

1 02 08-16



Service Information Bulletin

SUBJECT	DATE
SPN 1077 (MCM) (GHG17)	February 2016

Additions, Revisions, or Updates

Publication Number / Title	Platform	Section Title	Change
DDC-SVC-MAN-0191	GHG17 DD Platform	SPN 1077/FMI 14 - GHG17	Updated GHG17 diagnostic procedures.



13400 Outer Drive, West, Detroit, Michigan 48239-4001
Telephone: 313-592-5000
www.demanddetroit.com

2 SPN 1077/FMI 14 - GHG17

Internal or External Leakage of the High Pressure Fuel System (Too High, Leak Down Test)

The Motor Control Module (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, this code will set.

Table 1.

SPN 1077/FMI 14	
Description	Leakage in High Pressure Fuel System To High (Leak Down Test)
Monitored Parameter	Fuel Rail Pressure
Typical Enabling Conditions	Key OFF
Monitor Sequence	None
Execution Frequency	Once When Enabling Conditions Met
Typical Duration	30 Seconds
Dash Lamps	MIL, CEL
Engine Reaction	
Verification	Fuel System Integrity Check (FSIC)

Check as follows:

1. Check for multiple codes. Are there any additional SPN 1077 codes present?
 - a. Yes; service the additional fault codes first.
 - b. No; Go to step 2.
2. Perform an Automatic Fuel System Integrity Check (FSIC) using DiagnosticLink[®] Standard. Refer to section "Fuel System Integrity Check Routine Operation Overview - Two-Filter Fuel System". Go to step 3.
3. Was the Rail Pressure Bleed-Off test longer than 35 seconds?
 - a. Yes; Go to step 4.
 - b. No; Go to step 5.
4. Clear code and road test vehicle with Manual FSIC running. Can the fault be duplicated?
 - a. Yes; Go to step 5.
 - b. No; obtain conditions for duplicating concern from customer.
5. Check for internal and external high pressure fuel system leakage. Refer to section "High Pressure Fuel System - Leak Test - Two-Filter System". Are there any leaks?
 - a. Yes; repair leaks and prime the fuel system. Refer to section "Priming the Fuel System - KM63 GEN2 - Two-Filter System". Start engine and verify repair.
 - b. No; Go to step 6.
6. Check the Idle Speed Balance (ISB) Values. Refer to section "Idle Speed Balance Test". Are there any cylinders above 70% or below -70%?
 - a. Yes; Go to step 7.
 - b. No; Go to step 8.
7. Remove the fuel injector fuel transfer tube for the cylinder that is above 70% or below -70% and cap off the rail with J-48704. Run Automatic FSIC test again. Does the Rail Pressure Bleed-Off test pass (longer than 35 seconds)?
 - a. Yes; change the fuel injector that is capped off and verify repairs.
 - b. No; Go to step 8.
8. Check for leakage from the Pressure Limiting Valve (PLV). Refer to section "Pressure Limiting Valve Flow Test – Two-Filter Fuel System". Is the PLV leaking?
 - a. Yes; replace the PLV and verify repairs. Refer to section "Removal of the Pressure Limiting Valve - Two-Filter System".
 - b. No; Go to step 9.

9. One cylinder at a time, remove the injector fuel transfer tube and cap the rail at each injector using J-48704. Perform Rail Pressure Bleed-Off test using the Automatic FSIC test in DiagnosticLink. Repeat for each injector. Record results. Go to step 10.

Table 2.

Fuel Rail Pressure Bleed-Off Test Results					
#1 Cap	#2 Cap	#3 Cap	#4 Cap	#5 Cap	#6 Cap
_____ Seconds	_____ Seconds	_____ Seconds	_____ Seconds	_____ Seconds	_____ Seconds

10. With any one injector capped off, does the Rail Pressure Bleed-Off test pass above 35 seconds?
- Yes; replace that injector. Refer to section "Removal of the Fuel Injector - Two-Filter System" and then run the Rail Bleed-Off Pressure Test again to verify repair.
 - No; Go to step 11.
11. Install all six rail caps. Crank engine for 10 seconds and then monitor rail pressure bleed down. Does rail pressure bleed down under 100 bar in less than five minutes?
- Yes; replace the high pressure fuel pump. Refer to section "Removal of the High Pressure Fuel Pump - Two-Filter System".
 - No; replace all six injectors. Refer to section "Removal of the Fuel Injector - Two-Filter System".