

Battery Charging

Charging

 **WARNING:** Before beginning any service procedure in this section, refer to Safety Warnings in Section 100-00 General Information. Failure to follow this instruction may result in serious personal injury.

NOTE: Batteries will discharge due to normal parasitic key off-loads when the vehicle is on a dealer lot or parked by the customer for an extended period of time. Vehicles still in dealer inventory or in long-term storage may be driven short distances with heavy electrical loads. Over a period of time (30 days or more), this could result in vehicles having shallow or deeply discharged batteries.

NOTE: The vehicle charging system is designed to supply the electrical power needed to maintain the battery near full charge during normal vehicle use. The charging system is not capable of bringing a deeply discharged battery back to near full charge in a short amount of time such as allowing the vehicle to idle for 15 minutes to recharge the battery. Use an external charger to charge discharged batteries.

NOTE: Cold batteries will not readily accept a charge. Allow batteries to warm to approximately 5°C (41°F) before charging. This may require 4 to 8 hours at room temperature.

Charger Connected to Engine or Chassis Ground - Preferred Method

1. Connect the positive (red) charger clamp to the positive battery post.
2. Connect the negative (black) charger clamp to the negative battery ground cable bolt or an engine ground.
3. Charge the battery following the battery charger manufacturer's instructions.

Charger Connected to Battery Posts

NOTE: The battery monitoring sensor must relearn the battery's state of charge after charging, refer to Battery State of Charge in section 414-00.

4. Disconnect the battery.
Refer to: [Battery Disconnect and Connect](#) (414-01 Battery, Mounting and Cables, General Procedures).
5. Connect the positive (red) charger clamp to the positive battery post.
6. Connect the negative (black) charger clamp to the negative battery post.
7. Charge the battery following the battery charger manufacturer's instructions.

