

MANUAL

Basics of battery | Operating instructions | Warranty terms

Words of Wisdom

“A CHAIN IS ONLY AS STRONG AS ITS WEAKEST LINK.”

In most cases in any system, this weakest link, unfortunately, is a battery. It is important, therefore, to optimize the performance of batteries - in order to have maximum performance of any system.

Maintenance free batteries

Maxima Maintenance free batteries have improved design and internal structure as well as a positive internal pressure maintained by a valve significantly improving the performance over other types of batteries including acid type batteries

Why batteries fail?

Sulfation is a phenomenon where batteries start losing capacity irreversibly. Sulfation is caused when the batteries are left in discharge state for a long time. MAXIMA AGM batteries are resilient to sulfating but are not totally proof from them.



What NOT to do with batteries (it invalidates warranty)

While we know what batteries do and how do they do it (to some extent), it is important to understand what is required to keep the batteries away from dangers.

1. Limit the batteries parallel connect to 3 strings or less. More strings in parallel creates eddy currents within the battery bank, creating charge and discharge cycles and severely affecting the batteries' life.
2. Do not mix new and old batteries within a system.
3. Tampering the battery in any way.





Battery basics

For a 12V battery, 13.0V is 100% charge, while 11.7 is 0% (dead battery).

For any type of battery, sitting idle and uncharged is slow death from sulfation. For AGMs it lasts longer between recharges since they stay charged much longer than flooded batteries due to their design. Nevertheless they will eventually sulfate if left in an uncharged state and not periodically recharged.

Once either an AGM or wet cell battery drops below, say, a 50 percent charge level they are being damaged by sulfation as they sit—the lower the battery voltage the greater the damage from sitting. (See the voltage and state of charge diagram.)

They should stay above 75 percent at all times to prevent premature aging, meaning a battery charger permanently plugged in (or on a timer if the trickle charge is over 13.1 (26.2) volts, or the battery brought home periodically for a recharge).

General Operating and Warranty Condition

1. Charging voltage 2.25-2.35 VPC at 25 deg.C. The batteries are assumed to be used in cycling service. If used with solar panels as chargers, there must be a high quality charge controller between the solar panels and batteries.
2. Temperature:
 - A. Average annual ambient temperature shall not exceed 77 deg. F/25 deg. C.
 - B. Cell temperature shall not exceed 92 deg. F/33 deg. C. for more than 30 days per year.
3. The vent caps must not be tampered with or removed.
4. The batteries must not be contaminated by any foreign matter.
5. This warranty does not apply to broken containers, covers or battery terminals which have been frozen or damaged due to neglect or abuse such as fire, flooding, explosives or any acts of nature.
6. Registration, installation and periodic inspection reports regarding temperature and conditions of use are to be maintained by the end user and made available to Maxima Battery on request to support any warranty adjustment claim.
7. All batteries should be recharged immediately following a discharge.
8. Batteries shall be boost charged every 3-6 months, while in storage, prior to final installation.
9. No battery will be covered under warranty in the event of improper installation and maintenance such as overcharging, undercharging, charging or installing in reverse polarity.
10. All maintenance functions (handling, storage and installation) must be

