

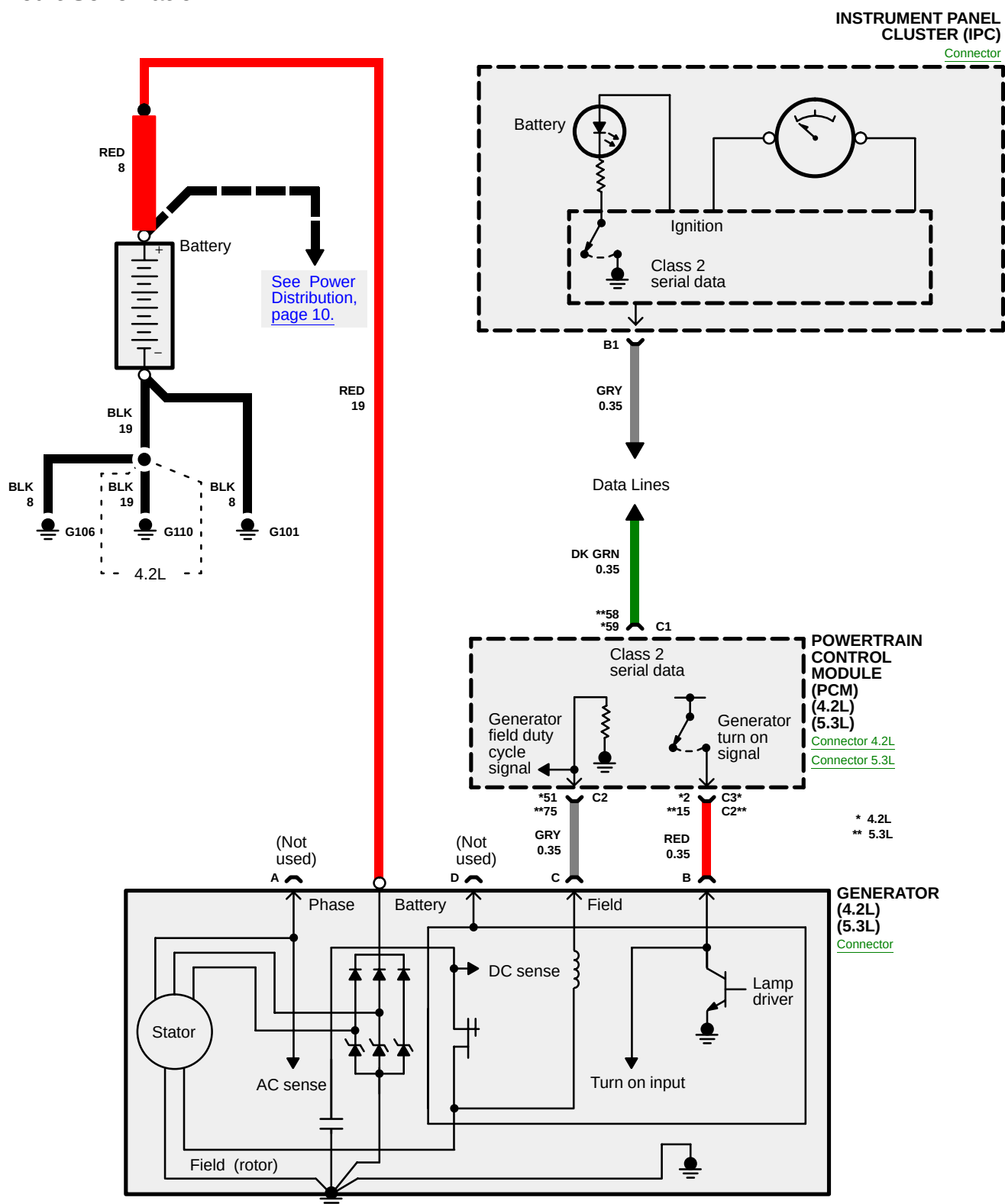
CHARGING SYTEM

Component Index

- [Generator \(4.2L\)](#)
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CHARGING SYTEM

Circuit Schematic



CHARGING SYTEM

Circuit Operation

Generator

The AD-244 generator is non-repairable. They are electrically similar to earlier models. The generator(s) feature the following major components:

- The delta stator
- The rectifier bridge
- The rotor with slip rings and brushes
- A conventional pulley
- Dual internal fans
- A voltage regulator

The pulley and the fan cool the slip ring and the frame.

The AD stands for Air-cooled Dual internal fan; the 2 is an electrical design designator; the 44 denotes the outside diameter of the stator laminations in millimeters, over 100 millimeters. The generator is rated at 150 amperes.

The generator features permanently lubricated bearings. Service should only include the tightening of mounting components. Otherwise, the generator is replaced as a complete unit.

Regulator

The voltage regulator controls the field current of the rotor in order to limit system voltage. The regulator switches the current on and off at a rate of 400 cycles per second in order to perform the following functions:

- Radio noise control
- Obtain the correct average current needed for proper system voltage control

At high speeds, the on-time may be 10 percent with the off-time at 90 percent. At low speeds, the on-time may be 90 percent and the off-time 10 percent.

Charging System Indicators

BATTERY

The IPC illuminates the battery indicator when the following occurs:

- The PCM detects that the generator output is less than 11 volts or greater than 16 volts. The IPC receives a class 2 message from the PCM requesting illumination.
- The IPC determines that the system voltage is less than 11 volts or greater than 16 volts. The IPC receives a class 2 message from the body control module (BCM) indicating the system voltage.
- The IPC performs the displays test at the start of each ignition cycle. The indicator illuminates for approximately 3 seconds.
- The ignition is on, with the engine off.

BATTERY NOT CHARGING

The IPC illuminates the battery not charging indicator in the driver information center when the following occurs:

- The PCM detects that the generator output is less than 11 volts or greater than 16 volts. The IPC receives a class 2 message from the PCM requesting illumination.
- The IPC determines that the system voltage is less than 11 volts or greater than 16 volts. The IPC receives a class 2 message from the body control module (BCM) indicating the system voltage.

CHARGING SYTEM

Component Location Index

(Refer to Section 201 for photographs.)

Component	Photo No.
Generator (4.2L) Left Front of Engine	7
Generator (5.3L) Top Left of Engine	8
Instrument Panel Cluster	
(IPC) On the left side of the IP, above the steering column	59
Powertrain Control Module	
(PCM) (4.2L) Left front of engine	5
Powertrain Control Module	
(PCM) (5.3L) Left front of engine compartment	25
Ground	
G101 Left side of engine compartment	4
G106 Left front wheel well	34
G110 (4.2L) Lower left side of engine	37
G110 (5.3L) Lower left side of engine	38