CHRYSLER **Jeep** DODGE

S E R V I C E
B U L L E T I N

NUMBER: 18-020-02

GROUP: Vehicle Performance

DATE: Jun. 24, 2002

THIS BULLETIN SUPERSEDES TECHNICAL SERVICE BULLETIN 18-32-98, DATED SEPTEMBER 25, 1998 WHICH SHOULD BE REMOVED FROM YOUR FILES AND NOTED IN THE 1998 TECHNICAL SERVICE BULLETIN MANUAL (PUBLICATION NO. 81-699-99003). THIS IS A COMPLETE REVISION AND NO ASTERISKS HAVE BEEN USED TO HIGHLIGHT REVISIONS.

SUBJECT:
Flash Programming Failure Recovery

OVERVIEW:
This Bulletin provides guidelines, to minimize flash reprogramming problems, and information on recovery procedures for failed flash attempts.

MODELS:

1992 - 1994	(AA)	Spirit/Acclaim/Lebaron Sedan
1995 - 2003	(AB)	Ram Van/Wagon
1992 - 1994	(AJ)	Lebaron Coupe/Convertible
1995 - 2003	(AN)	Dakota
1992 - 1995	(AS)	Town & Country/Caravan Voyager
1994 - 2002	(BR/BE)	Ram Pickup
1998 - 2003	(DN)	Durango
2002 - 2003	DR	Ram Pickup
1995 - 2000	(FJ)	Avenger/Sebring/Talon
1996 - 2000	(GS)	Chrysler Voyager (International Markets)
1995 - 2000	(JA)	Breeze/Cirrus/Stratus
2001 - 2003	(JR)	Sebring Sedan/Stratus Sedan/Sebring Convertible
1996 - 2000	(JX)	Sebring Convertible
2002 - 2003	(KJ)	Liberty/Cherokee (International Markets)
1993 - 2003	(LH)	Concorde/Intrepid/Vision/LHS/New Yorker/300M
1996 - 2000	(NS)	Town & Country/Caravan/Voyager
1995 - 2003	(PL)	Neon
2002	(PG)	PT Cruiser (International Markets)
1997 - 2002	(PR)	Prowler

2001 - 2003	(PT)	PT Cruiser
2001 - 2003	(RG)	Chrysler Voyager (International Markets)
2001 - 2003	(RS)	Town & Country/Caravan/Voyager
1995 - 2002	(SR)	Viper
2001 - 2003	(ST)	Sebring Coupe/Stratus Coupe
1997 - 2003	(TJ)	Wrangler
2001 - 2003	(WG)	Grand Cherokee (International Markets)
1999 - 2003	(WJ)	Grand Cherokee
1997 - 2001	(XJ)	Cherokee
1993 - 1995	(YJ)	Wrangler
2003	(ZB)	Viper
1995 - 1998	(ZG)	Grand Cherokee (International Markets)
1993 - 1998	(ZJ)	Grand Cherokee/Grand Wagoneer

DISCUSSION:
Occasionally a flash update procedure may not complete properly and/or the diagnostic equipment may lock up or become disconnected during the procedure. Flash Reprogramming is a **"CRITICAL PROCESS";** an error may result in a no-start/failed control module. Most modules are recoverable; a recoverable module is not covered under the provisions of the warranty.
This TSB covers items that may cause this condition, a process to restart the flash procedure, and miscellaneous information that will help prevent needless replacement of control modules.

GENERAL:
Flash Reprogramming is only authorized by a specific **TECHNICAL SERVICE BULLETIN (TSB)**, **SERVICE BULLETIN**, or **RECALL**.

Review the **entire** Bulletin/Recall prior to performing a flash reprogramming event. Often other parts or testing ARE REQUIRED as part of completing the TSB/Recall.

When flashing a PCM/TCM there are other legal requirements with labeling issues that are included in those TSBs.

Other non-emission related modules, such as clusters and BCM's do not require labels.

SEQUENCE OF EVENTS OR WHAT OCCURS DURING REPROGRAMMING
The process of flash reprogramming is similar to flashing the BIOS on a Personal Computer. Interruptions, voltage problems, and a variety of other outside interactions can potentially interfere with the process. This document seeks to provide information to minimize problems associated with vehicle control module flash reprogramming. The description that follows is for most PCMs and some TCMs. Other modules use different initiation procedures.

The process starts by selecting an update from the MDS2 or ISIS and then "loading" that update into the DRB III®. Once the flash reprogramming update is loaded into the

DRB III®, and before the flash reprogramming begins, the DRB III® verifies that the update loaded from the MDS2 or ISIS is the proper update for the module. This is done using part number supersedence. This verification occurs only if an update is required, available (on the MDS2 or ISIS) and has been selected for programming.

  • The module is then placed into "Boot Strap" programming mode by the DRB III®. This module mode gives the DRB III® permission and the ability to proceed with the flash reprogramming session.
  • Next, the current part number, which resides in the module's flash memory, is stored in a "Safe Memory" location within the module. This memory location is not affected by flash memory erasure and reprogramming, which are to follow.
  • Once the part number is safely stored, the flash memory in the control module is erased. From this point forward any interruption in the flash process, will result in a non-responsive module (NR). A NR module is a module that is either partially erased or partially programmed.
  • After erasure, the actual reprogramming procedure starts, and the update software is programmed into the flash memory within the module.
  • When reprogramming is completed, the flash memory is verified through an internal process in the DRB III® using a "Check Sum". This value is compared against another value that represents what should be in memory and when matched, verifies successful reprogramming.
  • Next, a DRB III® prompt is displayed instructing that the ignition switch be turned OFF. The module exits the "Boot Strap" mode when the switch is turned off.
  • After a slight pause, the DRB III® will prompt for the ignition switch to be turned ON. The DRB III® then reads the new part number in flash memory (along with a new computer program the new part number is placed into the module's memory). If the new part number matches the expected part number, the flash reprogramming session has completed successfully.

SOFTWARE VERSIONS MUST BE CURRENT
Before attempting a flash reprogramming session using MDS2, make sure you have the most current software installed. Update CDs are sent to dealers on a biweekly schedule, roughly 25 each year.

To verify whether your MDS2 software is current, check the upper right-hand corner of the MDS2 screen. The installed CD number and date are listed. In general, if the date is older than 3 weeks, a newer CD is available. (Often the TSB will state that MDS2, ISIS, or DRB III® must be at a certain release level or higher before attempting a specific flash reprogramming session.)

To verify whether your DRB III® software is current, check the upper right-hand corner of the MDS2 screen. The installed DRB III® available software is also listed along with the MDS2 information.

Two items: (1) If the MDS2 software is "out-of-date" it is possible that the DRB III® software is not current either. (2) Check the software on your DRB III® against the supported version on the MDS2.

Often, because of multiple DRB III®s in the shop, not all will get updated on a timely manner. The installed DRBIII® software version can generally be found at the bottom center of most screens. Alternately the version can be checked by pressing 6,2,5 from the DRB III® Main Menu and comparing it to what is available from a current MDS2 (See above).

If the MDS2 is current and the DRB III® is not, it may be due to the fact that the MDS2 does not force DRB III® updates for "minor" revisions. Changes and new support are added to the Vehicle Flash application on "minor" revisions on a regular basis. This is why your MDS2 and DRB III® must have the LATEST software revisions installed.

DO NOT PASS on the option for updating to a "minor" revision!

Major updates require the DRB III® to be updated prior to allowing any flash programming.

DRB III® CABLES
Replace all suspect cables.
An unserviceable DRB III® cable is an open invitation to a FAILED FLASH session! Inspect cables for loose connections, bad connectors, damaged pins and general wear and tear. When connecting the DRB III® cable, it is very important to insure that both the vehicle end and the DRB III® end of the cable are securely seated and that the locking devices at each end are working properly. If a latch or spring clip is not functioning, the cable could become partially or fully disconnected during the flash session.

Use the 8-foot cable part number CH7000 rather than the 12 foot CH7001 cable. A shorter cable has, at times, during validation testing, proved more successful than the long cable.

The 2-door Sebring, Stratus, and Avenger coupes (supplied by MMC) generally use the CH7010 cable (Pre-OBDII vehicles will use the CH7005 cable).

MDS2 CABLE (GPIB)
Replace any suspect GPIB cable.
The GPIB cable provides the connection between MDS2 and the DRB III®. This cable is used by the MDS2 for vehicle part number reads and to send update files to the DRB III®. Inspect this cable for loose connections, damaged connectors or terminals, and wear and tear. If this cable becomes disconnected during a flash session, you may have to reload the update file that you selected on the MDS2.

ISIS NULL MODEM CABLE
Replace any suspect null modem cables.
International (ISIS), a PC-based CD program similar to MDS2 uses a null modem cable for vehicle part number reads and to send update files to the DRB III®. Inspect this cable for loose connections, damaged connectors or terminals, and wear and tear. If this cable becomes disconnected during a flash download session, you will have to reload the update file or files.

GENERAL NOTES FOR CABLES AND VEHICLE CONNECTIONS
Consider ALL cables to be wear items.
Many successful dealers have dedicated cables devoted to "Flash ONLY".

Always have spare CH7000, CH7010 and GPIB or null modem cables available.

Inspect vehicle diagnostic connectors for potential problems that might cause communication interruptions.

ST22 SEBRING STRATUS 2-DOOR COUPES (2001-2003)

These vehicles use MMC based modules. The 8432 Supplemental Reprogramming Tool (SRT) was shipped as a 2001 Essential Tool. The flash reprogramming update files will be downloaded from MDS2 to the SRT for flash reprogramming sessions on these vehicles.

PREPARING TO FLASH

It is highly recommended that a sign, or other process, be used that notifies other users that a **FLASH SESSION IS IN-PROGRESS** and must **NOT** be interrupted. Interrupting some flash reprogramming events at critical junctures can render a module inoperative. Another user may not realize that a flash session is in-progress and may disturb or disconnect the DRB III® or do something on the vehicle that could interrupt the flash process.

Before starting the flash session, read, record and erase all DTCs found on the vehicle.

Be sure to arrange the MDS2 and DRB III® so that no cables are stretched across an area where someone might trip over or kick a cable. When setting up your DRB III®, insure that it rests on a surface where it will not fall or be bumped during reprogramming e.g.: DRB III®s have been known to be swept off vehicle windshields by accident when a user bumps the wiper switch).

Check User settings on the DRB III®. From the DRB III® Main menu, press 6, 1 and check to make sure item 1. **Echo on PC** is set to **OFF**. On occasion, when Echo on PC is set to ON, flash reprogramming errors may occur.

VEHICLE BATTERY VOLTAGE

The flash programming procedure puts a load on the electrical system that may last from five to twenty minutes depending on the flash reprogramming event. IF you are unsure of the vehicles capability to handle this load, connect a battery charger to the vehicle. Set the charger to as close to 14 volts as possible. If the charger has a timer, set it for 30 minutes BEFORE starting a flash reprogramming event. This will help to prevent unwanted resets by either the DRB III® and/or the vehicle module that are caused by voltage fluctuations.

Alternately, as a bare minimum, use a **"Battery Jump Box"** when a battery charger is unavailable to ensure adequate and stable system voltages on the module being flash reprogrammed.

CONNECTED MODE FLASHING (USING MDS2)

In this mode, the DRB III® remains connected to the MDS2 and the vehicle throughout the flash session. The DRB III® is connected to the MDS2 using the GPIB (CH7035) cable and to the vehicle using the vehicle I/O cable (the CH7000 for most vehicles).

This mode is useful when the MDS2 is next to the vehicle being flashed. Another advantage of this mode is that you are able to determine all available flash updates for the vehicle you are connected to by clicking on the **"Read Part Number(s) From Vehicle"** button and then selecting **"Show Updates"**.

Again, it is important that other users do not attempt to reboot or move the MDS2 while a flash is in-progress.

The reprogramming procedure of this mode is initiated by selecting the **"Update Controller Software"** button on the MDS2.

DISCONNECTED FLASH MODE
This mode allows a user to flash a vehicle without being connected to the MDS2. This is a popular mode for flashing in a remote area of the service garage or in a back lot.

Before you attempt to use this mode, you must configure the DRB III® for the desired update(s). To do this, you must connect the DRB III® to the MDS2 using the GPIB cable and the CH7025 cable. It is not necessary to be connected to a vehicle. The GPIB (CH7035) cable will be used to communicate with the MDS2 (for update file downloading) while the CH7025 cable is used to provide power to the DRB III®.

After making the above connections, you are able to select one or more updates that you want to perform. These selections are made by highlighting the desired updates and then clicking on the **"Download Software to DRB"** button on the MDS2. Obviously, the DRB III® does not have unlimited memory. If the file size of the selected updates exceeds 948 KB, the "DRB Space Used" indicator (at the bottom-center of the MDS2 screen) will change color from GREEN to RED. At this point you must de-select entries until the indicator changes color to GREEN again.

When the updates have finished downloading, you may disconnect from the MDS2 and take the DRB III® to wherever the vehicle is located. The updates will remain in DRB III® memory for 8 hours while the DRB III® is without power. If the DRB III® is powered up for several minutes before the 8 hour time period has expired, the update files will remain on the DRB III® for another 8 hours without power.

To start the actual flash process, after connecting to the vehicle in Disconnected Mode, you must press "7" from the Main Menu on the DRB III®. Step by step instruction will follow on the DRB III® display. As with Connected Flash Mode, take the necessary precautions to insure that others are aware of the flash session and that nothing disturbs the vehicle, DRB III®, or cabling while performing the flash. Remember to use a battery charger set to 14 volts or a "battery jump box".

PAY ATTENTION WHILE PERFORMING FLASH REPROGRAMMING PROCEDURES

Before downloading the flash files, double check to see if the files that you have selected are the appropriate ones for that vehicle. Don't forget about the **"Read Part Numbers From Vehicle"** option on MDS2, this can be of great assistance when trying to flash a module. If the files selected don't download on the first try, try again.

The technician should NOT leave the vehicle when flash reprogramming a module.

Again, check to make sure that all cable connections are secure and that the DRB III® rests on a stable surface. If you are using a battery charger, insure that the settings and charging times are correct and that the battery post clamps are securely fastened.

Read, record, and erase all DTCs found on the vehicle. Read and record the module type and part number from the module that is to be flash reprogrammed.

Pay special attention to DRB III® screen directions relating to key cycles. Missing a "Key ON" or "Key OFF" can cause the module to have to be reflashed again. Due to the variety of module types and vehicle options, you can't always anticipate key prompts, so be alert and ready to respond to DRB III® instructions.

Flash reprogramming sessions usually range from 5 to 20 minutes. If the flash session has not completed within 25 minutes after starting a flash reprogramming update, an error has most likely occurred. If this is the case, or if you know that the flash process was interrupted, cycle the ignition key (OFF to the locked position then back ON). Reset the DRB III® (power down for 3 seconds and then power up) before attempting to restart the flash process.

Regardless of what mode that you are in (Connected Flash or Disconnected Flash), if you have tried twice (2 times) unsuccessfully to do a flash recovery and ALL DRB III® instructions were followed, perform the following:

- "Cold boot the DRB III®. This removes the problem flash file from the DRB III®. (Push **MORE** and **YES** buttons **at the same time**, then press **F4**)
- Reload the flash update file from the MDS2.
- If it fails to complete in the connected mode, first reboot the MDS2 before re-attempting the flash download to the DRB III®.
- Proceed to reflash the module.

On vehicles that have multiple flash updates available, always complete and verify each flash update before attempting the next one.

After all flash reprogramming is completed, read and erase all DTCs in all modules on the vehicle. A variety of DTCs may be set, which are usually related to a loss of communication with the module(s) being reprogrammed.

Verify the update by reading the new part number using the DRB III®. A good double check is to read the part number using DRB III® stand alone.

ERROR MESSAGES

Block Echo/Compare Errors

Block Echo and Block Compare errors are often caused by voltage fluctuations, faulty I/O cables (CH7000, CH7005, CH7010) or faulty communication connections at the diagnostic connector. Review the sections on Vehicle Battery Voltage and Cable recommendations.

Checksum Errors

Checksum Errors are generally caused by corrupt flash update files, which can be caused by DRB III® memory problems. If the DRB III® has been without power for more than 8 hours, the update files and system memory could be in a corrupted state. "Cold Boot" the DRB III®. (To "Cold Boot", press the **MORE** and **YES** buttons on the DRB III®, **at the same time**. Then press **"F4"**). Reload the flash update file(s) from the MDS2. If it fails to complete in the connected mode, first reboot the MDS2 before re-attempting the flash download to the DRB III®. Then re-attempt the flash reprogramming process.

ABORT RECOVERY

Interruptions in the flash process are one of the main reasons for failed flash sessions and non-responsive (NR) modules. Interrupting the flash process, after the erase phase has started, will render the control module to a non-functional state.

Generally, but not always, NR modules may be recovered successfully.

Briefly abort recovery is the process used to get a NR module back to a fully functional state with the latest software update. The technician should be familiar the other sections in this document and follow all DRBIII® user prompts carefully.

Because a NR module is not able to provide the DRBIII® with ID information, the technician must do this when prompted by the DRBIII®. Be patient when performing this process. Because the module does not respond to standard diagnostic request, the DRBIII® may take several minutes before it determines that the engine module is in a NR state. At this point the DRBIII® displays the prompt **"Could not determine engine controller type. Please select from list"** along with the actual controller list (if the DRBIII® is attempting to identify a TCM, the prompt will say **"trans"** instead of **"engine"**). Because of module variations, it is important to correctly identify the PCM/TCM so the correct flash procedure will be used. Failure to do this will cause further problems and may damage the module. A table is provided below to help identify the proper module to select. This table correctly identifies the modules that were on the vehicles when they were built. However, some modules will have supersedence from parts. Correctly identify these modules using DRBIII® Standalone prior to attempting flash reprogramming.

One more note about key cycling. When instructed to turn the key to the **LOCKED** position, be sure that the key is not just turned to the **OFF** position. The key must be rotated to the point at which it can be removed from the ignition switch. On most vehicles the switch is on the steering column and at this position the steering column is **LOCKED**. When instructed to turn the key to the **RUN** position, be careful not to turn the key past this position which may engage the starter motor. This creates electrical noise which interferes with the flash process.

General Steps for Abort Recovery
1. Review all Tips and Techniques before continuing. Pay special attention to the section on **Preparing to Flash** a controller and to the **Programmable Modules** section.
2. Cycle the Vehicle's ignition key to the LOCKED position and back to the RUN position.
3. Reset the DRBIII® by disconnecting the vehicle cable from the DRBIII® for 4 seconds and then reconnecting the cable.
4. Depending of where the flash session was aborted, the DRBIII® may require that the technician identify the control module type that was being flash reprogrammed. Use the PCM/TCM configuration table as a guide.
5. After selecting the proper control module type, follow the prompts that are displayed on the DRBIII®.

NOTE: IF AN ERROR MESSAGE IS DISPLAYED AT THIS POINT, AN INCORRECT MODULE TYPE WAS MOST LIKELY SELECTED. IF THIS OCCURS, START THE PROCESS OVER.

6. If the recovery process is unsuccessful perform the following:
    a. Review all Tips and Techniques in this document.
    b. Reboot/Restart the MDS2.
    c. "Cold Boot" the DRB III®. (Press the **MORE** and **YES**buttons on the DRB III® **at the same time**, then press **F4**).

d. Start this process over from item #1. If using Disconnected Mode, the flash update will have to be reloaded from the MDS2 or ISIS.

1992 - 1999 PCM CONFIGURATION	
YEAR/ MODEL	PCM TYPE
92-95 All, 96-97 ZG, XJ 2.5 Diesel except 94 LH, 95 FJ/JA/J2/LH/PL/P1, 93-95 AA/AS	SBEC 2
94 LH, 93 AA/AS	SBEC 2A
95 LH, 94-95 AA/AS	SBEC 2B
95 FJ/F24S 2.5, JA, J2	SBEC 3
95 FJ/24S 2.0 DOHC, PL, P1	FCC
96-97 All except SR, Truck and Jeep, 97 FJ/JA/JX	SBEC 3
96-97 SR, Truck and Jeep except ZG, XJ 2.5 Diesel	JTEC
97 FJ, JA, JX	SBEC 3+
98-99 All except GS 2.5 Diesel, NS 3.0 (early 99), PL 2.0, SR, All Truck and Jeep	SBEC 3A
98-99 (early) NS 3.0, PL 2.0	SBEC 3
98 SR, All Truck and Jeep except AN, XJ, ZG 2.5 Diesel, BR/BE 5.9 Diesel	JTEC
99 SR, All Truck and Jeep except AN, XJ 2.5 Diesel, BR/BE 5.9 Diesel, WG Diesel	JTEC+
98 AN, XJ, ZG 2.5 Diesel	SBEC 2B/ MSA-15
98 GS 2.5 Diesel	MSA-15
98 BR/BE 5.9 Diesel (early)	JTEC
98$\frac{1}{2}$ BR/BE 5.9 Diesel	CM551/ JTEC
99 AN, XJ 2.5 Diesel, WG 3.1 Diesel	EDC15-V/ JTEC+
99 GS 2.5 Diesel	EDC15-V
99 BR/BE 5.9 Diesel	CM551/ JTEC+

2000 - 2002 PCM CONFIGURATION	
MODEL/YEAR	PCM TYPE
00 All except LH, PR, GS 2.5 Diesel, SR, All Truck and Jeep	SBEC 3A
01 All except PL, RG 2.5 Diesel, RG 3.3, RS 3.3/3.8, SR, All Truck and Jeep, JR	SBEC 3A
00 LH, PR	SBEC 3A+
01-02 JR	SBEC 3A+
00 GS 2.5 Diesel	EDC15-V
00-02 SR	JTEC+
00-01 All Truck and Jeep except BR/BE 5.9 Diesel, AN, XJ 2.5 Diesel, WG 3.1 Diesel	JTEC +
00-02 BR/BE 5.9 Diesel	CM551/ JTEC +
00-01 AN, XJ 2.5 Diesel, WG 3.1 Diesel	EDC15-V/ JTEC +
01 PL 1.6	SIM70
01 PL 2.0, RG 3.3, RS 3.3/3.8	SBEC 3B
01 RG 2.5 Diesel	EDC15-C5
02 All except LH, PL 1.6/2.0, PG 1.6/2.2 Diesel, RG 2.5 Diesel, RG 3.3, RS 3.3, 3.8, SR, All Truck and Jeep,JR	SBEC 3A
02 All Truck and Jeep except BR/BE 5.9 Diesel, DN 4.7 (late 02), KJ 2.5 Diesel, WG 2.7 Diesel	JTEC +
02 LH	NGC
02 PG/PL 1.6	SIM70
02 PG 2.2 Diesel, RG 2.5 Diesel, KJ 2.5 Diesel, WG 2.7 Diesel	EDC15-C5
02 PL 2.0, RG 3.3, RS 3.3, 3.8	SBEC 3B
02 DN 4.7 (late 02)	NGC

2003 PCM CONFIGURATION	
YEAR/MODEL	PCM TYPE
03 All except JR 2.7, PT 1.6, 2.2 Diesel, PL 1.6, RG 2.5 Diesel, RS 3.3, 3.8, ZB, All Truck and Jeep except AN/DN/DR 4.7 and DR 5.7	NGC
03 JR 2.7	SBEC 3A
03 PG/PL 1.6	SIM70
03 PT 2.2 Diesel, RG 2.5 Diesel, KJ 2.5/2.8 Diesel, WG 2.7 Diesel	EDC15-C5
03 RG 3.3, RS 3.3, 3.8	SBEC 3B
03 ZB, All Truck and Jeep except AN/DN/DR 4.7, DR 5.9 Diesel, DR 5.7, KJ 2.5 Diesel, WG 2.7 Diesel	JTEC +
03 DR 5.9 Diesel	CM845/ JTEC +

The **TCM Configuration Tables** apply to vehicles that use an EATX/NGC/AW4 controller. Applications using the PCM module (JTEC/SBEC) for assisting transmission shifting or TCC operation are not listed since the transmissions are not fully electronic.

1992 - 2000 TCM CONFIGURATION	
YEAR/MODEL	TCM TYPE
92 All FWD except BB	EATX*
93-95 All FWD (only LH is flash capable)	EATX 2**
96-97 All FWD	EATX 3
98-00 All FWD except PL	EATX 3A
92-00 XJ 4.0	AW4
99-00 AN, DN, WJ/WG 4.7	EATX 4***

* EATX controllers (89–92) are NOT flash programmable, all supersede to EATX 2.
** EATX 2 controllers need CH5500 for flash reprogramming.
*** The EATX 4 uses an EATX 4A for service replacements.

2001 - 2003 TCM CONFIGURATION	
YEAR/MODEL	TCM TYPE
01 All FWD	EATX 3B
02 All FWD except LH	EATX 3B
03 All except RS 3.3/3.8, JR 2.7, DR 5.7 (NGC w/ETC), TJ, KJ, WJ/WG 4.7/WG 2.7 Diesel	NGC
01 PT (early)	EATX 3A
01 XJ	AW4
01-02 AN/DN, WJ/WG 4.7, DN (early)	EATX 4
02 LH, DN (late)	NGC
02-03 WG 2.7 Diesel	EGS52
03 RS 3.3/3.8, RG 3.3, JR 2.7, TJ, KJ (late), RG 3.3	EATX 3B
03 DR 5.7 (NGC wETC), KJ (early), KJ 2.8 Diesel, WJ/WG 4.7	EATX 4

PROGRAMMABLE MODULES
The following pages list the various modules that have flash reprogramming capability. It does not mean that a flash is currently available. What will be described are the module types and variations, followed by items to note, and finally, abort recovery specifics if applicable.

POWERTRAIN MODULES – ENGINE AND TRANSMISSION

ENGINE – POWERTRAIN CONTROL MODULE (PCM)
There are a variety of Engine (PCM) modules that are flash reprogrammable. Suggestions that are somewhat unique to each type will have comments. Prior to reprogramming a PCM retrieve the module information and module type using

your DRB III®. PCM information is used by many modules. Be sure to check DTCs **before** and **after** performing a flash reprogramming event.

The DTCs associated with flash reprogramming generally relate to "lack of communication" with the other modules during the reprogramming event.

SBEC
      Types:
      • SBEC, SBEC 2, SBEC 3, SBEC 3+, SBEC 3A, SBEC 3A+, and SBEC 3B
      Items to Note:
      • During recovery, if the DRB III® is not seeing the key off, you may need to remove power (B+) to PCM by removing fuse(s) or disconnecting the PCM. When DRB III® states to turn key ON, reconnect fuse or harness connection.
      Abort Recovery Specifics:
      • Follow instructions on the DRB III® for the module type. See table above.
      • Some SBEC 3A, SBEC 3A+ AND SBEC 3B may be in a state where they can not correctly identify a key cycle. In this case a Modified Key Cycle routine is required. This state is present when the following message is displayed on the DRBIII®: **"Can not read Part Number. Did not see Key On or PCM/TCM Controller may not be flashable"**. When this occurs restart the flash session and when prompted to turn the ignition key to the LOCKED position, pull the fuse(s) that supply battery power to the module instead. When prompted to turn the key to the RUN position, replace the battery supply fuse(s) instead.

JTEC
      Types:
      • JTEC, JTEC +
      Items to Note:
      • Viper ALL - Roll down windows especially Coupes before attempting a flash.
      • 1999 WJ JTEC with Speed Proportional Steering module
      • Disconnect before and reconnect after the PCM flash reprogramming event.
      • Also see Transmission.
      Abort Recovery Specifics:
      • Follow DRB III® prompts carefully.

NGC
      Types:
      • NGC 1, NGC 2, and NGC 3
      Items to Note:
      • There are derivatives of NGC 3 that will be significant when reprogramming and or testing. NGC modules use one of the longest time spans for flash reprogramming events (approximately 15 minutes). The NGC controller can incorporate both an engine as well as a transmission controller in a common package. NGC can be visually identified by noting its four (4) wiring connectors. On manual transmission applications, only 3 connectors may be populated with pins.
      Abort Recovery Specifics:
      • Follow DRB III® prompts carefully.

CUMMINS
      Types:
      • CM551 and CM840 series
      Items to Note:
      • Cummins flash reprogrammable PCMs are used on 1998.5 and newer Dodge Trucks.
      Abort Recovery Specifics:
      • Follow DRB III® prompts carefully. Model Year 2000 and earlier vehicles have one Engine Control Fuse to pull when prompted by the DRB III. Model Year 2001 and later have two Engine Control Fuses (one 20Amp and one 30Amp) to pull when prompted

by the DRB III®. The fuse(s) are in the PDC and need to be pulled/removed for at least 10 seconds.

SIEMENS
Types:
• SIM-70
Items to Note:
• They are currently used on BUX PL and PT vehicles with a 1.6L ONLY.
Abort Recovery Specifics:
• Follow DRB III® prompts carefully.

BOSCH
Types:
• EDC15V and EDC15C5
Items to Note:
• While there have been other Bosch modules, they are not flash reprogrammable.
Abort Recovery Specifics:
• Follow DRB III® prompts carefully.

TRANSMISSION CONTROL MODULES (TCM)
Transmission controllers are usually flashed on the vehicle (since 1996). Technicians may set pinion factor on "NEW" modules from parts either before or after flash reprogramming. Suggestions follow.

After flash reprogramming and before returning the vehicle to the customer, always perform a "QuickLearn" to the TCM.

EATX
Types:
• EATX, EATX 2, EATX 3, EATX 3A, EATX 3B, EATX 4, and EATX 4A
Items to Note:
• Table shows which TCM was installed "as-built". Often TCMs are superseded by parts and or a TSB.
Abort Recovery Specifics:
• 1999 - 2000 WJ and 2000 AN/DN using 4.7L engines the service replacement EATX4A part numbers 56041814AD and 56028227AH currently display a P/N read failed error after the flash is completed during P/N verification. This DOES NOT mean the flash failed. Check for the part number using DRB III® in standalone mode. This exists only for service replacements modules listed above. Flash reprogramming for OE modules flash and read the part number correctly. Follow DRB III® prompts carefully.

NGC
Types:
• NGC 1, NGC 3
Items to Note:
• The NGC 1 and NGC 3 have the EATX and Engine modules combined. NGC 2 does not. Vehicles with automatic transmissions using NGC 2 will use an EATX IV.
Abort Recovery Specifics:
• Follow DRB III® prompts carefully.

SIEMENS
Types:
• EGS52
Items to Note:
• EGS52 is used with the A580 automatic transmission WG Grand Cherokees with a 2.7L diesel engine (BUX).

Abort Recovery Specifics:
• Follow DRB III® prompts carefully.

JTEC
Types:
• JTEC, JTEC +
Items to Note:
• Except for the 45RFE, 545RFE, and AW4 automatic transmissions, the JTEC controller also provides transmission control functions on Dodge trucks and Jeep vehicles. Additionally, they are used on some Cummins equipped Dodge trucks with manual and automatic transmissions.
Abort Recovery Specifics:
• Follow DRB III® prompts carefully.

PRE 1996 EATX TRANSMISSION CONTROL MODULES
Prior to 1996 there was not a vehicle SCI communication wire going to the FWD EATX controller only to the PCM. Those vehicle TCMs only communicate to the DRBIII® using CCD communications.

For these FWD vehicles, use the CH5500 kit and CH7025 DIN cable when connecting those modules to the DRB III® vehicle connector.

For 1992-1993 vehicles the TCM modules were upgraded to MY1995 software. Because of this you will need to use the Yellow SuperCard2, Ch8361, to set pinion factor or when using a "new" (superseded) TCM from parts as **only** the SuperCard2 properly sets the pinion factor on these updated modules.

Additionally, when flashing or installing P/Ns 4796121, 4796122, 4796123, or 4796124. The wire from cavity 49 must be removed from the TCM connector (ref. TSB 18-24-95).

TRANSFER CASE CONTROL MODULES (TCCM/XCM)
Types:
• TCCM
Items to Note:
• These modules are found on AN, DN, and DR trucks.
Abort Recovery Specifics:
• Follow DRB III® prompts carefully.

NON-POWERTRAIN CONTROL MODULES

BODY CONTROL MODULES (BCM)
Types:
• BCM
Items to Note:
• Body control modules are found on passenger vehicles.
• The following vehicle BCMs support flash reprogramming: WJ, JR, KJ, LH, RS, and ZB
Abort Recovery Specifics:
• Follow DRB III® prompts carefully.
• BUX ONLY for 2001 JR - Compass/Mini Trip (BCM) Flash - Use special international release software version 52.25
• 2001 LH - there is NO abort recovery available for the BCM

CENTRAL TIMER MODULE (CTM)
Types:
• CTM
Items to Note:
• Central timer modules are used on various Dodge Trucks. CTMs are found on: AB, AN, DN, BR, and BE trucks.
Abort Recovery Specifics:
• Follow DRB III® prompts carefully.

ELECTRONIC VEHICLE INFORMATION CENTER (EVIC)
Types:
• EVC
Items to Note:
• 02-03 LH & WJ
Abort Recovery Specifics:
• Follow DRB III® prompts carefully.

FRONT CONTROL MODULES (FCM)
Types:
• FCM
Items to Note:
• Front control modules are found on RS and DR vehicles.
Abort Recovery Specifics:
• Follow DRB III® prompts carefully.

POWER LIFT GATE (PLG)
Types:
• PLG
Items to Note:
• Power Lift gate modules are found on RS and CS.
Abort Recovery Specifics:
• Follow DRB III® prompts carefully.

PASSENGER SLIDING DOOR (PSD)
Types:
• PSD
Items to Note:
• Passenger power sliding door modules are found on RS
Abort Recovery Specifics:
• Follow DRB III® prompts carefully.

DRIVER SLIDING DOOR (DSD)
Types:
• DSD
Items to Note:
• Driver power sliding door modules are found on RS.
Abort Recovery Specifics:
• Follow DRB III® prompts carefully.

CLUSTERS/MIC
Types:
• MICs, eMICS
Items to Note:
• MICs that have flash reprogramming are on the following vehicles: PL, PT, KJ, CS, WJ and DR
Abort Recovery Specifics:

• Follow DRB III® prompts carefully. In certain cases, you will be asked to cycle the ignition key and pull a specific fuse.
• Also the DRB III® may power down during the procedure with some modules, which is NORMAL.

ALARM REMOTE KEYLESS ENTRY MODULE (ARKEM)
Types:
• ARKEM
Items to Note:
• Arkem modules are found on PL and PT vehicles. There are up to and after modules.
Abort Recovery Specifics:
• Follow DRB III® prompts carefully.

CLIMATE CONTROL (ATC, HVAC)
Types:
• HVAC, ATC, MTC
Items to Note:
• Generally, reprogramming for these modules are done using standalone code rather than using a flash reprogram event.
Abort Recovery Specifics:
• Follow DRB III® prompts carefully.

ADJUSTABLE PEDAL MODULE (APM)
Types:
• APM
Items to Note:
• WJ
Abort Recovery Specifics:
• Follow DRB III® prompts carefully.

RAIN SENSOR MODULE (RSM)
Types:
• RSM
Items to Note:
• WJ and RS
Abort Recovery Specifics:
• Follow DRB III® prompts carefully.

INTRUSION SENSOR MODULE (ISM)
Types:
• ISM
Items to Note:
• WJ and KJ
Abort Recovery Specifics:
• Follow DRB III® prompts carefully.

SUPPLEMENTAL RESTRAINT SYSTEMS (SRS) – AIRBAGS, ETC.
Types:
• SRS, ORC
Items to Note:
• While used on most vehicles only CS, JR, LH, PT, RS, and WJ vehicles have the potential to support flash updates.
Abort Recovery Specifics:
• Follow DRB III® prompts carefully.

POLICY:
Information Only