

# 40-Watt Solar Panel Instructions

The 40-watt solar panel with mounting kit is designed to keep a 12-volt storage battery fully charged throughout the critical growing, ripening or operational season without the need to replace or recharge the battery. The solar panel and brushed aluminum mounting bracket is made to exacting standards and is designed to withstand the rigors of some of the harshest environments while continuing to perform efficiently. The solar panel circuitry is environmentally protected by glass within a metal frame for moisture resistance and superior structural strength in a rugged aluminum frame.

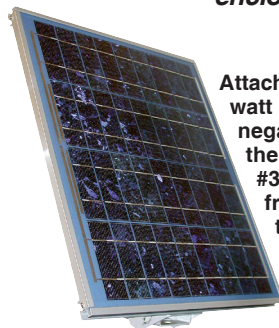
Included with the complete solar panel is the mounting bracket and mounting hardware. This enables your solar panel to be easily attached to the mounting bracket. Metal conductors from the solar panel feed the electricity to lead wires using ring terminal connectors. The solar panel is then connected to a voltage regulator (included). The generating unit for the Bird Gard Super Pro Amp is also connected to the voltage regulator.

## CONNECTING

Attach the mounting bracket to the solar panel using the mounting hardware (included). Then, attach the wires to the voltage regulator terminal block in the order that they are illustrated on the terminal. Notice that the terminal block connections are numbered 1 through 6, so connect the wires in the order specified (see detailed Operator's Manual for the photovoltaic system controller/voltage regulator, on pages 5-6). Then, attach the wires from the solar panel, the 12-volt battery, generating unit, all to the voltage regulator as outlined below. This correct attachment procedure will ensure that your 12-volt battery remains fully charged. **NOTE: Each solar panel must be used with at least a 50 Amp Hour, 12-volt battery. A marine or deep cycle/deep discharge battery is not necessary, but may be preferred.**

*The voltage regulator is to be positioned inside of the Protective Battery Case along with the battery, preferably mounted vertically. In this situation, be certain to place the voltage regulator along side of the battery so that no bare wires or leads come in direct contact with the (+) or (-) battery terminals. NOTE: Please refer to enclosed SunSaver-6 Operator's Manual for complete details and information.*

Attach BLACK (-) wire from from the 12-volt battery to the designated negative (-) terminal on the voltage regulator (marked #1). Attach the RED (+) wire from the 12-volt battery to the designated positive (+) terminal on the voltage regulator terminal block (marked #2).



40-Watt Solar Panel with Mounting Bracket

Attach BLACK (-) wire from the 40-watt solar panel to the designated negative (-) terminal block on the voltage regulator (marked #3). Attach the WHITE (+) wire from the 40-watt solar panel to the designated positive (+) terminal block on the voltage regulator (marked #4).



Generating Unit

Attach BLACK (-) wire from from the Generating Unit to the designated location on the negative (-) terminal block on the voltage regulator (marked #5). Attach the RED (+) wire from the Generating Unit to the designated positive (+) terminal on the voltage regulator (marked #6).

## MAINTENANCE

The solar panel requires no special maintenance. Occasional cleaning with a mild solution of soap and water is recommended. Do not use hard abrasive cleaners, pads or solvents. Any cracks or minor breaks in the glass surface should be repaired immediately using transparent silicon caulking material. This is a temporary solution. Water or moisture leakage must be stopped or damage to your solar panel may occur. Check all connections regularly for corrosion or poor contact points. Clean or grease as needed.

### Site Latitude and Tilt Angle Guidelines:

Site Latitude:	Tilt Angle:
0° to 15°	15°
15° to 25°	Same as Latitude
25° to 30°	Latitude + 5°
30° to 35°	Latitude + 10°
35° to 40°	Latitude + 15°
> 40°	Latitude + 20°

### 40-Watt Solar Panel Kit Contents:

Component Item	Quantity
40-Watt Solar Panel with Ring Terminal Connectors	1
Brushed Aluminum Mounting Bracket with Hardware	1
Package of Mounting Kit Hardware	1
Voltage Regulator (SunSaver 6) with Terminal Block	1
Protective Battery Case	1



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