



INSULATED TOOLS



BATTERY CHARGER



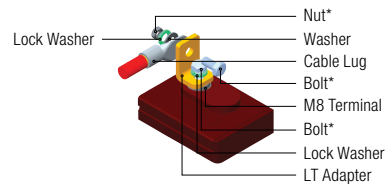
BAKING SODA
(Sodium Bicarbonate)



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 the User's Guide on www.trojanbattery.com



TERMINAL PROTECTION

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



- Over 200 years of combined engineering expertise.
- Outstanding technical and customer service.
- Full range of advanced Deep-Cycle Flooded, AGM, Trojan AES, Gel, and Li-ion batteries.
- Trojan's battery testing procedures adhere to both BCI and IEC test standards.
- Global – sold in over 120 countries.
- Quality components for reliability and performance.
- Industry-leading return on investment and low cost of ownership.



CHARGING FORWARD

LEARN MORE AT
www.trojanbattery.com

Your Authorized Trojan Battery Representative



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2023020-AES-Quick-Start-Guide



TROJAN AES BATTERY QUICK START USER'S GUIDE

BATTERY INSTALLATION & MAINTENANCE



BATTERY INSTALLATION MAINTENANCE AND INSTALLATION EQUIPMENT NEEDED



GOGGLES



PROTECTIVE CLOTHING



GLOVES

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 contacts skin or eyes, flush with water immediately 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 water, acid or additives to a Trojan AES battery.
- Never remove or alter Trojan AES vent caps.



BATTERY ORIENTATION

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

PREVENTATIVE MAINTENANCE

FOLLOW THESE TIPS TO ENSURE THE LIFE OF YOUR TROJAN AES 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

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

WARNING: Water should NEVER be added to deep-cycle Trojan AES batteries. Do not attempt to remove vent caps for any reason.

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.
- Trojan AES maintains high capacity in extreme deep cycling. However, we recommend you not discharge your battery more than 80%.
- Avoid charging at temperatures above 122°F (50°C).

EQUALIZING

- Trojan AES Batteries do not require equalizing.**

WARNING: Do not equalize deep-cycle Trojan AES batteries. Permanent damage to the battery will occur.

STORAGE

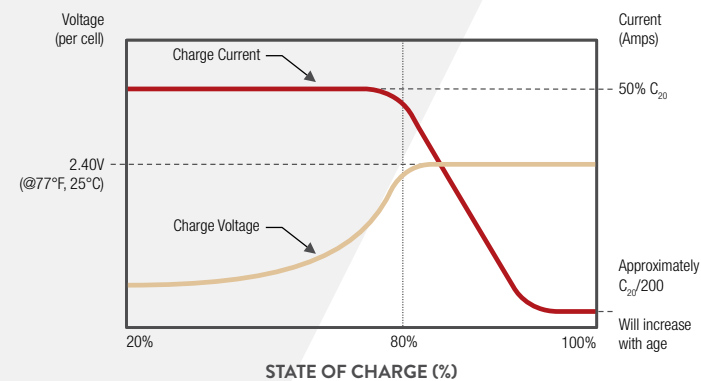
- Fully charge batteries before placing in storage.
- Store in a cool, dry location, protected from the elements.
- Batteries self-discharge during storage. Monitor the voltage every 2-3 months.
- In high temperatures (greater than 90°F or 32°C) monitor the voltage every 1-2 months as batteries will self-discharge faster.
- Stored batteries should be given a boost charge when they are at or less than 75% State of Charge (SOC).
- After storage, recharge before use.

CHARGE SETTINGS

TROJAN AES BATTERIES - NORMAL CHARGING PARAMETERS @ 25°C (77°F)			
TROJAN BATTERY LINE	MAXIMUM CHARGE CURRENT (% OF C ₂₀)	MAXIMUM ABSORPTION PHASE TIME (HOURS)	FINISH CURRENT (% OF C ₂₀)
Motive Trojan AES	50%	2	-

DEEP-CYCLE TROJAN AES BATTERIES - CHARGER VOLTAGE SETTINGS (@25°C, 77°F)			
SYSTEM VOLTAGE	12 VOLT	24 VOLT	48 VOLT
Absorption Voltage (2.40 VPC)	14.4	28.8	57.6
Float Voltage (2.25 VPC)	13.5	27	54
Temperature Compensation (°F) (-2.8 mV/cell x (T _{battery} - 77))	-16.8 mV x (T _{battery} - 77)	-33.6 mV x (T _{battery} - 77)	-67.2 mV x (T _{battery} - 77)
Temperature Compensation (°C) (-5.0 mV/cell x (T _{battery} - 25))	-30 mV x (T _{battery} - 25)	-60 mV x (T _{battery} - 25)	-120 mV x (T _{battery} - 25)

RECOMMENDED TROJAN DEEP-CYCLE TROJAN AES CHARGING PROFILE



TECHNICAL SUPPORT

CALL TROJAN BATTERY TECHNICAL SUPPORT:

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

ON THE WEB:

trojanbattery.com/resources/technical-support

TROJAN AES STATE OF CHARGE AS A MEASURE OF OPEN-CIRCUIT VOLTAGE					
PERCENTAGE CHARGE	SPECIFIC GRAVITY*	CELL	6 VOLT	8 VOLT	12 VOLT
100	1.295	2.14	6.42	8.56	12.84
75		2.09	6.27	8.36	12.54
50		2.04	6.12	8.16	12.24
25		1.99	5.97	7.96	11.94
0		1.94	5.82	7.76	11.64

*Although the specific gravity cannot be measured in a VRLA battery, an approximate value can be useful in determining the freezing point of electrolyte.

Battery Terminal
Clean & Remove
Corrosion

Battery Top
Keep Clean

