

## ALTERNATOR FUNCTION

- Alternators provide a very important function in a vehicles electrical system – they prep & maintain the battery voltage.
- Most alternator failures are caused by heat & vibration, followed closely by chafed or worn wire harnesses.
- Worn brushes is another cause of alternator failure
- An alternator is not a battery charger, it's job is to maintain the battery voltage. If an alternator is installed on a vehicle with low battery voltage, the alternator will be over worked, causing it to fail prematurely. It is imperative to make sure the battery is fully charged after installing an alternator.

## ALTERNATOR TROUBLESHOOTING

1. There are two primary tools needed to perform an analysis of the alternator.

- A voltmeter (preferably digital)
- A wire brush



2. Inspect the battery posts for corrosion. They must be thoroughly cleaned with a battery post cleaning tool. Re-tighten the battery cables to the posts.

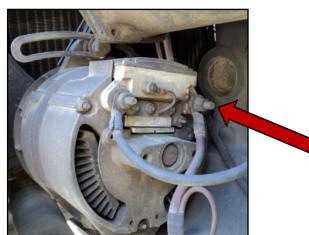


3. Check the cables from the battery to alternator for damages & corrosion. Replace cables if necessary.

- Typical chafed or damaged cable/wire below



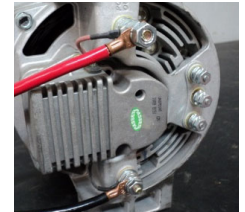
4. Check the connections of cables to the alternator for typical scale build up, clean & re-tighten if necessary. This is important for good conductivity, that will result in a longer service life of the alternator.



5. Using the voltmeter, check battery surface voltage, taking a read from the positive & negative posts. In a 12 volt system, it must read no less than 90% of 12.6 volts or 11.4 volts.

6. Using the voltmeter check the voltage reading at the alternator's battery "B" terminal & ground terminal.

- Both Battery post & alternator terminal readings should indicate a perfect 12.6 volts



7. Now with the engine running, check voltmeter at the alternator battery "B" terminal & ground terminal. The alternator output voltage should increase to 13.2/14.4 volts. If this is the case, the alternator is capable of charging the battery.

- Note: in a 24 volt system the rules for voltage power output are the same

8. If the battery voltage readings are less than the minimum 11.4 volts required & the engine running voltage output is less than 13.2 volts. **Charge or replace the battery.**

9. If everything checks out with the cables, wiring harnesses, battery & alternator voltage, **the alternator needs replacing.**