

# Bil-Guard 2.0

## Roof Hatch Railing System

### Installation Instructions for all Models

RL2-S, RL2-STB, RL2-E, RL2-ETB, RL2-EYTB, RL2-F, RL2-FTB, RL2-NB, RL2-NBTB, RL2-L, RL2-LTB, RL2-SS, RL2-D, RL2-SV, RL2-CSTB, RL2-SS



Type RL2-S railing system and optional LadderUP® Safety Post shown

#### Installation Video

Scan this QR Code or visit [www.bilco.com/bil-guard](http://www.bilco.com/bil-guard) to watch the Bil-Guard 2.0 product installation video



#### Tools Required for Installation:

- Power drill with 9/32" & 11/32" drill bits
- (2) 1/2" Wrenches or sockets
- (2) 7/16" Wrenches or sockets
- (2) 9/16" Wrenches or sockets
- Allen wrenches: 1/8", 3/16", 7/64"
- Tape measure and level
- (2) Locking pliers
- Large flat blade screwdriver
- Utility knife
- Safety glasses and work gloves

Optional: (1) 2 x 4 x 8' wood and wood saw

#### Parts Lists

- (1) Gate Panel
- (4) Corner Brackets
- (2) Rail panels\*
- (8) Post mounting clamps\*\*
- (1) Hardware Package (contents listed at right)

The following components are also supplied only on select models used on roof hatches greater than are 59" and longer in length.

- Center Brackets
- Gate mounting posts

See Figure 6 on the reverse side

\* The number of railing panels supplied is dependent upon the roof hatch length. Roof hatches under 59" in length require two rail panels. Three or more panels are supplied for roof hatches that are 59" and longer in length.

\*\*The number of post mounting clamps supplied is dependent upon the roof hatch length. Eight brackets are supplied for hatches under 59" in length. The number of post mounting clamps varies for hatches that are 59" and longer in length.

#### Hardware Package Contents

- (1) Hex nut installation tool
- (4) 3/8"-16 stainless steel nylon insert hex nuts\*
- (16) 5/16"-18 stainless steel flanged hex nuts\*
- (16) 1/4"-20 x 5/16" stainless steel acorn nuts\*
- (16) 1/4"-20 x 2-1/2" stainless steel hex head bolts\*
- (16) 5/16"-18 x 1" stainless steel hex head bolts\*
- (4) 3/8"-16 x 4-3/4" stainless steel hex head screws\*
- (8) 13/32" stainless steel flat washers\*
- (16) 11/32" stainless steel flat washers\*

\* Additional hardware is supplied for models designed for longer roof hatches with center mounting brackets

- (1) 3/8"-16 x 7-1/2" stainless steel hex head screw (used on railing systems with two post connection)

#### STEP 1: Attaching corner brackets to flashing

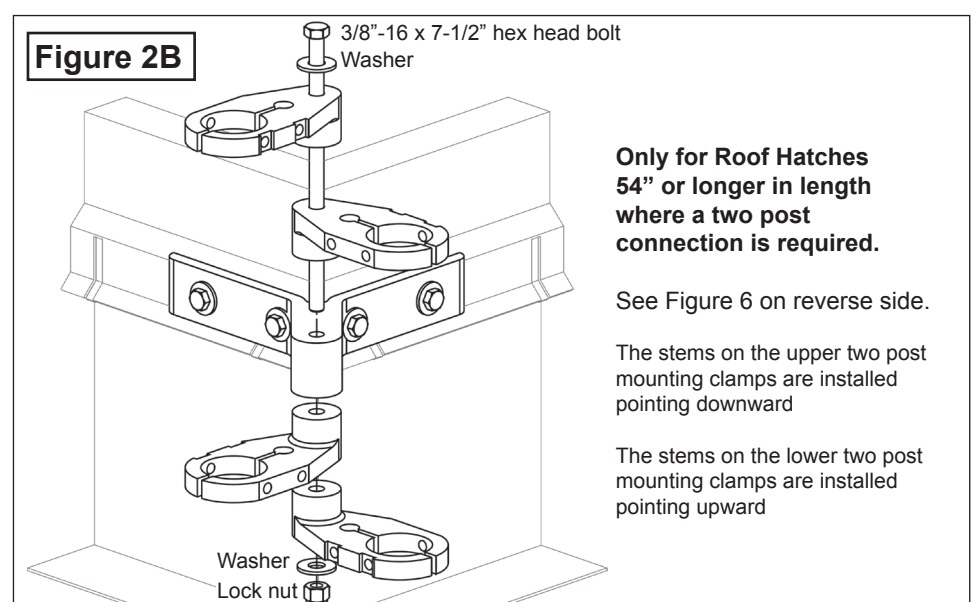
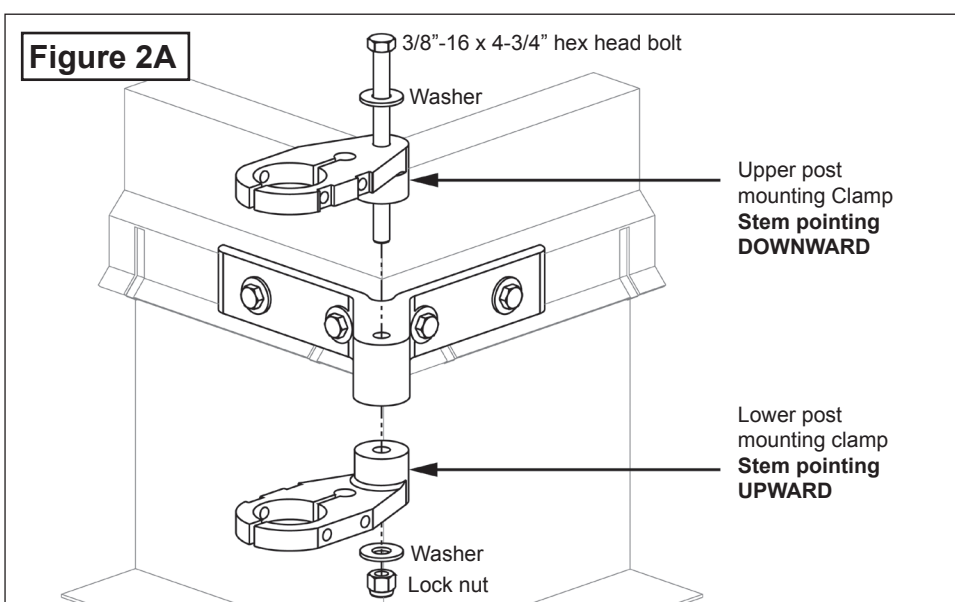
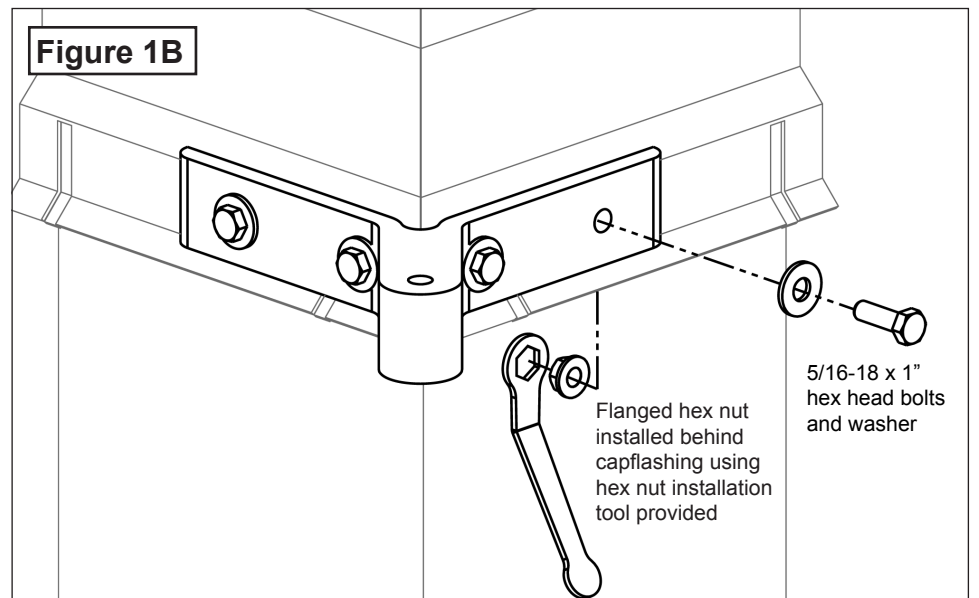
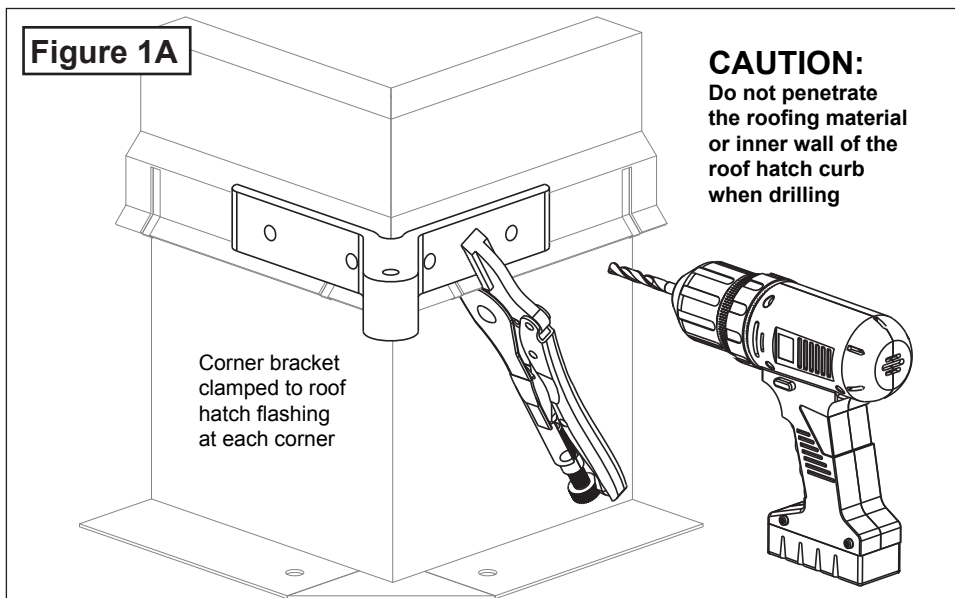
Mounting holes are provided in each of the (4) corners of the capflashing on BILCO roofing products. If mounting holes are not in place in capflashing, position and clamp the corner mounting brackets with locking pliers as shown in Figure 1A. Using the brackets as a drilling template, drill (4) 11/32" mounting holes in the capflashing. (CAUTION: Do not penetrate the roofing material or inner wall of the roof hatch curb when drilling). Fasten corner bracket to the cap flashing using (4) 5/16-18 x 1" hex head bolts, (8) 5/16" flat washers, and (4) 5/16"-18 locknuts as shown in Figure 1B. Repeat this process on all four roof hatch corners.

Note: Hatches 59" and longer will also require a center mounted bracket as shown in Figure 6 on the reverse side. This same process is used to attach the center mounting bracket to the roof hatch flashing.

#### STEP 2: Attaching post mounting clamps

Attach (2) post mounting clamps to each corner bracket using (1) 3/8"-16 x 4-3/4" hex head bolt, (1) 13/32" washer, and (1) 3/8"-16 hex lock nut as shown in Figure 2A. Hand-tighten so that the post mounting clamps are free to rotate (these bolts will be fully tightened after the railing panels have been installed).

Railing Systems for hatches that are 54" and longer in length require a two post connection on the corner opposite the access side as shown in Figure 6 on the reverse side. The corner bracket at this location requires (4) post mounting clamps as shown in Figure 2B. The installation process is the same as above but uses the 3/8-16 x 7-1/2" hex head bolt provided to accommodate the height of the additional mounting clamps.



**Only for Roof Hatches 54" or longer in length where a two post connection is required.**

See Figure 6 on reverse side.

The stems on the upper two post mounting clamps are installed pointing downward

The stems on the lower two post mounting clamps are installed pointing upward

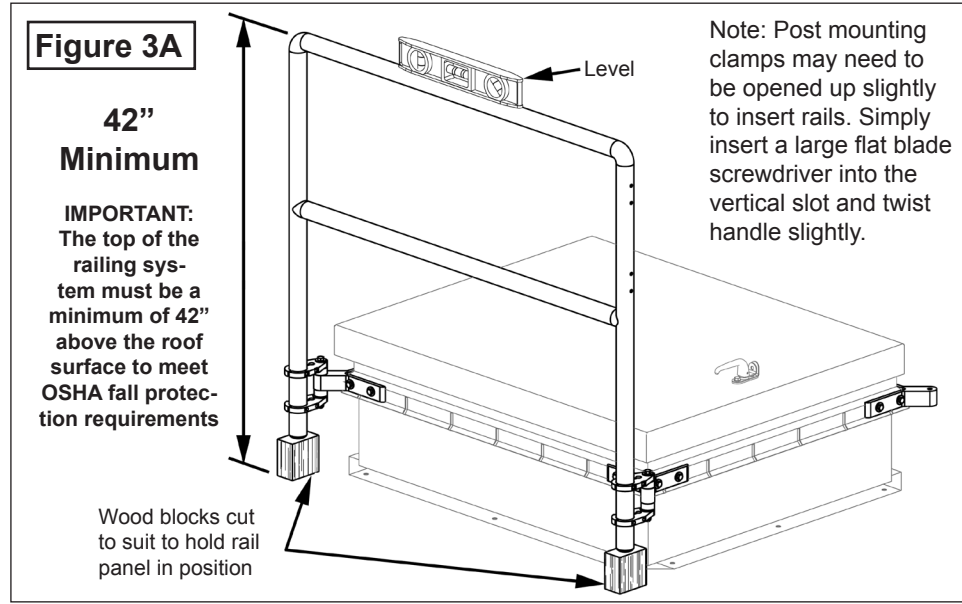


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**STEP 3: Installing rail panels**

Note: Railing systems for roof hatches that are **59" or greater in length** require side panel assembly before installation. See **Figure 6** below for instructions.

Slide one side panel into post mounting clamps as shown in Figure 3A. Note: Side panels (gate mounting posts on larger roof hatches) are pre-drilled to accept gate hinges and supplied with a factory installed latching mechanism. Make sure that both the hinge holes and the latching mechanism are positioned on the exit side of the roof hatch as **shown in Figure 4A**. **IMPORTANT:** The top of rail must be 42" above the roof level to meet OSHA requirements). To simplify installation, measure and cut 2 x 4 wood block spacers and position them under the posts as **shown in Figure 3A**. Verify that the side panel is level and secure to post clamping brackets in each corner using (2) 1/4"-20" x 2-1/2" hex head bolts and 1/4"-20 acorn nuts in the position 1 hole only as **shown in Figure 3B**. Note: Bolt heads should be inserted into the slots on the post mounting brackets. Repeat process to install second side panel on smaller roof hatches and gate mounting post and end panels on longer roof hatches (See **Figure 6**).



**STEP 4: Attaching gate**

The gate panel is supplied with factory installed hinges and latch strike pin. Position gate panel against side panel (or gate mounting post) and align the hinge and side panel mounting holes as **shown in Figure 4A**. Attach each hinge to the side panel using (2) 1/4-20 x 2-1/4" pan head and loosely secure screws with 1/4-20 acorn nuts. Adjust gate position to align gate latch strike pin with latching mechanism on side rail by rotating post mounting clamps as **shown in Figure 4B**. Note: Proper clearances between the gate panel and the side panel posts are 1/4" on the hinge side and 3/8" on the latching side. Fully tighten hinge screws once the gate panel is in proper position.

**Step 5: Installing final bolts**

Using a 9/32" drill bit and using the position 2 holes in the post mounting clamp as a template, drill through the side panel post in each corner as **shown in Figure 5A**. Insert 1/4-20 x 2-1/2" hex head bolts so the head of the bolt is aligned with slot on clamp. Secure each bolt using a 1/4-20" acorn nut as **shown in Figure 5B**. With all of the post mounting clamp bolts fully secured, fully tighten the 3/8" corner mounting bolts in each corner and hinge bolts to complete the installation. **IMPORTANT: Do not overtighten bolts.**

