



NUMBER: 18-038-05 REV. A

GROUP: Vehicle Performance

DATE: December 16, 2005

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THIS BULLETIN SUPERSEDES TECHNICAL SERVICE BULLETIN 18-038-05, DATED NOVEMBER 24, 2005, WHICH SHOULD BE REMOVED FROM YOUR FILES. ALL REVISIONS ARE HIGHLIGHTED WITH **ASTERISKS**** AND INCLUDE THE ADDITION OF 2006 INTERNATIONAL MARKET VEHICLES.**

THE StarSCAN® FLASH FILES FOR THIS BULLETIN ARE AVAILABLE VIA THE INTERNET.

THE FLASH FILE WILL BE AVAILABLE ON THE NEXT StarSCAN® UPDATE CD RECEIVED AFTER CD 6.05.

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

SUBJECT:

FLASH: Engine Start and Driveability At Altitude Or Brake Switch DTC P0504

OVERVIEW:

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

MODELS:

2005 - 2006	(KJ)	Liberty
** 2006	(KJ)	Cherokee **

NOTE: This bulletin applies to vehicles equipped with a 2.8L engine (sales code ENR) built prior to November 21, 2005 (MDH 1121XX).

SYMPTOM/CONDITION:

The vehicle operator may experience one or more of the following:

1. At an altitude of 5,000 ft. or higher, a cold engine start and/or warm engine restart that is followed by a slow to idle up condition (domestic market vehicles only).
2. At an altitude of 5,000 ft. or higher, an Idle and/or off-idle engine shake during engine warm-up condition (domestic market vehicles only).
3. A MIL Illumination due to **DTC P0504** - Brake Switch Signal Circuits Plausibility With Redundant Contact (domestic and international market vehicles).



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DIAGNOSIS:

Using a Scan Tool (DRBIII® or StarSCAN®) with the appropriate Diagnostic Procedures available in TechCONNECT, 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 the vehicle operator describes or experiences the Symptom/Condition, perform the Repair Procedure.

NOTE: There are three separate Repair Procedures. Repair Procedure A is used for domestic 2005 KJ vehicles. Repair Procedures B or C are used for 2006 KJ vehicles (international or domestic market).

NOTE: There are two methods to download flash files to StarSCAN®. The first (preferred) method is to download the flash files to the StarSCAN® from the internet. The second method is to download the flash files from the StarSCAN® Software Update CD.

PARTS REQUIRED:

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

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

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.

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
	Latest StarSCAN® Software Update CD

REPAIR PROCEDURE A: FOR DOMESTIC VEHICLES USING DRBIII® AND DOWNLOADING THE FLASH FILE FROM DealerCONNECT:

NOTE: Whenever a module is reprogrammed, 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 flash procedure, remove any old flash files from the DRBIII® memory. To clear the memory from the MAIN MENU:
 - 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 the original 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. "Module Display".
 - f. Record the “ECM part #” on the repair order for later reference.
3. 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.
4. Enter the “ECM part #” recorded in [Step #2](#) in the “Parts Criteria” area and select “Show Updates”. TechTOOLS will populate the appropriate flash file.
5. Select the flash file.
6. Select the “DRBIII” radio button which is next to the “Download/Update” button.
7. Select the “Download/Update” button.
8. Monitor the "Flash Download/Update Progress" window on the TechCONNECT and follow the instructions on TechCONNECT. When the download process is complete, proceed to [Step #9](#).
9. **Disconnect the DRBIII® from TechCONNECT.**
10. Open the hood, install a battery charger and verify that the charging rate provides approximately 13.5 volts.
11. Connect the DRBIII® to the vehicle.
12. Download the ECM 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.
13. Reset the “Pinion Factor” as necessary.
14. Perform the transmission Quick Learn Procedure as necessary.
15. Update the Sentry Key Immobilizer Module (SKIM) or Sentry Key Remote Entry Module (SKREEM), Secret Key data if necessary.

NOTE: Due to the ECM 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 when reprogramming a ECM and/or TCM.

16. 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

REPAIR PROCEDURE B: USING StarSCAN AND THE INTERNET TO RETRIEVE THE FLASH FILE:

NOTE: The StarSCAN® diagnostic scan tool fully supports Internet connectivity. However, in order to take advantage of this feature you must first configure the StarSCAN® for your dealership's network. For instruction on setting up your StarSCAN® for the dealer's network; refer to the StarSCAN® Quick Start Networking Guide available on the www.dcctools.com website under the "download center".

NOTE: If this flash process is interrupted/aborted, the flash should be restarted.

1. Open the hood, install a battery charger and verify that the charging rate provides approximately 13.5 volts.
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" position. Power ON the StarSCAN®.

5. Retrieve the old ECM part number. Using the StarSCAN® at the “Home” screen:
 - a. Select “ECU View”
 - b. Touch the screen to highlight the appropriate ECU (ECM) in the list of modules.
 - c. Record the "Part Number", displayed on the "ECU Overview" screen, for later reference.
6. Download the ECM flash file from the internet to the StarSCAN®. Using the StarSCAN® at the “ECU Overview” screen:
 - a. Select “More Options”
 - b. Select “ECU Flash”.
 - c. Select “Browse for New File”. Follow the on screen instructions.
 - d. Select “Download to Scantool”.
 - e. Select “Close” after the download is complete, then select “Back”.
 - f. Highlight the listed ECM calibration.
 - g. Select “Update Controller”.
 - h. When the update is complete, select “OK”.
7. Reset the ECM module by cycling the ignition switch. Reboot the StarSCAN®.

NOTE: Due to the ECM programming procedure, a DTC may be set in other modules (TCM, BCM, MIC, SKREEM, etc.) within the vehicle, if so equipped. Some DTC's may cause the MIL to illuminate. From the “Home” screen select “System View”. Then select “All DTCs”. Press “Clear All Stored DTCs” if there are any DTCs shown on the list.

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

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

REPAIR PROCEDURE C: USING SOFTWARE UPDATE CD TO RETRIEVE THE FLASH FILE:

NOTE: If this flash process is interrupted/aborted, the flash should be restarted.

NOTE: For detailed information on the operation of the StarSCAN®, refer to the Quick Reference documentation provided in the StarSCAN® documentation kit. In addition, more recent information may also be available at the www.dcctools.com website. Look under "Training Aids" and also under "Download Center > Frequently Asked Questions" for more help.

1. Open the hood, install a battery charger and verify that the charging rate provides approximately 13.5 volts.
2. Connect the CH9404 StarSCAN® vehicle cable to the StarSCAN® and the vehicle.
3. Power ON the StarSCAN®.
4. Retrieve the old ECM part number. Using the StarSCAN® at the “Home” screen:
 - a. Select “ECU View”
 - b. Touch the screen to highlight the appropriate ECU (ECM) in the list of modules.
 - c. Record the "Part Number", displayed on the "ECU Overview" screen, for later reference.
5. Insert the StarSCAN® Software Update CD into the TechCONNECT or equivalent PC. The StarSCAN® Software Update CD will start automatically. Select “Download Flash Updates”.

6. At the **“Select a method for looking up controller flash updates.”** screen:
 - a. Select “Enter part number”. Enter the “Part Number” recorded in [Step #4](#) when prompted to do so.
 - b. Using the mouse highlight the appropriate ECM “Calibration”. Select “Next”.
 - c. Follow the on screen instructions.
 - d. When completed, proceed to [Step #7](#).
7. With the StarSCAN® powered OFF, connect the USB Key and Gender Changer to the StarSCAN® USB port ([Fig. 2](#)).

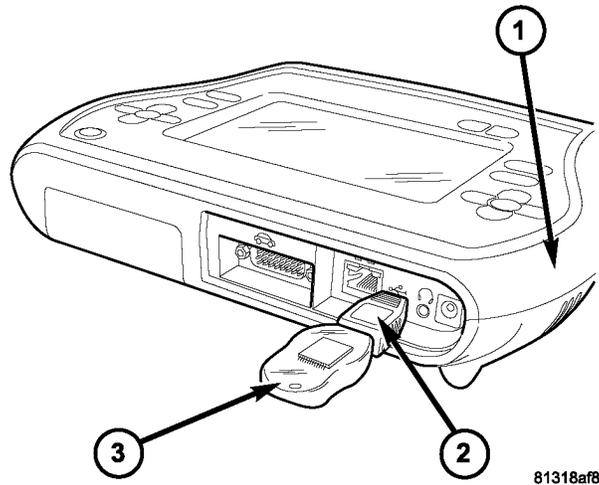


Fig. 2 USB KEY, GENDER CHANGER, AND StarSCAN®; TOOL

- 1 - StarSCAN™ TOOL
- 2 - GENDER CHANGER
- 3 - USB KEY

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8. Connect the StarSCAN® to the vehicle (if not already connected).
 9. Turn the ignition switch to the “ON” position. Power ON the StarSCAN®.
 10. Download the ECM flash file from the USB key to the StarSCAN®. Using the StarSCAN® at the “Home” screen:
 - a. Select “Flash Download”, then select “Retrieve files from the USB storage device”
 - b. Highlight the appropriate ECM calibration. Select “Download to Scan Tool”
 - c. When the download is complete, select “Close” then “Back”.
 11. Reprogram the ECM by downloading the file from the USB key to the StarSCAN®. Using the StarSCAN® at the “Home” screen:
 - a. Select “ECU View”.
 - b. Select “More Options”.
 - c. Select “ECU Flash”.
 - d. Highlight the appropriate ECM calibration.
 - e. Select “Update Controller”. Follow the on screen instructions.
 - f. When the update is complete, select “OK”.
 12. Reset the ECM module by cycling the ignition switch. Reboot the StarSCAN®.

NOTE: Due to the ECM programming procedure, a DTC may be set in other modules (TCM, BCM, MIC, SKREEM, etc.) within the vehicle, if so equipped. Some DTC's may cause the MIL to illuminate. From the "Home" screen select "System View". Then select "All DTCs". Press "Clear All Stored DTCs" if there are any DTCs shown on the list.

NOTE: The following step is required by law when reprogramming a ECM and/or TCM.

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

POLICY:

Reimbursable within the provisions of the warranty.

TIME ALLOWANCE:

Labor Operation No:	Description	Amount
18-19-04-10	Module, Engine Control - Reprogram - 2005 KJ (using the DRBIII)	1.1 Hrs.
18-19-04-10	Module, Engine Control - Reprogram - 2006 KJ (using the StarSCAN®)	1.5 Hrs.

FAILURE CODE:

ZZ	Service Action
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