

# Schauer

## Portable Power Supply / Automatic Battery Charger

**Models:**    JAC2512-\*\*\* (12 Volt, 25 Amp)                      JAC2024H-\*\*\* (24 Volt, 20 Amp)

### Portable Power Supply:

This unit will provide DC power filtered through the battery. The provided DC current allows operation of the plane's avionic electronics on the ground without draining the plane's battery.

**Caution!** This portable power supply is not meant for engine starting / landing gear actuation.

### Proper Connection sequence:

- Position the voltage selection switch on the front of the unit to the Gel/ AGM position regardless of battery type. This setting is best suited for airplane battery types.
- Plane's Master Power switch is OFF
- Plane's Master Avionics power switch OFF
- Connect the power supply APU plug into the plane's external power receptacle
- Plug the power supply into the AC power/wall outlet
- Turn the power supply ON
- Turn Plane's Avionics power switch ON. The Amber Equalizer LED on the unit's faceplate will illuminate and the Fan will begin to run. Unit is supplying power.
- Depending on the plane's electrical design, you may have to turn the plane's Master power switch ON

If the Equalizer LED on Power Supply does not illuminate Amber, the unit has not begun to provide electrical current. You may need to try different combination of the Plane's Master and Avionics power switches. Consult your plane's operating manual regarding external power receptacle.

### Battery Charger:

This automatic charger can remain connected to the battery for prolonged periods. When the battery is fully charged, the charger will switch to and hold a maintenance float voltage to properly maintain the battery between uses/flights (alternator charging).

Charging requires connection to the battery's posts using battery clip adapter. Use of the external power receptacle requires for the master power switch to be on and you would not leave your plane in this mode for long term battery charging / maintenance. (Optional longer battery connectors are available for a more convenient quick connect placement for charging/maintenance, please contact Schauer Chargers for options.)

**Caution!** Connect battery Clips to battery post / bus bar before turning charger On. Practice **Caution!** not to touch Positive and Negative battery clips together; this may cause the protection output fuse on the battery clips adapter and/or inside the unit to blow/open and/or damage the main circuit board of the unit.

- Select the Gel/AGM charge voltage position for airplane battery
- Connect battery clips to battery post with correct polarity - Red to Positive, Black to Negative
- Plug the charger into AC power / wall outlet
- Turn Charger on

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## Battery Chargers

**Models:**     **JAC2024H** (24 volt)           **JAC4024** (24 volt)           **JAC2036H** (36 volt)  
                  **JAC1742H** (42 volt)           **JAC1548H** (48 volt)           **JAC1372** (72 volt)

**PLEASE READ** all operation and safety precautions before using charger. Contact Schauer Battery Chargers with any questions prior to operation.

The term *battery* will be used to reference a single battery or multiple battery pack connected in series or parallel.

**Caution!** Safety precautions must be observed to avoid personal injury, electrical shock or *battery* explosion!

- ❖ Confirm proper application of charger and *battery* pack voltage (ie. 24 volt charger with 24 volt *battery* pack)
- ❖ Always check for proper electrolyte level in *battery* (do not overfill, acid may overflow during charging)
- ❖ Charger's power switch should be Off and unplugged from AC outlet before connecting to *battery*
- ❖ Position charger as far from battery as DC cord will allow while charging. Hydrogen gas may escape from battery during charging, do not position charger above or below battery while charging
- ❖ Plug charger into a grounded AC outlet
- ❖ Operate charger in an environment with proper ventilation
- ❖ Charger must not be operated in a damp or wet environment
- ❖ Use proper charge rate (amperage) for *battery* rated amp hour (Ah) capacity. Check with *battery* manufacturer
- ❖ Do Not charge a frozen *battery*
- ❖ Be sure your *battery* is not drawing any load from equipment or instruments when you are charging
  - A current draw on the *battery* during charging may prohibit charger from switching into the maintenance float mode, resulting in overcharging, gassing and low electrolyte levels. Contact Schauer Chargers if your application involves a constant current draw for options.

**This is a multi-stage automatic charger: Bulk charge → Absorption charge → Maintenance float**

LED charging sequence indicator Lights:

Upper LED (Power): Red – AC power connected, Power switch On

Lower LED (Equalizer): OFF – Charger Not Connected / Connected and minimum *battery* voltage not sensed

Lower LED (Equalizer): Amber – Charging stages Bulk and Absorption - cooling fan active

Lower LED (Equalizer): Green – *Battery* charged, Charger in maintenance float mode

Flashing Red & Green LEDs: Safety Timer shut off function

**Caution!** This charger is intended for use with rechargeable Lead Acid type *battery* only: Flooded, Gel, AGM, SLA, VRLA and SLI (starting / automobile). Use with any other type of *battery* may cause damage or explosion.

## Charger Safety Features:

- Reverse Polarity protection
- Short Circuit Protection
- Cooling Fan
- Optional Grounding Screw on back of charger
- Low voltage turn-on (load sensing)
  - Charger requires a minimum battery voltage to begin charging cycle. This protects against trying to charge a dead or shorted *battery*. Lower LED would remain off when connected. Minimum voltage is 1/3 charger rated voltage (example: 24 volt charger, minimum battery voltage requirement is 8 volts)
- Safety Timer shut off
  - If the *battery* is not capable of reaching the charger's maintenance mode in an appropriate amount of time, 16-18 hours, the charger will time-out and terminate its charging current output. Both upper Red LED & Lower Green LED lights will flash. Charger will require to be manually reset when this occurs. Turn charger OFF, wait 10 seconds and turn back ON. Check battery's electrolyte level. If flashing LEDs safety timer function repeats on next charge cycle, discontinue charging and have *battery* checked. After many charge cycles and time a *battery's* end of charge current requirements increase and the charger may not switch into float mode and time out. A poorly maintained battery, a battery with heavy sulfation or a shorted cell will effect charger switching into float mode.
  - Note: Brand new *battery* (first 1-5 charge cycles) may exhibit safety timer shut off function. Multiple new *batteries* operating as a single *battery* pack may require several charge cycles to normalize to each other. Manually reset charger OFF then ON. Condition will cease and charger will automatically switch to maintenance float mode after several initial charge cycles.

Charger is equipped with a final stage maintenance float mode. You may leave charger attached to the *battery* for prolong periods of time and it will not overcharge the *battery*. Lead acid *battery* prefer to be in a charged state. It is recommended to charge your *battery* after each use. Leaving the charger attached in float mode will aid against sulfation build-up on the *battery's* lead plates and maintain *battery* in a ready state.

When charger is turned off the LED lights may flash for several seconds as power dissipates from charger. If AC power is interrupted by a power outage or other, the charger will resume its charge/maintenance cycle when AC power is restored.

**Flooded / Gel or AGM Switch:** Choose proper lead acid battery type before connecting charger.

- Flooded: *Battery* with removable caps / distilled water can be added to electrolyte
- Gel/AGM: Maintenance free batteries, sealed / VRLA

Proper charge rate (charger amperage rating) must be used to prevent damage to *battery*. Contact *battery* manufacturer for recommended charge rate. For a single battery or batteries connected in series (negative to positive), the *battery* amp hour (Ah) capacity is that of a single battery. For batteries connected in parallel (positive to positive and negative to negative), the *battery* Ah capacity is cumulative of all battery's Ah.

Only batteries of same Ah rating, size and condition/age should be connected in series or parallel. Combining batteries of different capacity, age or condition will result in an unbalanced charging of individual batteries in the pack resulting in possible battery damage.

**Caution!** Charger operation, connections and proper electrolyte level should be checked routinely.

## Proper electrolyte levels for Flooded (Wet), non-maintenance free sealed batteries:

Note: Use distilled/purified water only. Unfiltered tap water contains minerals that may cause build up on lead plates of *battery*.

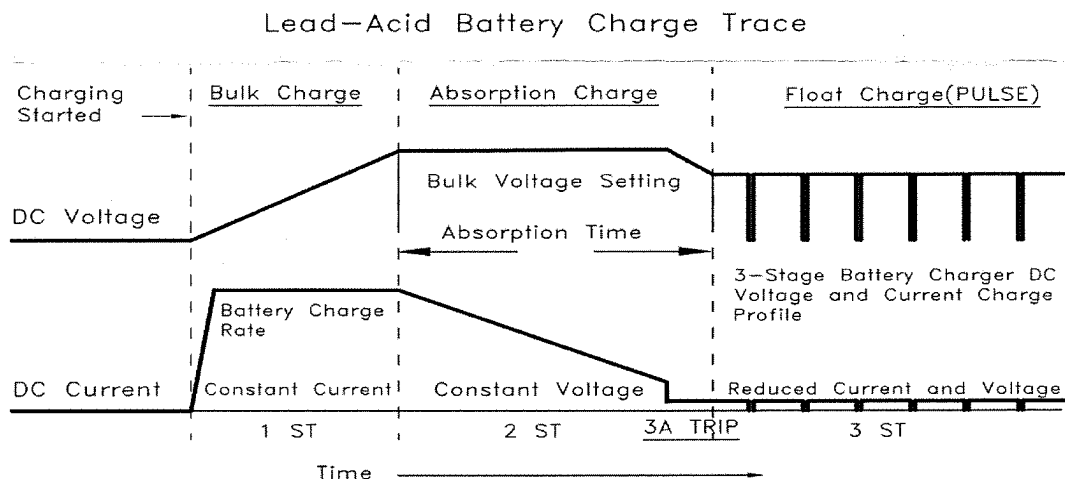
Confirm correct electrolyte level per your battery's manufacturer instructions. Check electrolyte level routinely to avoid exposing lead plates to air; this may cause irreparable damage due to oxidation to the lead plates reducing the battery's capacity. Do not fill to correct level prior to charging; this may cause overflow during charging. It is best to fill *battery* several hours after charge cycle when the battery has cooled down. If top of plates are exposed before charging, only add enough water to cover the top of the plates; top off level after charge cycle and batteries have cooled down. Electrolyte gassing (bubbling) towards the end of charge cycle is beneficial for the health of the battery. It keeps the electrolyte from stratifying and condensing in the lower portion of the battery causing uneven charging of the plates. Prolonged gassing will lower electrolyte level.

### Care of operation:

- Battery charger must only be used for the purpose specified by the manufacturer.
- Wear proper eye and clothing protection at all times
- Someone should be within range of your voice when working with a battery & charger
- Do not operate the battery charger if housing or cables are damaged.
- Lay cables in such a way they are not in risk of damage or tripping.
- Position charger on secure surface to avoid falling over, keep out of reach of children.
- Do Not smoke or exposed to spark or flame while charging
- Do not drop metal tools or personal items across battery terminals causing shorts or sparking
- A qualified person familiar with the risks involved must perform service or repair

**Caution!** If you have any questions about proper charger application, contact Schauer Battery Chargers before connecting or attempting to operate charger.

### Charger Curve



**Schauer Battery Chargers**

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[www.battery-chargers.com](http://www.battery-chargers.com)

[sales@battery-chargers.com](mailto:sales@battery-chargers.com)

## Limited Warranty

**[This warranty is extended only to original end user retail purchasers.]**

1. Subject to the terms and conditions herein, The Brookwood Group, Inc., d/b/a Schauer Battery Chargers ("Schauer") hereby warrants only to the original end-user purchaser ("Original Purchaser") that its Products will be free of defects in materials and workmanship for a period of two (2) years after date of purchase by the Original Purchaser. In the event a Product is defective, Schauer, at its discretion, will either (a) repair the Product, (b) replace the Product, or (c) refund the purchase price for the Product. Schauer "Products" include battery chargers, test instruments, recreational vehicle accessories, and component parts thereof, in each case if purchased in the original Schauer packaging and without alteration. This limited warranty is extended only to the original end-user purchaser at retail and is not assignable.
2. This warranty only applies to Products that (i) are operated in accordance with their technical and operational instructions, and (ii) have not been damaged or altered by repair or service not rendered by Schauer or by a Schauer authorized repair station. This warranty is contingent upon proper storage, handling and implementation of the Product and does not cover Products that have been subjected to physical abuse, electrical stress from improper handling or implementations inconsistent with Schauer's technical directions.
3. To obtain warranty repairs, the Product should be carefully packaged and delivered, postage or delivery charges prepaid, to Schauer Battery Charges, 3210 Wasson Rd. Cincinnati, Ohio 45209, or to a Schauer authorized repair station. If the Product is within the coverage of this limited warranty, and the Product is replaced or repaired, the Product will be returned to End User at Schauer's expense.
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