Charging Recommendations

Always use an AGM battery, not a gel battery or regular flooded acid battery.

Most modern battery chargers, including OPTIMA® Champions, have a built-in AGM charging setting, which do not require the user to purchase a new battery charger, make sure it has AGM compatibility or a separate AGM setting. DO NOT use gel or gel/AGM settings, as this will not fully charge an AGM and can damage it over time.

Repeatedly charging at high current levels can damage your battery. For best results, use the following recommendations:

**Charging Type** | **Type** | **Charging Settings** |
--- | --- | --- |
**Regular/Automatic** | 12 | 10.0 to 14.0 A |
**Float** | 1 | 13.2 to 13.8 A |

**How Long to Charge

If your charger is an automatic one, let it run until the charger indicates the process is complete. If you have a manual charger, estimate charging time for a completely discharged battery (11.2V) by multiplying the capacity (amp hours or Ah) by 1.2 for a rough estimate of charging hours. If your battery is not completely discharged the time will be less.

**Charging Settings**

<table>
<thead>
<tr>
<th>Capacity (Ah)</th>
<th>2 amps</th>
<th>5 amps</th>
<th>10 amps</th>
</tr>
</thead>
<tbody>
<tr>
<td>36</td>
<td>33 hours</td>
<td>9 hours</td>
<td>4.5 hours</td>
</tr>
<tr>
<td>44-65</td>
<td>33 hours</td>
<td>9 hours</td>
<td>6.5 hours</td>
</tr>
<tr>
<td>66-75</td>
<td>48 hours</td>
<td>16 hours</td>
<td>9 hours</td>
</tr>
</tbody>
</table>

**Deeply Discharged Battery

If your battery is deeply discharged (below 10.5 volts) most battery chargers will not supply a charge. OPTIMA® Champions are designed specifically to recover batteries discharged as low as 1.25V. To charge the battery, you connect a 12V fully charged automotive battery to the discharged AGM in parallel (+ to + and - to -). Then hook up the charger to the discharged battery, setting the charger at 10 amps. Leave for 2 hours, monitoring periodically. When the discharged battery reaches 10.5 volts or above, remove the second battery and continue charging the AGM until fully charged. In most cases the AGM battery will be recovered. It's okay for the AGM battery to get slightly warm during the charging process. Hot to the touch means there's a short and the process should be discontinued. Have your alternator checked immediately.

**Battery usage recommendations for Rechargeable Batteries

The most important consideration when storing any battery is to make sure the voltage never drops below 12.4 volts. We recommend using a type of "Battery Maintainer" that will monitor your battery and keep it at full potential during storage.

There are 2 types of maintenance chargers:
1) **Traditional "Float" chargers**, which provide constant voltage to maintain the charge. The battery will hold down the voltage of the charger. Fast float charging we recommend 1 amp max. 12-13.8 V OK but not preferred.
2) Fully automatic "multi stage or multi step" chargers, which monitor the battery and charge it as necessary. Some of these multi step chargers, such as OPTIMA® Champions, are also capable of working well as a battery charger.

**Optima Facts**

- **Optima batteries** are high performance AGM, not gel.
- **You can use a high performance alternator instead of the one that came with the vehicle.**
- **You can charge an Optima battery.**
- **You can jump start a car with an Optima battery.**

**OPTIMA® BATTERIES ADAPTER INSTRUCTIONS (FOR CONSUMER VEHICLE USE)**

Your OPTIMA® battery may or may not include an adapter kit. If included, you may need one, some or none depending on your application. However, you must remove all top caps prior to beginning installation. See application below to view your application with the correct adapter. Check hood clearance.

**Optima Batteries, Inc.**

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2) **A 12-slab battery cover** includes 12 screw holes, 14 tie-down slots, 6 fasteners, and a 5” x 7” carbon filter. These offer the best defense against acid runoff, dust and dirt. The battery cover is easy to install and remove, locking the battery in place when not in use.

3) **A 6-slab battery cover** includes 6 screw holes, 7 tie-down slots, and a 4” x 6” carbon filter. These offer the best defense against acid runoff, dust and dirt. The battery cover is easy to install and remove, locking the battery in place when not in use.

4) **An 18-slab battery cover** includes 18 screw holes, 18 tie-down slots, and an 8” x 12” carbon filter. These offer the best defense against acid runoff, dust and dirt. The battery cover is easy to install and remove, locking the battery in place when not in use.