



No.: 07 TS-41Rev
September 11, 2007

TO: Service Locations

FROM: Technical Support Development

SUBJECT: **Release of Common Powertrain Controller Software Version R2.02 and Motor Control Module Software Version v8.3.1 for All EPA07 MBE 900 Engines**

ISSUE

All EPA07 MBE 900 powered vehicles must have several services performed to ensure proper operation. The services to be performed are:

1. Verify the electrostatic oil separator has been updated.
2. Update the MCM software to version v8.3.1.0 and the CPC software to version r2.02 to correct idle and fast idle (PTO mode) RPM stability issues.
3. Perform a hydrocarbon (HC) doser purge service routine.
4. Perform a stationary (parked) regeneration of the Aftertreatment Device (ATD).
5. Verify the exhaust brake is operating properly.

These vehicles may be located at your facilities, or other facilities that are not authorized MBE repair outlets such as Thomas Built Bus dealers or body builders. The facilities that are not authorized MBE repair outlets may be contacting you to perform these services.

Truck applications were previously covered in a separate Technical Service letter, 07 TS-40, published July 27, 2007, which superseded this letter. The truck applications are now eligible for the MCM and CPC software update as described in this letter. If you have already performed 07 TS-40 on a truck, you do NOT have to perform the hydrocarbon (HC) doser purge service routine or parked regeneration again after updating the MCM and CPC software.

REQUIRED ACTION

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 and that the DDRS software has Service Pack 10. If you do not have Service Pack 10 for DDRS 7.0, you will automatically get it when you connect to the server. Reference Technical Service letter [07 TS-45](#) for more information on Service Pack 10. The Nexiq USB Link is **REQUIRED** to communicate with the vehicle when you are using DDRS 7.0. Reference letter [07 TS-18](#) for more information on the USB Link.

Engines built at Detroit Diesel starting on August 29th have the updated software and do NOT require any of the services listed in this letter. Some vehicles with engines built prior to August 29th had their software updated at the applicable Freightliner plant. Vehicles that were updated will have a green sticker on the left front headlight. Some vehicles may also have a green triangle on the driver side lower dashboard area. If you are unsure whether the unit has been updated, you can verify the software level by connecting to the vehicle and clicking on the “Identification” button and the “Common” tab. See Figure 1 below.

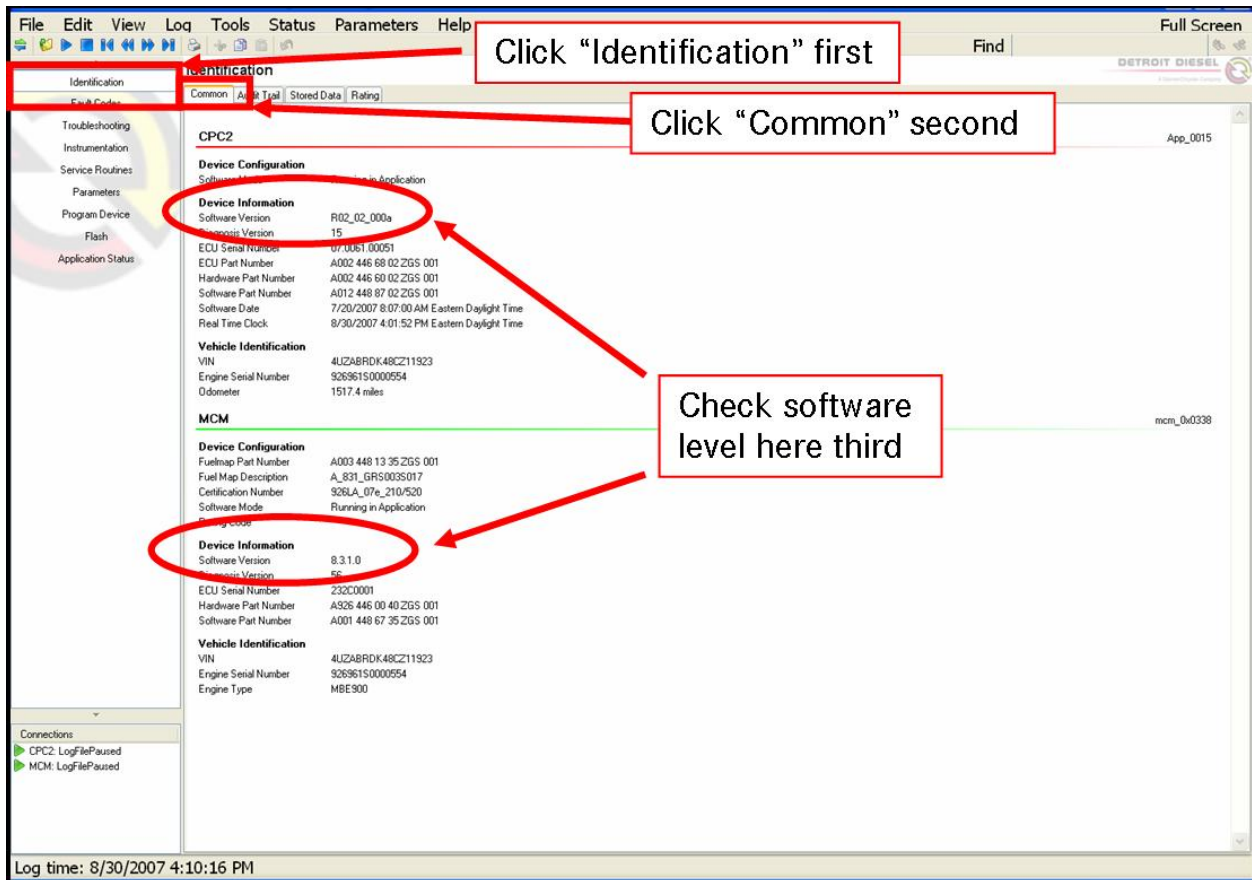


Figure 1 – Software Identification

Once you have verified you have a properly functioning computer with DDRS 7.0, perform the following tasks:

1. Verify the electrostatic oil separator has been updated. The part number on the rocker cover should be P/N: A9260100530. See Figure 2. If the separator needs to be changed, email the Detroit Diesel Customer Support Center at csc@detroitdiesel.com. The new parts will automatically be sent to you free of charge.

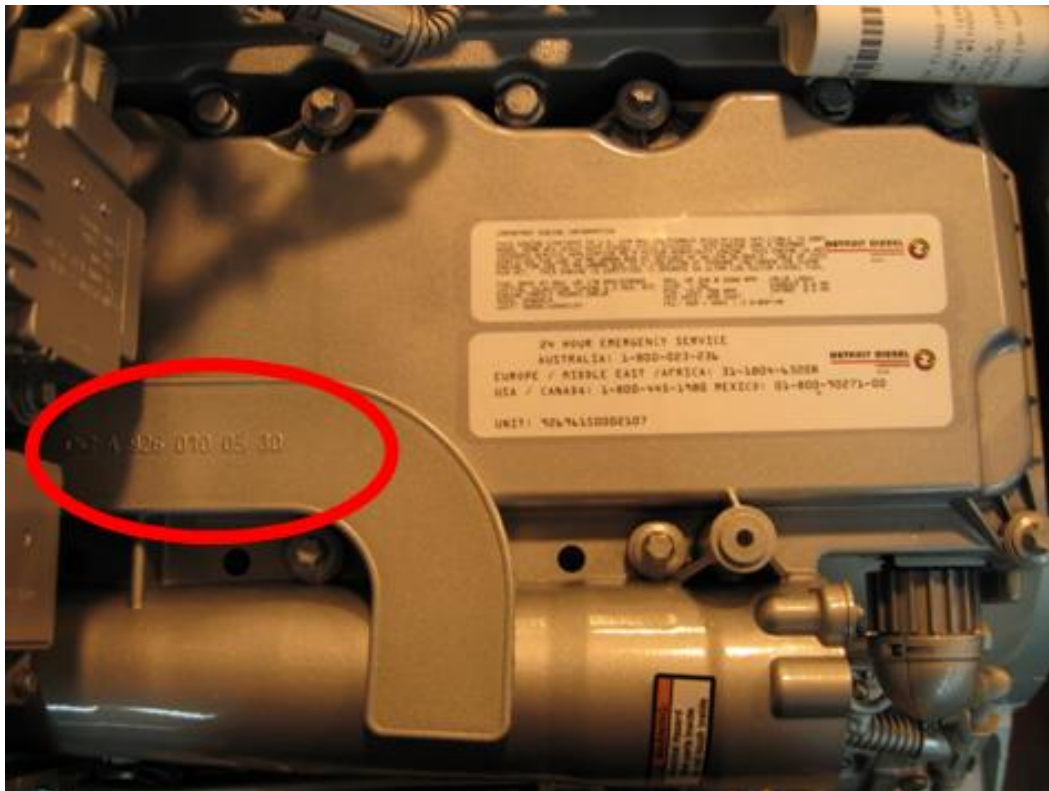


Figure 2 – Location of Electrostatic Oil Separator Part Number

2. Update the MCM and CPC software by the following procedure.
 - a. Using DDRS 7.0, attach the computer with the USB Link to the vehicle and turn ON the ignition.
 - b. Click on the “Program Device” button on the left side of the screen, then click on the “Unit Data” tab near the top, and then click on the “Add” button on the right side of the screen. See Figure 3.
 - c. Type in the complete 14-digit engine serial number, click “OK”, click “Connect To Server”, enter your username and password. See Figure 3.

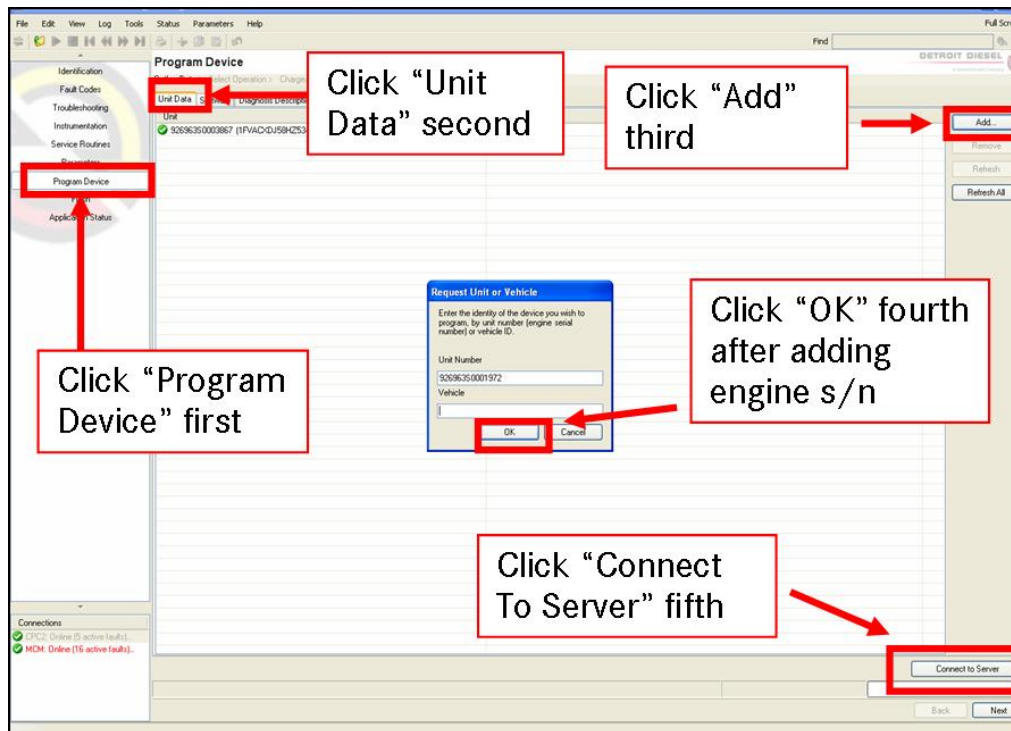


Figure 3

- d. If your DDRS 7.0 software does not have Service Pack 10, it will now automatically be loaded onto your computer and you will see the following message. See Figure 4. Close and restart DDRS 7.0 and perform steps “a” through “c” again. If you have Service Pack 10, proceed to step “e”.



Figure 4

- e. If the engine serial number is valid on the server, you will see a green check mark next to the serial number. If you see a yellow question mark or red x mark, then the serial number is not properly loaded on the server and you must call the Detroit Diesel Customer Support Center at 313-592-5800. See Figure 5.

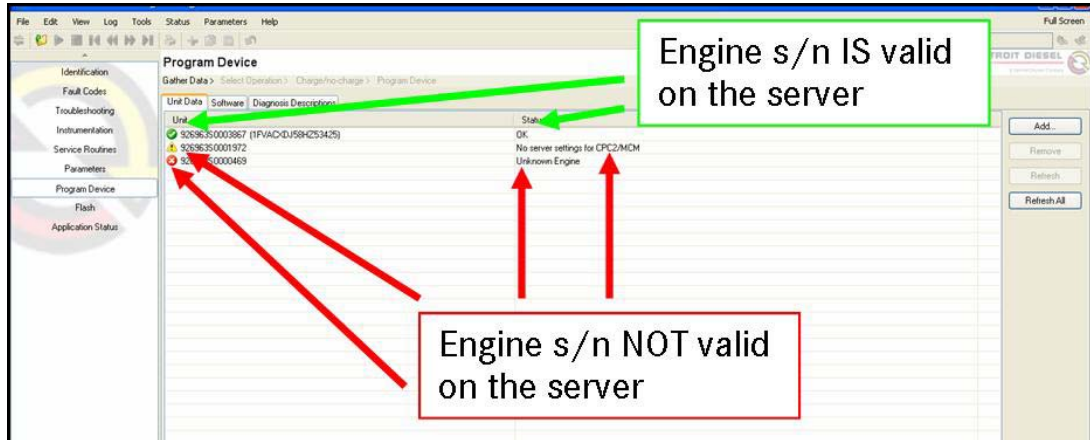


Figure 5

- f. If the engine serial number is valid on the server, click "Next" in the bottom right corner of the screen.
- g. Click on the MCM as the device to program, click the button to select "Update Device Software", click on software "8.3.1.0", click "Next." See Figure 6.

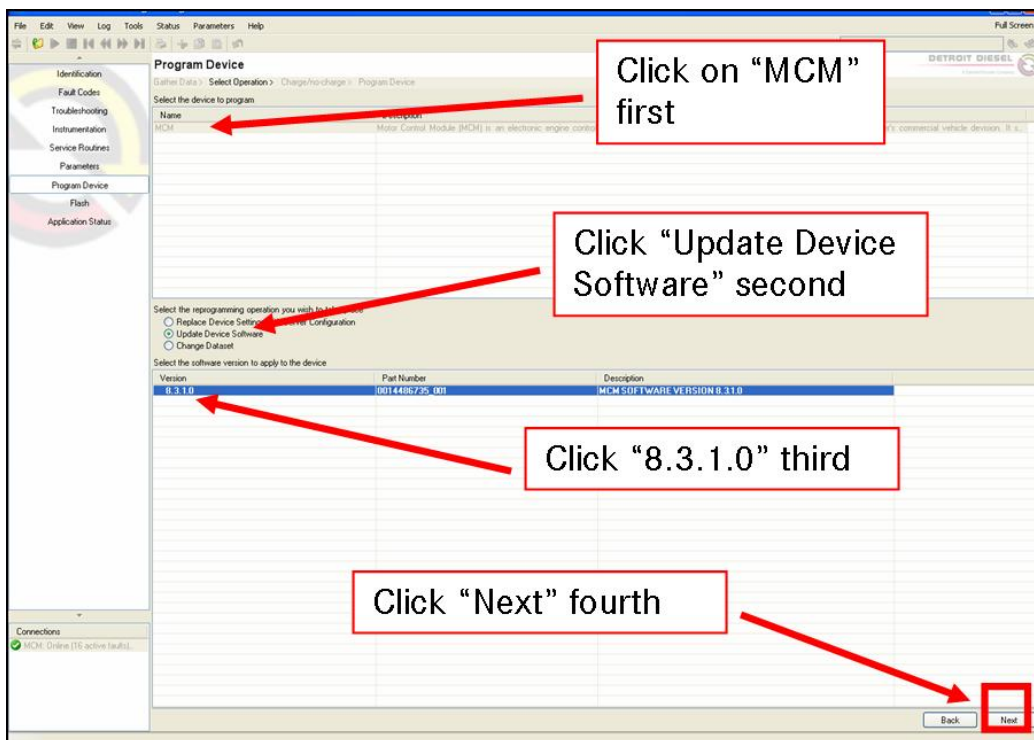


Figure 6

- h. Click on the “No Charge” button, click on “Warranty”, type in “07TS41” in the “Provide Reference” box, click the “Next” button in the bottom right corner. See Figure 7.

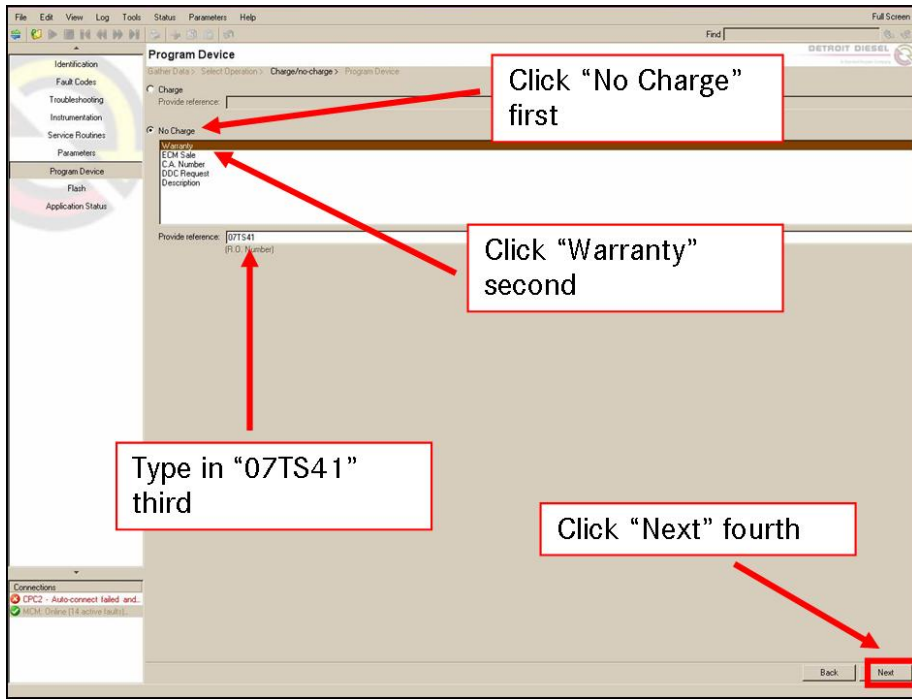


Figure 7

- i. Confirm that all of the information is correct before proceeding. If everything is correct, click on the “Start” button. See Figure 8.

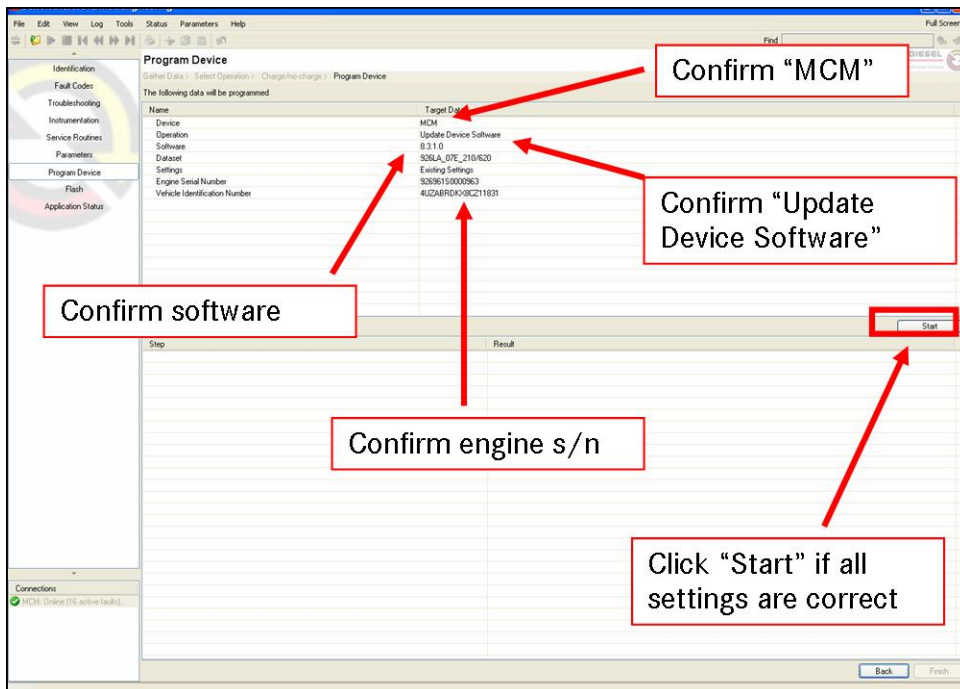


Figure 8

- j. After the download is complete, click the “Finish” button.
 - k. Click on the CPC as the device to program, click the button to select “Update Device Software”, click on software “R02_02_00a”, click “Next”.
 - l. Click on the “No Charge” button, click on “Warranty”, type in “07TS41” in the “Provide Reference” box, click the “Next” button in the bottom right corner.
 - m. Confirm that all of the information is correct before proceeding. If everything is correct, click on the “Start” button.
 - n. After the download is complete, click the “Finish” button.
 - o. Turn the vehicle ignition OFF, disconnect the USB Link at either the computer port or vehicle diagnostic port, and wait one minute.
 - p. Turn the vehicle ignition ON, wait one minute, reconnect the USB Link cable, and reconnect DDRS 7.0 to the MCM and CPC.
3. Start a hydrocarbon (HC) doser purge service routine by doing the following:
 - a. Start the engine and let it run at base (low) idle.
 - b. Make sure the transmission is in neutral and the parking brake set (ON).
 - c. Using DDRS 7.0, attach the computer to the vehicle. Click on the “Service Routines” button on the left side of the screen, click on the “HC Doser” tab near the top. (The HC Doser is also known as the Fuel Doser). See Figure 9.

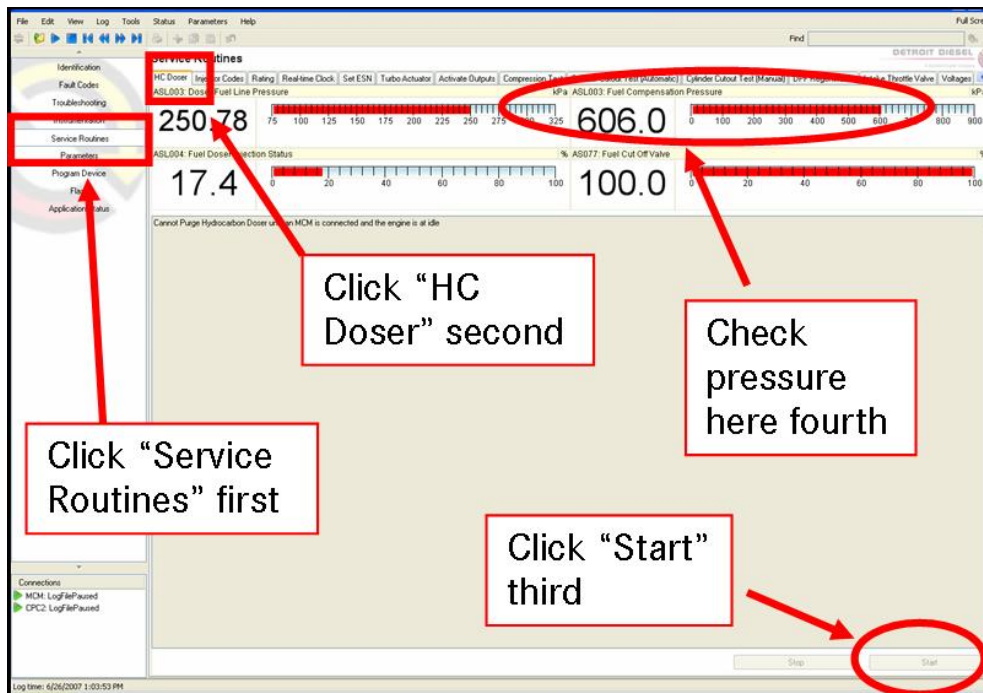


Figure 9 – DDRS 7.0 “HC Doser” Service Routine

- d. Click the button marked “Start” and monitor the Fuel Compensation Pressure while the purge routine is taking place. The purge routine only takes 2 or 3 seconds so watch the computer screen carefully. Note the log file that is generated can be replayed to review the Fuel Compensation Pressure. If the Fuel Compensation Pressure is less than 65 psi (450 kPa), or greater than 100 psi (689 kPa), call the Detroit Diesel Customer Support Center at 313-592-5800.
 - e. If any fuel system repairs are made, repeat steps a-d and make sure the Fuel Compensation pressure is between 65 – 100 psi (450 – 689 kPa) before proceeding to the parked regeneration.
4. Start a parked regeneration of the Aftertreatment Device (ATD) by doing the following:
 - a. Start the engine and warm it up. Move the vehicle outside if it is not already there.
 - b. Make sure the transmission is in neutral and the parking brake set (ON).
 - c. Engine must be at base (low) idle (cannot be in fast idle or PTO mode).
 - d. Using DDRS 7.0, attach the diagnostic computer to the vehicle. Click on the “Service Routines” button on the left side of the screen, click on the “DPF Regeneration” tab near the top after scrolling it into view. See Figure 10.

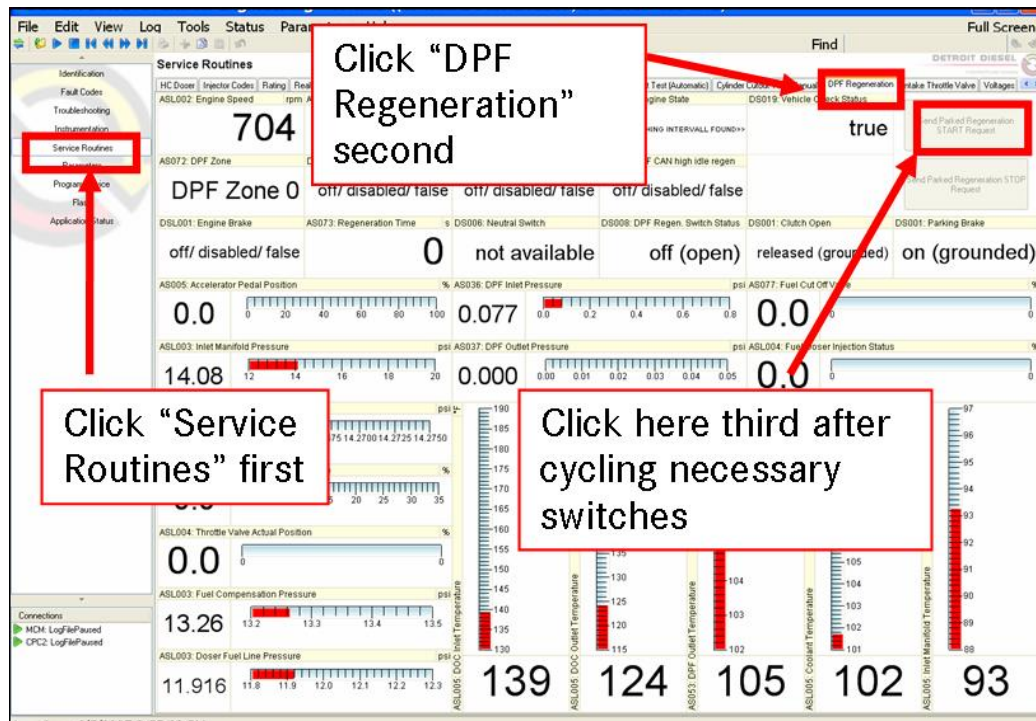


Figure 10 – DDRS 7.0 “DPF Regeneration” Service Routine

- e. Cycle the park brake to OFF and then back ON.
- f. For automatic transmissions, move the transmission selector to DRIVE, then back to NEUTRAL. For manual transmissions, press and release the clutch pedal.
- g. Click the button marked "Send Parked Regeneration START Request".
- h. Engine speed (rpm) should now increase as the regeneration begins.
- i. You **MUST** leave the diagnostic computer connected to the vehicle during the regeneration. Disconnecting the diagnostic computer will cause the regeneration to stop.
- j. The driver **MUST** stay with the vehicle throughout the regeneration process.
- k. After a successful parked regeneration, check the MCM and CPC for prior inactive codes and clear them.

A successful parked regeneration should take 20-40 minutes and will end when the engine returns to idle speed. If you are using a laptop for the parked regeneration, make sure the laptop battery is sufficiently charged to last the entire parked regeneration. Use a corded electrical supply if necessary. If you encounter problems during the regeneration, note any codes or other info and call the Detroit Diesel Customer Support Center at 313-592-5800.

5. Verify exhaust brake operation. If the brake is not operating correctly, call the Detroit Diesel Customer Support Center at 313-592-5800.

CLAIM PROCESS

Use the following information when filing claims for updating the software.

Claim Type:	01
Failure Code:	037
Complaint Code:	PD
Primary Failed Part:	REPROGRAM
Labor OP 062600:	1.0 HOUR
Parts Return:	NONE

Use the following information when filing claims for successful hydrocarbon doser purge routines and parked regenerations.

Claim Type:	01
Authorization Number:	PDI
Failure Code:	098
Complaint Code:	PD
Primary Failed Part:	REGEN
Labor OP 062600:	0.7 HOUR
Parts Return:	NONE

For other issues that you may encounter (electrostatic oil separator update, fuel system repairs, etc.), file separate claims for each particular failure.

CONTACT INFORMATION

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