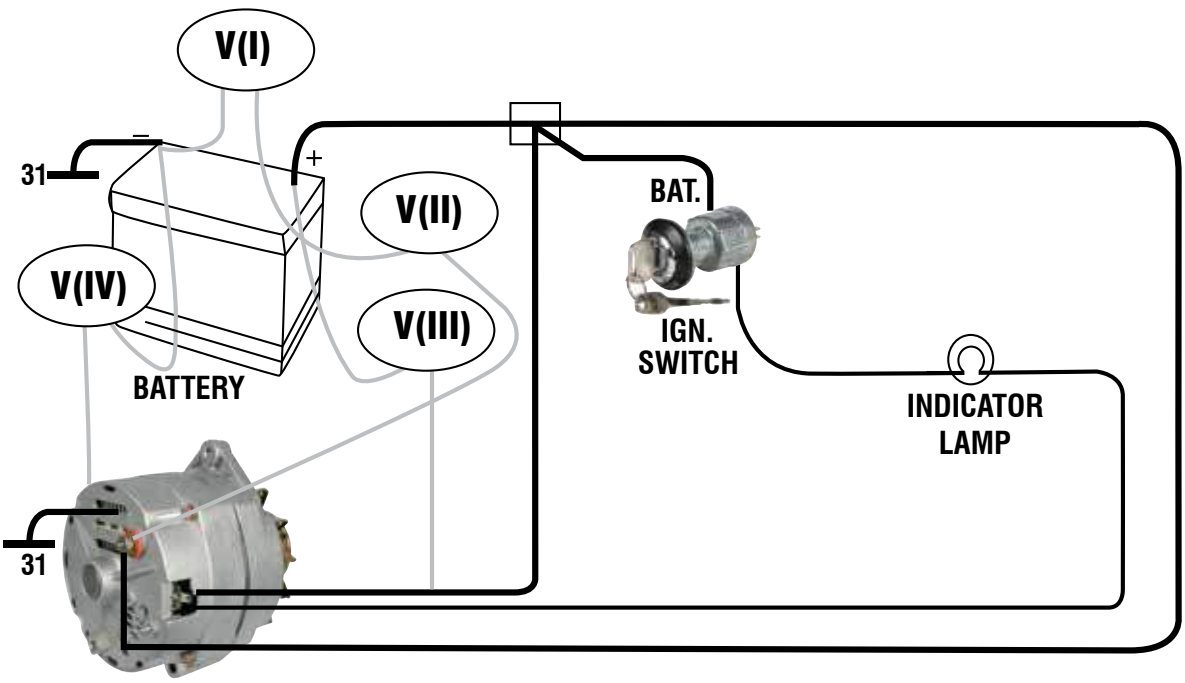
Looking for an Alternator

What are the points to check for common charging problems?

Quite often alternators fail for reasons that are possibly caused by vehicle faults. If the faults in the vehicle are not repaired before the fitment of a new or rebuilt alternator, the new / rebuilt alternator may fail on fitment, or soon after leaving the workshop.

Listed are some points to check for common charging problems

- A defective battery could cause an alternator to work to its “output limit”, this may cause the stator to “cook” due to over heating. Diodes could also fail in this situation.
- Battery cables MUST be connected at all times. Disconnecting the battery from the alternator while the vehicle is running will cause damage to the diodes, and electronics in the vehicle.
- The warning lamp circuit should be checked, most vehicles require the warning lamp circuit to be working for the alternator to charge.
- A voltmeter is required to check voltage
- Corroded wires and poor connections could cause a voltage drop between the battery and the alternator.
  If a battery receives less voltage than that which is specified by the vehicle manufacturer (V(I)), the battery may fail prematurely.
- There should be no more than 0.4V drop between the positive terminal of the battery, and the B+ terminal of the alternator (V(II)).
- There should be no more than 0.4V drop between the negative terminal of the battery, and the body of the alternator, (V(IV))
  All Earth connections must be clean and tight.
- If the alternator is fitted with an external sense wire, “system voltage” should be found at the sense connection of the alternator.
  There should be no more than 0.4V drop (V(III))



Drive belts should also be inspected and tightened to manufacturers specifications.
A faulty or loose belt will reduce the performance of the alternator, especially when the alternator is under load.

Note: Due to every vehicle having different cable sizes and lengths the above is a rough guide only.

- The listed measurements are for a standard automotive system (12V).
- Caution is advised when checking later model vehicles as some manufactures have included ECU interfacing with the alternator.
- Incorrect testing could cause damage to the vehicles ECU or other electronics.
- The vehicles service manual should be referred to for specific vehicle information.

The above “points to check” should be completed for every vehicle with a charging problem.