

DESCRIPTION AND OPERATION > CHARGING SYSTEM - OVERVIEW > OVERVIEW

The generator is driven by the FEAD belt. When the engine is started, the generator begins to generate AC voltage which is internally converted to DC voltage. The DC voltage level is controlled by the voltage regulator (located on the rear of the generator) and is supplied to the battery.

The PCM controls the voltage regulation setpoint and communicates this information to the generator internal voltage regulator over a generator communication (GENCOM) communication circuit. The PCM receives generator load and error conditions from the generator over the generator monitor (GENMON) circuit.

This vehicle is equipped with load shed strategy. With the engine off, the BCM monitors the battery state of charge using the battery current sensor attached to the negative battery cable. With the engine running, the PCM monitors system voltage on the VPWR and PSCM.

The PCM monitors the generator current using the generator current sensor attached to the generator B+ battery cable. The information supplied to the PCM from the generator current sensor is used by the PCM to adjust the engine idle stability and torque control.

DESCRIPTION AND OPERATION > CHARGING SYSTEM - SYSTEM OPERATION AND COMPONENT DESCRIPTION

System Operation

DESCRIPTION AND OPERATION > CHARGING SYSTEM - SYSTEM OPERATION AND COMPONENT DESCRIPTION > NETWORK MESSAGE CHART

Module Network Input Messages - Body Control Module (BCM)

Broadcast Message	Originating Module	Message Purpose
Alternator fault	PCM	The PCM has detected a fault in the generator or generator circuits.

Module Network Input Messages - Instrument Panel Cluster (IPC)

Broadcast Message	Originating Module	Message Purpose
Power system status	BCM	Reports any generator/charging system faults. Used for charging system fault indicator.
Load Shed Request	BCM	Used to indicate what level of load shed is commanded.

Module Network Input Messages - Powertrain Control Module (PCM)