

4-Bar Hinge Limit Device Installation Instructions

I. Applications:

For Awnings, Hoppers, and 4-Bar Casements when a limit device is requested.

II. Tools Required:

Measuring tape or ruler, drill, 1/4" drill bit, #29 drill bit, Phillips screwdriver / drill, and pencil / marker.

III. Installation Instructions:

Limit Device Awnings and Hoppers (vent height > 13")

1. Open the window to desired opening size (Figure 1).
2. Insert Limit Stop.
 - 10" and 12" 4-bar Hinge → #27238, 1.71" Limit Stop
 - 16" 4-bar Hinge → #27239, 4.92" Limit Stop
 - 22" 4-bar Hinge → Limit stop included
3. Move the Limit Stop up against the slider and mark the hole location with a pencil (Figure 2).
4. With the Limit Stop at the desired location drill using a 1/4" drill bit until the drill is through THE 4-BAR HINGE ONLY (Figure 3). Clean out any shavings that may have occurred during the drilling process.
5. Using a #29 drill bit, drill through the outer wall of the Awning / Hopper window frame (Figure 3). Ensure that only the outer wall is penetrated.
6. With a Phillips screwdriver / drill use a #10 PHP-B 0.5 inch screw and tighten into previously drilled hole.

When Roto Operator hardware is present

7. Open the window to desired opening size.
8. On the vent side of the window use a pencil / marker mark the inside location of the sliding hinges (Figure 4).
9. With the sliders at the desired location drill using a 1/4" drill bit until the drill is through the sliding track. Clean out any shavings that may have occurred during the drilling process.
10. Using a #29 drill bit, drill through the outer wall of the Awning / Hopper window frame. Ensure that only the outer wall is penetrated.
11. With a Phillips screwdriver / drill use a #10 PHP-B 0.5 inch screw and tighten into previously drilled hole.

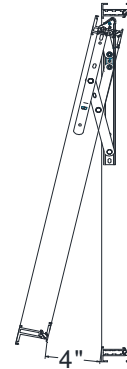


Figure 1:
Awning Set to 4" Opening
(350-T Shown)

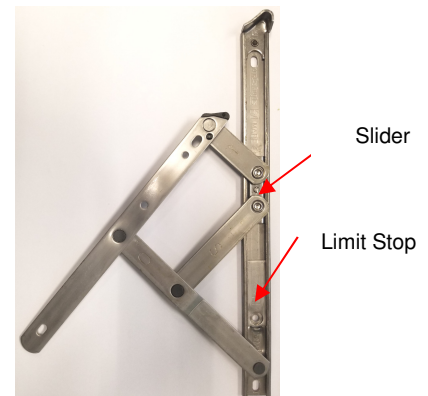


Figure 2:
Component Locations, 4-bar Hinge

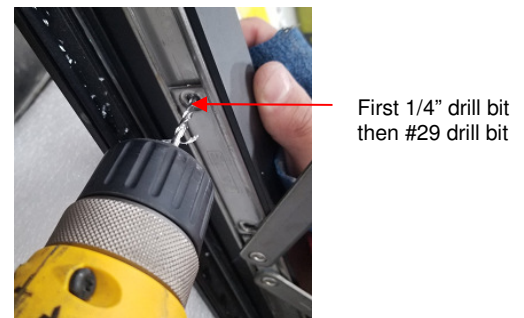


Figure 3:
Example Drill Hole Location
(Hopper Shown)



Figure 4:
Roto Operator Drill Hole Location
(Awning Shown)

Butt Hinge Limit Device Installation Instructions

I. Applications:

For Casements when a limit device is requested.

II. Tools / Parts Required:

Measuring tape or ruler, drill, limit device, 5/32" dia. drill bit, phillips screwdriver bit, 0.75" x 2.50" x 0.125" shim, #10 PHP-B 0.5" screw, #10 PHP-B 0.375" screw and pencil / marker.

Note: Add .250" to screw length if substituted with a sharp point screw.

IV. Installation Instructions:

- Open the vent to the full open position.
- From the interior measure out 10-1/2" as shown in Figure 1.
- Mark the hole locations and drill .250" deep holes with 5/32" dia. drill bit.
- Place the arm inside the track and fasten the arm to the frame (provided shim should be between the arm and the frame) with two (2) #10 PHP-B 0.5" screws (Figure 1).
- Close the vent to the desired opening distance, max 4".
- Place the arm to the maximum distance on the track (Figure 2).
- Mark the hole locations and drill .250" deep holes with 5/32" dia. drill bit.
- Fasten the bracket to the vent with two (2) #10 PHP-B 0.5" screws.

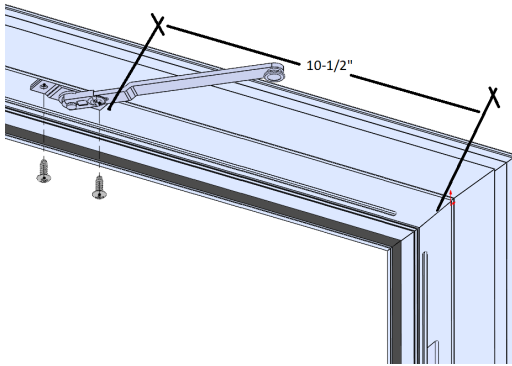


Figure 1:
Limit Arm Fastening (Series 350-T Shown)

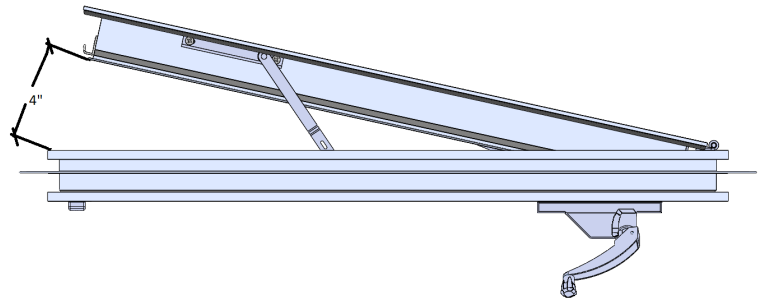


Figure 2:
4" Clear Opening (Series 350-T Shown)