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Coding Information

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Title: Cummins B6.7 Grid Heater Relay

Applies To: All models with B6.7 engines

CHANGE LOG

Please refer to the change log text box below for recent changes to this article:

09/22/2023 - Adding torque spec for Grid heater electrical connection
 01/03/2023 - Update author
 05/16/2021 - Initial Article Release

DESCRIPTION

This document will guide the user through an external inspection of the grid heater in the event of a relay/solenoid failure. This procedure is intended to be performed after the relay diagnostics have been performed and any necessary repairs have been performed to the relay and or relay circuits.

SYMPTOM(s)

If the grid heater relay sticks in the on position the operator may notice the battery drain quickly while the vehicle is not in operation.

The lack of airflow across the grid heater, coupled with the extended on time with the engine off can result in damage to the grid heater. In extreme cases this can result in parts of the grid heater failing into the intake.

If the electrical connection on the grid heater stud has been removed.

Diagnostic Trouble Code(s) & Dashboard Indicator Light(s):

DTC/Light	Description
SPN 729 FMI 5 (Cummins Fault Code 383)	Engine Intake Air Heater Circuit - Current Below Normal or Open Circuit

SPECIAL TOOL(s) / SOFTWARE

Tool Description	Tool Number	Comments	Instructions
Cummins Insite			

SERVICE PARTS INFORMATION

Kit Description	Part Number	Quantity Required	Notes
Switch, Battery Disconnect, 200amps Magnetic 12v	4123243C91	1	Grid Heater Relay

DIAGNOSTIC STEP(s)



WARNING:

To prevent unexpected movement of the vehicle and possible serious personal injury or death, park the vehicle on a flat, level surface, set the parking brake, turn the engine off, and chock the wheels to prevent the vehicle from moving in both directions.

Step	Action	Decision
1	DIAGNOSTIC: Has the vehicle had a concern about the intake grid heater relay being "stuck" in the on position for an extended amount of time?	Yes. Proceed to step 2.
		No. This article does not apply

Step	Action	Decision
2	DIAGNOSTIC: Refer to Figure 1. Is the grid heater relay installed per the "New Design" with the relay cap pointing down?	Yes. Proceed to step 3.
		No. Rotate the relay and proceed to step 3.

Step	Action	Decision
3	DIAGNOSTIC: Has the relay or power circuit been repaired?	Yes. Proceed to Repair Instructions
		No. Repair the relay or circuits, then proceed to Repair Instructions

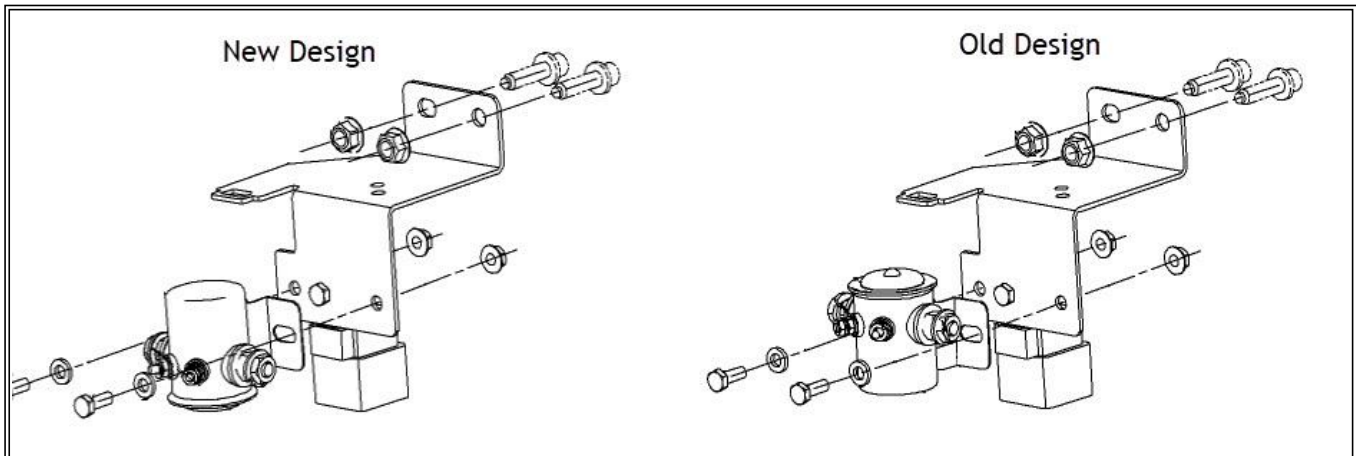


Figure 1: Grid Heater Relay Orientation Change

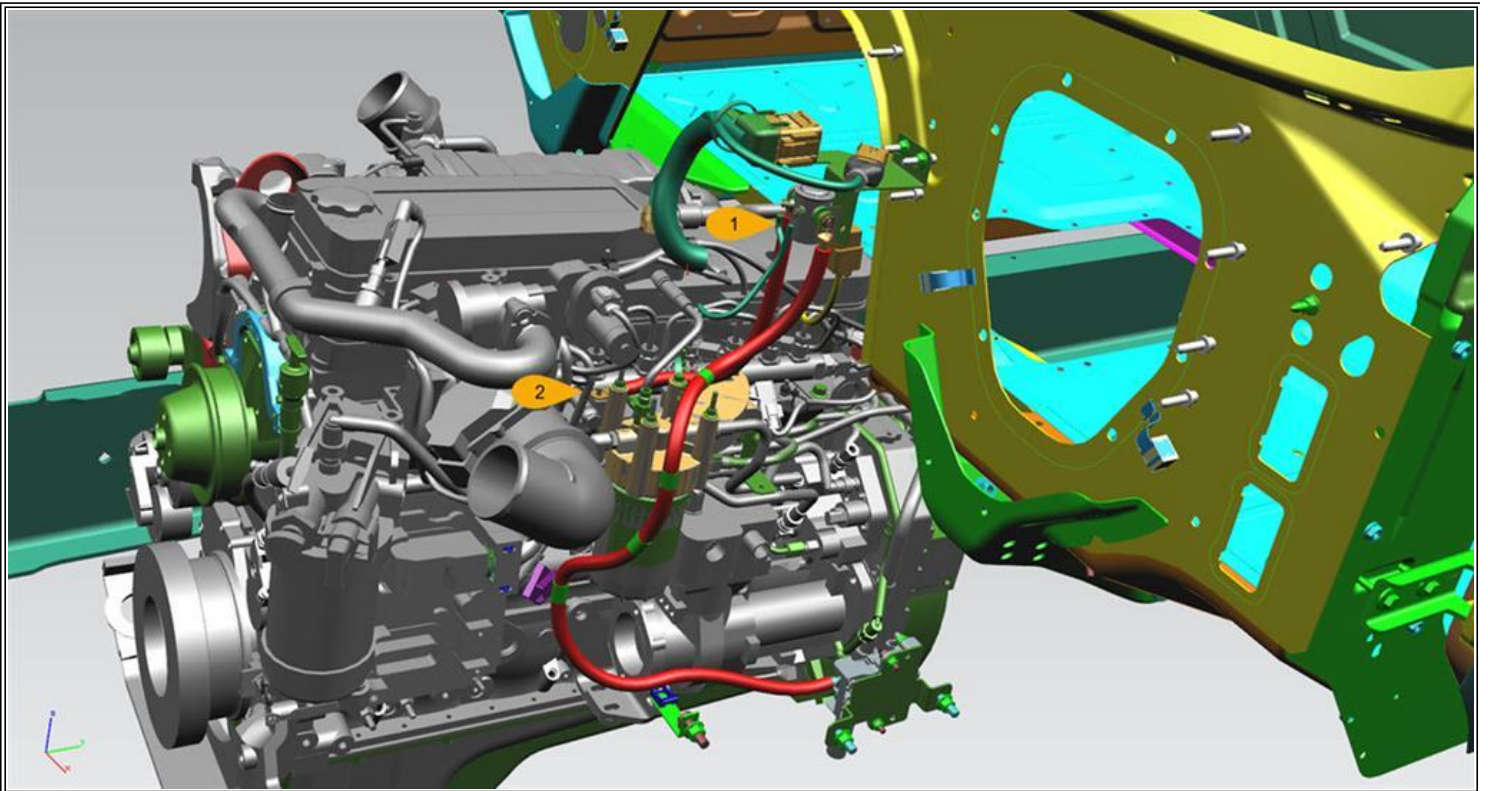


Figure 2: CAD Image System Overview

Item 1: Intake grid heater relay

Item 2: Intake grid heater power stud

REPAIR STEP(s)

Inspect the grid heater stud (see Figure #3) per the TSB.

Refer to [Cummins TSB210032](#)

Note: The torque spec for the grid heater stud is 75 in-lb (8.5 Nm). See Figure 3 Item 1
Failure to torque to spec may cause pre-mature engine failure

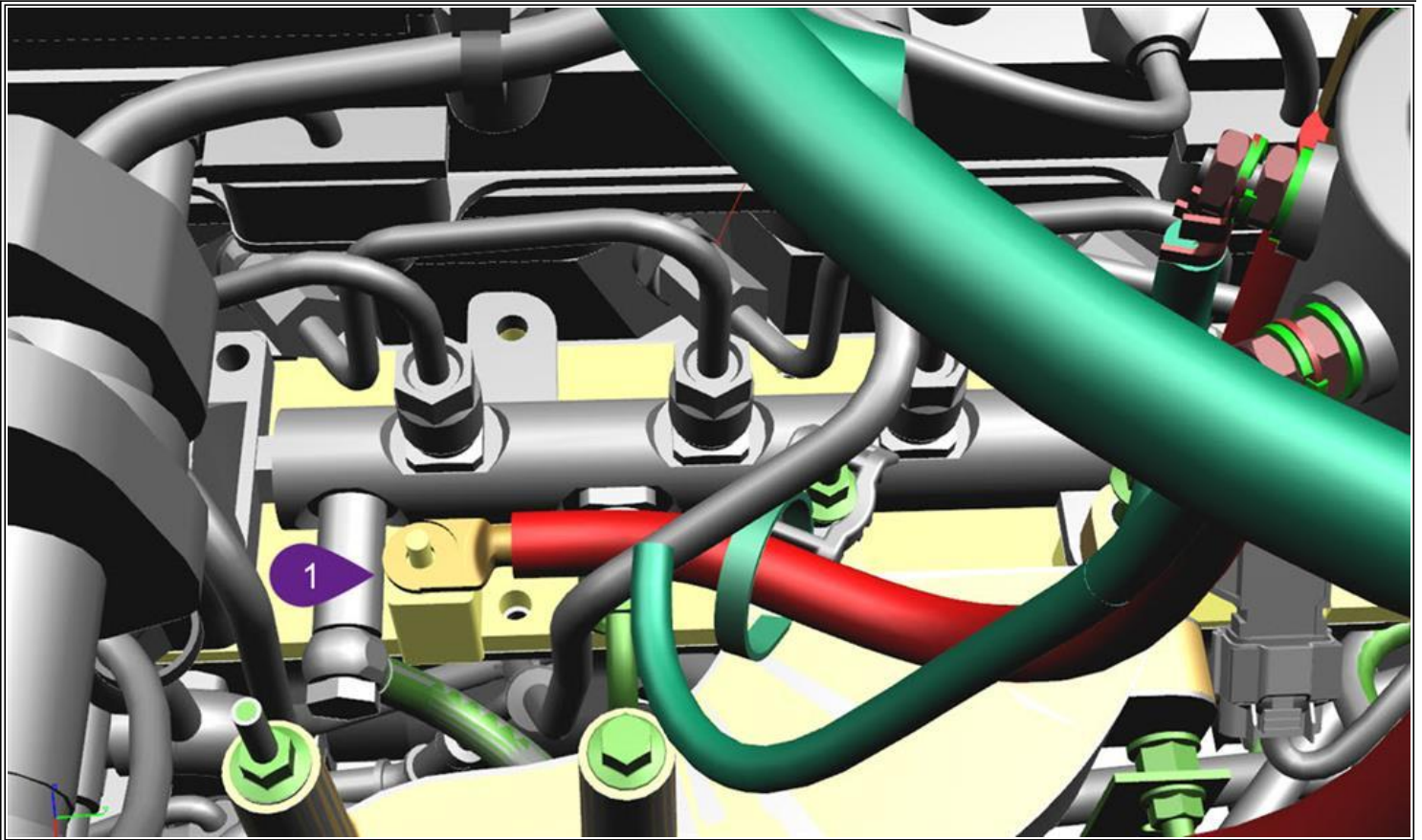


Figure 3: CAD Image Intake Grid Heater Power Stud

Item 1: Intake grid heater power stud

WARRANTY INFORMATION

Warranty Claim Coding:

Refer to the [Warranty Coding Manual](#) for Group and Noun Codes.

Standard Repair Time(s):

Refer to the [SRT Manual](#) for Repair Times

OTHER RESOURCES

[Master Service Information Site](#)

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