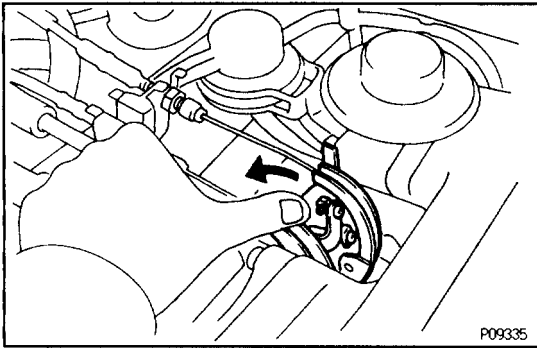
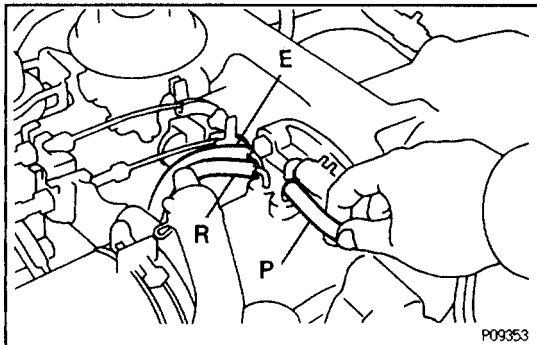




THROTTLE BODY ON-VEHICLE INSPECTION

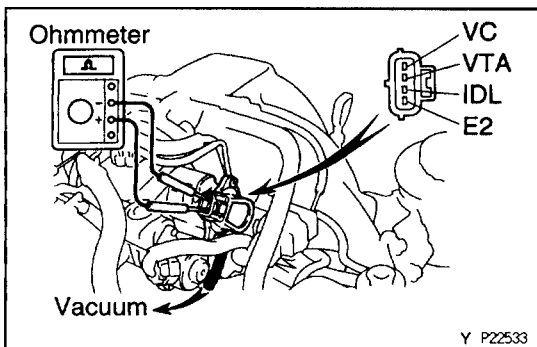
1. INSPECT THROTTLE BODY

- (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	At 3,500 rpm
P	No vacuum	Vacuum
E	No vacuum	Vacuum
R	No vacuum	Vacuum



2. INSPECT THROTTLE POSITION (TP) SENSOR

- (a) Disconnect the TP sensor connector.
 (b) Apply vacuum to the throttle opener.
 (c) Using an ohmmeter, measure the resistance between each terminal.

Throttle valve condition	Between terminals	Resistance
Fully closed	VTA-E2	0.2–5.7 kΩ
Fully closed	IDL-E2	2.3 kΩ or less
Open	IDL-E2	Infinity
Fully open	VTA-E2	2.0–10.2 kΩ
–	VC-E2	2.5–5.9 kΩ

- (d) Reconnect the TP sensor connector.

3. INSPECT AND ADJUST DASHPOT

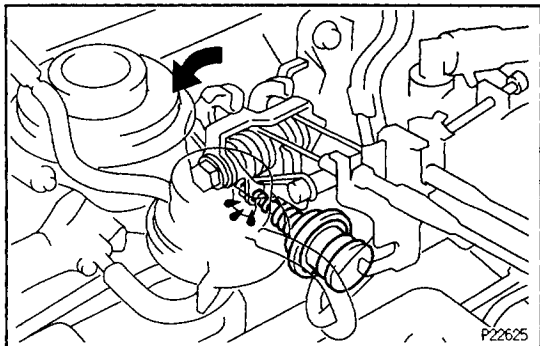
A. Warm up engine

Allow the engine to warm up to normal operating temperature.

B. Check idle speed

Idle speed:

650 ± 50 rpm (N position)

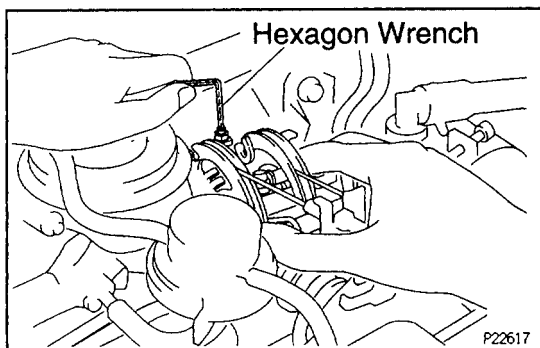


C. Check and adjust dashpot setting speed

- (a) Open the throttle valve until the throttle lever separates from the dashpot end.
- (b) Release the throttle valve gradually, and check the dashpot setting speed when the throttle lever touched the dashpot end.

Dashpot setting speed:

$2,200 \pm 300$ rpm

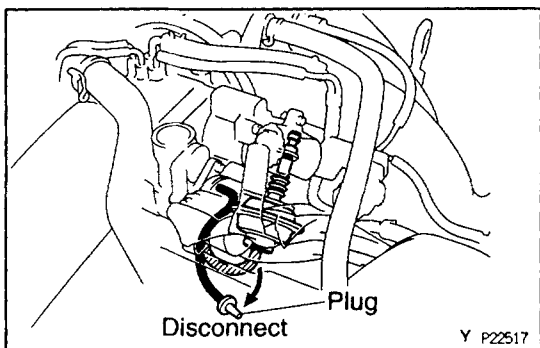


If not as specified, adjust using the following procedure:

- (1) Stop the engine.
- (2) Loosen the lock nut of the stopper bolt.
- (3) Adjust the dashpot setting speed by turning the stopper bolt.
- (4) Start the engine and check the dashpot setting speed.
- (5) Retighten the lock nut.

D. Check VTV operation

- (a) Maintain the engine at 3,500 rpm.
- (b) Release the throttle valve, and check that the engine returns to idle in a few seconds.



4. CHECK THROTTLE OPENER

- (a) Disconnect the vacuum hose from the throttle opener, and plug the hose end.
- (b) Check the throttle opener setting speed.

Throttle opener setting speed:

$700-1,000$ rpm

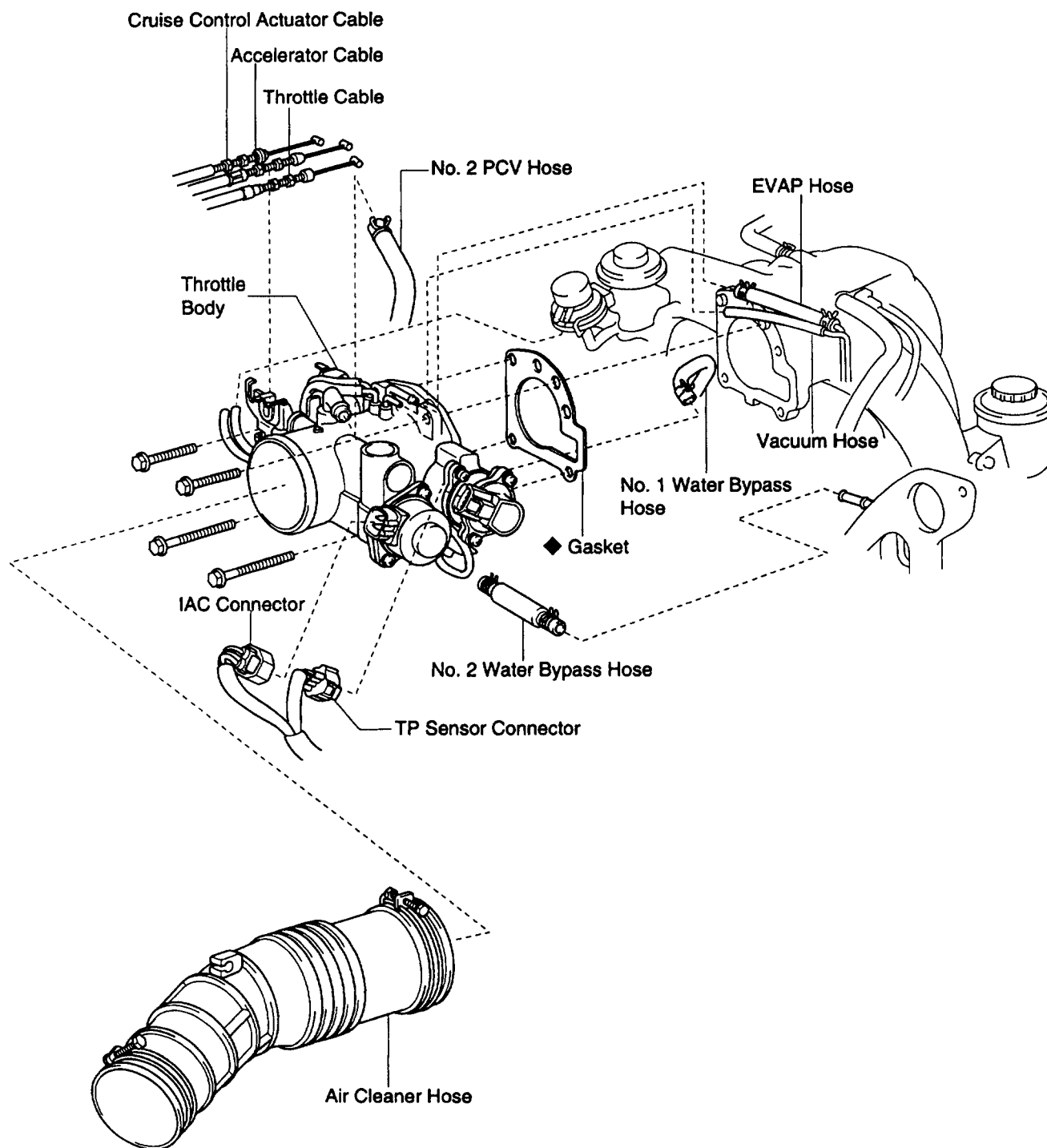
If the throttle opener setting is not as specified, replace the throttle body.

- (c) Stop the engine.
- (d) Reconnect the vacuum hose to the throttle opener.
- (e) Start the engine, and check that the idle speed returns to the correct speed.

Idle speed:

650 ± 50 rpm (N position)

COMPONENTS FOR REMOVAL AND INSTALLATION

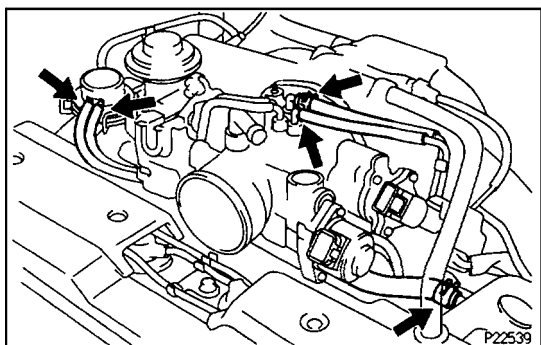


◆ Non-reusable part

THROTTLE BODY REMOVAL

Installation is in the reverse order of removal.

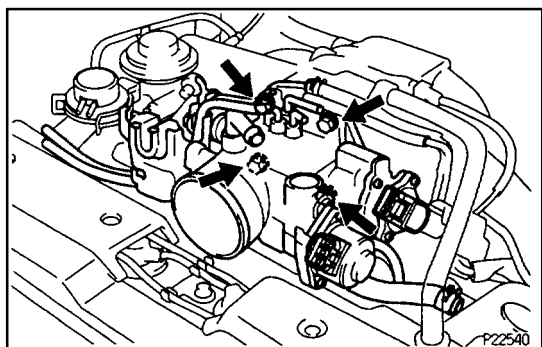
1. DRAIN ENGINE COOLANT
2. DISCONNECT NO.2 PCV HOSE
3. DISCONNECT AIR CLEANER HOSE
4. DISCONNECT CONTROL CABLES FROM THROTTLE BODY
5. DISCONNECT THROTTLE POSITION SENSOR CONNECTOR
6. DISCONNECT IDLE AIR CONTROL VALVE CONNECTOR



7. REMOVE THROTTLE BODY

- (a) Disconnect these hoses:

- (1) EVAP hose
- (2) 3 vacuum hoses
- (3) No.2 water bypass hose

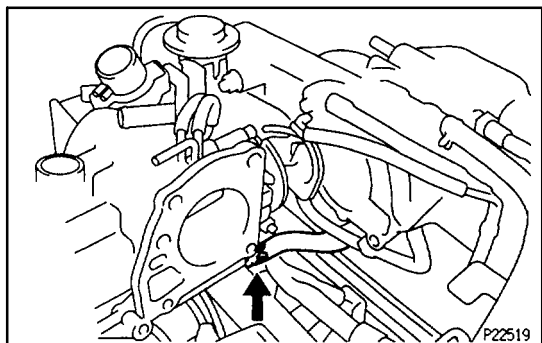


- (b) Remove the 4 bolts, and disconnect the throttle body from the air intake chamber.

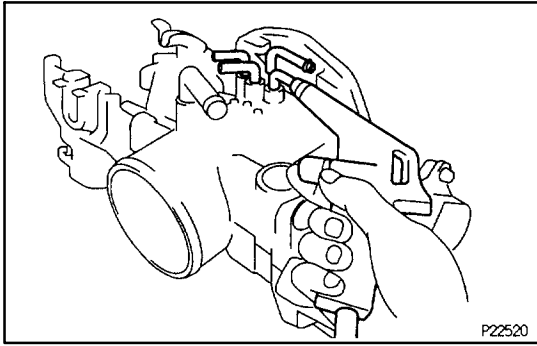
Torque: 21 N·m (210 kgf·cm, 15 ft·lbf)

- (c) Remove the throttle body gasket.

INSTALLATION HINT: Install a new gasket on the air intake chamber.



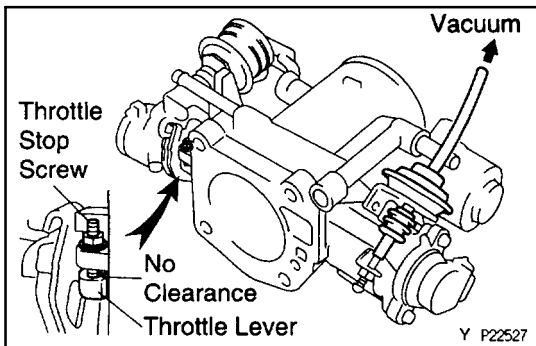
- (d) Disconnect the No.1 water bypass hose from the throttle body, and remove the throttle body.
- (e) Disconnect the No.2 water bypass hose from the throttle body.



THROTTLE BODY INSPECTION

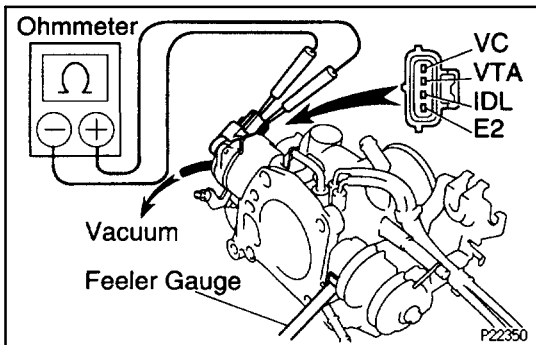
1. CLEAN THROTTLE BODY

- 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, dashpot and IAC valve.



2. INSPECT THROTTLE VALVE

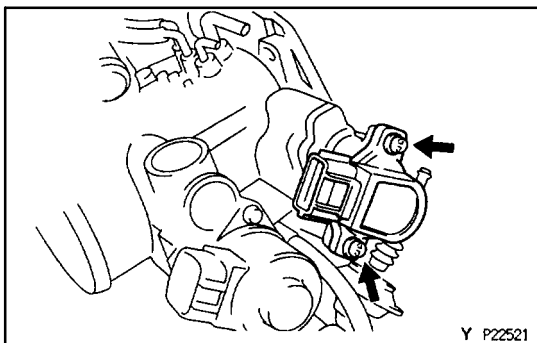
- Apply vacuum to the throttle opener.
- Check that there is no clearance between the throttle stop screw and throttle lever when the throttle valve is fully closed.



3. INSPECT THROTTLE POSITION SENSOR

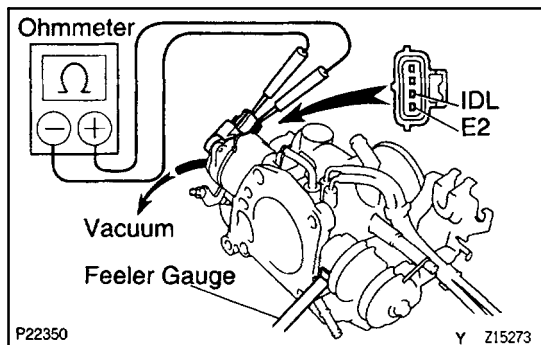
- Apply vacuum to the throttle opener.
- Insert a 0.50 mm (0.020 in.) or 0.75 mm (0.030 in.) feeler gauge between the throttle stop screw and stop lever.
- Using an ohmmeter, measure the resistance between each terminal.

Clearance between lever and stop screw	Between terminals	Resistance
0 mm (0 in.)	VTA-E2	0.2 – 5.7 kΩ
0.50 mm (0.020 in.)	IDL-E2	2.3 kΩ or less
0.75 mm (0.030 in.)	IDL-E2	Infinity
Throttle valve fully open	VTA-E2	2.0 – 10.2 kΩ
–	VC-E2	2.5 – 5.9 kΩ

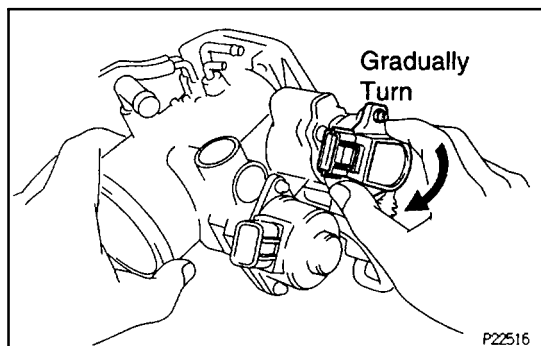


4. IF NECESSARY, ADJUST THROTTLE POSITION SENSOR

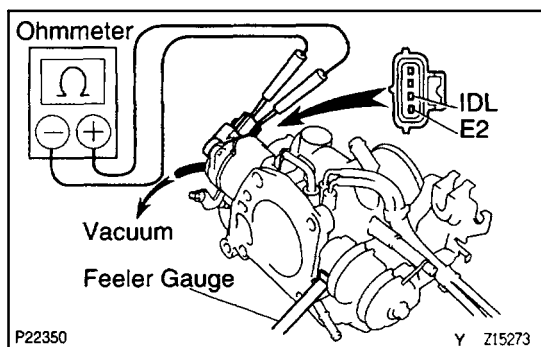
- Loosen the 2 set screws of the sensor.



- (b) Apply vacuum to the throttle opener.
- (c) Insert a 0.62 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.

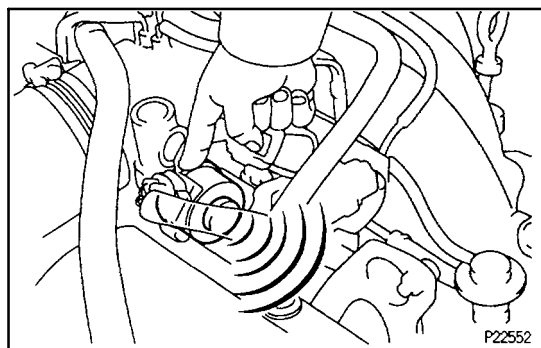


- (e) Gradually turn the sensor clockwise until the ohmmeter deflects, and secure it with the 2 set screws.



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

Clearance between lever and stop screw	Continuity (IDL-E2)
0.50 mm (0.020 in.)	Continuity
0.75 mm (0.030 in.)	No continuity



IDLE AIR CONTROL (IAC) VALVE ON-VEHICLE INSPECTION

1. INSPECT IAC VALVE FOR OPERATING SOUND

Check that there is a clicking sound immediately after stopping the engine.

If the operation is not as specified, check the IAC valve, wiring and ECM.

2. INSPECT IAC VALVE RESISTANCE

- (a) Disconnect the IAC valve connector.
- (b) Using an ohmmeter, measure the resistance between the terminals (B1-S1 and S3, B2-S2 and S4).

Resistance:

At 20°C (68°F): 10 - 30 Ω

If resistance is not as specified, replace the IAC valve.

- (c) Reconnect the IAC valve connector.

