2. INSPECT THROTTLE POSITION SENSOR
   (a) Apply vacuum to the throttle opener.
   (b) Disconnect the sensor connector.
   (c) Insert a thickness gauge between the throttle stop screw and stop lever.

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.

<table>
<thead>
<tr>
<th>Port name</th>
<th>At idle</th>
<th>Other than idle</th>
</tr>
</thead>
<tbody>
<tr>
<td>P</td>
<td>No vacuum</td>
<td>Vacuum</td>
</tr>
<tr>
<td>E</td>
<td>No vacuum</td>
<td>Vacuum</td>
</tr>
<tr>
<td>R</td>
<td>No vacuum</td>
<td>No vacuum</td>
</tr>
</tbody>
</table>

MFI AND SFI SYSTEMS – Air Induction System (Throttle Body (5S–FE))
3. INSPECT AND ADJUST THROTTLE OPENER

A. Warm up engine
   Allow the engine to warm up to normal operating temperature.

B. Check idle speed
   Idle speed: 700 ± 50 rpm USA
            750 ± 50 rpm CANADA

C. 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)

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

<table>
<thead>
<tr>
<th>Clearance between lever and stop screw</th>
<th>Between terminals</th>
<th>Resistance</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 mm (0 in.)</td>
<td>VTA – E2</td>
<td>0.2 – 5.7 kΩ</td>
</tr>
<tr>
<td>0.50 mm (0.020 in.)</td>
<td>IDL – E2</td>
<td>2.3 kΩ or less</td>
</tr>
<tr>
<td>0.70 mm (0.028 in.)</td>
<td>IDL – E2</td>
<td>Infinity</td>
</tr>
<tr>
<td>Throttle valve fully open</td>
<td>VTA – E2</td>
<td>2.0 – 10.2 kΩ</td>
</tr>
<tr>
<td>-</td>
<td>VC – E2</td>
<td>2.5 – 5.9 kΩ</td>
</tr>
</tbody>
</table>

(e) Reconnect the sensor connector.
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
   (a) Disconnect the air intake temperature sensor connector.
   (b) Disconnect the cruise control actuator cable from the clamp on the resonator.
   (c) Loosen the air cleaner hose clamp bolt.
   (d) Disconnect the four air cleaner cap clips.
   (e) Disconnect the air cleaner hose from the throttle body, and remove the air cleaner cap together with the resonator and air cleaner hose.

6. DISCONNECT THROTTLE POSITION SENSOR CONNECTOR

7. DISCONNECT IAC VALVE CONNECTOR
8. DISCONNECT HOSES FROM THROTTLE BODY
   (a) PCV hose
   (b) Two vacuum hoses from EGR vacuum modulator
   (c) Vacuum hoses from EVAP VSV

9. REMOVE THROTTLE BODY
   (a) Remove the four bolts, throttle body and gasket.

   (b) Disconnect the 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 air tube

10. IF NECESSARY, REMOVE IAC VALVE FROM THROTTLE BODY
    Remove the four screws, IAC valve and gasket.
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.

2. INSPECT THROTTLE VALVE
   (a) Apply vacuum to the throttle opener.
   (b) 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
   (See step 2 on page FI–199)

4. IF NECESSARY, ADJUST THROTTLE POSITION SENSOR
   (a) Loosen the two set screws of the sensor.
   (b) Apply vacuum to the throttle opener.
   (c) Insert a 0.60 mm (0.024 in.) thickness 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.

<table>
<thead>
<tr>
<th>Clearance between lever and stop screw</th>
<th>Continuity (IDL – E2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.50 mm (0.020 in.)</td>
<td>Continuity</td>
</tr>
<tr>
<td>0.70 mm (0.028 in.)</td>
<td>No continuity</td>
</tr>
</tbody>
</table>
INSTALLATION OF THROTTLE BODY

1. INSTALL IAC VALVE TO THROTTLE BODY
   (a) Place a new gasket on the throttle body.

(b) Install the IAC valve with the four screws.

2. INSTALL THROTTLE BODY
   (a) Connect the following hoses to the throttle body:
      (1) Water by–pass hose to water outlet
      (2) Water by–pass hose to water by–pass pipe
      (3) Air hose to air tube

(b) Place 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: Each bolt is indicated in the illustration.
   Bolt length: A 45 mm (1.77 in.)
   B 55 mm (2.17 in.)
3. CONNECT HOSES TO THROTTLE BODY
   (a) PCV hose
   (b) Two vacuum hoses to EGR vacuum modulator
   (c) Vacuum hose to EGR VSV

4. CONNECT IAC VALVE CONNECTOR

5. CONNECT THROTTLE POSITION SENSOR CONNECTOR

6. INSTALL AIR CLEANER CAP AND AIR CLEANER HOSE
   (a) Connect the air–cleaner hose to the throttle body.
   (b) Install the air cleaner cap together with the resonator and air cleaner hose.
   (c) Connect the air intake temperature sensor connector.
   (d) Connect the cruise control actuator cable to the clamp on the resonator.

7. CONNECT ACCELERATOR CABLE, AND ADJUST IT
8. (A/T)
   CONNECT THROTTLE CABLE, AND ADJUST IT
9. FILL WITH ENGINE COOLANT (See page CO–6)
10. CONNECT CABLE TO NEGATIVE TERMINAL OF BATTERY