



## Q Parts - Battery Care Advisory - 2 Year Warranty Conditions

### Neglecting a Discharged Battery

All Q Parts batteries are supplied charged, tested, and ready to be installed. When a battery is fully charged it can be stored for 2-3 months. However, if discharged, specifically when voltage drops below 6.35V (for 1 x 6V battery) or 12.7V (for 2 x 6V battery), a chemical process called sulphation takes place. This process causes sulphur crystals to develop on the lead plates inside the battery, which increases the battery's electrical resistance. If this process is allowed to continue, the effect will worsen rendering the battery useless!

If the sulphation process is caught early, you may be able to recover some functionality using a smart charger with a desulfation or pulse recovery mode, ideally rated at 4 to 10 amps for standard automotive 12V batteries (equivalent to 2 x 6 volt batteries wired in series). Note this will only partially break down the sulphur crystals but the battery will never reach its full capacity again.

Granville Bat-Aid can also be used to help restore your battery by decalcifying the sulphate crystals from the lead plates. However, they will not fully restore your battery to its full potential, only raise the electrolyte level.

If your battery fails due to sulphation it will not be covered under warranty. This kind of failure is classed as damage caused by the user through neglect.

### Overcharging Your Battery

Keeping your battery as charged as possible when not in use is optimal. Overcharging on the other hand will cause the battery to heat up and its electrolyte will start to evaporate. This will cause the battery's plates to break down, severely reducing the battery's ability to yield power.

Most modern chargers are automated to turn themselves off when the battery has reached the end of a charging cycle. However, leaving a manual charger on continuously at a high charging rate will cause over charging if left unchecked.

Again, this type of neglect will not be covered under warranty as the user is at fault.

### Other Warranty Conditions:

**Bulging batteries** - Caused by leaving the vent plugs in situ for prolonged periods, preventing the battery from venting. Not a manufacturing fault and not covered by warranty; the effect is to the case appearance only.

**2 x Batteries in Series** - Where a battery is wired in series with an older battery, warranty does not apply – the older battery puts excessive strain on the new one. Both should be replaced together as a matched pair.

### Testing your battery

#### 6V Battery Charge/Voltage

| Charge  | 100%        | 50%       | 0%            |
|---------|-------------|-----------|---------------|
| Voltage | 6.35 - 6.45 | 6.0 - 6.1 | 5.25 or below |

\*for 2 x 6V batteries wired in series, voltage values are multiplied by 2

Testing your battery with a multimeter will indicate whether the battery is holding charge. If the battery shows signs of sulphation (low voltage after charging), this is usually due to prolonged undercharging or storage in a discharged state, which is considered user neglect and not covered under warranty. To rule out a manufacturing defect, a battery drop test and specific gravity test should be carried out by a garage or battery specialist. A drop test can reveal a shorted cell, while a hydrometer will determine if the battery is simply undercharged or permanently damaged due to misuse. If making a warranty claim, a battery report from a specialist must be supplied at your expense.

For further advice, please contact your Q Parts battery supplier.

