



Countries:	CANADA, UNITED STATES, PUERTO RICO	Document ID:	IK0800484
Availability:	ISIS, Bus ISIS, FleetISIS	Revision:	1
Major System:	ELECTRICAL SYSTEM	Created:	2/20/2014
Current Language:	English	Last Modified:	3/21/2014
Other Languages:	NONE	Author:	Chris Moody
Viewed:	305		

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Coding Information

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Title: Voltage gauge drops on cold engine start-up

Applies To: Cummins ISB equipped vehicles

DESCRIPTION

Customer may state the voltage gauge reading cycles down to 12 volts or below after a Cummins ISB equipped vehicle starts when cold.

This is due to the grid heater duty cycle which aids in warm up and smoke control of the engine when started cold.

INSPECTION

Verify the concern, and confirm that normal charging voltage(approx. 13.8-14.2v) is achieved and is stable 2-3 mins after engine start-up.

If charging system is operating properly, the voltage gauge operation during grid heater operation is considered normal.

DIAGNOSTICS

If the volt gauge issue persists for more than 3 mins after start-up, troubleshoot the charging system as outlined in [IK0800403](#)

ADDITIONAL INFORMATION

After a cold start, the cold starting aid may activate during warm-up, this is termed post-heat. The post-heat schedule is determined by the average of the intake

manifold temperature sensor and the coolant temperature sensor at key ON.

Post Heat operates for a minimum of 30 seconds if the average of the intake manifold temperature sensor and the coolant temperature sensor is below 49°C [120°F].

There are 3 duty cycles of grid heater operation at 40%, 50% and 100% with duration varying based on the prior noted criteria. This will directly effect the cycling of the voltage gauge reading.

Post Heat operation is turned OFF after 3 minutes, when the above temperature threshold is reached, or at vehicle speeds greater than 30 kph [18.6 mph].

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