Detroit Diesel Diagnostic Link 7.04

Contents

I. - **Introducing DDDL 7.04 basic features** – This application is the electronic tool for servicing Detroit Diesel's 2007 DDEC VI equipped engines (S-60, MBE 4000, MBE 900, HDE). Note: It is not backward compatible with earlier versions of Detroit Diesel electronic systems. Those systems will continue to be serviced with DDDL 6.4. The DDEC VI electronics system contains two controllers, the MCM (Motor Control Module) and the CPC (Common Powertrain Controller). DDDL 7.04 allows the user to perform the following standard operations with the DDEC VI system:

1- Perform Standard Fault Code Operations
2- Links to Traditional and Advanced Troubleshooting Information
3- Read Actual Values
4- Configure and Manage Parameters
5- Perform Service Routines
6- Playback Logs of All Connected Activity
7- Automatic Software Updates from our server

II - Software Enhancements

- Windows XP SP3 support to enhance loading process
- Open Log File Dialog enhancements for viewing columns
- Enable printing from the "Send Parameters Confirmation" dialog
- User data chart selection
- Add ATD Test Pipe to actions dropdown
- ATD Max sensor value reset
- Automatic Cylinder Cutout for Series 60
- Service Codes added for HC Doser Purge Routine
- Service Codes added for Hysteresis Test (Series 60 only)

III. - System Requirements

Minimum Hardware	Recommended Hardware
- Windows 2000 or Windows XP - Pentium 3 Processor, 400 MHz 256 MB RAM 10 Gigabyte Hard drive with 1 Gigabyte free 8x CD ROM Drive - Monitor and graphics card supporting 1024 x 768 resolution and 16 bit color - Parallel port, 1 free USB port - Internet or Mainframe Connection to DDC Server (for updates) - Translator Boxes (Nexiq USB-Link)	- Windows 2000 or Windows XP - Pentium 4, 1.5 GHz 512 MB RAM 40 Gigabyte Hard Drive with 5 Gigabytes free 32x CD/DVD ROM - Monitor and graphics card supporting 1280 x 1024 resolution and 32 bit color - Parallel port or 3 free USB ports - Internet or Mainframe Connection to DDC Server (for updates) - Translator Box (Nexiq USB-Link)

The following table contains the faults codes currently available for the Advanced Diagnostic Troubleshooting feature.

Advance Diagnostic Troubleshooting Codes

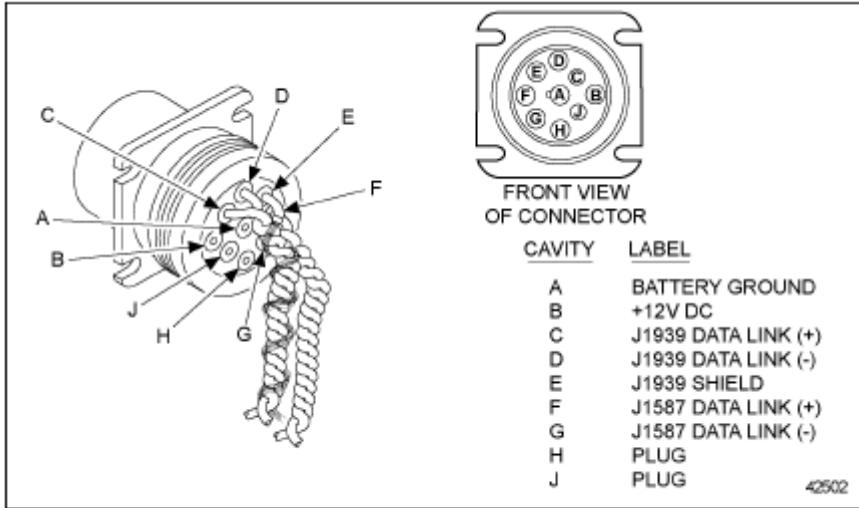| Engine Series	SPN	FMI	Description
Series 60	103	0	Turbocharger speed below threshold (Low Box)
Series 60	103	1	Turbocharger speed below threshold (High Box)
Series 60	411	0	EGR differential pressure failed high (High Box)
Series 60	641	7	Smart Remote Actuator 5 is in Failsafe Mode
Series 60	641	11	Smart Remote Actuator 5 has restricted operability
Series 60	641	14	Smart Remote Actuator 5, no Failsafe Mode
Series 60	704	5	Turbo Actuator open circuit failed high
Series 60	2629	20	Temperature too high from the turbo outlet
Series 60	2629	21	Temperature too low from the turbo outlet
Series 60	2795	9	CAN3 communication error
All	3251	1	DPF Outlet Pressure out of range low
Series 60	3563	0	Intake manifold pressure sensor failed high
Series 60	3563	1	Intake manifold pressure sensor failed high
All	2791	7	EGR valve is in an incorrect position
All	3242	2	DOC Inlet Temperature Sensor plausibility
All	3246	0	DPF Outlet Temperature high
All	3246	2	DPF Outlet General Temperature plausibility
All	3246	14	Abnormal DPF Temperature rise
All	3250	0	DPF Outlet Pressure out of range very high
All	3250	2	DOC Outlet Temperature too high
All	3250	14	Abnormal DOC Temperature rise
All	3250	31	Abnormal DOC Temperature rise
All	3251	0	DOC Outlet Temperature Sensor plausibility error
All	3251	1	DPF Outlet Pressure out of range low
All	3251	16	DPF Outlet Pressure out of range high
All	3480	1	Abnormal Doser Fuel Supply Pressure
All	3480	2	Abnormal Doser fuel line pressure
All	3480	31	Fuel cutoff valve pressure plausibility error
All	3556	0	Regen Temperature out of range high
All	3609	2	DPF Inlet Pressure Sensor drifted high in range (High Box)
All	3609	20	DPF Inlet Pressure Sensor drifted high in range (Low Box)
All	3609	21	DPF Inlet Pressure Sensor drifted low in range (High Box)
All	3610	2	DPF Pressure Sensor plausibility error.
All	3610	14	DPF Outlet Pressure Sensor drifted high in range (High Box)
All	3610	20	DPF Inlet Pressure Sensor drifted low in range (High Box)
All	4077	14	Fuel line pressure sensor circuit fault

IV. - Translator box / cables requirements - Here are some key general points to remember when connecting to the MCM and CPC with DDDL 7.04:

1 - For DDDL 7.04 the only translator box supported is the Nexiq USB Link (P/N 125032) Translators that support only J-1708 communications like the Nexiq Lite-link and Detroit Diesel's white translator will not work with DDDL 7.04 under any circumstances.

2 - All 2007 vehicles contain a 9-pin Deutsch connector wired to support both J-1939 / CAN communications and J-1708 communications.

3 - All operations may be carried out on a vehicle that has both the MCM and CPC properly installed. **Note:** There must be a CPC physically present on the vehicle in order for communications to be established with the MCM.

4 - When plugging into the 9 pin Deutsch connector on the vehicle you must use a mating 9-pin connector fully wired to support J-1939 / CAN communications. The old style 6 to 9-pin Deutsch adapter will not work.

CAVITY	LABEL
A	BATTERY GROUND
B	+12V DC
C	J1939 DATA LINK (+)
D	J1939 DATA LINK (-)
E	J1939 SHIELD
F	J1587 DATA LINK (+)
G	J1587 DATA LINK (-)
H	PLUG
J	PLUG

Wiring for 9-pin Data Link Connector

5 - Diagnostic adapters that will work with the DDEC VI system include P/N 405048 (6 and 9-pin "Y" adapter) and P/N J-46931, the J1939 9-pin Deutsch Connector that was part of the DDEC V programming station upgrade kit.

V. - Installing DDDL 7.04 –
Note: Before installing DDDL 7.04 you must remove any pre-release version of Detroit Diesel's 2007 Drumroll diagnostic software to minimize the chance of any conflicts with older versions of the software. Please use the Windows Control Panel's "Add / Remove Software" option to perform this operation. **In order for DDDL 7.04 to work on a PC with the proper hardware and operating system specifications other programs must also be installed. They are:**

1 - Microsoft Windows Installer 3.1 or higher
2 - Microsoft .Net Framework 2.0
3 - Lizardtech DjVu Control
4 - Proper drivers for your translator box hardware

In the pre-release versions of 2007 diagnostic software (identified by the project name Drumroll) all of the applications listed above required the user to perform a manual installation. Beginning with the production release of DDDL 7.04 the setup process will automatically check your system for existing installations of these programs and install them as necessary along with the DDDL 7.04 application. The only translator box drivers that are installed in the automatic setup process are for the Nexiq USB Link translator box. Translator box drivers for the Detroit Diesel Multi-link and the Nexiq Magic Key are also on the DDDL 7.04 CD (check your DDDL 7.04 CD menu for details) but will need to be installed manually after the main installation.
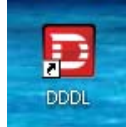
VI. - Updating DDDL 7.04 – There will be two types of updates for DDDL 7.04

1) CD updates:
   - These will be required for major changes to the program such as changes to the graphical user interface.

2) Direct Server updates **(New for DDDL 7.04)**
   - New CBF files that will allow the user to work with updated levels of ECU software and add functionality to the tool
   - New cases for Advanced Diagnostics as they are developed from field experience
   - These updates are initiated from within the DDDL software application. An internet connection is required to use this feature.

NOTE: All DDDL patches will also be available on the DDCSN website.

VII. - Registration / Support - After the first installation of DDDL 7.04, the user will have access for a 30-day trial period. During this trial period, the user should obtain an Access Key. Follow the steps below to get a key:

1) Launch the DDDL Application from your desktop icon

2) The license panel will appear with displaying your computer ID. Each computer ID is unique to the computer DDDL is loaded on.

NOTE: This computer ID is an example only and cannot be used to register your software.

To register Diagnostic Link 7.04, contact the Nexiq Support Center at **1-877-974-3539** with 2 pieces of information, the computer ID as shown in the picture immediately above and the numbered label on the back of the CD case. **International customers can contact Nexiq at 1-248-232-6685**. The Nexiq Support Center also provides support basic DDDL 7.04 installation and connectivity issues.

For 2007 engine electronics and mechanical information and troubleshooting contact the Detroit Diesel Customer Support Center at 313-592-5800.

VIII. – DDEC Reports 6.4 – DDEC Reports 6.4 will be installed when you install DDDL 6.4 from the CD. **Note: DDDL 6.4 contains all the current functionality of DDDL 6.31. The change in version number designates that this installation contains the new version of DDEC Reports that supports DDEC VI report creation.**

Version 6.4 allows users the ability to extract fleet management information from DDEC VI equipped engines and view the data in a variety of formats within the DDEC Reports program. **Note: DDEC Reports 6.4 also is completely backward compatible with DDEC V, DDEC IV, DDEC III (with data pages enabled), and VCU modules (12.09 and higher software).**

When viewing the standard trip reports users will notice that several new terms have been added that only apply to DDEC VI equipped vehicles. An updated glossary of terms used in DDEC Reports can be found in the DDEC Reports help file or by printing out the DDEC Reports Glossary from the CD menu.

DDEC Reports 6.4 uses the J-1708 standard for communicating with the vehicle. You will connect through the vehicle's 9-pin diagnostic connector to extract data. All the translators that are designated to work with DDDL 7.04 in an earlier section of this document may be used for DDEC Reports extractions as well.
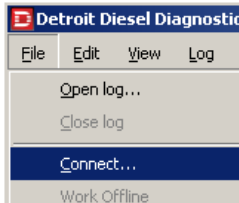
IX. Known Issues – There are some known issues that users may see when using the DDDL 7.04 production software.

1. Issues with production DDDL 7.04 and previous installed versions: Because of the unprecedented support for 2007 customer demo and pre-series engines there are many pre-release versions of Detroit Diesel electronic tools already installed in the field (labeled as Drumroll or DDDL 7.0).

a. One common issue is receiving a message upon the startup of the program stating that multiple diagnosis description files for either the CPC or MCM have been found. Please call either the **Detroit Diesel** or **Nexiq** support desks for assistance in correcting this issue.
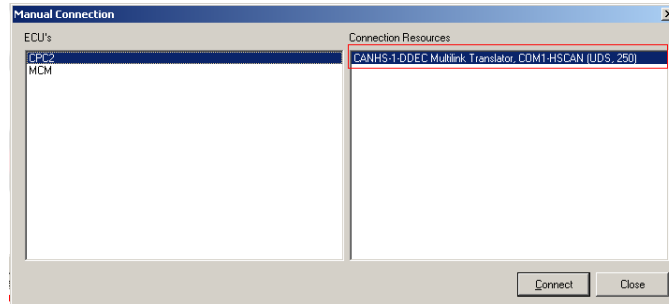

b. A second issue involves the selection of your translator box. During the installation process you'll select a translator box from a list of choices:
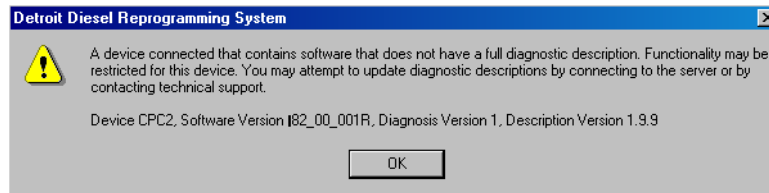

If you find that you are unable to establish a connection with the vehicle check your translator setting by going to the "Connect" window in the program and see if the setting there matches the one you selected in the installation process.

If the selections do not match call the Nexiq or Detroit Diesel support desks to resolve the issue and let them know you are trying to resolve this mismatch.

2. Issues with DDDL 7.04 matching MCM and CPC software levels - There are customer demo and pre-series engines running a variety of CPC and MCM of software versions. All these units will be brought up to production levels of software however there are issues that result due to pre-production versions of software being connected to production electronic tools:

a. After establishing a connection with the vehicle the user may get a message saying the version of software from either the MCM or CPC is unknown.

Even though you have established a connection if you receive this message then all the subsequent information you receive may not be completely accurate and many features will be disabled. It is recommended that you call the Detroit Diesel support desk for information on how to correct this issue.

b. While in the service routine window, the user attempts to run a routine and receive a message saying, "The routine is not supported in this version of software". This means that the routine you are trying to run was implemented after the software in the module was written. If this is the case then the routine will not be available until the controller has been updated to the software level that supports the routine. For further clarification you may call Detroit Diesel support.

3. Issues with DDDL 7.04

Log File Management is not working as expected – DDDL 7.04 **will not** delete Log Files as expected if the "Expiration" setting is changed from the default of "Never". It is recommended that this setting be left to "Never" until further notice. Please note that the option to manage DDDL 7.04 Trace files is working as expected and is defaulted to "One Month". Therefore, trace files older than one month will be deleted when DDDL 7.04 starts, unless this setting is changed.