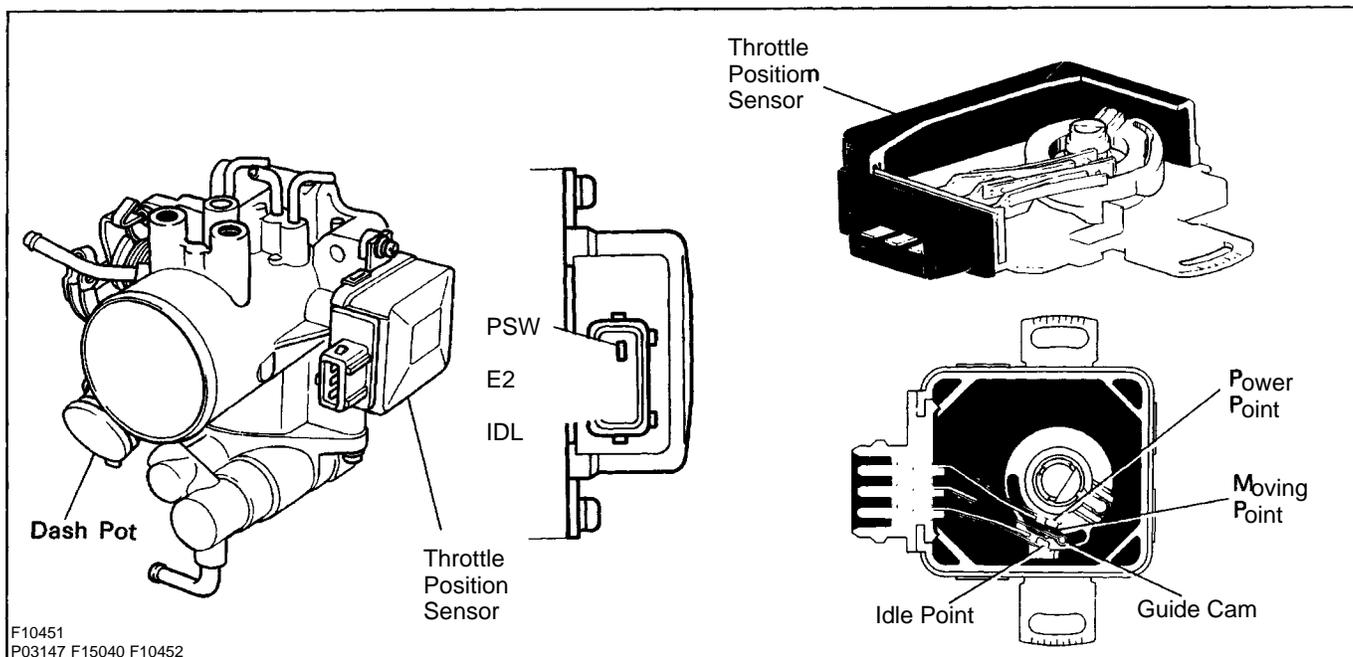


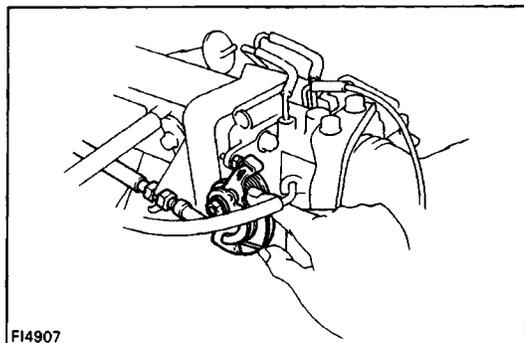
Throttle Body (4A-FE)



ON-VEHICLE INSPECTION

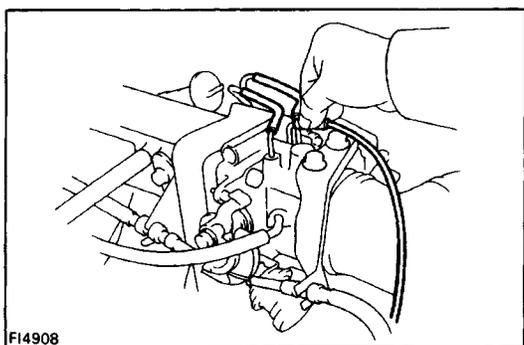
1. INSPECT THROTTLE BODY

(a) Check that the throttle linkage moves smoothly.



(b) Check the vacuum at each port.

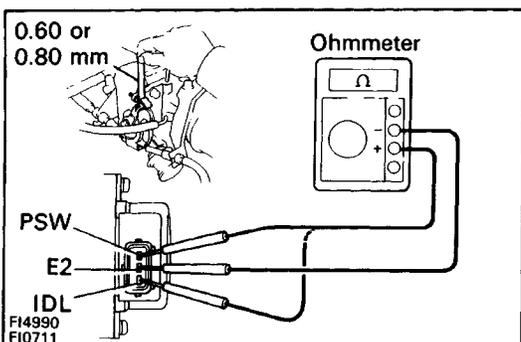
- Start the engine.
- Check the vacuum with your finger.



Port name	At idle	Other than idle
P	No vacuum	Vacuum
E	No vacuum	Vacuum
R	No vacuum	Vacuum

2. INSPECT THROTTLE POSITION SENSOR

- (a) Disconnect the sensor connector.
- (b) Insert a thickness gauge between the throttle stop screw and stop lever.
- (c) Using an ohmmeter, measure the resistance between each terminal.



Clearance between lever and stop screw	Continuity between terminals	
	IDL - E2	PSW - E2
0.60 mm (0.024 in.)	Continuity	No continuity
0.80 mm (0.031 in.)	No continuity	No continuity
Throttle valve fully open	No continuity	Continuity

(d) Reconnect the sensor connector.

3. INSPECT AND ADJUST DASH POT (DP)

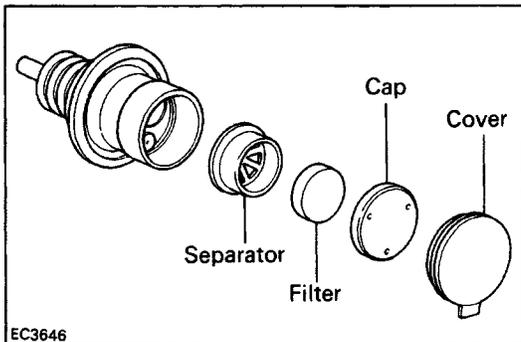
A. Warm up engine

Allow the engine to warm up to normal operating temperature.

B. Check idle speed

Idle speed: 800 ± 50 rpm

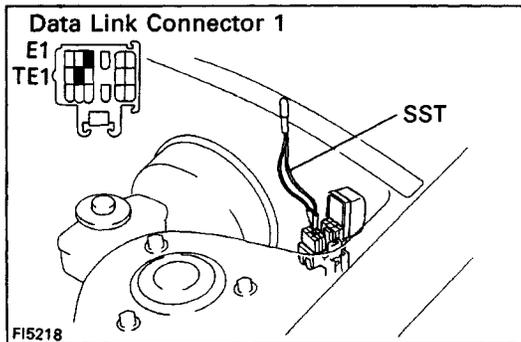
C. Remove cover, cap, filter and separator from DP



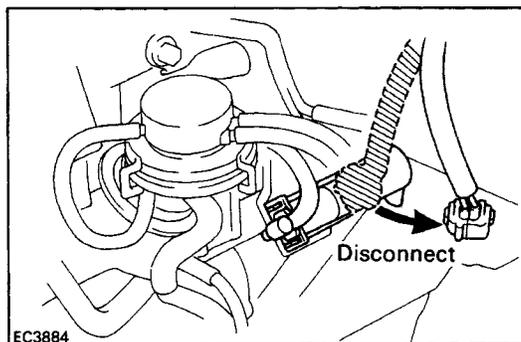
D. Check and adjust DIP setting speed

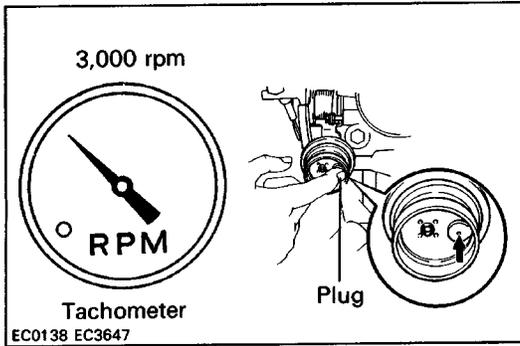
(a) Using SST, connect the terminals TE1 and E1 of the data link connector 1.

SST 09843-18020

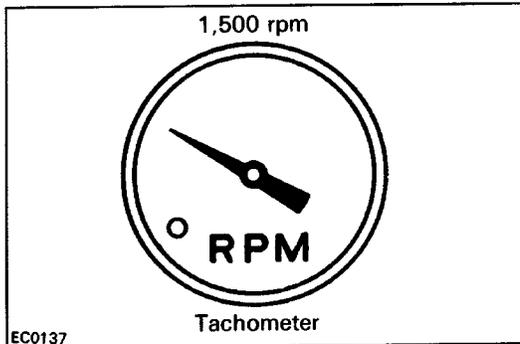


(b) Disconnect the EGR VSV connector.

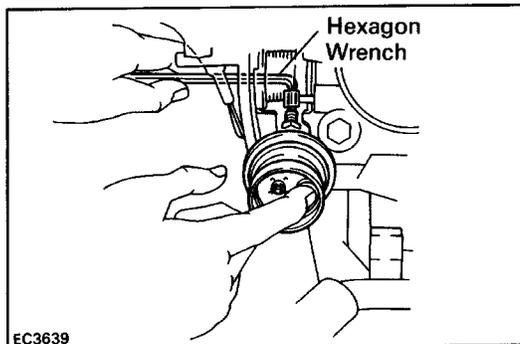




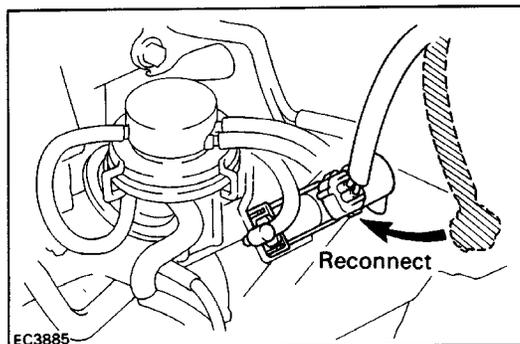
- (c) Maintain the engine at 3,000 rpm.
 (d) Plug the VTV hole with your finger.



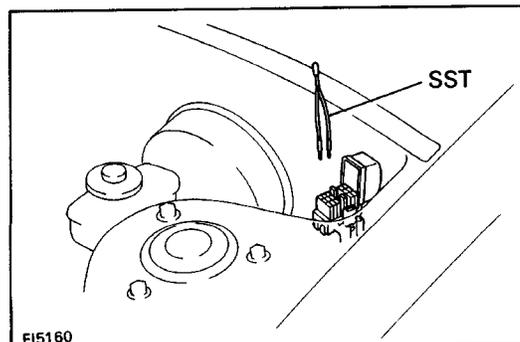
- (e) Release the throttle valve.
 (f) Check that the DP is set.
DP setting speed (w/ Cooling fan OFF):
 M/T 1,800 rpm
 A/T 2,200 rpm



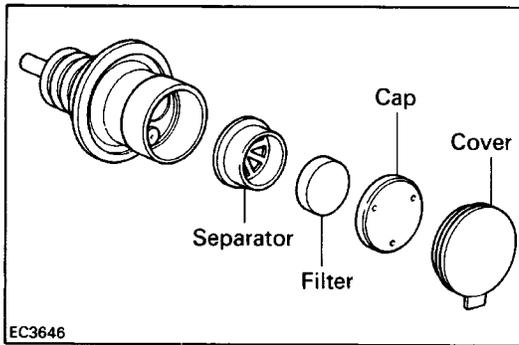
- (g) Using a hexagon wrench, adjust the DP setting speed by turning the DP adjusting screw.
 (h) Repeat steps from (c) to (e), and recheck the DP setting speed.



- (i) Reconnect the EGR VSV connector.



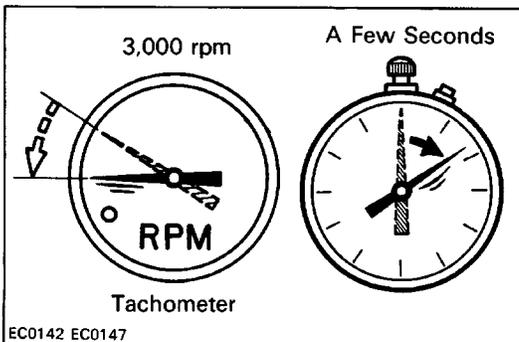
- (j) Remove the SST.
 SST 09843-18020



E. Reinstall DP separator, filter, cap and cover

HINT:

- Install the filter with the coarser surface facing the atmospheric side (outward).
- Install the cover with ventilate holes below.



F. Check VTV operation

Race the engine at 3,000 rpm for a few seconds, release the throttle valve and check that the engine returns to idle in a few seconds.

REMOVAL OF THROTTLE BODY

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. DRAIN ENGINE COOLANT (See page CO-6)

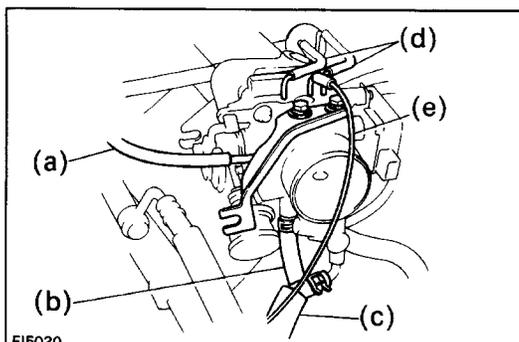
3. (A/T)

DISCONNECT THROTTLE CABLE FROM THROTTLE LINKAGE

4. DISCONNECT ACCELERATOR CABLE FROM THROTTLE LINKAGE

5. REMOVE AIR CLEANER CAP AND AIR CLEANER HOSE (See step 6 on page EM-185)

6. DISCONNECT THROTTLE POSITION SENSOR CONNECTOR

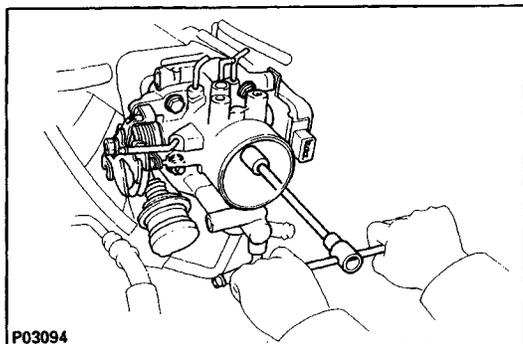


7. REMOVE ACCELERATOR BRACKET FROM THROTTLE BODY

Remove the two bolts and bracket.

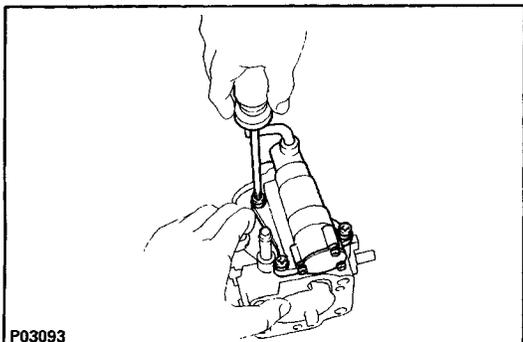
8. DISCONNECT HOSES FROM THROTTLE BODY

- PCV hose
- Water by-pass hose from air pipe
- Water by-pass hose from water inlet housing
- Two vacuum hoses from vacuum pipe
- Vacuum hose from EVAP VSV



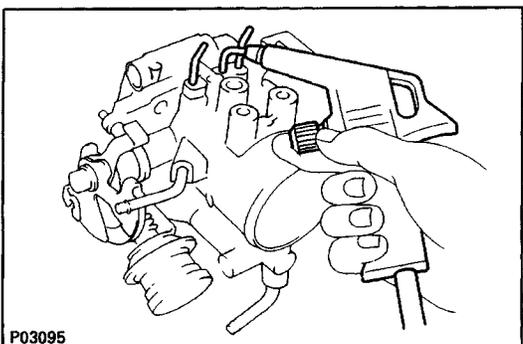
9. REMOVE THROTTLE BODY

Remove the two bolts, two nuts, throttle body and gasket.



10. IF NECESSARY, REMOVE AUXILIARY AIR VALVE

Remove the four screws, air valve, gasket and O-ring.

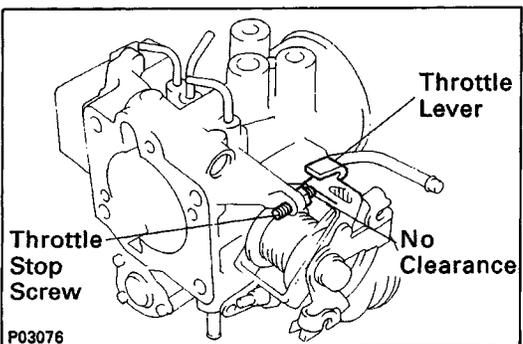


INSPECTION OF THROTTLE BODY

1. CLEAN THROTTLE BODY

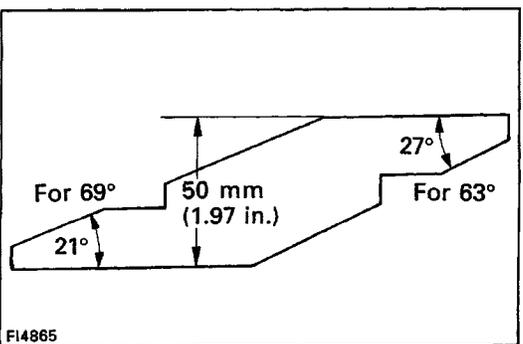
- (a) Using a soft brush and carburetor cleaner, clean the cast parts.
- (b) Using compressed air, clean all the passages and apertures.

NOTICE: To prevent deterioration, do not clean the throttle position sensor and DP.



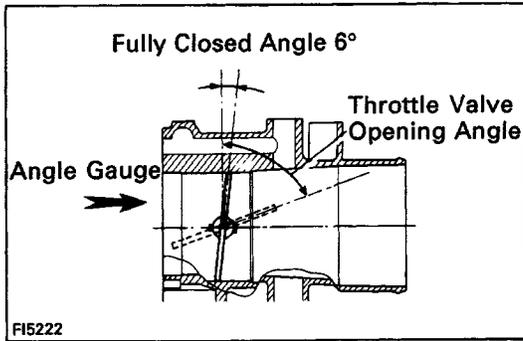
2. INSPECT THROTTLE VALVE

Check that there is no clearance between the throttle stop screw and throttle lever when the throttle valve is fully closed.



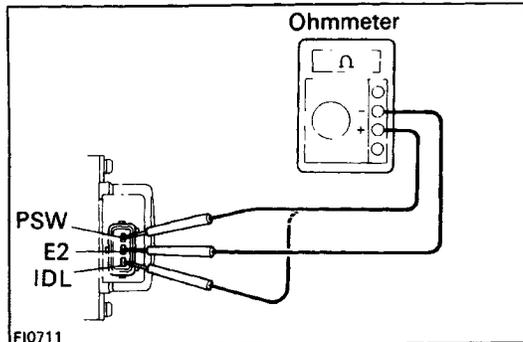
3. INSPECT THROTTLE POSITION SENSOR

- (a) Make an angle gauge as shown in the illustration.



FI5222

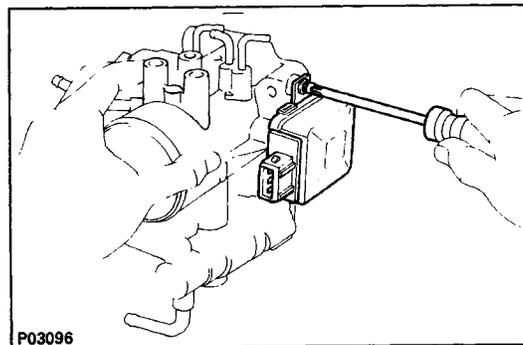
- (b) Set the throttle valve opening angle to 63° or 69° from the vertical position (incl. throttle valve fully closed angle 6°).



FI0711

- (c) Using an ohmmeter, check the continuity between each terminal.

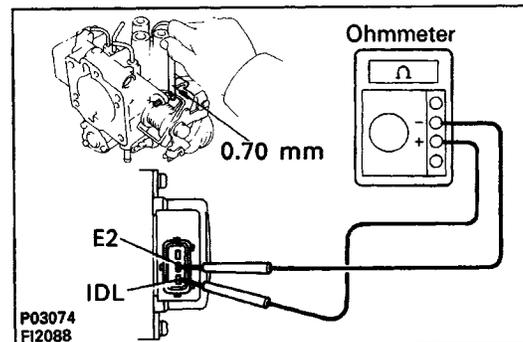
Throttle valve opening angle	Continuity	
	IDL - E2	PSW - E2
63° from vertical	No continuity	No continuity
69° from vertical	No continuity	Continuity
Less than 7.5° from vertical	Continuity	No continuity



P03096

4. IF NECESSARY, ADJUST THROTTLE POSITION SENSOR

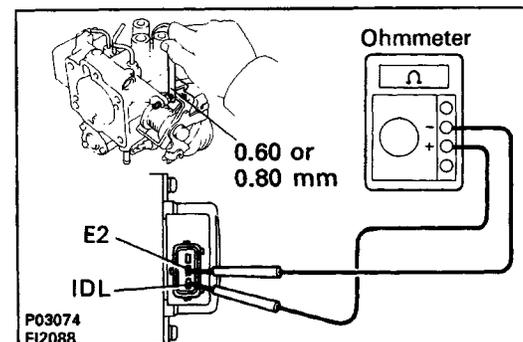
- (a) Loosen the two set screws of the sensor.



P03074

FI2088

- (b) Insert a 0.70 mm (0.028 in.) thickness gauge, between the throttle stop screw and stop lever.
 (c) Connect the test probe of an ohmmeter to the terminals IDL and E2 of the sensor.
 (d) Gradually turn the sensor clockwise until the ohmmeter deflects, and secure it with the two set screws.

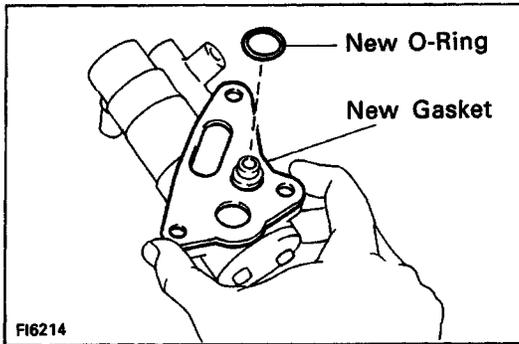


P03074

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- (e) Recheck the continuity between terminals IDL and E2.

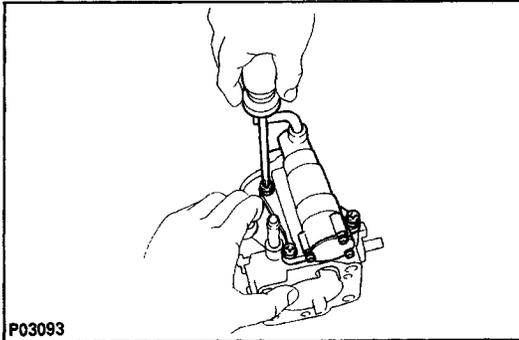
Clearance between lever and stop screw	Continuity (IDL - E2)
0.60 mm (0.024 in.)	Continuity
0.80 mm (0.031 in.)	No continuity



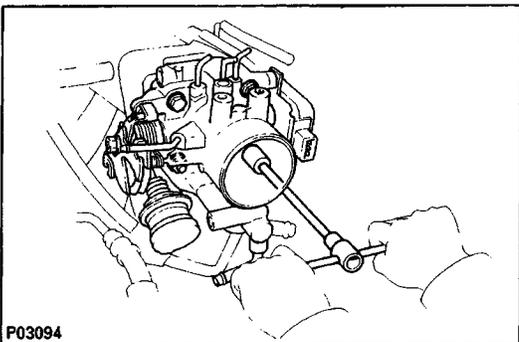
INSTALLATION OF THROTTLE BODY

1. INSTALL AUXILIARY AIR VALVE

- (a) Place a new gasket and O-ring on the auxiliary air valve.



- (b) Install the air valve with the three screws.



2. INSTALL THROTTLE BODY

Install a new gasket and the throttle body with the two bolts and two nuts.

Torque: 22 N-m (220 kgf-cm, 16 ft-lbf)

3. CONNECT HOSES TO THROTTLE BODY

- (a) PCV hose
 (b) Water by-pass hose to air pipe
 (c) Water by-pass hose to water inlet housing
 (d) Two vacuum hoses to vacuum pipe
 (e) Vacuum hose to EVAP VSV

4. INSTALL ACCELERATOR BRACKET TO THROTTLE BODY

Install the bracket with the two bolts.

5. CONNECT THROTTLE POSITION SENSOR CONNECTOR

6. INSTALL AIR CLEANER CAP AND AIR CLEANER HOSE

(See step 36 on page [EM-221](#))

7. CONNECT ACCELERATOR CABLE, AND ADJUST IT

8. (A/T)

CONNECT THROTTLE CABLE, AND ADJUST IT

9. CONNECT CABLE TO NEGATIVE TERMINAL OF BATTERY

10. FILL WITH ENGINE COOLANT (See page [CO-6](#))

