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Service Information Bulletin

SUBJECT	DATE
SPN 729/FMI 7	May 2019

Additions, Revisions, or Updates

Publication Number / Title	Platform	Section Title	Change
DDC-SVC-MAN-0015	EPA07 MBE900	SPN 729/FMI 7	This is a new section.

DiagnosticLink users: Please update the troubleshooting guides in DiagnosticLink with this newest version. To update the tool troubleshooting guide, open DiagnosticLink and from the Help – Troubleshooting Guides menu, select the appropriate troubleshooting manual, then click Update.

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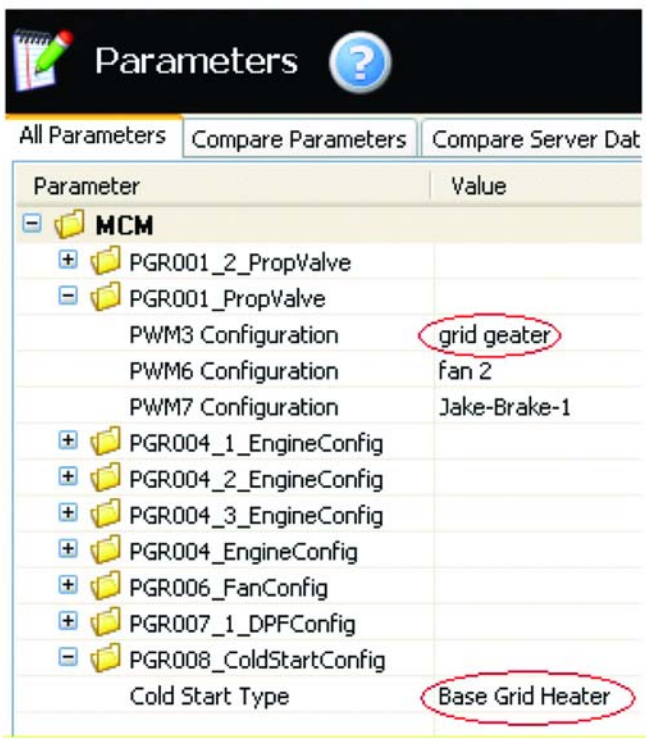
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75.3 SPN 729/FMI 7

This diagnosis is typically grid heater defect.

Check as follows:

1. Are any circuit related faults present?
   [a] Yes; troubleshoot those codes first.
   [b] No; go to step 2.
2. Is the engine equipped with a 3.6kW grid heater (P/N: A0001594204-Grey cover)?
   [a] Yes; refer to 10C5 or 18SP675Rev.
   [b] No; go to step 3.
3. Is the MCM software up to date?
   [a] Yes; go to step 4.
   [b] No; update the MCM with latest software in DiagnosticLink 8.
4. Verify the correct parameters. Go to step 5.



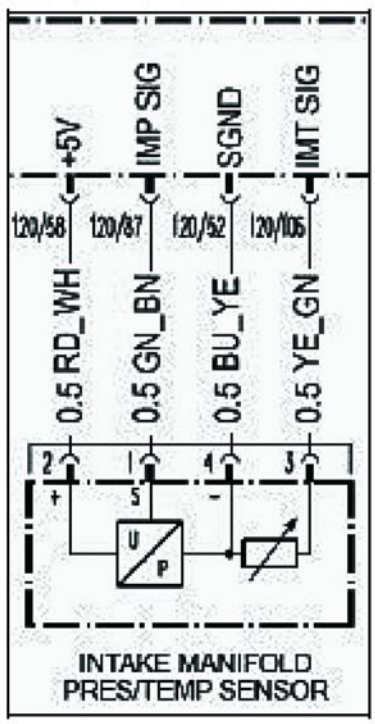
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5. Complete the following tech to verify proper operation of the Grid Heater and Relay Assembly. Once the hardware has been installed to the engine, care must be taken to ensure that the grid heater and relay function properly. Activating the grid heater using DiagnosticLink 8 for more than two seconds will result in a fault code and will disable the grid heater. Go to step 6.

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NOTICE:
"Exporting before" and "Importing parameters after" an MCM reflash may cause improper parameterization.

6. With the correct grid heater installed and the MCM programmed, the grid heater should energize and stay on continuously (not cycle) during the following verification test. If the relay is audibly heard cycling, verify that the MCM has been programmed with the latest version of software available on the server. Reprogramming will correctly parameterize the MCM for the 2.7 kW grid heater.
7. Verification requires that the ambient air temperature be simulated to a very low value in order to activate the grid heater. Either an Instrument Gauge Tester or a 20k Ohm resistor must be used to simulate this low ambient temperature.
8. Ensure engine coolant temperature is at 70°C (160°F) or lower. For EPA04 engines only: disconnect the Coolant Temperature Sensor from the Engine Sensor Harness.
9. Disconnect the Intake Manifold Pressure/Temperature Sensor.

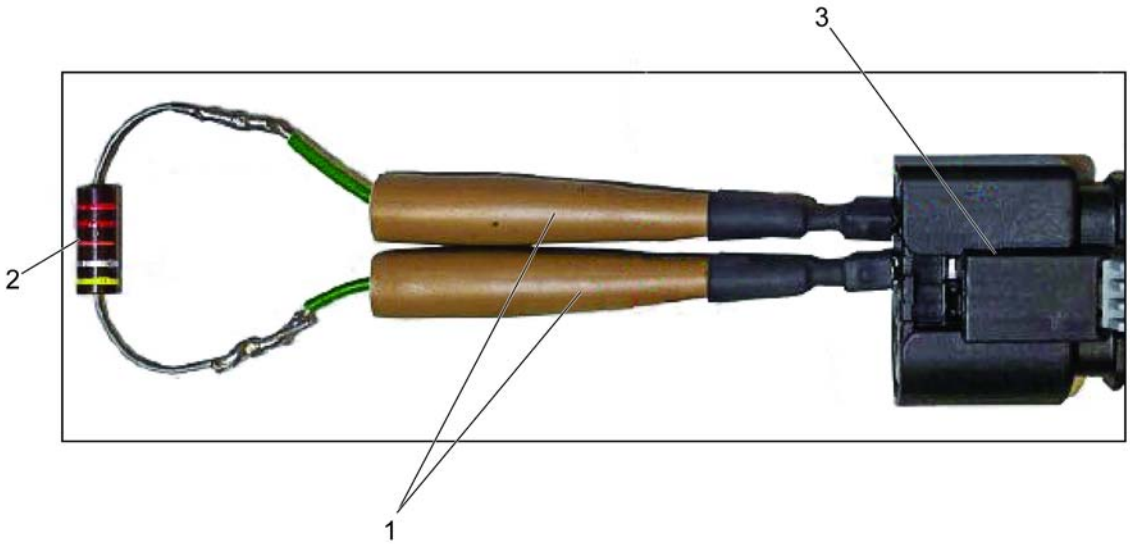


10. Using Connector Test Kit J-48476, install male blade terminals J-48476-25 to pins 3 and 4 of the harness side Intake Manifold Pressure/Temperature Sensor connector.

NOTE:
Exercise care when installing the blade terminals to the connector to avoid spreading or damaging the connector terminals.

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11. Install a 20k ohm resistor between the two blade terminals. Set an Instrument Gauge Tester (commercially available) to the appropriate resistance in place of a 20k ohm resistor.



1. Test Terminals J48476-25
2. 20k Ohm Resistor
3. Intake Manifold Pressure / Temperature Sensor Connector

Figure 75-2 20k Ohm Resistor with J-48476-25 Plugged into Wiring Harness Connector

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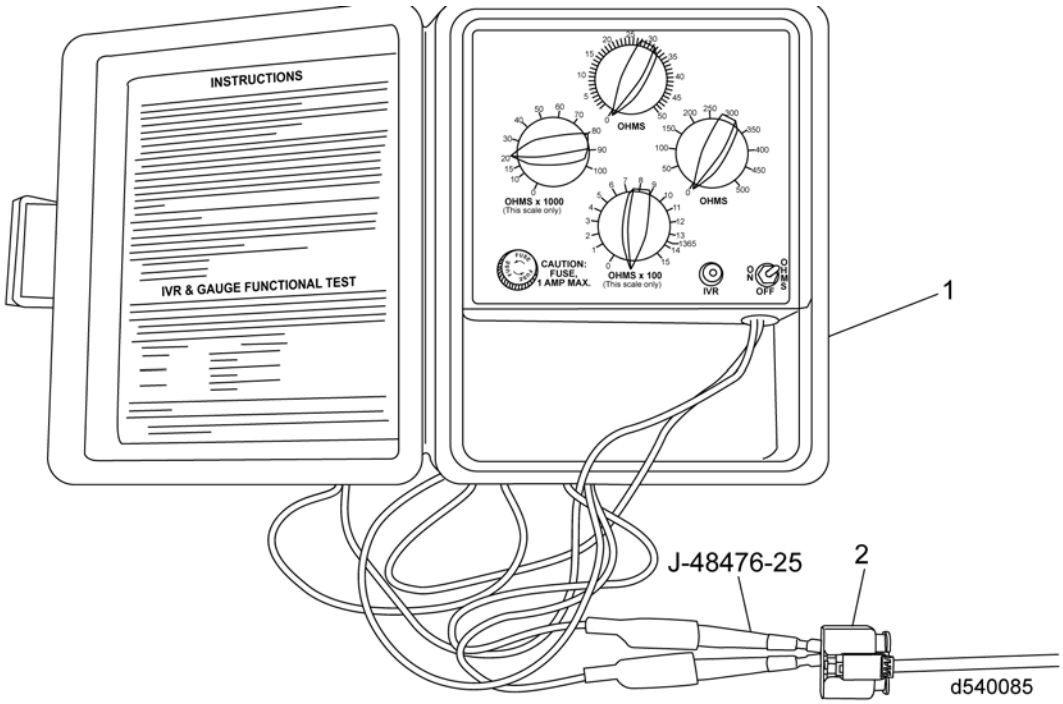


Figure 75-3 Instrument Gauge Tester Set to 20k Ohms with J-48476-25 Terminals Plugged into Wiring Harness Connector

12. Connect DiagnosticLink 8 to the vehicle.
13. Turn the ignition ON and monitor the voltage on the positive stud of the grid heater using a voltmeter. The voltmeter should display battery voltage when the grid heater is activated. If the relay is cycling on and off, ensure the MCM was reprogrammed correctly.

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14. The assembly is operating properly when the voltage check is verified and the vehicle does not set any fault codes for the grid heater.

NOTE:
If the vehicle sets a fault code for the grid heater, ensure the MCM is programmed correctly and that all connections have been made according to the provided instructions otherwise refer to the proper troubleshooting for the fault code.

POST INSTALLATION TROUBLESHOOTING DIAGNOTICS		
Symptoms or Code(s)	Possible Cause / Solution	Additional Notes:
Relay clicks On and Off rapidly at approximately 3 to 4 Hz when enabled	Wrong gird heater parameterization. (Reflash MCM with latest software in Step 6.	“Exporting before” and then “Importing parameters after” an MCM reflash can cause the issue.
729/7 Grid Heater Defect; Grid Heater Not Enabled	Typically because polarity of relay control jumper cable is reversed or not connected. Verify steps 18 and 19.	See Figure 4 for proper jumper terminal polarity or Relay Control Jumper Cable.
698/4 Grid Heater Circuit Failed Low; Grid Heater Not Enabled	HSW1 of jumper cable at MCM or Grid Heater is open circuit. (Verify control jumper connections; review Steps 18 and 19.	Relay Control Jumper Cable p/n: A9061500056 may be defective.

15. Turn ignition off.
16. Remove the Connector Test Kit terminals and resistor.
17. Reconnect the Intake Manifold/Temperature sensor.
18. Did the Verification test lead to a failed Grid heater or relay?
    [a] Yes; replace the failed part, clear the code, and release the unit.
    [b] No; go to next step.
19. Replace the MCM. Clear the code and release the unit.

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