

## DIAGNOSIS TIPS

### ALTERNATOR DIODE DIAGNOSIS TIP *Applies to ALL alternators*



#### COMMON RETURN FOR ALTERNATORS

##### The Problem

**Single diode malfunction** - either the diode is at fault, or the soldering of the diode has failed.

**Multiple diode malfunction** - indication of a voltage spike or a short circuit. A high level of alternator returns show signs of more than one blown diode.

##### Potential Causes

Multiple blown diodes on the rectifier can be confirmation that an external event has short circuited the diodes. Potential causes of this issue can include but are not limited to:

- Jump starting the vehicle using a portable power pack which can result in voltage spikes at the alternator.
- Incorrect installation of the alternator wiring.
- Reverse installation of the battery wires.
- Welding repairs being carried out on the vehicle while the battery is left connected.

##### Conclusion

Alternators found to have all the diodes blown or faulty will not be the result of a manufacturing defect or defective diodes.

- Always disconnect the ground cable from the battery, not the positive cable, when performing repairs on any electrical components or when welding.
- Battery power packs and jump starting from another vehicle can cause damaging voltage spikes.
- Ensure the battery is fully charged when the new alternator is fitted.

