

# DETROIT DIESEL



## DDEC® VI Troubleshooting

**NUMBER:** 08 DDEC VI-58    **S.M. REF.:** 81.3    **ENGINE:** EPA07 DD15    **DATE:** November 2008

**SUBJECT:** SPN 1077

**PUBLICATION:** DDC-SVC-MAN-0029

SPN 1077 has been revised.

### **SPN 1077/FMI 14**

This fault condition is typically related to an internal or external leakage of the high pressure fuel system (too high, Leak Down Test). The MCM monitors rail pressure during engine shut down and compares it to a stored learned value. If the bleed down rate has changed due to leakage and it is below the learned value, the code will set.

Check as follows:

1. Check for multiple codes.
  - [a] If additional fault codes are present with 1077/14, service the additional fault codes first.
  - [b] If only 1077/14 is present, go to the next step.
2. Start the engine. Perform a Rail Pressure Bleed Off test (RPBO) using DDDL. Refer to section 5.7 "Rail Pressure Bleed Off."
  - [a] If the Rail Pressure Bleed Off test passes, clear code and road test vehicle.
  - [b] If the Rail Pressure Bleed Off test fails, go to next step.
3. Check for internal and external high pressure fuel system leakage. Refer to section 5.2 "High Pressure System Fuel Leak Test."
  - [a] If leaks are found, repair leaks and prime the fuel system. Start engine and verify repair.
  - [b] If no leaks are found, go to next step.
4. Check the ISB Values. Refer to section 5.10 "ISB Values."
  - [a] If there are no cylinders above 70% or below -70%, go to next step.
  - [b] If there is a cylinder(s) above 70% or below -70%, remove that injector line and cap off the rail with J-48704. Run the Rail Pressure Bleed Off test again. If the Rail Pressure Bleed Off passes, change the injector that is capped off and verify repairs.

5. Check for leakage from the Pressure limiting valve (PLV). Refer to section 5.8 “Pressure Limiting Valve Leakage.”
  - [a] If the PLV is leaking, replace the PLV and verify repairs.
  - [b] If the PLV is not leaking, go to next step.
6. Perform Amplifier/Needle Return measurements. Refer to section 5.5 “High Amplifier/Needle Return Flow.”
  - [a] If the Amplifier/Needle Return Flow test failed, repair as necessary and verify repairs.
  - [b] If the Amplifier/Needle Return Flow test passed, replace the high pressure fuel pump.

### **ADDITIONAL SERVICE INFORMATION**

Additional service information is available in the DDEC VI troubleshooting guide.

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