Important Notes and Warnings

This installation and instruction manual provides installation, operation, and maintenance instructions for the Sol GreenWay solar LED lighting system. The entire contents of this manual should be thoroughly reviewed and understood prior to installing this equipment. Do not discard this manual, as it contains complete maintenance instructions, a troubleshooting chart, and a spare parts list. To insure proper operation of this equipment, it is important that the equipment be utilized for its intended use. Any use of this equipment for purposes other than those intended will void all warranties.

Installation and/or troubleshooting should be performed only by qualified personnel. Follow local codes at all times during installation of the GreenWay system.

Be very careful when working with batteries.

Do not allow bare ends of the wires to touch each other or grounded metal parts while connected to the controller. This will damage the controller.

This manual contains important instructions for the Sol GreenWay Series that shall be followed during installation and maintenance of the charge controller.
1.0 System Overview

![Diagram of Greenway Solar LED Path and Trail Lighting System components]

**FIGURE 1:** Sol Greenway System Hardware Components

- Solar Panel Assembly
- Solar Panel Pan
- Solar Panel Mount
- Solar Panel Mounting Screws & Washers (4 sets)
- Battery Box (single or dual)
- Battery Box Channel - supplied only when using a dual battery box
- Battery Harness (Single or Dual)
- Pole
- Arm Assembly
- Drive Rivets (top - 3)
- Drive Rivets (bottom - 3)
- Battery Mounting Screws (4)
- Battery Box Channel
- Fixture Mounting Screws
- Fixture Assembly
- Battery Cable (1 per battery)
- PV Harness
- Controller
1.0 Positioning the Light

- Position the light correctly during summer and winter.
- Position the light incorrectly during summer and winter.
2.0 Assembling

2.1 Pole Preparation
Four holes must be drilled at the top of the pole. This should be done before the pole is set and anchored.

1. Drill two equally-spaced 0.125-inch (3.2 mm) pilot holes 1 inch (2.5 cm) below the top of the pole, as shown in Figure 3.

2. Drill two additional equally-spaced 0.125-inch (3.2 mm) pilot holes 4 inches (10.2 cm) below the top of the pole, as shown in Figure 3. Position the holes 90 degrees from the holes drilled in Step 1.

**CAUTION**

It is imperative that the pole is properly anchored. Standard pole anchoring methods may be used, providing they meet the engineering requirements for EPA and weight of the system you have purchased.

2.2 Routing the Load Cable Through the Arm Assembly

![Diagram of LED Fixture and Controller Connection]
2.3 Drilling Holes in the Solar Panel Mount

1. Drill two equally-spaced 0.125-inch (3.2 mm) pilot holes 1 inch (2.5 cm) below the end of the pipe, as shown in Figure 5.

2. Drill two additional equally-spaced 0.125-inch (3.2 mm) pilot holes 4 inches (10.2 cm) below the end of the pipe, as shown in Figure 5. Position the holes 90 degrees from the holes drilled in the previous Step.

2.4 Attaching the Solar Panel Assembly to the Solar Panel Mount
2.5 Assembling the Components

Placing the Arm Assembly and Solar Panel Mount Assembly on the Pole

(a) Fixture Harness

(b) Arm Assembly

(c) Pole
2.6 Positioning the Arm Assembly and PV Mount Assembly

Towards Equator (Due South in the Northern Hemisphere)

Solar Panel Assembly

Arm Assembly

Equator (in Northern Hemisphere)

South — North

Pathway

Parking Lot
2.7 Riveting the Arm Assembly and PV Assembly to the Pole

1. Verify that the arm is positioned so that the light fixture (which will be attached to the end of the arm) is in the desired orientation.

2. Using one of the pilot holes at the upper end of the pole as a guide, drill one rivet hole using a U.S. “W” gauge (0.386-inch) drill bit.

   ![Important Note]

   Drill and rivet one pilot hole at a time. Do not drill another hole until the previous rivet is secured. If a “W” gauge (0.386-inch) drill bit is not available, use a 25/64-inch drill bit.

3. Place a drive rivet in the rivet hole and pound the drive rivet into the hole until the head of the drive rivet is tight against the side of the pole.

4. Repeat for remaining drive rivets.
2.8 Attaching Battery Box to the Solar Panel Mount

Standard Battery Box:

1. Route ends of Fixture and PV Harness through hole in back of the battery box.
2. Loosely fasten the brackets of the battery box to mount, using four 1/4”–20 x 1/2” hex head bolts and tighten each bolt to a torque of 15 ft-lbs (20 N-m).

Avoid stripping the threaded holes on the solar panel assembly. Do not over-tighten the bolts.

Double Battery Box:

1. Using Battery Box Channel as guide, drill three holes and mount channel.
2. Loosely fasten the brackets of the battery box to mount, using four 1/4”–20 x 1/2” hex head bolts and tighten each bolt to a torque of 15 ft-lbs (20 N-m).
Installation Manual | Greenway® Solar LED Path and Trail Lighting System

**Section A**

- Channel Mount holes: Drill thru @.87” Dia.
- Battery Enclosure
- Channel Mount Set 2x 3/4-11 x 12”
- Access hole for Harnesses. Drill thru one side @ 1.25” Dia.
- 4.25” below

**Section B**

- 4 x 1/4”–20 x 1/2” hex head bolts
- a)
- b)
2.9 Attaching the Controller to Battery Box Cover

Standard Battery Box:

Double Battery Box:
2.10 Attaching the LED Fixture to the Arm

Attaching the Ascot Fixture to the Arm

1. Plug the Ascot fixture connector into the harness connector.
2. Slide the Ascot fixture into the arm. Feed any excess cable back into the arm while sliding the LED fixture onto the arm.
3. Adjust for the desired tilt and secure fixture to the arm using the socket head bolts.

Attaching the Shoebox Fixture to the Arm

1. Loosen the two set screws on the Shoebox fixture.
2. Plug the Shoebox fixture connector into the harness connector.
3. Slide the Shoebox fixture over the arm. Feed any excess cable back into the arm while sliding the fixture over the arm.
4. Remove the circular cover (using a Phillips screwdriver) and loosen the bolt (using a socket wrench) to change the angle of the fixture. Tighten the bolt and replace the cover when completed.
LED Fixture Precautions

The Ascot and Shoebox fixtures contain the following warning label:

**CAUTION: Possible Hazardous LED Radiation Emitted From This Product. Do Not Stare Directly Into Beam. Disconnect Power Before Servicing.**

This lamp (LED) is in excess of the Exempt Risk Group defined in IEC 62471:2006-07. This lamp (LED) has been found to be in the Risk Group 2 classification at an exposure distance of 20 cm or less from the glass surface of the lamp. Care should be taken to avoid exposure when operating and installing this lamp.

2.11 Install the Battery Cables and Battery(s)

If using Deka® Brand Batteries, see enclosed Addendum.
2.12 Connect the Cables
2.10 Test

2.11 Close Battery Enclosure Cover
3.0 Operation and Maintenance

3.1 Expected Performance

The Greenway™ lighting system is designed to provide reliable operation and illumination all year. The solar panel provides enough energy during a normal day to charge the battery for operation of the LED fixture for the following night. The system is designed with a five-day reserve charge. As a result, extended periods of low sun may deplete the five-day reserve and affect performance of the system. The following conditions may cause your Greenway™ lighting system to operate out of specification:

1. **Prolonged Bad Weather.** A series of days with low levels of sunlight may deplete the battery reserve. Depending on the severity of the condition, the nightly illumination period could be reduced until a sunny day re-establishes the reserve battery charge. Please note that the system may need anywhere from two days (in summer) to ten days (in winter) of good sunny weather before the full five-day battery reserve is completely achieved.

2. **Shading.** Installation of the Greenway™ lighting system in a location where the solar panel is shaded during part of the day will inhibit the ability of the solar panel to fully charge the battery and may severely damage the battery. The hours of nighttime illumination will be reduced by the controller if the solar panel cannot fully charge the battery.

If you believe that your Greenway™ lighting system is not performing as expected and the above conditions do not apply, please contact Sol Customer Service at 1.772.286.9461.

3.2 Preventive Maintenance and Service

**Obstructions**

Obstructions (including tree branches) must not shade the solar panel(s). Check for and remove any obstructions in the vicinity of the solar panel(s) once every three months.

**Solar Panel Cleaning**

The solar panel(s) should be cleaned periodically to insure optimum performance.

**CAUTION**

Solar panels can get very hot when the sun is out. It is advisable to clean solar panels during the early morning hours.

1. Using a non-streaking window cleaner and a soft cloth, thoroughly wipe down the solar panel(s) to remove any dirt and grime that may have accumulate. A plastic scraper may also be needed for removing bird droppings.

2. Dry the solar panel(s) with a soft clean cloth.

3. Repeat Steps 1 and 2, if necessary, until all dirt and grime have been removed.
Fuse Replacement

If the fuse needs to be replaced, be sure to also check operation of the controller.

1. Open the battery box and remove the fuse cover on the fuse holder.
2. Remove the existing fuse, insert the new fuse, and replace the fuse cover.
3. Test the system and close the battery box.

LED Fixture Replacement

1. Remove the LED fixture from the arm and disconnect plugs.
2. Install the new LED fixture, following the install procedure.

   The LED in the fixture is not serviceable. The entire LED fixture assembly must be replaced.
3. Test the system.

Battery Replacement

1. Open battery box cover and disconnect the solar panel harness connector from the controller, then disconnect the battery cable from each battery.
2. Remove the battery(s) from the battery box.
3. Place the new battery(s) and plug the battery cable into each battery, then plug the solar panel into the controller connector.
4. Test the system, then close the battery box cover.
3.3 Troubleshooting Chart

<table>
<thead>
<tr>
<th>Problem</th>
<th>Possible Cause</th>
<th>Solution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Light does not illuminate.</td>
<td>1. The battery is discharged. 2. The battery is bad. 3. The LED fixture is bad. 4. The fuse is blown. 5. The controller is bad.</td>
<td>1. Charge the battery. 2. Replace the battery. 3. Replace the LED fixture. 4. Replace the fuse. 5. Check the controller.</td>
</tr>
<tr>
<td>1. Light does not stay on for the expected period of time. 2. Light turns on at dusk but does not turn on again at dawn (split run time). 3. Light does not operate every day.</td>
<td>1. Low battery voltage, caused by inclement weather. 2. Low battery voltage, caused by shading of the solar panel. 3. The battery is bad.</td>
<td>1. Allow for two to three days of consecutive sunny weather to charge the battery pack. 2. Clear tree branches and other obstructions from the vicinity of the solar panel. 3. Replace the battery.</td>
</tr>
<tr>
<td>Fuse blows repeatedly.</td>
<td>1. There is a short circuit in the wiring.</td>
<td>1. Check all system wiring for a short circuit.</td>
</tr>
<tr>
<td>Battery voltage is less than 9.0 volts.</td>
<td>1. The controller is bad. 2. The battery is bad.</td>
<td>1. Check the controller. 2. Replace the battery.</td>
</tr>
</tbody>
</table>

In-Warranty Service Instructions

A Returned Merchandise Authorization (RMA) number must be obtained from Sol Inc. before equipment can be returned for repair or replacement under warranty.

We require the following information before we can issue an RMA number:

- Controller Number for the product being returned
- Serial Number of the product being returned
- Work Order Number (located inside the battery box)
- A description of the problem
- The address to which the repaired or replaced product is to be shipped

Equipment being returned must be properly packaged to protect it from damage during shipment. Shipping costs and insurance to Sol Inc. are the responsibility of the customer.

Upon verification of failure due to defects in materials or workmanship, we will either repair or replace the product at our discretion. The customer will be responsible for all shipping and handling charges for any equipment that is sent to Sol Inc. in error (no definable problems).