



## Smart Battery Charger

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### Installation Tips for High Output Alternators

**\*\*Your battery must be fully charged before alternator installation\*\***

**Attempting to recharge a low or dead battery with the alternator will result in failure of the rectifier and/or voltage regulator**

1. Disconnect battery cable (you may need to plug 12 volts into the cigarette lighter or OBD2 connector to save radio settings, etc.
2. Replace both battery cables to the recommended wire size as per the attached chart
3. Make sure to use the pulley provided with the alternators. In some cases, the pulley may be slightly smaller than original to optimize performance at idle speeds.
4. Install the belt according to manufacturer recommendation and check tension. If a smaller pulley is used, it may be necessary to use the first size down from the original belt to ensure proper tension and no slippage.
5. Check and clean all connectors and make sure all are tightened properly.
6. When all wiring is connected, reconnect the battery terminal and start the Vehicle. Using a voltmeter, check the voltage at the battery posts –battery voltage should read around 14.2 volts and may go as high as 14.8 volts. Voltage higher than 15 volts may indicate a 'disconnected ground' connection. Bad connections in the battery sense circuit will result in higher output voltage at the regulator connection and will cause low alternator output.

In these situations, check all ground connections (ground cable from battery, engine to chassis, etc.)

7. In case of a low voltage situation (12.9 volts or lower):
  - a. Check battery condition
  - b. Belt slippage
  - c. Connections in the wiring harness or on main charging wire
  - d. Any resistance in the electrical path will decrease charging amperage
8. Improving any weak points in the electrical circuit should bring voltage reading to within .5 volts of each other. Alternators must have 12 volts supplied to the main charging terminal to work properly. All alternators will have an output curve- the charging amperage increases with engine rpm.