

HOBBI^{CO} Accu-Glo[™] mk II PRO SERIES Power Panel With Advanced Circuitry



The Accu-Glo MkII™ Power Panel offers advanced features for advanced performance not found in typical power panels. Most importantly, the automatic glow plug power management system sets this panel apart from the rest. This state-of-the-art circuitry maintains optimum glow plug heat even while the 12 volt field battery powers other electric field gear, during hot or cold weather, or while the engine is lean or flooded. Four LEDs provide glow heat status and glow plug continuity indication. That's not all, as other unique features are included as well to truly make Accu-Glo MkII one of the best power panel options available.

SPECIAL FEATURES

- 1.5V driver for glow plug clips with automatic heat regulator, power and glow plug continuity indicator LEDs.
- Built-in 300 – 400mA glow ignitor charger with LED.
- Banana jacks for 12V fuel pump with FILL / EMPTY pushbuttons.
- Four power LEDs show field battery voltage.
- Banana jacks for connecting 12V electric starter or other field equipment.
- Input power cord with pre-installed alligator clips
- Reverse polarity and overload protection.

IMPORTANT PRECAUTIONS

- Do not allow water, moisture, fuel or foreign objects to come in contact with the power panel's circuitry.
- Never allow the positive and negative terminals of the field battery to touch each other in any way, as doing so could cause permanent damage to the battery, panel, and any equipment which may be connected to the panel.
- Do not short the glow charge terminal with a screwdriver or other item.
- Do not operate this device unattended.
- Keep out of reach of children.

DC INPUT

This panel accepts only 12V DC input power. Connect the panel's red, positive (+) input lead to the positive (+) terminal on a 12V field battery. Connect the panel's black, negative (-) input lead to the negative (-) terminal on the field battery. Make certain a very solid physical and electrical connection is made with each contact. For a more solid physical and electrical connection to the 12V field battery, solder the panel's input leads directly to the terminals on the field battery. This can be done as follows:

1. Tin the bare wire with 60/40 rosin core solder.
2. Solder the black wire from the power panel to the battery's negative terminal. Do not allow the soldering iron to apply heat to the

battery terminal for an extended length of time. You may use heat shrink over the battery terminal/wire connection if desired.

3. Repeat the above steps for the red wire on the panel, connecting it to the positive battery terminal.

MOUNTING TO A FIELD BOX

Mount the Accu-Glo MkII in the space provided on your field box for a power panel – usually above the box's battery compartment. Slight modification to the size of the hole in the field box might be necessary. Secure the power panel with the four 3 x 10mm self-tapping screws provided.

INPUT POWER & LED INDICATORS

The panel's input power is controlled with the POWER switch located on the upper left side of the faceplate. Once connected to 12V DC input power, turn the power switch to the "ON" position. The four power indicator LEDs located directly next to this power switch will display the general operating voltage of the field box's battery anytime this switch is on. Adequate field battery voltage is present when the green LEDs are illuminated. If only the red LED is illuminated this indicates the field battery voltage is very low and requires a re-charge.

Input Voltage Indicators:

- Green LED #2 - on at 12.5V or more
- Green LED #1 - on at 12.0V or more
- Amber LED - on at 11.5V or more
- Red LED - on at 11.0V or more

12V STARTER/OUTPUT JACKS

The starter banana jacks located on the right side of the faceplate can be used for supplying power to most 12V DC field equipment. This is particularly useful for electric starters, chargers, etc. which are equipped with banana plugs on their inputs. Plug the positive banana plug on the starter to the red, positive (+) jack, and the negative banana plug to the black, negative (-) jack. It is not necessary for Accu-Glo MkII's POWER switch to be on for these operations.

12V FUEL PUMP

Connect a 12V fuel pump to Accu-Glo MkII's fuel pump jacks, noting proper polarity: red, positive (+) leads to the red (+) jack, and black, negative (-) leads to the black (-) jack. Both the FILL and EMPTY pushbutton switches are latching (not momentary) and act as toggles. To activate a function, press a button one time. To stop a function, press the button a second time. If both fuel pump switches are depressed, the fuel pump will not function.

TO FILL A FUEL TANK: Attach the fuel pump's fill tube to the model's fill line or into the fuel tank, and depress the power panel's yellow "FILL" switch. If fuel flows in the wrong direction, see the "Troubleshooting" section on page 2. When the fuel tank is full, press the power panel's FILL switch a second time to stop the fuel from flowing.

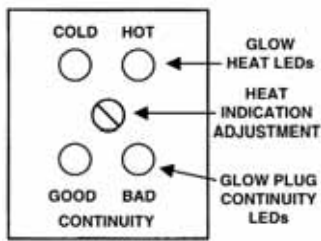
TO EMPTY A FUEL TANK: Connect the fuel line to the model as described above. Press the power panel's red "EMPTY" fuel pump switch. When the fuel tank is empty, press the EMPTY switch once more to stop emptying the tank.

GLOW HEAT ADJUSTMENT & LEDs

1. Connect a glow plug clip's banana plugs to the banana jacks located on the left side of the panel marked "AUTOMATIC GLOW POWER MANAGEMENT." Connect the opposite end of the glow plug clip to the glow plug mounted in the engine.
2. The green "CONTINUITY" LED should light to confirm current is being delivered to the glow plug. If the red CONTINUITY LED is lit, it indicates either the glow plug is fouled, or a problem exists with

the connection between the glow clip plug and the glow plug. Refer to the **"Troubleshooting"** section for further information.

- For a moment, ignore the red and green glow heat indicator LEDs at the top of this section and attempt to start the engine.
- With the engine started and running normally - locate the adjustment dial that is recessed inside the faceplate directly above the CONTINUITY LEDs. Using a flat screwdriver slowly rotate the dial just enough to make *both* the "HOT" and "COLD" glow heat LEDs at the top become lit. This indicates the flood point setting. Refer to the **"Troubleshooting"** section if problems exist when starting the engine.
- Turn the adjustment dial in the opposite direction until the "COLD" glow heat LED is completely off and the "HOT" glow heat LED is completely on. This is the normal glow heat point. Now, the glow heat system is calibrated to your particular glow plug.
- Once a successful start has been achieved, there should be no need to re-adjust the glow heat setting. Accu-Glo MkII's circuitry will automatically maintain proper plug heat in the event that the engine becomes flooded by supplying more power to burn the excess fuel. Accu-Glo MkII will also automatically adjust glow heat to account for hot and cold temperatures, and even low field box battery voltage. Re-adjustment of the automatic glow heat circuit might be necessary if changes are made to the engine, fuel type or glow plug type.



Continuity

Green LED = "GOOD" plug
Red LED = "BAD" plug or connection

Glow Heat

Green LED = good heat
Red LED = low heat
Green & Red LEDs = flood or borderline heat

Note: Normally only the red "COLD" LED is lit when the glow plug is flooded. Glow plugs that run cooler than normal, including some glow plugs with idle bars, may show both green and red LEDs lit at the same time which normally indicates a flood or borderline condition. The LEDs only indicate glow plug heat condition and have no effect on the operation of the glow plug used.

TROUBLESHOOTING

Please refer to the following tips in the event that the charger is not working properly.

Symptom: The engine fails to start.

Causes/Cures:

- Check for good fuel flow to the engine.
- Check fuel mixture in the engine.
- Check glow plug heat indication.
- Check all engine settings to determine if another problem exists.

Symptom: No functions operate, and no POWER LEDs are illuminated.

Causes/Cures:

- Re-check the input connector to make sure a solid connection exists to the 12V DC input power.
- A poor connection exists between the field equipment and Accu-Glo MkII, or the panel input leads are connected in reverse to the field box battery. Re-check all connections.
- The POWER switch is not in the ON position.
- The 12V field box battery is dead or needs a charge.
- The 7.5A spade fuse located on the right side of the faceplate has blown and needs to be replaced.
- A malfunction exists inside the panel. Contact Hobby Services for repair information.

Symptom: Fuel is flowing in the wrong direction.

Causes/Cures:

- The fuel pump leads are connected backwards to Accu-Glo MkII. Re-check connections.
- The fuel pump's own reversing switch is in the wrong position.
- The fuel pump's tubing is improperly connected to the fuel supply and the model.

Symptom: Inadequate or excessive power is delivered to the glow plug.

Causes/Cures:

- Make sure a solid connection exists to the 12V DC supply.
- Make sure solid connections exist between Accu-Glo MkII and the glow plug clip, and between the glow plug clip and glow plug.
- Dimly lit glow plugs could result from a defective glow plug or glow plug clip (replace as necessary) or a weak 12V field battery (re-charge field battery).
- Burned out plugs could result from defective glow plugs (replace the plug), or a short circuit somewhere in the system (contact Hobby Services for repair information).

SPECIFICATIONS

Input Voltage:	11-13V DC
Starter Jacks - Output Voltage:	12V DC
Starter Jacks Type:	one red/one black banana jack
Fuel Pump Controls:	latching pushbutton switch for "FILL" (yellow), latching pushbutton switch for "EMPTY" (red)
Fuel Pump Jack Types:	one red/one black banana jack
Glow Heat Power Circuit:	automatic start and output heat adjustment
Glow Heat Status Indicators:	green LED indicates "HOT" glow heat, red LED indicates "COLD" glow heat
Glow Heat Continuity Indicators:	red LED indicates a "BAD" plug continuity, green LED indicates "GOOD" plug continuity
Glow Heat Output Voltage:	1.5V DC
Glow Heat Jack Types:	one red/one black banana jack
Glow Starter Charger Current:	300 - 400mA constant current (not timed)
Glow Starter Output Jack:	glow driver mounting lug
Fuse:	7.5A "Auto" or spade
Case Size:	6.0" x 3.6" x 0.9" [152 x 92 x 23mm]
Weight:	6.9 oz. [195.6g]

Note: This device has a +/-10% tolerance on all operating specifications.

TWO YEAR LIMITED WARRANTY

U.S.A. and Canada only

Hobbico® warrants this product to be free from defects in material and workmanship for a period of two (2) year from the date of purchase. During that time, we will repair or replace, at our option, any product that does not meet these standards. You will be required to provide proof of purchase date (receipt with UPC proof-of-purchase or invoice).

If, during the two year warranty period, your Hobbico product shows defects caused by abuse, misuse, or accident, it will be repaired or replaced, at our option, at a service charge not greater than 50% of the current retail list price. Be sure to include your daytime telephone number in case we need to contact you about your repair.

Under no circumstances will the purchaser be entitled to consequential or incidental damages. This warranty gives you specific legal rights, and you may also have other rights, which vary from state to state. If you attempt to disassemble or repair this unit yourself, it may void the warranty.

For service on your Hobbico product, either in or out of warranty, send it post paid and insured to:

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