



**NUMBER:** 18-003-04

**GROUP:** Vehicle Performance

**DATE:** February 3, 2004

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**THE SOFTWARE WILL BE AVAILABLE ON TechCONNECT FEBRUARY 3, 2004.**

**THIS BULLETIN SUPERSEDES SERVICE BULLETIN 18-043-03 DATED DECEMBER 5, 2003, WHICH SHOULD BE REMOVED FROM YOUR FILES. ALL REVISIONS ARE HIGHLIGHTED WITH **\*\*ASTERISKS\*\*** AND INCLUDES AN ADDITIONAL MODEL YEAR, AND AN ADDITIONAL SYMPTOM/CONDITION AND A REVISED NOTE.**

***SUBJECT:***

Flash: Poor A/C Performance, Slow Fuel Gauge Response, and Diagnostic Trouble Codes (DTC's) P0341 **\*\*and P1757\*\***

***OVERVIEW:***

This bulletin involves erasing and reprogramming the Cummins ECM with new software.

***MODELS:***

2003 - **\*\*2004\*\*** (DR) Ram Truck

**NOTE:** This bulletin applies to DR vehicles equipped with a Cummins Turbo Diesel engine (sales code ETC or ETH), with an engine serial number **\*\*57130284\*\*** or earlier (Figure 1); and the engine date of manufacture on or before **\*\*December 10, 2003\*\***.

***SYMPTOM/CONDITION:***

Vehicle operator may describe:

- Slow fuel gauge response after adding fuel.
- On California emission equipped vehicles (sales code NAE); rapid A/C clutch cycling and poor A/C performance until coolant temperatures reach 76.6° C. (170° F.)

On 2003 vehicles, the technician may find DTC P0341 - Camshaft Position (CMP) Sensor Signal.

**\*\*On 2004 vehicles equipped with a 48RE Automatic transmission (sale code DG8), the technician may find DTC P1757 - Gov Press Above 3 PSI In Gear With 0 MPH.\*\***

The new engine controller software also includes a change to the engine coolant temperature set point from 79.4° C to 83.3° C (175° F to 182° F) for 2003 late build **\*\*and 2004\*\*** engines at which the exhaust brake (Mopar accessory) is turned off when the vehicle is stationary and the engine is idling.

**DIAGNOSIS:**

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

If the vehicle operator describes or the technician experiences the Symptom/Condition, 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	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.

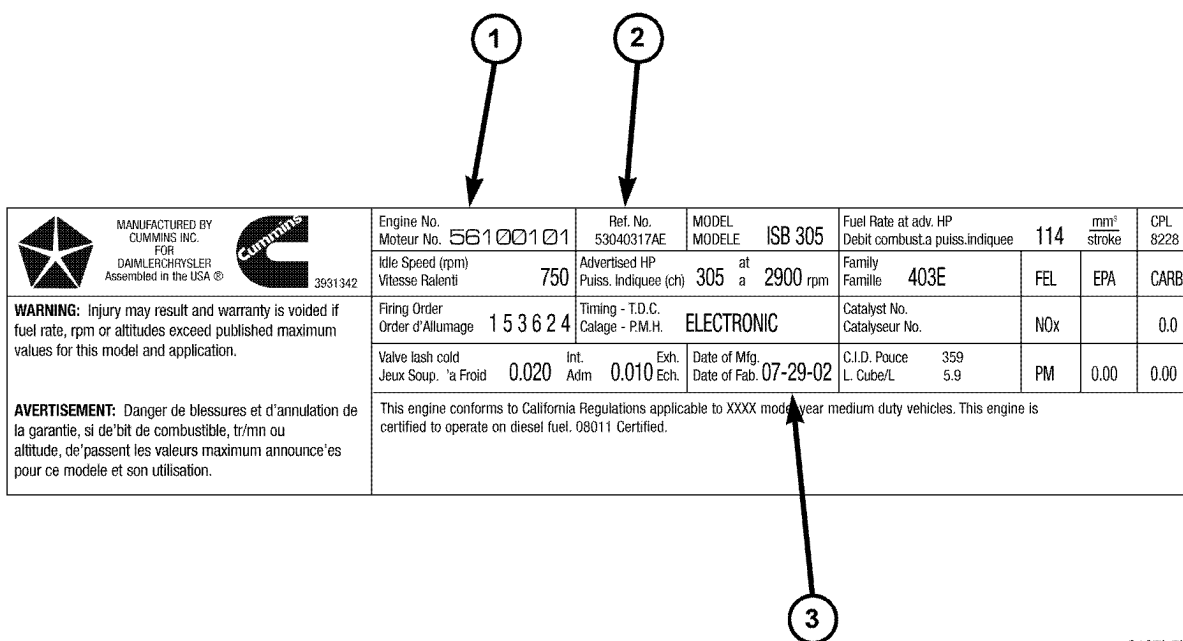
**REPAIR PROCEDURE:**

**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 and record the "ECM part number" of the ECM currently in the vehicle. Using the DRBIII® select:
  - a. "DRBIII® Standalone"
  - b. "1998 - 2004 Diagnostics"
  - c. "All (Except Below)"
  - d. "Engine"
  - e. On 1998 1/2 - 2003 vehicles, select "Cummins". 2004 and later vehicles, proceed to next step.
  - f. "Module Display"
  - g. Record the first (10) characters of the "ECM part number" on the repair order for later reference.

**NOTE:** If the ECM is not operational, the “ECM part number” can be obtained from the label on the controller. For 1998 1/2 - 2002 vehicles, if the label on the controller is not legible, proceed to next step. For 2003 and later vehicles, if the label on the controller is not legible, record the “Reference No.” for use later. The “Reference No.” is located in the Reference No. box at the top, center of the Engine Data Plate (Figure 1). Do not use the reference number shown in the figure below. The Engine Data Plate is located on the intake side of the breather cover or affixed to the APPS bracket.



**FIGURE 1 - ENGINE DATA PLATE (2003 AND LATER SHOWN)**

1-	ENGINE SERIAL NUMBER
2-	REFERENCE NUMBER
3-	DATE OF ENGINE MANUFACTURE

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:
  - a. The original selling invoice.
  - b. The DealerCONNECT system under the “Sales” or “Parts” tabs - select “Key Codes”.
  - c. By contacting the District Manager.

**CAUTION: Failure to install the SKIM pin number into the module after flashing the Cummins ECM 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 “ECM part number” is known, **or** for 2003 and later vehicles, proceed to (STEP #13). On 1998 1/2 - 2002 vehicles, if the old “ECM part number” is not known, proceed to next step.
7. On DealerCONNECT select the “Service” tab.
8. Select “Vehicle Information Plus”.
9. Select “Single VIN Inquiry”.
10. Manually enter the VIN and mileage and select “Enter”.
11. Select the “Vehicle Option” tab.
12. Under the “Vehicle Option” window, identify and record:
  - a. Engine (sales code and description).
  - b. Emissions (Federal or California)
  - c. Transmission (Automatic, 5-speed manual, etc.).

**NOTE: When reprogramming a Cummins ECM be sure to do the following;**

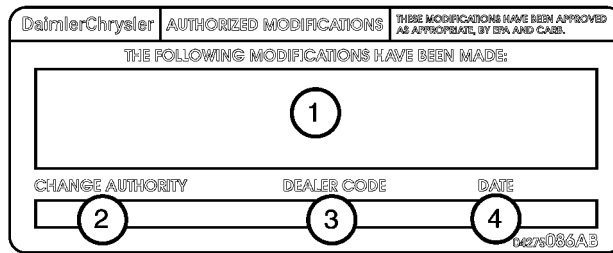
- **Download the flash from TechCONNECT to the DRBIII® with the DRBIII® disconnected from the vehicle.**
  - **Download the flash from the DRBIII® to the vehicle with the DRBIII® disconnected from TechCONNECT.**
13. Connect the DRBIII® to TechCONNECT. Open TechTOOLS and verify that the “DRBIII® Status: Connected” message is in the upper right corner of the TechTOOLS screen.
  14. Enter the old Cummins “ECM part number” obtained from the DRBIII® in (STEP #1) into the “Parts Criteria” window.
  15. Select “Show Updates”.
  16. Highlight the proper calibration from the list:
    - a. If the old “ECM part number” is known, highlight the calibration listed, based on the old “ECM part number” recorded earlier (STEP #1).
    - b. For 1998 1/2 - 2002, if the old “ECM part number” is not known, highlight the correct calibration based on the information that was recorded from “Vehicle Options” (STEP #12).

- c. For 2003 and later, if the old part number is not known, highlight the proper calibration based on the Reference No. located in the "Ref. No." box, at the top, center of the Engine Data Plate (Figure 1).
17. Select the "DRBIII" radio button which is next to the "Download/Update" button.
18. Select the "Download/Update" button.
19. Monitor the "Flash Download/Update Progress" window on the TechCONNECT and follow the instructions on TechCONNECT. When the flash process is complete, proceed to the next step.
20. Disconnect the DRBIII® from TechCONNECT.
21. Connect the DRBIII® to the vehicle.
22. Download the flash from the DRBIII® to the vehicle. Using the DRBIII® select:
  - a. "Vehicle Flash"
  - b. Follow the directions on the DRBIII® screen. When the flash process is complete, proceed to the next step.
23. If the vehicle is equipped with SKIM, proceed to (STEP #24). If the vehicle is not equipped with SKIM, proceed to (STEP #25).
24. On vehicles equipped with SKIM, transfer the VIN and Security Key information from the SKIM to the ECM. Using the DRBIII® select:
  - a. "DRBIII Standalone"
  - b. "1998 - 2004 Diagnostics"
  - c. "All"
  - d. "Theft Alarm"
  - e. "SKIM"
  - f. "Miscellaneous"
  - g. "Cummins ECM Replaced"
  - h. Follow the directions on the DRBIII® screen. When the process is complete, proceed to (STEP #26).
25. On vehicles not equipped with SKIM, manually enter the VIN in the ECM. Using the DRBIII® select:
  - a. "DRBIII Standalone"
  - b. "1998 - 2004 Diagnostics"
  - c. "All"
  - d. "Engine"
  - e. "Cummins Controller (ECM/ENGINE)"
  - f. "Miscellaneous"
  - g. "CM84X Check VIN"
  - h. Follow the directions on the DRBIII® screen. When the process is complete, proceed to next step.

**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.

- 26. Type the necessary information on the "Authorized Modification Label" p/n 04275086AB and attach near the VECI label (Figure 2).



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**FIGURE 2 - AUTHORIZED MODIFICATION LABEL**

1-	ENGINE 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
08-19-39-93	Reprogram Engine Control Module	0.8 Hrs.

**FAILURE CODE:**

FM	Flash Module
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