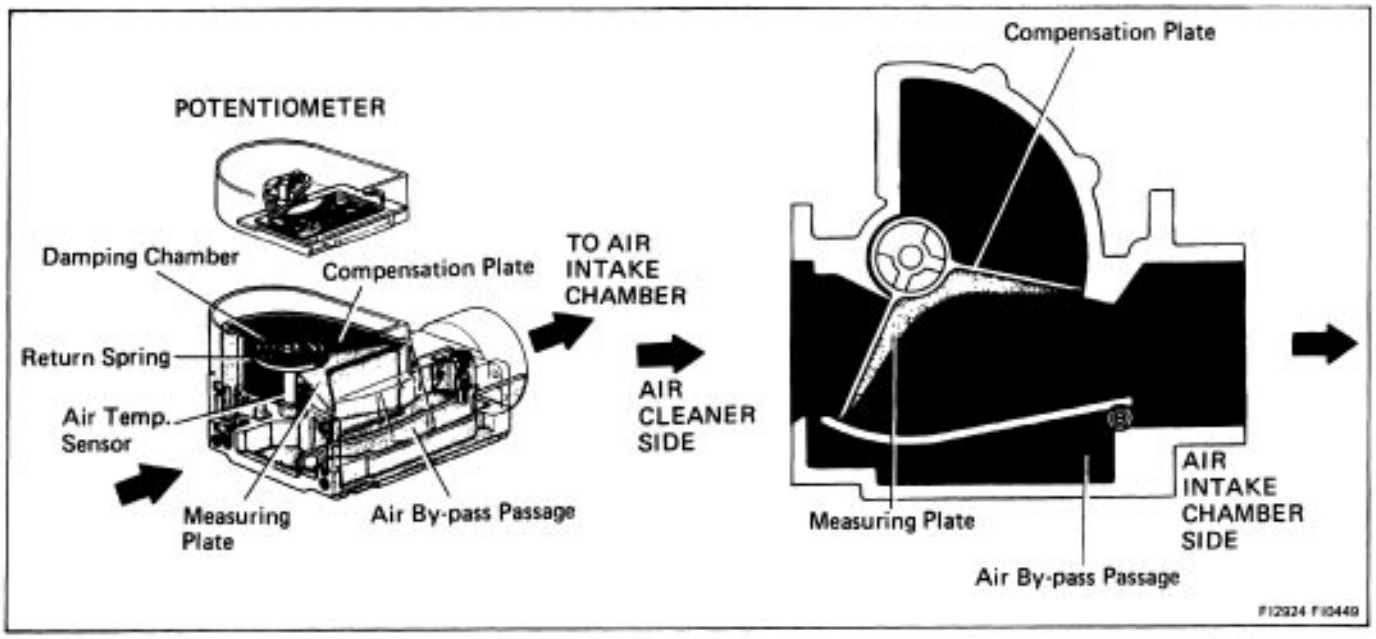
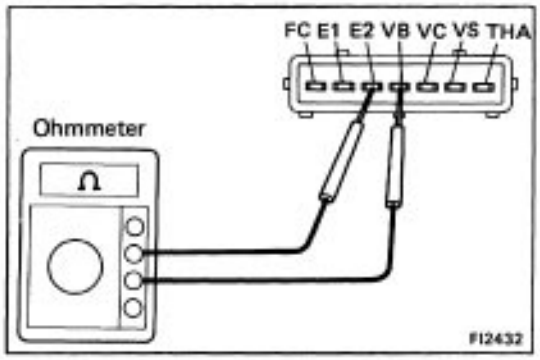
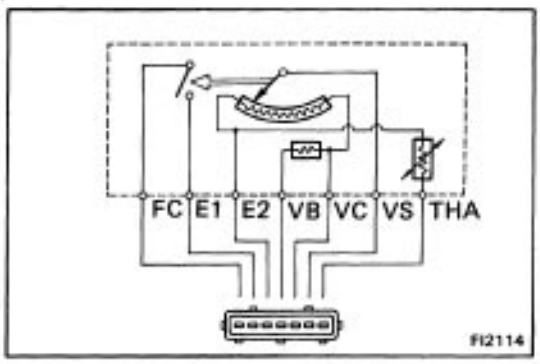
AIR INDUCTION SYSTEM

Air Flow Meter







ON–VEHICLE INSPECTION

(a) Unplug the wiring connector from the air flow meter.

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

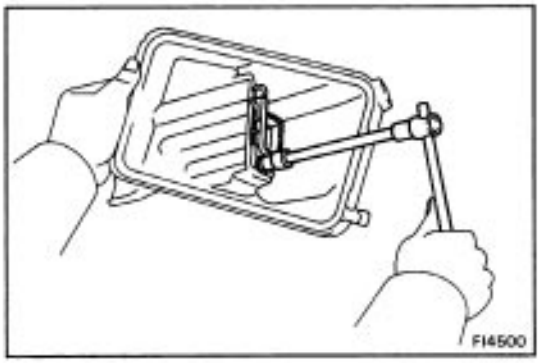
Between terminals	Resistance	Temperature
VS – E2	20 – 3,000 Ω	–
VC – E2	100 – 300 Ω	–
VB – E2	200 – 400 Ω	–
THA – E2	10 – 20 kΩ 4 – 7 kΩ 2 – 3 kΩ 0.9 – 1.3 kΩ 0.4 – 0.7 kΩ	– 20°C (–4°F) 0°C (32°F) 20°C (68°F) 40°C (104°F) 60°C (204°F)
FC – E1	Infinity	–

If the resistance is not as specified, replace the air flow meter.

(c) Reconnect the air flow meter connector.

REMOVAL OF AIR FLOW METER

1. DISCONNECT AIR CLEANER HOSE
2. REMOVE VSV (IDLE–UP)
3. DISCONNECT AIR FLOW METER CONNECTOR
4. REMOVE AIR CLEANER CAP WITH AIR FLOW METER



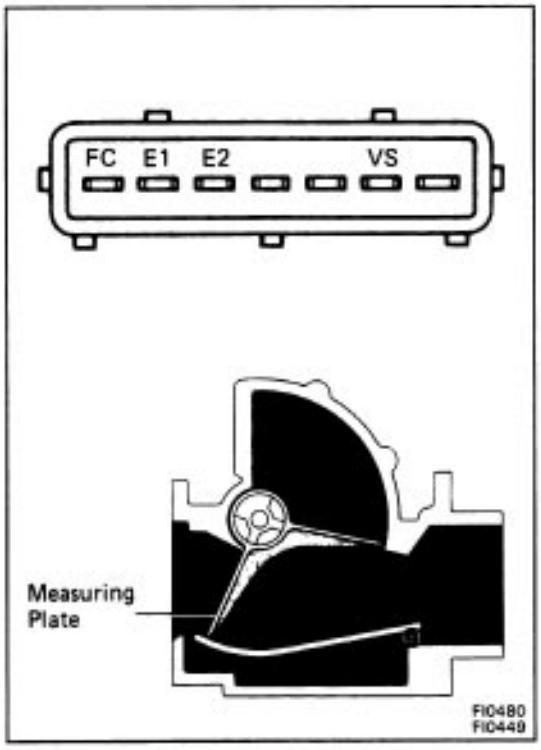
5. REMOVE AIR FLOW METER
Pry off the lock plate, and remove the four nuts, lock plate air flow meter and gasket.

INSPECTION OF AIR FLOW METER

Using an ohmmeter, measure the resistance between each terminal by moving the measuring plate.

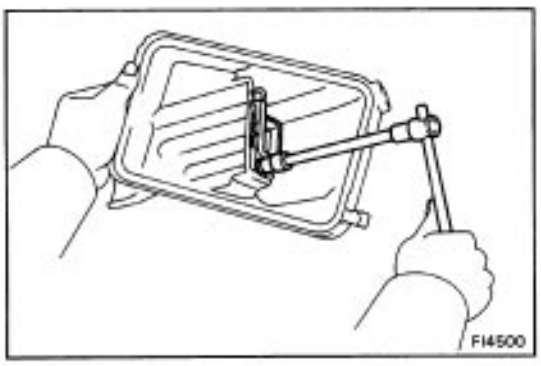
Between terminals	Resistance Ω	Measuring plate Opening
FC – E1	Infinity	Fully closed
	Zero	Other than closed position
VS – E2	20 – 400	Fully closed
	20 – 3,000	Fully open

HINT: Resistance between terminals E2 and VS will charge in a wave pattern as the measuring plate slowly opens.
If the resistance is not as specified, replace the air flow meter.

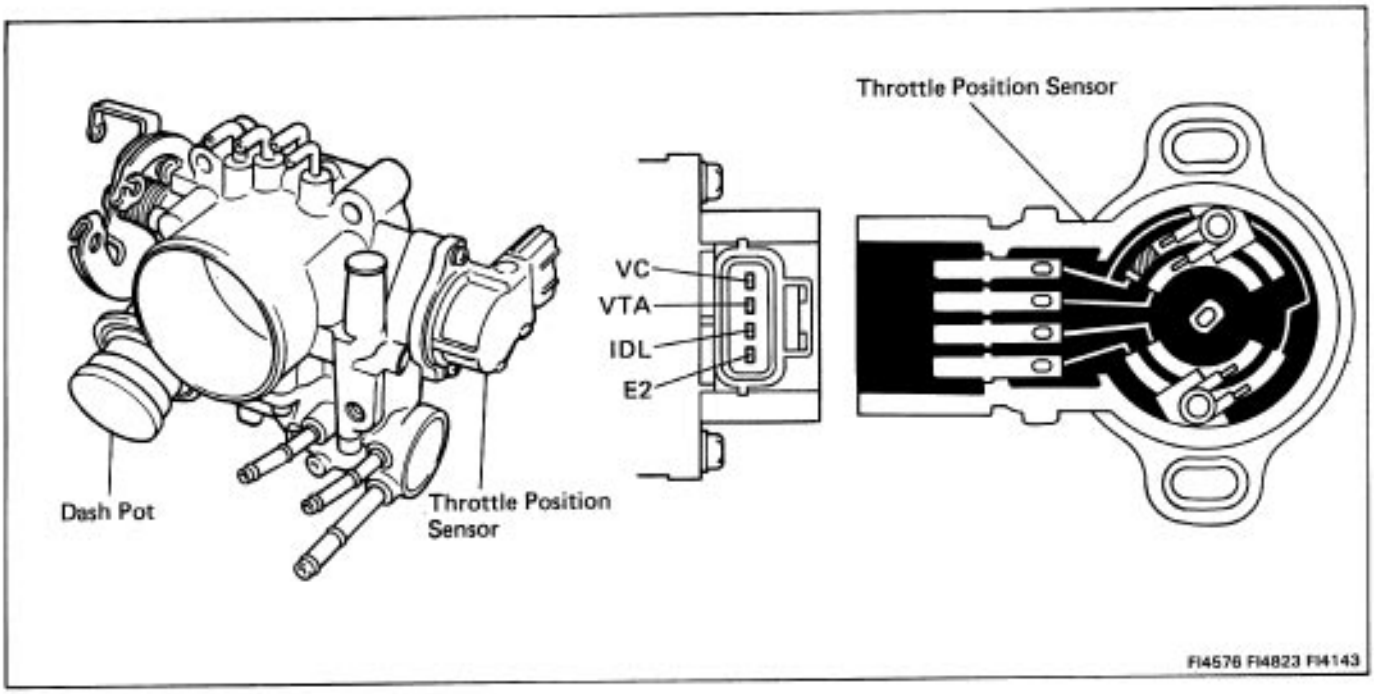


INSTALLATION OF AIR FLOW METER

1. INSTALL AIR FLOW METER
Install the gasket and air flow meter with the lock plate and four nuts.
Pry the lock plate on the nut.
2. INSTALL AIR CLEANER WITH AIR FLOW METER
3. CONNECT AIR FLOW METER CONNECTOR
4. INSTALL VSV (IDLE–UP)
5. CONNECT AIR CLEANER HOSE



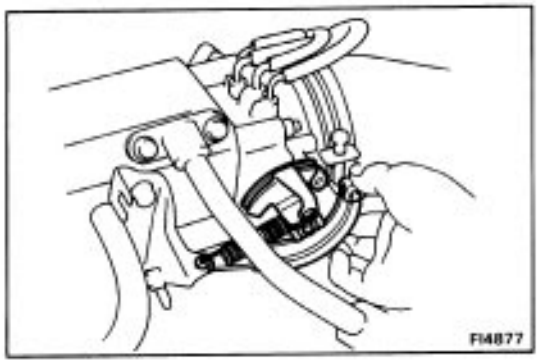
Throttle Body



ON–VEHICLE CHECK

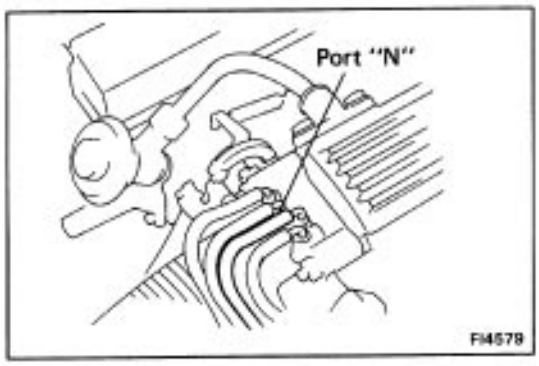
1. CHECK THROTTLE BODY

(a) Check that the throttle linkage moves smoothly.



(b) Check the vacuum at ”N” port.

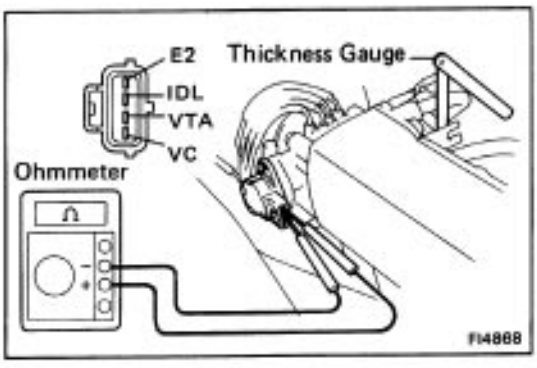
- Start the engine.
- Check the vacuum with your finger.

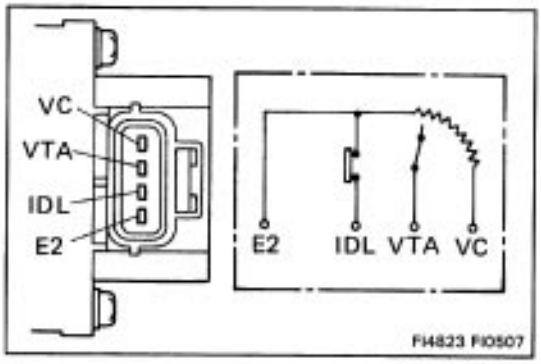


2. CHECK THROTTLE POSITION SENSOR

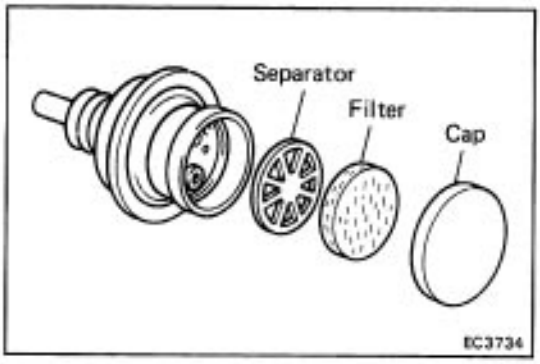
Check the resistance between the terminals.

- Unplug the connector from the sensor.
- Insert a thickness gauge between the throttle stop screw and stop lever.
- Using an ohmmeter, check the resistance between each terminal.





Clearance between lever and stop screw	Between terminals	Resistance
0 mm (0 in.)	VTA – E2	0.2 – 0.8 kΩ
0.35 mm (0.0138 in.)	IDL – E2	Less than 2.3 kΩ
0.59 mm (0.0232 in.)	IDL – E2	Infinity
Throttle valve fully open	VTA – E2	3.3 – 10 kΩ
–	VC – E2	3 – 7 kΩ



3. INSPECT AND ADJUST DASH POT (DP)

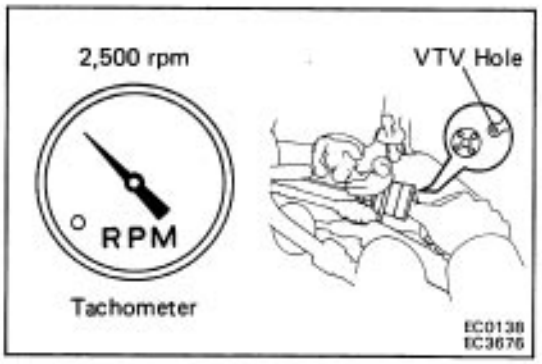
A. Warm up engine

Allow the engine to reach normal operating temperature.

B. Check idle speed

Idle speed: 800 ± 50 rpm

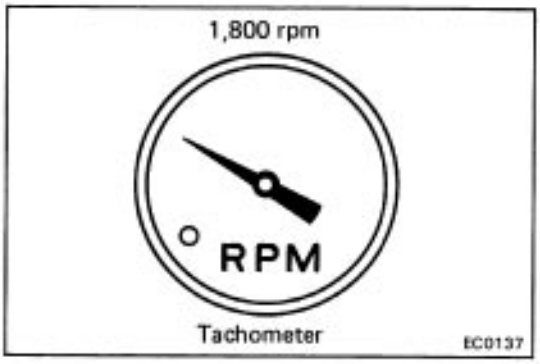
C. Remove cap, filter and separator from DP



D. Check and adjust DP setting speed

(a) Race the engine at 2,500 rpm for a few seconds.

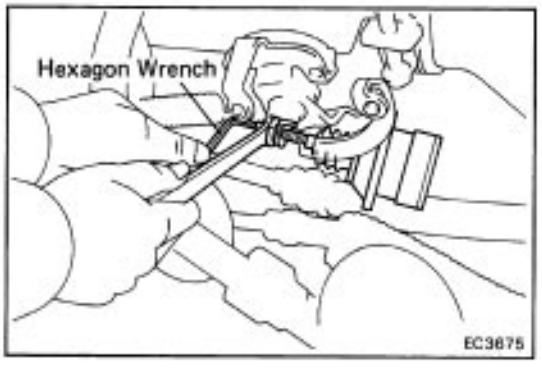
(b) Plug the VTV hole with your finger.



(c) Release the throttle valve.

(d) Check the DP setting speed.

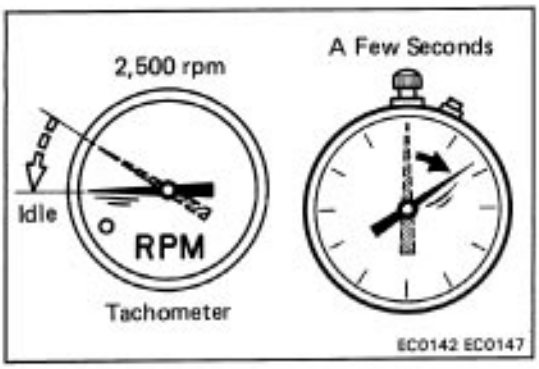
DP setting speed (w/ Cooling fan OFF): 1,800 rpm



(e) Adjust the DP setting speed by turning the DP ADJUSTING SCREW.

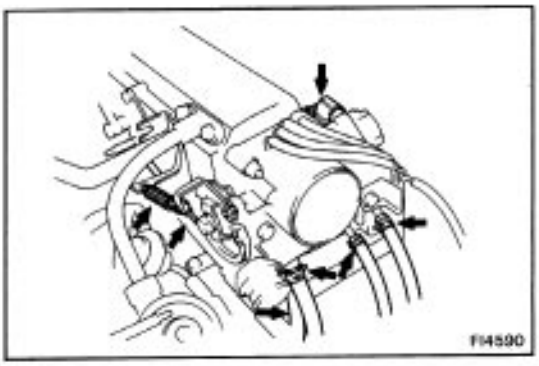
(f) Repeat steps from (a) to (c), and recheck the DP setting speed.

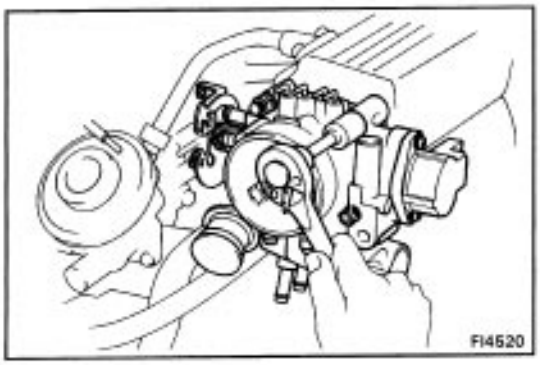
E. Reinstall DP separator, filter and cap

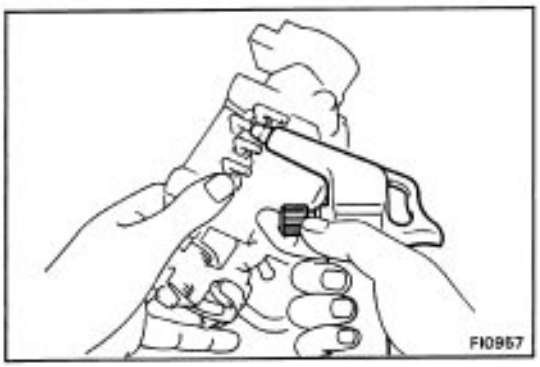


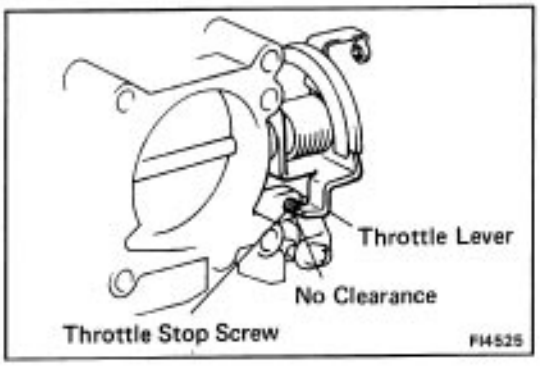
F. Check VTV operation

Race the engine at 2,500 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

2. DRAIN COOLANT FROM THROTTLE BODY

3. DISCONNECT AIR CLEANER HOSE

4. REMOVE ACCELERATOR RETURN SPRING

5. DISCONNECT ACCELERATOR WIRE

6. DISCONNECT THROTTLE POSITION SENSOR CONNECTOR

7. DISCONNECT WATER HOSES FROM AIR VALVE

8. REMOVE VACUUM PIPE

(a) Disconnect the vacuum hoses from the four ports.

(b) Remove the three bolts and vacuum pipe.

9. REMOVE THROTTLE BODY

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

INSPECTION OF THROTTLE BODY

1. CLEAN THROTTLE BODY BEFORE INSPECTION

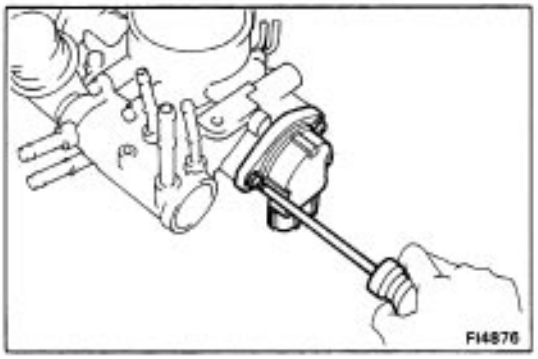
(a) Wash and clean the cast parts with a soft brush and carburetor cleaner.

(b) Using compressed air, blow all passages and apertures in the throttle body.

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

2. CHECK THROTTLE VALVE

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

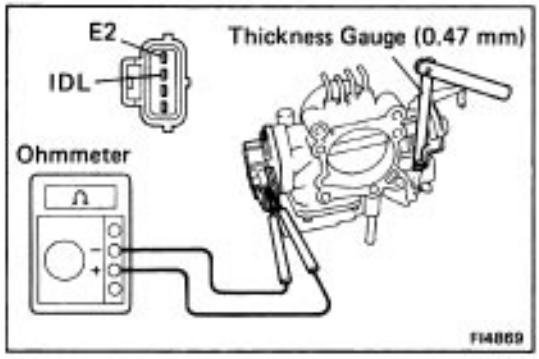


3. CHECK THROTTLE POSITION SENSOR

(See step 2 on page FI–149)

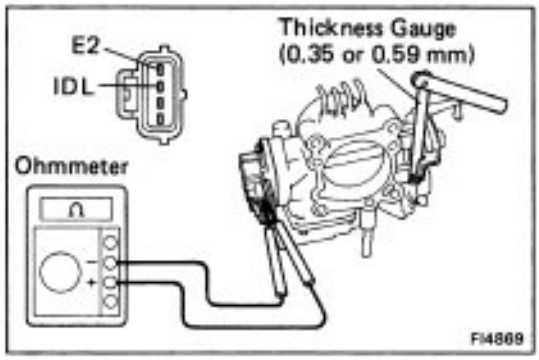
4. IF NECESSARY, ADJUST THROTTLE POSITION SENSOR

(a) Loosen the two screws of the sensor.



(b) Insert a thickness gauge (0.47 mm or 0.0185 in.) between the throttle stop screw and lever, and connect the ohmmeter to terminals IDL and E2.

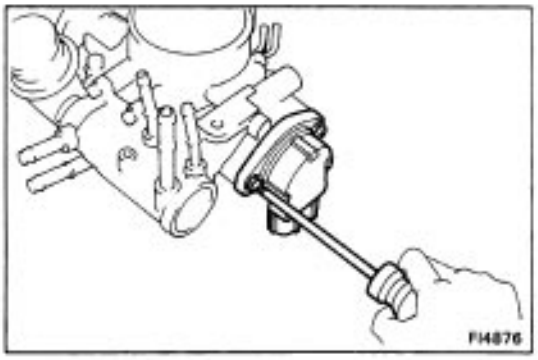
Gradually turn the sensor clockwise until the ohmmeter deflects, and secure the sensor with two screws.



(c) Using a thickness gauge, recheck the continuity between terminals IDL and E2.

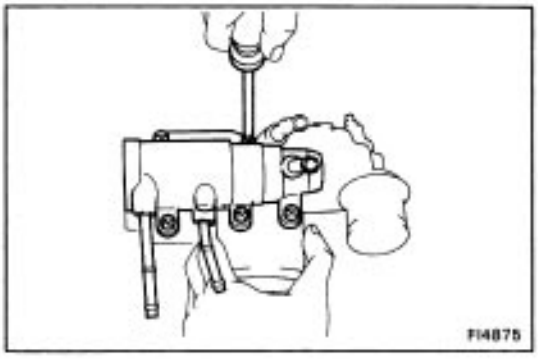
Clearance between lever and stop screw	Continuity (IDL – E2)
0.35 mm (0.0138 in.)	Continuity
0.59 mm (0.0232 in.)	No continuity

DISASSEMBLY OF THROTTLE BODY



1. REMOVE THROTTLE POSITION SENSOR

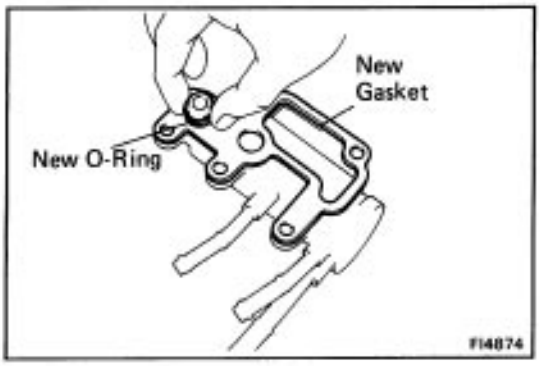
Remove the two screws and sensor.



2. REMOVE AUXILIARY AIR VALVE

Remove the five screws, air valve, gasket and O–ring.

3. REMOVE DASH POT



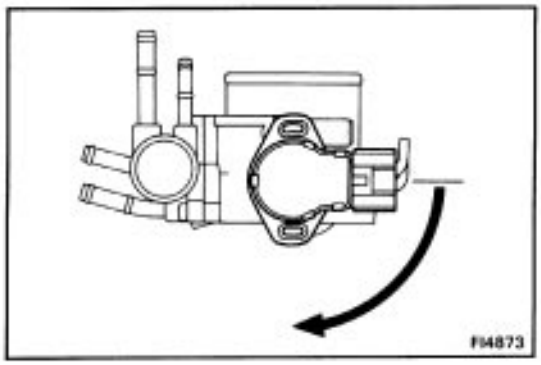
ASSEMBLY OF THROTTLE BODY

1. INSTALL DASH POT

2. INSTALL AUXILIARY AIR VALVE

(a) Place new gasket and O–ring on the throttle body.

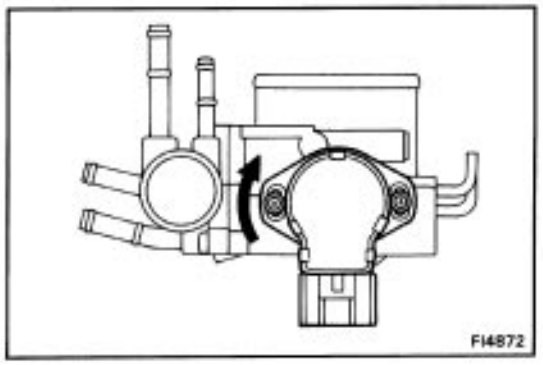
(b) Install the air valve with the five screws.



3. INSTALL THROTTLE POSITION SENSOR

(a) Check that the throttle valve is fully closed.

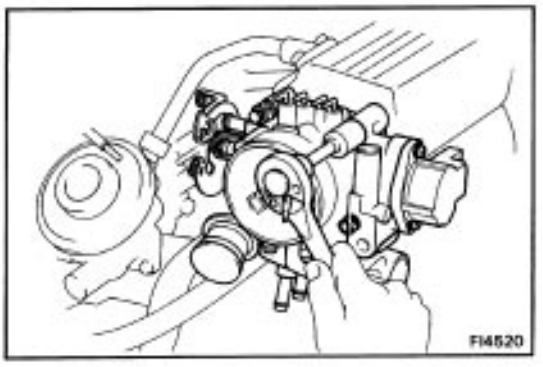
(b) Place the sensor on the throttle body as shown in the illustration.



(c) Turn the sensor clockwise, and temporarily install the two screws.

4. ADJUST THROTTLE POSITION SENSOR

(See step 4 on page FI–152)



INSTALLATION OF THROTTLE BODY

1. INSTALL THROTTLE BODY

Place on a new gasket and install the throttle body with the two bolts and two nuts.

Torque: 220 kg–cm (16 ft–lb, 22 N–m)

2. INSTALL VACUUM PIPE

(a) Install the vacuum pipe with the three bolts.

(b) Connect the vacuum pipes.

3. CONNECT WATER HOSES TO AIR VALVE

4. CONNECT THROTTLE POSITION SENSOR CONNECTOR

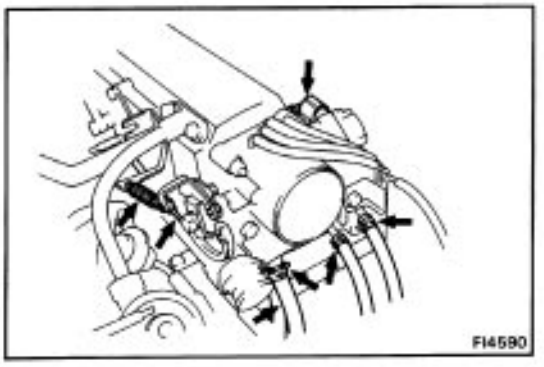
5. CONNECT ACCELERATOR WIRE

6. INSTALL ACCELERATOR RETURN SPRING

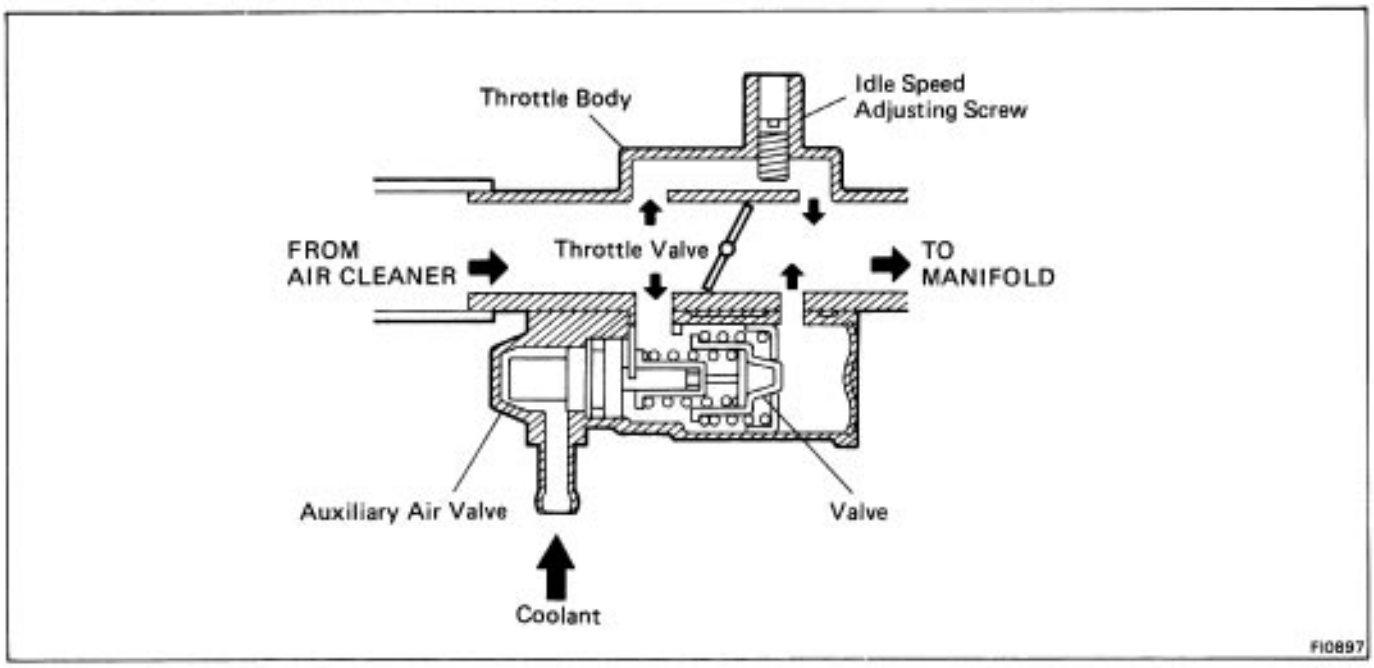
7. CONNECT AIR CLEANER HOSE

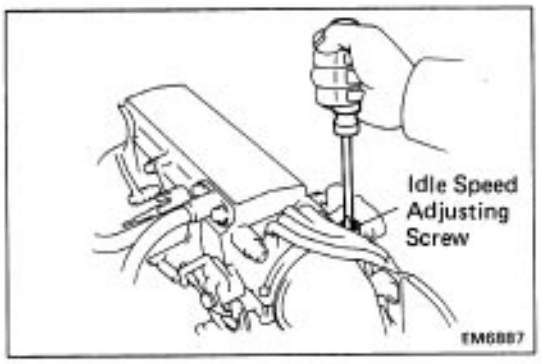
8. CONNECT CABLE TO NEGATIVE TERMINAL OF BATTERY

9. REFILL WITH COOLANT (See page CO–5)



Auxiliary Air Valve





ON–VEHICLE INSPECTION

Check the engine rpm by fully screwing in the idle speed adjusting screw.

At low temp. (Coolant temp.: below 80˚C or 176˚F)

- When the idle speed adjusting screw is in, the engine rpm should drop.

After warm–up

- When the idle speed adjusting screw is in, the engine rpm should drop below idle speed stop.

REMOVAL OF AUXILIARY AIR VALVE

1. REMOVE THROTTLE BODY (See page FI–150)

2. REMOVE AUXILIARY AIR VALVE (See step 2 on page FI–152)

INSTALLATION OF AUXILIARY AIR VALVE

1. INSTALL AUXILIARY AIR VALVE
(See step 2 on page FI–153)

2. INSTALL THROTTLE BODY (See page FI–153)