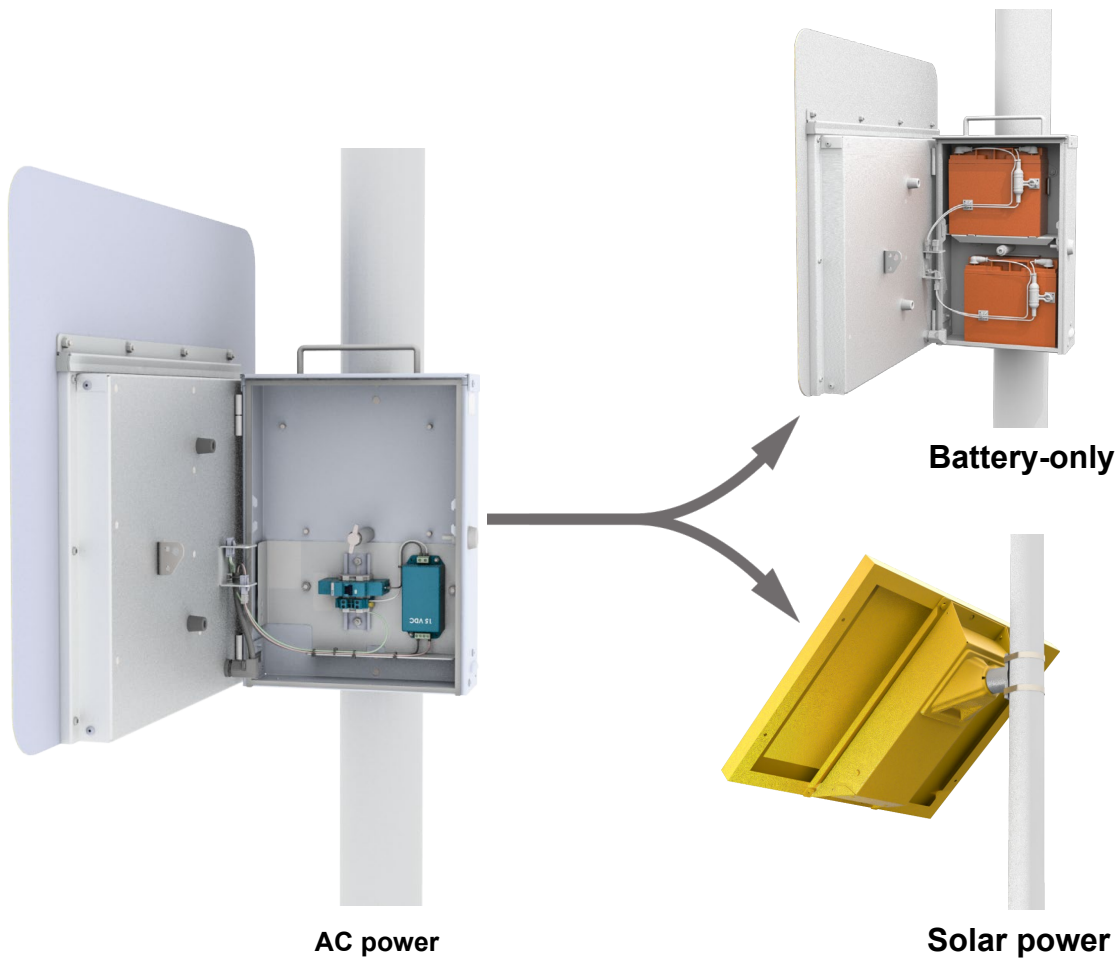


For the AC-powered SPEEDCHECK-12

89808_RETROFIT-GUIDE_SPEEDCHECK-12-AC-to-Battery-Solar_RevA

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1.0 Warnings and Precautions

The following symbols indicate important safety warnings and precautions throughout this guide:



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



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



NOTE suggests optimal conditions and provides additional information.

1.1 Warranty Disclaimer

This guide will familiarize you with the features and installation of the Carmanah AC to battery/solar retrofit kit for the SPEEDCHECK-12 radar speed sign. Failure to comply with the use, storage, maintenance, installation or placement instructions detailed in this guide could void the warranty.

1.2 Standards

Perform all installation, wiring, grounding and maintenance in conformance with local building and electrical codes. Adherence to the National Electrical Code (NEC) is mandatory to comply with any certification markings. Non-adherence to code may void the warranty.

1.3 Safety and Usage Precautions



Use extreme caution when handling the batteries as they can generate hazardous short-circuit currents. Remove all jewelry (bracelets, metal-strap watches, etc.) before entering the cabinet.



Before lifting any heavy or bulky equipment, ensure the load is secured so moving parts do not shift, and that it can be lifted as far as needed without back strain or loss of grip. Installation may require more than one person.



Ensure the equipment is not powered during installation and wiring of the system.



Recheck all completed wiring for proper polarity prior to energizing the system.



NOTE

Changes or modifications to Carmanah equipment not expressly approved by Carmanah could void both the user's authority to operate the equipment and the warranty.



WARNING

Product can have sharp edges. Accidental movement of hinged components can cause injury.

NOTE

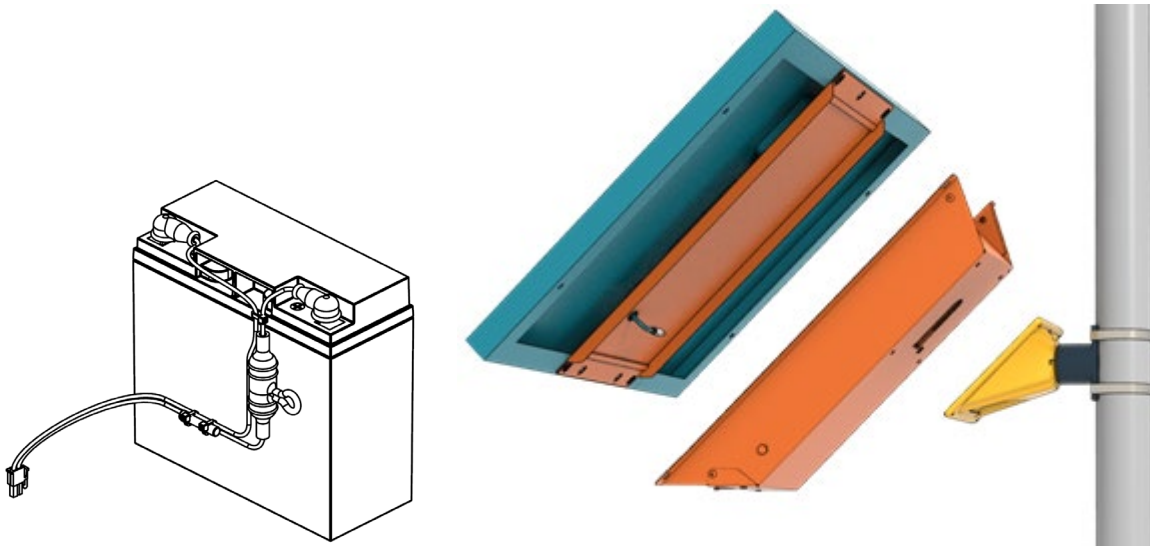
This guide is specific to retrofitting the SPEEDCHECK-12 radar speed sign from AC to battery/solar power and is not a replacement for the complete SPEEDCHECK-12 product user manual.

Visit support.carmanah.com to download the complete product user manual.

2.0 AC to Battery/Solar Retrofit Kit

The SPEEDCHECK-12 AC to battery/solar retrofit kit includes:

1. Battery kit (configuration varies, battery-only systems)
 - a. Includes 1 or 2 batteries, battery charger, brackets and mounting hardware
2. Solar kit (configuration varies, solar systems only)
 - a. Includes solar panel kit, wiring and battery kit (no AC battery charger)



3.0 Tools and Materials Required

The following tools and materials may be required to install the AC to battery/solar retrofit kit into your SPEEDCHECK-12 system:

1. Socket set
2. Electrical multimeter
3. Side cutters
4. Crescent wrench
5. Multi-bit screwdriver

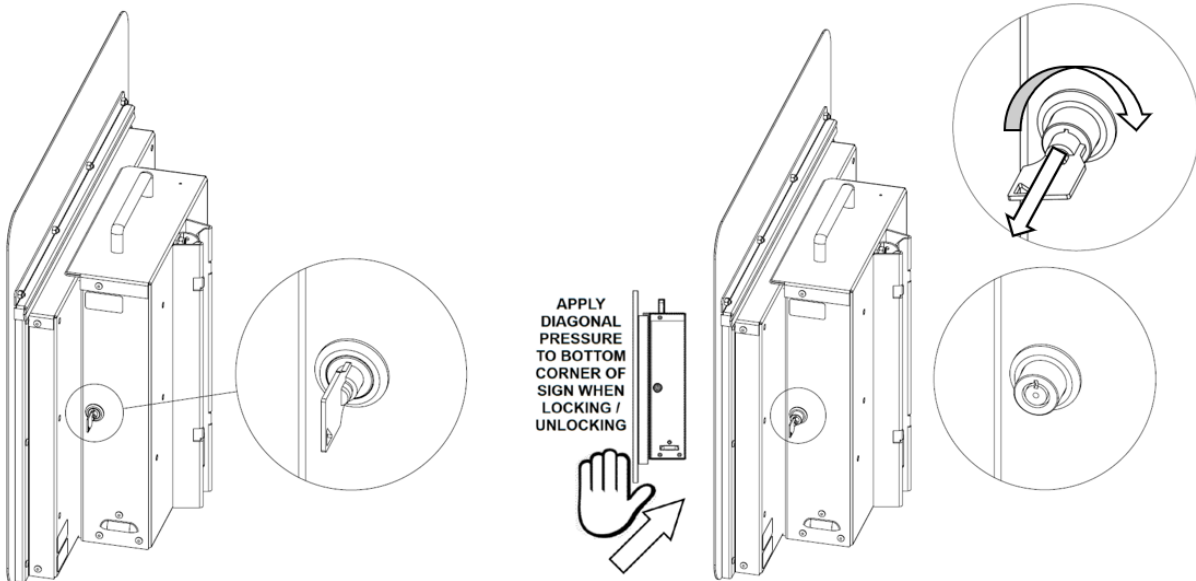
4.0 Installation

4.1 Removing AC Components

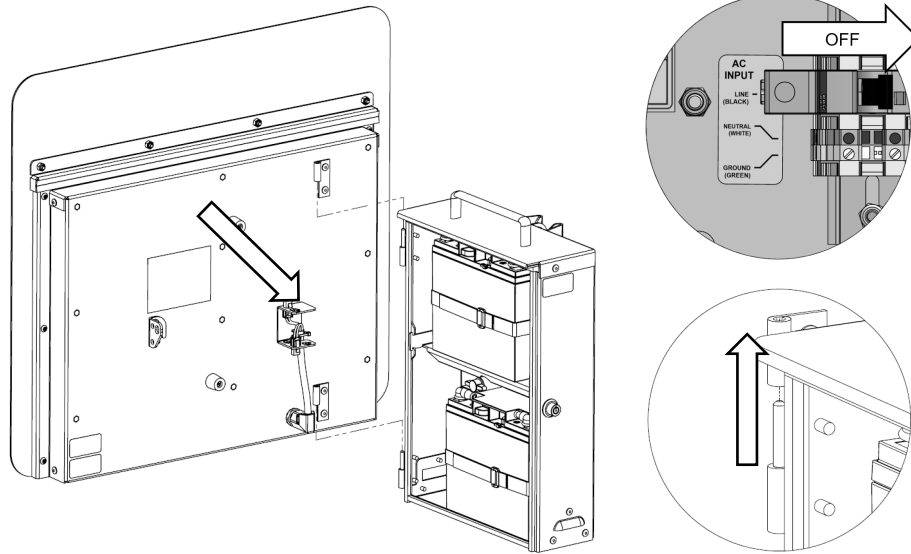


Live AC power will be present. Only qualified personnel should carry out the following retrofit.

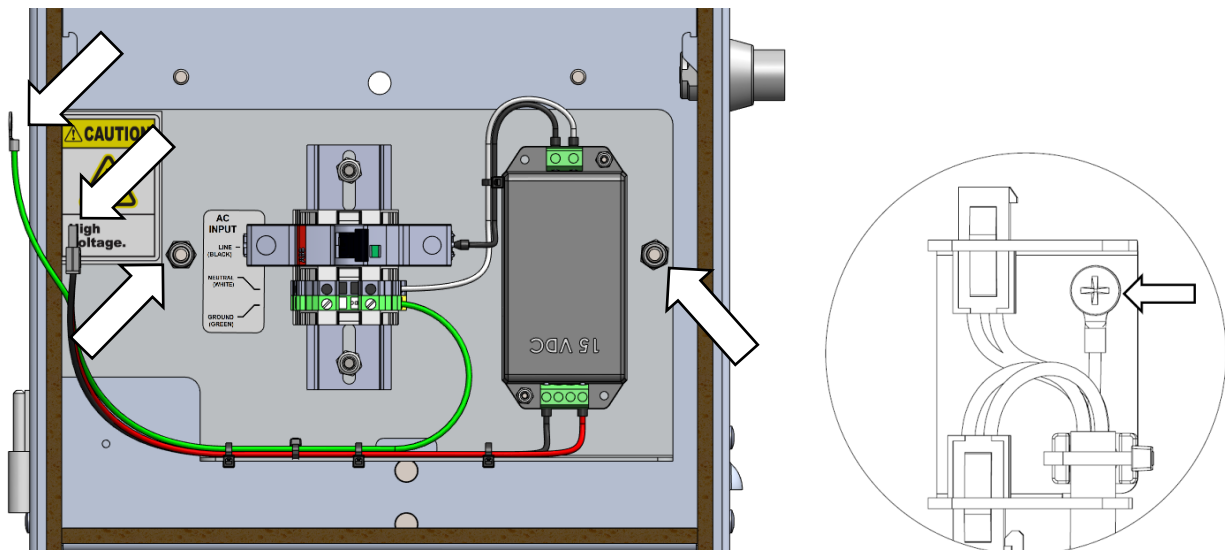
1. To open SPEEDCHECK-12, insert included key into lock and rotate clockwise.
2. Apply diagonal pressure to the bottom right corner of the sign face then PULL on the key.
3. Once unlocked, the key can be removed.



4. Swing the display enclosure away from the rear enclosure.
5. Disconnect power to the system by switching off the breaker (to the right).
6. Disconnect all 2-pin and 4-pin connections at the display enclosure bracket.
7. Lift the display enclosure off of the rear enclosure hinges and set aside.



8. Isolate the source AC power. Confirm no power is feeding the SPEEDCHECK-12 before moving forward.
9. Remove the source AC wiring, green grounding wire, power supply harness and AC backplane mounting nuts. Remove the AC backplane from the system.



4.2 Installing Solar Components (if applicable)

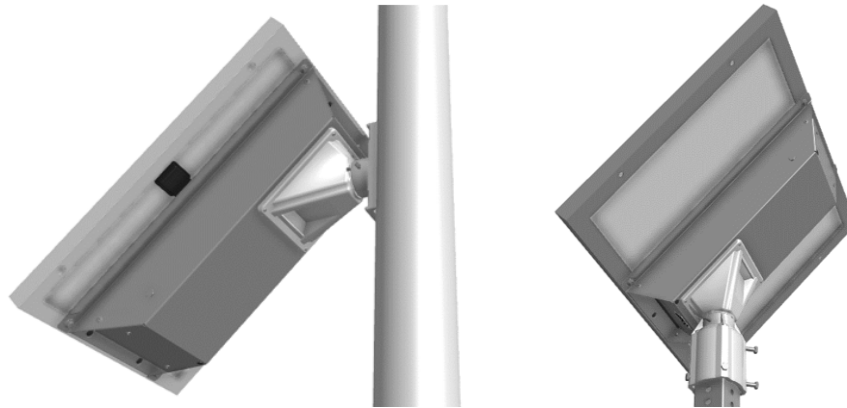


Battery installation should not be carried out in windy conditions. In all cases, the area at the base of the post must be roped off to prevent people from being injured or killed by falling batteries.



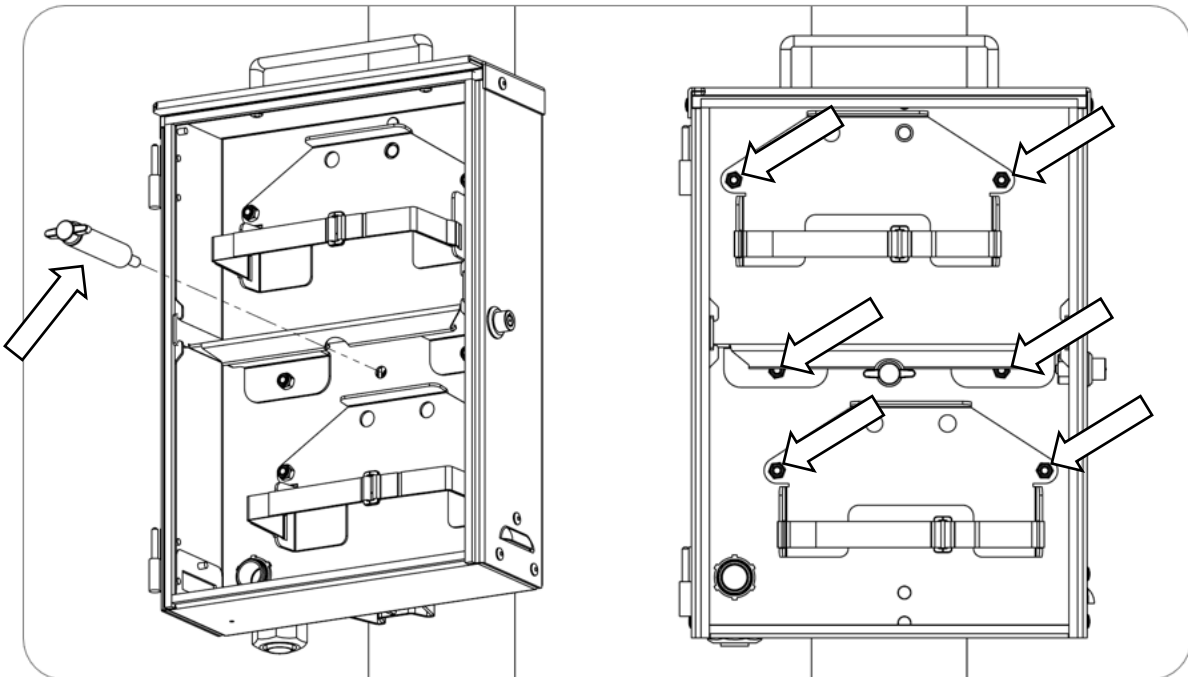
The solar housing may contain additional batteries. See the SPEEDCHECK-12 manual for more information.

1. If adding solar to this retrofit, refer to the SPEEDCHECK-12 manual for solar kit and mount installation details. The SPEEDCHECK-12 manual can be found on the Carmanah website: support.carmanah.com.

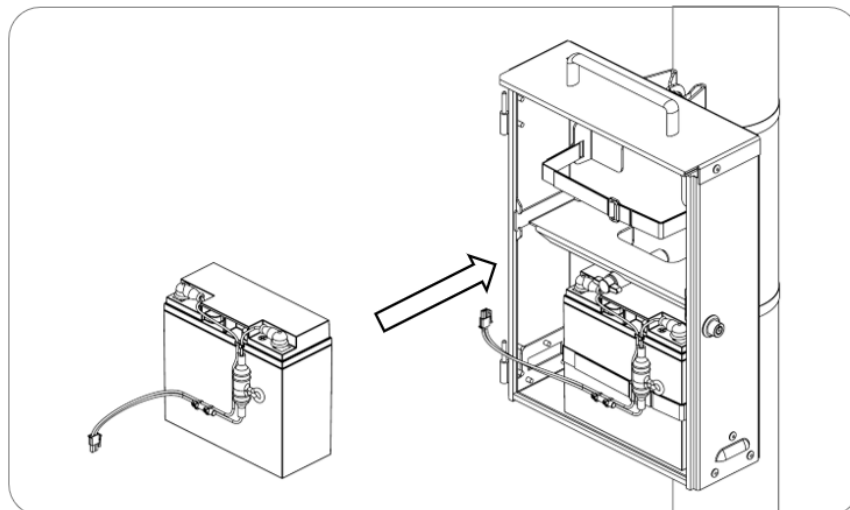


4.3 Installing Battery Components

1. Install battery brackets and battery shelf (as required). Torque nuts to 75 in-lbs.
 - a. Battery shelf only required for systems with two batteries. Single battery systems will not include a shelf and the battery will rest on the bottom of the rear enclosure.
 - b. Retaining bolt may need to be removed temporarily for easier access. Replace retaining bolt once completed if removed and tighten until the handle is horizontal.

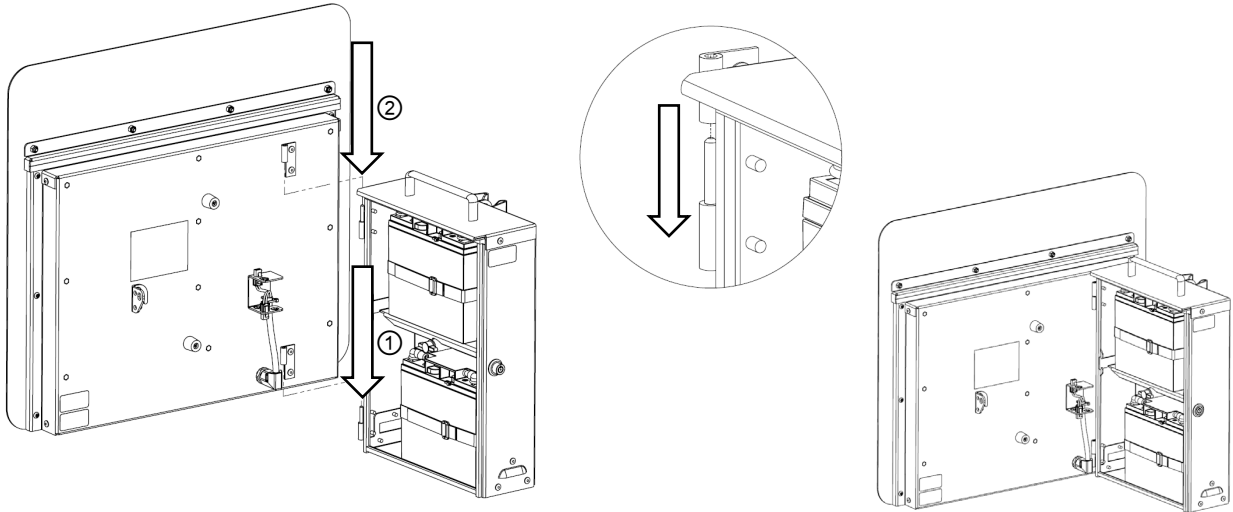


2. Install batteries in the orientation below and secure with battery straps. For systems with more than two batteries, refer to the SPEEDCHECK-12 user manual when installing the solar kit as per [Section 4.2](#).

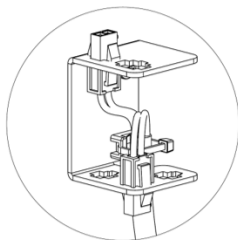


4.4 System Reassembly

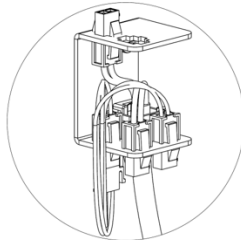
1. Lift the display enclosure onto the rear enclosure hinges as shown below.



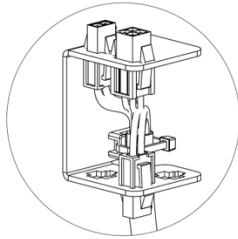
2. Connect harnesses to the display connector bracket as outlined below. Additional configurations shown below. All 2-pin connectors (power) are interchangeable.
3. Close the battery fuse holder(s).
4. To close, push the display enclosure against the rear enclosure and then apply diagonal pressure in the bottom right corner of the sign face. Once fully closed then PUSH the lock to secure in place.



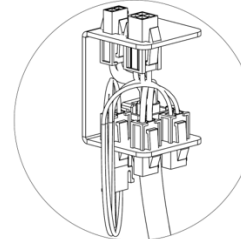
Battery Only



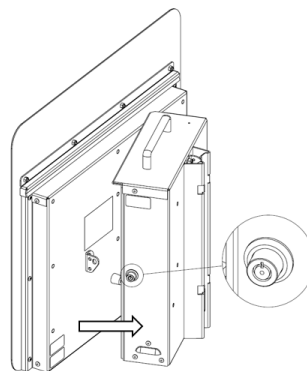
Solar Kit w/ Battery



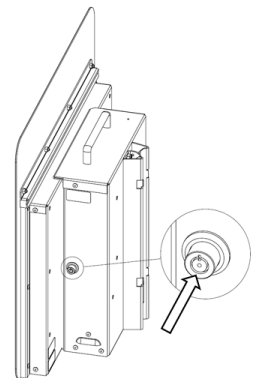
Battery Only w/ StreetHub



Solar Kit w/ Battery & StreetHub



APPLY
DIAGONAL
PRESSURE
TO BOTTOM
CORNER OF
SIGN WHEN
LOCKING /
UNLOCKING





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