



**NUMBER:** 18-032-03

**GROUP:** Vehicle  
Performance

**DATE:** Sep. 12, 2003

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**THIS BULLETIN IS BEING PROVIDED IN ADVANCE. THE SOFTWARE WILL BE AVAILABLE ON TechCONNECT ON OR AFTER SEPTEMBER 30, 2003.**

***SUBJECT:***

Erroneous DTC's Relating To 4.0L Oxygen Sensor Heater Failure

***OVERVIEW:***

This bulletin involves selectively erasing and reprogramming the Powertrain Control Module (PCM) with new software.

***MODELS:***

2004 (WJ) Grand Cherokee (Domestic Market)

**NOTE: This bulletin applies to vehicles built prior to June 02, 2003 and equipped with a 4.0L engine (Sales Code = ERH).**

***SYMPTOM/CONDITION:***

The customer may experience a MIL illumination that when diagnosed may have been caused by one or more erroneous Diagnostic Trouble Codes (DTC's) relating to a failure of the oxygen sensor heater. This condition will normally occur during cold engine starts when ambient temperatures are below 5°C (41°F) where the engine is allowed to warm without driving the vehicle.

The above condition may be caused by the following erroneous DTC's:

**P0135** - 1/1 O2 Sensor Heater Failure

**P0141** - 1/2 O2 Sensor Heater Failure

**P0155** - 2/1 O2 Sensor Heater Failure

**P0161** - 2/2 O2 Sensor Heater Failure

The revised PCM software, p/n 56044563AG, corrects an error in the timing parameter that is used to determine if an oxygen sensor is faulty.

***DIAGNOSIS:***

Using a Scan Tool (DRBIII®) with the appropriate Diagnostic Procedures Manual, verify all engine systems are functioning as designed. If DTCs are present record them on the repair order and repair as necessary before proceeding further with this bulletin.

If a customer has described the above condition, and the vehicle PCM software is prior to (earlier than) 56044563AG, perform the Repair Procedure.

**PARTS REQUIRED:**

Qty.	Part No.	Description
1	04275086AB	Label, Authorized Modification

**SPECIAL TOOLS/EQUIPMENT REQUIRED:**

NPN	Battery Charger
CH2002	General Purpose Interface Bus Cable Assembly
CH6000A	Scan Tool (DRBIII®)
CH7000A/7001A	J1962 Cable with red DRBIII® connector
	TechCONNECT Workstation

**NOTE: An updated J1962 cable has been released. This cable has a red colored connector at the DRBIII® connection. Use this cable whenever a flash is being performed.**

**REPAIR PROCEDURE:**

**NOTE: Whenever a controller is programmed, the software in the DRBIII®; must be programmed with the latest revision level available.**

**NOTE: If this flash process is interrupted/aborted, the flash should be restarted and then follow the directions on the DRBIII®.**

1. With the ignition switch in the "RUN" position, determine the original part number of the PCM currently in the vehicle. Using the DRBIII® select:
  - a. "DRBIII® Standalone"
  - b. "1998 - 2004 Diagnostics"
  - c. "All (Except Below)"
  - d. "Engine"
  - e. "Module Display"
  - f. Record the first ten (10) characters of the "PCM part #" on the repair order for later reference.

**NOTE: If the PCM is not operational, the part number can be obtained from the label on the old controller. If the label on the controller is not legible, proceed to next step.**

2. Page back to the "Main Menu"
3. Determine if the vehicle is equipped with SKIM. Using the DRBIII® select:
  - a. "DRBIII Standalone"
  - b. "1998 - 2004 Diagnostics"
  - c. "All"
  - d. "System Monitor"
  - e. "J1850 Module Scan"
  - f. Look for "SKIM" in the list of modules.

4. If the vehicle is not equipped with SKIM then proceed to step 5. If the vehicle is equipped with SKIM obtain the vehicle Personal Identification Number (PIN) before continuing with step 5. This information is available from one of the following:
  - a. The original selling invoice.
  - b. The DealerCONNECT system under the "Sales" or "Parts" tabs - select "Key Codes".
  - c. By contacting the DaimlerChrysler Customer Assistance Center (DCCAC) at 1-800-992-1997.

**CAUTION: Failure to install the SKIM pin number into the module after flashing the PCM will cause a start and stall condition.**

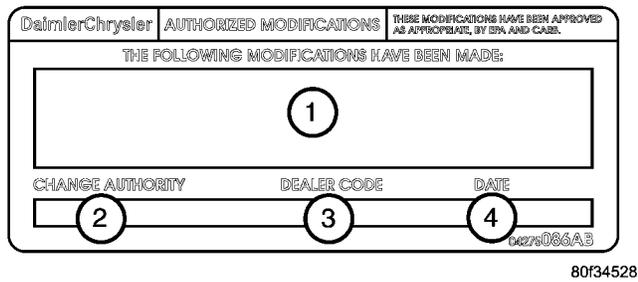
5. Open the hood, install a battery charger and verify battery state is above 11.5 volts.
6. If the old "PCM part #" is known, proceed to step 13. If the old "PCM part #" is not known, proceed to next step.
7. On DealerCONNECT select the "Service" tab.
8. Select "Vehicle Information Plus".
9. Manually enter the VIN and mileage and select "Enter".
10. Select the "Vehicle Option" tab.
11. Under the "Vehicle Option" window, identify and record:
  - a. Engine
  - b. Emissions (Federal or California)
  - c. Transmission (Automatic, 5-speed manual, etc.)
12. Connect the DRBIII® to TechCONNECT and the vehicle. Open TechTOOLS and verify that the "DRBIII® Status: Connected" message is in the upper right corner of the TechTOOLS screen.
13. TechTOOLS should automatically populate the VIN in the "Vehicle Criteria" area and the available updates. If not, manually enter the VIN then TechTOOLS will populate the available updates.
14. Determine the proper calibration:
  - a. If the old "PCM part #" is known, enter the part number of the old controller in the "Parts Criteria" p/n window. Proceed to step 16.
  - b. If the old "PCM part #" is not known, select the correct calibration based on the information that was recorded from "Vehicle Options" in step 12.
15. Select the correct calibration.
16. Select the "Download/Update" button.
17. Monitor the "Flash Download/Update Progress" window on the TechCONNECT and follow the instructions on TechCONNECT/DRBIII®. When the flash process is completed, proceed to next step.
18. Enter the VIN in the PCM. Using the DRBIII® select:
  - a. "DRBIII Standalone"
  - b. "1998 - 2004 Diagnostics"
  - c. "All"
  - d. "Engine"
  - e. "Miscellaneous"
  - f. "Check VIN"
  - g. If the vehicle is not equipped with SKIM proceed to step 19h. If the vehicle is equipped with SKIM follow the directions on the DRBIII®. When the VIN and SKIM key has been programmed, proceed to step 20.
  - h. Enter the VIN as requested by the DRBIII®.

19. Update the PCM mileage. Using the DRBIII® select:
  - a. "DRBIII® Standalone"
  - b. "1998 - 2004 Diagnostics"
  - c. "All (Except Below)"
  - d. "Engine"
  - e. "Miscellaneous"
  - f. "Check PCM Odometer"
  - g. "NO"
  - h. Enter the current odometer mileage and then press "Enter".
  - i. Cycle the ignition key to the OFF position and back to the ON position and then press "Enter".
20. Proceed as follows:
  - a. If the vehicle is equipped with an automatic transmission, proceed to step 23.
  - b. If the vehicle is equipped with a non-turbo engine and manual transmission, it is not necessary to set the pinion factor. Proceed to step 24.
  - c. If the vehicle is equipped with a Turbo engine and manual transmission, proceed to step 22.
21. On vehicles equipped with a Turbo engine and manual transmission, set the Pinion Factor. Using the DRBIII® select:
  - a. "DRBIII® Standalone"
  - b. "1998 - 2004 Diagnostics"
  - c. "All (Except Below)"
  - d. "Engine"
  - e. "Miscellaneous"
  - f. "Pinion Factor"
  - g. Select the correct tire size and then select "Page Back" to exit.
  - h. Proceed to step 24.
22. On vehicles equipped with an automatic transmission, set the Pinion Factor. Using the DRBIII® select:
  - a. "DRBIII® Standalone"
  - b. "1998 - 2004 Diagnostics"
  - c. "All (Except Below)"
  - d. "Transmission"
  - e. "Transmission Module"
  - f. "Miscellaneous"
  - g. "Pinion Factor"
  - h. Select the correct tire size and then select "Page Back" to exit.
  - i. Enter "Quick Learn" and then follow the instructions on the DRBIII®.

**NOTE: Due to the PCM programming procedure, a DTC may be set in other modules (TCM, BCM, MIC, SKIM, etc.) within the vehicle, if so equipped. Some DTC's may cause the MIL to illuminate. Check all modules using "Module Scan", record the DTC's, and erase these DTC's prior to returning the vehicle to the customer. Erase any DTC's in the PCM only after all other modules have had their DTC's erased.**

**NOTE: The following step is required by law.**

23. Type the necessary information on the "Authorized Modification Label" p/n 04275086AB and attach near the VECI label (Fig. 1).



**Fig. 1 AUTHORIZED MODIFICATION LABEL**

- 1 - POWERTRAIN CONTROL MODULE P/N (INSERT P/N) USED
- 2 - CHANGE AUTHORITY: TSB XX-XXX-XX
- 3 - DEALER CODE: XXXXX
- 4 - DATE: XX-XX-XX

**POLICY:**

Reimbursable within the provisions of the warranty.

**TIME ALLOWANCE:**

Labor Operation No:	Description	Amount
08-19-38-93	Reprogram Powertrain Control Module	0.5 Hrs.

**FAILURE CODE:**

FM	Flash Module
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