

OWNER'S MANUAL 193111-076

Revised June 17, 2010

IMPORTANT: Read this manual before installing, operating, or servicing this product.

PRESTOLITE ADVANCED CHARGER

PAC800

PAP800

DO NOT DESTROY

**IMPORTANT: SAVE THIS SAFETY AND INSTRUCTION MANUAL.
IMMEDIATELY REPLACE WHEN WORN OR LOST.**

AMETEK/PRESTOLITE POWER, TROY, OHIO 45373-1099, U.S.A.

GENERAL SAFETY PRACTICES FOR ANY ELECTRICAL EQUIPMENT

1. READ THE SPECIFIC **SAFETY INSTRUCTIONS AND WARNINGS** CHAPTER OF THIS MANUAL BEFORE INSTALLING AND USING THE EQUIPMENT.
2. READ AND RETAIN THE OWNER'S MANUAL – All the safety and operating instructions should be read and understood before using the equipment.
3. FOLLOW INSTRUCTIONS – All installation, operating and maintenance instruction should be followed.
4. WATER AND MOISTURE – The equipment should not be used near water – for example, near a washbowl, steam cleaning equipment or in any wet or damp area.
5. VENTILATION – The equipment should be situated such that its location or position does not interfere with its required ventilation.
6. HEAT – The equipment should be situated away from heat sources such as radiators, heat registers, or any other equipment that produces heat.
7. POWER SOURCE – The equipment should be connected to a source of power only as described in the Owner's Manual.
8. GROUNDING – Precautions should be taken to insure the equipment grounding means is not defeated.
9. POWER CORD AND CHARGING CABLES PROTECTION – Power cord and charging cables should be routed to prevent them from being walked on, pinched by other equipment, or driven over.
10. CLEANING – Cleaning should only be performed as instructed in the Owner's Manual.
11. NON-USE PERIODS – The power cord should be unplugged from the outlet and the battery should be disconnected from the charger if the equipment is to be left unused for a long period of time.
12. OBJECT AND LIQUID ENTRY – Care should be taken so objects do not fall or liquids are not spilled into cabinet openings.
13. DAMAGE REQUIRING SERVICE – The equipment should be serviced by qualified service personnel when:
 - A. Power cord or plug, charging cables or connector have been damaged.
 - B. Objects have fallen into, or liquid has been spilled into the equipment.
 - C. The equipment has been dropped, or the cabinet damaged.
 - D. The equipment does not appear to operate normally or exhibits a marked change in performance.
14. REPLACEMENT PARTS – When replacement parts are needed, be sure only replacement parts specified by the manufacturer are used. Unauthorized substitutions may result in fire, electric shock, or other hazards.

SAFETY INSTRUCTIONS AND WARNINGS

FOR OPERATION OF BATTERY CHARGING EQUIPMENT

IMPORTANT – READ AND UNDERSTAND THESE INSTRUCTIONS. DO NOT LOSE THEM. ALSO READ OPERATING/INSTRUCTION MANUAL BEFORE INSTALLING, OPERATING, OR SERVICING THIS EQUIPMENT.

A. General

Battery charging products can cause serious injury or death, or damage to other equipment or property, if the operator does not strictly observe all safety rules and take precautionary actions.

Safe practices have developed from past experience in the use of charging equipment. These practices must be learned through study and training before using this equipment. Anyone not having extensive training in battery charging practices should be taught by experienced operators.

Only qualified personnel should install, use, or service this equipment.

B. Shock Prevention

Bare conductors, or terminals in the output circuit, or ungrounded, electrically-live equipment can fatally shock a person. To protect against shock, have competent electrician verify that the equipment is adequately grounded and learn what terminals and parts are electrically HOT.

The body's electrical resistance is decreased when wet, permitting dangerous current to flow through the body. Do not work in damp area without being extremely careful. Stand on dry rubber mat or dry wood and use insulating gloves when dampness or sweat cannot be avoided. Keep clothing dry.

1. Installation and Grounding of Electrically Powered Equipment – Electrical equipment must be installed and maintained in accordance with the National Electrical Code, NFPA 70, and local codes. Check nameplate for voltage and current requirements.

Do not remove or bypass a ground prong from any plug. Always use correct mating receptacles. Check ground for electrical continuity before using equipment.

2. Charging Leads – Inspect leads often for damage to the insulation. Replace or repair cracked or worn leads immediately. Use leads having sufficient capacity to carry the operating current without overheating.

3. Battery Terminals – Do not touch battery terminals while equipment is operating.

4. Service and Maintenance – Shut OFF all power at the disconnect switch or line breaker *before* inspecting, adjusting, or servicing the equipment. Unplug power cord from AC power receptacle so that the power cannot be turned ON accidentally. Disconnect power to equipment if it is to be left unattended or out of service.

Disconnect battery from charger.

Keep inside parts clean and dry. Dirt and/or moisture can cause insulation failure. This failure can result in high voltage at the charger output.

C. Burn And Bodily Injury Prevention

The battery produces very high currents when short circuited, and will burn the skin severely if in contact with any metal conductor that is carrying this current. Do not permit rings on fingers to come in contact with battery terminals or the cell connectors on top of the battery.

Battery acid is very corrosive. Always wear correct eye and body protection when near batteries.

D. Fire And Explosion Prevention

Batteries give off explosive flammable gases which easily ignite when coming in contact with an open flame or spark. Do not smoke, cause sparking, or use open flame near batteries. Charge batteries only in locations which are clean, dry, and well ventilated. Do not lay tools or anything that is metallic on top of any battery. All repairs to a battery must be made only by experienced and qualified personnel.

E. Arcing And Burning Of Connector

To prevent arcing and burning of the connector contacts, be sure the charger is OFF before connecting or disconnecting the battery. (If the charger is equipped with an ammeter, the ammeter should not indicate current flow.) Always connect battery before turning charger ON.

F. Medical And First Aid Treatment

First aid facilities and a qualified first aid person should be available for each shift for immediate treatment of electrical shock victims.

EMERGENCY FIRST AID: Call physician and ambulance immediately. Use First Aid techniques recommended by the American Red Cross.

DANGER: ELECTRICAL SHOCK CAN BE FATAL. If person is unconscious and electric shock is suspected, do not touch person if he or she is in contact with charging leads, charging equipment, or other live electrical parts. Disconnect (open) power at wall switch and then Use First Aid. Dry wood, wooden broom, and other insulating material can be used to move cables, if necessary, away from person. IF BREATHING IS DIFFICULT, give oxygen. IF NOT BREATHING, BEGIN ARTIFICIAL BREATHING, such as mouth-to-mouth. IF PULSE IS ABSENT, BEGIN ARTIFICIAL CIRCULATION, such as external heart massage.

IN CASE OF ACID IN THE EYES, flush very well with clean water and obtain professional medical attention immediately.

G. Equipment Warning Labels

Inspect all precautionary labels on the equipment. Order and replace all labels that cannot be easily read.

INSTALLATION

A. Location

FIRE HAZARD – As with any electrical power equipment, do not install on or over combustible materials. Keep charging area clear of combustible materials.

The charger must be installed indoors. Avoid locations exposed to high humidity, dust or ambient temperatures above 40°C. (104°F) and below -20° C (-4° F).

This charger is intended to be used in locations with adequate air ventilation. The ventilation openings on the charger should not be blocked, and the charger must be located so that air can get into the charger.

B. Safety

Refer to additional installation instructions under the SAFETY INSTRUCTIONS AND WARNINGS Section of this manual.

C. Grounding

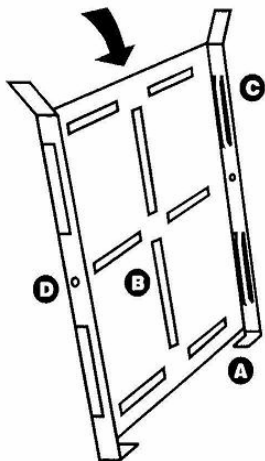
The charger is provided with a 3 prong, grounding type plug on the AC input cord. The plug must only be used with a properly installed and grounded mating receptacle to insure user safety. It is the responsibility of the user to provide such a receptacle and that its installation meets all appropriate electrical codes.

D. Electrical Input Requirements

The AC input voltage and line draw is provided on a data plate located on the front of the charger. The charger is provided with the proper AC cord and plug. Connect the AC input plug to an appropriate receptacle that is properly grounded.

E. Charger Mounting

Install the charger using the railed assembly board provided. (See the diagram below.) When installing the charger in a vertical position, place the vertical slide barriers of the assembly board (A) on the bottom. Screw the assembly board to the wall using the slots provided in the back of the board (B). Then place the charger on the assembly board by inserting the rails on the bottom of the equipment into the rail guides (C). Finally, fasten the charger to the assembly board by using the small screws on the sides of the board (D).



F. Battery Cable Connection

The battery cable plugs directly into the charger output cable and connector. Make sure that the battery and charger connectors are attached so the battery connector positive pole is connected to the positive terminal of the battery.

CAUTION: Improper battery to battery connector connections will damage the charger. Make sure battery connectors are securely attached to the battery cable (good solder connects, well tightened set screws or proper crimp, whichever is available).

G. Enable Charging and Selecting Battery Types

CAUTION: The charging of a battery with the incorrect number of cells or an ampere-hour capacity outside the range stated on the charger data plate will result in severe over or under charging of the battery, resulting in reduced battery performance and life.

CAUTION: The charging of a sealed battery (Gel or AGM) with incorrect charger settings will cause battery venting resulting in reduced battery performance and life.

The PAC800 is shipped from the factory with the charger output disabled. To enable battery charging, the correct battery type must be selected. Determine your battery Ampere-Hour rating (usually stamped into one of the lead intercell connectors or printed on the battery nameplate), and determine the battery brand and type. If your battery type is not on the list below, contact your battery dealer or manufacturer to determine if one of the settings below will properly and safely charge your battery. To change the battery type setting, remove the small label on the PAC800 nameplate, and use a small screwdriver (see photo) to rotate the arrow of the rotary switch so that it points to the number that corresponds to your desired battery type.

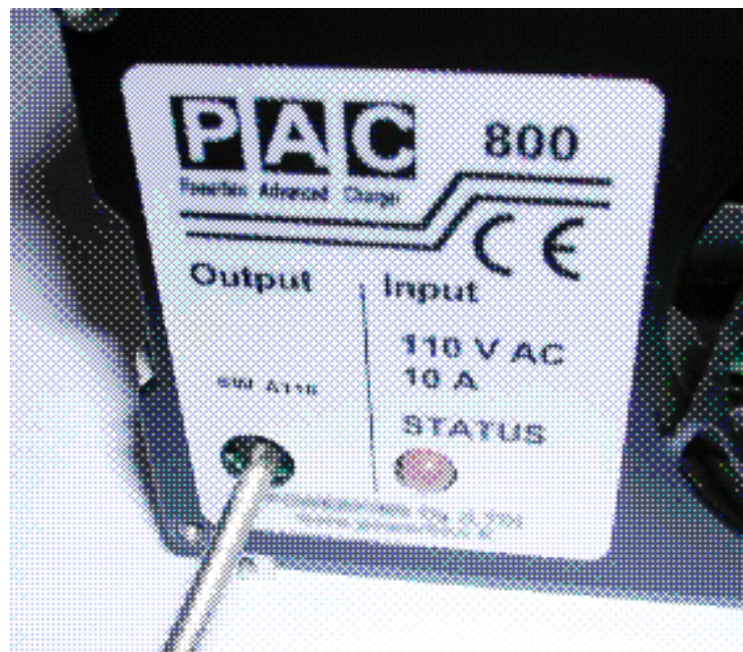
H. Connection To AC Power

After reading and following the installation instructions above, plug the charger AC input into the AC power receptacle.

I. Battery Hardwired Applications

If the battery is hardwired to the charger output, make sure that the battery is connected to the charger so the battery positive is connected to the charger output positive.

Switch Position	Battery Type	Battery AH Range by Model		
		12V - 30A Or 24V — 30A	36V — 20A	48V — 15A
0	Disabled Unit does not charge in this position	N/A	N/A	N/A
1	Flooded Lead Acid	256 - 335 AH	171 - 223 AH	128 - 168 AH
2	Deka Gel/Dominator	256 - 335 AH	171 - 223 AH	128 - 168 AH
3	GNB AGM	256 - 335 AH	171 - 223 AH	128 - 168 AH
4	Enersys Gel	256 - 335 AH	171 - 223 AH	128 - 168 AH
5	Flooded Lead Acid	336 - 425 AH	224 - 283 AH	169 - 213 AH
6	Deka Gel/Dominator	336 - 425 AH	224 - 283 AH	169 - 213 AH
7	GNB AGM	336 - 425 AH	224 - 283 AH	169 - 213 AH
8	Enersys Gel	336 - 425 AH	224 - 283 AH	169 - 213 AH
9	Flooded Lead Acid	170 - 255 AH	113 - 170 AH	85 - 127 AH
A	Deka Gel/Dominator	170 - 255 AH	113 - 170 AH	85 - 127 AH
B	GNB AGM	170 - 255 AH	113 - 170 AH	85 - 127 AH
C	Enersys Gel	170 - 255 AH	113 - 170 AH	85 - 127 AH
D	Deka Powr Mate Gel	155 AH	N/A	N/A
E	Deka Gel/Dominator	113 - 169 AH (20A)	75 - 112 AH (13.5A)	57 - 84 AH (10A)
F	N/A			



OPERATION

A. Preliminary

Make sure the charger is installed and grounded as instructed in the INSTALLATION chapter of this manual.

CAUTION: The charging of a battery with the incorrect number of cells or an ampere-hour capacity outside the range stated on the charger data plate will result in severe over or under charging of the battery, resulting in reduced battery performance and life.

CAUTION: The charging of a sealed battery (Gel or AGM) with incorrect charger settings will cause battery venting resulting in reduced battery performance and life.

When charging flooded (wet-type) batteries, maintain the electrolyte level in the batteries to be charged, as instructed by the battery manufacturer. Insure the battery size matches the charger.

When charging sealed batteries (Gel or AGM), always be sure that the charger is properly set to the battery type being charged.

Battery number of cells (voltage) must equal the number of cells (voltage) stated on the charger data plate.

Battery ampere-hour capacity must be within the ampere-hour range of the charger; and the charger must be properly set to charge AH rating of the battery connected (see table on page 5 of this manual).

B. Daily Charging

WARNING: Do not disconnect a battery from this charger while a charge is in progress; otherwise, arcing and burning of connector parts or a battery explosion may result. Batteries produce explosive gases. Keep sparks, flame, and cigarettes away. Ventilate when charging in an enclosed area. Always shield eyes when working near batteries.

1. Insure the battery size matches the charger (battery voltage and ampere hour capacity are within nameplate information) and that the charger is switched off.

2. Securely engage the battery and charger connectors.

3. Turn the Power switch on. The fan will usually not operate when you first connect the charger. The charger constantly monitors its own temperature level and reacts by controlling the charging current and fan speed. Under normal conditions the charger will not overheat.

4. During the charging process the STATUS light will show constant orange. If the STATUS light shows a constant red light instead of orange, the battery voltage is either too low or too high, or the battery is not connected to the charger. Turn the power switch off and disconnect the charger. The battery voltage should be 8-16 volts for a 12 volt charger and 16-32 volts for a 24 volt charger. Check the cable connections and return to step 2.

5. The charger will automatically turn off and the STATUS light will show green when the charge is complete.

NOTE: To disconnect battery from charger before charge is complete, first turn the power switch to the off position.

NOTE: Always turn the power switch off before disconnecting the charger from the battery.

D. Manual Stop

To turn the charger OFF before the charge is complete, turn the power switch off.

E. Battery Disconnect Shutdown

If the battery is disconnected from the charger during a charge cycle, the charger will shutdown.

F. AC Power Failure

After an AC power failure, the charger will resume charging automatically.

G. Refresh Charge

If the battery remains connected to the charger for 24 hours after a normal Charge Complete condition is reached, a short 30 minute refresh charge will occur.

SERVICE

There are no user serviceable parts within the charger. Refer all service needs to an authorized Ametek Service Center. To avoid delays, have the charger specification no., model no., and serial no. available before contacting a Service Center. For the closest Service Center, write or call:

Ametek/Prestolite Power
2220 Corporate Drive
Troy, Ohio
45373

Phone 1-800-852-8689

Warranty
(PAC/PAP 800)
Prestolite Advanced Charger

The Prestolite Power Division of AMETEK, Inc. (“AMETEK”) warrants that each new and unused Prestolite Advanced Charger (the “Product”) manufactured and supplied is of good workmanship and is free from any mechanical defects, provided that:

- A. The Product is installed and operated in accordance with generally accepted industrial standards, the enclosed printed instructions, and all federal, state and local electrical codes, and by skilled, qualified personnel.
- B. The Product is used under normal conditions for which designed in accordance with AMETEK’s published performance rating for the Product.
- C. The Product is not subjected to misuse, negligence or accident.
- D. The Product receives proper care, protection and maintenance under supervision of competent personnel.

This warranty is subject to the following additional conditions:

1. **WARRANTY PERIOD.** The Product is warranted for one (1) year from the date of sale to the original purchaser.

2. **PERSONS COVERED BY WARRANTY.** This warranty is extended by AMETEK only to the original purchaser of new Product from AMETEK or one of its authorized distributors. Product shall be used exclusively by the original purchaser and its employees and by no other persons, and therefore there shall be no third party beneficiary to this warranty.

3. **LIMITATION OF REMEDY.** The existence of claimed defects in any Product covered by this warranty is subject to inspection and judgment at AMETEK’s factory at Corporate Drive Troy, OH 45373 (the “Factory”). AMETEK’s liability is limited to repair of any defects found by the Factory to exist or, at AMETEK’s option, the replacement of the defective Product after the defective Product has been returned by the original purchaser at its expense to the Factory. Replaced or repaired Product shall be warranted for the remainder of the original warranty period for the Product, or for a period of ninety (90) days from the date that the replaced or repaired Product is shipped, whichever is greater. If the original purchaser chooses not to return the defective Product to the Factory, AMETEK shall provide only replacement parts. Defective parts shall be sent with transportation charges prepaid to the Factory. Replacement parts shall be warranted for the remainder of the original warranty period for the Product, or for a period of ninety (90) days from the date that the replacement parts are shipped, whichever is greater.

AMETEK AND ITS DISTRIBUTORS SHALL NOT BE LIABLE FOR INDIRECT, SPECIAL, INCIDENTAL, EXEMPLARY OR CONSEQUENTIAL DAMAGES, INCLUDING BUT NOT LIMITED TO, DOWNTIME COSTS, LOST OF BUSINESS OR PROFITS, LOSS OF USE OF THE PRODUCT, COST OF CAPITAL, COST OF SUBSTITUTE PRODUCT, INJURY TO PERSONS OR PROPERTY, OR DAMAGES FOR WHICH THE PURCHASER MAY BE LIABLE TO THIRD PARTIES.

4. **USE OF DEFECTIVE PRODUCT.** Continued use of the Product after discovery of a defect VOIDS ALL WARRANTIES.

5. **ALTERED PRODUCT.** Except as authorized in writing, the warranty specified does not cover Product that has been altered by any party other than the Factory. AMETEK makes no warranty whatsoever in respect to replacement parts not supplied by AMETEK.

EXCEPT AS STATED ABOVE, ALL OTHER WARRANTIES AND CONDITIONS, WHETHER EXPRESSED OR IMPLIED, INCLUDING IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, ARE EXCLUDED, AND AMETEK NEITHER ASSUMES NOR AUTHORIZES ANY OTHER PERSON TO ASSUME FOR AMETEK ANY OTHER LIABILITY IN CONNECTION WITH THE SALE OR USE OF THE PRODUCT. THERE ARE NO ORAL AGREEMENTS OR WARRANTIES COLLATERAL TO OR AFFECTING THIS WRITTEN WARRANTY.

AMETEK/Prestolite Power
Troy, Ohio USA
Data Sheet: 1155
Index: 6-1-10
Replaces: 4-3-06