

1 05 24-16



Service Information Bulletin

SUBJECT	DATE
SPN 706 (CPC) (GHG17)	May 2016

Additions, Revisions, or Updates

Publication Number / Title	Platform	Section Title	Change
DDC-SVC-MAN-0193	GHG17 DD Medium Duty	SPN 706 FMI 3 - GHG17	New DD5 and DD8 diagnostic procedures.
		SPN 706 FMI 4 - GHG17	
		SPN 706 FMI 5 - GHG17	
DDC-SVC-MAN-0191	GHG17 DD Platform	SPN 706 FMI 3 - GHG17	Updated GHG17 HD diagnostic procedures.
		SPN 706 FMI 4 - GHG17	
		SPN 706 FMI 5 - GHG17	
DDC-SVC-MAN-0084	GHG14 DD Platform	SPN 706 FMI 3 - GHG14	Updated GHG14 HD diagnostic procedures.
		SPN 706 FMI 4 - GHG14	
		SPN 706 FMI 5 - GHG14	

DiagnosticLink users: Please update the troubleshooting guides in DiagnosticLink with this newest version. To update the tool troubleshooting guide, open DiagnosticLink and from the Help – Troubleshooting Guides menu, select the appropriate troubleshooting manual, then click Update.



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2 SPN 706/FMI 3 - GHG17

Digital Output 3 10 Circuit Failed High

Table 1.

SPN 706/FMI 3	
Description	CPC Output 3 10 Short to Voltage
Monitored Parameter	CPC Output 3/10
Typical Enabling Conditions	Always Enabled
Monitor Sequence	None
Execution Frequency	Always Enabled
Typical Duration	Two Seconds
Dash Lamps	CEL
Engine Reaction	None
Verification	Engine On with Output Activation

Check as follows:



WARNING: ENGINE EXHAUST

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

1. Has the Common Powertrain Controller (CPC) recently been changed or reprogrammed?
 - a. Yes; verify that the correct CPC parameter list has been installed. If the correct calibration and correct parameter list have been installed, then Go to step 2.
 - b. No; Go to step 2.
2. Connect to DiagnosticLink[®].

Parameter	Value	Units	Minimur
Vehicle Speed Sensor			
Inputs			
Outputs			
1 05 DO Selection	DPF Lamp		
1 05 DO Fault Detection	Fault Detection Off		
3 07 DO Selection	disabled		
3 07 DO Fault Detection	Fault Detection Off		
3 08 DO Selection	disabled		
3 08 DO Fault Detection	Fault Detection Off		
3 09 DO Selection	WIF-Lamp		
3 09 DO Fault Detection	Fault Detection Off		
3 10 DO Selection			
3 10 DO Fault Detection	0 disabled		
3 12 DO Selection	1 air filter lamp		
3 12 DO Fault Detection	2 not used		
3 17 DO Selection	3 not used		
3 17 DO Fault Detection	4 not used		
4 06 DO Selection	5 Fuso retarder control 1		
4 06 DO Fault Detection	6 DEF Low Lamp		
4 07 DO Selection	7 TIER4 DEF Lamp		
4 07 DO Fault Detection	8 EU6 Inducement Lamp		
4 09 DO Selection	High Exhaust Temper...		
4 09 DO Fault Detection	Fault Detection Off		
4 09 DO Selection	Fault Detection Off		
4 10 DO Selection	disabled		
4 10 DO Fault Detection	Fault Detection Off		
4 10 DO Selection	disabled		

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3. Verify parameters by going to the parameters work window.
4. Verify that the parameter set to 3 10 DO Selection is set to the specific component to which this is configured. Are the parameters configured correctly?
 - a. Yes; repair the short to power between pin 10 of the CPC connector #3 and the wired component. For wiring schematic information, refer to Original Equipment Manufacturer (OEM) literature.
 - b. No; configure the parameters correctly.

3 SPN 706/FMI 4 - GHG17

Digital Output 3 10 Circuit Failed Low

Table 2.

SPN 706/FMI 4	
Description	CPC Output 3 10 Short to Ground
Monitored Parameter	CPC Output 3/10
Typical Enabling Conditions	Always Enabled
Monitor Sequence	None
Execution Frequency	Always Enabled
Typical Duration	Two Seconds
Dash Lamps	CEL
Engine Reaction	None
Verification	Engine On with Output Activation

Check as follows:



WARNING: ENGINE EXHAUST

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

1. Has the Common Powertrain Controller (CPC) recently been changed or reprogrammed?
 - a. Yes; verify that the correct CPC parameter list has been installed. If the correct calibration and correct parameter list have been installed, then Go to step 2.
 - b. No; Go to step 2.
2. Connect to DiagnosticLink[®].

Parameter	Value	Units	Minimur
Vehicle Speed Sensor			
Inputs			
Outputs			
1 05 DO Selection	DPF Lamp		
1 05 DO Fault Detection	Fault Detection Off		
3 07 DO Selection	disabled		
3 07 DO Fault Detection	Fault Detection Off		
3 08 DO Selection	disabled		
3 08 DO Fault Detection	Fault Detection Off		
3 09 DO Selection	WIF-Lamp		
3 09 DO Fault Detection	Fault Detection Off		
3 10 DO Selection			
3 10 DO Fault Detection	0 disabled		
3 12 DO Selection	1 air filter lamp		
3 12 DO Fault Detection	2 not used		
3 17 DO Selection	3 not used		
3 17 DO Fault Detection	4 not used		
4 06 DO Selection	5 Fuso retarder control 1		
4 06 DO Fault Detection	6 DEF Low Lamp		
4 07 DO Selection	7 TIER4 DEF Lamp		
4 07 DO Fault Detection	8 EU6 Inducement Lamp		
4 09 DO Selection	High Exhaust Temper...		
4 09 DO Fault Detection	Fault Detection Off		
4 09 DO Selection	Fault Detection Off		
4 10 DO Selection	disabled		
4 10 DO Fault Detection	Fault Detection Off		
4 10 DO Selection	disabled		

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3. Verify parameters by going to the parameters work window.
4. Verify that the parameter set to 3 10 DO Selection is set to the specific component to which this is configured. Are the parameters configured correctly?
 - a. Yes; repair the short to ground between pin 10 of the CPC connector #3 and the wired component. For wiring schematic information, refer to Original Equipment Manufacturer (OEM) literature.
 - b. No; configure the parameters correctly.

4 SPN 706/FMI 5 - GHG17

Digital Output 3 10 Circuit Open

Table 3.

SPN 706/FMI 5	
Description	CPC Output 3 10 Open Circuit
Monitored Parameter	CPC Output 3/10
Typical Enabling Conditions	Always Enabled
Monitor Sequence	None
Execution Frequency	Always Enabled
Typical Duration	Two Seconds
Dash Lamps	CEL
Engine Reaction	None
Verification	Engine On with Output Activation

Check as follows:



WARNING: ENGINE EXHAUST

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1. Has the Common Powertrain Controller (CPC) recently been changed or reprogrammed?
 - a. Yes; verify that the correct CPC parameter list has been installed. If the correct calibration and correct parameter list have been installed, then Go to step 2.
 - b. No; Go to step 2.
2. Connect to DiagnosticLink[®].

Parameter	Value	Units	Minimur
Vehicle Speed Sensor			
Inputs			
Outputs			
1 05 DO Selection	DPF Lamp		
1 05 DO Fault Detection	Fault Detection Off		
3 07 DO Selection	disabled		
3 07 DO Fault Detection	Fault Detection Off		
3 08 DO Selection	disabled		
3 08 DO Fault Detection	Fault Detection Off		
3 09 DO Selection	WIF-Lamp		
3 09 DO Fault Detection	Fault Detection Off		
3 10 DO Selection			
3 10 DO Fault Detection	0 disabled		
3 12 DO Selection	1 air filter lamp		
3 12 DO Fault Detection	2 not used		
3 17 DO Selection	3 not used		
3 17 DO Fault Detection	4 not used		
4 06 DO Selection	5 Fuso retarder control 1		
4 06 DO Fault Detection	6 DEF Low Lamp		
4 07 DO Selection	7 TIER4 DEF Lamp		
4 07 DO Fault Detection	8 EU6 Inducement Lamp		
4 09 DO Selection	High Exhaust Temper...		
4 09 DO Fault Detection	Fault Detection Off		
4 09 DO Selection	Fault Detection Off		
4 10 DO Selection	disabled		
4 10 DO Fault Detection	Fault Detection Off		
4 10 DO Selection	disabled		

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3. Verify parameters by going to the parameters work window.
4. Verify that the parameter set to 3 10 DO Selection is set to the specific component to which this is configured. Are the parameters configured correctly?
 - a. Yes; repair the open circuit between pin 10 of the CPC connector #3 and the wired component. For wiring schematic information, refer to Original Equipment Manufacturer (OEM) literature.
 - b. No; configure the parameters correctly.

5 SPN 706/FMI 3 - GHG17

Digital Output 3 10 Circuit Failed High

Table 4.

SPN 706/FMI 3	
Description	CPC Output 3 10 Short to Voltage
Monitored Parameter	CPC Output 3/10
Typical Enabling Conditions	Always Enabled
Monitor Sequence	None
Execution Frequency	Always Enabled
Typical Duration	Two Seconds
Dash Lamps	CEL
Engine Reaction	None
Verification	Engine On with Output Activation

Check as follows:



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1. Has the Common Powertrain Controller (CPC) recently been changed or reprogrammed?
 - a. Yes; verify that the correct CPC parameter list has been installed. If the correct calibration and correct parameter list have been installed, then Go to step 2.
 - b. No; Go to step 2.
2. Connect to DiagnosticLink[®].

Parameter	Value	Units	Minimur
Vehicle Speed Sensor			
Inputs			
Outputs			
1 05 DO Selection	DPF Lamp		
1 05 DO Fault Detection	Fault Detection Off		
3 07 DO Selection	disabled		
3 07 DO Fault Detection	Fault Detection Off		
3 08 DO Selection	disabled		
3 08 DO Fault Detection	Fault Detection Off		
3 09 DO Selection	WIF-Lamp		
3 09 DO Fault Detection	Fault Detection Off		
3 10 DO Selection			
3 10 DO Fault Detection	0 disabled		
3 12 DO Selection	1 air filter lamp		
3 12 DO Fault Detection	2 not used		
3 17 DO Selection	3 not used		
3 17 DO Fault Detection	4 not used		
4 06 DO Selection	5 Fuso retarder control 1		
4 06 DO Fault Detection	6 DEF Low Lamp		
4 07 DO Selection	7 TIER4 DEF Lamp		
4 07 DO Fault Detection	8 EU6 Inducement Lamp		
4 09 DO Selection	High Exhaust Temper...		
4 09 DO Fault Detection	Fault Detection Off		
4 09 DO Selection	Fault Detection Off		
4 10 DO Selection	disabled		
4 10 DO Fault Detection	Fault Detection Off		
4 10 DO Selection	disabled		

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3. Verify parameters by going to the parameters work window.
4. Verify that the parameter set to 3 10 DO Selection is set to the specific component to which this is configured. Are the parameters configured correctly?
 - a. Yes; repair the short to power between pin 10 of the CPC connector #3 and the wired component. For wiring schematic information, refer to Original Equipment Manufacturer (OEM) literature.
 - b. No; configure the parameters correctly.

6 SPN 706/FMI 4 - GHG17

Digital Output 3 10 Circuit Failed Low

Table 5.

SPN 706/FMI 4	
Description	CPC Output 3 10 Short to Ground
Monitored Parameter	CPC Output 3/10
Typical Enabling Conditions	Always Enabled
Monitor Sequence	None
Execution Frequency	Always Enabled
Typical Duration	Two Seconds
Dash Lamps	CEL
Engine Reaction	None
Verification	Engine On with Output Activation

Check as follows:



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1. Has the Common Powertrain Controller (CPC) recently been changed or reprogrammed?
 - a. Yes; verify that the correct CPC parameter list has been installed. If the correct calibration and correct parameter list have been installed, then Go to step 2.
 - b. No; Go to step 2.
2. Connect to DiagnosticLink[®].

Parameter	Value	Units	Minimur
Vehicle Speed Sensor			
Inputs			
Outputs			
1 05 DO Selection	DPF Lamp		
1 05 DO Fault Detection	Fault Detection Off		
3 07 DO Selection	disabled		
3 07 DO Fault Detection	Fault Detection Off		
3 08 DO Selection	disabled		
3 08 DO Fault Detection	Fault Detection Off		
3 09 DO Selection	WIF-Lamp		
3 09 DO Fault Detection	Fault Detection Off		
3 10 DO Selection			
3 10 DO Fault Detection	0 disabled		
3 12 DO Selection	1 air filter lamp		
3 12 DO Fault Detection	2 not used		
3 17 DO Selection	3 not used		
3 17 DO Fault Detection	4 not used		
4 06 DO Selection	5 Fuso retarder control 1		
4 06 DO Fault Detection	6 DEF Low Lamp		
4 07 DO Selection	7 TIER4 DEF Lamp		
4 07 DO Fault Detection	8 EU6 Inducement Lamp		
4 09 DO Selection	High Exhaust Temper...		
4 09 DO Fault Detection	Fault Detection Off		
4 09 DO Selection	Fault Detection Off		
4 10 DO Selection	disabled		
4 10 DO Fault Detection	Fault Detection Off		
4 10 DO Selection	disabled		

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3. Verify parameters by going to the parameters work window.
4. Verify that the parameter set to 3 10 DO Selection is set to the specific component to which this is configured. Are the parameters configured correctly?
 - a. Yes; repair the short to ground between pin 10 of the CPC connector #3 and the wired component. For wiring schematic information, refer to Original Equipment Manufacturer (OEM) literature.
 - b. No; configure the parameters correctly.

7 SPN 706/FMI 5 - GHG17

Digital Output 3 10 Circuit Open

Table 6.

SPN 706/FMI 5	
Description	CPC Output 3 10 Open Circuit
Monitored Parameter	CPC Output 3/10
Typical Enabling Conditions	Always Enabled
Monitor Sequence	None
Execution Frequency	Always Enabled
Typical Duration	Two Seconds
Dash Lamps	CEL
Engine Reaction	None
Verification	Engine On with Output Activation

Check as follows:



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 - a. Yes; verify that the correct CPC parameter list has been installed. If the correct calibration and correct parameter list have been installed, then Go to step 2.
 - b. No; Go to step 2.
2. Connect to DiagnosticLink[®].

Parameter	Value	Units	Minimur
Vehicle Speed Sensor			
Inputs			
Outputs			
1 05 DO Selection	DPF Lamp		
1 05 DO Fault Detection	Fault Detection Off		
3 07 DO Selection	disabled		
3 07 DO Fault Detection	Fault Detection Off		
3 08 DO Selection	disabled		
3 08 DO Fault Detection	Fault Detection Off		
3 09 DO Selection	WIF-Lamp		
3 09 DO Fault Detection	Fault Detection Off		
3 10 DO Selection			
3 10 DO Fault Detection	0 disabled		
3 12 DO Selection	1 air filter lamp		
3 12 DO Fault Detection	2 not used		
3 17 DO Selection	3 not used		
3 17 DO Fault Detection	4 not used		
4 06 DO Selection	5 Fuso retarder control 1		
4 06 DO Fault Detection	6 DEF Low Lamp		
4 07 DO Selection	7 TIER4 DEF Lamp		
4 07 DO Fault Detection	8 EU6 Inducement Lamp		
4 09 DO Selection	High Exhaust Temper...		
4 09 DO Fault Detection	Fault Detection Off		
4 09 DO Selection	Fault Detection Off		
4 10 DO Selection	disabled		
4 10 DO Fault Detection	Fault Detection Off		
4 10 DO Selection	disabled		

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3. Verify parameters by going to the parameters work window.
4. Verify that the parameter set to 3 10 DO Selection is set to the specific component to which this is configured. Are the parameters configured correctly?
 - a. Yes; repair the open circuit between pin 10 of the CPC connector #3 and the wired component. For wiring schematic information, refer to Original Equipment Manufacturer (OEM) literature.
 - b. No; configure the parameters correctly.

8 SPN 706/FMI 3 - GHG14

Digital Output 3 10 Circuit Failed High

Table 7.

SPN 706/FMI 3	
Description	CPC Output 3 10 Short to Voltage
Monitored Parameter	CPC Output 3/10
Typical Enabling Conditions	Always Enabled
Monitor Sequence	None
Execution Frequency	Always Enabled
Typical Duration	Two Seconds
Dash Lamps	CEL
Engine Reaction	None
Verification	Engine On with Output Activation

Check as follows:



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 - b. No; Go to step 2.
2. Connect to DiagnosticLink[®].

Parameter	Value	Units	Minimur
Vehicle Speed Sensor			
Inputs			
Outputs			
1 05 DO Selection	DPF Lamp		
1 05 DO Fault Detection	Fault Detection Off		
3 07 DO Selection	disabled		
3 07 DO Fault Detection	Fault Detection Off		
3 08 DO Selection	disabled		
3 08 DO Fault Detection	Fault Detection Off		
3 09 DO Selection	WIF-Lamp		
3 09 DO Fault Detection	Fault Detection Off		
3 10 DO Selection			
3 10 DO Fault Detection	0 disabled		
3 12 DO Selection	1 air filter lamp		
3 12 DO Fault Detection	2 not used		
3 17 DO Selection	3 not used		
3 17 DO Fault Detection	4 not used		
4 06 DO Selection	5 Fuso retarder control 1		
4 06 DO Fault Detection	6 DEF Low Lamp		
4 07 DO Selection	7 TIER4 DEF Lamp		
4 07 DO Fault Detection	8 EU6 Inducement Lamp		
4 09 DO Selection	High Exhaust Temper...		
4 09 DO Fault Detection	Fault Detection Off		
4 09 DO Selection	Fault Detection Off		
4 10 DO Selection	disabled		
4 10 DO Fault Detection	Fault Detection Off		
4 10 DO Selection	disabled		

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3. Verify parameters by going to the parameters work window.
4. Verify that the parameter set to 3 10 DO Selection is set to the specific component to which this is configured. Are the parameters configured correctly?
 - a. Yes; repair the short to power between pin 10 of the CPC connector #3 and the wired component. For wiring schematic information, refer to Original Equipment Manufacturer (OEM) literature.
 - b. No; configure the parameters correctly.

9 SPN 706/FMI 4 - GHG14

Digital Output 3 10 Circuit Failed Low

Table 8.

SPN 706/FMI 4	
Description	CPC Output 3 10 Short to Ground
Monitored Parameter	CPC Output 3/10
Typical Enabling Conditions	Always Enabled
Monitor Sequence	None
Execution Frequency	Always Enabled
Typical Duration	Two Seconds
Dash Lamps	CEL
Engine Reaction	None
Verification	Engine On with Output Activation

Check as follows:



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 - b. No; Go to step 2.
2. Connect to DiagnosticLink[®].

Parameter	Value	Units	Minimur
Vehicle Speed Sensor			
Inputs			
Outputs			
1 05 DO Selection	DPF Lamp		
1 05 DO Fault Detection	Fault Detection Off		
3 07 DO Selection	disabled		
3 07 DO Fault Detection	Fault Detection Off		
3 08 DO Selection	disabled		
3 08 DO Fault Detection	Fault Detection Off		
3 09 DO Selection	WIF-Lamp		
3 09 DO Fault Detection	Fault Detection Off		
3 10 DO Selection			
3 10 DO Fault Detection	0 disabled		
3 12 DO Selection	1 air filter lamp		
3 12 DO Fault Detection	2 not used		
3 17 DO Selection	3 not used		
3 17 DO Fault Detection	4 not used		
4 06 DO Selection	5 Fuso retarder control 1		
4 06 DO Fault Detection	6 DEF Low Lamp		
4 07 DO Selection	7 TIER4 DEF Lamp		
4 07 DO Fault Detection	8 EU6 Inducement Lamp		
4 09 DO Selection	High Exhaust Temper...		
4 09 DO Fault Detection	Fault Detection Off		
4 09 DO Selection	Fault Detection Off		
4 10 DO Selection	disabled		
4 10 DO Fault Detection	Fault Detection Off		
4 10 DO Selection	disabled		

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3. Verify parameters by going to the parameters work window.
4. Verify that the parameter set to 3 10 DO Selection is set to the specific component to which this is configured. Are the parameters configured correctly?
 - a. Yes; repair the short to ground between pin 10 of the CPC connector #3 and the wired component. For wiring schematic information, refer to Original Equipment Manufacturer (OEM) literature.
 - b. No; configure the parameters correctly.

10 SPN 706/FMI 5 - GHG14

Digital Output 3 10 Circuit Open

Table 9.

SPN 706/FMI 5	
Description	CPC Output 3 10 Open Circuit
Monitored Parameter	CPC Output 3/10
Typical Enabling Conditions	Always Enabled
Monitor Sequence	None
Execution Frequency	Always Enabled
Typical Duration	Two Seconds
Dash Lamps	CEL
Engine Reaction	None
Verification	Engine On with Output Activation

Check as follows:



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 - a. Yes; verify that the correct CPC parameter list has been installed. If the correct calibration and correct parameter list have been installed, then Go to step 2.
 - b. No; Go to step 2.
2. Connect to DiagnosticLink[®].

Parameter	Value	Units	Minimur
Vehicle Speed Sensor			
Inputs			
Outputs			
1 05 DO Selection	DPF Lamp		
1 05 DO Fault Detection	Fault Detection Off		
3 07 DO Selection	disabled		
3 07 DO Fault Detection	Fault Detection Off		
3 08 DO Selection	disabled		
3 08 DO Fault Detection	Fault Detection Off		
3 09 DO Selection	WIF-Lamp		
3 09 DO Fault Detection	Fault Detection Off		
3 10 DO Selection			
3 10 DO Fault Detection	0 disabled		
3 12 DO Selection	1 air filter lamp		
3 12 DO Fault Detection	2 not used		
3 17 DO Selection	3 not used		
3 17 DO Fault Detection	4 not used		
4 06 DO Selection	5 Fuso retarder control 1		
4 06 DO Fault Detection	6 DEF Low Lamp		
4 07 DO Selection	7 TIER4 DEF Lamp		
4 07 DO Fault Detection	8 EU6 Inducement Lamp		
4 09 DO Selection	High Exhaust Temper...		
4 09 DO Fault Detection	Fault Detection Off		
4 09 DO Selection	Fault Detection Off		
4 10 DO Selection	disabled		
4 10 DO Fault Detection	Fault Detection Off		
4 10 DO Selection	disabled		

d500268

3. Verify parameters by going to the parameters work window.
4. Verify that the parameter set to 3 10 DO Selection is set to the specific component to which this is configured. Are the parameters configured correctly?
 - a. Yes; repair the open circuit between pin 10 of the CPC connector #3 and the wired component. For wiring schematic information, refer to Original Equipment Manufacturer (OEM) literature.
 - b. No; configure the parameters correctly.