

BATESFIELD GPU MODEL HYBRID-135-GAS GPU INSTRUCTIONS

Thanks for allowing us to custom build a GPU for your aviation operations.

DESCRIPTION and OPERATION of UNIT:

This unit is a well regulated GPU that can be powered from single phase 208~240V 60hz, or the unit's internal generator. The entire unit is built with top quality materials and workmanship. The output of the unit will maintain 28VDC (+/- 1%) up to 110 amps.

NOMINAL OUTPUT POWER:

110 Amps Continuous at 28V DC, 135 for up to six hours and, up to 2,990 Cranking Amps for starting

INPUT:

208-240V AC 1-phase (although 3-phase can also be used), approximately 18 amps.

INPUT AC SOURCE AND CABLE AVAILABLE :

Minimum of 50' of 10 gauge 3 conductor cable.

Use appropriate size fuse or circuit breaker in hangar for extension cord being used. The cart comes standard with a 10 gauge/ 3 conductor, on which a 30 amp breaker should be used.

OUTPUT AIRCRAFT POWER CABLE:

Minimum of 15' of 2/0 cable with aircraft plug on one end.

MOBILE UNIT:

Mobile unit is very easy to maneuver with the standard 12" pneumatic tires, but 16" pneumatic tires are available as an upgrade option. Mobile unit is braked from rolling when tow handle is in raised position. This standard brake system is of a simple kick-stand type of design that raises front tires off of the ground when tow handle is raised. Unit can be pulled by hand or tractor.

IMPORTANT:

DO NOT USE THIS RECTIFIER UNTIL YOU HAVE READ ALL THE INSTRUCTIONS.

INITIAL INSTALLATION:

Only have a qualified electrician install unit and plug.

CAUTION: To Reduce the risk of fire, use this rectifier only on circuits in accordance with the National Electric Code, ANSI/NFPA 70, and all local codes and ordinances.

Wiring INSTRUCTIONS:

This rectifier must be grounded to reduce the risk of electric shock. The green wire **MUST** be connected to a good earth ground. Remaining two wires are **HOT**. Neutral is not used.

IMPORTANT:

For continuous use, or charging of unit's batteries, unit **MUST be plugged into 220V hangar power or unit's 220v receptacle. Also rectifier switch **MUST** be ON.**

BATESFIELD GPU MODEL HYBRID-135-GAS GPU INSTRUCTIONS

WARNING: Improper connections of the equipment grounding conductor can result in a risk of an electric shock. **DO NOT USE THIS RECTIFIER ON A TWO POLE UNGROUNDED OUTLET OR ATTEMPT TO BREAK OFF THE GROUND PRONG FOR USE ON A RECEPTACLE OR EXTENSION CORD NOT HAVING A GROUND.**

The use of an extension cord (other than one supplied from the factory) with this rectifier should be avoided. The use of an improper extension cord could result in a risk of a fire or electric shock. If an extension cord must be used, make sure it is in good condition and will not allow voltage to drop to an unacceptable level at the unit. Keep it as short as possible. Locate all cords so that they will not be stepped on, tripped over, or otherwise subjected to damage or stress. Do not operate this rectifier if any cable shows any signs of physical damage.

CAUTION: Always wear protective eye shields and clothing when working with batteries. Batteries contain acids which can cause bodily harm. Do not put wrenches or other metal objects across the battery terminals or battery top. Arcing or explosion of the batteries could result. Do not wear jewelry when working around batteries. Arcing can cause severe burns.

New batteries will not deliver their full performance until after several cycles.

The tops of the batteries and battery hold downs must be kept clean and dry at all times to prevent excessive self discharge and flow of current between the battery post and frame.

Maintain the proper electrolyte level by adding water when necessary. Never allow the electrolyte level to fall below the top of the battery plates. Electrolyte levels fall during discharge and rise during charging. Therefore, to prevent the overflow of electrolyte when charging, add water **ONLY AFTER** the batteries have been fully charged--**DO NOT OVERFILL**. Old batteries require more frequent additions of water than do new batteries.

Do not over discharge the batteries. Excessive discharge can cause polarity reversal of individual cells resulting in complete battery failure.

Provide adequate ventilation for the batteries and rectifier. Do not obstruct the flow of cooling air around the rectifier. Provide at least 1" of space around all sides of components in the unit. Do not allow clothing, blankets, or other material to cover the rectifier. Keep lid closed at all times when operating.

WARNING: Rectifiers can ignite flammable materials and vapors. Do not use near fuels, grain, dust, solvents, or other flammable materials.

CAUTION: Before adding another rectifier unit to increase output, consult the factory to ensure that the proper unit is being installed. Also be certain of proper polarity.

DO NOT USE THIS RECTIFIER IF:

The DC output connector is loose or does not make good contact; Is cracked or broken; The leads are cut or have exposed wires; The DC output leads or connector feel hot when used. Using this rectifier with any of these symptoms could result in a fire, property damage, or personal injury. Have a qualified service person make the necessary repairs. Repairs should not be made by people who are not qualified.

BATESFIELD GPU MODEL HYBRID-135-GAS GPU INSTRUCTIONS

NORMAL OPERATION

- 1) If replacing batteries, always apply grease to the terminals to inhibit corrosion.
- 2) Plug the rectifier into the AC power having the same ratings as that of the rectifier.
- 3) After performing a start leave rectifier on to charge the batteries back up just as you would continue operating any vehicle after cranking its engine.

WARNING: Do not disconnect the DC output leads or unplug the connector from the batteries when the rectifier is on. The resulting arcing could cause the batteries to explode. Also, do not disconnect the aircraft jumper cable at the unit while connected to the aircraft when under load. If under load first disconnect the plug at the aircraft so that by unplugging the shorter sensor contact in the plug there will be no arcing. The plug at the unit end has no voltage sensor. The one at the aircraft end suffices. Failure to unplug AC power and output DC cable before moving equipment will result in damage to cords, plugs, receptacles, and aircraft.

CAUTION: DO NOT DISASSEMBLE THE RECTIFIER. Incorrect assembly may result in a risk of electric shock or fire. Contact the factory.

DANGER: To reduce the risk of electric shock, always disconnect both the AC power supply cord and the output leads or connector before attempting any maintenance cleaning.

TROUBLE SHOOTING:

1) OUTPUT VOLTAGE IS BELOW 28VDC

The rectifier may not be powered by AC. Check that AC from either hangar or generator is present.

2) AC LINE OR CIRCUIT BREAKER BLOWS

If the circuit breaker is appropriately rated, then either the circuit breaker or fuses are weak, the ac input cable is shorted, or the unit is shorted internally. Call the factory for assistance.

3) BATTERIES DO NOT RECEIVE FULL CHARGE

There may be a defective battery in the unit, or you may have the rectifier plugged into a long extension cord that is too small. A voltage drop will cause a decrease in rectifier output, extending charge times and output. Verify that the AC POWER is sufficient at the unit with unit under load. ONLY use the State of Charge Meter when not under load or being charged. Best time is after unit has been idle for some time.