



NUMBER: 21-008-05

GROUP: Transmission

DATE: March 12, 2005

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

THE StarSCAN SOFTWARE UPDATE CD CONTAINS ALL PREVIOUSLY RELEASED FLASH FILES PRIOR TO THE CD RELEASE DATE PRINTED ON THE CD LABEL.

SUBJECT:

FLASH: NAG1 Transmission - Improvements to 4-3-4 and Garage Shifts

OVERVIEW:

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

MODELS:

2005 (WK) Grand Cherokee

NOTE: This bulletin applies to 3.7L vehicles equipped with a NAG1 (W5A580) automatic transmission (sales code DGJ) built on or before March 08, 2005 (MDH 0308XX).

SYMPTOM/CONDITION:

The new TCM software has the following enhancements:

- 4 - 3 coast downshift. Improvement made to reduce harshness in a light load coast down shift from 4th to 3rd gear.
- 3 - 4 low speed upshift. Improvement made to reduce harshness in a light load upshift from 3rd to 4th gear.
- Cold engine garage shift. Improvement made to reduce initial engine sag/hesitation.
- Throttle tip-in following an upshift into 4th gear. Improvement made to vehicle performance to reduce a perception of an initial throttle tip-in engine power sag following an upshift into 4th gear.

DIAGNOSIS:

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

If the customer experiences any of the above conditions, perform the Repair Procedure.



NOTE: There are two methods to download flash files to StarSCAN. The first method (preferred) 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:

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

FLASH PROCEDURE - USING THE INTERNET TO RETRIEVE THE FLASH FILE:

NOTE: The latest released version of the StarSCAN software must be installed on the StarSCAN tool before the "Using The Internet To Retrieve The Flash File" repair procedure can be performed.

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: Make sure the StarSCAN is configured to the dealership's network before proceeding.

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

1. Connect the CH9404 StarSCAN vehicle cable to the StarSCAN and the vehicle.
2. Connect the CH9410 StarSCAN ethernet cable to the StarSCAN and the dealer's network drop (optional).
3. Retrieve the old Transmission Control Module (TCM) part number. Using the StarSCAN at the "Home" screen:

- a. Select "ECU View".
 - b. Touch the screen to highlight the appropriate controller in the list of modules.
 - c. Select "More Options".
 - d. Select "ECU Flash".
 - e. Record the "Part Number", displayed on the "Flash TCM" screen, for later reference.
4. If the StarSCAN is connected to the dealer's network drop and the vehicle, proceed to [Step #5](#). If the StarSCAN is not connected to the dealer's network drop and the vehicle, proceed to [Step #10](#).
 5. Select "Browse for new file".
 6. Select the appropriate flash file.
 7. Select "Download to Scantool".
 8. Select "Close" after the download is complete. Proceed to [Step #11](#).
 9. Connect the CH9410 StarSCAN ethernet cable to the StarSCAN and the dealer's network drop (if not already connected).
 10. Download the flash file from the Internet to the StarSCAN. Using the StarSCAN at the "Home" screen:
 - a. Select "Flash Download".
 - b. Select "Enter information manually". Press the "Next" button and follow the on screen instructions.
 - c. Select the appropriate flash file.
 - d. Select "Download to Scantool".
 - e. Select "Close" after the download is complete.
 11. Connect the CH9404 StarSCAN vehicle cable to the StarSCAN and the vehicle (if not already connected).
 12. Open the hood, install a battery charger and verify that the charging rate provides approximately 13.5 volts.
 13. Download the flash file from StarSCAN to the vehicle. Using StarSCAN at the "Home" screen:
 - a. Select "ECU View".
 - b. Browse the list of module using the scroll arrows. Highlight the Transmission Control Module (TCM).
 - c. Select "More Options".
 - d. Select "ECU Flash".
 - e. Highlight the appropriate module flash file from the list.
 - f. Select "Update Controller".
 - g. When update is completed, select "OK".

NOTE: Due to the TCM programming procedure, a DTC may be set in other modules (PCM, BCM, MIC, SKREEM, etc.) within the vehicle, if so equipped. Some DTC's may cause the MIL to illuminate. Check all modules using "ECU View" from the Home screen, 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.

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

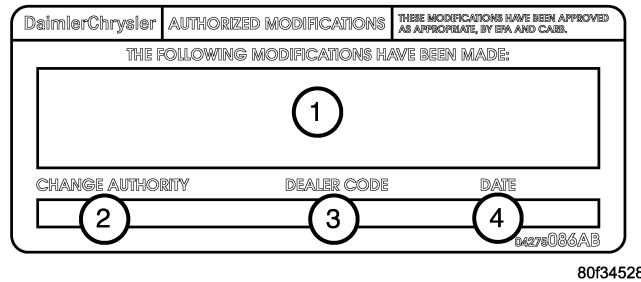


Fig. 1 AUTHORIZED MODIFICATION LABEL

- 1 - 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

FLASH PROCEDURE - USING SOFTWARE UPDATE CD TO RETRIEVE THE FLASH FILE:

NOTE: Before flashing this module, make sure the StarSCAN is operating at the latest software version and that this latest software version is available from the latest StarSCAN update CD. To determine the latest StarSCAN software version level available refer to www.dcctools.com website under the "Latest News" link.

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. Retrieve the old Transmission Control Module (TCM) part number. Using the StarSCAN at the "Home" screen:
 - a. Select "ECU View".
 - b. Touch the screen to highlight the appropriate controller in the list of modules.
 - c. Record the "Part Number", displayed on the "ECU Overview" screen, for later reference.
2. Insert the USB Key, into the USB port on the TechCONNECT or equivalent PC (Fig. 2).

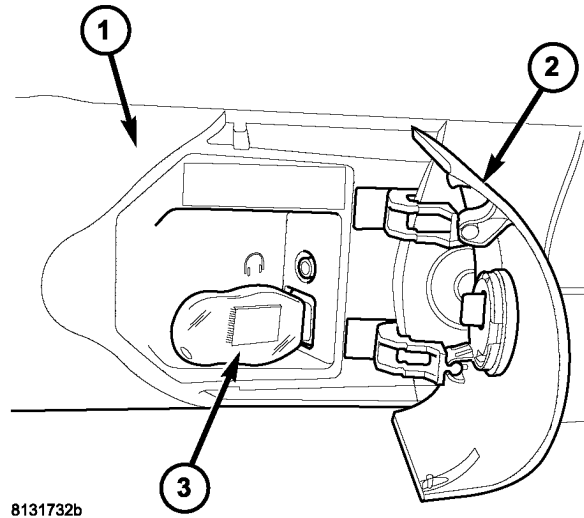


Fig. 2 USB KEY AND TECHCONNECT PC

- 1 - TechCONNECT PC
 - 2 - ACCESS DOOR (ON FRONT OF TechCONNECT PC)
 - 3 - USB KEY IN THE TechCONNECT PC USB PORT
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3. Insert the StarSCAN Software Update CD into the TechCONNECT or equivalent PC. The StarSCAN Software Update CD will start automatically.
 - a. Select “Controller Flash”.
 - b. Follow the on screen instructions.
4. At the **“Select the type of information you wish to enter.”** screen:
 - a. If the old “Part Number” was recorded in [Step #1](#), proceed to [Step #5](#).
 - b. If the old “Part Number” is not known, proceed to [Step #6](#).
5. Select “Enter part number”.
 - a. Follow the on screen instructions. Enter the “Part Number” (use capital letters) recorded in [Step #1](#) when prompted to do so. Follow the on screen instructions. Select “Next” after each step. Select “Finish” after completing the last step.
 - b. Proceed to [Step #7](#).
6. Select “Enter YME Information”.
 - a. Follow the on screen instructions. Select “Next” after each step. Select “Finish” after completing the last step.
 - b. Proceed to [Step #7](#).
7. Using the mouse highlight the appropriate “Calibration”.
 - a. Select “Save to USB”.
 - b. Follow the on screen instructions. Select “Next”#after each step. Select “Finish” after completing the last step.
8. With the StarSCAN powered OFF, connect the USB Key and Gender Changer to the StarSCAN USB port ([Fig. 3](#)).

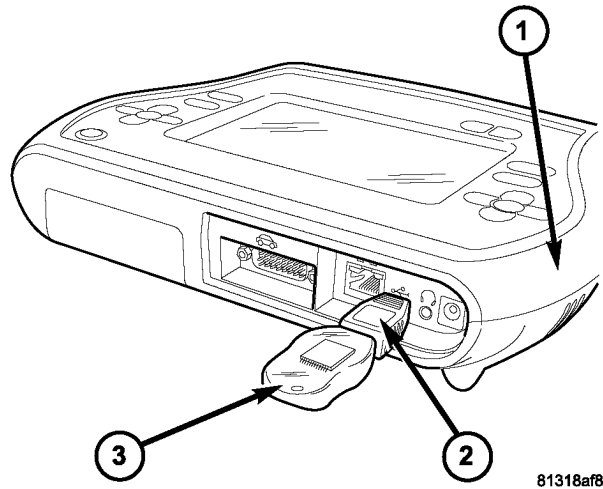


Fig. 3 USB KEY, GENDER CHANGER, AND StarSCAN TOOL

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

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9. Open the hood, install a battery charger and verify that the charging rate provides approximately 13.5 volts.
 10. Connect the StarSCAN to the vehicle.
 11. Power ON the StarSCAN.
 12. Download the file from the USB key to the StarSCAN. Using the StarSCAN at the "Home" screen:
 - a. Select "Flash Download".
 - b. Select "Use USB device".
 - c. Follow the on screen instructions. Select "Next" after each step. Select "Finish" after completing the last step.
 - d. At the "Flash File List" screen, highlight the appropriate TCM "Calibration".
 - e. Select "Download to Scantool".
 - f. When the download is complete, select "Close".
 13. Download the file from the StarSCAN to the vehicle. Using the StarSCAN at the "Home" screen:
 - a. Select "ECU View".
 - b. Browse the list of controllers using the scroll arrows. Highlight the Transmission Control Module (TCM).
 - c. Select "More Options".
 - d. Select "ECU Flash".
 - e. Highlight the appropriate TCM "Calibration" from the list.
 - f. Select "Update Controller".
 - g. When update is completed, select "OK".

NOTE: Due to the TCM programming procedure, a DTC may be set in other modules (PCM, BCM, MIC, SKIM, etc.) within the vehicle, if so equipped. Some DTC's may cause the MIL to illuminate. Check all modules using "ECU View" from the Home screen, 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.

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POLICY:

Reimbursable within the provisions of the warranty.

TIME ALLOWANCE:

Labor Operation No:	Description	Amount
08-19-45-95	Reprogram Transmission Control Module	0.8 Hrs.

FAILURE CODE:

FM	Flash Module
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