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Service Information Bulletin

SUBJECT	DATE
SPN 168 (ACM) (GHG17)	May 2016

Additions, Revisions, or Updates

Publication Number / Title	Platform	Section Title	Change
DDC-SVC-MAN-0191	DD Platform	SPN 168/FMI 1 - GHG17	Changed graphic and added pin out locations

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.



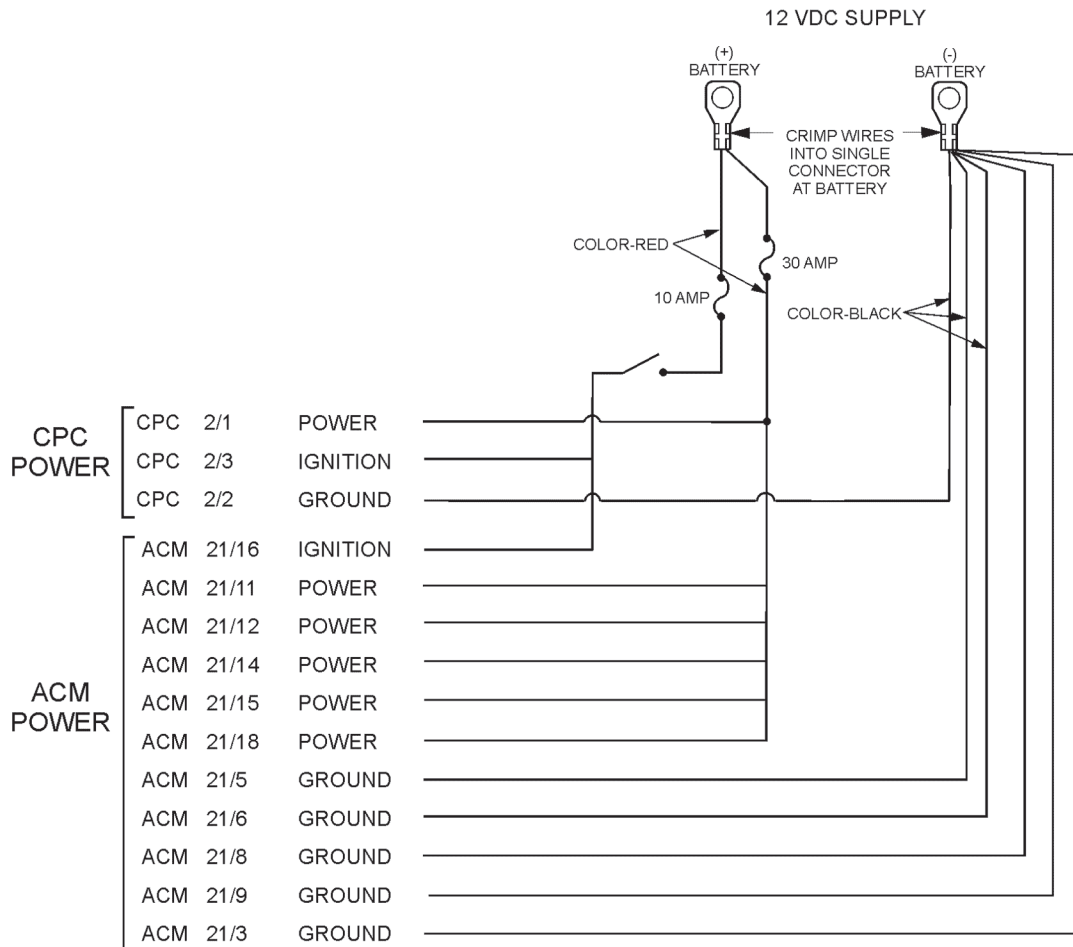
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2 SPN 168/FMI 1 - GHG17

Battery Voltage Low

Table 1.

SPN 168/FMI 1	
Description	Battery Voltage Below 10.5 Volts
Monitored Parameter	ACM Battery Voltage
Typical Enabling Conditions	Key ON Engine OFF
Monitor Sequence	None
Execution Frequency	Always Enabled
Typical Duration	10 Seconds
Dash Lamps	CEL
Engine Reaction	None
Verification	Engine Idle (One Minute)



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**WARNING: ENGINE EXHAUST**

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

**CAUTION: ELECTRICAL SHOCK**

To avoid injury from electrical shock, use care when connecting battery cables. The magnetic switch studs are at battery voltage.

**WARNING: PERSONAL INJURY**

To avoid injury, never remove any engine component while the engine is running.

Check as follows:

1. Check for multiple battery voltage faults. Are there other ECU voltage fault codes present?
 - a. Yes; Go to step 2.
 - b. No; Go to step 6.
2. Check the condition of the alternator drive belt and replace, if required. Is fault still active?
 - a. Yes; Go to step 3.
 - b. No; verify repairs.
3. Check for loose alternator mounting and retighten or repair, as required. Is fault still active?
 - a. Yes; Go to step 4.
 - b. No; verify repairs.
4. Check for proper alternator operation and repair or replace, as required. Is fault still active?
 - a. Yes; Go to step 5.
 - b. No; erase fault code memory.
5. Check the condition of the battery; does it hold the charge? Replace if required. Is fault still active?
 - a. Yes; Go to step 6.
 - b. No; verify repairs.
6. Turn the ignition OFF.
7. Disconnect the ACM 21-pin connector. Inspect the harness for bent, spread, or corroded pins. Is damage found?
 - a. Yes; repair as necessary.
 - b. No; Go to step 8.
8. Measure the resistance of the Aftertreatment Control Module (ACM) ground circuits located on pins 3, 5, 6, 8, and 9 of the ACM 21-pin connector to battery ground. Is the resistance less than five ohms?
 - a. Yes; Go to step 9.
 - b. No; repair the wire(s) with the high resistance reading.
9. Turn the ignition ON (key ON, engine OFF).
10. Measure the battery voltage of the individual wires in the power circuits at pins 11, 12, 14, 15, and 18 on the ACM 21-pin connector. Is battery voltage less than 10.5 volts?
 - a. Yes; repair the circuit(s) in question.
 - b. No; reconnect ACM 21-pin connector. Go to step 11.
11. Connect DiagnosticLink[®]. Monitor (chart) the following parameters.
 - ASL: Ignition Switch Voltage
 - ASL: Main Battery Voltage
 - AAS: Battery Voltage
 - ASL: Battery Voltage
12. Wiggle test the harness, looking for abnormal voltage spikes. Is a voltage spike detected?

- a. Yes; isolate that section of harness and inspect for wire chaffing, corrosion, improper connections or physical damage and repair as necessary.
 - b. No; Go to step 13.
- 13. Using DiagnosticLink, clear codes. Does fault return?
 - a. Yes; install a test ACM and retest.
 - b. No; verify repairs and release vehicle.