Application: Vehicles with LIN-Controlled Alternators

▶ **Symptom:**
Appears as though the Alternator is charging at a lower voltage level.

▶ **The Solution:**
Correctly test the vehicles LIN alternator charging system to identify any issues that may require service or replacement.

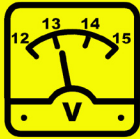## Some late-model vehicles use a LIN-controlled alternator.

LIN is an acronym for Local Interconnect Network; this refers to a type of communications network where bi-directional communication will take place through a single wire between a "Module or Computer" and the alternator. This will allow the module or computer to control the alternator and the charging system strategy.

A part of the charging system strategy on many modern vehicles is to reduce or even turn off the alternator output when it is not needed. For example, if the battery is near a full state of charge and there is a very low electrical load (lights, climate control, windshield wipers, etc., are off), the alternator will be commanded to charge at a very low level.

When testing the charging system on vehicles with LIN-controlled alternators, if the battery is fully charged and under low or no electrical load conditions, the alternator may appear to not be charging or charging at a very low rate due to this commanded strategy.

There are two critical steps to follow when testing the charging system on these vehicles.

1) Add some electrical load by simply turning on the headlights and high beams, placing the climate control system blower on high, and turning on the rear defroster.

2) Raise the engine RPM to Approx. 1,500 – 2,000, which will force the alternator to charge at a higher rate. If the alternator still appears not to be charging, a scan tool should be connected to the vehicle before replacing the alternator. Any charging system-related fault codes or LIN communication error faults with the alternator should be addressed first.

Efficiency Mode | **NOTE: Your vehicle is designed to operate using two charging modes!** | Full-charge Mode

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