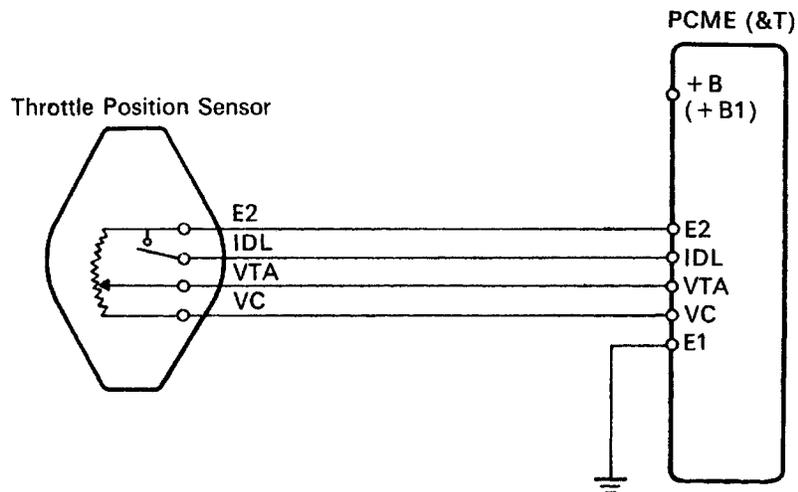
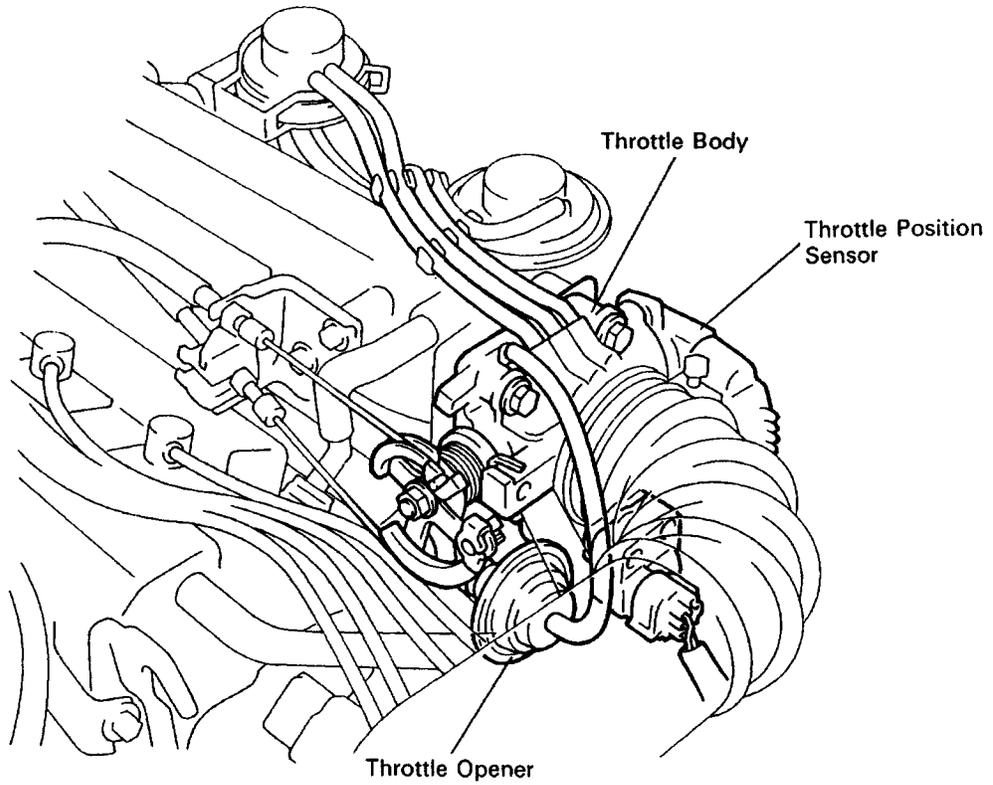
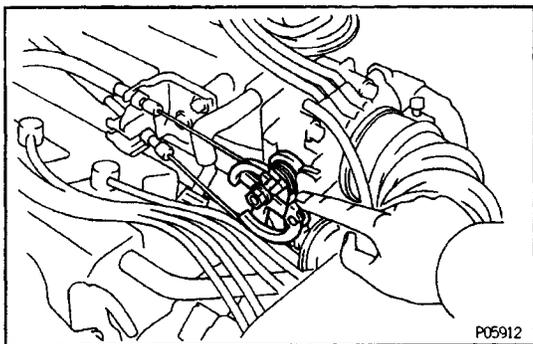


THROTTLE BODY

EG13C-01

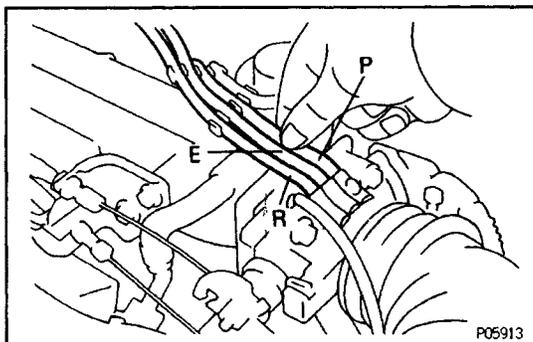




ON-VEHICLE INSPECTION

1. INSPECT THROTTLE BODY

(a) Check that the throttle linkage moves smoothly.

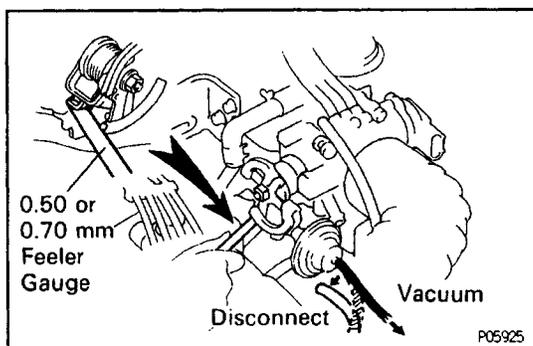


(b) Check the vacuum at each port.

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	No vacuum



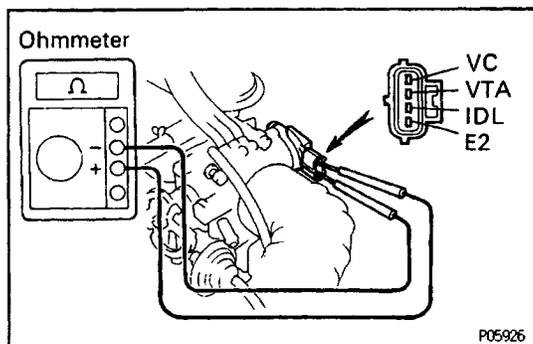
2. INSPECT THROTTLE POSITION SENSOR

(a) Disconnect the sensor connector.

(b) Disconnect the vacuum hose from the throttle opener.

(c) Apply vacuum to the throttle opener.

(d) Insert a feeler gauge between the throttle stop screw and stop lever.



(e) Using an ohmmeter, measure the resistance between each terminal.

Clearance between lever and stop screw	Between terminals	Resistance
0 mm (0 in.)	VTA - E2	0.2 - 5.7 k Ω
0.50 mm (0.020 in.)	1DL - E2	2.3 k Ω or less
0.70 mm (0.028 in.)	IDL - E2	Infinity
Throttle valve fully open	VTA - E2	2.0 - 10.2 k Ω
-	VC - E2	2.5 - 5.9 k Ω

(f) Reconnect the vacuum hose to the throttle opener.

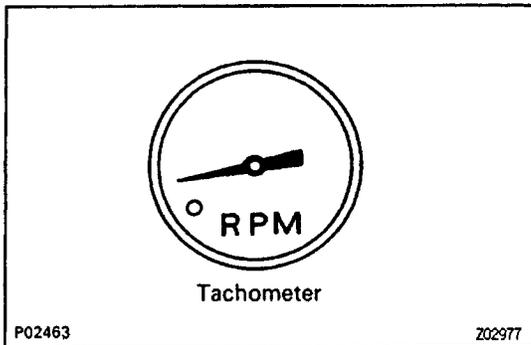
(g) Reconnect the sensor connector.

3. INSPECT AND ADJUST THROTTLE OPENER**A. Warm up engine**

Allow the engine to warm up to normal operating temperature.

B. Connect tachometer

(See step 2 in Ignition Timing Inspection and Adjustment)

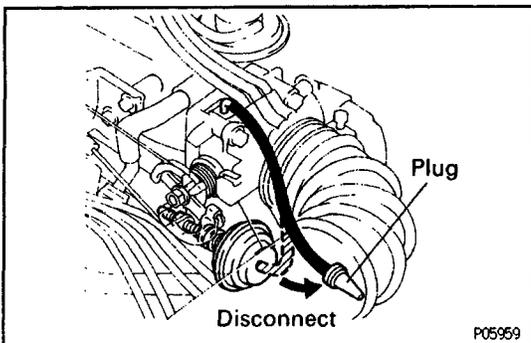
**C. Check idle speed**

Idle speed:

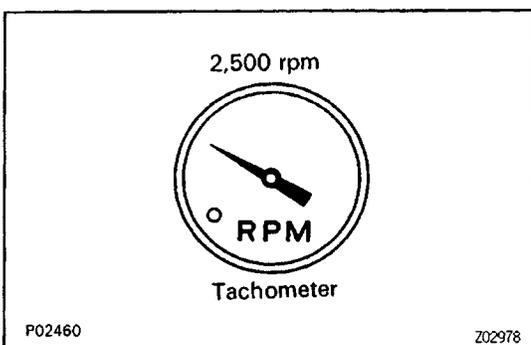
750 ± 50 rpm for USA M/T

700 ± 50 rpm for USA A/T

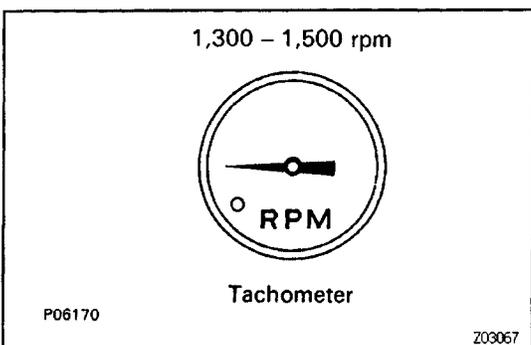
850 ± 50 rpm for CANADA M/T

**D. Check and adjust throttle opener setting speed**

(a) Disconnect the vacuum hose from the throttle opener, and plug the hose end.



(b) Maintain the engine at 2,500 rpm.

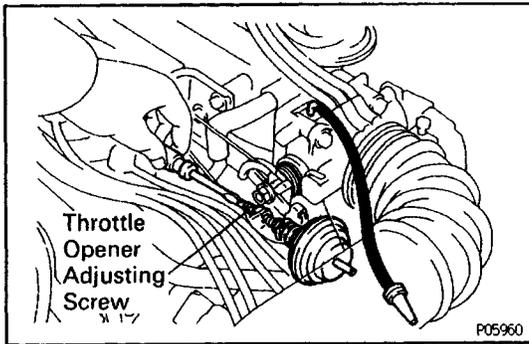


(c) Release the throttle valve.

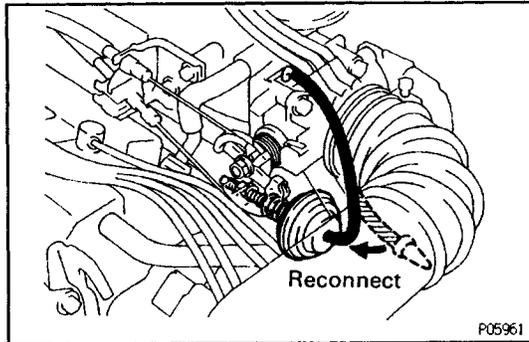
(d) Check that the throttle opener is set.

Throttle opener setting speed:

1,300 - 1,500 rpm (w/ Cooling fan OFF)



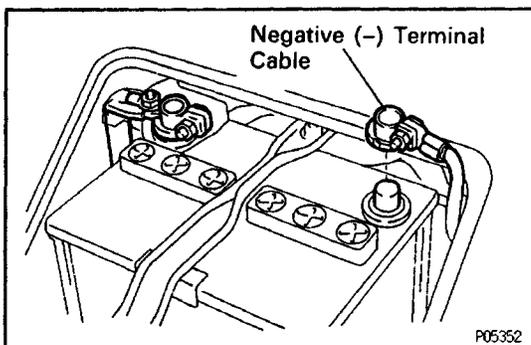
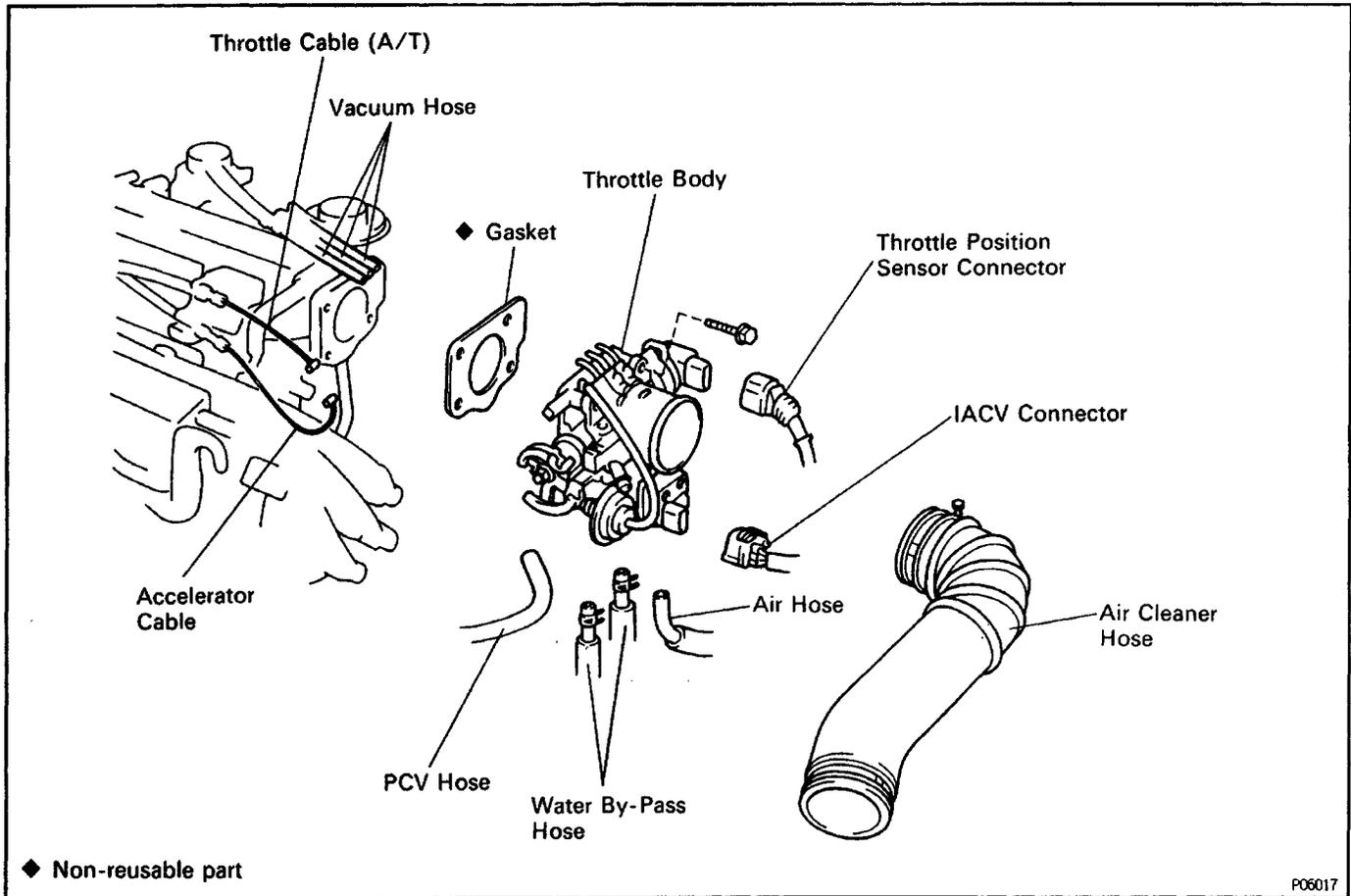
- (e) Adjust the throttle opener setting speed by turning the throttle opener adjusting screw.



- (f) Reconnect the vacuum hose to the throttle opener.

E. Disconnect tachometer

COMPONENTS FOR REMOVAL AND INSTALLATION



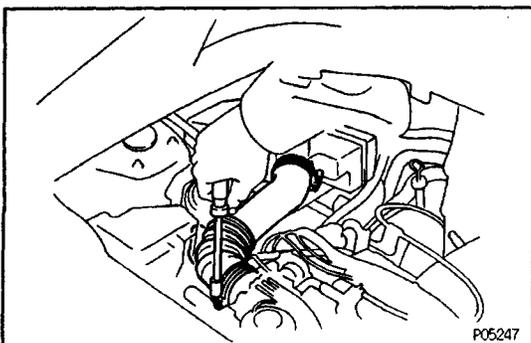
THROTTLE BODY REMOVAL

(See Components for Removal and Installation)

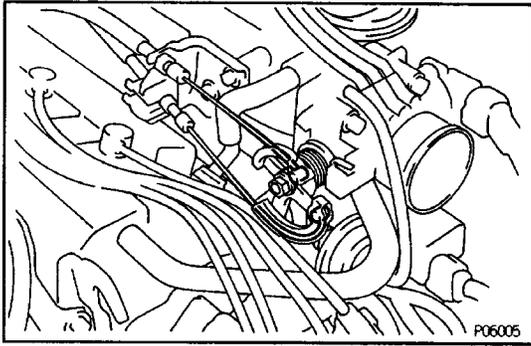
1. DISCONNECT CABLE FROM NEGATIVE TERMINAL OF BATTERY

CAUTION: Turn the ignition switch to 'LOCK'. Disconnect the negative terminal from the battery. Wait at least 20 seconds before proceeding with work.

2. DRAIN ENGINE COOLANT



3. REMOVE AIR CLEANER HOSE



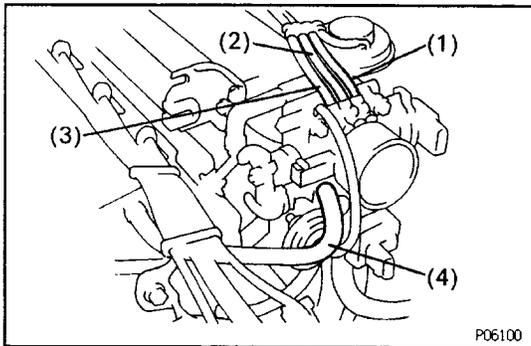
4. DISCONNECT ACCELERATOR CABLE FROM THROTTLE BODY

**5. (A/T)
DISCONNECT THROTTLE CABLE FROM THROTTLE BODY**

6. REMOVE THROTTLE BODY

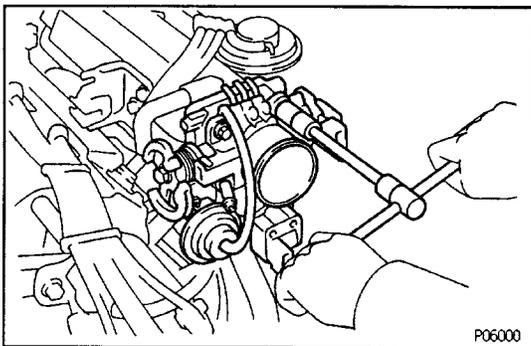
(a) Disconnect the following connector:

- Throttle position sensor connector
- IACV connector



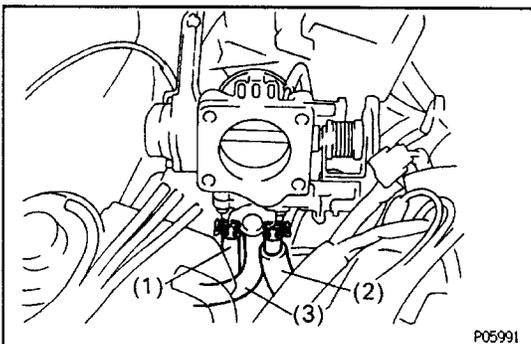
(b) Disconnect the following hoses:

- (1) Vacuum hose (from upper port of TVS) from port "P" of throttle body
- (2) Vacuum hose (from port "Q" of EGR vacuum modulator) from port "E" of throttle body
- (3) Vacuum hose (from port "R" of EGR vacuum modulator) from port "R" of throttle body
- (4) PCV hose (from cylinder head) from throttle body



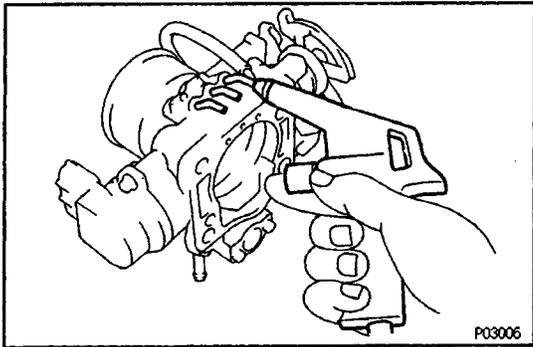
(c) Remove the four bolts, and disconnect the throttle body from the intake manifold.

(d) Remove the throttle body gasket.



(e) Disconnect the following hoses from the throttle body, and remove the throttle body:

- (1) Water by-pass hose (from water outlet)
- (2) Water by-pass hose (from water by-pass pipe)
- (3) Air hose (from A/C idle-up valve)

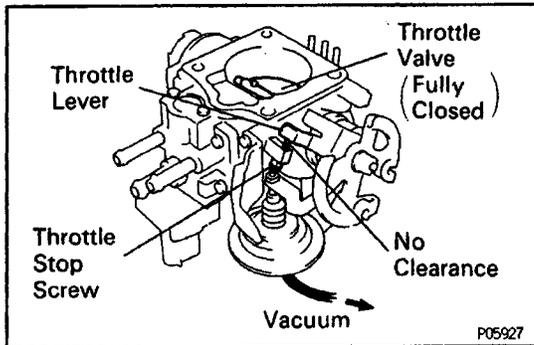


THROTTLE BODY INSPECTION

1. CLEAN THROTTLE BODY

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

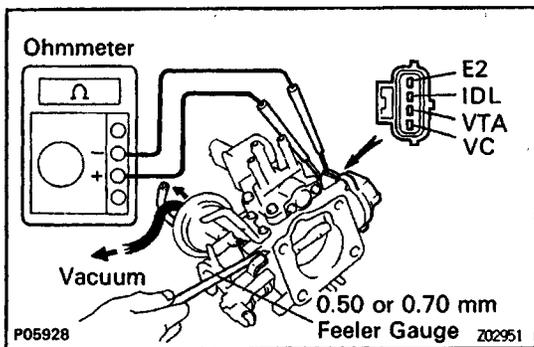
NOTICE: To prevent deterioration, do not clean the throttle position sensor.



2. DISCONNECT VACUUM HOSE FROM THROTTLE OPENER

3. INSPECT THROTTLE VALVE

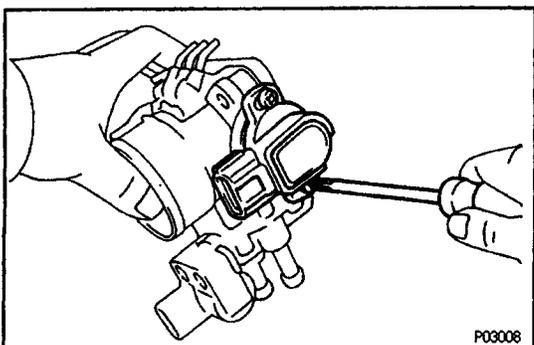
- Apply vacuum to the throttle opener.
- Check that there is no clearance between the throttle stop screw and throttle lever when the throttle valve is fully closed.



4. INSPECT THROTTLE POSITION SENSOR

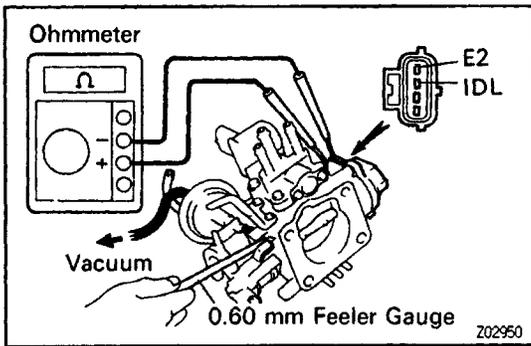
- Apply vacuum to the throttle opener.
- Insert a feeler gauge between the throttle stop screw and stop levee.
- Using an ohmmeter, measure the resistance between each terminal.

Clearance between lever and stop screw	Between terminals	Resistance
0 mm (0 in.)	VTA - E2	0.2 - 5.7 k Ω
0.50 mm (0.020 in.)	IDL - E2	2.3 k Ω or less
0.70 mm (0.028 in.)	IDL - E2	Infinity
Throttle valve fully open	VTA - E2	2.0 - 10.2 k Ω
--	VC - E2	2.5 - 5.9 k Ω

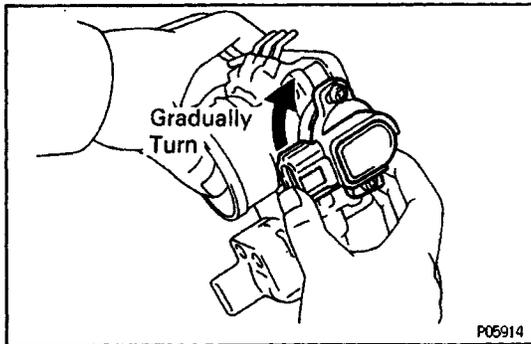


5. IF NECESSARY, ADJUST THROTTLE POSITION SENSOR

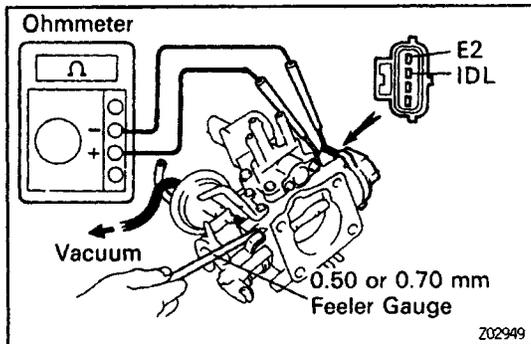
- Loosen the two set screws of the sensor.



- (b) Apply vacuum to the throttle opener.
- (c) Insert a 0.60 mm (0.024 in.) feeler gauge between the throttle stop screw and stop lever.
- (d) Connect the test probe of an ohmmeter to the terminals IDL and E2 of the sensor.

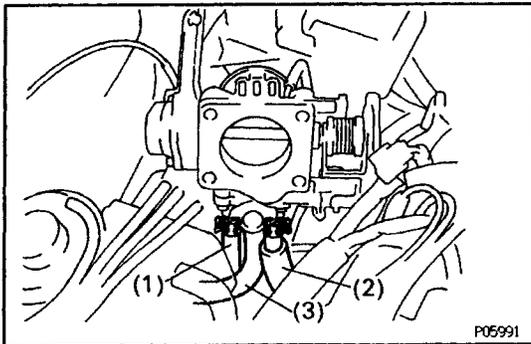


- (e) Gradually turn the sensor clockwise until the ohmmeter deflects, and secure it with the two set screws.



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

Clearance between feeler and stop screw	Continuity (IDL - E2)
0.50 mm (0.020 in.)	Continuity
0.70 mm (0.028 in.)	No continuity



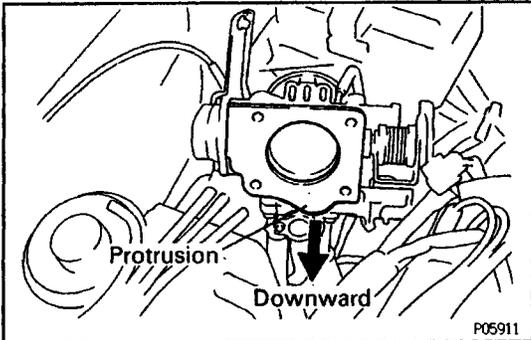
THROTTLE BODY INSTALLATION

(See Components for Removal and Installation)

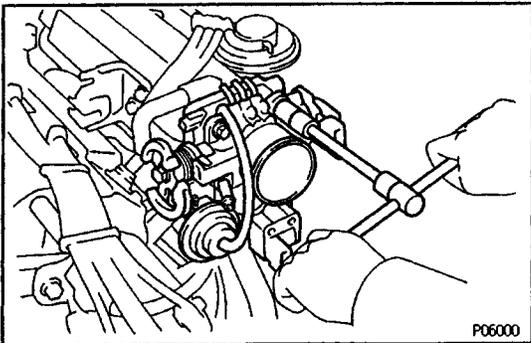
1. INSTALL THROTTLE BODY

(a) Connect the following hoses to the throttle body:

- (1) Water by-pass hose (from water outlet)
- (2) Water by-pass hose (from water by-pass pipe)
- (3) Air hose (from A/C idle-up valve)



(b) Install a new gasket on the throttle body, facing the protrusion downward.



(c) Install the throttle body with the four bolts.

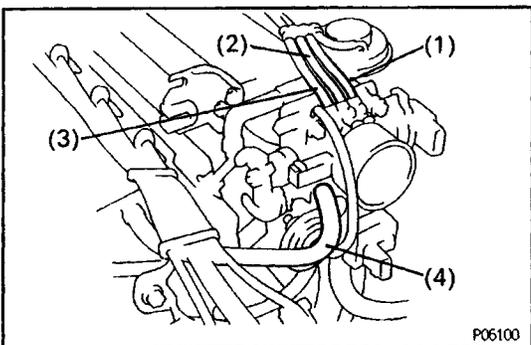
Torque: 19 N-m (195 kgf-cm, 14 ft-lbf)

HINT: Different bolt lengths are used for the upper and lower sides.

Bolt length:

45 mm (1.77 in.) for upper side

55 mm (2.17 in.) for lower side

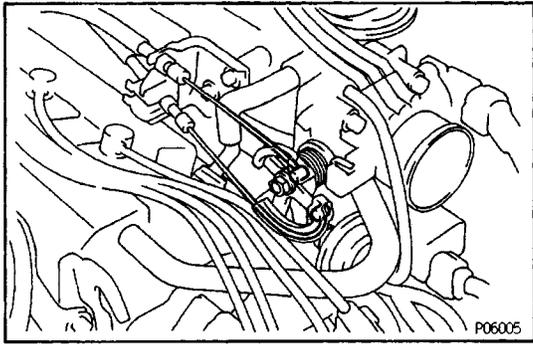


(d) Connect the following hoses:

- (1) Vacuum hose (from upper port of TVS) to port "P" of throttle body
- (2) Vacuum hose (from port "Q" of EGR vacuum modulator) to port "E" of throttle body
- (3) Vacuum hose (from port "R" of EGR vacuum modulator) to port "R" of throttle body
- (4) PCV hose (from cylinder head) to throttle body

(e) Reconnect the following connector:

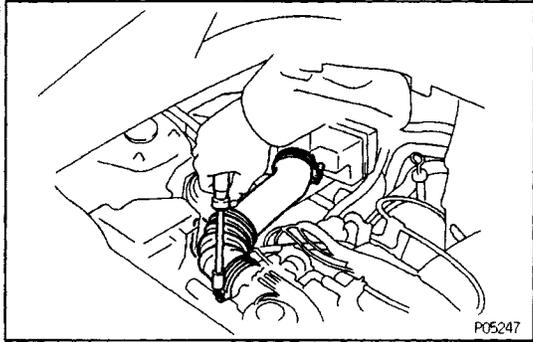
- Throttle position sensor connector
- IACV connector



2. CONNECT ACCELERATOR CABLE TO THROTTLE BODY

3. (A/T)

CONNECT THROTTLE CABLE TO THROTTLE BODY



4. INSTALL AIR CLEANER HOSE

5. FILL WITH ENGINE COOLANT

6. CONNECT CABLE TO NEGATIVE TERMINAL OF BATTERY