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Warnings and Precautions

The following symbols indicate important safety warnings and precautions throughout this manual. They are defined as follows:



NOTE suggests optimal conditions under which the equipment will operate effectively and safely, or provides additional information to the reader.



CAUTION indicates that damage to equipment may result if the instructions are not followed.



WARNING indicates that serious bodily harm or death may result from failure to adhere to the precautions.

Warranty Disclaimer

This installation and instruction manual provides installation, operation, and maintenance instructions for the Sol EverGen Low-Mount Battery Kit. The entire contents of this manual should be thoroughly reviewed and understood prior to installation this equipment. To ensure proper operation of this equipment, it is important that the equipment be used for its intended purpose. Any use of this equipment for purposes other than those intended will void all warranties.

Standards

Installation and/or troubleshooting should be performed only by qualified personnel. Perform all installation, wiring, and maintenance in conformance with local building and electrical codes. Adherence to the National Electrical Code (NEC) is mandatory. Non-adherence to code may void the warranty.

Safety and Usage Precautions



Do not install poles without EverGen systems and luminaire(s).

Be very careful when working with batteries, solar panels, and their wiring.



Do not allow bare ends of any wires to touch each other or grounded metal parts. This could damage the EMS, and void the warranty.



Make sure the polarity of the solar panels is correct. Failure to do so will result in damage to the EMS, and void the warranty.



Do not cut the wires attached to the EMS, which will void the warranty and make future maintenance problematic.

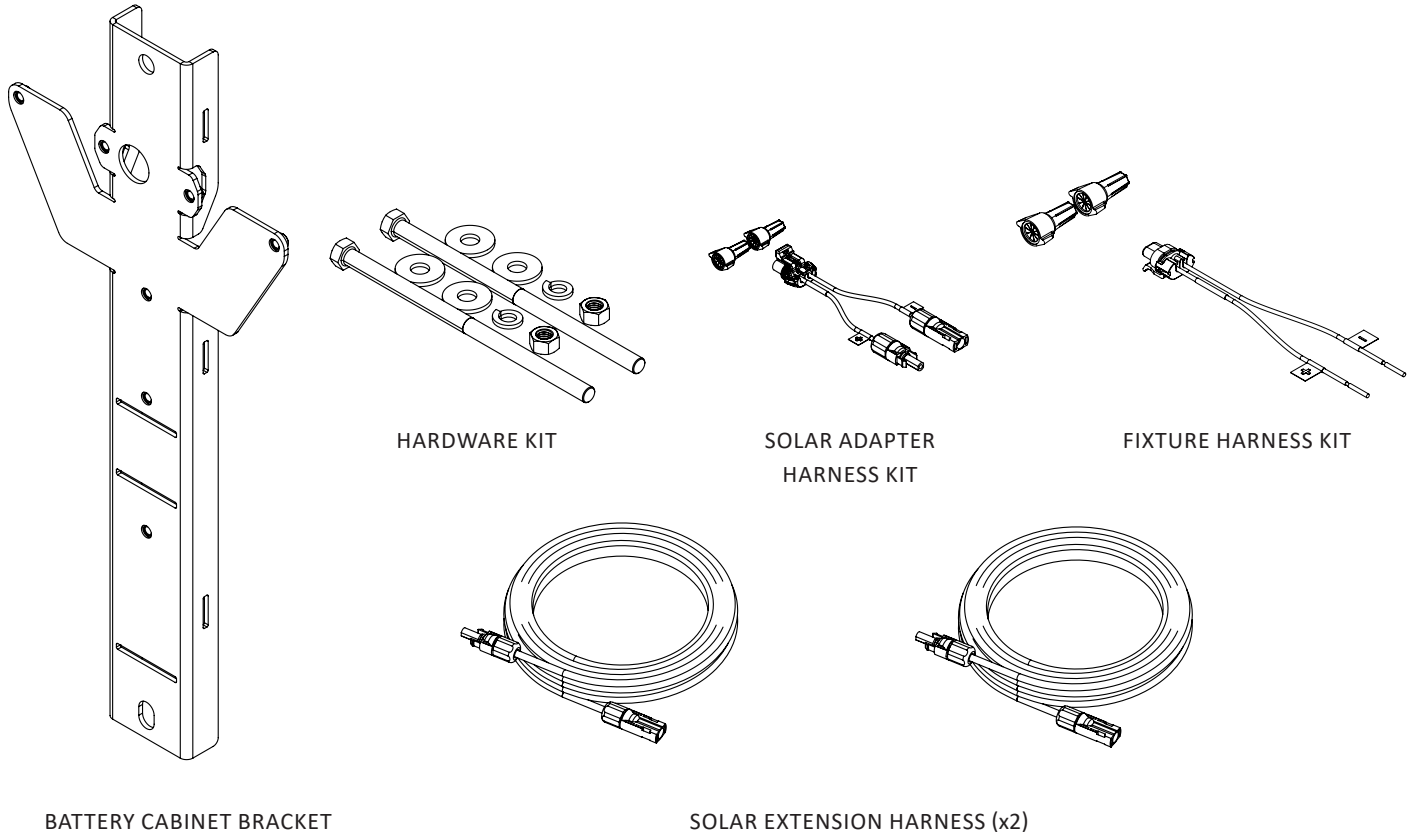


Changes or modifications to Sol equipment not expressly approved by Sol could void the user's authority to operate the equipment.

Introduction

The EverGen low-mount battery cabinet kit allows the installation of the EverGen battery cabinet at a location other than the top of the pole. The EverGen low-mount battery cabinet kit must be used in conjunction with an EverGen battery cabinet system.

Components



Tools and Equipment

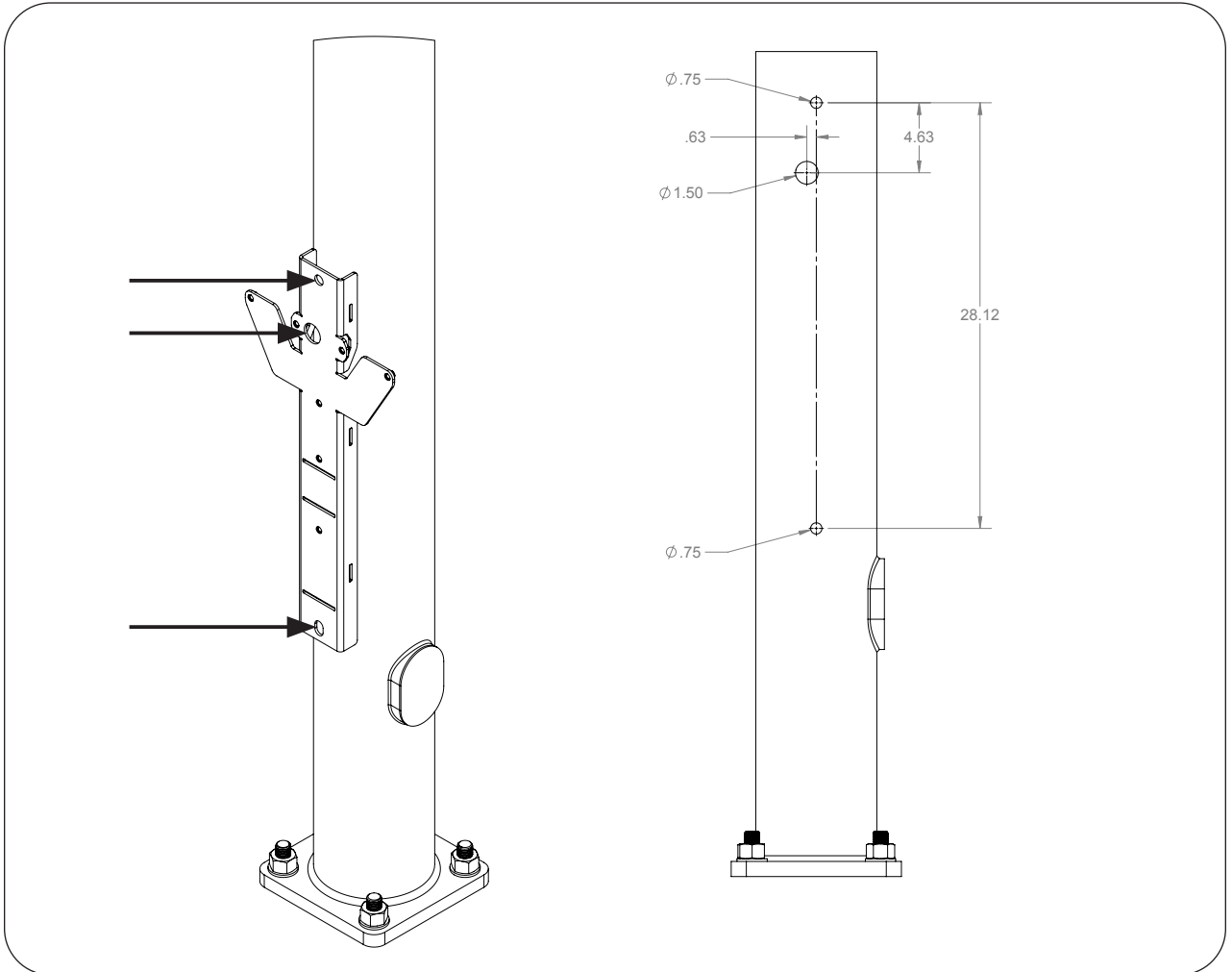
Tools Required

- a. 1-1/2" hole saw or drill
- b. 3/4" drill (if through-bolting)
- c. 15/16" socket and wrench (if through-bolting)
- d. 9/16" socket
- e. Banding and equipment (if banding)
- f. Wire cutters (if required)
- g. Wire stripper (if required)

Assembly

1

Place the bracket against the pole in the desired mounting location and mark the three holes shown. If mounting with banding, only mark the middle wire entry hole. (If the pole already has holes for a Sol battery cabinet bracket, proceed to Step 4.)

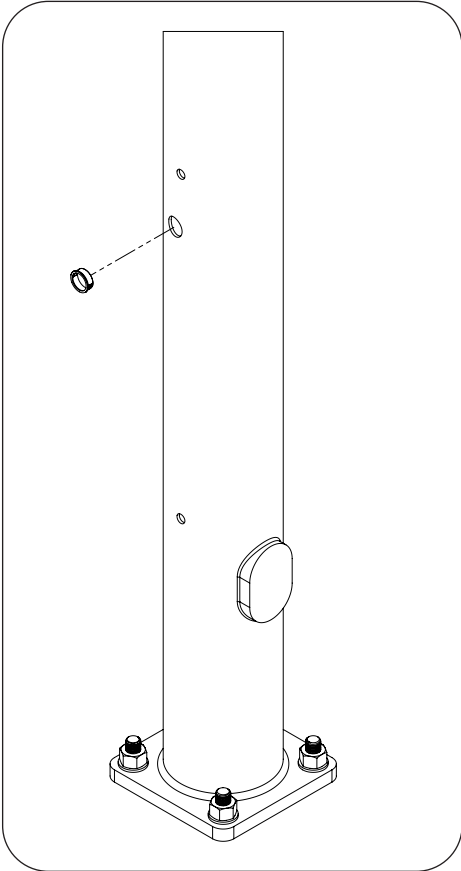


2

Drill holes in the locations marked in Step 1 shown. If mounting with banding, drill only the 1.5" wire entry hole.

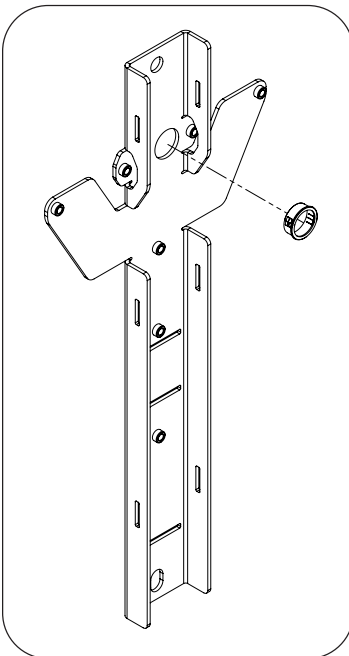
3

Insert one of the bushings supplied in the EverGen system hardware kit into the 1.5" hole in the pole as shown.

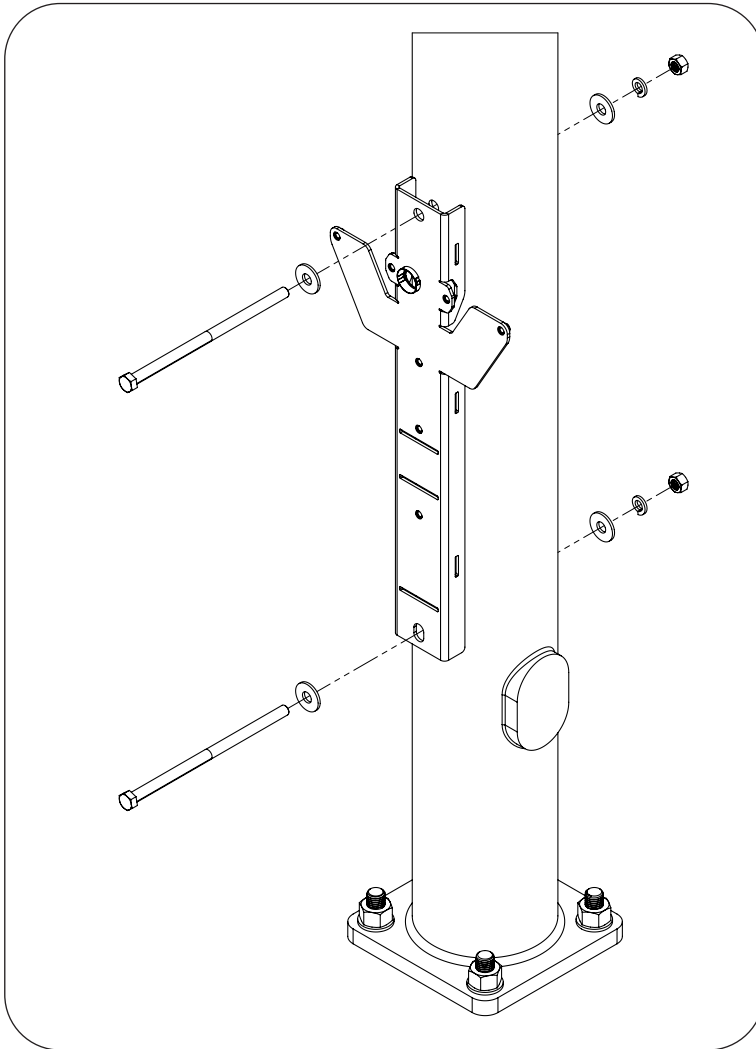


4

Insert the other bushing from the EverGen system hardware kit into the 1.5" hole in the bracket as shown.

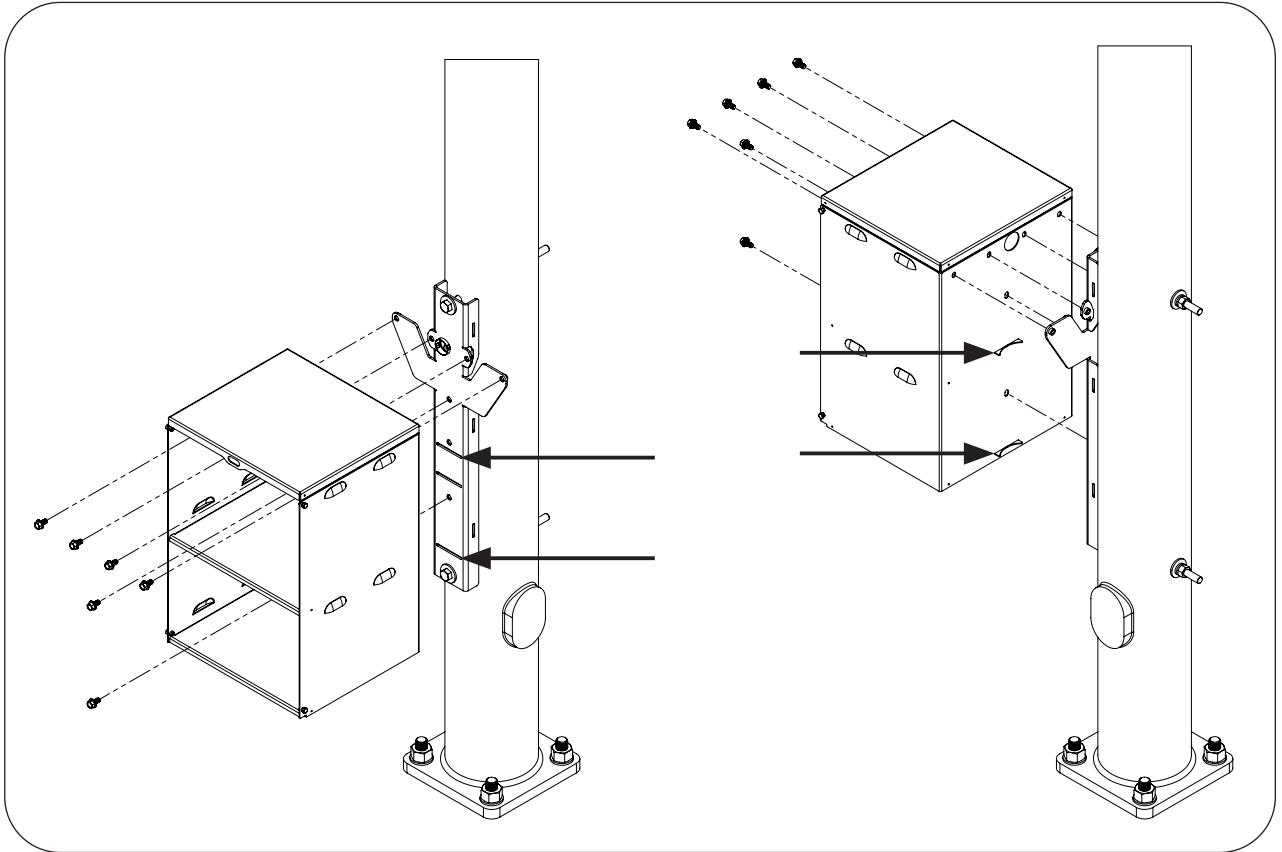


- 5 Fasten the bracket to the pole as shown. Torque the nuts to 72 ft-lbs. If banding, use the slots provided in the sides of the bracket following the banding manufacturer's instructions.



6

Use the six 3/8"-16 bolts provided in the EverGen system hardware kit to fasten the battery cabinet to the bracket as shown. Apply grease to prevent thread galling, and torque to 201 in-lbs (17ft-lbs). Note that the curved tabs on the back of the cabinet fit into the bracket slots. (The Large cabinet is shown below; when the Small battery cabinet is installed, different holes and tabs will align with features in the bracket.)



7

For retrofit applications where the existing solar panel or fixture harnessing is to be reused, please see Appendix A: Retrofit Solar Harnessing and Appendix B: Retrofit Fixture Harnessing before proceeding.

8

Connect the supplied solar extension harnesses to the system solar panel(s), and route them down through the pole and into the battery cabinet. Do not connect the solar panel harnesses to the EMS connectors; this is to be done after the other EMS connections are made.

9

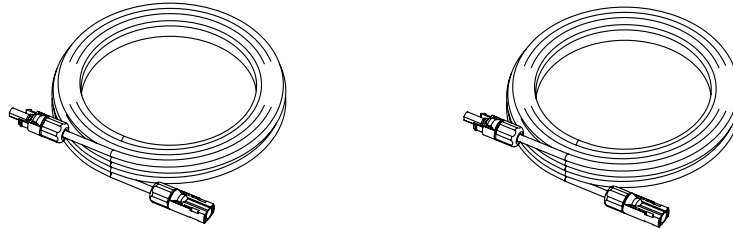
Route the fixture harness supplied with the EverGen system from the fixture, through the arm and pole, and into the battery box. Connect the fixture harness connector to the EMS.

10

See the EverGen M Series User Manual for the remaining installation steps along with additional details for some of the above steps.

Appendix A: Retrofit Solar Harnessing

If possible, please use the solar extension harnesses provided between the solar panel(s) and the EMS. If you are unsure about any aspect of the solar panel wiring, please contact Sol Technical Support for assistance.

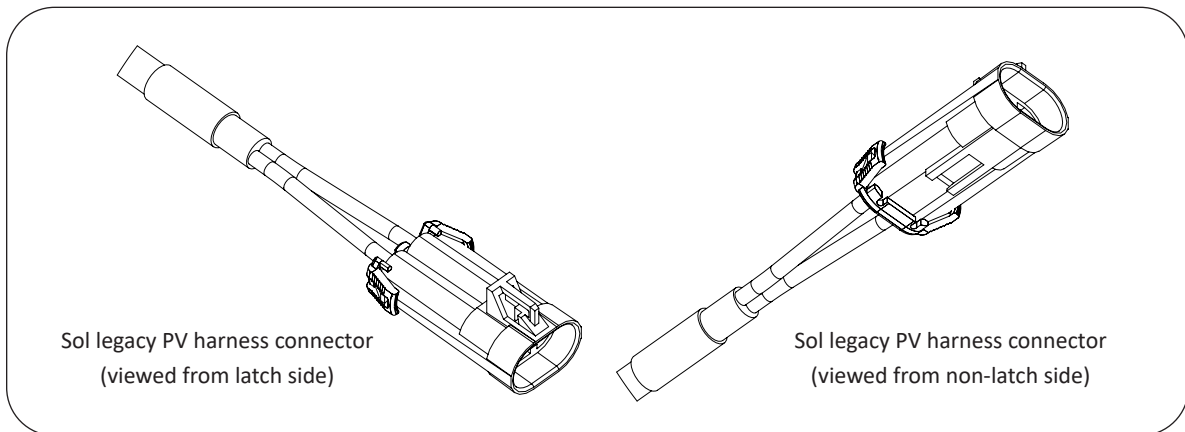


Solar extension harnesses
(MC4 connectors both ends)

If the existing solar harness must be reused, follow the steps below.

1

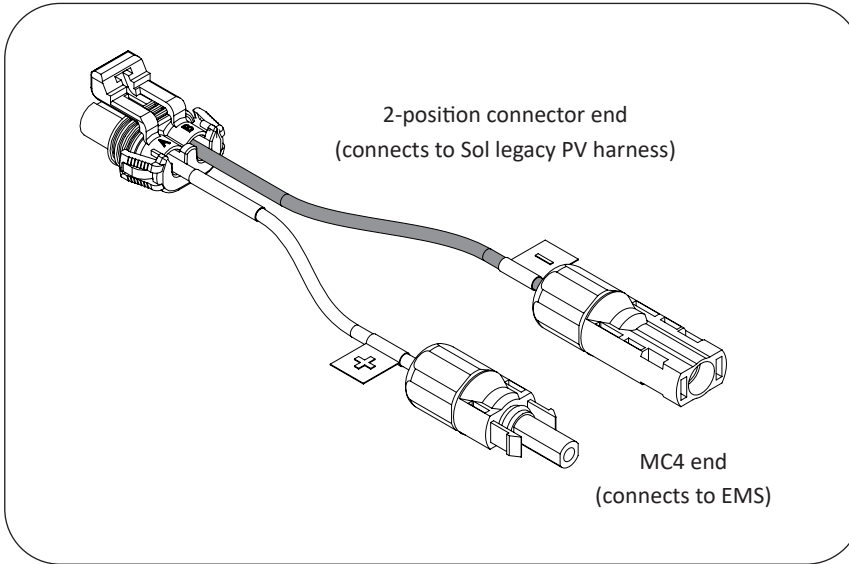
Identify the bottom, EMS end of the solar panel cable to be reused (the end farthest from the solar panels). Inspect it to see if it matches the Sol legacy PV harness connector shown below.



Sol legacy PV harness connector
(viewed from latch side)

Sol legacy PV harness connector
(viewed from non-latch side)

- 2 If the solar cable connector matches the one above, connect it to the 2-position connector end of the solar adapter harness (included with the low-mount kit and shown below) and proceed to Step 4.



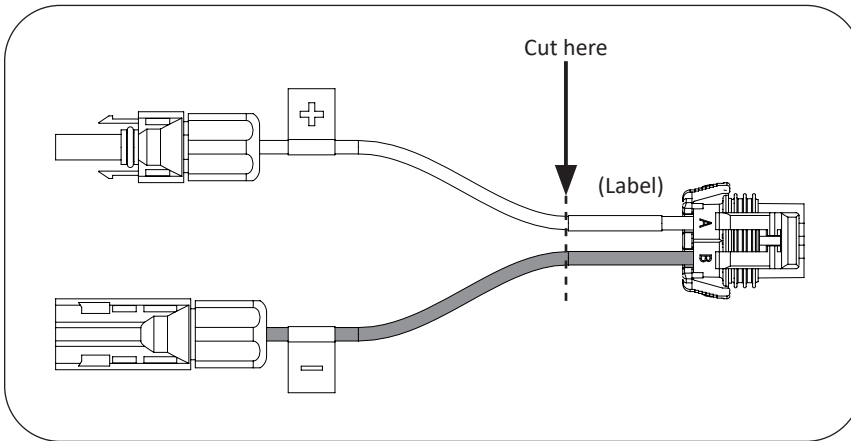
- 3 If the solar cable connector isn't present or doesn't match that shown in Step 1, follow the steps below to splice in the solar adapter harness using the included wire nuts:

- A Very carefully identify the polarity of the solar conductors using a voltmeter set to VDC mode, and with the multimeter leads connected to the correct inputs for voltage measurement. Mark the polarity of the conductors. See table below for likely solar wire insulation colors:

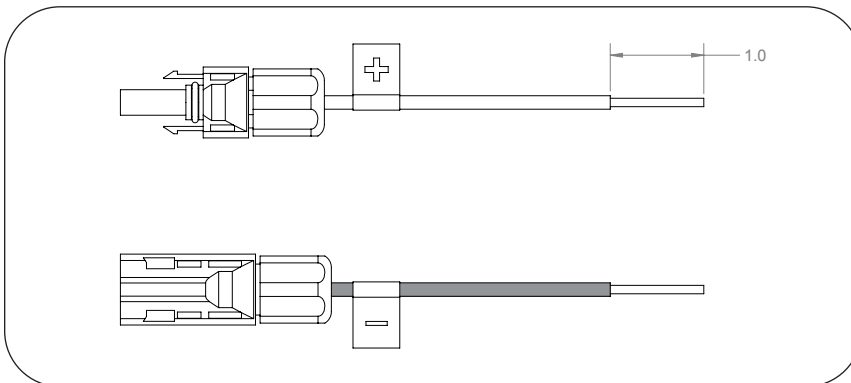
Solar wire polarity	EverGen EMS solar wire color	Solar adapter harness wire color	Sol solar wire color, 2015 forward	Sol solar wire color, pre-2015
Positive	White	White	White	Orange
Negative	Black	Black	Black	Black

- B Cover the solar panel with a suitable opaque material so that it won't generate electrical energy while you're splicing in the adapter harness.

- C Cut the white and black wires of the adapter harness beside the label as shown below.

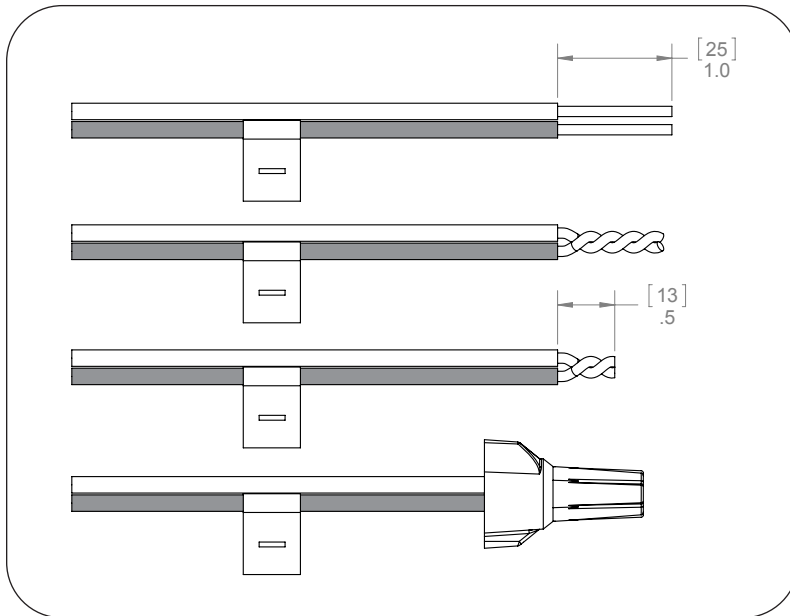


- D Strip the two wires of the adapter harness 1" (25mm) as shown below.



- E Cut and strip the positive and negative ends of the existing solar cable to 1" (25mm).

- F** Twist together the black adapter wire and negative wire from the solar panel, trim to 1/2" (13mm), and insert the twisted wire bundle into the wire nut and twist clockwise until tight.



- G** Repeat Step F for the positive cables.

- 4** Continue to Assembly Step 9 on Page 8.

Appendix B: Retrofit Fixture Harnessing

If possible, please use the provided fixture harness to connect the fixture to the EMS. If the existing fixture harness is to be reused, follow the steps below.



DO NOT ALLOW BARE ENDS OF ANY WIRES TO TOUCH EACH OTHER OR GROUNDED METAL PARTS. THIS COULD DAMAGE THE EMS, AND VOID THE WARRANTY.



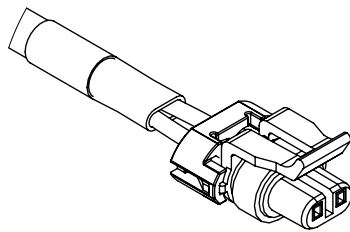
MAKE SURE THE POLARITY OF THE FIXTURE WIRING IS CORRECT. FAILURE TO DO SO WILL RESULT IN DAMAGE TO THE EMS, AND VOID THE WARRANTY.



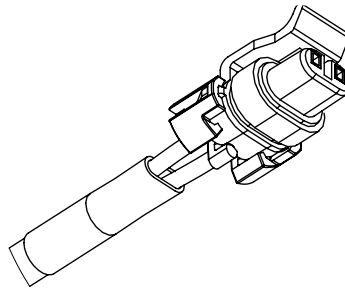
DO NOT CUT THE WIRES ATTACHED TO THE EMS, WHICH WILL VOID THE WARRANTY AND MAKE FUTURE MAINTENANCE MORE PROBLEMATIC.

1

Identify the bottom, EMS end of the fixture cable to be reused (the end farthest from the fixture). Inspect it to see if it matches the Sol legacy fixture harness connector shown below.



Sol legacy fixture connector
(viewed from latch side)



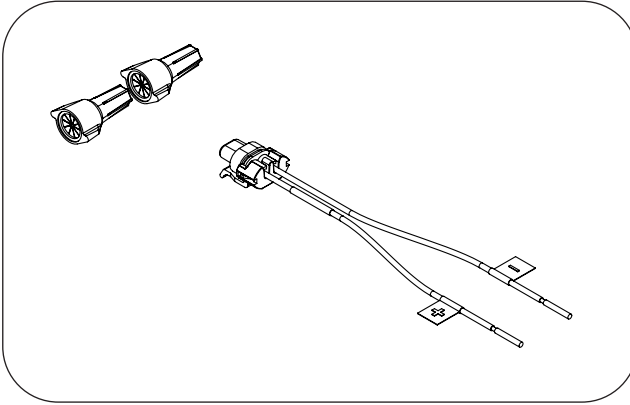
Sol legacy fixture connector
(viewed from non-latch side)

2

If the connector on the fixture cable to be reused matches the one above, connect it to the 2-position fixture connector on the EMS and proceed to Step 4 below.

3 If the connector on the fixture cable to be reused isn't present or doesn't match the one shown in Step 1, follow the steps below:

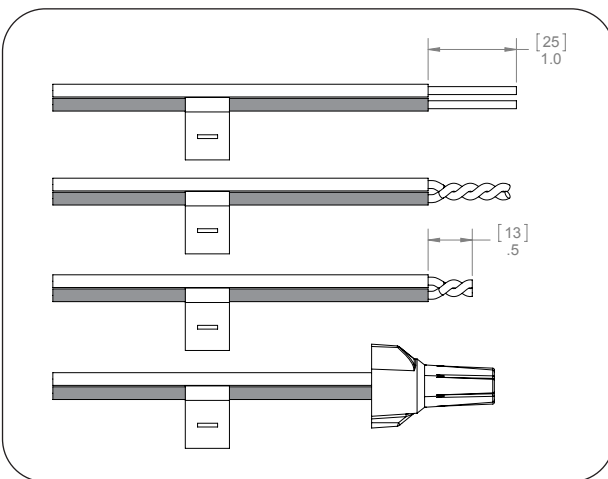
A Obtain the fixture cable provided with the EverGen system (shown below).



B Strip the wires of the fixture harness to be reused to 3/8" (10mm), and insert them into the correct 2-position wire connector. See table below for common fixture wire color schemes.

Fixture wire polarity	EverGen wire color	Sol wire color, 2015 forward	Sol wire color, pre-2015
Ground	Green	Not present	Not present
Positive	Red	Red	Brown
Negative	Black	Black	Blue

C Twist together the **Black** adapter wire and **Negative** wire from the fixture harness, trim to 1/2" (13mm), and insert the twisted wire bundle into the wire nut and twist clockwise until tight. Repeat with the **Red** adapter wire and the **Positive** wire from the fixture harness.



4 Connect adapter to EMS.

Warranty

This product is covered by the Sol warranty. Visit www.solarlighting.com for additional information or contact the customer service department.

Before contacting Sol's customer service department, please have the serial number of your system available, a brief description of the problem, as well as all details of the installation.

To contact Sol's customer service department:

- Mail:** Sol by Sunna Design
990 Biscayne Boulevard, Office 701,
Miami, FL 33132, USA
- Phone:** 1.772.286.9461
1.800.959.1329 (Toll Free in U.S. and Canada)
- Email:** customerservice@solarlighting.com
- Website:** solarlighting.com