

GT 7700 Terrace Door



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Installation Guidelines for

GT7700 Inswing, Outswing Single and French Doors

GT 7700 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.

GT 7700 Terrace Door

Thank you for your purchase of a Graham Architectural Series GT7700 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/

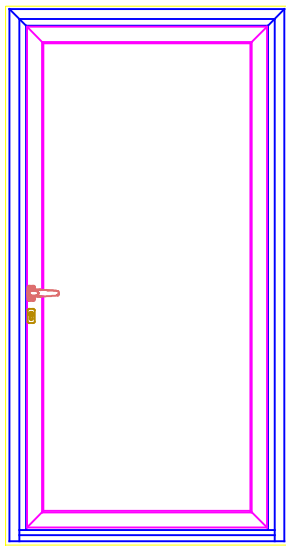
GT 7700 Terrace Door

Contents:

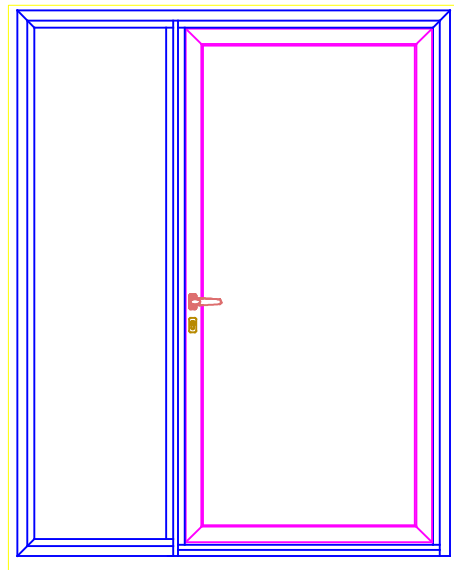
Carefully check that all doors and hardware have been received undamaged. The doors are shipped without the handles. Make sure there is a handle kit for each door. Contact Graham Architectural if any products are damaged, or are missing.

Configurations:

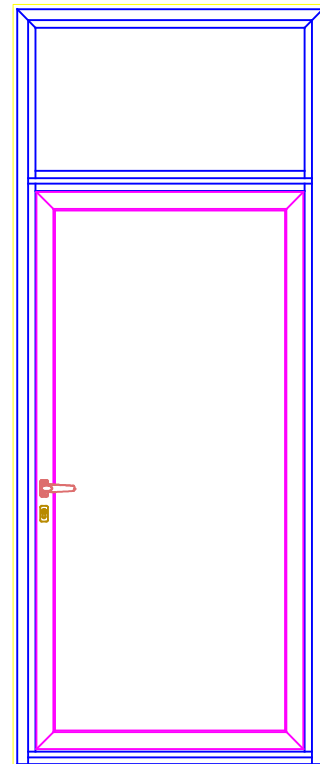
The GT7700 Terrace Doors are available in 2-3/4", 3-3/8", and 3-3/4" frame depths, in either inswing or outswing configurations. The doors can be single doors, XX French doors, or OX (or XO) French doors with a fixed astragal. There are sidelights and/or transoms available for this product line.



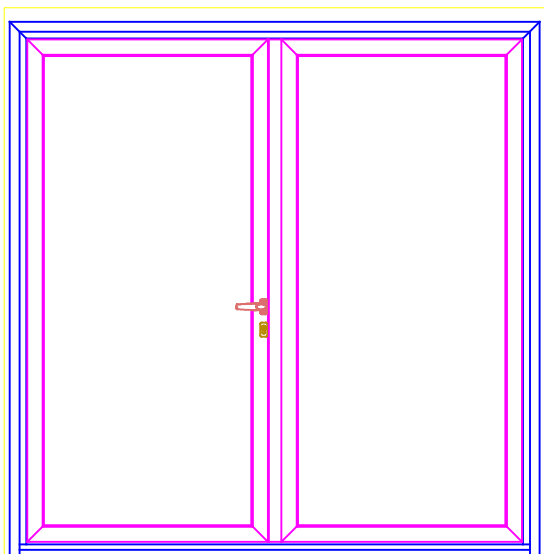
Single Door



Single Door with Sidelight



Single Door
with Transom

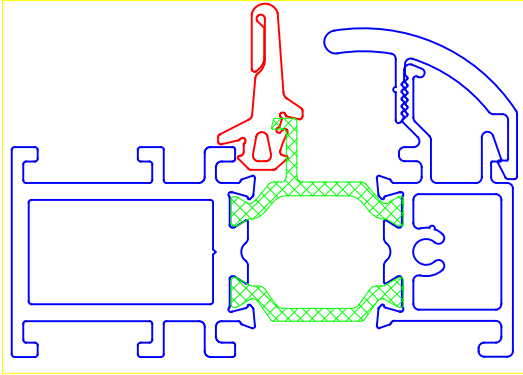


French Door

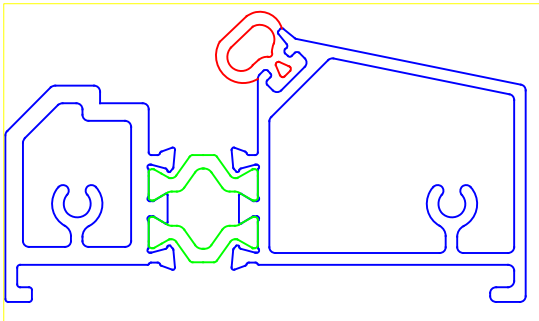
GT 7700 Terrace Door

Sill Options:

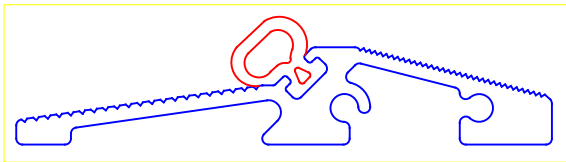
The doors have the following sill options. Reference the Graham Architectural Product Catalog* for more information on these sill types and their uses.



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/gt7700-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. If using an accessible sill on an XX French door, a 5/8" diameter hole will need drilled 1/4" into the rough sill to allow room for the shoot bolt keeper (See Figure 2).
- E. Position the frame in the opening. Be careful not to twist or rotate the frame during handling or installation.

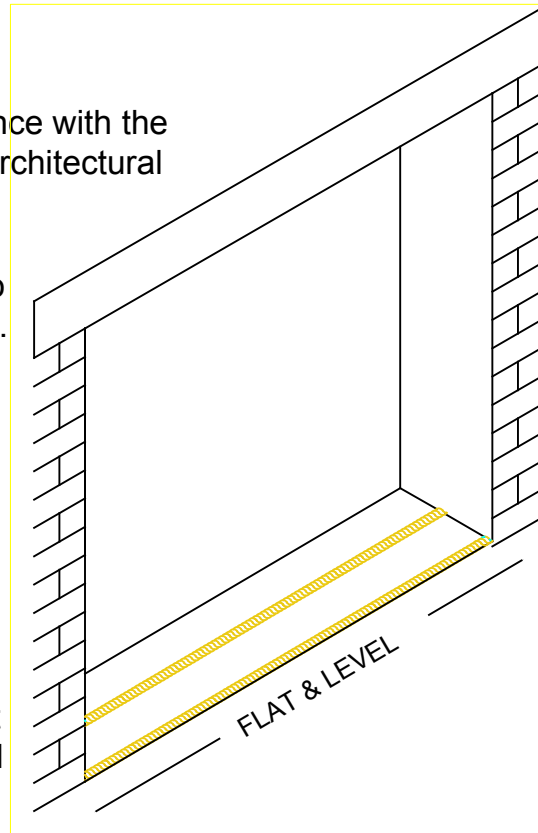


Figure 1

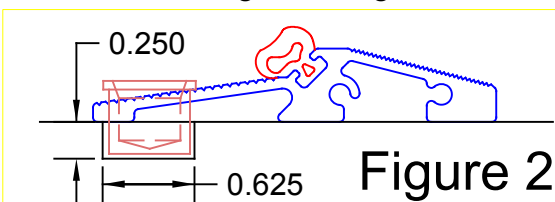
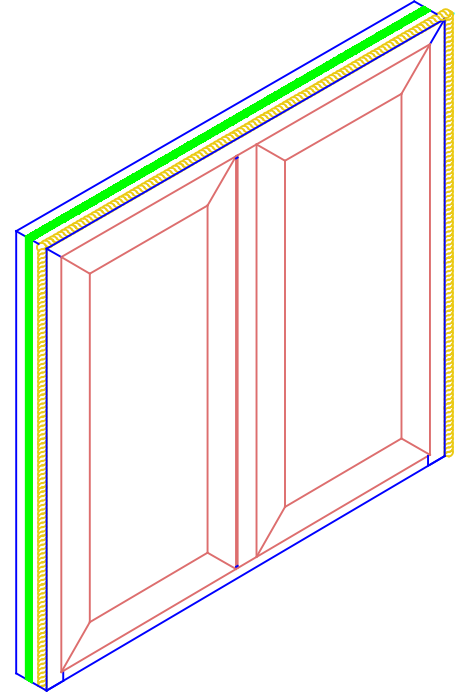


Figure 2

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 shims described in Step F (below), cross-blocking will be needed to prevent the door from going out of square when opened (See figures 3 and 4).
- F. Apply shims and/or blocking at each hinge and fastener location (See figures 4 and 5). 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 5).
- 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.

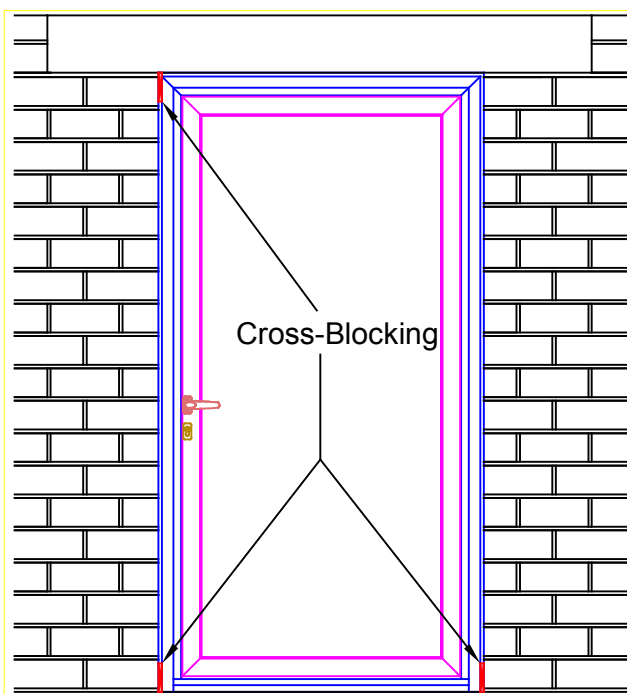


Figure 3

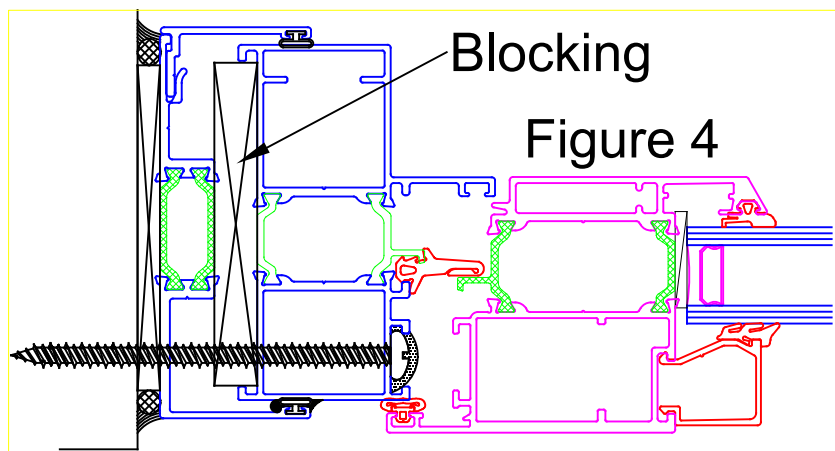


Figure 4

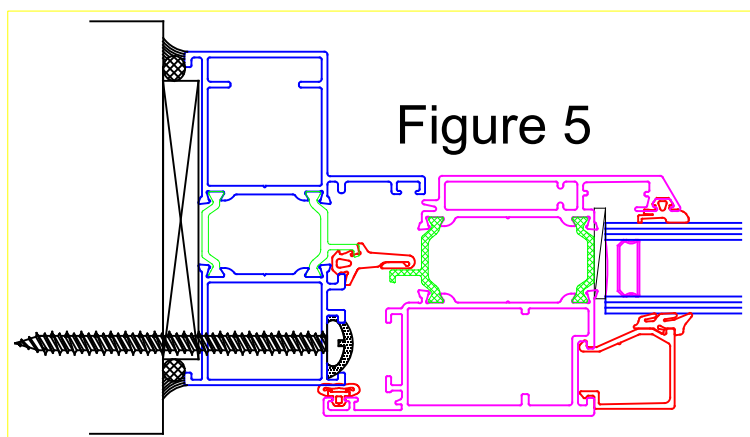


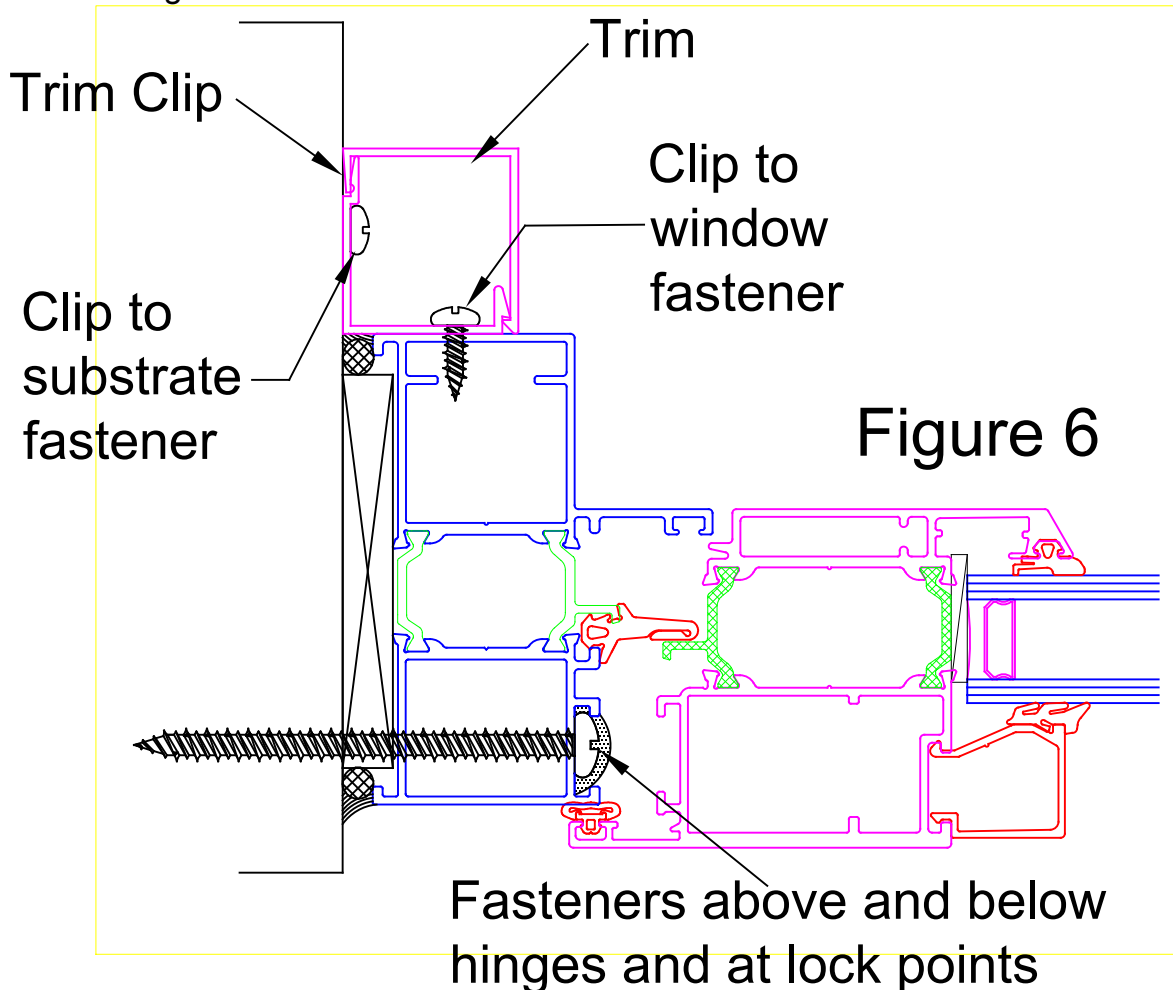
Figure 5

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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

- A. Insert the lock cylinder assembly into the door stile .
Fasten the lock cylinder with the screw provided in the kit (See figure 7).

Note: Thumb turn locks are installed in a similar manner.

- B. Insert the square spindle through the handle gearbox.
C. Slide the handle gaskets and then the handles onto each end of the spindle (See figure 8).
E. Rotate the handle cover and attach the handle to the door rail with the provided screws as shown in figure 9.

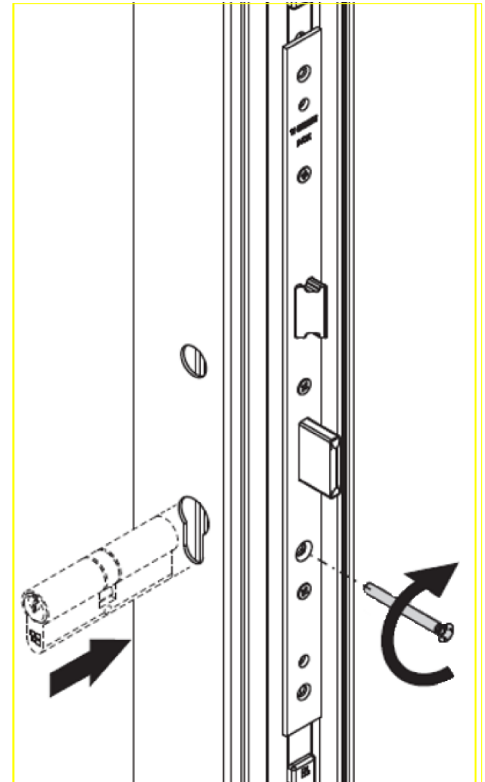


Figure 7

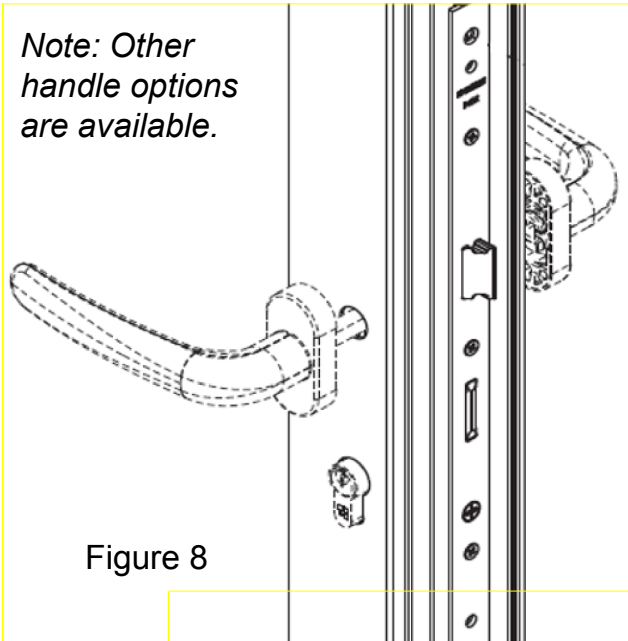


Figure 8

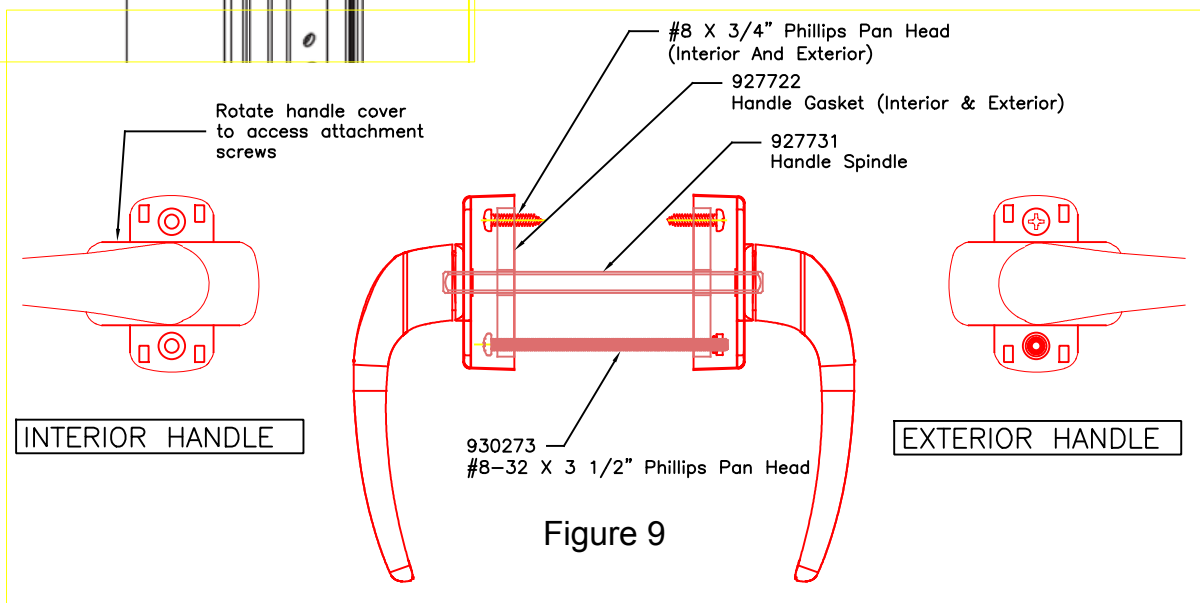


Figure 9

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Door Panel(s) Alignment

A. Look at the margin between the door panel and the door frame (See figure 10). 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.

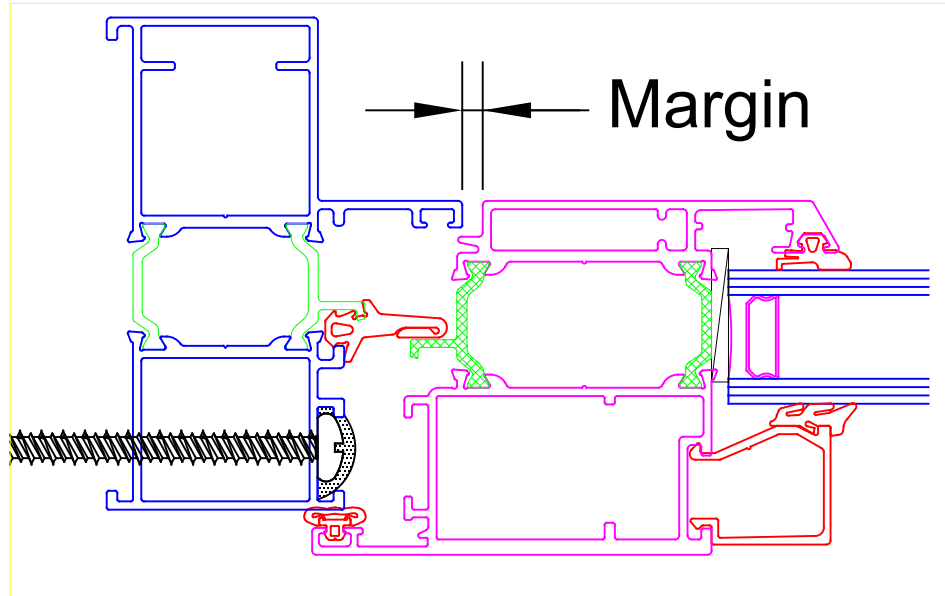


Figure 10

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 11).

C. Adjust the panels using the Hinge Adjustment section of this manual.

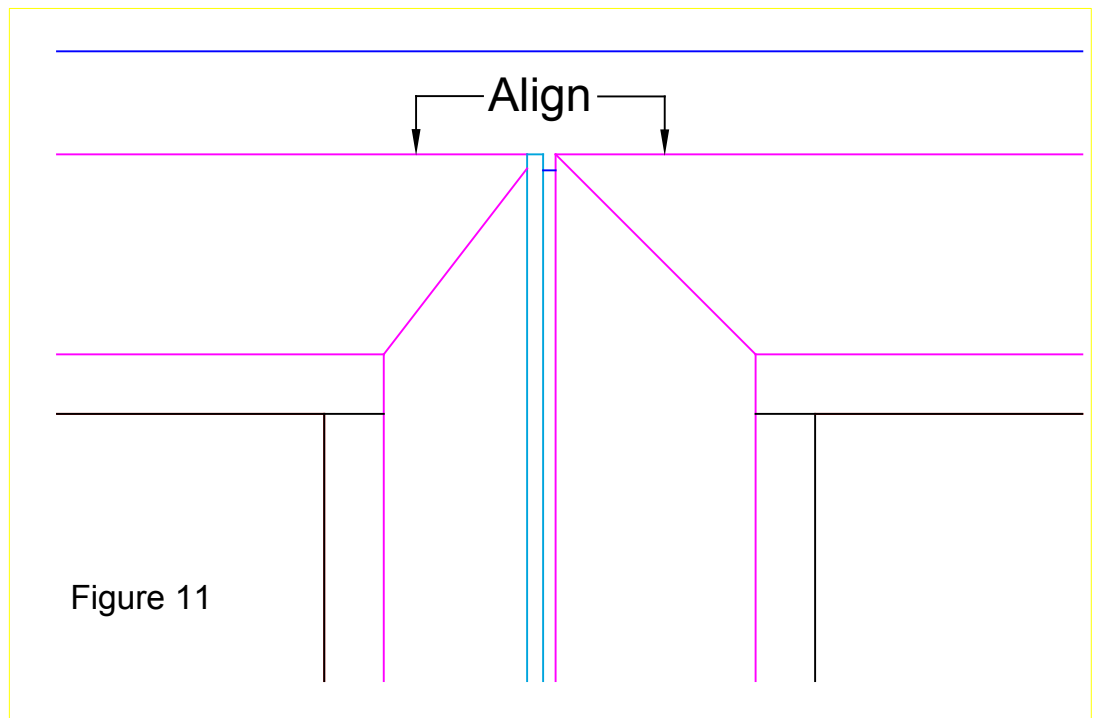


Figure 11

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Hinge Adjustment

- A. Prior to adjusting the door panels, make sure the frame is square and the sill is level.
- B. The hex key on the top of the hinge adjusts the panel horizontally (left to right) within the door frame. The hex key on the bottom of the hinge adjusts the panel vertically (up and down) within the door frame.
- C. Remove the plastic cap from the end of the hinge that will adjust the door as desired.
- D. For vertical adjustment insert a 6mm hexagonal key into the grub screw B (See Figure 13) and turn the key until the panel is aligned vertically in the frame.

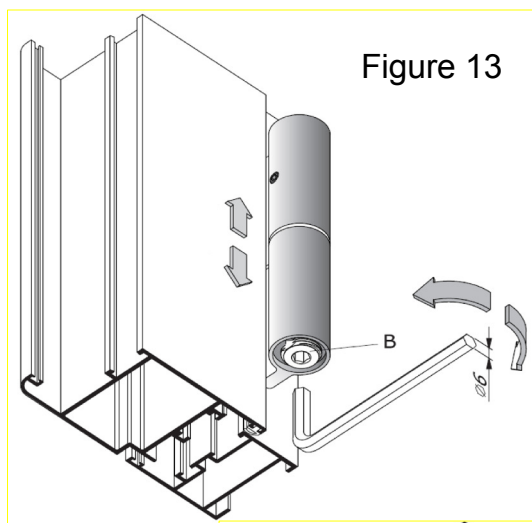


Figure 13

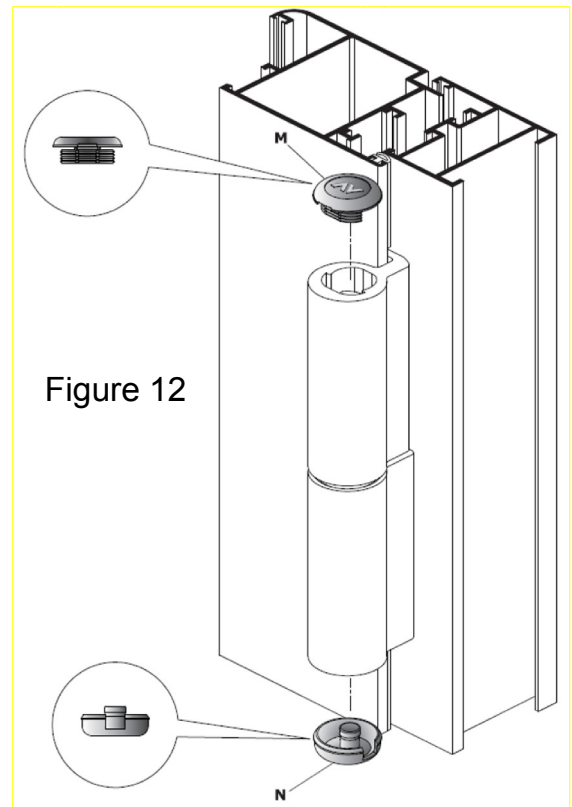


Figure 12

- E. For left to right adjustment, insert a 6mm hexagonal key into pin F. Then loosen the grub screw G and rotate the key as shown on figure 14, until the panel is aligned in the frame. Once adjusted, tighten the grub screw G.

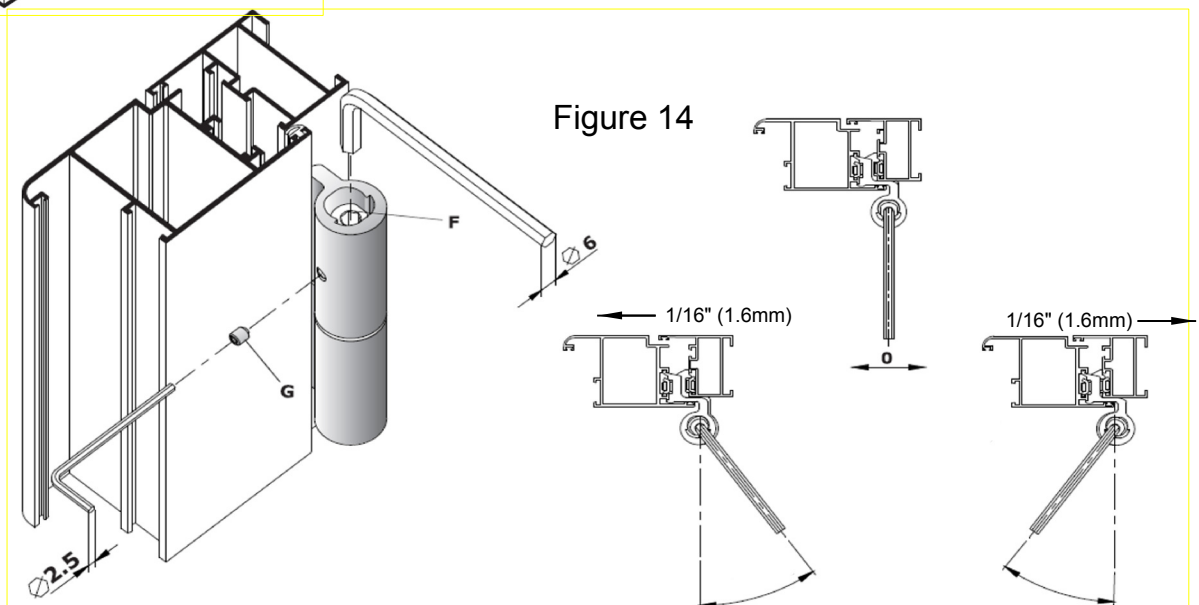
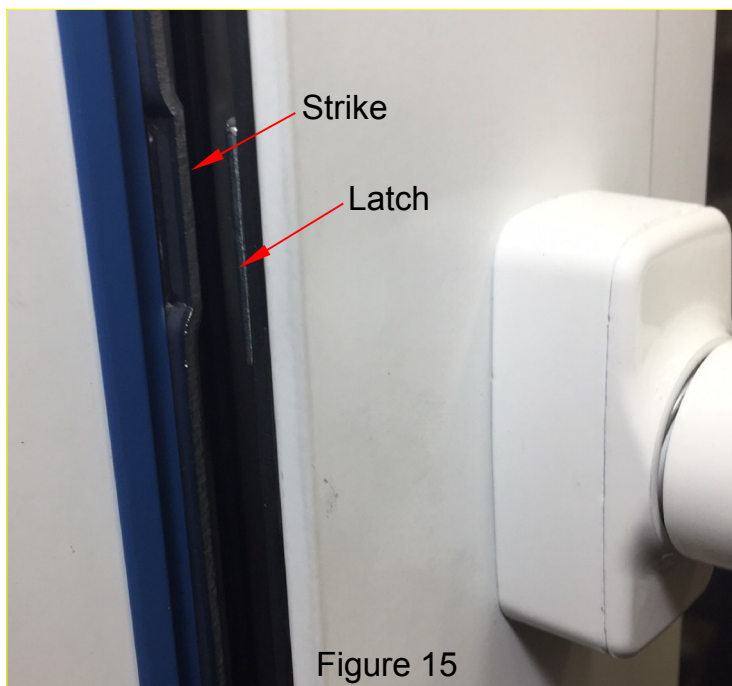


Figure 14

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Latch and Strike Adjustment

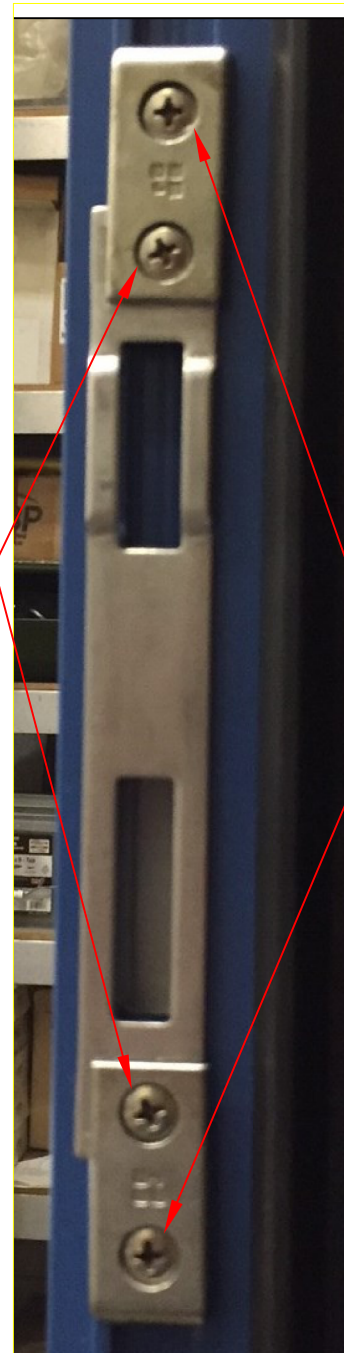
- A. The door panel(s) must be adjusted in the frame prior to adjusting the latch strike. See the Hinge Adjustment section to adjust the door panel.
- B. Check the alignment of the door latch, by almost closing the door. The door latch should align with the raised portion of the strike (See figure 15).
- C. If the strike needs adjusted up or down, loosen the top and bottom Phillips screws and slide the strike as needed within the euro-groove track. Re-tighten the screws. (See figure 16).
- D. If the door does not latch, the strike can be adjusted to tighten or loosen the door pressure. Loosen the inner Phillips screws and adjust the strike as needed. Re-tighten the screws. (See figure 16).



Adjust
strike in
and out

Adjust
strike
up and
down

Figure 16



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Lock Adjustment

- A. The door panel(s) must be adjusted in the frame prior to adjusting the locks. See the Hinge Adjustment section to adjust the door panel.
- B. Check the alignment of the lock points, by opening the door, engage the locks (lift handle up), almost close the door, and the lock points should align with the keepers (See figure 17).
- C. If the keepers need adjusted up or down (or left or right), loosen the 2.5mm hex screws and slide as needed. Re-tighten the screws. (See figure 18).
- D. Open and close the door a couple of times. If the handle is hard to turn, the lock keepers will need to be loosened (Go to Step F).
- E. Compression of the center weatherstrip can be checked by inserting a piece of flexible paper (dollar bill) between the door and the frame, and closing and locking the door. If the door has an interior or exterior gasket that will affect this test, pull approximately 24" of the gasket out of the way, so only the center gasket is tested for compression. If the paper pulls out easily, the lock (keepers) will need tightened (Go to Step F).
- F. If the panels need tightened (more compression on weatherstrip) or loosened (lighter handle pressure) to the frame, loosen the Phillips screw and adjust the keeper as needed. Re-tighten the screw. (See figure 18).

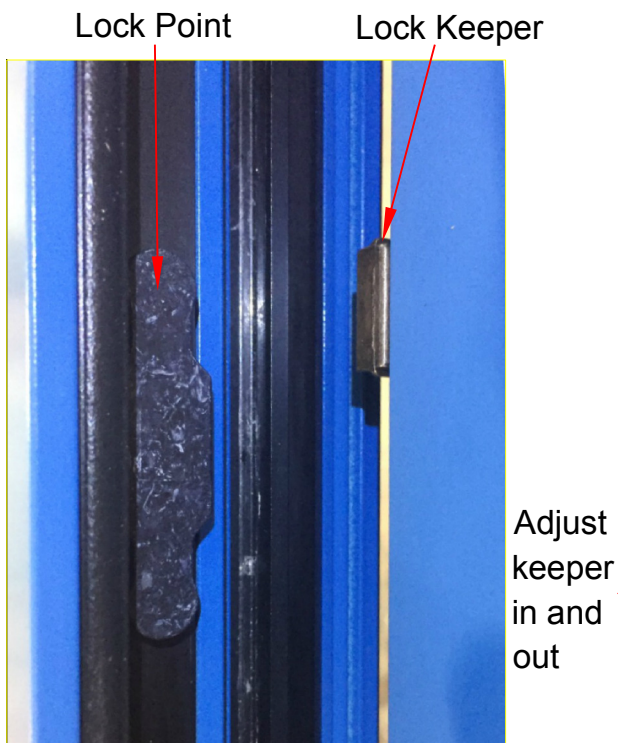


Figure 17

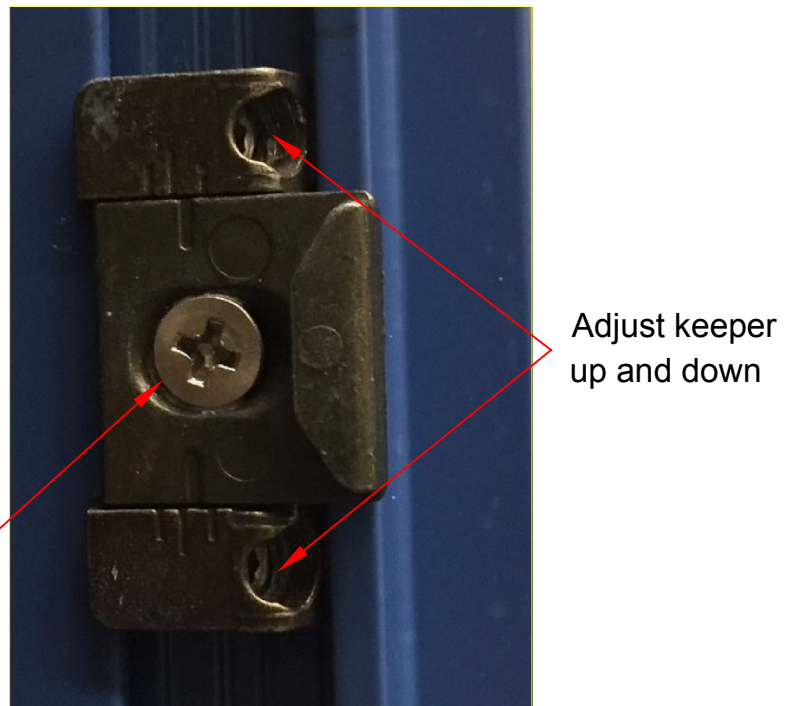


Figure 18

GT 7700 Terrace Door

Snubber Adjustment

A. The door panel(s) must be adjusted in the frame prior to adjusting the snubber(s). See the Hinge Adjustment section to adjust the door panel.

Note: Snubbers are anti-deflection devices that also ensure proper gasket contact on the hinge stile.

B. If the door panel bounces open when attempting to close, the snubbers may need adjustment.

C. Check the snubber alignment by opening the door until the panel snubber and the frame snubber can be viewed. The panel snubber should align with the frame snubber (See figure 19).

D. If the panel snubbers need adjusted up or down, loosen the snubber attachment screws (2.5mm hex screws) and slide as needed. Re-tighten the screws. (See figure 20).

E. If the panels still bounce open when attempting to close, the panel snubbers will need adjusted toward the exterior. In order to adjust the panel snubbers, loosen the snubber adjustment screw (Phillips) and adjust the snubber as needed. Re-tighten the screw. (See figure 20).

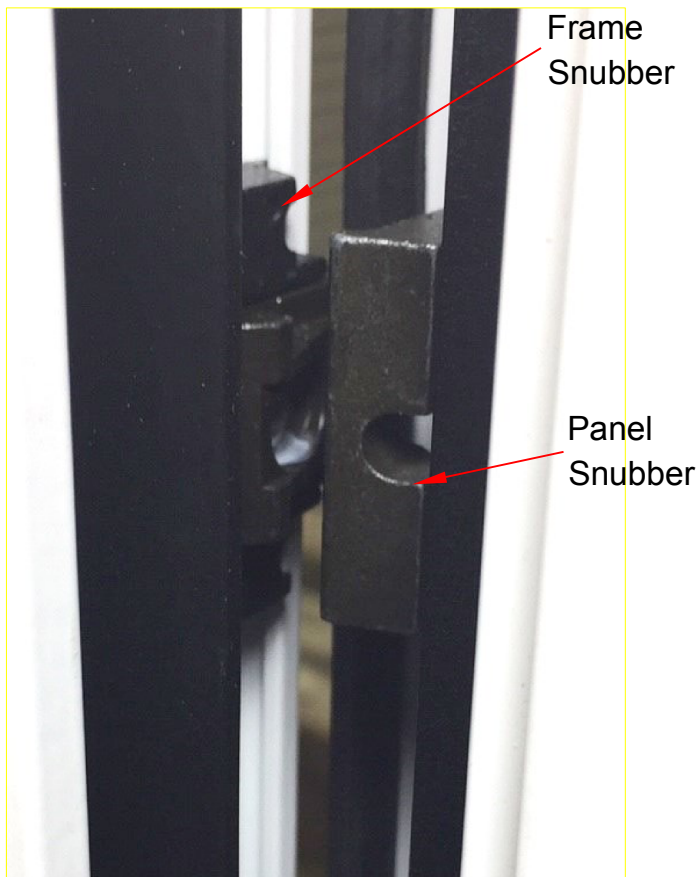


Figure 19

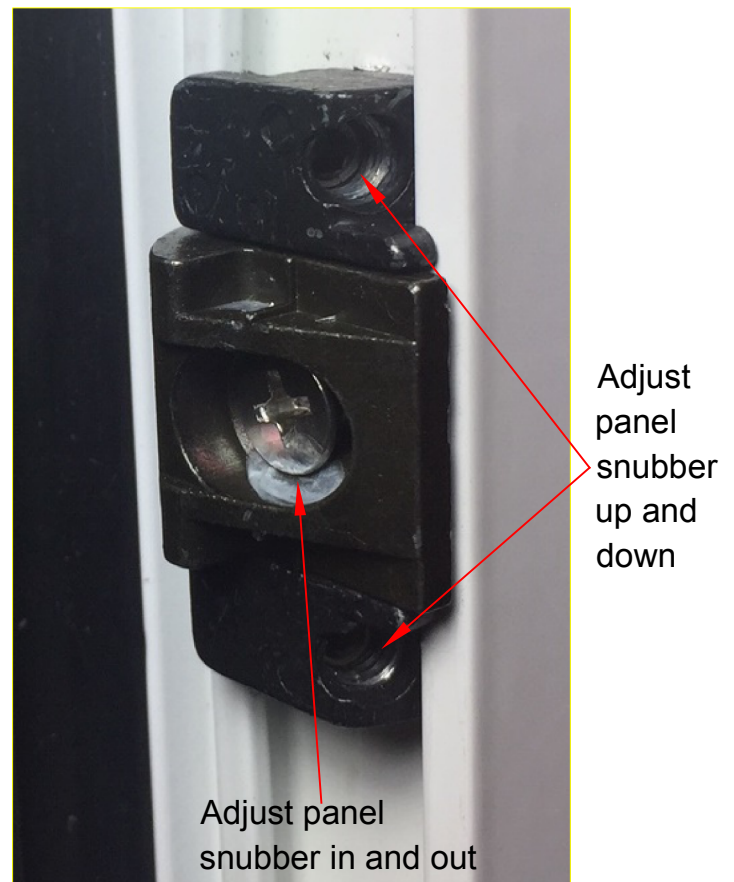


Figure 20

GT 7700 Terrace Door

Optional Door Closer Installation and Adjustment

- A. Door closers are not factory installed, therefore they will need to be installed in the field.
- B. The door will come with a drop plate pre-attached to the door panel. Use the screws that are supplied with the kit to attach the closer to the drop plate (See figure 21).
- C. When attaching the arm to the door frame use the two (2) 1/4-20 x 5/8" PH FL MS 188 (Part #939100) that are separately supplied by Graham Architectural. The pre-threaded attachment points are installed at the factory.
- D. Follow the directions in figure 22 on the next page. The door closer instructions can also be downloaded from [https://us.allegion.com/content/dam/allegion-us-2/web-documents-2/Install Instructions/LCN_4510_Series_Installation_Instructions_107175.pdf](https://us.allegion.com/content/dam/allegion-us-2/web-documents-2/Install%20Instructions/LCN_4510_Series_Installation_Instructions_107175.pdf)

Note: Door closer is not designed to latch the door.

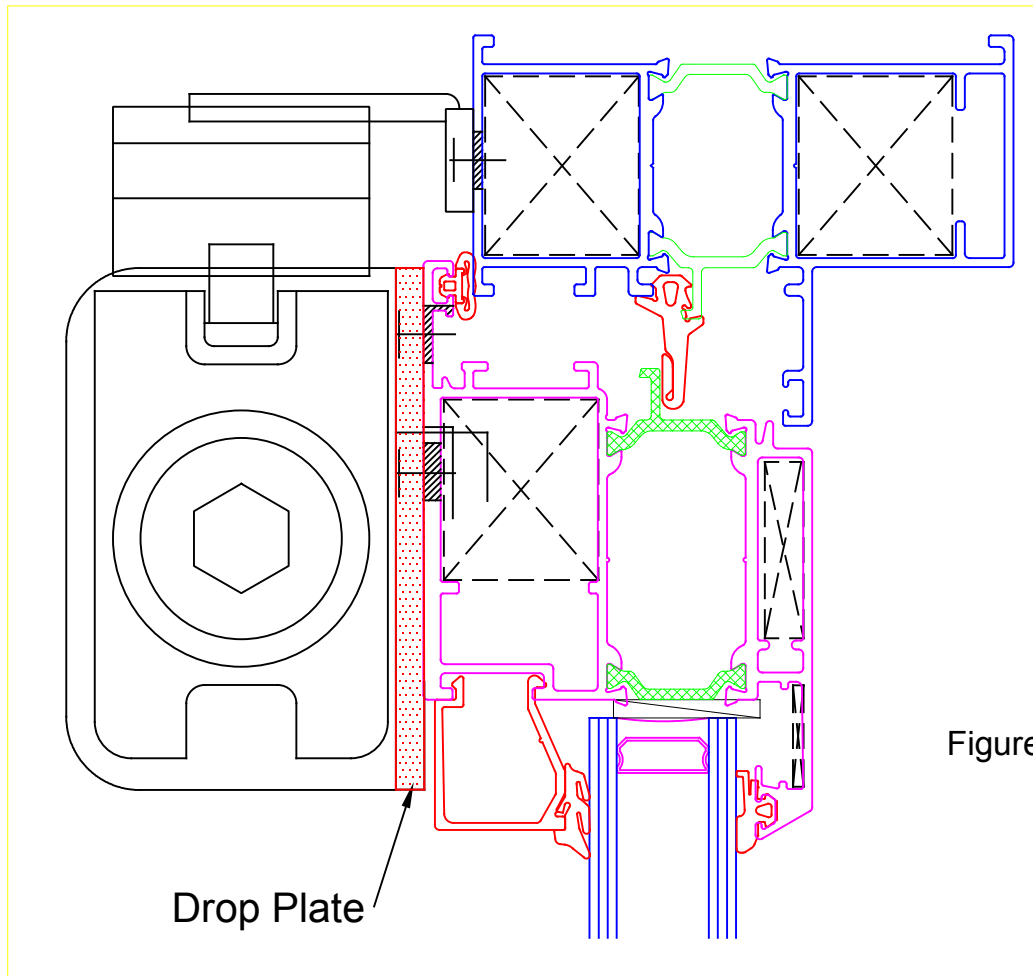


Figure 21

- 1 Determine door width, adjust spring power to match chart.

DOOR WIDTH		LCN FAST™ Power Adjust
INTERIOR	EXTERIOR	SET TO:
		1
34"	8.5 lb-f	2
38"	30"	3
48"	36"	4
54"	42"	5

LCN FAST™ Power Adjust for Spring Power Adjustment

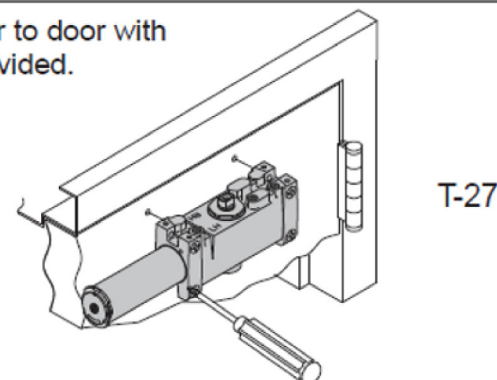
(Used only on non-sized closers)



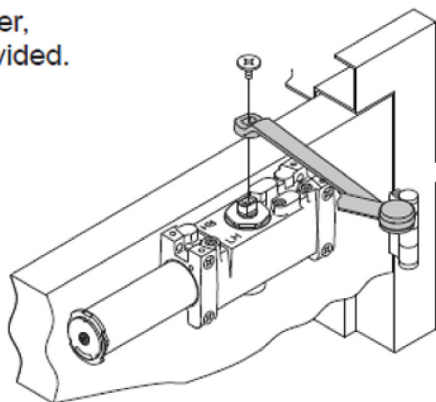
CAUTION

IMPROPER INSTALLATION OR REGULATION MAY RESULT IN PERSONAL INJURY OR PROPERTY DAMAGE. FOLLOW ALL INSTRUCTIONS CAREFULLY. FOR QUESTIONS, CALL LCN AT 877 - 671 - 7011

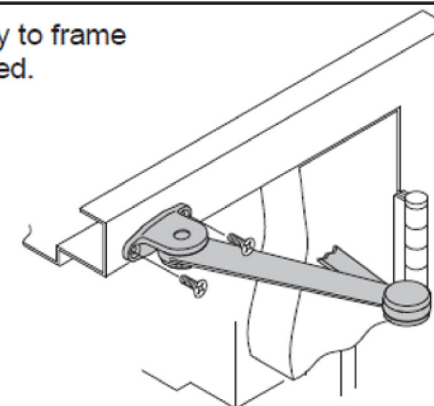
- 2 Secure closer to door with fasteners provided.



- 3 Attach arm to closer, with fasteners provided.



- 4 Secure arm assembly to frame with fasteners provided.



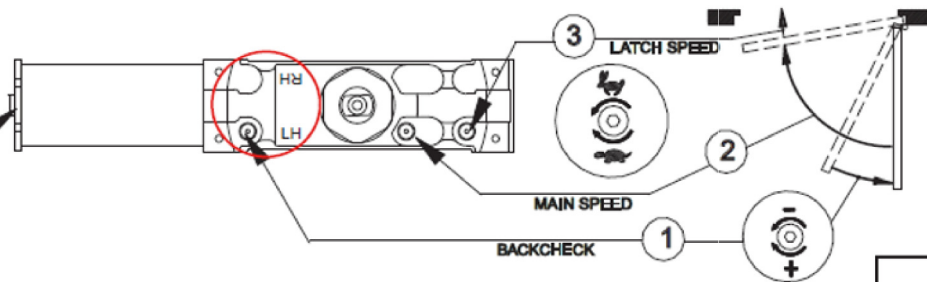
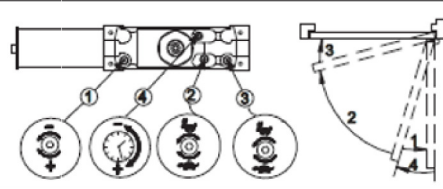
- 5 If necessary, adjust closer.

NOTE: A "Normal" closing time from 90° open position is 5 to 7 seconds, evenly divided between main speed and latch speed.

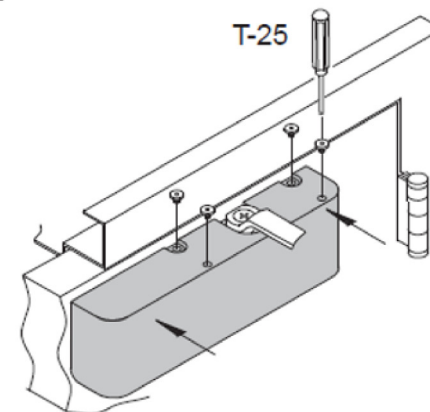
CAUTION

OPENING OF REGULATION VALVES TOO FAR MAY RESULT IN LEAKAGE OF CLOSER, PERSONAL INJURY OR PROPERTY DAMAGE. FOLLOW ALL INSTRUCTIONS CAREFULLY.

I
Optional Delay Action
① - Backcheck
② - Main Speed
③ - Latch Speed
④ - Delay Speed



- 6 Attach cover with fasteners provided.



Patents Pending Include:
Rapidor™ Installation System
PROPRIETARY, LCN Division, Schlage Lock Company

Figure 22