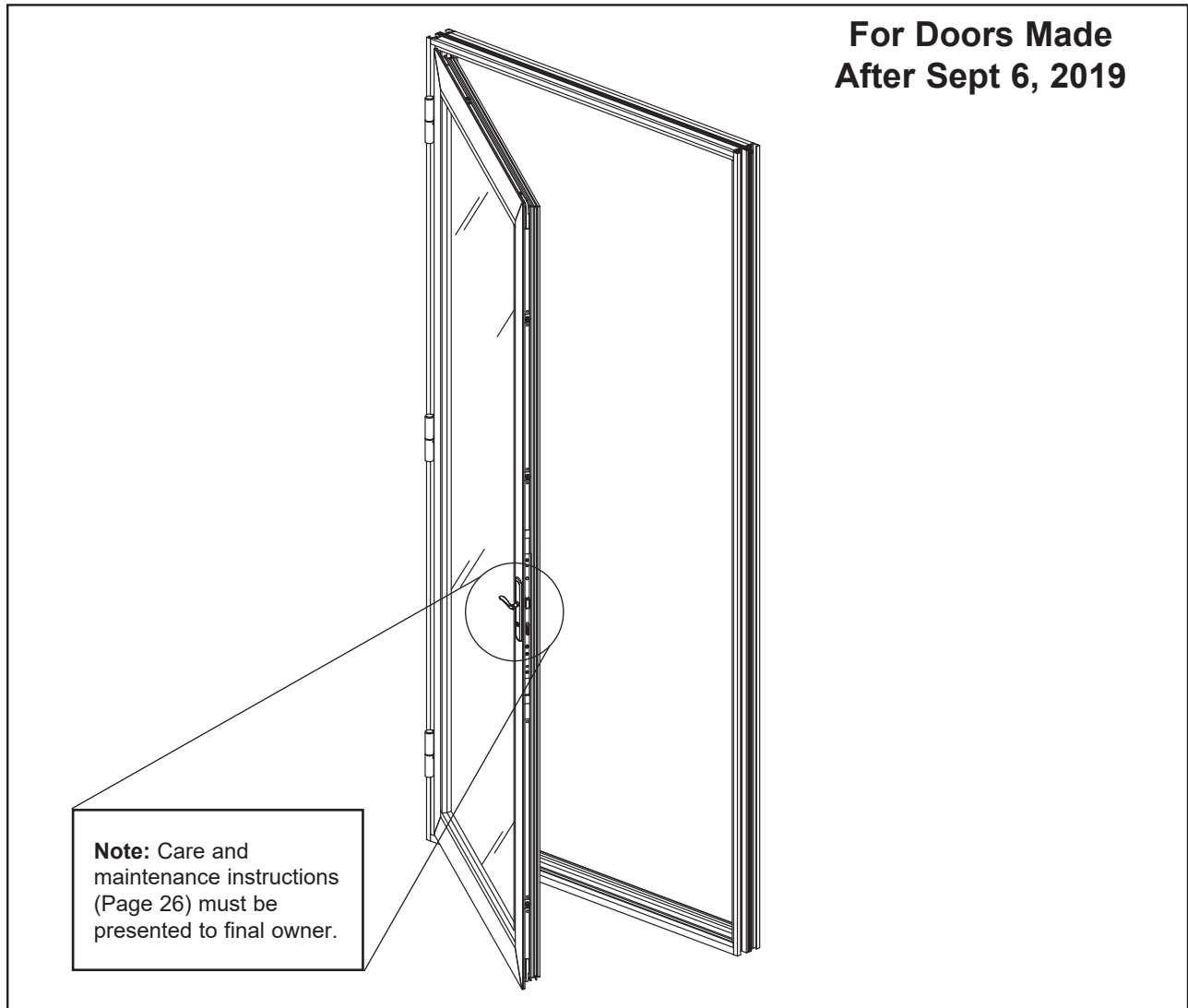


YTD 350 T/TH

THERMALLY BROKEN ARCHITECTURAL TERRACE DOOR

For Doors Made
After Sept 6, 2019



SYSTEM DESCRIPTION

- 3-1/2" or 4-1/2" Deep Frame High Performance Architectural Terrace Door
- Outswing and Inswing Configurations
- Non-Impact Variations:
Single Doors up to 4'-0" x 8'-0" (Frame Height)
Pair Doors up to 8'-0" x 8'-0" (Frame Height)
- Impact Variations (Outswing Only):
Singles Doors up to 3'-6" x 10'-0" @ 110 psf
(Low Sill Details limited to 80 psf)
Pairs Doors up to 7'-0" x 8'-0" @ 110 psf
Pairs Doors up to 6'-0" x 9'-0" @ 90 psf
- YKK AP MegaTherm[®] Thermal Break
- Optional Low Sill & 10" Bottom Rail Available

PERFORMANCE FEATURES

- AAMA/WDMA/CSA 1/I.S.2/A440-05
- Outswing:
ATD AW-80 Rating – Single Door
ATD AW-65 Rating – Pair Doors
- Inswing:
ATD AW-60 Rating – Single Door
ATD AW-40 Rating – Pair Doors

Installation Manual

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INSTALLATION NOTES

1. Do not drop, roll or drag boxes of aluminum framing. Move and stack boxes with proper support to prevent distortion. If fork lifts are used, be especially careful about striking the boxes when lifting or moving.
 2. Store in a dry, out of the way area. If rain exposure, condensation or any water contact is likely, then all packaging material should be removed. Wet packaging materials will discolor and may stain aluminum finishes and paints.
 3. All materials should be checked for quantity and quality upon receipt, YKK AP must be notified immediately of any discrepancies in shipment. Check to make sure that you have the required shims, sealants, supplies, and tools necessary for the installation.
 4. Carefully check the openings and surrounding conditions that will receive your material. Remember, if the construction is not per the construction documents, it is your responsibility to notify the general contractor in writing. Any discrepancies must be brought to the general contractor's attention before you proceed with the installation.
 5. Collect your shop drawings, materials, packing list, and this installation manual. Carefully review parts location, the sequence of installation, when you glaze it, and how you seal it. Installation instructions are of a general nature and may not cover every condition you will encounter. The shop drawings and/or installation manuals were prepared specifically for the product.
 6. Any material substitutions must be of equal or greater quality.
 7. Make certain that material samples have been sent for compatibility testing for all manufacturer's sealants involved. Make certain that sealants have been installed in strict accordance with the manufacturer's recommendations and specifications.
 8. Consult sealant manufacturer for proper sealant and backer rod selection.
 - A. Small Missile: YKK AP approved silicone for exterior cap bead.
 - B. Large Missile: Use only YKK AP approved structural silicone.
- For projects in Florida, refer to Florida Product Approvals for approved sealants. For all other projects, refer to approved shop drawings and engineer of record.
9. Remember to isolate, in an approved manner, all aluminum from uncured masonry or other incompatible materials.
 10. System-to-structure fasteners are not supplied by YKK AP.

INSTALLATION NOTES

11. If any questions arise concerning YKK AP products or their installation, contact YKK AP for clarification before proceeding.
12. YKK AP Terrace door installation is typically completed before drywall, flooring and other products which may still be in process. Take the extra time to wrap and protect the installed material.
13. Cutting tolerances are plus or minus 1/32" unless otherwise specified.
14. YKK AP Model YTD 350 T architectural terrace doors are pre-finished, prefabricated, and pre-assembled products, and must be protected against damage.
15. Concrete, mortar, plaster, muriatic acid and other alkaline and acid based construction and cleaning materials may be very harmful to finishes and should be removed with water and mild soap immediately or permanent damage or staining of the finishes will occur. A spot test is recommended before any cleaning agent is used, and abrasive type cleaners must never be used.
16. YKK AP systems are never to be used as ladders, step stools, scaffolds or scaffold supports.
17. All work must start from, and be referenced to benchmarks, offset lines and/or column centerlines established by the architectural drawings and the general contractor.
18. All systems must be installed plumb, square, level and true, and in accordance with approved shop drawings and these installation instructions.
19. Glass and glazing building codes governing the design and use of products vary widely. YKK AP America Inc. does not control the selection of products, product configurations, operating hardware and function, or glazing materials, and YKK AP assumes no responsibility for these design considerations. It is the responsibility of the design professional, owner, architect, specifier, general contractor, and the installer to make these selections in strict accordance with all applicable codes.
20. Check our website, www.ykkap.com, for the latest installation manual update prior to commencing work.








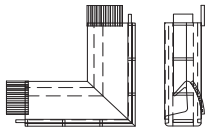
DOOR HARDWARE

| DETAIL | PART NO. | DESCRIPTION | MATERIAL |
|--------|-------------|------------------------------------|-----------------|
| | - | Active Cylinder (Outswing) | Brass Composite |
| | - | Inactive Cylinder (Outswing) | Brass Composite |
| | - | Active Cylinder (Inswing) | Brass Composite |
| | - | Inactive Cylinder (Inswing) | Brass Composite |
| | E1-1824 | Anchor Filler | Aluminum |
| | - | Key - Key Cylinder | Brass Composite |
| | E1-1832 | Shim For LCN 4031T Closer | Aluminum |
| | E1-1833 | Drop Plate For LCN 4031T Closer | Steel |
| | TD-41B0026 | Eurogroove Hinge | Aluminum |
| | E1-1835 | Eurogroove Keeper | Stainless Steel |
| | E1-1836 | Eurogroove Pawl | Stainless Steel |
| | E1-1837 | Eurogroove Corner Transmission | Stainless Steel |
| | E1-1838 | Eurogroove Limit Arm | Stainless Steel |
| | TD-11742367 | 45mm Backset Active Lock | Stainless Steel |

DOOR HARDWARE

| DETAIL | PART NO. | DESCRIPTION | MATERIAL |
|---|-------------|----------------------------|-----------------|
|  | TD-40007565 | Eurogroove Lock Strike | Stainless Steel |
|  | TD-11749763 | 45mm Backset Inactive Lock | Stainless Steel |





GASKETS

| DETAIL | PART NO. | DESCRIPTION | MATERIAL |
|---|-------------|---|------------------------------------|
|  | E2-0050 | Exterior Glazing Gasket | Black EPDM |
|  | E2-0083 | Push-in Gasket | Black EPDM |
|  | E2-0625 | Airtight Gasket | Black Santoprene |
|  | E2-0626PC | Setting Block | Black EPDM |
|  | E2-0726 | Gasket Frame Low-Profile Threshold | Black EPDM |
|  | E2-0732 | Glazing Tape For Structural Glazing | Black Polyurethane Foam, 1/4" F.C. |
| | See Page-21 | Active and Inactive Lever Handles and Escutcheon Plates | -- |
|  | E2-0750 | Air Seal Gasket | Black EPDM |
|  | E2-0751 | Air Seal Corner | Black EPDM |

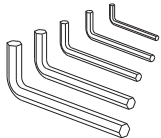
GASKETS (Cont.)

| DETAIL | PART NO. | DESCRIPTION | MATERIAL |
|---|----------------|--------------------------|--------------|
|  | E2-0752 | Glazing Tape | PolyUrethane |
|  | E2-0753 | Astragal End Plug | Black EPDM |
|  | E2-0754 | Glazing Shim | Black EPDM |

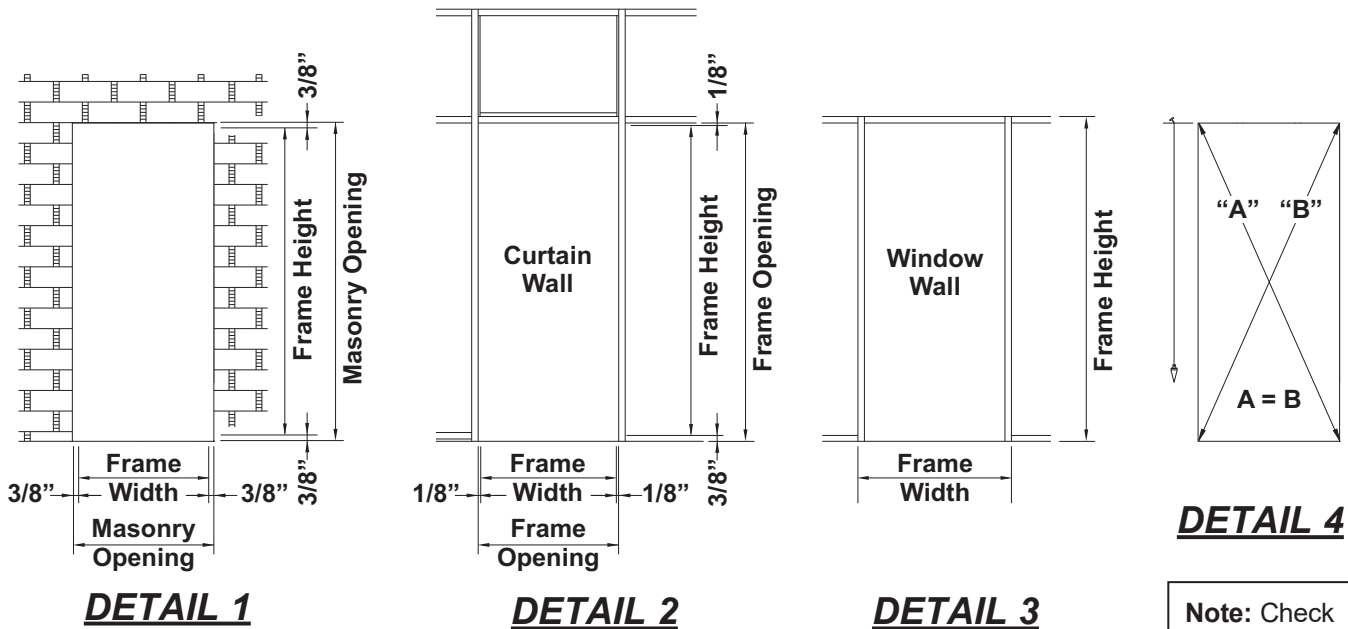
FASTENERS

| DETAIL | PART NO. | DESCRIPTION | MATERIAL |
|---|-------------------|---|-------------------|
|  | FS-1016-SS | #10 x 1" FHSMS Tek For anchoring of E1-1835 Keeper to door frame. | Stainless Steel |
|  | FC-1412 | #14 x 3/4" FHSMS Type AB For anchoring Drop Plate to Door Top Rail | Zinc Plated Steel |
|  | FC-1416 | #14 x 1" FHSMS Type AB For anchoring Closer Track onto Door Frame | Zinc Plated Steel |
|  | PC-1220-SS | #12 x 1-1/4" FHSMS Type AB For locking down the Hinge to the Door Frame | Stainless Steel |

TOOLS REQUIRED FOR ADJUSTMENT (Not Included)

| DETAIL | DESCRIPTION |
|---|---|
|  | 2.5 mm, 4 mm, 1/8", 3/16", 1/4", and 3/8" Allen Wrenches |

VERIFY OPENING SIZE



DETAIL 4

Note: Check the opening for squareness and plumb at both ends. Units must be installed in a true rectangle.

Notes: Minimum Frame Width to Meet FHA Compliance is 38” for Masonry and Curtain Wall options.
 Minimum Frame Width for BE9-1746 (Window Wall option) is 40-1/2”.

MASONRY PUNCHED OPENING

- Measure the width of the opening at the top, middle, and bottom.
 - Select the smallest dimension measured and subtract 3/4” for frame width.
 - Measure the height of the opening in several places.
 - Select the smallest opening dimension and subtract 3/4” for frame height.
- See **Detail 1**.
- Measure the corner to corner diagonal dimensions to ensure maximum ‘out-of-square’ is 3/16” or less.
- See **Detail 4**.

CURTAIN WALL FRAMING OPENING

- Measure the width of the opening at the top, middle, and bottom.
 - Select the smallest dimension measured and subtract 1/4” for frame width.
 - Measure the height of the opening in several places.
 - Select the smallest opening dimension and subtract 1/2” for frame height.
- See **Detail 2**.
- Measure the corner to corner diagonal dimensions to ensure maximum ‘out-of-square’ is 3/16” or less.
- See **Detail 4**.

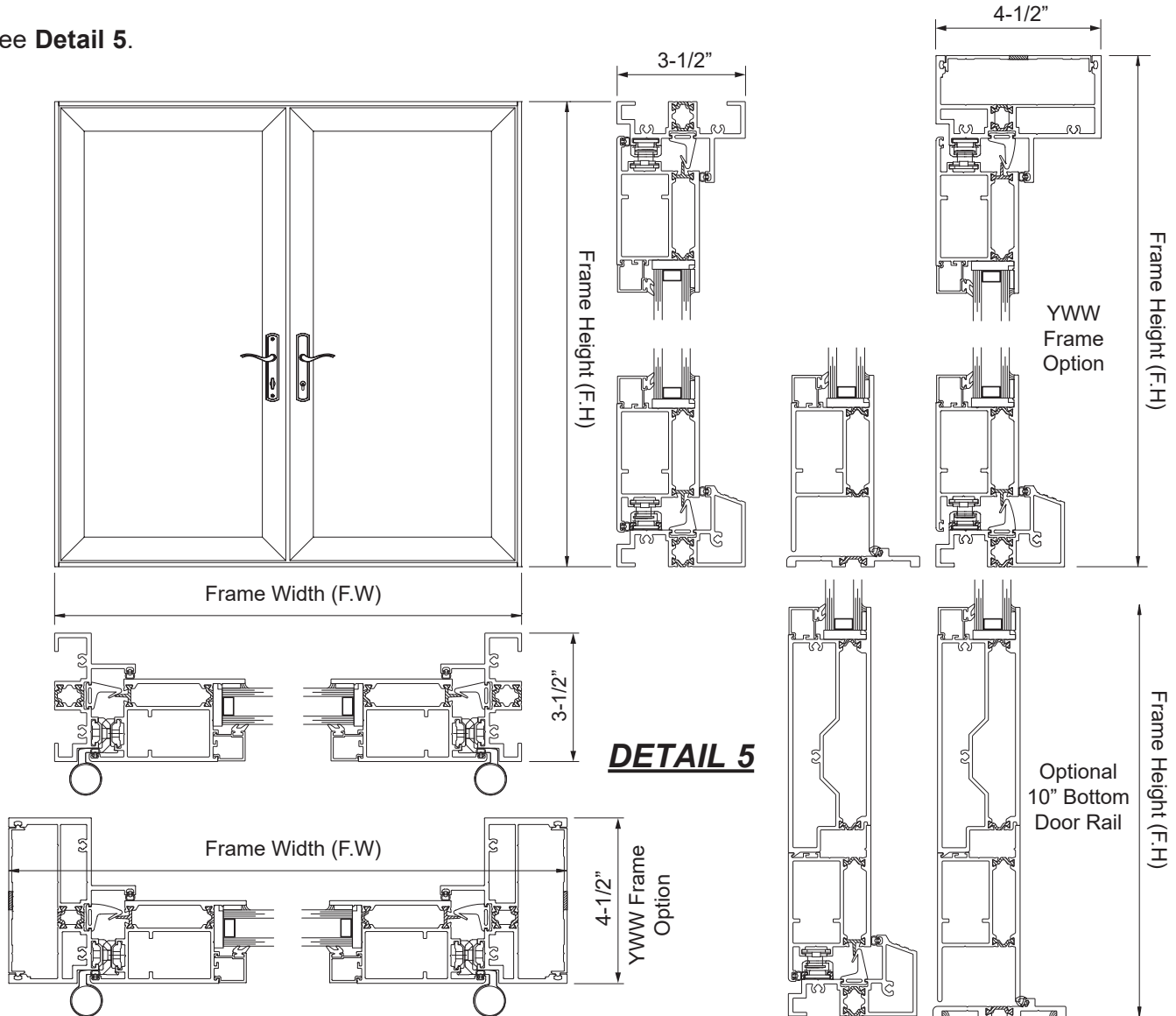
WINDOW WALL FRAMING OPENING

- Measure the width of the integral door frame at the top, middle, and bottom.
 - Measure the height of the integral door frame in several places.
- See **Detail 3**.
- Measure the corner to corner diagonal dimensions to ensure maximum ‘out-of-square’ is 3/16” or less.
- See **Detail 4**.

CALCULATE GLASS SIZES

- Measure frame width and height as shown.
- Apply formula from table below to determine glass size.

See **Detail 5**.



Terrace Door Glass Size Formula Masonry and Curtain Wall Options

| | |
|--|--|
| Glass Height (Std. Btm. Rail) (10" Btm. Rail) | F. H. - (minus) 9-1/4" F. H. - (minus) 15-3/16" |
| Glass Width for Single Door | F. W. - (minus) 9-3/16" |
| Glass Width for Pair Doors | $\frac{F. W.}{2}$ - (minus) 8-3/8" |

Terrace Door Glass Size Formula Window Wall Option

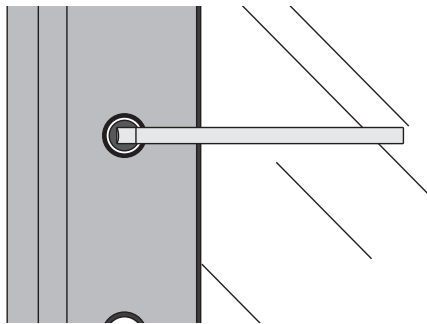
| | |
|--|---|
| Glass Height (Std. Btm. Rail) (10" Btm. Rail) | F. H. - (minus) 10-1/2" F. H. - (minus) 16-7/16" |
| Glass Width for Single Door | F. W. - (minus) 11-11/16" |
| Glass Width for Pair Doors | $\frac{F. W.}{2}$ - (minus) 9-5/8" |

Note: Glass size formula is the same with low-threshold option as it is with standard threshold.

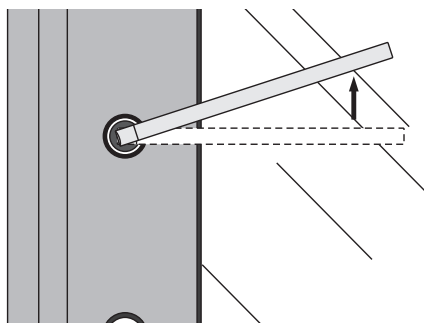
PREPARATION

PREP DOOR FRAME FOR ANCHORING

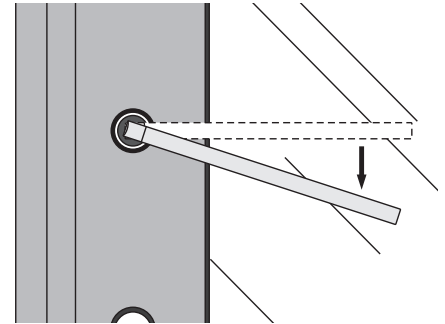
1. Remove door and frame unit from frame.
2. Disengage lock using construction key
 - Insert construction key (handle, included in lever set) into square drive of lock. See **Detail 6** (neutral position).
 - With handle in neutral position, operate handle upward to lock door, engaging multi-point locks. Allow handle to return to neutral position. See **Detail 7**.
 - With handle in neutral position, operate handle downward to unlock door, disengaging multi-point locks. See **Detail 8**.
 - Remove and safeguard construction key for use on other terrace doors.



DETAIL 6 – Neutral



DETAIL 7 – Lock



DETAIL 8 – Unlock

3. Disengage unit by removing fastener connecting the arm to the frame base.

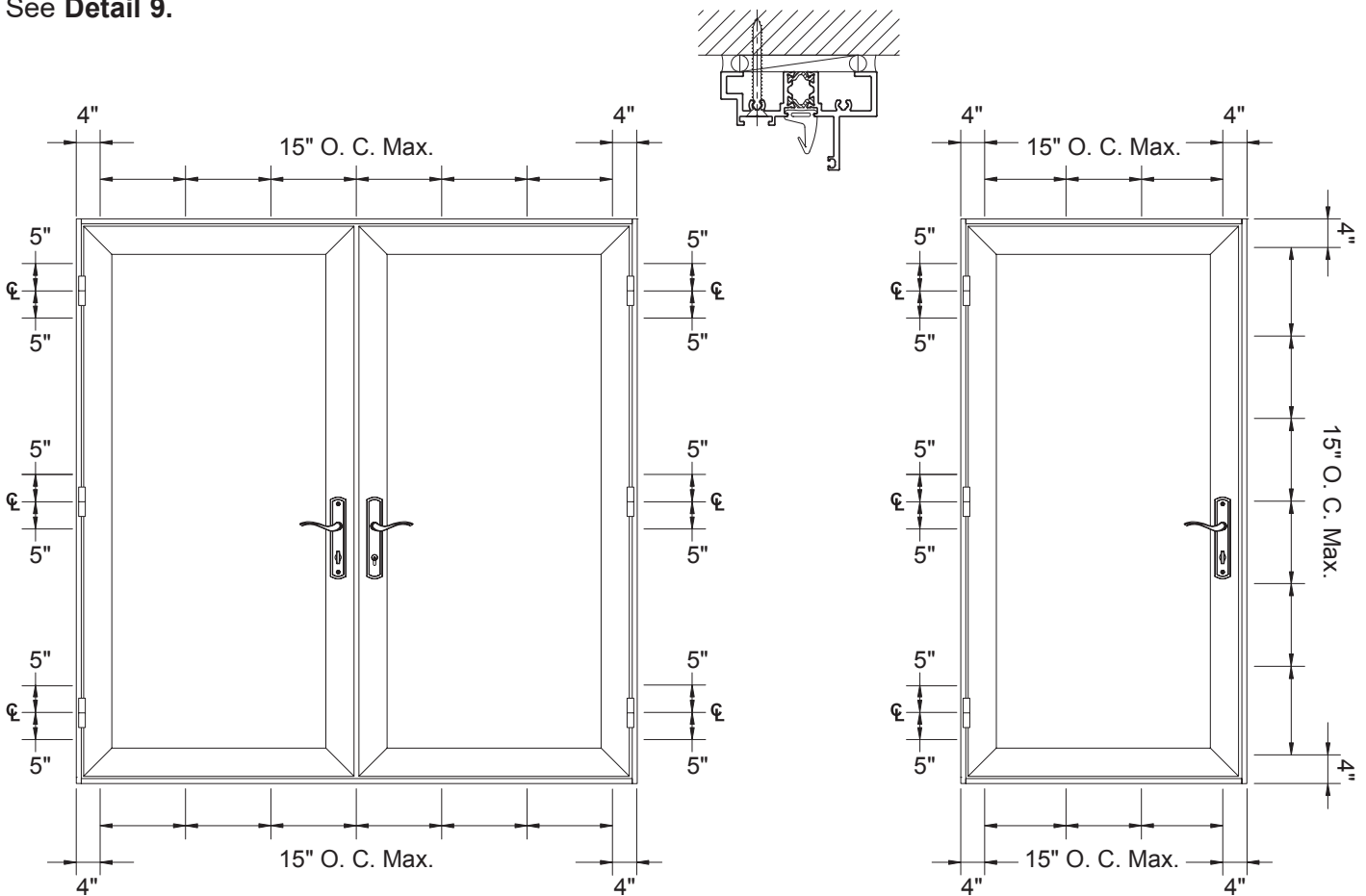
PREPARATION

PREP DOOR FRAME FOR ANCHORING (Continued)

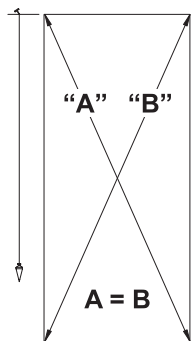
4. Carefully lift the door off of the frame hinges and set on cardboard to protect finish.
5. Prep the door frame for anchors per approved shop drawings or engineering calculations.
6. On hinge jamb only, minimum anchor locations are at 5" above and below each hinge center line.
7. On head, sill, and lock jamb, minimum anchor locations are at 4" in each direction from the corners of the frame, and then 15" maximum on center.

Note: Screw locations may be adjusted to avoid interference with locking hardware.

See **Detail 9**.



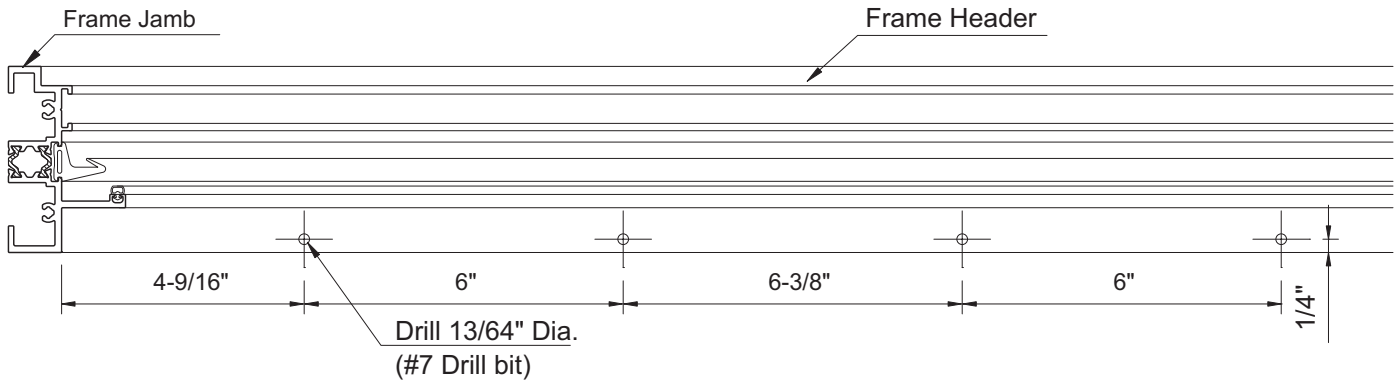
DETAIL 9



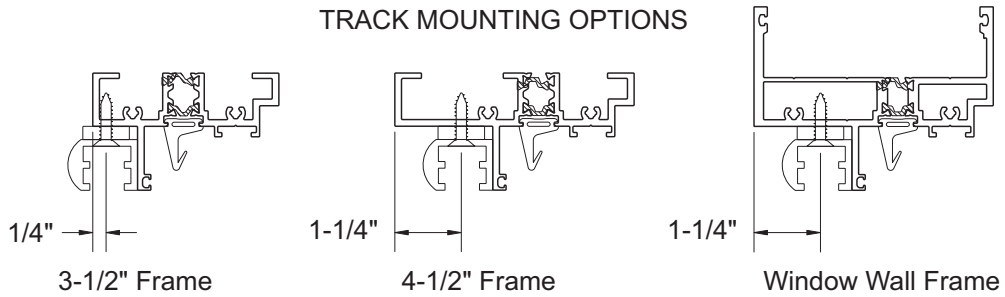
PREPARATION

PREP FOR OPTIONAL LCN 4031T CLOSER

Note: If door installation does not include a closer, skip this step.
 -Prepare terrace door frame by drilling four 13/64" (#7 Drill Bit) holes.
 See **Detail 10**.

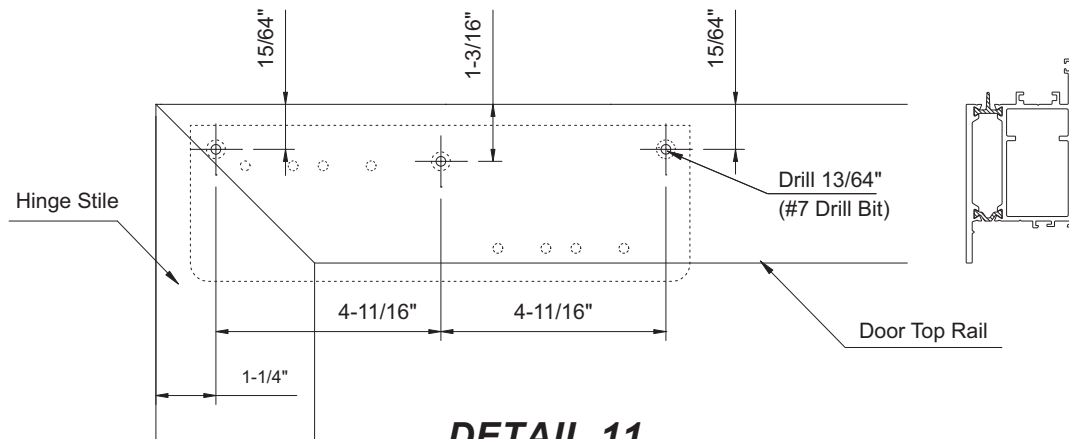


TRACK MOUNTING OPTIONS



DETAIL 10

Prepare door leaf for mounting of E1-1833 drop plate.
 -Drill four 13/64" (#7 drill bit) holes in top rail of door leaf.
 See **Detail 11**.



DETAIL 11

GLAZING
YTD 350 T NON-IMPACT GLAZING METHOD
(Skip to INSTALL FRAME if already glazed)

Note: Terrace Doors can be purchased pre-glazed by the manufacturer or unglazed. For doors pre-glazed by the manufacturer, the “Glazing” Section can be skipped.

Doors purchased unglazed can be shop-glazed or field glazed. These installations follow the sequence for field glazing. However, if the installer chooses to shop glaze, the field glazed instructions can be used for shop-glazing purposes and should be completed prior to the frame installation.

Glazing doors with 10” bottom rail is the same as illustrated.

PREP DOORS FOR GLAZING

Doors must be glazed plumb, level, and square.

- Terrace doors may be removed from the frame to simplify the glazing process.
- If doors are removed from the frame, doors must be glazed flat and square.
- Terrace doors require “Corner Blocking” for proper operation.

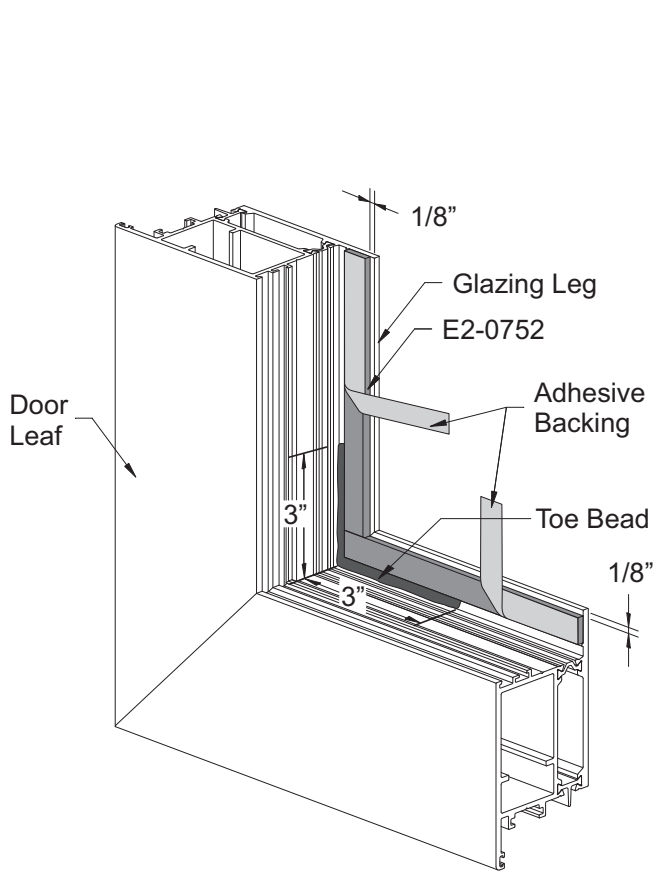
- Remove the glazing beads and clean the glazing leg with an approved cleaning agent using the “two cloth” cleaning method.
- Install glazing tape, E2-0752, on all four sides:
 - Leave a 1/8” gap between the edge of the tape and the edge of the door.
 - Make certain that the corners of the tape do not overlap as this will prevent full contact around the perimeter of the glass.
- Peel back the tape adhesive backing 3” to 4” at each corner and fold them towards the inside of the door.
- Apply “toe bead” of sealant under glazing tape 3” in each direction from all corners.

See **Detail 12**.

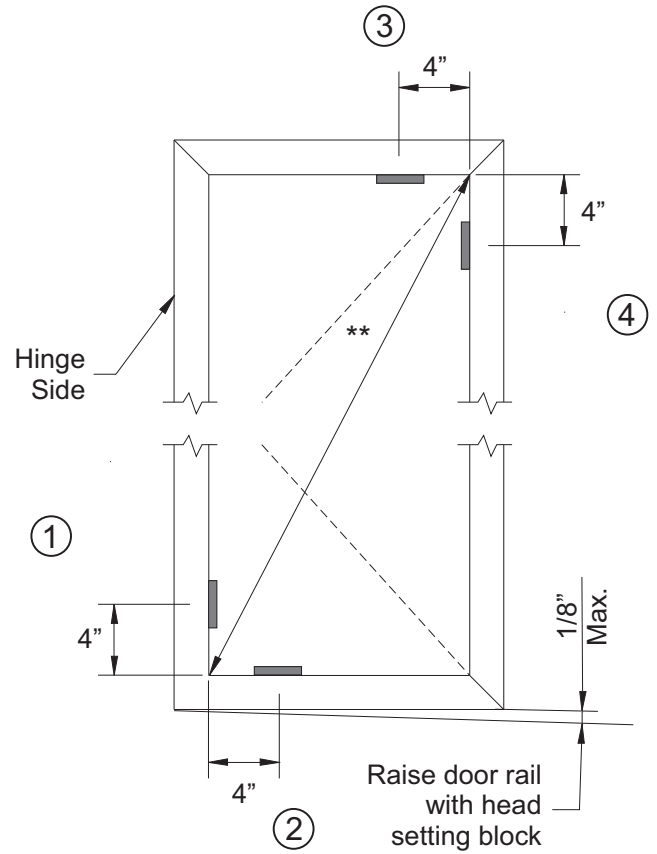
** Glass weight is transferred to bottom corner and hinge.

See **Detail 13**.

GLAZING
YTD 350 T NON-IMPACT GLAZING METHOD



DETAIL 12

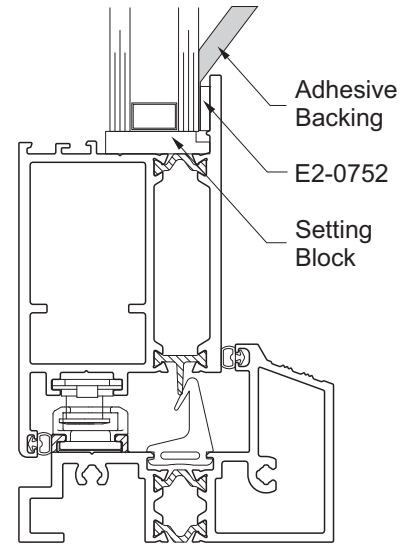


DETAIL 13

GLAZING YTD 350 T NON-IMPACT GLAZING METHOD

INSTALL GLASS

- Install corner blocks E2-0626 at locations 1, 2, and 4. See **Detail 13**.
- Center the glass and carefully set the unit down onto the setting blocks.
- Check door for squareness.
- Door must be glazed as a true rectangle. See **Detail 13**.
- Carefully open the door. If door is removed from frame, door must be glazed square.
- Raise the locking rail 1/8" and install corner block E2-0626 at position #3. Insert additional 1/16" glazing shims E2-0754 to properly shim glass in place if necessary. See **Detail 13**.
- Install the E9-4861 glass stops.
- Trim glazing gasket leaving 1/8" excess at each end. Install the vertical glass stop first by engaging the heel ① first then snapping in the toe ②.



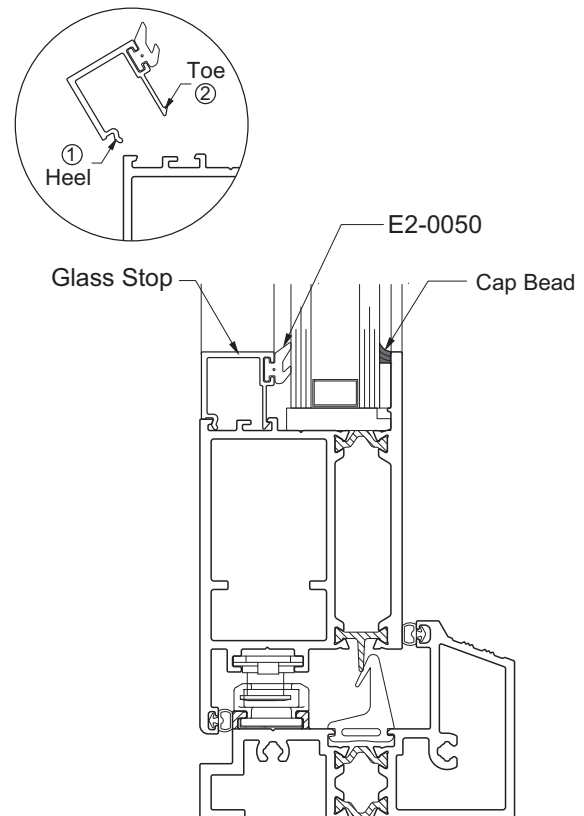
DETAIL 14

See **Detail 14**.

APPLY CAP BEAD

- Apply cap bead (Tremco Tremsil® 600 sealant or equal) to the joint between the glass and glazing leg. When applying sealant vertically, start at the bottom and work your way up. Make sure the sealant completely fills the joint.
- Using a non-scratching implement, tool the sealant immediately after running the bead. Exert positive pressure to ensure that the sealant makes complete contact with all surfaces. Be careful not to remove too much sealant.

See **Detail 15**.



DETAIL 15

GLAZING YTD 350 TH IMPACT CAP SEAL METHOD

PREP DOORS FOR GLAZING

Doors must be glazed plumb, level, and square.

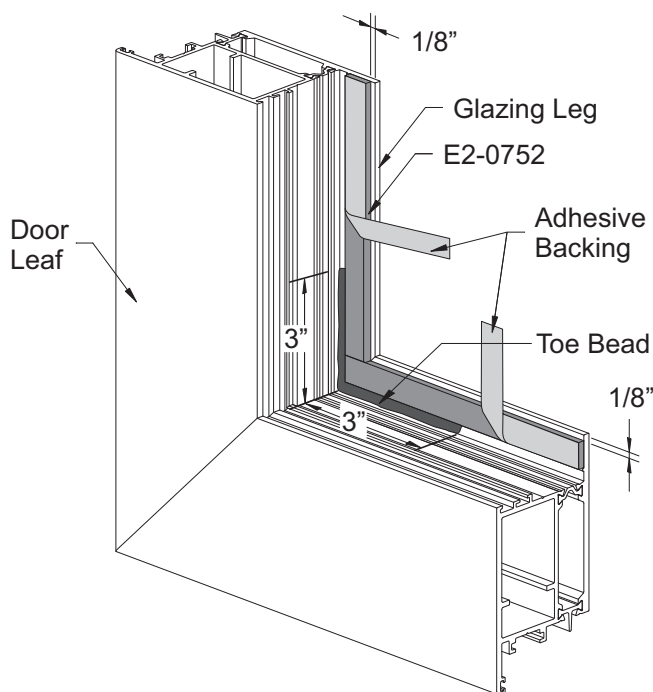
- Terrace doors may be removed from the frame to simplify the glazing process.
- If doors are removed from the frame, doors must be glazed flat and square.
- Terrace doors require “Corner Blocking” for proper operation.

- Remove the glazing beads and clean the glazing leg with an approved cleaning agent using the “two cloth” cleaning method.
- Install glazing tape, E2-0752, on all four sides:
 - Leave a 1/8” gap between the edge of the tape and the edge of the door.
 - Make certain that the corners of the tape do not overlap as this will prevent full contact around the perimeter of the glass.
- Peel back the tape adhesive backing 3” to 4” at each corner and fold them towards the inside of the door.
- Apply “toe bead” of sealant under glazing tape 3” in each direction from all corners.

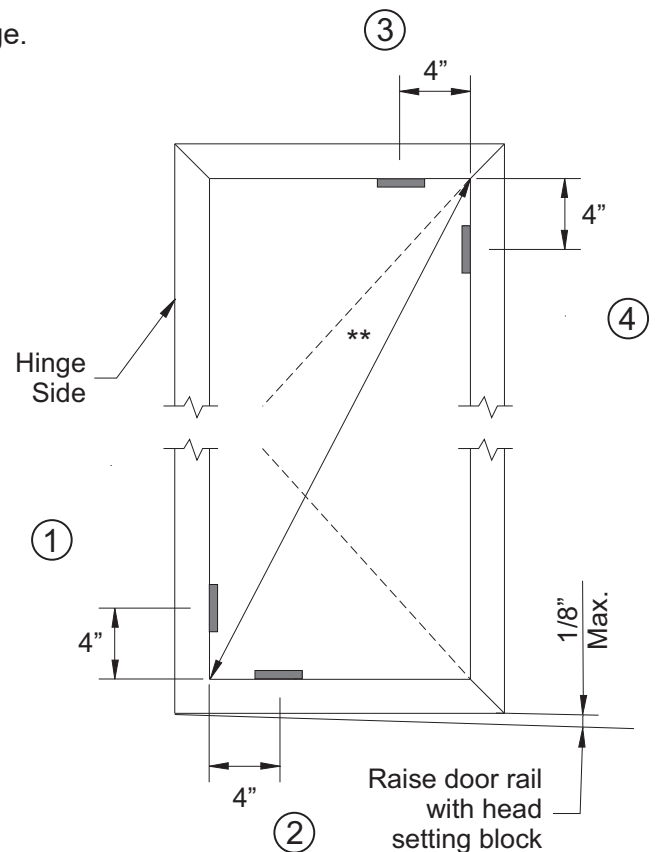
See **Detail 16**.

** Glass weight is transferred to bottom corner and hinge.

See **Detail 17**.



DETAIL 16



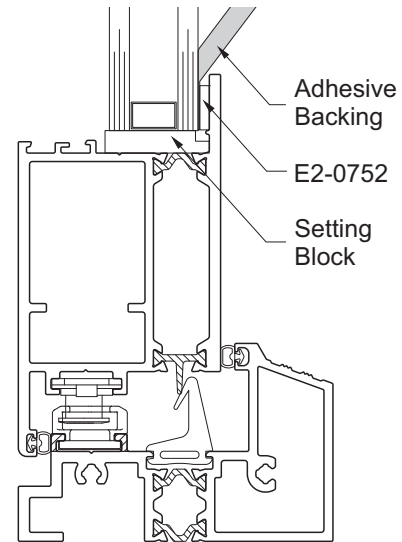
DETAIL 17

GLAZING

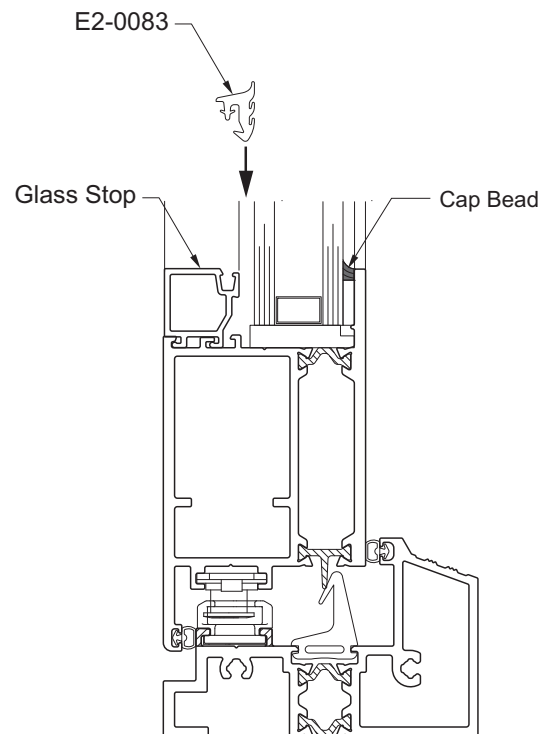
(FOR CAP SEAL GLAZING) INSTALL GLASS

- Install corner blocks E2-0626 at locations 1, 2, and 4. See **Detail 17**.
- Center the glass and carefully set the unit down onto the setting blocks.
- Check door for squareness.
- Door must be glazed as a true rectangle. See **Detail 17**.
- Carefully open the door. If door is removed from frame, door must be glazed square.
- Raise the locking rail 1/8" and install corner block E2-0626 at position #3. Insert additional 1/16" glazing shims E2-0754 to properly shim glass in place if necessary. See **Detail 17**.
- Install E9-4808 glass stops by inserting into opening and sliding into place.
- Install E2-0083 wedge gasket:
 - Cut glazing gaskets to Daylight Opening plus(+) 3/16" for each foot of length.
 - Insert the gasket into the reglet at each end first, and then insert the gasket at the midpoint of the opening.
 - Push the gasket into the reglet starting at the midpoint and work towards each end.

See **Detail 18**.



DETAIL 18



DETAIL 19

APPLY CAP BEAD

- Apply cap bead (Tremco Tremsil® 600 sealant or equal) to the joint between the glass and glazing leg. When applying sealant vertically, start at the bottom and work your way up. Make sure the sealant completely fills the joint.
- Using a non-scratching implement, tool the sealant immediately after running the bead. Exert positive pressure to ensure that the sealant makes complete contact with all surfaces.

Be careful not to remove too much sealant.

See **Detail 19**.

GLAZING YTD 350 TH IMPACT STRUCTURAL SEAL METHOD

PREP DOORS FOR GLAZING

Doors must be glazed plumb, level, and square.

- Terrace doors may be removed from the frame to simplify the glazing process.
- If doors are removed from the frame, doors must be glazed flat and square.
- Terrace doors require "Corner Blocking" for proper operation.

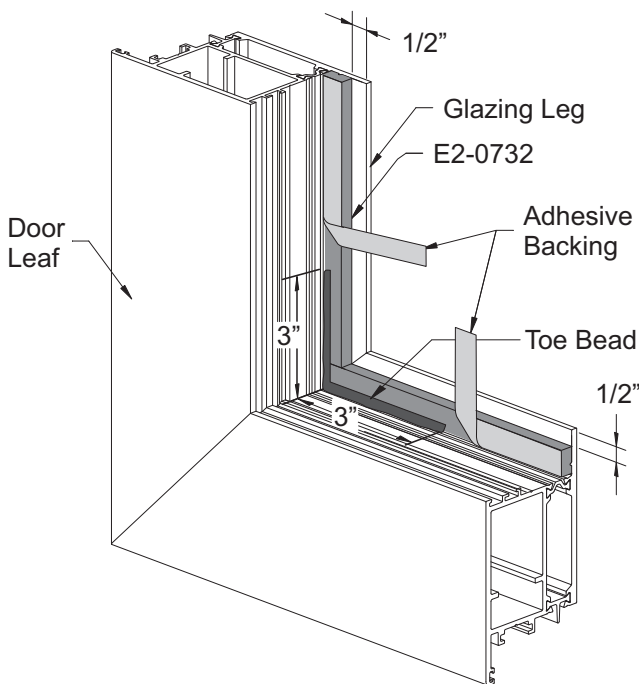
- Remove the glazing beads and clean the glazing leg with an approved cleaning agent using the "two cloth" cleaning method.
- Install glazing tape, E2-0732, on all four sides:
 - Leave a 1/2" gap between the edge of the tape and the edge of the door.
 - Make certain that the corners of the tape do not overlap as this will prevent full contact around the perimeter of the glass.
- Peel back the tape adhesive backing 3" to 4" at each corner and fold them towards the inside of the door.
- Apply "toe bead" of sealant under glazing tape 3" in each direction from all corners.

See **Detail 20**.

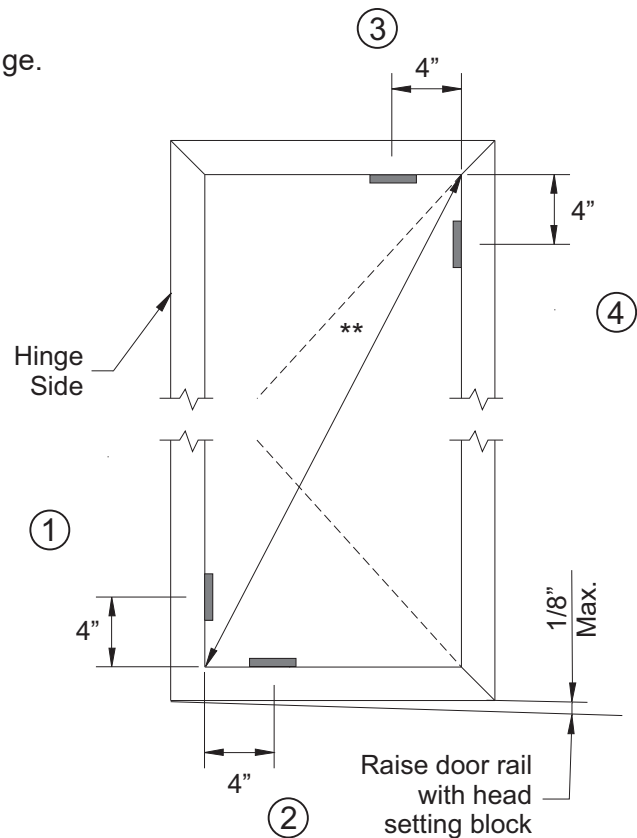
* Door must be glazed square.

** Glass weight is transferred to bottom corner and hinge.

See **Detail 21**.



DETAIL 20



DETAIL 21

GLAZING

**(FOR STRUCTURAL GLAZING)
INSTALL GLASS**

- Install corner blocks E2-0704 at locations 1, 2, and 4. See **Detail 21**.
- Center the glass and carefully set the unit down onto the setting blocks.
- Check door for squareness.
- Door must be glazed as a true rectangle. See **Detail 21**.
- Carefully open the door. If door is removed from frame, door must be glazed square.
- Raise the locking rail 1/8" and install corner block E2-0704 at position #3. Insert additional 1/16" glazing shims E2-0754 to properly shim glass in place if necessary. See **Detail 21**.
- Install E9-4809 glass stops by inserting into opening and sliding into place.
- Install E2-0083 wedge gasket:
 - Cut glazing gaskets to Daylight Opening plus(+) 3/16" for each foot of length.
 - Insert the gasket into the reglet at each end first, and then insert the gasket at the midpoint of the opening.
 - Push the gasket into the reglet starting at the midpoint and work towards each end.

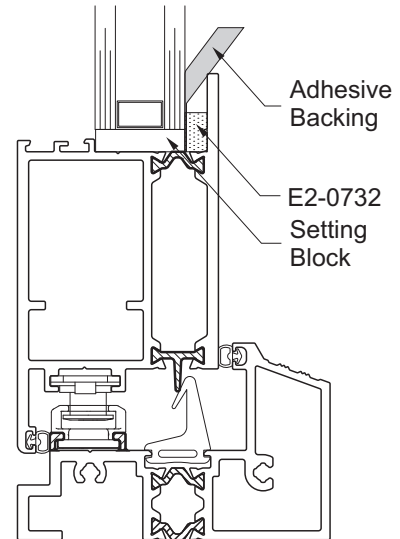
See **Detail 22**.

APPLY STRUCTURAL SEAL

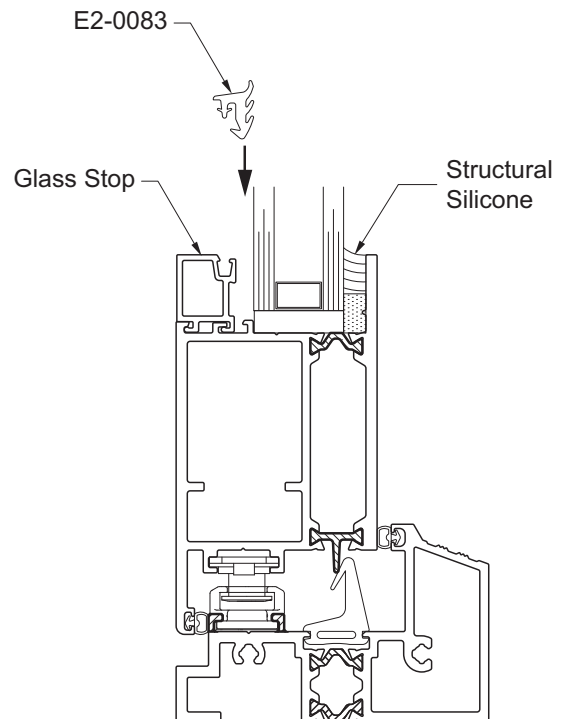
- Apply an approved structural silicone bead to the joint between the glass and glazing leg. When applying sealant vertically, start at the bottom and work your way up. Make sure the sealant completely fills the joint.
- Using a non-scratching implement, tool the sealant immediately after running the bead. Exert positive pressure to ensure that the sealant makes complete contact with all surfaces.

Be careful not to remove too much sealant.

See **Detail 23**.



DETAIL 22



DETAIL 23

INSTALL FRAME

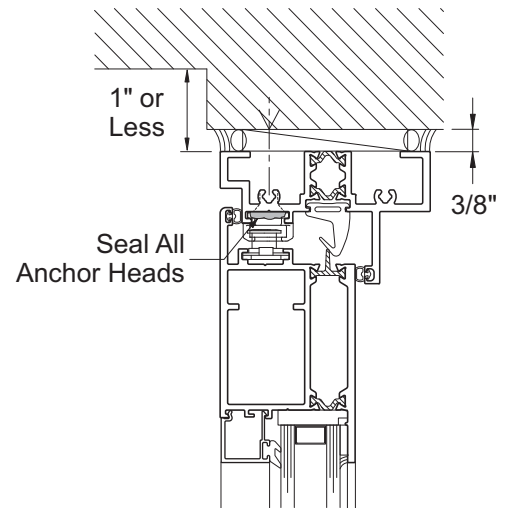
FRAME MUST BE INSTALLED PLUMB, LEVEL, AND SQAURE.

Note: If there is 1" or less clearance above the door frame opening, the door and frame must be installed as a unit.

Option: If the clearance is greater than 1", the frame may be installed separate from the door.

INSTALL DOOR AND FRAME UNIT

- Rehang the door on the door frame, reattach limit arm, and lock door.
- If there is less than 1" of clearance above the door frame opening, door and frame must be installed as a unit.
- Lock door.
- Stand unit in opening.
- Shim at anchor locations to ensure that the frame is installed square, level and plumb.
- Check the opening for squareness and plumb at both ends. Units must be installed in a true rectangle. See **Detail 9**.
- Carefully open door to 90° and support lock stile to keep bottom rail level while anchoring.
- Anchor unit in opening, using only flat head anchors.
- Check for proper swing by making sure door stops at any given open position. If door does not stop as described, adjust hinges.
- See **Page 16, Detail 27**.
- Tighten all anchors. Seal all anchor heads. See **Detail 24**.



DETAIL 24

INSTALL FRAME

INSTALL FRAME WITHOUT DOOR OPTION

- Lift door panel off of hinges and store safely until frame is installed.
- Shim at anchor locations to ensure that the frame is installed square, level and plumb.
- Check the opening for squareness and plumb at both ends. Units must be installed in a true rectangle.

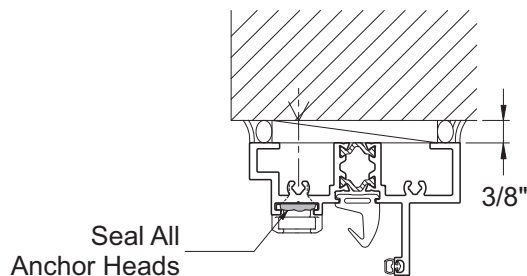
See **Detail 9** on **Page 4**.

- Anchor frame in opening, using only flat head anchors.
- Lift door onto hinges.
- Check for proper swing by making sure door stops at any given open position. If door does not stop as described, adjust hinges.

See **Detail 27, Page 16**.

- Tighten all anchors.

Note: Do not apply any sealant until door is properly aligned.



CAUTION: Never loosen the frame portion of any of the hinges.

- Seal the heads of all frame anchors.
- Install backer rod and apply perimeter sealant.

DETAIL 25

See **Detail 25**.

Note:

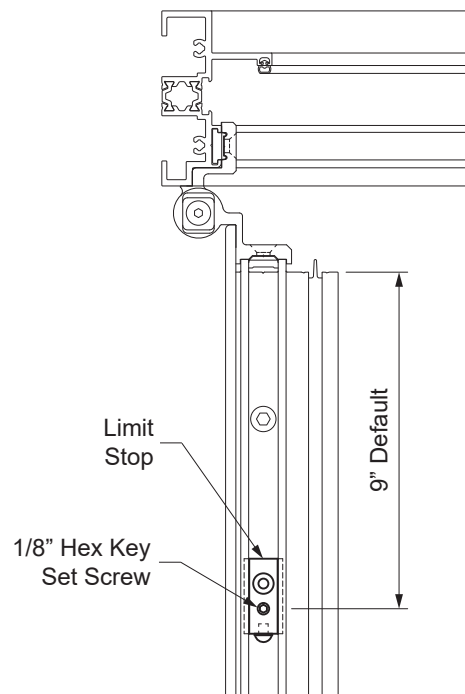
YTD 350 Terrace Doors have three glazing methods:

1. YTD 350 T - Non-impact Glazing Method (see **Page 6**)
2. YTD 350 TH - Impact Cap Seal Method (see **Page 9**)
3. YTD 350 TH - Impact Structural Glazing Method (see **Page 11**)

The following sections include the complete glazing sequence for each method shown above. Continue onto the Hardware Adjustment section at the completion of one of the three door glazing methods.

VERIFY PROPER ALIGNMENT

- Close the door completely compressing the gaskets.
- Insert the construction key (handle) into square drive of lock and lock the door by lifting up on the door handle as previously shown on **Detail 7** on **Page 3**.
 - Check that the reveal around the door is even and approximately 5/16" on all sides.
 - Check that the swinging of the door is not causing the central gasket or gasket corners to disengage or roll.
 - Inspect the keepers for signs of rubbing or hitting.
- If necessary adjust the hinges, keepers, and limit devices to ensure the proper operation of locking devices and the compression of the weather seal to meet the requirements above.
- To adjust the maximum door opening angle, loosen the set screw on the limit stop at the top of the door with a 1/8" hex key. Slide the limit stop to the desired location, and tighten the set screw. See **Detail 26**.
- All hardware must be cleaned and lubricated as necessary to provide smooth operation.

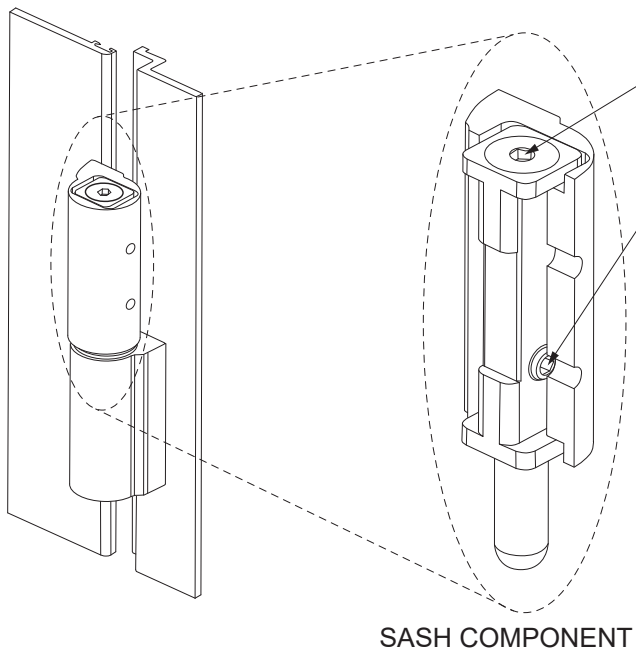


DETAIL 26

ADJUSTMENTS

HINGE ADJUSTMENT

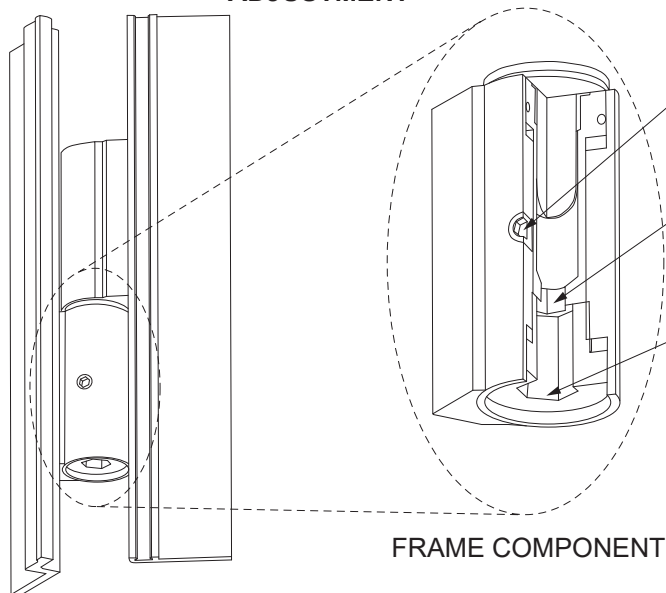
LATERAL ADJUSTMENT



1. Using a 5/32" hex wrench, just break free, do not loosen the pin screws on all three hinges.
2. Using a 1/8" hex wrench, adjust set screw (± 0.070 ") 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 the collar lock screw.

VERTICAL AND COMPRESSION ADJUSTMENT



1. Open door to access and using a 1/8" hex wrench, loosen collar lock screw, 1 turn max.
2. Using a 1/4" hex wrench up inside, adjust hinge collar assembly (± 0.020 ") to desired compression.
3. Using a 3/8" hex wrench, adjust collar screw (± 0.093 ") to desired vertical location.
4. Re-tighten collar lock screw.

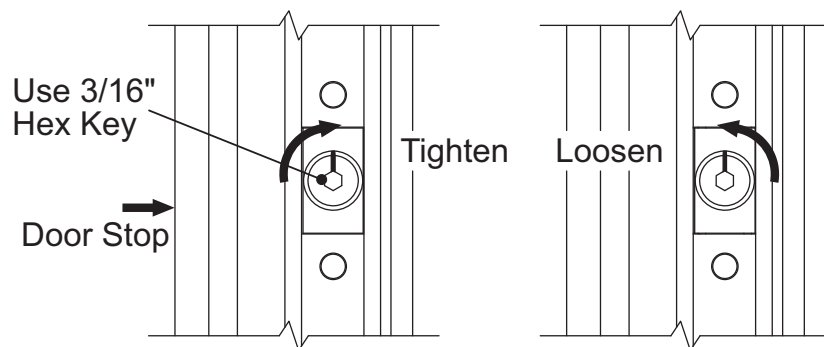
DETAIL 27

ADJUSTMENTS

LOCKING POINT ADJUSTMENT

Adjust flushness of door keepers as necessary.

- Neutral with line pointing towards keepers.
See **Detail 28**.
- Use 3/16" hex key to rotate lock point.
 - Turn line away from door stop to tighten seal.
 - Turn line toward door stop to loosen seal.

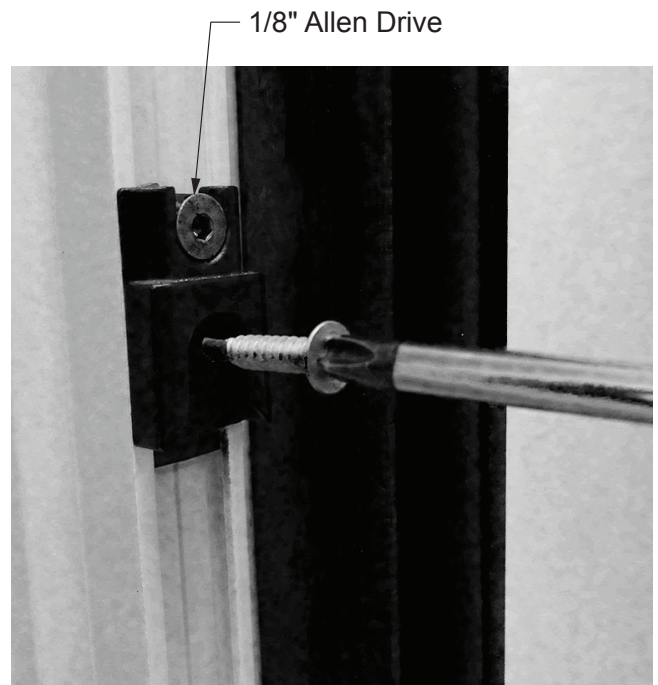


DETAIL 28 – In/Out

KEEPER ADJUSTMENT

Adjust left/right free swing clearance of door keepers as necessary.

- Neutral as factory installed.
See **Detail 29**.
- Use 1/8" hex key to lightly loosen fastener.
 - Slide keeper to allow 1/8" clearance from locking point.
 - Using 1/8" hex key tighten fastener.
 - After final adjustment install FS-1016 to lock keeper in place.



DETAIL 29 – Keeper Lock Down

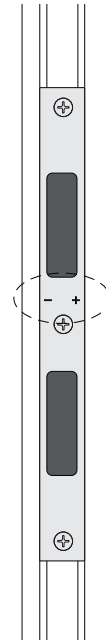
ADJUSTMENTS

STRIKE PLATE REVERSAL

The strike plate is slightly asymmetrical as is indicated by the plus and minus signs as shown on **Detail 30**.

-Force to latch can be adjusted by reversing the striker plate.

DETAIL 30



LOCK REPLACEMENT

Lock handing can be changed by rotating the latch and mishandling device.

-Push a small screwdriver or punch into the reversing hole and push the latch out until the latch clears the lockcase.

-Rotate the latch 180° by hand and release back into the lockcase.

See **Detail 31**.

REMOVING THE SHIPPING CLIP AND REVERSING THE MISHANDLING DEVICE

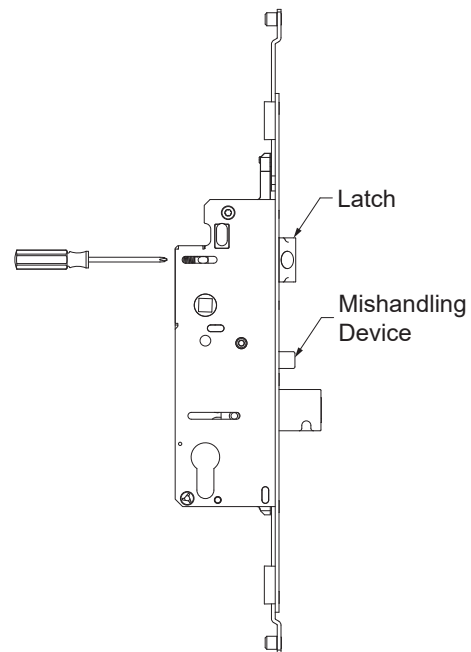
-Remove the sticker covering the shipping clip.

-Remove the shipping clip so that the mishandling device is visible and extended.

-Ensure the mishandling device is sloped in the same direction as the latch.

-If not, pull out the mishandling device by hand and rotate 180°.

-Release the mishandling device back into lockcase.



DETAIL 31

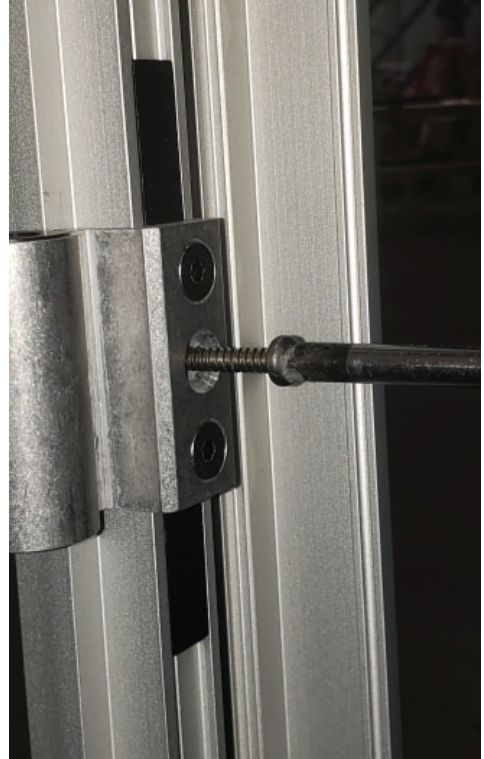
HINGE LOCK DOWN

Note: All lock downs take place after all adjustments are complete.

FOR THE FRAME SIDE

- Match drill frame using a 3/16" drill bit through the hole in the center of the hinge.
- Lock the hinge down with a PC-1220-SS.

See **Detail 32**.

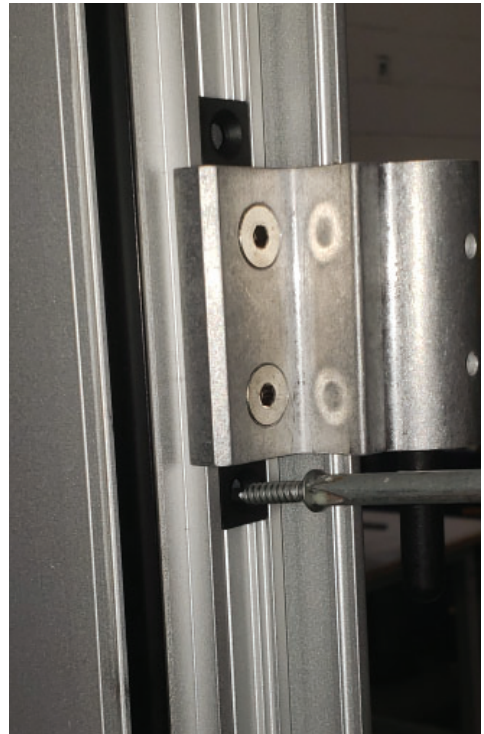


DETAIL 32

ON THE SASH SIDE

- Install the FS-1016-SS fasteners into the holes at the top and bottom of the hinge leaf base plate.

See **Detail 33**.



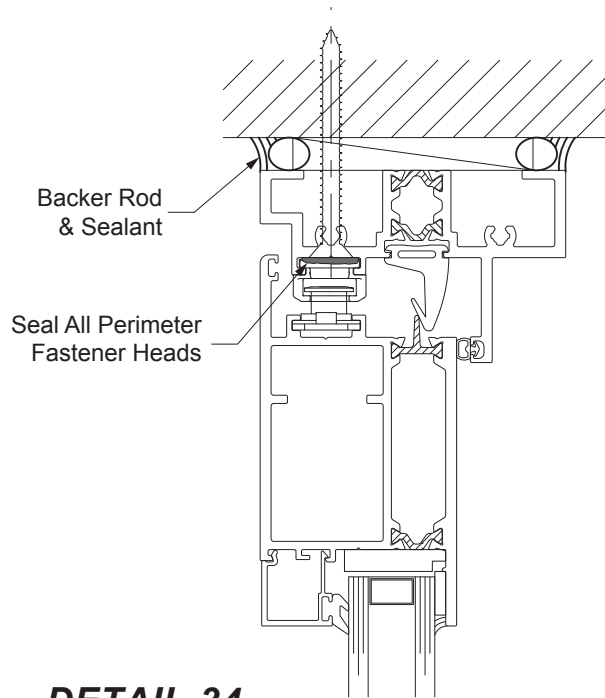
DETAIL 33

APPLY SEALANT

Once all adjustments are complete and door is operating and locking properly:

- Seal the heads of all perimeter fasteners.
- Install a backer rod and apply perimeter sealant to both interior and exterior as shown on approved shop drawings.

See **Detail 34**.

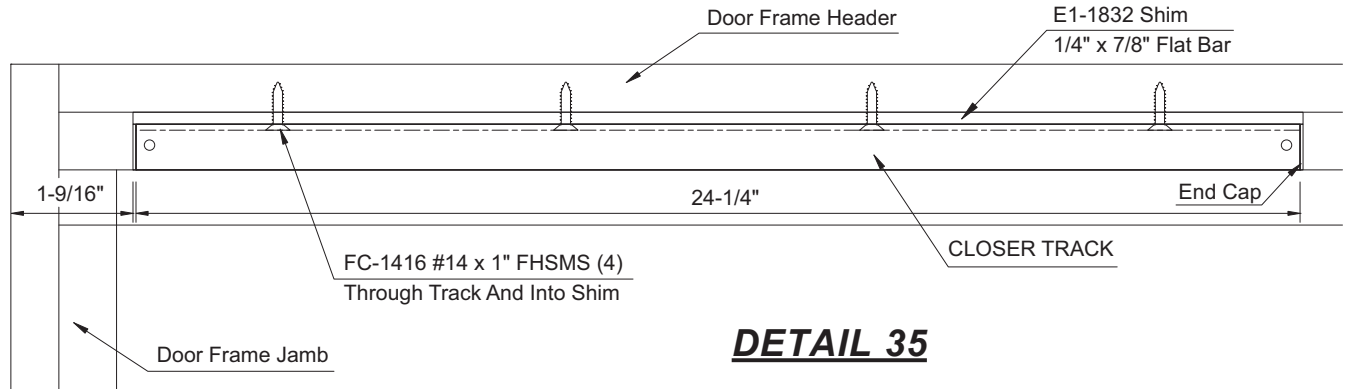


DETAIL 34

INSTALL DOOR CLOSER

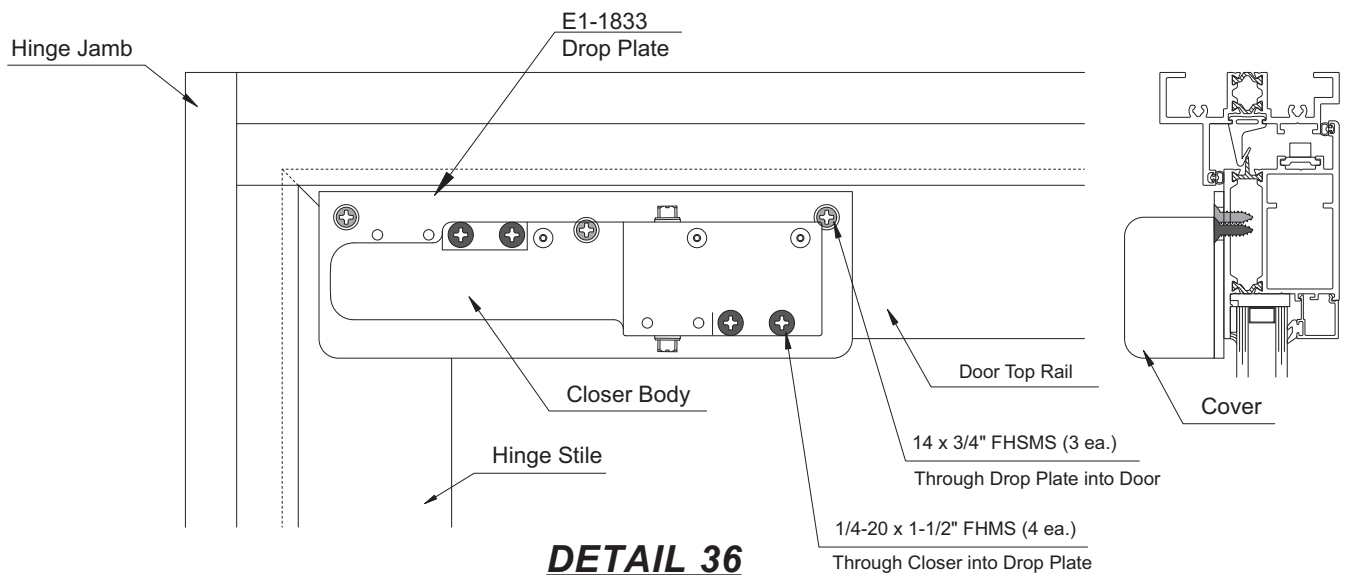
-Install E1-1832 shim and closer track onto door frame using four FC-1416 fasteners provided.

See Detail 35.



- Attach E1-1833 drop plate to door top rail using three #14 x 3/4" FHSMS fasteners.
- Follow closer installation instructions to insert closer bar into track.
- Attach closer cover to closer body with provided fasteners.
- Attach closer to drop plate using three 1/4-20 x 1-1/2" FHMS fasteners.
- Follow closer manufacturer's installation instructions to adjust closer if needed.

See Detail 36.



FINISH HARDWARE

-Locate hardware package. Finish hardware includes one (1) active locking package for single doors, one (1) active locking package, and one (1) inactive locking package, for pair doors.
 -Hardware package also contains a pair of door handles. The door handles will be one of the styles listed below.

Finishes:

Oil Rub Bronze, Brushed Chrome, and White Painted.

See **Detail 37**.



New Orleans Handle
Brushed Chrome Finish Shown

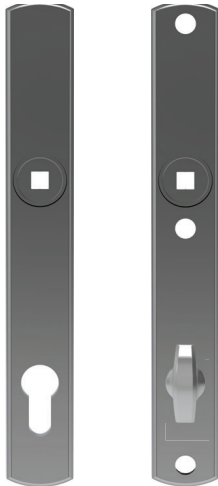


Toronto Handle
Brushed Chrome Finish Shown



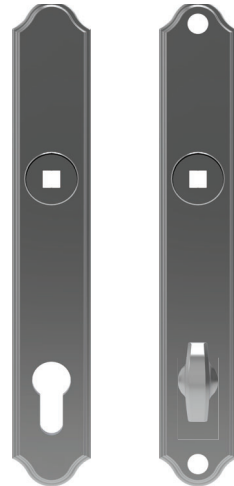
Verona Handle
Brushed Chrome Finish Shown

**New Orleans
Escutcheon
Plate**



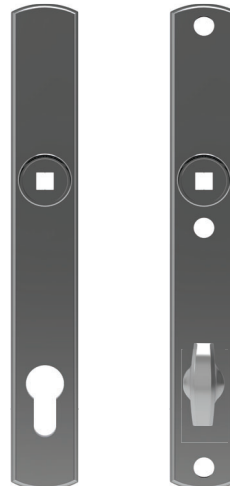
Exterior Interior

**Toronto
Escutcheon
Plate**



Exterior Interior

**Verona
Escutcheon
Plate**



Exterior Interior

DETAIL 37

FINISH HARDWARE (Cont.)

A Phillips screw driver is required.

A 3mm hex wrench for set screws is provided in the hardware package.

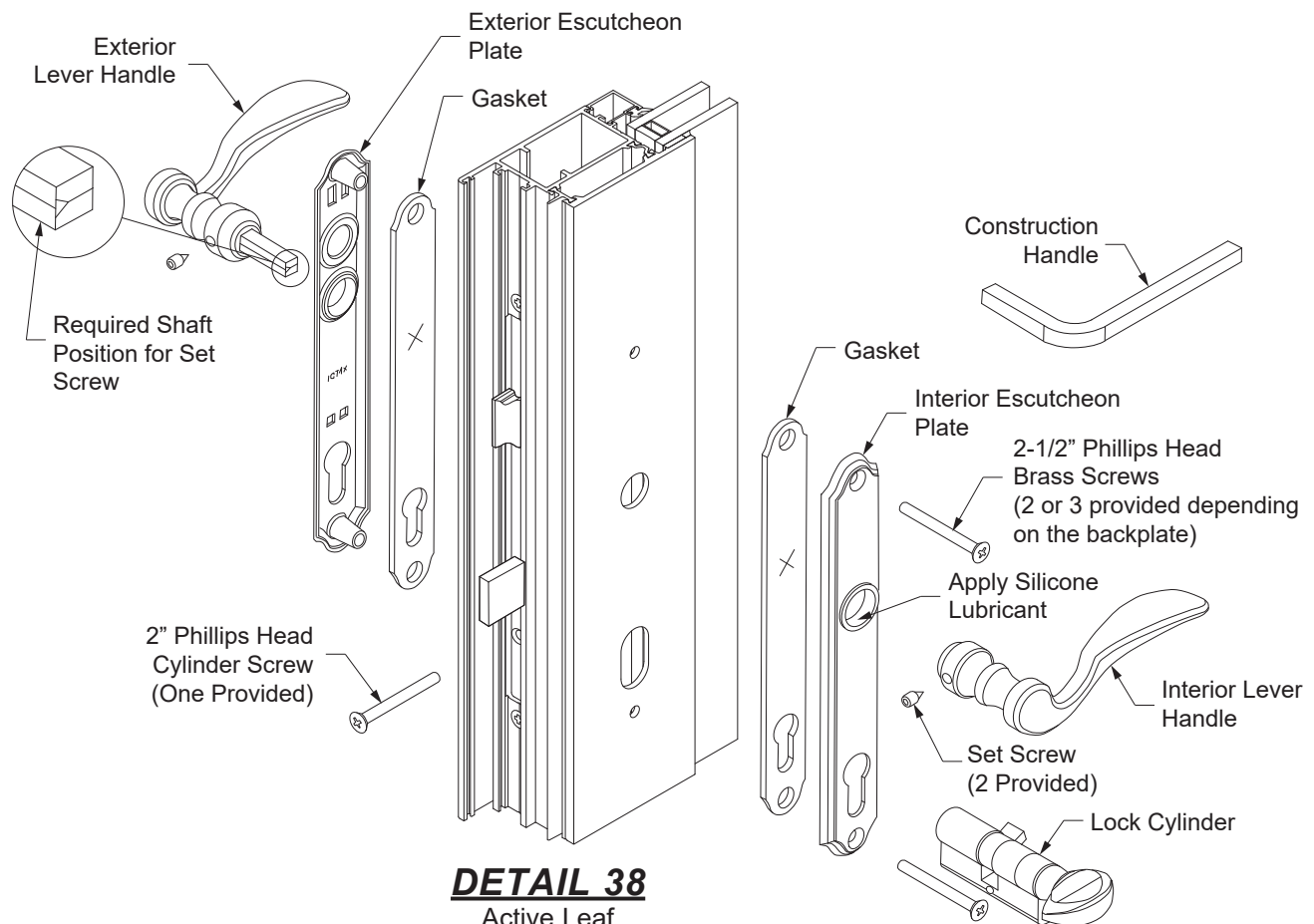
To prevent damage to the handle set during the construction phase, use the enclosed construction handle to operate the door. Lift the handle to engage the multipoints. Push down to disengage. Use water and a soft cloth to clean. Do not use brass cleaner or solvent based cleaning agents as they will remove the protective coating on the hardware.

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

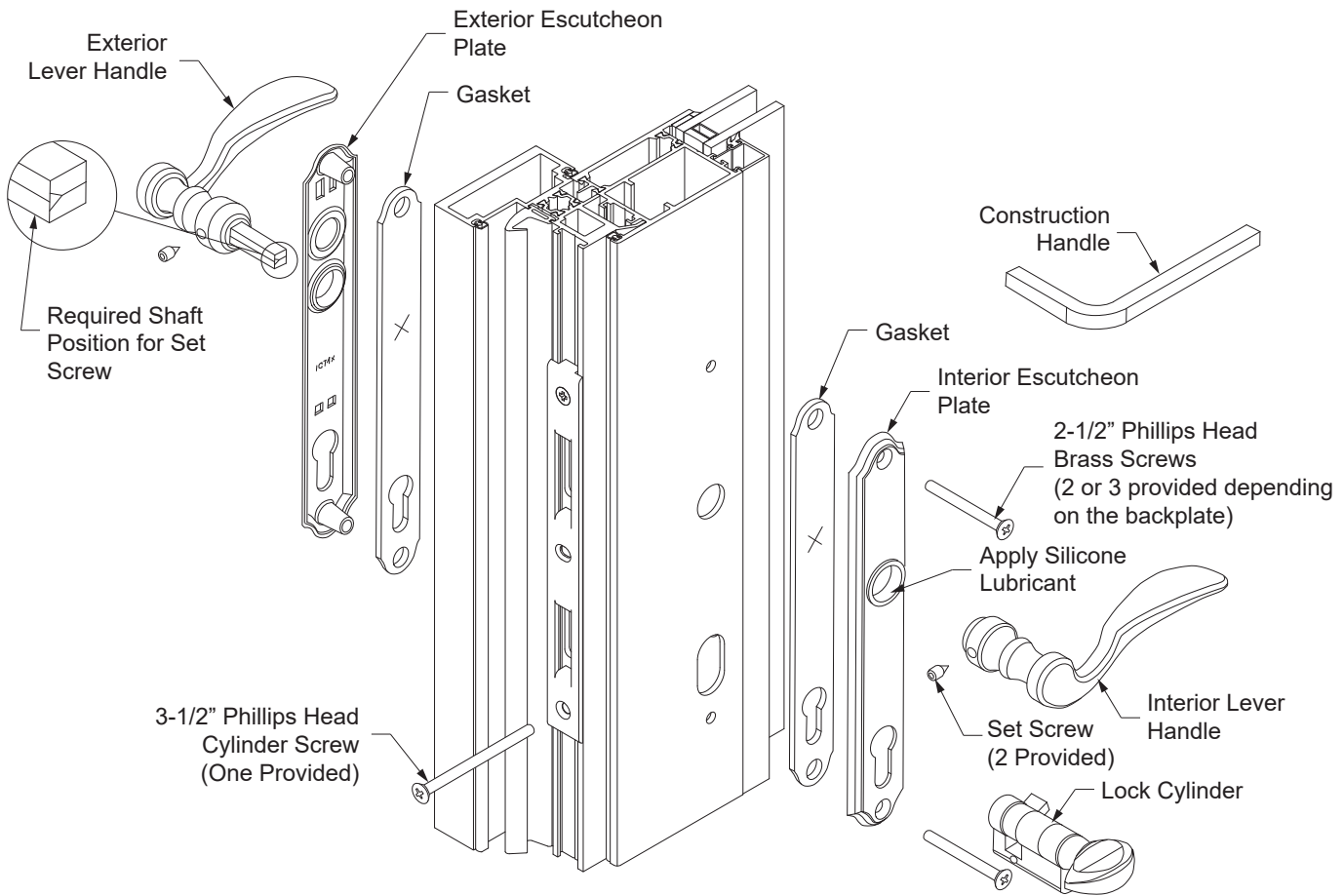
1. Apply the backplate gasket to the inside of the exterior and interior escutcheon plates. Push gaskets firmly into place to ensure a tight seal. Attach interior and exterior backplates to the door and fasten loosely with the screws provided. (A rubber-ended clamp may be used to compress the gaskets fully during assembly.)

Note: the screw heads must be on the interior side of the door.

2. Apply a small amount of silicone lubricant to the inside of the plastic bushing prior to lever handle installation.



FINISH HARDWARE (Cont.)



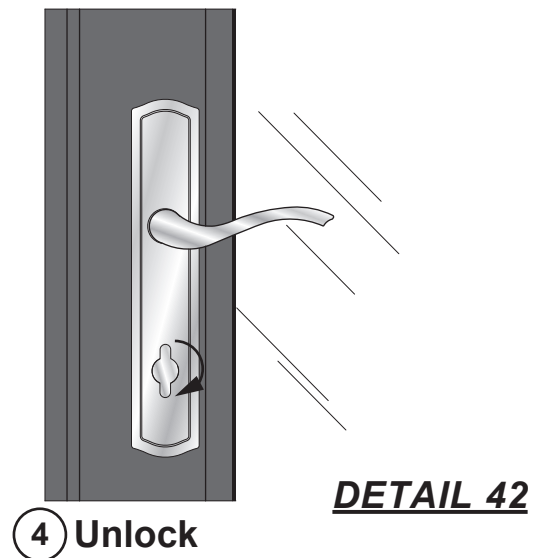
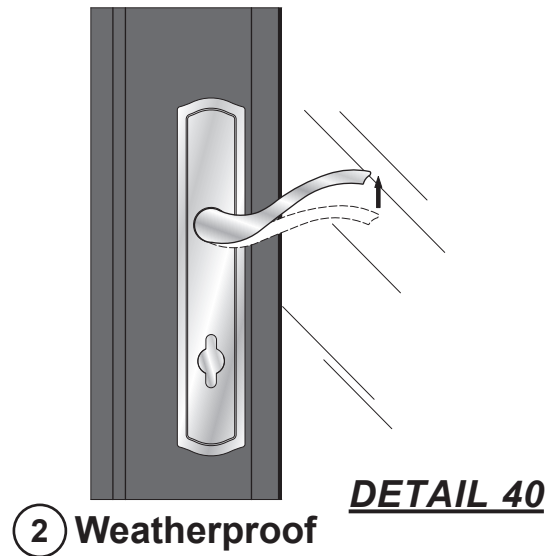
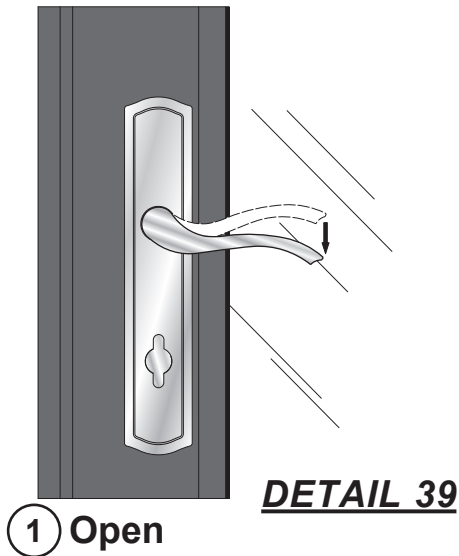
DETAIL 38A
Inactive Leaf

3. Insert the two-piece handle set shaft into one handle. Be sure to orient the shaft as shown in **Detail 38 or 38A**. Screw the set screw until flush with the handle using the hex wrench provided. Insert the handle with shaft attached through the escutcheon plate and door gear handle until extending out the opposite side of the door.
4. Install remaining handle onto the shaft, pressing tightly to the escutcheon plates. Tighten the handle set screw with the hex wrench. Screw until flush with the handle.
5. Insert the keyed cylinder from the interior side of the door until it is flush with the exterior escutcheon plate for the active door leaf, or until it passes just though the lock body for the inactive leaf. Install the cylinder screw in the screw hole below the deadbolt in the edge of the door to secure in place.
6. Hand tighten the escutcheon plate screws to complete the assembly.

FINISH HARDWARE (Cont.)

LOCK OPERATION INSTRUCTIONS

-Operate door handle and thumbturn to ensure operation.



1. **To Open** - Press down on handle and push door open. See **Detail 39**.
2. **To Weatherproof** - Close door and lift handle. See **Detail 40**.
3. **To Secure** - Close door, lift and release handle, turn thumbturn counter-clockwise or turn key clockwise. See **Detail 41**.
4. **To Unlock** - Turn thumbturn clockwise or turn key counter-clockwise. See **Detail 42**.

Note: Thumbturn operates deadbolt. Multipoint must be engaged to throw the deadbolt.

HARDWARE MAINTENANCE

Note: Please provide these care and maintenance instructions *for* final owner.

YKK AP recommends exterior walls be washed at least two times per year per AAMA's "CW-10" publication Care and Handling of Architectural Aluminum from shop to Site. These cleaning and lubrication tips are additional steps to provide better service life and appearance of the hardware.

General Cleaning Tips:

Clean the hardware with a clean, soft cloth and very mild soap and water. Be certain to clean all residues from the hardware to prevent build-up of grime or deposits of wax or soap.

Do not use window cleaning solutions, abrasive cleaners, bleaches, solvents, polishes or other chemical compounds. These products may remove protective coatings or scratch and remove these finishes.

Keys, rings, or other sharp objects should be kept from striking the hardware.

Finish Specific Options:

Brushed chrome can be polished using a commercially available chrome polish, following manufacturer's instructions.

PVD and painted finishes can be further protected by using a non-abrasive wax polish.

Lock Systems:

Lock systems should periodically have all moving parts oiled using a reputable lubricant.



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