

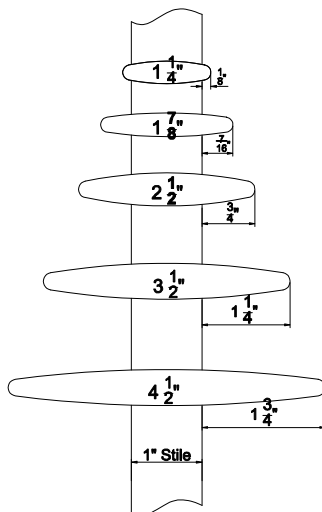
Table of Contents	Page
a. Features & Benefits	NT a-1
b. Colors & Louvers	NT b-1
c. Stiles	NT c-1
d. Panel Configurations	NT d-1
e. Frame Styles	NT e-1
f. General Product Specifications	NT f-1
g. Tilt Rods	NT g-1
h. Divider Rails	NT h-1
i. Hardware	NT i-1
j. Track Shutters	NT j-1
k. Special Options	NT k-1
l. Specialties	NT l-1
n. Appendix	NT n-1
o. RF Motorized Shutter	NT o-1

Features and Benefits

- Made of hand-selected NormanTeak[™] that is treated with **Prescription Wood Conditioning[™]** technique according to the moisture content of the final installation location to reduce post-installation shrinking and swelling.
- Louvers are made of **quarter-sawn wood** to ensure generations of durability. This tight, straight and parallel grain also enriches wood character in stain finish.
- The appearance of **furniture quality finish** and the **exceptional craftsmanship** gives Norman Teak shutters an instant feeling of art.
- A wide range of **frame designs**, that keep installation screws out of sight for a clean and decorative look.
- **Reinforced engineered stile**-- Multiple layers of wood bonded together to reinforce durability to the core of the stile, which results in a robust support system for the shutter panel.
- Employs **mortise and tenon joinery** that resists shear and racking forces endured by shutters to ensure prolonged quality and durability.
- **Multiple stile options** available in various sizes to accommodate different window designs. Use **Astragal** or **Rabbet stile** as a natural light block between panels.
- Quick and easy on-site installation with the **pre-installed magnets and hinges**, as well as **pre-mitered frames** and **slotted keyholes**.
- A labor-intensive **hand finishing** process that involves **multiple sanding and coatings** with fine layers of stain or paint to achieve a translucent and polished appearance.
- **Special panel and frame design** that is custom cut to accommodate unique windows. Create unity or attract attention with Sussex's exclusive decorative elements.
- Personalize shutters with **special options**. Choose from fixed louvers, center or offset tilt rod, double hung panels, café shutters, track systems, French door cutout, specialty shapes and many more.
- Available in a **multitude of solid and stain colors** that can match the style of any home.
- A guarantee of Norman's exemplary quality with a **lifetime limited warranty on materials and workmanship**.

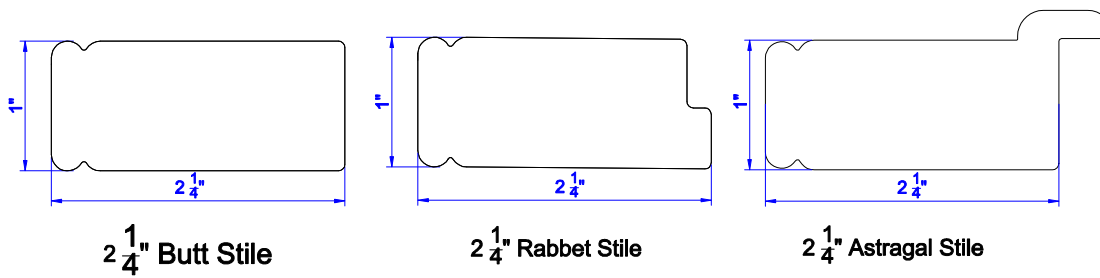
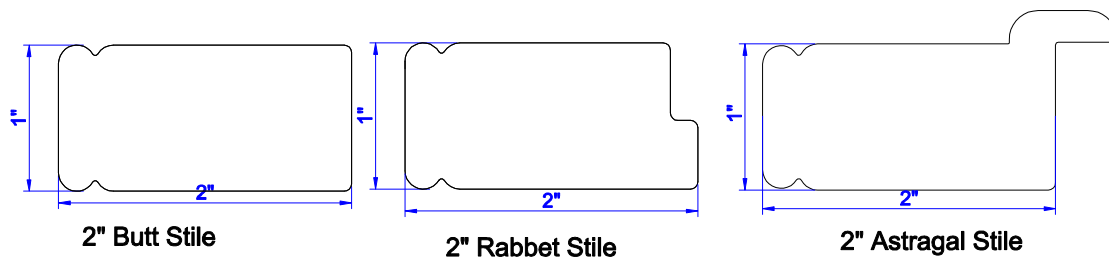
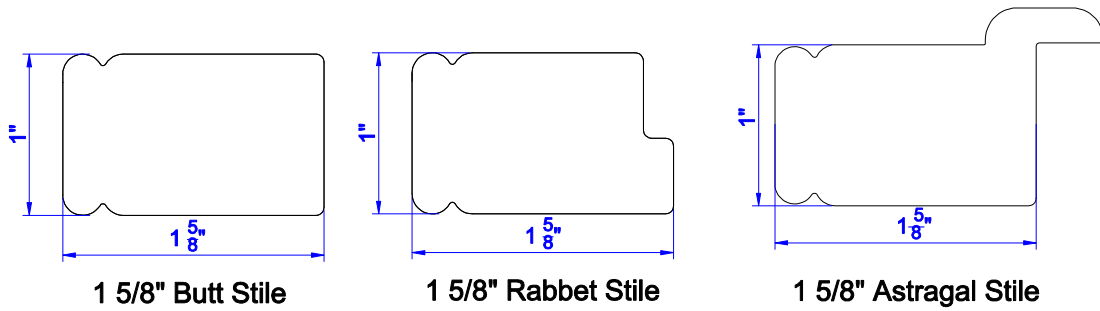
Colors & Louvers

Solid		Stain**	
001 Pure White	019 String	108 Rustic Gray	230 Old Teak
003 Silk White	030 Moondust	110 Limed White	231 Spring Rose
004 Bright White	032 Sea Mist	114 Taupe	232 Red Mahogany
006 Pearl	046 Ice	200 Natural	233 Dark Mahogany
007 Ivory Lace	048 Chai	202 Golden Oak	237 Wenge
008 Marshmallow	049 Stone Gray	204 Oak Mantel	242 Auburn
009 Creamy	051 Brown Gray	205 Goldenrod	247 Bark
011 Cameo	053 Clay	206 Pecan	248 Pretzel
012 Crisp Linen	063 Decorators White	211 Cherry	249 Acorn
013 Bisque	836 Classic Black	212 Dark Teak	250 Sumatra
016 Butter	000 Primed	214 Cocoa	251 Raisin
Louver		215 Cordovan	252 Toffee
Elliptical	1 ¼"	219 Mahogany	
	1 ⅞" * *	220 New Ebony	
	2 ½" †	221 Black Walnut	
	3 ½" †	227 Red Oak	
	4 ½" †	229 Rich Walnut	
Optimal [™] *			
Optimal [™] safeguards your window treatments from accumulating airborne germs and disease-causing bacteria so that you have on less thing to worry about.			



* Surcharge applies. Please see Options and Surcharges page for details.

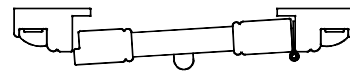
Stiles Options



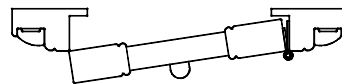
Stile between panel closure

Single panel

- I) Panel width < 9"
- Rabbeted stile (Deco frame, L frame, Z frame and Hang strip beside panel)
 - 1 5/8"
 - 2" (default)
 - Butt stile only (Hang strip behind panel)
 - 1 5/8"
 - 2" (default)



- II) Panel width ≥ 9"
- Butt stile only
 - 1 5/8" (Optional for panel width ≤ 12"
 - 2" (default)

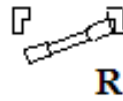


2 panels or more

- Astragal stile
 - 1 5/8" (Optional for panel width ≤ 12"
 - 2" (default)
- Rabbet stile
 - 1 5/8" (Optional for panel width ≤ 12"
 - 2"

Panel Configurations

Single Panel



OR

Two Panels



LR

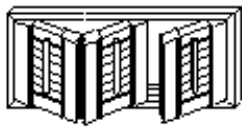


LL

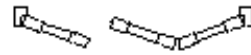
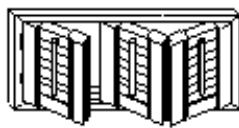


RR

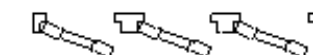
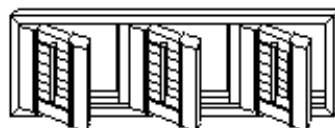
Three Panels



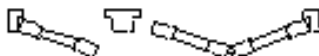
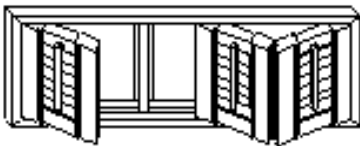
LLR



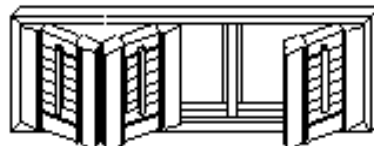
LRR



LTLTL



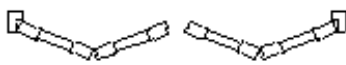
LTRR



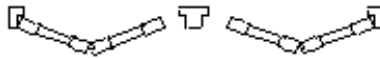
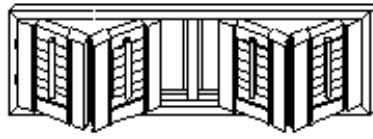
LLTR

Panel Configurations (continued)

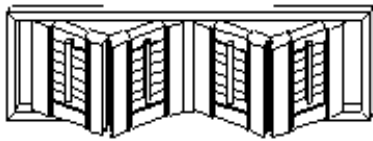
Four Panels



LLRR



LLTRR

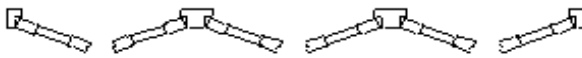
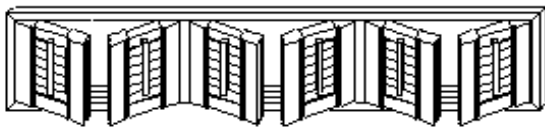


RRILL



LTLRTR

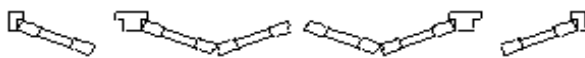
Six Panels



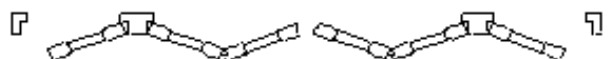
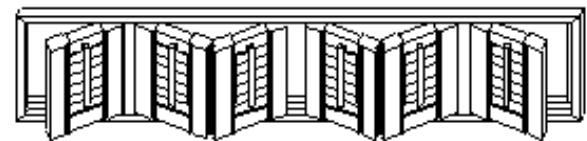
LRTLRTL



LLTLRTRR



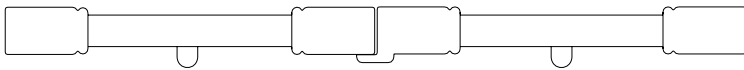
LTLRRTLR



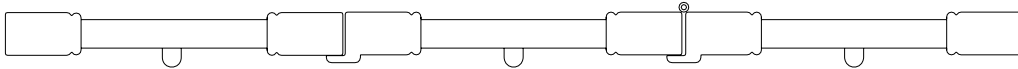
RTLRLRTL

Panel Configurations – Astragal stile

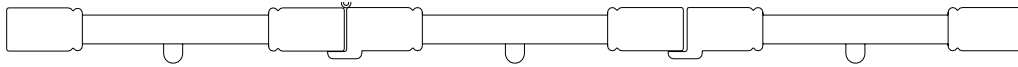
◇ 2 Panels – LR/LL/RR



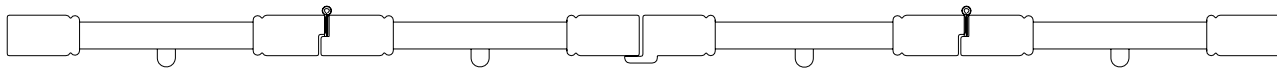
◇ 3 Panels - LRR



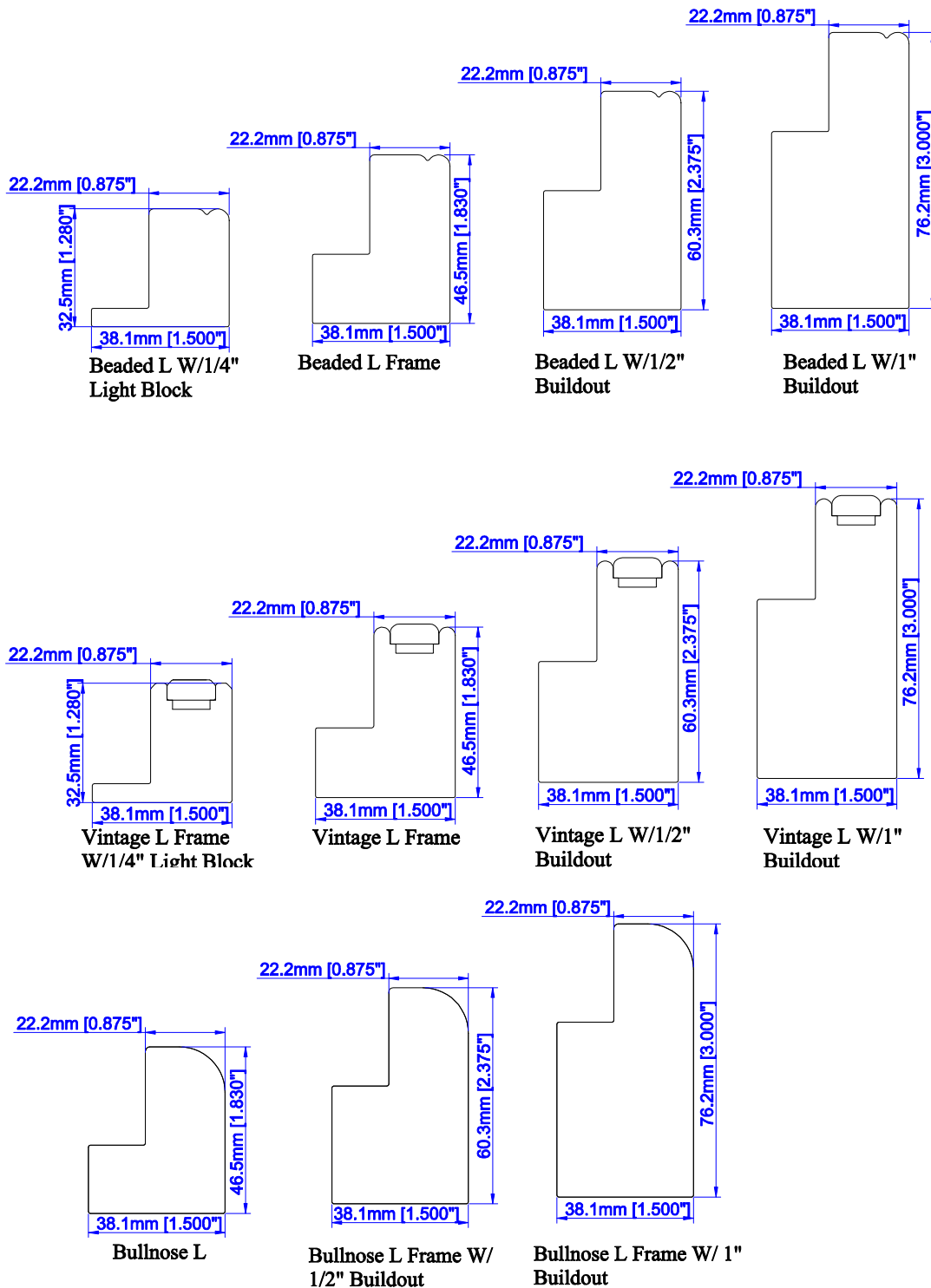
◇ 3 Panels – LLR



◇ 4 Panels - LLRR



Frame Styles

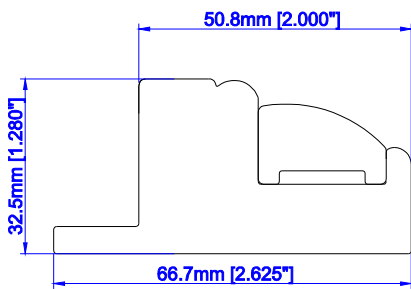


Also available

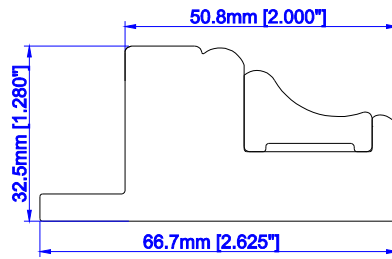
- Custom extensions* up to 2" for L frames

* Surcharge applies. Please see Options and Surcharges page for details.

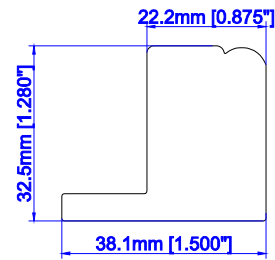
Frame Styles



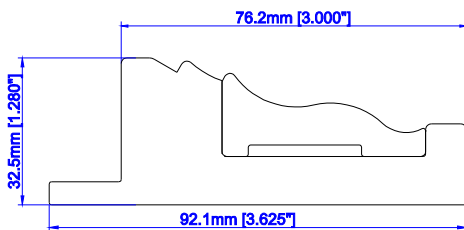
2" Camber Deco Frame



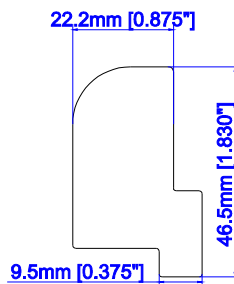
2" Classic Deco Frame



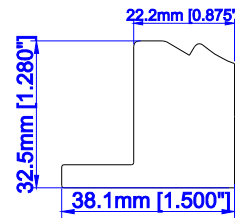
2" Deco Sill Plate



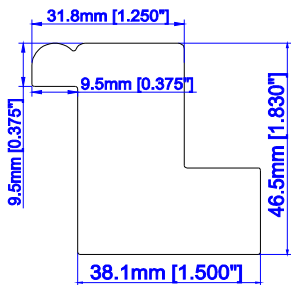
3" Ridge Deco Frame



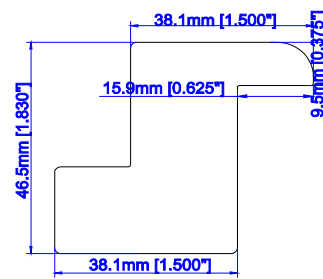
Tilt Out Z Frame



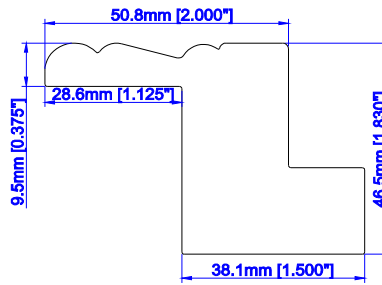
Ridge Deco Sill Plate



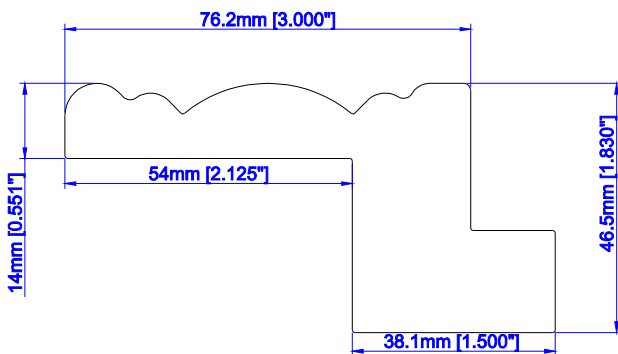
1 1/4" Beaded Z Frame



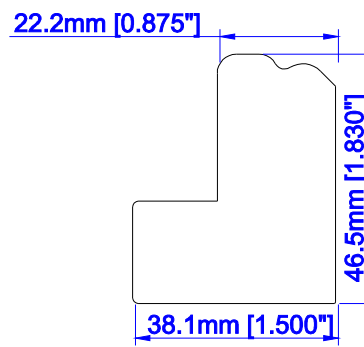
1 1/2" Bullnose Z Frame



2" Bel Air Z Frame



3" Crown Z Frame

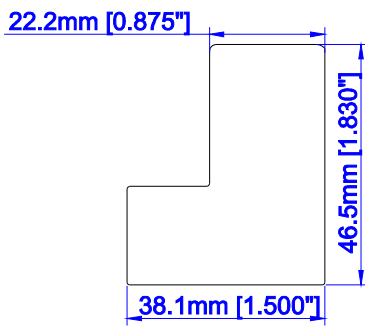


3" Crown Z Sill Plate

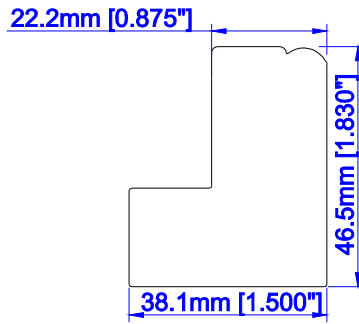
Also available

- Custom extensions* up to 1" for Z frames
- 1/2", 1" and 1 1/2" standard extensions* and custom extensions* up to 2" for Deco frames
- Custom extensions* up to 2" for hang strips (OM)

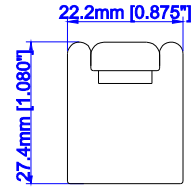
Frame Styles



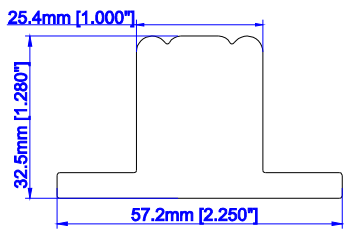
1 1/2" Bullnose Z
1 1/4" Beaded Z
Sill Plate



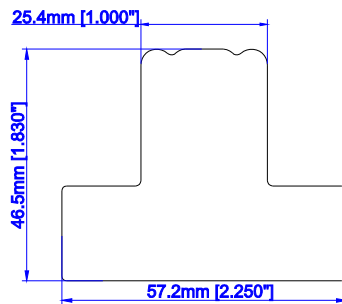
2" Bel Air Z Sill Plate



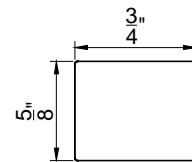
Vintage Hang Strip



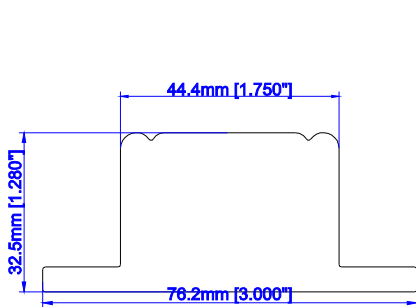
1" T Post W/ 1/4" Light Block
(Deco)



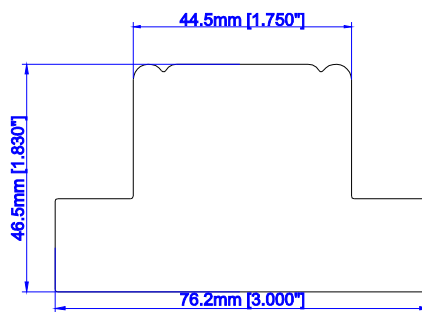
1" T Post W/ 3/4" Light Block
(L/Z/HS)



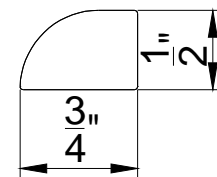
Light Block



1 3/4" T Post W/ 1/4" Light
Block (Deco)

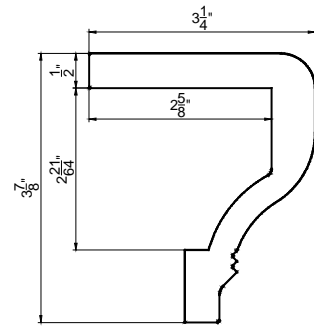
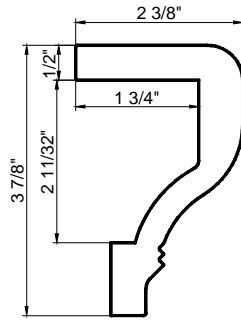
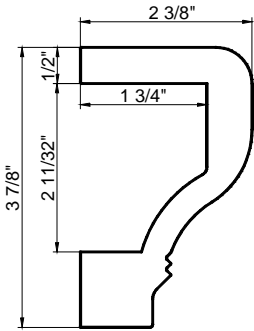


1 3/4" T Post W/ 3/4" Light
Block (L/Z/HS)

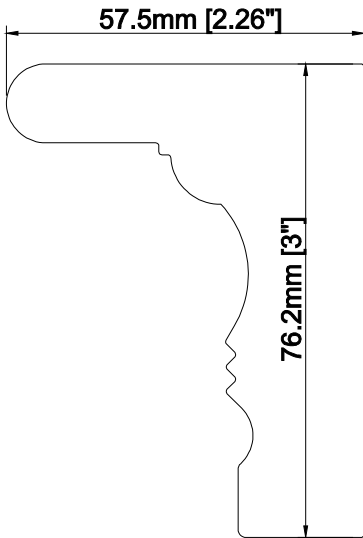


Quarter Round

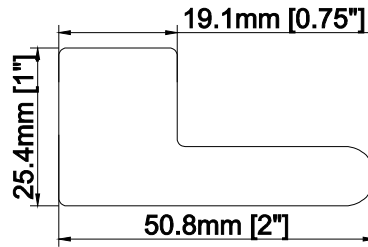
Frame Styles



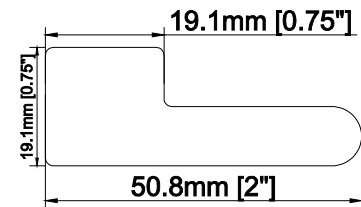
Curved Designer Sill Cap (L) Curved Designer Sill Cap (D/HS) Curved Designer Sill Cap (Z)



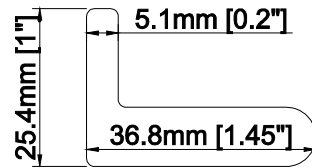
3" Deco Sill Frame



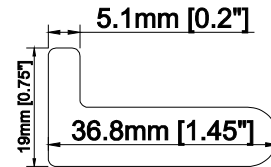
2" Sill Plate with 5/8" Light Block (L/Z)



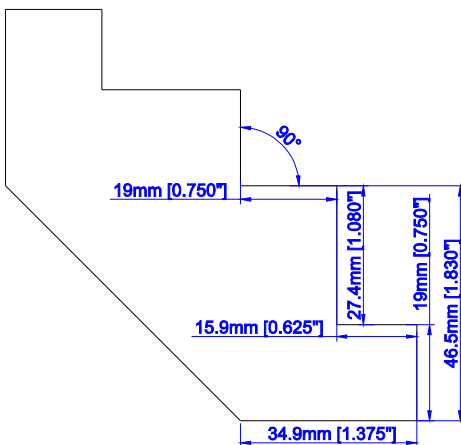
2" Sill Plate with 3/8" Light Block (L/Z)



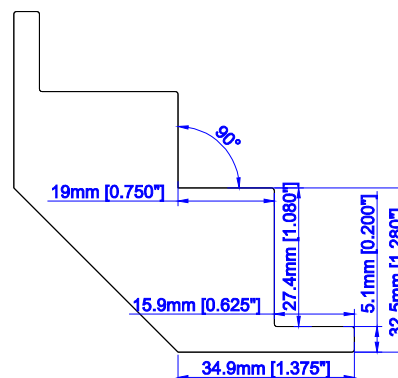
1.5" Sill Plate with 5/8" Light Block (Deco)



1.5" Sill Plate with 3/8" Light Block (Deco)

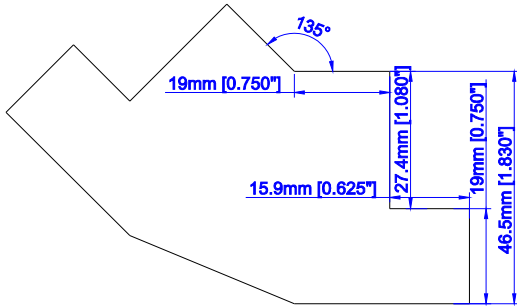


Corner Post W/ 3/4" Light Block (L/Z/HS)

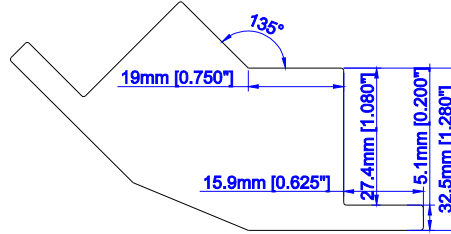


Corner Post W/ 1/4" Light Block (Deco)

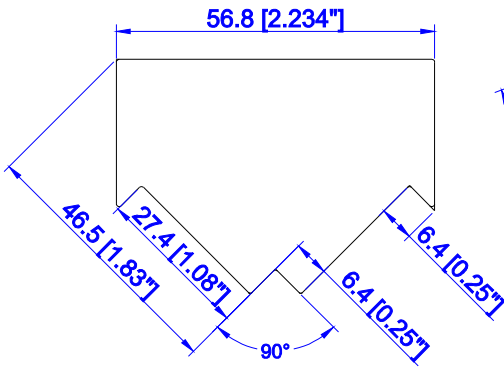
Frame Styles



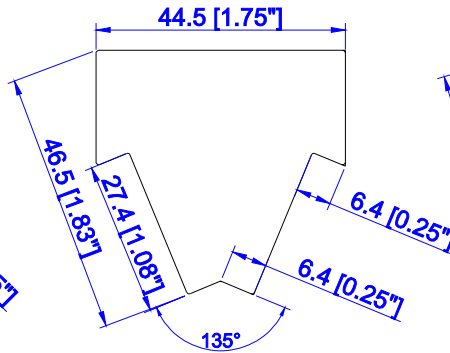
Bay Post W/ 3/4"
Light Block (L/Z/HS)



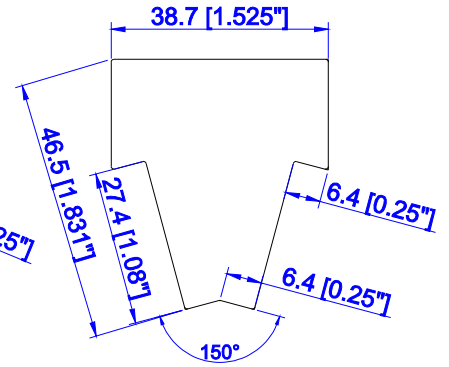
Bay Post W/ 1/4"
Light Block (Deco)



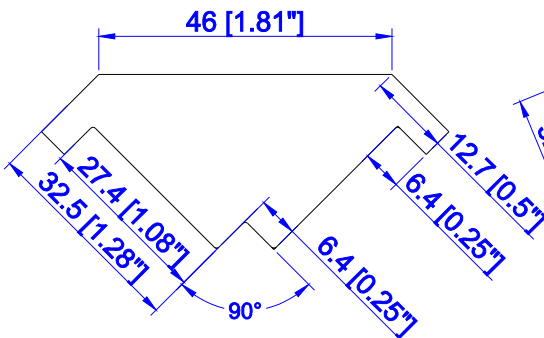
Slim Fit Corner Post for
90 Degree (L/Z/HS)



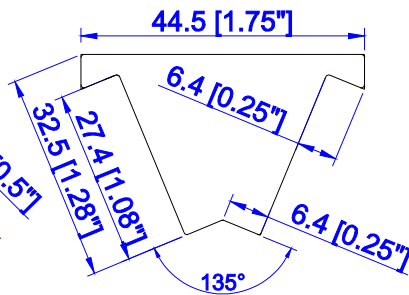
Slim Fit Bay Post for
135 Degree (L/Z/HS)



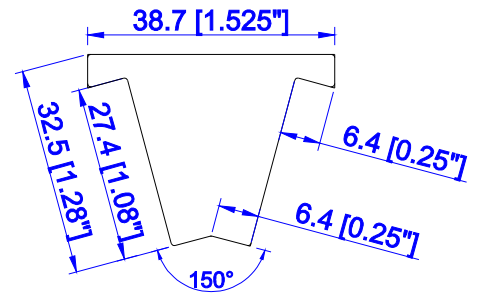
Slim Fit Bay Post for
150 Degree (L/Z/HS)



Slim Fit Corner Post for 90 Degree (D)

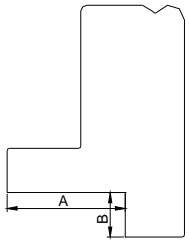


Slim Fit Bay Post for 135 Degree (D)



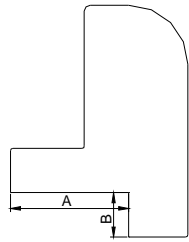
Slim Fit Bay Post for 150 Degree (D)

Frame Styles



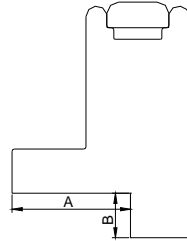
Notch Out

Beaded L Frame (A) *



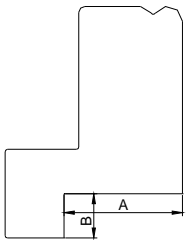
Notch Out

Bullnose L Frame (A) *



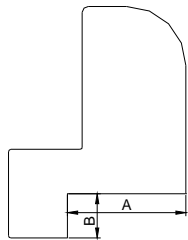
Notch Out

Vintage L Frame (A) *



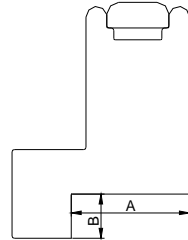
Notch Out

Beaded L Frame (B) *



Notch Out

Bullnose L Frame (B) *



Notch Out

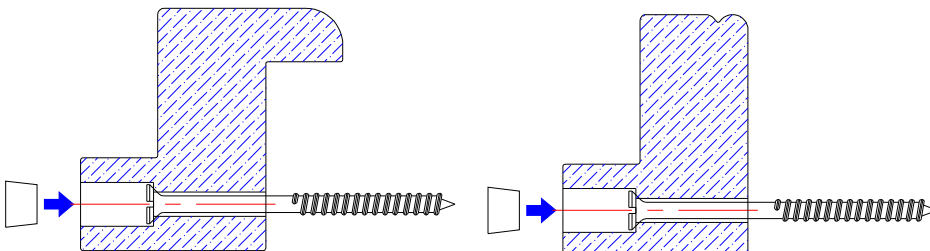
Vintage L Frame (B) *

Also available

- Custom width* up to 7½" for T Posts
- Custom angle bay posts*

* Surcharge applies. Please see Options and Surcharges page for details

Pre-drill L or Z Frames:



General Product Specifications

<u>Description</u>	<u>Minimum</u>	<u>Maximum</u>		
		1¼"	1⅞"	2½" / 3½" / 4½"
Single Panel Width (Regular)	6"	20"	30"	36" for 2½", 42" for 3½" & 4½"
Single Panel Width (Bi-fold)	6"	20"	26"	26"
Multi-fold Panels (Non-Track) (up to 4 panels)	6"	20"	N/A	N/A
Multi-fold Panels (track shutters, up to 4 panels)	6"	N/A	20"	20"
Single Panel Height	10"	133"	133"	133"
Shutter Width (Without T Post)	N/A	4x single panel width (bifold) + frame		
Shutter Width (With T Post)	N/A	Unlimited (For orders shipped by sea, frames longer than 142" will be spliced in the middle. For orders shipped by air, frames longer than 120" will be spliced in the middle.)		
Shutter Height	N/A	133" + frame		

Shutters without bottom supports

Norman Teak shutters will be covered by our warranty for this application, subject to our standard specification limitations and the guidelines listed below:

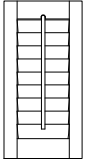
All Norman Teak panel configurations:

- You must inform Norman Shutters of situations where shutters will not have bottom support when placing the initial order, or warranty will be considered void.
- Informing Norman Shutters when placing such orders ensures that the factory will add extra hinges to support the panel. This will reduce the probability of the panels sagging and increase shutter integrity.
- If you fail to notify Norman Shutters that the shutter will be used without a bottom support or used as doors, this will constitute a misapplication of the shutter. Consequently, you will be responsible for the cost of any RGA Reorder that is submitted.
- If you want a bifold shutter, a track must be ordered to support the panels.

Tilt Rods

Standard Tilt Rod

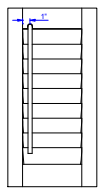
Default Location: In the middle of the panel on front side (default).



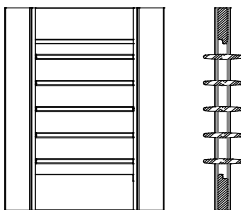
Offset Tilt Rod*

Default Location: On the front side of the panel and at 1" from the louver ends on the hinged side.

Optional location: per your request



InvisibleTilt™ *



Louver tilting system embedded within panel stile. It is not available for 1 1/4" or 1 7/8" louver. The tilting system is split when the number of louvers exceeds the limits as listed below:

Louver Size	Maximum Possible Louvers	Panel Height Range
2 1/2"	24	54 3/4" – 57 1/4"
3 1/2"	16	54 3/4" – 58"
4 1/2"	12	54 3/4" – 60"

For even numbers of louvers, the number of louvers operated by the top and the bottom tilting system will be the same;

For odd numbers of louvers, the number of louvers operated by the bottom tilting system will be one more than the number of louvers operated by the top tilting system;

To ensure split tilt is included, always specify on the order.

Split Tilt

When customer requires the split tilt in custom position, the measurement will be as follows, please note that the louvers are in close position when measured.

Window size:

— Measure from the bottom of the window to the top of the louver

Max frame-to-frame:

— Measure from the bottom of the frame to the top of the louver.

* Surcharge applies. Please see Options and Surcharges page for details.

Divider Rails

- A divider rail is an extra rail in the middle of the panel.
- Creates two sections in the panel so louvers can be operated independently.
- Strengthens the panel and enhances panel structural integrity.
- **For 1 1/4" louver, divider rail is required for panel heights over 50"**; For other louver sizes, divider rail is required for panel heights over 78".
- 84" panel height limit without divider rail is for Wood French Door Cut Out installed with button catches & Wood Bypass and bi-fold track shutters.
- Custom Size(3"~7.875") Divider Rail is available with surcharge.

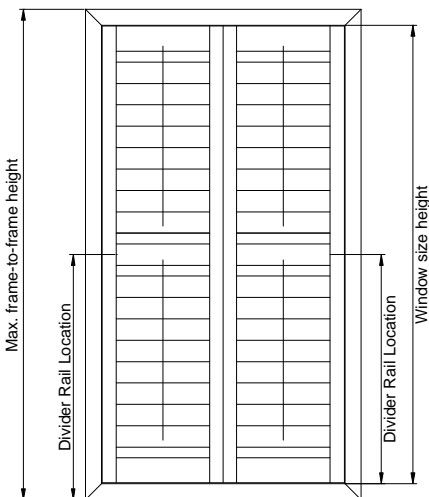
Specifications

- Standard width: 3"
- Default location: center of the panel unless specified otherwise

Measurements:

- Window size:
 - Measure from the bottom of the window to the center of the divider rail.
- Max frame-to-frame:
 - Measure from the bottom of the frame to the center of the divider rail.
- Position:
 - Per customer's specification. However, the divider rail may be adjusted to a lower or higher position, within our allowable deviation to ensure reinforcement and aesthetics of the shutter.

When placing the order, please clearly specify if the divider rail position needs to line up with that of other shutter divider rails in the same room. Please also refer to the table below for the allowable deviation details.



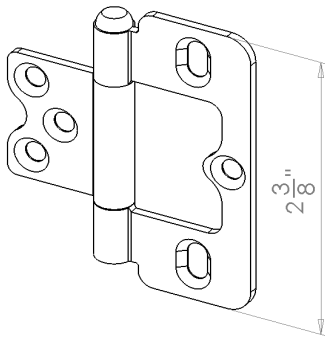
Divider rail allowable deviations

Louver Size	Allowable ± Deviation
1 1/4"	1/2"
1 7/8"	3/4"
2 1/2"	1"
3 1/2"	1 1/2"
4 1/2"	2"

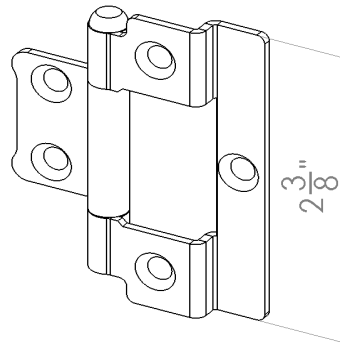
Hardware

Hinges

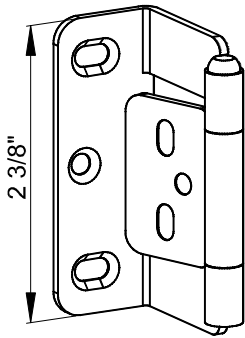
Self-Mortise Hinge



Bi-fold Hinge



L Hinge

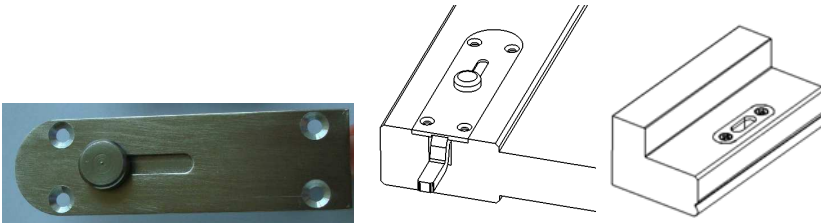


Hinges are available in:
Pure White, Silk White, Bisque, Pearl, Bright Brass, Antique Brass, Black, Nickel plated,
Brushed Nickel Plated and Stainless Steel*

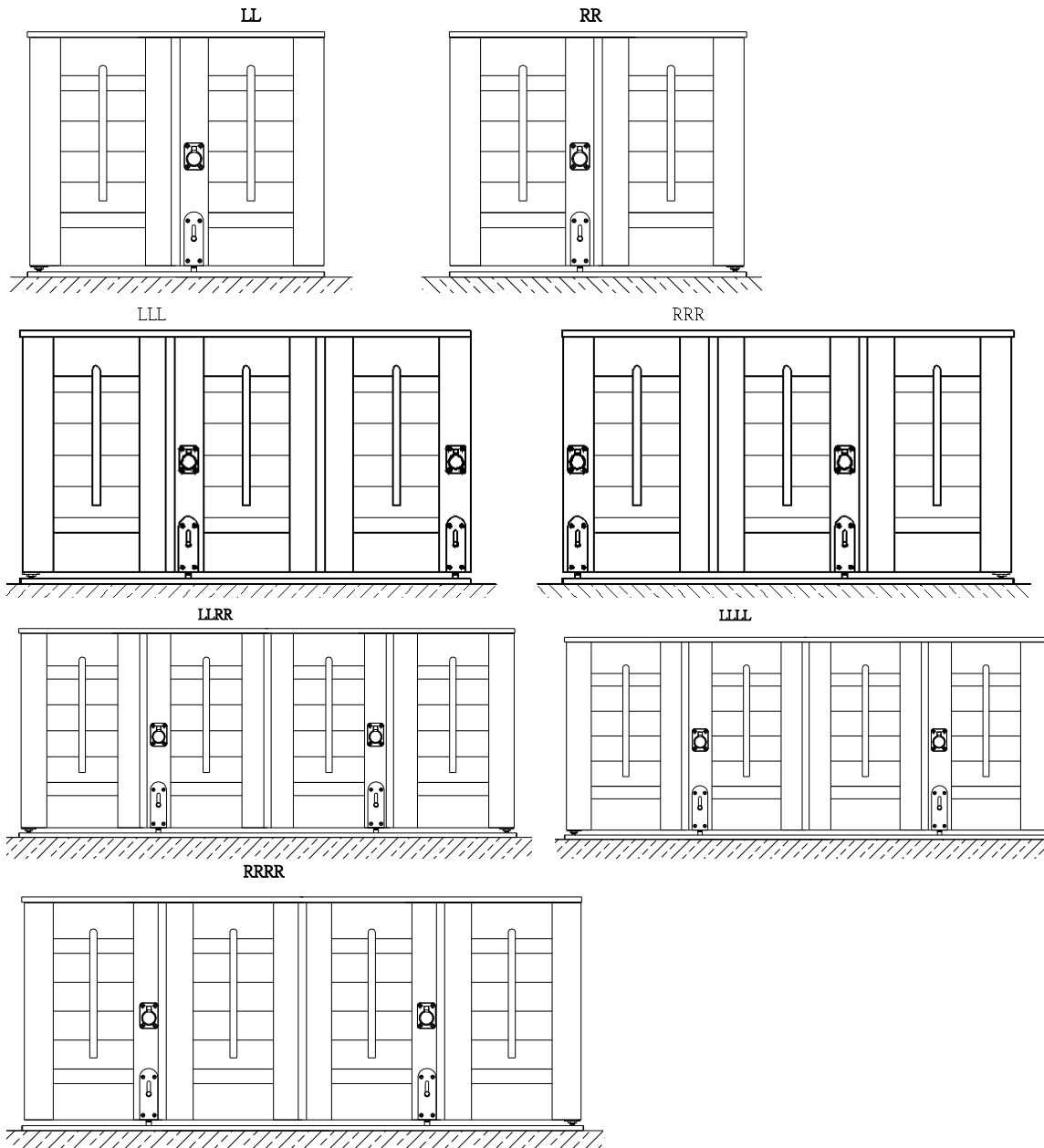
Panel Lock: (not available for 1.625" Stile)

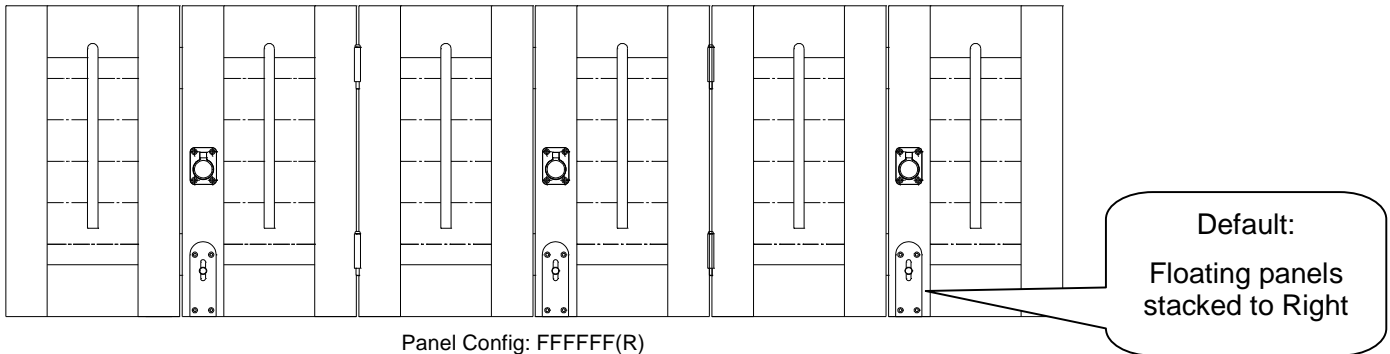
Available Material: All

Color: Brush Nickel-Plated

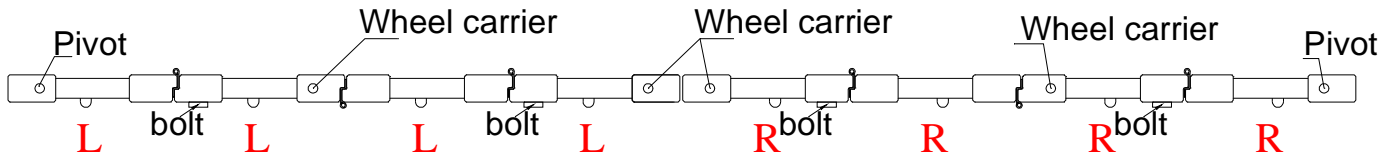


Position: (Only available on Bottom for Track Shutters with Bottom Track; For Regular, available on Top/Bottom/both Top and Bottom)

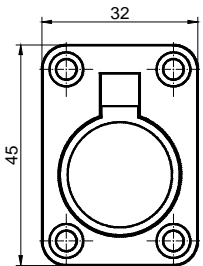




The Panel Lock location for both track system shutters and regular shutters would be the same. The general principle is that the Panel Lock position will avoid the stile which will install the spring-loaded guide at bottom (same stile as the Wheel carrier).



Ring pull: for easy opening and closing
(Not available for 1.625" Stile)

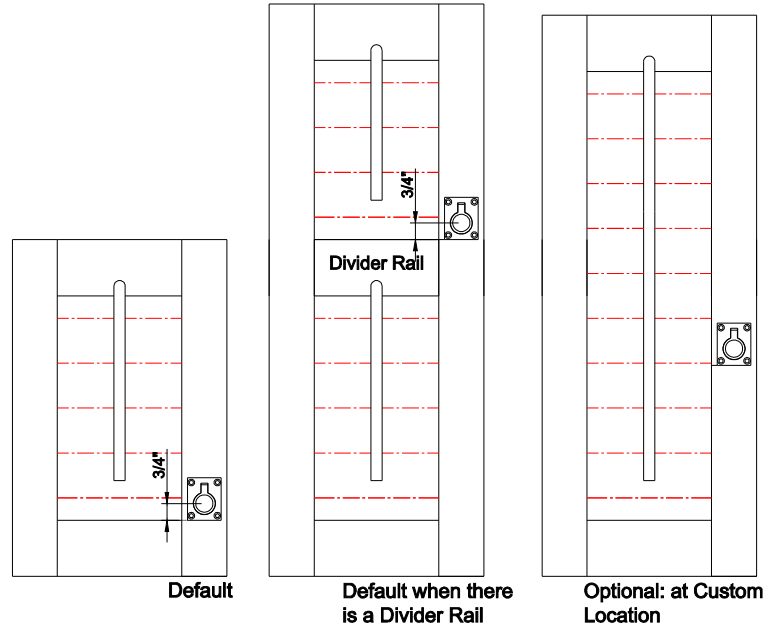


Please note the ring pull finish will match with the hinge finish.

Please see the matching chart below:

Hinge	Pure White	White	Bisque	Pearl	Black	Nickel	Brushed Nickel	Oil-Rubbed	Antique Brass	Bright Brass	Stainless Steel
Ring Pull	White	White	Bisque	Pearl	Black	Brushed Nickel	Brushed Nickel	Black	Antique Brass	Bright Brass	Brushed Nickel

Position: For different panel configuration, please refer to the location of Panel Lock to show on which stile the pull will be fixed.

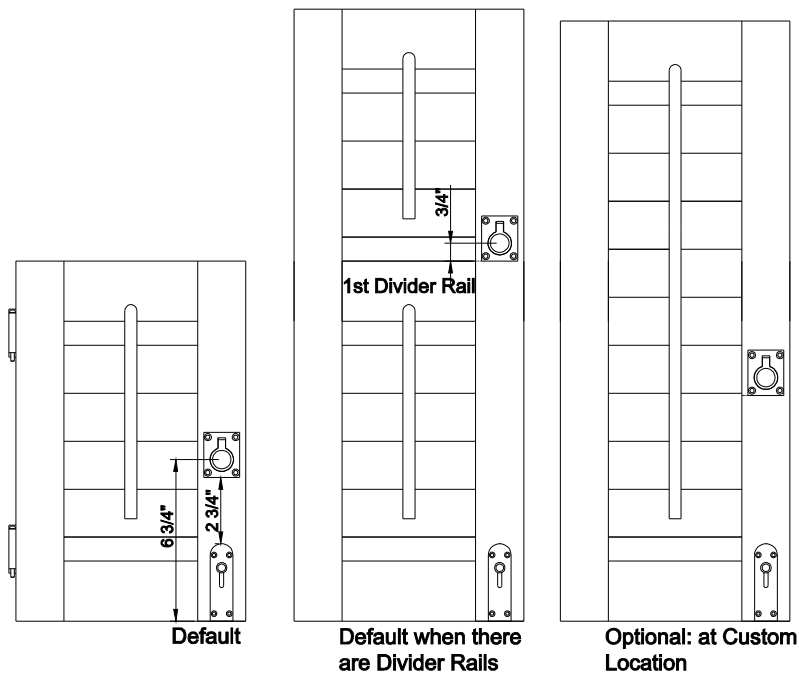


Position:

- A. Above Bottom Rail (Default)
- B. Above 1st Divider Rail (Default when there are Divider Rails)
- C. Custom Location

If both Panel Lock & ring pull are specified, the distance between them is 2 3/4", and the ring pull location is 6 3/4" from the bottom of panel.

When there is no mid rail, ring pull will be just on the top of Panel Lock (2 3/4" above Panel Lock) as default location; if there are mid rails, bottom of ring pull lines up with top of the 1st mid rail as default location.



Position:

- A. 2 3/4" Above Panel Lock (Default when both Ring Pull and Panel Lock are specified)
- B. Above 1st Divider Rail (Default when there are Divider Rails)
- C. Custom Location

Measurements:

- Window size:
 - Measure from the bottom of the window to the center of the ring pull.
- Max frame-to-frame:
 - Measure from the bottom of the frame to the center of the ring pull.

Invisible Hinge

Frame Options	Hinge	Notes
2" Camber Deco Frame	Y	/
2" Classic Deco Frame	Y	/
3" Ridge Deco Frame	N	/
Vintage L Frame W / 1/4" Light Block	N	/
Vintage L	N	/
Vintage L Frame w/ 1/2" Buildout	N	/
Vintage L Frame w/ 1" Buildout	N	/
Beaded L w 1/4"light block	Y	/
Beaded L	Y	/
Beaded L Frame w/ 1/2" Buildout	Y	/
Beaded L Frame w/ 1" Buildout	Y	/
Bullnose L	N	/
Bullnose L Frame w/ 1/2" Buildout	N	/
Bullnose L Frame w/ 1" Buildout	N	/
Tilt out Z Frame	N	/
1.25" Beaded Z Frame	Y	/
1.5" Bullnose Z Frame	Y	/
2" Bel Air Z Frame	Y	/
3" Crown Z Frame	N	/
7/8" Vintage Hang Strip (31mm) (27mm for 1" stile)	N	/
1" T-Post w/ 1/4" Light Block(for Deco)	Y	only available with hinge on one side, for example, LTL is

1" T-Post w/3/4" Light Block(for L/Z/HS)	Y	available, but RTL is not.
1 3/4" T-Post w/1/4" Light Block(for Deco)	Y	available with hinge on BOTH side, for example, RTL.
1 3/4" T-Post w/3/4" Light Block(for L/Z/HS)	Y	
Corner Post w/1/4" Light Block(for Deco)	Y	/
Corner Post w/3/4" Light Block(for L/Z/HS)	Y	/
Bay Post w/1/4" Light Block(for Deco)	Y	/
Bay Post w/3/4" Light Block(for L/Z/HS)	Y	/
Invisible Hinge Qty		
Panel Height (H)	Hinge Qty	
H<=48"	2	
48"<H<=78"	3	
78"<H<=96"	4	
96"<H<=120"	5	
H>120"	6	

Available Stile: Butt and Astragal

Preinstallation:

<p>Panels and frames will be packaged individually, and the hinge is preinstalled onto the frame/post, with the screws for the other half part on the panels in the hardware box.</p>
<p>If bifold/multi-fold panels are packaged together, the hinges are installed before shipping, or the hinges & screws are packed into the hardware box.</p>

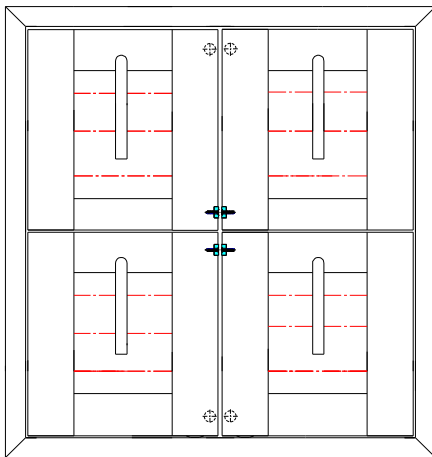
Side Magnet: Available for Butt, rabbet and Astragal stile



Side Magnets will be applied in following situation:

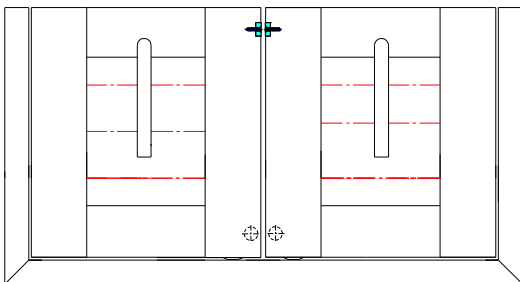
1. Double Hung shutter but without horizontal T post:

Side magnets will be applied to the meeting stiles of the L and R panel. (Default)



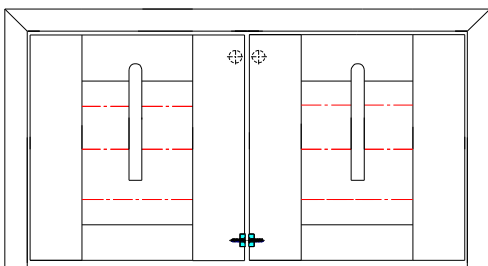
2. Café Shutter

Side magnets will be applied to the meeting stiles of the L and R panel. (Default)



3. No frame or light block or L-shape striker plate on either top or bottom, or if larger than standard top or bottom gap is requested.

Side magnets will be applied to the meeting stiles of the L and R panel. (Optional)



Bi-fold 180[™]

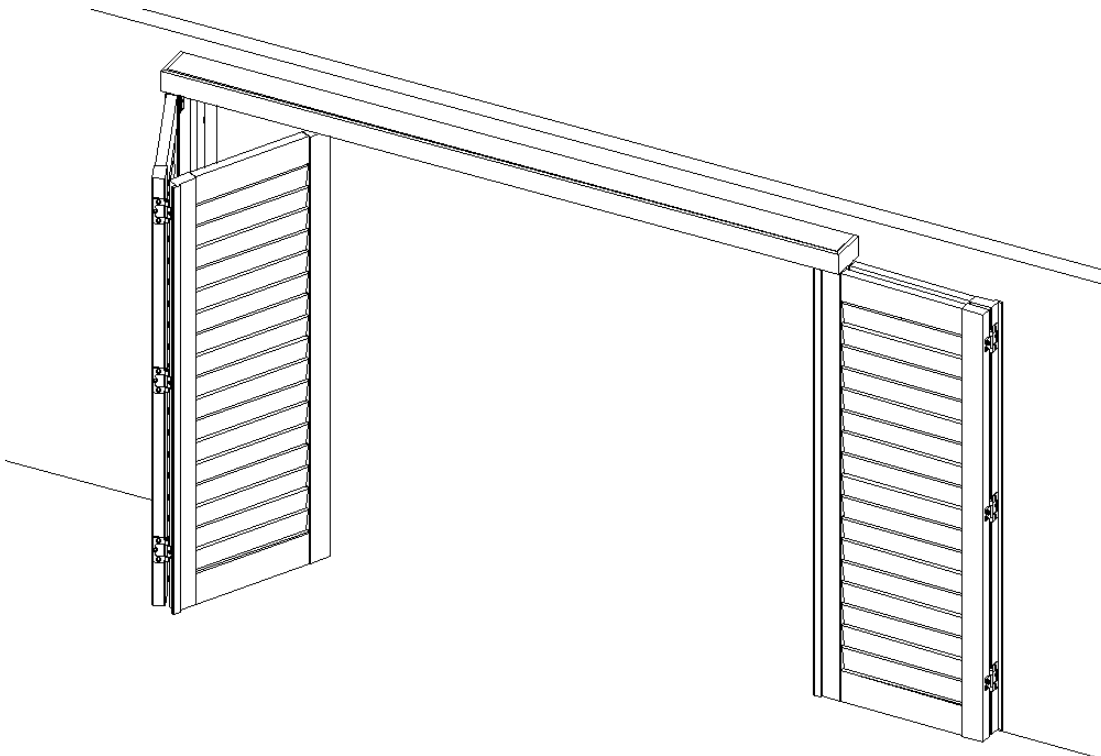
Guidelines and Specs:

<u>Description</u>	<u>Minimum</u>	<u>Maximum</u>		
		1 ¼"	1 ⅞"	2½" ; 3½" ; 4½"
Single-Panel Width (Bi-fold Track)	6"	N/A	26"	26"
Single-Panel Width (LLL/RRR)	6"	N/A	20"	20"
Single-Panel Height	10"	N/A	133"	133"

Outside Mount

Max frame-to-frame width: window width + 3 1/2"

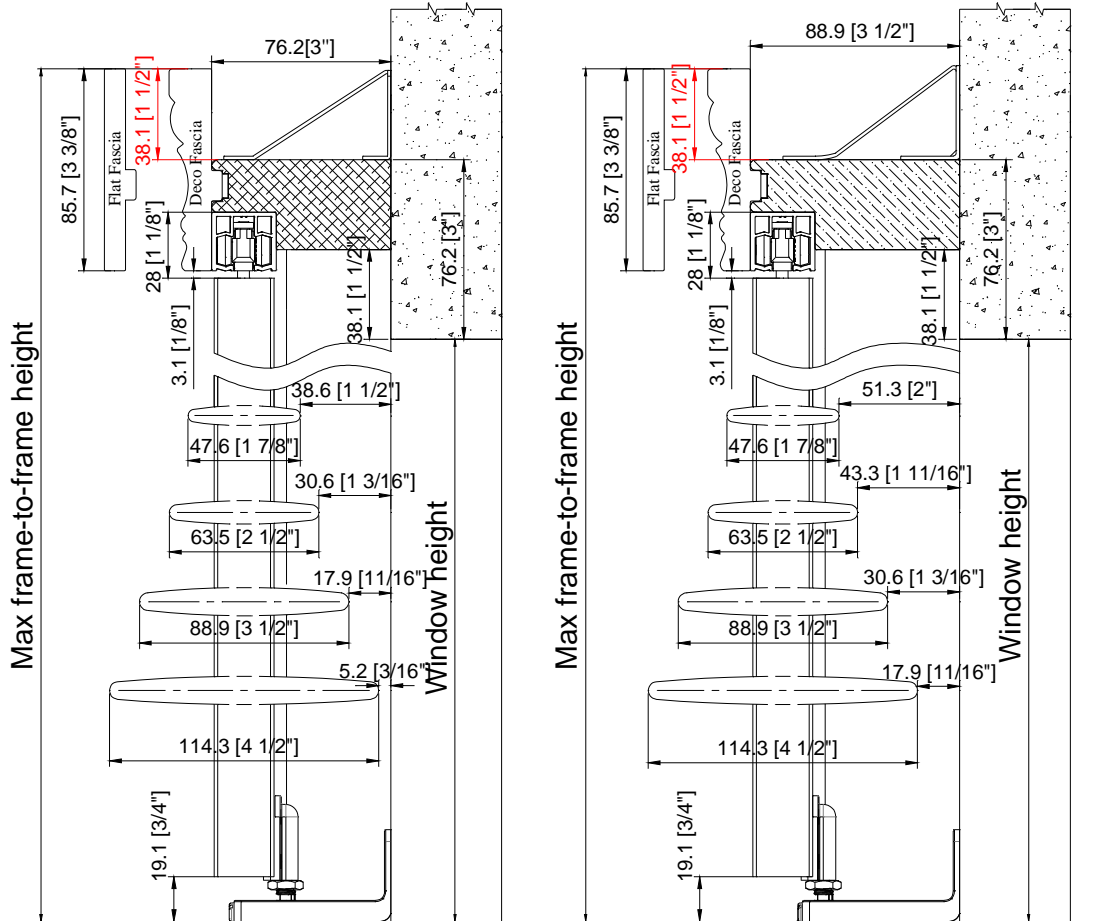
Max frame-to-frame height: window height + 4 1/2"



- Track is pre-installed on the header; standard 1 track only.

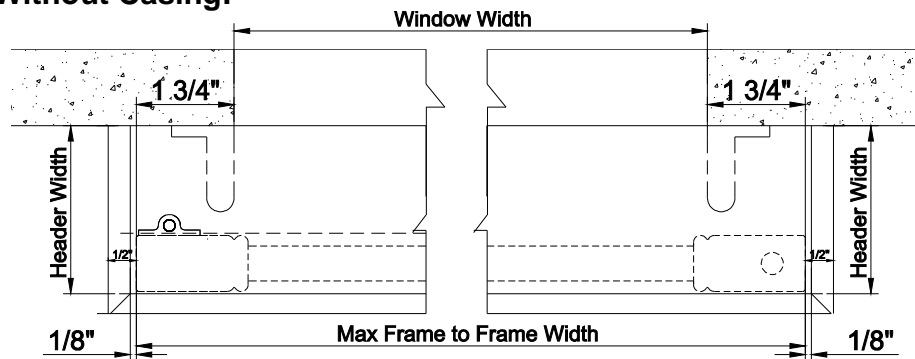
Mounting Options: Outside Mount only

Side View



Top View

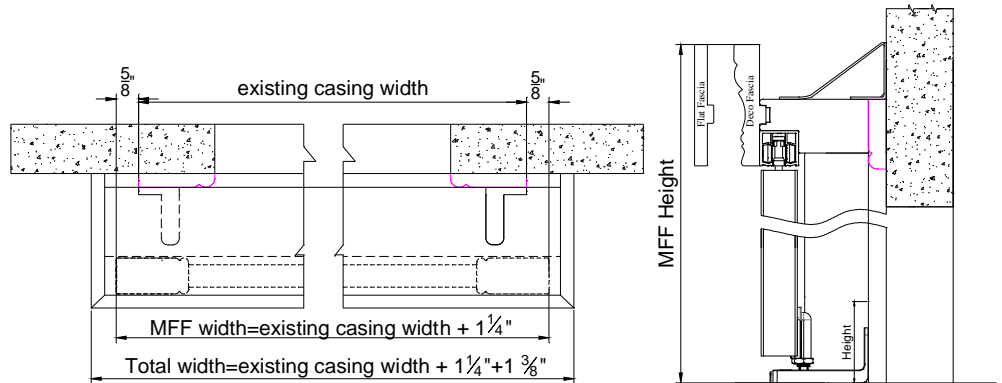
Without Casing:



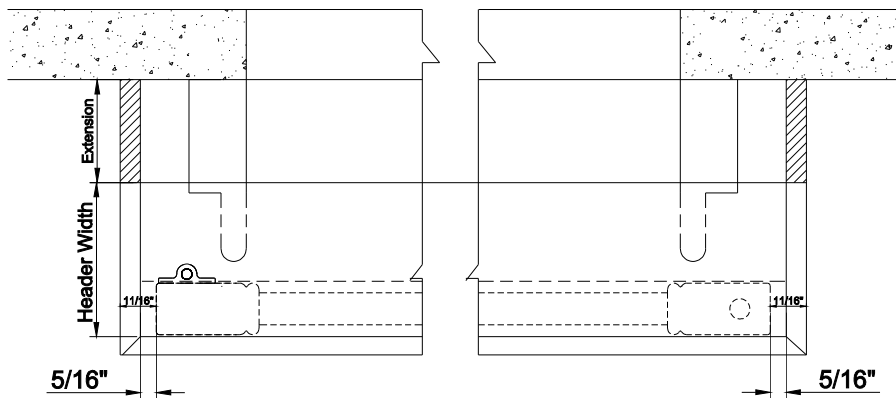
Note:

- ◇ Fascia return will protrude the panel about 1/2" for each side.
- ◇ The header will protrude the panel about 1/8" for each side.
- ◇ Header, light blocks, and bottom pivot bracket(s) must be installed on a flat surface.

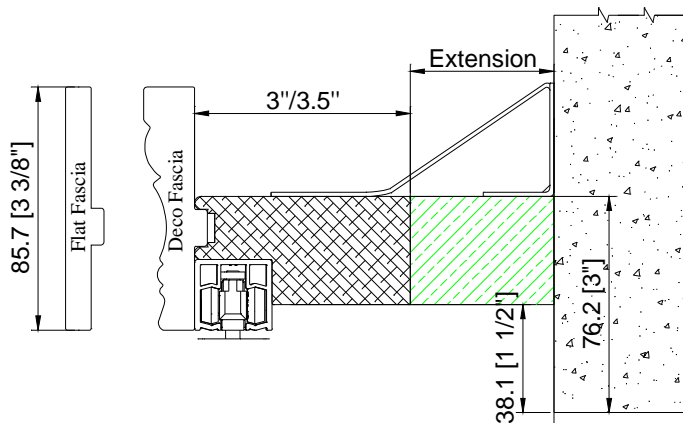
With Existing Casing:



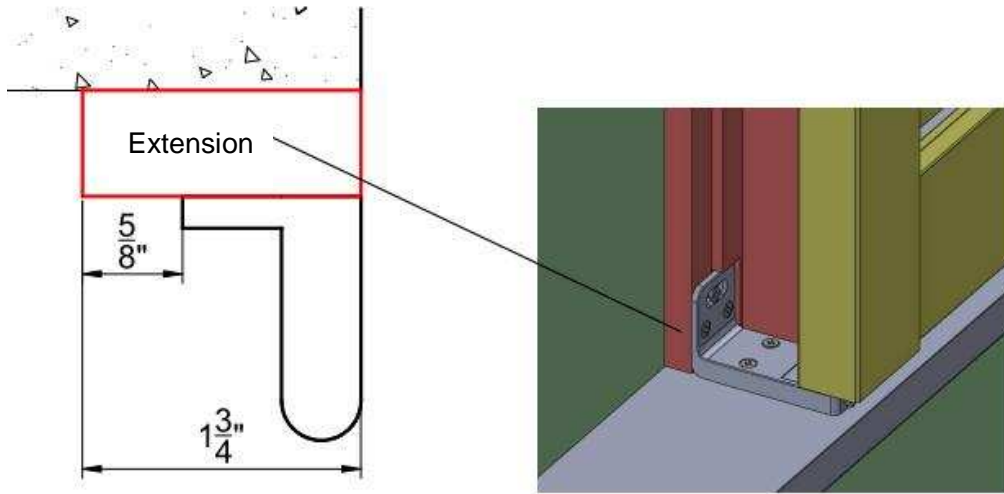
- ✧ Header Extension: Optional
- ✧ Custom extension up to 2" for Header
- ✧ When extension is needed, the header will protrude the panel 5/16" for each side and the fascia return will protrude the panel 11/16" for each side.



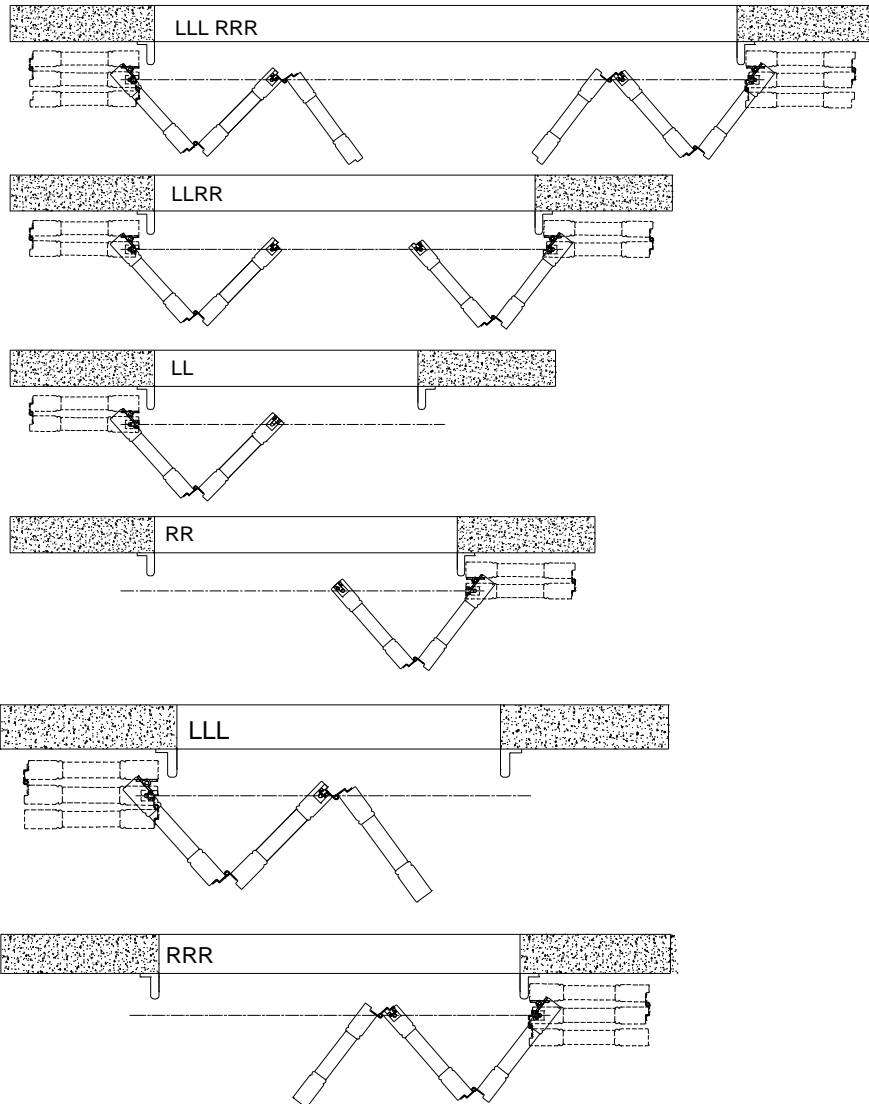
The extension will be pre-attached.



For 180 Bi-fold, if Bottom Pivot L Bracket is required, the extension for the L shape light block will be $1\frac{3}{4}$ " in width. Please see picture below:



Panel Configuration : Only 2", 2 1/4" rabbet and butt stiles are available. Center stile is not available.



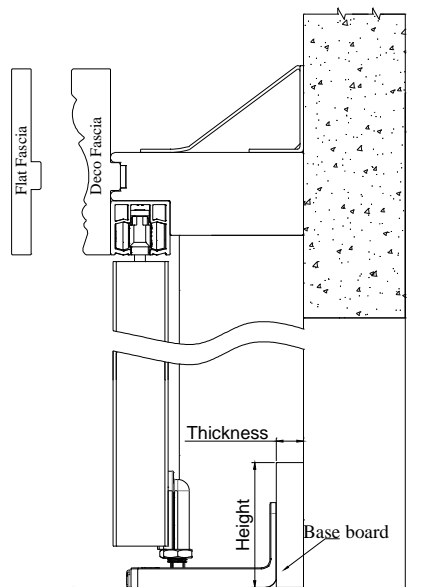
Notes:

If there is no baseboard to the wall, 3" header can be used.

If there is baseboard to the wall, then it should be as below:

1. If base board thickness is less or equal to 5/8", 3 1/2" header can be used.
2. If base board thickness is over 5/8", it is suggest using the 3" header with build out. And the build out thickness=base board thickness-1/8".

Please see the drawing below:



180° Bi-fold Track Shutters Framing Materials

Type	Header Dimension	Top Fascia Dimension	L Shape Light Block Strip Dimension
Header & Top Fascia & Light Block Strip	3"	3 3/8"	1 9/16"
	3 1/2"		2 1/16"

180° Bi-fold Track Shutters Hardware Box

Parts
Wrench
Hinge Pin
Support L Bracket (based on the length of header)
2 ½ " screws for support L bracket
¾ " screws for support L bracket
Bottom Pivot Bracket
1 ½ " screws for bottom pivot bracket
2 ½ " screws for Frame with predrilled screw holes

Bi-fold 90

Guidelines and Specs:

<u>Description</u>	<u>Minimum</u>	<u>Maximum</u>		
		1 ¼"	1 ⅞"	2½" ; 3½" ; 4½"
Single-Panel Width (Bi-fold Track)	6"	N/A	26"	26"
Single-Panel Width (Multifold track up to 4 panels)	6"	N/A	20"	20"
Single-Panel Height	10"	N/A	133"	133"

Outside Mount

Max frame-to-frame width: window width + 3 1/2"

Max frame-to-frame height: window height + 4 1/2"

Semi-Inside Mount

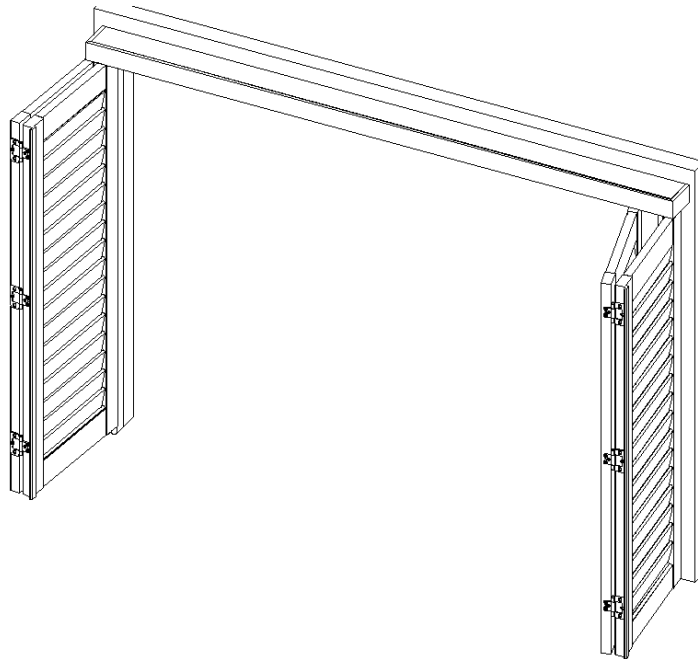
Max frame-to-frame width: window width - 1/8"

Max frame-to-frame height: window height + 1 3/8"

Inside Mount

Max frame-to-frame width: window width - 1/8"

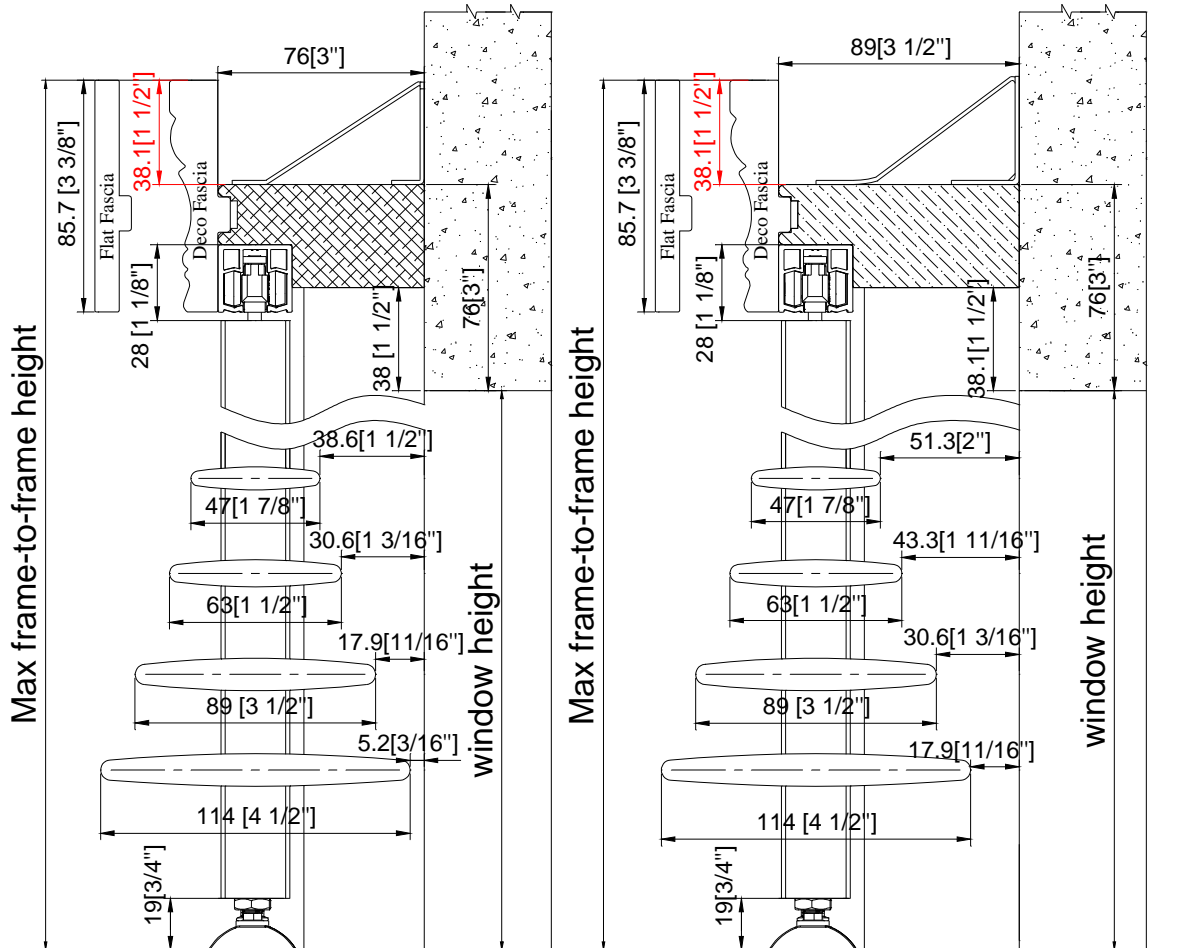
Max frame-to-frame height: window height - 1/8"



Track is pre-installed on the header; standard 1 track only.

Mounting Options: Outside Mount

Side View

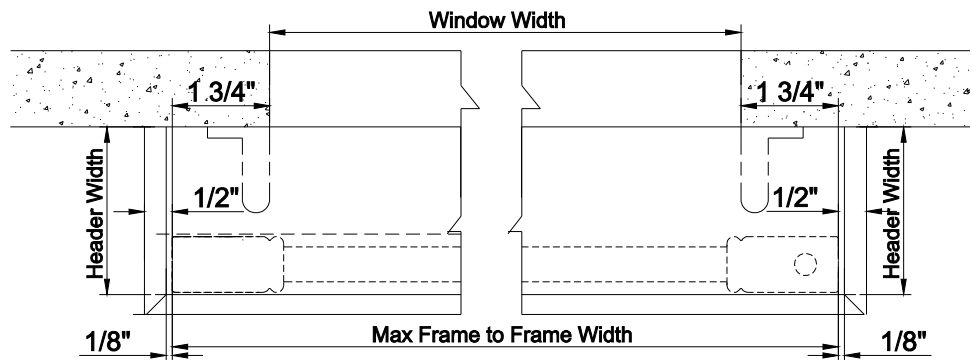


Top View

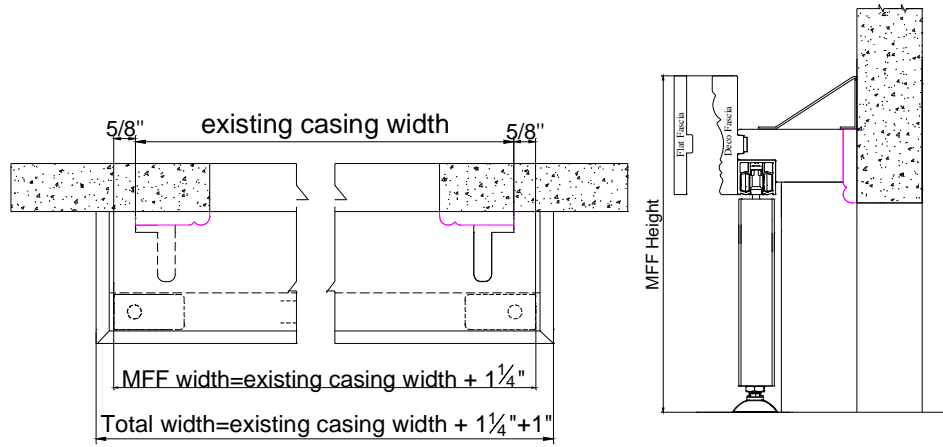
Without Casing:

Note:

- ◇ Fascia return will protrude the panel about 1/2" for each side.
- ◇ The header will protrude the panel about 1/8" for each side.
- ◇ Header, light blocks, and bottom pivot bracket(s) must be installed on a flat surface.

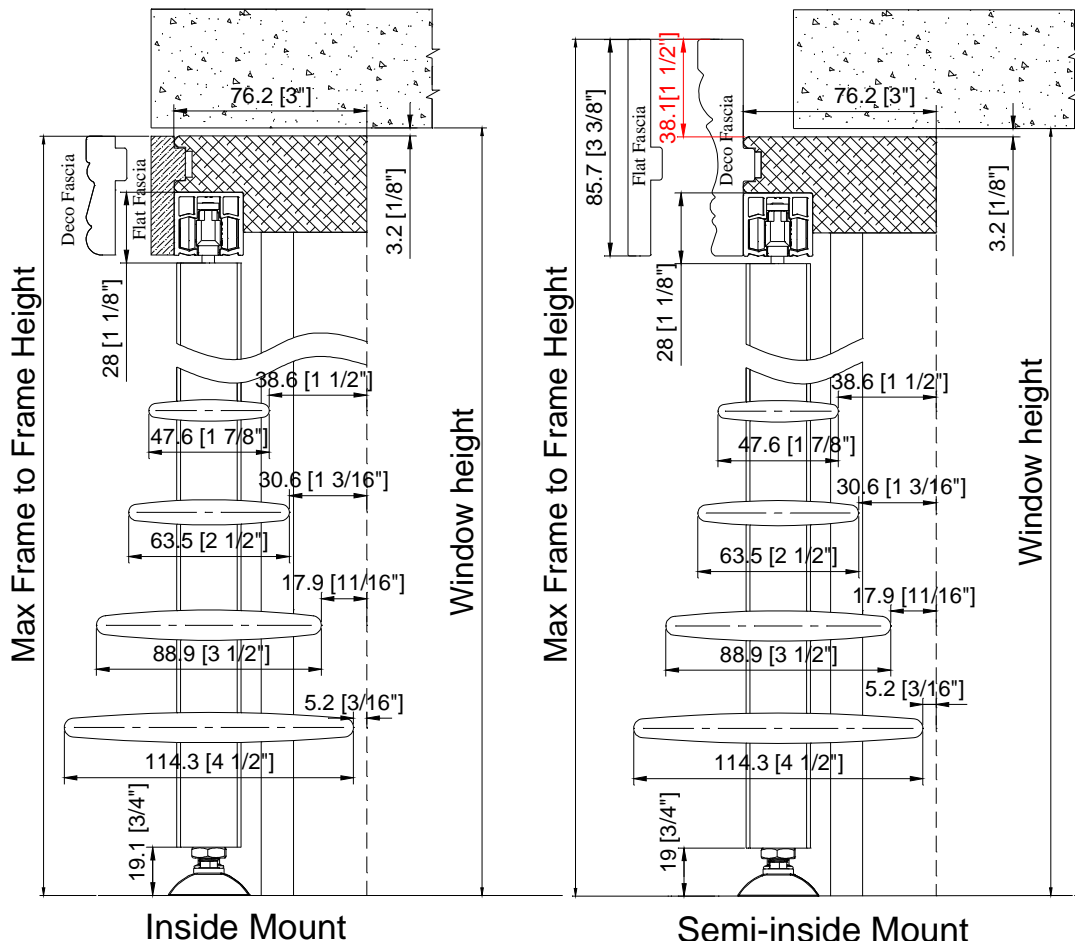


With Existing Casing:

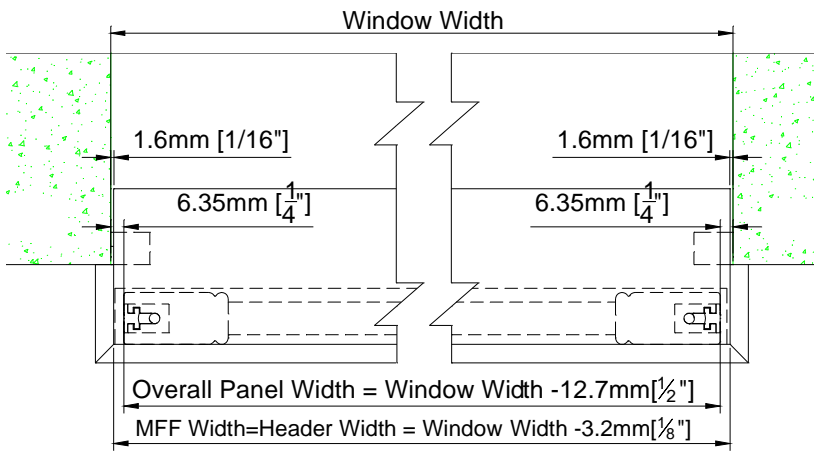


Semi-Inside/Inside Mount

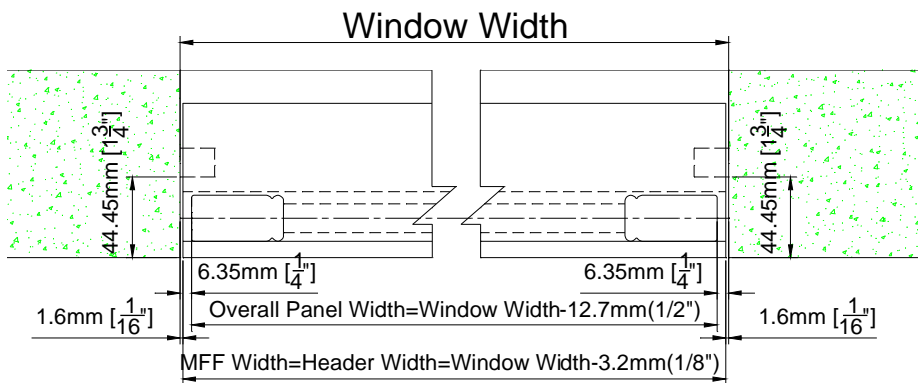
Side View



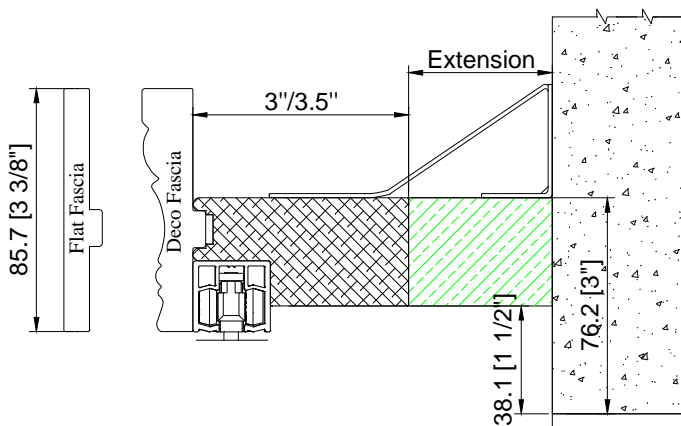
Semi-Inside Mount Top View



Inside Mount Top View

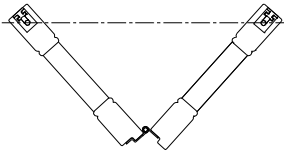


- ◇ Header Extension: Optional.
- ◇ Custom extension up to 2" for Header
- ◇ The extension will be pre-attached.

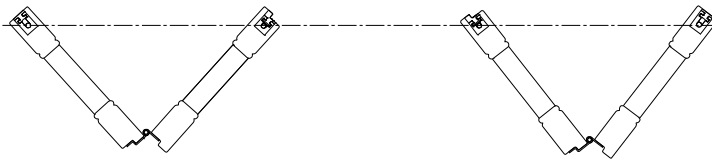


Panel Configuration : Only 2", 2 1/4" rabbet and butt stiles are available. Center stile is not available.

LL or RR



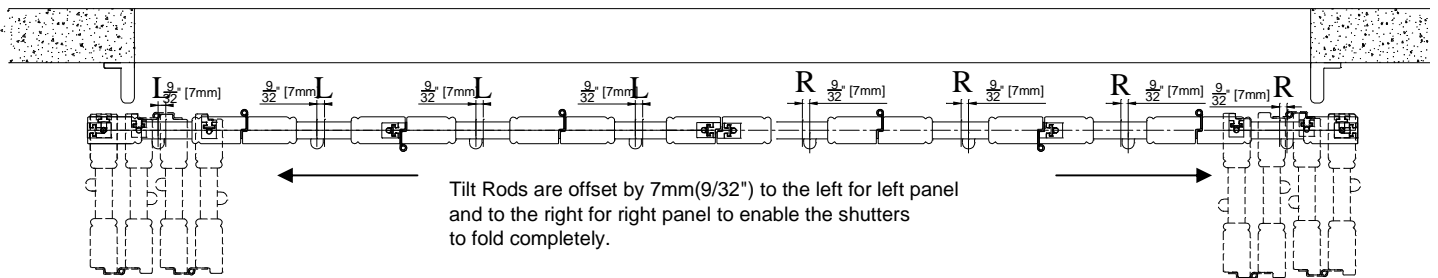
LLRR



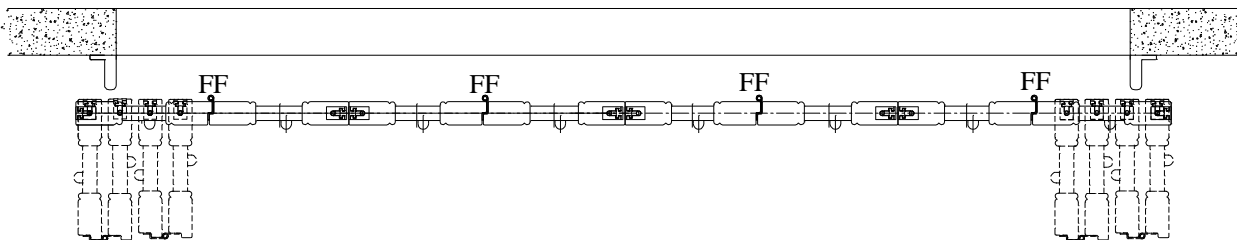
90° Multi-Fold Track Shutters (Wood only)

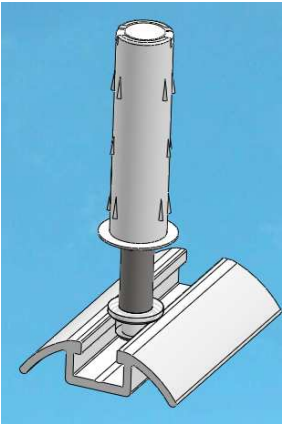
Maximum single panel width for multi-fold is 20"

Panel Configuration: LLLL, RRRR, or LLLLRRRR



90° Floating Panels

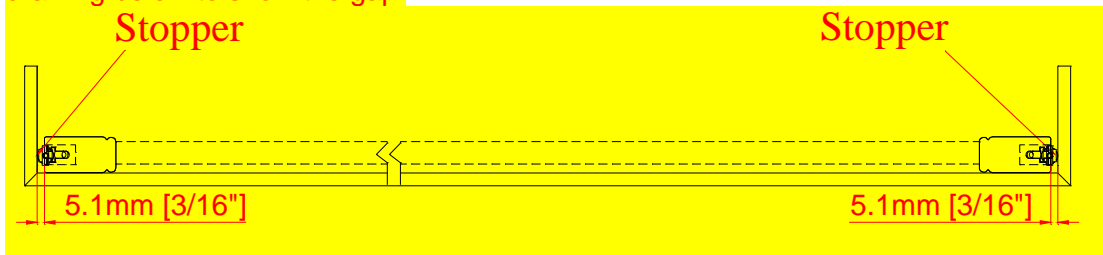




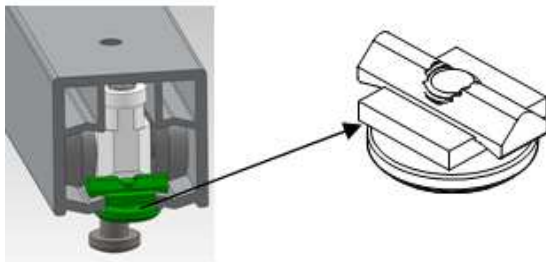
- Two or four panels can be hinged together, fold and slide to either direction
- Application comes with wheel carrier, spring loaded guide and floor track
- Can be used on large window

Note:

1. For 90° Floating Panels outside mount/semi-inside mount without sideboards but with fascia returns, 2016 Stopper will be supplied and the gap between the fascia return and the panel is 5mm each side. Please see drawing below to show the gap.

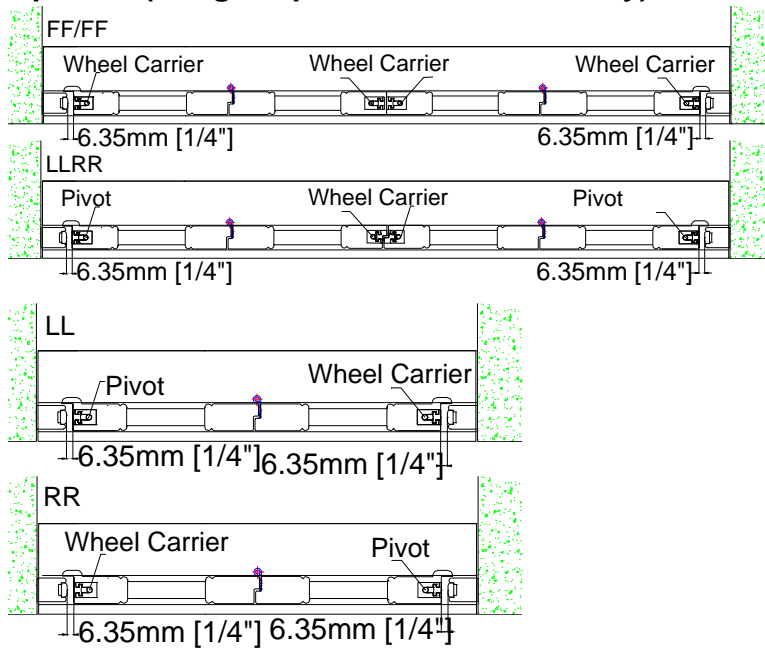


The 2016 Stopper

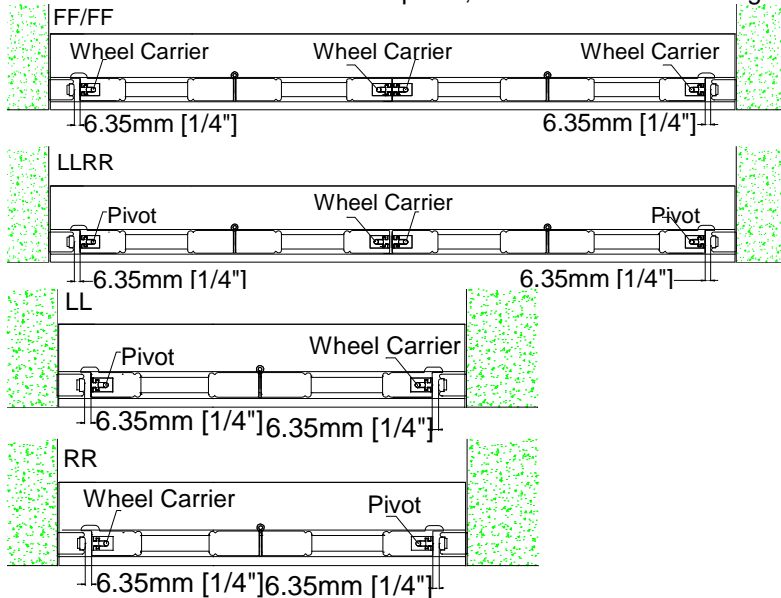


2. When rabbit stile required, the meeting stile of unhinged stile will be butt stile by default.

Optional (Hang Strip for Inside Mount Only)



Note: When Butt/rabbit Stile is required, the stile next to the hang strip will be astragal stile.



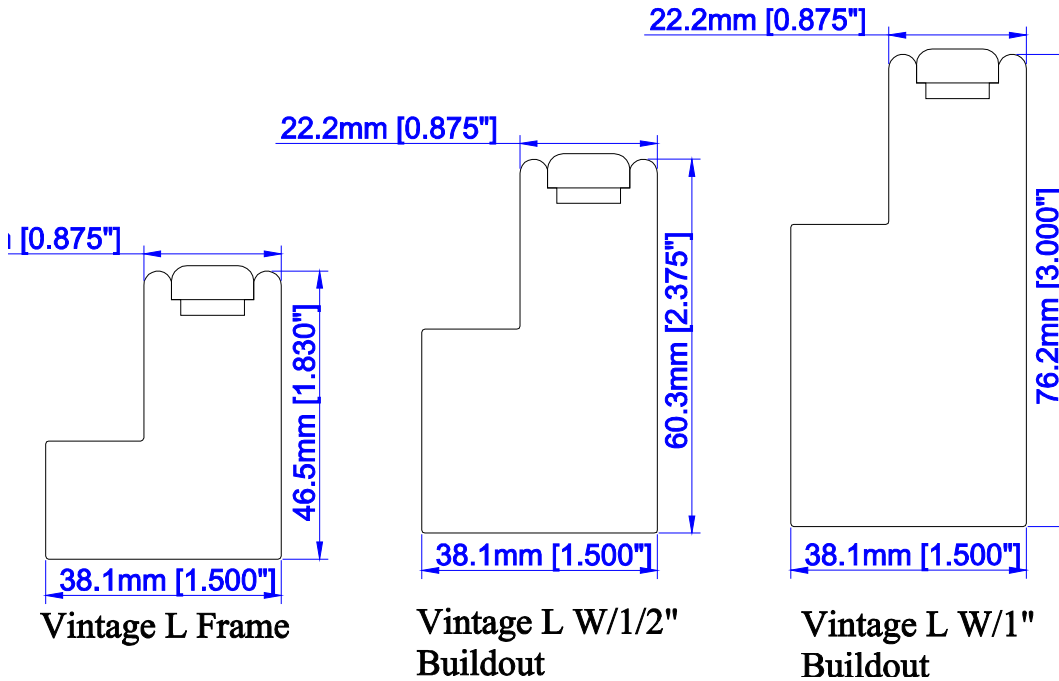
90 Degree Bi Fold Track Shutters Framing Materials

Type		Header Dimension	Top Fascia Dimension	Light Block Strip Dimension	Hang Strip Dimension
Header & Top Fascia & Light Block Strip	OM	3"	3 3/8"	1 9/16"	1.08"x0.875"
		3 1/2"		2 1/16"	
	Semi-IM	3"	1 7/8"	5/8"x3/4"	
		3"		5/8"x3/4"	

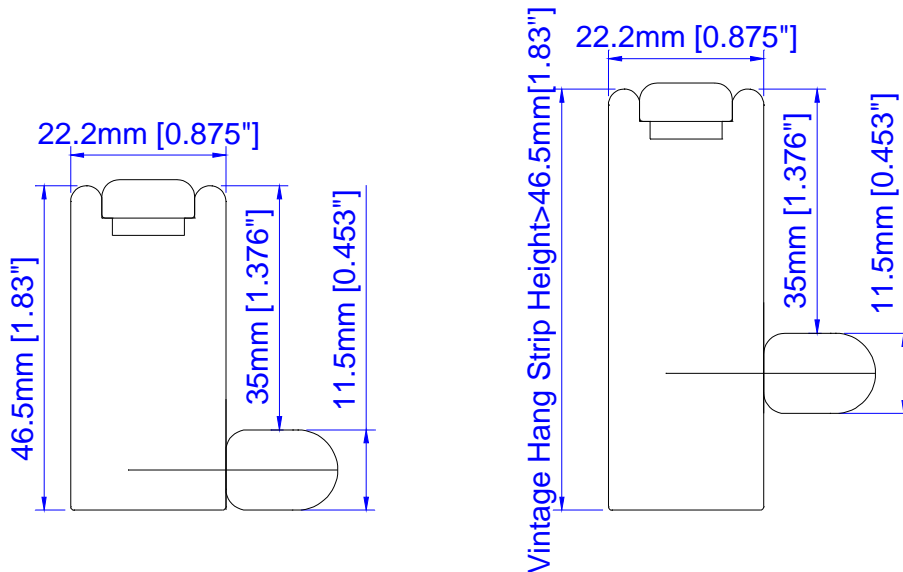
Note: It will be L shape light block strip for outside mount.

Frame Hinged Bifold

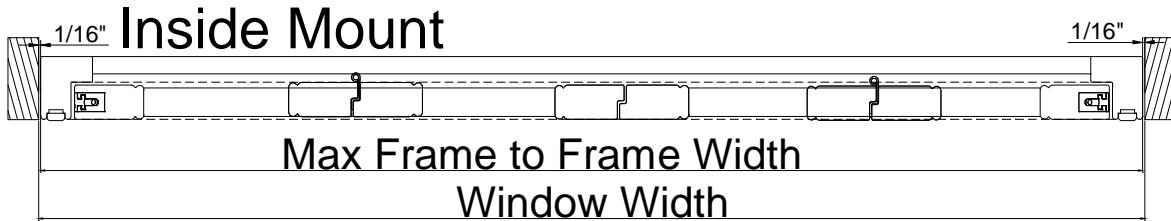
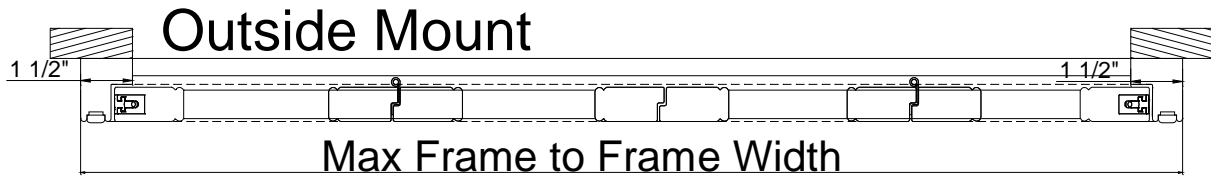
Available Stile: Rabbet Stile Only
Available Frame type



Vintage Hang Strip with 11.5mm light block: For single direction shutter with even panel qty, the frame on the unhinged side will be Vintage Hang Strip with 11.5mm [0.453"] light block, the height of the Vintage Hang Strip will match with that of the hinged side frame.



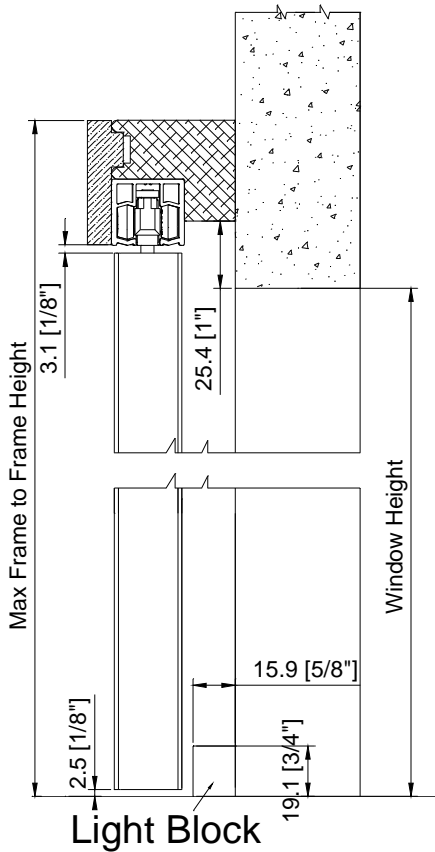
Top View : Hinged at Left or Right with wheel assembly at top;



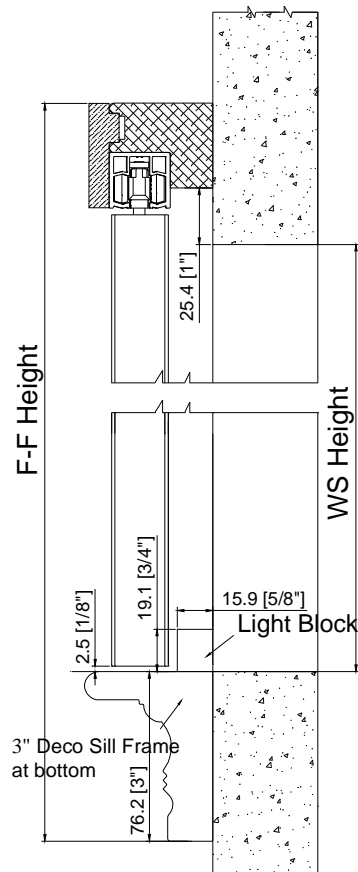
Side View

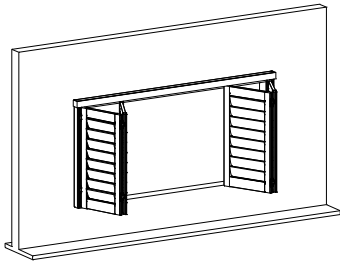
Outside Mount

3-Sides + bottom light block



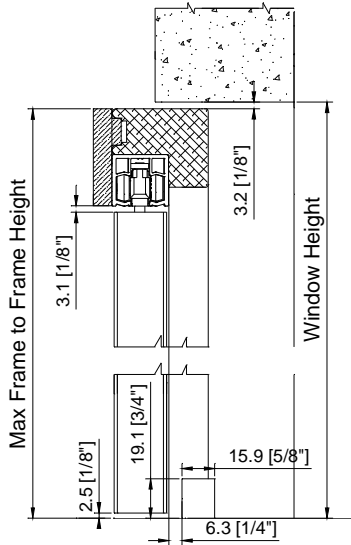
3-Sides + 3" Deco Sill Frame



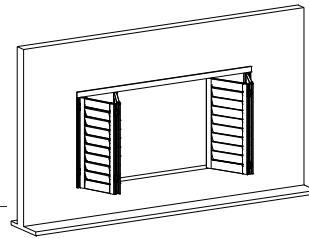
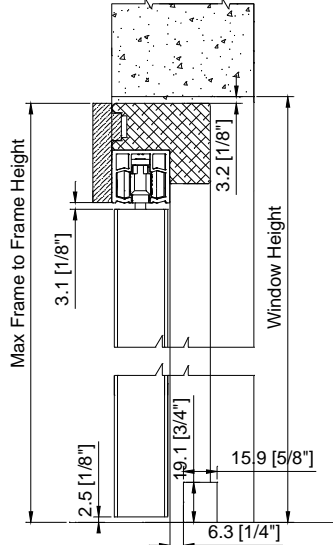


Note: For OM Frame Hinged Bifold shutter not to use as a door, if there is no existing sill at the bottom of the window opening, it is recommended to have the 3" Deco Sill Frame at the bottom.

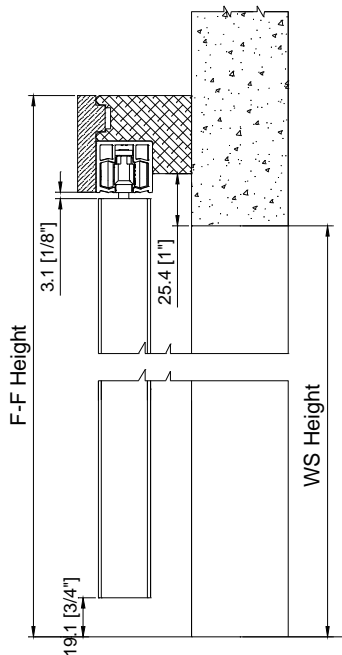
Semi-Inside



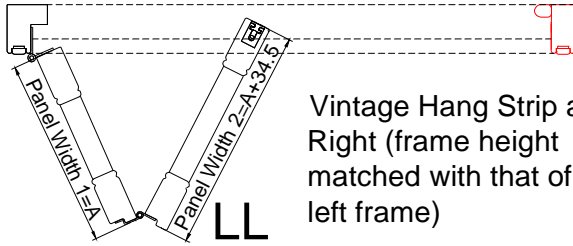
Inside Mount



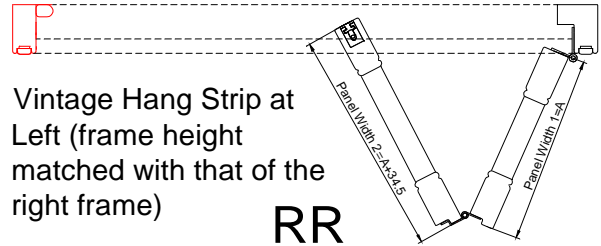
For frame hinged bifold track shutter used as door, the bottom gap will be 19mm by default. Please specify "Used As Door" on the order form.



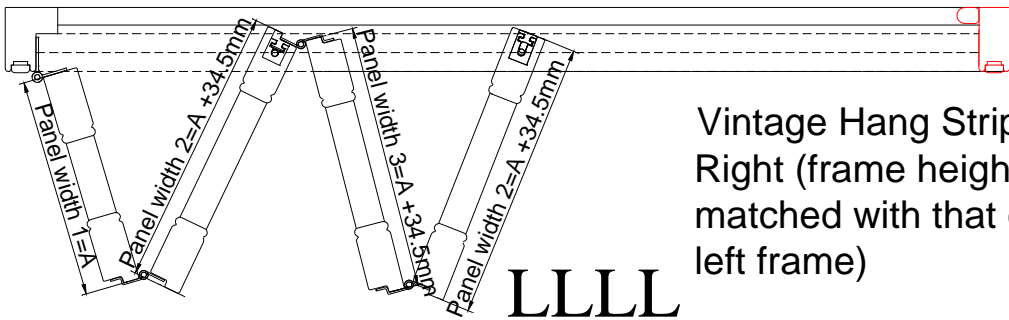
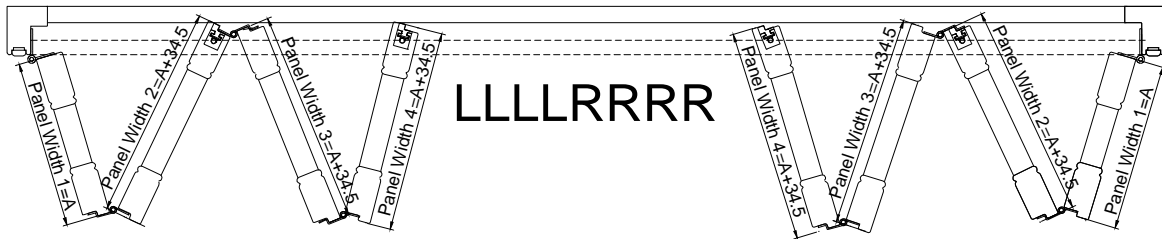
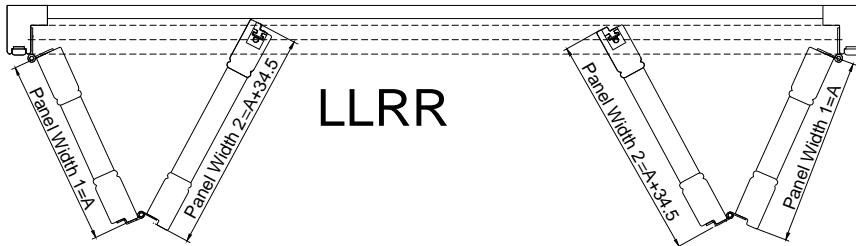
Panel Configuration (uneven panel width)



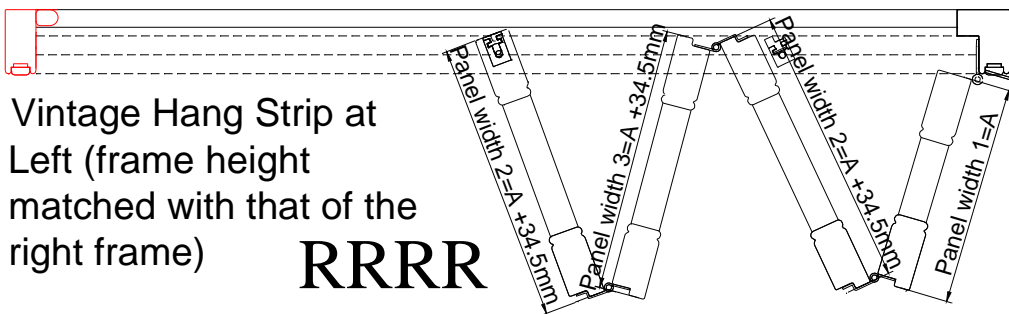
Vintage Hang Strip at Right (frame height matched with that of the left frame)



Vintage Hang Strip at Left (frame height matched with that of the right frame)



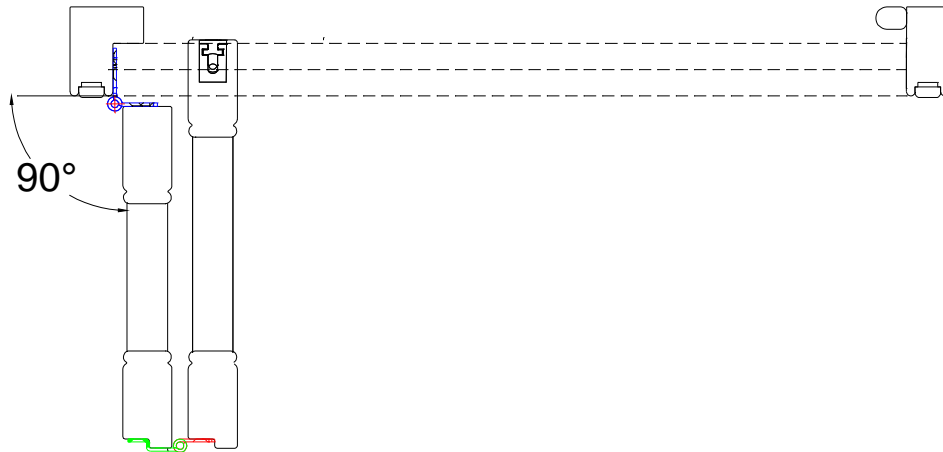
Vintage Hang Strip at Right (frame height matched with that of the left frame)



Vintage Hang Strip at Left (frame height matched with that of the right frame)

Notes:

1. Only available for 3-Sides + bottom light block or 3-Sides + 3" Deco Sill Frame (4-sides is not available); Panels can be folded and open at 90 degree;

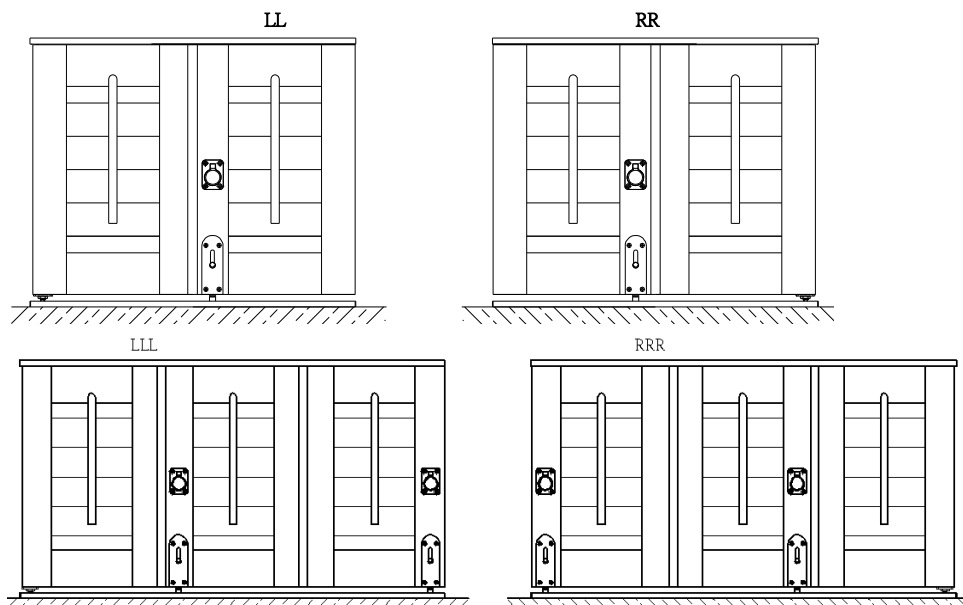


2. Frames available: Only Vintage L Frame

- 1) For top frame, the insert will be replaced by top fascia;
- 2) Top track will be pre-attached to the top frame;
- 3) Frame will be pre-drilled with screw holes same as regular shutters.

Ring Pull: The ring pull will be provided as an option; and for frame hinged bi-fold, the ring pull will be supplied as default; Customer need specify ring pull location on the order form. Ring pull location is measured from the floor to center of the ring pull in height direction. Ring pull color will match the hinge color.

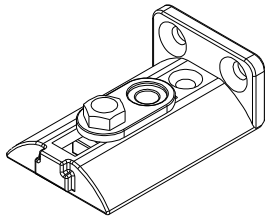
Please refer to below drawing of ring pull position for all shutter type:



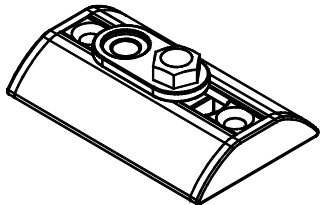


Bottom Pivot Bracket for 90 degree bifold:

For 90° Bifold Track Shutter, there will be 2 types of Bottom Pivot Brackets available.

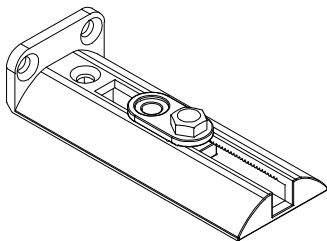


For Inside Mount, Bottom Pivot L Bracket will be supplied as default;

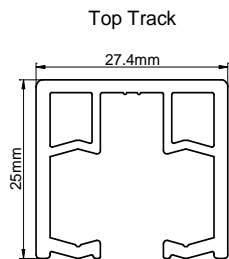


For Semi-Inside or Outside Mount, bottom pivot bracket will be supplied as default.

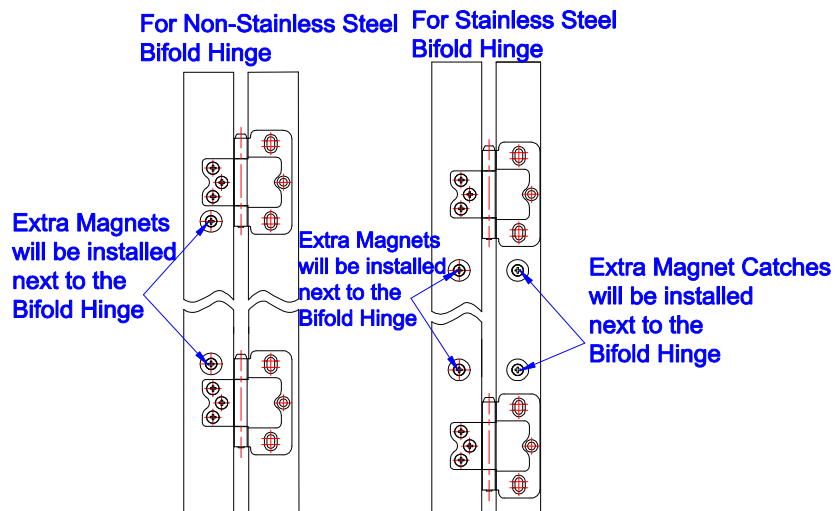
For 180° Bifold Track Shutter, 81mm Bottom Pivot L Bracket will be supplied as default.



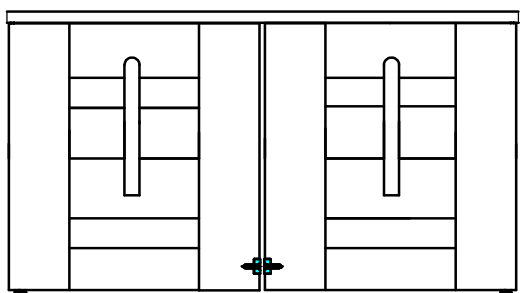
Track Dimension:



Extra Magnets will be supplied for Bifold hinges: (only for the most top and bottom hinges)



Side Magnet: applied to the meeting stiles of LR panels



Extra magnet and Side Magnet:

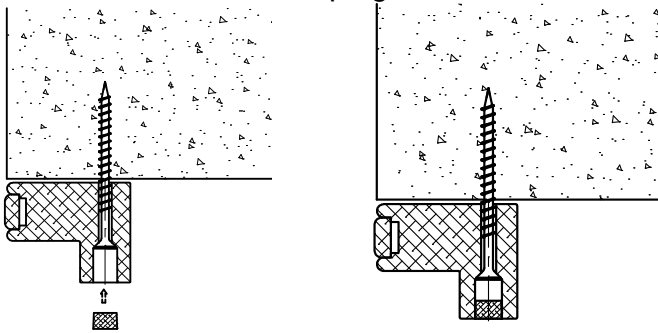


90° Bi Fold Track Shutters Hardware Box

Parts
Wrench
Hinge Pin
Support L Bracket (based on the length of header)
2 ½ " screws for support L bracket
¾ " screws for support L bracket
Bottom Pivot Bracket
38.1mm screws for bottom pivot bracket
63.5mm screws for Frame with pre-drilled screw holes

Notes:

1. for all bifold track shutter Outside Mount, the header will be pre-drilled with screw holes in the insert and screws will be supplied by default;
2. for all bifold track shutter Inside/Semi-Inside Mount, the header will be pre-drilled with holes for screws and wood plug and screws and wood plug will be supplied by default



2016 Track Shutters—Bypass

Guidelines and Specs:

<u>Description</u>	<u>Minimum</u>	<u>Maximum</u>		
		1 ⁷ / ₈ "	2 ¹ / ₂ "	3 ¹ / ₂ " ; 4 ¹ / ₂ "
Single-Panel Width (Wood)	6"	30"	36"	42"
Single-Panel Height	10"	133"	133"	133"

Outside Mount

Max frame-to-frame width: window width + 3"

Max frame-to-frame height: window height + 4¹/₂"

Semi-Inside Mount

Max frame-to-frame width: window width - 1¹/₈"

Max frame-to-frame height: window height + 1³/₈"

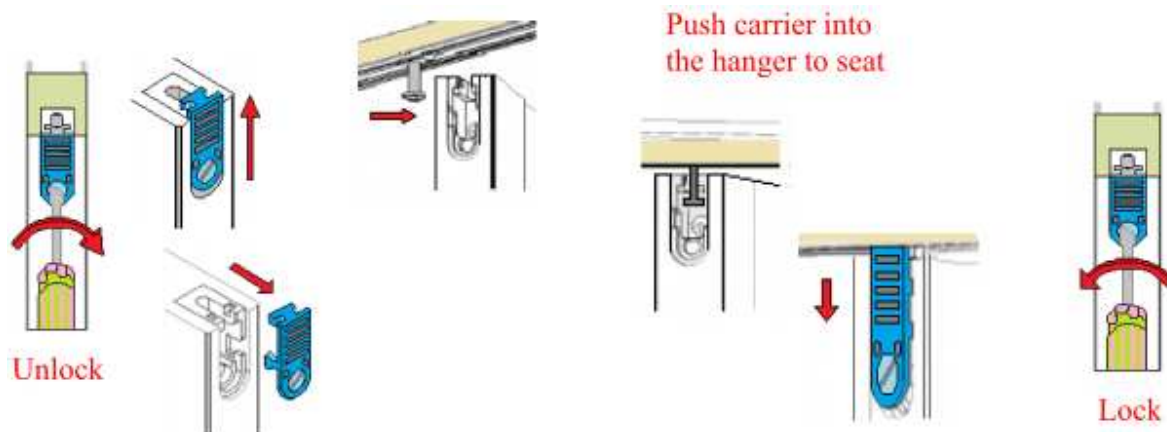
Inside Mount

Max frame-to-frame width: window width - 1¹/₈"

Max frame-to-frame height: window height - 1¹/₈"

Carriers are in the Track / Hangers are in the Panel:

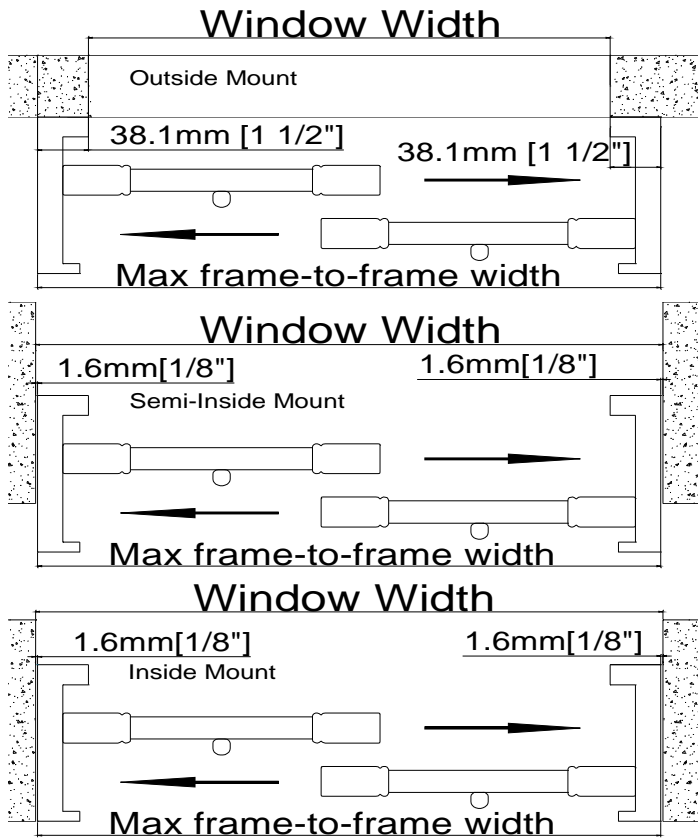
Adjustments to panel alignment are made by turning the Carrier Bolt with the wrench included in the Hardware Box



2016 Track Shutters—Bypass

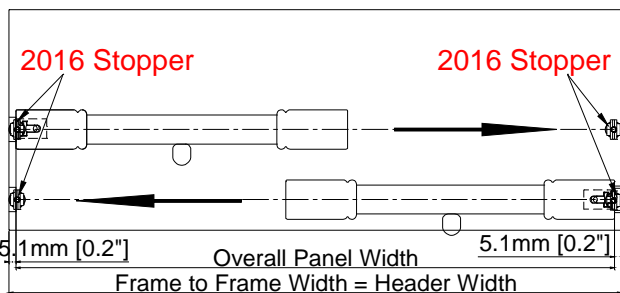


Top View

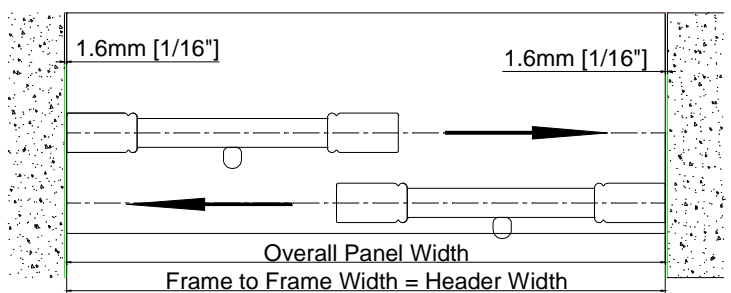


Size Definition

For Semi-IM/OM Without Sideboards



For IM Without Sideboards

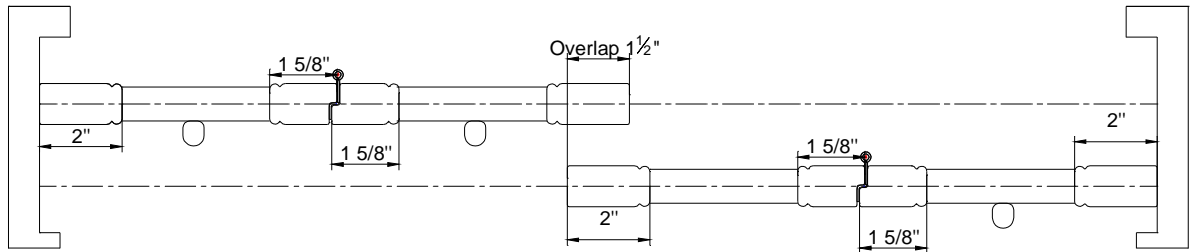


Note: For Semi-Inside/OM bypass without side boards but with fascia return, 2016 Stopper will be supplied.

2016 Track Shutters—Bypass

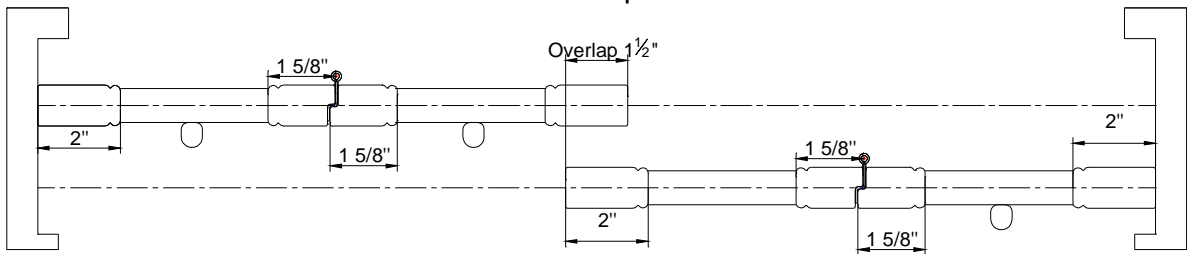
Top View

Combi - joined Panels (optional)

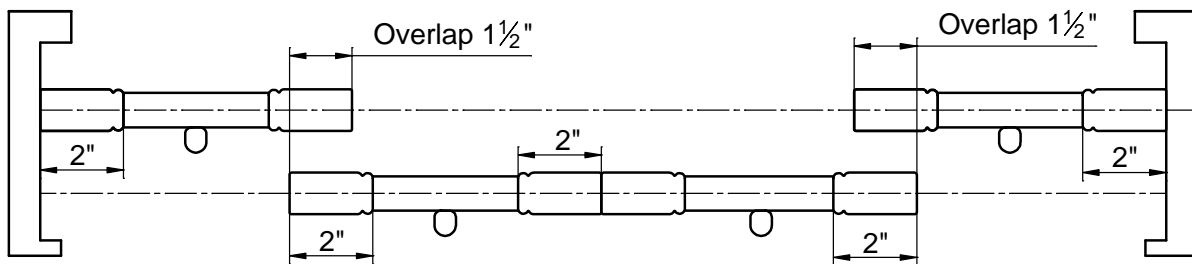


For shutters with 4 or more panels, please select “side open” or “center open”

Side Open

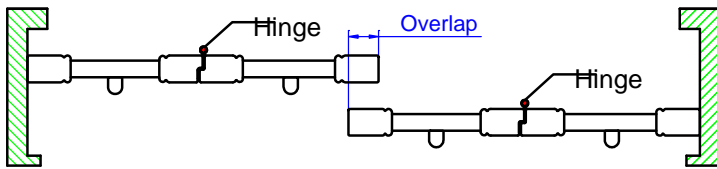


Center Open

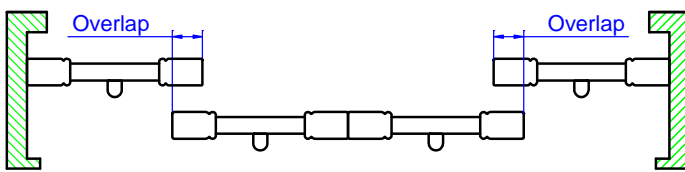


2016 Track Shutters—Bypass

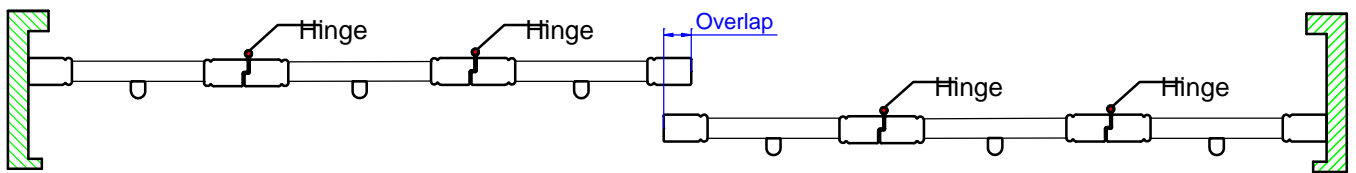
4 panels side open w/Rabbit stile



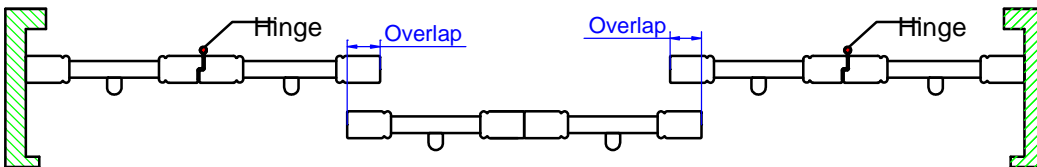
4 panels center open w/Rabbit stile



6 panels side open w/Rabbit stile



6 panels center open w/Rabbit stile

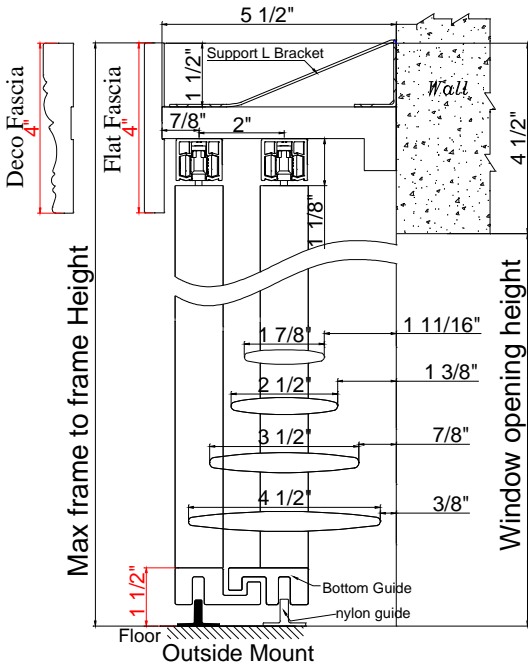


Stile: Only 2", 2 1/4" butt, rabbit stile are available,
1 5/8" rabbit stile only used for combi-joined panels.
Center stile is not available.

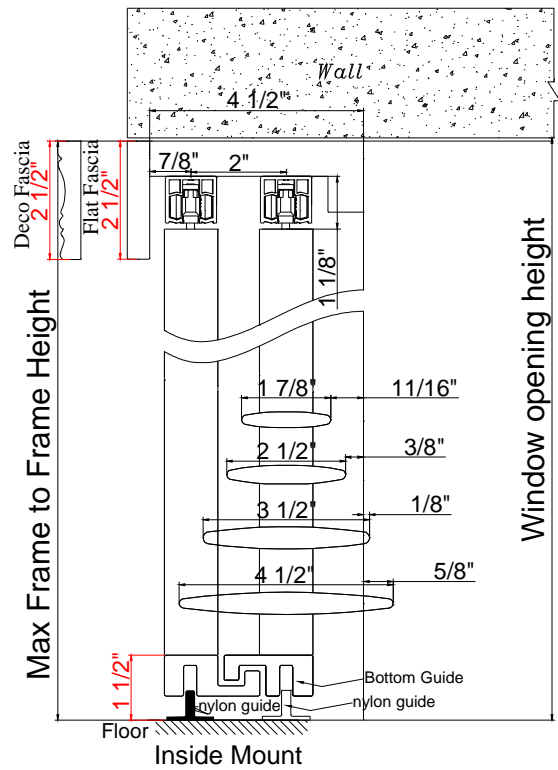
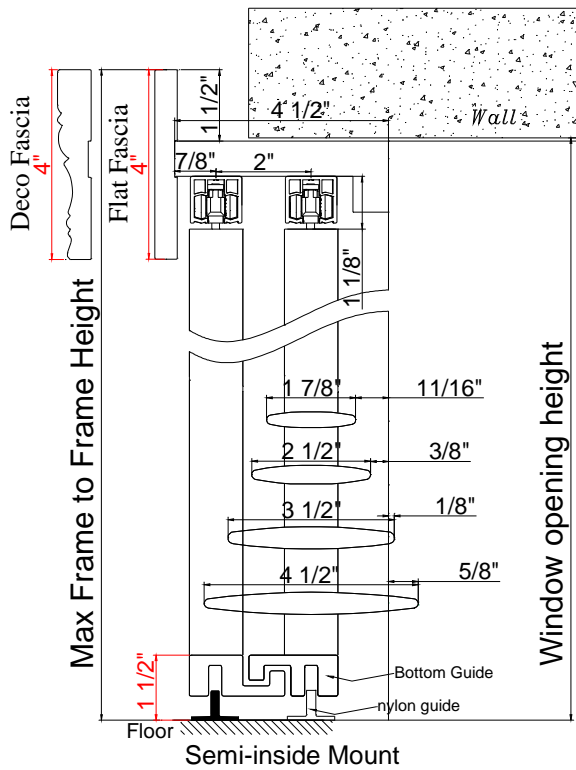
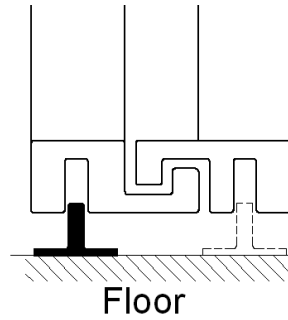
2016 Track Shutters—Bypass

Mounting Options (Closed Bypass)

Side View

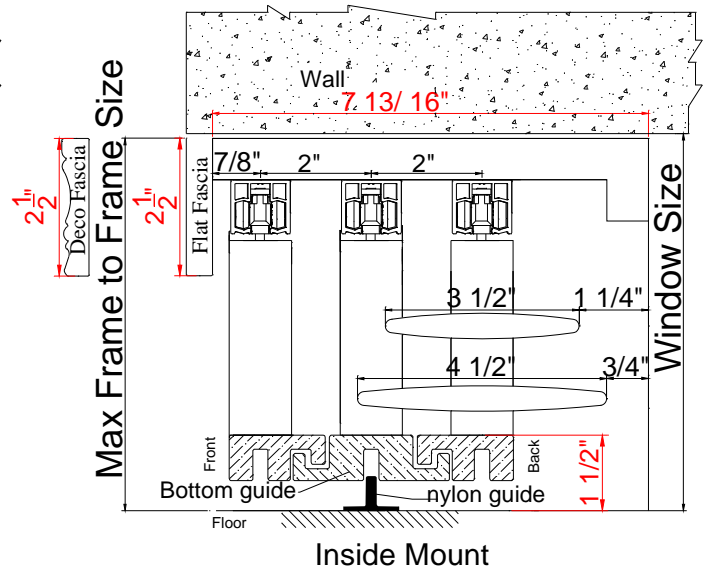
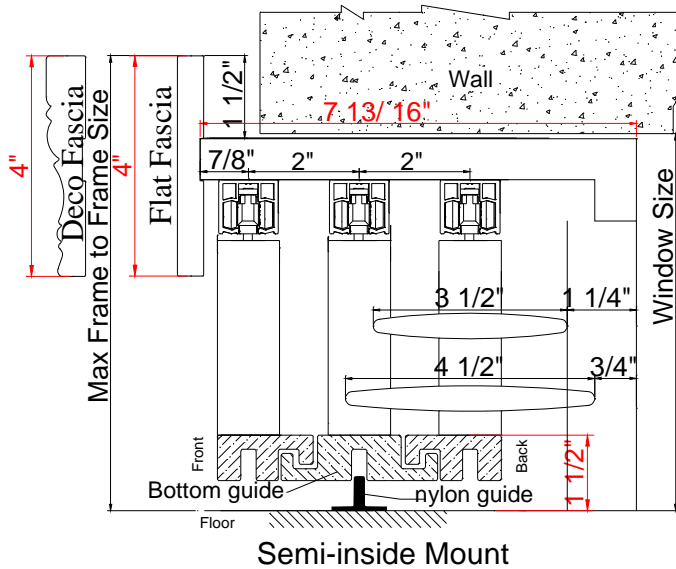
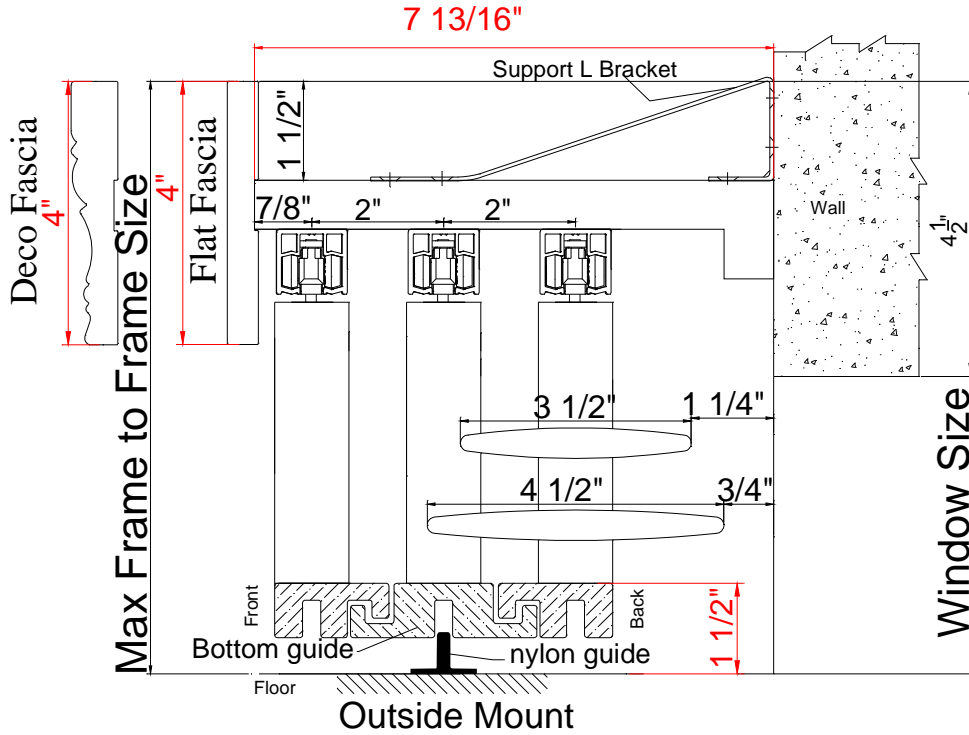


Bottom Guide

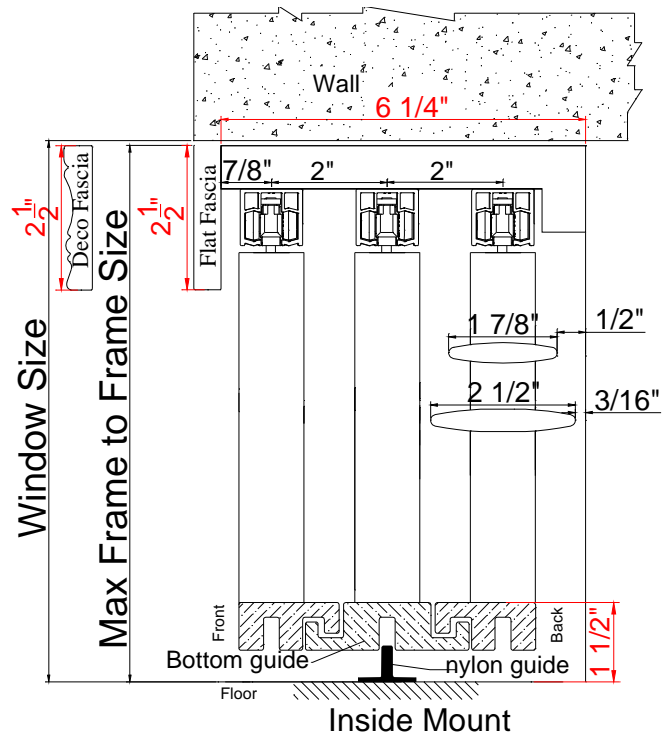
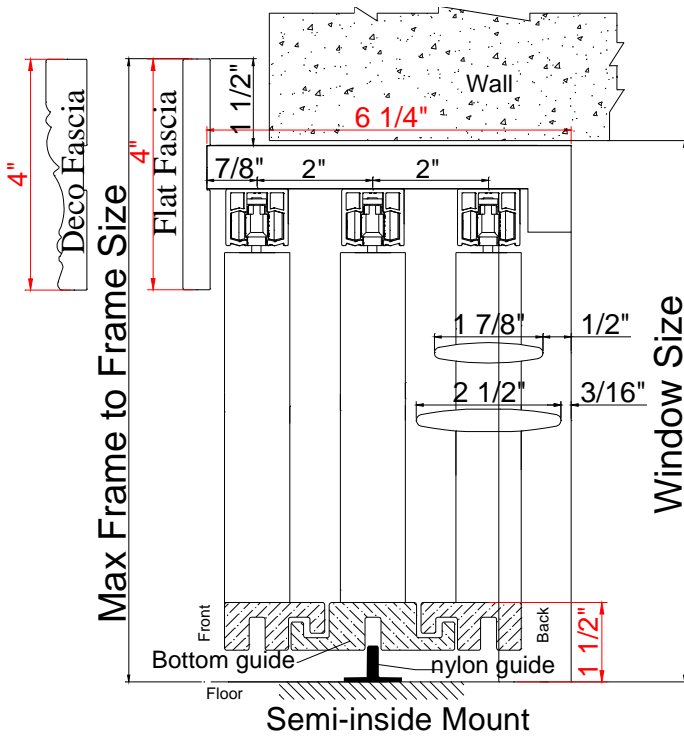
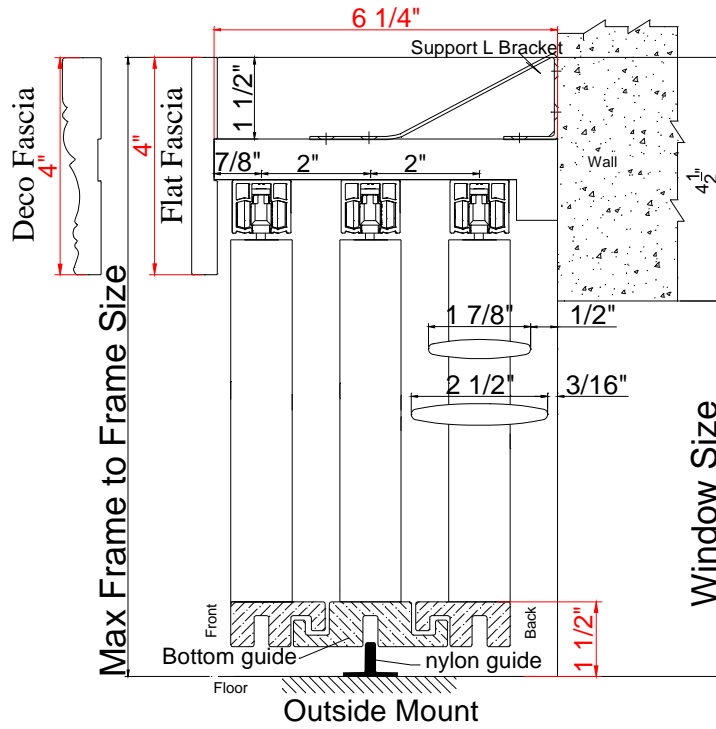


2016 Track Shutters—Bypass

Mounting Options (Closed Bypass with 3 Tracks):



2016 Track Shutters—Bypass

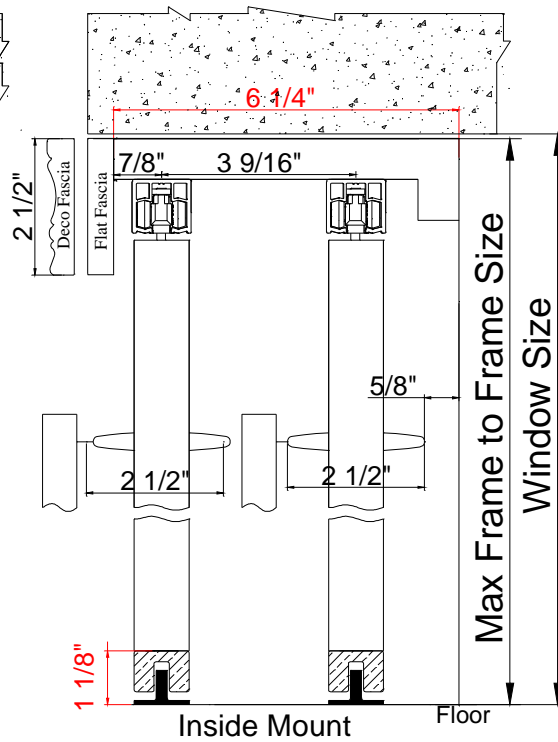
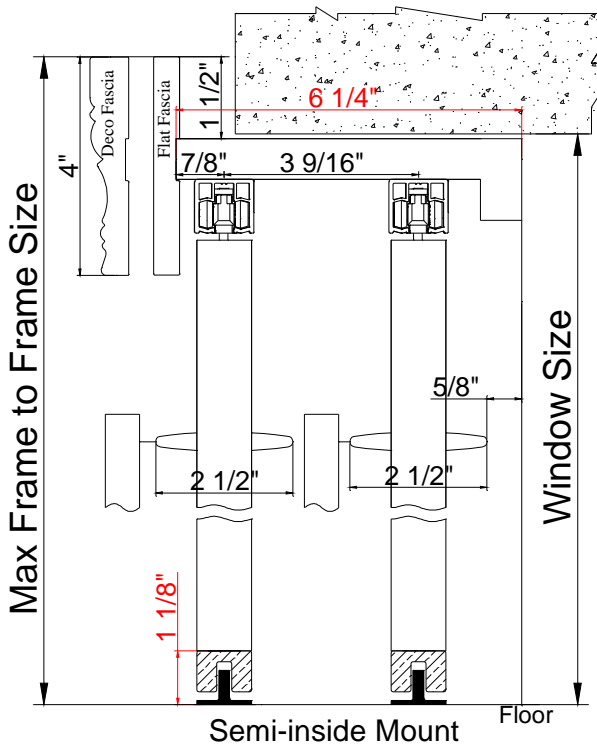
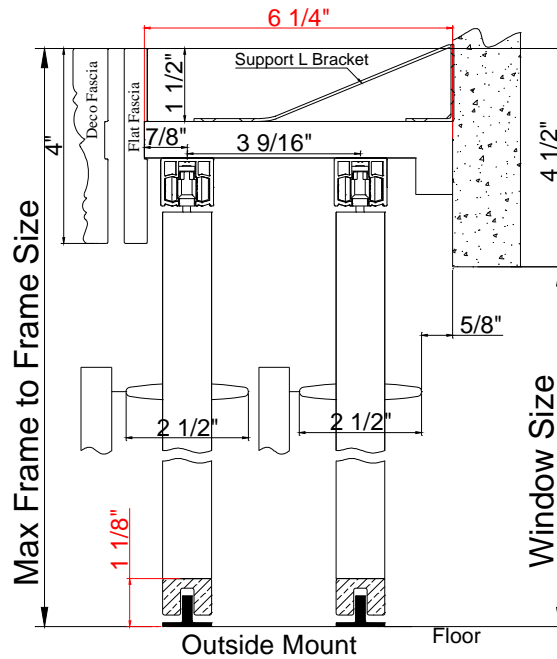


2016 Track Shutters—Bypass

Mounting Options (Opened Bypass)

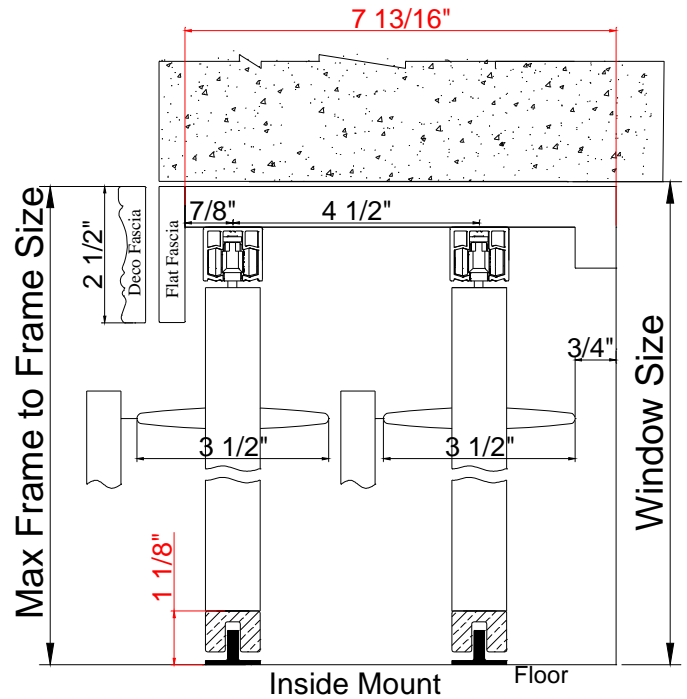
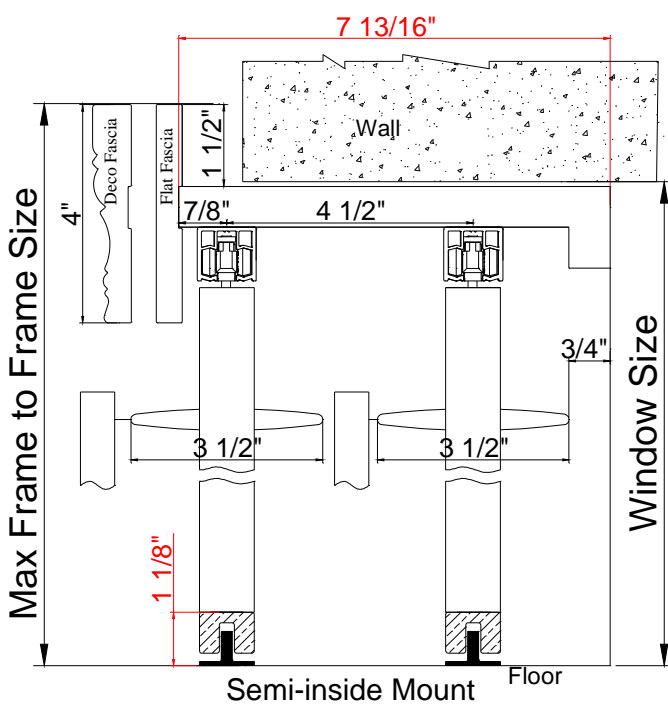
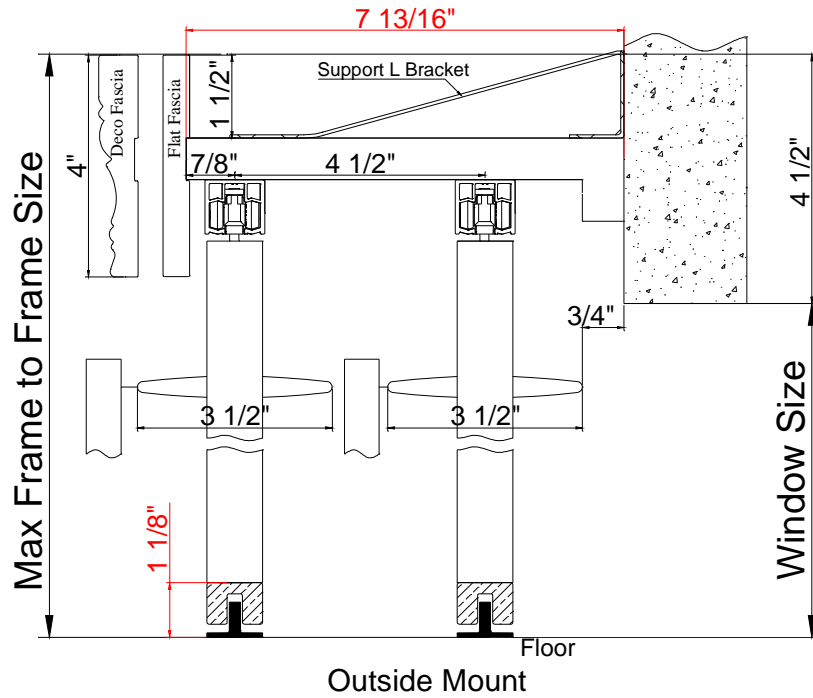
Only available in 2 1/2" and 3 1/2" louver sizes

2 1/2" Louver



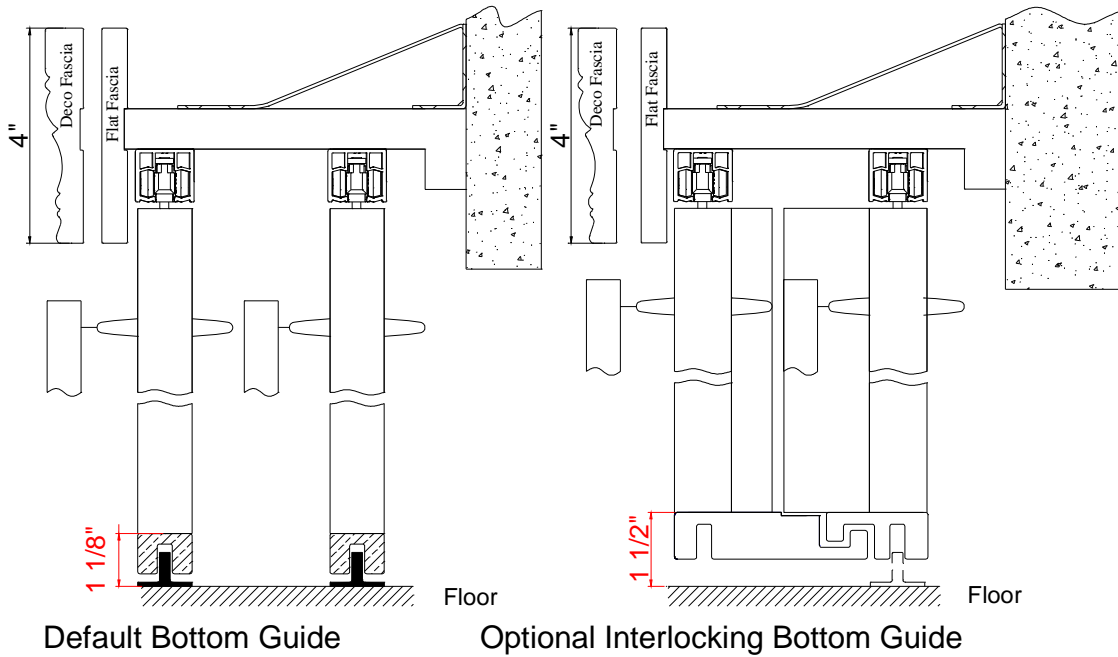
2016 Track Shutters—Bypass

3 1/2" Louver



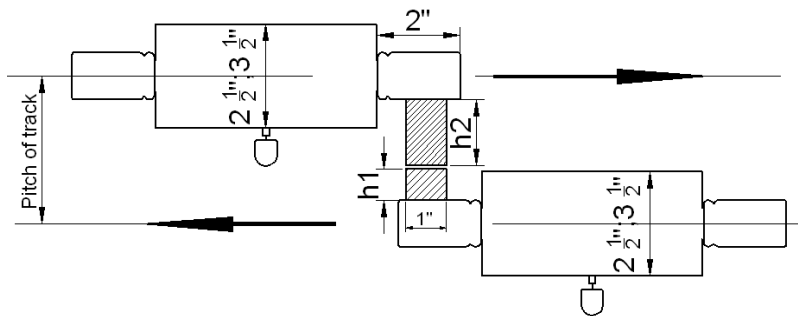
2016 Track Shutters—Bypass

Open By Pass: has 2 kinds of bottom guide

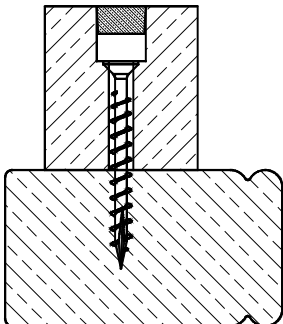


Opened Bypass

Top View



Note: The light block for open bypass will be changed to use screws with wood plugs instead of current dowels.



2016 Track Shutters—Bypass

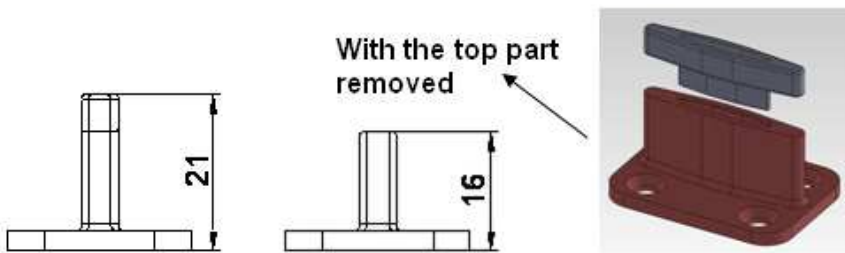
Separation of track

Louver	U shape bottom guide		Interlocking bottom guide	
	Regular Tilt Rod	Invisible tilt	Regular Tilt Rod	Invisible tilt
2.5"	3 9/16"	2 3/4"	3 9/16"	3 9/16"
3.5"	4 1/2"	3 5/8"	4 1/2"	4 1/2"

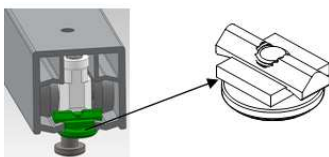
Light block thickness for panel

Louver		U shape bottom guide		Interlocking bottom guide	
		Regular Tilt Rod	Invisible tilt	Regular Tilt Rod	Invisible tilt
2.5"	h1	3/4"	3/4"	3/4"	3/4"
	h2	1 9/16"	3/4"	1 9/16"	1 9/16"
3.5"	h1	1 3/16"	1 3/16"	1 3/16"	1 3/16"
	h2	1 15/16"	1 3/16"	1 15/16"	1 15/16"

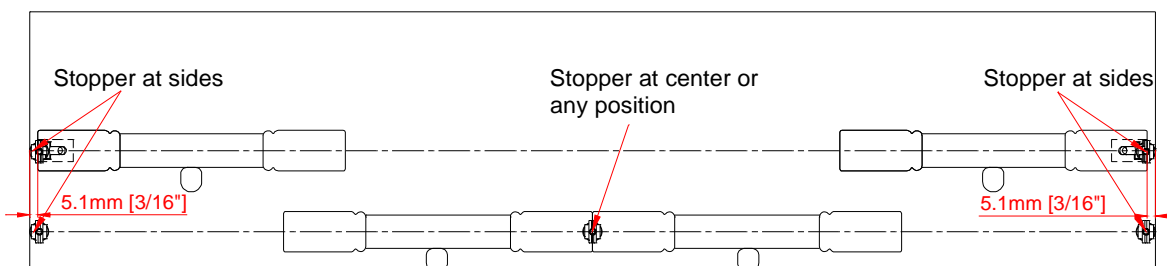
Nylon Guide: The nylon guide is composed by 2 parts and will supplied as a whole set by default (bottom part 16mm and top part 5mm), please remove the top part if necessary.



The 2016 Stopper



For outside mount/semi-inside mount bypass without side boards but with fascia returns, the 2016 Stopper will be supplied by default. The gap between the fascia return and the panel is 5mm each side. The 2016 stopper can also be used in the center or any position of the top track as an option. Please see drawing below to show the gap.



2016 Track Shutters—Bypass



Track Shutters Framing Materials

Framing	Size				Pc(s)
L Shape Header	Header (Closed Bypass)	Header (Opened Bypass)	Supporting Strip		1 pc
(2 in 1)	$\frac{3}{4}$ " x $5\frac{1}{2}$ "* (Default for Outside Mount; Optional for Semi-Inside and Inside Mount)	$\frac{3}{4}$ " x $6\frac{1}{4}$ "* ($2\frac{1}{2}$ " Louver)	$\frac{3}{4}$ " x $\frac{3}{4}$ "		
Header with Supporting Strip	$\frac{3}{4}$ " x $4\frac{1}{2}$ "* (Default for Semi-Inside and Inside Mount; Optional for Outside Mount)	$\frac{3}{4}$ " x $7\frac{13}{16}$ "* ($3\frac{1}{2}$ " Louver)			
	Custom * ≤ 8 "	Custom * ≤ 8 "			
U Shape Side Frame	Side Frame (Closed Bypass)	Side Frame (Opened Bypass)	Supporting Strip	Side Fascia	2 pcs
(3 in 1)	$\frac{3}{4}$ " x $5\frac{7}{8}$ "* (Default for Outside Mount; Optional for Semi-Inside and Inside Mount)	$\frac{3}{4}$ " x $6\frac{5}{8}$ "* ($2\frac{1}{2}$ " Louver)	$\frac{3}{4}$ " x $\frac{3}{4}$ "	$\frac{3}{8}$ " x $1\frac{1}{4}$ "	
Side Frame with Supporting Strip & Side Fascia	$\frac{3}{4}$ " x $4\frac{7}{8}$ "* (Default for Semi-Inside and Inside Mount; Optional for Outside Mount)	$\frac{3}{4}$ " x $8\frac{1}{4}$ "* ($3\frac{1}{2}$ " Louver)			
	Custom * ≤ 8 "	Custom * ≤ 8 "			
Top Fascia (Plain/Deco)	4" (Semi-inside and Outside Mount)				1 pc
	$\frac{1}{2}$ " x $2\frac{1}{2}$ " (Inside Mount)				
Top Fascia Return	4" (Semi-inside and Outside Mount)				2 pcs
	N/A (Inside Mount)				

Note: When the header size is $4\frac{1}{2}$ "*, $5\frac{1}{2}$ "*, $6\frac{1}{4}$ "* or $7\frac{13}{16}$ "*, the L Shape header and the U Shape Side Frame will be sent integrally. That is:

1. The header and the supporting strip will be sent integrally as L Shape Header;
 2. The side frame, supporting strip and the side fascia will be sent integrally as U Shape Side Frame.
- For any custom header sizes other than $4\frac{1}{2}$ "*, $5\frac{1}{2}$ "*, $6\frac{1}{4}$ "* or $7\frac{13}{16}$ "*, the L Shape Header and the U Shape Side Frame will be sent separately. That is:
1. The header and the supporting strip will be sent separately for L Shape Header;
 2. The side frame, supporting strip and the side fascia will be sent separately for U Shape Side Frame.

2016 Track Shutters—Bypass



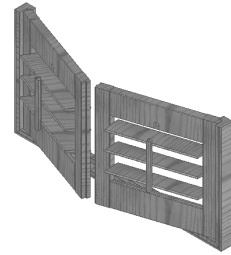
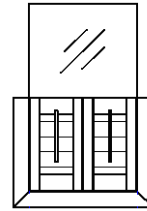
Hardware Box

Hardware Box
Part
Wrench
Nylon Guide
¾ " screws for Nylon Guide
Support L Bracket (based on the length of header)
2 ½ " screws for support L bracket
¾ " screws for support L bracket

Special Options

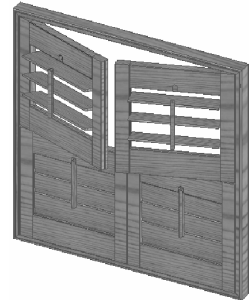
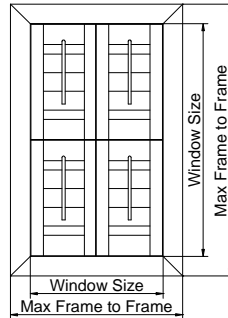
Café Shutters*

- The top of the panel requires a special finish. Please indicate “café shutter” when placing orders.
- The shutter does not come with recessed magnet on top.

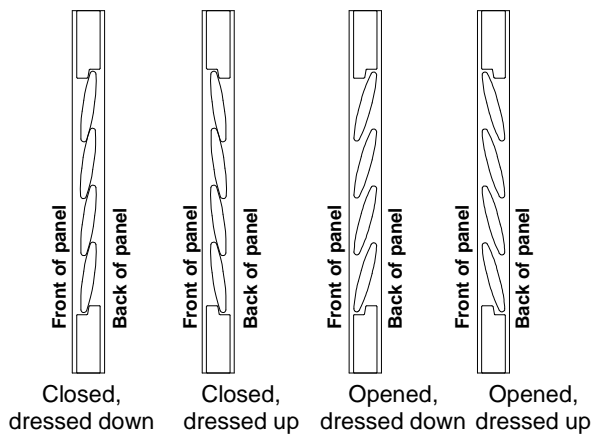
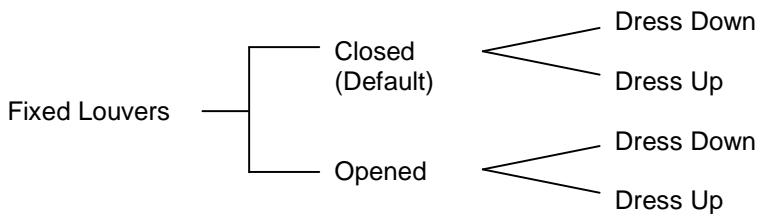


Double-Hung Shutters*

- For total number of panels, please include panels in both rows.
- For panel configuration, please provide panel fold for one row.
- The default location for the division point is the center unless specified otherwise.
- Horizontal T Post* can be added for increased structural integrity.



Fixed Louvers



* Surcharge applies. Please see Options and Surcharges page for details. NT k-1

Special Options (continued)

Raised Panel *

Available in

- Raised panel with louver combination.
- Raised panel only.

Specifications

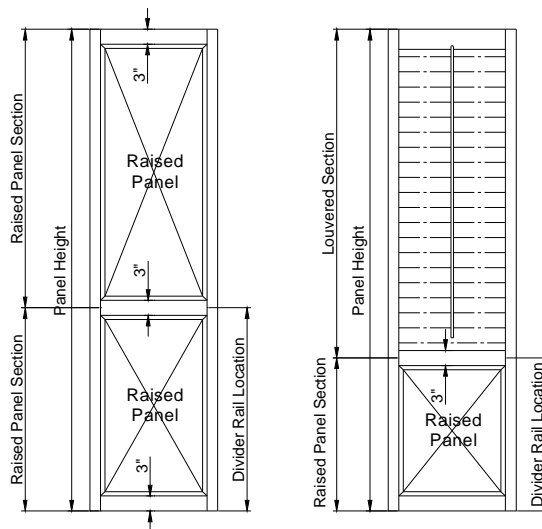
- 12" ≤ raised panel section height ≤ 48".
- For other louver sizes, divider rail is required for panel heights over 78".
- The maximum panel height is 133".

Raised Panel Location(s)

- Top.
- Middle.
- Bottom.
- All (if panel height does not exceed 48").

Rails

- For a panel with raised panel section only, 3" is the standard size for top, bottom and divider rails.
- The minimum size for top and bottom rails is 3".
- If you are matching raised panels to standard shutter panels, the top rail of the standard shutter panel will match the top rail of the raised panel. Please specify clearly when placing order.



* Surcharge applies. Please see Options and Surcharges page for details. NT k-2

Special Options (continued)

Hand-Carved Rail *

- Available for top and/or bottom rails.
- Please note that the proportion of the design is based on the height of the rail, not the width of the panel.



Vine



Wheat



Rosette



Star



Fish



Swan



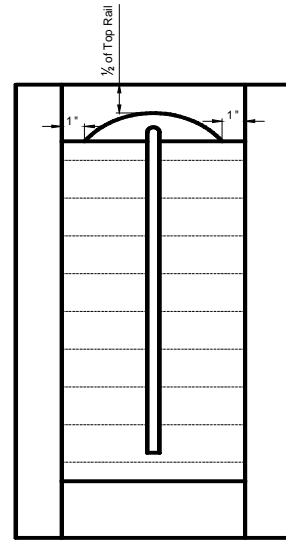
Fleur de Lis

* Surcharge applies. Please see Options and Surcharges page for details. NT k-3

Special Options (continued)

Liberty Arch *

- The arch starts and ends 1" from the rail sides.
- The arch height is half of the top rail size (rounded up to 1/8" increment).
- The shape of the Arch is based on 3 points taken from the rail.
 - 1st point: 1" from the left stile
 - 2nd point: 1" from the right stile
 - 3rd point: Midpoint of the rail front

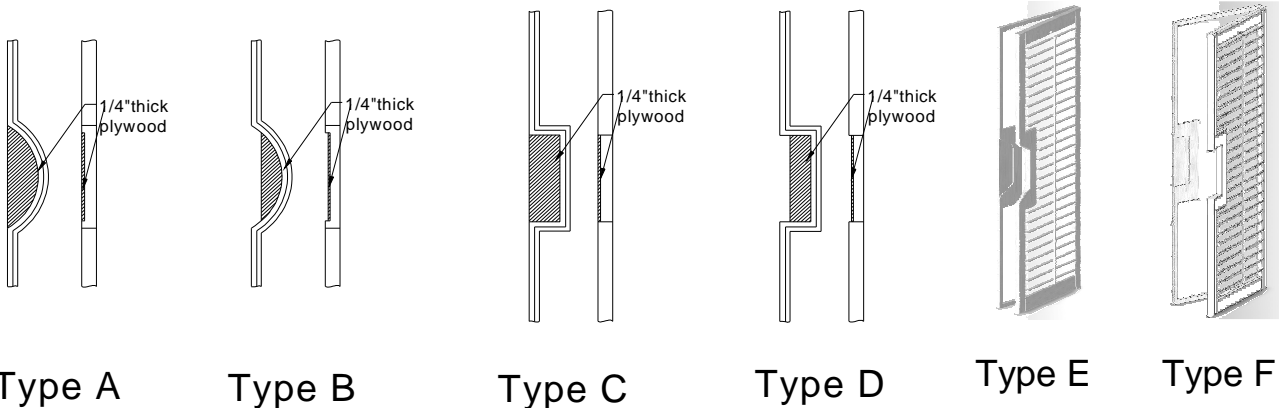


French Door Contour Collection*

- Flush and offset cutout options are available in both curved and square French door cutout.
 - ◊ Offset cutout is good option for French Door with molding around the glass.
- All French door cutouts are only available in L frame except Type E and F. The batten is placed behind the Type E/F panel to block light.

Louver size	Batten Width	Batten thickness
1 7/8" & 2 1/2"	3/4"	1"
3 1/2"	3/4"	1 3/8"
4 1/2"	3/4"	1 7/8"

- For measurement details please refer to Form section.
- French Door cutouts with Arch/Quarter Arch at the top are also available



* Surcharge applies. Please see Options and Surcharges page for details. NT k-4

Special Options (continued)

Custom Colors *

Available in Sussex[®] shutters and Sussex[®] blinds.

Option (Color Code)	Sample Size	<u>Confirmation Process</u>
Custom Solid (C01)	At least 4" x 4" on a clean, flat surface such as wood or cardboard	All orders require customer's confirmation via actual swatch in the mail before production. Additional shipping and handling fee applies.
Custom Stain (C02)	At least 4" x 4" on a clean, flat surface such as wood or cardboard	All orders require customer's confirmation via digital photo OR actual swatch in the mail before production. Additional shipping and handling fee applies.

Note:

- 1) All custom colors will only be finished with the standard gloss used on all Norman products.
- 2) Please note that we will only be able to match the tone instead of the texture or finish of the sample you submit.
- 3) Only one dispute is allowed during the color confirmation process.
- 4) Customer may waive confirmation to shorten production lead time. Norman[®] will not be responsible for any color variation afterwards.

Disclaimer:

Sherwin-William, Sherwin-William Color, Benjamin Moore, Benjamin Moore Classic Colors are registered trademarks or trademarks of their respective owners. All other trademarks mentioned herein are the property of Norman International, Inc. and/or its affiliates in the U.S. and certain other countries. Reference herein to the commercial products or service of others by trade name, trademark, manufacturer, or otherwise, does not necessarily constitute or imply its endorsement.

* Surcharge applies. Please see Options and Surcharges page for details. NT k-5

Sussex[®] NormanTeak™ Shutters

Shutters to be installed in Angled or Horizontal Skylight Window Openings

If shutters are going to be installed in angled or horizontal skylight window openings, please specify on the order form.

Available Material	Wood Shutters
Available Frame Type	Frame with light block thickness not less than 3/4"
Max Panel Size	26" W x 78"H
Tilt Rod	Invisible Tilt
Panel Configuration	single panel or single panels with T-Posts
Hardware for unhinged side	Panel Lock on top and bottom + 2 Button Catches

Please note that the motorized skylight shutter is not available.

Auto Tilt™ (Patented)*

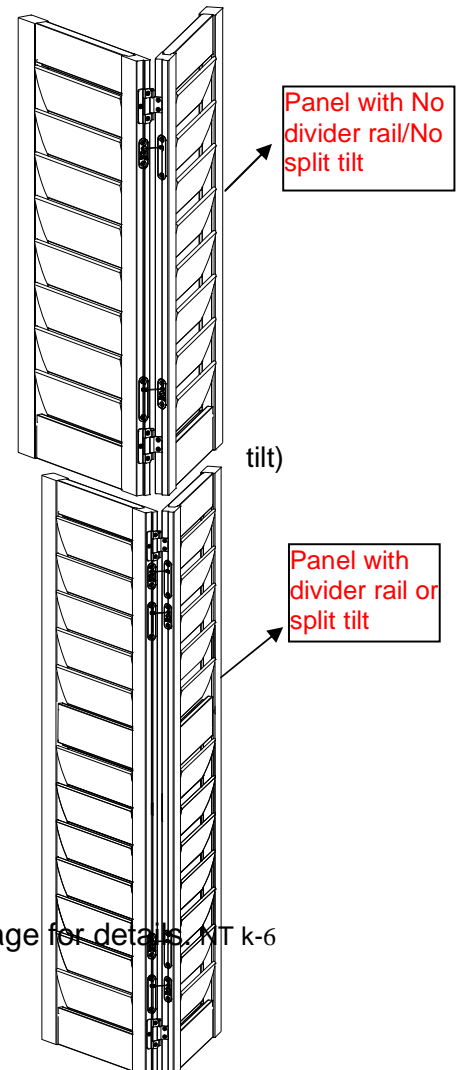
- Available in All Shutter Type in Bifold or Multi-fold panel configuration
- Available with Invisible Tilt Only
- Available in 2" Butt, Astragal and Rabbet Stile
- Minimum Louver Qty (Please see below for details)
- Ring pulls included. For ring pull location, please refer to the ring pull section.
- Available in January 2017.

When there is only one louver section (no divider rail/no split tilt)

Louver Size	Rail Size	Minimum Louver qty
2.5"	<4.25"	6
	>=4.25"	4
3.5"	2.75"~6.5"	4
4.5"	2.75"~6.5"	3

When there is more than one louver sections (with divider rail/ split tilt)

Louver Size	Rail Size	Minimum Louver qty
2.5"	<4.25"	5
	>=4.25"	4
3.5"	2.75"~6.5"	3
4.5"	2.75"~6.5"	3



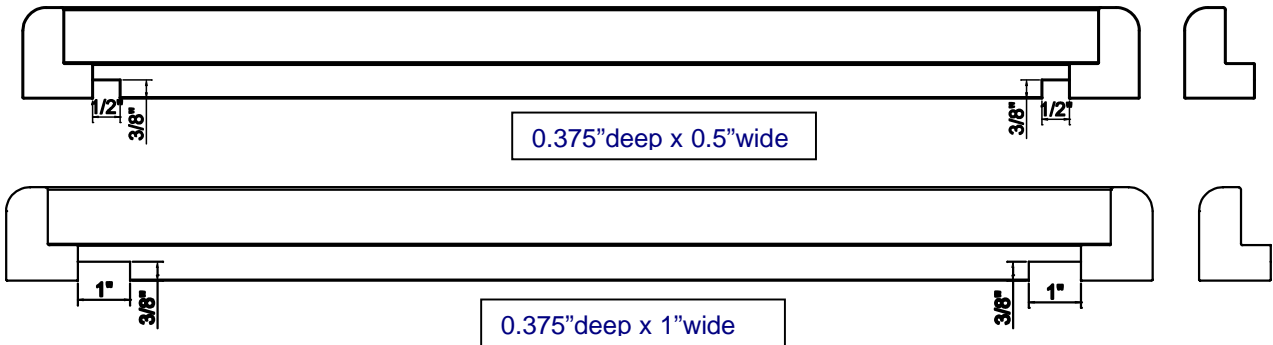
* Surcharge applies. Please see Options and Surcharges page for details. NT k-6

Sussex[®]
NormanTeak[™] Shutters

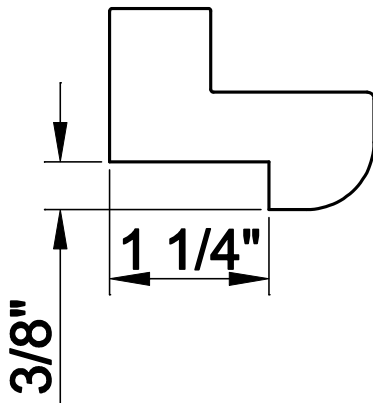
Standard frame cutouts: R cutout, S cutout, L cutout, C cutout. The sizes can vary.

- a. **R cutout**---Ridge cut out: 0.375"deep x 0.5"wide and 0.375"deep x 1.0" wide (see below).

The cutout can be on the top and the bottom of the frame (available in all styles of the L-frames and all sill plates.)



- b. **S cutout**---Sill cut out, you are correct it should be 0.375 x 1.25". (Always on bottom of bottom frame. Available in all styles of the L-frames and all sill plates.)



- c. **L cutout**---Lock cutout.

There is a possibility of being one or two cutouts on the T-posts depending on the height of the window;

For window around 42-48" height, 1 cutout is available;

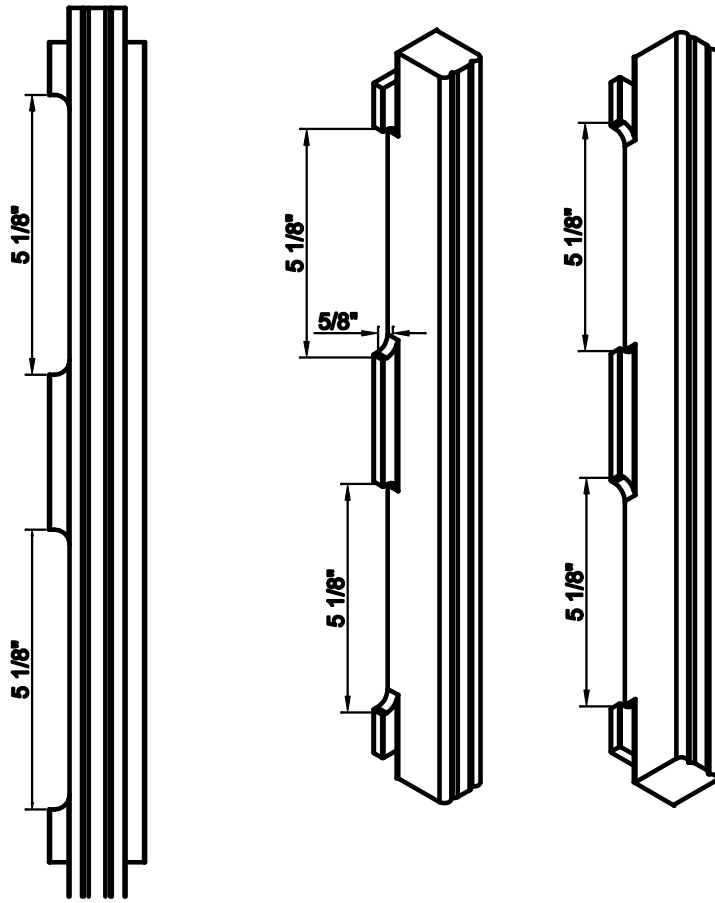
For window around 60" or above, 2 cutouts are available.

L cutout can also be needed on single panel windows on the non-hinge side, usually on a style of L-frame.

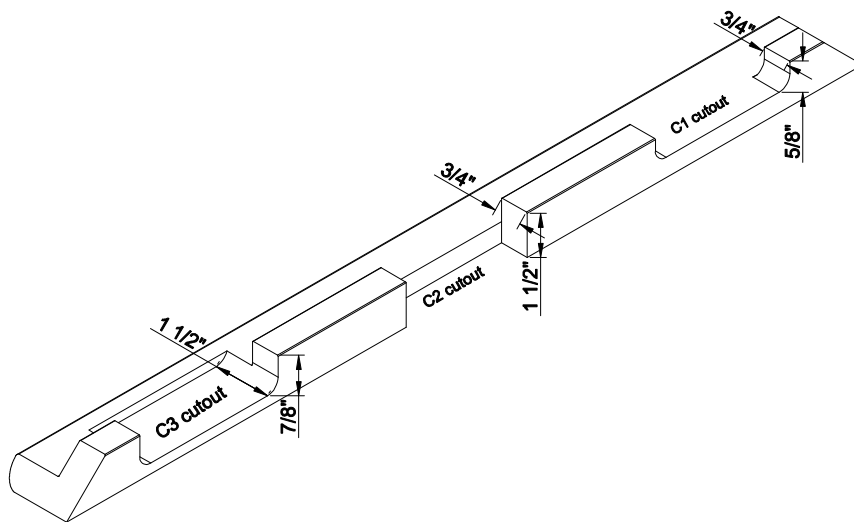
Measuring for L cut out: The default size is 5.125". Measurements are from the bottom of frame if size type is max frame to frame size and from bottom of window if it is window size to the center of the cut out (2.5625" down and 2.5625" up).

* Surcharge applies. Please see Options and Surcharges page for details. NT k-7

Sussex[®]
NormanTeak™ Shutters

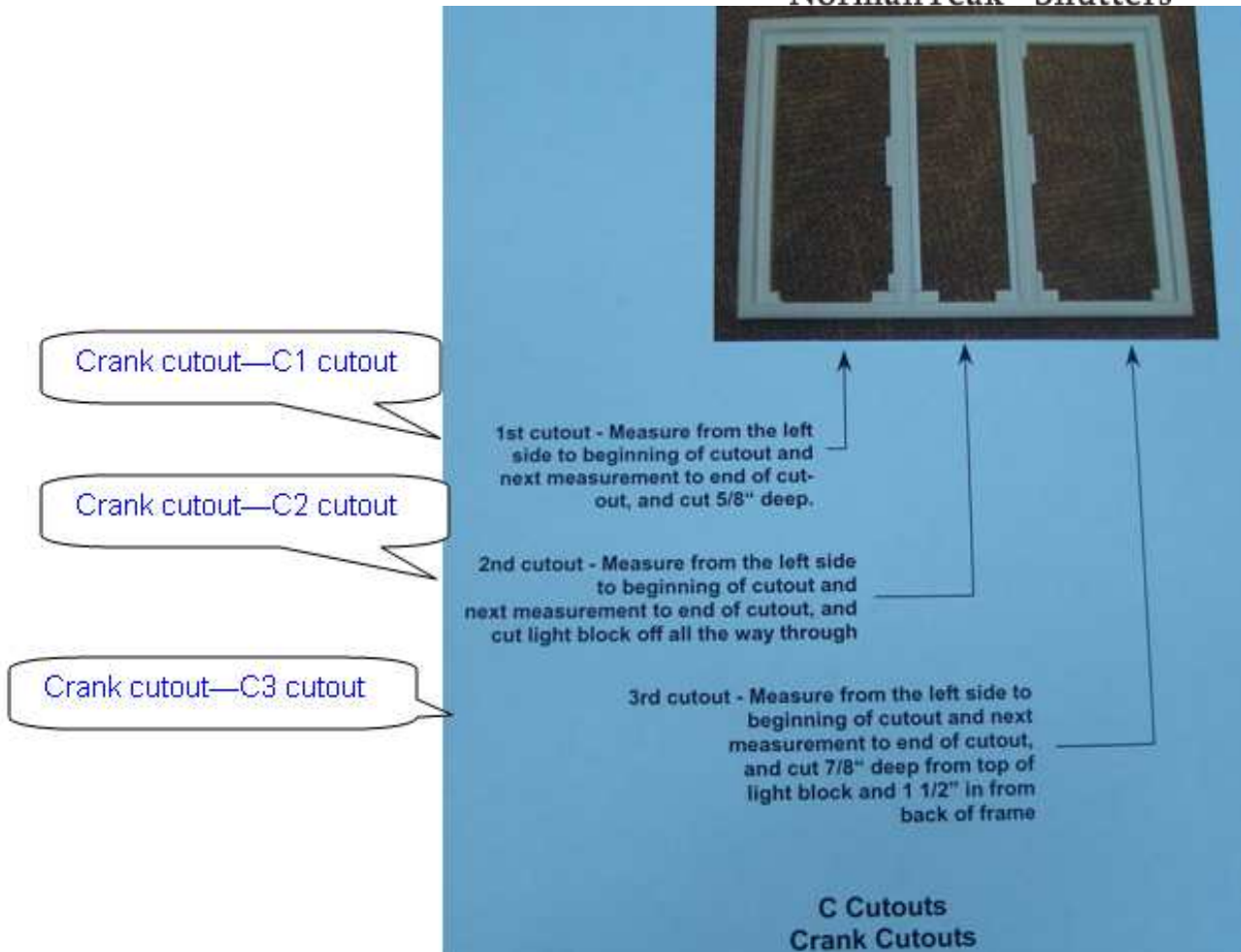


- d. C cutout---Crank cut outs (C1 cutout, C2 cutout, C3 cutout): (Always on bottom of bottom frame. Available in all styles of the L-frames and all sill plates.)

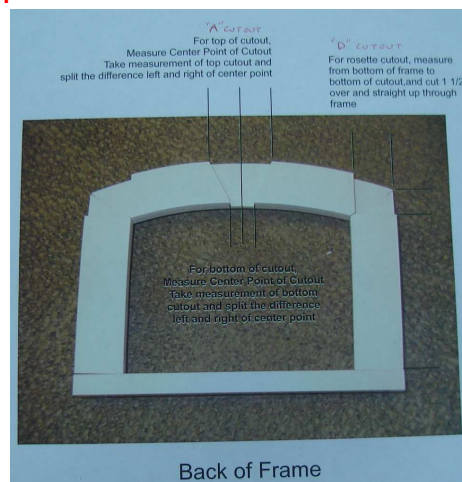


* Surcharge applies. Please see Options and Surcharges page for details. NT k-8

Sussex[®] NormanTeak[™] Shutters



e. A & D cutouts: This should be for the outside mount frames, deco frames, L-frames. Normally a build out or an extension is used to build the frame out so the frame can set on top of the "keystone":



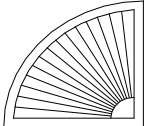
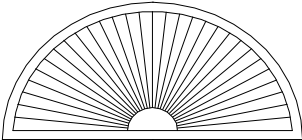
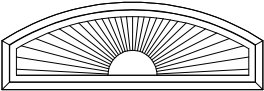
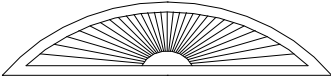
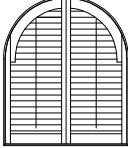
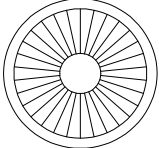
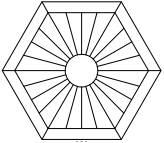
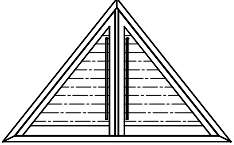
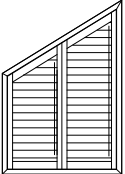
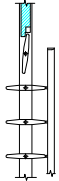
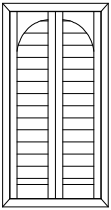
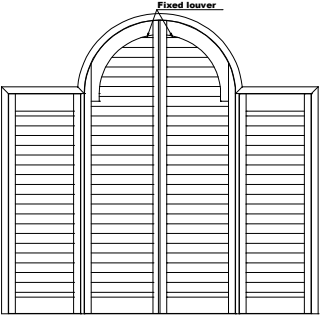
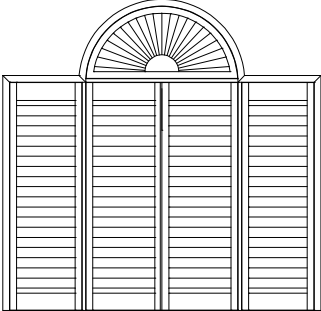
* Surcharge applies. Please see Options and Surcharges page for details. NT k-9

Specialties

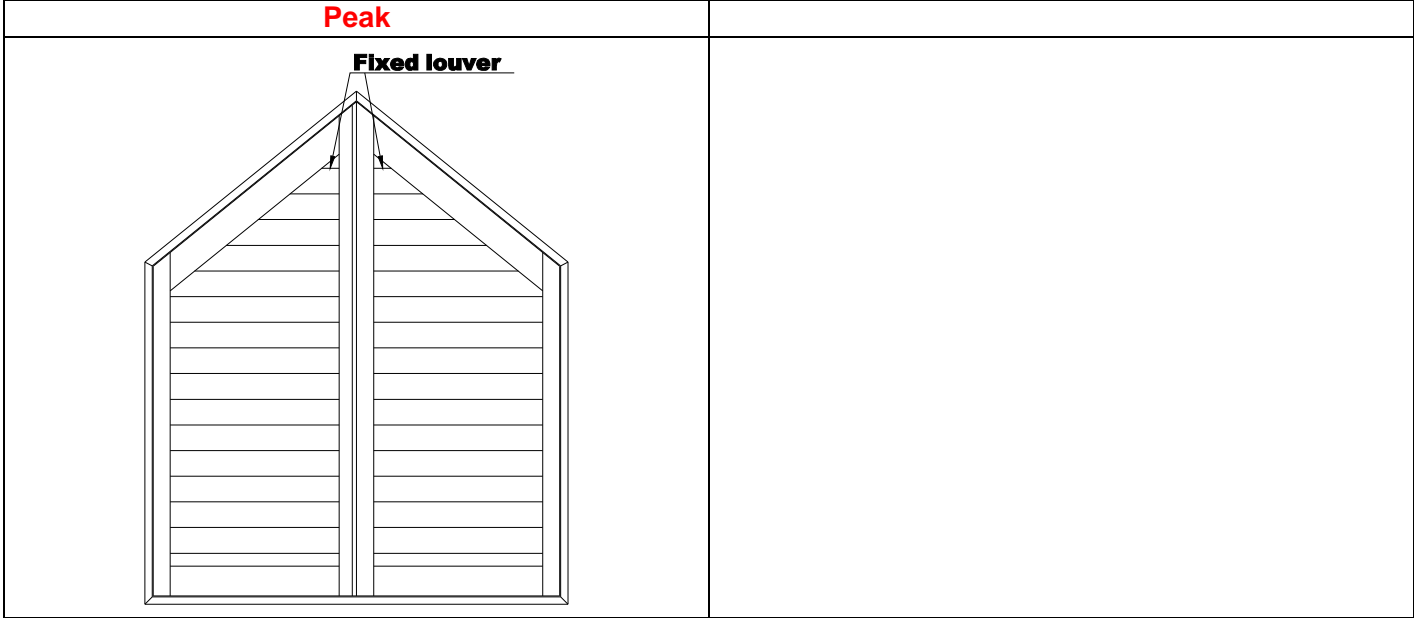
Specialty Shutters*

Specialty shutters are made of premium solid wood, finished to match the beauty of all Norman shutters. Templates are required if it is an imperfect specialty. Delivery time is 8 weeks from the order confirmation date for all specialty shutters. Please refer to Specialties and Template Requirement sections for details.

- * All frames for specialty shutters will be made as solid frames (not with an insert). However, if there is a regular shutter below a specialty shutter and the frames for both shutters are separated by a divider strip, then the top frame will be made as a solid frame but the bottom frames will be made as regular frames with inserts. If the top frames and the side frames are not separated by a divider strip, both side frames and the bottom frames will be made as solid frames.

Arch Windows	Special Shapes
 <p>Quarter Round Sunburst</p>  <p>Half Round Sunburst</p>  <p>Elongated Eyebrow Sunburst</p>  <p>Eyebrow Sunburst</p>	 <p>Louvered Arch w/ Center Tilt Rod</p>  <p>Circle Sunburst</p>  <p>Hexagon Sunburst</p>  <p>Triangle</p>
Angle Top	Louver Arch in a Rectangle
 <p>Angle Top</p>  <p>*Top louver of angle top might be fixed as shown above</p>	 <p>Louver Arch in a Rectangle</p>
Arch Top Picture Window with horizontal louvers	Arch Top Picture Window with Sunburst
 <p style="text-align: center;"><small>Fixed louver</small></p>	

* Surcharge applies. Please see Options and Surcharges page for details.



* Surcharge applies. Please see Options and Surcharges page for details.

Appendix

Color Coordination Chart (Solid)

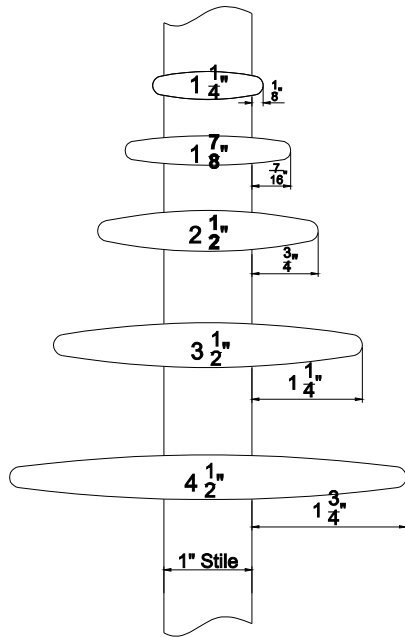
Code	Sussex Solid	Hinge Color
001	Pure White	Pure White(Available in late March)
003	Silk White	White
004	Bright White	White
006	Pearl	Pearl
007	Ivory Lace	Pearl
008	Marshmallow	Pearl
009	Creamy	Bisque
011	Cameo	Bisque
012	Crisp Linen	Bisque
013	Bisque	Bisque
016	Butter	Bisque
019	String	Bisque
030	Moondust	Nickel Plated
032	Sea Mist	Nickel Plated
046	Ice	White
048	Chai	Nickel Plated
049	Stone Grey	Nickel Plated
051	Brown Grey	Nickel Plated
053	Clay	Nickel Plated
063	Decorators White	White
836	Classic Black	Black

Color Coordination Chart (Stain)

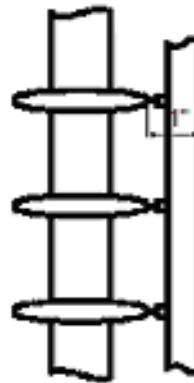
Code	Sussex Stain	Hinge Color
108	Rustic Gray	Nickel Plated
110	Limed White	White
114	Taupe	Nickel Plated
200	Natural	Antique Brass
202	Golden Oak	Antique Brass
204	Oak Mantel	Antique Brass
205	Goldenrod	Antique Brass
206	Pecan	Antique Brass
211	Cherry	Antique Brass
212	Dark Teak	Antique Brass
214	Cocoa	Antique Brass
215	Cordovan	Antique Brass
219	Mahogany	Antique Brass
220	New Ebony	Antique Brass
221	Black Walnut	Antique Brass
227	Red Oak	Antique Brass
229	Rich Walnut	Antique Brass
230	Old Teak	Antique Brass
231	Spring Rose	Antique Brass
232	Red Mahogany	Antique Brass
233	Dark Mahogany	Antique Brass
237	Wenge	Antique Brass
242	Auburn	Antique Brass
247	Bark	Antique Brass
248	Pretzel	Antique Brass
249	Acorn	Antique Brass
250	Sumatra	Antique Brass
251	Raisin	Antique Brass
252	Toffee	Antique Brass

Louver Depth Clearance

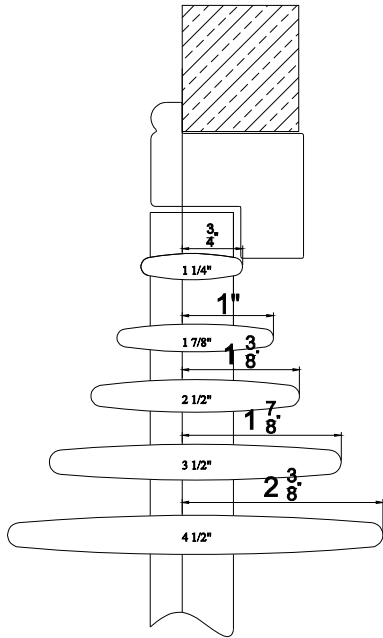
Standard Tilt Rod



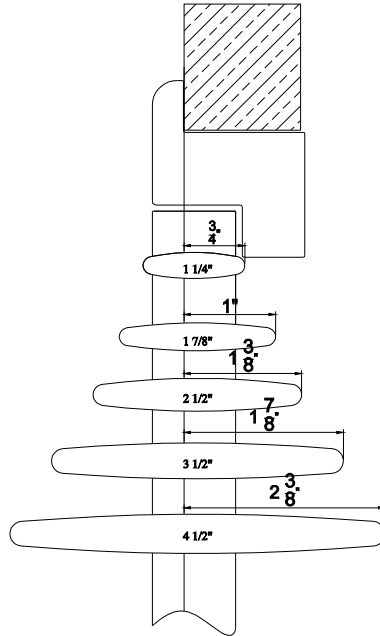
Offset Tilt Rod



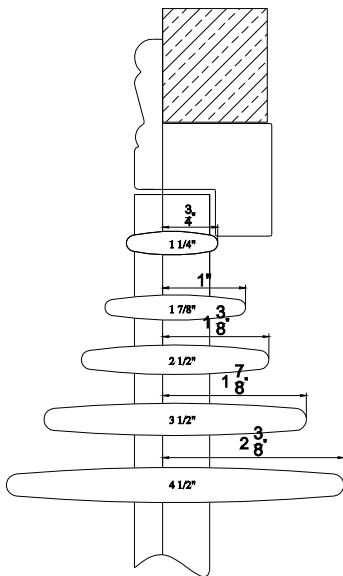
Louver Depth Clearance for Specific Frames



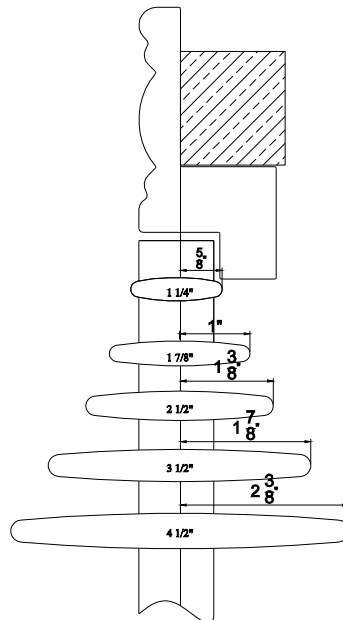
1 1/4" Beaded Z Frame



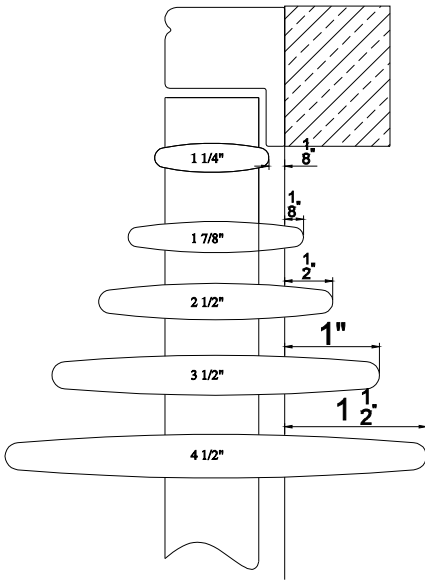
1 1/2" Bullnose Z Frame



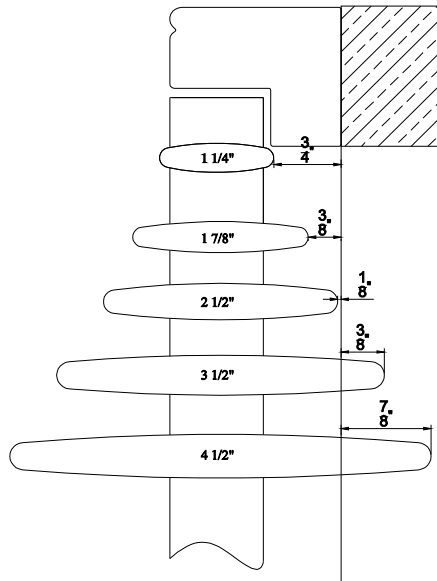
2" Bel Air Z Frame



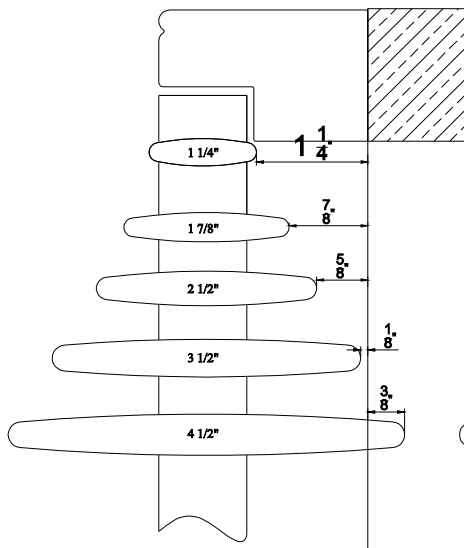
3" Crown Z Frame



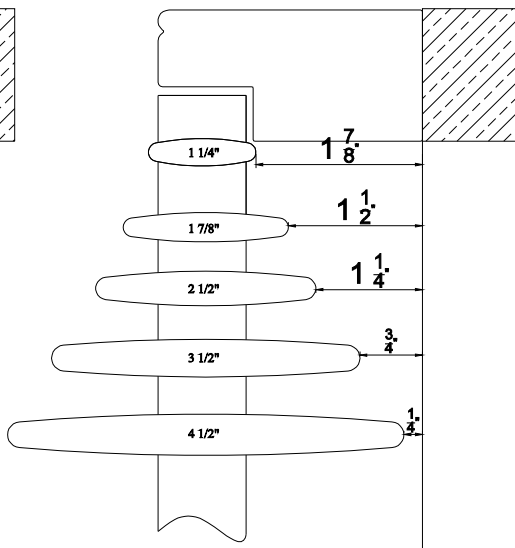
**Beaded L Frame W/1/4"
Light Block**



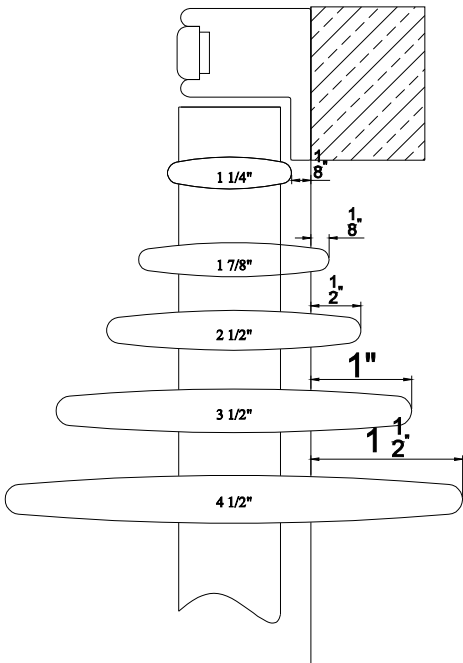
Beaded L Frame



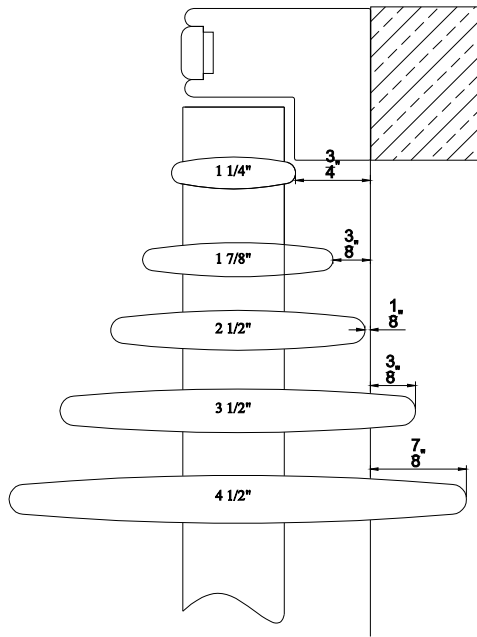
Beaded L W/1/2" Buildout



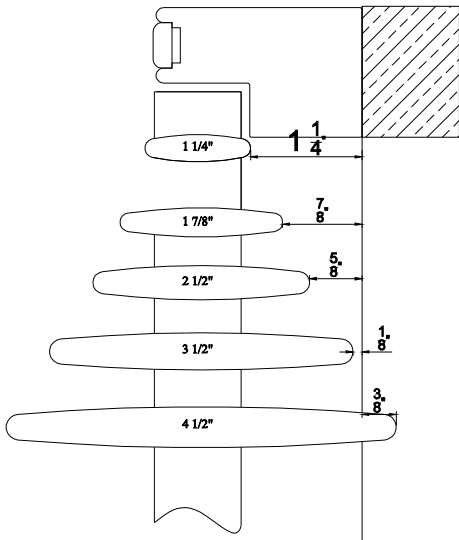
Beaded L W/1" Buildout



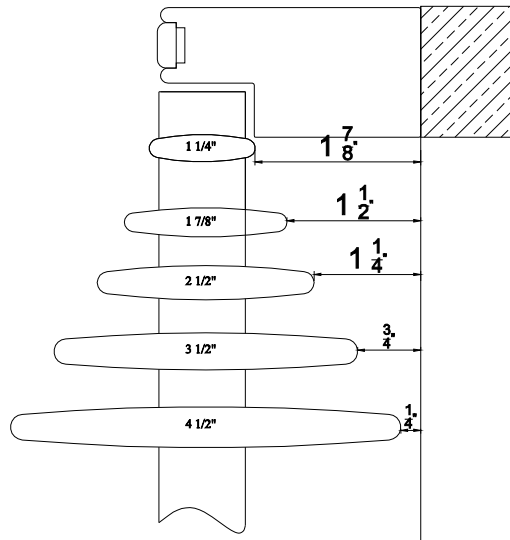
**Vintage L Frame W/1/4"
Light Block**



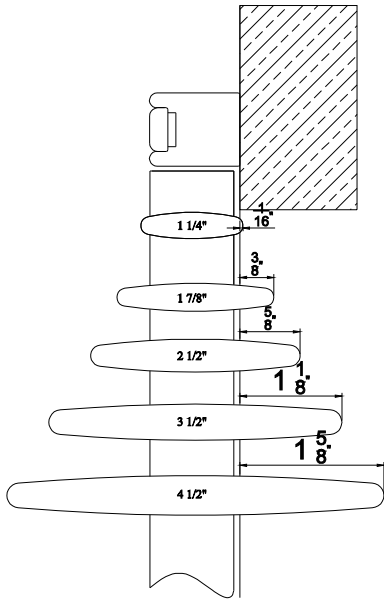
Vintage L Frame



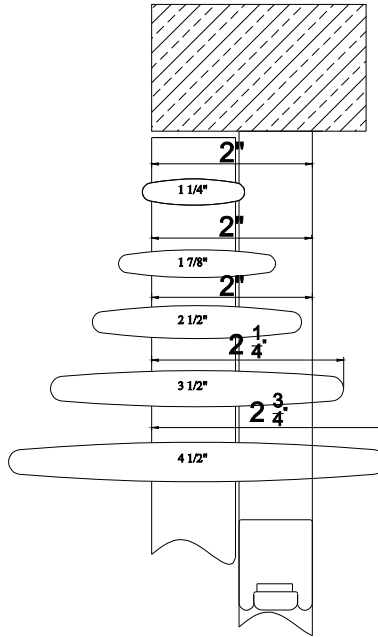
**Vintage L W/1/2"
Buildout**



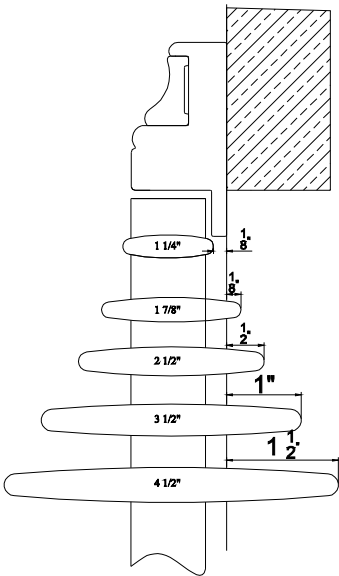
Vintage L W/1" Buildout



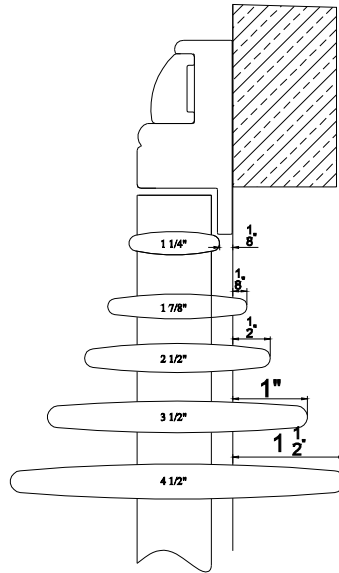
Hang Strip (Beside the panel)



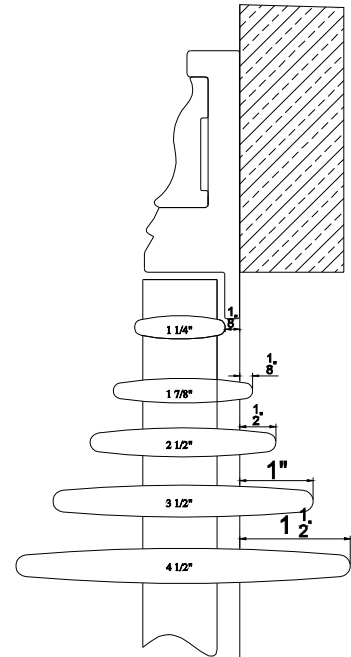
Hang Strip (Behind the panel)



2" Classic Deco Frame



2" Camber Deco Frame



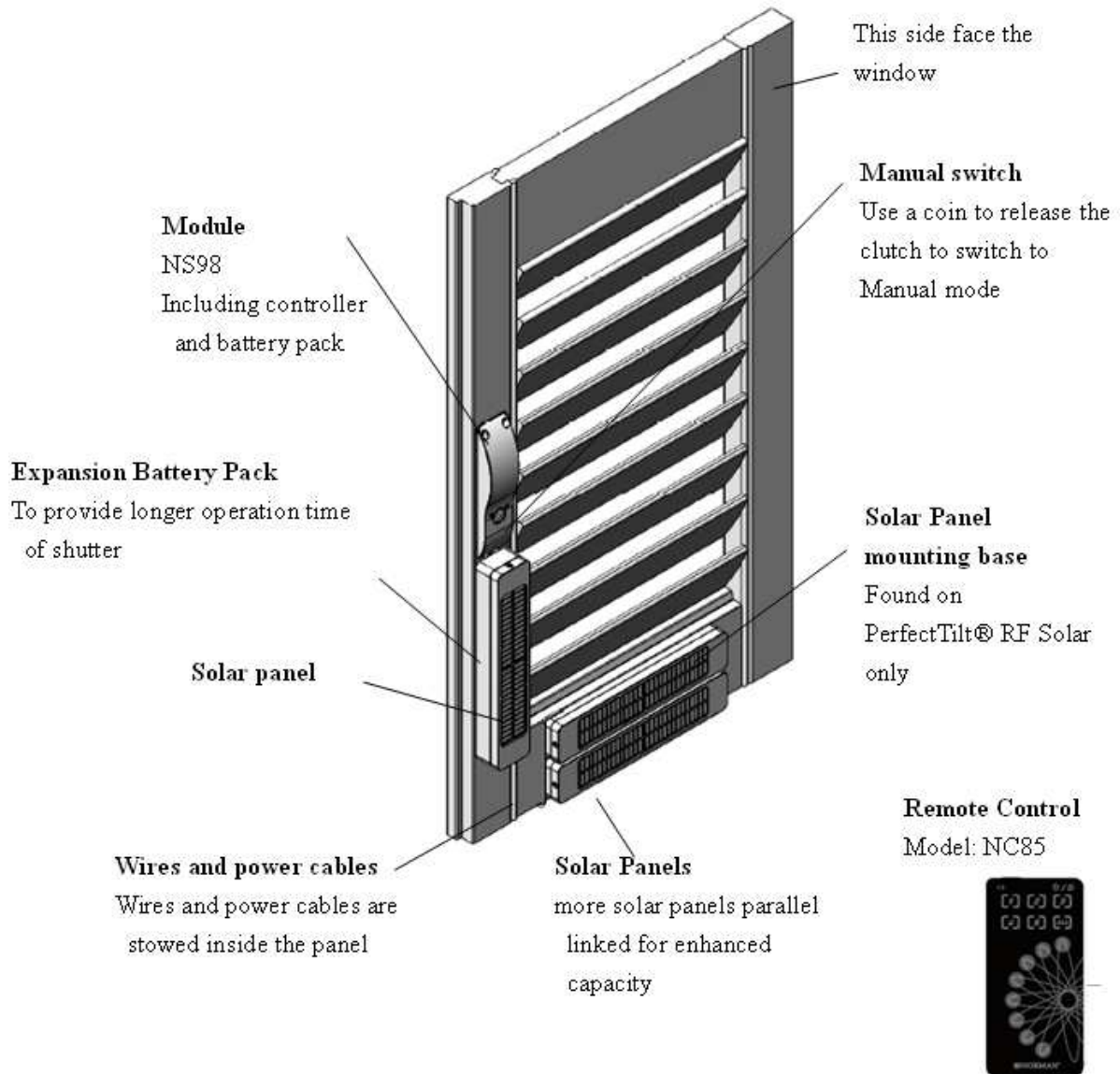
3" Ridge Deco Frame

New PerfectTilt RF

The new PerfectTilt RF has many exciting features & benefits.

- No need to plug-in, no cords, no hardwiring
- Tilt multiple panels in sync or individually
- Includes InvisibleTilt[™] system, a completely tilt-rod-free solution for a more streamlined view and improved energy efficiency
- Larger solar panels on solar modules absorb more energy than ever before
- Ergonomic remote includes 8 preset angles and can control unlimited number of shutters in range
- Utilizes RF signal, not traditional infrared: for precise reception, range up to 65 ft., no sensor holes, and no need to point remote directly at receiver
- Remote is equipped with a timer, allowing you to use your own computer from anywhere at any time with our proprietary web interface
- Whisper quiet, gear-driven system
- PerfectTilt[®] RF wires are concealed inside panel, completely hidden from view
- Expansion battery packs can be installed as add-on for longer periods between recharges
- Ring pulls are required for motorized shutters and must be ordered for warranty to apply.


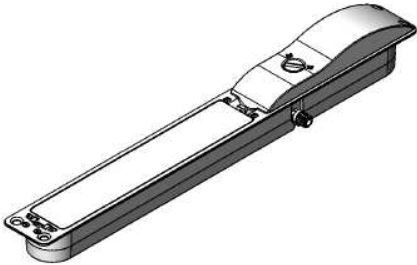
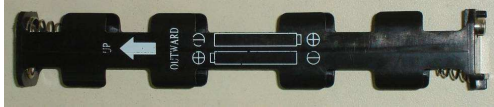
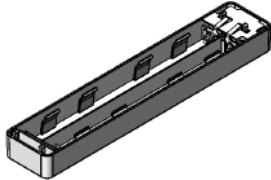
Parts and Names:

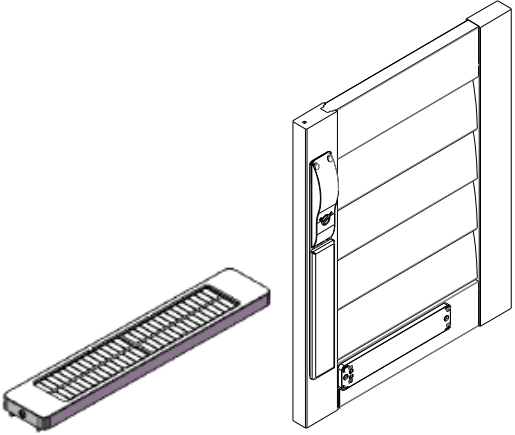
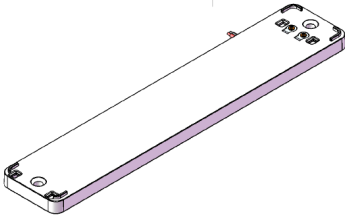

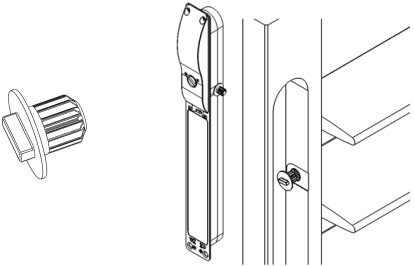
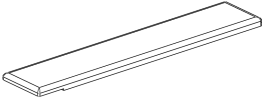
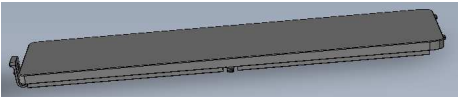


Specifications:

New PerfectTilt RF					
Shutter Type	All types except bi-fold double hung or panel with gap at bottom over 0.1" (no support on bottom)				
Specialty Shutter Shape	All shapes except shapes without a vertical stile in the middle (for example, eyebrow, elongated eyebrow, half-round sunburst without horizontal louvers)				
Tilt System	InvisibleTilt only, the tilting system will not split unless specified				
Stile Width	2.25" stile only Center Stile is not available				
Louver	2.5", 3.5", 4.5" Elliptical louver				
Panel Size Limit	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 50%; text-align: center;">Min. Panel Height (with lined up Motors)</th> <th style="width: 50%; text-align: center;">Min. Panel Height (Default with Staggered Motors)</th> </tr> </thead> <tbody> <tr> <td style="text-align: center; vertical-align: middle;">18"</td> <td>Louver space not less than 26", so at least 13 louvers for 2.5" louver; 9 louvers for 3.5" louver; 7 louvers for 4.5" louver.</td> </tr> </tbody> </table>	Min. Panel Height (with lined up Motors)	Min. Panel Height (Default with Staggered Motors)	18"	Louver space not less than 26", so at least 13 louvers for 2.5" louver; 9 louvers for 3.5" louver; 7 louvers for 4.5" louver.
	Min. Panel Height (with lined up Motors)	Min. Panel Height (Default with Staggered Motors)			
18"	Louver space not less than 26", so at least 13 louvers for 2.5" louver; 9 louvers for 3.5" louver; 7 louvers for 4.5" louver.				
Max. Panel Height without divider rail: 78" Min. Panel Width Limit: 8 11/16"; 12 5/16" if solar panel is to attach to rail; Max Width Limit: same as regular non-motorized shutters					
Motor Type	NS98				
Remote Control	*Radio frequency *6 channels *8 pre-set angles *Built-in timer function *When ordering, customer needs to specify quantity *Press the "Activation Button" to wake up				
Ring Pull	Ring Pull will be supplied as default. (Refer to "i" page for more information)				
Options	Solar Panel/Expansion battery pack=> surcharge option; customer can choose to add as many Solar Panels/Expansion Battery Packs as long as space allows				

Components:

<p>Items</p> <p>Remote Control Model : NC85 Radio Frequency; Battery: 2xAAA. Dimensions : 122 x 62 x 16 mm Distance of transmission (control): 20 meters indoor, 40 meters outdoor</p>	
<p>Module</p> <p>Model : NS98 Colors Available: White; Coffee; Caramel Dimensions : 330.5 x 37.5 x 40 mm One for each louver section, 6xAA normal batteries or rechargeable batteries are required. Either alkaline or lithium batteries may be used.</p>	
<p>Battery cartridge</p> <p>Make sure the batteries are fit into the cartridge in correct direction, and when fit the cartridge into the module, also in right direction (follow the arrow).</p>	
<p>Battery Expansion Pack</p> <p>Colors Available: White; Coffee; Caramel Dimensions: 195 x 37 x 21.6 mm</p>	

<p>Solar panel</p> <p>Colors Available: White; Coffee; Caramel</p> <p>Dimensions: 195 x 37 x 13,5 mm</p> <p>Position:</p> <p>A. attached to the module itself (Default)</p> <p>B. attached to rail (Optional with surcharge)—For panels with modules below the mid rail or panels without mid rail, the solar panel will be attached to the bottom rail; For panels with modules above mid rail, the solar panel will be attached to the top rail.</p>	
<p>Mounting base (for Solar panel)</p> <p>Colors Available: White; Coffee; Caramel</p> <p>Dimensions: 195 x 37 x 8,5 mm</p> <p>With Power cable</p> <p>Colors: Coffee; White</p>	
<p>USB Cable</p> <p>Color: Black</p> <p>Connect the computer and the remote control to set up timer function.</p>	
<p>Slotted Point Driver</p> <p>One for each louver section.</p> <p>Connect the Easy Tilt and the Module; when fit the slotted point driver into the stile, make sure the angle is the same as that of the louvers.</p>	
<p>Wood Cover</p>	
<p>Battery Cover of the Module</p>	

Wood Cover Assembly
(With Battery Cover of the Module
pre-attached with 4 screws, the color of the
wood cover will match that of the shutter
color)



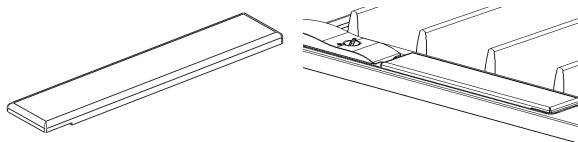
Color Coordinate Chart:

NO.	Color ID	Color Name	Module/Battery Expansion Pack/Solar Panel Color
1	001	Pure White	White
2	003	Silk White	White
3	004	Bright White	White
4	006	Pearl	White
5	007	Ivory Lace	White
6	008	Marshmallow	White
7	009	Creamy	White
8	011	Cameo	White
9	012	Crisp Linen	White
10	013	Bisque	White
11	016	Butter	White
12	019	String	White
13	030	Moondust	White
14	032	Sea Mist	White
15	046	Ice	White
16	048	Chai	Coffee
17	049	Stone Grey	Coffee
18	051	Coffee Grey	Coffee
19	053	Clay	Coffee
20	063	Decorators White	White
21	836	Classic Black	Coffee
22	108	Rustic Grey	Coffee
23	110	Limed White	White
24	114	Taupe	White
25	200	Natural	Caramel
26	202	Golden Oak	Caramel
27	204	Oak Mantel	Caramel
28	205	Goldenrod	Caramel

29	206	Pecan	Caramel
30	211	Cherry	Coffee
31	212	Dark Teak	Coffee
32	214	Cocoa	Coffee
33	215	Cordovan	Coffee
34	219	Mahogany	Coffee
35	220	New Ebony	Coffee
36	221	Black Walnut	Coffee
37	227	Red Oak	Caramel
38	229	Rich Walnut	Coffee
39	230	Old Teak	Coffee
40	231	Spring Rose	Coffee
41	232	Red Mahogany	Coffee
42	233	Dark Mahogany	Coffee
43	237	Wenge	Coffee
44	242	Auburn	Caramel
45	247	Bark	Coffee
46	248	Pretzel	Coffee
47	249	Acorn	Coffee
48	250	Sumatra	Coffee
49	251	Raisin	Coffee
50	252	Toffee	Coffee

Wood Cover

The battery cover of the module would come with a wood cover that covers at least half section of the module. And the color of the wood cover will match that of the shutter.



If Expansion Battery Pack or Solar Panel is to fix on the module, please keep the wood cover and in the future if the expansion battery pack or the solar panel is not needed, the wood cover can be put back in use.

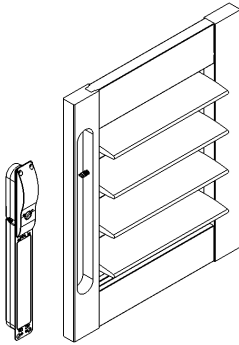
✧ Frame Cut-Out

For single panel or configuration similar to single panel with frame, the module location will conflict with the light block of the frame, so there will be cut-out on the light block of the frame to stop the conflict, the length for the cut-out would be 335mm

Clearance:

	Module	Battery Expansion Pack	Solar Panel	Solar Panel Mounting Base
Thickness	11/16"(17.5mm)	43/64" (17mm)	23/64"(9mm)	11/32"(8.5mm)

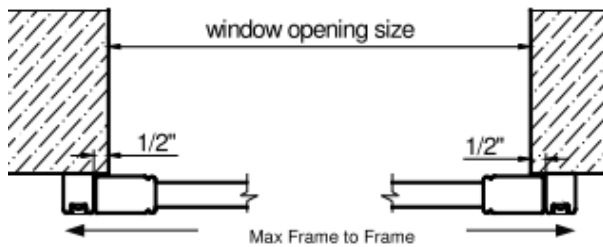
The module will protrude 11/16" from the back of the stile, please allow 3/4" clearance for the module.



E.g.: Below is the situation **not available** for the module unless enough build-out is added to the frame.

Hang Strip OM: beside the panels

When module is on the left/right most stiles, the protrusion part will conflict with the wall.



L Frame with light block thickness less than 3/4" OM:

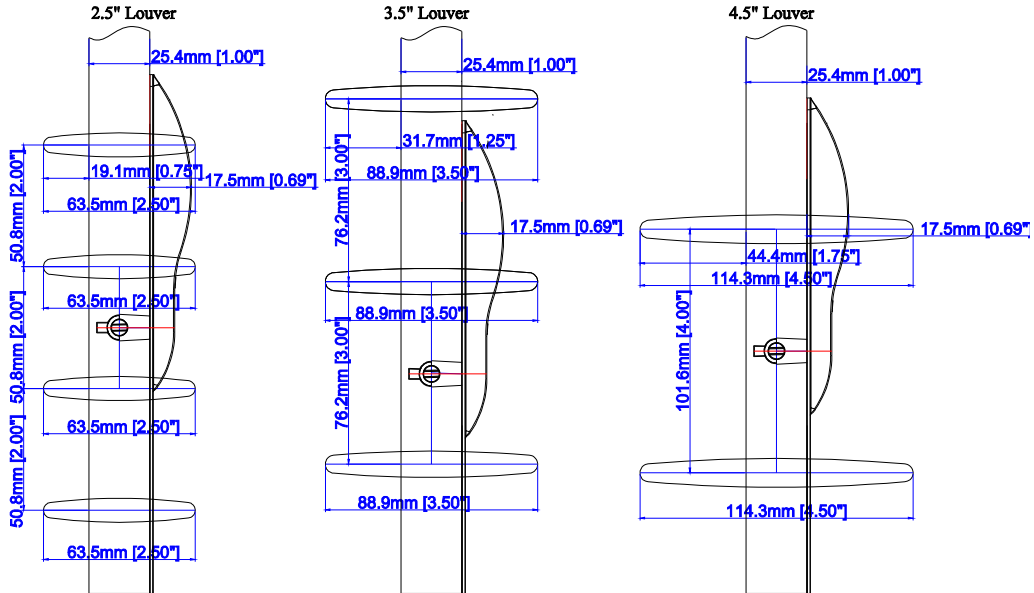
When module is on the left/right most stiles, the protrusion part will conflict with the wall.



If both Solar Panel and one Battery Expansion Pack is attached to the module, the necessary clearance is 1 1/8";

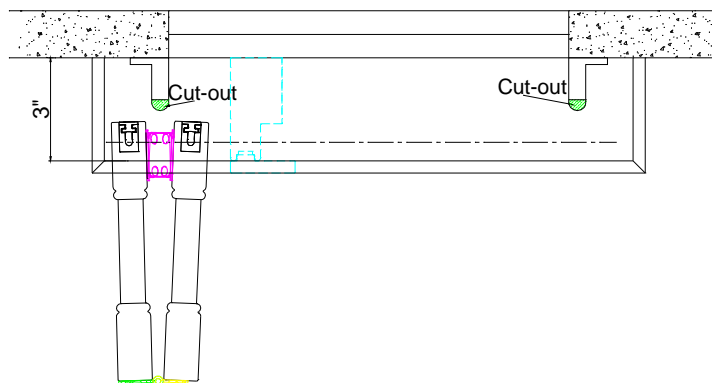
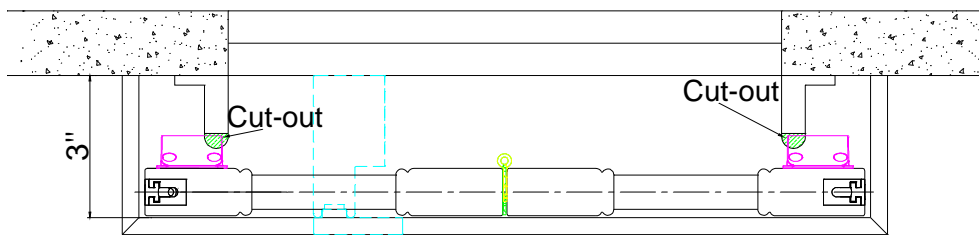
When more Battery Expansion Packs are needed, please add build-out to allow enough clearance.

Side view for module in panel with different louver types



For Motorized 90° Bifold Track Shutter:

- 1) Both 3" and 3.5" Header are available;
- 2) The L Shape Light Block will be cut out 5/16" to avoid the conflict with the module;



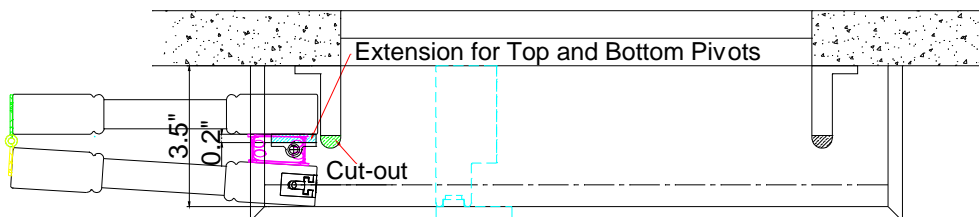
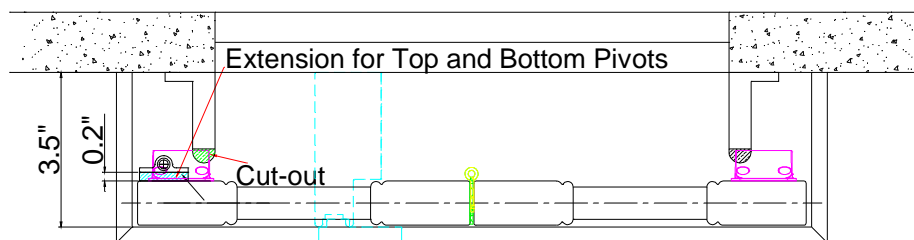
- 3) For Motorized shutter with both Solar Panel and Expansion Battery Pack attached to the back of the module, the L Shape Light Block will be cut out 11/16" to avoid the conflict;

Available options:

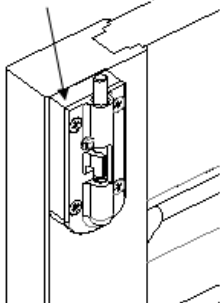
- a. One Solar Panel;
 - b. One Expansion Battery Pack;
 - c. One Solar Panel and One Expansion Battery Pack.
- 4) It is not recommended to have solar panels for the leftmost or rightmost panel due to the lack of sunlight;

For Motorized 180° Bifold Track Shutter:

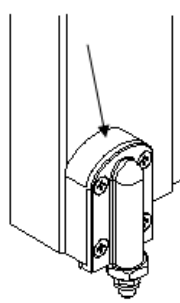
- 1) The default header width is 3.5"; The min. Header width is 3.25"; so for 3" header, 0.25" extension is required;
- 2) The L Shape Light Block will be cut out to avoid the conflict with the module; 0.2" extension is necessary for installation of the top and bottom pivots;



Extension for Top Pivot



Extension for Bottom Pivot



- 3) For Motorized shutter with EITHER ONE Solar Panel OR ONE Battery Expansion Pack attached to the back of the module, the L Shape Light Block will be cut out to avoid the conflict;

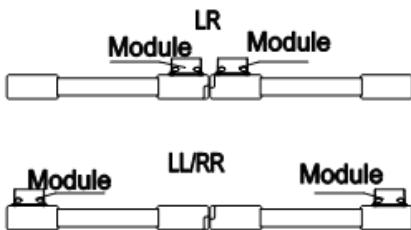
Available options:

- a. One Solar Panel;
 - b. One Expansion Battery Pack.
- 4) It is not recommended to have solar panels for the leftmost or rightmost panel due to the lack of sunlight.

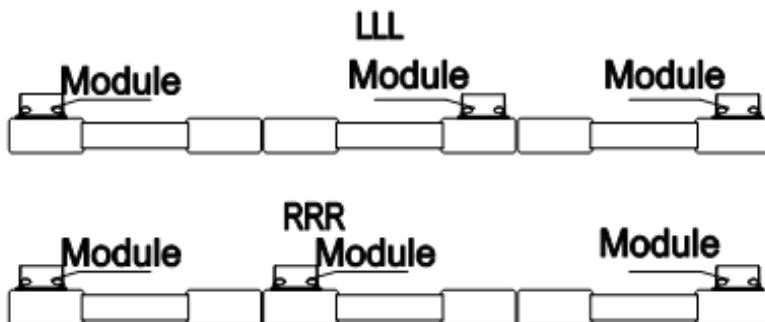
Module Location: (Easy Tilt will be on the same side as the module)

For regular shutter and bi-fold Application (Except for 2014 bifold track):

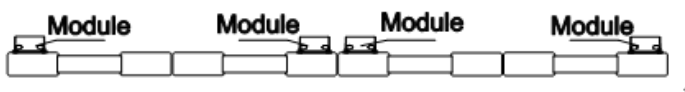
- 1) Single Panel: Module will be on the un-hinge stile
- 2) 2 Panels: LL, LR, RR



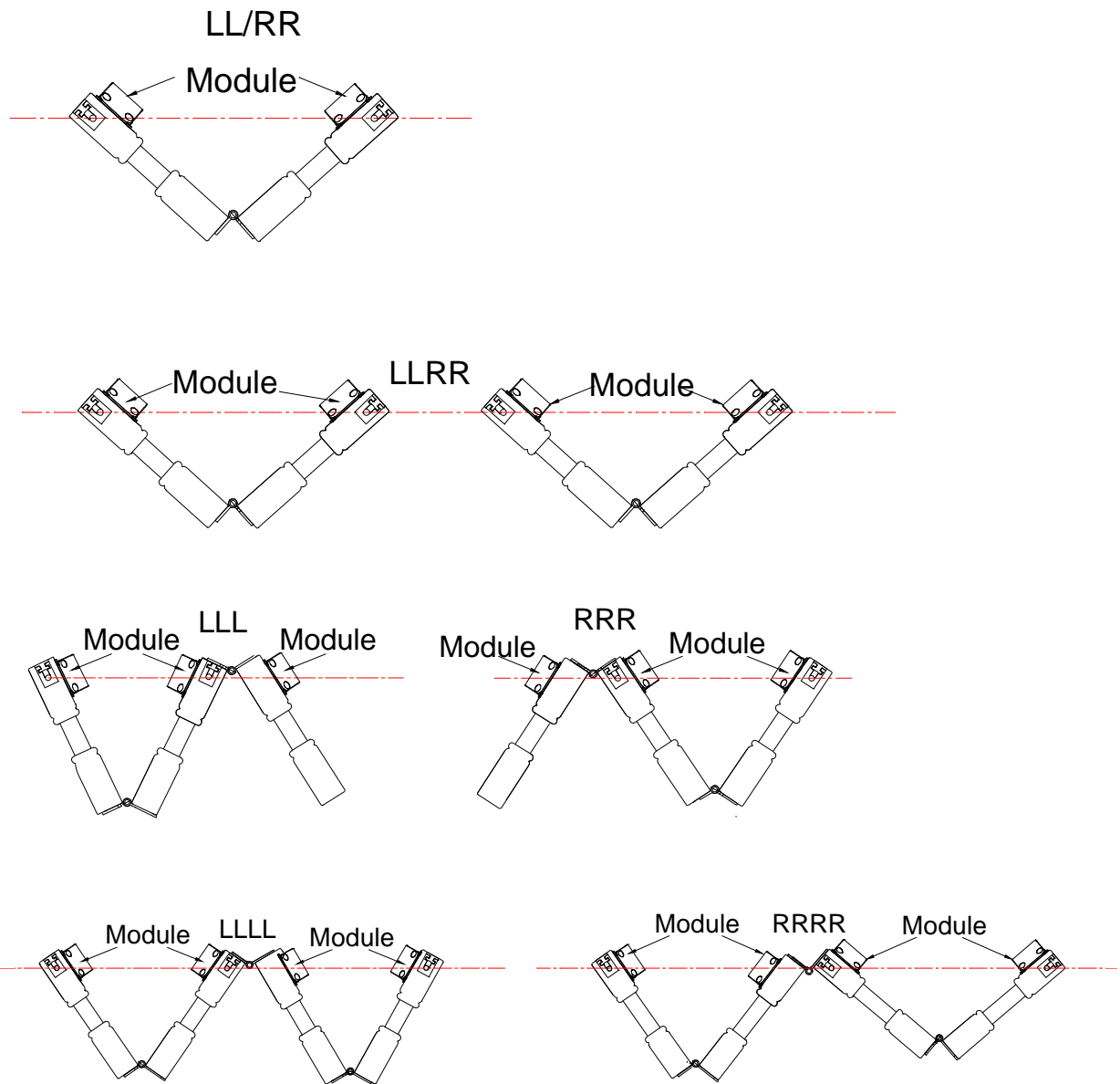
- 3) 3 Panels: LLL/RRR



- 4) 4 Panels: LLRR/LLLL/RRRR



For 90° and 180° Bifold Track:



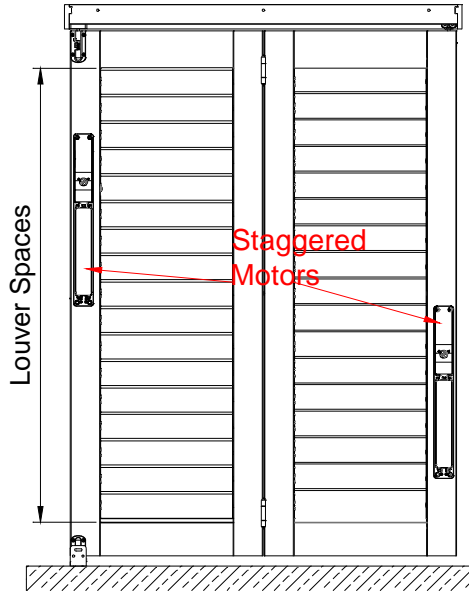
Special Note on Bi-fold or Multi-fold Configurations

Please be aware that in bi-fold or multi-fold configurations of RF, the motorization modules will touch each other when the panels are folded together, so the panels can't be able to stack together as tightly as that of the non-motorized shutters.

Additionally, before folding the bi-fold or multi-fold panels together, please ensure that the louvers are returned to a completely closed position (either up or down) to prevent louver damage when folding panels.

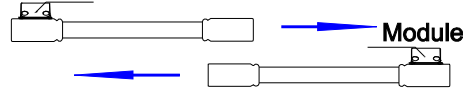
For Fold panels, the module installation will be staggered by default for better fold; it is optional to line up the modules for bi-fold/multi-fold shutter;

However, for 180° bifold track shutter, the modules can only be staggered.

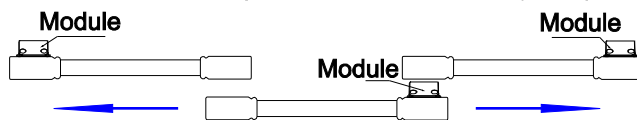


For By-Pass Application

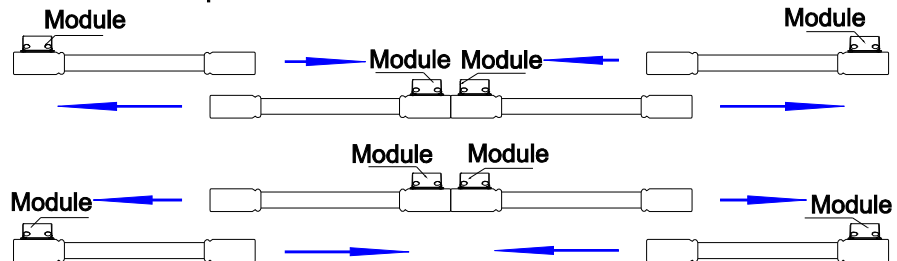
2 Panels Side Open



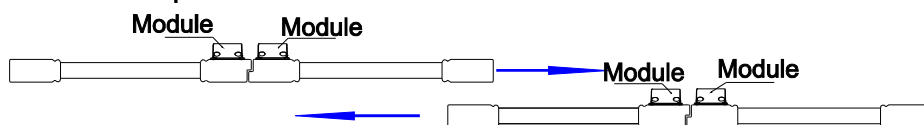
3 Panels Center Open (Not available for Open Bypass)



4 Panels Center Open



4 Panels Side Open



For Special Shape Application:

Module location will be the same as the Invisible Tilt location.

Built-in Timer Function:

The Timer function is now available for remote unit that were shipped on and after June 1st, 2013. Please see below for Website link and follow the User Guide to set up the timer schedule for the remote.

Perfect Tilt RF e-Timer website:

www.windowcoveringsautomation.com:9000/

The following is how to distinguish the remote with and without timer function:

	Original Remote	New Remote w/ Timer
Timer Off Light Color	Red	Orange
PN Number	not available	located beneath the back cover

Warranty

The warranty for the Module and the Remote Control Unit is 2-year under normal operation.

SHUTTER LOOK FROM FRONT AND BACK

The front side of the shutter



*No Receiver/Louver Cap

*Easy Tilt Only

The back of the shutter



*The light block would be cut out along the module.

*The battery cover of the module would come with a wood cover
And the color of the wood cover will match that of the shutter.



HOW TO MANUALLY OPERATE THE LOUVERS

At the back of the motor, there is an “M” and “R” which is a remote switch.



*Turn to M to manually operate the louvers and turn to R to use your remote to operate the shutter.

Note: Forcing the louvers to rotate without turning to M will cause serious damage to your PerfectTilt[®] RF system.

HOW TO USE THE EXPANSION BATTERY PACK

Expansion Battery Pack is to provide longer operation time of shutter.

Remove the battery cover and wood cover, and fix the Expansion Battery Pack to the module. More can be added if the space allows.



*Expansion Battery Pack can be attached to the module

*Make sure to use same type batteries in both the module and the Expansion Battery Pack.

HOW TO USE THE SOLAR PANEL



* Make sure rechargeable batteries are used in the module or the Expansion Battery Pack when using with Solar Panel

*Solar Panel Position:

a. Attached to the back of the module or the Expansion Battery Pack

b. Installed on the rail (Optional with surcharge) factory will prewire and install the mounting base.

For panels with modules below the mid rail or panels without mid rail, the solar panel will be attached to the bottom rail;

For panels with modules above mid rail, the solar panel will be attached to the top rail.



If Expansion Battery Pack or Solar Panel is to fix on the module, please keep the wood cover and in the future if the expansion battery pack or the solar panel is not needed, the wood cover can be put back in use.

HOW TO FIX LOUVERS THAT ARE OUT OF POSITION

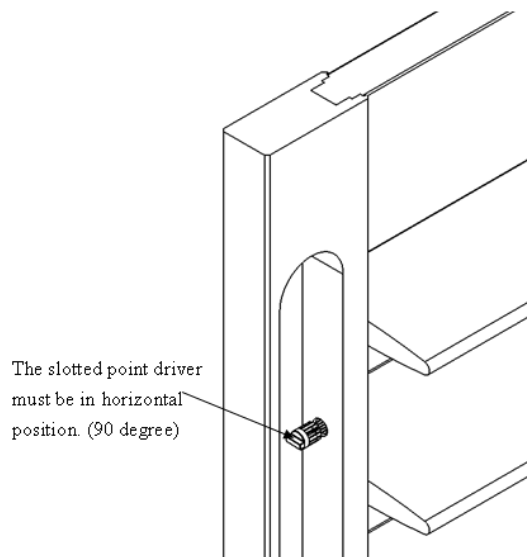
Firstly find out the louver out of position;



Next please grab three louvers above or below the louver in different position. Then grab the louver out of position and tilt it up/down to put the louver back to the correct position.



HOW TO REPLACE THE MODULE

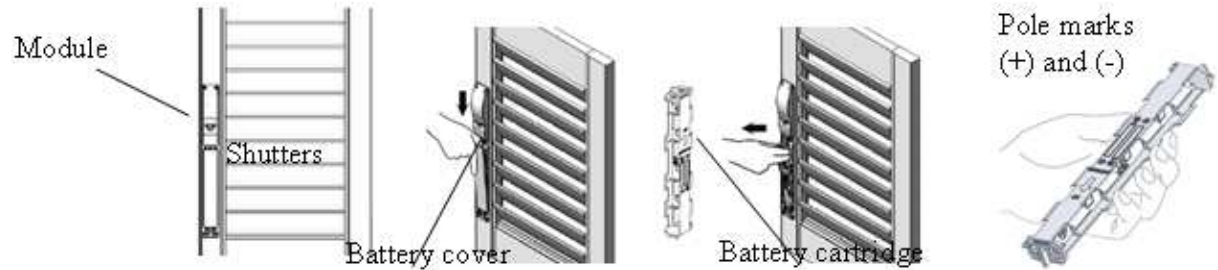


*The module can be taken out of the stile when the louver as well as the slotted point driver is in horizontal position.

*The customer could also fix the module into the stile when the louver as well as the slotted point driver is in horizontal position.

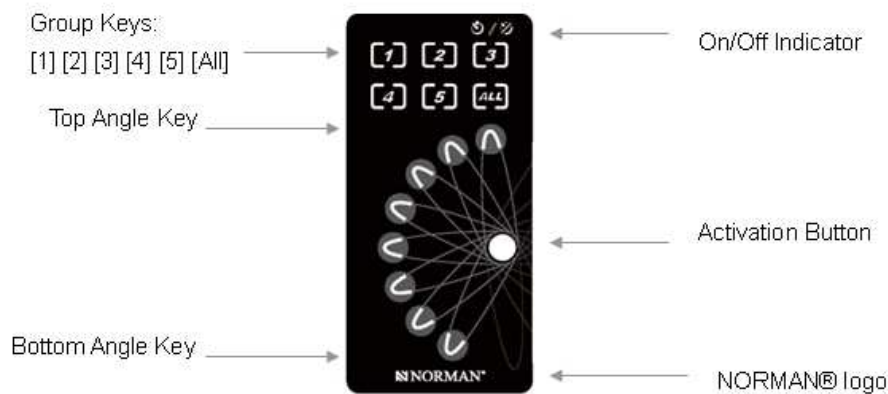
HOW TO REPLACE BATTERY FOR THE MODULE

To install batteries to the open the battery cover. Remove the battery cartridge. Insert batteries (AA batteries *6) matching the (+) and (-) marks inside the battery cartridge. Put back the cartridge and reinstall the battery cover.



HOW TO USE THE REMOTE CONTROL

Remote Control Buttons and Indicators



USB Port (Timer Function):

Norman Logo Light:

Light on = Remote Control ready

Light off = Remote Control in sleep mode

8 Preset Louver Positions

Each of the "Angle" keys corresponds to a desired tilting position, spanning the entire arc of the louver's movement

Group keys "1" through "5" and "All" key

The keys "1" through "5" control shutter modules grouped in "1" to "5" groups, each group can consist of unlimited numbers of shutters that are in range.

The "All" key controls shutter modules in all groups at once.

HOW TO REPLACE BATTERY FOR REMOTE CONTROL

The remote control requires 2 AAA batteries. To install the batteries, turn over the remote and open the cover. Insert batteries (AAA batteries * 2) matching the (+) and (-) marks and cover the bottom cover. If the battery has been properly installed, the NORMAN[®] logo will light up.

