1 01 33-17

Service Information Bulletin

SUBJECT	DATE
SPN 625 (CPC) (GHG17)	January 2017

Additions, Revisions, or Updates

Publication Number / Title	Platform	Section Title	Change
DDC-SVC-MAN-0191	GHG17 DD Platform HD	SPN 625/FMI 13 - GHG17	Updated GHG17 HD diagnostic procedures.
DDC-SVC-MAN-0084	GHG14 DD Platform HD	SPN 625/FMI 13 - GHG14	Updated GHG14 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 625/FMI 13 – GHG17

TCM System IDs Not Received or Stopped Arriving

Table 1.

SPN 625/FMI 13	
Description	ECAN ID_1629 Message Not Received Or Has Stopped Arriving
Monitored Parameter	Controller Area Network (CAN) Communication
Typical Enabling Conditions	Always Enabled
Monitor Sequence	None
Execution Frequency	Always Enabled
Typical Duration	Two Seconds
Dash Lamps	MIL, CEL
Verification	Engine Idle (One Minute)

WARNING: PERSONAL INJURY

Diesel engine exhaust and some of its constituents are known to the State of California to cause cancer, birth defects, and other reproductive harm.

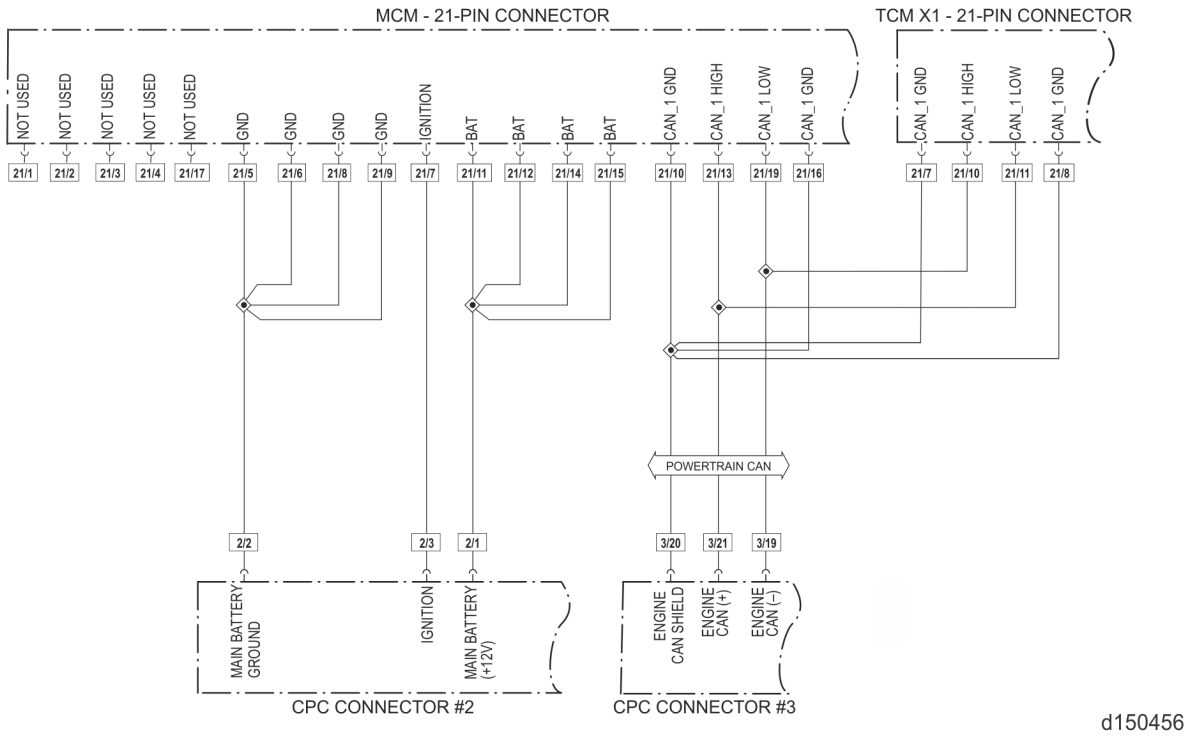
- Always start and operate an engine in a well ventilated area.
- If operating an engine in an enclosed area, vent the exhaust to the outside.
- Do not modify or tamper with the exhaust system or emission control system.

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.

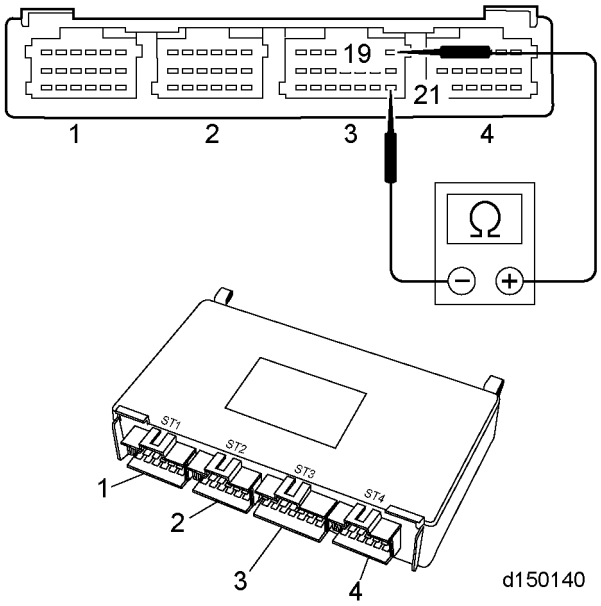
WARNING: ENGINE EXHAUST

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



Check as follows:

1. Are there any battery voltage faults (SPN 168/FMI any faults)?
    a. Yes; troubleshoot battery voltage faults first.
    b. No; Go to step 2.
2. Are there any other SPN 625/FMI codes present?
    a. Yes; repair the other CAN communication codes first.
    b. No; Go to step 3.
3. Turn ignition OFF and wait five minutes before proceeding.
4. Disconnect the Common Powertrain Controller (CPC) connector #3 and inspect connector for corroded, unseated (pushed out), damaged, bent or spread pins; inspect the connector seal for damage (signs of water or oil intrusion). Is contamination found?
    a. Yes; repair as necessary.
    b. No; Go to step 5.
5. Check CPC internal terminating resistor by measuring the resistance across pins 19 and 21 of the CPC electrical connector #3, component side. Is the resistance between 110 and 130 ohms?



a. Yes; Go to step 7.
b. No; replace the CPC.

6. Measure the resistance between pin 19 of the CPC connector #3, harness side and battery ground. Is the resistance greater than 10K ohms?
   a. Yes; Go to step 8.
   b. No; repair the wire short to ground between pin 19 of the CPC connector #3, harness side and pin 20 of the Aftertreatment Control Module (ACM) 21-pin connector, harness side.
7. Measure the resistance between pin 21 of the CPC connector #3, harness side and battery ground. Is the resistance greater than 10K ohms?
   a. Yes; Go to step 9.
   b. No; repair the wire short to ground between pin 21 of the CPC connector #3, harness side and pin 10 of the ACM 21-pin connector, harness side.
8. Disconnect Transmission Control Module (TCM) X1 21-pin connector and inspect connector for corroded, unseated (pushed out) or damaged pins, bent or spread pins; inspect the connector seal for damage (signs of water or oil intrusion). Is contamination found?
   a. Yes; repair as necessary.
   b. No; Go to step 9.
9. Measure the resistance between pin 19 of the CPC connector #3, harness side and pin 10 of the TCM X1 21-pin connector. Is the resistance less than five ohms?
   a. Yes; Go to step 10.
   b. No; repair the wire between pin 19 of the CPC connector #3 and pin 10 of the TCM X1 21-pin connector.
10. Measure the resistance between pin 21 of the CPC connector #3, harness side and pin 11 of the TCM X1 21-pin connector. Is the resistance less than five ohms?
    a. Yes; Go to step 11.
    b. No; repair the wire between pin 21 of the CPC connector #3 and pin 11 of the TCM X1 21-pin connector.
11. Measure the resistance between pin 20 of the CPC connector #3, harness side and pin 7 of the TCM X1 21-pin connector. Is the resistance less than five ohms?
    a. Yes; Go to step 12.
    b. No, repair the wire between pin 20 of the CPC connector #3 and pin 7 of the TCM X1 21-pin connector.
12. Measure the resistance between pin 20 of the CPC connector #3, harness side and pin 8 of the TCM X1 21-pin connector. Is the resistance less than five ohms?
    a. Yes, install a test CPC and retest. Go to step 13.
    b. No, repair the wire between pin 20 of the CPC connector #3 and pin 8 of the TCM X1 21-pin connector.
13. Does the code return with the test CPC?

a. Yes; Go to step 14.
b. No; replace the CPC.

WARNING: ENGINE EXHAUST

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

14. Verify repairs. Restore all connections. Idle the engine for one minute. Is fault code still active?
    a. Yes; replace the TCM. Refer to OEM procedures.
    b. No; if fault does not become active, clear the fault codes and release the vehicle.

3 SPN 625/FMI 13 – GHG14

TCM System IDs Not Received or Stopped Arriving

Table 2.

SPN 625/FMI 13	
Description	ECAN ID_1629 Message Not Received Or Has Stopped Arriving
Monitored Parameter	Controller Area Network (CAN) Communication
Typical Enabling Conditions	Always Enabled
Monitor Sequence	None
Execution Frequency	Always Enabled
Typical Duration	Two Seconds
Dash Lamps	MIL, CEL
Verification	Engine Idle (One Minute)

WARNING: PERSONAL INJURY

Diesel engine exhaust and some of its constituents are known to the State of California to cause cancer, birth defects, and other reproductive harm.

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- If operating an engine in an enclosed area, vent the exhaust to the outside.
- Do not modify or tamper with the exhaust system or emission control system.

WARNING: PERSONAL INJURY

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WARNING: ENGINE EXHAUST

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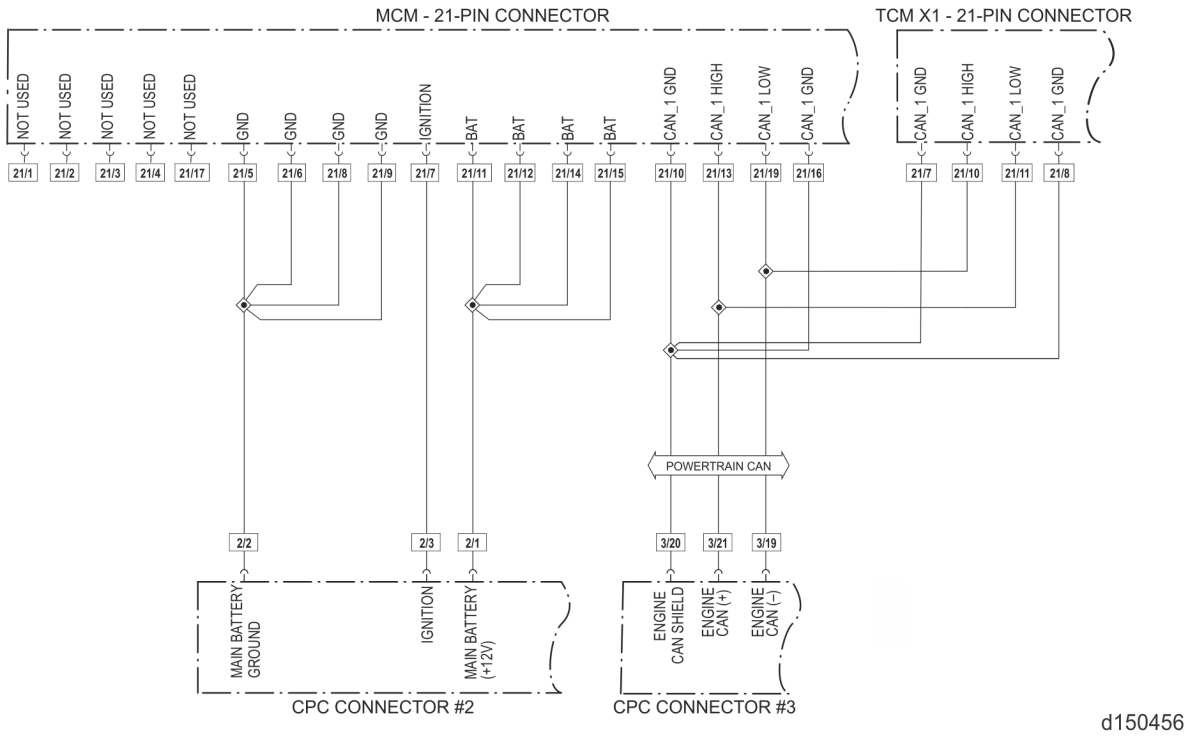
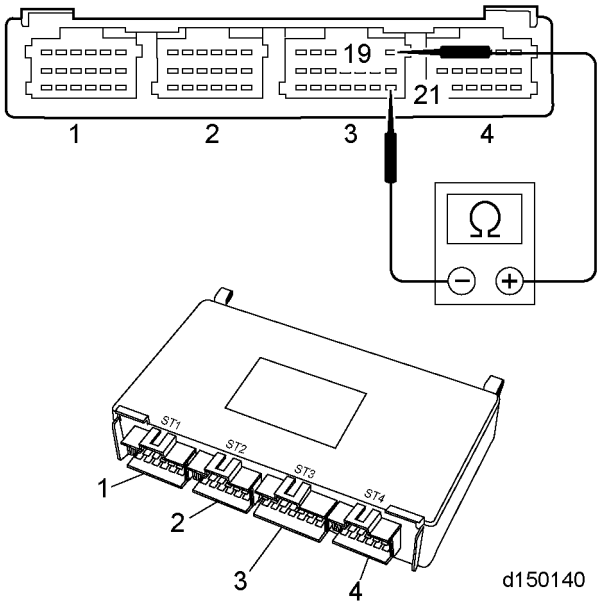


Check as follows:

1. Are there any battery voltage faults (SPN 168/FMI any faults)?
    a. Yes; troubleshoot battery voltage faults first.
    b. No; Go to step 2.
2. Are there any other SPN 625/FMI codes present?
    a. Yes; repair the other CAN communication codes first.
    b. No; Go to step 3.
3. Turn ignition OFF and wait five minutes before proceeding.
4. Disconnect the Common Powertrain Controller (CPC) connector #3 and inspect connector for corroded, unseated (pushed out), damaged, bent or spread pins; inspect the connector seal for damage (signs of water or oil intrusion). Is contamination found?
    a. Yes; repair as necessary.
    b. No; Go to step 5.
5. Check CPC internal terminating resistor by measuring the resistance across pins 19 and 21 of the CPC electrical connector #3, component side. Is the resistance between 110 and 130 ohms?



a. Yes; Go to step 7.
b. No; replace the CPC.

6. Measure the resistance between pin 19 of the CPC connector #3, harness side and battery ground. Is the resistance greater than 10K ohms?
   a. Yes; Go to step 8.
   b. No; repair the wire short to ground between pin 19 of the CPC connector #3, harness side and pin 20 of the Aftertreatment Control Module (ACM) 21-pin connector, harness side.
7. Measure the resistance between pin 21 of the CPC connector #3, harness side and battery ground. Is the resistance greater than 10K ohms?
   a. Yes; Go to step 9.
   b. No; repair the wire short to ground between pin 21 of the CPC connector #3, harness side and pin 10 of the ACM 21-pin connector, harness side.
8. Disconnect Transmission Control Module (TCM) X1 21-pin connector and inspect connector for corroded, unseated (pushed out) or damaged pins, bent or spread pins; inspect the connector seal for damage (signs of water or oil intrusion). Is contamination found?
   a. Yes; repair as necessary.
   b. No; Go to step 9.
9. Measure the resistance between pin 19 of the CPC connector #3, harness side and pin 10 of the TCM X1 21-pin connector. Is the resistance less than five ohms?
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   b. No; repair the wire between pin 19 of the CPC connector #3 and pin 10 of the TCM X1 21-pin connector.
10. Measure the resistance between pin 21 of the CPC connector #3, harness side and pin 11 of the TCM X1 21-pin connector. Is the resistance less than five ohms?
    a. Yes; Go to step 11.
    b. No; repair the wire between pin 21 of the CPC connector #3 and pin 11 of the TCM X1 21-pin connector.
11. Measure the resistance between pin 20 of the CPC connector #3, harness side and pin 7 of the TCM X1 21-pin connector. Is the resistance less than five ohms?
    a. Yes; Go to step 12.
    b. No, repair the wire between pin 20 of the CPC connector #3 and pin 7 of the TCM X1 21-pin connector.
12. Measure the resistance between pin 20 of the CPC connector #3, harness side and pin 8 of the TCM X1 21-pin connector. Is the resistance less than five ohms?
    a. Yes, install a test CPC and retest. Go to step 13.
    b. No, repair the wire between pin 20 of the CPC connector #3 and pin 8 of the TCM X1 21-pin connector.
13. Does the code return with the test CPC?

a. Yes; Go to step 14.
b. No; replace the CPC.

WARNING: ENGINE EXHAUST

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

14. Verify repairs. Restore all connections. Idle the engine for one minute. Is fault code still active?
    a. Yes; replace the TCM. Refer to OEM procedures.
    b. No; if fault does not become active, clear the fault codes and release the vehicle.

