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## Service Information Bulletin

SUBJECT	DATE
SPN 714 (CPC)(GHG17)	May 2016

### Additions, Revisions, or Updates

Publication Number / Title	Platform	Section Title	Change
DDC-SVC-MAN-0193	GHG17 DD Medium Duty	SPN 714/FMI 3, 4, 5 - GHG17	New DD5 and DD8 diagnostic procedures
DDC-SVC-MAN-0191	GHG17 DD HD	SPN 714/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 714/FMI 3 – GHG17

Digital Output 4 10 Circuit Failed High

**Table 1.**

SPN 714/FMI 3	
Description	CPC Output 4 10 Short to Voltage
Monitored Parameter	CPC Output 4/10
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:

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<sup>®</sup>.

Parameter	Value	Units	Minimum
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 y...		
3 02 DO Selection	ground, analog sens...		
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	stop engine lamp red		
3 17 DO Selection	disabled		
4 01 DO Selection	disabled		
4 02 DO Selection	disabled		
4 06 DO Selection	grid heater lamp		
4 07 DO Selection	High Exhaust Temper...		
4 09 DO Selection	disabled		
4 10 DO Selection	0 disabled		
Output Fault Management enable	1 not used		
1 04 DO Fault Detection	2 not used		
1 05 DO Fault Detection	3 vehicle power shutdown / ignition relay		
1 13 DO Fault Detection	4 engine brake active		
2 10 DO Fault Detection	5 Battery Charge Indicator		
3 02 DO Fault Detection	6 PTO2valveL		
3 07 DO Fault Detection	7 High Exhaust Temperature Lamp		
	8 Engine Brake State Lamp		

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3. Verify parameters - go to the parameters work window.
4. Verify that the parameter set to 4 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 #4 and the wired component. For wiring schematic information, refer to Original Equipment Manufacturer (OEM) literature.
- b. No; configure the parameters correctly.

### 3 SPN 714/FMI 4 – GHG17

Digital Output 4 10 Circuit Failed Low

**Table 2.**

SPN 714/FMI 4	
Description	CPC Output 4 10 Short to Ground
Monitored Parameter	CPC Output 4/10
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:

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<sup>®</sup>.

Parameter	Value	Units	Minimum
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 y...		
3 02 DO Selection	ground, analog sens...		
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	stop engine lamp red		
3 17 DO Selection	disabled		
4 01 DO Selection	disabled		
4 02 DO Selection	disabled		
4 06 DO Selection	grid heater lamp		
4 07 DO Selection	High Exhaust Temper...		
4 09 DO Selection	disabled		
4 10 DO Selection	0 disabled		
Output Fault Management enable	1 not used		
1 04 DO Fault Detection	2 not used		
1 05 DO Fault Detection	3 vehicle power shutdown / ignition relay		
1 13 DO Fault Detection	4 engine brake active		
2 10 DO Fault Detection	5 Battery Charge Indicator		
3 02 DO Fault Detection	6 PTO2valveL		
3 07 DO Fault Detection	7 High Exhaust Temperature Lamp		
	8 Engine Brake State Lamp		

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3. Verify parameters - go to the parameters work window.
4. Verify that the parameter set to 4 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 #4 and the wired component. For wiring schematic information, refer to Original Equipment Manufacturer (OEM) literature.
- b. No; configure the parameters correctly.

## 4 SPN 714/FMI 5 – GHG17

Digital Output 4 10 Circuit Open

**Table 3.**

SPN 714/FMI 5	
Description	CPC Output 4 10 Open Circuit
Monitored Parameter	CPC Output 4/10
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:

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	Minimum
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 y...		
3 02 DO Selection	ground, analog sens...		
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	stop engine lamp red		
3 17 DO Selection	disabled		
4 01 DO Selection	disabled		
4 02 DO Selection	disabled		
4 06 DO Selection	grid heater lamp		
4 07 DO Selection	High Exhaust Temper...		
4 09 DO Selection	disabled		
4 10 DO Selection	0 disabled		
Output Fault Management enable	1 not used		
1 04 DO Fault Detection	2 not used		
1 05 DO Fault Detection	3 vehicle power shutdown / ignition relay		
1 13 DO Fault Detection	4 engine brake active		
2 10 DO Fault Detection	5 Battery Charge Indicator		
3 02 DO Fault Detection	6 PTO2valveL		
3 07 DO Fault Detection	7 High Exhaust Temperature Lamp		
	8 Engine Brake State Lamp		

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3. Verify parameters - go to the parameters work window.
4. Verify that the parameter set to 4 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 #4 and the wired component. For wiring schematic information, refer to Original Equipment Manufacturer (OEM) literature.
- b. No; configure the parameters correctly.

## 5 SPN 714/FMI 3 – GHG17

Digital Output 4 10 Circuit Failed High

**Table 4.**

SPN 714/FMI 3	
Description	CPC Output 4 10 Short to Voltage
Monitored Parameter	CPC Output 4/10
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:

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<sup>®</sup>.

Parameter	Value	Units	Minimum
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 y...		
3 02 DO Selection	ground, analog sens...		
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	stop engine lamp red		
3 17 DO Selection	disabled		
4 01 DO Selection	disabled		
4 02 DO Selection	disabled		
4 06 DO Selection	grid heater lamp		
4 07 DO Selection	High Exhaust Temper...		
4 09 DO Selection	disabled		
4 10 DO Selection	0 disabled		
Output Fault Management enable	1 not used		
1 04 DO Fault Detection	2 not used		
1 05 DO Fault Detection	3 vehicle power shutdown / ignition relay		
1 13 DO Fault Detection	4 engine brake active		
2 10 DO Fault Detection	5 Battery Charge Indicator		
3 02 DO Fault Detection	6 PTO2valveL		
3 07 DO Fault Detection	7 High Exhaust Temperature Lamp		
	8 Engine Brake State Lamp		

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3. Verify parameters - go to the parameters work window.
4. Verify that the parameter set to 4 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 #4 and the wired component. For wiring schematic information, refer to Original Equipment Manufacturer (OEM) literature.
- b. No; configure the parameters correctly.

## 6 SPN 714/FMI 4 - GHG17

Digital Output 4 10 Circuit Failed Low

**Table 5.**

SPN 714/FMI 4	
Description	CPC Output 4 10 Short to Ground
Monitored Parameter	CPC Output 4/10
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:

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	Minimum
📁 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 y...		
3 02 DO Selection	ground, analog sens...		
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	stop engine lamp red		
3 17 DO Selection	disabled		
4 01 DO Selection	disabled		
4 02 DO Selection	disabled		
4 06 DO Selection	grid heater lamp		
4 07 DO Selection	High Exhaust Temper...		
4 09 DO Selection	disabled		
4 10 DO Selection	0 disabled		
Output Fault Management enable	1 not used		
1 04 DO Fault Detection	2 not used		
1 05 DO Fault Detection	3 vehicle power shutdown / ignition relay		
1 13 DO Fault Detection	4 engine brake active		
2 10 DO Fault Detection	5 Battery Charge Indicator		
3 02 DO Fault Detection	6 PTO2valveL		
3 07 DO Fault Detection	7 High Exhaust Temperature Lamp		
	8 Engine Brake State Lamp		

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3. Verify parameters - go to the parameters work window.
4. Verify that the parameter set to 4 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 #4 and the wired component. For wiring schematic information, refer to Original Equipment Manufacturer (OEM) literature.
- b. No; configure the parameters correctly.

## 7 SPN 714/FMI 5 - GHG17

Digital Output 4 10 Circuit Open

**Table 6.**

SPN 714/FMI 5	
Description	CPC Output 4 10 Open Circuit
Monitored Parameter	CPC Output 4/10
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:

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<sup>®</sup>.

Parameter	Value	Units	Minimum
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 y...		
3 02 DO Selection	ground, analog sens...		
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	stop engine lamp red		
3 17 DO Selection	disabled		
4 01 DO Selection	disabled		
4 02 DO Selection	disabled		
4 06 DO Selection	grid heater lamp		
4 07 DO Selection	High Exhaust Temper...		
4 09 DO Selection	disabled		
4 10 DO Selection	0 disabled		
Output Fault Management enable	1 not used		
1 04 DO Fault Detection	2 not used		
1 05 DO Fault Detection	3 vehicle power shutdown / ignition relay		
1 13 DO Fault Detection	4 engine brake active		
2 10 DO Fault Detection	5 Battery Charge Indicator		
3 02 DO Fault Detection	6 PTO2valveL		
3 07 DO Fault Detection	7 High Exhaust Temperature Lamp		
	8 Engine Brake State Lamp		

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3. Verify parameters - go to the parameters work window.
4. Verify that the parameter set to 4 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 #4 and the wired component. For wiring schematic information, refer to Original Equipment Manufacturer (OEM) literature.
- b. No; configure the parameters correctly.