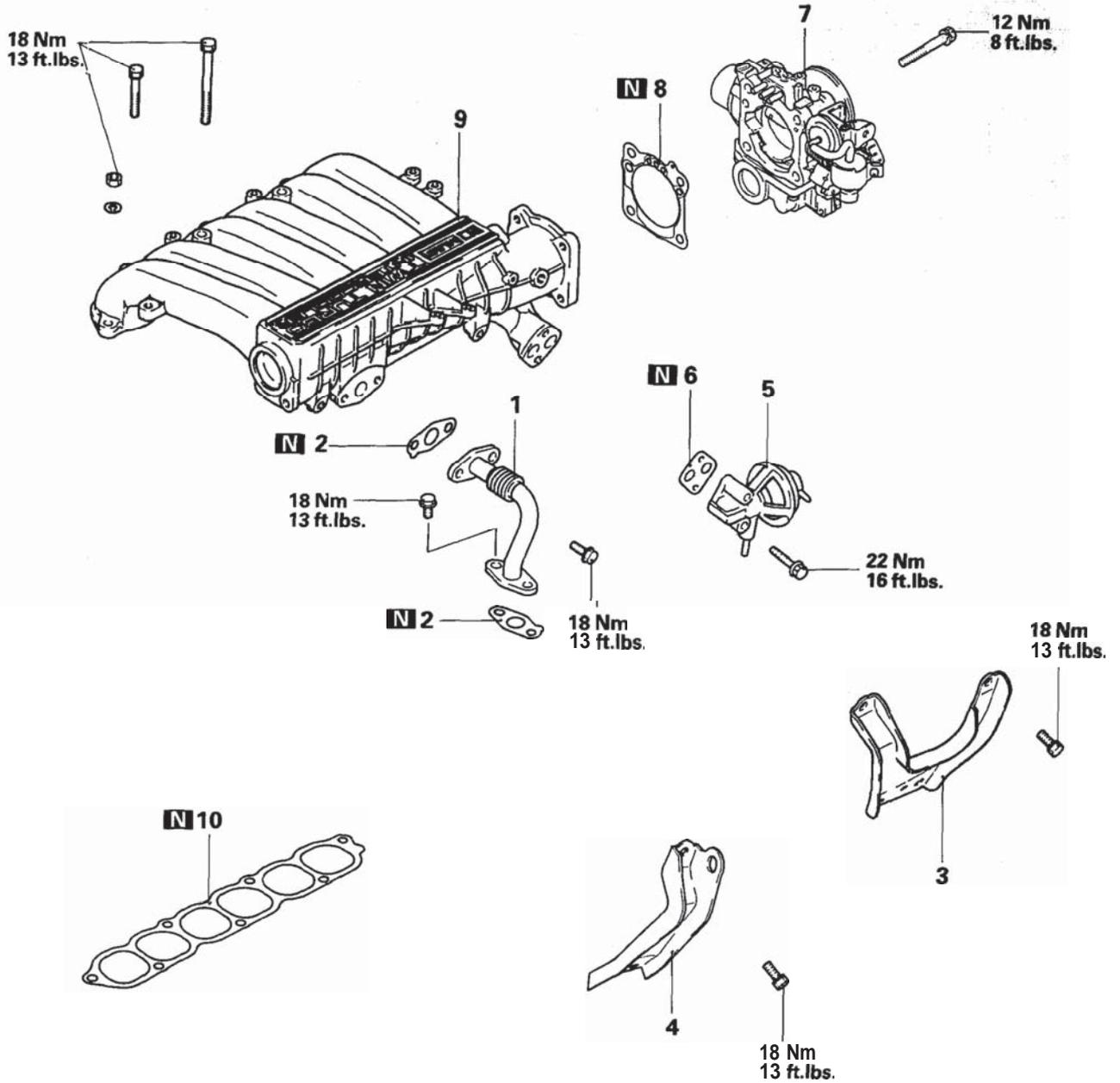
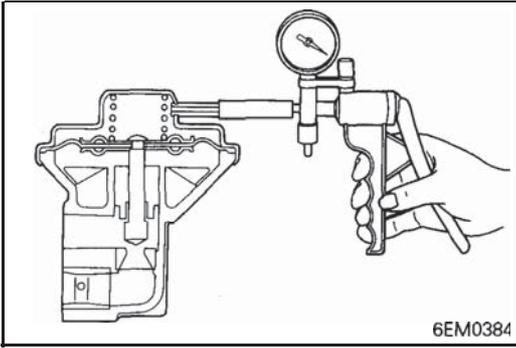


REMOVAL AND FUEL SYSTEM – DOHC TURBO



Removal steps

- 1. EGR pipe
  - 2. EGR pipe gasket
  - 3. Intake manifold plenum stay, rear
  - 4. Intake manifold plenum stay, front
  - 5. EGR valve
  - 6. EGR valve gasket
  - 7. Throttle body
  - 8. Throttle body gasket
  - 9. Intake manifold plenum
  - 10. Intake manifold plenum gasket
- } For California
- } For California



## INSPECTION

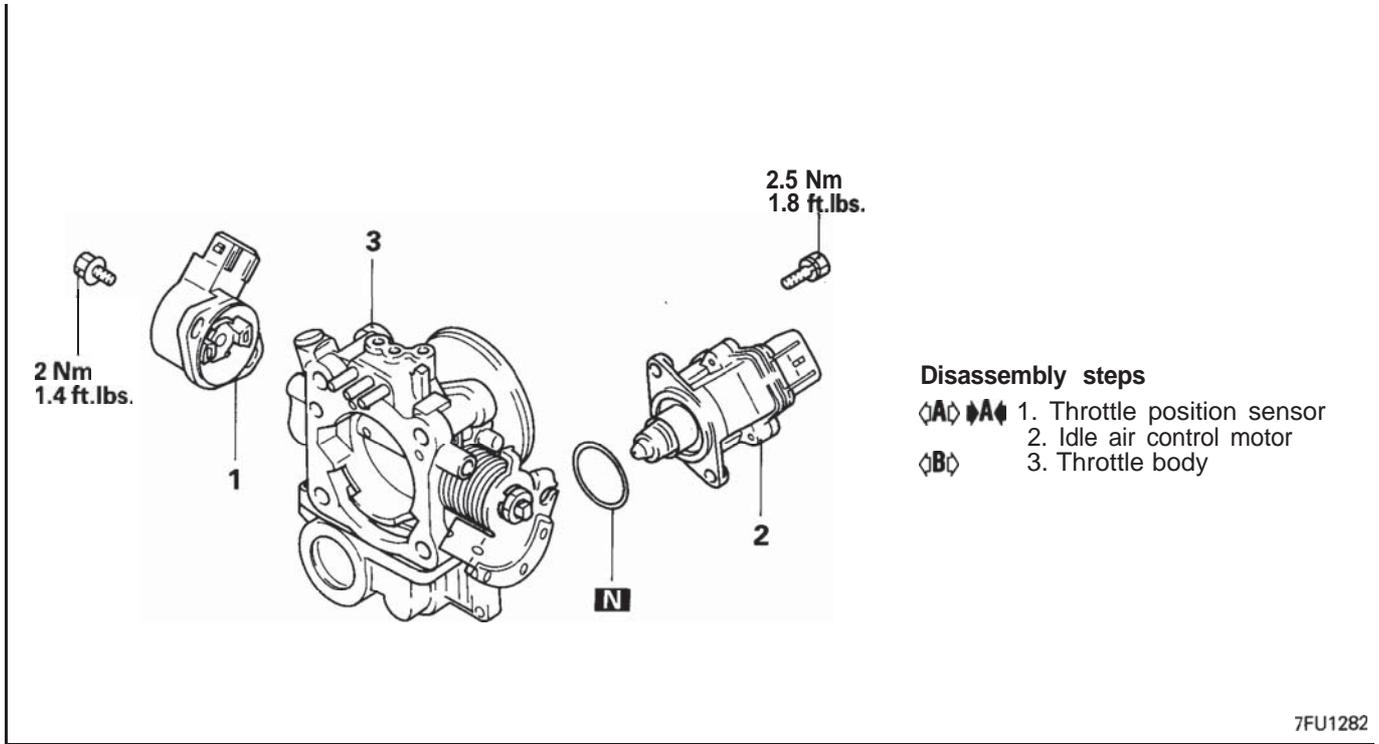
### EGR VALVE

- (1) Check the EGR valve for sticking or carbon deposits.  
If such conditions exist, clean or replace the EGR valve.
- (2) Connect a hand vacuum pump to the nipple of the EGR valve and plug other nipple.
- (3) If there is vacuum leakage, replace the EGR valve.
- (4) Blow air in from one passage of the EGR to check its condition as follows.

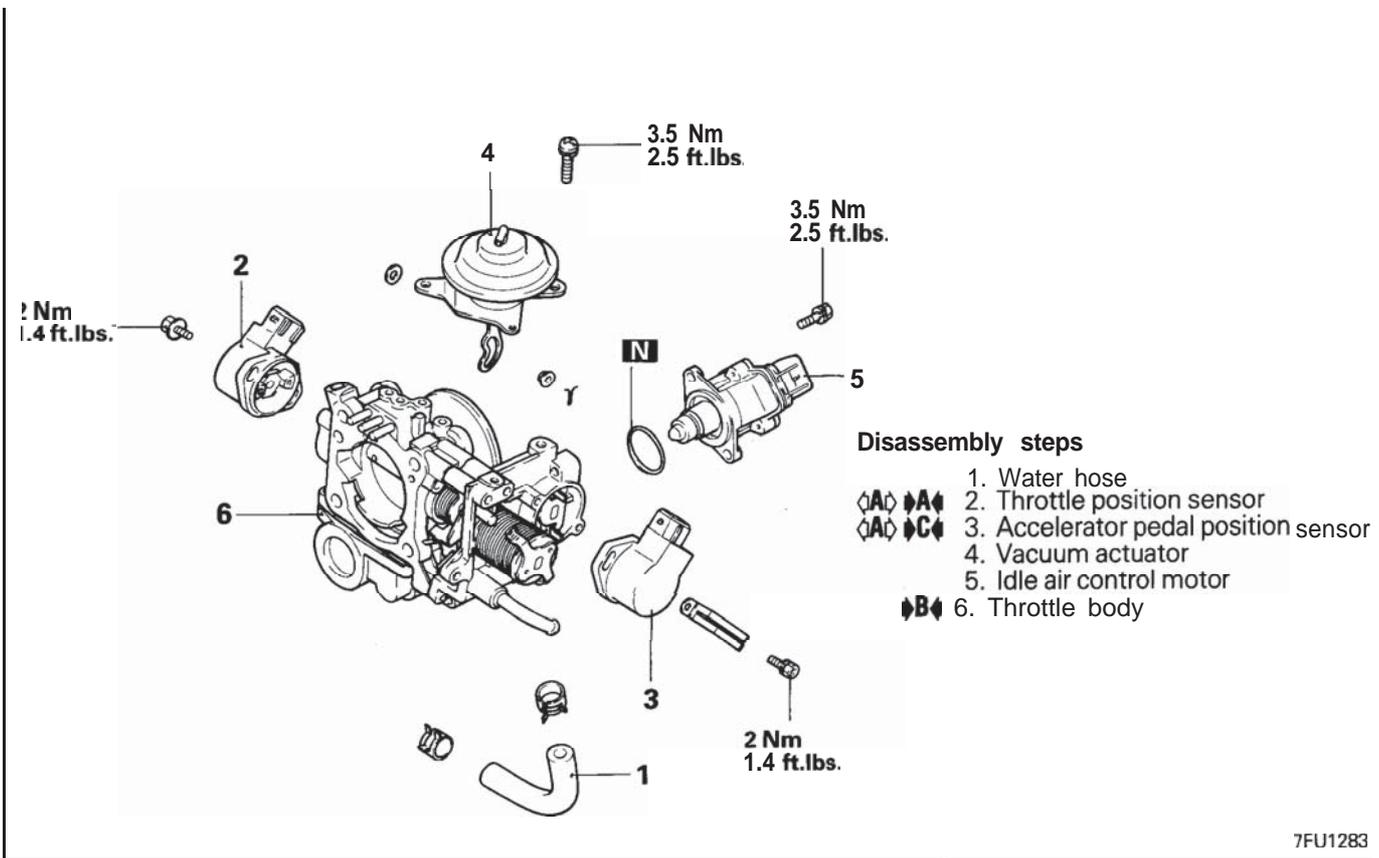
Applying vacuum	Result
45 mmHg (1.8 in.Hg.) or less	Air does not blow through
230 mmHg (9.1 in.Hg.) or more	Air blow through

# THROTTLE BODY

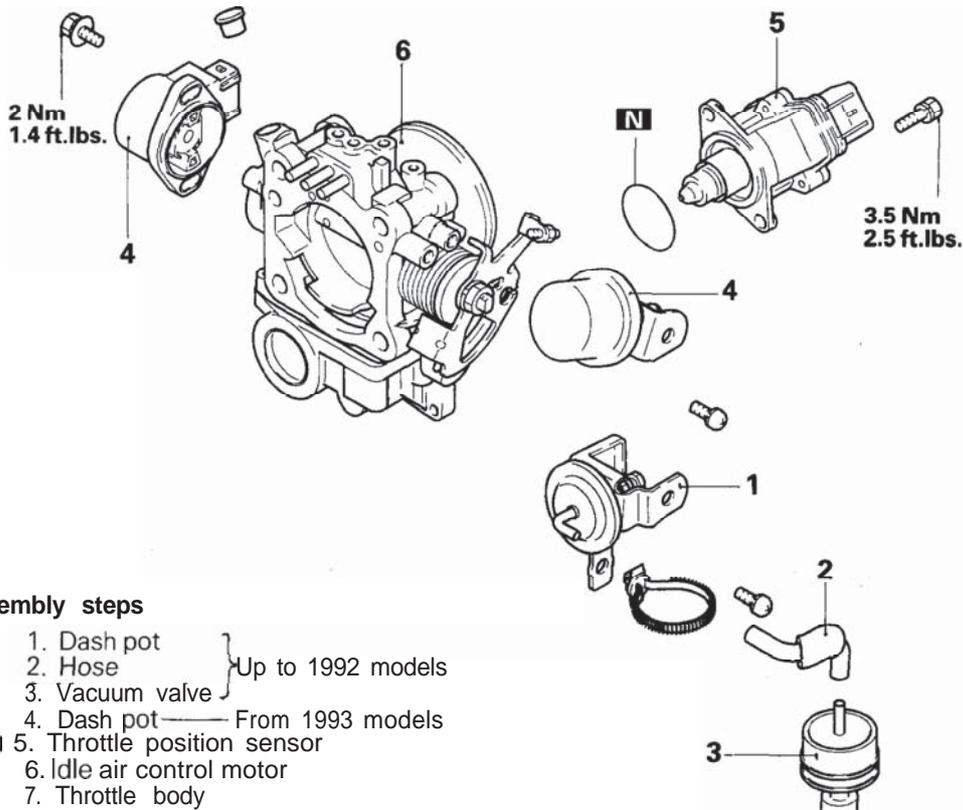
## DISASSEMBLY AND REASSEMBLY – SOHC for DIAMANTE, DOHC NON-TURBO



## DISASSEMBLY AND REASSEMBLY – For VEHICLES with TRACTION CONTROL



DISASSEMBLY AND REASSEMBLY – DOHC TURBO

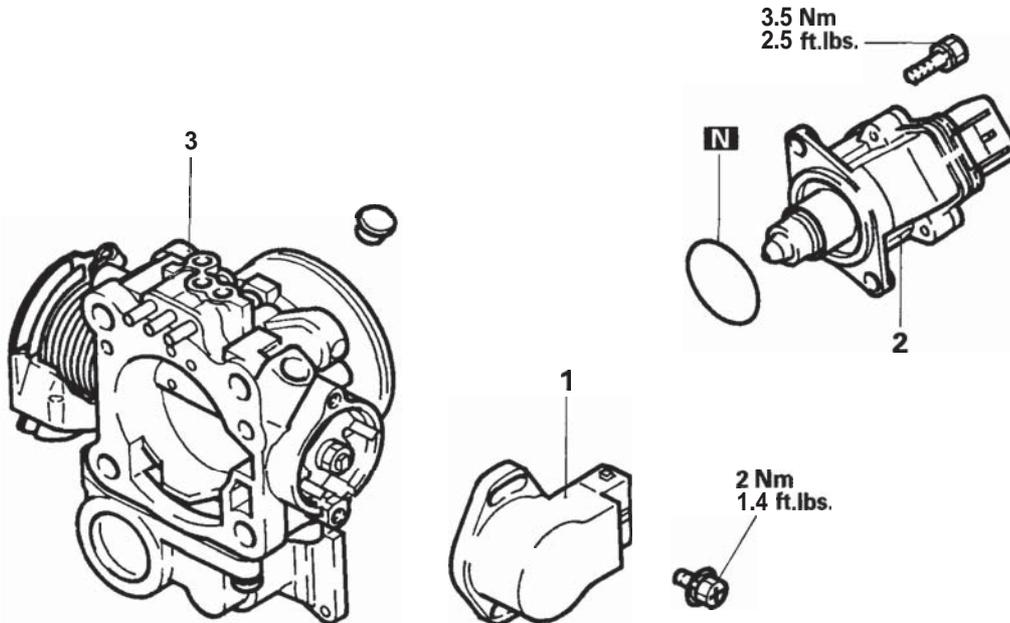


Disassembly steps

- 1. Dash pot
  - 2. Hose
  - 3. Vacuum valve
  - 4. Dash pot
  - 5. Throttle position sensor
  - 6. Idle air control motor
  - 7. Throttle body
- } Up to 1992 models
- } From 1993 models

7EN0525

DISASSEMBLY AND REASSEMBLY – SOHC for MONTERO and TRUCK



Disassembly steps

- 1. Throttle position sensor  
(Within closed throttle position switch)
- 2. Idle air control motor assembly
- 3. Throttle body

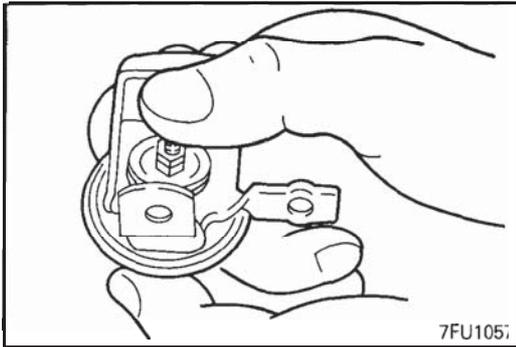
7FU0532

**DISASSEMBLY SERVICE POINTS****◁A▷ THROTTLE POSITION SENSOR, ACCELERATOR PEDAL POSITION SENSOR AND IDLE AIR CONTROL MOTOR REMOVAL**

- (1) Do not disassemble the sensor and motor.
- (2) Do not clean the sensor and motor by dipping them into the solvent. Clean them with shop towel.

**◁B▷ THROTTLE BODY REMOVAL**

- (1) Do not remove the throttle valve.
- (2) Check if the vacuum port or passage is clogged. Use compressed air to clean the vacuum passage.

**INSPECTION****DASH POT – DOHC TURBO**

Up to 1992 models

- (1) Push the rod of the dash pot all the way in and close the nipple with the fingers,
- (2) If the rod does not protrude after releasing it, the dash pot is functioning normally.
- (3) If the rod protrudes, a broken diaphragm is suspected. Therefore, replace the dash pot.

From 1993 models

- (1) Push the dash pot rod in lightly and confirm the resistance.

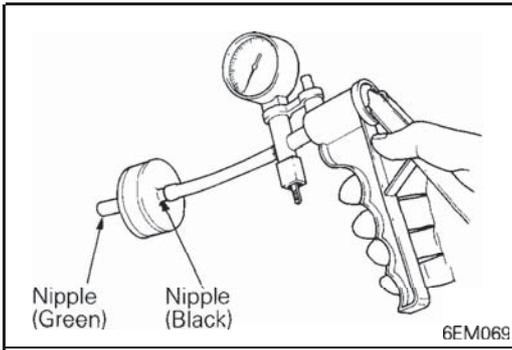
**NOTE**

1. Resistance increases as the rod is pushed harder.
2. If the rod can be pushed in with no resistance, either the diaphragm or check valve is faulty.

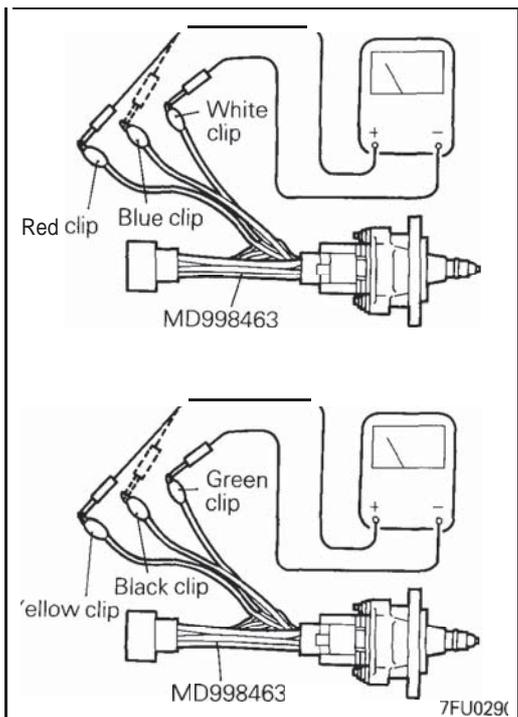
- (2) Release finger and confirm that the rod returns to its original position quickly.

**NOTE**

If the rod returns slowly, the check valve is faulty.

**VACUUM VALVE – DOHC TURBO****Up to 1992 models**

- (1) Remove the filter from the vacuum valve.
- (2) Connect a hand vacuum pump to the black nipple of the vacuum valve.
- (3) With the other nipple closed by the finger, apply a negative pressure of 500 mmHg (19.7 in.Hg.) to make sure that the negative pressure is maintained.
- (4) Let go your finger and make sure that the negative pressure leaks out gradually.
- (5) Disconnect the hand vacuum pump and connect it to the green nipple.
- (6) Make sure that the negative pressure leaks out as soon as it is applied.
- (7) Remove the hand vacuum pump from the valve.
- (8) Install the filter onto the black nipple of the valve.

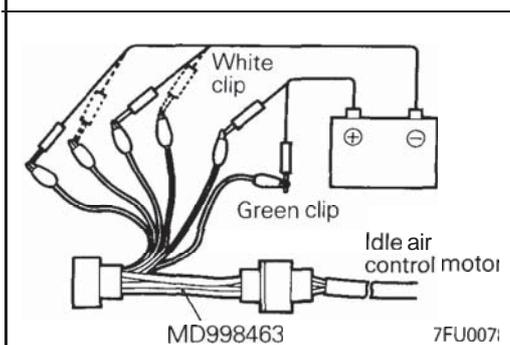
**IDLE AIR CONTROL MOTOR****Checking the Coil Resistance**

- (1) Connect Test Harness to the motor connector.
- (2) Measure the resistance between the white clip of Test Harness and the red clip or blue clip.

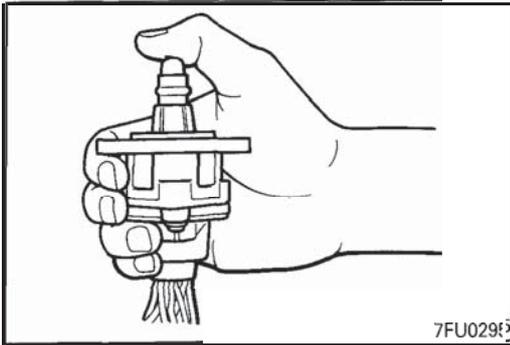
**Standard value: 28 – 33  $\Omega$  at 20°C (68°F)**

- (3) Measure the resistance between the green clip of Test Harness and the yellow clip or black clip.

**Standard value: 28 – 33  $\Omega$  at 20°C (68°F)**

**Operational Check**

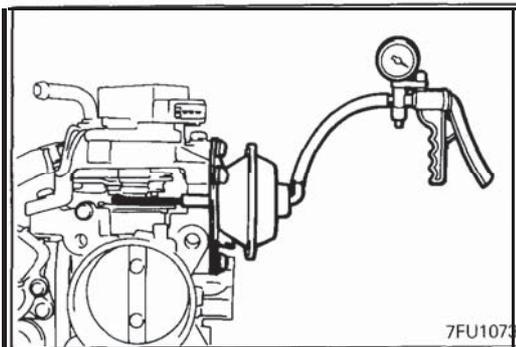
- (1) Connect Test Harness to the idle air control motor connector.
- (2) Connect the positive  $\oplus$  terminal of 6 volt battery to the white clip and the green clip of Test Harness.



(3) Hold the idle air control motor as shown in the illustration, connect the negative  $\ominus$  terminal of the power supply to each clip as described in the following steps, and check whether or not a vibrating feeling (a feeling of very slight vibration of the stepper motor) is generated as a result of the activation of the stepper motor.

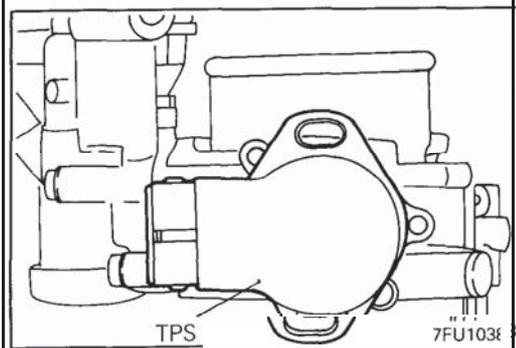
- ① Connect the negative  $\ominus$  terminal of the power supply to the red and black clip.
- ② Connect the negative  $\ominus$  terminal of the power supply to the blue and black clip.
- ③ Connect the negative  $\ominus$  terminal of the power supply to the blue and yellow clip.
- ④ Connect the negative  $\ominus$  terminal of the power supply to the red and yellow clip.
- ⑤ Connect the negative  $\ominus$  terminal of the power supply to the red and black clip.
- ⑥ Repeat the tests in sequence from ⑤ to ①.

(4) If, as a result of these tests, vibration is detected, the stepper motor can be considered to be normal.



#### CHECKING VACUUM ACTUATOR – VEHICLES with TRACTION CONTROL

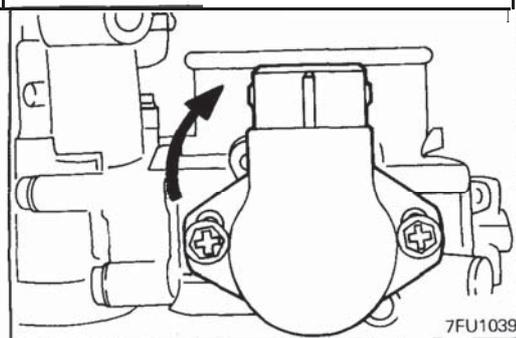
- (1) With the throttle valve opened, apply a vacuum of 200 mmHg (7.9 in.Hg.) to the vacuum actuator to make sure that the throttle valve closes.
- (2) Then lower the level of vacuum gradually to make sure that the vacuum actuator opens.



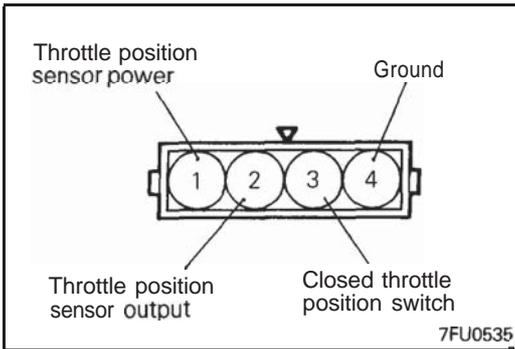
#### REASSEMBLY SERVICE POINTS

##### ▶▶ THROTTLE POSITION SENSOR (TPS) INSTALLATION – SOHC for DIAMANTE, DOHC

(1) Install the throttle position sensor to the throttle body as shown in the illustration.



(2) Turn the throttle position sensor 90° clockwise to set it, and tighten the screws.



- (3) Connect a circuit tester between 4 (ground) and 2 (output), or between 2 (output) and 1 (power). Then, make sure that the resistance changes smoothly when the throttle valve is slowly moved to the fully open position.
- (4) Check for continuity across terminals 3 (closed throttle position switch) and 4 (ground) with the throttle valve both fully closed and fully open.

Throttle valve position	Continuity
Fully closed	Conductive
Fully open	Non-conductive

If there is no continuity with the throttle valve fully closed, turn TPS counterclockwise, and then check again.

**NOTE**

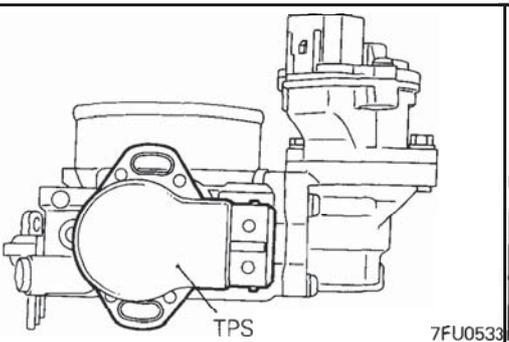
Some throttle position sensors are not provided with the position switch. In that case, the check described in step (4) cannot be accomplished.

- (5) If the above specifications are not met, replace TPS.

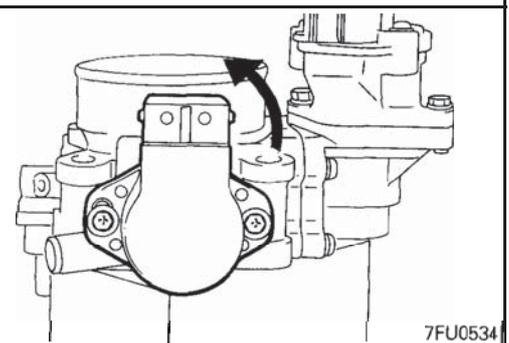
**▶▶ THROTTLE POSITION SENSOR (TPS) INSTALLATION**

– SOHC for MONTERO and TRUCK

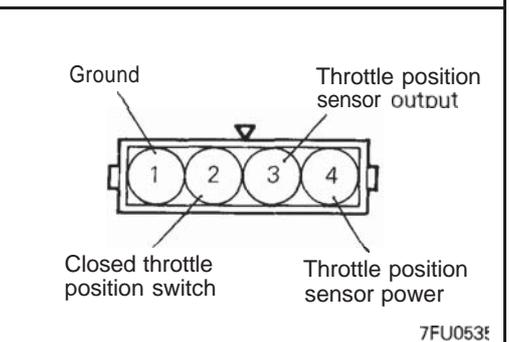
- (1) Install the throttle position sensor to the throttle body as shown in the illustration.



- (2) Turn the throttle position sensor 90° counterclockwise to set it, and tighten the screws.



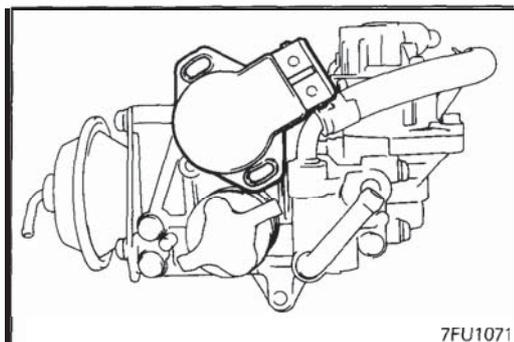
- (3) Connect a circuit tester between ① (ground) and ③ (output), or between ③ (output) and ④ (power). Then, make sure that the resistance changes smoothly when the throttle valve is slowly moved to the fully open position.
- (4) Check for continuity across terminals ② (closed throttle position switch) and ① (ground) with the throttle valve both fully closed and fully open.



Throttle valve position	Continuity
Fully closed	Conductive
Fully open	Non-conductive

If there is no continuity with throttle valve fully closed, turn the throttle position sensor clockwise, and then check again.

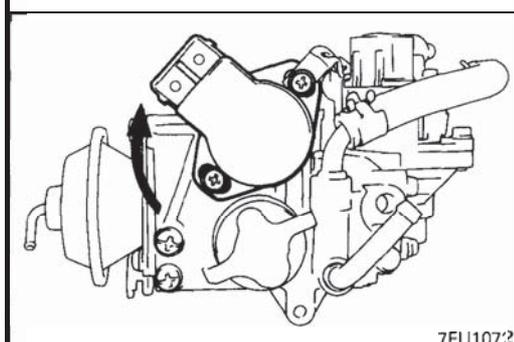
- (5) If the above specifications are not met, replace TPS.



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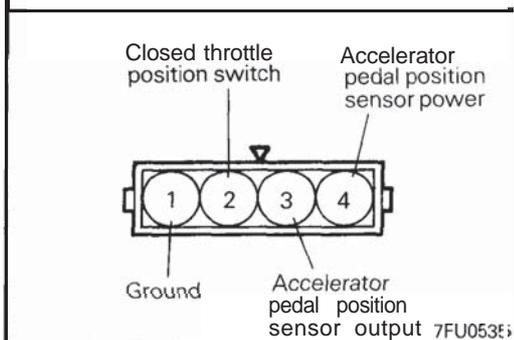
**ACCELERATOR PEDAL POSITION SENSOR (APS) INSTALLATION**

- (1) Install the accelerator pedal position sensor to the throttle body as shown in the illustration.



7FU1072

- (2) Turn the accelerator pedal position sensor 90° clockwise to set it, and tighten the screws.



7FU0535

- (3) Connect a circuit tester between (ground) and (output), or between (output) and (power). Then, make sure that the resistance changes smoothly when the throttle valve is slowly moved to the fully open position.
- (4) Check for continuity across terminals (closed throttle position switch) and (ground) with the throttle valve both fully closed and fully open.

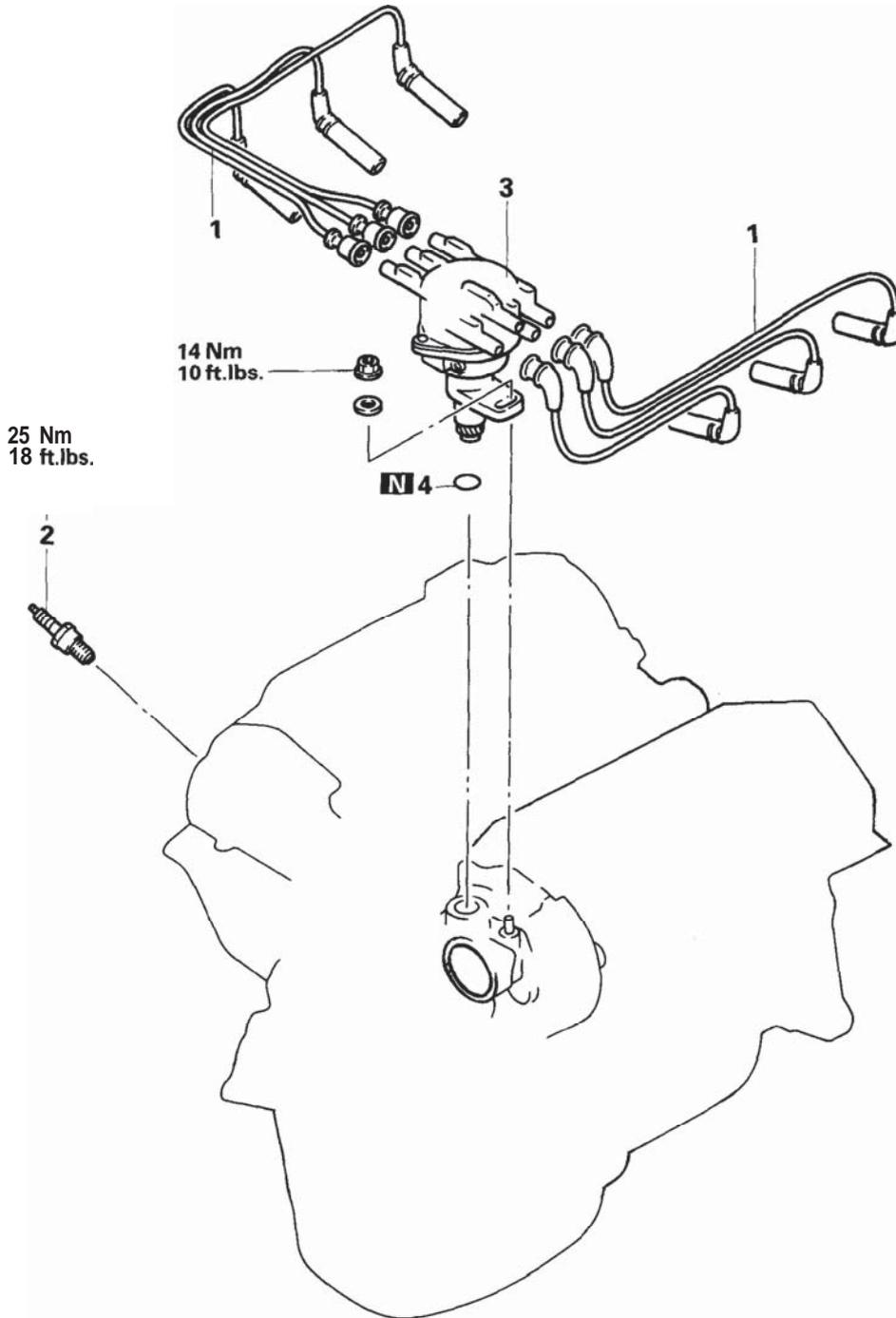
Throttle valve position	Continuity
Fully closed	Conductive
Fully open	Non-conductive

If there is no continuity with the throttle valve fully closed, turn APS counterclockwise, and then check again.

- (5) If the above specifications are not met, replace APS.

**IGNITION SYSTEM**

SOHC for **DIAMANTE**



**Removal steps**

1. Spark plug cables
2. Spark plug
3. Distributor
4. O-ring