

**No.: 04 TS - 42**

August 23, 2004

TO: All Distributors and Dealers – U.S. and Canada

ATTN.: Service Managers

FROM: Jack Evanoff

SUBJECT: **New Version of VCU Software for MBE On-Highway Engines**

There will be a new service release of VCU software for MBE on highway engines, version 14.20. The release will be available the week of 8/23/04. Features in this release include:

- The correction for intermittent PID: 110 and PID: 105 codes appearing on MBE 900 engines, contained in VCU version 13.19, appears in version 14.20
- The issue with certain models of electronic dashes having their odometer setting cleared has been addressed in 14.20. More information on how this is addressed appears later in this letter in the section on electronic tools support for version 14.20.
- Additional VCU password protection capability has been added in this release. Certain groups of parameters can be protected by an additional password.
- Previous versions of VCU software may be updated by using the DDC Reprogramming Station or the Minidiag with the VCU flash cable.
- It should be noted that VCU modules will continue to be programmed at the factory with version 14.19 until December 2004.

### **Electronic Service Tools Information for VCU 14.20**

**1. Minidiag** – There is new Minidiag Assistant software (3.19) available to support VCU 14.20 software. Actually 2 versions of Minidiag Assistant 3.19 will be available. Both versions and a complete set of documentation will be available for download from the DDC Extranet (available the week of 8/23/04). There will be a CD available, however CD availability will be announced at a later date.

#### **Why are there two versions?**

The Minidiag tool is running into memory limitations. If the Minidiag contained all the various diagnosis versions of software it is capable of supporting there is no room left for VCU flashing functionality. If the ability to flash a VCU is added, some diagnosis versions need to be removed. It was decided that it would be a good idea to produce one release of 3.19 Minidiag Assistant with the capability to flash VCUs with 14.20 software and another version with no flash capability but capable of supporting all current on-highway and off-highway modules. The version containing VCU flash capability supports diagnostics for the following modules:

<b>Module Type</b>	<b>PLD</b>	<b>VCU</b>	<b>ADM2</b>
<b>Diagnosis Versions Supported</b>	<b>4 (sw 51)</b>	<b>150 (sw 10.0/11.03)</b>	<b>202</b>
<b>(Corresponding software level in parenthesis)</b>	<b>5 (sw 53)</b>	<b>151 (sw 12.xx)</b>	<b>203</b>
	<b>6 (sw 56)</b>	<b>152 (sw 13.xx)</b>	<b>204</b>
	<b>9 (sw 60)</b>	<b>153 (sw 14.xx)</b>	

The version without the VCU flashing capability will contain support for all of the above versions plus additional PLD support for diagnosis versions: 3, 22, 23, 100, 102, and 103. It will contain

support for these additional diagnosis versions of ADM: 1, 2, 4, 25, 100, 101,102, and 110. In addition to additional PLD and ADM support the following modules will also be supported: ABS / AG-AGE / FLA-CAN / GS-EPS / KS-MKR / FR-FMR / RS-RET

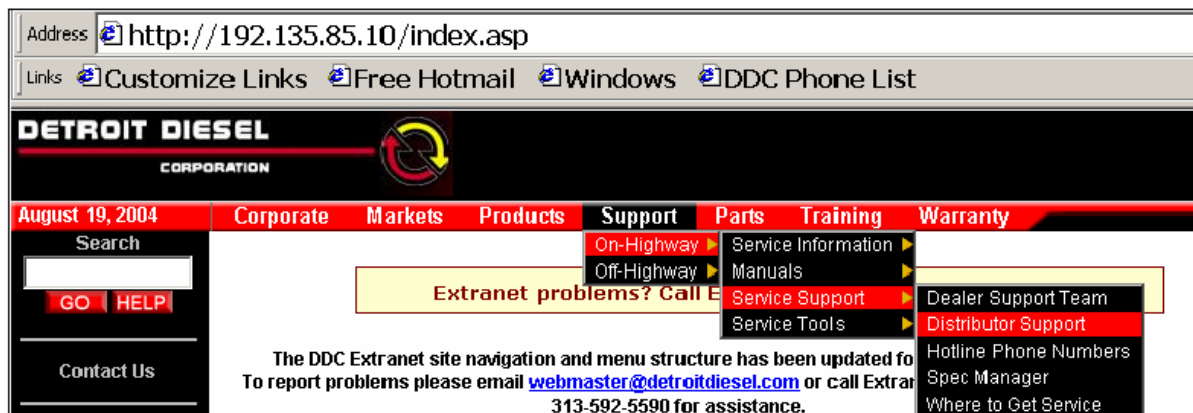
**Which version should I choose?** There is no right or wrong answer. A general recommendation for DDC Distributors would be to load the non-flash version so that you'll be ready to completely service any on-highway or off-highway Mercedes engine that comes to your shop. This version will allow you to do all the typical functions of the Minidiag (read & clear codes, view the data list, and change parameters). You'll be able to flash VCUs with your programming station. Those Dealers or Distributors with no off-highway units to service may choose the VCU flash version. No matter which way you go you can always switch since both versions may be downloaded from the Extranet and will be on the CD.

**Updating Modules with Previous Software Versions to VCU 14.20 with the Minidiag** – You may generally update a VCU with 10.xx or later software to version 14.20 using the Minidiag flashing option and the VCU flash cable (P/N 23530553). **Users with PLD software level 51 or earlier should consult technical service before upgrading.** A document containing step-by-step instructions for flashing the VCU with the Minidiag is part of the documentation package available for download from the Extranet. **It is extremely important that you follow these steps in order assure that the proper parameter settings are maintained in the VCU.**

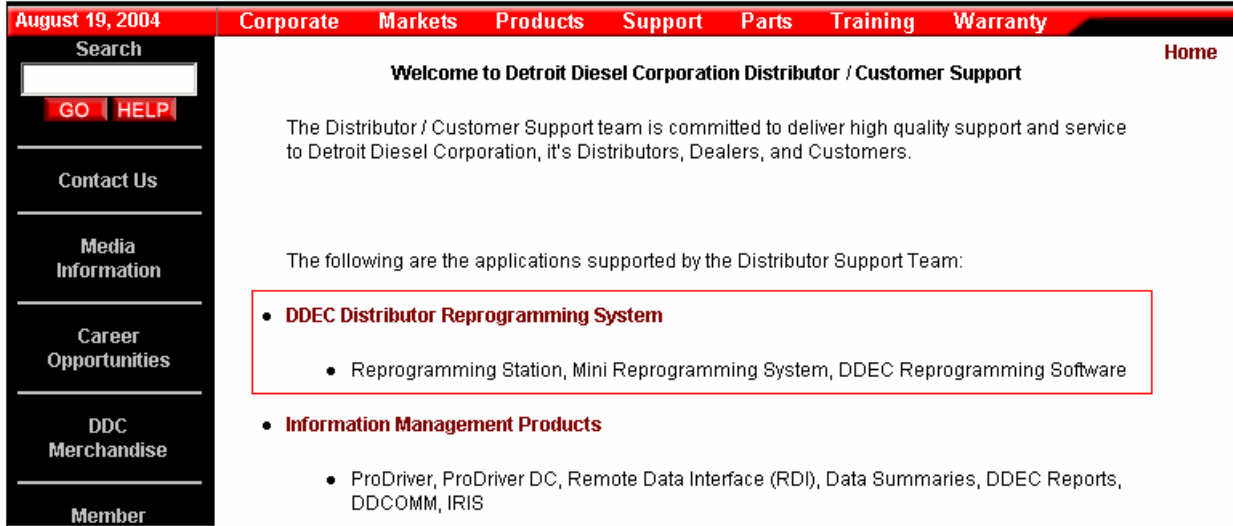
**How the Odometer Setting is Handled in the Minidiag Flash Process** – It was announced in TS – 04 27 that in the process of upgrading from one VCU software level to another all the historical engine data (both life-to-date and trip data) was erased and set to zero. Because certain models of electronic dashes use the VCU raw total mileage figure as their odometer reading, their odometer setting went to zero. Modules programmed with a Minidiag to version 14.20 will still have all the historical engine data reset to zero however routine 128 has been added to the Minidiag's routine menu in order to restore the odometer setting after the upgrade has been performed. Using this new routine is covered in the "routines" document that comes as part of the Minidiag documentation download from the Extranet.

**2. Detroit Diesel Reprogramming Station (DRS) / Version 5.0 Software** – The programming station may also be used to upgrade modules to version 14.20. **In order to make your programming station version 14.20 capable users must download a patch from the Extranet.** The patch contains some minor revisions to DRS 5.0 and the new file to update VCU modules to 14.20. If after reviewing this letter you have additional questions about the patch please call our DRS Support Team at **313-592-5505**:

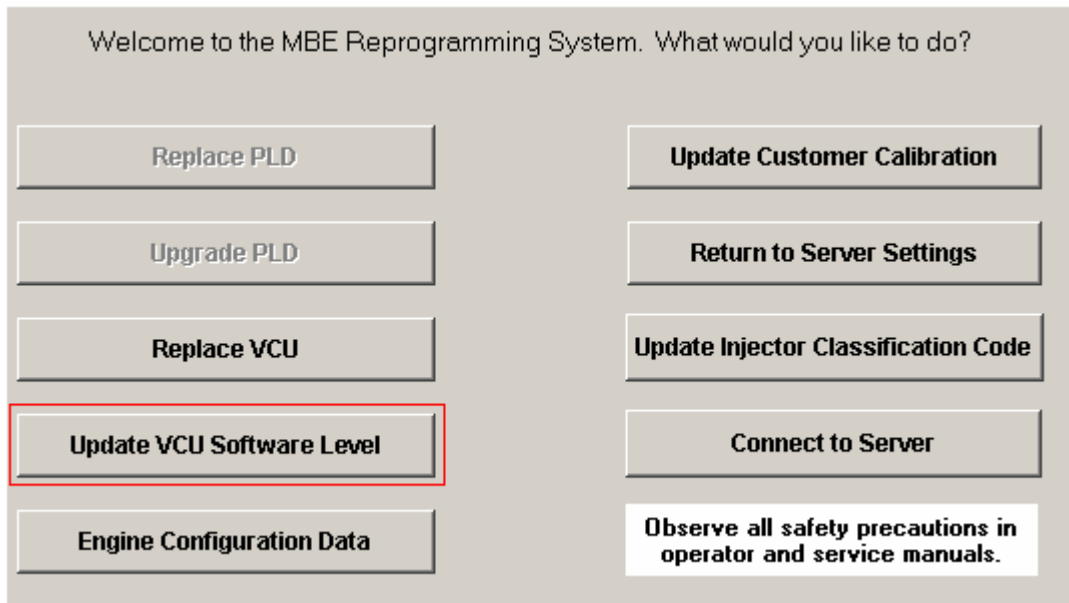
i. To get to the area in the Extranet for this download, choose the "Support" drop-down menu, then "On-highway", then "Service Support", and finally "Distributor Support" as shown below.



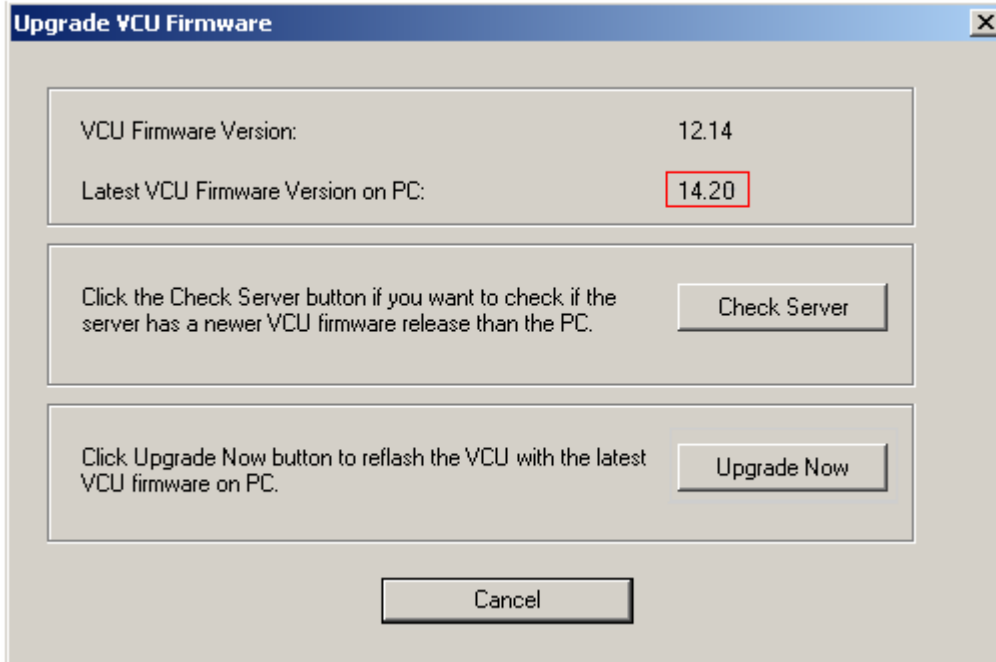
ii. You'll be taken to the Distributor Support Menu. Choose the "DDEC Distributor Reprogramming System" selection. The patch for DRS 5.01 and instructions for its installation will appear along with a list of other information on the programming station.



iii. After the patch has been installed you may verify it has been loaded by connecting to a VCU and choosing the "Update VCU Software Level" option from the main MBE Programming screen:



You'll see a screen showing the current level of VCU software and the latest VCU software version on your PC. After the patch is installed you'll see version 14.20 has been loaded.



**How the Odometer Setting is Handled by the DRS 5.0 Flash Process** – The patch in DRS 5.01 stores the total mileage value during the upgrade process and writes it back to the upgraded VCU so there is no need to run a routine to restore the odometer setting as the Minidiag requires. **Please keep in mind that just as in the Minidiag flashing process all the other engine historical data is reset to zero.**

**Special Note on the DRS Update Process** – A user may connect to the server from the above screen and retrieve the VCU 14.20 software **without** installing the patch. If a user **fails** to update his DRS 5.0 application with the patch, the VCU may still be successfully updated to 14.20. Failure to load the patch will mean the total mileage value in the VCU **will not** be saved but reset to zero. If this happens, the only way to restore the odometer setting would be with the Minidiag using the odometer routine.

**3. Detroit Diesel Diagnostic Link 6.1 and Later Software** – Users of version 6.1 or later of DDDL should be able to perform all the functions they normally can when connected to a VCU using 14.20 software. DDDL recognizes and works with versions of MBE software based on their diagnosis version, in this case diagnosis version 153 for software level 14.xx. DDDL 6.1 or later also supports the additional password levels available in software level 14.20 as described in the next section.

**4. VCU Password Protection and VCU 14.20** – VCU software 13.xx and 14.19 allowed users to set the Level 1 password protection which protected all parameters in the VCU with a single password. Beginning with version 14.20 users may now protect certain parameter groups with an additional password. The current additional levels and the parameters they were

created to protect are:

- Level 1 – All VCU parameters
- Level 2 – Maintenance Alert / Optimized Idle parameters
- Level 3 - Low Gear Torque Limiting and Progressive Shift
- Level 4 – Limiters (Parameter Groups 3, 5, 6)
- Level 5 – PTO / Idle Shutdown parameters
- Level 6 – I/O Config. Engine Protection, Fan Control, Engine Brake, Trans Type parameters
- Level 7 – TBD at a later date

For example if you wished to protect your I/O configuration settings with a second Password, you would follow the normal password setting procedures for your diagnostic tool (either Minidiag, DRS, or DDDL) to set the Level 1 password for all VCU parameters. You would then repeat the procedure to set the Level 6 password.

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Technical Service