

Holden Commodore VE-VF Charging Systems

ANJ542 & ANJ542GQ, ANJ566 & ANJ566GQ VE-V6 Engines, ANJ547GQ – VE-V8-6 litre Version
ANJ551GQ VF-V6 and, ANJ609GQ - VE11-VF 6 & 6.2 litre

Holden VE-VF Alternator output is controlled by the Vehicle Body Control Module BCM.

The BCM monitors Alternator output, Battery current, Battery Voltage and estimated battery temperature to determine battery state of charge and controls the Alternator for optimum charge based on this and vehicle loads.

There are 6 Modes of Alternator operation that are:

- Charge Mode
- Voltage reduction mode
- Start-up Mode
- Headlamp On
- Battery sulfation
- Fuel Economy



These modes can have Voltages of between 11 and 15.5 Volt and are controlled by the Engine Control Module through the Alternator field control circuit.

Looking at these voltages without knowing what the BCM is directing the Alternator to charge at can lead to incorrect diagnosis of the charging system, e.g. 15.5v would on an older vehicle be considered too high but may be normal on a VE depending on the mode it is operating in.

Diagnosis: Once the vehicle has warmed up to stabilise output, turning Headlights on to put it into headlights on mode should bring the Battery Voltage between 13.9 and 14.5 Volts, so turning the headlights on and holding revs up at around 1200-1500rpm is a quick and easy basic check for Alternator operation.

ANJ566 and ANJ566GQ version is 120amp and can replace ANJ542 and ANJ542GQ which are 100amp on V6 Engine Vehicles. It is not recommended to go back to the 100 amp version if the vehicle was initially fitted with a 120Amp Alternator.