

SERIES 401, 402, 403 STOREFRONT INSTALLATION INSTRUCTIONS



Part NO. Y001

April 29 2020

WHERE WINDOWS ARE JUST THE BEGINNING®



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See Additional Supplements:

Dorma RTS 88 Concealed Overhead Closers.....	Y013
Door, Door Glass and Hardware.....	Y015

Minimizing Condensation

Note: Please reference EFCO's "Understanding Condensation" brochure which can be obtained through your EFCO representative. Condensation will form on any surface when unfavorable conditions (interior temperature and relative humidity and exterior temperature) are present. When the formation of excessive condensation is a concern, it is highly recommended that a design professional is utilized to perform an analysis of the shop drawings to recommend the best possible installation methods. Please contact your EFCO representative for information on EFCO's Thermal Analysis Services.

Many current installation practices lead to an increase in the possibility of the formation of condensation. Though not all inclusive, the list of examples below illustrates conditions under which condensation is likely to occur:

1. Bridging system thermal break with non-thermally broken metal flashing or lintels that are exposed to the exterior
2. System exposure to cold air cavities
3. Interior relative humidity levels not maintained at recommended levels, see EFCO's "Understanding Condensation" brochure
4. Inadequate separation between system and surrounding condition at perimeter
5. Product combinations during the shop drawing stage that result in bridging thermal breaks of one or all products involved

SECTION I: General Notes

SERIES 401 - 1 3/4" x 4 1/2" - 1/4" GLAZING

SERIES 402 - 2" x 4 1/2" - 1" GLAZING

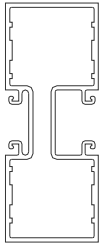
SERIES 403 - 2" x 4 1/2" - 1" GLAZING (THERMAL)

- 1) Check shop drawings, installation instructions, and glazing instructions to become thoroughly familiar with the project. The shop drawings take precedence for extrusions and details on the project. THESE INSTALLATION INSTRUCTIONS ARE OF A GENERAL NATURE AND COVER THE MOST COMMON CONDITIONS AND SITUATIONS.
- 2) Check all of the materials upon arrival and be sure you have everything required to begin installation. (See Section II "PARTS IDENTIFICATION")
- 3) All work should start from bench marks and/or column center lines as established by the architectural drawings and the general contractor. Check construction for compliance with the contract documents.
- 4) NOTE: Sealants must be compatible with all surfaces. Consult with the sealant manufacturer for recommendations regarding compatibility and adhesion.
- 5) All materials are to be installed plumb, level, and true.
- 6) Protect materials after erection. Cement, plaster, alkaline solutions, and acid based materials can be harmful to the finish. Masonry runoff may leach harmful acids onto the storefront. This situation must also be taken into consideration at installation.
- 7) Clean aluminum surfaces with a mild detergent and water. No abrasive agent shall be used.

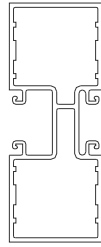
SECTION II: A. S401 PARTS IDENTIFICATION

Vertical Parts:

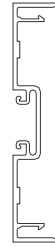
Drawings on this page are not to scale.



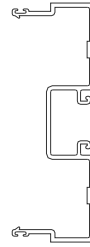
9102
Tubular Vertical Mullion
For L100 Steel Reinf.



8681
Tubular Vertical Mullion



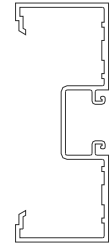
9103
Female Expansion Mullion
Use W/9104



9104
Male Expansion Mullion
Use W/9103
Use W104 Weathering



9117
¾" x 4 ½"
System Adaptor or Door Jamb



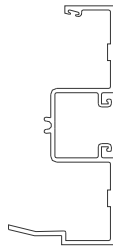
9120
Open Back Vertical Mullion
Use W/9121,9122 or 9146



9121
Open Back Adaptor
Use W/9120,9147, 9148 or 9171



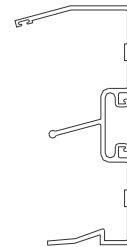
9122
Open Back Adaptor at Butt Hinge
Use W/9120 -slide fit-



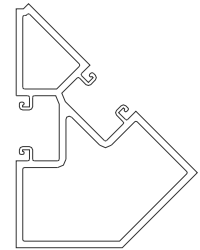
9163
Splayed Mullion Female Portion
Use W/9164 or 9165
Use W104 Weathering



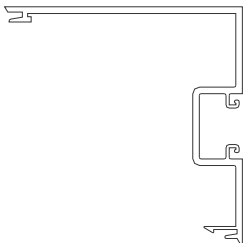
9164
0° to 15° Splayed Male Portion
Use W/9163
Use W104 Weathering



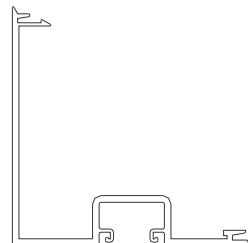
9165
15° to 30° Splayed Mullion Male portion
Use W/9163
Use W104 Weathering



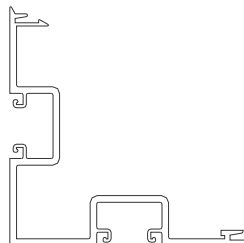
8557
135° Mullion Fixed Shear Block only



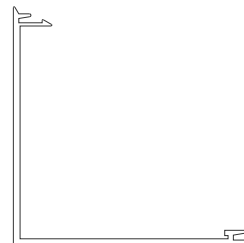
8696
* 90° Corner Mullion Half
Two for 180°
Fits W/8697 for 90°



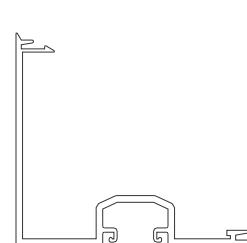
8697
* 90° Corner Mullion Half
Two for 180°
Fits W/8696 for 90°
Fits W/8698 for 3 way



8698
* 3-Way Corner Mullion Half
Fits W/8697 for 3-way
For Shear Block only



9297
* 90° Corner Mullion Half
Fits W/8696,8967 & 8698



9115
* (4" x 4 ½") Vertical Mullion Half
Self-Mating only

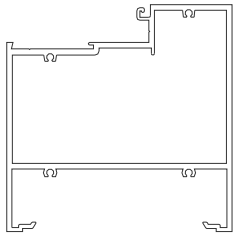


1G14
4 ½" Deep
Adjustable Side Lite Base Vertical Mullion
W/BRK. MTL.
Use W/1G13 Horiz.

SECTION II: A. S401 PARTS IDENTIFICATION

Horizontal Parts:

Drawings on this page are not to scale.



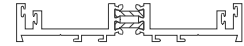
9148
4 1/2" x 4 1/2" Side
Lite Base
Use W/9129
Glass Stop.
Use W/9121,
9146 or 9149



9160
2 9/16" Deep
Adjustable Side
Lite Base Horiz.
W/ BRK. MTL.
Use W/9161
Vertical
Use (2) 9133
Glass Stops
Use W104
Weathering



9161
2 9/16" Deep
Adjustable Side
Lite Base
Vertical W/BRK.
MTL.
Use W/ 9160
Horizontal



1G13
4 1/2" Deep
Adjustable Side
Lite Base
Horizontal
W/BRK. MTL.
Use W 1G14
Vertical
Use (2) 9129
Glass Stops
Use W104
Weathering



1G14
4 1/2" Deep
Adjustable Side
Lite Base
Vertical W/BRK.
MTL.
Use W/1G13
Horizontal



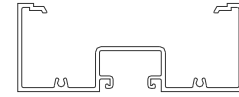
9149
4 1/2" x 4 1/2" Side
Lite Anchor Base



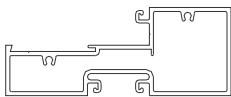
E178
Frame Receptor
Closure
Use W/1510
Use WA04
Weathering



1510
Frame Receptor
Use E178
Closure
Use WA04
Weathering



9145
Head
Use W/9146
Adaptor



9128
Intermediate
Horizontal
Use W/9129
Glass Stop

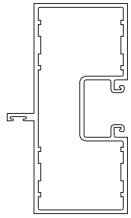


9147
Open Back Horizontal
w/ Sill Use W/9129
Glass Stop Use W/
9121 Glz. Adaptor or
FS92 / 9146 Filler

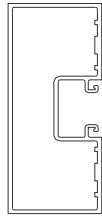
SECTION II: A. S401 PARTS IDENTIFICATION

Door Frame Parts:

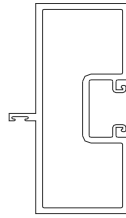
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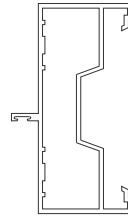
9109
Single Acting
Door jamb
Use W138
Weathering



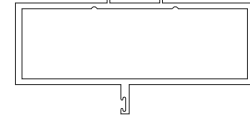
9108
Double Acting
Door Jamb



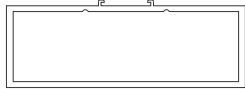
9112
1/8" Wall
Weathering
Single Acting
Door Jamb
Use W138



9171
Single Acting
Door Jamb for
Screw Spline
Side Lites
Use 9121
Glazing Adaptor
Use W138
Weathering



9134
Single Acting
Transom Bar
Use W/ 9123
Glass Stop
Use W138
Weathering



9127
Dual Acting
transom Bar
Use W/ 9123
Glass Stop



9174
Screw Spline
Door Header
Use W/ 9123 1/4"
Glass Stop
Use W138
Weathering



9129
Glass Stop Use
W/ 9128, 9147,
9148 & 1G13



9123
Removable Stop
1/4" Glazing at
Transom Bar



9133
Removable Stop
1/4" Glazing at
9160, 9131 &
9138 Side Base,
or 9150 App.
Glazing



9132
Side Lite Base
Adaptor Foot
Use W/ 9131 &
9137



9146
Stock Length
Open Back Filler
Use W/ 9120,
9145 or 9147
(see FS92)



FS92
3" Perimeter
Adaptor Clip
Use W/ 401
Open Back
Frames



L131
120" Lightweight
PVC Perimeter
Adaptor
Use W/ 9120,
9145 or 9147



FV58
3" Perimeter
PVC Adaptor
Clip
Use W/ 9120,
9145 or 9147



9149
4 1/2" x 4 1/2" Side
Lite Anchor Base



9150
Applied Fixed
Sash
Use W/ 9133
Glass Stop for
1/4" Glass



9151
Snap In Pocket
Filler
Use W/ 401
System



9152
Snap-in Door
Stop
Use W/ 401
System
Use W138
Weathering



9154
Applied Door
Stop
Use W/ 9155
Use W138
Weathering



9155
Applied Door
Stop Cover
Use W/ 9154



9156
1/4" Glazing
Adaptor at
Transom
Use W/ 9109 &
910

SECTION II: A. S401 PARTS IDENTIFICATION

Door Frame Parts:

Drawings on this page are not to scale.



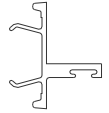
9144
Applied 3/4" Door
Stop



9153
Applied Door
Stop



4437
Applied 5/8"
Stop Used At
Door Header
Only
Mates W/9155

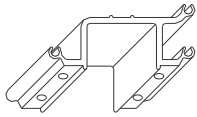


4438
5/8" Snap-in
Door Stop at
Door Header
Only
Used W/1 3/4"
Door

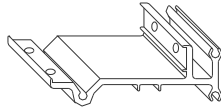
SECTION II: A. S401 PARTS IDENTIFICATION

Shear Blocks & Clips:

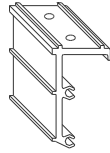
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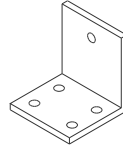
K120
(CLR & BRZ)
Door Header
Shear Block Pkg.
Screws Included



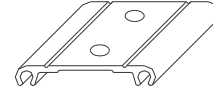
K122
Horizontal
Intermediate
Shear Block Pkg.
Screws Included



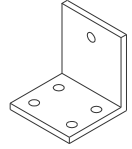
K123
High Side Lite
Shear Block Pkg.
Screws Included



K124
(CLR. & BRZ.)
Threshold Clip
Pkg.
O.P. Butt H
Screws Included



K126
C.O.C.
Threshold Clip
Pkg.
Screws Included

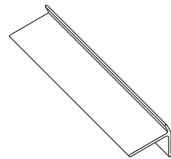


K153 (CLR)
K154
(BRZ)
Threshold Clip
Package for
Conc. Rod Panic
Screws Included

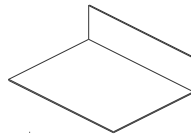
Sill Flashing & End Caps:



K449
End Cap Pkg. for
#9957 Sill
Flashing



F098
3" Flashing Clip
2 Per D.L.O.
Use W/ 9957



K293
Sill Flashing
Splice (STD.)

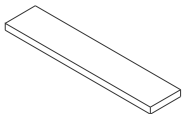


9947
High
Performance Lite
Sill Flashing

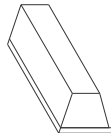


9957
Standard High
Performance Sill
Flashing
Use K449 End
Cap

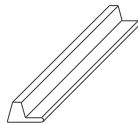
Glass Setting Blocks:



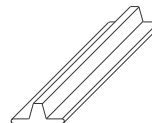
HN80
Inside Glazed
Horizontal
Setting Block



K166
Door Transom
Setting Block
Pkg.
Use W/9123 1/4"
Glass Stop



H161
High Sidelite
Base Setting
Block Pkg.

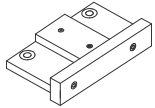


H160
Horizontal
Setting Block
Pkg.

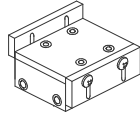
SECTION II: A. S401 PARTS IDENTIFICATION

S401 Drill Jigs:

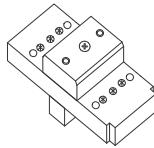
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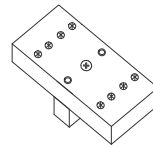
DJ01
Shear Block Drill
Fixture
(Head Members)



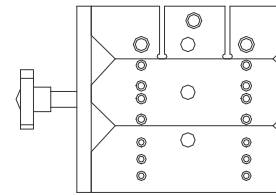
DJ03
Shear Block Drill
Fixture
(Horizontal to
Shear Blocks)



H700
Economy Drill
Guides
(Shear Block to
Vertical)



H701
Economy Drill
Guides
(Screw Spline
Application)



H382
Shear Block /
Screw Spline
Drill Fixture
(At Verticals)

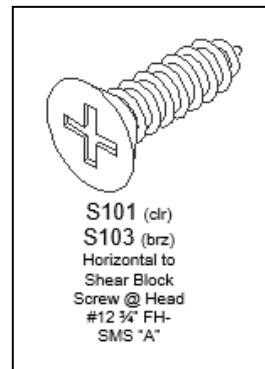
Steel Reinforcing:



L100
Tubular Mull
Reinforcing Steel
Use W/ 9102,
9108, 9109,
9112 & 9120



L101
Expansion Mull
Reinforcing Steel
Use W/ 9103 &
9104



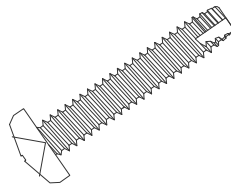
Fasteners:



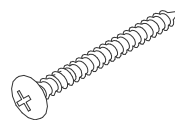
M109
Threshold Clip
Screw
#12-24 x 3/8"
FH-MS



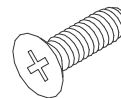
STK0
Adjustable Side
Lite Base Vert. to
Mull Attachment
Screw 4 1/2"
Deep Base
#8-18 x 3/4" PH-
SMS 410 TEK/2



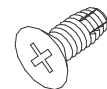
S129
Frame Spline
Attachment
Screw
#10-16 x SQ-
SMS
Type 25
Zinc Chromate



S100
Shear Block
Attachment
Screw
#8 x 1 3/4" PH-
SMS



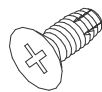
M100
(CLR)
M108
(BRZ)
Frame to Offset
Pivot Screw
#12 x 3/4" FH-
SMS-F



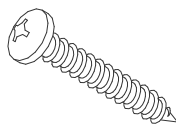
S123
High Side Lite
Base Shear
Block Screw
#12 x 3/4" FH-
SMS-F



S109
High Side Lite
Base Shear
Block Screw
#8 x 2 1/2" FH-
SMS



S110 (CLR)
S113 (BRZ)
Horizontal to Shear
Block Screw
#12 x 1/2" FH-MS-
"F"



STT7
Adjustable Side
Lite Base
Vertical
Attachment
Screw
#10-12 x 1" PH-
SMS



STU5
Adjustable Side
Lite Vert. to Mull
Attachment
Screw 2 1/2"
Deep Base
#8-15 x 2" PH-
SMS

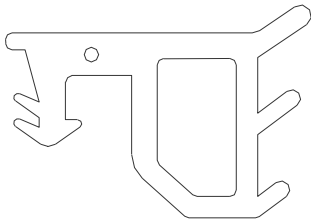


S108
Screwspline T hold - 9951
#8-18 X 1 SL-HW-SMS
ZC B-LP .25

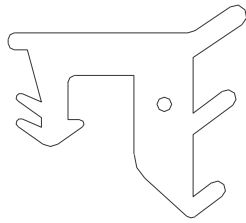
SECTION II: A. S401 PARTS IDENTIFICATION

Gasket:

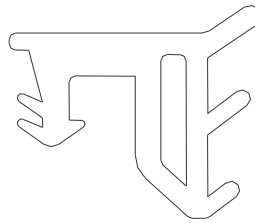
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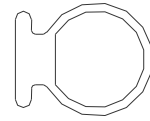
W165
Glazing Gasket
for Undersized
Glass
For 3/16"
Glazing Use
W199 Interior &
W165 Exterior



W166
Glazing Gasket
for Oversized
Glass
5/16"-3/8" Infill
401



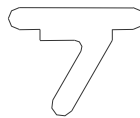
W199
Standard
Glazing Gasket
1/4" Infill 401



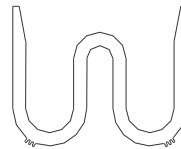
W138
Standard
Weather Seal @
Door Stops



WA04
Standard
Weather Seal @
Subframes



W104
Weather Seal
Gasket
Use W/
Expansion Mulls,
@ Variable Mulls,
or Adj. Height
Side Lite Bases

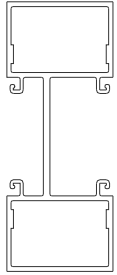


HN54
1/4" Antiwalk
Block
401 Only

SECTION II: B. S402 PARTS IDENTIFICATION

Vertical Parts:

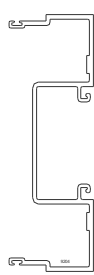
Drawings on this page are not to scale.



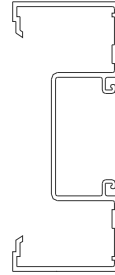
9202
Vertical Mullion



9203
Female
Expansion
Mullion
Use W/ 9204



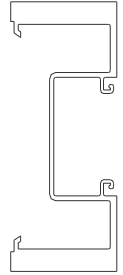
9204
Male Expansion
Mullion
Use W/ 9203
Use W104
Weathering



9220
Open Back Vert
Use 9221, 9222,
or 9246/FS93
Peri. Adaptor



9212
Open Back
Vertical 1/8" Wall
for L102 Steel
Use 9221, 9222
or 9246/FS93
Perimeter
Adaptor



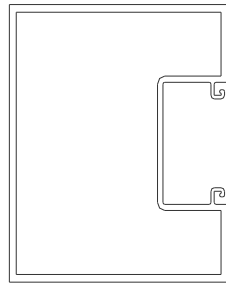
9223
Heavy-Duty
Open Back
Mullion
Use W/ 9221 or
9222
Use 9246/FS93
Perimeter
Adaptor



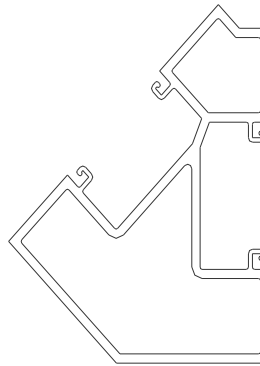
9221
Open Back
Glazing Adaptor
Use W/ 9220,
9223, 9247 or
9248



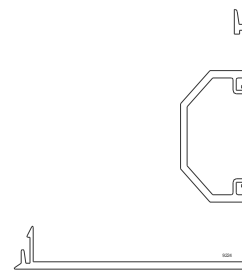
9222
Open Back
Glazing Adaptor
at Butt Hinge
Use W/ 9220 or
9223



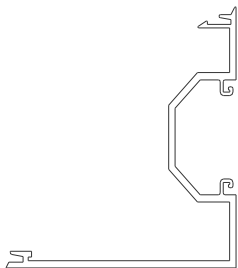
9263
4" x 4 1/2" Tubular
Door Jamb /
Header



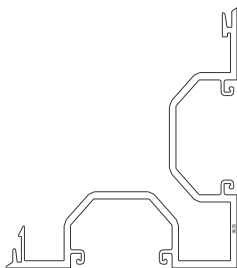
8558
135° Mullion
Fixed
Shear Block
Only



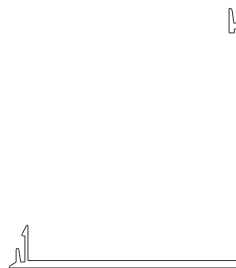
9224
90° Corner
Mullion Half
Two for 180°
Fits W/ 9244 for
90°



9244
Corner Mullion
Half
Fits W/ 9224 for
90°
Fits W/ 9296 for
3 Way



9296
3-Way Corner
Mullion Half
Fits W/ 9244 for
3-Way

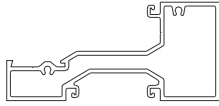


9297
90° Corner
Mullion Half
Fits W/ 9224,
9244 & 9296
Self-Mating for a
Cover

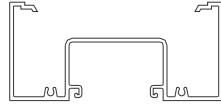
SECTION II: B. S402 PARTS IDENTIFICATION

Horizontal Parts:

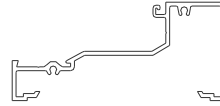
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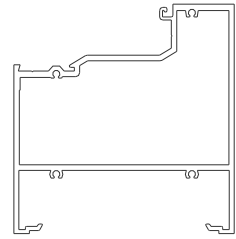
9236
Tubular Side Lite
Horizontal
Use W/ 9229
Glass Stop



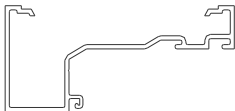
9245
Head
Use W/ 9246
Adaptor



9247
Open Back Sill
or Horizontal
Use W/ 9229
Glass Stop
9246 adaptors



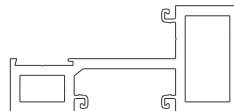
9248
4 1/2" x 4 1/2" Side
Lite Base
Use W/ 9229
Glass Stop
9246 or 9221
Adaptors or Use
9149 Anchor



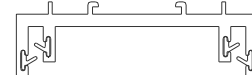
9268
Open Back Head
for Round Tops
Use W/ 9269
Glass Stop
FS93 Peri. Adpt.



9149
4 1/2" x 4 1/2"
Side Lite Anchor
Base
Use W/ 9248



9270
Heavy-Duty
Tubular
Horizontal
Use W/ 9271
Glass Stop
Use K358 Shear
Block PKG.



9160
Adjustable Side
Lite Base
Horizontal W/
BRK. MTL.
Use W/ 9161
Use 9253 Glass
Stop
Use W104
Weathering

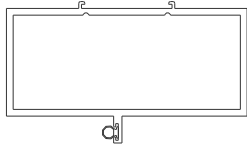


9231
8" Horizontal
Self-Mating
Use (2) K129
Shear Block
Use Removable
Stop Horizontals
Above & Below

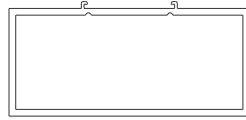
SECTION II: B. S402 PARTS IDENTIFICATION

Door Frame Parts:

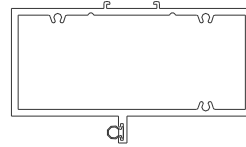
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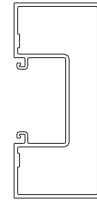
9234
Single Acting
Transom Bar
Use W/ 9123 for
1" Glass Stop
Use W138
Weathering



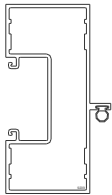
9227
Dual Acting
Transom Bar
Use W/ 9123 for
1" Glass



9274
Single Acting
Screw Spline
Transom Bar
Use W/ 9123 –
¾" Glazing
Use W/ 9253 –
1" Glazing
Use W138 GSKT



9208
Double Acting
Door Jamb



9209
Single Acting
Door jamb
Use W138
Weathering



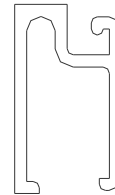
9232
Single Acting
Door Jamb for
Screw Spline
Side Lites
Use 9221
Glazing Adaptor
Use W138
Weathering



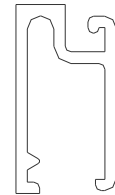
9254
1" Glazing
Adaptor at
Transom
Use W/ 9208 or
9209



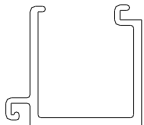
4376
1" Glazing
Adaptor at
Transom



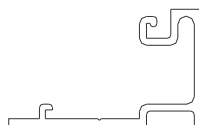
9133
Removable Stop
Use W/ 9250 for
1" Applied
Glazing



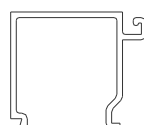
9123
Removable Stop
1" Glazing at
2" x 4 ½"
Transom Bars



9269
Removable Stop
for 9268 Head
Only
1" Glazing at
Round Top Head



9250
Applied Fixed
Sash
Use W/ 9133
Stop



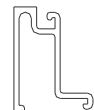
9229
Removable Stop
For 1" Glazing
Used W/
9236,9247,9248
& 1G13



9271
Removable Stop
for 9270 H.D.
Horizontal
1" Glazing



9251
Snap-In Pocket
Filler for 1"
Glazing
Nonthermal

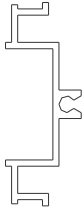


9253
Glass Stop
1" Glazing at
9274 Transom &
9160 / 9161 Side
Base

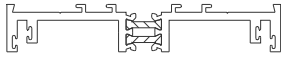
SECTION II: B. S402 PARTS IDENTIFICATION

Misc. Parts:

Drawings on this page are not to scale.



9161
Adjustable Side
Lite Base
Vertical W/ BRK.
MTL.
Use W/ 9160



1G13
Adjustable Side
Lite Base
Horizontal W/
BRK. MTL.
Use 1G14
Use 9229 Glass
Stop
Use W104
Weathering



1G14
Adjustable Side
Lite Base
Vertical W/ BRK.
MTL.
Use W/ 1G13



9246
Stock Length
Open Back Filler
Use W/ 402 &
403 Open Back
Frames
(See FS93 &
K318)



FS93
3" Perimeter
Adaptor Clip
Use W/ 402 &
403 Open Back
Frames
(See 9246 &
K318)



K318
3" Perimeter
Adaptor Clip
Pkg.
Use Only W/
9247 at Head /
Sill
(See 9246 &
FS93)



L132
120" Lightweight
PVC Perimeter
Adaptor
Use W/ 9220,
9245 at Jamb &
Head



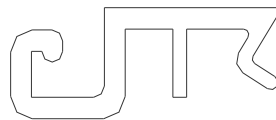
FV59
3" Perimeter
PVC Adaptor
Clip
Use W/ 9220,
9245 at Jamb &
Head



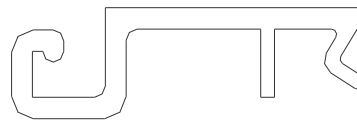
L133
120" Lightweight
PVC Perimeter
Adaptor
Use W/ 9247 at
Sill



FV60
3" Perimeter
PVC Adaptor
Clip
Use W/ 9247 at
Sill



9260
Glazing Adaptor
for 1/2" Glass
In 1" Glazing
Pocket

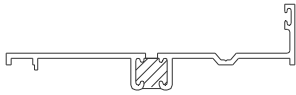


9261
Glazing Adaptor
for 1/4" Glass in 1"
Glazing Pocket

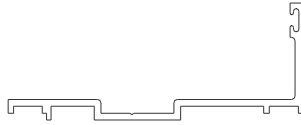
SECTION II: B. S402 PARTS IDENTIFICATION

Misc. Parts:

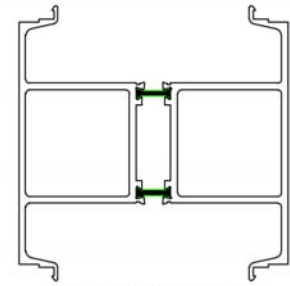
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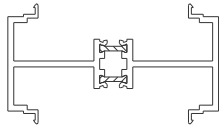
9938
Shadowline
Window Adaptor
Equal Leg
Use W104
Weathering



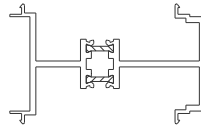
8643
System II
Window Adaptor
Equal Leg
Use W104
Weathering



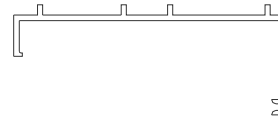
Ext. 9350/LAA3/9350 Int.
Composite No. 1G15
4" Horizontal
Mates W/Itself



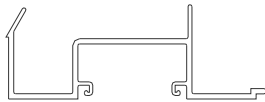
1G69
Horiz. / Vert.
Stack Adaptor
2" Sightline



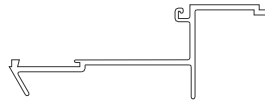
1G68
Horiz. / Vert.
Stack Adaptor
2" sightline w/
Revel



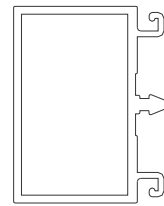
8741
Head / Sill Can
S402 System
2" Sightline



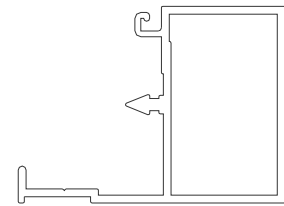
8742
Nonremovable
Stop
Can Filler



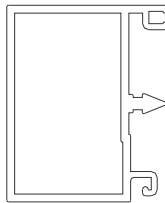
8743
Removable Stop
Can Filler
Use W/ 8744
Glass Stop



16C7
2-Part Mullion
Half



16C8
2-Part Perimeter
Interior Half



16C9
2-Part Perimeter
Exterior Half

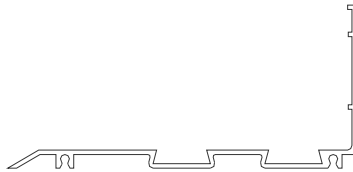
SECTION II: B. S402 PARTS IDENTIFICATION

Sill Flashing & End Caps

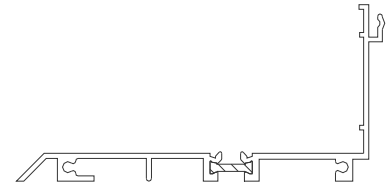
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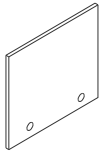
9947
High
Performance
Lite Sill Flashing



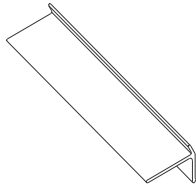
8433
Standard High
Performance Sill
Flashing
Use K449 End
Cap



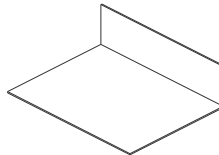
1G85
High
Performance
Sill Flashing W/
Stool Clip
Uses K448 End
Cap



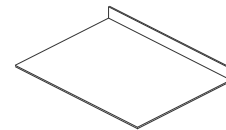
K449
End Cap Pkg.
for #8433 Sill
Flashing
(1) FT34
(2) STC7



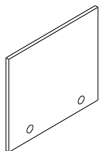
F098
3" Flashing Clip
2 per DLO
Use W/ 9957



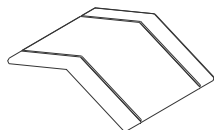
K293
Sill Flashing
Splice
(STD.)



K292
Sill Flashing
Splice
(OPT.)



K448
End Cap Pkg. for
1G64 , 1G65 &
1G85
(1) FT33
(2) STC6

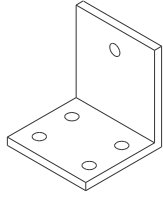


HWD1
Water Deflector
@ Int. Horizontal

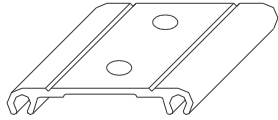
SECTION II: B. S402 PARTS IDENTIFICATION

Shear Blocks & Drill Jigs

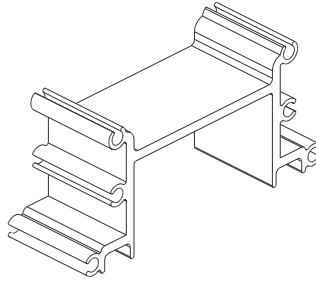
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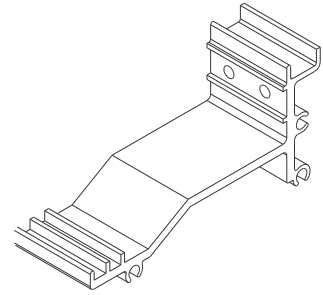
K124 (clr)
K125 (brz)
O.P. & Butt
Hinge
Screws Included



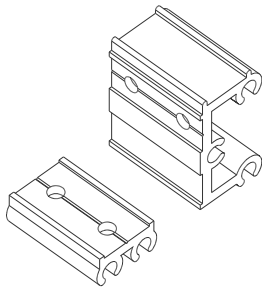
K126
C.O.C.
Threshold Clip
Pkg.
Screws Included



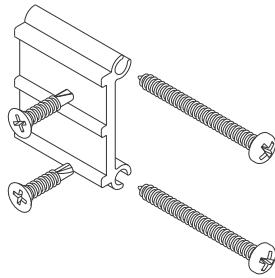
K129 (clr)
K130 (brz)
Header Shear
Block
Pkg.Screws
Included



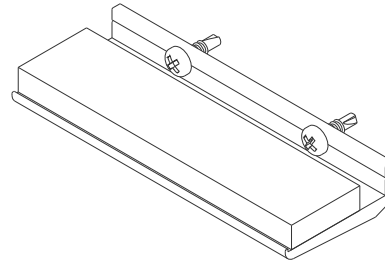
K173
Horizontal
Shear Block
Pkg.
Screws Included
Use W/ 9236,
9247 or 9248



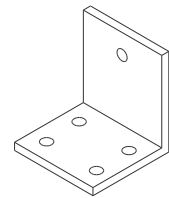
K358
H.D. Horizontal
Shear Block
Pkg.
Use W/ 9270
Screws Included



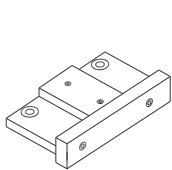
KN92
402 / 403 2-
Piece Rolled
Head Shear
Block Pkg.



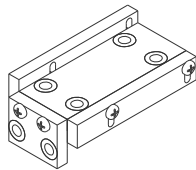
KN93
402 / 403 2-
Piece Horiz.
Setting Chair
Pkg.



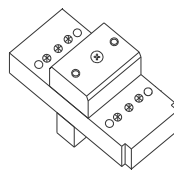
K153 (clr)
K154 (brz)
Threshold Clip
Pkg. for Conc.
Rod Panic
Screws Included



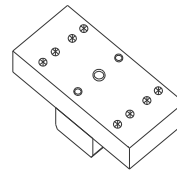
DJ01
Shear Block
Drill Fixture
(Head Members
To Shear
Blocks)



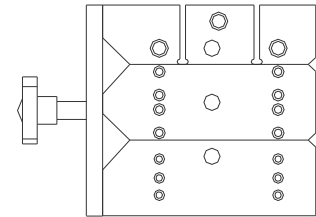
DJ02
Shear Block
Drill Fixture
(Horizontal to
Shear Blocks)



H700
Economy Drill
Guides
(Shear Block to
Vertical)



H702
Economy Drill
Guides
(Screw Spline
Application)

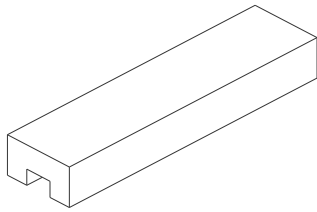


H381
Shear Block /
Screw Spline
Drill Fixture
(At Verticals)

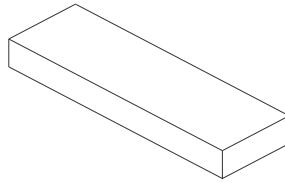
SECTION II: B. S402 PARTS IDENTIFICATION

Setting Blocks & Steel:

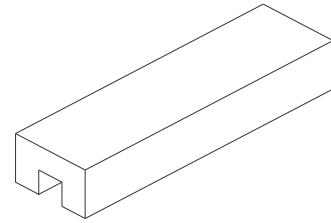
Drawings on this page are not to scale.



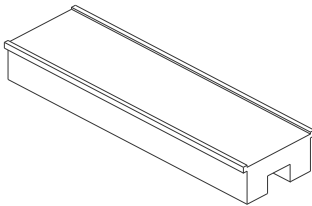
HNA3
Transom Setting
Block
1" Glazing



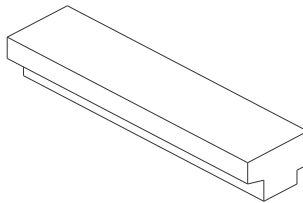
HN92
Inside Glazed
Horizontal Setting
Block



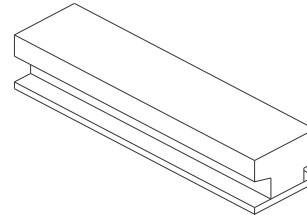
HNA4
Inside Glazed
Setting Block at Sill



HN32
Exterior Glazed
Setting Block /
Chair Assembly
Pkg. at Sill



H190
2" Transom Bar &
2 1/2" Side Lite
Base Setting Block
Pkg.
Using 9253 Glass
Stop



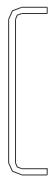
K354
1" Glass Setting
Block Pkg. for
1G13 / 1G14 Adj.
Side Lite Base



L100
Tubular Mull
Reinforcing Steel
Use W/ 9208 &
9209



L101
Expansion Mull
Reinforcing Steel
Use W/ 9203 &
9204

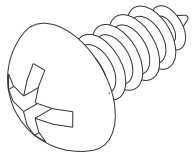


L102
8 Gauge
Reinforcing Steel
Use W/ 9212

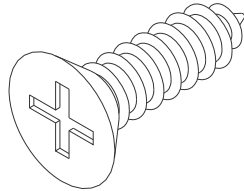
SECTION II:B. S402 PARTS IDENTIFICATION

Fasteners:

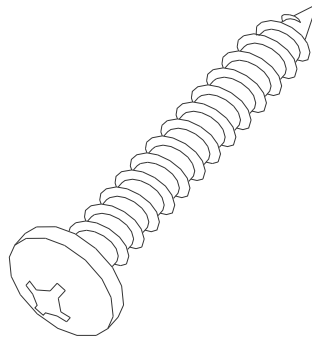
Drawings on this page are not to scale



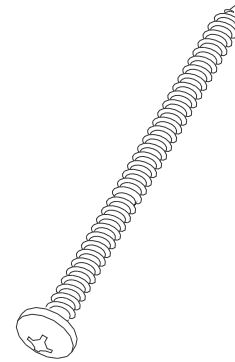
STB9
Horizontal to
Shear Block
Screw
#12 1/2" RH-
SMS "A"



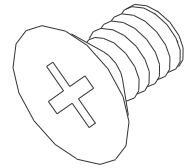
S101 (clr)
S103 (brz)
Horizontal to
Shear Block
Screw @ Head
#12 3/4" FH-
SMS "A"



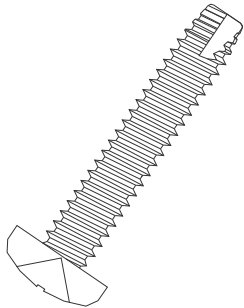
STT7
Adjustable
Side Lite Base
Vertical
Attachment
#10-12 x 1"
PHSMS



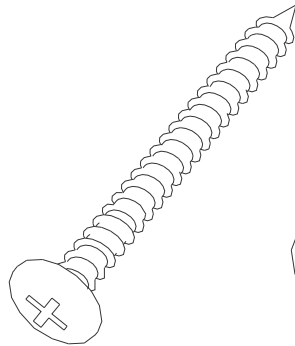
STU5
Adjustable
Side Lite Base
Vert. to Mull
Attachment
Screw 2 1/2"
Deep Base
#8-15 x 2"
PHSMS



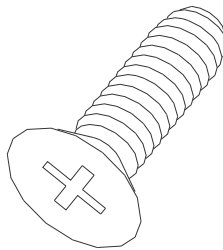
M109
Threshold Clip
Screw
#12-24 x 3/8"
PHMS



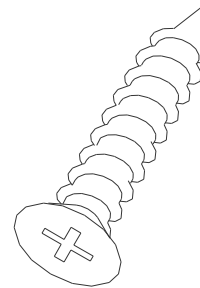
S129
Frame Spline
Attachment
Screw
(#10-16 x 1"
SQ-SMS)
Type 25
Zinc Chromate



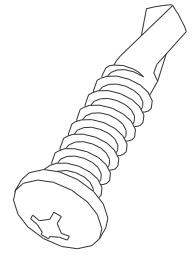
S100
Shear Block
Attachment
Screw
(#8 x 1 3/4"
PH)



M100 (clr)
M108 (brz)
Frame to
Offset Pivot
Screw
(#12-24 x 3/4"
F.H.M.S.)



SFQ2
Window
Adaptor to
Frame
Attachment
Screw
Use W/ 9935 &
9936
#8-18 x 1/2" FH-
SMS



STK0
Adjustable
Side Lite Base
Vert. to Mull
Attachment
Screw 4 1/2"
Deep Base
#8-18 x 3/4"
PHSMS 410
TEK/2

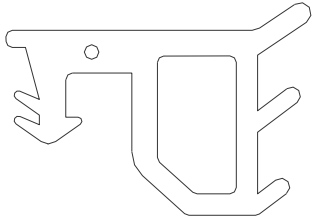


S108
Screwspline T hold - 9951
#8-18 X 1 SL-HW-SMS
ZC B-LP .25

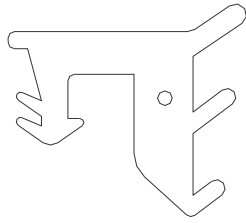
SECTION II: B. S402 PARTS IDENTIFICATION

Gasket:

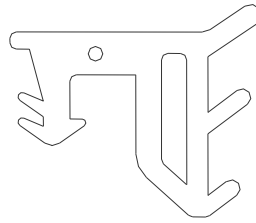
Drawings on this page are not to scale.



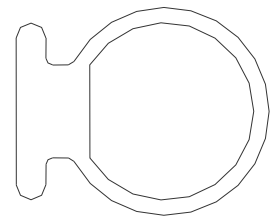
W165
Glazing Gasket
for Undersized
Glass
3/4" Infill @ 1"
Pocket



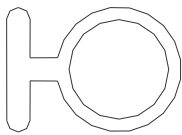
W166
Glazing Gasket
for Oversized
Glass
1 1/8" Infill @ 1"
Pocket



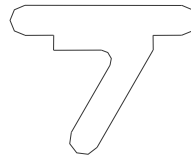
W199
Standard
Glazing Gasket
1" Infill @ 1"
Pocket



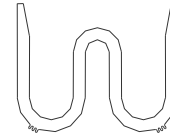
W138
Standard
Weather Seal @
Door Stops



WA04
Standard
Weather Seal @
Subframes



W104
Weather Seal
Gasket
Use W/
Expansion Mulls,
@ Variable Mulls
or Adj. Height
Side Lite Bases

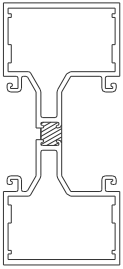


HN52
1/2" Antiwalk
Block

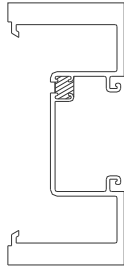
SECTION II: C. S403 PARTS IDENTIFICATION

Vertical Parts:

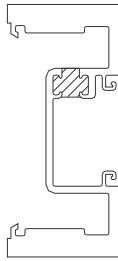
Drawings on this page are not to scale.



9322
Standard
Tubular Vertical
Mullion



9323
Heavy-Duty
Open Back
Mullion
Use W/ 9246,
9315 & 9314



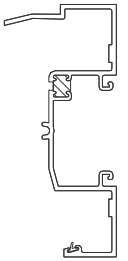
9324
Extra Heavy-
Duty Open Back
Mullion
Use W/ 9246,
9315 & 9314



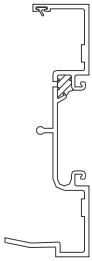
9314
Open Back
Adaptor
Use W/ 9320,
9323, 9324,
9347 or 1G80



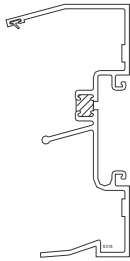
9315
Open Back
Adaptor at Butt
Hinge
Slide Fit W/ 9320
& 9323



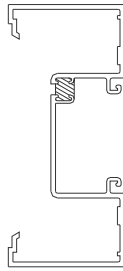
9316
0° to 15°
Variable Female
Mullion Half
Use W/ 9317
Use W104
Gasket



9317
0° to 15°
Variable Male
Mullion Half
Use W/ 9316
Use W104
Gasket



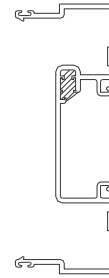
9318
15° to 30°
Variable Male
Mullion Half Use
W/ 9316
Use W104
Gasket



9320
Open Back
Vertical
Use W/ 9246,
9315 or 9314
Glazing Adaptor



9309
Female
Expansion
Mullion for L101
Steel Reinforcing
Use W/ 9311

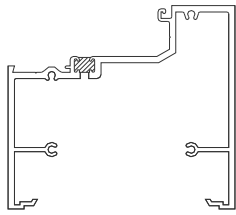


9311
Male Expansion
Mullion for L101
Steel Reinforcing
Use W/ 9309
Use W104
Weathering

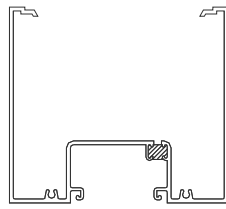
SECTION II: C. S403 PARTS IDENTIFICATION

Horizontal Parts:

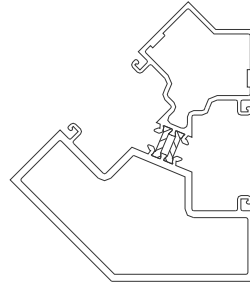
Drawings on this page are not to scale.



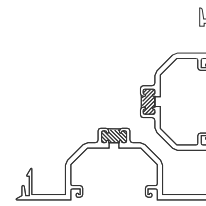
9326
(4" x 4 1/2")
Sidelite Base
Use W/ 9229,
9149, 9314 or
9246



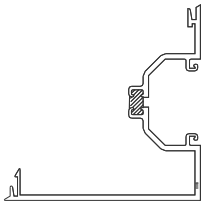
9327
(4" x 4 1/2")
Head or
Horizontal
Use W/ 9314 or
9246



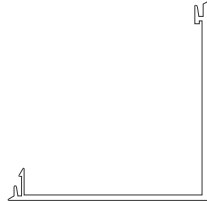
2G56
Outside
2G57
Inside
135° Fixed
Mullion



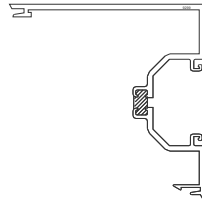
9305
2-Way Corner
Mullion Half
Fits W/ 9299 for
3-Way
Must Be Shear
Blocked



9300
90° Corner
Mullion Half
Two for 180°
Fits W/ 9299 for
90°



9297
90° Corner
Mullion Half
Fits W/ 9299,
9305 & 9300
Self-Mating For
A Cover



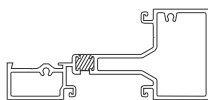
9299
90° Corner
Mullion Half
Two for 180°
Fits W/ 9300 for
90°
Fits W/ 9305 for
3-Way



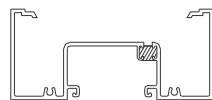
E178
Frame Receptor
Closure
Use W/ 1510
Use WA04
Weathering



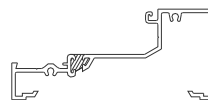
1510
Frame Receptor
Use E178
Closure
Use WA04
Weathering



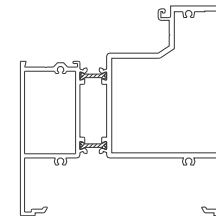
9336
Tubular Side Lite
Horizontal
Use 9229 Glass
Stop



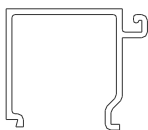
9345
Head
Use W/ 9246



9347
Open Back
Sill/Horizontal
Use 9229 Glass
Stop
Use W/ 9246
Adaptor or 9314
Glazing Adaptor



1G80
Outside
1G81
Inside
4 1/2" x 4 1/2" Side
Lite Base
Use 9229 Glass
Stop
Use W/ 9149 or
9246 Anchors or
9314 Glazing
Adaptor



9229
Removable Stop
for 1" Glazing
Used W/ 9326,
9336, 9347,
1G13 & 1G80

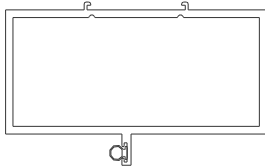


9149
4 1/2" x 4 1/2" Side
Lite Base Anchor
Use W/ 9326 &
1G80

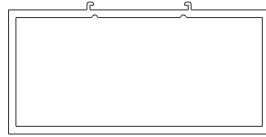
SECTION II: C. S403 PARTS IDENTIFICATION

Door Frame Parts:

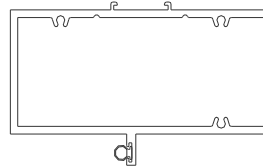
Drawings on this page are not to scale.



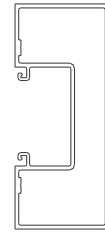
9234
Single Acting
Transom Bar
Use W/ 9123 For
1" Glass
Use W138
Weathering



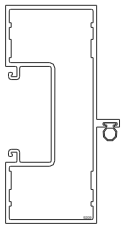
9227
Dual Acting
Transom Bar
Use W/ 9123 For
1" Glass



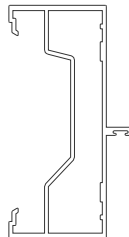
9274
Single Acting
Screw Spline Transom Bar
Use W/ 9123 - 1/4" Glass, W/
9253 - 1" Glass
Use W138 Weathering



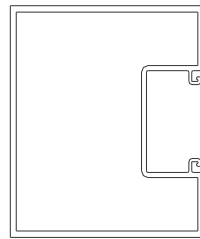
9208
Double Acting
Door Jamb



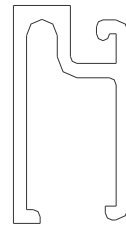
9209
Single Acting
Door Jamb
Use W138
Weathering



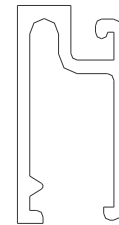
9232
Single Acting
Door Jamb for
Screw Spline
Side Lites
Use W/ 9314
Glazing Adaptor
Use W138
Weathering



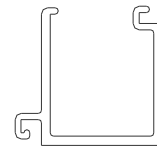
9263
4" x 4 1/2" Tubular
Door Jamb /
Header



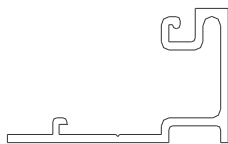
9133
Removable Stop
Use W/ 9250 For
1" Applied
Glazing



9123
Removable Stop
1" Glazing at 2" x
4 1/2" Transom
Bars



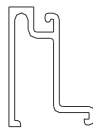
9269
Removable Stop
for 9268 Head
Only
1" Glazing at
Round Top Head



9250
Applied Fixed
Sash
Stop
Use W/ 9133
Stop



9351
Snap-in Pocket
Filler
For 1" Glazing
Thermal



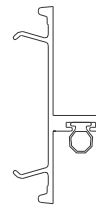
9253
Glass Stop
1" Glazing at
9274 Transom



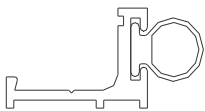
4376
1" Glazing
Adaptor at
Transom



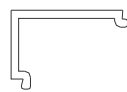
9254
1" Glazing
Adaptor at
Transom
Use W/ 9208 or
9209



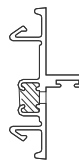
9257
Snap-In Door Stop in
1" Glazing Pocket
Use W138 Gasket



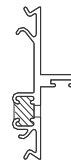
9154
Applied Door
Stop
Use W/ 9155
Use W138
Weathering



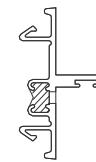
9155
Applied Door
Stop Cover
Use W/ 9154



9355
Snap In Door
Stop Used With
2" Door



9356
Snap In Door Stop Used
With 2" Door. This Stop
To Be Used at Shallow
Pocket Jamb Only. Use
9355 at Deep Pockets

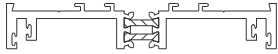


4441
5/8" Snap In
Door Stop Used
at Door Headers
Only. Used W/2"
Door

SECTION II: C. S403 PARTS IDENTIFICATION

Misc. Parts:

Drawings on this page are not to scale.



1G13
Adjustable Side
Lite Base
Horizontal W/
BRK. MTL.
Use W/ 1G14
Use 9229 Glass
Stop
Use W104
Weathering



1G14
Adjustable Side
Lite Base
Vertical W/ BRK.
MTL.
Use W/ 1G13



4420
Stock Length
Open Back Filler
Open Back
Frames
(See FU99)



FU99
3" Perimeter
Adaptor Clip
Open Back
Frames
(See 4420)



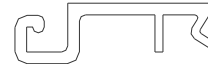
L132
120" Lightweight
PVC Perimeter
Adaptor
Use W/ 9320,
9345 & 9347



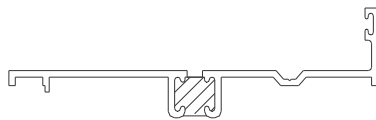
FV59
3" Perimeter
PVC Adaptor
Clip
Use W/ 9320,
9345 & 9347



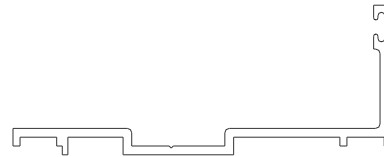
9260
Glazing Adaptor
For 1/2" Glass in
1" Glazing
Pocket



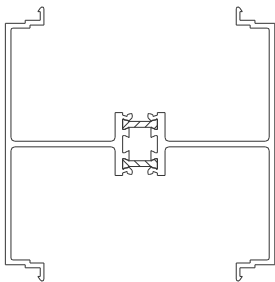
9261
Glazing Adaptor
for 1/4" Glass in 1"
Glazing Pocket



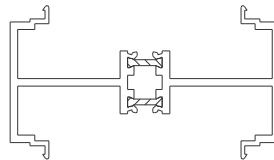
9938
Shadowline
Window Adaptor
Equal Leg
Use W104
Weathering



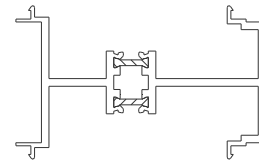
8643
System II
Window Adaptor
Equal Leg
Use W104
Weathering



1G15
Horiz. / Vert.
Stack Adaptor
4" Sightline



1G69
Horiz. / Vert.
Stack Adaptor
2" Sightline

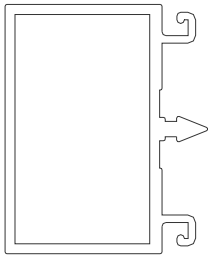


1G68
Horiz. / Vert.
Stack Adaptor
2" Sightline
W/ Revel

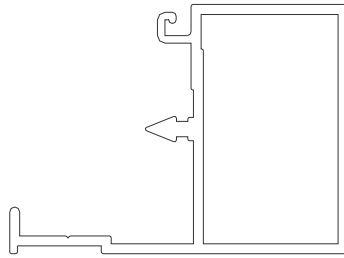
SECTION II: C. S403 PARTS IDENTIFICATION

Misc. Parts:

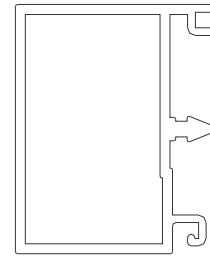
Drawings on this page are not to scale.



16C7
2-Part Mullion
Half



16C8
2-Part Perimeter
Interior Half



16C9
2-Part Perimeter
Exterior Half

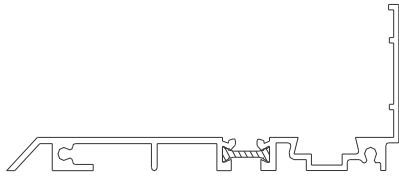


L100
Tubular Mull
Reinforcing
Steel
Use W/ 9208 &
9209

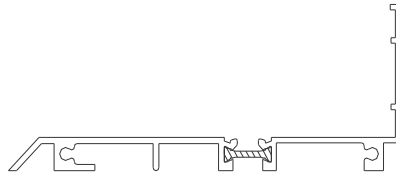
SECTION II: C. S403 PARTS IDENTIFICATION

Sill Flashing & End Caps:

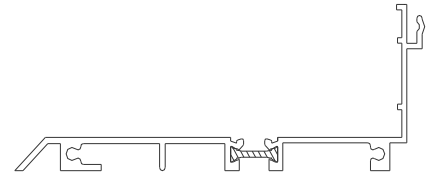
Drawings on this page are not to scale.



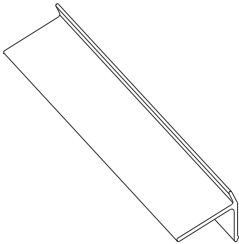
1G64
High
Performance
Sill Flashing
Use F098 Clip



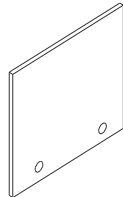
1G65
High
Performance
Sill Flashing



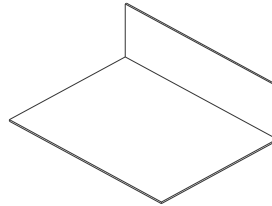
1G85
High
Performance
Sill Flashing
W/ Stool Clip
Use K448 End
Cap



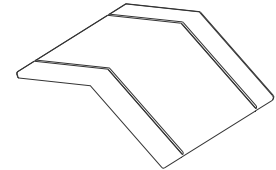
F098
3" Flashing
Clip
2 per DLO
Use W/1G64



K448
End Cap Pkg.
for 1G64, 1G65
& 1G85.
(1)FT33
(2)STC6



K293
Sill Flashing
Splice
(STD.)

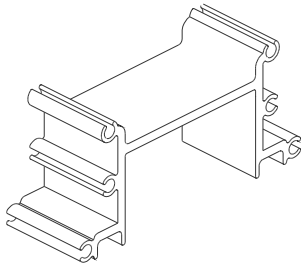


HWD1
Water
Deflector @
Int. Horizontal

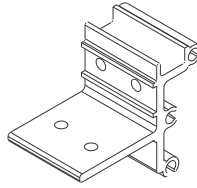
SECTION II: C. S403 PARTS IDENTIFICATION

Shear Blocks & Drill Jigs:

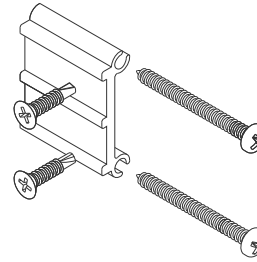
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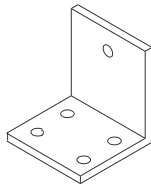
K129 (clr)
K130 (brz)
Header Shear
Block Pkg.
Screws Included



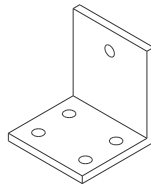
K172
Horizontal Shear
Block Pkg.
Screws Included
Use W/ 9336,
9347 & 1G80



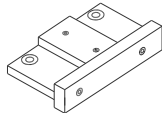
KN92
402 / 403 2-Piece
Rolled Head
Shear Block
Package



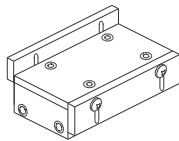
K124 (clr)
K125 (brz)
Threshold Clip
Pkg.
O.P. & Butt H.
Screws Included



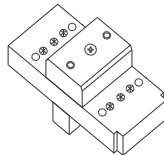
K153 (clr)
K154 (brz)
Threshold Clip
Pkg. for Conc.
Rod Panic
Screws Included



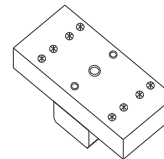
DJ01
Shear Block Drill
Fixture
(Head Members
to Shear Blocks)



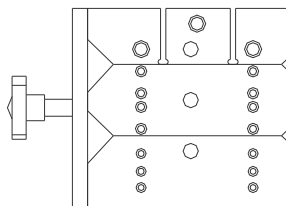
DJ02
Shear Block Drill
Fixture
(Horizontal to
Shear Blocks)



H700
Economy Drill
Guides
(Shear Block to
Vertical)



H702
Economy Drill
Guides
(Screw Spline
Application)

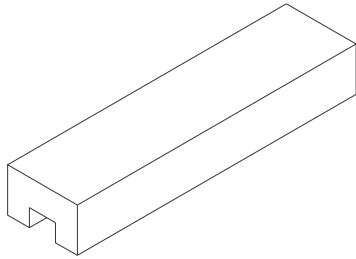


H381
Shear Block /
Screw Spline Drill
Fixture
(At Verticals)

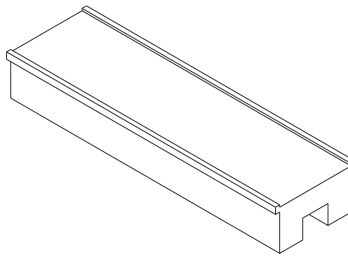
SECTION II: C. S403 PARTS IDENTIFICATION

Setting Blocks:

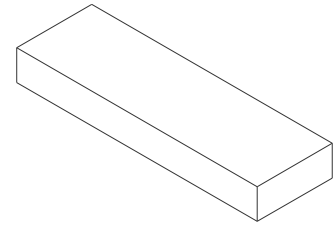
Drawings on this page are not to scale.



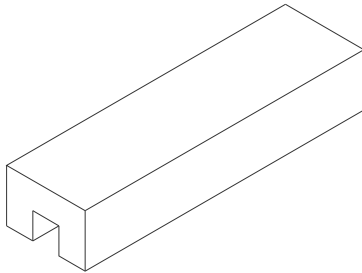
HNA3
Transom
Setting Block
1" Glazing



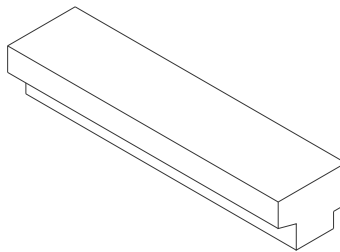
HN32
Exterior Glazed
Setting Block /
Chair Assembly
Pkg. at Sill &
Horiz.



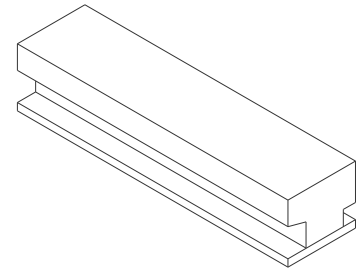
HN92
Inside Glazed
Horizontal
Setting Block



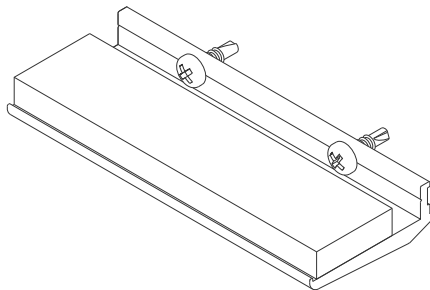
HNA4
Inside Glazed
Setting Block
At Sill



H190
Transom
Setting Block
Pkg.
Using 9253
Glass Stop



K354
1" Glass
Setting Block
Pkg. for
1G13/1G14
Adj. Side Lite
Base

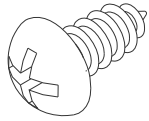


KN93
402 / 403
2-Piece
Horizontal
Setting Chair
Package

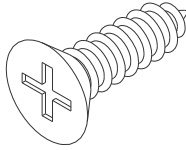
SECTION II: C. S403 PARTS IDENTIFICATION

Fasteners:

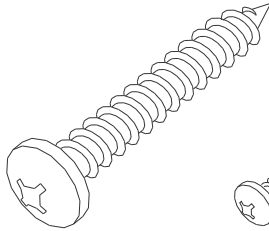
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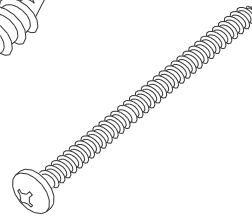
STB9
Horizontal to
Shear Block
Screw
#12 1/2"-RH-
SMS "A"



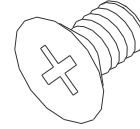
S101 (clr)
S103 (brz)
Horizontal to
Shear Block
Screw @ Head
#12 3/4" FH-
SMS "A"



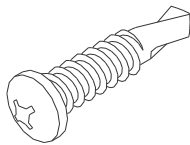
STT7
Adjustable
Side Lite Base
Vertical
Attachment
#10-12 x 1"
PHSMS



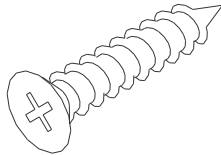
STU5
Adjustable
Side Lite Base
Vert. to Mull
Attachment
Screw 2 1/2"
Deep Base
#8-15 x 2"
PHMS



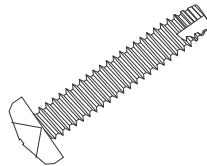
M109
Threshold Clip
Screw
#12-24 x 3/8"
PHMS



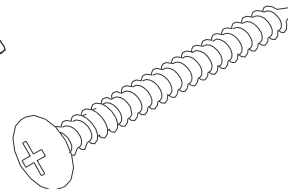
STK0
Adjustable
Side Lite Base
Vert. to Mull
Attachment
Screw 4 1/2"
Deep Base
#8-18 x 3/4"
PHSMS 410
TEK/2



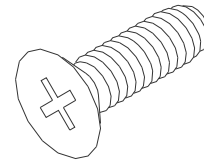
SFQ2
Window
Adaptor to
Frame
Attachment
Screw.
Use W/9935 &
9936
#8-18 x 1/2"
FH-SMS



S129
Frame Spline
Attachment
Screw
#10-16 x 1"
SQ-SMS.
Type 25
Zinc Chromate



S100
Shear Block
Attachment
Screw
#8 x 1 3/4" P.H.



M100 (clr)
M108 (brz)
Frame to
Offset Pivot
Screw
#12-24 x 3/4"
F.H.M.S.

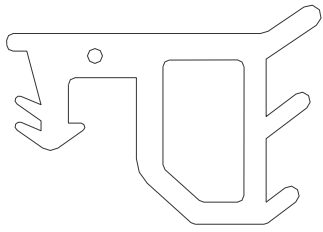


S108
Screwspline T hold - 9951
#8-18 X 1 SL-HW-SMS
ZC B-LP .25

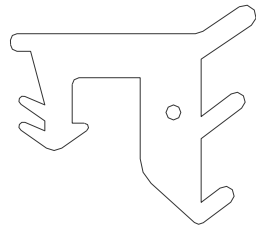
Section II: C. S403 PARTS IDENTIFICATION

Gaskets & Antiwalk Block:

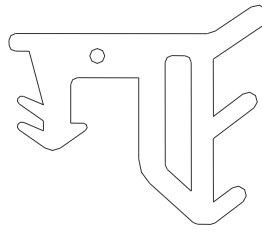
Drawings on this page are not to Scale.



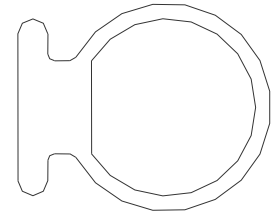
W165
Glazing
Gasket for
Undersized
Glass
3/4" Infill @ 1"
Pocket



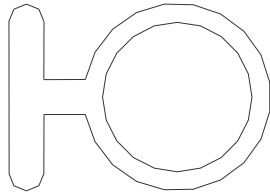
W166
Glazing
Gasket for
Oversized
Glass
1 1/8" Infill @
1" Pocket



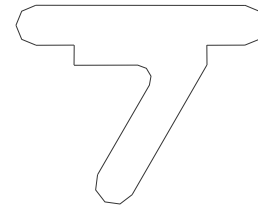
W199
Standard
Glazing
Gasket
1" Infill @ 1"
Pocket



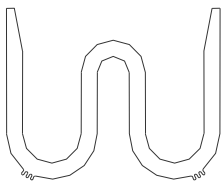
W138
Standard
Weather Seal
@ Door Stops



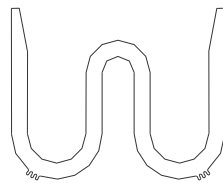
WA04
Standard
Weather Seal
@ Subframes



W104
Weather Seal
Gasket
Use W/
Expansion
Mulls, @
Variable Mulls,
@ Adj. Height
Side Lite
Bases



HN50
3/8" Antiwalk
Block
9322 Vertical
Only



HN52
1/2" Antiwalk
Block
402 & 403
Except 9322

SECTION III: A. SCREW SPLINE FABRICATION

The screw spline system is a fabrication and erection method that permits the preassembly of single units in the shop or at the job site. These units are then erected by mating the male mullion with the female mullion counterpart.

When an entrance is required, screw spline joinery may be used with the screw spline door jambs only. Otherwise, shear block joinery must be used to attach the side lite horizontals.

NOTE) DUE TO THE SCREW TENSIONS REQUIRED FOR CORRECT INSTALLATION, IT WILL BE NECESSARY TO 'WAX' THE FRAME ASSEMBLY SCREWS TO PREVENT GALLING AND BREAKAGE.

STEP 1) Measure the opening to determine the cut length of the frame components.

NOTE: Allow minimum 1/2" shim and caulk space around perimeter.

NOTE: Allow extra clearances, if necessary, to accommodate building tolerances and building movement.

NOTE: Consult A.D.A. requirements to verify compliance.

STEP 2) Cut the verticals to frame size.

NOTE: Verticals must run through.

If the opening has an entrance, see the appropriate frame and door fabrication installation sheets.

NOTE: Door jambs run to the floor and are cut longer than other verticals.

STEP 3) Drill holes for assembly screws on vertical members.
(See Fig. # 5 page 35).

NOTE: Drill jigs are available.

See pages 9, 17, and 27 of the parts identification section.

STEP 4) Cut horizontal members to day lite openings.

(Between vertical mullions)

Cut horizontal glass stops to day lite openings minus 1/32".

(D.L.O. - 1/32")

SECTION III: A. SCREW SPLINE FABRICATION

Align this notch at the top of the horizontal. Reference the shop drawings for the horizontal locations.

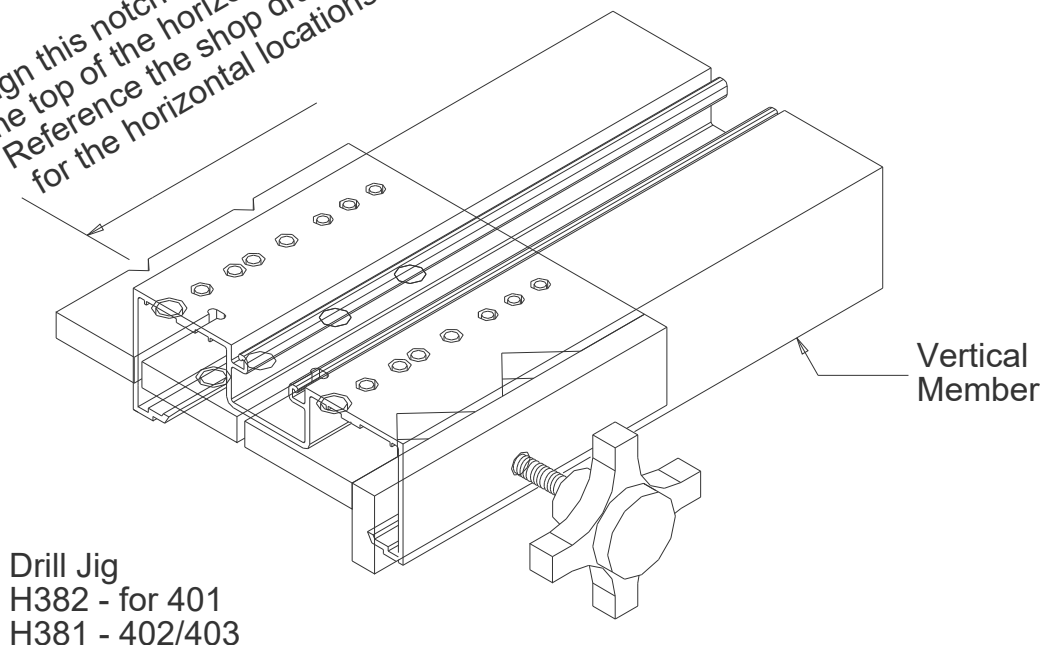


FIG. # 1

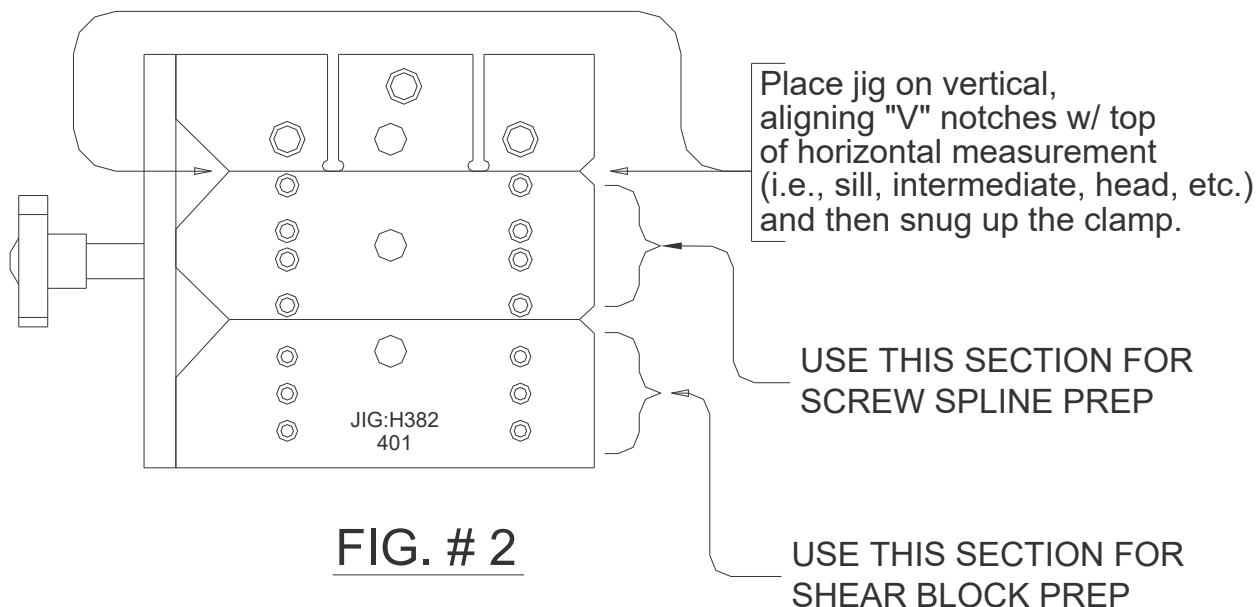
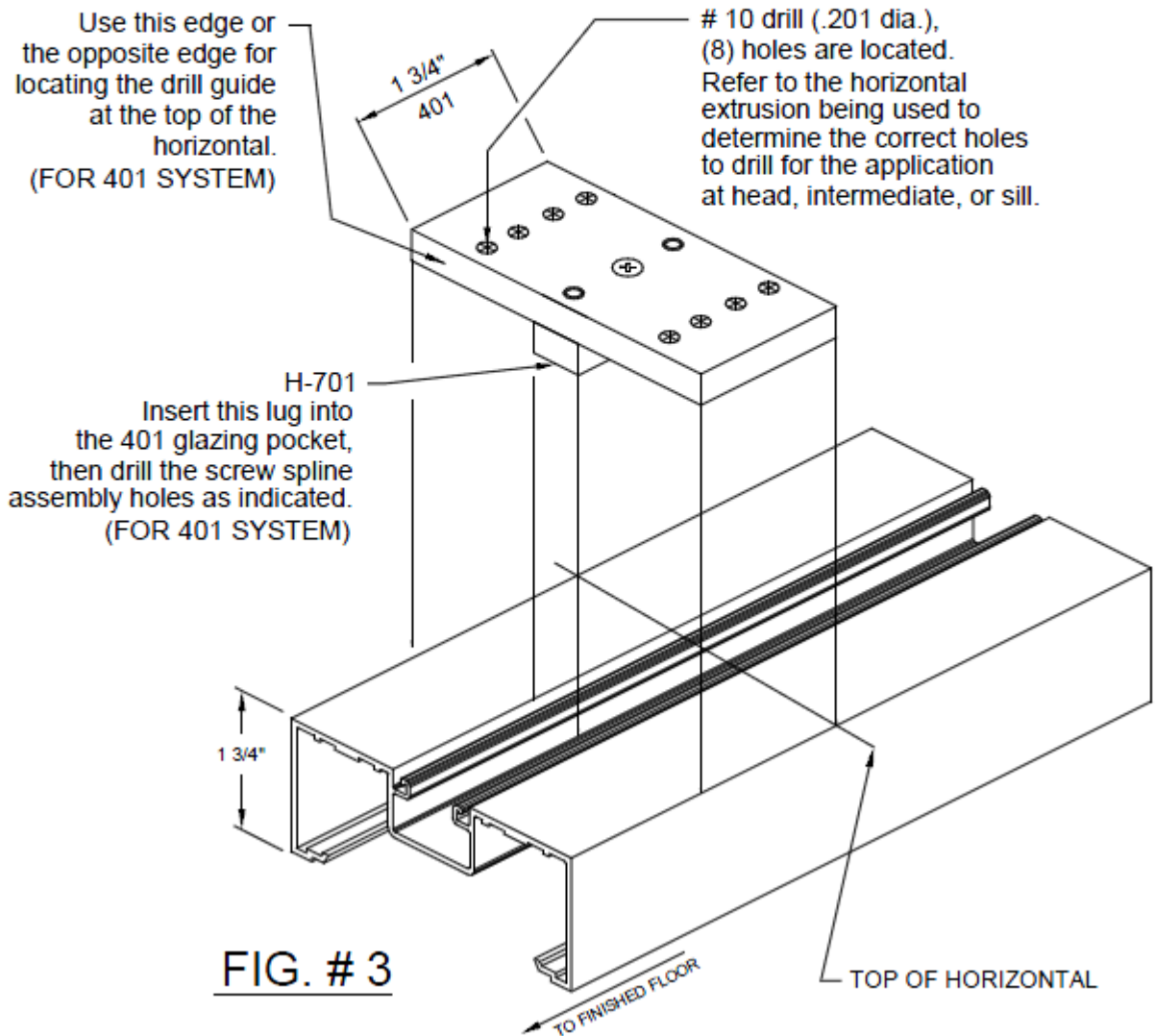


FIG. # 2

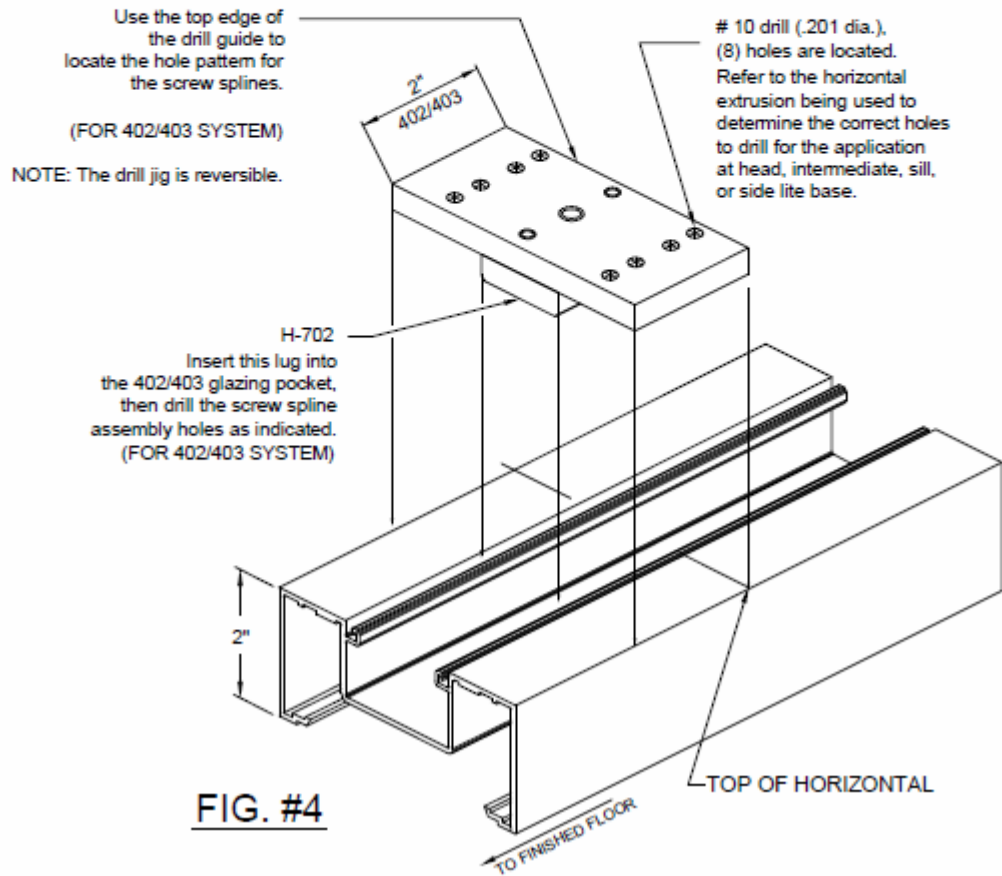
For assembly hole locations see page 35 - Fig. # 5.

ECONOMY DRILL GUIDES H-701 DRILL GUIDE (401) for SCREW SPLINE APPLICATION



SECTION III: A. SCREW SPLINE FABRICATION

ECONOMY DRILL GUIDES H-702 DRILL GUIDE (402/403) for SCREW SPLINE APPLICATION



SECTION III: A. SCREW SPLINE FABRICATION

SYSTEM 401
1 3/4" X 4 1/2"

SYSTEM 402 & 403
2" X 4 1/2"

CAUTION:

Door jambs must run to the floor and are cut longer than other verticals.
Add sill flashing thickness and/or side lite sill blocking thickness to screw spline mounting hole height location at the sill.

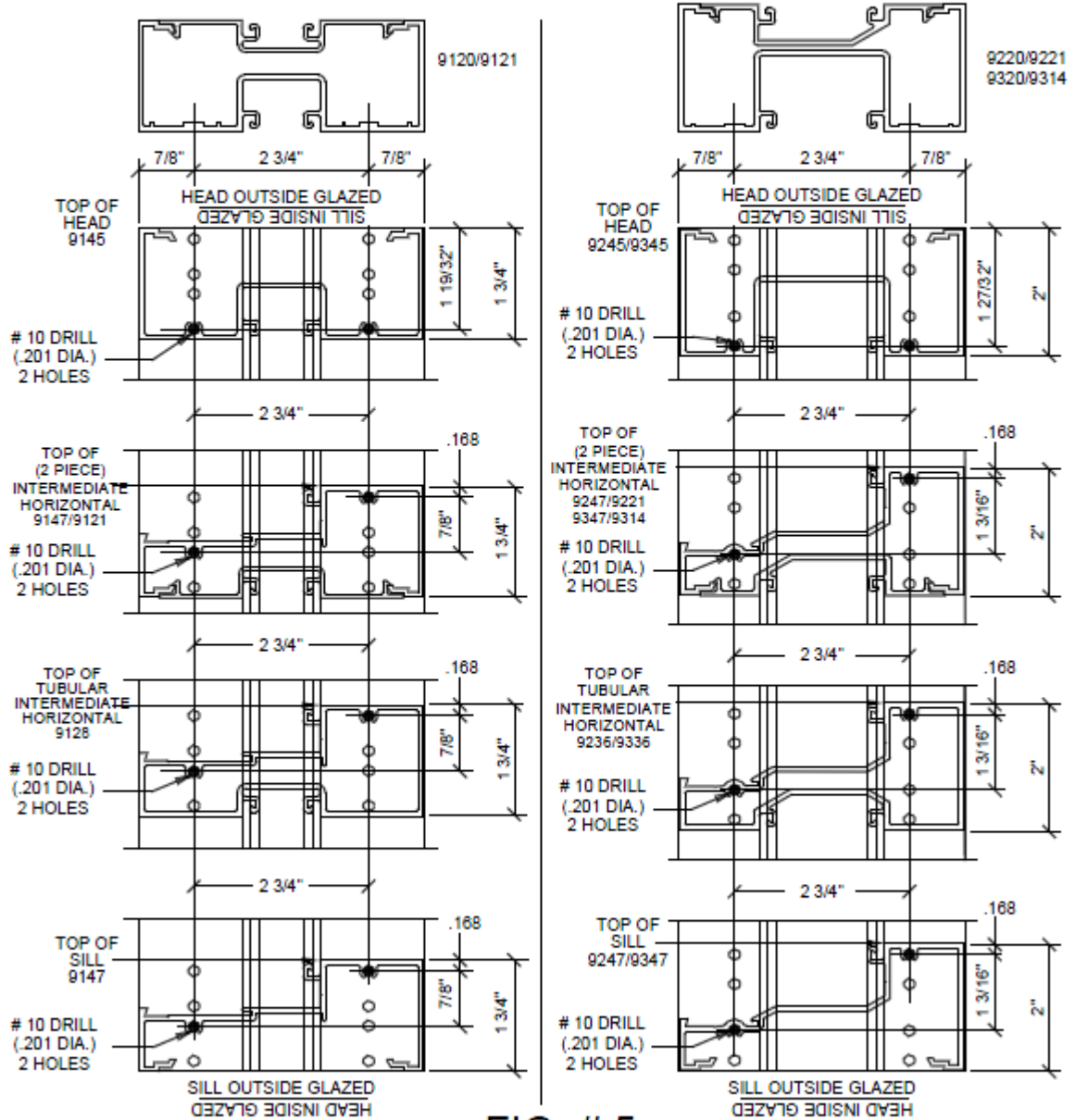


FIG. # 5

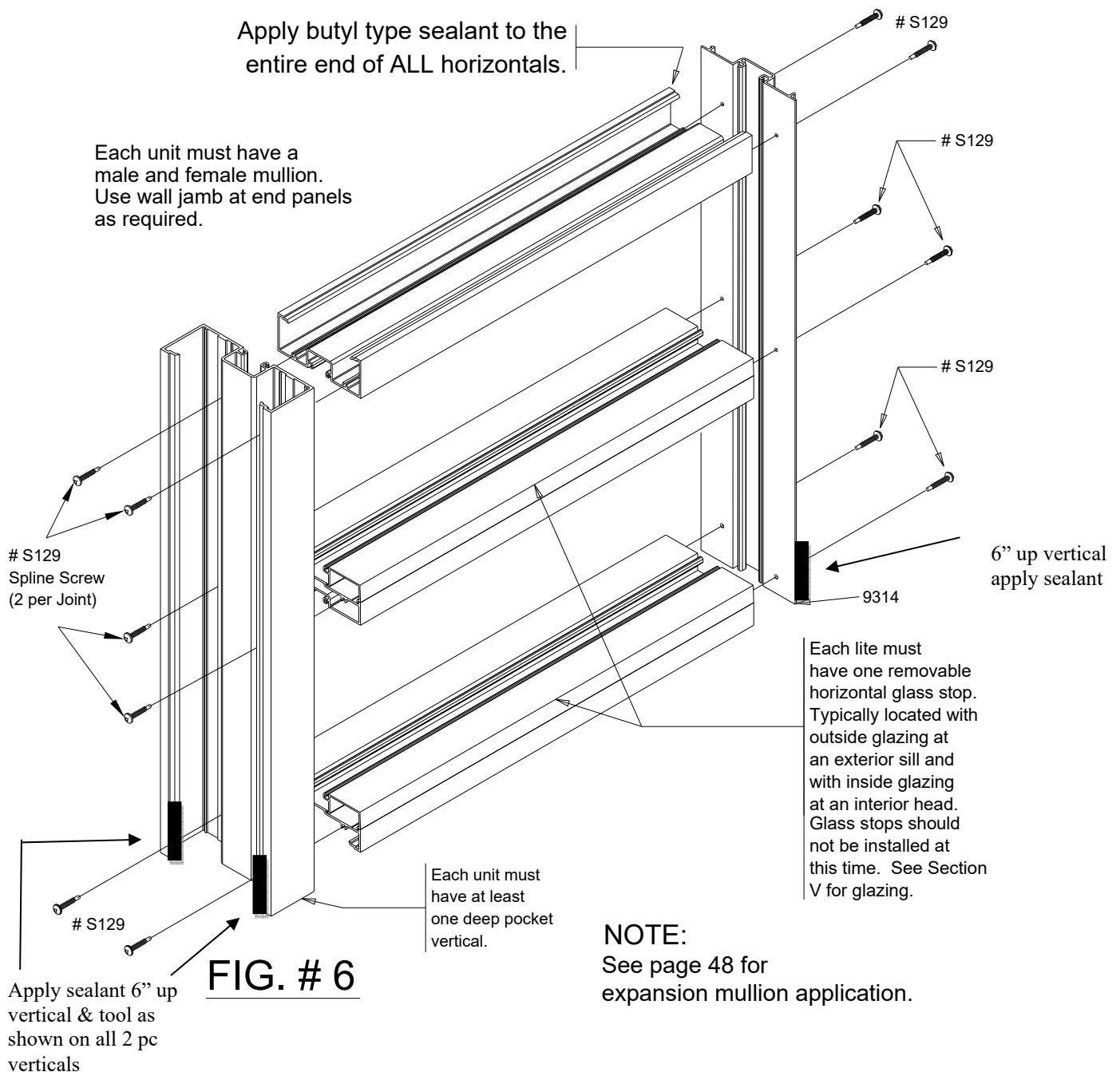
USE BLOCKED OUT HOLE LOCATIONS FOR SCREW SPLINE APPLICATIONS
OUTSIDE GLAZED AS SHOWN
INVERT TEMPLATE FOR INSIDE GLAZED

SECTION III: A. SCREW SPLINE FABRICATION

REVIEW THE GENERAL NOTES ON
PAGE 3 BEFORE PROCEEDING.

STEP 1) Apply butyl sealant (S.M. 5504, typ.) to ends of all horizontals before assembling units.

STEP 2) Assemble the unit as shown in Fig. # 6 below.
These basic assembly procedures apply to all storefront products.



SECTION III: B. SHEAR BLOCK FABRICATION

The shear block system is a fabrication and erection method that permits the preassembly of single units in the shop or at the job site. These units are joined with shear blocks and installed as an assembled unit in the opening on top of any sill flashing that is used. Shear block joinery will be used at any immediate door frame.

STEP 1) Measure the opening to determine the cut length of the frame components.

NOTE: Allow minimum 1/2" shim and caulk space around perimeter.

NOTE: Allow extra clearances, if necessary, to accommodate building tolerances and building movement.

NOTE: Consult A.D.A. requirements to verify compliance.

STEP 2) Cut verticals to frame size.

NOTE: Verticals must run through.

If the opening has an entrance, see the appropriate frame and door fabrication installation sheets.

NOTE: Door jambs run to the floor and are cut longer than other verticals.

STEP 3) Cut horizontal members to day lite openings.

(Between vertical mullions)

Cut horizontal glass stops to day lite openings minus 1/32".

(D.L.O. - 1/32")

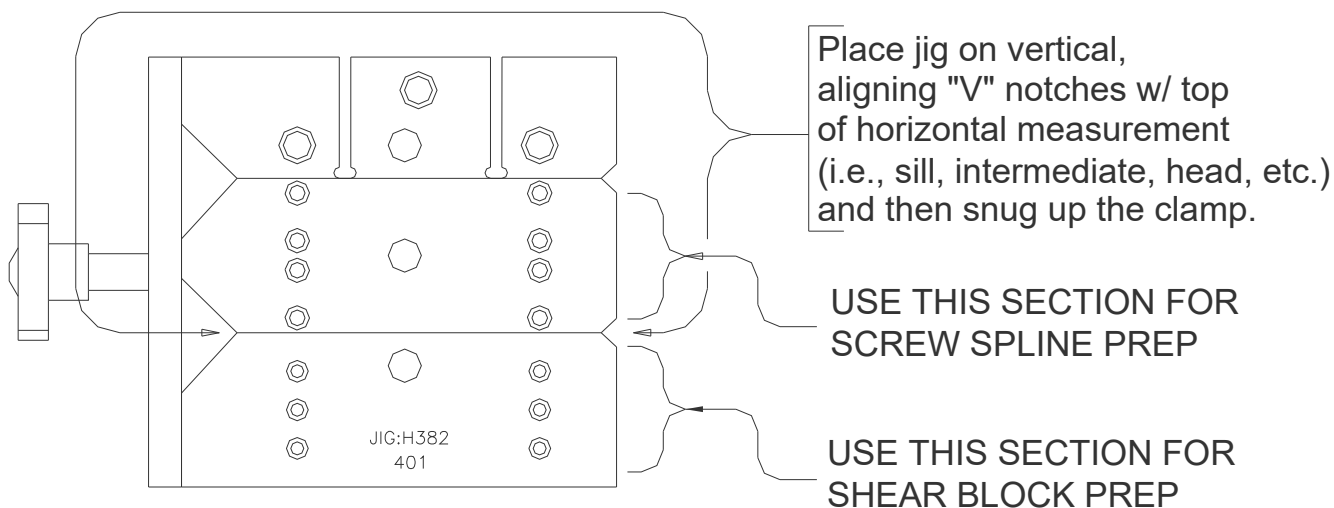
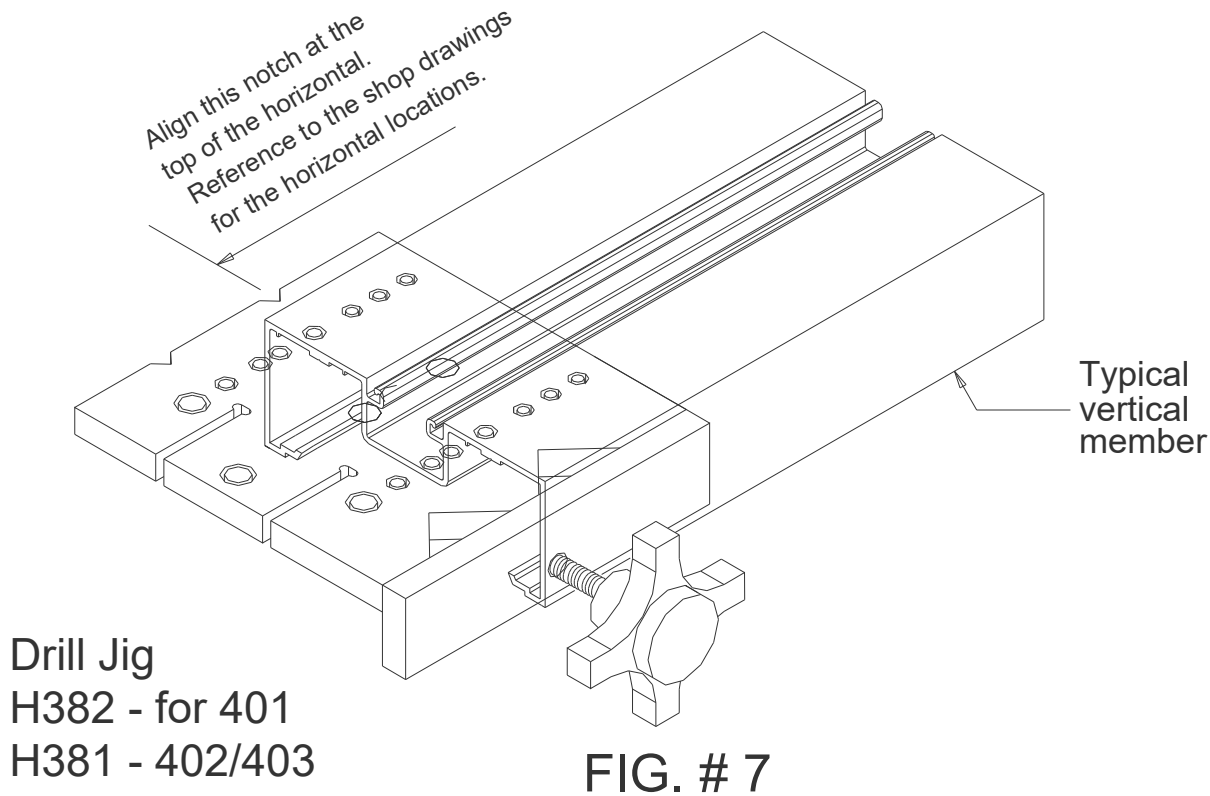
STEP 4) Drill holes for shear block screws on vertical members.

NOTE: Drill jigs are available.

See pages 9, 17, and 27 of the parts identification section.

SECTION III: B. SHEAR BLOCK FABRICATION

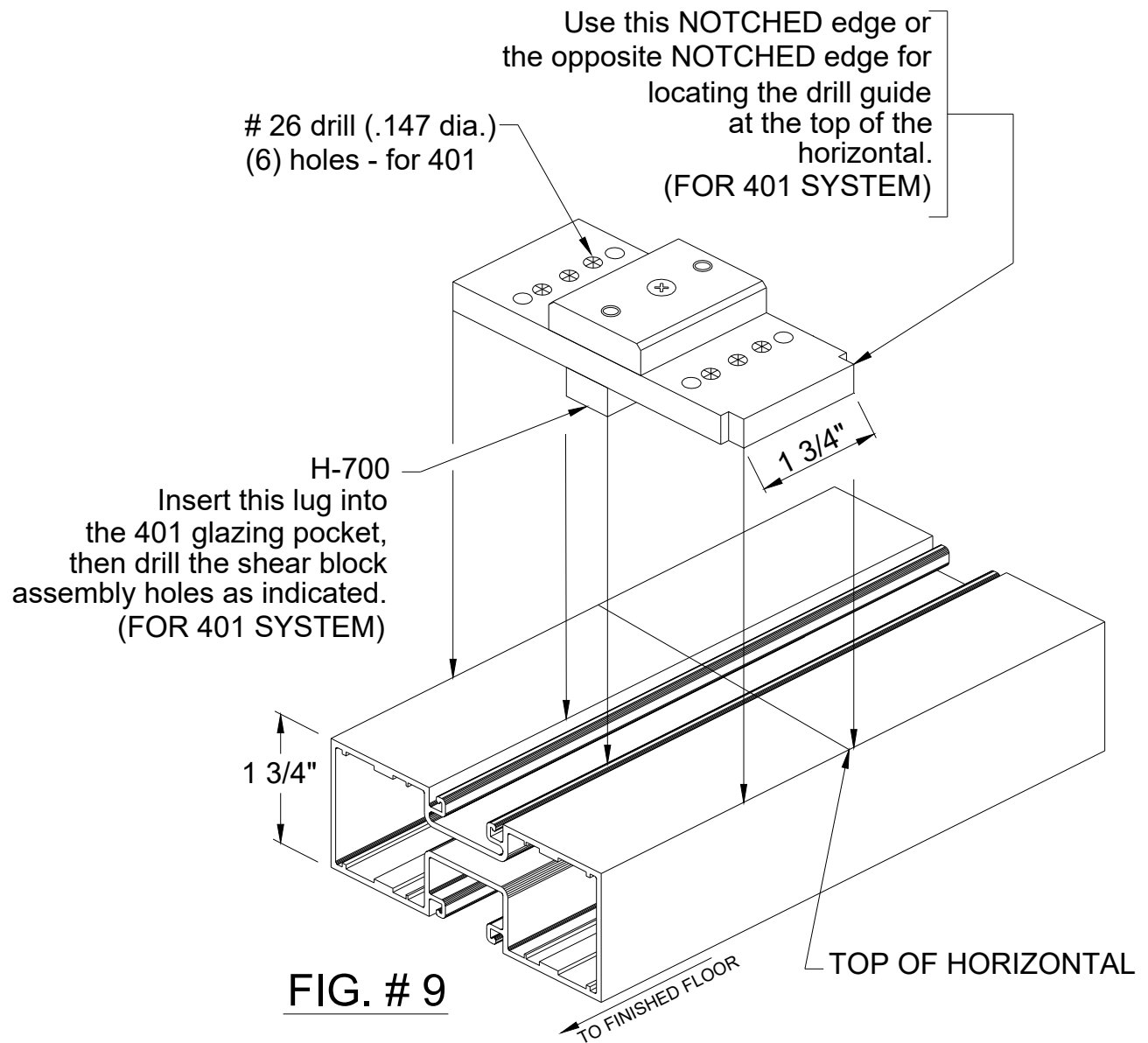
VERTICAL SHEAR BLOCK PREP USING H-381 & H-382 DRILL JIG.



For assembly hole locations see page 41 - Fig. # 11.

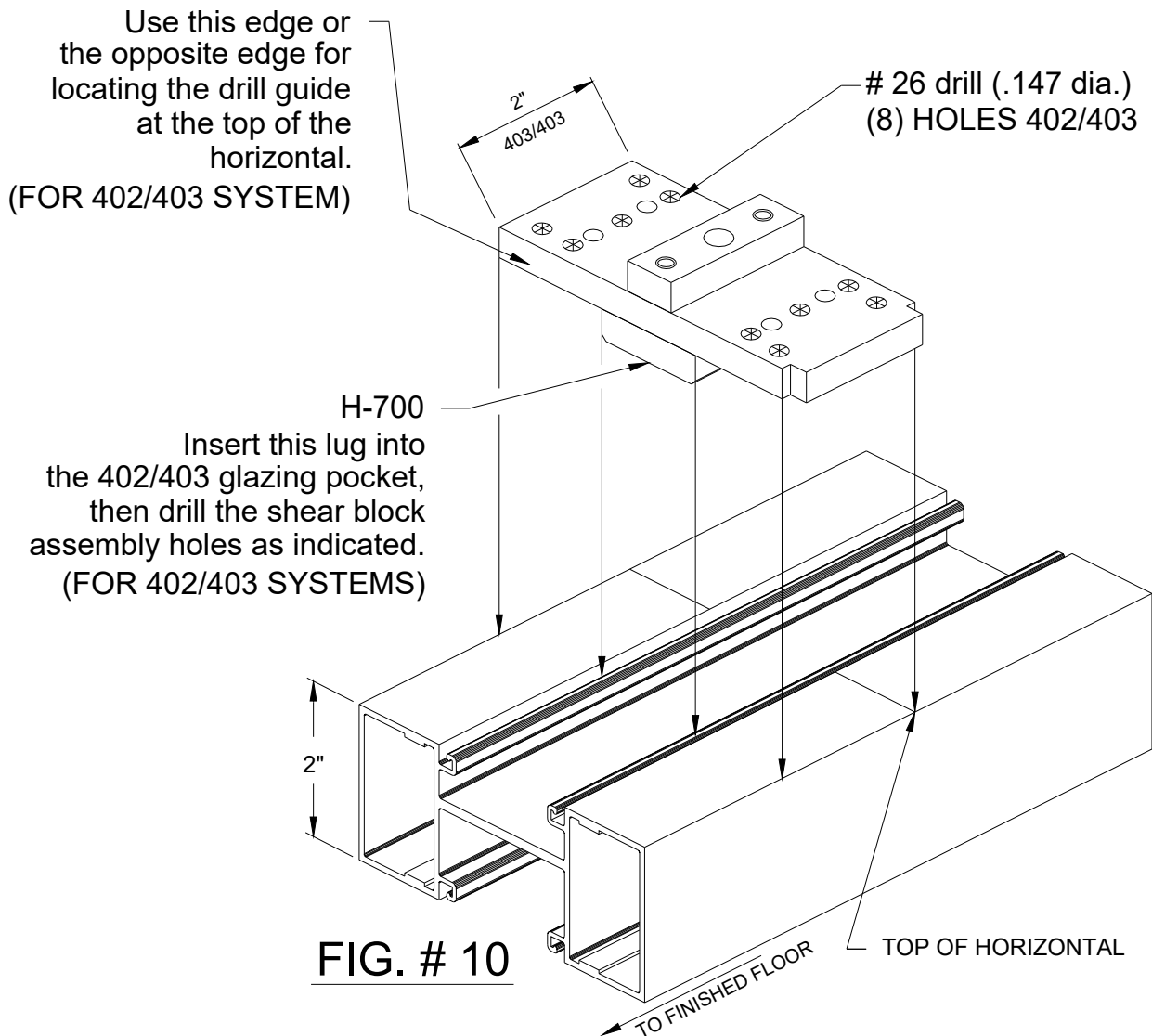
SECTION III: B. SHEAR BLOCK FABRICATION

S401 H-700 DRILL GUIDE for SHEAR BLOCK APPLICATION



SECTION III: B. SHEAR BLOCK FABRICATION

S402 & S403 H-700 DRILL GUIDE for SHEAR BLOCK APPLICATION



SECTION III: B. SHEAR BLOCK FABRICATION

SYSTEM 401 1 3/4" X 4 1/2"

SYSTEM 402 & 403 2" X 4 1/2"

CAUTION:

Door jambs must run to the floor and are cut longer than other verticals.
Add sill flashing thickness and/or side lite sill blocking thickness to shear block mounting hole height location at the sill.

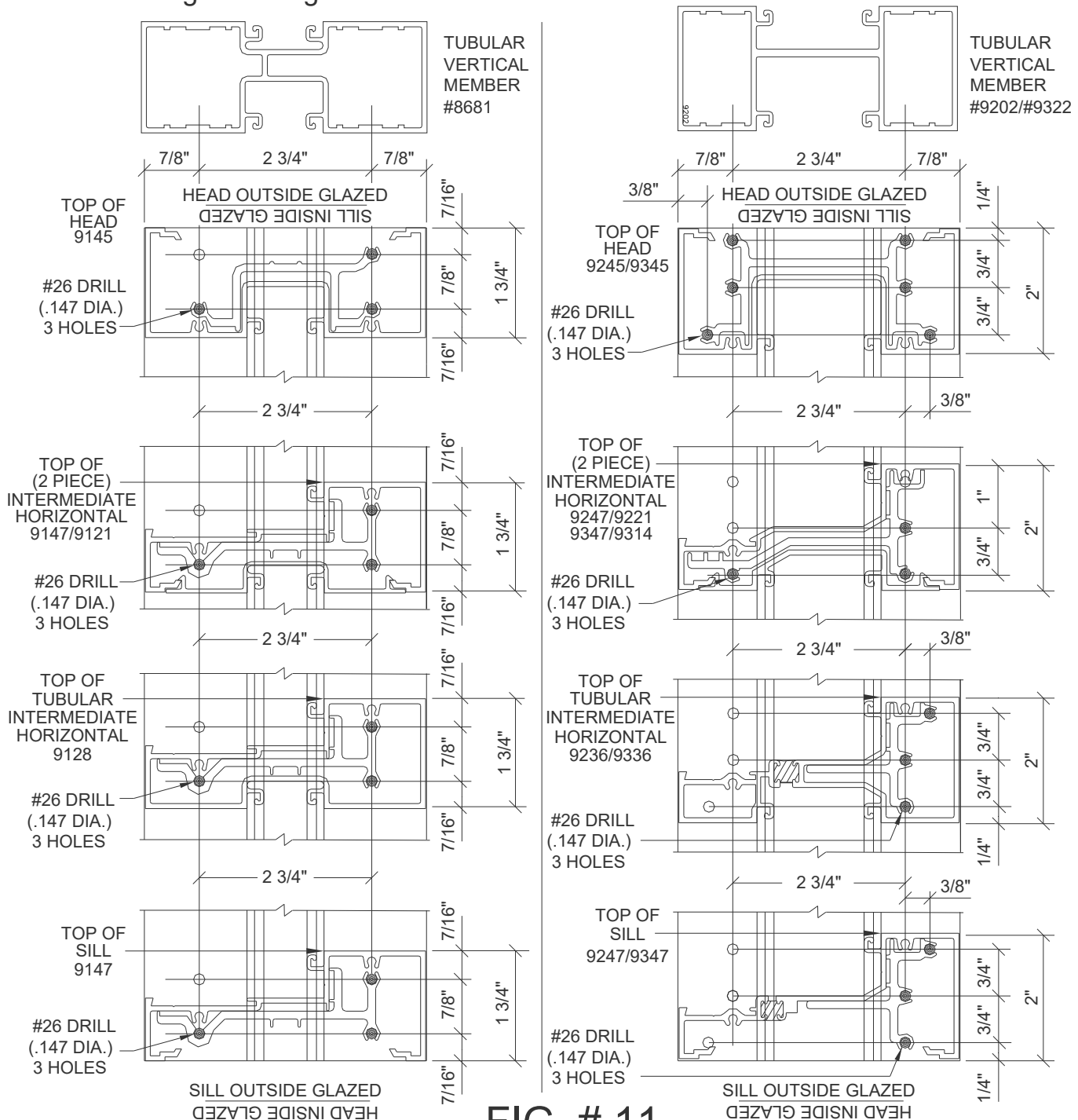


FIG. # 11

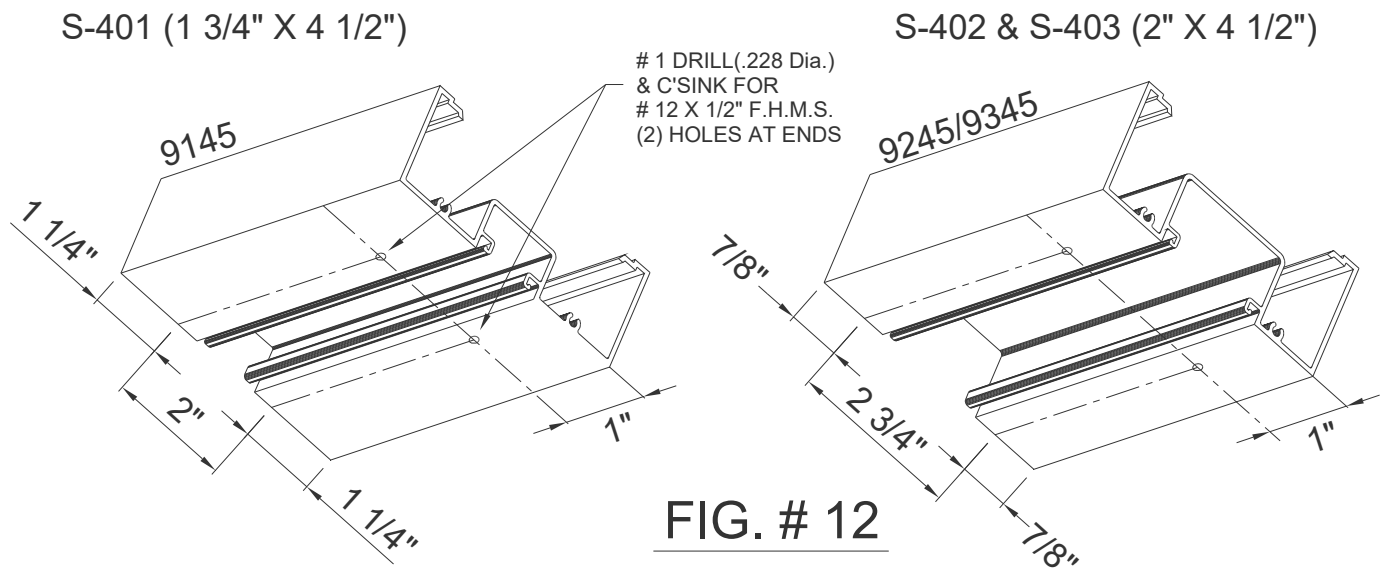
USE BLOCKED OUT HOLE LOCATIONS FOR SHEAR BLOCK APPLICATIONS
OUTSIDE GLAZED AS SHOWN
INVERT TEMPLATE FOR INSIDE GLAZED

SECTION III: B. SHEAR BLOCK FABRICATION

STEP 5) Cut horizontal members to day lite openings (typically between vertical mullions). Cut horizontal glass stops to day lite openings minus 1/32". (D.L.O. - 1/32")

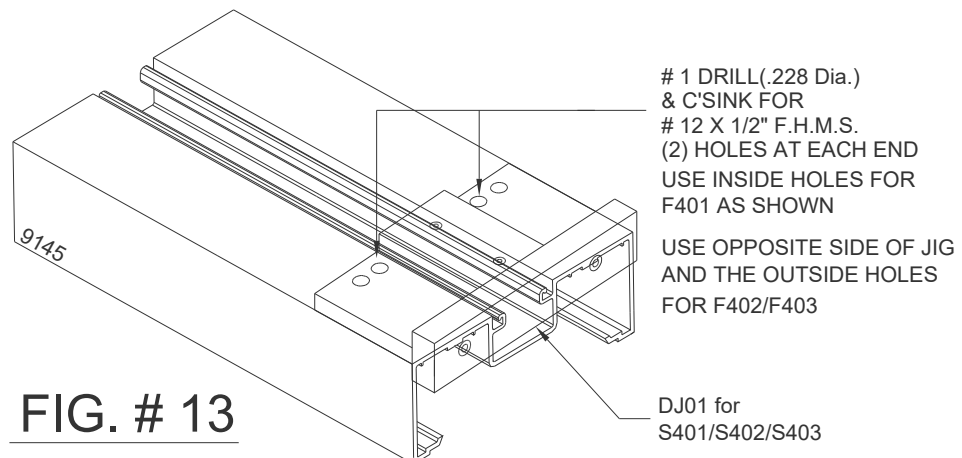
STEP 6) Prep horizontals for attachment to shear blocks as shown below in Fig's. # 12 and # 13.

NOTE: For optional side lite base prep, see Section III F and Section III G.

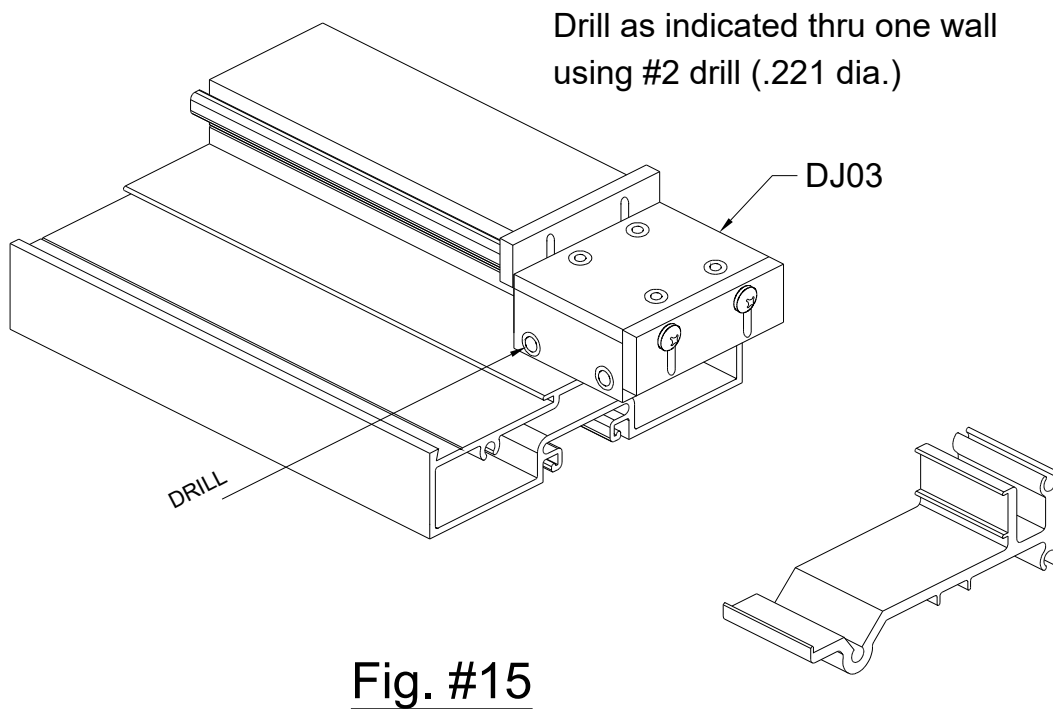
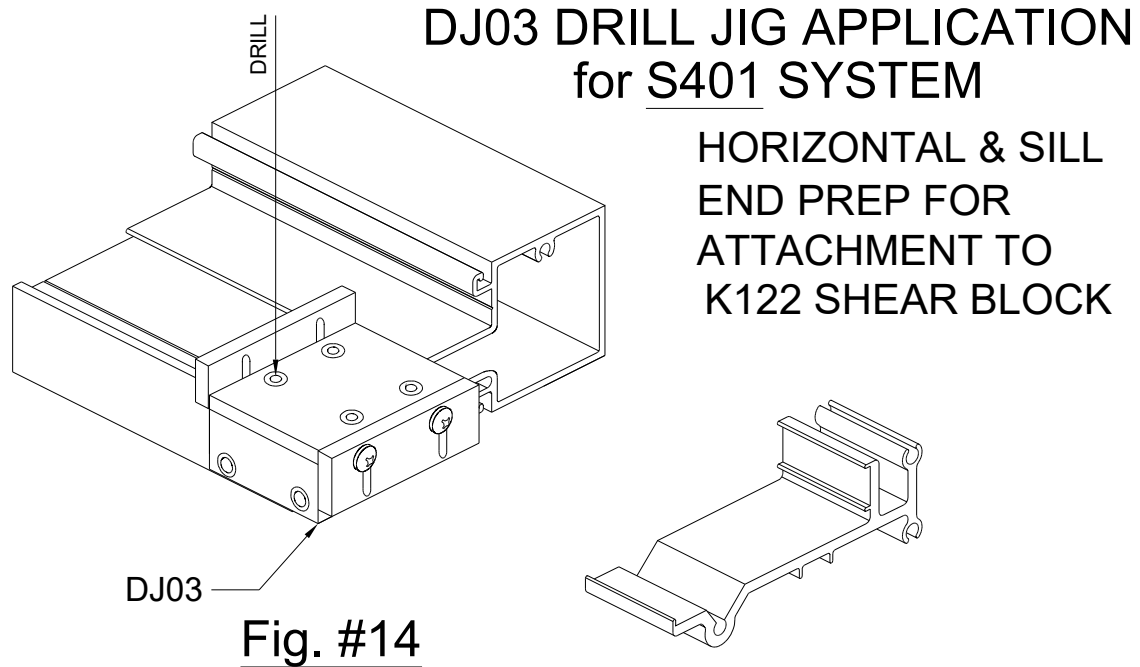


HEADER PREP FOR K-120/K-121 SHEAR BLOCK USE DJ01 DRILL FIXTURE.

HEADER PREP FOR K-129/K-130 SHEAR BLOCK USE DJ01 DRILL FIXTURE.



SECTION III: B. SHEAR BLOCK FABRICATION



SECTION III: B. SHEAR BLOCK FABRICATION

DJ02 DRILL JIG APPLICATION for S402 and S403 SYSTEM

HORIZONTAL and SILL END PREP FOR ATTACHMENT TO SHEAR BLOCKS

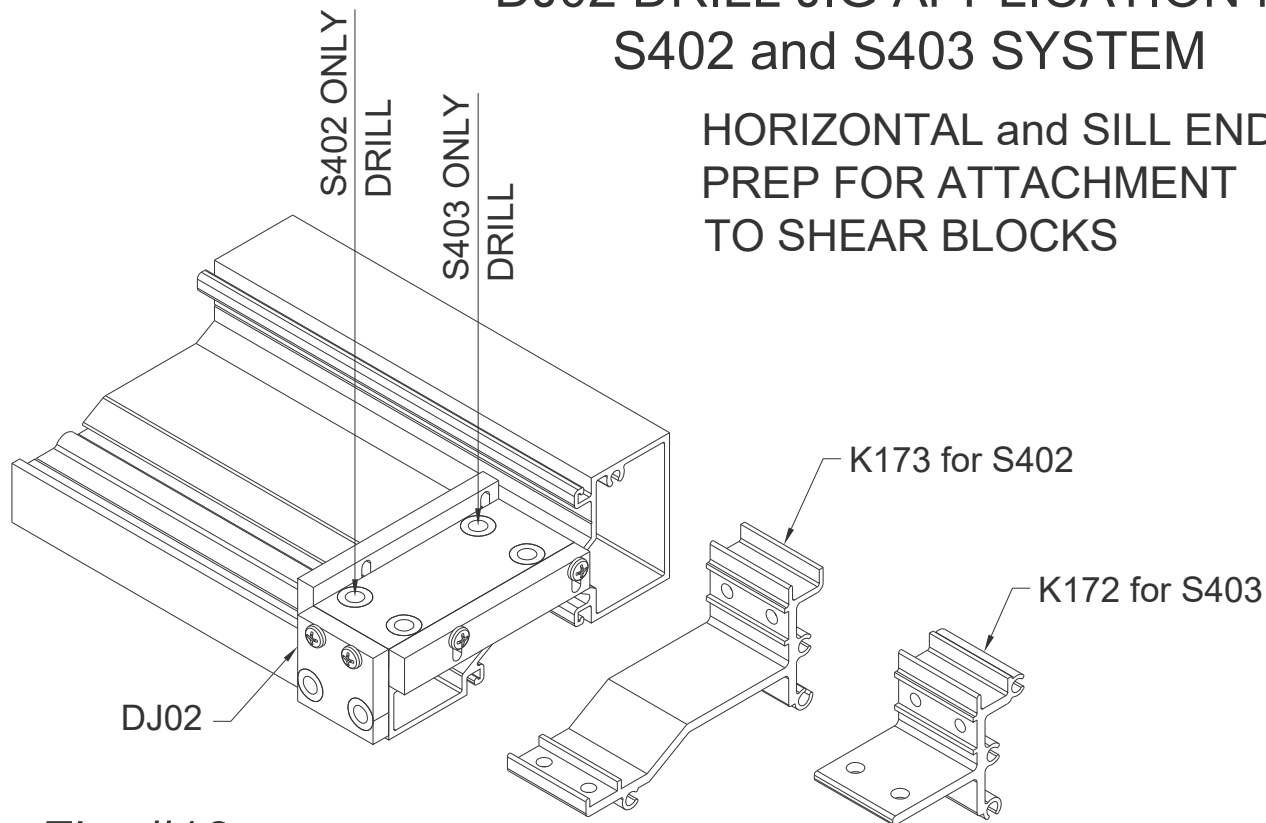


Fig. #16

Drill as indicated thru one wall using #2 drill (.221 dia.) for BOTH S402 and S403.

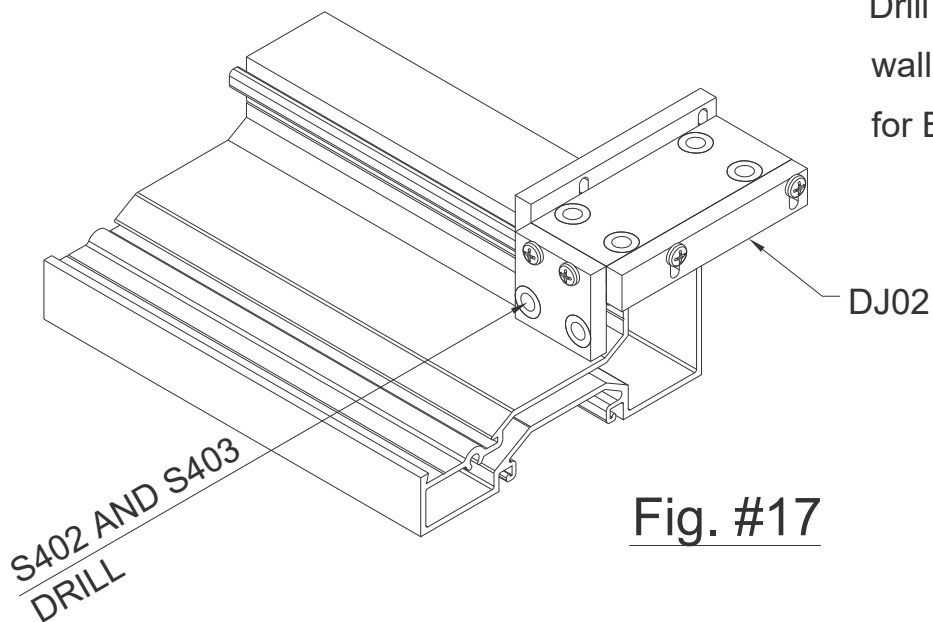


Fig. #17

SECTION III: B. SHEAR BLOCK FABRICATION

STEP 7) If the system is to be assembled and installed as a (repeat) unitized system, proceed as shown below in Fig. #19.

S-402 and S-403 SYSTEM 2" x 4 1/2" (1" Glazing)

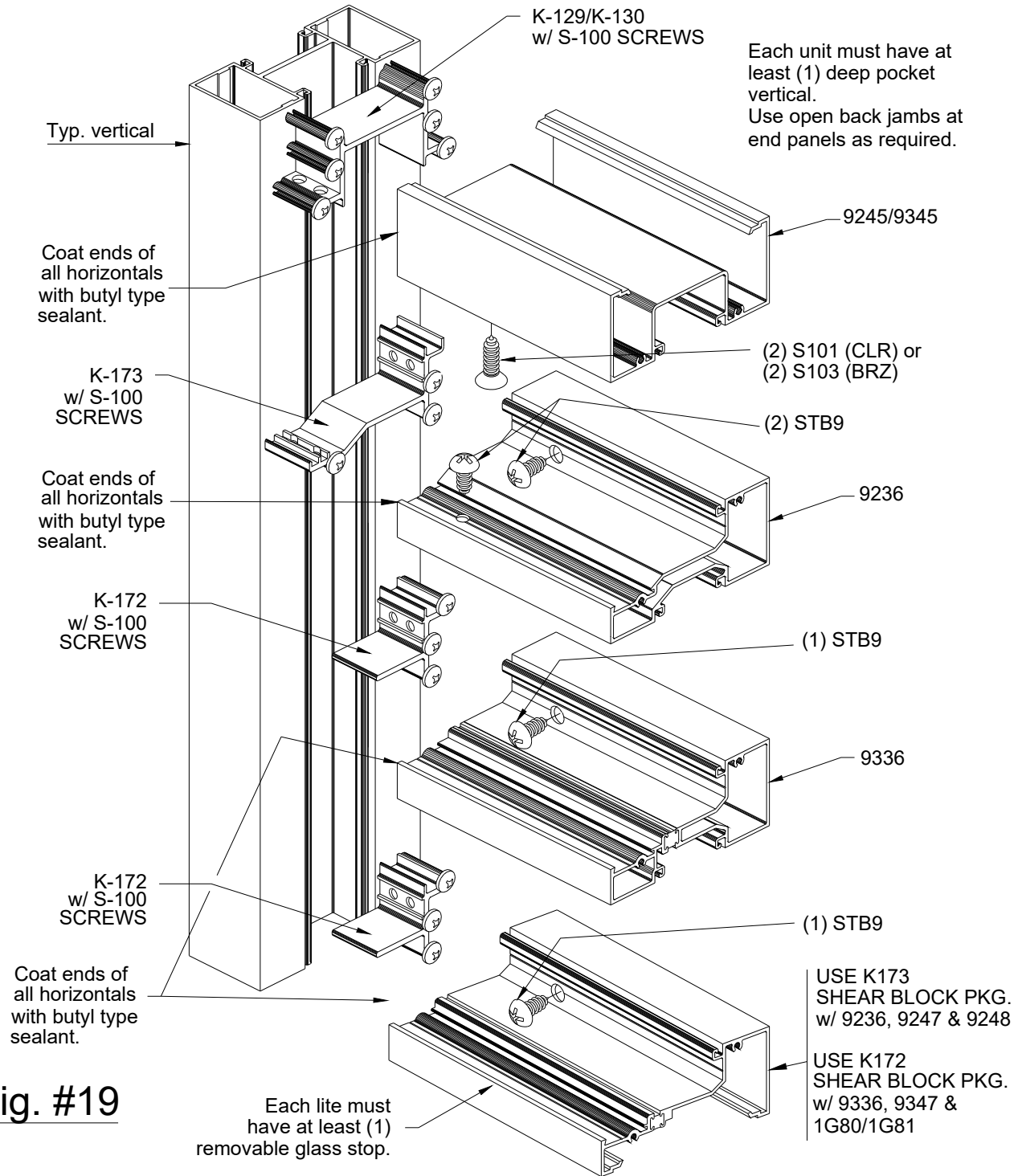


Fig. #19

SECTION III: C. CORNER FABRICATION

STEP 1) 90° corners are designed for use with the shear block or screw spline system. Because of possible screw spline and corner snap interference, the 3 way corners must be SB only. Follow steps # 1, # 2, and # 3 in Section III B for length cutting and shear block hole location.

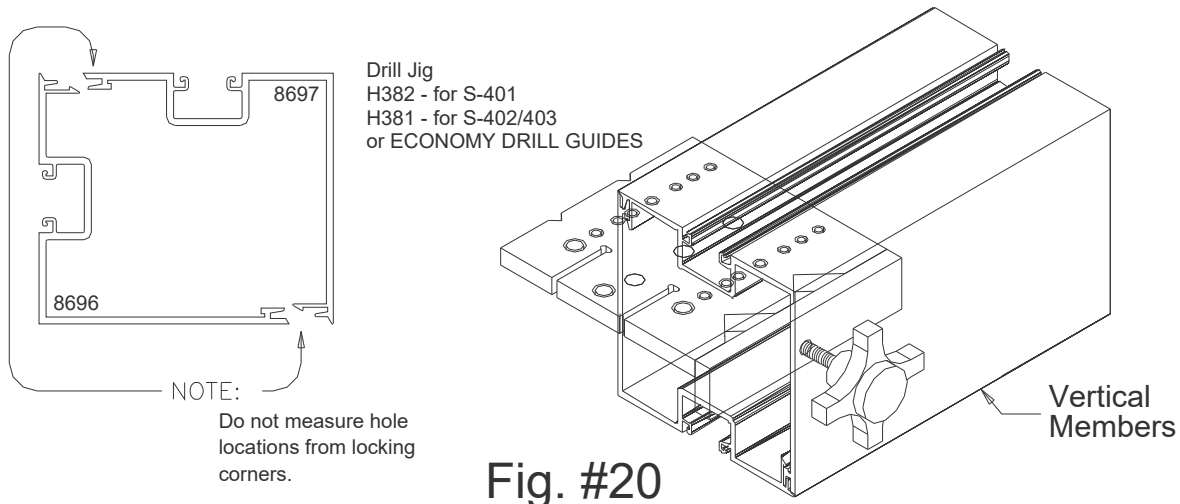


Fig. #20

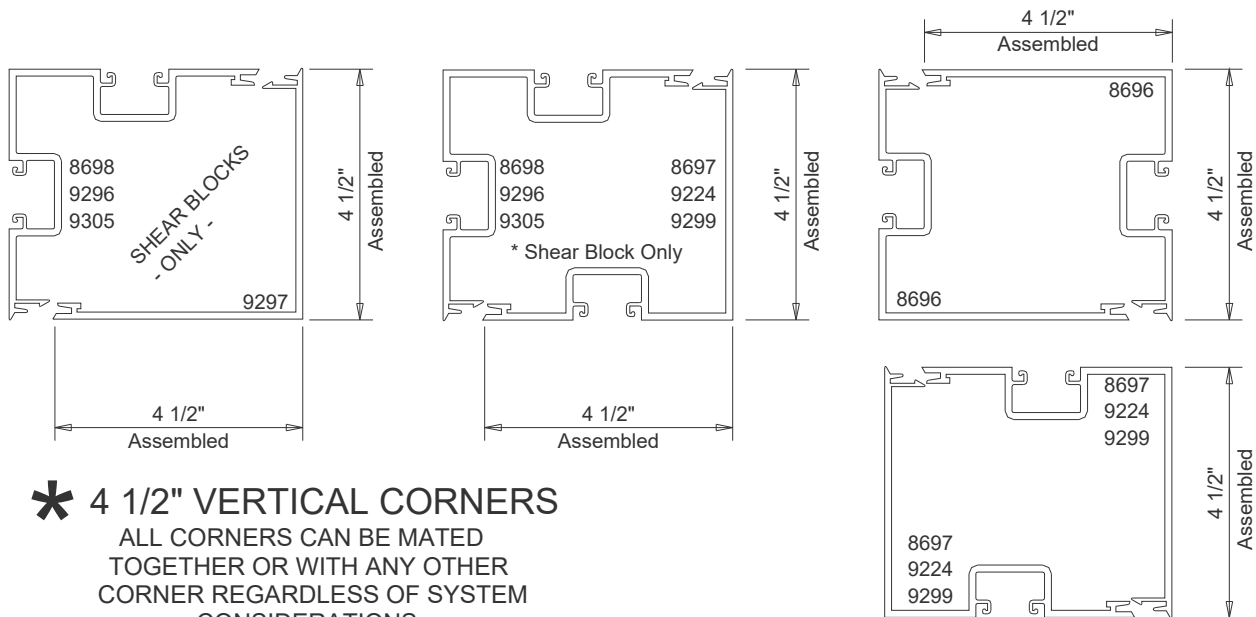


Fig. #21

The 90° corner halves may be snapped together and used as a one piece vertical mullion.

NOTE: CORNERS MUST BE SLID APART.

Refer to available extrusions for possible combinations.

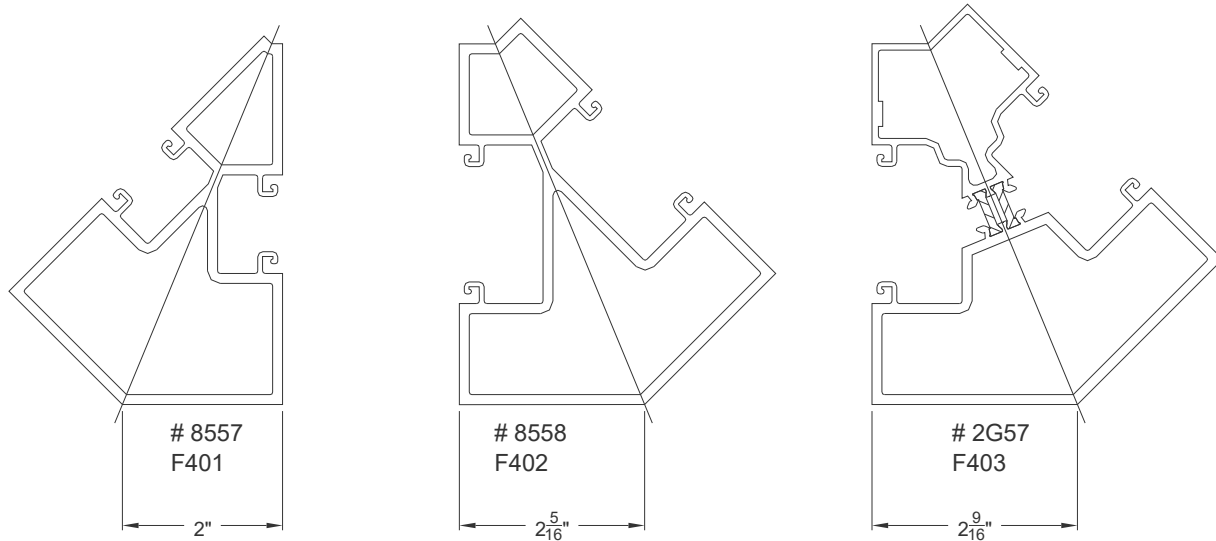
* All 2-PC verticals require sealant 6" up from btm. of vertical at areas of engagement.

SECTION III: C. CORNER FABRICATION

STEP 2) Fixed, inside and outside, 135° corners.

NOTE: Shear block application:

Follow steps # 1, # 2, and # 3 at Section III B for cutting and shear block hole locations.



REVERSE MULLIONS FOR INSIDE CORNERS.

Fig. # 22

STEP 2A) Variable 0 to 15 degree corner and

variable 15 to 30 degree corner - See Fig. # 23 below

The exterior exposure of the variable mullion will be dependent upon the angle of splay and will be job specific.

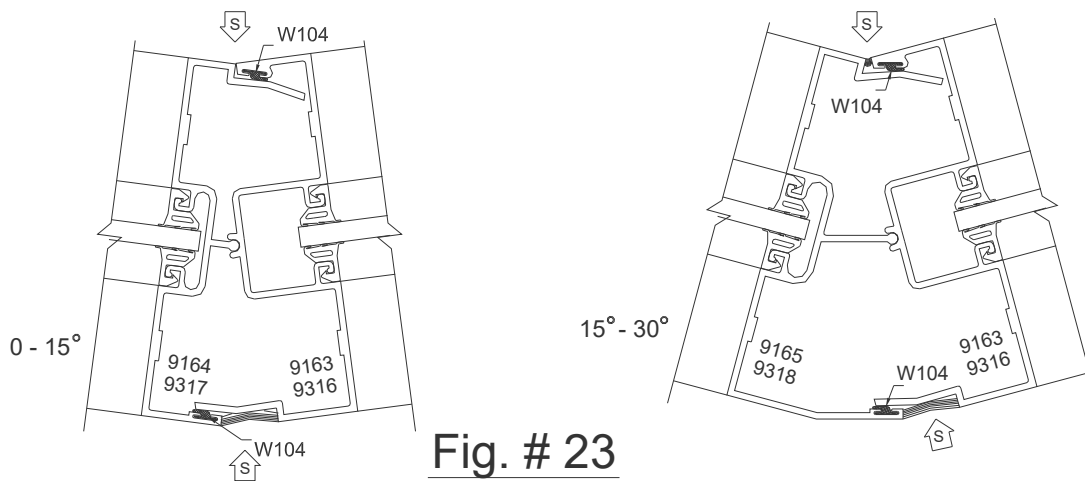


Fig. # 23

SECTION III: D. EXPANSION MULLIONS

STEP 1) Expansion mullions are required in elevations that are over 20'-25' wide and can be used with both screw spline and shear block systems.

NOTE: For shear block application:
Follow steps #1, #2, and #3 at Section III B for cutting and shear block hole locations.

NOTE: For screw spline application:
Follow steps #1, #2, and #3 at Section III A for cutting and screw spline hole locations.

NOTE: Do not use expansion mullions at entrance jambs.
Locate expansion mullions at next mullion over so that the distance between expansion mullions is never more than 25'-0".

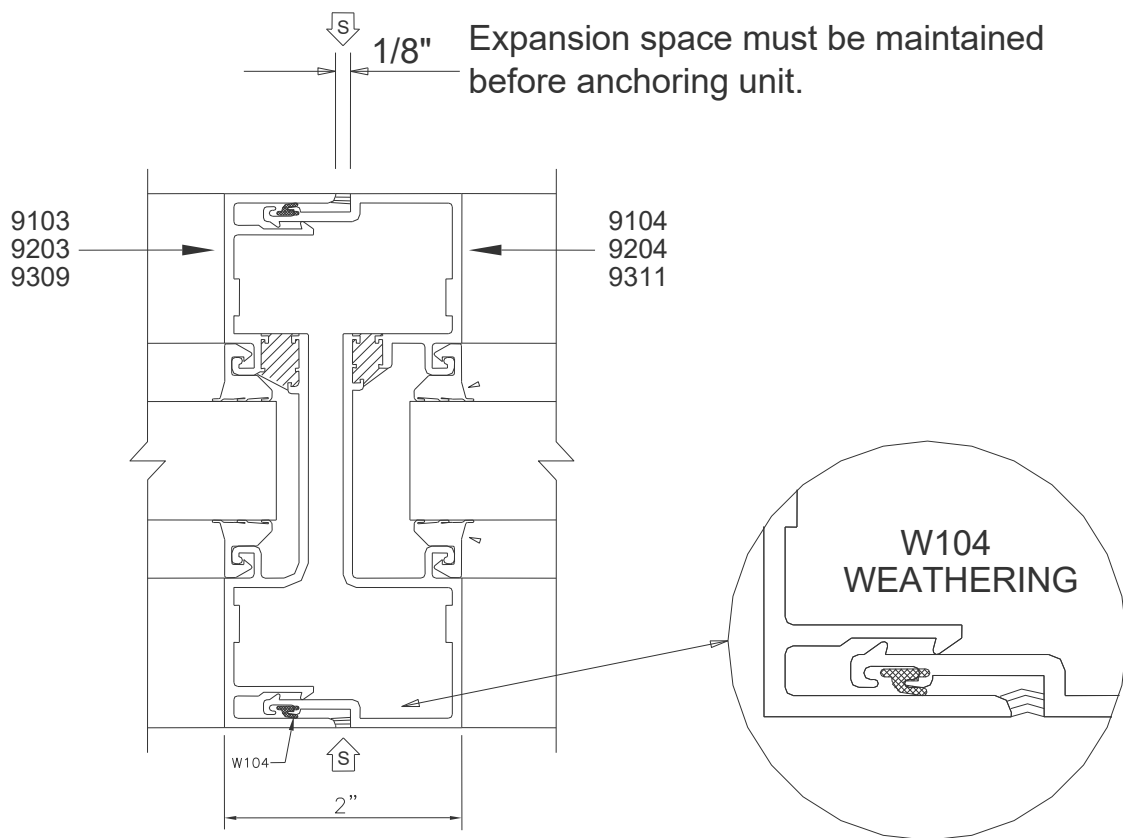


Fig. #24

SECTION III: E. STEEL REINFORCING

STEP 1) Cut the steel reinforcing to mullion length minus 3" and set flush with the bottom of the vertical. Paint cut ends to prevent rust. Insert the steel into the mullion, then drill through the deep pocket of the mullion and the steel at 16" O.C. - maximum spacing.

STEP 2) Tap the holes in the steel to accept # 12-24 machine screws.

STEP 3) Drill a clear hole in the mullion with a Ø.221 (#2) drill bit. Install the steel with M109 screws (#12-24X3/8" F.H.M.S.).

NOTE: The flat head does not countersink into the mullion.

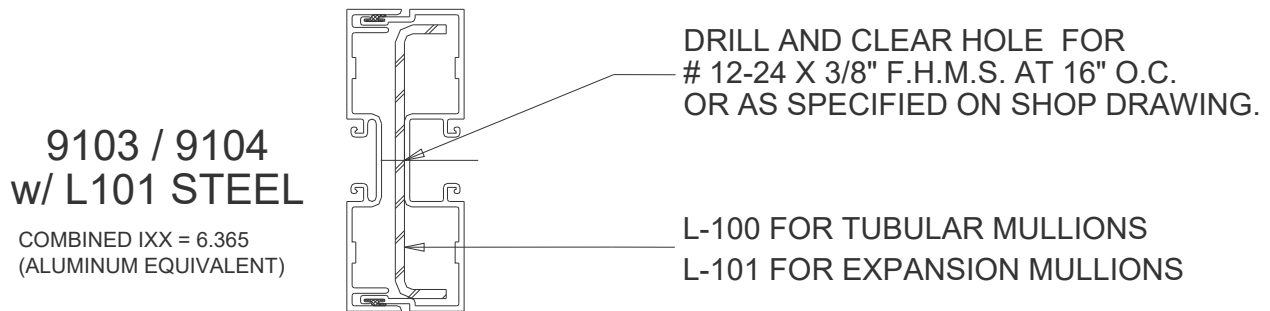
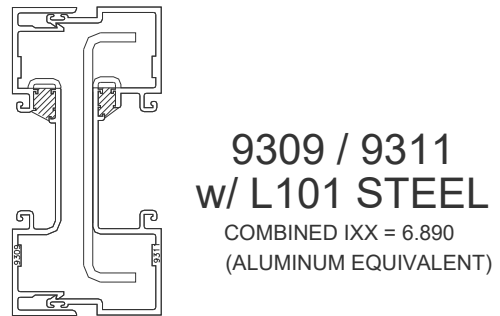
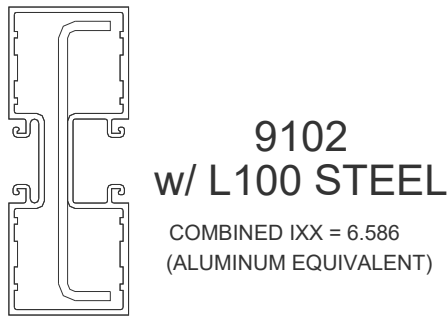
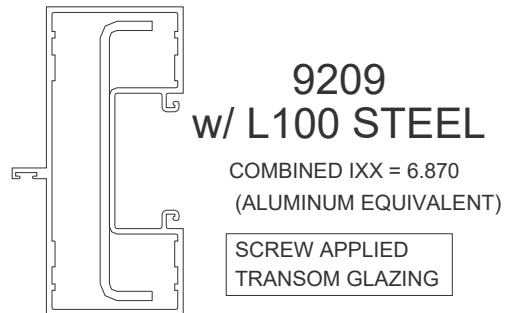


Fig. # 25



*All 2 pc mullions
require sealant 6"
up from sill, tool
as required



SECTION III: F. HIGH SIDE LITE BASES - 401 SYSTEM ONLY -

STEP 1) Side lite base prep for attachment to K-123 shear block.

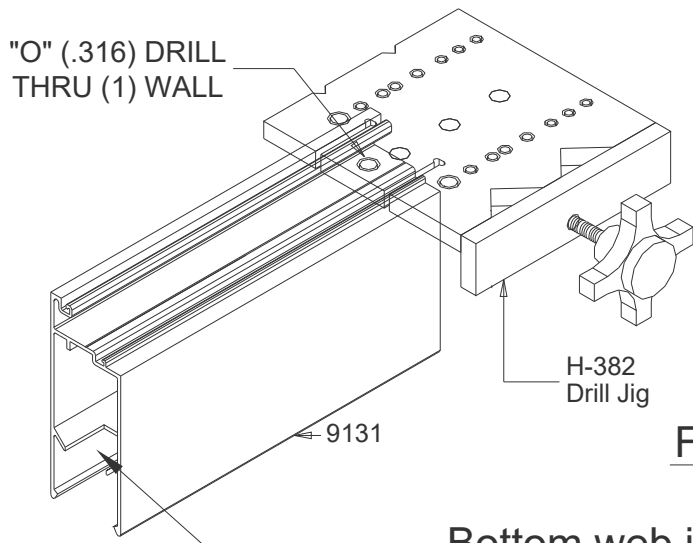


Fig. # 26

Bottom web is notched at both ends to clear the shear block when installing.

This figure shows the dimensions when not using drill jig.

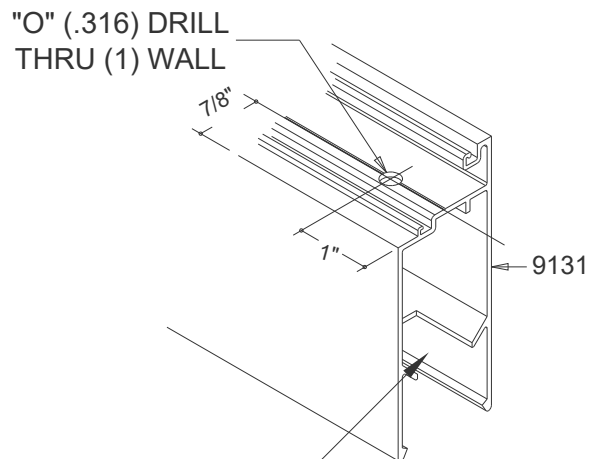


Fig. # 27

Bottom web is notched at both ends to clear the shear block when installing.

SECTION III: F. HIGH SIDE LITE BASES - 401 SYSTEM ONLY -

STEP 2) Side lite bases are available to match bottom door rails.
Shear block attachment is required.

Vertical member prep for narrow side lite base shear block.
S401 SYSTEM - 1/4" GLAZING ONLY -

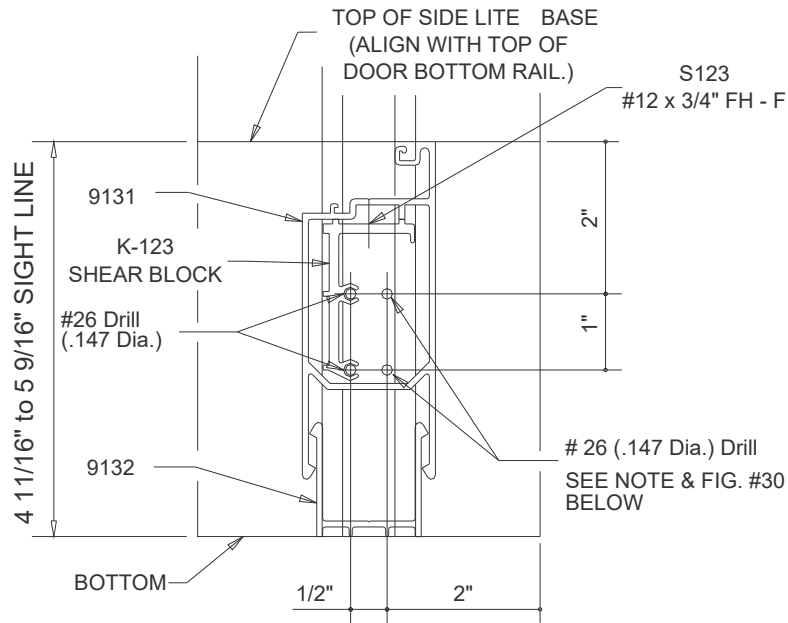


Fig. # 28

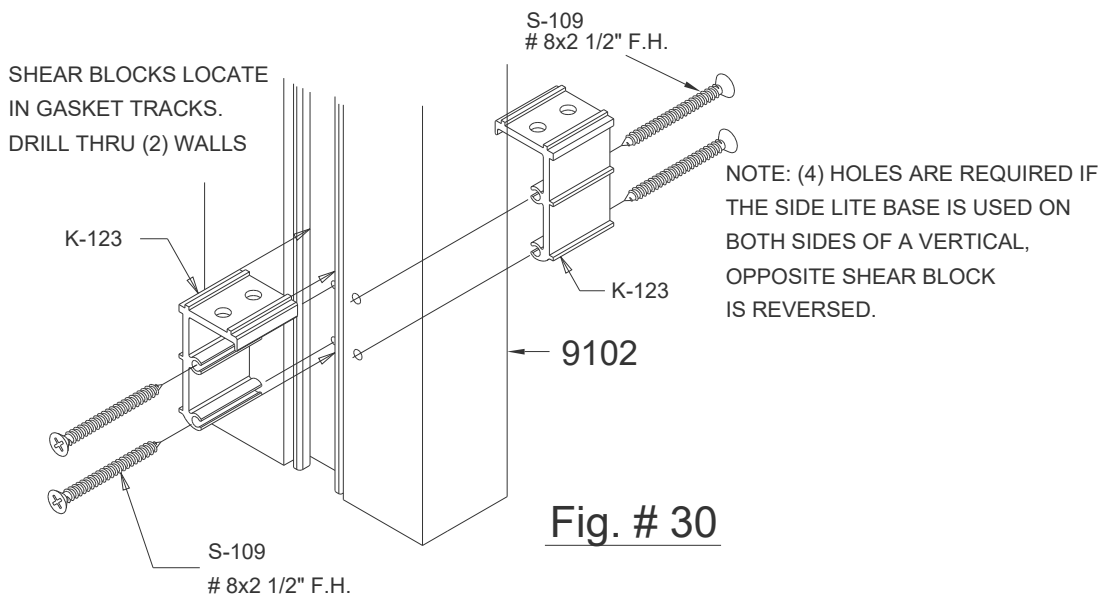


Fig. # 30

SECTION III: F. HIGH SIDE LITE BASES

IF SYSTEM IS TO BE SCREW SPLINED, PROCEED TO STEP # 5 ON PAGE 53. SEE CAUTION NOTE AT STEP # 4 BELOW.

STEP 3) Prep both ends of the side lite base for shear block attachment holes and shear block clearance, as shown in Fig. #31.

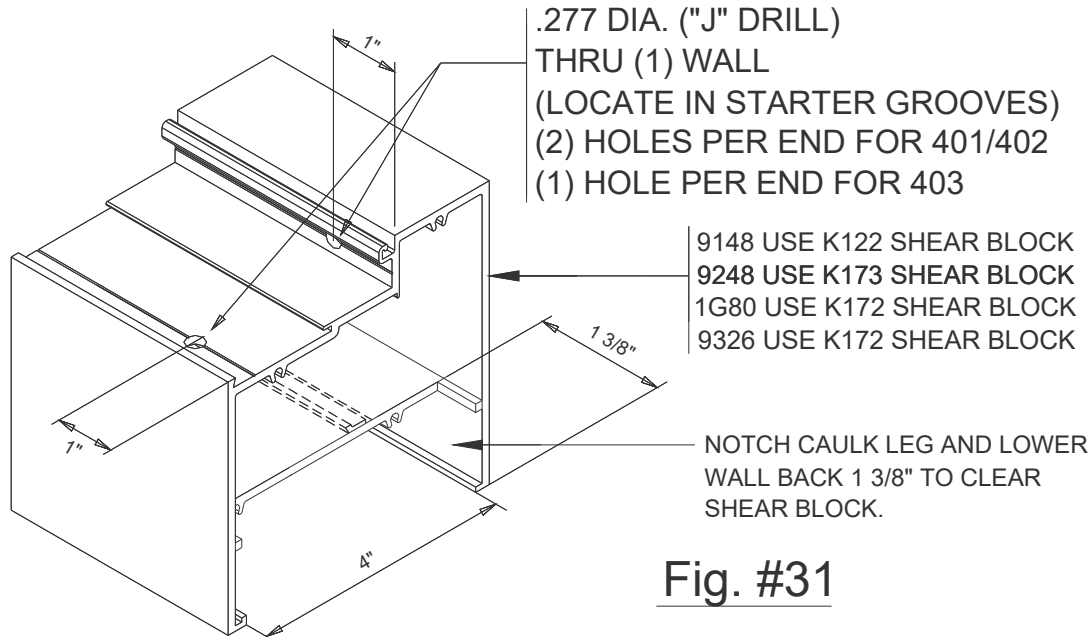


Fig. #31

STEP 4) Attach the shear block with S100 screws as shown in Fig. # 32. See the drilling layouts for the system being used on page 53, Fig's. # 33 thru # 35.

CAUTION: Door jambs must run to the floor and are cut longer than other verticals. Remember to add sill flashing thickness and/or sill blocking to the mounting hole locations.

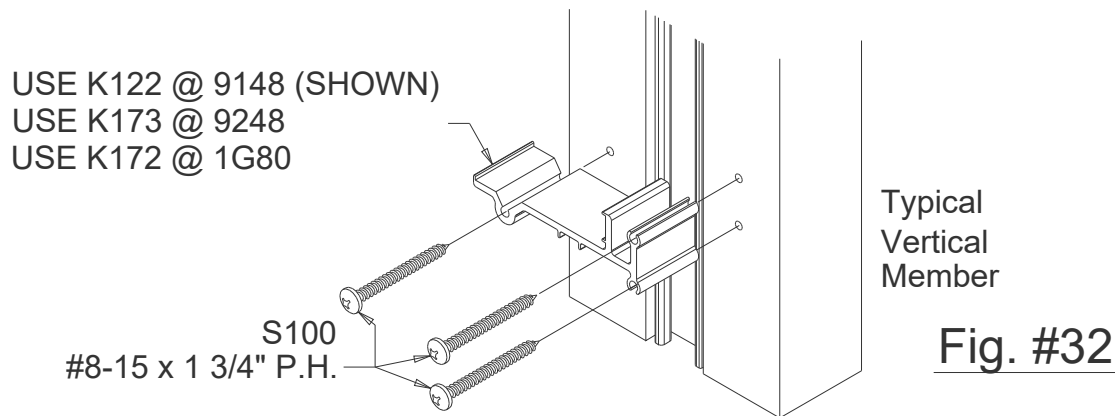
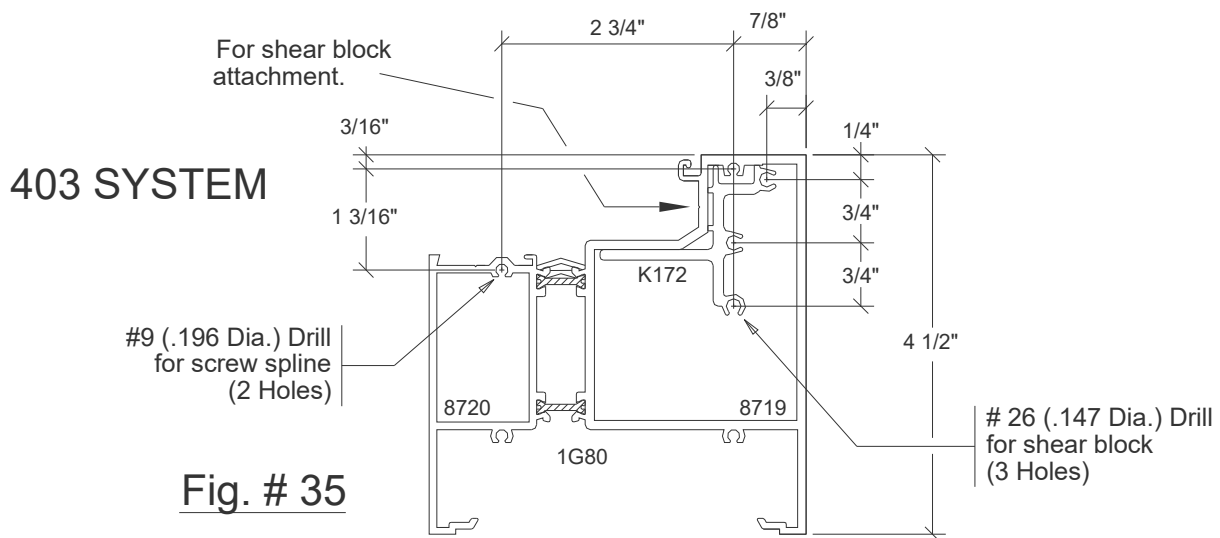
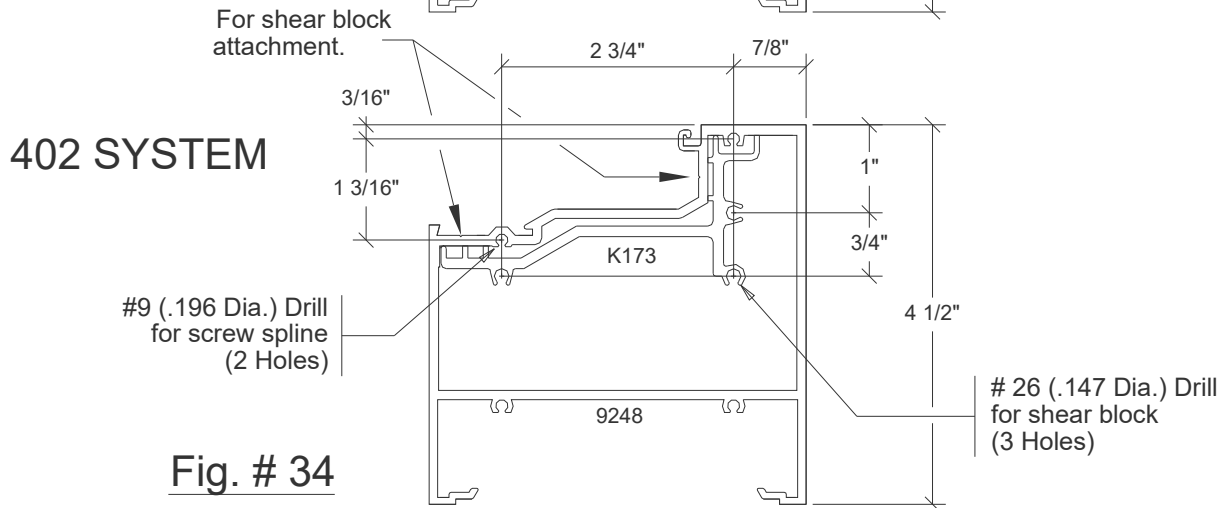
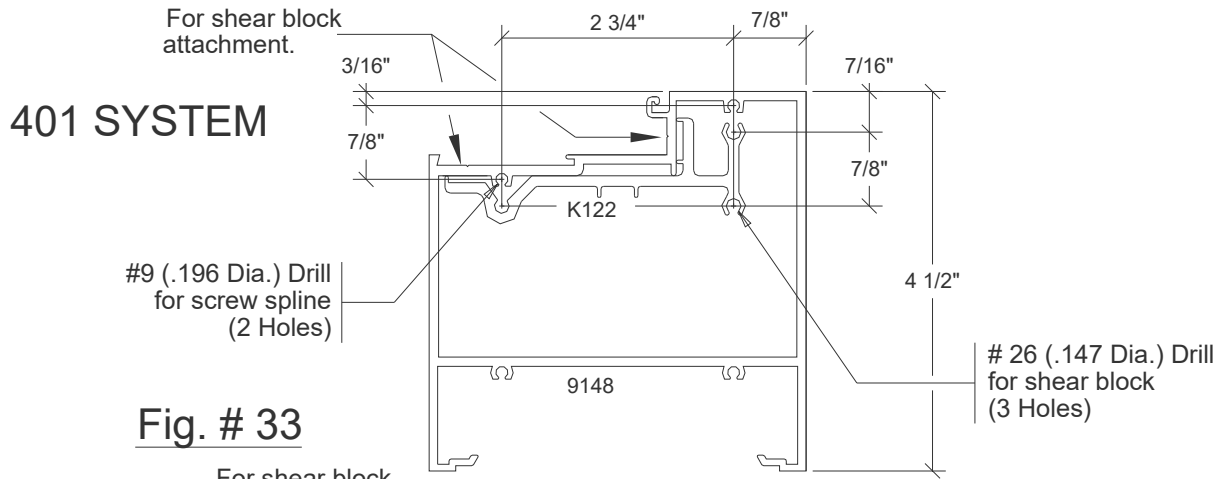


Fig. #32

SECTION III: F. HIGH SIDE LITE BASES

STEP 5) Vertical member prep for screw spline or shear block applications.
Showing the hole prep relationship to the horizontal.

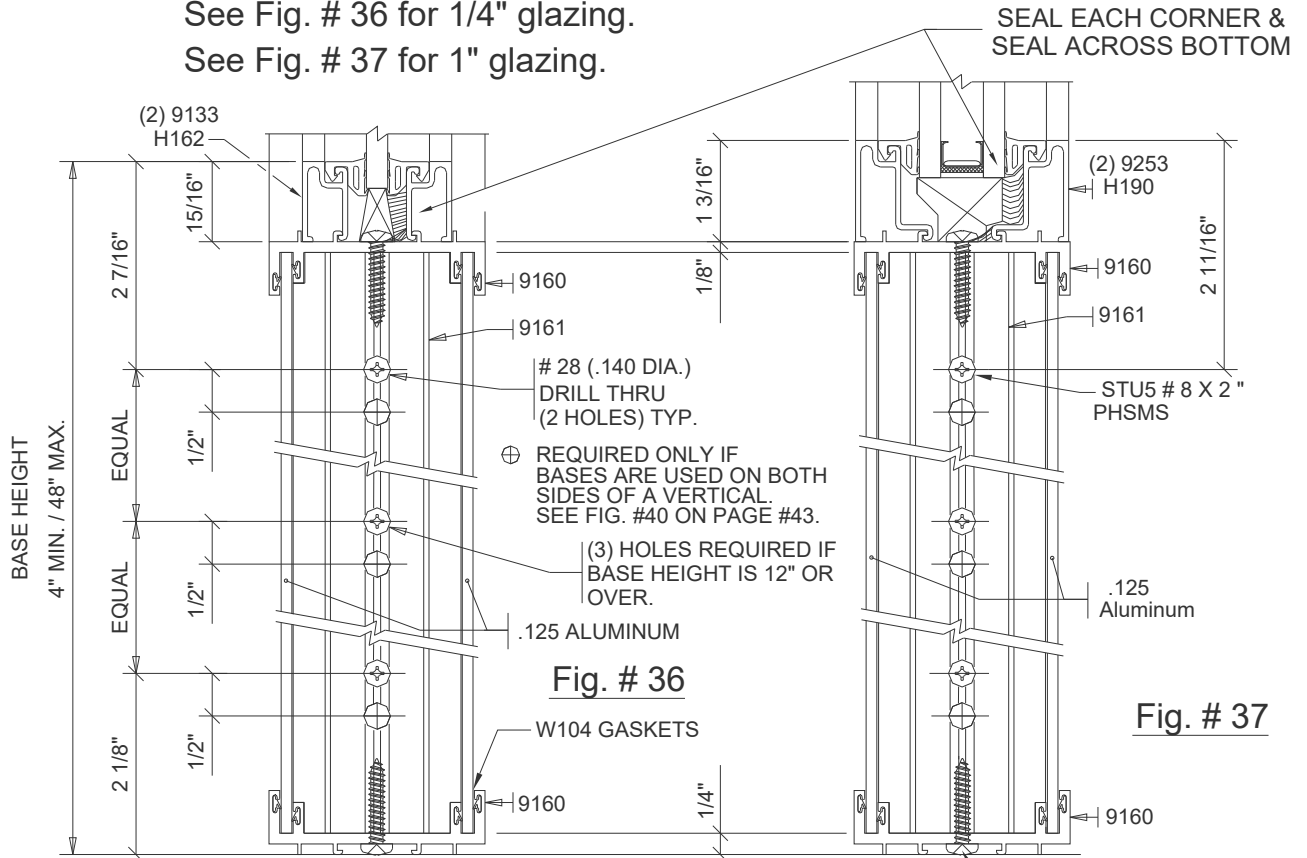


SECTION III: G. ADJUSTABLE HEIGHT SIDE LITE BASE - 2 1/2" DEEP

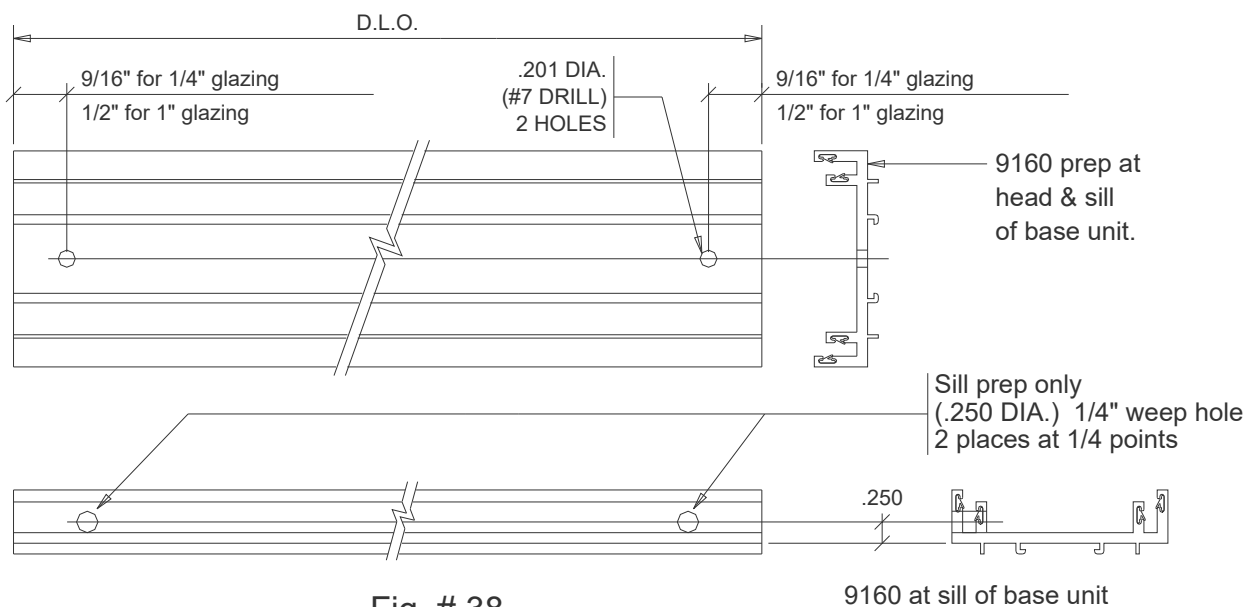
STEP 1) Vertical member prep for adjustable side lite base.

See Fig. # 36 for 1/4" glazing.

See Fig. # 37 for 1" glazing.



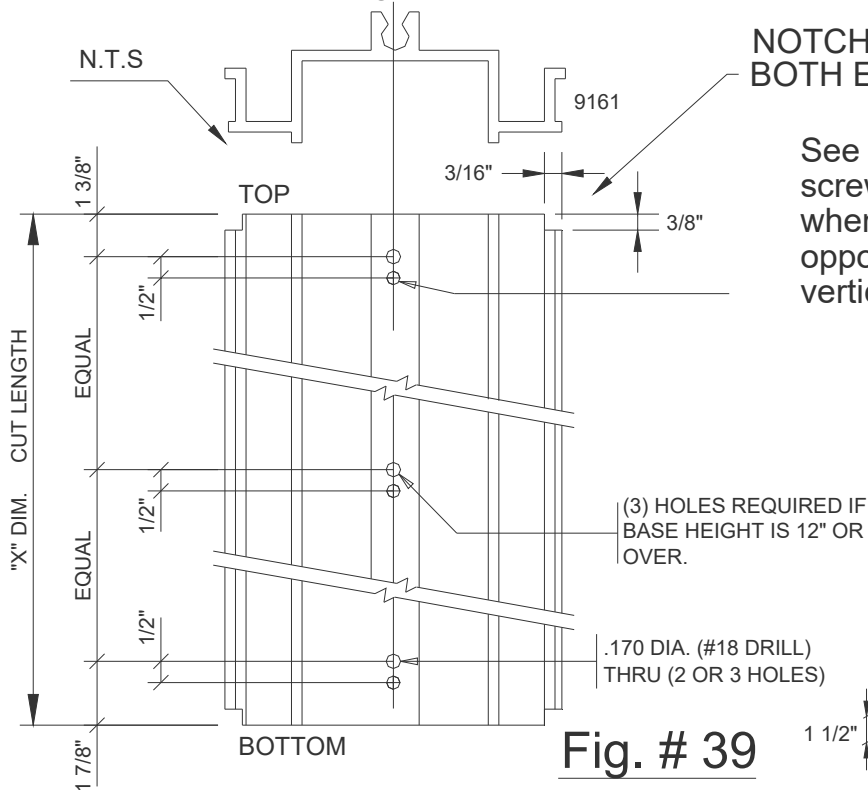
STEP 2) Side lite base head and sill preps.



SECTION III: G. ADJUSTABLE HEIGHT SIDE LITE BASE - 2 1/2" DEEP

STEP 3) Side lite base vertical member cut length, end notching, and hole prep.

NOTE: The left and right verticals of the side lite base are nonhanded.



NOTCHING TYPICAL BOTH ENDS

See Fig. # 40, screws are offset when used on the opposite sides of a vertical intermediate.

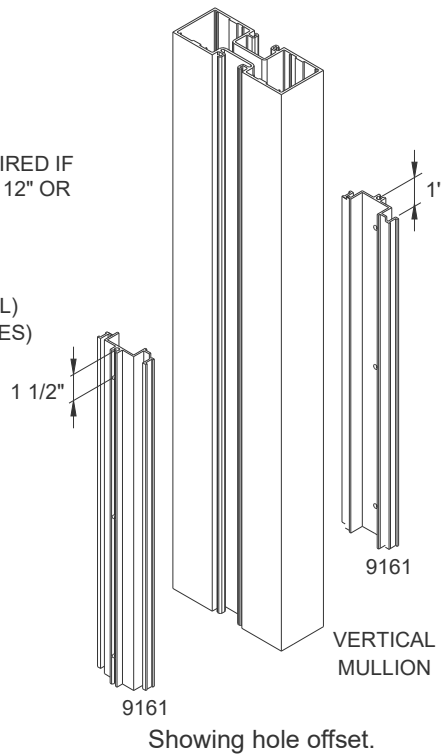
Fig. # 39

For 1/4" glazing (See Fig. # 36 on page 54)

"X" = BASE HEIGHT MINUS 1 5/16"

For 1" glazing (See Fig. # 37 on page 54)

"X" = BASE HEIGHT MINUS 1 9/16"



Showing hole offset.

Fig. # 40

For 1/4" glazing (See Fig. # 36 on page 54)

"Y" = BASE HEIGHT MINUS 1 5/16"

For 1" glazing (See Fig. # 37 on page 54)

"Y" = BASE HEIGHT MINUS 1 9/16"

Apply a thin continuous bead of silicone inside the interior brake metal track for a water tight seal.

STEP 4) SIDE LITE BASE SIDE PANEL PREP.

NOTE: ALUMINUM PANEL MUST BE CUT SQUARE.

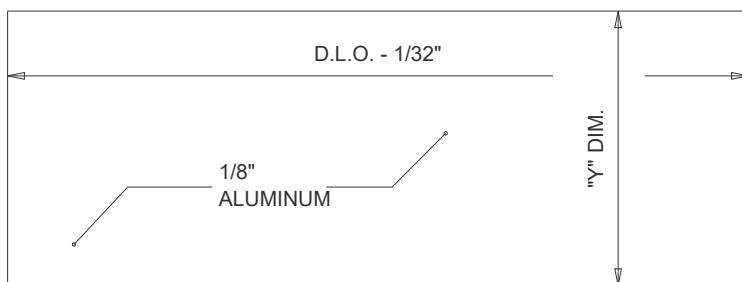


Fig. # 41

SECTION III: G. ADJUSTABLE HEIGHT SIDE LITE BASE - 4 1/2" DEEP

STEP 1) Vertical member prep for adjustable side lite base.

See Fig. # 42 for 1/4" glazing.

See Fig. # 43 for 1" glazing.

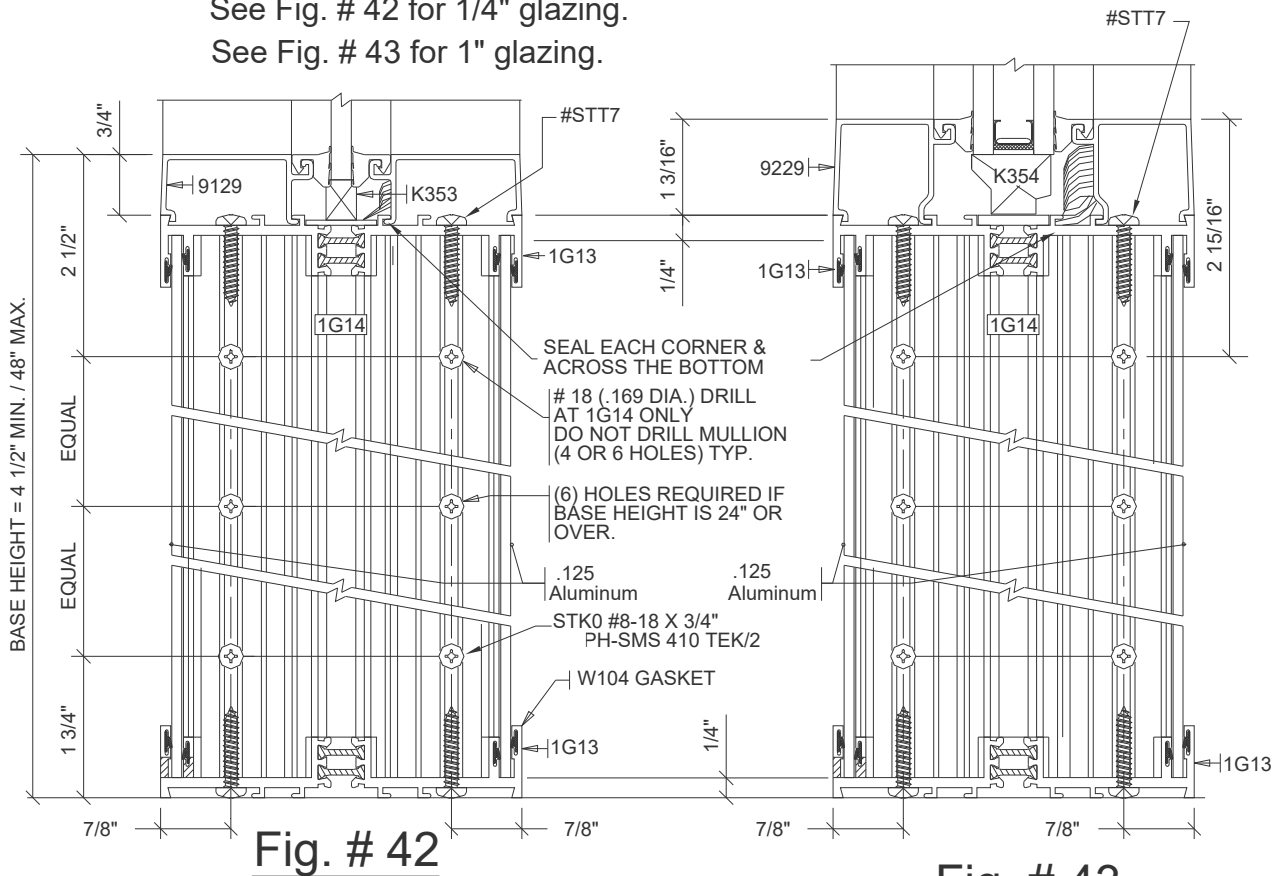


Fig. # 42

Fig. # 43

STEP 2) Side lite base head and sill prep.

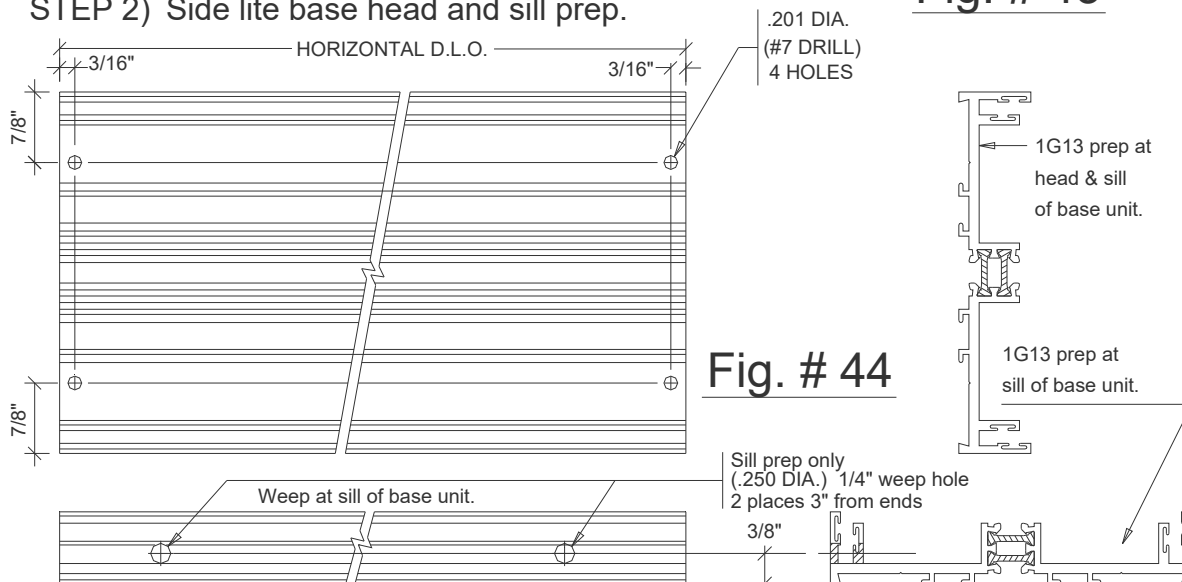


Fig. # 44

SECTION III: G. ADJUSTABLE HEIGHT INTERMEDIATE HORIZONTAL - 4 1/2" DEEP

STEP 1) Vertical member prep for adjustable intermediate horizontal.
 See Fig. # 45 for 1/4" glazing.
 See Fig. # 46 for 1" glazing.

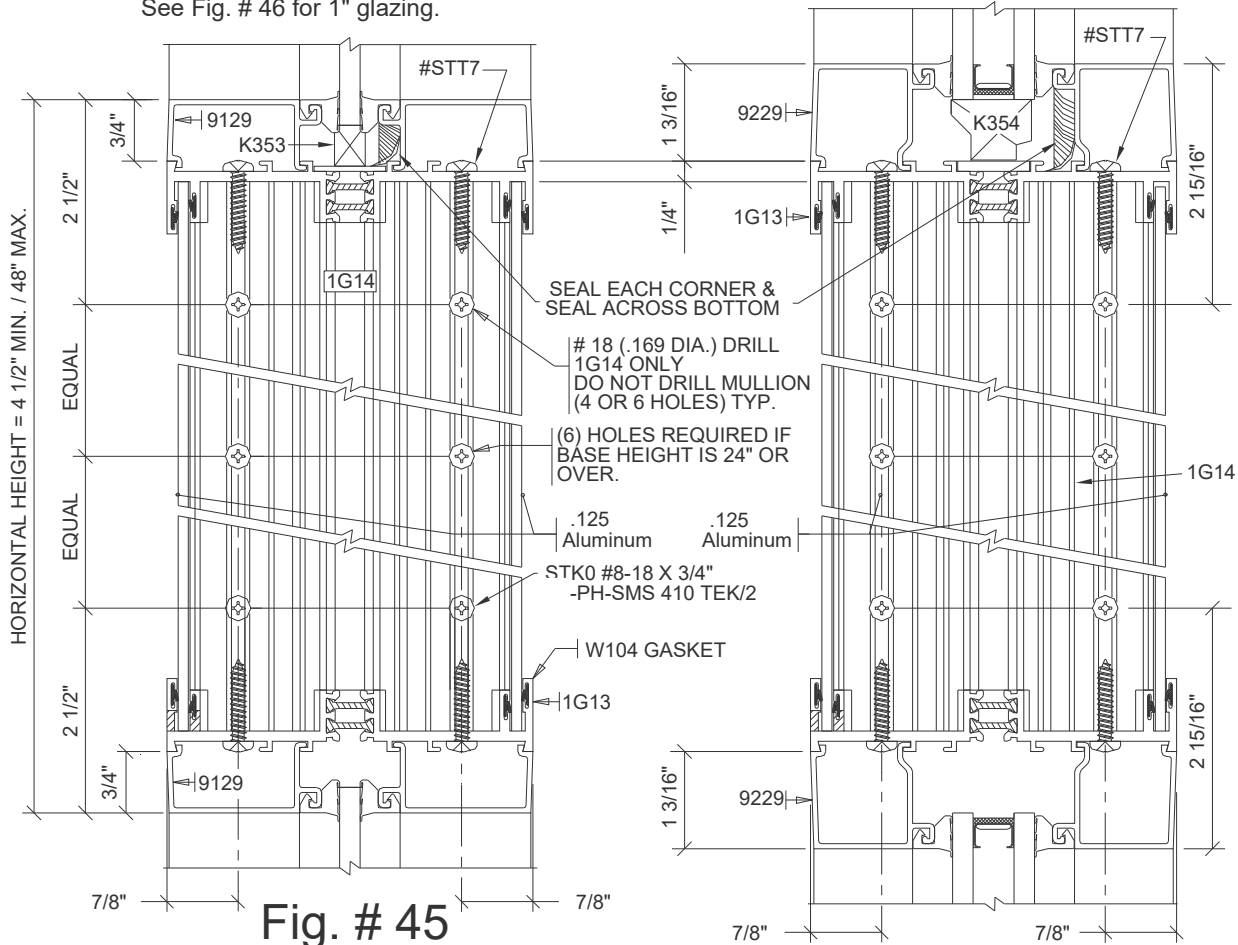


Fig. # 45

Fig. # 46

STEP 2) Prep for intermediate horizontal head and sill member.

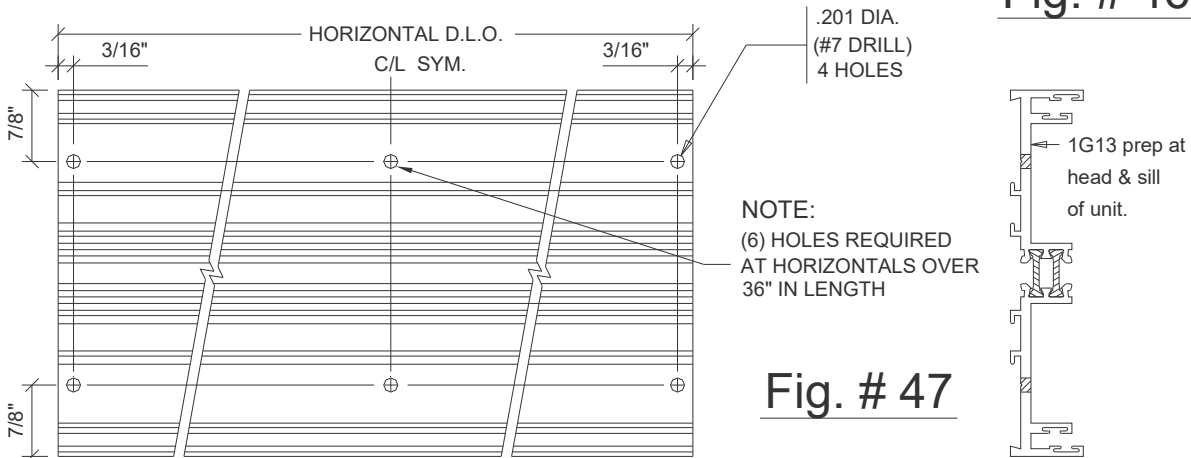


Fig. # 47

SECTION III: G. ADJUSTABLE HEIGHT SIDE LITE BASE / INTERMEDIATE HORIZONTAL

STEP 3) Side lite base vertical member cut length, notching, and hole preps.

NOTE: The left and right verticals of the side lite base are nonhanded.

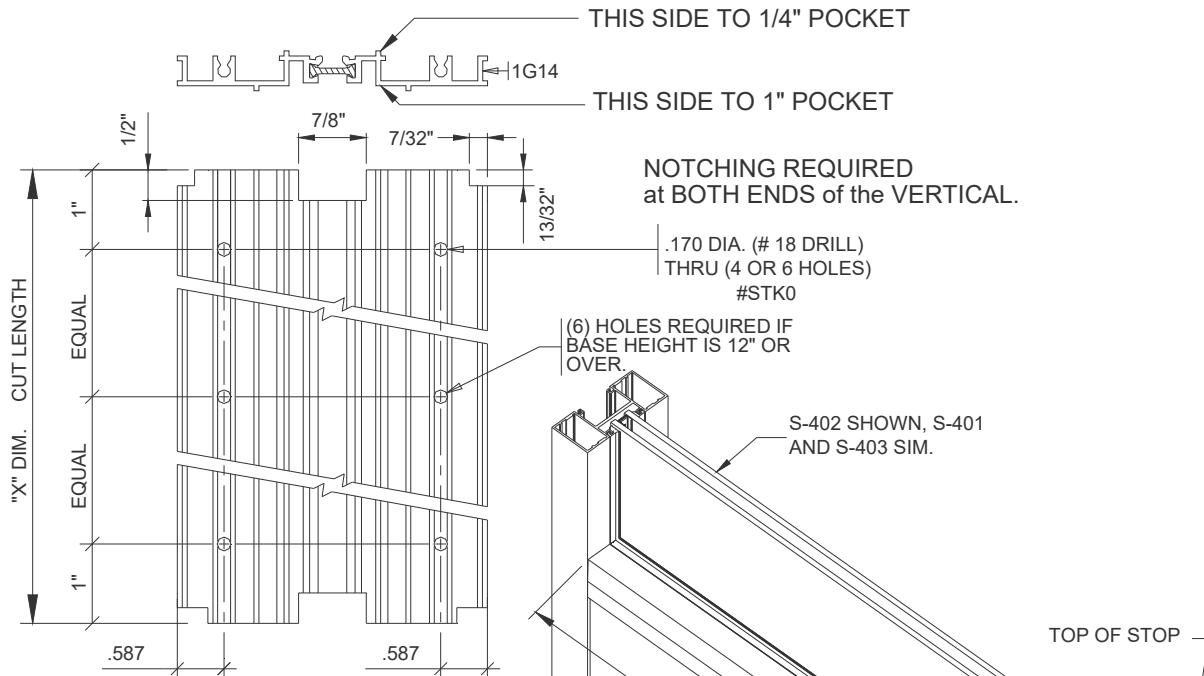


Fig. # 48

For 1/4" GLAZING: (See Fig. #42 - page 56 for base)
(See Fig. #45 - page 57 for intermediate)

"X" = BASE HEIGHT MINUS 1 1/4"
= INT. HORIZ. HEIGHT MINUS 2"

For 1" GLAZING: (See Fig. #43 - page 56 for base)
(See Fig. #46 - page 57 for intermediate)

"X" = BASE HEIGHT MINUS 1 11/16"
= INT. HORIZ. HEIGHT MINUS 2 7/8"

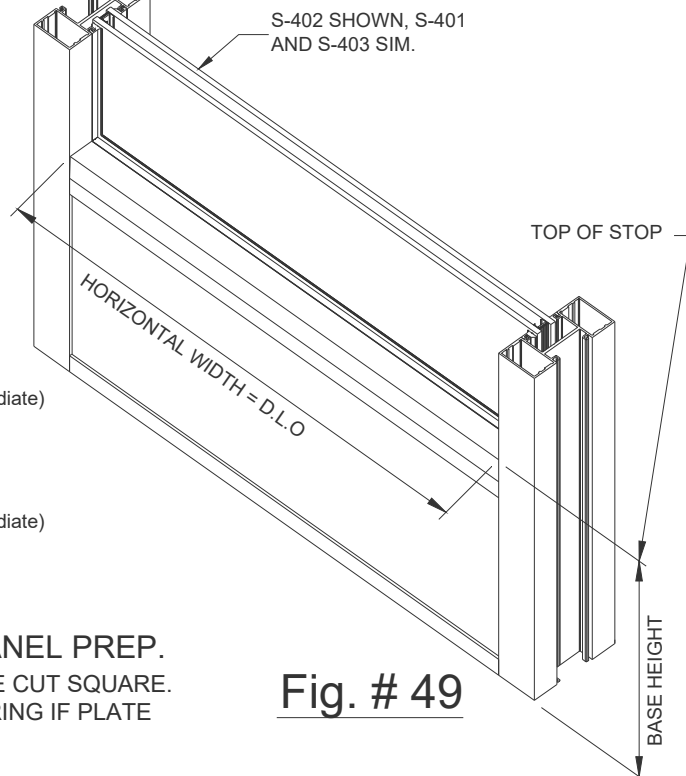


Fig. # 49

STEP 4) SIDE LITE BASE SIDE PANEL PREP.

NOTES: 1) ALUMINUM PANEL MUST BE CUT SQUARE.
2) CONTACT EFCO ENGINEERING IF PLATE IS OVER 16 SQ. FT.

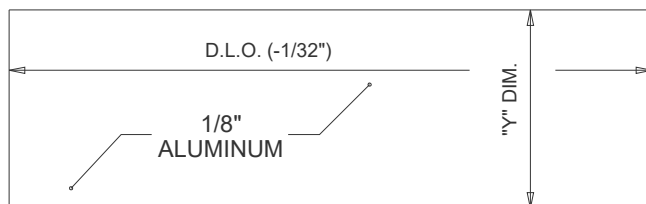


Fig. # 50

For 1/4" glazing (See Fig. # 42-page 56 for base.)
(See Fig. # 45-page 57 for intermediate.)

"Y" = BASE HEIGHT MINUS 1 1/4"
= INT. HORIZ. HEIGHT MINUS 2"

For 1" glazing (See Fig. # 43-page 56 for base.)
(See Fig. # 46-page 57 for intermediate.)

"Y" = BASE HEIGHT MINUS 1 11/16"
= INT. HORIZ. HEIGHT MINUS 2 7/8"

Apply a thin continuous bead of silicone inside the interior brake metal track for a water tight seal.

SECTION IV: A. DOOR FRAME INSTALLATION

NOTE: If an entrance frame is required, it must be installed first.

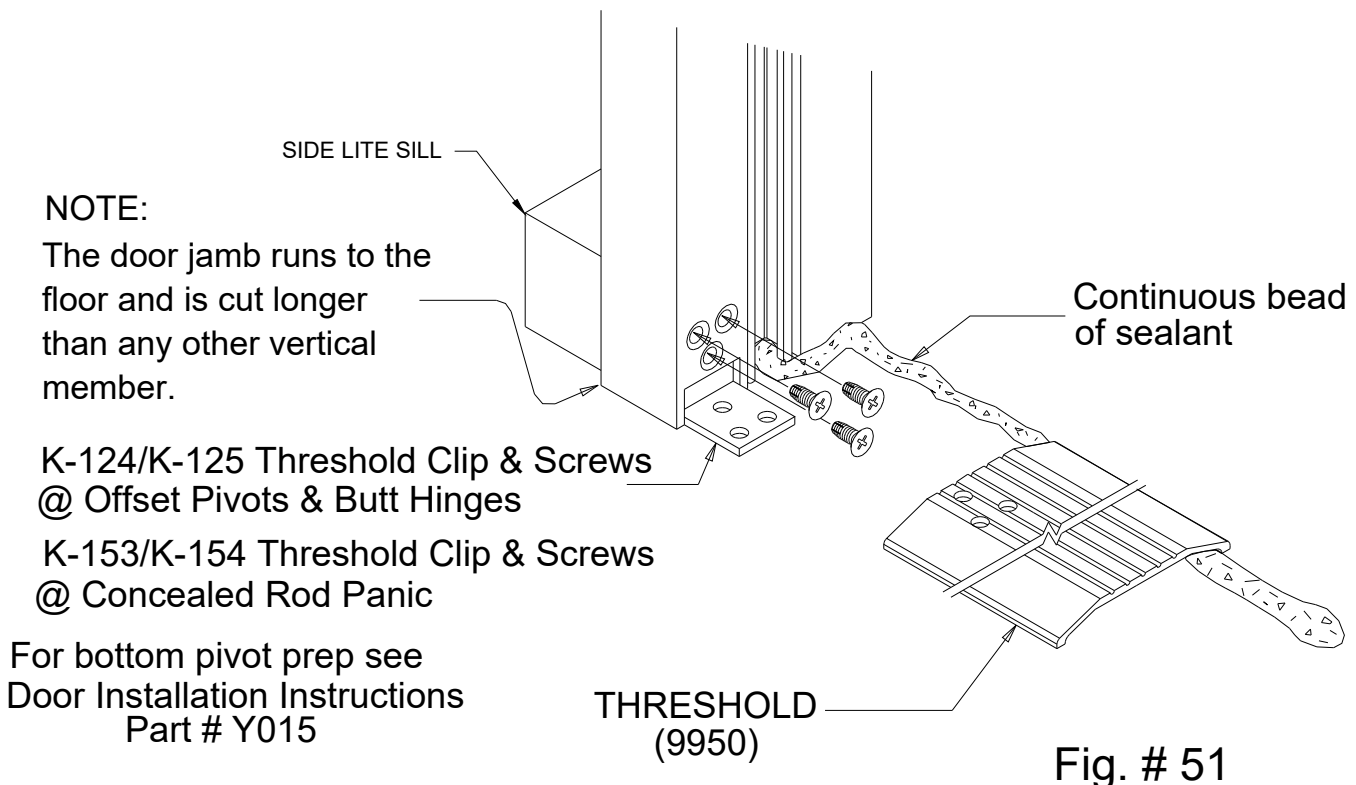
NOTE: If NO entrance frame is required, proceed to part "B" of this section.

STEP 1) Correctly locate the entrance frame in the opening.

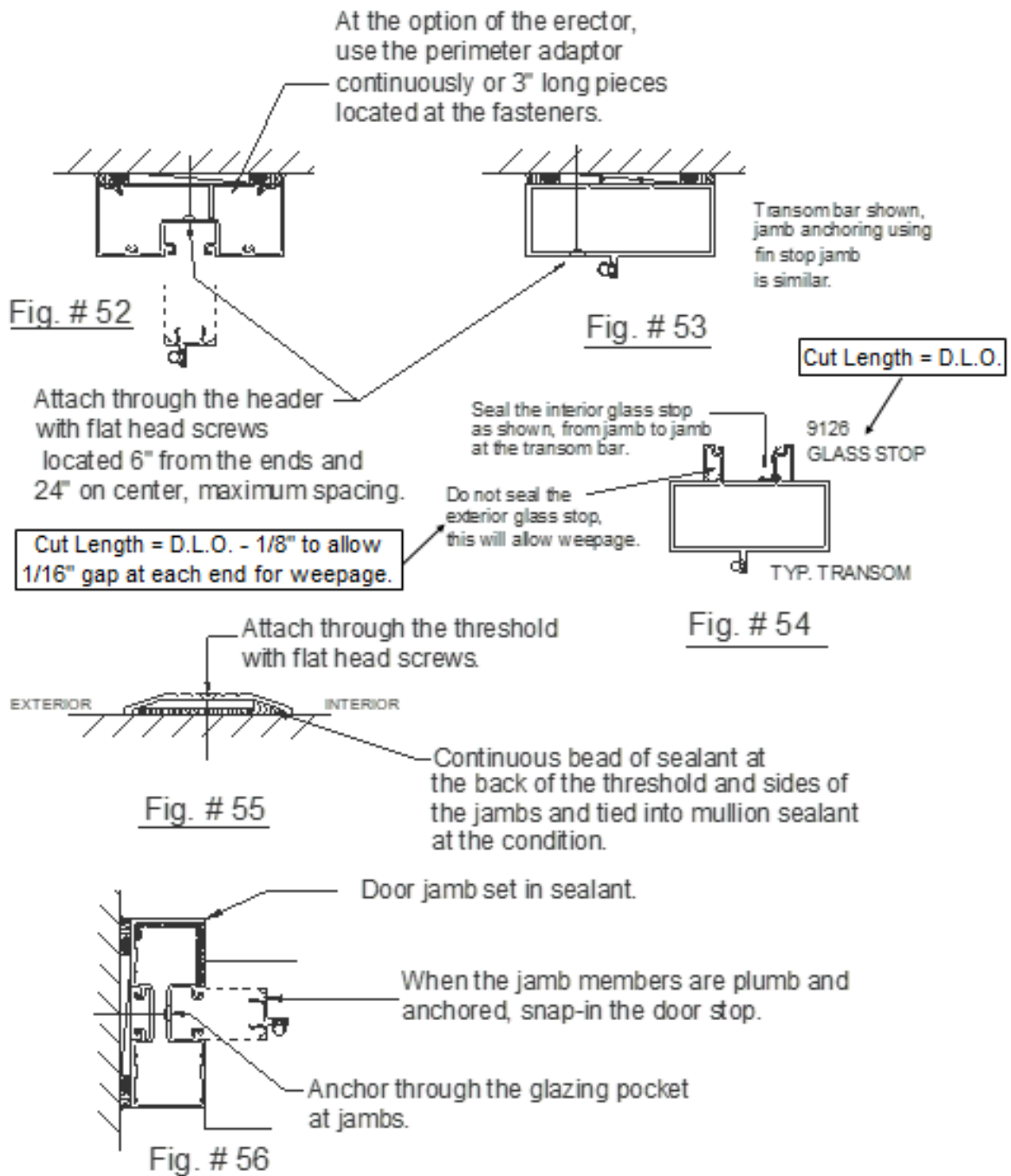
STEP 2) Apply a bead of sealant around the interior portion of the jamb to set the member into. Then marry the side lite sealant or condition sealant into the bead of sealant to be applied under the threshold. The concept is to have a continuous bead of sealant at the interior, connected from the sill flashing/condition through the door jamb and continuing under the threshold to the opposite jamb and so on.

STEP 3) Set assembled door frame in opening, plumb and level.

STEP 4) Anchor the door frame as indicated below in Fig. # 51 and also in Fig's. # 52 through Fig. # 56 on page 60.



SECTION IV: A. DOOR FRAME INSTALLATION

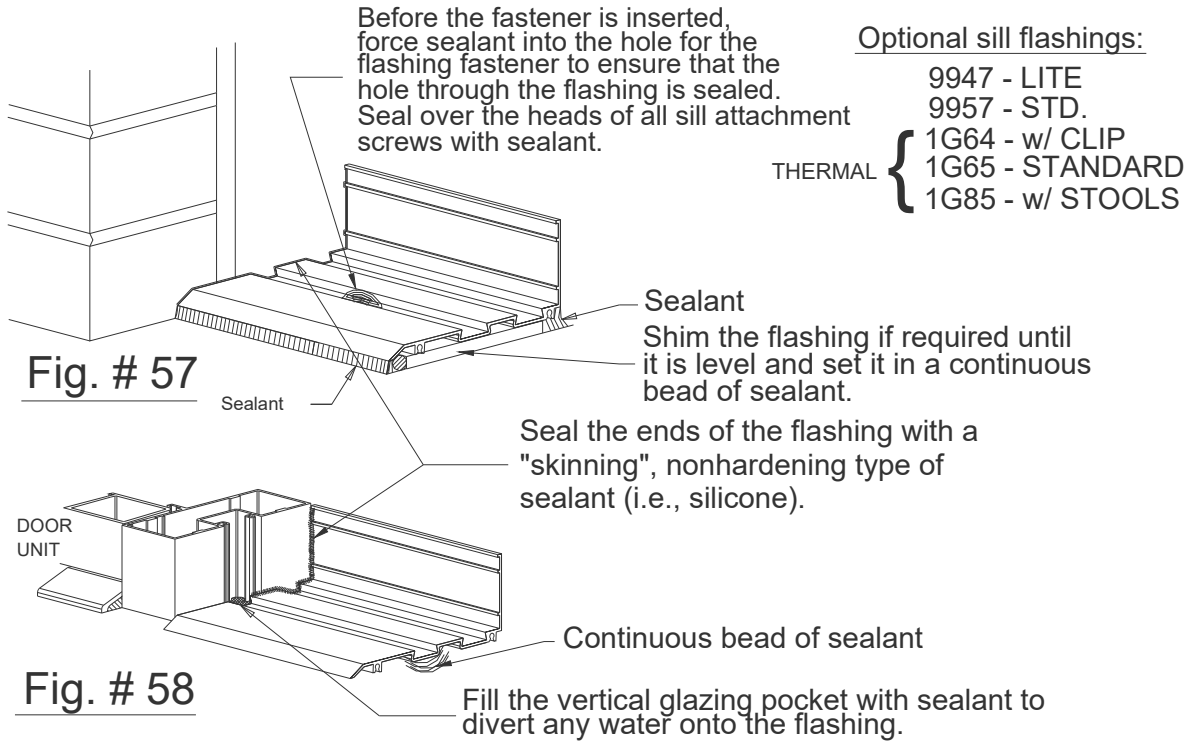


ALSO SEE THE DOOR INSTALLATION INSTRUCTIONS #Y015.

These recommendations are for general erection procedures only. For actual job conditions, see the details on the shop drawings. For perimeter anchor type and spacing, refer to the approved shop drawings or consult the project design professional.

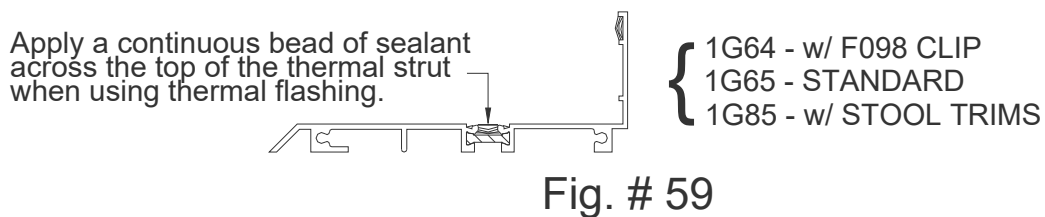
SECTION IV: B. SILL FLASHING INSTALLATION

STEP 1) Install the sill flashing continuously between the masonry jambs or between the door frame and the masonry jamb.
See figures below.



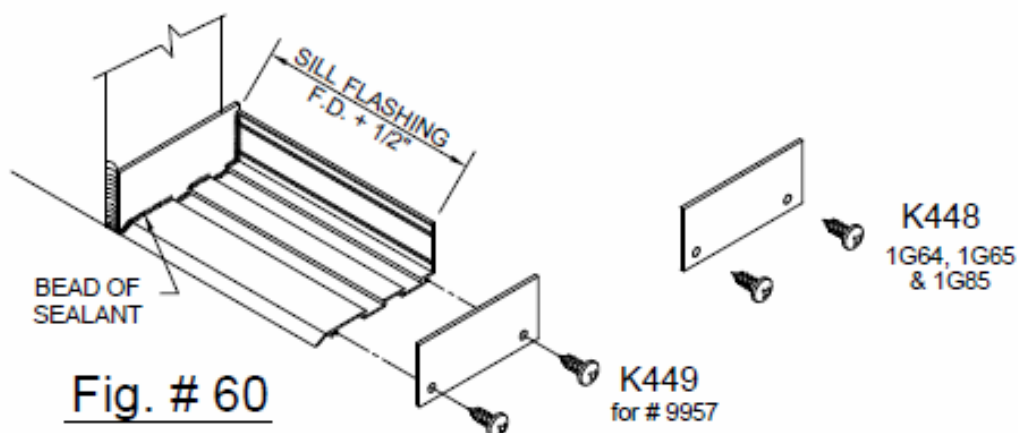
Make sure the bead of sealant under the threshold is continuous through the door jamb and married into the bead of sealant that the sill flashing is set into.

NOTE: ALL THERMAL STRUT SILL FLASHING THAT WOULD ENCOUNTER MOISTURE MIGRATION MUST HAVE THE THERMAL STRUT SEALED OVER WITH SILICONE.



These recommendations are for general erection procedures only. For actual job conditions, see the details on the shop drawings. For perimeter anchor type and spacing, refer to the approved shop drawings or consult the project design professional.

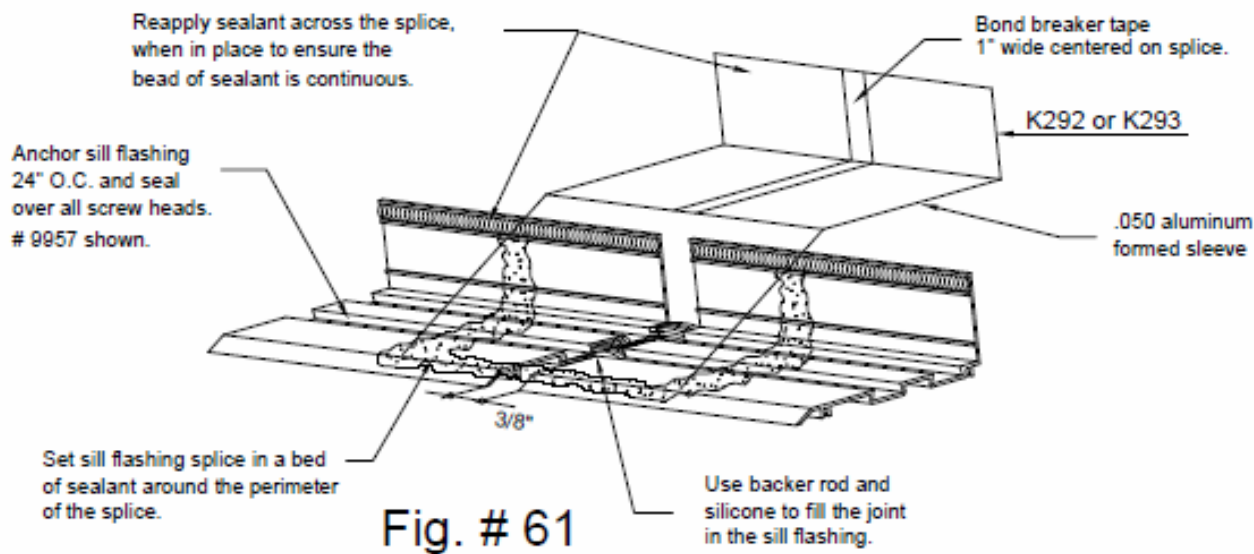
SECTION IV: B. SILL FLASHING INSTALLATION



End caps would be incorporated if the sill flashing could not be sealed to the condition completely. An example would be, if the jamb condition was less than the sill flashing depth or a void in the condition exist. This cut length provides a 3/16" gap between the sill flashing and condition for a good sealant joint when end caps are not required.

STEP 2) Splice the flashing every 20'-25' as shown in Fig. # 61. Use K-292 for brake metal type flashing or K-293 for EFCO high performance flashing. For best system performance, locate the splice joint 6" from vertical intermediates.

For mitered corners, see page 63.



After the splice is in place, apply the cosmetic seal

SECTION IV: B. SILL FLASHING INSTALLATION

STEP 3) If a corner is required, miter the flashing to the required angle and then install as shown in the figures below.
 Locate fasteners 3" from any corner and 1 1/2" from the edge of the sill flashing splice.

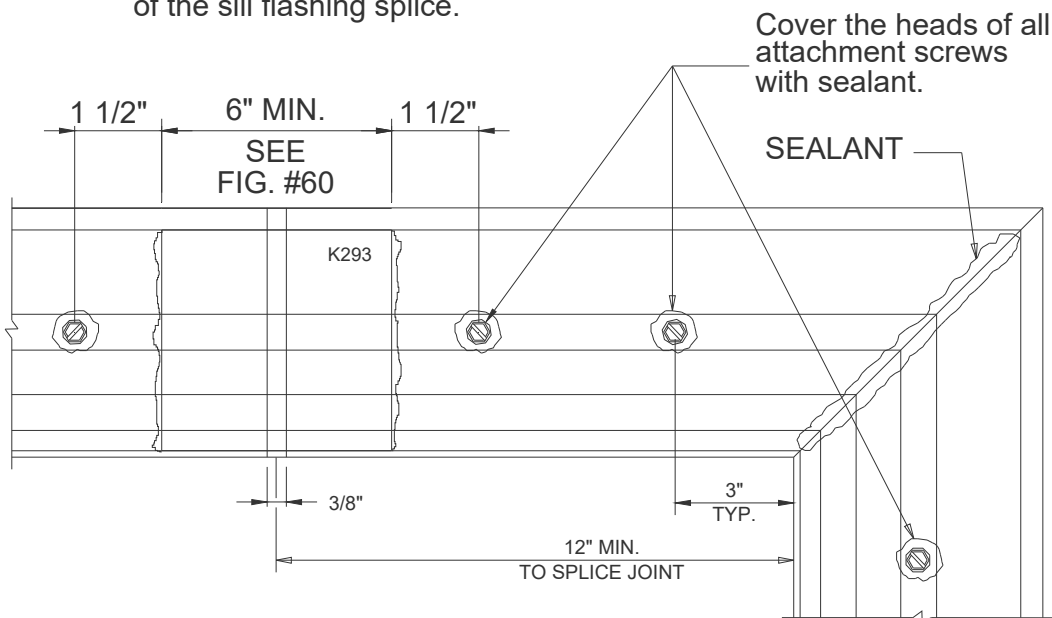


Fig. # 62

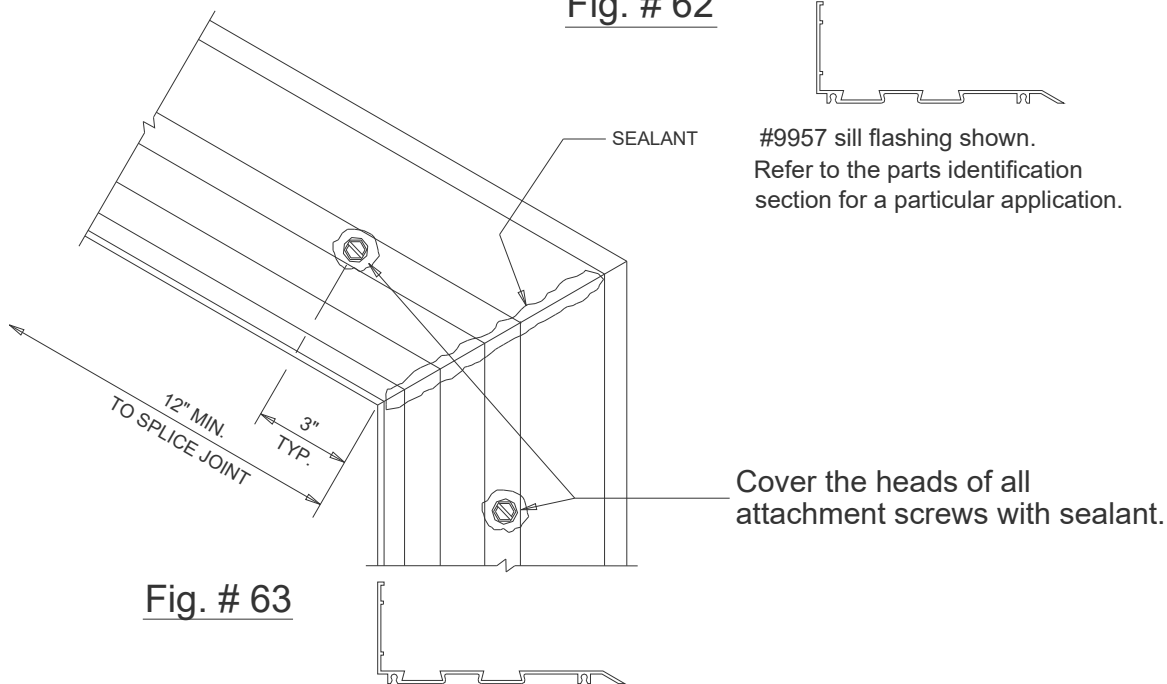


Fig. # 63

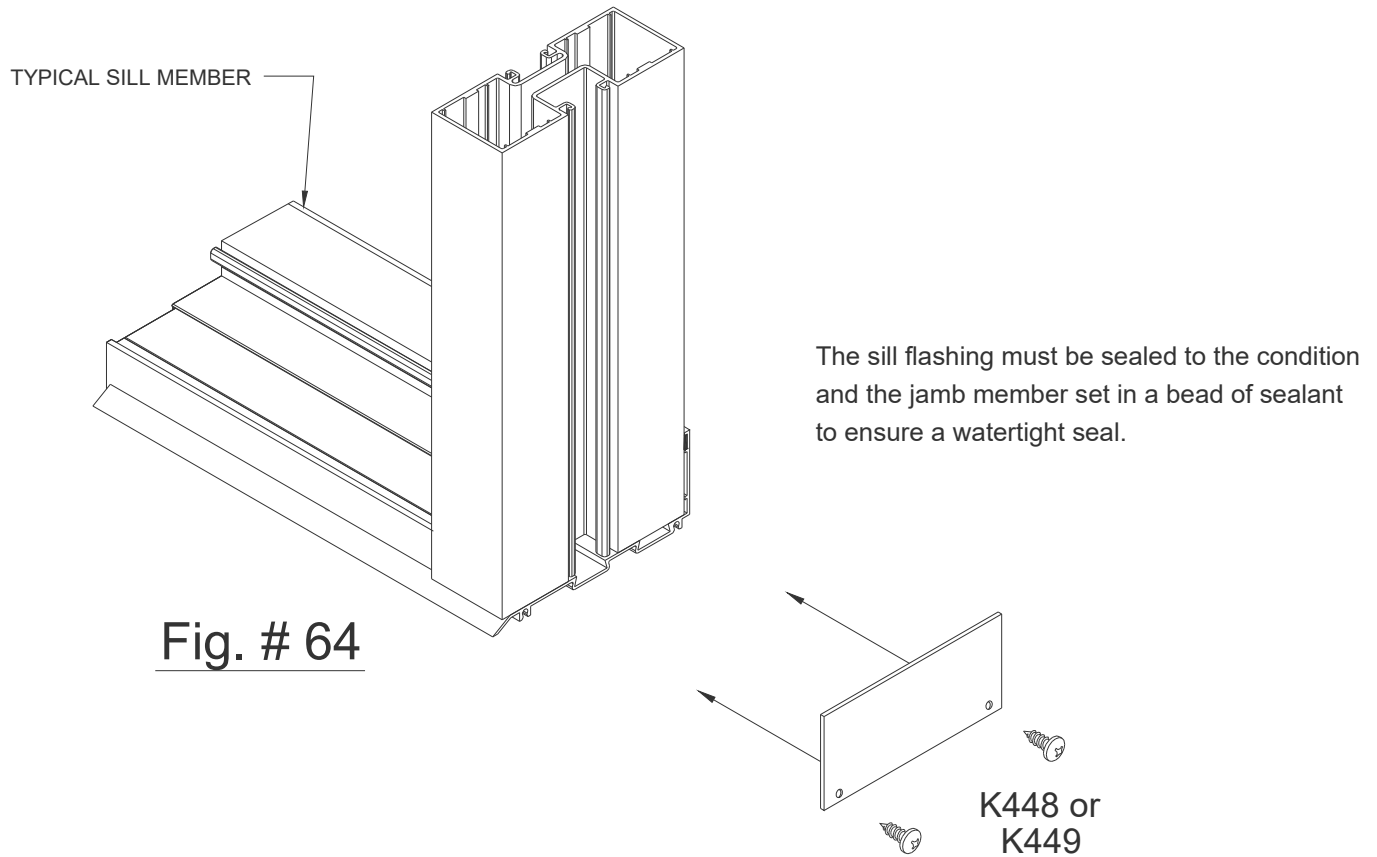
#9957 sill flashing shown.
 Refer to the parts identification section for a particular application.

Cover the heads of all attachment screws with sealant.

These recommendations are for general erection procedures only. For actual job conditions, see the details on the shop drawings. For perimeter anchor type and spacing, refer to the approved shop drawings or consult the project design professional.

SECTION IV: B. SILL FLASHING INSTALLATION

VIEW AT JAMB AND CONDITION



Incorporating the sill flashing end caps will complement the sealing procedure.

The end caps must be sealed to the condition and the sealant must tie in with the jamb blocking and the perimeter seals.

The end cap edges must also be concealed with the sealant to present a neat and clean installation.

This may cause the caulk joint at the jamb to increase in thickness, if the condition is irregular.

SECTION IV C - SCREW SPLINE AND SHEAR BLOCK SYSTEMS INSTALLATION

The frame may be assembled as one unit before setting it in the opening.

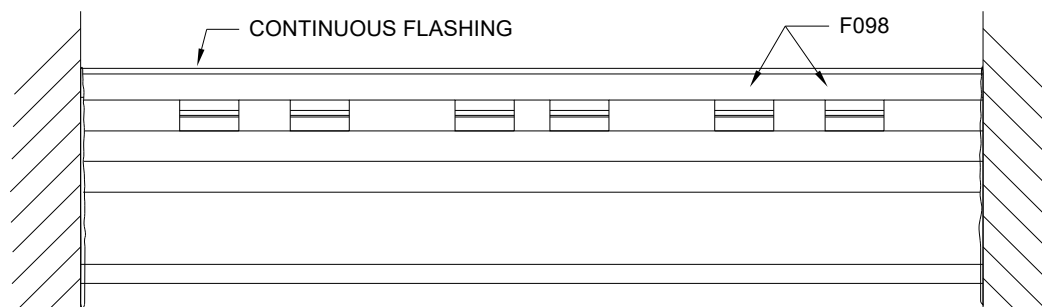
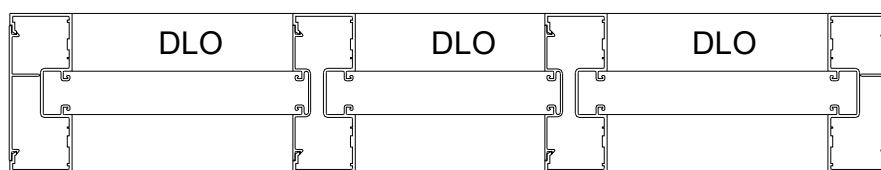


Fig. # 65



STEP 1) Install sill clips F098 (2 per DLO). If caulk joint at head is less than 1/2", Minimum unit height is 48 1/2" tall to ensure the ability to install. Units must be tilted in as shown in Fig. #66.

STEP 2) EFCO requires the use of perimeter adaptors located at the setting block locations, typically at 1/4 points of the DLO. This is to prevent frame distortion normally associated with large lites of glass. Also locate FS92 or FV58 at S401, FS93 or FV59 at S402, and FU99 or FV59 at S403 at thru sill anchoring locations to prevent frame distortion. Refer to Fig. # 67 below.

STEP 3) Apply sealant to the upturned flashing leg at the horizontal cavity. See Fig. # 67 below.

STEP 4) Tilt the unit and set it on the flashing, see Fig. # 66. Then stand the unit up over the clips and proceed to anchor the unit in place.

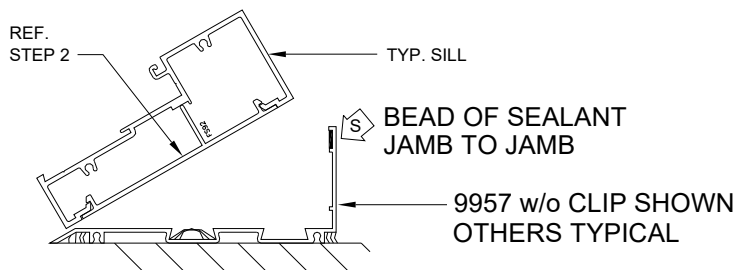


Fig. # 67

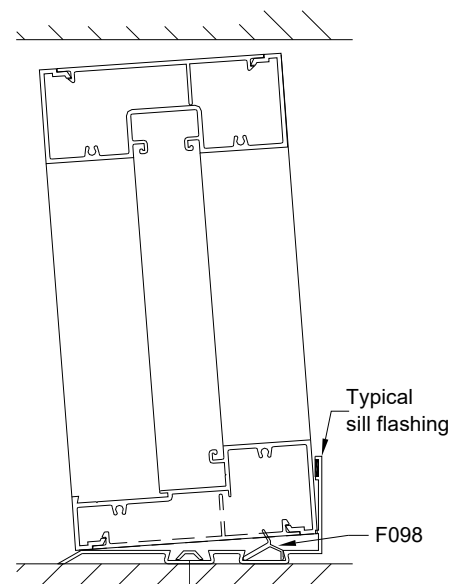


Fig. # 66

SECTION IV: C. SCREW SPLINE AND SHEAR BLOCK SYSTEMS INSTALLATION

STEP 5) NOTE:
The frame units can be installed in a number of different ways.
See Fig. #68 below for single unit setting technique.
See page 67 for panel unit setting technique.

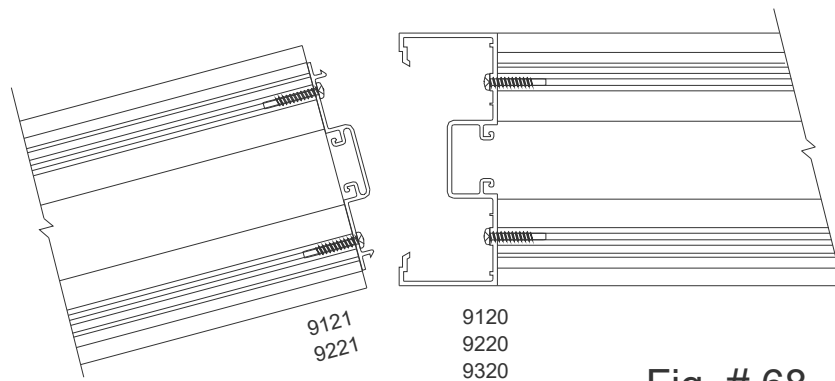
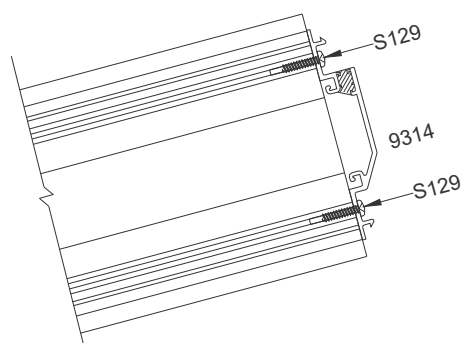


Fig. # 68



STEP 6)

If a corner is required, installation will start at the corner and work towards the opposite end. See Fig. # 69 below.

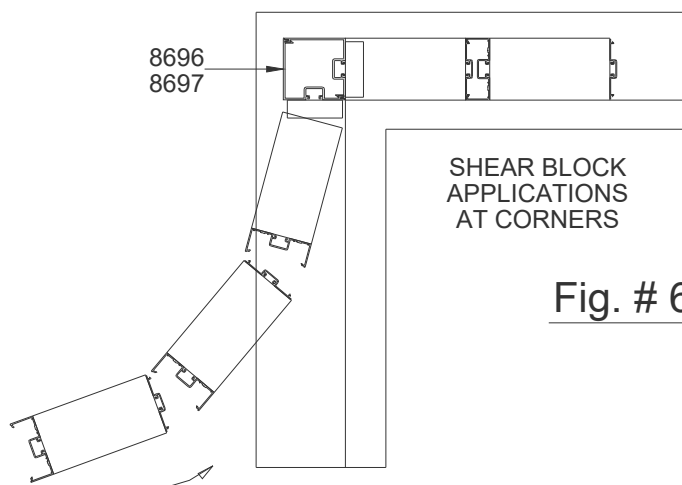
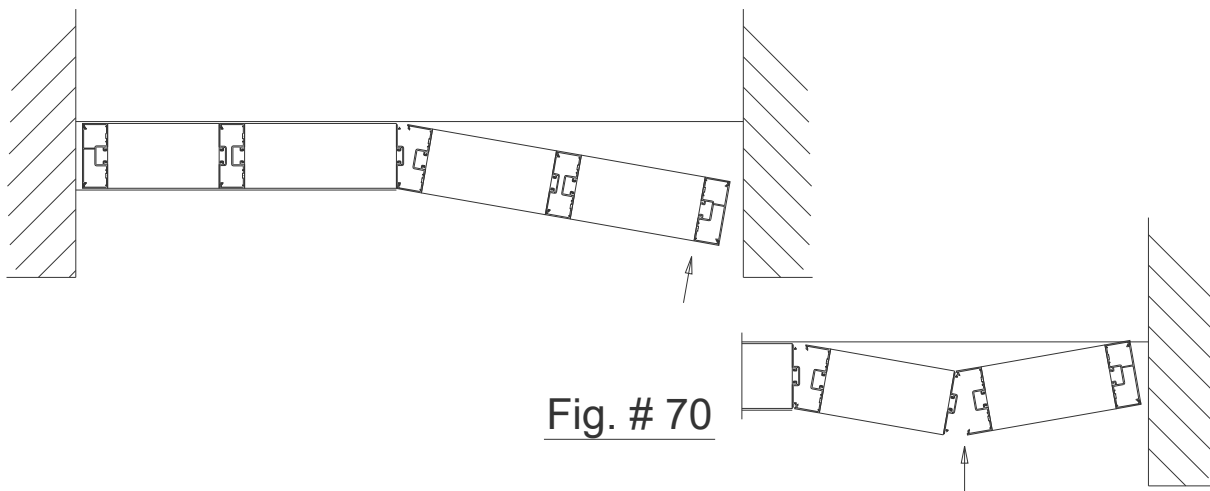


Fig. # 69

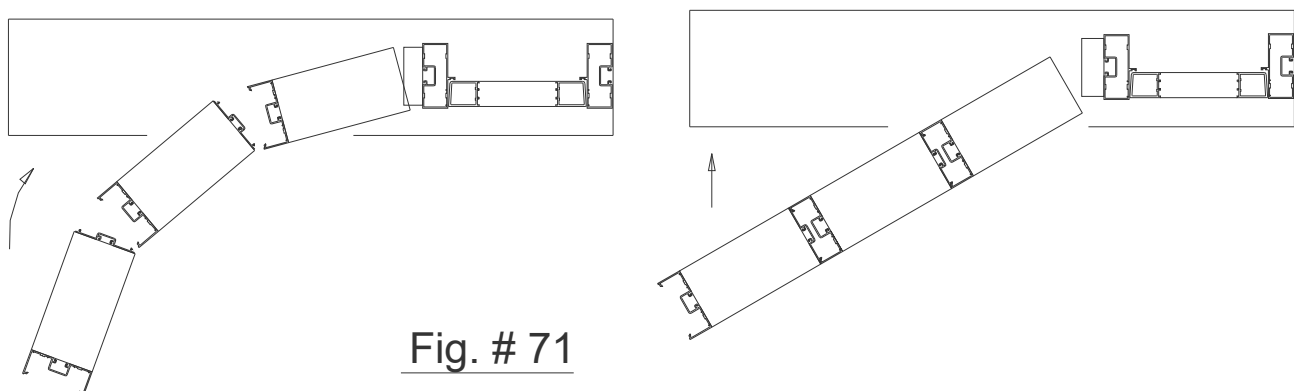
SECTION IV: C. SCREW SPLINE AND SHEAR BLOCK SYSTEMS INSTALLATION

FRAME MAY BE INSTALLED AS PANEL UNITS.

- STEP 7) Apply sealant to the upturned flashing leg cavity as shown in Fig. # 67 on page 65.
- STEP 8) Locate the first unit into position tight against the flashing back leg. Be sure the unit is plumb and square.
- STEP 9) Shim the jamb and head as required, and then secure them to the structure.
See pages 68 through 70 for anchoring procedures.
- STEP 10) Install the remaining panels in a similar fashion, snapping them together. See Fig. # 70 and # 71 below.



NOTE: If an entrance is required, install the framing units starting at the entrance frame and work towards the end of the opening.



SECTION IV: C. SCREW SPLINE AND SHEAR BLOCK SYSTEMS INSTALLATION

EFCO requires the use of at least a 3" long piece of adaptor at all fastener locations, FS92 or FV58 at S401, FS93 or FV59 at S402, and FU99 or FV59 at S403.

This is to prevent frame distortion when anchoring through the glazing pocket. At the discretion of the erector, the adaptor may be used in continuous lengths. The perimeter adaptor is available in stock lengths of 290".

See Fig. # 72 below.

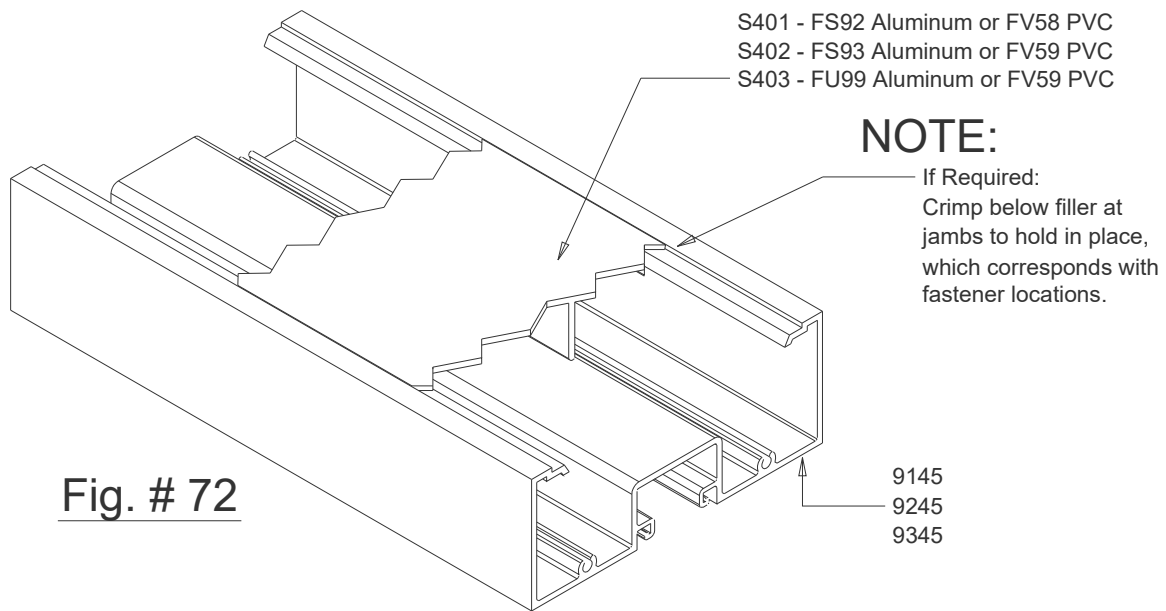


Fig. # 72

Detail showing typical shim application.

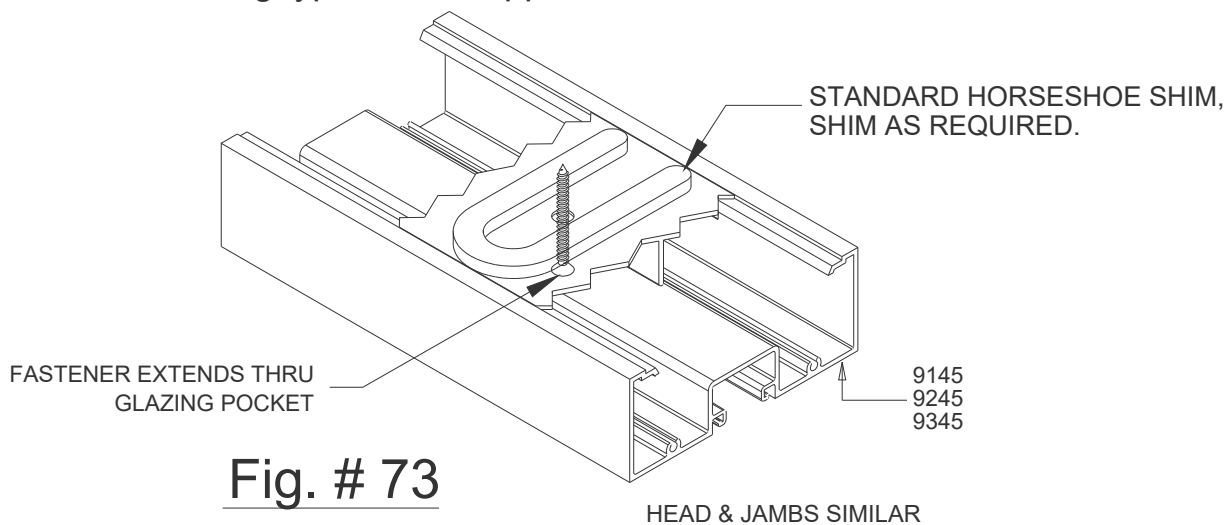


Fig. # 73

HEAD & JAMBS SIMILAR

SECTION IV: C. SCREW SPLINE AND SHEAR BLOCK SYSTEMS INSTALLATION

SYSTEM ANCHORING

At the center of the glazing pocket, drill and countersink head, jamb, and sill 6" from each vertical or horizontal and 24" on center maximum.

(SEE NOTE BELOW, IF F098 SILL CLIPS ARE BEING USED)

Refer to Fig. # 72 on page 68 for perimeter adaptor applications.

Also see Fig. # 74 below.

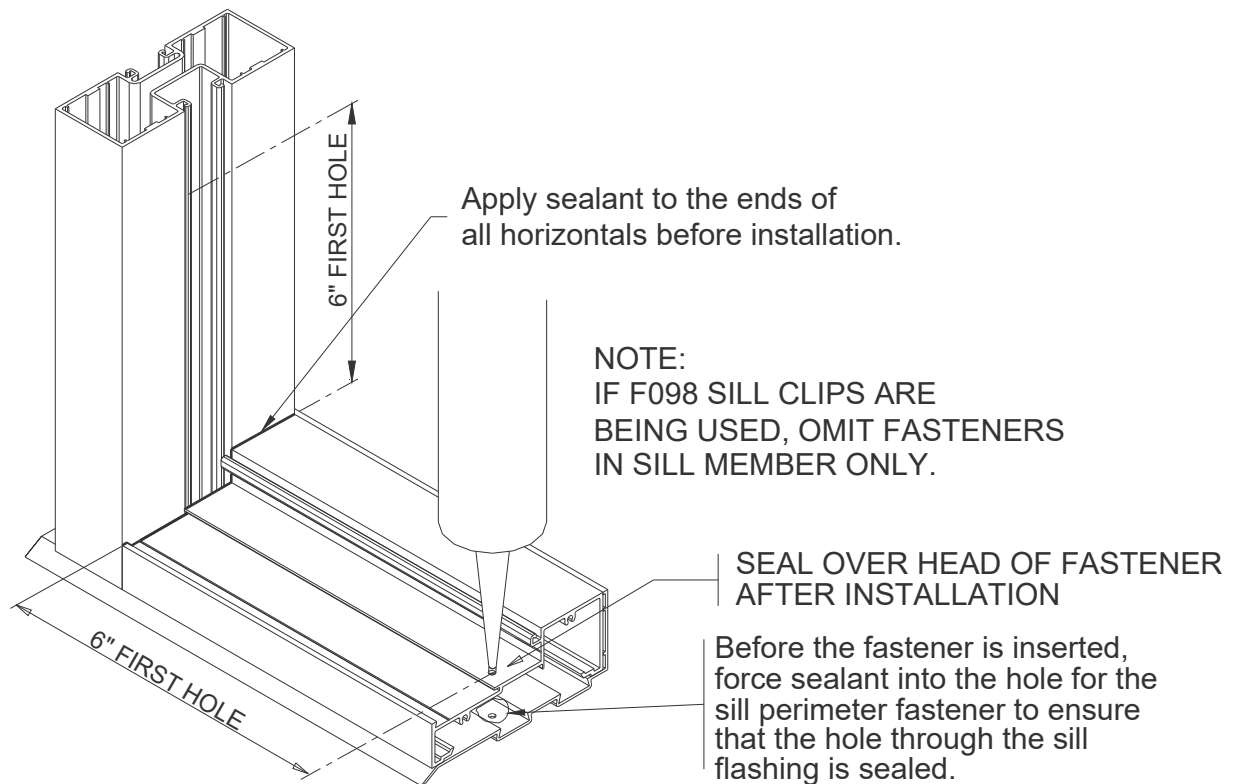


Fig. # 74

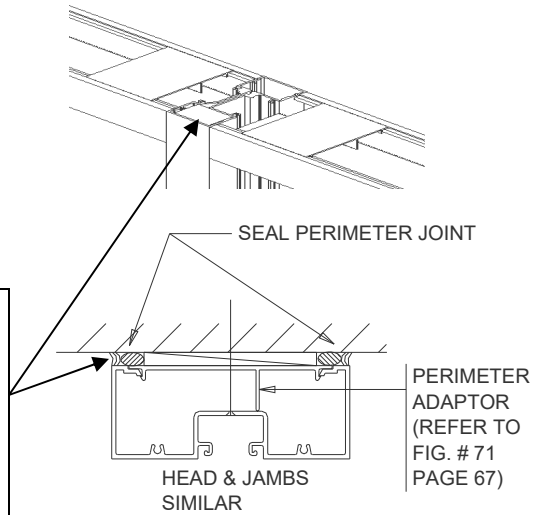
These recommendations are for general erection procedures only. For actual job conditions, see the details on the shop drawings. For perimeter anchor type and spacing, refer to the approved shop drawings or consult the project design professional.

SECTION IV: C. SCREW SPLINE AND SHEAR BLOCK SYSTEMS INSTALLATION

SYSTEM ANCHORING & PERIMETER SEALING

Seal unit as shown in details below.

All open-ended vertical frame members must be closed off before installing the frame into the building opening. Insert a foam plug (N.B.E.) into the top of the mullion at the exterior side of the system. Make sure that the top of the plug is flush with the top of the vertical mullion in order to keep the exterior perimeter joint seal continuous.



CLIP INSTALLATION

Do not seal between the sill horizontal and the sill flashing at the exterior. This is to allow for water migration to the exterior without drilling weep holes.

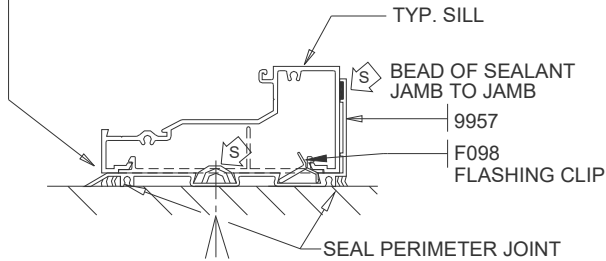
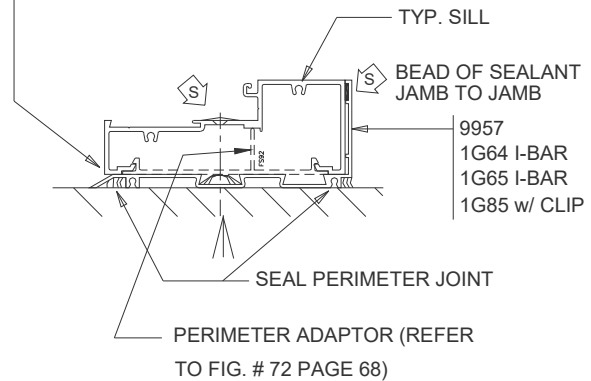


Fig. # 75

When using the sill flashing clip (F098), fastening through the sill member is not necessary.

STANDARD INSTALLATION

Do not seal between the sill horizontal and the sill flashing at the exterior. This is to allow for water migration to the exterior without drilling weep holes.



These recommendations are for general erection procedures only. For actual job conditions, see the details on the shop drawings. For perimeter anchor type and spacing, refer to the approved shop drawings or consult the project design professional.

SECTION IV: D. HIGH SIDE LITE BASE INSTALLATION

REFER TO SECTION III F FOR SIDE LITE BASE PREP.

STEP 1) Start at the door jamb and run a continuous bead of sealant on the floor at the inside line of the glazing pocket to the next vertical.

NOTE: Be sure to tie the sealant bead from under the threshold and under the jamb member through the glazing pocket to the sealant bead under the side lite sill flashing.

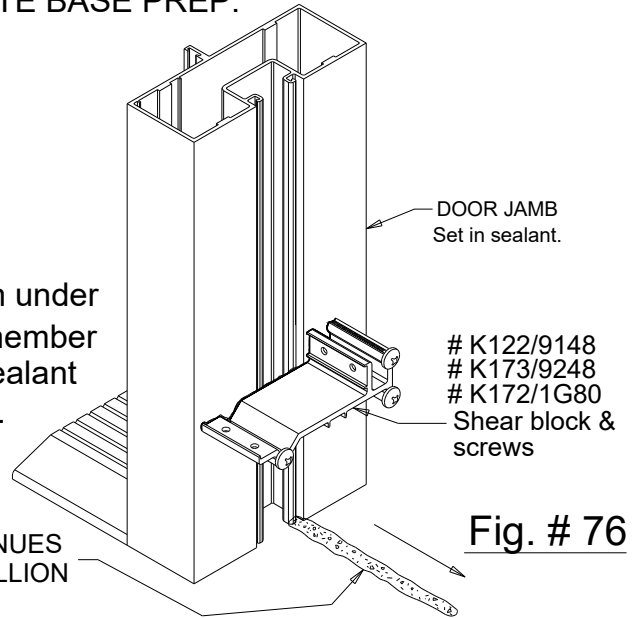


Fig. # 76

STEP 2) Cut the sill flashing to the day lite opening of the module and then set it in a continuous bead of sealant that will run vertical to vertical. When a sill flashing is being incorporated, the use of 4" long pieces of the base adaptor (#9149) can be utilized. Locate the base adaptor pieces 6" from the verticals and 24" on center, with a minimum of 3 per DLO. Fig. # 77 below.

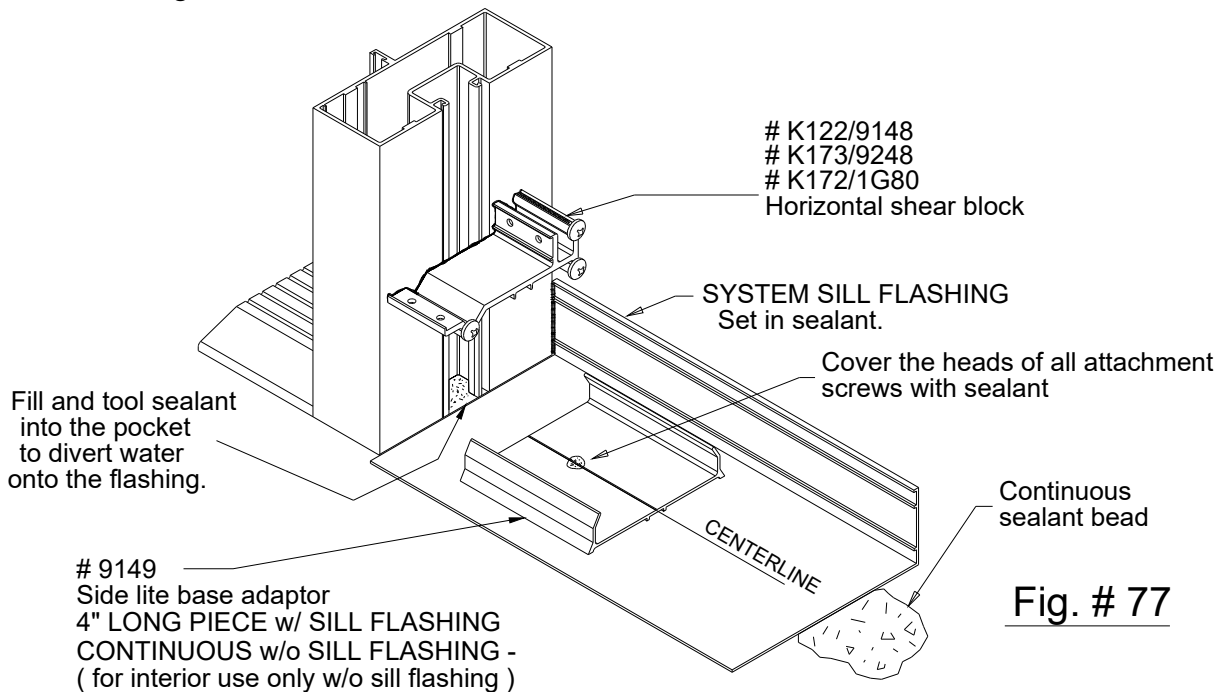
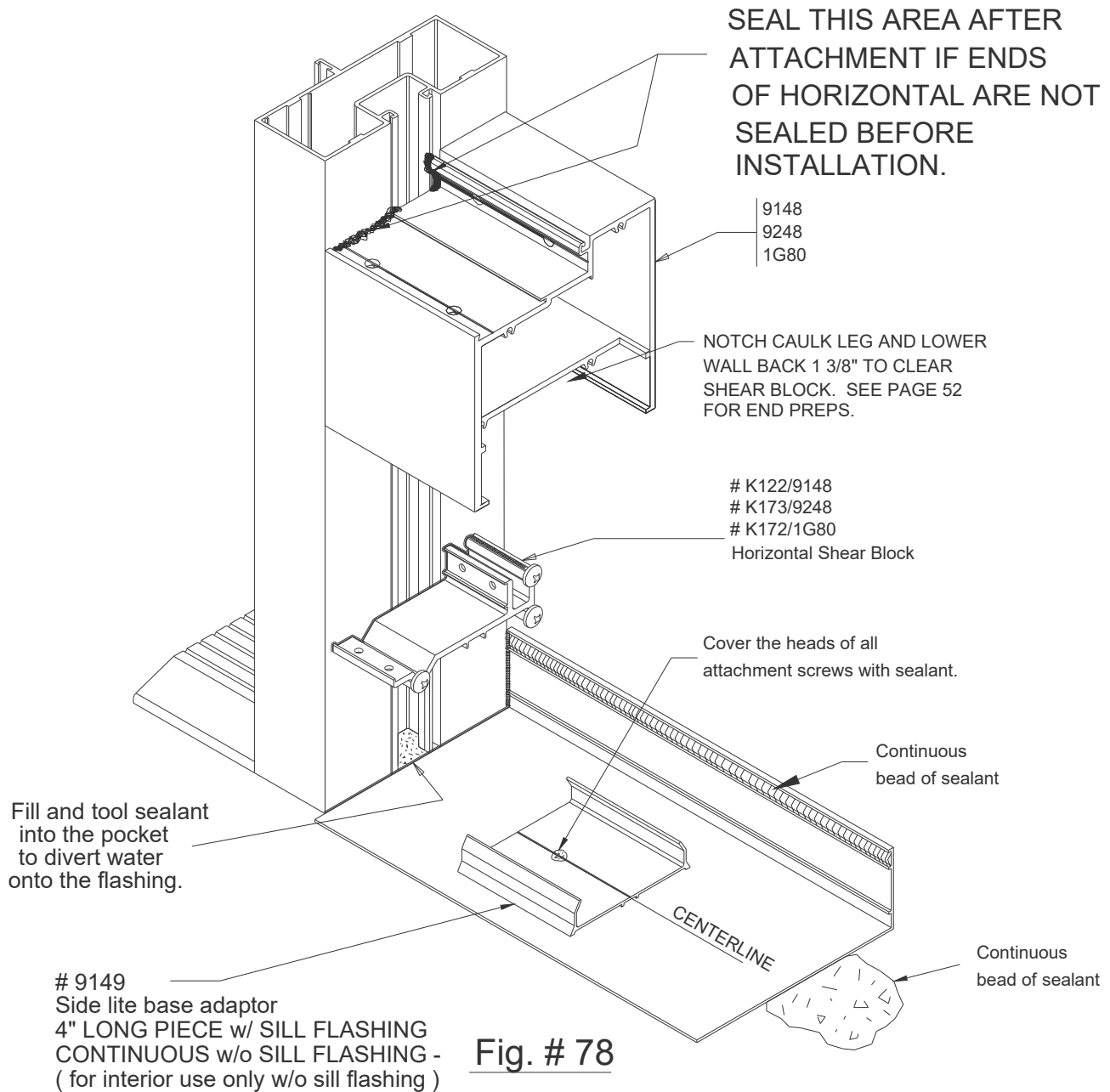


Fig. # 77

SECTION IV: D. HIGH SIDE LITE BASE INSTALLATION

STEP 3) Apply a continuous bead of sealant to the upturned leg of the sill flashing. If it is possible to slide the horizontal member onto the shear block, apply sealant to the end of the member and slide it onto the shear block and down onto the adaptor. If the vertical members are in place, do not seal the ends of the horizontal before sliding it into place over the shear block. After the member is in place and fastened to the shear block, seal across the horizontal area from the exterior to the glazing pocket as indicated below.

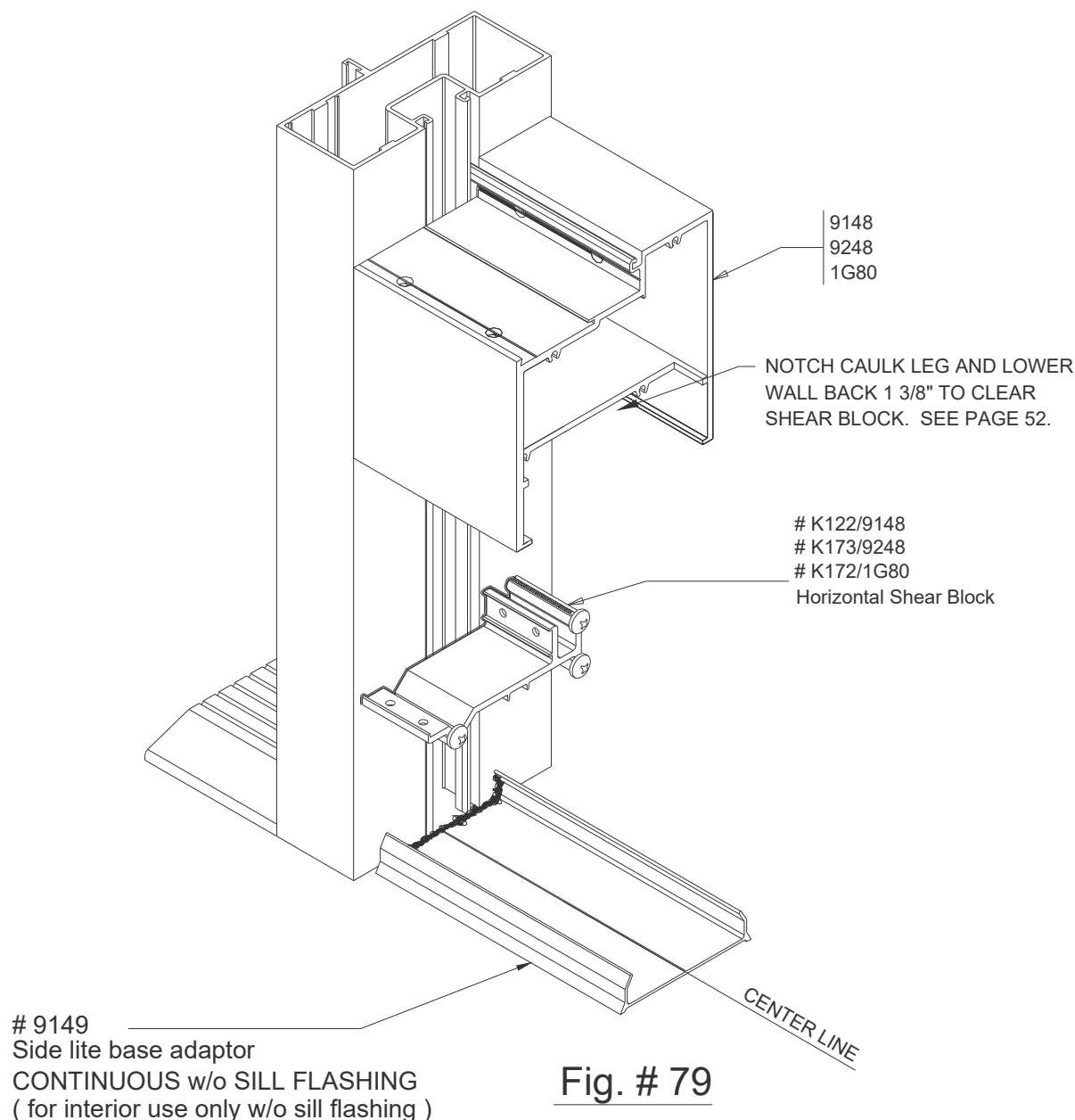


SECTION IV: D. HIGH SIDE LITE BASE INSTALLATION

STEP 4) If it is possible to slide the horizontal member onto the shear block, apply sealant to the end of the member and slide it onto the shear block and down onto the adaptor.*

If the vertical members are in place, do not seal the ends of the horizontal before sliding it into place over the shear block. After the member is in place and fastened to the shear block, seal across the horizontal area from the exterior to the glazing pocket as indicated below.*

* Sealant Not Required At Interior Elevations.



SECTION IV: D. HIGH SIDE LITE BASE INSTALLATION - S401 SYSTEM ONLY -

STEP 4a) S-401 ONLY (OPTIONAL) Follow steps 1, 2, 3, and 4 on pages 71 thru 73.

Exterior and interior perimeter sealing will be required with this type of nonflashing application.

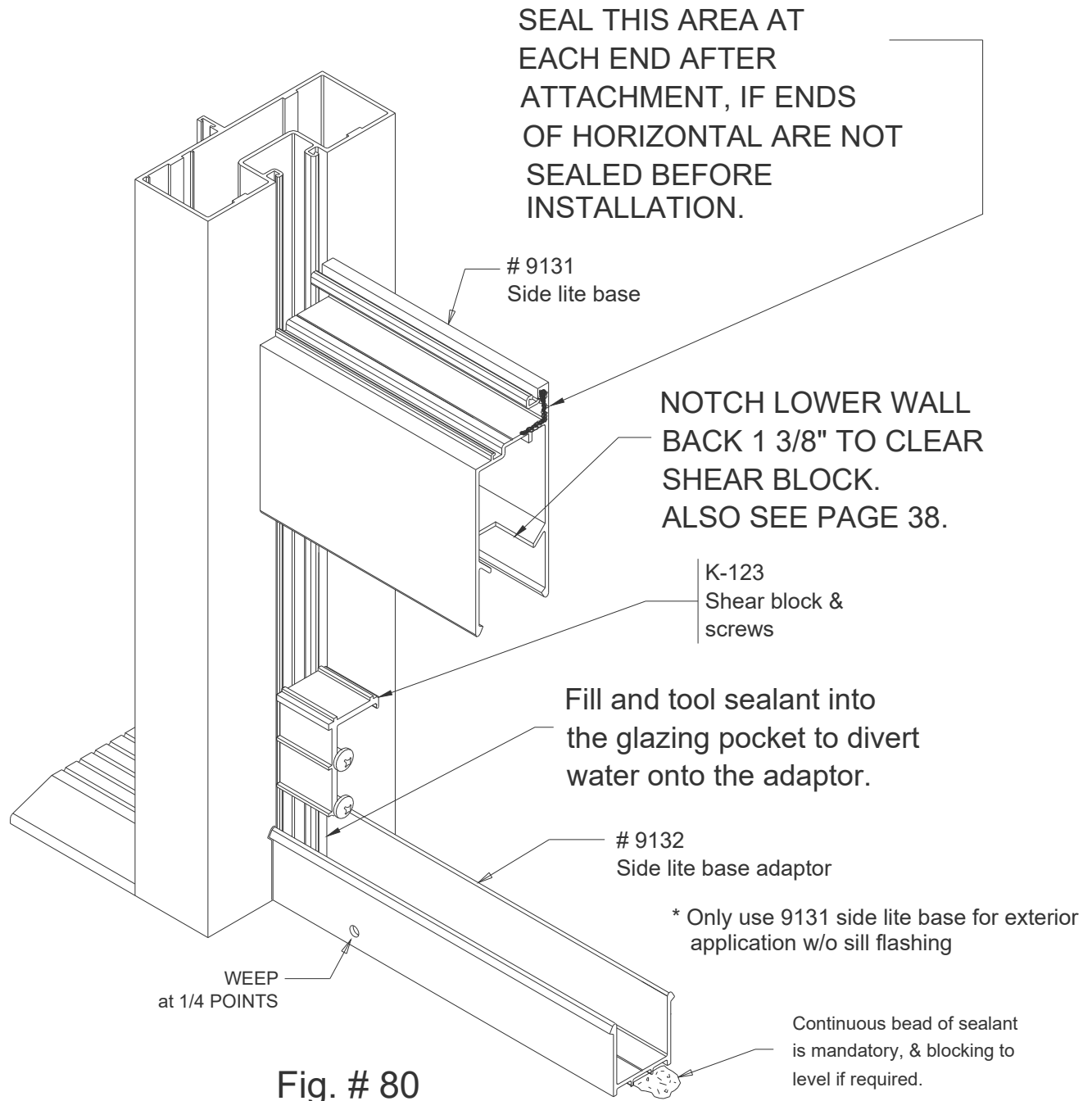
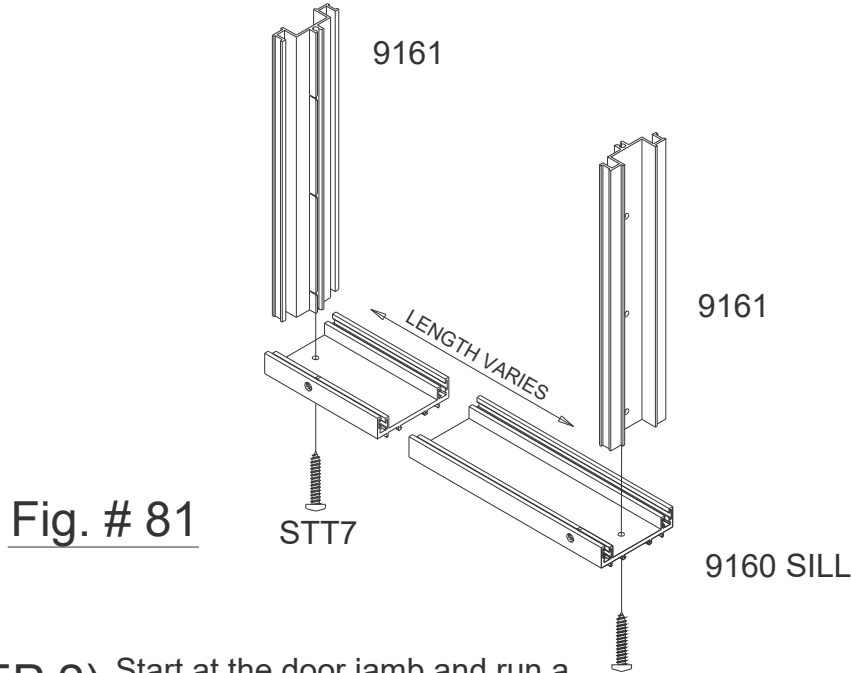


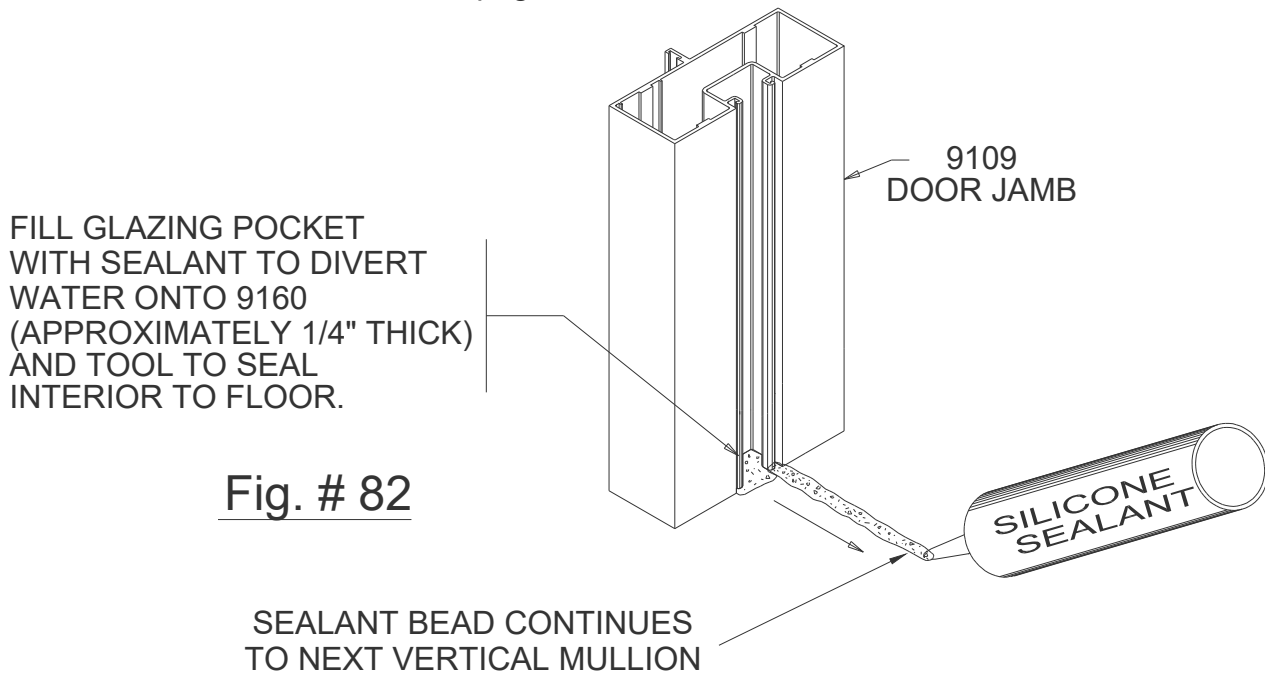
Fig. # 80

SECTION IV: E. 2 1/2" ADJUSTABLE HEIGHT SIDE LITE BASE INSTALLATION

STEP 1) Assemble the base verticals to the base horizontal sill member.
Refer to pages 54 and 55 for preps. See figures below.



STEP 2) Start at the door jamb and run a continuous bead of sealant on the floor at the inside line of the glazing pocket to the next vertical. Proceed to page 76.



SECTION IV: E. 2 1/2" ADJUSTABLE HEIGHT SIDE LITE BASE INSTALLATION

STEP 3) Place partially assembled base on the bead of sealant as shown in Fig. # 83 below. Attach this to the vertical framing with STU5 screws (# 8 x 2 " PH.MS.), then anchor the base to the floor.

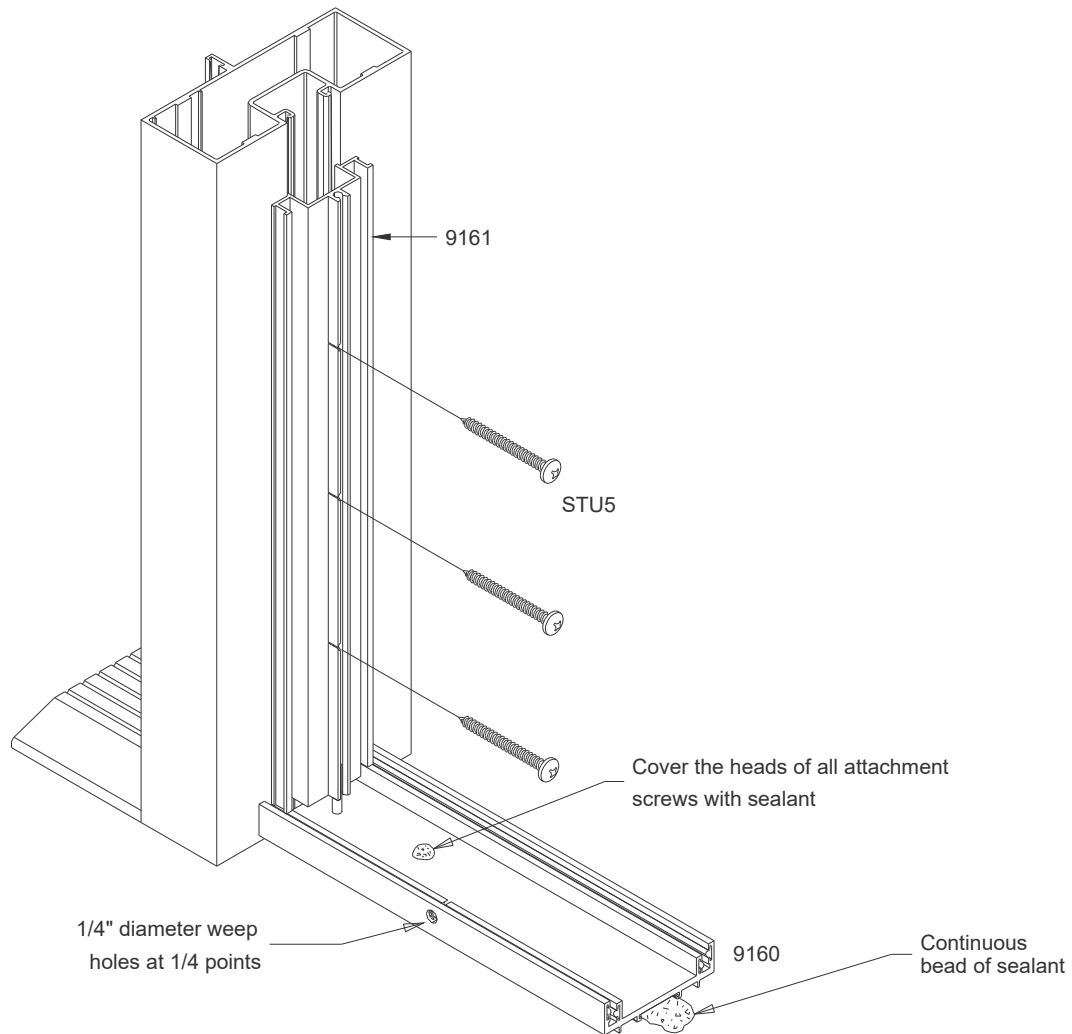
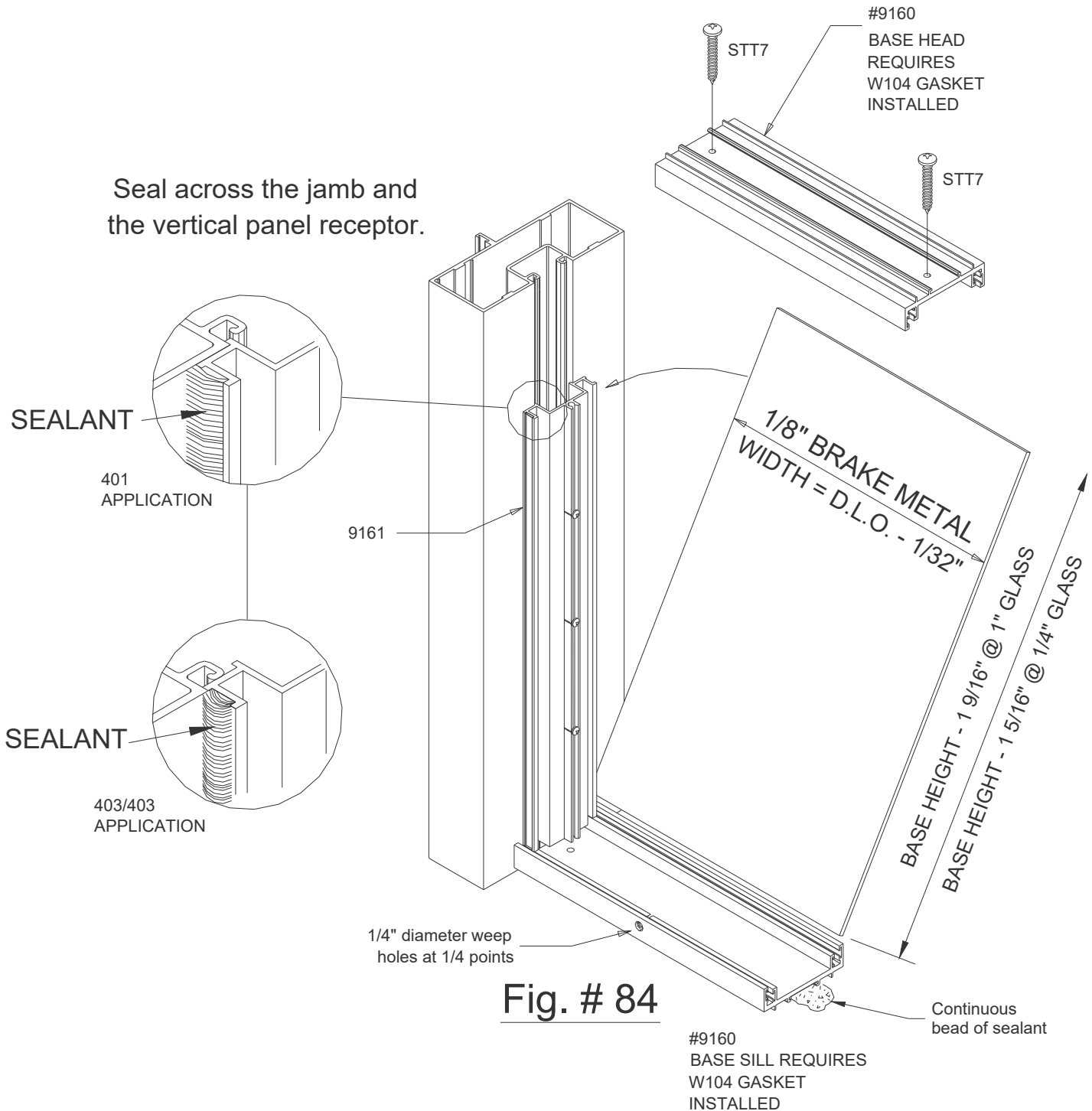


Fig. # 83

These recommendations are for general erection procedures only. For actual job conditions, see the details on the shop drawings. For perimeter anchor type and spacing, refer to the approved shop drawings or consult the project design professional.

SECTION IV: E. 2 1/2" ADJUSTABLE HEIGHT SIDE LITE BASE

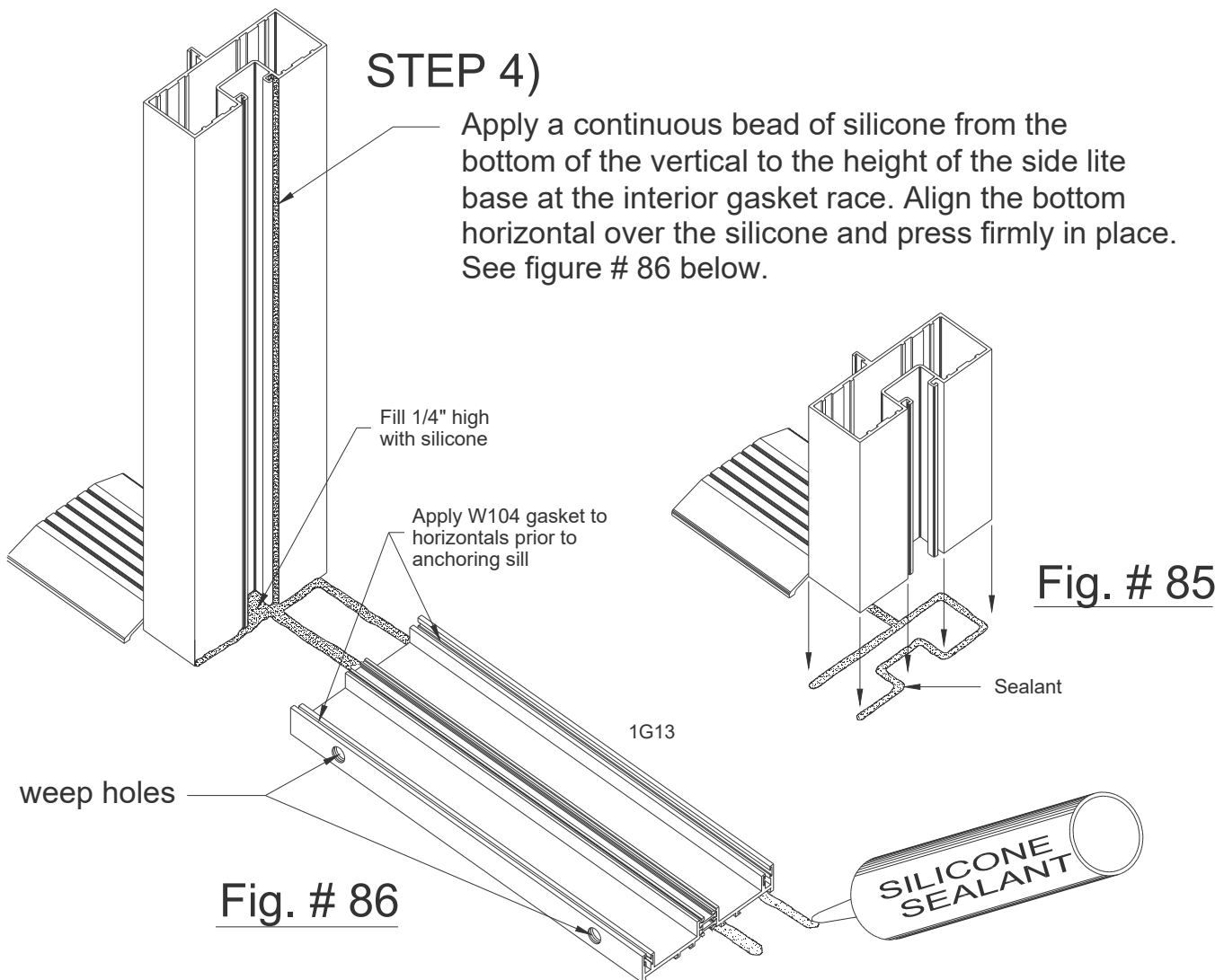
STEP 4) Apply sealant to the vertical - Fig. # 84 below. Place the brake metal in the base sill track and pivot it in place. Do both sides in this manner. Place the base head member over the brake metal and fasten with STT7 screws. (# 10-12 x 1" PH.SMS)



SECTION IV: E. 4 1/2" ADJUSTABLE HEIGHT SIDE LITE BASE INSTALLATION

- STEP 1)** Place the vertical in a bed of silicone profiling the inside edges of the mullion as shown. Leave the exterior face open for water to weep and also marry into the bead of sealant under the threshold. Tool the exposed edges. See figure # 85 below.
- STEP 2)** Fill the glazing pocket with silicone tooled to create a 1/4" high end dam which will divert water onto the bottom horizontal. See figure # 86 below.
- STEP 3)** Apply double beads of silicone across the side lite opening that marries into the previously applied silicone. Apply a 1/4" bead of silicone along the mullion sides at the finished floor. See figure # 86 below.

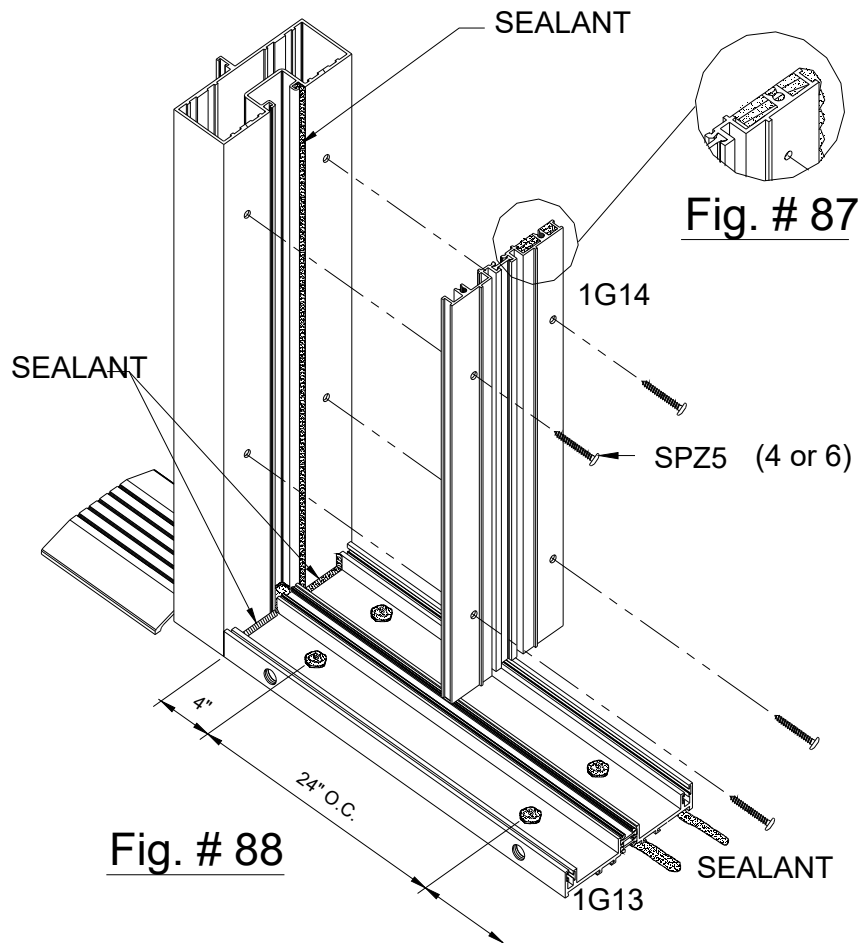
NOTE: If the overall length of the base is over 36 inches, a vertical intermediate will be required. Match drill the top and bottom base members and attach the prepped vertical (1G14) before setting the sill member.



SECTION IV: E. 4 1/2" ADJUSTABLE HEIGHT SIDE LITE BASE INSTALLATION

STEP 5) Anchor the sill to the floor at 4" from the ends and 24" on center. Seal over the screw heads with silicone. See figure # 88 below.

STEP 6) Tool silicone along the end profile of the horizontal to the vertical mullion/jamb and up the brake metal captured legs to form a gutter. See figure # 88 below.



STEP 7) Seal behind the interior half of the verticals (1G14) at top as shown and attach with (4) or (6) # SPZ3 # 8 X 3/4" PL-PH-SMS as required. See figures above.

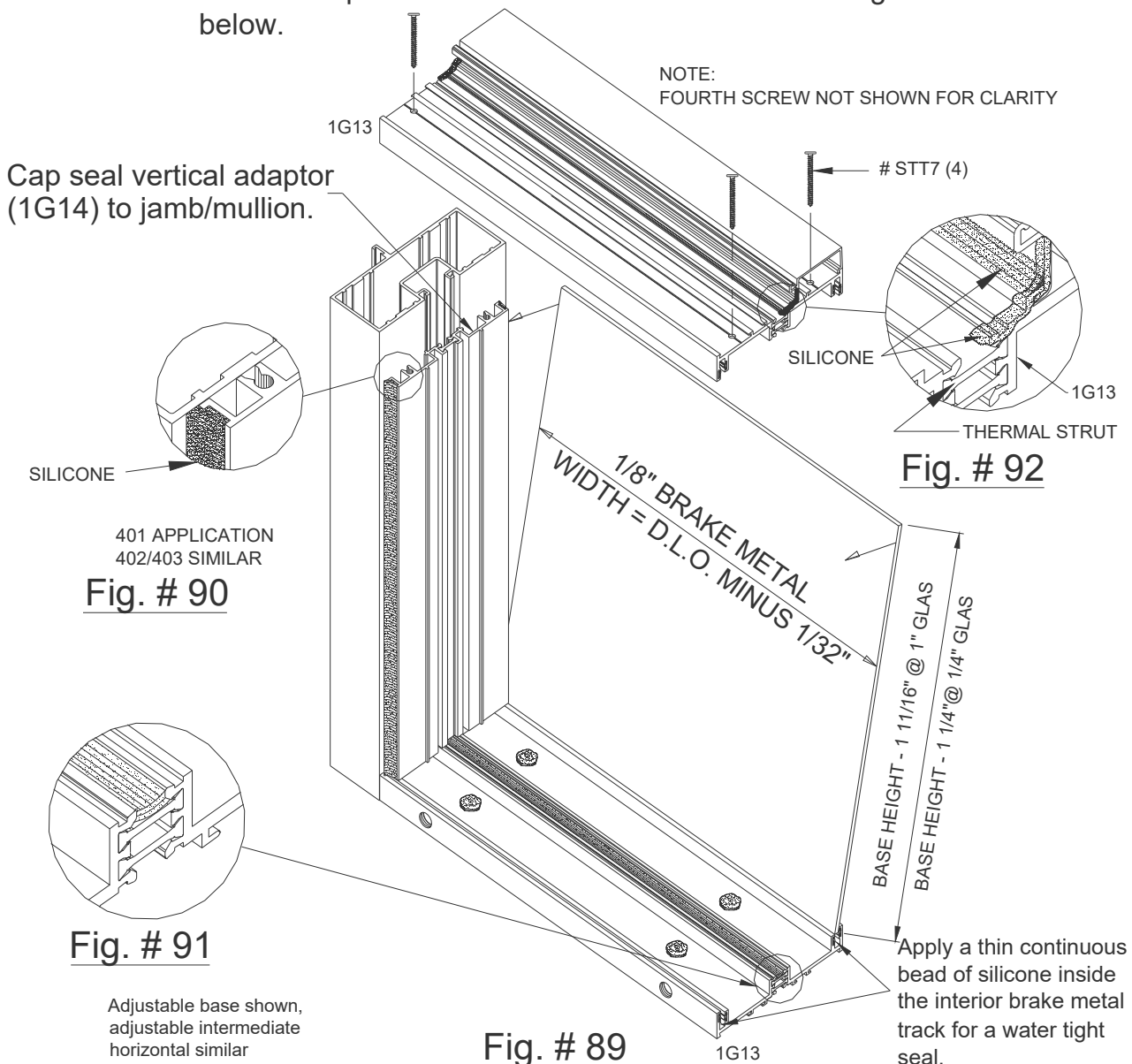
These recommendations are for general erection procedures only. For actual job conditions, see the details on the shop drawings. For perimeter anchor type and spacing, refer to the approved shop drawings or consult the project design professional.

SECTION IV: E. 4 1/2" ADJUSTABLE HEIGHT SIDE LITE BASE INSTALLATION

STEP 8) Apply a silicone cap seal to the edge of the base vertical (1G14) and mullion. Apply a thin continuous bead of silicone inside the interior brake metal track. Pivot the brake metal into the base sill track and press firmly in place. Continue this process at the opposite side of the side lite base. See figure # 89 and # 90 below.

STEP 9) Apply a continuous bead of silicone over the thermal strut to prevent water from traveling through the seam. See figure # 91 below.

STEP 10) Install the side lite base head over the verticals and fasten with (4) #STT7 # 10 x 1" -PH-SMS. See figure # 88 below. Apply a continuous cap bead of silicone over the glass stop track and up the ends to create a water dam. See figure # 92 below.



SECTION IV: E. 4 1/2" ADJUSTABLE HEIGHT INTERMEDIATE HORIZONTAL INSTALLATION

- STEP 1)** Place preassembled frame elevation onto the sill flashing and anchor into the opening as previously outlined.
- STEP 2)** Apply a continuous bead of silicone to the interior gasket race of the mullions located at the area of the intermediate horizontal. See figure # 93 below.
- STEP 3)** Seal behind the interior half of the vertical (1G14) at the top as shown in figure # 93 below and marry to sealant in step 2. Attach with SPZ5 # 8 x 3/4" PH-SMS screws as required.

STEP 4)

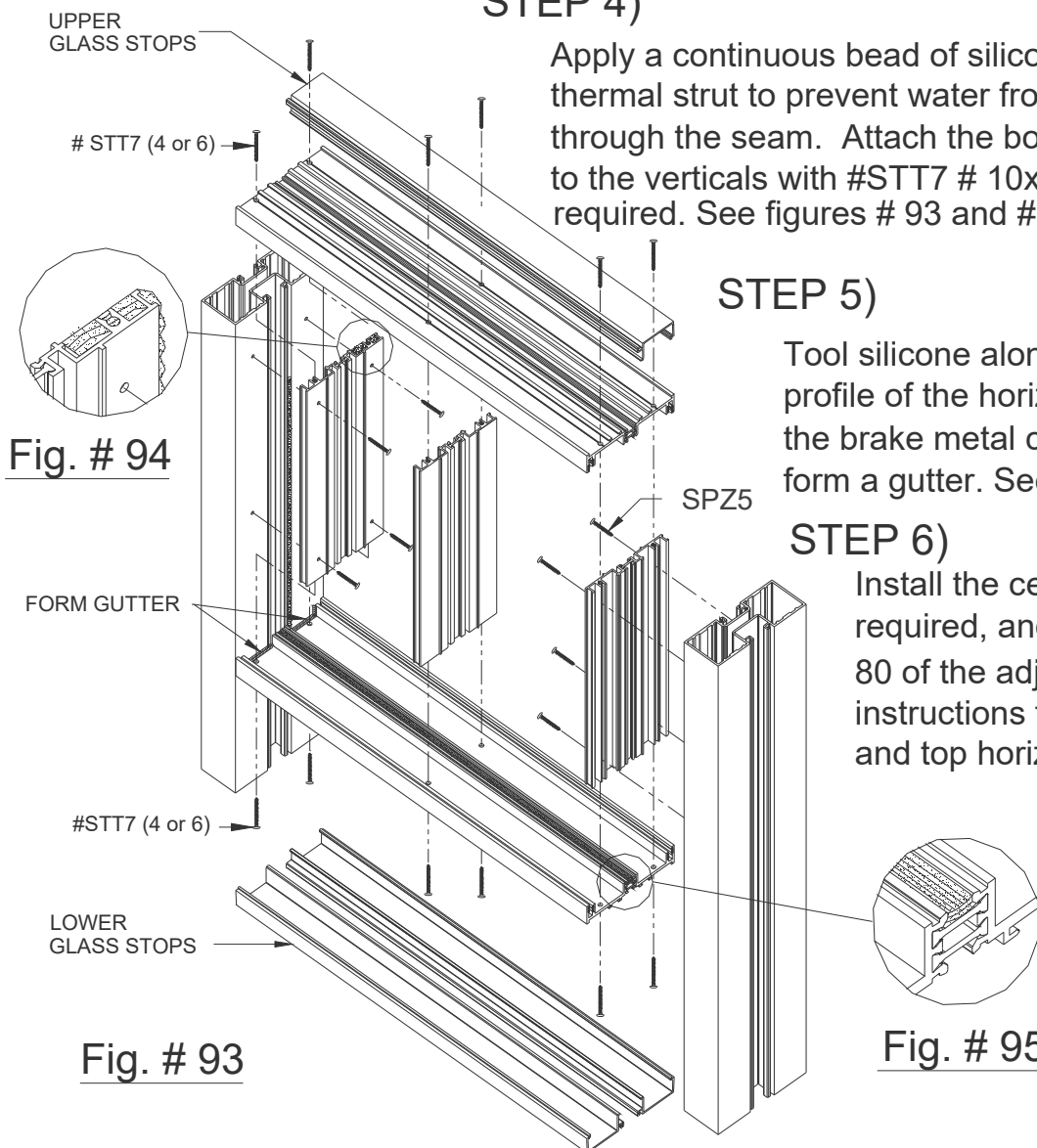
Apply a continuous bead of silicone over the thermal strut to prevent water from traveling through the seam. Attach the bottom horizontal to the verticals with #STT7 # 10x 1 " screws as required. See figures # 93 and # 95 below.

STEP 5)

Tool silicone along the end profile of the horizontal and up the brake metal captured legs to form a gutter. See figure # 93.

STEP 6)

Install the center vertical, if required, and refer to page 80 of the adjustable base instructions for brake metal and top horizontal installation.



SECTION IV: F. - CAN SYSTEM PREPARATION / INSTALLATION

- 1) Be familiar with typical storefront installation procedures before proceeding with any material preps for the can receptor system.
- 2) The can receptor system does not accommodate door jambs. If doors are a requirement, a standard shear block storefront system will have to be used.
- 3) The cut length formula for the can receptor is horizontal rough opening minus 1/2".
- 4) The can receptor at the head and sill is intended to be installed without shims, but the condition must be level and flat within 1/8", otherwise shims will be required.
- 5) The use of end caps are at the discretion of the architect / general contractor.
- 6) Exterior and interior perimeter seals are mandatory with this can system.
- 7) The cut length formula for jambs and verticals is frame dimension minus .75"
- 8) Seal the inside of the receptor to the condition at the jamb and set the jamb members into a bead of sealant in the sill receptor.
- 9) Locate 1/4" diameter weep holes at quarter points of each D.L.O. at the sill can receptor as shown below.
- 10) Set the sill and head receptor can with 1/4" diameter minimum fasteners, 4" from jambs and verticals and then 16" on centers.
- 11) Seal over all fasteners (typ.).
- 12) If end caps are being incorporated, install them now with sealant at the ends of the receptor can.
- 13) Tip up the jamb in place being sure the sill end is set in sealant maintaining a perimeter seal between jamb, sill can, and the condition. Fasten the jamb in place using 1/4" diameter minimum fastener on 16" centers.
- 14) Apply a bead of sealant to the receiving race for the can filler prior to installing the filler. Fill this cavity completely to ensure an adequate seal. Clean off any excess.
- 15) Snap-in the head and sill can fillers, locating them tight against the jamb member.
- 16) Rotate the first vertical in place in the sill can, locating the vertical tight against the previous can fillers. The can fillers will hold the vertical on center line.

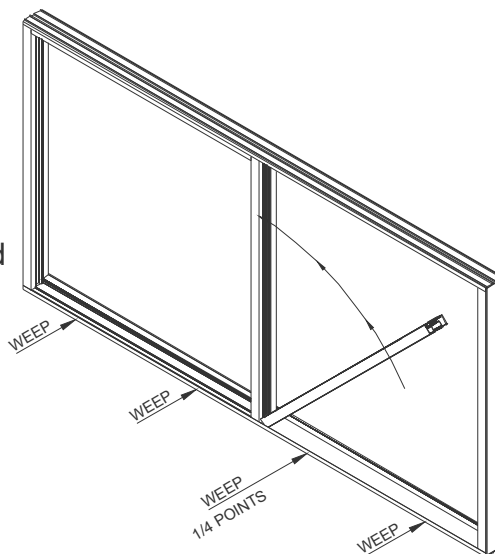
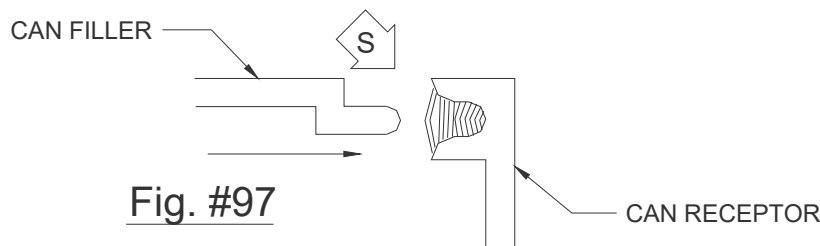
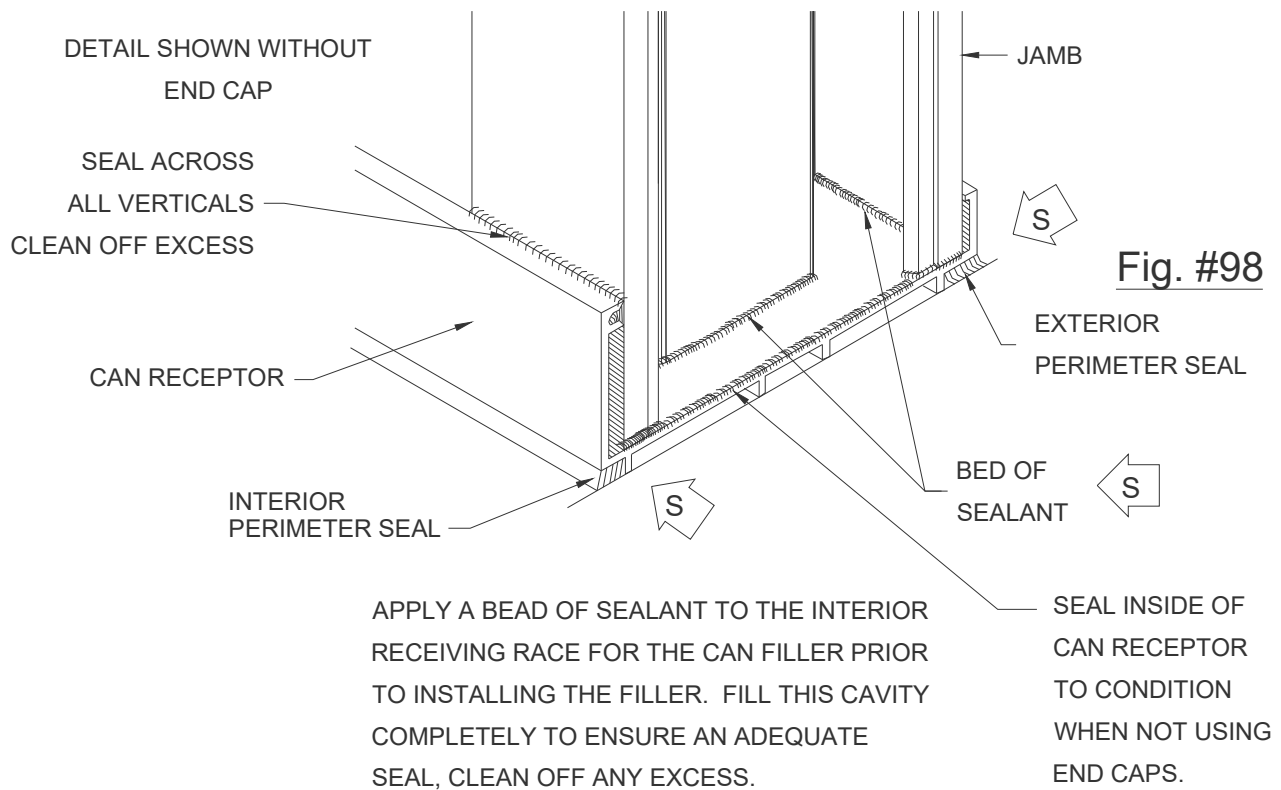


Fig. #96

These recommendations are for general erection procedures only. For actual job conditions, see the details on the shop drawings. For perimeter anchor type and spacing, refer to the approved shop drawings or consult the project design professional.

SECTION IV: F. CAN SYSTEM PREPARATION / INSTALLATION

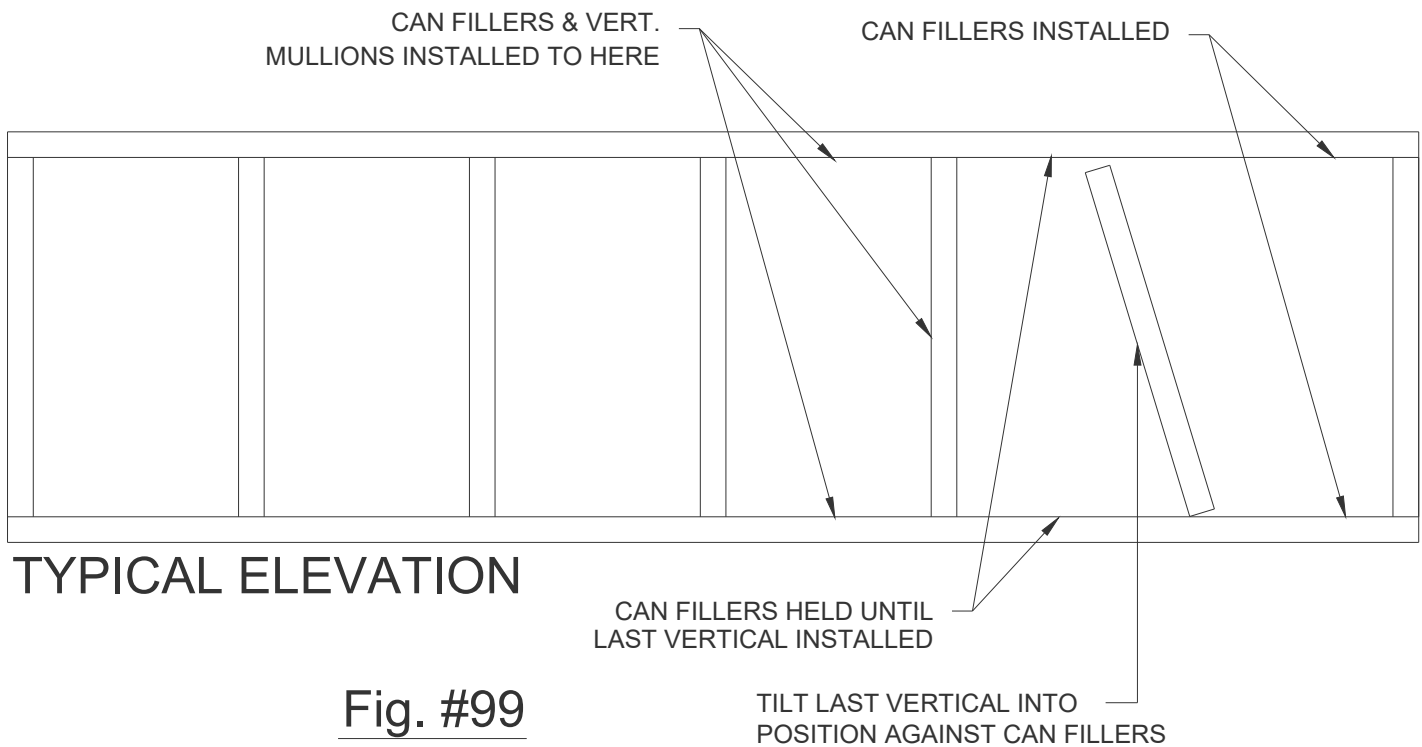
- 17) Snap-in the head and sill can fillers, locate the next verticals at the desired center lines. Repeat the previous steps for multiple verticals.
- 18) Apply a bead of sealant to the inside of the receptor to condition at the jamb, and set the jamb members into a bead of sealant in the sill receptor. If end caps are incorporated, seal the can receptor cavity at the jamb condition with the end cap completely.
- 19) Apply a small bead of sealant across the face of the verticals and jambs at the can line connecting the bead of sealant from the filler track to the other side.
- 20) This is to ensure a continuous seal across the interior / exterior of the head and sill can.
Exterior and interior perimeter seals are mandatory with this can system.



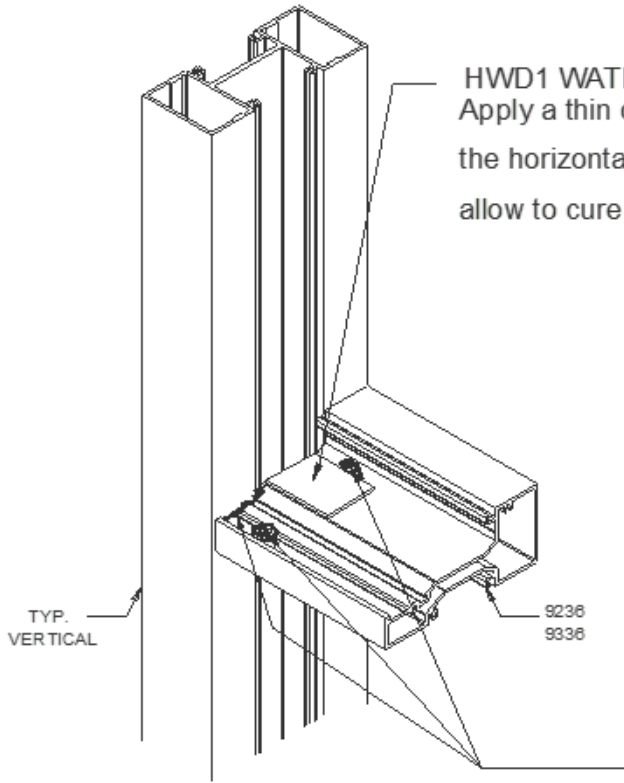
SECTION IV: F. CAN SYSTEM PREPARATION / INSTALLATION

Tap vertical mullion tight against the can fillers already in place, and then repeat the installation of the next can fillers and vertical mullions. Check every third mullion for correct spacing.

NOTE: Install the last can filler of a run before the second to last. This will allow the tilting of the last vertical mullion into place, which will then finish the run. See Fig. #99 below.

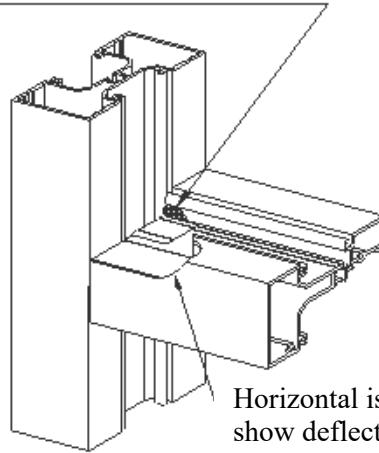


SECTION V: A. WATER DEFLECTOR INSTALLATION (TYPICAL FOR S-402 AND S403)



HWD1 WATER DEFLECTOR
Apply a thin coat of silicone sealant to the end of the horizontal. Set the HWD1 into the sealant and allow to cure prior to installing glass.

Seal the inside glazed horizontal to the vertical at the inside face of the glazing pocket. The seal to the vertical is critical in this area.



Horizontal is cut out to show deflector & joint seal.

Fig. # 100

Seal over the attachment screws and across the horizontal joint.

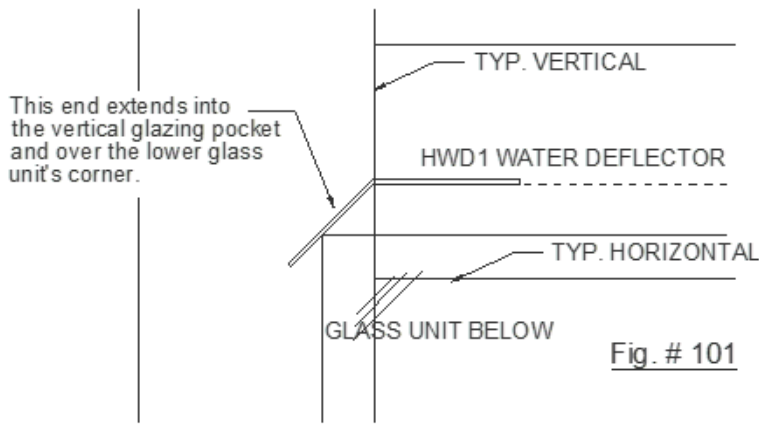
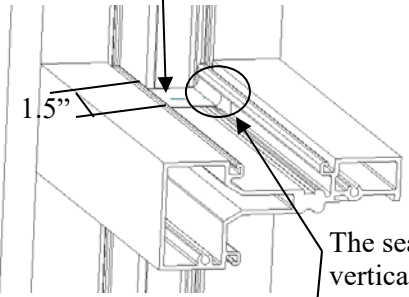
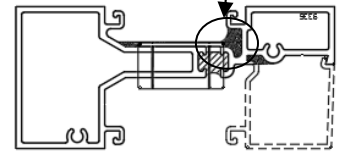
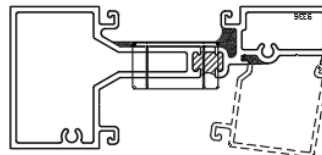
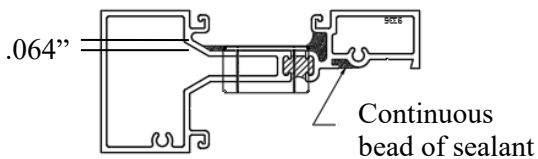


Fig. # 101

Seal HWD1 in a continuous bed of sealant as shown, 1.5" away from the jamb.



The seal to the vertical is critical in this area.



Glass Stop - Ensure that the glass stop hook is clean and free of oil and dirt. Run a continuous bead of silicon at area shown above.

Before sealant cures, place stop as shown and rotate into final position as shown to the right. Strong hand pressure or a slight tap with a mallet will ensure the glass stop is fully engaged. This step is for both outside and inside glazed units.

SECTION V: B. POCKET DIMENSIONS AND GLASS SIZE FORMULAS

Pockets for System 401 (1 3/4" sight line) are 11/16" (.688) wide and will accept 1/4" glass, dry glazed.

Pockets for Systems 402 and 403 (2" sight line) are 1 7/16" (1.438) wide and will accept 1" glass, dry glazed. See Fig. # 102.

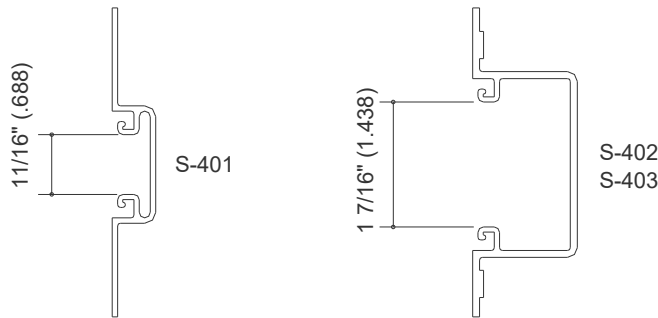


Fig. # 102

SECTION V: C. GLASS SIZE FORMULAS

System 401 (1 3/4" sight line) = D.L.O. + 5/8" (HORIZONTAL)

System 401 (1 3/4" sight line) = D.L.O. + 5/8" (VERTICAL)

Systems 402 & 403 (2" sight line) = D.L.O. + 7/8" (HORIZONTAL)

Systems 402 & 403 (2" sight line) = D.L.O. + 7/8" (VERTICAL)

See FIG. # 103 below.

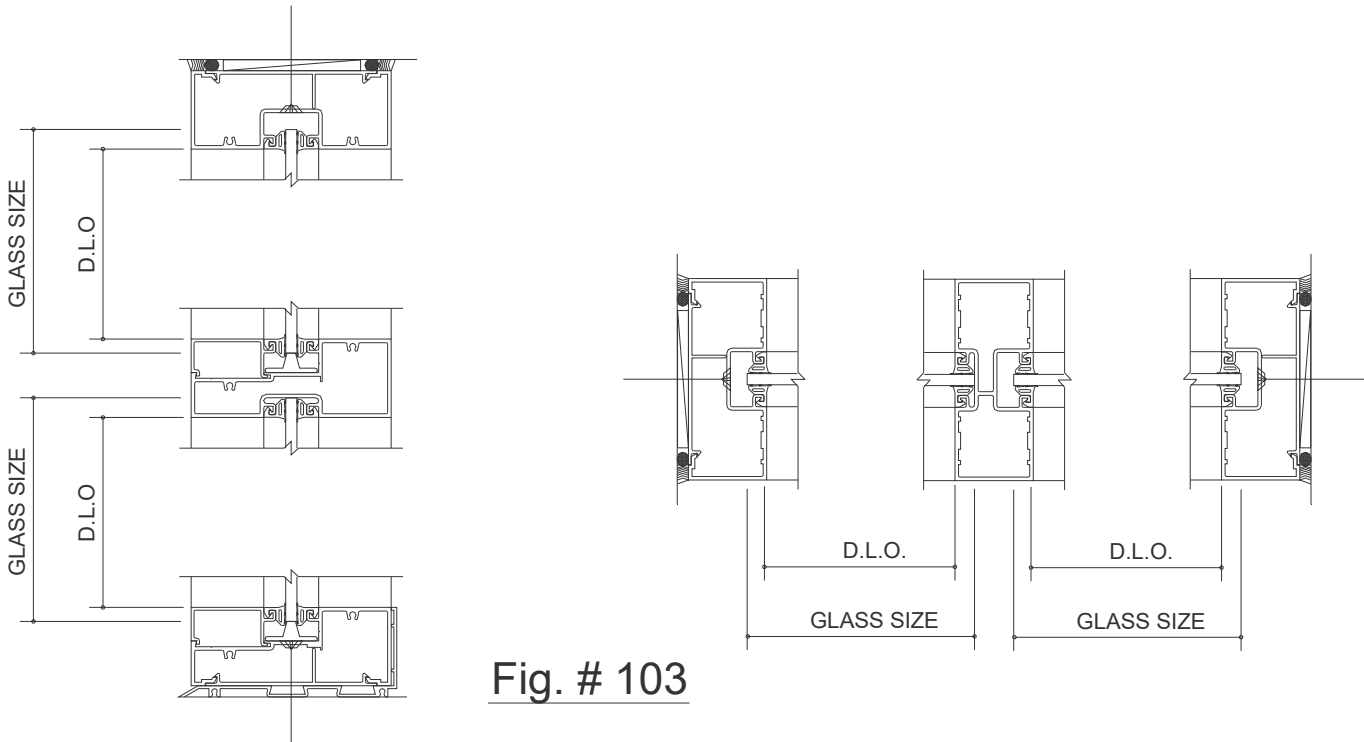


Fig. # 103

SECTION V: C. OUTSIDE GLAZING

STEP 1)

- A) Apply sealant to the ends of all horizontals to seal the intersections at the verticals. At all 4 corners of the D.L.O., apply sealant in the gasket race for 1" away from the intersection of the vertical and the horizontal members. See Fig. # 104 below.
- B) Cut the interior and exterior push-in gaskets to an approximate length of D.L.O + 3.0".

NOTE: Vertical gaskets run through.

- C) Start at each end and work toward the center, firmly pushing the gasket in place. See page 89 for gasket installation.
DO NOT STRETCH THE GASKET OR IT WILL RETURN TO ITS ORIGINAL FORM, CREATING GAPS AT THE GASKET INTERSECTIONS.
- D) Clean the glazing gaskets with denatured alcohol at the intersection area. Apply a small amount of sealant at the intersect area to marry the vertical and horizontal glazing gaskets. Tool all sealant to present a neat, clean appearance.

NOTE: These steps are included in the test lab procedure and are required to achieve the test report results for air and water infiltration.

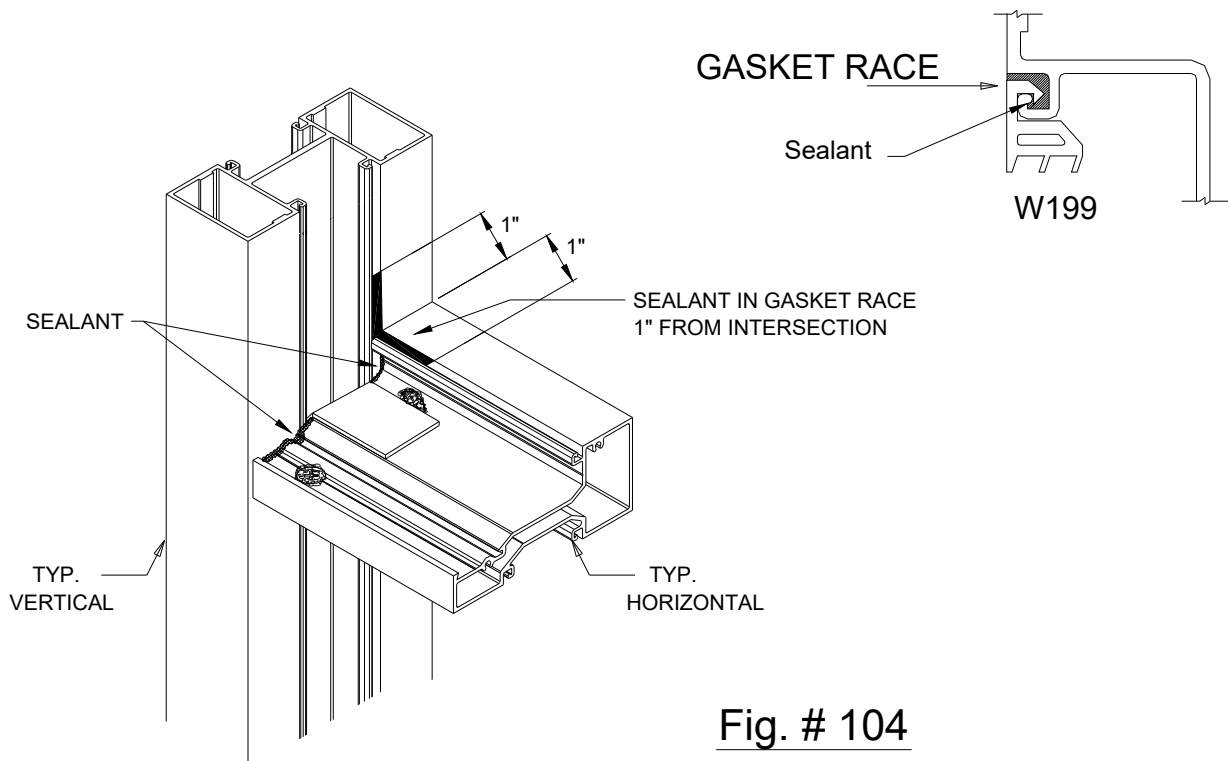


Fig. # 104

SECTION V:C. OUTSIDE GLAZING

Step 2) Installation of Glazing Gasket

For inside glazed applications, install the exterior gasket prior to glass installation. For outside glazed applications, install the interior gasket prior to glass installation.

SIZE THE GASKET LENGTH BY USING THE FOLLOWING FORMULA.
D.L.O. + 3.0"

NOTE: To install glazing gasket, start by pushing the gasket in place at the ends. Move to the middle, then to quarter points and work the "waves" toward the ends. Do not stretch the gasket or it will return to its original form, creating gaps at the gasket intersection. See Figure 105 below.

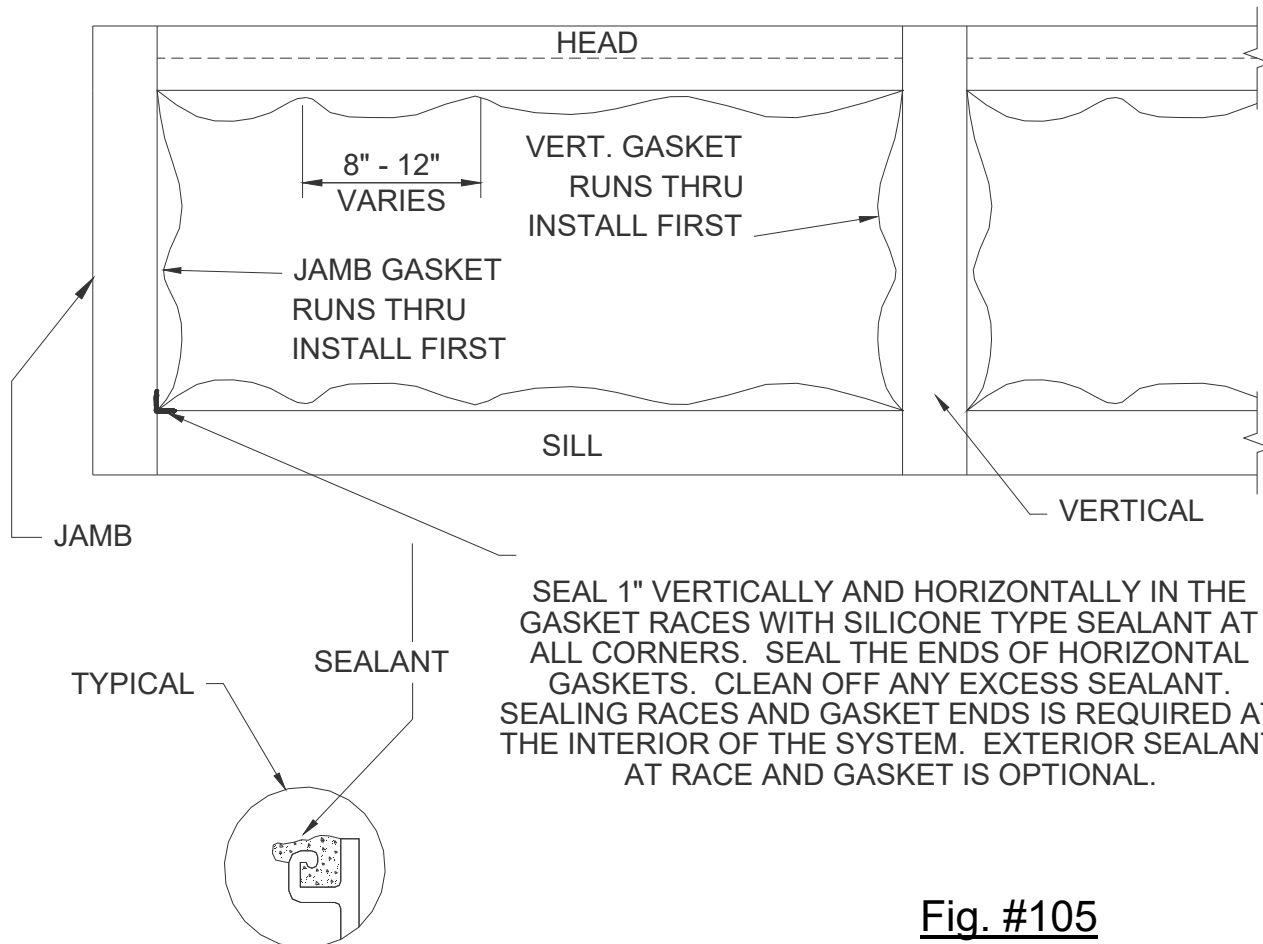


Fig. #105

SECTION V: C. OUTSIDE GLAZING

STEP 3) GLASS INSTALLATION

- A) Position the glass on the side of the framing with the removable stop (interior or exterior), and then shift the glass into the deep pocket.
 - B) Swing the opposite edge of the glass around to align with the glazing pocket.
 - C) Shift the glass into the shallow pocket until there is equal glass bite on both edges of the glass.
 - D) Lift the glass into the head member glass pocket.
 - E) Insert the setting blocks under the glass at the proper locations and then lower the glass onto the setting blocks.
 - F) Snap-on the removable glass stop, and install the glazing gasket.
- See step # 1 on page 87.

NOTE: If using antiwalk blocks, refer to page 90.

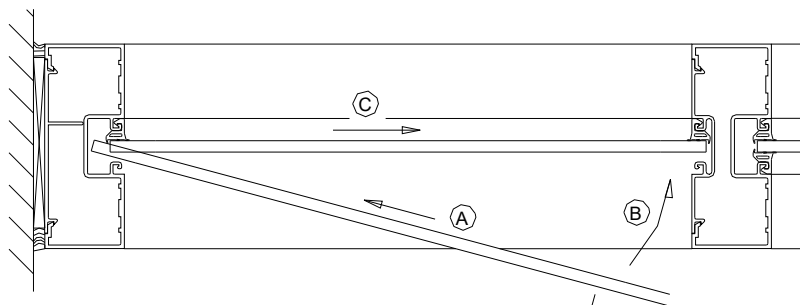
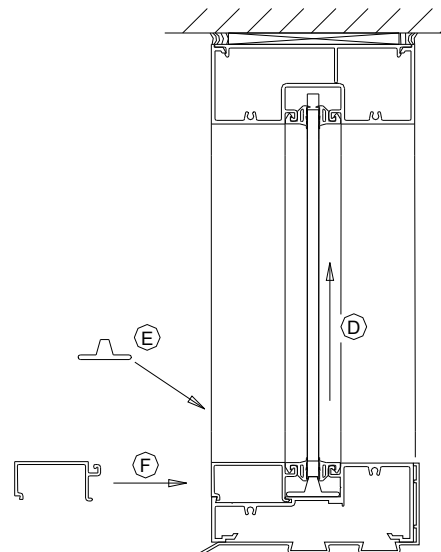


Fig. # 106



Customer / Installer Note:
 EFCO setting blocks are typically 4" in length with different depths. If the glazing infill is "NOT BY EFCO" and glazing sizes are larger than 40 square feet, then the glazing details must be reviewed by the glazing manufacturer for proper setting block size.

SECTION V: C. OUTSIDE GLAZING

STEP 4) ANTIWALK BLOCK INSTALLATION

- A) Install interior gasket following the steps on page 87.
- B) Position glass as described in the steps on page 88.
- C) Stretch the antiwalk block as shown in Fig. 107 below and insert from the exterior at midlite and deep pocket only.
- D) Recenter the glass unit to maintain equal glass bite all around.
- E) Install exterior gasket.

ANTIWALK BLOCK
HN50
HN52
HN54

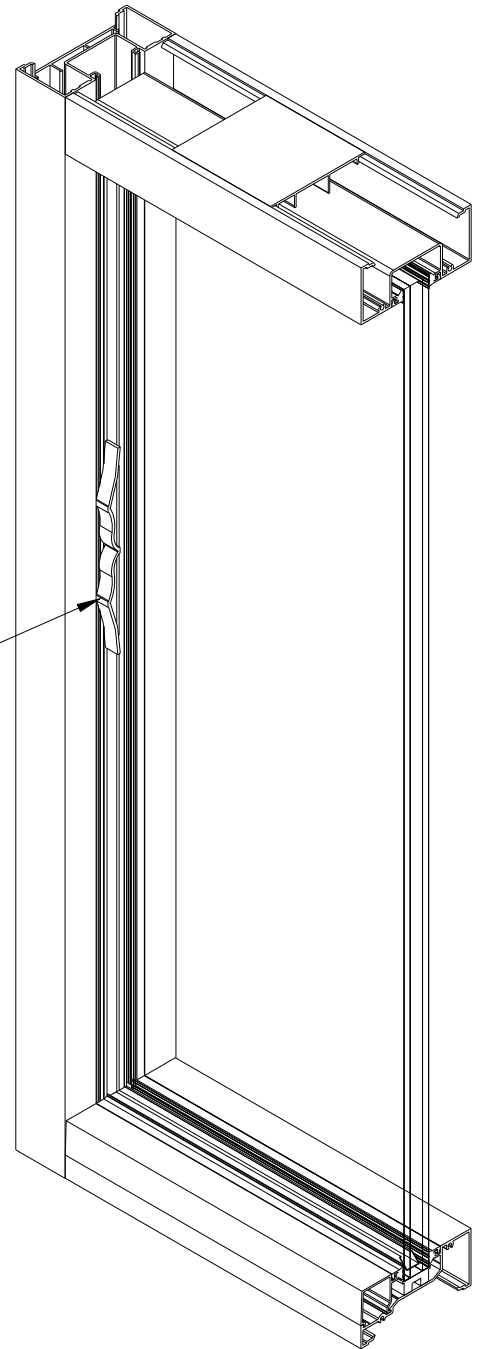


FIG. # 107

STEP 5) ANTIWALK BLOCK DEGLAZING

- A) Remove interior and exterior glazing gasket.
- B) Push glass back to the interior side.
- C) Remove antiwalk block with sharp hook shaft tool from exterior side.

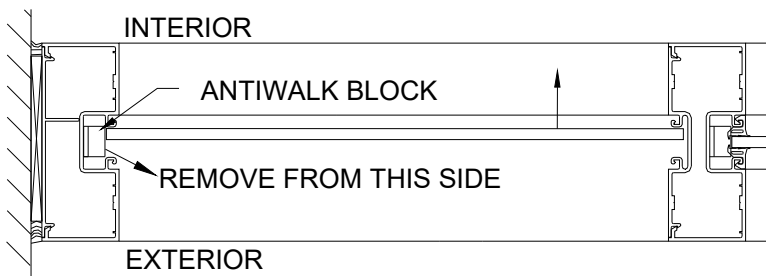


FIG. # 108

SECTION V: D. INSIDE GLAZING

ALL SYSTEMS CAN BE INSIDE GLAZED. PREP AND ASSEMBLE THE FRAMES WITH THE REMOVABLE GLASS STOP LOCATED AT THE HEAD ON THE INTERIOR SIDE. FOLLOW THE FABRICATION AND ASSEMBLY STEPS AS OUTLINED IN SECTION III.

STEP 1) GLASS INSTALLATION

- A) Cut the interior and exterior glazing gaskets to an approximate length of D.L.O + 3.0".
- B) Install the exterior glazing gasket by starting at one end and working toward the center, firmly pushing the gasket into place. See page 89 for gasket installation.

DO NOT STRETCH THE GASKET OR IT WILL RETURN TO ITS ORIGINAL FORM, CREATING GAPS AT THE GASKET INTERSECTIONS.

- C) Locate and position the glass setting blocks in the sill member's glazing pocket. Setting blocks are typically located at 1/4 points of the D.L.O.
- D) Position the glass at the interior of the opening to be glazed.
- E) Lift the glass into the head member's glass pocket with the glass stop removed.
- F) Then, shift the glass into the deep pocket at the vertical.
- G) Swing the opposite edge of the glass around to align with that glazing pocket.
- H) Shift the glass into the shallow pocket until there is equal glass bite on both edges of the glass.
- I) Lower the glass onto the setting blocks.
- J) Snap-on the removable glass stop and install the interior glazing gasket as outlined on page 87. Be sure to seal the gasket ends as described.

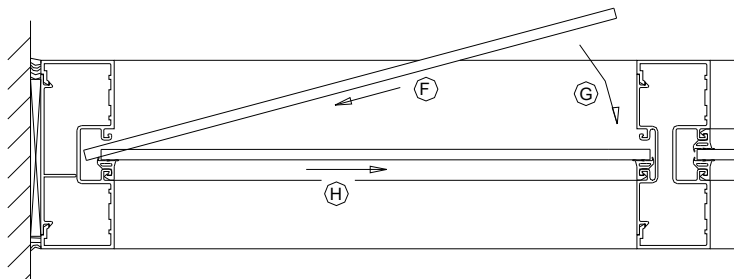
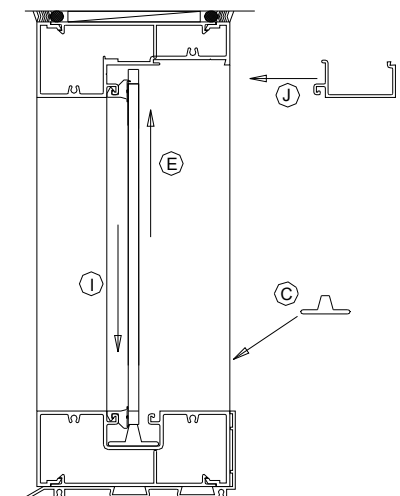


Fig. # 109



SECTION V: E. WINDOW ADAPTORS PREPS / INSTALLATION

PREP for #9938 EQUAL LEG SHADOWLINE ADAPTOR

FOR 1" GLAZING POCKETS ONLY

HORIZONTAL CUT LENGTH = D.L.O. minus 1/16"
THE HORIZONTAL PIECES RUN THROUGH.

VERTICAL CUT LENGTH = D.L.O. minus 11/32"
NOTCH THE BACK LEG OF THE VERTICAL PIECE
1/8" x 5/8" TO CLEAR THE HORIZONTAL LEG.

SEAL JOINT COMPLETELY

FOR EQUAL LEG SHADOWLINE WINDOWS
WINDOW DIM. = D.L.O. minus 9/16"

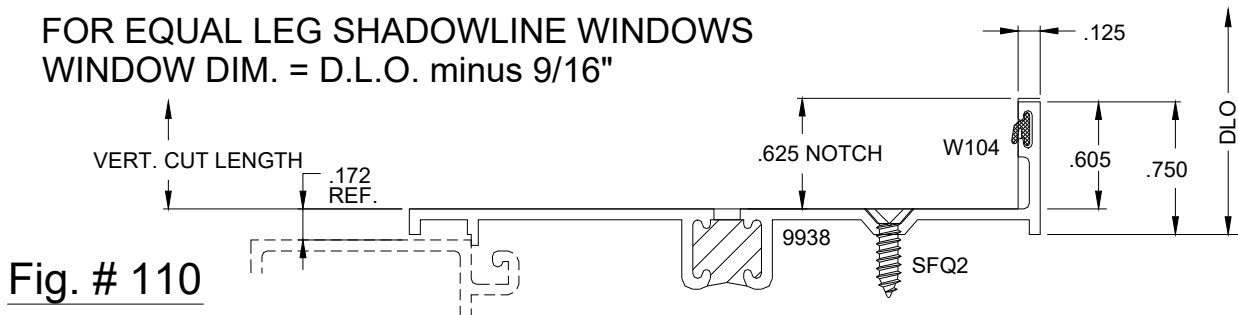


Fig. # 110

PREP for #8643 EQUAL LEG SYSTEM II ADAPTOR

FOR 1/4" AND 1" GLAZING POCKETS

HORIZONTAL CUT LENGTH = D.L.O. minus 1/16"
THE HORIZONTAL PIECES RUN THROUGH.

VERTICAL CUT LENGTH = D.L.O. minus 5/16"
NOTCH THE BACK LEG OF THE VERTICAL PIECE
1/8" x 7/8" TO CLEAR THE HORIZONTAL LEG.

SEAL THE JOINTS COMPLETELY

FOR EQUAL LEG SYSTEM II WINDOWS
WINDOW DIM. = D.L.O. minus 1/2"

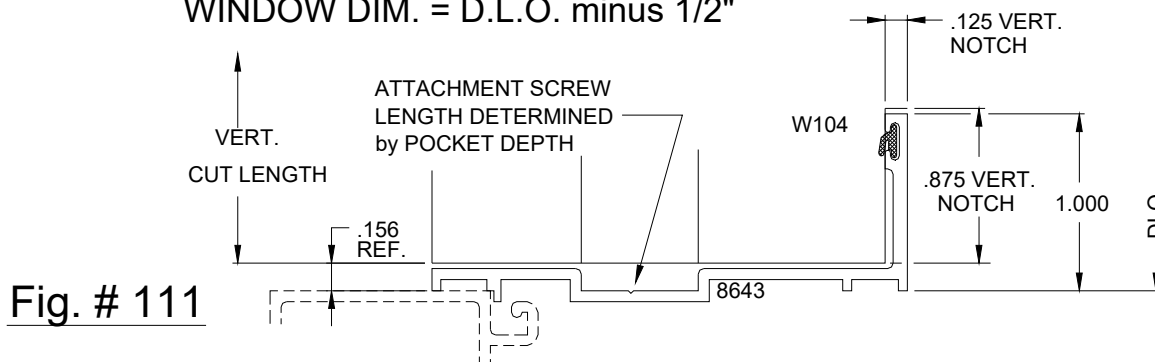


Fig. # 111

SECTION V: F. 1" POCKET REDUCERS FOR 1/4" AND 1/2" GLASS

USE #9260 FOR 1/2" THICK GLASS

USE #9261 FOR 1/4" THICK GLASS

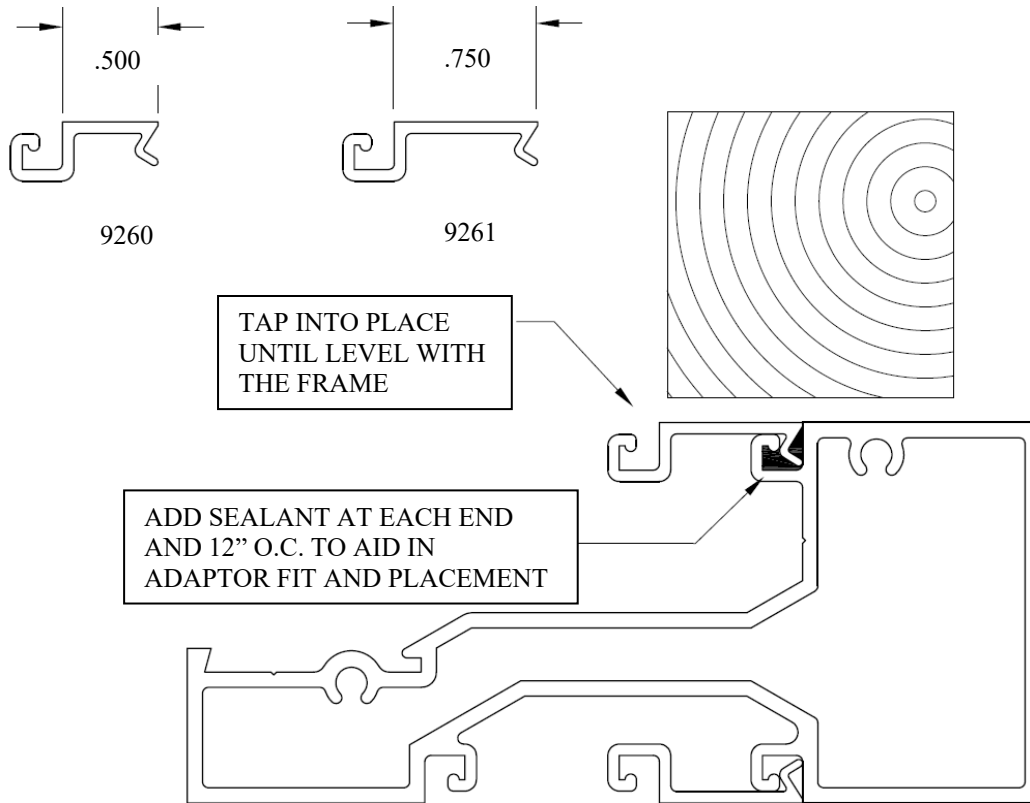


Fig. #113

Due to extrusion tolerances and varying thickness of painted finishes, it may be necessary to tap the pocket reducers into place using a hammer and a 6" long block of wood.

Care must be taken not to bend the pocket reducer as it is being tapped into position. This may be a permanent installation and careful locating procedures must be taken.

Series 401,402, & 403 Installation Instructions

Revisions:

Fixed Step 1 on page 65 MH 5/10/2018