

DESCRIPTION AND OPERATION > CHARGING SYSTEM - 2.7L ECOBOOST (238KW/324PS) - SYSTEM OPERATION AND COMPONENT DESCRIPTION > BATTERY REPLACEMENT

If the vehicle battery is replaced, it is very important to perform the battery monitoring system reset using the diagnostic scan tool. If the battery monitoring system reset is not carried out, it holds the old battery parameters and time in service counter in memory. Additionally it tells the system the battery is in an aged state and may limit the Electrical Energy Management system functions. For more information, Refer to: Battery and Cables - System Operation and Component Description .

DESCRIPTION AND OPERATION > CHARGING SYSTEM - 2.7L ECOBOOST (238KW/324PS) - SYSTEM OPERATION AND COMPONENT DESCRIPTION > COMPONENT DESCRIPTION

Generator

The generator is equipped with an electronic internal voltage regulator and a serviceable generator clutch pulley.

Generator Current Sensor

The generator current sensor is attached to the generator B+ cable. It is supplied a 5-volt reference voltage and a ground from the PCM. The generator current sensor is a Hall-effect sensor that supplies an analog feedback signal to the PCM. The PCM uses this information for battery charging strategy and idle stability and torque control.

Battery Monitoring Sensor

The battery monitoring sensor is integrated with the negative battery terminal clamp and cable assembly, which provides a ground to the sensor. The battery monitoring sensor measures voltage, current, and temperature of the battery and uses these inputs to calculate the battery condition. The sensor transmits this information through a LIN circuit to the BCM. The battery monitoring sensor has a 2-pin connector providing battery voltage and LIN connections.

Powertrain Control Module (PCM)

The PCM monitors and controls the charging system.

Generator Clutch

The primary function of the generator clutch is to separate the generator rotor inertia from the FEAD belt, lowering belt tension at high Revolutions Per Minute (RPM) and reducing NVH. The generator clutch is serviced separately from the generator.

DESCRIPTION AND OPERATION > CHARGING SYSTEM - 3.5L DURATEC (209KW/284PS)/3.5L ECOBOOST (209KW/284PS)/5.0L 32V TI-VCT - SYSTEM OPERATION AND COMPONENT DESCRIPTION

System Operation