

# Elevate Vertical 1/2" MRF

## Mullion Kit Instruction for Field Application

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### Before You Begin

- More than one mull kit may be necessary. Field mulls beyond factory mull configurations are not recommended.
- When specifying or considering the structural load requirements for windows and doors, it is important to consider the method of fastening the unit(s) together in addition to the method of fastening multiple assemblies into an opening. The methods contained herein may not be appropriate for all performance requirements. Selection of the appropriate fastening method(s) is the sole responsibility of the installer, contractor, structural engineer, architect, building owner and/or installer.
- Do not stack Elevate Gliders.
- For assembly limitations beyond factory configuration sizes, contact your local Marvin dealer.
- **Please read through these instructions thoroughly and in their entirety before attempting to mull windows.**

#### IMPORTANT

Read these instructions thoroughly before beginning to assemble any multiple Marvin units. Failure to assemble as recommended will void any warranty, written or implied. Refer to specific product installation instructions for proper installation methods.

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#### WARNING!

Practice safety! Wear safety glasses or goggles and appropriate hearing protection when assembling multiple Elevate window and door products.

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#### WARNING!

Drilling, sawing, sanding or machining wood products can expose you to wood dust, a substance known to the State of California to cause cancer. Avoid inhaling wood dust or use a dust mask or other safeguards for personal protection. For more information go to [www.P65Warnings.ca.gov/wood](http://www.P65Warnings.ca.gov/wood).

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#### ***You Will Need to Supply***

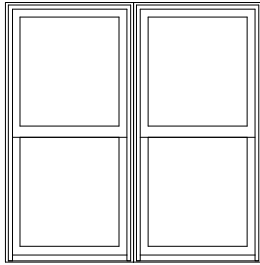
- Safety glasses
- Hearing protection
- Hacksaw
- 3/16" Crown x 1" leg 18 gauge staples with staple gun
- Phillips screwdriver
- Hammer
- Power Drill
- Diamond abrasive blade
- ASTM C920 Grade NS class 25 sealant with gun
- 1/4" Drill bit
- Clamps
- 3/16" Drill bit
- 1/2" Crown x 1" leg 16 gauge staples with gun
- 4 1/4" Clear vinyl tape or similar product

## Parts Kit

<b>1/2" Vertical MRF Mull Kit -ELDH, ELGL, ELDG-DH</b>		
<b>Components for 1/2" Vertical MRF Mull Kits - Lineal parts for kits are 96" long</b>		
<b>Description</b>	<b>Base kit quantity</b>	<b>Extra quantities needed or additional mulling</b>
End Plug 1/2" Space Mull Part # 11860389	2 per kit	2 Extra plugs ordered separately per additional mull
A3134 Mulling Pin, 1/2" Space Mull 2 X 96" (2438)	2 per kit	
V2789 Mull Weather Strip, 1/2" 96" (2438)	1 per kit	
PUR with 1 1/2" Tape 96" (2438) *a diamond abrasive blade is recommended for cutting MRF	1 per kit	
V2787 Mull Cover (w/Glazing Tape) 96" (2438)	1 per kit	
Center Plug Part #11860388	1 per kit	1 extra plug ordered separately per additional mull (when required)
W12870 Mull Support	1 per kit	
W1242 Mull Trim 96" (2438)	1 per kit	
Mull Bracket Part #11040358	1 per kit	
#7-19 x 5/8" Bracket Screw Part # 11800743	40 per kit	40 extra screws needed per additional mull
#8 x 1 3/4" End Plug Screw Part # 11808176	2 per kit	2 extra screws needed per additional mull
V119 Continuous Drip Cap 96" (2438)	1 per kit	For assemblies wider than 96", special parts are required
Nail Fin Connector Part #105000213	2 per kit	2 extra connectors are required per additional mull
<b><i>For more information on parts and part kits, please refer to the Part Manual.</i></b>		

<b>Part Cut Lengths</b>
1/2" Mulling Pin: Length = Assembly Height – 1 7/16"
Mull Weather strip: Cut each piece to fit as instructed in the procedures below.
1/2" MRF w/ Tape: Length = Assembly Height – 1 7/16"
Mull Cover w/ Tape: Length = Assembly Width
ELALDGRT Mull Support: Length = Assembly Height – 3/4"
ELDH-ELDH Mull Support: Length = Assembly Height – 3/4"
Continuous Drip Cap: Length = Assembly Width + 1/16"

**Mulling- Vertical Mullion on a Single High Assembly (Double Hung, Double Hung Picture, Direct Glaze, and Glider Units. Not used for doors or Marvin Round Top units)**



Remove and discard all shipping materials. Inspect the unit to ensure it is the right size, color, etc. and that there is no damage. If you find a discrepancy with your unit, contact your local Marvin representative and provide them with the customer service number located in one of the corners of the glass. See Figure 1.



Figure 1

1. Remove and set aside all screens and loose hardware.
2. Lay frames on a flat surface in the desired mulling configuration (interior, wood side facing up). Remove nailing fin from the jambs that will be mulled together. See Figure 2.

*NOTE: Only remove nailing fin on jambs/sills that will be mulled together, and any header that will need a continuous drip cap after being mulled together.*



Figure 2

3. Insert one aluminum mulling pin into the kerf of one of the side units. Insert mulling pin from the head jamb towards the sill. Locate end of mulling pin roughly 3/4" from the top edge of the frame. See Figure 3.



Figure 3

4. Insert the remaining mull in the opposite orientation as the first pin (ex. Hook facing up versus facing down). Pin roughly 3/4" from the bottom of the sill or top of the head jamb. See Figure 4.



Figure 4

5. Snap the frames together by interlocking the mull pins. Ensure that the pins are seated correctly and the interior unit faces are flush. See Figure 5.



Figure 5

6. Peel back the backing on the tape and dog-ear it, exposing the tape by 2". See Figure 6.

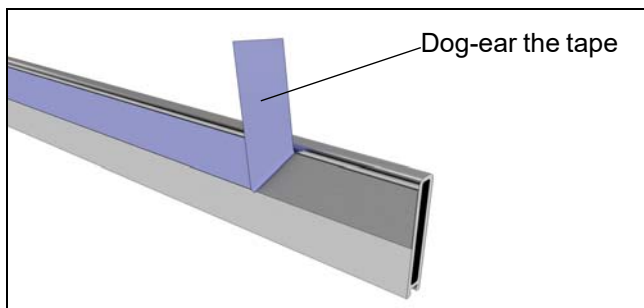


Figure 6

7. Slide the MRF onto the mull pins ensuring the mull pins fit fully into the MRF kerf. See Figure 7.

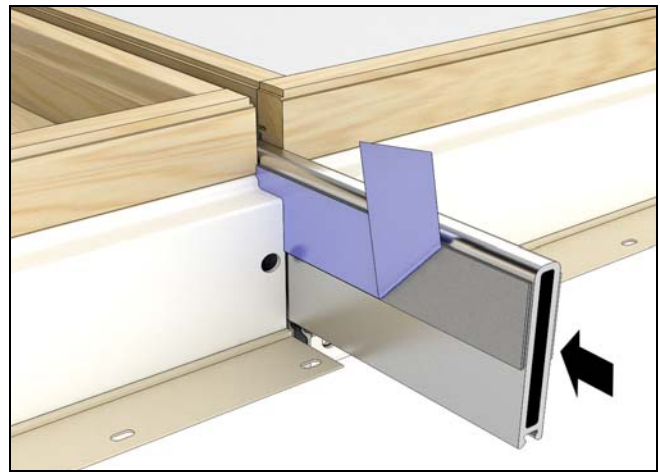


Figure 7

8. Insert the end plugs into each end of the mull into the MRF. Ensure that the end plug is fully seated into the MRF, the end plug is flush with the end of the frame and the end plug is flush with the exterior face of the units. *NOTE: The MRF may need to be shifted slightly to allow for precise placement. See Figure 8.*



Figure 8

9. Screw #8 x 1 3/4" provided fasteners into the end plugs. See Figure 9.



Figure 9

10. Ensure all components are aligned and the pull out tape backing the MRF. See Figure 10.

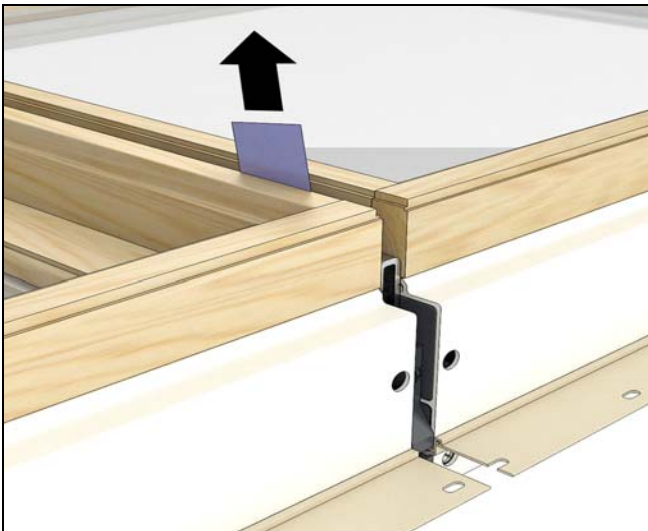


Figure 10

11. Insert the 1/2" wide mull support on top of the MRF between the cavity of the two frames. Ensure the mull support is flush with the interior plane of the unit frames. See Figure 11.



Figure 11

12. Lightly clamp the frames together on the interior (use wood blocks to protect interior) near each end to hold the mull units in place. See Figure 12.

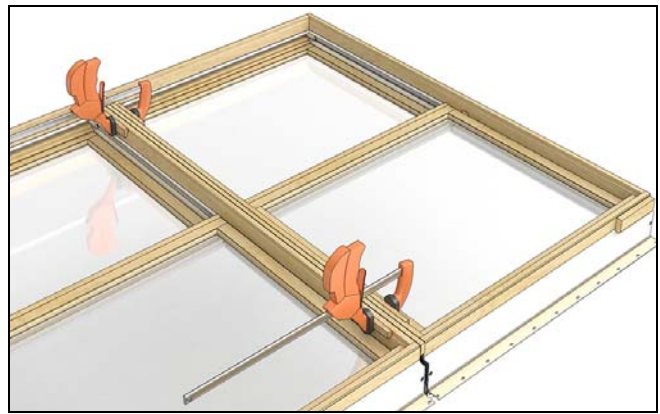


Figure 12

13. Connect the frames to the mull support with two rows of alternatively spaced staples a maximum of 1" from end and 7" on center. See Figure 13.



Figure 13

14. Flip unit so exterior side faces upwards. Measure and cut weather strip pieces. Gap between end plugs and weather strip should not exceed 1/8". See Figure 14.



Figure 14

15. Fully seat weather strip pieces onto the aluminum mulling pin between all end plugs. See Figure 15.



Figure 15

**16.** Place a piece of clear vinyl tape (or similar) on the frame covering each end plug and ensure tape overhangs at least 2" on each side of plug. See Figure 16.



Figure 16

**17.** Inject end plugs with sealant until squeeze out reaches ALL specified areas. See Figure 17. Avoid placing excess downward pressure on end plugs.

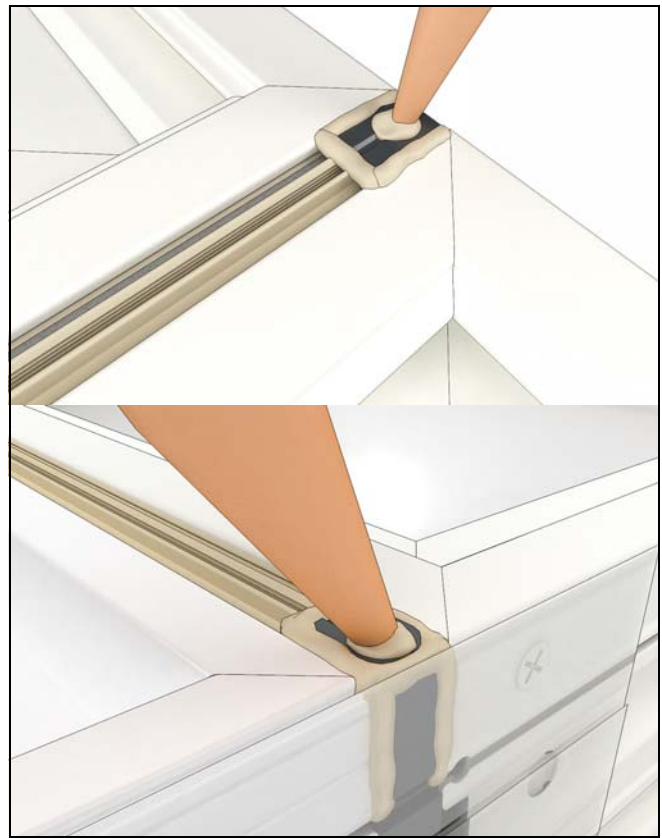


Figure 17

**18.** Notch ends of the exterior mull cover as seen in Figure 24, 1" +/- 1/4" from end.

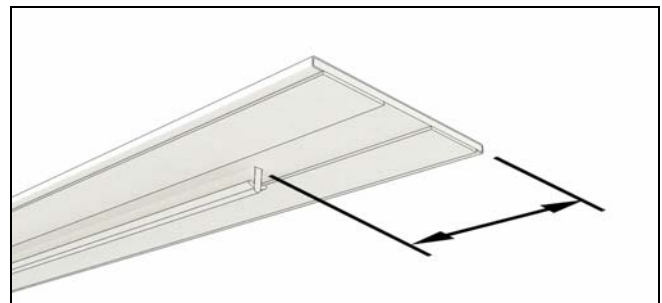


Figure 18

**19.** Ensure exterior surfaces of frames are clean and dry for optimum tape adhesion. Dog ear both pieces of backing on the tape on the exterior cover on one end. Seat exterior mull cover into the mull weather strip, ensuring the cover is fully seated and the tape is in full contact with window frame surface. See Figure 19. An 1/8" gap needs to be between the top of the head jamb and mull cover.



Figure 19

20. Completely remove backing from tape on exterior mull cover. Apply even pressure along the entire length of exterior cover ensuring tape is fully adhered.

21. Install a mull bracket across the head jambs and fasten with four #7 19 x 5/8" bracket screws.



Figure 20

22. Apply continuous drip cap to the header of the assembly. If the entire assembly width is over 96" in length, splice drip cap together in locations offset from the mull joint.

23. Apply nailing fin connector at the sill (and header as needed) centered over the gap between separate nailing fins by removing the paper backing from the connector and pressing into place. Then seal around the edges with sealant as show in Figure 21.

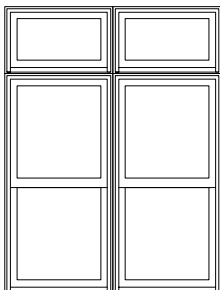


Figure 21

24. If applicable, jamb extension can now be installed.

25. Follow installation instructions for installing unit into rough or masonry opening. *NOTE: Interior mull trim should be applied only after unit is completely installed and interior trim is applied.*

## **Mulling- Vertical Continuous Mullion on a Multi High Assembly (Double Hung, Double Hung Picture, Direct Glaze, and Glider Units. Not used for doors or Marvin Round Top units)**



Horizontal mulls must be assembled first.

- For Segmented Horizontal assemblies with segmented horizontal MRF mulls, first refer to Mulling Procedures – Horizontal Mullion on a Single Wide Assembly for mulling instructions on the horizontal space mulls. Then begin at Step 2 to proceed to vertical mulling.

- For assemblies with horizontal frame-frame mulls, first refer to the Horizontal Mulling Procedures in the Elevate Double Hunt/Glider Mullion Kit Instructions.

**26.** Remove and discard all shipping material. Inspect the unit to ensure it is the right size, color, etc. and that there is no damage. If you find a discrepancy with your windows/doors, contact your local Marvin representative and provide them with the customer service number located in one of the corners of the glass. See Figure 22.



**Figure 22**

**27.** Remove and set aside all screens and loose hardware. Lay frames on a flat surface in the desired mulling configuration (interior, wood side facing up). Remove nailing fin from the jambs that will be mulled together. See Figure 23. *NOTE: Picture shows all nailing fins removed. Only remove nailing fins on jambs/sills that will be mulled together, and any header that will need a continuous drip cap after being mulled together.*



**Figure 23**

**28.** Drill hole in the sill nailing fin kerf of the units as shown in Figure 24 using a 1/4" drill bit to allow mulling pin to span the vertical length of the units. Drill through sill to meet up with jamb nailing fin kerf. Use 3/16" size drill bit for direct glaze units.



**Figure 24**

**29.** When mulling together units that contain FRAME TO FRAME MULLS: Apply sealant in nailing fin kerf across mull and down the mull intersection to the exterior face as shown in Figure 25.



**Figure 25**

**30.** Insert one aluminum mulling pin into the kerf of one of the side configurations. Insert mulling pin from the head jamb of the top unit towards the sill of the bottom unit. Locate end of mulling pin roughly 3/4" from the top edge of the frame. See Figure 26.





Figure 26

31. Insert the remaining mulling pin in the opposite orientation as the first pin (ex. Hook facing up versus facing down) and place roughly 3/4" off the top end of the frame. See Figure 27.



Figure 27

32. Snap the frames together by interlocking the mull pins. Ensure that the pins are seated correctly and the interior unit faces are flush. See Figure 28.



Figure 28

33. Peel back the backing on the tape and dog-ear it, exposing the tape by 2". See Figure 29.

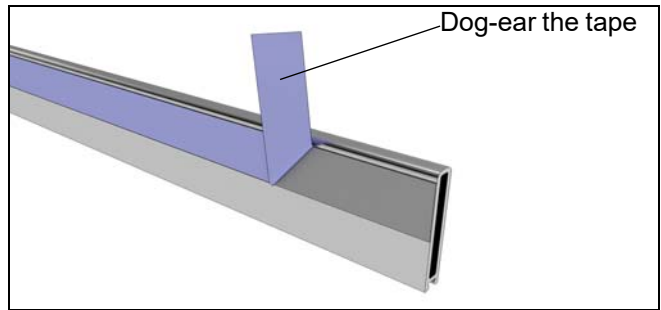


Figure 29

34. Slide the MRF onto the mull pins ensuring the mull pins fit fully into the MRF kerf. See Figure 30.

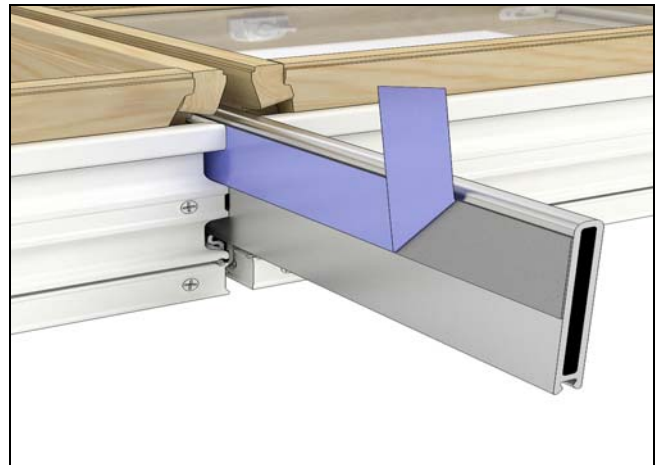


Figure 30

35. Insert the end plugs into each end of the mull into the MRF. Ensure that the end plug is fully seated into the MRF, the end plug is flush with the end of the frame and the end plug is flush with the exterior face of the units. *NOTE: The MRF may need to be shifted slightly to allow for precise placement.* See Figure 31.



Figure 31

36. Screw #8 x 1 3/4" provided fasteners into the end plugs. See Figure 32.



Figure 32

**37.** Ensure all components are aligned and then pull out tape backing from the MRF. See Figure 33.

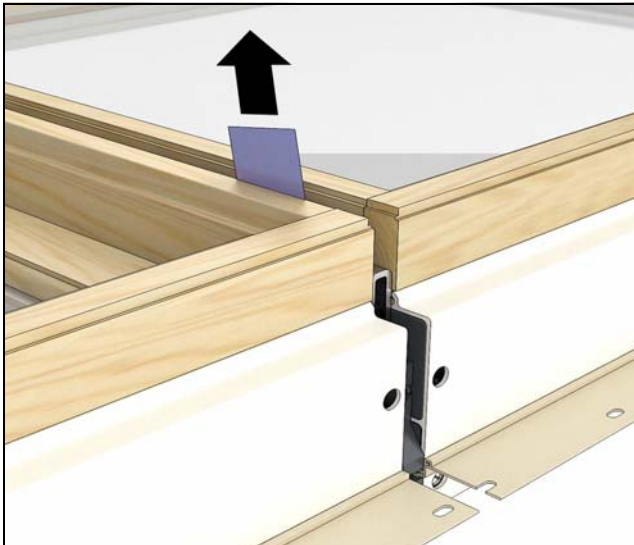


Figure 33

**38.** Insert 1/2" mull support on top of the MRF between the cavity of the two frames. Ensure the mull support is flush with the interior plane of the unit frames. See Figure 34.

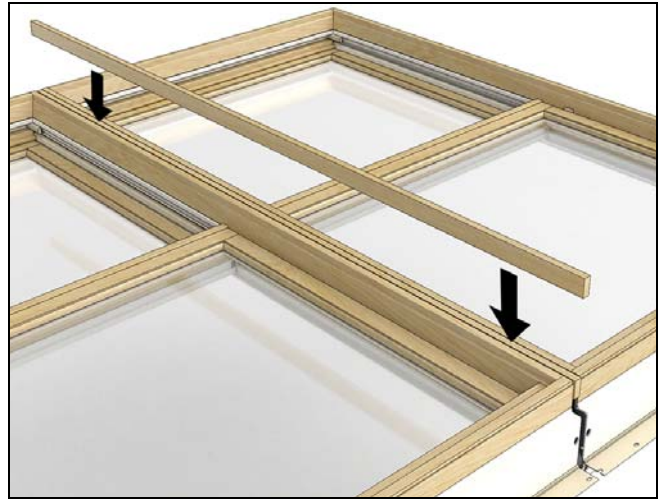


Figure 34

**39.** Lightly clamp the frames together on interior (use wood blocks to protect interior) near each end to hold the mullied units in place. See Figure 35. *NOTE: 2 wide 1 high vertical mull clamping shown. Clamp units together according to the desired configuration.*

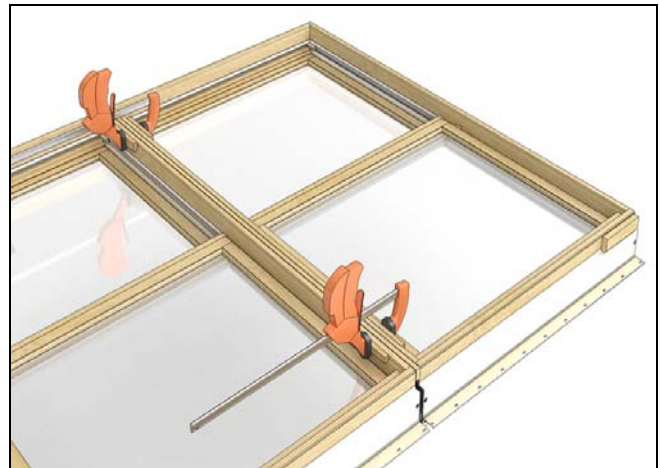


Figure 35

**40.** Connect the frames to the mull support with two rows of alternatively spaced staples a maximum of 1" from end and 7" on center. See Figure 36.



Figure 36

**41.** Flip unit so exterior side faces upwards. Seat center plug onto mullion pin centered on the mull intersection. Repeat for any other mull intersections. See Figure 37.



Figure 37

**42.** Measure and cut weather strip pieces. Gap between the end plug and weather strip or the center plug and weather strip should not exceed 1/8". See Figure 38.



Figure 38

**43.** Fully seat weather strip pieces onto the aluminum mullion pin between all end plugs and center plugs. See Figure 39.



Figure 39

**44.** Place a piece of clear vinyl tape (or similar) on the frame covering each end plug as shown in Figure 40 and ensure tape overhangs at least 2" on each side of plug.

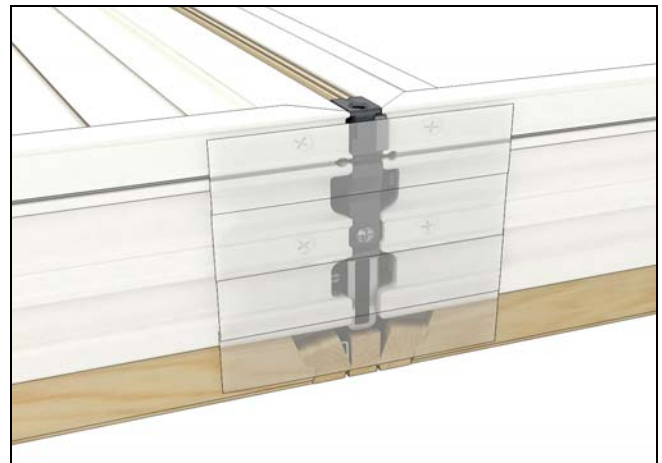


Figure 40

**45.** Inject end plugs and center plug with sealant until squeeze out reaches specified areas. See Figure 41.



**Figure 41**

**46.** Notch exterior mull cover to fit over end plugs by 1" +/- 1/4" from end. Notch the cover to fit over center plugs within 1/4" as seen in Figure 42.



**Figure 42**

**47.** Ensure exterior surfaces of frames are clean and dry for optimum tape adhesion.

**48.** Dog ear both pieces of backing on the tape on the exterior cover on one end. Seat exterior mull cover into the mull weather strip. See Figure 43. Ensure the exterior cover barb is completely seated into the kerf of the weather strip. Ensure a 1/8" gap exists between top of the head jamb and mull cover to allow for drip cap clearance.



**Figure 43**

**49.** Completely remove backing from tape on exterior mull cover. Apply even pressure along the entire length of exterior cover ensuring tape is fully adhered and barb is fully seated. See Figure 44.

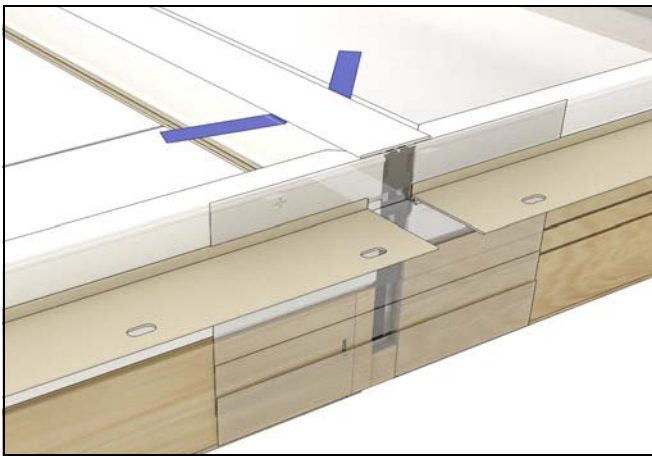


Figure 44

**50.** Apply continuous drip cap to the header of the assembly. If the entire assembly width is over 96" in length, splice drip cap together in locations offset from the mull joint.

**51.** Install a mull bracket across the head jambs and fasten with four #7-19 x 5/8" bracket screws.



Figure 45

**52.** Apply nailing fin connector at the jambs centered over the gap between separate nailing fins as needed by removing the paper backing from the connector and pressing into place. Then seal around the edges with sealant as shown. See Figure 46.



Figure 46

**53.** If applicable, jamb extensions can now be installed. Follow installation instructions for installing unit into rough or masonry opening. *NOTE: Interior mull trim should be applied only after unit is completely installed and interior trim is applied.*