

## 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.

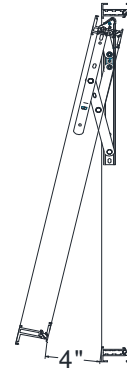
### III. Installation Instructions:

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

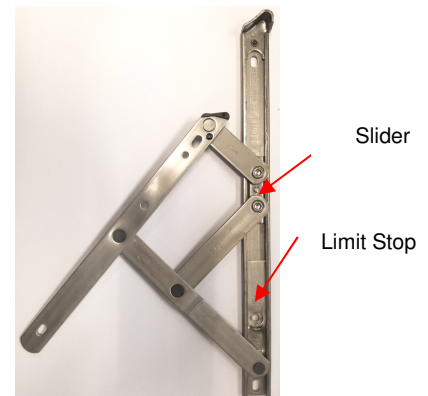
1. Open the window to desired opening size (Figure 1).
2. Insert Limit Stop.
  - 10" and 12" 4-bar Hinge → #27238, 1.71" Limit Stop
  - 16" 4-bar Hinge → #27239, 4.92" Limit Stop
  - 22" 4-bar Hinge → Limit stop included
3. Move the Limit Stop up against the slider and mark the hole location with a pencil (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

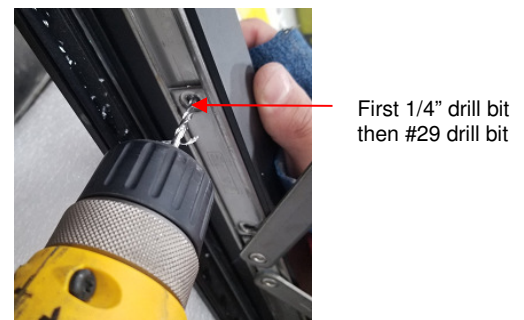
7. Open the window to desired opening size.
8. On the vent side of the window use a pencil / marker mark the inside location of the sliding hinges (Figure 4).
9. With the sliders at the desired location drill using a 1/4" drill bit until the drill is through the sliding track. Clean out any shavings 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 Butt Hinge Casements when a limit device is requested.

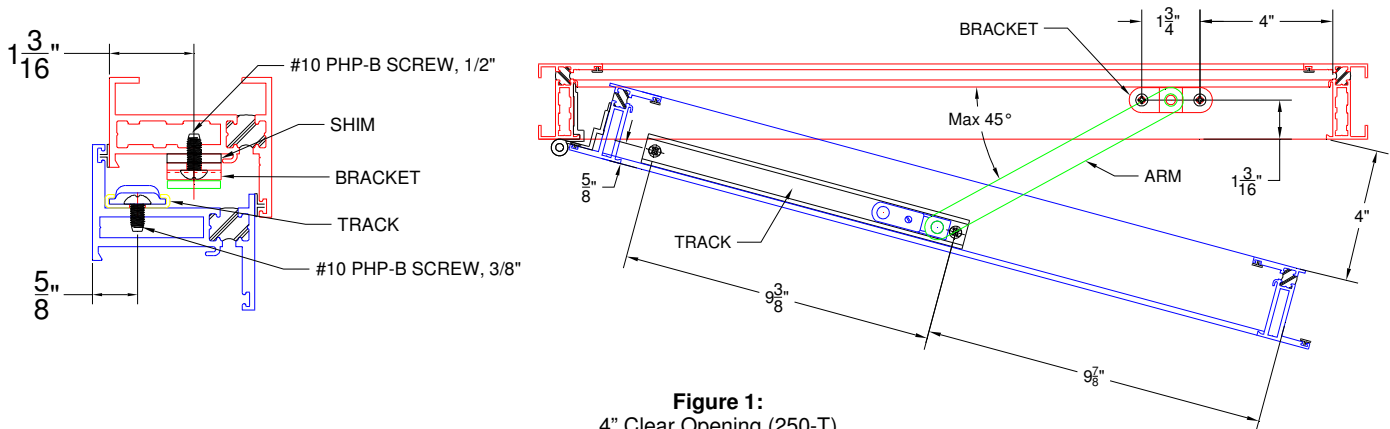
**II. Tools / Parts Required:**

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.

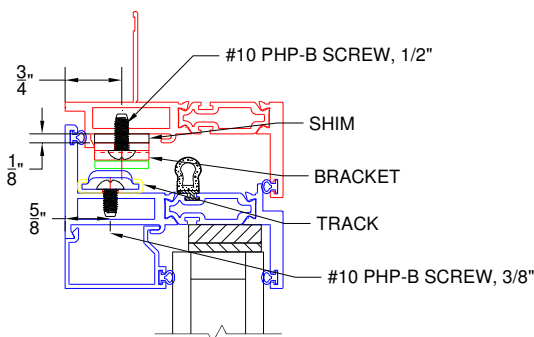
Note: Add .250" to screw length if substituted with a sharp point screw.

**IV. Installation Instructions:**

- Open the vent to the desired opening (Figure 1).
- Orientate the limit device on window.
- Mark location of four (4) holes (Figure 1 & 2).
- Drill .250" deep holes with 5/32" dia. drill bit.
- Install the bracket & shim to frame with two (2) #10 PHP-B 0.5" screw.
- Install the track to vent with two (2) #10 PHP-B 0.375" screw.



**Figure 1:**  
4" Clear Opening (250-T)



**Figure 2:**  
Screw Placement (450-T)