



INSULATED WRENCH



BATTERY CHARGER



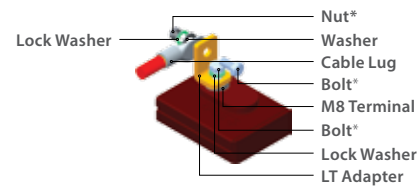
BAKING SODA
(Sodium Bicarbonate)



VENTILATION

BATTERY CONNECTION

- If using washers to connect the wire connections, ensure the connection is in direct contact with the lead surface of the terminal.
- Ensure the washer is placed on top of the wire connection (between the connection and the nut).
- Do not place the washer between the terminal and the connection as this creates high resistance and can cause terminal meltdown.



TORQUE VALUES

- Tighten all cable connections to the specified values* ensuring proper contact with the terminals. Over-tightening can result in terminal breakage and loose connections, which may result in meltdown or fire.

*Consult comprehensive User's Guide on www.trojanbattery.com/literature/#usersguide for detailed information.

TERMINAL PROTECTION

- Keep terminals clean and dry to avoid corrosion. Terminal protector spray is recommended.

Trojan Battery Company

- Over 200 Years of combined engineering expertise
- Full range of advanced Deep-Cycle Flooded, AGM and Gel batteries
- Quality components for reliability and performance
- Industry-Leading Return on Investment and Low Cost of Ownership
- Outstanding technical and customer service
- Made in USA since 1925
- Trojan's battery testing procedures adhere to both BCI and IEC test standards.
- Global - Sold in over 120 countries



Learn more at
www.trojanbattery.com

Your Local Trojan Battery Representative:

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AGM BATTERY

QUICK START USER'S GUIDE

Battery Installation & Maintenance



BATTERY INSTALLATION

MAINTENANCE and INSTALLATION EQUIPMENT NEEDED



GOGGLES



PROTECTIVE CLOTHING



GLOVES



DISTILLED OR TREATED WATER
(only for terminal cleaning)

SAFETY

- Always wear protective clothing, gloves and goggles.
- Do not smoke near batteries. 
- Keep sparks, flames and metal objects away from batteries. 
- Use insulated tools when making battery connections.
- Electrolyte is a solution of acid and water, so avoid skin contact. If acid comes in contact with skin or eyes, immediately flush with water and contact a medical professional.
- Ensure the cable connections to the terminals are properly tightened.
- Do not lay objects on top of battery.
- Always charge and handle batteries in a well-ventilated area.
- Never add acid to a battery. 
- Never remove or alter AGM vent caps.

BATTERY ORIENTATION

- Unlike flooded batteries, AGM batteries may be placed and installed upright or on their sides.



PREVENTATIVE MAINTENANCE

Follow these tips to ensure the life of your Trojan Absorbed Glass Mat (AGM) Battery

INSPECTION

- Inspect battery at regular intervals. The tops of the batteries and terminal connections should be clean, dry, and free of dirt or corrosion.

WATERING

- AGM batteries, sometimes referred to as sealed batteries, do not have free flowing electrolyte or removable vents and lose very little water during charging. **Because of their construction, AGM batteries are considered non-spillable and maintenance free since no watering is required.**

WARNING: Water should NEVER be added to deep-cycle AGM batteries.

CLEANING

- Clean the top of the battery, terminals and connections with a cloth or brush and a sodium bicarbonate solution (1 cup of baking soda to 1 gallon of water (150g/1L)).
- Rinse with water and dry with a clean cloth.
- Keep the area around batteries clean and dry.

CHARGING

- Proper charging will maximize battery performance.
- Both under and over-charging can reduce the life of the battery.
- Do not discharge your battery more than 80% to prevent over-discharging and damaging the battery's internal components.
- Avoid charging at temperatures above 122°F (50°C).

EQUALIZING (flooded batteries only)

- AGM Batteries do not have free flowing electrolyte and therefore do not experience stratification. **As a result, AGM Batteries do not require equalizing.**

WARNING: Do not equalize deep-cycle AGM batteries.

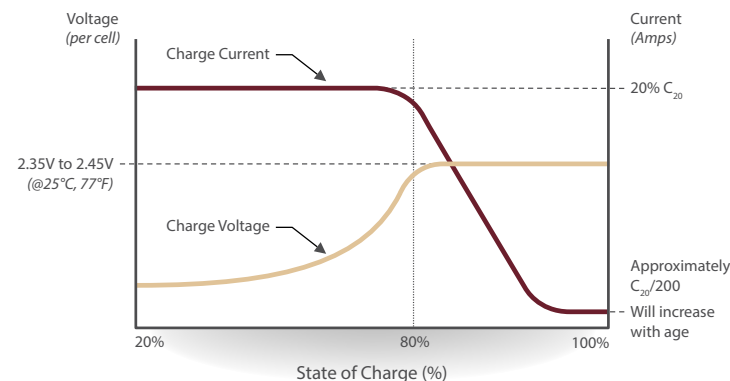
STORAGE

- Fully charge batteries before placing in storage.
- Store in a cool, dry location, protected from the elements.
- Batteries self-discharge during storage. Monitor the voltage every 4-6 weeks.
- In high temperatures (greater than 90°F or 32°C) monitor the voltage every 2-4 weeks as batteries will self-discharge faster.
- Stored batteries should be given a boost charge when they are at or less than 70% State of Charge (SOC).
- After storage, recharge before use.

Charge Voltage Settings

| Deep-Cycle AGM Batteries - Charger Voltage Settings** | | | |
|---|-------------|-------------|-------------|
| System Voltage | 12 Volt | 24 Volt | 48 Volt |
| Bulk Charge (2.40 VPC) | 14.4 | 28.8 | 57.6 |
| Absorption Charge (2.35 – 2.45 VPC) | 14.1 – 14.7 | 28.2 – 29.4 | 56.4 – 58.8 |
| Finish Charge (2.45 VPC) | 14.7 | 29.4 | 58.8 |
| Float Charge (2.25 – 2.3 VPC) | 13.5 | 27 | 54 |

Recommended Trojan Deep-Cycle AGM Charging Profile



Note: Charging time will vary depending on battery size, charger output, and depth of discharge.

TECHNICAL SUPPORT

Call Trojan Battery Technical Support:

United States and Canada: 800-423-6569 ext. 3045
International: +1-562-236-3045

On the web:

<http://www.trojanbattery.com/tech-support/>

AGM State of Charge as a Measure of Open-Circuit Voltage

| Percentage Charge | Specific Gravity | Cell | 12 Volt | 24 Volt | 48 Volt |
|-------------------|------------------|------|---------|---------|---------|
| 100 | NA | 2.14 | 12.84 | 25.68 | 51.36 |
| 75 | NA | 2.09 | 12.54 | 25.08 | 50.16 |
| 50 | NA | 2.04 | 12.24 | 24.48 | 48.96 |
| 25 | NA | 1.99 | 11.94 | 23.88 | 47.76 |
| 0 | NA | 1.94 | 11.64 | 23.28 | 46.56 |

Battery Terminal
Clean & Remove Corrosion

Battery Top
Keep Clean

