HINO TRUCKS™
A Toyota Group Company

Tech Tip No:	09 - 006
Group:	27 - Electrical
Issue Date:	06 - 05 - 2009

CHASSIS TECH TIPS

Subject:

DPR TEMPERATURE SENSOR CIRCUIT LOAD TEST

1. RELEVANT MODELS:

2008 thru 2010 J05 and J08 Engines.

2. CONDITIONS:

a. The driver may report a recent increase in the request for Manual Regeneration of the DPR even though the truck is being driven consistently. In many cases the DPR Meter will increase gradually from 3 bars, to 4 bars, to 5 bars etc. The driver may pull off the road and perform the Manual Regeneration with no trouble then the DPR Meter returns to zero bars.

b. The driver may report a recent increase in the request for Manual Regeneration of the DPR even though the truck is being driven consistently. In many cases the DPR Meter will increase gradually from 3 bars, to 4 bars, to 5 bars etc. The driver may pull off the road to perform a Manual Regeneration at which time the DPR Meter jumps directly to 10 bars, the Check Engine Light comes on, and a P2002 DTC is recorded.

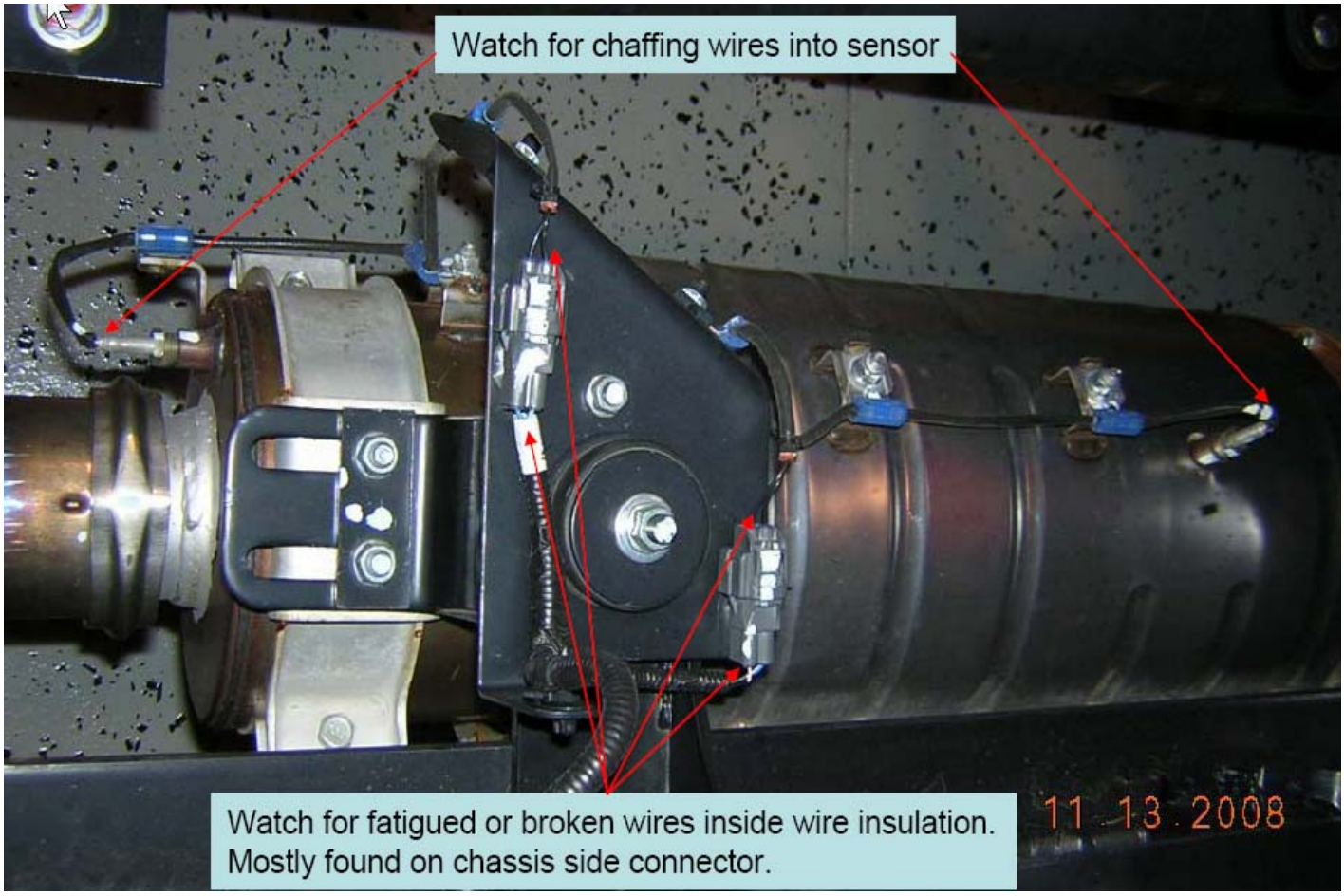
3. PROCEDURE:

The DPR Temperature Sensor Circuit troubleshooting procedure described in the Workshop Manual may not indicate an intermittent open circuit in one of the two wires at either of the two DPR Temperature Sensors. In some cases the copper wire may corrode or fatigue directly behind the crimp area of the terminal. This can be caused by corrosive road moisture wicking up the wire under the insulation or by too much tension on the wire itself. The copper wire may corrode to the point where an intermittent connection may cause false DPR temperature readings during an Auto or Manual Regeneration. The following steps will assist with the diagnosis of a potential intermittent connection at the subject location due to either corrosion of wire fatigue:

Vendor Ref:

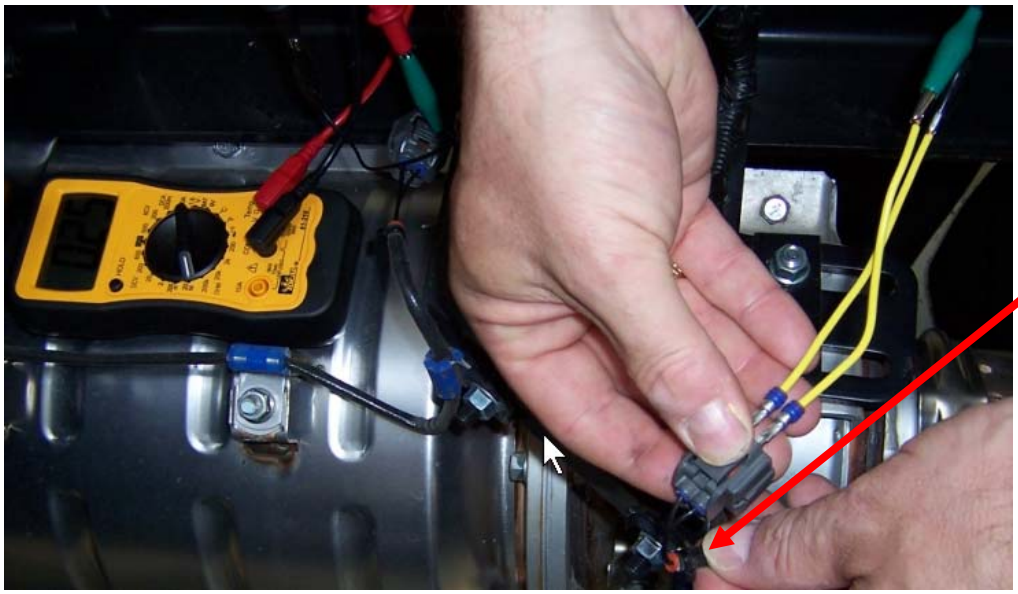
CHASSIS TECH TIPS

a. First, refer to the photo below and thoroughly inspect the DPR Temperature Sensor circuits for proper connection and obvious signs of failure. If no obvious signs of a failure are present then proceed to the next step.



Vendor Ref:

b. Second, disconnect each DPR Temperature Sensor from the chassis harness and verify that the resistance of the sensor remains stable while wiggling the connector back and forth. The sensor resistance should be 150-250 kΩ at ambient temperature. More importantly, the resistance should remain steady while wiggling the connector body. If the resistance bounces between a resistance reading and an open circuit while wiggling the wire then the sensor is likely defective and should be replaced. Check both temperature sensors in the same manner. Refer to the photo below:



Connect the Ohm meter to both terminals of the **DPR Temperature Sensor** connector then wiggle the wires back and forth near the connector body. Make sure the sensor resistance remains steady while wiggling the wires.

c. The next steps will consist of setting up a diagnostic circuit which will be loaded by using a typical sealed beam headlight (or headlight bulb) to identify a possible corroded wire or intermittent open circuit on the DPR Temperature Sensor circuits within the Chassis Side harness. Two (2) separate circuits will be set up and used simultaneously to perform this test, one inside the cab using the Hino Break-Out Harness and the other at the Chassis Side harness connections at the DPR. Refer to the photos and diagrams on the following pages:

Vendor Ref:

d. Set up the load circuit inside the cab using the Hino Break-Out harness as shown below. When connecting the Hino Break-Out Harness be sure the ECU remains disconnected for the entire test. Follow the steps below to set up the first part of the test.

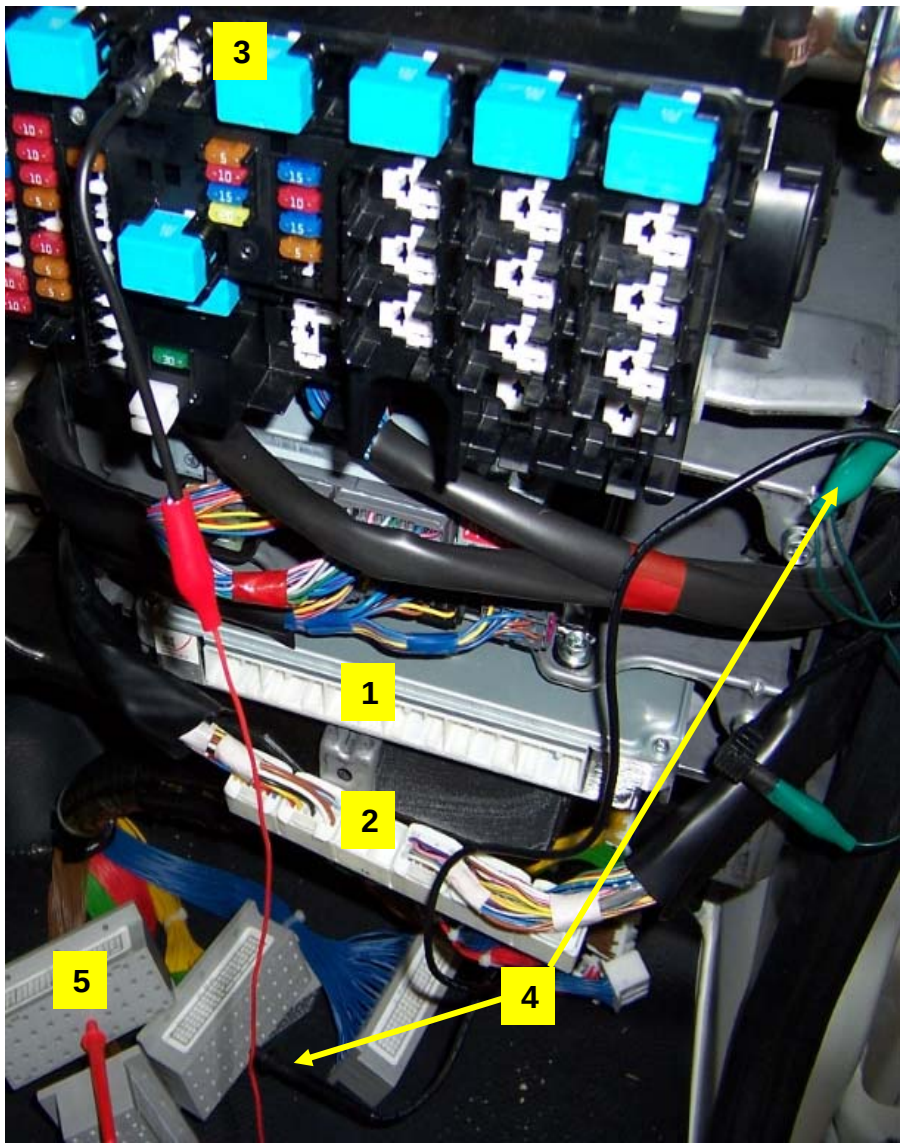
1. Disconnect all connectors from the ECU. Both DPR Temperature Sensors should also remain disconnected and the ECU should remain disconnected for the entire test.

2. Connect the chassis side ECU connectors to the Hino Break-Out Harness as shown.

3. Locate a 12VDC supply within the fuse/relay panel which will be used in step 5.

4. Connect terminal **D35** of the Break-Out Harness to a confirmed ground within the dash panel area as shown.

5. Connect the 12VDC source from the fuse panel to the **A25** connector of the Break-Out Harness. This will power the circuit for the load test.



Refer to the photo and diagram on the following page for setting up the load circuit at the DPR Temperature Sensor circuit of the chassis harness.

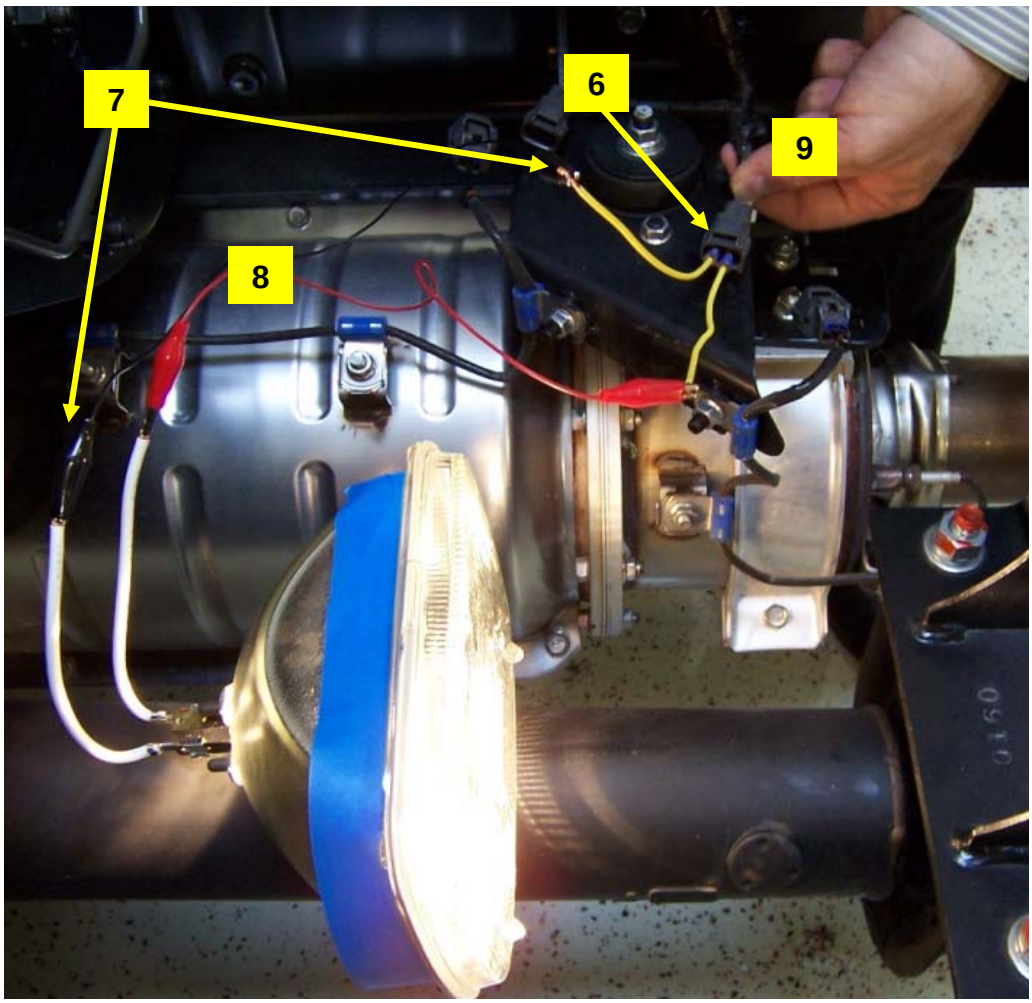
Vendor Ref:

e. Set up the chassis side circuit at the DPR location as shown below.

6. Connect clip leads to both terminals of the **chassis side** DPR Temp Sensor connector one at a time as shown.

7. To test the circuit for Temp Sensor #**1**. Connect a lead from the ground side terminal of Temp Sensor #**1** (blue wire with white stripe) to one terminal of the headlight.

8. Now connect the lead from the **Pink** wire for Temp Sensor #**1** to the other terminal of the headlight.



9. If the circuit is not compromised, the headlight should **brightly illuminate.** While the headlight is illuminated, wiggle the connector back and forth to make sure the headlight remains brightly illuminated. Should the headlight dimly illuminate or flicker while wiggling the harness then the harness should be repaired.

10. Now follow the same procedure to test the circuit for Temp Sensor #**2**. Connect the 12VDC source from the fuse panel to the **A26** connector of the Break-Out Harness. Connect one lead from the ground side terminal (blue wire with white stripe) of chassis side connector to one terminal of the headlight. Connect the lead from the **Blue** wire for Temp Sensor #**2** to the other terminal of the headlight. Wiggle harness and monitor headlight.

NOTE:

- ***Do NOT leave the headlight illuminated with the test circuit longer than 15-20 seconds at a time as to not overload the harness wires.***

Vendor Ref: