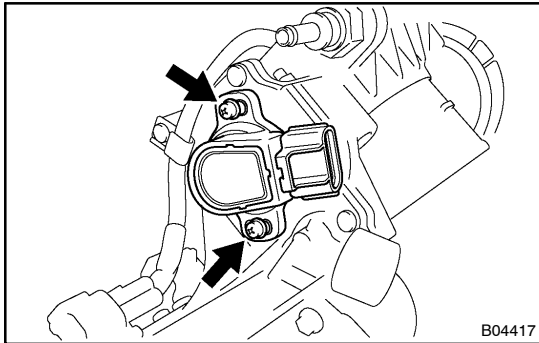


REPLACEMENT

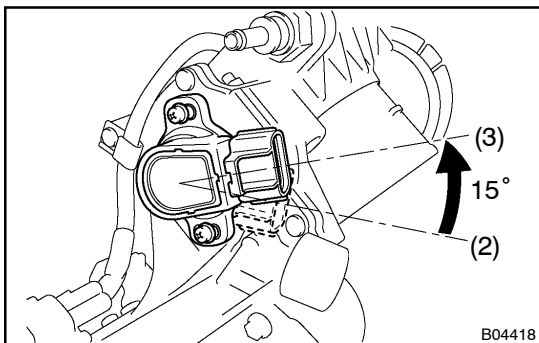
NOTICE:

- To prevent deterioration, do not shock the throttle position sensor and accelerator pedal position sensor.
- Mixing of the foreign objects may cause the gear locking, so thoroughly check that there is no stuck of any foreign objects and clean up if any.

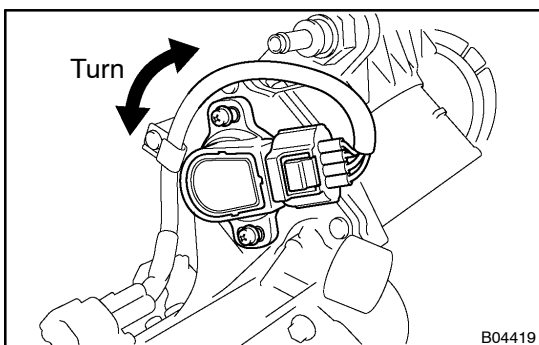


1. REPLACE THROTTLE POSITION SENSOR

- Disconnect the throttle position sensor connector on the lead wire.
- Remove the 2 set screws and throttle position sensor.
- Reinstall a new throttle position sensor.
 - Check that the throttle valve is under the condition of the opener opening angle (about 5.5°).



- Install the sensor to the place where is at 15° rotated to the right from the specified installation position.
 - Gradually turn sensor counterclockwise until it touches the throttle valve shaft, and temporarily tighten the 2 set screws.
- Connect the throttle position sensor connector on the lead wire.



- Adjust the throttle position sensor.
 - Connect the throttle position sensor connector.

NOTICE:

Do not connect the accelerator pedal position sensor connector.

- Connect the TOYOTA hand-held tester or OBDII scan tool to the DLC3.
- Turn the ignition switch ON.

NOTICE:

After turning the ignition switch ON, do not depress the accelerator pedal.

- While reading the value of the throttle valve opening percentage (THROTTLE POS) of the CURRENT DATA, turn the throttle position sensor slowly to left and right and set the sensor at the center value of the standard value, and then tighten the screws.

Standard throttle valve opening percentage:

14.4 – 16 %

Torque: 2.0 N·m (20 kgf·cm, 18 in·lbf)

(5) Recheck throttle valve opening percentage.
If the throttle valve opening percentage is not as specified, repeat step (4).

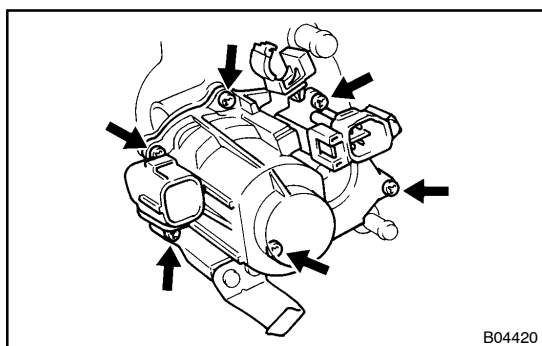
(6) Perform fully closed throttle valve by hand and check that the valve of the throttle valve opening percentage (THROTTLE POS) of the CURRENT DATA stays with the standard value.

Standard throttle valve opening percentage:

10 – 14 %

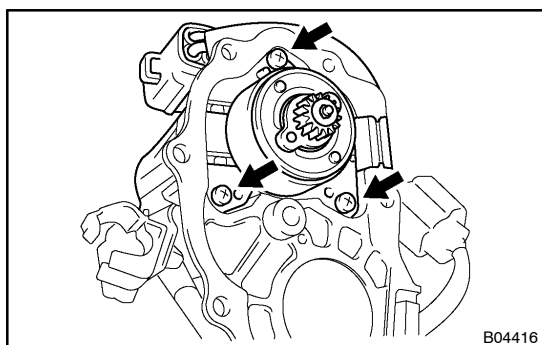
If the throttle valve opening percentage is not as specified, repeat steps (4) to (6).

- (7) Paint the 2 set screws.
- (8) Turn the ignition switch OFF.
- (9) Disconnect the TOYOTA hand-held tester or OBDII scan tool from the DLC3.
- (10) Disconnect the throttle position sensor connector.

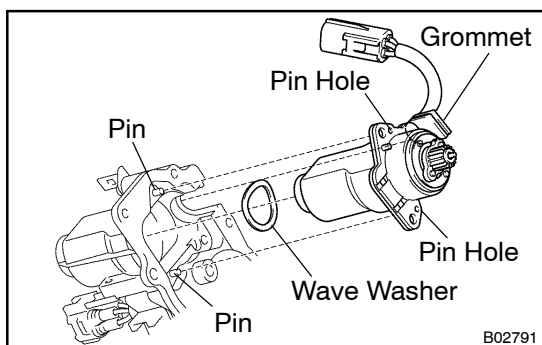


2. REPLACE THROTTLE CONTROL MOTOR

- (a) Remove the throttle position sensor. (See step 1)
- (b) Remove the throttle control motor.
 - (1) Disconnect the throttle control motor connector from the connector bracket.
 - (2) Remove the 6 screws, the throttle control motor cover, motor assembly and washer.



- (3) Remove the 3 screws, throttle control motor and wave washer from the throttle control motor cover.

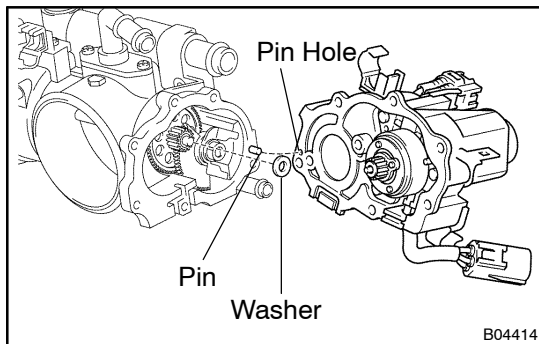


- (c) Reinstall a new throttle control motor.
 - (1) Insert the wave washer into the throttle control motor cover.
 - (2) Align the pin holes of the throttle control motor with the positioning pins of the throttle control motor cover.
 - (3) Attach the grommet to the throttle control motor cover.

- (4) Install the throttle control motor with the 3 screws.
Torque: 3.4 N·m (35 kgf·cm, 30 in·lbf)
- (5) Apply the grease thinly on the whole surface of the gear teeth.

NOTICE:

Do not apply the grease other than specified because grease has been already applied to the component to be replaced.



- (6) Install the washer as shown in the illustration.
- (7) Align the pin hole of the throttle control motor cover with the positioning pin of the throttle body.
- (8) Install the throttle control motor cover and motor assembly with the 6 screws.

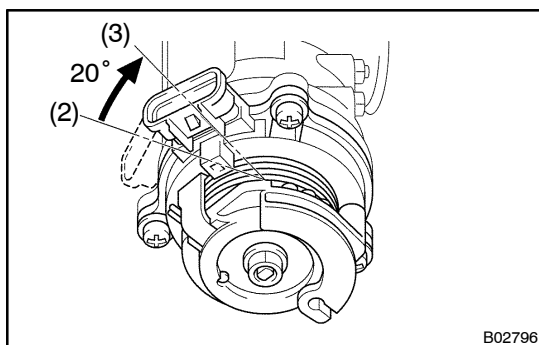
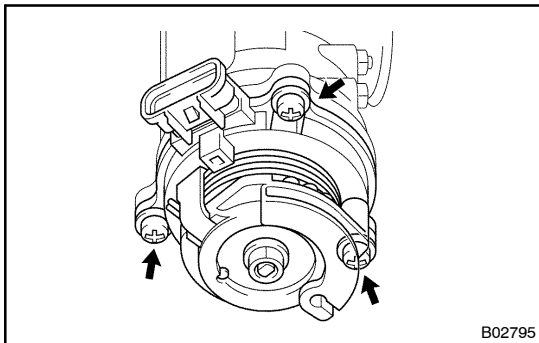
Torque: 3.4 N·m (35 kgf·cm, 30 in·lbf)

- (9) Connect the throttle control motor connector to the connector bracket.

- (d) Reinstall and adjust the throttle position sensor. (See step 1)

3. REPLACE ACCELERATOR PEDAL POSITION SENSOR

- (a) Remove the 3 set screws and accelerator pedal position sensor.



- (b) Reinstall a new accelerator pedal position sensor.
 - (1) Check that the throttle valve is under the condition of the opener opening angle (about 4°).
 - (2) Install the sensor to the place where is at 20° rotated to the left from the specified installation position.
 - (3) Gradually turn sensor clockwise until it touches the throttle valve shaft, and tighten the 3 set screws.

Torque: 5.4 N·m (55 kgf·cm, 48 in·lbf)

- (c) Inspect the accelerator pedal position sensor.
 - (1) Connect the accelerator pedal position sensor connector.
 - (2) Connect the TOYOTA hand-held tester or OBDII scan tool to the DLC3.
 - (3) Turn the ignition switch ON.

NOTICE:

After turning the ignition switch ON, do not depress the accelerator pedal.

- (4) Check that the ACCEL POS #1 (VPA) voltage of the CURRENT DATA shows the standard value.

Standard accelerator pedal position voltage:

0.35 – 0.85 V

- 4. **AFTER INSTALL THROTTLE BODY, INSPECT SYSTEM OPERATION (See page [SF-35](#))**