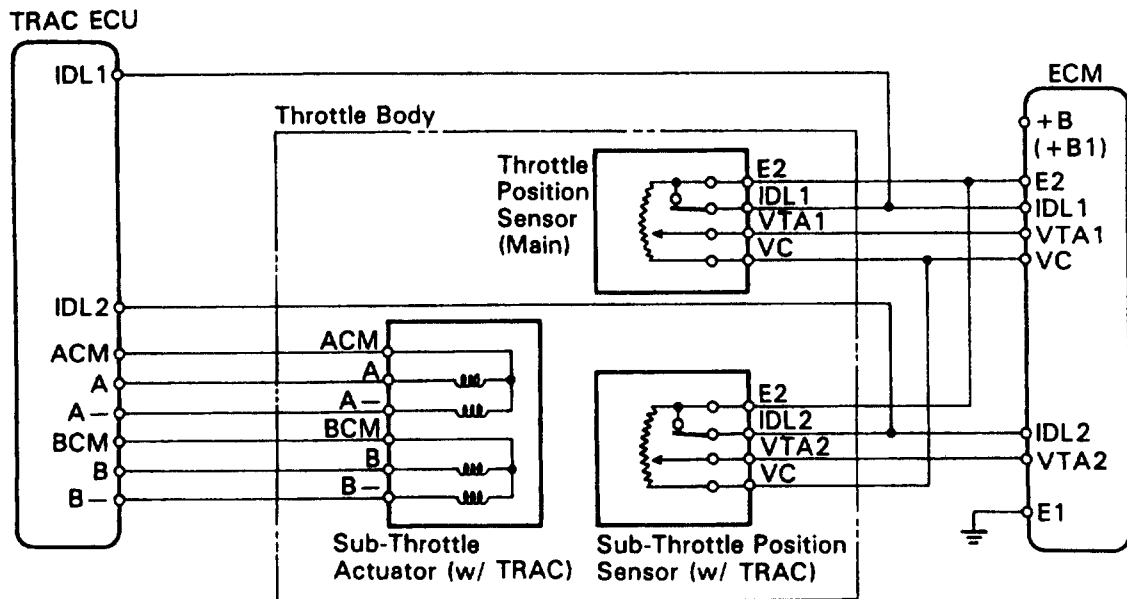
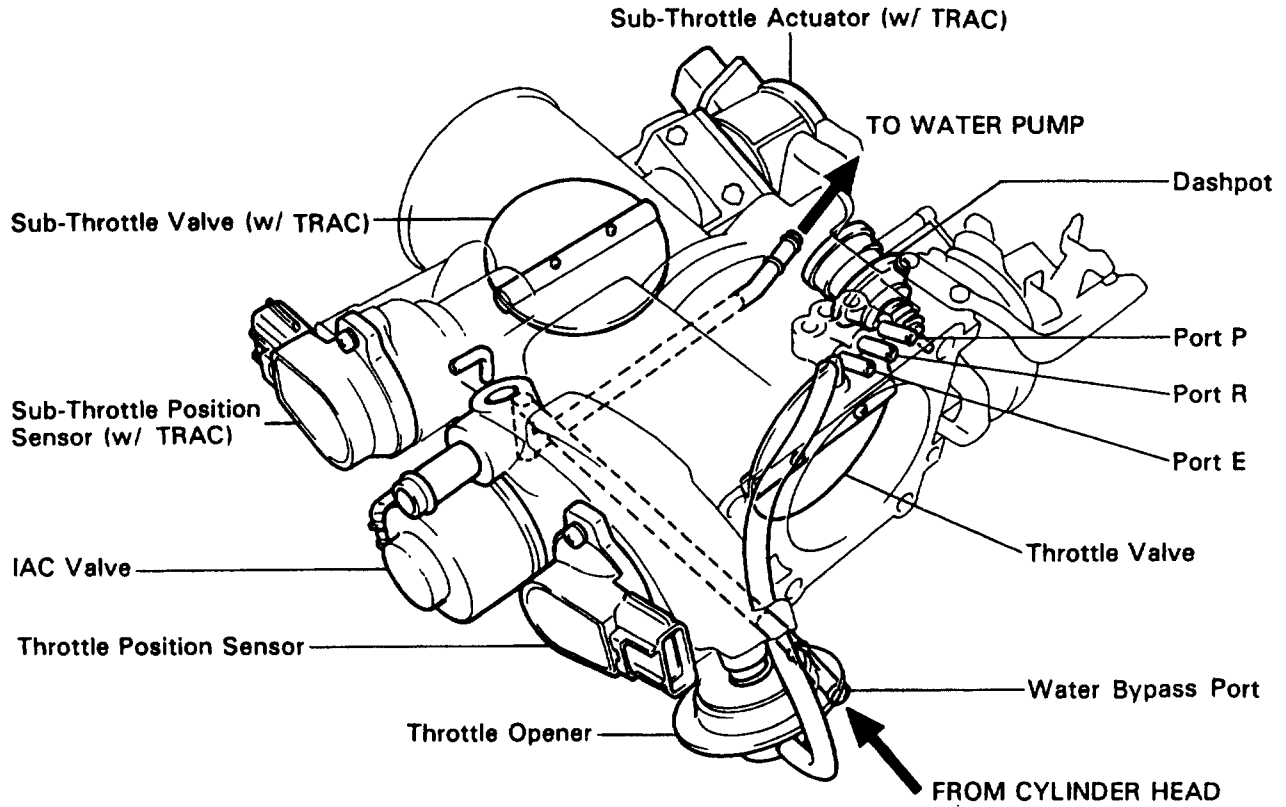
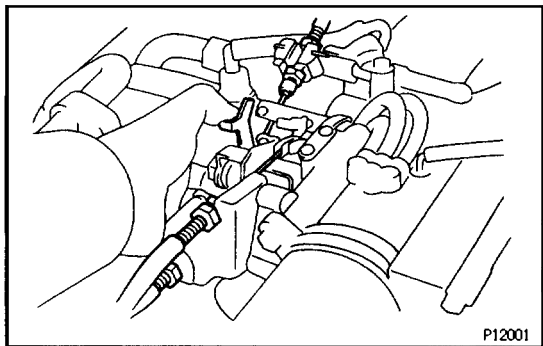


# THROTTLE BODY

EG2EF-03  
EG2EF-09





P12001

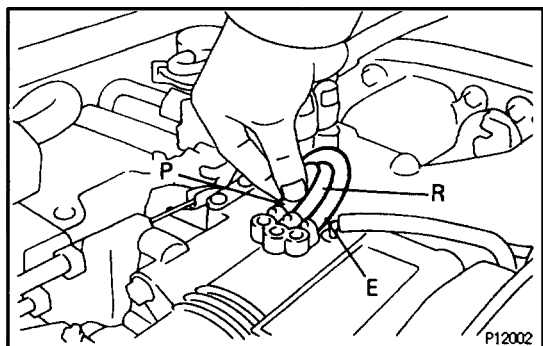
## ON-VEHICLE INSPECTION

### Throttle Body

EG3FT-02

#### INSPECT THROTTLE BODY

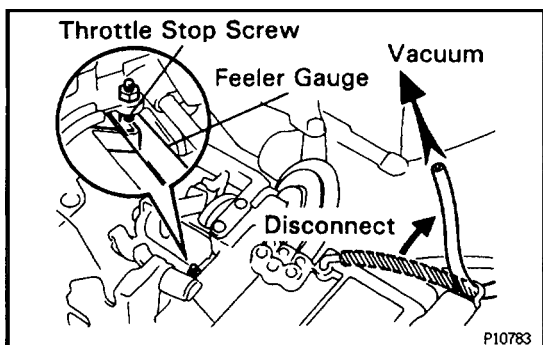
- (a) Check that the throttle linkage moves smoothly.



P12002

- (b) Check the vacuum at each port.
- Start the engine.
  - Check the vacuum with your finger.

Port name	At idle	At 3,000 rpm
P	No vacuum	Vacuum
E	No vacuum	Vacuum
R	No vacuum	Vacuum

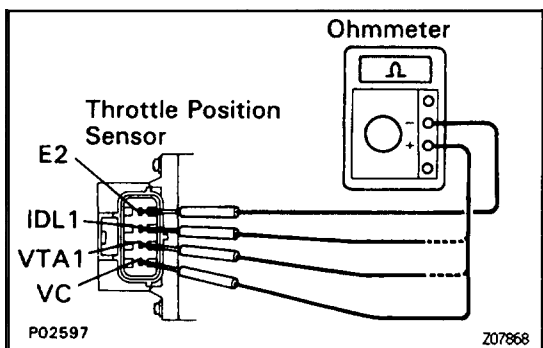


P10783

## Throttle Position Sensor

#### INSPECT THROTTLE POSITION SENSOR

- (a) Disconnect the throttle position sensor connector.
- (b) Disconnect the throttle opener vacuum hose from the throttle body.
- (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.

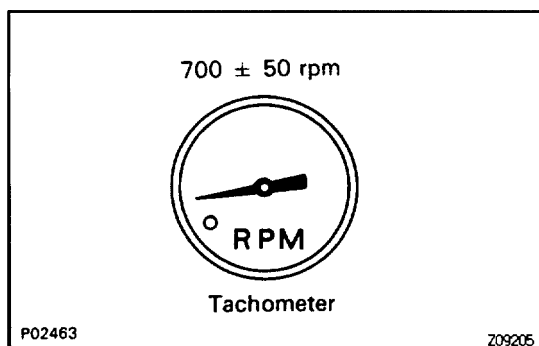
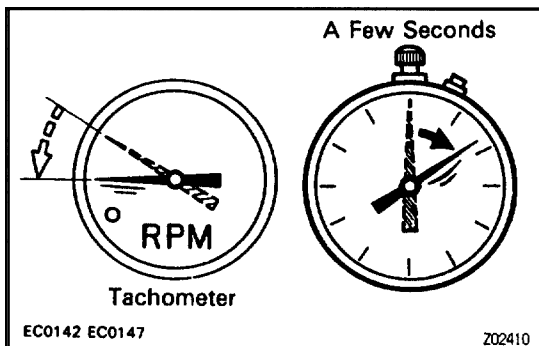
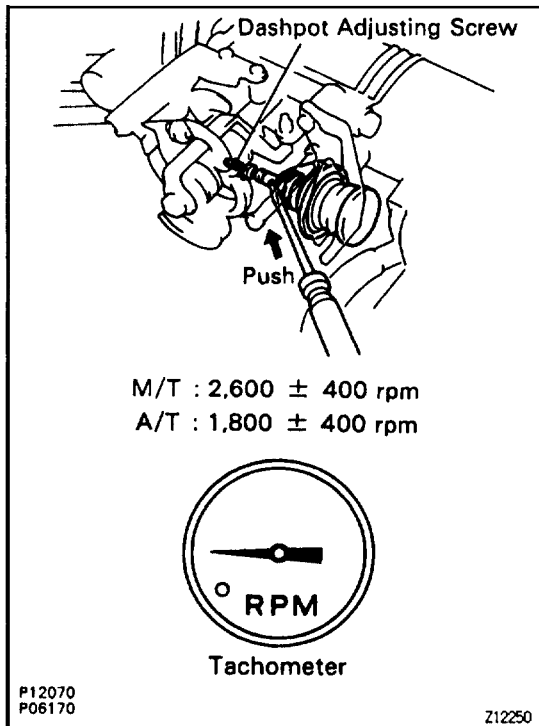
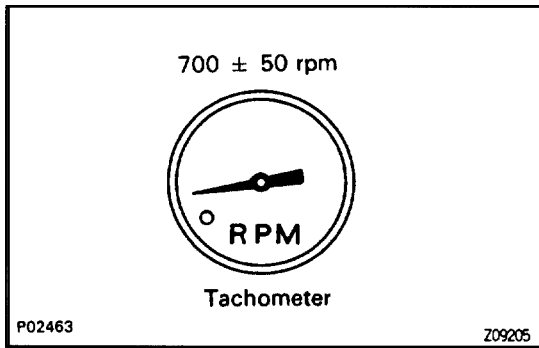


P02597

Z07868

Clearance between lever and stop screw	Between terminals	Resistance
0 mm (0 in.)	VTA1-E2	0.34-6.3 k $\Omega$
0.40 mm (0.016 in.)	IDL1-E2	0.5 k $\Omega$ or less
0.60 mm (0.024 in.)	IDL1-E2	Infinity
Throttle valve fully open	VTA1-E2	2.4-11.2 k $\Omega$
—	VC-E2	3.1-7.2 k $\Omega$

- (f) Reconnect the throttle position sensor connector.
- (g) Reconnect the throttle opener vacuum hose to the throttle body.



## Dashpot

### 1. WARM UP ENGINE

Allow the engine to warm up to normal operating temperature.

### 2. CHECK IDLE SPEED

Idle speed (Transmission in neutral position):

700 ± 50 rpm

### 3. CHECK AND ADJUST DASHPOT SETTING SPEED

- Disconnect the control cables from the throttle body.
- Push the dashpot push rod all the way with a screw-driver.
- Check that the dashpot is set.

Dashpot setting speed:

M/T: 2,600 ± 400 rpm

A/T: 1,800 ± 400 rpm

- Adjust the dashpot setting speed by turning the dashpot adjusting screw.
- Reconnect the control cables to the throttle body.

### 4. CHECK VTV OPERATION

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

## Throttle Opener

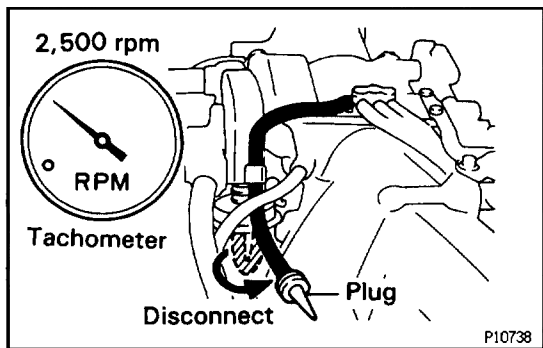
### 1. WARM UP ENGINE

Allow the engine to warm up to normal operating temperature.

### 2. CHECK IDLE SPEED

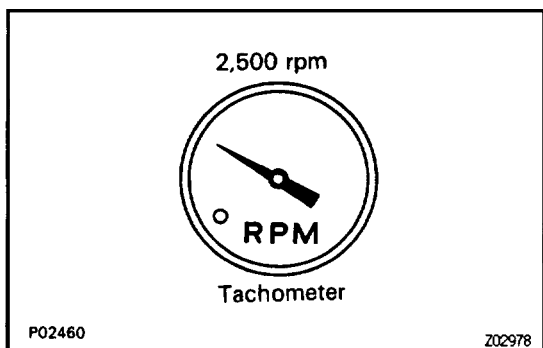
Idle speed (Transmission in neutral position):

700 ± 50 rpm

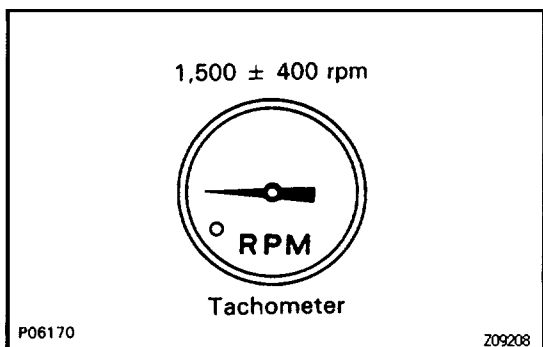


### 3. CHECK THROTTLE OPENER SETTING SPEED

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



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

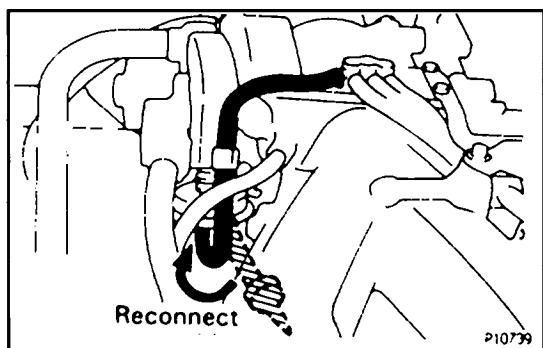


- (c) Release the throttle valve.  
 (d) Check that the throttle opener is set.

#### Throttle opener setting speed:

**1,500 ± 400 rpm**

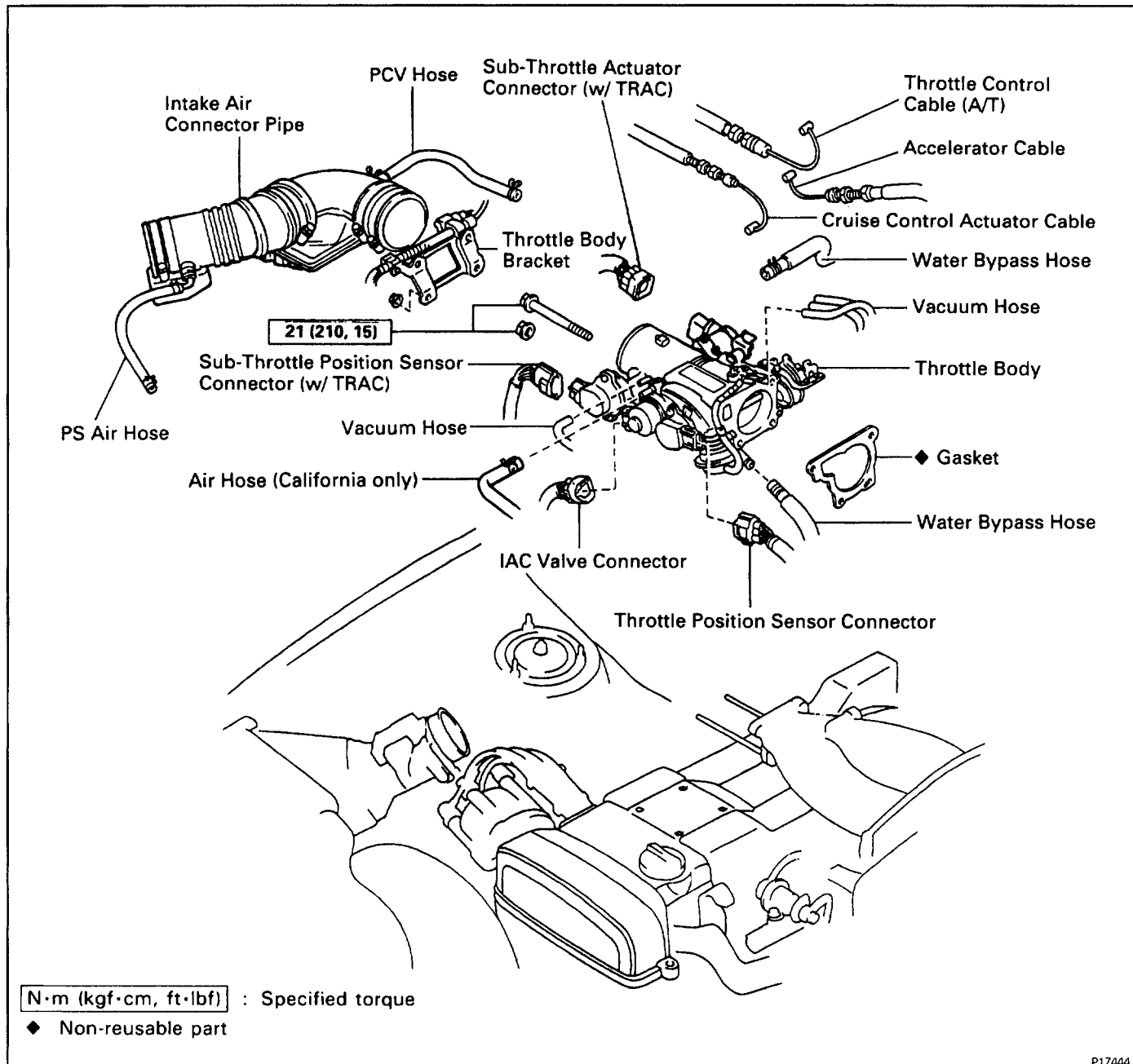
If the throttle opener setting speed is not as specified, replace the throttle body.



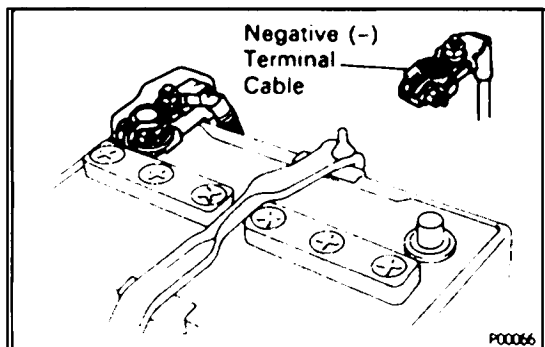
- (e) Reconnect the throttle opener vacuum hose to the throttle body.

# COMPONENTS FOR REMOVAL AND INSTALLATION

EG2CC-03



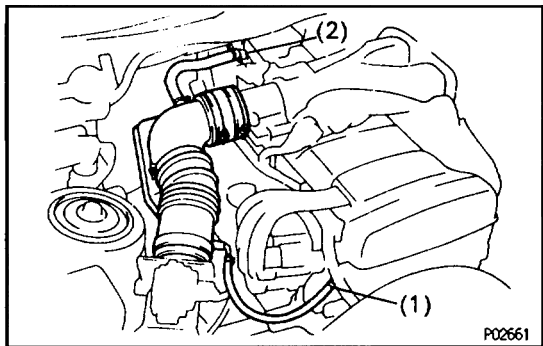
P17444



## THROTTLE BODY REMOVAL

EG3F0-03

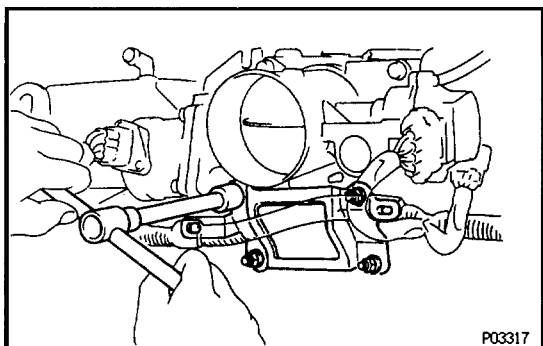
- (See Components for Removal and Installation)
- DISCONNECT NEGATIVE (-) TERMINAL CABLE FROM BATTERY**  
**CAUTION:** Work must be started after 90 seconds from the time the ignition switch is turned to the "LOCK" position and the negative (-) terminal cable is disconnected from the battery.



2. **DRAIN ENGINE COOLANT**
3. **DISCONNECT CONTROL CABLES FROM THROTTLE BODY**

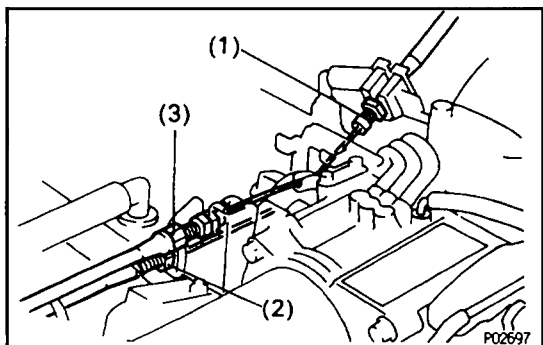
Disconnect the following cables:

- (1) Accelerator cable
- (2) A/T:  
Throttle control cable
- (3) Cruise control actuator cable



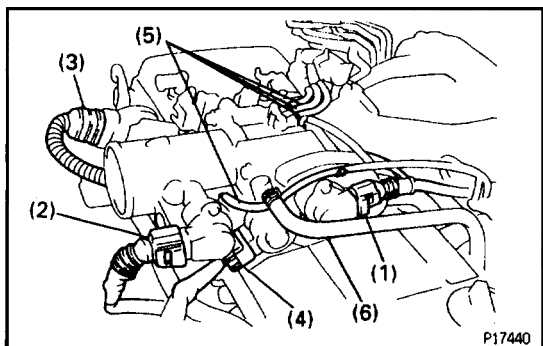
4. **REMOVE INTAKE AIR CONNECTOR PIPE**

- (a) Disconnect the following hoses:
  - (1) PS air hose from No.4 timing belt cover
  - (2) PCV hose from No.2 cylinder head cover
- (b) Loosen the 2 hose clamps, and remove the air connector pipe together with the hoses.



5. **DISCONNECT THROTTLE BODY BRACKET FROM THROTTLE BODY AND CYLINDER HEAD**

Remove the 4 nuts, and disconnect the throttle body bracket from the throttle body and cylinder head.

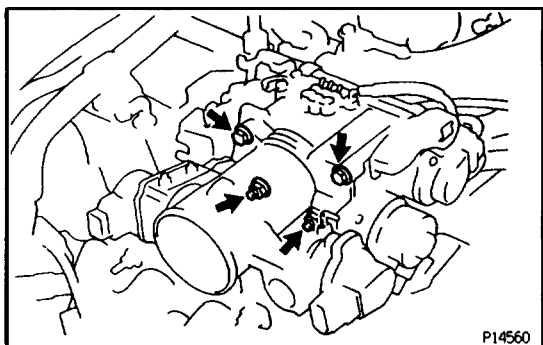


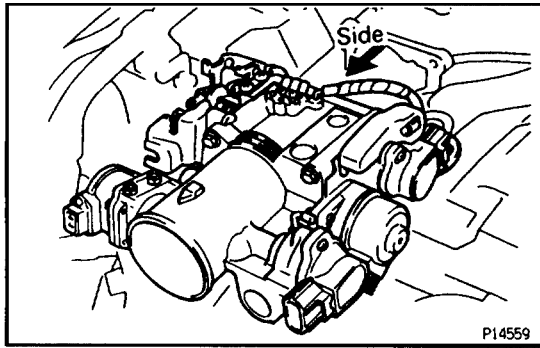
6. **REMOVE THROTTLE BODY**

- (a) Disconnect the following connectors and hoses from the throttle body:

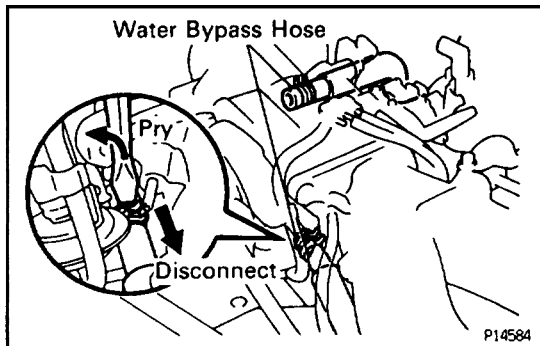
- (1) Throttle position sensor connector
- (2) w/ TRAC:  
Sub-throttle position sensor connector
- (3) w/TRAC:  
Sub-throttle actuator connector
- (4) IAC valve connector
- (5) 4 vacuum hoses
- (6) California only:  
Air hose (from intake manifold)

- (b) Remove the 2 bolts and 2 nuts.



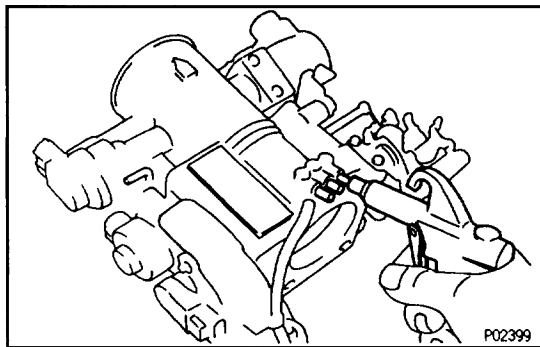


(c) Slightly slide the throttle body away the intake air connector.



(d) Disconnect the 2 water bypass hoses from the throttle body.

(e) Remove the throttle body and gasket.



## THROTTLE BODY INSPECTION

EG3F1-02

### 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 and dashpot.**

### 2. INSPECT THROTTLE VALVE AND THROTTLE POSITION SENSOR

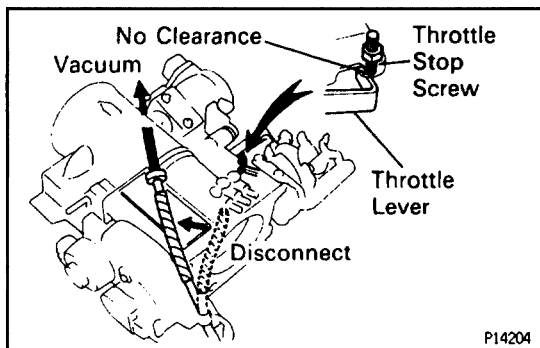
#### A. Inspect throttle valve

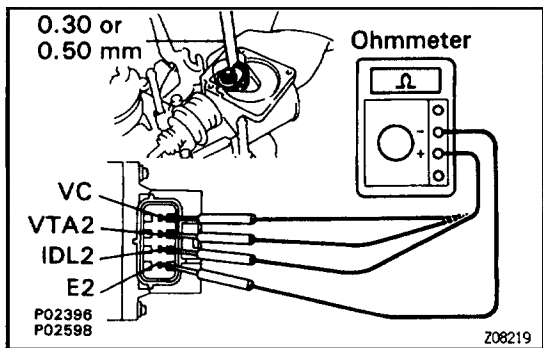
(a) Disconnect the throttle opener vacuum hose from the throttle body.

(b) Apply vacuum to the throttle opener.

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

(d) Reconnect the throttle opener vacuum hose to the throttle body.

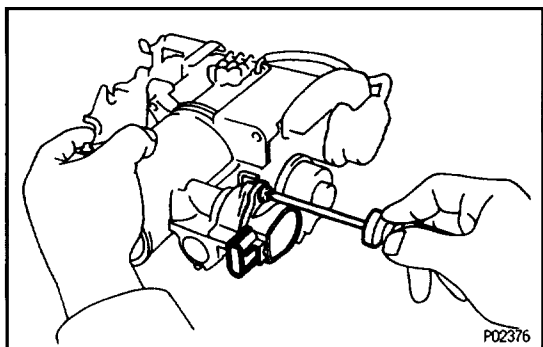




## B. Inspect throttle position sensor

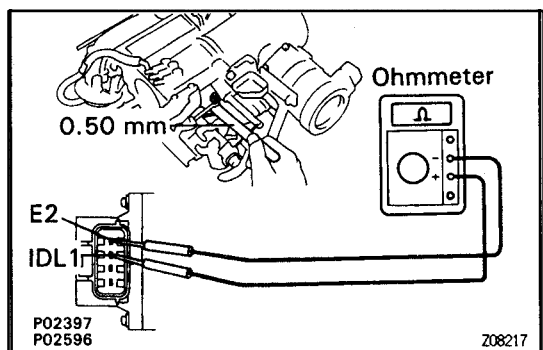
Using an ohmmeter, measure the resistance between each terminal.

Clearance between lever and stop screw	Between terminals	Resistance
0 mm (0 in.)	VTA1-E2	0.34-6.3 k $\Omega$
0.40 mm (0.016 in.)	IDL1-E2	0.5 k $\Omega$ or less
0.60 mm (0.024 in.)	IDL1-E2	Infinity
Throttle valve fully open	VTA1-E2	2.4-11.2 k $\Omega$
—	VC-E2	3.1-7.2 k $\Omega$



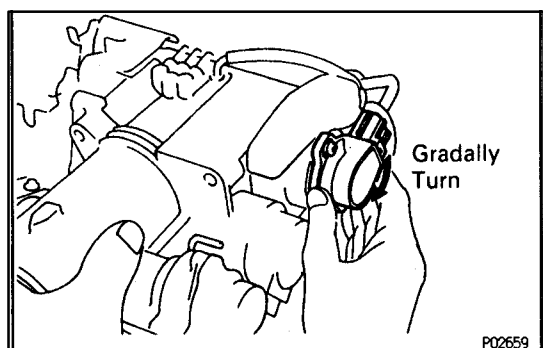
## C. If necessary, adjust throttle position sensor

(a) Loosen the 2 set screws of the sensor.



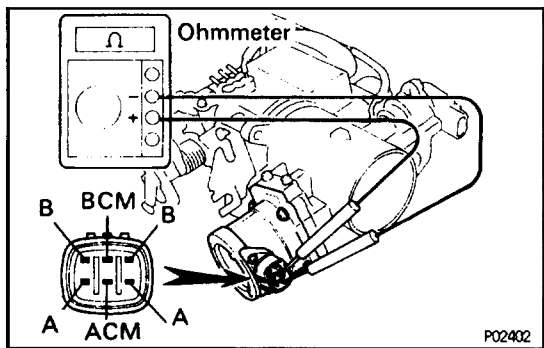
(b) Insert a 0.50 mm (0.020 in.) feeler gauge, between the throttle stop screw and stop lever.

(c) Connect the test probe of an ohmmeter to the terminals IDL1 and E2 of the sensor.



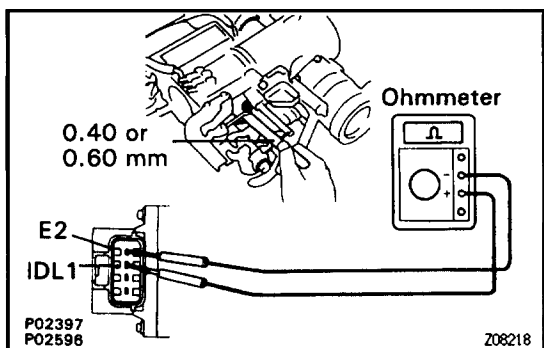
(d) Gradually turn the sensor clockwise until the ohmmeter deflects, and secure it with the 2 set screws.





(e) Recheck the continuity between terminals IDL1 and E 2.

Clearance between lever and stop screw	Continuity (IDL1-E2)
0.40 mm (0.016 in.)	Continuity
0.60 mm (0.024 in.)	No continuity



**3. w/TRAC:**

INSPECT SUB-THROTTLE ACTUATOR, SUB-THROTTLE VALVE AND SUB-THROTTLE POSITION SENSOR

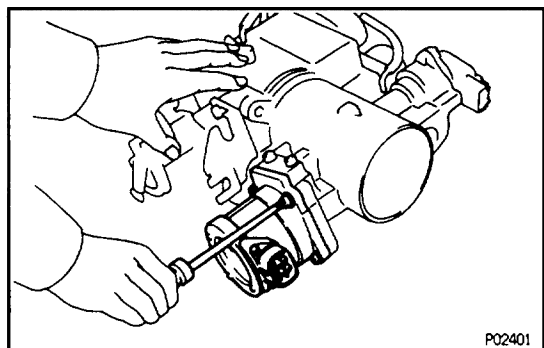
**A. Inspect sub-throttle actuator**

Using an ohmmeter, measure the resistance between the terminals (ACM ~ A and A-, BCM ~ B and B-).

**Resistance:**

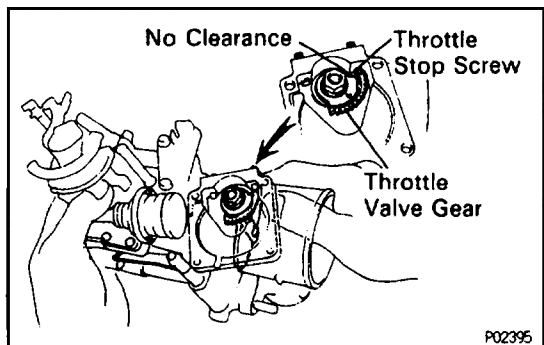
**0.5-1.0 Ω**

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



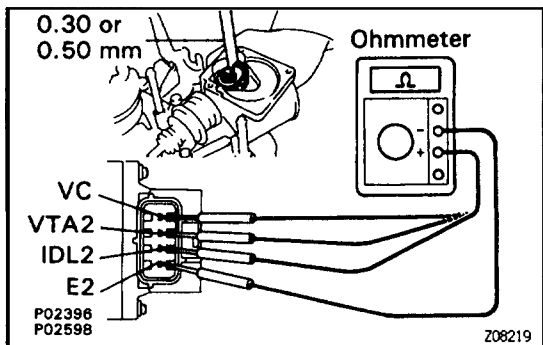
**B. Inspect sub-throttle actuator**

Remove the 3 screws and sub-throttle actuator.



**C. Inspect sub-throttle valve**

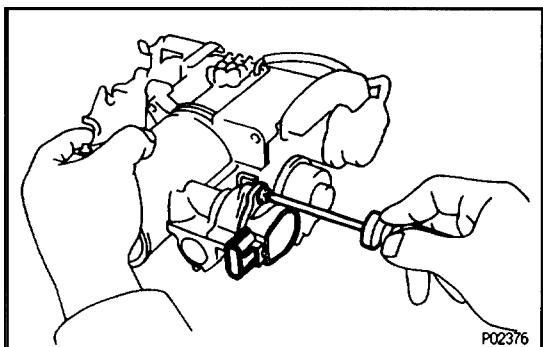
Check that there is no clearance between the throttle stop screw and throttle valve gear when the subthrottle valve is fully closed.



#### D. Inspect sub-throttle position sensor

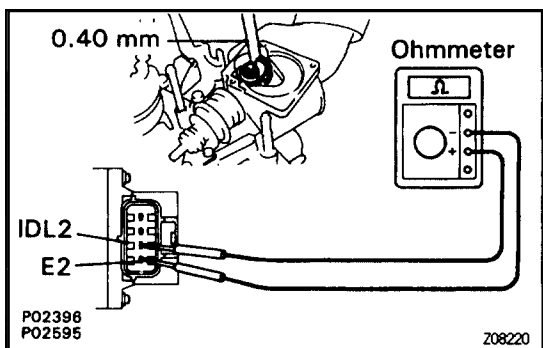
- Insert a 0.30 mm (0.012 in.) or 0.50 mm (0.020 in.) feeler gauge between the throttle stop screw and throttle valve gear.
- Using an ohmmeter, measure the resistance between terminals.

Clearance between lever and stop screw	Between terminals	Resistance
0 mm (0 in.)	VTA2-E2	0.34–6.3 $\Omega$
0.30 mm (0.012 in.)	IDL2-E2	0.5 k $\Omega$ or less
0.50 mm (0.020 in.)	IDL2-E2	Infinity
Throttle valve fully open	VTA2-E2	2.4–11.2 k $\Omega$
–	VC-E2	3.1–7.2 k $\Omega$

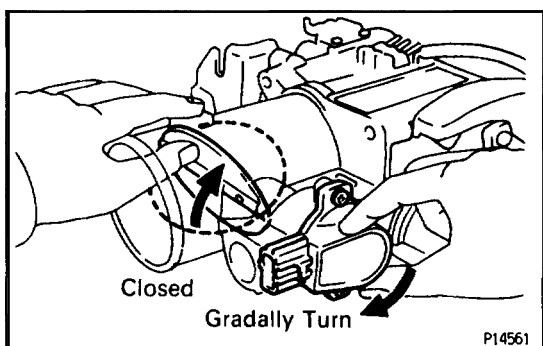


#### E. If necessary, adjust sub-throttle position sensor

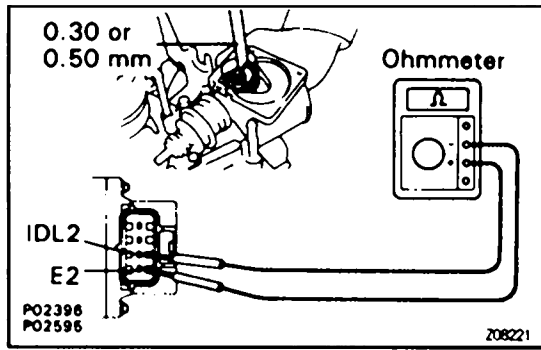
- Loosen the 2 set screws of the sensor.



- Insert a 0.40 mm (0.016 in.) feeler gauge, between the throttle stop screw and throttle valve gear.
- Connect the test probe of an ohmmeter to the terminals IDL2 and E2 of the sensor.

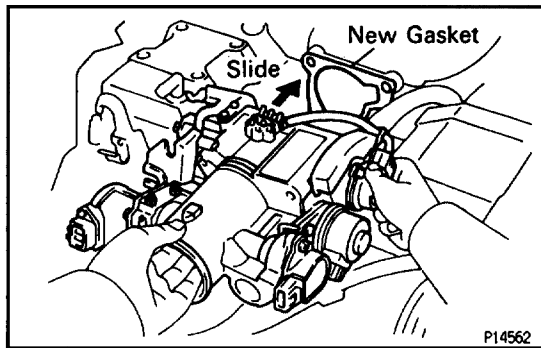


- Set that the sub-throttle valve is fully closed.
- Gradually turn the sensor clockwise until the ohmmeter deflects, and secure it with the 2 set screws.



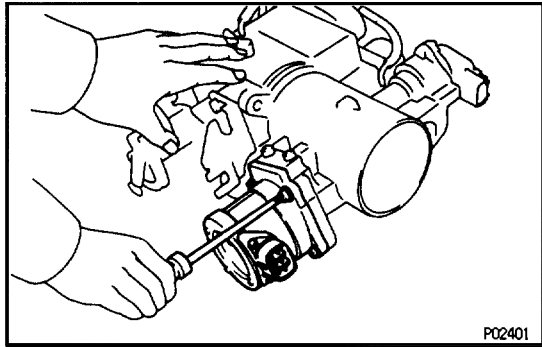
(e) Recheck the continuity between terminals IDL2 and E 2.

Clearance between lever and stop screw	Continuity (IDL2-E2)
0.35 mm (0.012 in.)	Continuity
0.50 mm (0.020 in.)	No continuity



## F. Reinstall sub-throttle actuator

Install the sub-throttle actuator with the 4 screws.



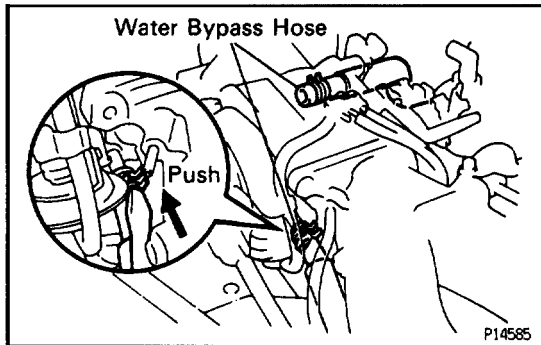
## THROTTLE BODY INSTALLATION

EG3F2-03

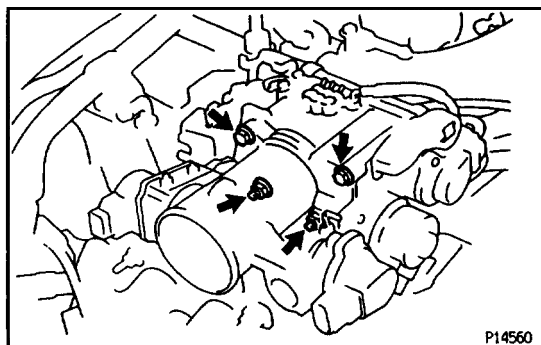
(See Components for Removal and Installation)

### 1. INSTALL THROTTLE BODY

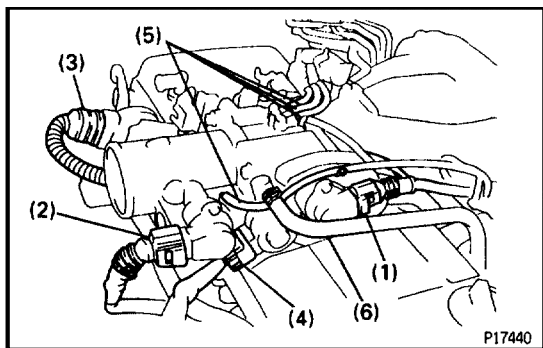
- Install a new gasket to the intake air connector.
- Slide the throttle body onto the stud bolts on the intake air connector.



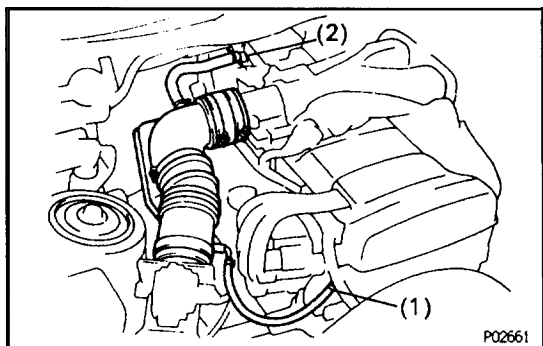
- Connect the 2 water bypass hoses to the throttle body.



- Install the throttle body with the 2 bolts and 2 nuts.  
Torque: 21 N·m (210 kgf·cm, 15 ft·lbf)



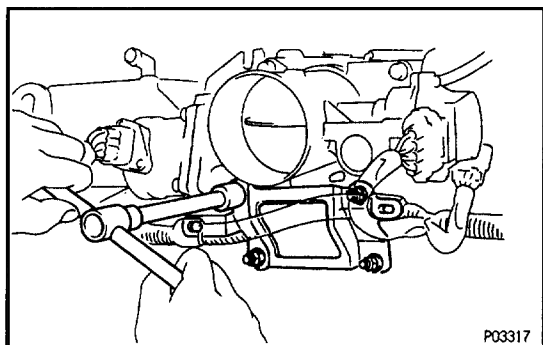
- (e) Connect the following connectors and hoses:
- (1) Throttle position sensor connector
  - (2) w/TRAC:  
Sub-throttle position sensor connector
  - (3) w/TRAC:  
Sub-throttle actuator connector
  - (4) IAC valve connector
  - (5) 4 vacuum hoses
  - (6) California only:  
Air hose (from intake manifold)



## 2. INSTALL THROTTLE BODY BRACKET

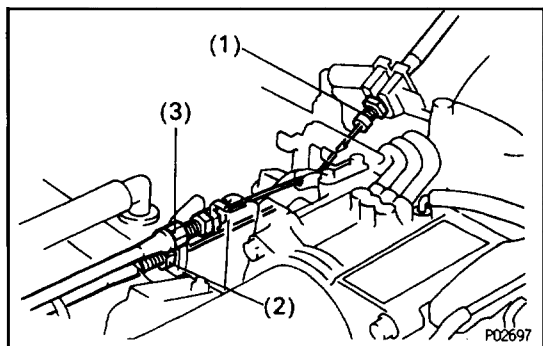
Install the throttle body bracket with the 4 nuts.

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



## 3. INSTALL INTAKE AIR CONNECTOR PIPE

- (a) Install the air connector pipe with the 2 hose clamps.
- (b) Connect the following hoses:
- (1) PS air hose No.4 timing belt cover
  - (2) PCV hose to No.2 cylinder head cover



## 4. CONNECT CONTROL CABLES TO THROTTLE BODY

Connect the following cables:

- (1) Accelerator cable
- (2) A/T:  
Throttle control cable
- (3) Cruise control actuator cable

## 5. FILL WITH ENGINE COOLANT

Capacity (w/Heater):

M/T: 8.5 liters (9.0 US qts, 7.5 Imp qts)

A/T: 8.4 liters (8.9 US qts, 7.4 Imp qts)

## 6. CONNECT NEGATIVE (-) TERMINAL CABLE TO BATTERY