation is not as specified, replace the VSV.



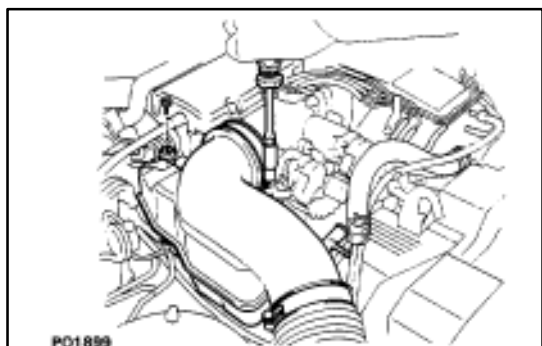
#### 5. REINSTALL VSV

(a) Install the VSV with the two bolts.

(b) Connect the two wire clamps to the VSV bracket.

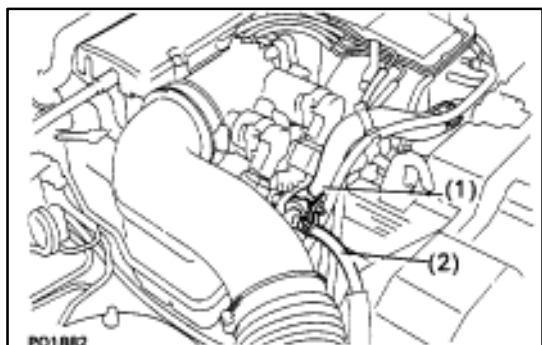


- (c) Connect the following hoses:
  - (1) Vacuum hose (from vacuum pipe) to VSV
  - (2) Vacuum hose (from charcoal canister) to VSV
- (d) Connect the VSV connector.



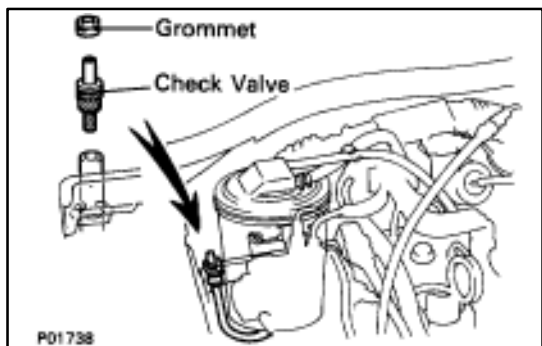
## 6. REINSTALL INTAKE AIR CONNECTOR

- (a) Connect the end portions of the intake air connector to the throttle body and air cleaner hose.
- (b) Tighten the two hose clamps.
- (c) Install the bolt holding the intake air connector to the cylinder head cover.



- (d) Connect the following hoses:
  - (1) Air hose (from ISC valve) to intake air connector
  - (2) Air hose (from PS air control valve) to intake air connector

## 7. RECONNECT CABLE TO NEGATIVE TERMINAL OF BATTERY



## INSPECTION OF CHECK VALVE

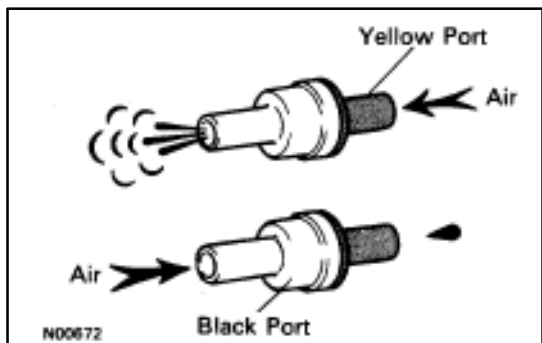
### 1. REMOVE CHECK VALVE

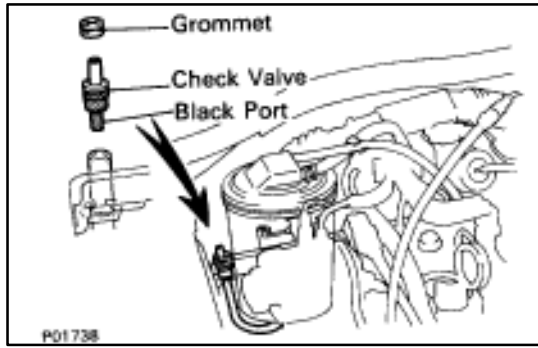
- (a) Disconnect the grommet on the check valve from the bracket.
- (b) Remove the check valve from the hose end on the charcoal canister.
- (c) Remove the grommet from the check valve.

### 2. INSPECT CHECK VALVE

- (a) Check that air flows from the yellow port to the black port.
- (b) Check that air does not flow from the black port to the yellow port.

If operation is not as specified, replace the check valve.





### 3. REINSTALL CHECK VALVE

HINT: Reinstall the check valve with the black port facing the charcoal canister side.

- (a) Install the grommet to the check valve.
- (b) Install the check valve to the hose end on the charcoal canister.
- (c) Install the grommet on the check valve to the bracket.