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Service Information Bulletin

SUBJECT	DATE
SPN 1322 (MCM) (GHG17)	February 2016

Additions, Revisions, or Updates

Publication Number / Title	Platform	Section Title	Change
DDC-SVC-MAN-0191	GHG17 DD Platform	SPN 1322/FMI 10 - GHG17	Updates to existing GHG17 diagnostic procedures.
		SPN 1322/FMI 11 - GHG17	



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2 SPN 1322/FMI 10 – GHG17

Simultaneous Misfire on Multiple Cylinders Detected

Table 1.

SPN 1322/FMI 10	
Description	This Fault Code Sets Once the Motor Control Module (MCM) Detects a Misfire on Multiple Cylinders Within One Rotation of Crankshaft With all Conditions Met
Monitored Parameter	Injection Quantity
Typical Enabling Conditions	• Engine Speed Between 500 and 1600 rpm • Engine Torque Load Between 25 and 75% • All Cylinders Are Active, No Fault Reactions • Engine Speed/Torque Is Steady • Coolant temperature is Greater Than 62°C (144°F) and Less Than 114°C (237°F) • Fuel temperature is Greater Than 0°C (32°F) and Less Than 150°C (302°F)
Monitor Sequence	Always When Enabling Conditions Are Met
Execution Frequency	Always
Typical Duration	1000 Revolutions
Dash Lamps	MIL
Engine Reaction	None
Verification	Ensure the Ignition Has Been Off for a Minimum of Five Minutes Prior to the Last Ignition On. Meet All Enabling Conditions. 15-Minute Road Test

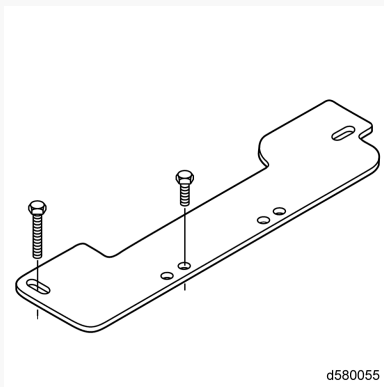
The entry conditions for this code are:

- Engine speed is above low idle
- All cylinders are active, no fault reactions
- Engine speed/torque is steady

This fault can occur due to the conditions listed below:

- Cylinder kit failure
- Valve train failure
- Lash adjustments
- Fuel injector
- High pressure fuel line (rail to fuel injector)
- Debris entering fuel injector (intermittent faults)
- Fuel quality

Table 2.

Required Service Tools		
W470589009800	DD13/15 Cam Gear Cover	

Check as follows:

1. Using DiagnosticLink[®] Standard, perform the Relative Cylinder Compression Test listed under service routines. Refer to section "Relative Cylinder Compression Test". Is low compression found and all cylinders within 10%?
 - a. Yes; the issue is related to a mechanical failure/issue for that cylinder. Repair as necessary.
 - b. No; Go to step 2.



WARNING: ENGINE EXHAUST

To avoid injury from inhaling engine exhaust, always operate the engine in a well-ventilated area. Engine exhaust is toxic.



WARNING: PERSONAL INJURY

To avoid injury before starting and running the engine, ensure the vehicle is parked on a level surface, parking brake is set, and the wheels are blocked.

2. Start and bring the engine up to operating temperature of 60°C (140°F).

NOTE: For Idle Speed Balance (ISB) values to update, the engine speed must be at idle.

3. Using DiagnosticLink Standard, read parameter ISB values under the instrumentation section. Is the value for any cylinder at its maximum limit of +100?
 - a. Yes; Go to step 4.
 - b. No; fault may be intermittent. Obtain information from customer on driving habits, recent repairs, number of occurrences when fault code set, or situations when the code occurred. Try to retest engine within these parameters.
4. Inspect high pressure fuel line from rail to fuel injector for damage. Is damage found?
 - a. Yes; replace the high pressure fuel injector line if necessary. Go to step 5.
 - b. No; replace the fuel injector for the cylinder identified. Go to step 5.
5. Verify repairs. Is misfire concern resolved?
 - a. Yes; testing is completed. Clear faults and release vehicle.
 - b. No; perform the Aerated Fuel Test. Refer to section "Aerated Fuel Test – Two-Filter Fuel System".

3 SPN 1322/FMI 11 – GHG17

Misfire on Alternating Cylinders Detected

Table 3.

SPN 1322/FMI 11	
Description	This Fault Will Occur Once The MCM Sees The Injection Duration Compensates More Than A Set Threshold Within Multiple Rotations Of Crankshaft With All Conditions Met
Monitored Parameter	Injection Quantity
Typical Enabling Conditions	• Engine Speed Between 500 and 1600 rpm • Engine Torque Load Between 25 and 75% • All Cylinders Are Active, No Fault Reactions • Engine Speed/Torque is Steady • Coolant Temperature is Greater Than 62°C (144°F) and Less Than 114°C (237°F) • Fuel Temperature is Greater Than 0°C (32°F) and Less Than 150°C (302°F)
Monitor Sequence	Always When Enabling Conditions Are Met
Execution Frequency	Always
Typical Duration	1000 Revolutions
Dash Lamps	MIL
Engine Reaction	None
Verification	Ensure the Ignition Has Been Off for a Minimum of Five Minutes Prior to the Last Ignition On. Meet All Enabling Conditions. 15-Minute Road Test

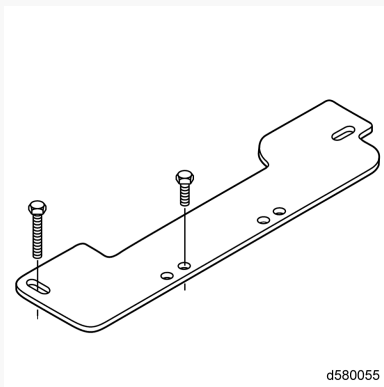
The entry conditions for this code are:

- Engine speed is above low idle
- All cylinders are active, no fault reactions
- Engine speed/torque is steady

This fault can occur due to the conditions listed below:

- Cylinder kit failure
- Valve train failure
- Lash adjustments
- Fuel injector
- High pressure fuel line (rail to fuel injector)
- Debris entering fuel injector (intermittent faults)
- Fuel quality

Table 4.

Required Service Tools		
W470589009800	DD13/15 Cam Gear Cover	

Check as follows:

1. Using DiagnosticLink[®] Standard, perform the Relative Cylinder Compression Test listed under service routines. Refer to section "Relative Cylinder Compression Test". Is low compression found and all cylinders within 10%?
 - a. Yes; the issue is related to a mechanical failure/issue for that cylinder. Repair as necessary.
 - b. No; Go to step 2.



WARNING: ENGINE EXHAUST

To avoid injury from inhaling engine exhaust, always operate the engine in a well-ventilated area. Engine exhaust is toxic.



WARNING: PERSONAL INJURY

To avoid injury before starting and running the engine, ensure the vehicle is parked on a level surface, parking brake is set, and the wheels are blocked.

2. Start and bring the engine up to operating temperature of 60°C (140°F).

NOTE: For Idle Speed Balance (ISB) values to update, the engine speed must be at idle.

3. Using DiagnosticLink Standard, read parameter ISB values under the instrumentation section. Is the value for any cylinder at its maximum limit of +100?
 - a. Yes; Go to step 4.
 - b. No; fault may be intermittent. Obtain information from customer on driving habits, recent repairs, number of occurrences when fault code set, or situations when the code occurred. Try to retest engine within these parameters.
4. Inspect high pressure fuel line from rail to fuel injector for damage. Is damage found?
 - a. Yes; replace the high pressure fuel injector line if necessary. Go to step 5.
 - b. No; replace the fuel injector for the cylinder identified. Go to step 5.
5. Verify repairs. Is misfire concern resolved?
 - a. Yes; testing is completed. Clear faults and release vehicle.
 - b. No; perform the Aerated Fuel Test. Refer to section "Aerated Fuel Test – Two-Filter Fuel System".