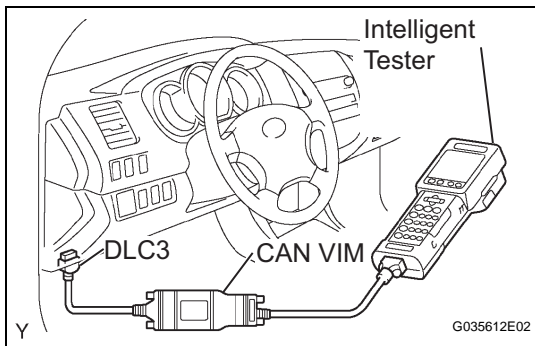


## ON-VEHICLE INSPECTION

### 1. INSPECT THROTTLE BODY ASSEMBLY

- (a) Listen to the throttle control motor operating sounds.
  - (1) Turn the ignition switch to ON.
  - (2) When pressing the accelerator pedal, listen to the running sounds of the motor. Make sure no friction noises come from the motor.  
If friction noises exist, check the throttle body, wire harness and ECM.



- (b) Inspect the throttle position sensor.
  - (1) Connect the intelligent tester to the DLC3.
  - (2) Turn the ignition switch to ON.
  - (3) Turn the intelligent tester ON.
  - (4) Select the following menu items: DIAGNOSIS / ENHANCED OBD II / DATA LIST / ALL / THROTTLE POS.
  - (5) Depress the accelerator pedal. When the throttle valve is fully opened, check that the THROTTLE POS value is within the specified range.

**Standard:**

**60 % or more**

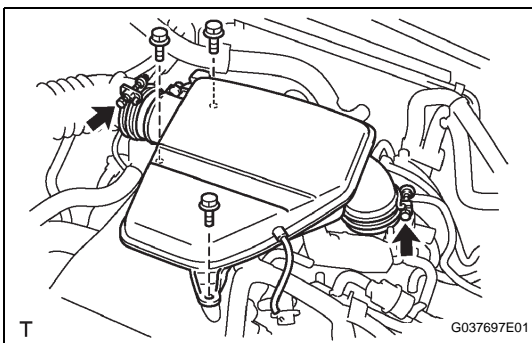
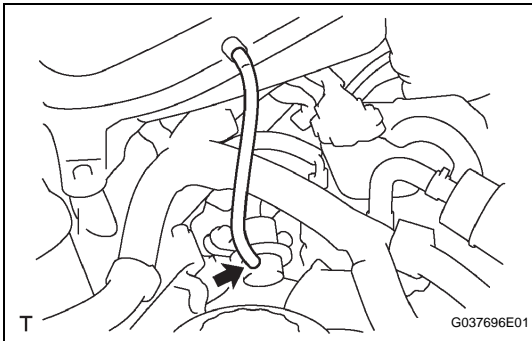
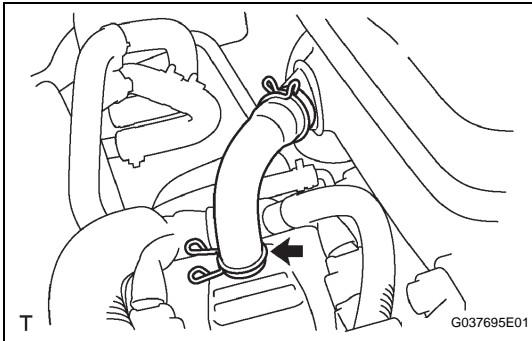
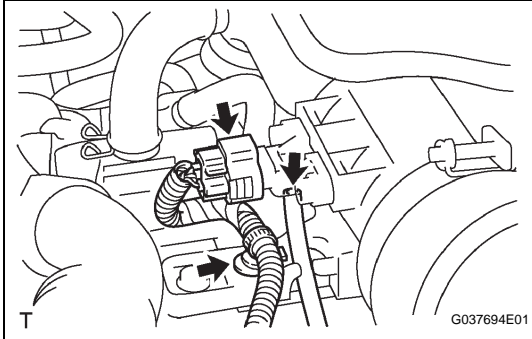
**NOTICE:**

**When checking the standard throttle valve opening percentage, the transmission should be in the neutral position.**

If the result is not as specified, check the throttle body, wire harness and ECM.

## REMOVAL

1. DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL
2. REMOVE NO. 1 ENGINE UNDER COVER SUB-ASSEMBLY (for 4WD and Pre-Runner)
3. DRAIN ENGINE COOLANT (See page [CO-3](#))
4. REMOVE INTAKE AIR CONNECTOR
  - (a) Disconnect the pressure sensor connector.
  - (b) Disengage the wire harness clamp.
  - (c) Disconnect the vacuum hose.

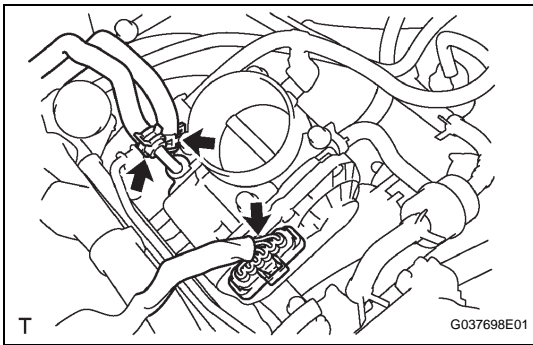


(d) Disconnect the No. 2 ventilation hose.

(e) Disconnect the vacuum hose.

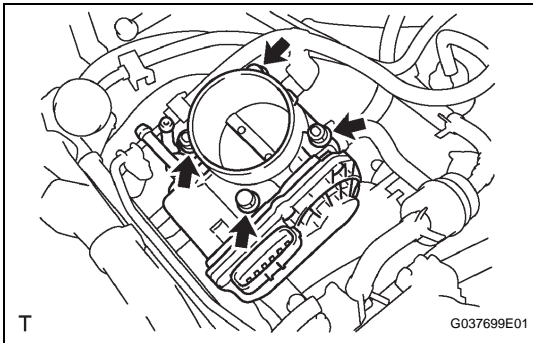
(f) Loosen the 2 hose clamp bolts.

(g) Remove the 3 bolts, then remove the intake air connector.

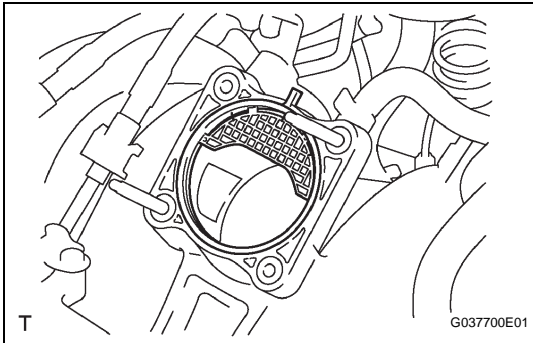


**5. REMOVE THROTTLE WITH MOTOR BODY ASSEMBLY**

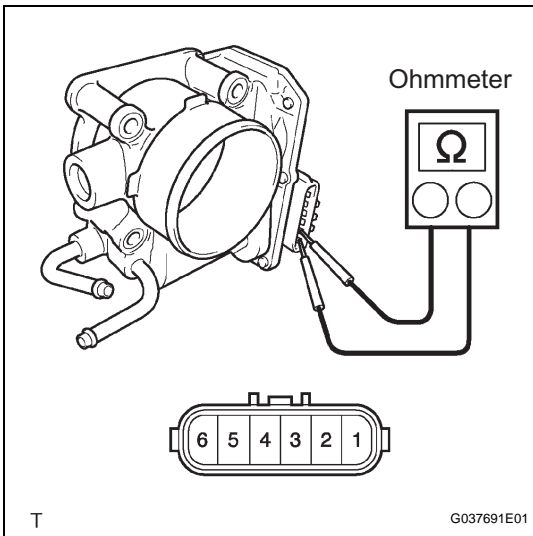
- (a) Disconnect the water by-pass hose.
- (b) Disconnect the No. 2 water by-pass hose.
- (c) Disconnect the throttle motor connector.



- (d) Remove the 2 bolts and 2 nuts, then remove the throttle with motor body.



- (e) Remove the gasket from the intake manifold.



**INSPECTION**

**1. INSPECT THROTTLE WITH MOTOR BODY ASSEMBLY**

- (a) Check the resistance.
  - (1) Using an ohmmeter, measure the resistance between the terminals.

**Standard**

Tester Connection	Specified Condition
1(M-) - 2 (M+)	0.3 to 100 Ω at 20°C (68°F)
3 (E2) - 5 (VC)	2.0 to 4.0 kΩ at 20°C (68°F)

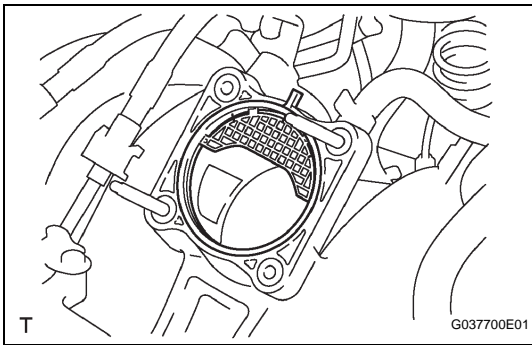
If the result is not as specified, replace the throttle body.

ES

## INSTALLATION

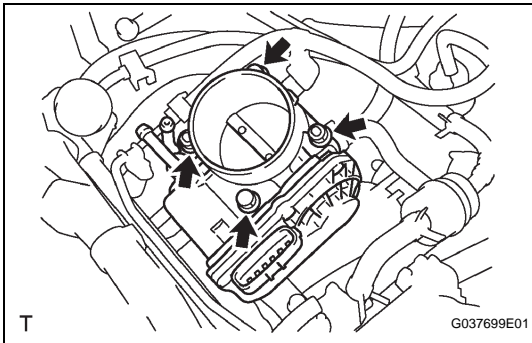
### 1. INSTALL THROTTLE WITH MOTOR BODY ASSEMBLY

- (a) Install a new gasket onto the intake manifold.

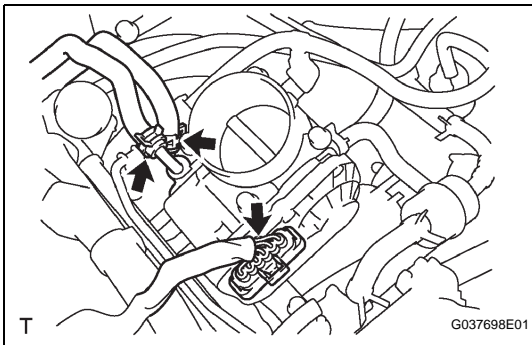


- (b) Install the throttle with motor body with the 2 bolts and 2 nuts.

**Torque: 9 N\*m (92 kgf\*cm, 80 in.\*lbf)**



- (c) Connect the water by-pass hose.  
 (d) Connect the water by-pass hose No. 2.  
 (e) Connect the throttle motor connector.



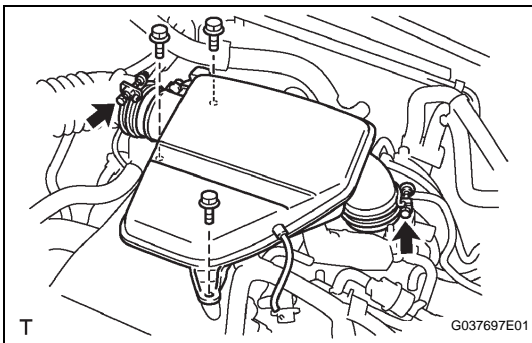
### 2. INSTALL INTAKE AIR CONNECTOR

- (a) Install the intake air connector with the 3 bolts.

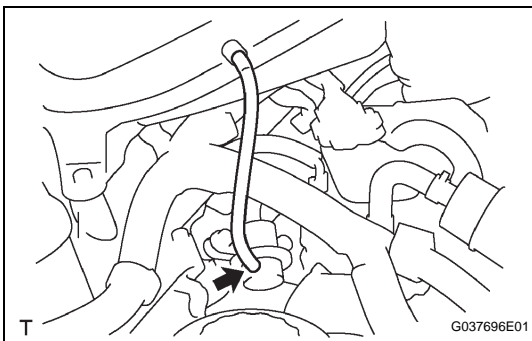
**Torque: 8 N\*m (82 kgf\*cm, 71 in.\*lbf)**

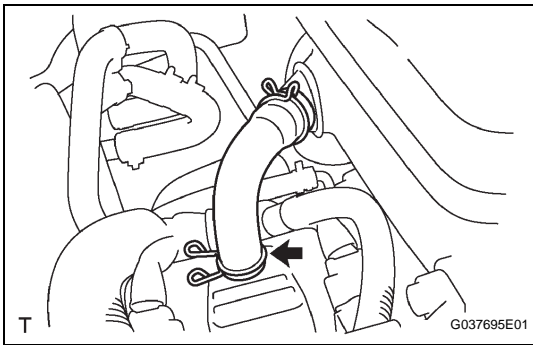
- (b) Tighten the 2 hose clamp bolts.

**Torque: 5 N\*m (51 kgf\*cm, 44 in.\*lbf)**

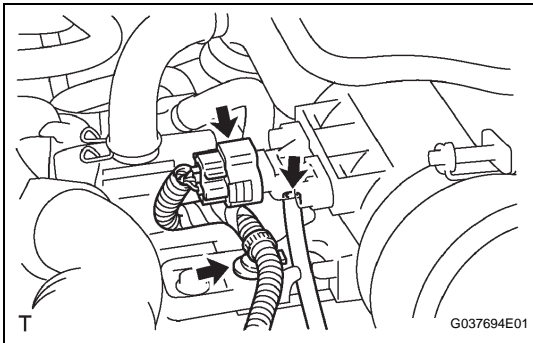


- (c) Connect the vacuum hose.





(d) Connect the ventilation hose No. 2.



(e) Connect the vacuum hose.

(f) Engage the wire harness clamp.

(g) Connect the pressure sensor connector.

**3. CONNECT CABLE TO NEGATIVE BATTERY TERMINAL**

Torque: 3.9 N\*m (40 kgf\*cm, 35 in.\*lbf)

**4. ADD ENGINE COOLANT (See page CO-3)**

**5. CHECK FOR ENGINE COOLANT LEAKAGE (See page CO-2)**

**6. INSTALL ENGINE UNDER COVER SUB-ASSEMBLY NO.1 (for 4WD and Pre-Runner)**