**Tools Required for Installation:**
- Power drill with 9/32” & 11/32” drill bits
- (2) 1/2” Wrenches or sockets
- (2) 9/16” Wrenches or sockets
- Allen wrenches: 1/8”, 3/16”, 7/64”
- Optional: (1) 2 x 4 x 8’ wood
- Safety glasses
- Wood saw
- Utility knife

**Parts Lists**
- (1) 3/8’-16 x 4-3/4” stainless steel hex head screws
- (16) 5/16”-18 x 1” stainless steel hex head bolts
- (16) 3/8”-16 x 4-3/4” stainless steel hex head screws
- (8) 13/32” stainless steel flat washers
- (32) 1/16” stainless steel flat washers
- (8) 13/32” stainless steel hex head screws
- 3/8”-16 stainless steel nylon insert hex nuts
- (32) 11/32” stainless steel flat washers*

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

Mounting holes are provided in each of the (4) corners of the capflashing on BILCO roof products. If mounting holes are not in place in capflashing, do not penetrate the roofing material or inner wall of the roof hatch curb when drilling. Fasten the corner bracket to the capflashing using (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). The stems on the lower post mounting clamp 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 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).

**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.

Tip: Use a needle nose vise grip or pliers to hold the washer and lock nut in place behind the capflashing.
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 the 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).

NOTE: Position the latching mechanism are positioned on the exit side of the roof hatch as shown in Figure 6A. The latch strike pin is supplied with an Allen wrench adjustment screw that allows you adjust the length of the strike pin. The latching mechanism is also supplied elongated mounted holes for vertical height adjustment.

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.

Figure 3A

42" Minimum

IMPORTANT: The top of the railing system must be a minimum of 42" above the roof surface to meet OSHA fall protection requirements.

Figure 3B

1/4"-20 x 2-1/2" hex head bolt

Engage bolt heads in notches provided in post mounting clamps

Figure 4A

Align hinge holes on the gate panel with the pre-drilled holes on the side panel (or gate mounting post) and loosely secure using 1/4-20 x 2-1/4" pan head screws and acorn nuts.

Figure 4B

Gate Panel with latch strike pin

Loosen allen wrench screw to adjust strike pin length

Figure 5A

Using the mounting clamp position 2 hole as a template, drill completely through the aluminum rail to the opposing hole in the mounting clamp.

Figure 5B

1/4"-20 x 2-1/2" hex head bolt

Engage bolt heads in notches provided in post mounting clamps

Figure 6

End Panel

Gate mounting post

Center mounting Bracket

Install in center of flashing per STEPS 1 & 2 and Figures 1A, 1B, & 2A on reverse side

Installation Requirements for Roof Hatches 54" and Greater in Length

For Roof Hatches 59" and greater in length, the side rail panel is supplied in two sections for ease of shipment. To connect these sections, simply slide the open ended section onto the fittings on the mating section as shown on the right. Secure the railings to the fittings by tightening the allen head screws as shown.