

## Common Causes For Alternator Failure

- 1) When installing an alternator, improperly aligning the unit during mounting will cause premature belt and/or bearing failure.
- 2) Improper belt tension or defective belt tensioners can also cause bearing failures.
- 3) Improperly “swapping” pulleys of different diameters or grooves can cause failures. Check to see if the replacement pulley matches the old pulley to avoid belt problems.
- 4) Always check the battery with a volt meter. The reading at the battery should be 12.6 volts, which indicates a fully charged battery.
  - a. 12.6 or higher – 100% charged
  - b. 12.4 or higher – 75% charged
  - c. 12.2 or higher – 50% charged
  - d. 12.0 or higher – 25% charged
  - e. Less than 12.0 - Discharged
- 5) An improper hookup sequence to the battery will cause failures. Unless advised otherwise in vehicle manufacturer’s alternator replacement instructions, first turn off the engine. Then disconnect the NEGATIVE battery cable (w/engine off). Thirdly, make all connections to the alternator. Lastly, reconnect the NEGATIVE battery cable. Completing the circuit on the “negative” side helps to avoid sending a “positive” voltage spike directly back to the alternator’s main output connection.
- 6) Momentarily disconnecting the battery cables with the engine running and/or improper jump starting battery hookup procedures. This can create voltage spikes.
- 7) When using an older battery, higher internal resistance can develop, causing alternators to run abnormally hot. Battery conductance testers provide a more comprehensive analysis of useful remaining battery life than traditional “carbon pile” load tests.
- 8) When using an older battery - Normally, batteries act like a sponge to absorb voltage spikes. Loose internal battery plates may touch/short and create spikes.
- 9) Using corroded battery cables or alternator output wires can cause excessive resistance resulting in extreme heat, which can lead to failure.