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Service Information Bulletin

SUBJECT	DATE
SPN 709 (CPC)(GHG17)	May 2016

Additions, Revisions, or Updates

Publication Number / Title	Platform	Section Title	Change
DDC-SVC-MAN-0193	DD	SPN 709/FMI 3, 4, 5 - GHG17	New DD5 and DD8 diagnostic procedures
DDC-SVC-MAN-0191		SPN 709/FMI 3, 4, 5 - GHG17	Updated GHG17 HD diagnostic procedures

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 709/FMI 3 - GHG17

Digital Output 3 16 Circuit Failed High

Table 1.

SPN 709/FMI 3	
Description	CPC Output 3 16 Short to Voltage
Monitored Parameter	CPC Output 3/16
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:

1. Has the Common Powertrain Controller (CPC) recently been changed or reprogrammed?
 - a. 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
<ul style="list-style-type: none"> [-] PGR035 Digital Outputs <ul style="list-style-type: none"> 1 04 DO Selection 1 05 DO Selection 1 13 DO Selection 2 10 DO Selection 3 02 DO Selection 3 07 DO Selection 3 08 DO Selection 3 09 DO Selection 3 10 DO Selection 3 12 DO Selection <li style="background-color: #e0e0e0;">3 16 DO Selection 3 17 DO Selection 4 01 DO Selection 4 02 DO Selection 4 06 DO Selection 4 07 DO Selection 4 09 DO Selection 4 10 DO Selection 	<ul style="list-style-type: none"> ground, idle validatio... DPF Lamp MIL lamp check engine lamp ye... ground, analog sensors disabled disabled WIF-Lamp DEF Low Lamp Fuel Filter Restriction ... <li style="background-color: #e0e0e0;">0 disabled 1 stop engine lamp red 2 Buzzer grid heater lamp High Exhaust Temper... disabled disabled 		

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3. Verify parameters - go to the parameters work window.
4. Verify that the parameter set to 3 16 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 16 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 709/FMI 4 - GHG17


Digital Output 3 16 Circuit Failed Low

Table 2.

SPN 709/FMI 4	
Description	CPC Output 3 16 Short to Ground
Monitored Parameter	CPC Output 3/16
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:

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
 PGR035 Digital Outputs			
1 04 DO Selection	ground, idle validatio...		
1 05 DO Selection	DPF Lamp		
1 13 DO Selection	MIL lamp		
2 10 DO Selection	check engine lamp ye...		
3 02 DO Selection	ground, analog sensors		
3 07 DO Selection	disabled		
3 08 DO Selection	disabled		
3 09 DO Selection	WIF-Lamp		
3 10 DO Selection	DEF Low Lamp		
3 12 DO Selection	Fuel Filter Restriction ...		
3 16 DO Selection	<div style="border: 1px solid black; background-color: #e0e0e0; padding: 2px;"> 0 disabled 1 stop engine lamp red 2 Buzzer unselected </div>		
3 17 DO Selection	0 disabled		
4 01 DO Selection	1 stop engine lamp red		
4 02 DO Selection	2 Buzzer		
4 06 DO Selection	grid heater lamp		
4 07 DO Selection	High Exhaust Temper...		
4 09 DO Selection	disabled		
4 10 DO Selection	disabled		

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3. Verify parameters - go to the parameters work window.
4. Verify that the parameter set to 3 16 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 16 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 709/FMI 5 - GHG17

Digital Output 3 16 Circuit Open

Table 3.

SPN 709/FMI 5	
Description	CPC Output 3 16 Open Circuit
Monitored Parameter	CPC Output 3/16
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:

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
<ul style="list-style-type: none"> <ul style="list-style-type: none"> 1 04 DO Selection 1 05 DO Selection 1 13 DO Selection 2 10 DO Selection 3 02 DO Selection 3 07 DO Selection 3 08 DO Selection 3 09 DO Selection 3 10 DO Selection 3 12 DO Selection <li style="background-color: #e0e0e0;">3 16 DO Selection 3 17 DO Selection 4 01 DO Selection 4 02 DO Selection 4 06 DO Selection 4 07 DO Selection 4 09 DO Selection 4 10 DO Selection 	<ul style="list-style-type: none"> ground, idle validatio... DPF Lamp MIL lamp check engine lamp ye... ground, analog sensors disabled disabled WIF-Lamp DEF Low Lamp Fuel Filter Restriction ... <li style="background-color: #e0e0e0;">0 disabled 1 stop engine lamp red 2 Buzzer grid heater lamp High Exhaust Temper... disabled disabled 		

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3. Verify parameters - go to the parameters work window.
4. Verify that the parameter set to 3 16 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 16 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 709/FMI 3 - GHG17


Digital Output 3 16 Circuit Failed High

Table 4.

SPN 709/FMI 3	
Description	CPC Output 3 16 Short to Voltage
Monitored Parameter	CPC Output 3/16
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:

1. Has the Common Powertrain Controller (CPC) recently been changed or reprogrammed?
 - a. 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
 PGR035 Digital Outputs			
1 04 DO Selection	ground, idle validatio...		
1 05 DO Selection	DPF Lamp		
1 13 DO Selection	MIL lamp		
2 10 DO Selection	check engine lamp ye...		
3 02 DO Selection	ground, analog sensors		
3 07 DO Selection	disabled		
3 08 DO Selection	disabled		
3 09 DO Selection	WIF-Lamp		
3 10 DO Selection	DEF Low Lamp		
3 12 DO Selection	Fuel Filter Restriction ...		
3 16 DO Selection	<div style="border: 1px solid black; background-color: #add8e6; padding: 2px;"> 0 disabled 1 stop engine lamp red 2 Buzzer unselected </div>		
3 17 DO Selection	0 disabled		
4 01 DO Selection	1 stop engine lamp red		
4 02 DO Selection	2 Buzzer		
4 06 DO Selection	grid heater lamp		
4 07 DO Selection	High Exhaust Temper...		
4 09 DO Selection	disabled		
4 10 DO Selection	disabled		

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3. Verify parameters - go to the parameters work window.
4. Verify that the parameter set to 3 16 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 16 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 709/FMI 4 - GHG17

Digital Output 3 16 Circuit Failed Low

Table 5.

SPN 709/FMI 4	
Description	CPC Output 3 16 Short to Ground
Monitored Parameter	CPC Output 3/16
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:

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
<ul style="list-style-type: none"> [-] PGR035 Digital Outputs <ul style="list-style-type: none"> 1 04 DO Selection 1 05 DO Selection 1 13 DO Selection 2 10 DO Selection 3 02 DO Selection 3 07 DO Selection 3 08 DO Selection 3 09 DO Selection 3 10 DO Selection 3 12 DO Selection <li style="background-color: #e0e0e0;">3 16 DO Selection 3 17 DO Selection 4 01 DO Selection 4 02 DO Selection 4 06 DO Selection 4 07 DO Selection 4 09 DO Selection 4 10 DO Selection 	<ul style="list-style-type: none"> ground, idle validatio... DPF Lamp MIL lamp check engine lamp ye... ground, analog sensors disabled disabled WIF-Lamp DEF Low Lamp Fuel Filter Restriction ... <li style="background-color: #e0e0e0;">0 disabled 1 stop engine lamp red 2 Buzzer grid heater lamp High Exhaust Temper... disabled disabled 		

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3. Verify parameters - go to the parameters work window.
4. Verify that the parameter set to 3 16 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 16 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 709/FMI 5 - GHG17

Digital Output 3 16 Circuit Open

Table 6.

SPN 709/FMI 5	
Description	CPC Output 3 16 Open Circuit
Monitored Parameter	CPC Output 3/16
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:

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
<ul style="list-style-type: none"> [-] PGR035 Digital Outputs <ul style="list-style-type: none"> 1 04 DO Selection 1 05 DO Selection 1 13 DO Selection 2 10 DO Selection 3 02 DO Selection 3 07 DO Selection 3 08 DO Selection 3 09 DO Selection 3 10 DO Selection 3 12 DO Selection <li style="background-color: #e0e0e0;">3 16 DO Selection 3 17 DO Selection 4 01 DO Selection 4 02 DO Selection 4 06 DO Selection 4 07 DO Selection 4 09 DO Selection 4 10 DO Selection 	<ul style="list-style-type: none"> ground, idle validatio... DPF Lamp MIL lamp check engine lamp ye... ground, analog sensors disabled disabled WIF-Lamp DEF Low Lamp Fuel Filter Restriction ... <li style="background-color: #e0e0e0;">0 disabled 1 stop engine lamp red 2 Buzzer grid heater lamp High Exhaust Temper... disabled disabled 		

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3. Verify parameters - go to the parameters work window.
4. Verify that the parameter set to 3 16 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 16 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.