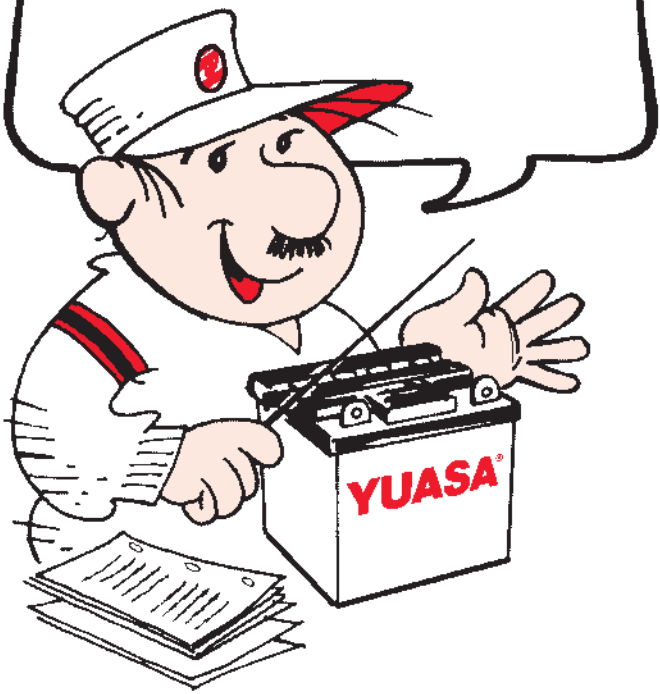
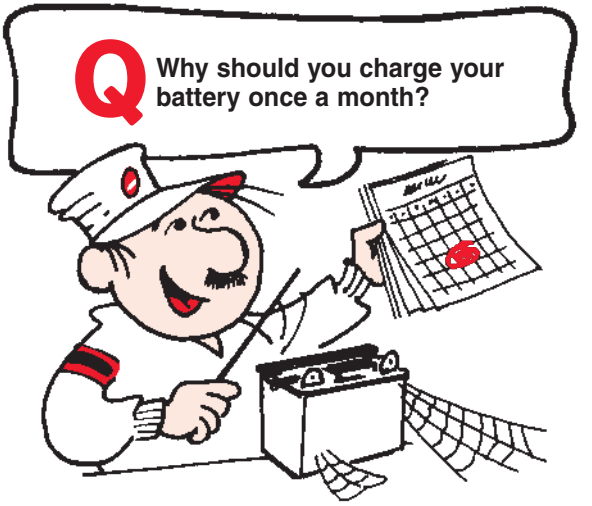
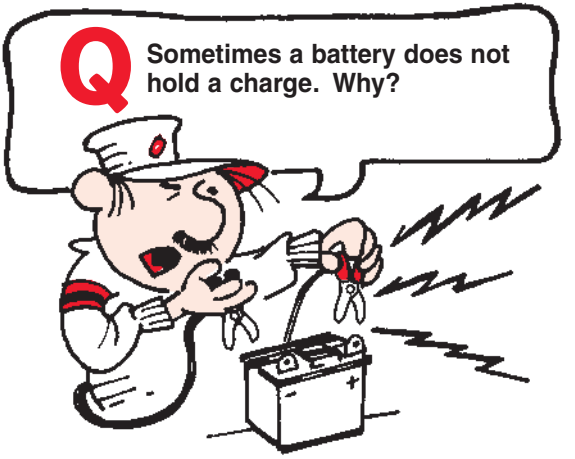
YUASA® BATTERIES

Questions & Answers on Better Battery Care and Maintenance!

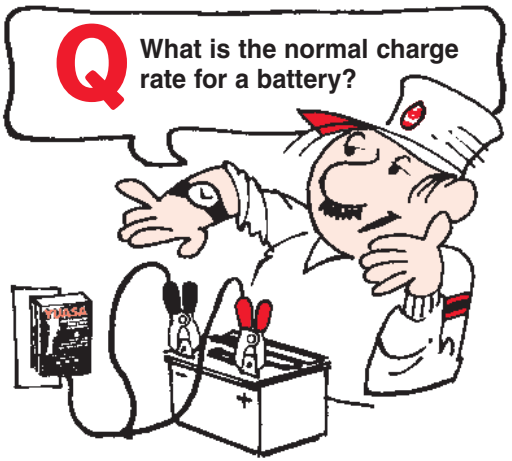




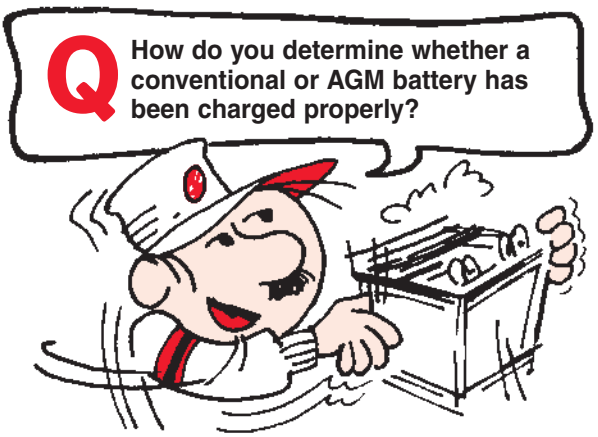
A When not in use, a battery discharges on a daily basis sometimes up to 0.5-1%. This rate of discharge increases when the climate is warm. To make up for this loss from disuse, connect your battery to Yuasa's 12V Automatic Charger to maintain a constant float charge during the extended time between uses.



A When a battery is in an excessively discharged state, it does not readily accept a high current charge. The battery may appear to be accepting charge, but charging is occurring only at the surface of the plates. In such a case, the battery must be charged at a low current flow for an extended period of time.



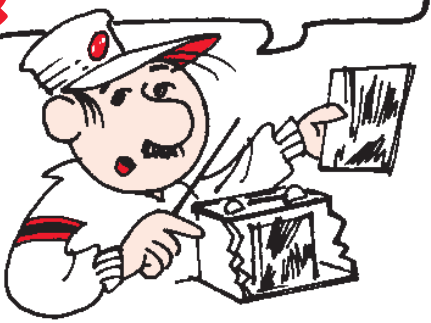
A Naturally, batteries of different capacities require different charge rates. Generally, a battery should be charged at a slow charge rate of 1/10 its rated capacity in amps.



A After the battery has undergone charging (as per battery manufacturer's specifications), the following characteristics will tell you if a conventional or AGM battery has been charged properly:

1. For conventional batteries, specific gravity of the acid must be 1.265 or higher (4 balls or more floating), or the terminal voltage must read 12.5 volts or higher.
2. For AGM (Absorbed Glass Mat, also referred to as maintenance free) batteries, the terminal voltage must read 12.8 volts or higher (check with voltmeter).

Q **What is sulfation?**

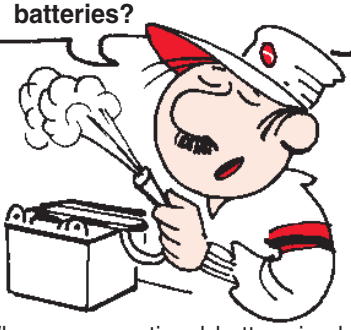


A Sulfation is the crystal formation of lead sulfate on the battery plates or cells and one of the biggest battery killers. This happens two ways:

1. When discharging continues uninterrupted, the crystals grow and blossom into sulfation.
2. When the battery plates are exposed to air due to low electrolyte level, the active lead material oxidizes and sulfates.

Once the plates have been sulfated, the activity of the affected area is severely impaired, and the battery will begin to lose life.

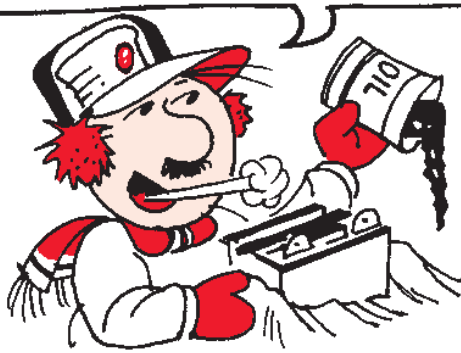
Q **What is the purpose of the battery exhaust vent tube on conventional batteries?**



A When a conventional battery is charged and discharged, water contained in the electrolyte is decomposed, generating hydrogen and oxygen gases. These gases are vented out of the battery through the exhaust vent tube to prevent potentially damaging high-pressure gas accumulation. Be sure to remove the red sealing cap before charging and installing.

AGM batteries (maintenance free batteries) do not have an exhaust vent tube. They have a built-in safety valve that vents gases.

Q **Why do the winter months seem to bring more battery problems?**



A The main reason is that batteries have to work so much harder in cold weather. Engine oil is thick, so engine-cranking effort is much higher. Also, a battery's charging efficiency decreases in cold temperatures. In addition, gasoline does not vaporize as readily in the cold, which means that even more battery cranking effort is required.

Q **What can cause a new battery to fail soon after installation?**

A If a new battery becomes unserviceable within a few days or weeks after its installation it may be due to one or more of the following reasons:

1. The battery has been activated incorrectly, dissipating its strength from the outset.
2. The battery has been left too long without proper initial charging or has been allowed to become sulfated from disuse.
3. A faulty charging system.
4. A short circuit in the electrical system.
5. Battery terminals become disconnected.
6. Electrical capacity of the battery is insufficient for size of the vehicle.
7. A blown fuse.

A Good battery maintenance should include the following:

1. Always keep the acid level between LOWER and UPPER lines on conventional batteries.
2. Never allow the battery to stand in a discharged condition.
3. If necessary, charge battery once a month with Yuasa's 12V Automatic Charger.
4. Keep battery clean, dry and free of dirt. Clean battery terminals to prevent corrosion.
5. Inspect vent tube, ensuring that it is not bent, twisted or clogged.
6. Check cables, terminals and case for obvious damage or loose connections.

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Yua-013 (Rev. 4/03) Printed in U.S.A.