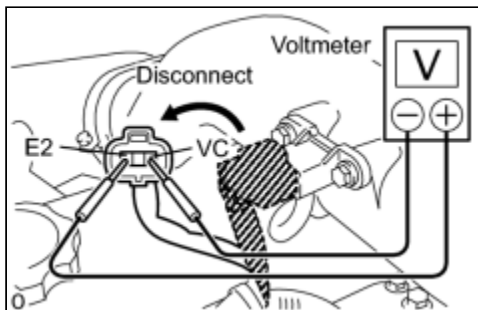


| | | |
|--|---------------------|--------------------------------|
| Last Modified: 9-29-2009 | 5.6 G | From: 200501 |
| Model Year: 2006 | Model: Hiace | Doc ID: RM0000012W9000X |
| Title: 5L-E ENGINE CONTROL SYSTEM: MANIFOLD ABSOLUTE PRESSURE SENSOR: ON-VEHICLE INSPECTION (2006-2010 Hiace) | | |

ON-VEHICLE INSPECTION

1. INSPECT DIESEL TURBO PRESSURE SENSOR

- (a) Inspect power source voltage.
- (1) Disconnect the sensor connector.
 - (2) Turn the ignition switch on.



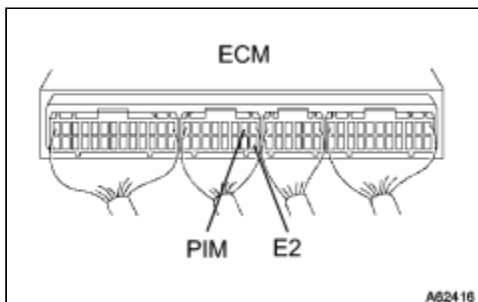
- (3) Using a voltmeter, measure the voltage according to the value(s) in the table below.

Standard voltage:

| TERMINAL | VOLTAGE |
|----------|--------------|
| VC - E2 | 4.5 to 5.5 V |

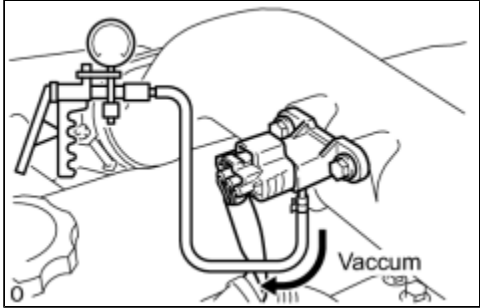
- (4) Turn the ignition switch off.
 - (5) Reconnect the sensor connector.
- (b) Inspect supply power.

- (1) Turn the ignition switch on.
- (2) Disconnect the vacuum hose from the sensor.



- (3) Connect a voltmeter to terminals 2 (PIM) and 9 (E2) of the ECM connector, and measure the output voltage under ambient atmospheric pressure.

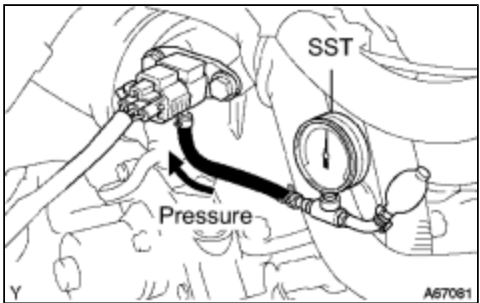
- (4) Apply vacuum to the sensor, from 13.3 kPa (100 mmHg, 3.94 in. Hg) to 40.0 kPa (300 mmHg, 11.81 in. Hg) in steps.



(5) Measure the voltage drop according to the value(s) in the table below.

Voltage drop:

| APPLIED VACUUM KPA (MMHG, IN. HG) | VOLTAGE DROP (V) |
|-----------------------------------|------------------|
| 13.3 (100, 3.94) | 0.3 to 0.5 |
| 26.7 (200, 7.87) | 0.6 to 0.8 |
| 40.0 (300, 11.81) | 0.95 to 1.15 |

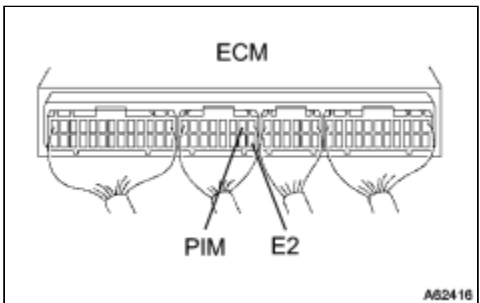


(6) Using SST (turbocharger pressure gauge), apply pressure to the sensor, from 19.69 kPa (0.20 kgf*cm, 2.84 psi) to 98.0 kPa (1.0 kgf*cm, 14.2 psi) in steps.

SST: 09992-00242

(7) Measure the voltage increase according to the value (s) in the table below.

Voltage increase:



| APPLIED PRESSURE KPA (KGF*CM, PSI) | VOLTAGE INCREASE (V) |
|------------------------------------|----------------------|
| 19.6 (0.20, 2.84) | 0.4 to 0.7 |
| 39.2 (0.40, 5.69) | 0.9 to 1.2 |
| 58.8 (0.60, 8.53) | 1.5 to 1.8 |
| 78.5 (0.80, 11.4) | 2.0 to 2.3 |
| 98.0 (1.00, 14.2) | 2.5 to 2.8 |

(8) Reconnect the vacuum hose to the sensor.

