



NUMBER: 18-037-04

GROUP: Vehicle Performance

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THE DRBIII® FLASH FILES FOR THIS BULLETIN ARE AVAILABLE ON DealerCONNECT.

FOR MARKETS OUTSIDE OF THE UNITED STATES AND CANADA, THE FLASH FILES AND REPROGRAMMING INSTRUCTIONS WILL BE AVAILABLE ON ITIL/ISIS DVD NOVEMBER, 2004.

SUBJECT:

Flash: Fuel Economy Improvement, White Smoke On Start Up, Accuracy Of Fuel Mileage In Overhead Console Display

OVERVIEW:

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

MODELS:

2004 - 2005 (DR) Ram Truck

NOTE: This bulletin applies to DR vehicles equipped with a 5.9L Cummins Turbo Diesel engine (sales code ETH), with an engine serial number 57130285 through and including 57246361 ; and the engine date of manufacture 12/10/2003 through and including 8/17/2004.

SYMPTOM/CONDITION:

The following enhancements are included with this software:

- Improved Fuel Economy - A new ECM calibration has been developed which should provide customers an average fuel economy improvement of approximately 1 M.P.G.
- Reduces white exhaust smoke on cold start at temperatures below 50 deg. F (10 deg. C).
- Improves accuracy of the fuel economy calculation in the overhead console display.

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



Stick with the Specialists™

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.

DIAGNOSIS:

Using a Scan Tool (DRBIII®) with the appropriate Diagnostic Procedures Manual, verify all engine systems are functioning as designed. If DTC's are present, 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.

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 process should be restarted and then follow the directions on the DRBIII®.

1. Before beginning the reprogramming procedure, remove any old flash reprogramming files from the DRBIII® memory. To clear the memory from the MAIN MENU power up the DRBIII® and then:
 - a. Simultaneously press the "MORE" and "YES" keys.
 - b. A screen will appear requesting a "COLD BOOT".
 - c. Follow the on screen instructions by selecting the "F4" key.
 - d. When the DRBIII® reboots to the MAIN MENU, proceed to Step #2
2. 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 - 2005 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 "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 (). Do not use the reference number shown in the figure. The Engine Data Plate is located on the intake side of the breather cover or affixed to the APPS bracket.

 MANUFACTURED BY CUMMINS INC. FOR DAIMLERCHRYSLER Assembled in the USA	Engine No. Moteur No. 56100101	Ref. No. 590AC3176E	MODEL MODELE ISB 305	Fuel Rate at 2000 RPM Debit carburant a 2000 tours/m. Indiquee 114	H.P. Stroke 114	C.P.I. B228
	Idle Speed (rpm) Vitesse ralent 750	Advertised HP Puiss. Indiquee (ch) 305	at a 2900 rpm	Family Famille 403E	FEL	EPA
WARNING: Injury may result and warranty is voided if fuel rate, rpm or altitudes exceed published maximum values for this model and application. AVERTISSEMENT: Danger de blessures et d'annulation de la garantie, si le bit de carburant, tr/min ou altitude, dépassent les valeurs maximums annoncées pour ce modèle et son utilisation.	Firing Order Order d'Allumage 1 5 3 6 2 4	Timing - T.D.C Calage - P.M.H. ELECTRONIC	Catalyst No. Catalyseur No.	NOx	C.O.	C.O.
	Valve lash cold Jeu Soup. à Froid 0.020	Int. Adj. 0.010	Ext. Adj.	Date of Mfg. Date de Fab. 07-29-02	C.I.D. Piece 359 L. Carbur. 5.9	PM
This engine conforms to California Regulations applicable to 2003 model year random duty vehicles. This engine is certified to operate on diesel fuel 05011 Certified						

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Fig. 1 ENGINE DATA PLATE (2003 AND LATER SHOWN)

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

3. Page back to the "Main Menu"
4. Determine if the vehicle is equipped with SKIM. Using the DRBIII® select:
 - a. "DRBIII Standalone"
 - b. "1998 - 2005 Diagnostics"
 - c. "All"
 - d. "System Monitor"
 - e. "J1850 Module Scan"
 - f. Look for "SKIM" in the list of modules.
5. If the vehicle is not equipped with SKIM then proceed to Step #6. If the vehicle is equipped with SKIM obtain the vehicle Personal Identification Number (PIN) before continuing with Step #6. 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.

6. Open the hood, install a battery charger and verify that the charging rate provides approximately 13.5 volts.
7. If the old "ECM part number" is known, or for 2003 and later vehicles, proceed to Step #14. On 1998 1/2 - 2002 vehicles, if the old "ECM part number" is not known, proceed to next step.
8. On DealerCONNECT select the "Service" tab.

9. Select "Vehicle Information Plus".
10. Select "Single VIN Inquiry".
11. Manually enter the VIN and mileage and select "Enter".
12. Select the "Vehicle Option" tab.
13. 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 file from TechCONNECT to the DRBIII® with the DRBIII® disconnected from the vehicle.**
- **Download the flash file from the DRBIII® to the vehicle with the DRBIII® disconnected from TechCONNECT.**

14. 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.
15. Enter the old Cummins "ECM part number" obtained from the DRBIII® in Step #2 into the "Parts Criteria" window.
16. Select "Show Updates".
17. Highlight the proper flash file from the list:
 - a. If the old "ECM part number" is known, highlight the flash file listed, based on the old "ECM part number" recorded earlier Step #2.
 - b. For 1998 1/2 - 2002, if the old "ECM part number" is not known, highlight the correct flash file based on the information that was recorded from "Vehicle Options" Step #13.
 - c. For 2003 and later, if the old part number is not known, highlight the proper flash file based on the Reference No. located in the "Ref. No." box, at the top, center of the Engine Data Plate ().
18. Select the "DRBIII" radio button which is next to the "Download/Update" button.
19. Select the "Download/Update" button.
20. 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.
21. Disconnect the DRBIII® from TechCONNECT.
22. Connect the DRBIII® to the vehicle.
23. Download the flash file 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.
24. If the vehicle is equipped with SKIM, proceed to Step #25. If the vehicle is not equipped with SKIM, proceed to Step #26.
25. 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 - 2005 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 #27.
- 26. On vehicles not equipped with SKIM, manually enter the VIN in the ECM. Using the DRBIII® select:
 - a. "DRBIII Standalone"
 - b. "1998 - 2005 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 Cummins controller programming procedure, a DTC may be set in other modules (PCM, 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.

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

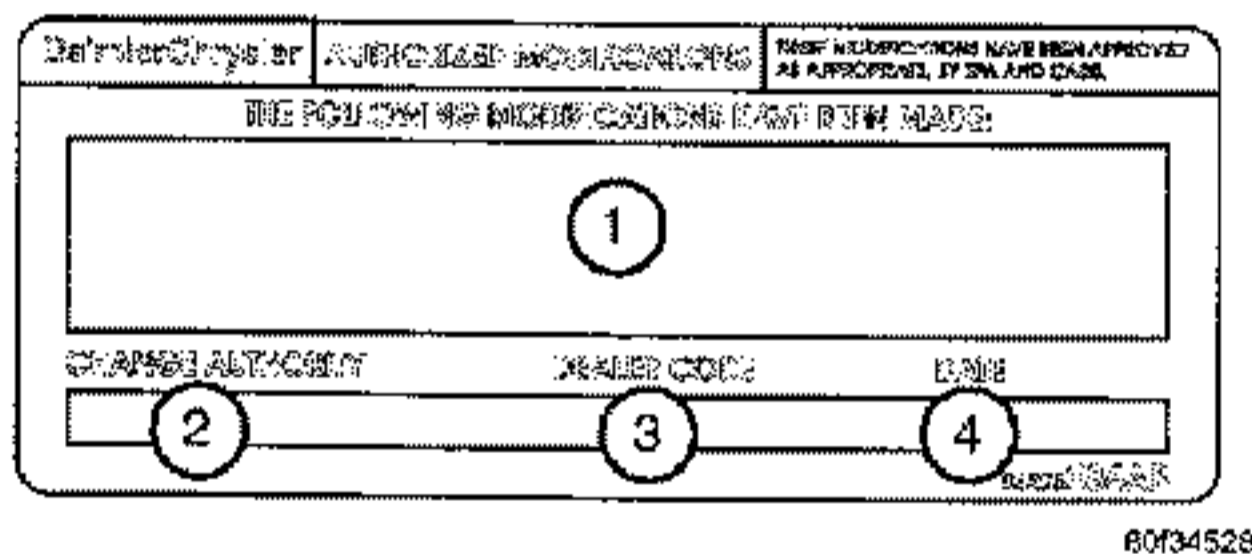


Fig. 2 AUTHORIZED MODIFICATION LABEL

- 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
08-19-49-92	Reprogram Engine Control Module	0.8 Hrs.