



No.: 07 TS-42
August 2, 2007

TO: Service Locations

FROM: Technical Support Development

SUBJECT: **Release of Common Powertrain Controller Software Version R2.01 and Motor Control Module Software Version 8.4.1 for EPA07 MBE 4000 Engines**

ISSUE

Common Powertrain Controller (CPC) software version r2.01 has been released to the server for EPA07 MBE 4000 Engines. A small number of enhancements are contained within this software release.

The Motor Control Module (MCM) requires reprogramming to v8.4.1 to install calibration improvements relating to Aftertreatment Device controls in the MCM software.

A small number of enhancements for vehicles equipped with Eaton Ultrashift and Autoshift transmissions are contained within this software release.

CAUSE

Enhancements made with release of CPC software version 2.01. Calibration improvements in the new version of the MCM software necessitate reprogramming.

REQUIRED ACTION

- 1) Download and import the MCM parameter file.
- 2) Upgrade the software in the CPC to r2.01 and the MCM to v8.4.1.
- 3) Verify that select MCM and CPC parameter settings are set to the specified values.
- 4) Update Detroit Diesel server with new parameter set.

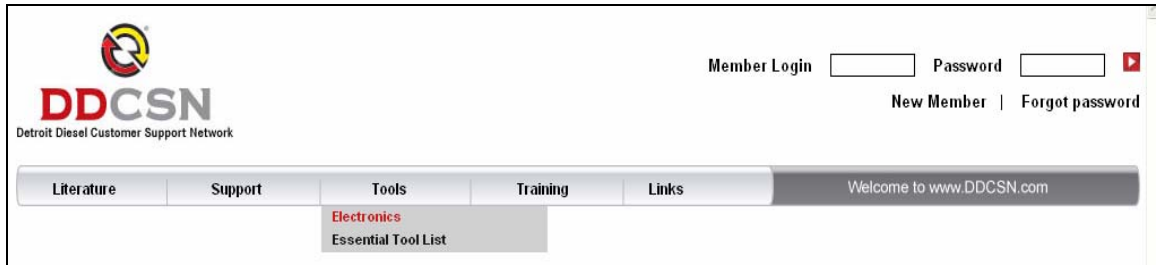
REPAIR PROCEDURE

STEP 1 – Software and Hardware tools validation

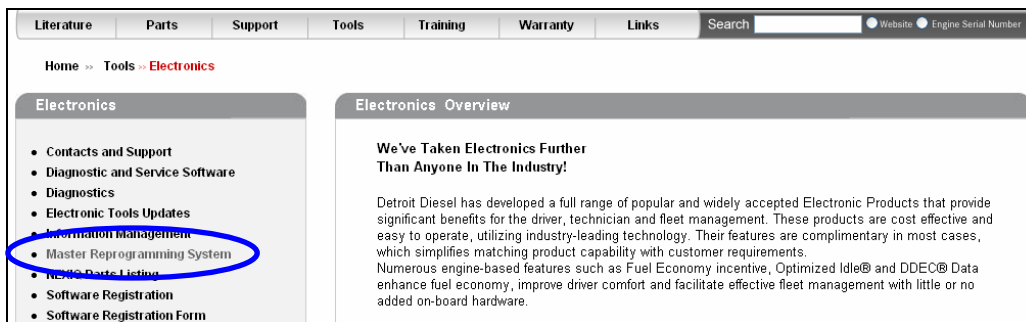
Before performing any work on the vehicle, you MUST ensure that you have Detroit Diesel Reprogramming Software (DDRS) 7.0 properly loaded onto a computer. The Nexiq USB Link is REQUIRED to communicate with the vehicle when using DDRS 7.0. Reference letter [07 TS-18](#) for more information on the USB Link.

STEP 2 – Download MCM parameter file from website

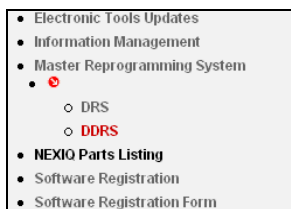
- 1) Access the DDCSN website – www.ddcsn.com
- 2) Login using your Extranet ID and Password.
- 3) Select Electronics from the Tools Menu.



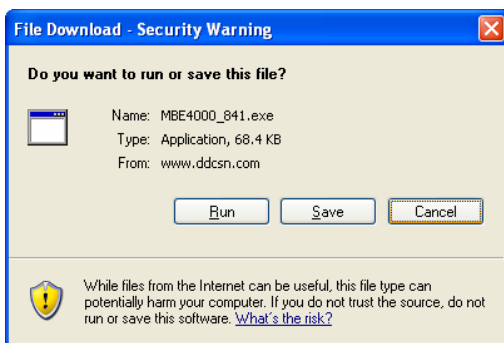
- 4) Select Master Reprogramming System.



- 5) Select DDRS.



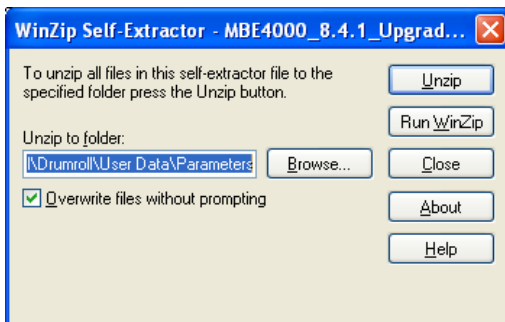
- 6) Under Downloads, click on the [MBE4000 Parameters](#) link.
- 7) Select **Run** to download file.



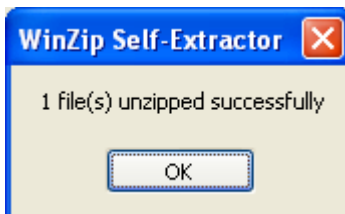
8) Select **Run** to confirm download.



9) Select **Unzip** to extract and copy the parameter file. This will automatically place this parameter file in the appropriate directory.



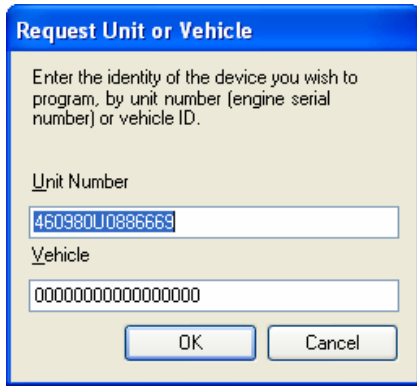
10) Click **OK** and select **Close** to exit the WinZip utility.



STEP 3 – Download MCM & CPC software

- 1) Connect to the MCM and CPC using DDRS 7.0.
- 2) Read and record the following CPC parameter settings from the groups noted:
 - PGR007 PTO Control on PTO and CC Pin - Config PTO Speed Control
 - PGR015 Cruise Control - Max Cruise Set Speed
 - PGR017 Idle and PTO Shutdown - Enable Idle Shutdown

- 3) Using the following procedure, download the new software for each control module (MCM-8.4.1) & (CPC 2.01).
 - a. Select Program Device.
 - b. Add engine serial number.



Request Unit or Vehicle

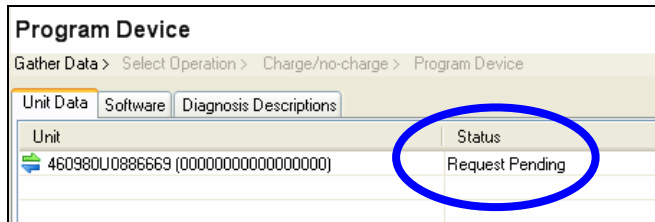
Enter the identity of the device you wish to program, by unit number (engine serial number) or vehicle ID.

Unit Number
460980U0886669

Vehicle
000000000000000000

OK Cancel

- c. When you select OK, the ESN will be displayed with a Request Pending status as illustrated here.



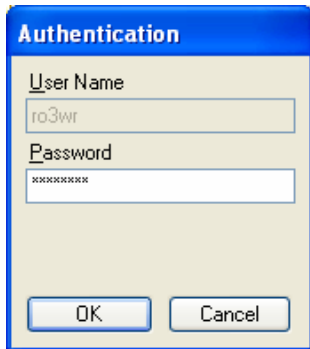
Program Device

Gather Data > Select Operation > Charge/no-charge > Program Device

Unit Data Software Diagnosis Descriptions

Unit	Status
460980U0886669 (000000000000000000)	Request Pending

- d. Click on the Connect to Server button and enter your password in the window provided.



Authentication

User Name
ro3wr

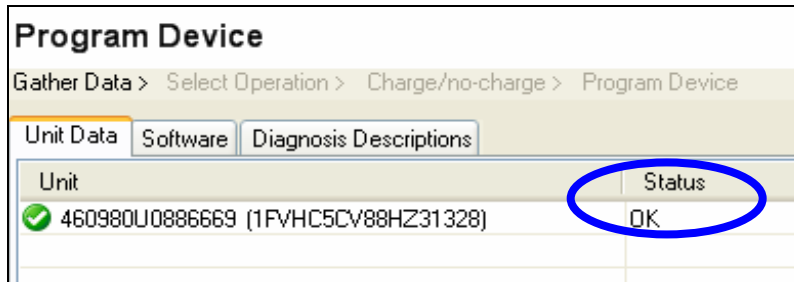
Password

OK Cancel

- e. When the software download is complete, a message will be displayed prompting you to reboot the DDRS 7.0 software. Click **OK** to close message.

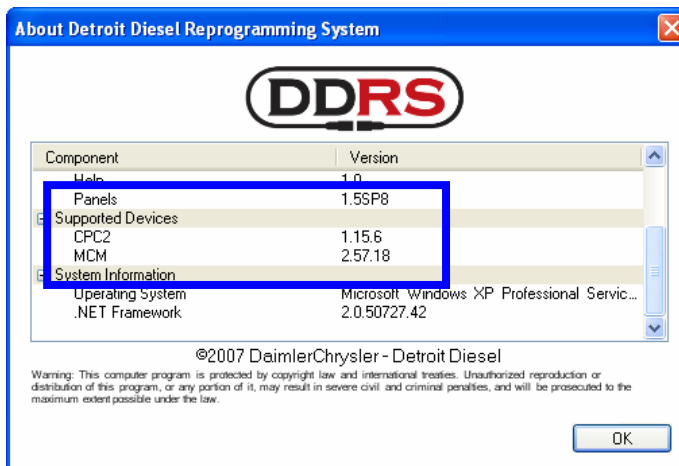


- f. Close DDRS.
g. When you restart DDRS, select Program Device from the menu on the left and verify that the status of your downloaded engine serial number is OK.



- h. Close this and recheck your **About...** screen for updated .CBF files and panels. You should have the following:

Panels	1.5SP8
CPC2	1.15.6
MCM	2.57.18



NOTE: If you do not see these versions, please contact the Detroit Diesel Customer Support Center at 313-592-5800.

- i. The MCM and CPC can now be updated.

STEP 4 – Programming the CPC

- 1) Connect to vehicle.
- 2) Program the CPC to software version r2.01 using the Program Device Function.
 - a. Click on the button labeled **Next** located in the lower right-hand corner of your screen.
 - b. Program the CPC2 by selecting the device.
 - c. Select Update Device Software.
 - d. Select the R02_01_000a option.

Program Device

Gather Data > Select Operation > Charge/no-charge > Program Device

Select the device to program

Name	Description
CPC2	Common Powertrain Controller (CPC) is a vehicle electronic controller. The CPC2 generation is to be used primarily in L...
MCM	Motor Control Module (MCM) is an electronic engine controller. MCM is used in all classes of vehicle and other product...

Select the reprogramming operation you wish to take place

Replace Device Settings with Server Configuration
 Update Device Software
 Change Dataset

Select the software version to apply to the device

Version	Part Number	Description
R01_02_000a	0024466002_001	R01_02_000a
R02_01_000a	0124488602_001	CPC2 R02.01
R02_00_000a	0024466202_001	CPC SOFTWARE VERSION 2.0

- e. Click Next.
- f. In the Charge/No Charge screen, select **No Charge**.

Program Device

Gather Data > Select Operation > Charge/no-charge > Program Device

Charge
 Provide reference:

No Charge

Warranty
 ECM Sale
 C.A. Number
 DDC Request
Description

Provide reference:

(Test/Training/DDC Request, etc)

- g. Highlight **Description** and type in the following text –
MBE4000 MCM 8.4.1/CPC 2.01

Provide reference:

(Test/Training/DDC Request, etc)

- h. Click Next.
- i. Click on Start button to initiate programming.

- j. Click FINISH when programming is complete.

The device was successfully programmed

Name	Actual Data
Device	CPC2
DiagnosisVariant	App_0015
Software Version	R02_01_000a
Diagnosis Version	15
VIN	0000000000000000
Engine Serial Number	460980U0886669
Odometer	0
ECU Serial Number	07.0031.00113
ECU Part Number	0024466702001
Hardware Part Number	0024466002001
Software Part Number	0124488602001
Software Mode	Running in Application
Software Date	2007/06/27 09:47 GMT
Real Time Clock	2007/July/24 16:06:23 GMT

Back Finish

- k. Verify that the CPC parameter settings recorded in step 1 have not changed with the new software. If the parameters are not the same, make the necessary changes to retain the specified settings.
- 3) Program the MCM to software version r8.4.1 using the Program Device Function.
- Click on the button labeled **Next** located in the lower right-hand corner of your screen.
 - Program the MCM by selecting the device.
 - Select Update Device Software.
 - Highlight the software version.

Program Device DETROIT DIESEL
A DaimlerChrysler Company

Gather Data > Select Operation > Charge/no-charge > Program Device

Select the device to program

Name	Description
CPC2	Common Powertrain Controller (CPC) is a vehicle electronic controller. The CPC2 generation is to be used primarily in L.
MCM	Motor Control Module (MCM) is an electronic engine controller. MCM is used in all classes of vehicle and other product.

Select the reprogramming operation you wish to take place

Replace Device Settings with Server Configuration
 Update Device Software
 Change Dataset

Select the software version to apply to the device

Version	Part Number	Description
8.4.1.0	0014486635_001	MCM SOFTWARE VERSION R8.4.1.0

- e. Click Next.

- f. In the Charge/No Charge screen, select **No Charge**.

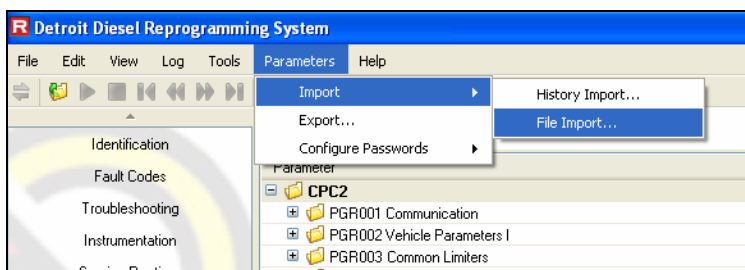
- g. Highlight **Description** and type in the following text –
MBE4000 MCM 8.4.1/CPC 2.01

- h. Click Next.
i. Click on the **Start** button to initiate programming.
j. Click **Finish**.

STEP 5 - MCM – PARAMETER FILE IMPORT

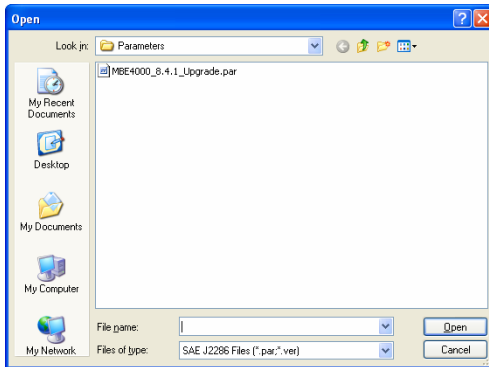
IMPORTANT NOTE: This parameter file is a vital step in the upgrade process.

- 1) After the MCM software has been updated, remain connected and select **Parameters** from the menu list and wait until parameters for both modules are retrieved.
- 2) From the top menu, select **Parameters, Import, File Import**.



- 3) The following window will be displayed to show the MCM parameter file you need to import. You may have more than one .par file in this directory but it's **IMPERATIVE** that you select the correct one for this upgrade.

NOTE: The correct parameter file is named **MBE4000_8.4.1_Upgrade.par**



- 4) Highlight this parameter file and click on OPEN.
 5) When the parameter file has been successfully imported, the following message will be displayed across the bottom of your screen.

✔ Parameters were successfully imported from C:\Detroit Diesel\Drumroll\User Data\Parameters\MBE4000_8.4.1_Upgrade.par.

- 6) Verify that the parameter file was applied successfully by checking the following parameters.

Parameter Group	Parameter Name	Expected Value
PGR007_1_DPFConfig	DPF_Min_Vehicle_Speed	6KM/5MPH
PGR007_1_DPFConfig	PTO_Dosing_Enable	0
PGR006_FanConfig	Fan_Coolant_Temp_Stage_1	96 C/205 F

UPLOAD PARAMTER FILE TO SERVER

After you send the parameter file to the MCM, this new parameter set needs to be uploaded to the Detroit Diesel server. If you decide to upload parameters immediately, you will need to close DDRS and re-open the program. At this point, the new parameter file is marked for upload and will be sent to the Detroit Diesel server the next time you connect.

NOTE: You are not required to upload parameters as you complete upgrading each vehicle as these files will be saved on your computer until the next time you connect.

CONTACT INFORMATION

Please contact the Detroit Diesel Customer Support Center at 313-592-5800 if you have any questions.