



NUMBER: 18-009-07 REV. A

GROUP: Vehicle Performance

DATE: May 16, 2007

This bulletin is supplied as technical information only and is not an authorization for repair. No part of this publication may be reproduced, stored in a retrieval system, or transmitted, in any form or by any means, electronic, mechanical, photocopying, or otherwise, without written permission of DaimlerChrysler Corporation.

THE StarSCAN® FLASH FILES FOR THIS BULLETIN MUST BE RETRIEVED FROM THE INTERNET.

THIS BULLETIN SUPERSEDES TECHNICAL SERVICE BULLETIN 18-009-07, DATED FEBRUARY 06, 2007, WHICH SHOULD BE REMOVED FROM YOUR FILES. THIS IS A COMPLETE REVISION AND NO ASTERISKS HAVE BEEN USED TO HIGHLIGHT REVISIONS.

SUBJECT:

Ram Truck 3500 Cab & Chassis - PCM May Not Reprogram And Engine System Enhancements

OVERVIEW:

This bulletin involves selectively erasing and reprogramming the Powertrain Control Module (PCM) with “bootloader” software and application software.

CAUTION: A special “bootloader” software with special reprogramming (flash) procedures must be installed in the PCM before the application software. Once the “bootloader” software has been successfully installed (flashed) in the PCM, then the application software can be reprogrammed (flashed) into the PCM.

MODELS:

2007 (DC) Ram Truck (3500 Cab & Chassis)

NOTE: This bulletin applies to Ram Truck 3500 Cab and Chassis vehicles equipped with 6.7L Cummins turbo-diesel engine (sales code ETJ) built on or before June 15, 2007 (MDH 0615XX).

SYMPTOM/CONDITION:

The vehicle operator and/or technician may experience one or more of the following conditions and/or enhancements:

- 1. The technician may not be able to reprogram (flash) the PCM with new application software.**

2. After extensive idling of the vehicle engine, the vehicle operator may experience a Malfunction Indicator Lamp (MIL) illumination and/or an Electronic Vehicle Information Center (EVIC) message alert due to one or more of the following Diagnostic Trouble Codes (DTC's):
 - a. **P1451** - Diesel Particulate Filter System Performance.
 - b. **P2463** - Diesel Particulate Filter - Soot Accumulation.
 - c. **P242F** - Diesel Particulate Filter Restriction - Ash Accumulation.
3. The vehicle operator may experience a MIL illumination due to one of the following DTC's:
 - a. **P0101** - Mass Air Flow Sensor "A" Circuit Performance.
 - b. **P0191** - Fuel Rail Pressure Sensor Circuit Performance.
4. **Improved Water-In-Fuel (WIF) alert.** To improve awareness that water has been detected in the fuel system, the vehicle operator will be alerted by a five (5) chime alert versus a single (1) chime alert.

DIAGNOSIS:

If one or more of the above condition(s) is/are present perform the Repair Procedure.

CAUTION: Before the application software can be reprogrammed (flashed) into the Powertrain Control Module (PCM), the PCM must first be reprogrammed (flashed) with "bootloader" software. Failure to reprogram the PCM with the "bootloader" software first, may cause the process of reprogramming the PCM with the application software to fail. The PCM "bootloader" software special flash procedures must be followed closely to prevent damage to the PCM.

CAUTION: The Repair Procedure involves a special and different reprogramming (flash) procedure for "bootloader" software. Follow the Repair Procedure steps. When performing the "bootloader" section of the Repair Procedure DO NOT interrupt the PCM reprogramming session. This special PCM "bootloader" software reprogramming session does not support "abort - recovery" mode. If "bootloader" software reprogramming is interrupted the PCM will be permanently disabled, and will require replacement.

NOTE: The Repair Procedure should not be performed using the StarMOBILE™ in its STANDALONE mode. Use the StarSCAN® to perform the entire Repair Procedure.

NOTE: Before performing this Repair Procedure, the operating software in the StarSCAN® must be programmed with software release level 7.04 SP1 higher. The software release level is visible in the blue header at the top of the StarSCAN® screen.

PARTS REQUIRED:

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

**SPECIAL TOOLS / EQUIPMENT REQUIRED:
VEHICLES UPDATED USING StarSCAN®**

NPN	Battery Charger
CH9401	StarSCAN® Tool
CH9404	StarSCAN® Vehicle Cable
CH9409	StarSCAN® Documentation Kit
CH9410	StarSCAN® Ethernet Cable, 12 ft.
CH9412	StarSCAN® Software Update Device Kit
	TechCONNECT PC or equivalent

REPAIR PROCEDURE:

A). REPROGRAMMING (FLASH) PCM WITH NEW “BOOTLOADER” SOFTWARE:

CAUTION: Before the application software can be reprogrammed (flashed) into the Powertrain Control Module (PCM), the PCM must first be reprogrammed (flashed) with “bootloader” software. Failure to reprogram the PCM with the “bootloader” software first, may cause the process of reprogramming the PCM with the application software to fail. The PCM “bootloader” software special flash procedures must be followed closely to prevent damage to the PCM.

CAUTION: The Repair Procedure involves a special and different reprogramming (flash) procedure for “bootloader” software. Follow the Repair Procedure steps. When performing the “bootloader” section of the Repair Procedure DO NOT interrupt the PCM reprogramming session. This special PCM “bootloader” software reprogramming session does not support “abort - recovery” mode. If “bootloader” software reprogramming is interrupted the PCM will be permanently disabled, and will require replacement.

NOTE: Before performing this Repair Procedure, the operating software in the StarSCAN® must be programmed with software release level 7.04 SP1 or higher. The software release level is visible in the blue header at the top of the StarSCAN® screen.

NOTE: The Repair Procedure currently can not be performed using the StarMOBILE™ in its STANDALONE mode. Use the StarSCAN® to perform the Repair Procedure.

NOTE: The StarSCAN® diagnostic scan tool fully supports Internet connectivity. However, to take advantage of this feature you must first configure the StarSCAN® for your dealership's network. Make sure the StarSCAN® is configured to the dealership's network before proceeding. For instruction on setting up your StarSCAN® for the dealer's network refer to either: "DealerCONNECT > Service > StarSCAN and StarMOBILE tools > Online Documentation", or refer to the StarSCAN® Quick Start Networking Guide. The StarSCAN® Quick Start Networking Guide is also available on the www.dcctools.com website under the "Download Center".

1. Open the hood and install a battery charger. Using a voltmeter, verify that the charging rate provides 13.2 - 13.5 volts. Set the battery charger to continuous charge. Do not allow the charger to time out during the flash process. Remove the charger from the battery when the flash process is complete.

NOTE: Do not allow the charging voltage to climb above 13.5 volts during the flash process.

2. Connect the CH9410 StarSCAN® ethernet cable to the StarSCAN® and the dealer's network drop.
3. Connect the CH9404 StarSCAN® vehicle cable to the StarSCAN® and the vehicle.
4. Turn the ignition switch to the "ON/RUN" position.
5. Power ON the StarSCAN®.
6. **Verify that the StarSCAN® is at software release 7.04 SP1 or higher.** The software release level is visible in the blue header at the top of the StarSCAN® screen.
7. Erase all flash files from the StarSCAN®. From the StarSCAN® "Home" screen:
 - a. Select "Show Short Cuts".
 - b. Select "Tool Menu".
 - c. Select "Manage Files".
 - d. Select "More Options".
 - e. Select "Delete All".
 - f. Select "Yes" at the "About to delete all user files. Are you sure you want to continue?" screen.
 - g. Select "OK" at "All user files have been removed" screen.
 - h. Select "Back" at "User's Files" menu.
8. Obtain PCM Bootloader software file and download to Scantool:
 - a. Select "ECU View".
 - b. Touch the StarSCAN® screen to highlight the ECU (PCM) in the list of modules.
 - c. Select "More Options".
 - d. Select "ECU Flash".
 - e. Record part number of new application software in PCM.
 - f. Select "Browse for New File".
 - g. Select "OK" at the Flash Download screen
 - h. Select "OK" at password
 - i. Select "Finish"
 - j. Highlight the PCM Bootloader software file. The bootloader file will have the letters "BT" in the last two digits (suffix) of its part number. **DO NOT** select the Application software file (which will have the letters "AQ" or higher suffix in the last two digits of its part number).
 - k. Select "Download to Scantool".
 - l. Select "Back" one (1) time.

CAUTION: When performing the “bootloader” section of the Repair Procedure **DO NOT** interrupt the PCM reprogramming session. This special PCM “bootloader” software reprogramming session does not support “abort - recovery” mode. If “bootloader” software reprogramming is interrupted the PCM will be permanently disabled, and will require replacement.

NOTE: Close all doors and turn **OFF** all accessories (i.e. radio, hvac, lights, etc.).

9. Reprogram PCM - Download Bootloader software from ScanTool to vehicle PCM:
 - a. Highlight Bootloader software selected previously. The bootloader file will have the letters “BT” in the last two digits (suffix) of its part number.
 - b. Select “Update Controller”.
 - c. Select “OK” at ECU Flash.
 - d. Wait until the PCM bootloader software flash is complete. Once complete:
 - e. Select “OK” at the Flash Update Successful screen.
 - f. Select “Back” three (3) times to return to the “ECU View” screen.

CAUTION: The following steps must be performed as directed.

10. At the “ECU View” screen, turn the ignition switch to the “OFF” position.
11. Remove the ignition key from the ignition switch.
12. WAIT TWO (2) MINUTES.
13. Install the ignition key in the ignition switch.
14. Turn the ignition switch to the “ON/RUN” position.
15. Confirm PCM has new Bootloader software. From “ECU View” screen:
 - a. Touch the StarSCAN® screen to highlight the ECU (PCM) in the list of modules.
 - b. Select “More Options”.
 - c. Select “ECU Flash”.
 - d. Confirm that the available Bootloader software file matches the resident flash file in the PCM.
16. Erase Bootloader software file from the StarSCAN®. From the “ECU Flash” screen:
 - a. Select “Manage Files”.
 - b. Highlight the Bootloader software file in the StarSCAN® memory.
 - c. Select “Delete”.
 - d. Select “Yes” at the “Are you sure you want to delete the ECU flash file (bootloader file) name?” screen.
 - e. Select “Back” at the “Manage Files” menu.

B). REPROGRAMMING (FLASH) PCM WITH NEW APPLICATION SOFTWARE:

CAUTION: Before the application software can be reprogrammed (flashed) into the Powertrain Control Module (PCM), the PCM must first be reprogrammed (flashed) with “bootloader” software. Failure to reprogram the PCM with the “bootloader” software first, may cause the process of reprogramming the PCM with the application software to fail.

1. Obtain PCM Application software file and download to Scantool:
 - a. Select “Browse For New File”.
 - b. Select “OK” at the Flash Download screen.
 - c. Select “Finish” at Flash Update screen display download results.

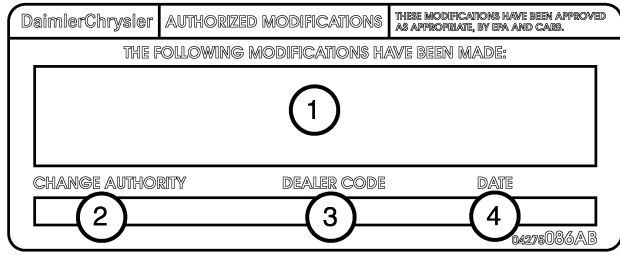
- d. Select the Application software file. The Application software file will have the letters "AQ" of higher in the last two digits (suffix) of its part number. **DO NOT** select the Bootloader software file which has the letters "BT" in the last two digits (suffix) of its part number.
- e. Highlight the Application software file for download from the Web to StarSCAN®.
- f. Select "Download to Scantool".
- g. Select "Close" at the Download file screen. When the Application file download from Web to StarSCAN® is complete then:
- h. Select "Back" one (1) time.
2. Reprogram PCM with new Application software from Scantool:
 - a. Highlight the Application software file for download from StarSCAN® to PCM.
 - b. Select "Update Controller".
 - c. Select "OK" at ECU Flash screen.
 - d. Wait for file download to PCM to complete.
 - e. Select "OK" at the Flash ECU Successful screen.
3. Verify that the highlighted Application software file part number matches the resident (application) flash file part number.
 - a. Select "Back" four (4) times to return to the Home screen.
 - b. Turn the ignition switch to the "OFF" position. WAIT 10 seconds.

NOTE: Due to the ECU (PCM) programming procedure, a DTC may be set in other electronic modules within the vehicle, if so equipped. Some DTC's may cause the MIL to illuminate.

4. Clear all DTC's. At the Home screen:
 - a. Turn the ignition switch to the "ON/RUN" position. Do Not start vehicle engine.
 - b. Select "System View".
 - c. Select "All DTC's".
 - d. Select "Clear All Stored DTC's".
 - e. Select "Yes" at the confirm screen.
 - f. Turn the ignition switch to the "OFF" position. WAIT 10 seconds.
 - g. Start the vehicle engine to verify that all DTC's have been erased.
 - h. Stop the vehicle engine. Turn the ignition switch to the "OFF" position
 - i. Disconnect the StarSCAN® from the vehicle.

NOTE: The following step is required by law when reprogramming a PCM or TCM.

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



80f34528

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
18-19-04-32 Charge warranty to ECM	Module, Powertrain Control (PCM) Cummins - Reprogram w/Bootloader and Application Software Files (B)	0.7 Hrs.

FAILURE CODE:

ZZ	Service Action
----	----------------