

# S7400 Terrace Door



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## Installation Guidelines for

## S7400 Inswing, Outswing Single and French Doors

# S7400 Terrace Door

## Installation Guideline Disclaimer

This document contains general installation guidelines of the Graham Architectural products and does not address each particular condition or installation. Shop drawings installation details may vary from these Guidelines as these Guidelines do not address every possible condition so any variances should be addressed by the design professional. These Guidelines do not address the structural adequacy on any installation and such should be addressed by a design professional. Anchorage to existing or proposed wall conditions are not addressed in this document. Also sealant compatibilities should be addressed by the sealant manufacturers. Sealant application details should be reviewed by the sealant manufacturer. This document does not address the connection between the door system and the building weather barrier system and should be reviewed by the waterproofing consultant. It is generally recommended that insulation be installed in all voids of a thermally improved systems, but the application of insulation in wet areas needs to be addressed by the design professional and the particular type of insulation may need to be specified.

# S7400 Terrace Door

Thank you for your purchase of a Graham Architectural Series S7400 Terrace Door. These instructions include the 3 sill conditions that offer various water resistance levels.

Read the assembly instructions before starting any assembly or installation. Following the attached installation instructions step by step will assure trouble free operation of your new Terrace Door.

## HANDLING – SORTING – PROTECTING ALUMINUM DOORS

Aluminum doors are finished products and must be protected against damage. The following precautions are recommended to assure early acceptance of your products and workmanship:

1. **HANDLE CAREFULLY – DO NOT DROP.** Stack with adequate separation so door parts will not rub together, including any protruding hardware such as hinges. Do not use the hardware or grids for lifting or manipulating the door.
2. Protect doors from moisture and dirt prior to installation. It is important that all doors that are not installed, are protected from direct contact with rain, snow, or ice so as to protect the finish of the product.
3. Protect from construction debris, cement, plaster, terrazzo, and other construction materials, which include, but are not limited to, alkali based materials or caustic cleaners. This must be removed immediately to prevent damage to the finish of the aluminum or to the clarity of the glass.
4. Construction debris and dirt within the frame will affect the operation of the door.
5. Prior to applying sealants, the surfaces must be cleaned and prepared as directed by the sealant manufacturer.

*CAUTION – Doors are not to be used as ladders, scaffolds, or supports. Installed door openings are not to be used as construction entrances, unless adequate protection to the door sill and jambs is provided. Damage to any products from any construction activity will void the product warranty for the products in question.*

**Note:** Copies of these instructions can be downloaded from [www.grahamwindows.com/architectural-resources/technical-information/](http://www.grahamwindows.com/architectural-resources/technical-information/)

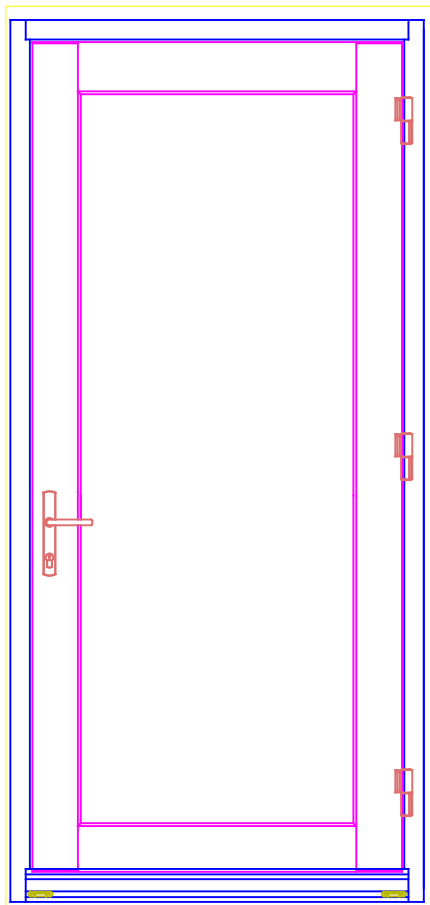
# S7400 Terrace Door

## Contents:

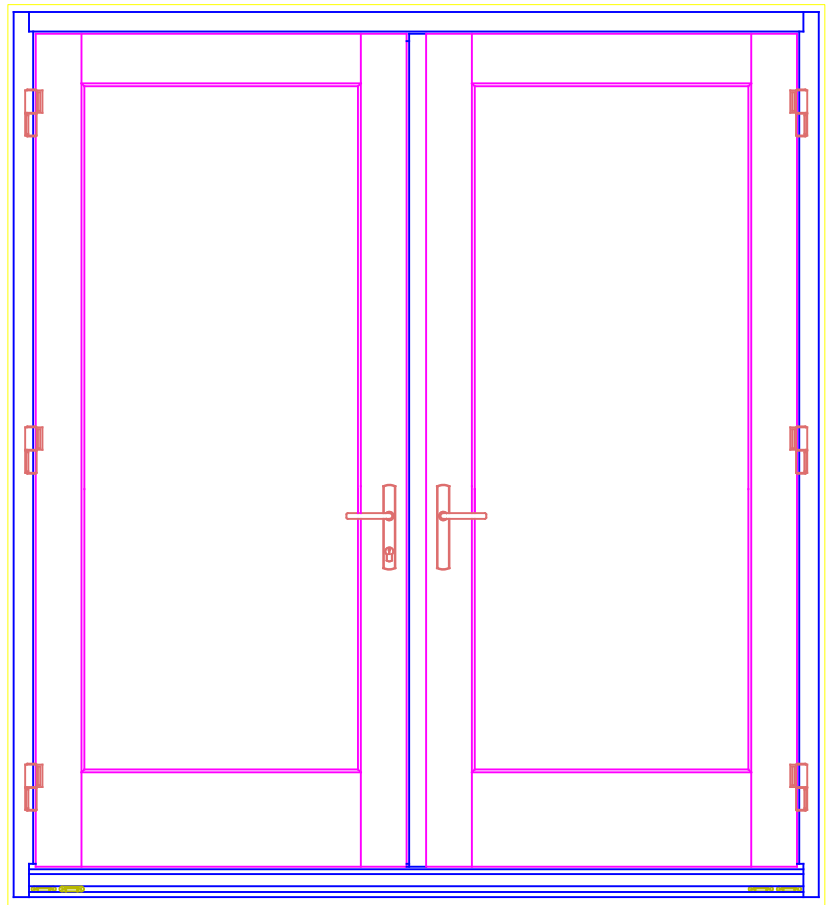
Carefully check that all doors and hardware have been received undamaged. The doors are shipped without the handles. Make sure there is a handle kit for each door. Contact Graham Architectural if any products are damaged, or are missing.

## Configurations:

The S7400 Terrace Doors are available in either inswing or outswing configurations. The doors can be single doors, XX French doors, or OX (or XO) French doors with a fixed astragal.



Single Door

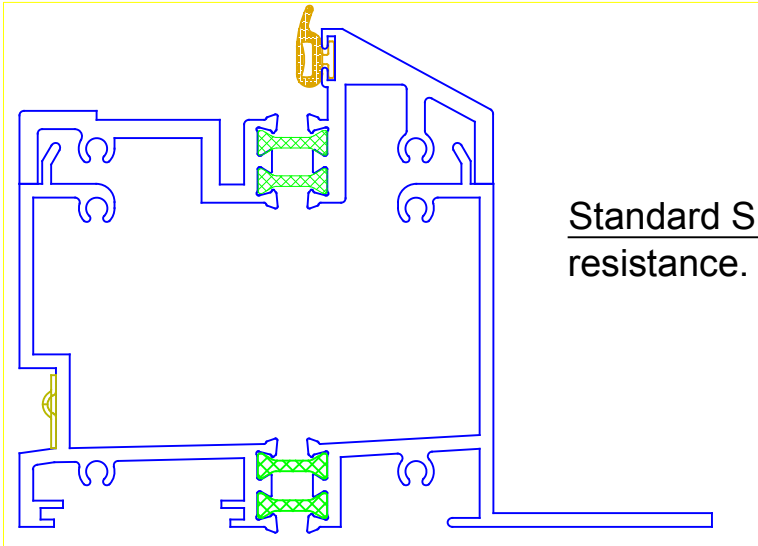


French Door

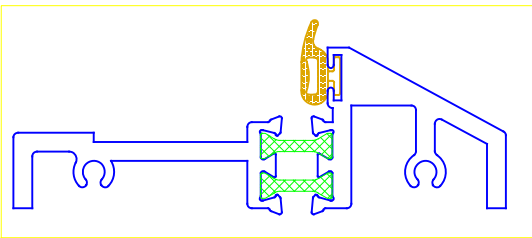
# S7400 Terrace Door

## Sill Options:

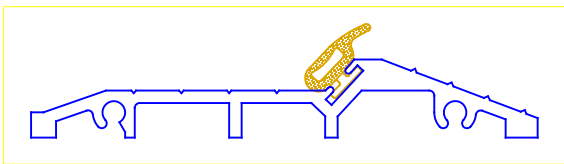
The doors have the following sill options. Reference the Graham Architectural Product Catalog\* for more information on these sill types and their uses.



Standard Sill - High performance for water resistance.



Optional Low Sill - Medium performance for water resistance.



Optional Accessible Compliant Sill - AAMA Limited Water Resistance. Although some water resistance can be achieved, slight variations in the installation will cause reduced performance.

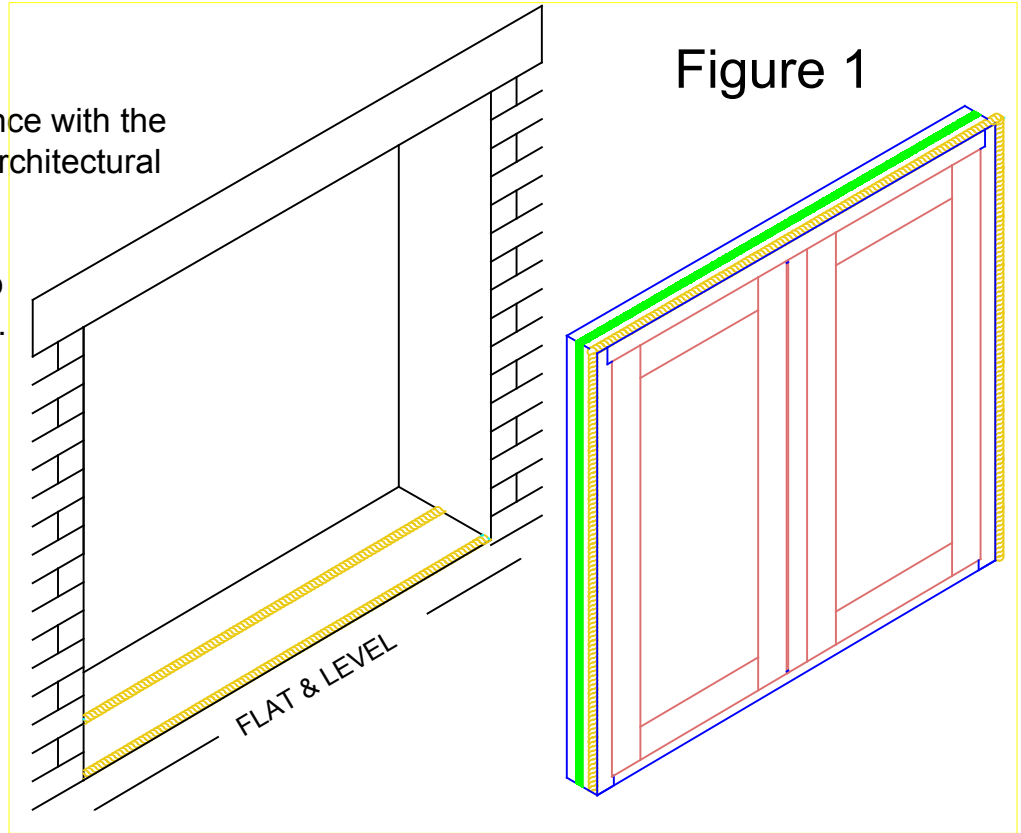
*Note: French doors will have different water performance than the single doors. Reference the Graham Architectural Product Catalog for more information\*.*

*\* To download the product catalog, go to <https://www.grahamwindows.com/product/s7400-terrace-doors/>*

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## Door Installation

- A. Install the door in accordance with the shop drawings. Graham Architectural recommends at least two rows of sealant at the sill. The sill sealant will need to connect with the jamb seal.
- B. Anchor the frames as required by the shop drawings. It is not recommended to drill through the sill, or through the tank of the sill. If fasteners are required to penetrate the accessible compliant sill; sealant must be applied in the pre-drilled hole first, then install the fastener, and then seal over the fastener head.
- C. The sill will need continuous support. The sill must be level in accordance with Table 1. If the accessible sill is being used, the allowance for out of level will be a maximum of 1/32" total.
- D. Position the frame in the opening. Be careful not to twist or rotate the frame during handling or installation.



Unit Shimming Tolerance (+/-) Nominal			
	Inches / Foot	Inches Maximum	Method of Measurement
Level (Horizontal Measurement)	1/32"	1/8"	Level and steel rule or tape
Plumb (Vertical Measurement)	1/32"	1/8"	Level or plumb-line and steel rule or tape
True (In Plane Measurement)	1/32"	1/8"	Using strings across corners
Straight/True (Measure of Straightness)	1/64"	1/16"	Level or plumb-line and steel rule or tape
Square (Diagonal Measurement)	NA	1/8" * 1/4" **	Steel rule or tape

\* Openings up to 20 square feet

\*\* Openings over 20 square feet

**Table 1**

Reference AAMA IPCB-08, Chapter 11.3

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## Door Installation

- E. If the door is installed in a receptor, in addition to the blocking and shimming described in Step F, cross-blocking will be needed to prevent the door from going out of square when opened (See figures 2 and 3).
- F. Apply shims and/or blocking at each hinge and fastener location (See figures 3 and 4). The door must be level, plum and square in accordance with Table 1 shown on the previous page. If the accessible sill is being used, the squareness tolerance of the door shall be reduced to 1/16" maximum, and the straightness of the sill will be reduced to 1/32" maximum at any point.
- G. Install fasteners at the head and jambs, as required to prevent movement of the frame during operation of the door. If the fastener spacing is not otherwise specified, fasten 3"-9" from each corner and a maximum of every 12" on center.
- H. Shims and fasteners will be needed above and below the hinges within 2" of the hinge; and one at (or within 2") each lock point (See figure 4).
- I. When fastening through the door frame, seal the heads of the fasteners before and after installation.
- J. Seal the exterior in accordance with the shop drawings.
- K. Insulate between the door frame and the rough opening.

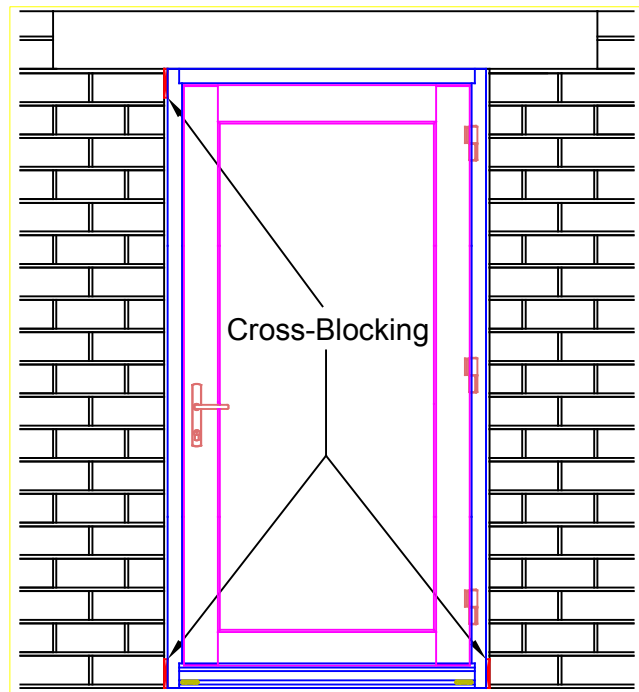


Figure 2

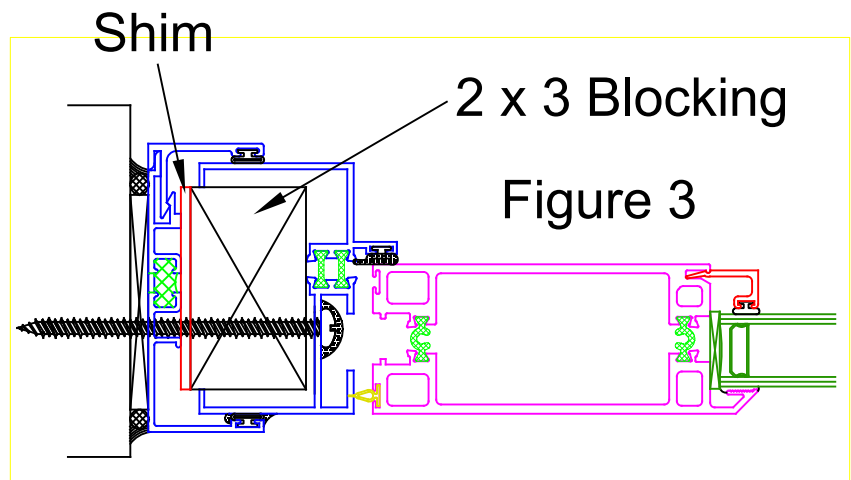


Figure 3

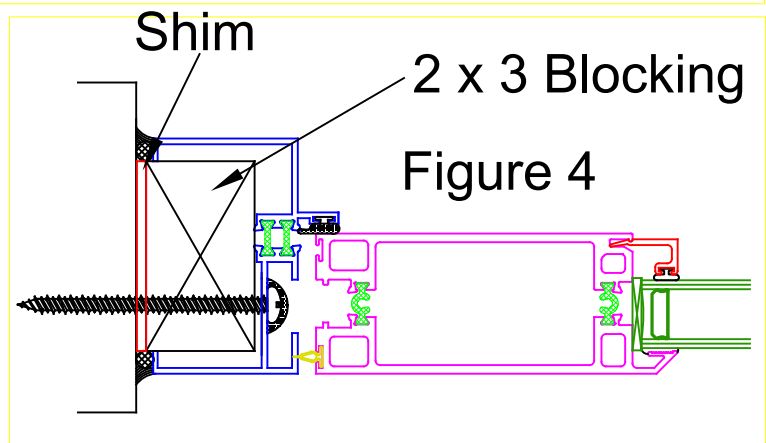


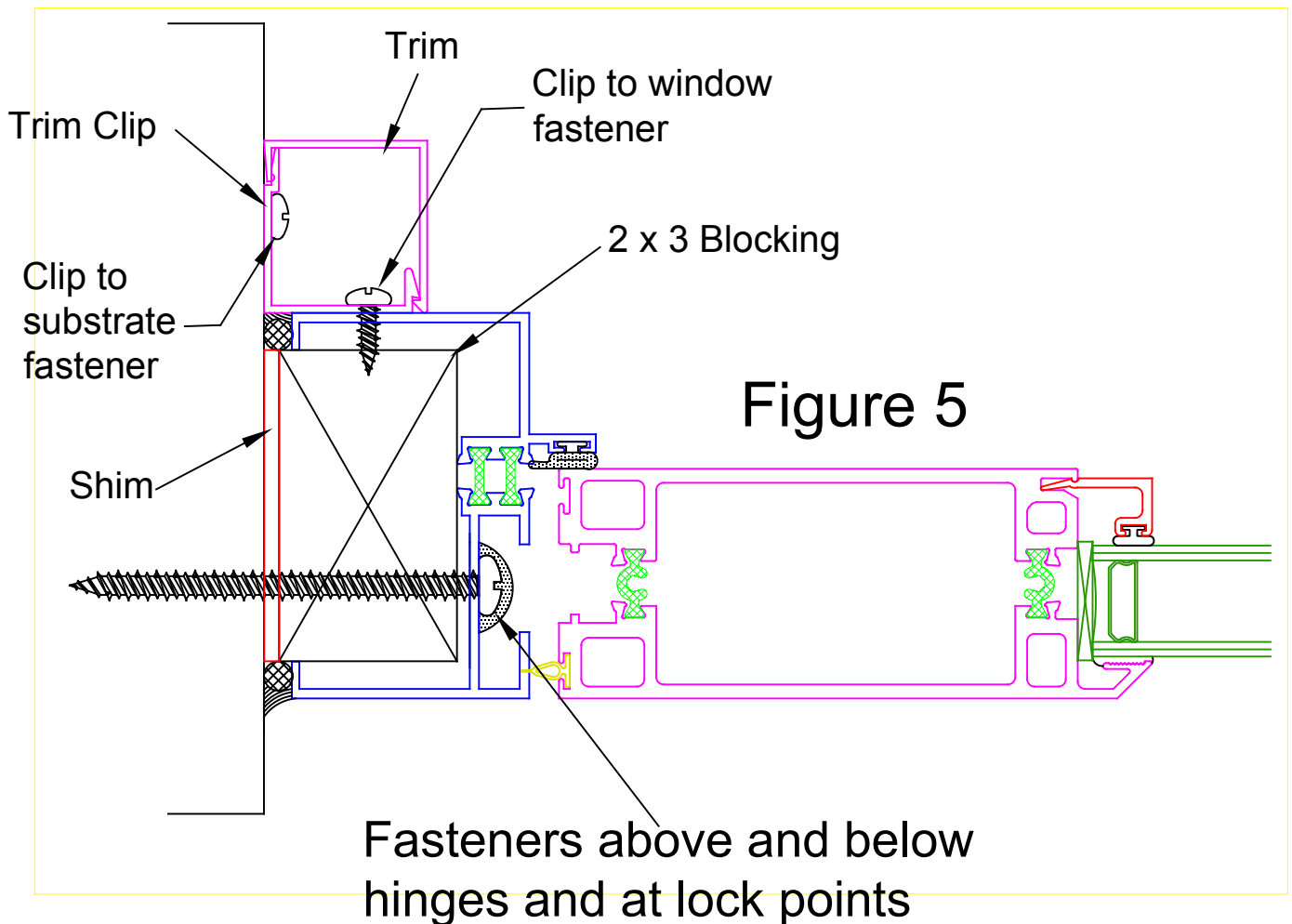
Figure 4

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## Trim and Clip Installation Method

Note: If trim and clip are to be used for the installation of the door, Graham Architectural recommends the following installation guidelines.

- A. The trim clips can be full length or 3" long sections. If sections are used, they will need to be lined up in order to snap on the trim.
- B. The fastening schedule will generally be determined by a structural engineer. If a fastening schedule has not been specified, Graham Architectural suggests applying fasteners 3 to 9 inches from each corner, and then a maximum of 12 inches apart.
- C. The clip to door fastener must be a minimum of #8 x 1/2" screw, or heavier as required to meet project design loads. Fasteners will still be needed through the frame at (near) the hinges and latch.
- D. The clip to rough opening fastener is dictated by the substrate. Graham Architectural recommends that the fastener is greater than, or equal to, that of the fastener used at the clip to door (as required to meet project design loads).
- E. The jambs are cut to size after the head and (if used) the sill trim is installed. Snap covers on using a rubber mallet.



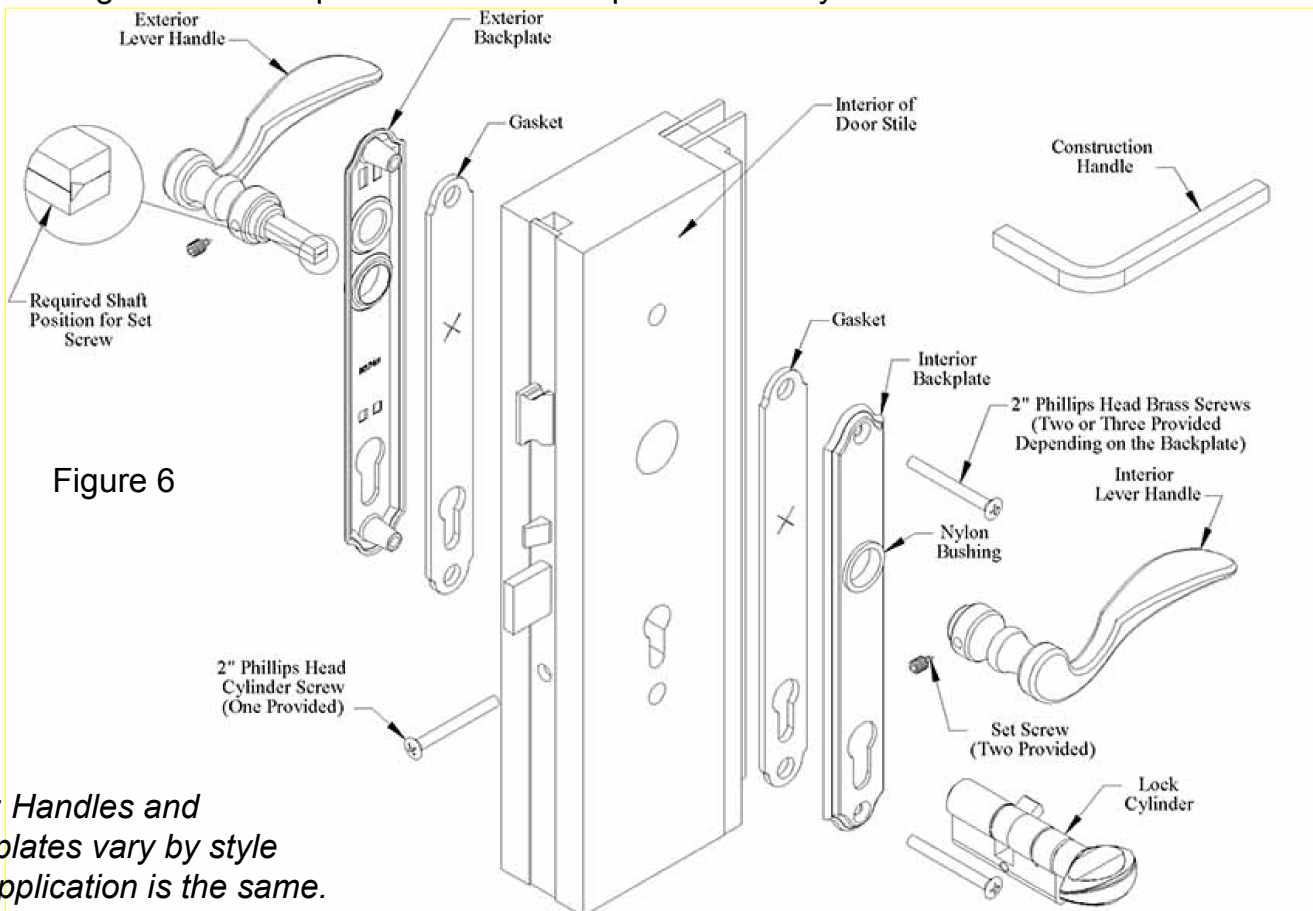


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## Handle/ Lock Installation

Note: To prevent damage to the handle set during the construction phase, use the construction handle (in the kit) to operate the door. Lift the handle to engage the multipoints. Push down to disengage.

1. Apply the backplate gasket to the inside of the exterior and interior backplates. Push gaskets firmly into place to ensure a tight seal. Attach interior and exterior backplates to the door and fasten loosely with the screws provided. Note: The screw heads must be on the interior side of the door.
2. Insert the two-piece handle shaft into one handle. Be sure to orient the shaft as shown below. Screw the set screw until flush with handle using the hex wrench provided. Insert the handle with shaft attached through the escutcheon plate and door gear handle hole until extending out opposite side of door.
3. Install remaining handle onto shaft, pressing tightly to the backplates. Tighten the handle set screw with hex wrench. Screw until flush with handle.
4. Insert the keyed cylinder from the interior side of the door until it is flush with the exterior backplate. Install the cylinder screw in the screw hole below the deadbolt in the edge of the door to secure in place.
5. Hand tighten the backplate screws to complete assembly.

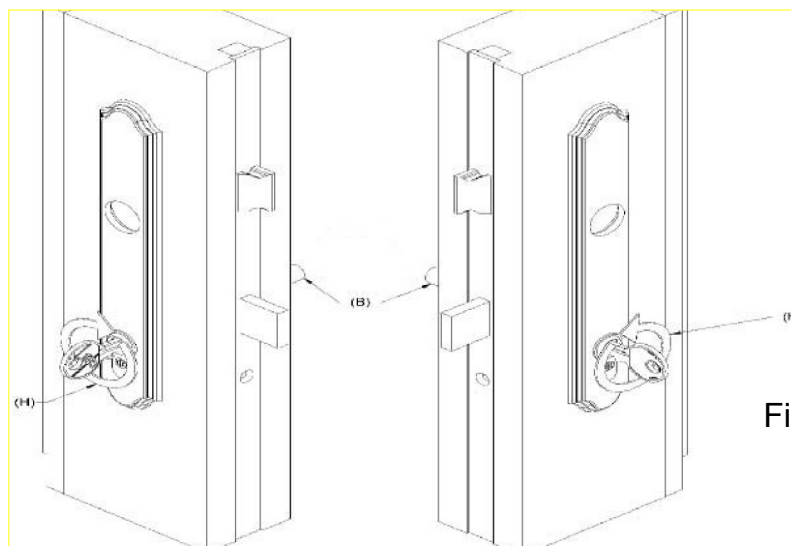
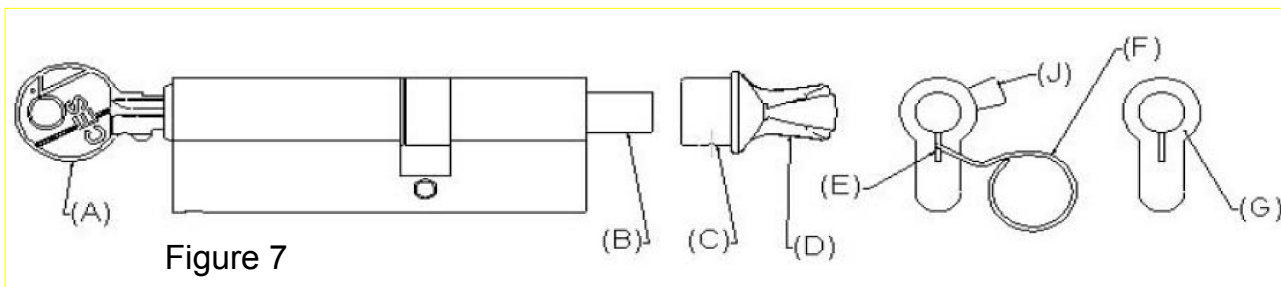


*Note: Handles and backplates vary by style but application is the same.*

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## 90-Degree Turn Cylinder Installation Instructions

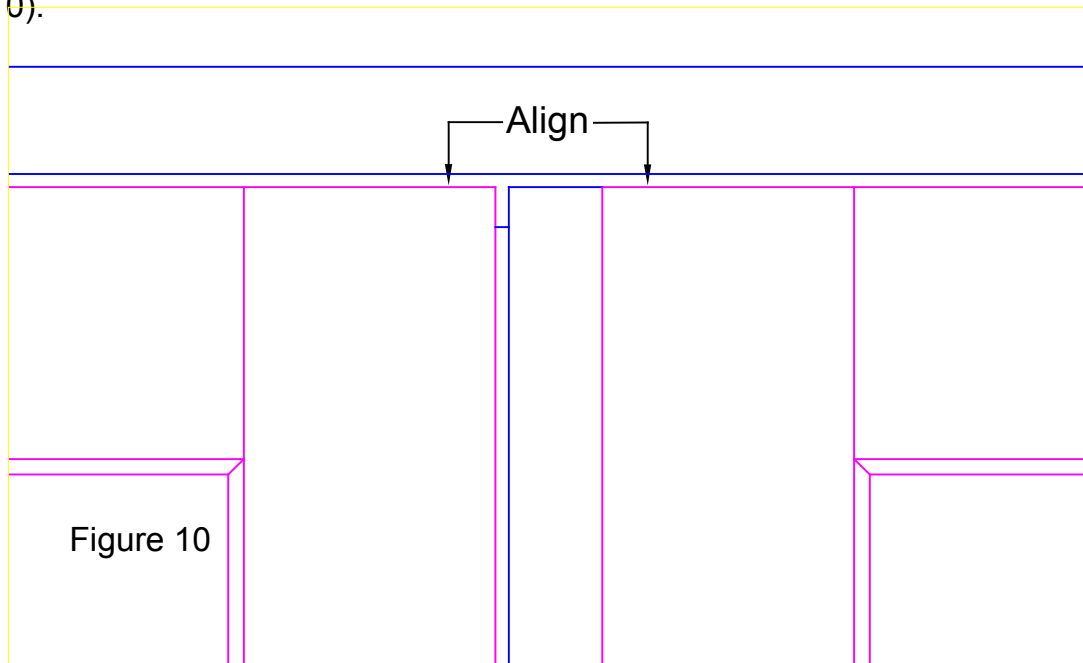
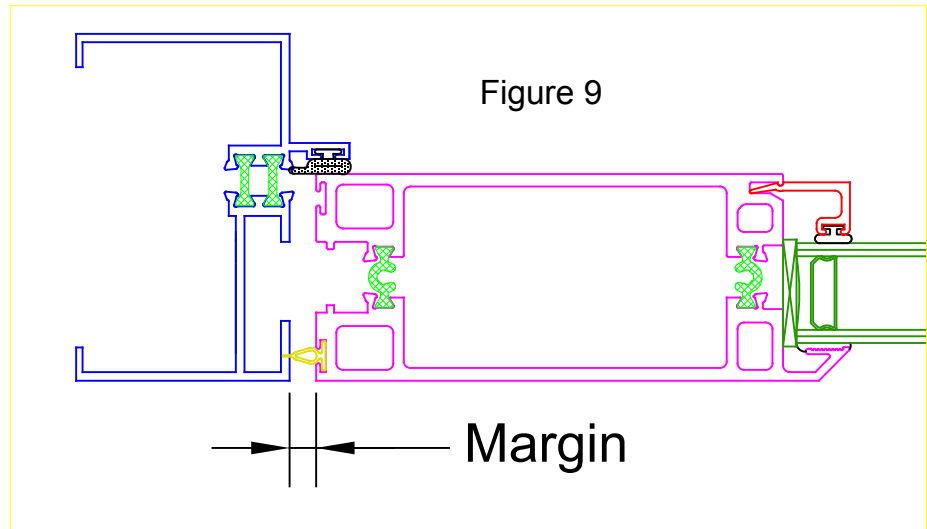
1. Loosen setscrew (C) on knob using the allen wrench provided.
2. Remove knob (D) from body of cylinder (B).
3. The drive tab (J) must be aligned with the cylinder to install the cylinder into the lock mechanism. If the tab cannot be rotated to this position, push the pin (E) down with the ring wrench (F) included to disengage the stops and turn the cylinder shaft (B) until the drive tab (J) is aligned with the cylinder (G).
4. Holding in this position, insert the cylinder body into door so the tab on the cylinder is inside of the lock.
5. Rotate the shaft (B) that the thumb turn attaches so that the top of the post moves toward the edge of the door or insert the key (A) into the cylinder and rotate so the top of the key moves towards the edge of the door (H). This will extend the deadbolt. If the post or key is rotated the wrong direction, it will rotate approximately 120 degrees and lock up where it cannot be rotated in either direction. If this happens, push the pin (E) down with the ring wrench (F) included to disengage the stops and turn the key (A) in the opposite direction until the deadbolt extends.
6. Fix knob (D) horizontally on cylinder shaft (B) with setscrew hole (C) downwards.
7. Tighten setscrew (C). Install cylinder screw.



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## Door Panel(s) Alignment

- A. Look at the margin between the door panel and the the door frame (See figure 9). If the margin is not even around the perimeter of the door panel, the door will need adjustment. Determine which direction the panel needs the adjustment. The door panel needs uniformly centered in the frame.
- B. French door panels will need to be aligned with each other. It is recommended to adjust the inactive (secondary) panel and then adjust the active panel to match (See figure 10).



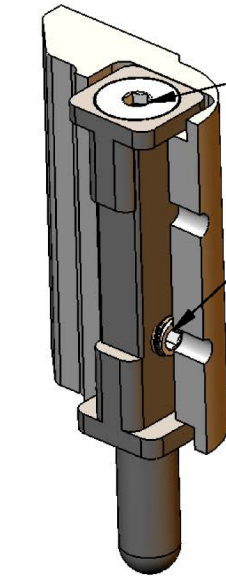
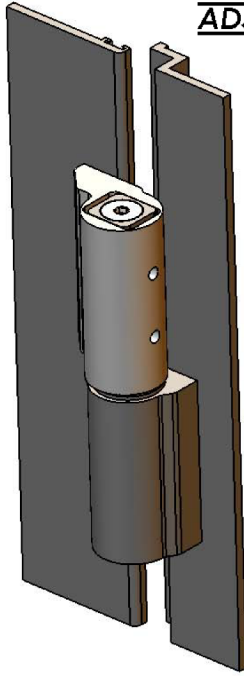
- C. Adjust the panels using the Hinge Adjustment sections of this manual. If the door panel(s) have two hinges, go to page 11. If the door panel(s) have three hinges, go to page 12.

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## MAGNUM ADJUSTABLE TD-HINGE 2 Hinge System

Figure 11

### LATERAL ADJUSTMENT



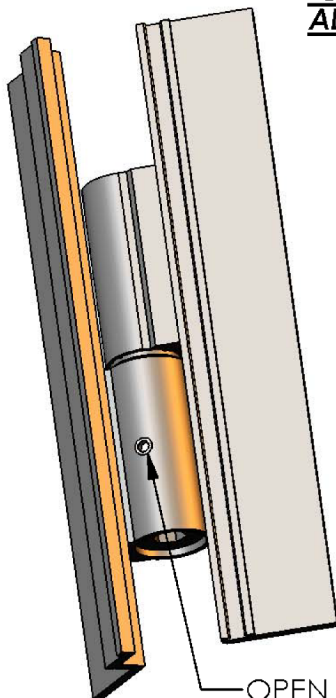
(Sash Component)

- 1) Using 5/32" hex wrench  
Just break free, do not  
loosen Pin Screw.
- 2) Using 1/8" hex wrench  
adjust set screw (+/- .070)  
to desired lateral location.
- 3) Re-tighten Pin Screw

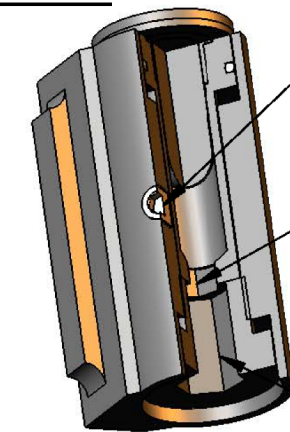
### NOTES:

When making Vertical and  
Compression adjustments  
you must loosen the Collar  
Lock Screws on all hinges  
prior to adjusting and make  
sure all Collar Screws are snug  
prior to tightening Collar Lock  
Screw. Lateral adjustments  
can be made individually.

### VERTICAL AND COMPRESSION ADJUSTMENT



OPEN DOOR  
TO ACCESS



(Frame Component)

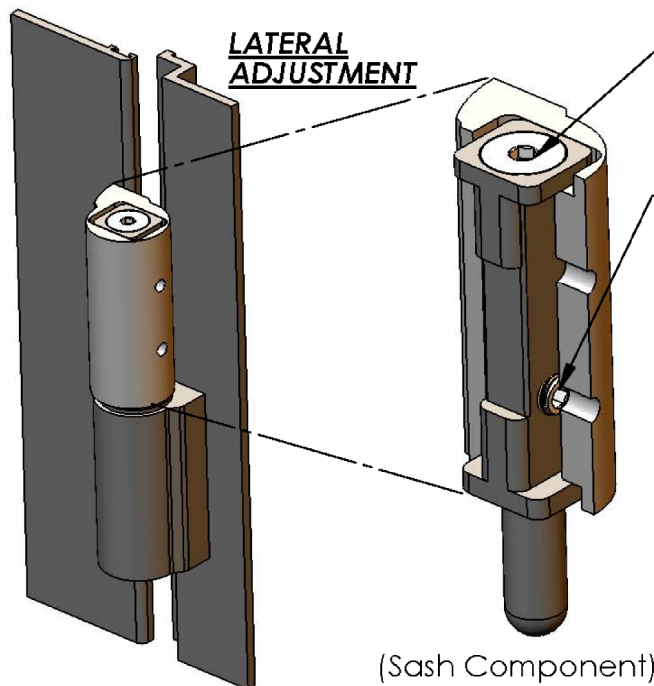
- 1) Open door to access and  
using 1/8" hex wrench  
loosen Collar Lock Screw  
1 turn max.
- 2) Using 1/4" hex wrench  
up inside, adjust Hinge  
Collar Assembly (+/- .020)  
to desired compression.
- 3) Using 3/8" hex wrench  
adjust Collar Screw (+/- .093)  
to desired vertical location.
- 4) Re-tighten Collar Lock Screw

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## MAGNUM ADJUSTABLE TD-HINGE

3 or 4 Hinge System

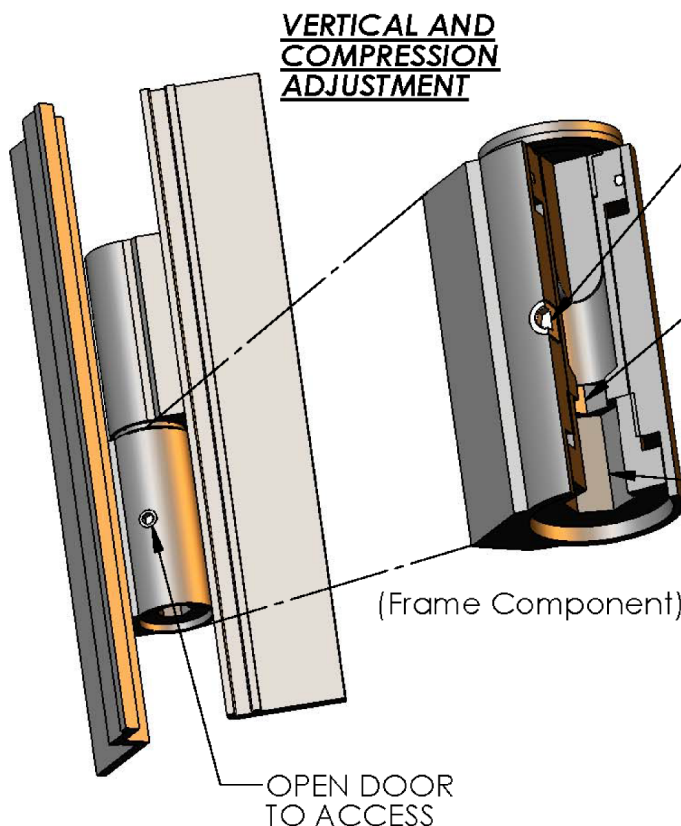
Figure 12



- 1) Using 5/32" hex wrench just break free, do not loosen, the Pin Screws on all three hinges.
- 2) Using 1/8" hex wrench adjust set screw (+/- .070) to desired lateral location on top and bottom hinges (not available on center hinge).
- 3) Re-tighten Pin Screw on all three hinges

### NOTES:

When making Vertical and Compression adjustments you must loosen the Collar Lock Screws on all hinges prior to adjusting and make sure all Collar Screws are snug prior to tightening Collar Lock Screw.



- 1) Open door to access and using 1/8" hex wrench loosen Collar Lock Screw 1 turn max.
- 2) Using 1/4" hex wrench up inside, adjust Hinge Collar Assembly (+/- .020) to desired compression.
- 3) Using 3/8" hex wrench adjust Collar Screw (+/- .093) to desired vertical location.
- 4) Re-tighten Collar Lock Screw

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## Door Panel(s) Stay Arm

- A. The door will have a stay arm attached between the head of the door and the top rail. This stay arm is be set at the factory to stop the panel at approximately 90 degrees to the frame.
- B. If the opening angle needs to be changed, the stop on the top rail will need to be removed, relocated, and re-attached to the top rail.

