

# Reasons for lead-acid batteries not to be discharged

What causes a lead acid battery to fail?

If you are not familiar with lead acid batteries, see our article [What is a lead acid battery](#). Ironically one of the most common reasons for battery failure is not an actual failure of the battery itself, it is people thinking the battery is dead.

Why does a sealed lead acid battery not hold a charge?

One common reason why a sealed lead acid battery might not hold a charge is due to a lack of maintenance. If the battery is not charged properly, or is left unused for long periods of time, it can become depleted and unable to hold a charge. Additionally, if the battery is overcharged, it can become damaged and unable to hold a charge as well.

What happens when a lead acid battery is charged?

When a sealed lead acid battery is charged, electrical energy is converted into chemical energy, which is stored in the battery. The lead plates and lead oxide plates react with the electrolyte to form lead sulfate and water. When the battery is discharged, the lead sulfate and water react to form lead, lead oxide, and sulfuric acid.

What happens if a lead acid battery is flooded?

If lead acid batteries are cycled too deeply their plates can deform. Starter batteries are not meant to fall below 70% state of charge and deep cycle units can be at risk if they are regularly discharged to below 50%. In flooded lead acid batteries this can cause plates to touch each other and lead to an electrical short.

What happens if a lead acid battery doesn't start a car?

Just because a lead acid battery can no longer power a specific device, does not mean that there is no energy left in the battery. A car battery that won't start the engine, still has the potential to provide plenty of fireworks should you short the terminals.

What happens when a lead-acid battery is discharged?

Figure 4 : Chemical Action During Discharge When a lead-acid battery is discharged, the electrolyte divides into  $H_2$  and  $SO_4$  combine with some of the oxygen that is formed on the positive plate to produce water ( $H_2O$ ), and thereby reduces the amount of acid in the electrolyte.

AGM batteries are a newer type of sealed lead-acid battery that uses a glass mat to absorb the electrolyte, making them maintenance-free. Gel batteries are similar to AGM ...

The 24V lead-acid battery state of charge voltage ranges from 25.46V (100% capacity) to 22.72V (0% capacity). The 48V lead-acid battery state of charge voltage ranges ...

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The lead-acid battery can be recharged when it is fully discharged. For recharging, positive terminal of DC source is connected to positive terminal of the battery (anode) and negative terminal of DC source is connected to the ...

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Sealed Lead Acid batteries fall under the category of rechargeable batteries and if they are ignored, not charged after use, not charged properly or have reached the end of their ...

From All About Batteries, Part 3: Lead-Acid Batteries. It's a typical 12 volt lead-acid battery discharge characteristic and it shows the initial drop from about 13 volts to around ...

A lead-acid battery is designed to last a finite period. It cannot last forever. When the battery is wet and is undergoing the cycle of charging and discharging, it will last ...

All Lead-acid batteries- even when unused, discharge slowly but continuously by a phenomenon called self-discharge. This energy loss is due to local action inside the battery & depends on the level of minute impurities in ...

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reasons of self-discharge are chemical reactions between active masses and constituents of the electrolyte solution. In case of a primary lithium battery (lithium

Contamination in sealed and VRLA batteries usually originates from the factory when the battery is being produced. In flooded lead-acid batteries, contamination can result from accumulated dirt on top of the battery ...

Refill flooded lead acid batteries with water every two weeks. Clean wires and terminal connections regularly. Equalize flooded lead acid batteries every 90 days, but do not ...

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One common reason why a sealed lead acid battery might not hold a charge is due to a lack of maintenance. If the battery is not charged properly, or is left unused for long ...

The click of a dead battery is never a welcome sound, especially if your battery should have plenty of life left. Check out these common causes of lead-acid battery failure and what you can do about it. 1. ...

In practice, however, discharging stops at the cutoff voltage, long before this point. The battery should not, therefore, be discharged below this voltage. In between the fully discharged and ...

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