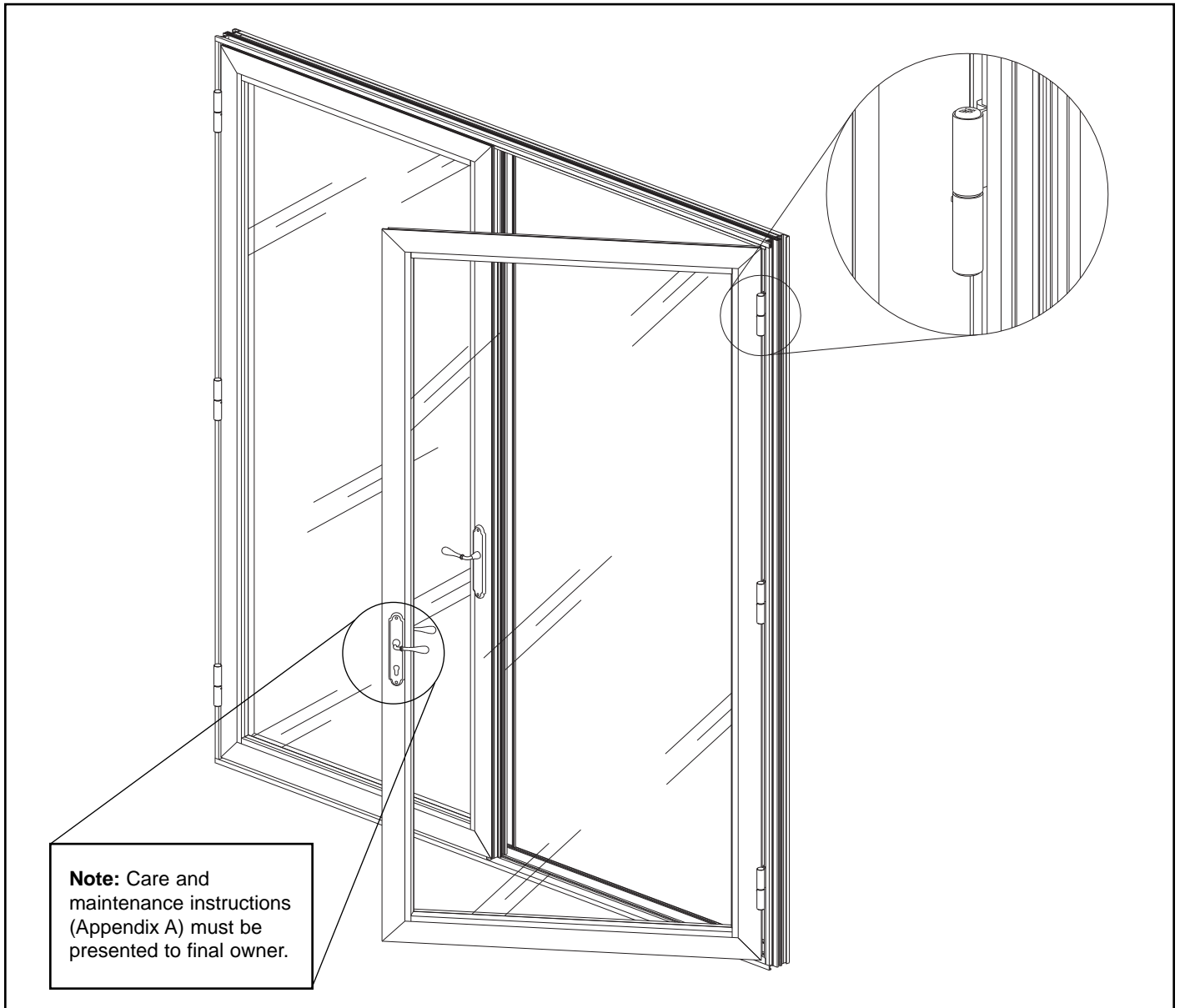


YTD 350 T

THERMALLY BROKEN ARCHITECTURAL TERRACE DOOR



SYSTEM DESCRIPTION

- 3-1/2" or 4-1/2" Deep Frame High Performance Architectural Terrace Door
- Outswing and Inswing Configurations
- Variations:
Single Doors up to 4'-0" x 8'-0" (Frame Height)
Pair Doors up to 8'-0" x 8'-0" (Frame Height)
- YKK AP MegaTherm® Thermal Break

PERFORMANCE FEATURES

- AAMA/WDMA/CSA 101/I.S.2/A440-05
- Outswing:
ATD AW-80 Rating – Single Door
ATD AW-65 Rating – Pair Doors
- Inswing:
ATD AW-40 Rating – Single & Pair Doors

Installation Manual

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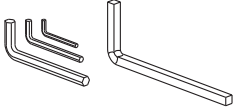
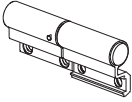






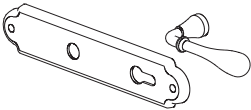
INSTALLATION NOTES

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. All insulated units must be designed for Silicone Glazing. Only neutral curing silicone may be used.
9. Remember to isolate, in a approved manner, all aluminum from uncured masonry or other incompatible materials.
10. System-to-structure fasteners are not supplied by YKK AP.
11. If any questions arise concerning YKK AP products or their installation, contact YKK AP for clarification before proceeding.

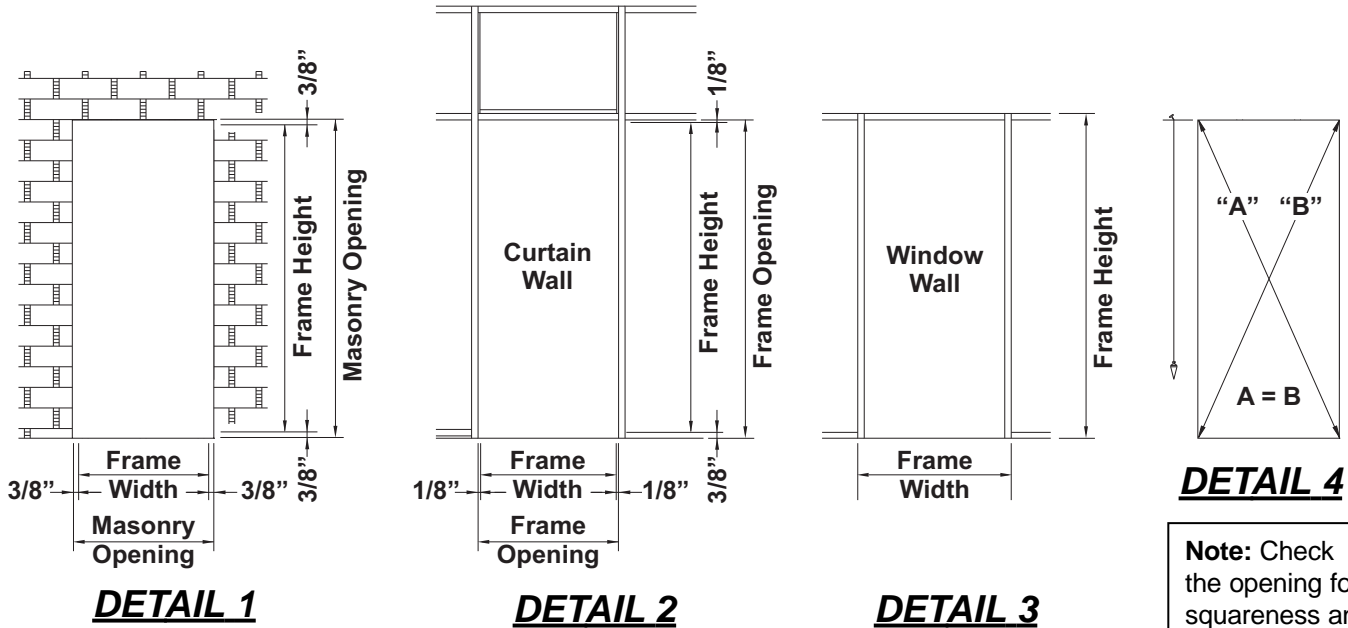
INSTALLATION NOTES

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 one thirty second unless otherwise specified.
14. YKK AP Model YTD 350 T architectural terrace doors are pre finished, prefabricated, and preassembled 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
	P-78YTD350T	Construction Kit Construction door handle, 2.5mm, 4mm, and 6mm hex keys	—
—	H-9350	Glazing Kit 24'– E2-0083, 24'– E2-0752, 4 each E2-0626, 2 each E2-0754, 1 each E3-1203	—
	E1-1802	Pivot Hinge	—
	E2-0625	Airtight Bulb Gasket	Black Santoprene
	E2-0083	Push-in Gasket	Black EPDM
	E2-0750	Airtight Gasket	Black EPDM
	E2-0626	Corner Block 4" x 7/8" x 1/4"	Black EPDM
	E2-0754	Glazing Shim 4" x 1" x 1/16"	Black EPDM
	E2-0752	Glazing Tape	Black Polyurethane Foam, 1/8" F.C.
	See Page-10	Active and Inactive Lever Handles and Escutcheon Plates	—

STEP 1 DETERMINING FRAME SIZE



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

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**.

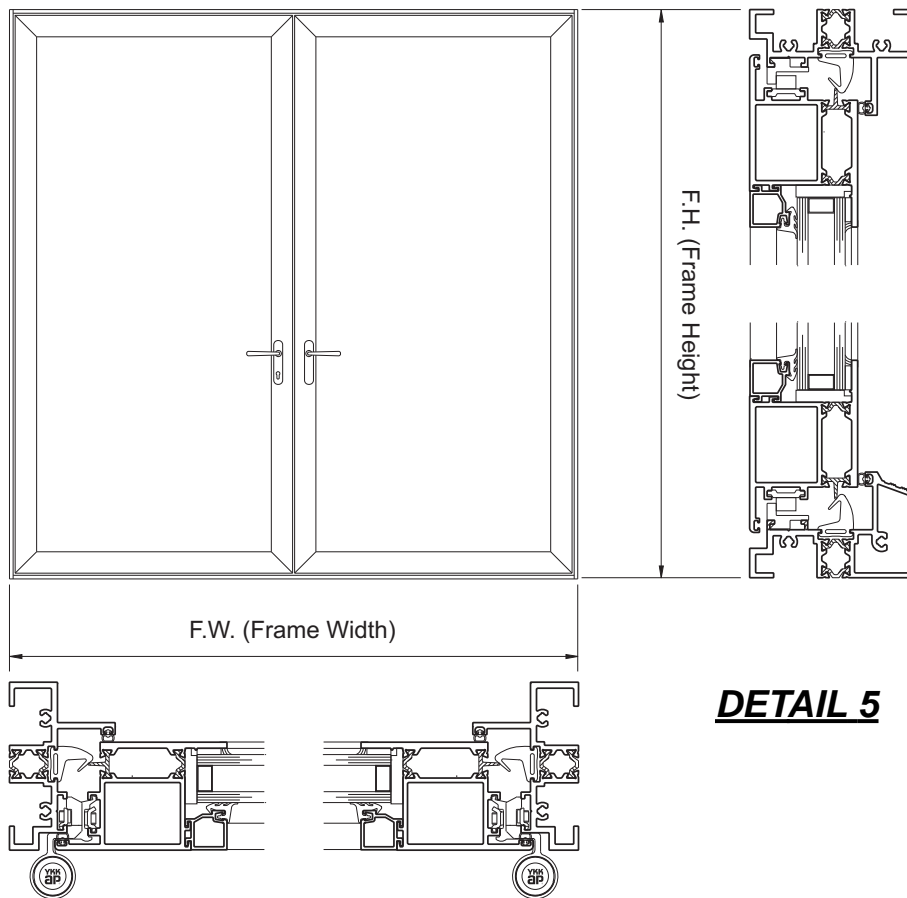
- Measure the corner to corner diagonal dimensions to ensure maximum 'out-of-square' is 3/16" or less.
- See **Detail 4**.

GLAZING

STEP 2 CALCULATE GLASS SIZES (If doors are pre-glazed by YKK AP, skip to step 6)

- 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	F. H. - (minus) 7-13/16"
Glass Width for Single Door	F. W. - (minus) 7-7/8"
Glass Width for Pair Doors	$\frac{F. W.}{2}$ - (minus) 7-1/16"

Terrace Door Glass Size Formula Window Wall Option

Glass Height	F. H. - (minus) 9-1/6"
Glass Width for Single Door	F. W. - (minus) 10-3/8"
Glass Width for Pair Doors	$\frac{F. W.}{2}$ - (minus) 8-5/16"

GLAZING

STEP 3 PREP DOORS FOR GLAZING

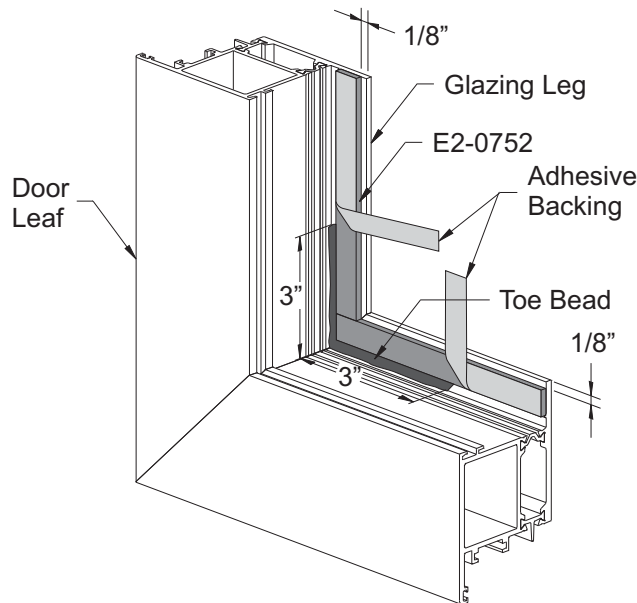
- Terrace doors may be removed from the frame to simplify the glazing process.
- Terrace doors require "Corner Blocking" for proper operation.

1. Remove the glazing beads and clean the glazing leg with an approved cleaning agent using the "two cloth" cleaning method.
2. 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.
3. Peel back the tape adhesive backing 3" to 4" at each corner and fold them towards the inside of the door.
4. Apply "toe bead" of sealant under glazing tape 3" in each direction from all corners.

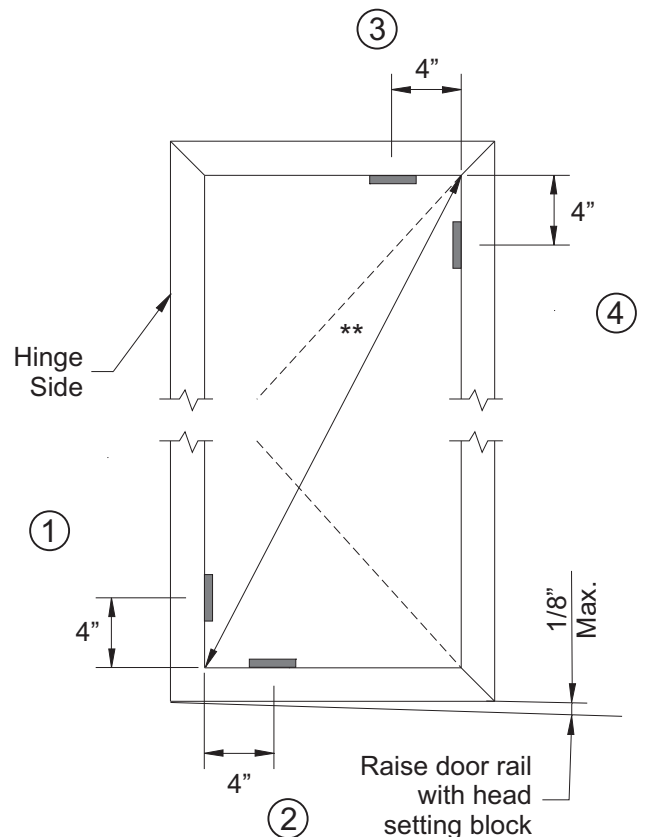
See **Detail 6**.

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

See **Detail 7**.



DETAIL 6



DETAIL 7

GLAZING

STEP 4 INSTALL GLASS

-Glazing of terrace doors requires use of H-9350 glazing kit as described on Page-iv.

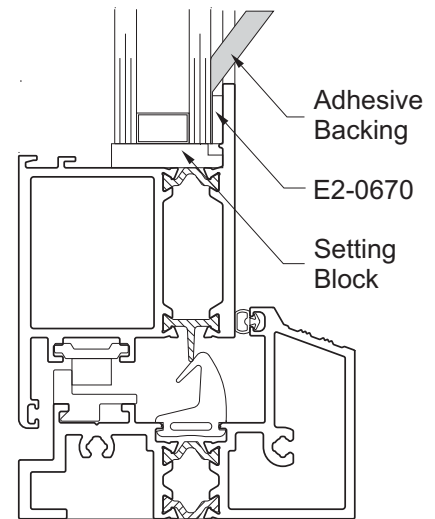
1. Install corner blocks E2-0626 at locations 1, 2, and 4. See **Detail 7**.
2. Center the glass and carefully set the unit down onto the setting blocks.
3. Gently pull the folded adhesive backing ends from between glass and backing to remove it and adhere the glass to glazing tape.
4. Press the glass firmly against the exterior glazing tape. See **Detail 8**.
5. Carefully open the door.
6. 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. See **Detail 7**.
7. Install the glass stops.
8. Cut push-in gasket E2-0083 to the day light opening dimension plus 1/8" per foot.
9. Install the push-in gasket by first installing each end and then the center of the gasket; push in the remainder of the gasket working from the center toward each end.

See **Detail 9**.

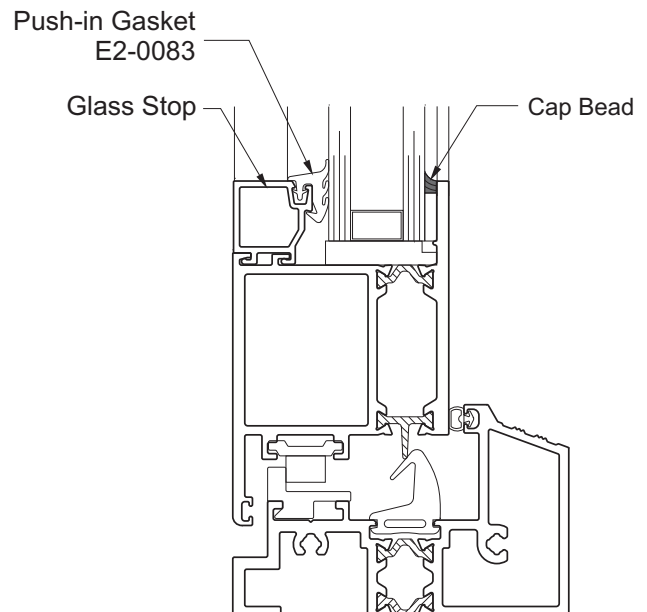
STEP 5 APPLY CAP BEAD

1. 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.
2. 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 9**.



DETAIL 8

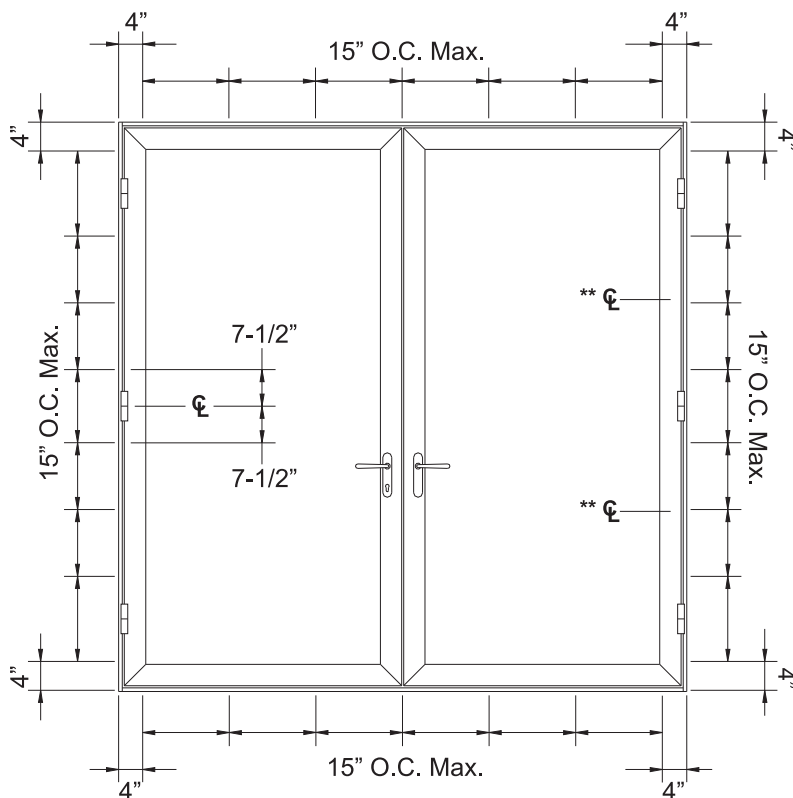


DETAIL 9

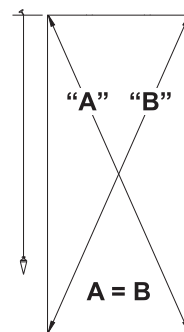
STEP 6 PREP DOOR FRAME

- Remove door and frame unit from crate.
- Carefully lift the door off of the frame pivots and set on cardboard to protect finish.
- Prep the door frame for anchors per approved shop drawings or engineering calculations.
- Minimum anchor locations are at 4" in each direction from the corners of the frame, 7-1/2" above and below the pivot hinge centerline, and then 15" on center.

See **Detail 10**.



DETAIL 10



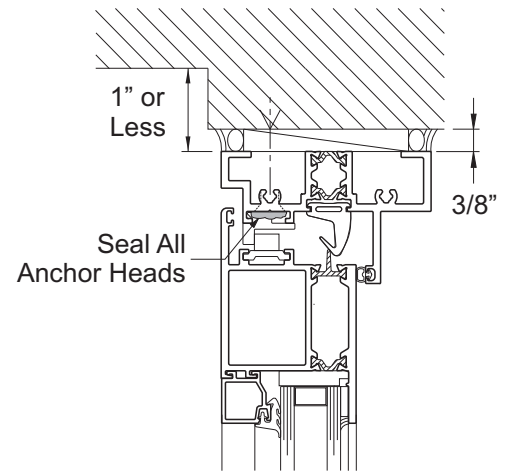
DETAIL 11

STEP 7A INSTALL FRAME

Note: Under some conditions, it is necessary to remove the door from the frame for installation. If there is more than 1" of clearance above the door frame opening, skip to step 7B. See **Detail 13**.

INSTALL DOOR AND FRAME UNIT

- 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 11**.
- 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-9, Details 18 & 19**.
- Tighten all anchors. Seal all anchor heads. See **Detail 12**.

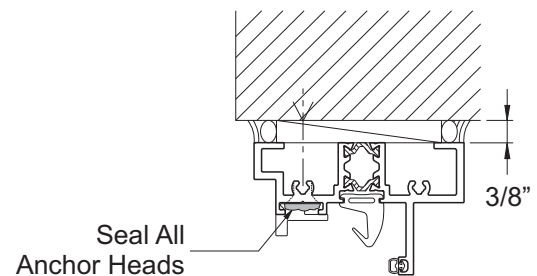


DETAIL 12

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

STEP 7B

- Lift door panel off of pivots 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 11**.
- Anchor frame in opening, using only flat head anchors.
- Lift door onto pivots.
- 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-9, Details 18 & 19**.
- Tighten all anchors. Seal all anchor heads.



DETAIL 13

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

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

See **Detail 13**.

STEP 8 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. See **Detail 16**.

Note: If the locks do not operate smoothly it will be necessary for you to further adjust the shims and anchors.

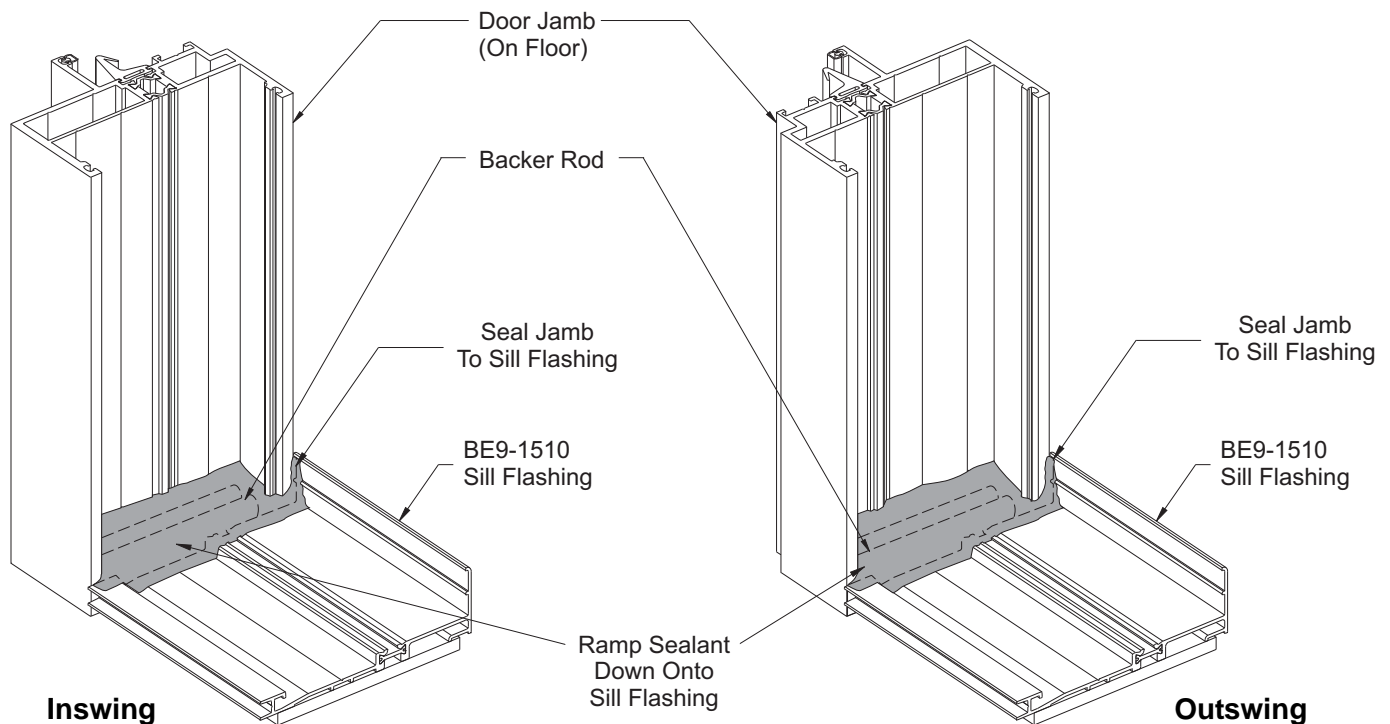
- Seal the heads of all perimeter anchors once the door is operating correctly.
- Install backer rod and apply a quality perimeter seal as shown on approved shop drawings. See **Detail 12**.

STEP 9 SIDELITE INSTALLATION FOR WINDOW WALL

Prior to anchoring the assembled Terrace Door jamb onto the sill, the end of the sill flashing needs to be sealed to the door jamb.

- Apply and tool sealant to all sill flashing to door jamb joints.
- Insert sections of backer rod into cavity at base of jamb, where it butts against sill and flashing.
- Apply a liberal amount of sealant to completely fill the door jamb cavity and ramp the sealant down onto the sill flashing.

See **Detail 14**.



DETAIL 14

HARDWARE

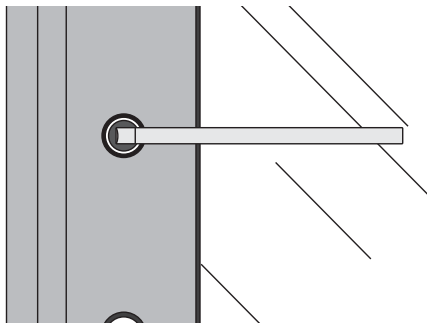
HARDWARE ADJUSTMENT

-The YTD 350T terrace door was pre-hung in the frame and the hardware was properly adjusted prior to shipment. You should only make adjustments to the hinges and keepers when you have exhausted every effort to square up the door and frame.

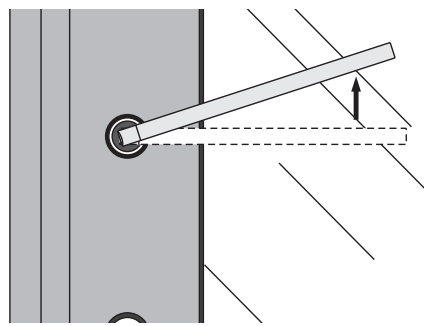
STEP 10

CONSTRUCTION LOCK OPERATION

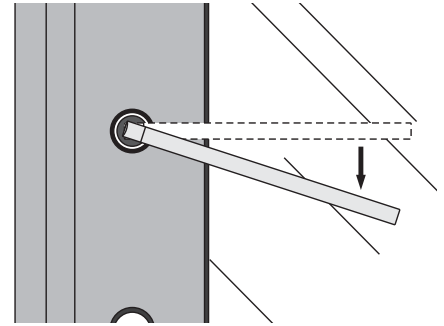
1. Insert construction key (handle) into square drive of lock. See **Detail 15** (neutral position).
2. With handle in neutral position, operate handle upward to lock door, engaging multi-point locks. Allow handle to return to neutral position. See **Detail 16**.
3. With handle in neutral position, operate handle downward to unlock door, disengaging multi-point locks. See **Detail 17**.
4. Remove and safeguard construction key for use on other terrace doors.



DETAIL 15 – Neutral



DETAIL 16 – Lock



DETAIL 17 – Unlock

Note: Doors are shipped with construction kit P-78YTD350T containing the construction lock handle, 2.5mm, 4mm, and 6mm hex keys. See **STEP 14** for hardware manufacturer's finish and lock cylinder installation instructions.

All operating hardware and components must be checked for proper alignment, margins, and operation.

-If necessary adjust the hinges, keepers, limit devices and pivots to ensure the proper operation of locking devices and the compression of the weather seal.

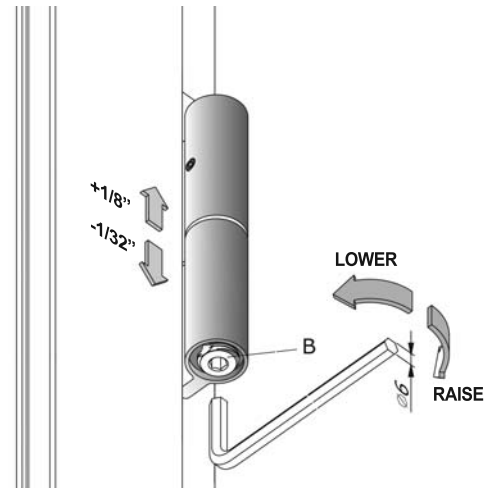
-All hardware must be cleaned and lubricated as necessary to provide smooth operation.

HARDWARE

STEP 11A VERTICAL HINGE ADJUSTMENT ↑↓

1. Remove bottom end caps using small flat head screwdriver.
2. Maximum adjustment is plus 1/8", minus 1/32".
 - A. Use 6mm hex key to turn grub screw **B** to the right to raise the door, to the left to lower the door.
3. To lift doors, start at bottom hinge and work upward, adjusting all hinges per leaf.
4. To lower doors, start with top hinge and work downward, adjusting all hinges per leaf.
5. Replace end caps.

See **Detail 18**.

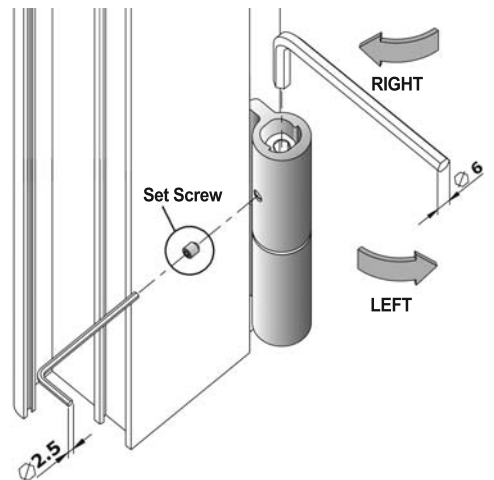


DETAIL 18 – Raise/Lower

STEP 11B LATERAL HINGE ADJUSTMENT ⇔

1. Remove top end caps using small flat head screwdriver.
2. Maximum adjustment is plus 1/16".
 - A. Use 2.5mm hex key to loosen set screw located on side of top portion of hinge
 - B. Use 6mm hex key to turn grub screw.
 - C. Turn hex key left to move door stile to the right.
4. Turn hex key right to move door stile to the left.
5. Replace end caps.

See **Detail 19**.



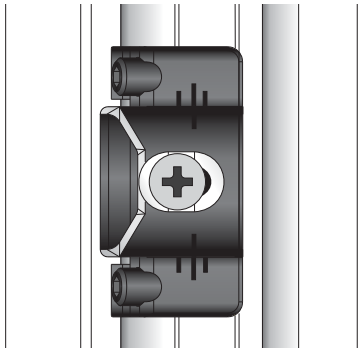
DETAIL 19 – Left/Right

Note: The adjustments described above are meant to align doors to attain a uniform gap between door leaves and frame on all four sides.

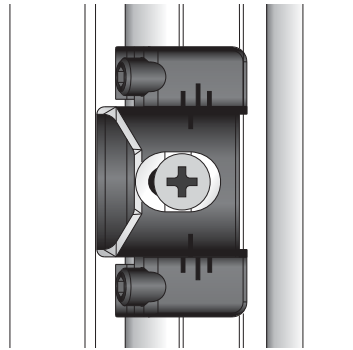
HARDWARE**STEP 12
KEEPER ADJUSTMENT**

1. Loosen phillips screw in center of keeper.
See **Detail 20** (neutral position).
2. Move Keeper to desired position.
See **Detail 21**.
3. Tighten phillips screw. Repeat for all keepers to ensure proper engagement.

NOTE: Adjust keepers only as required to ensure proper seating of door in frame, without interfering with multi-point lock operation.



DETAIL 20 – Keeper In

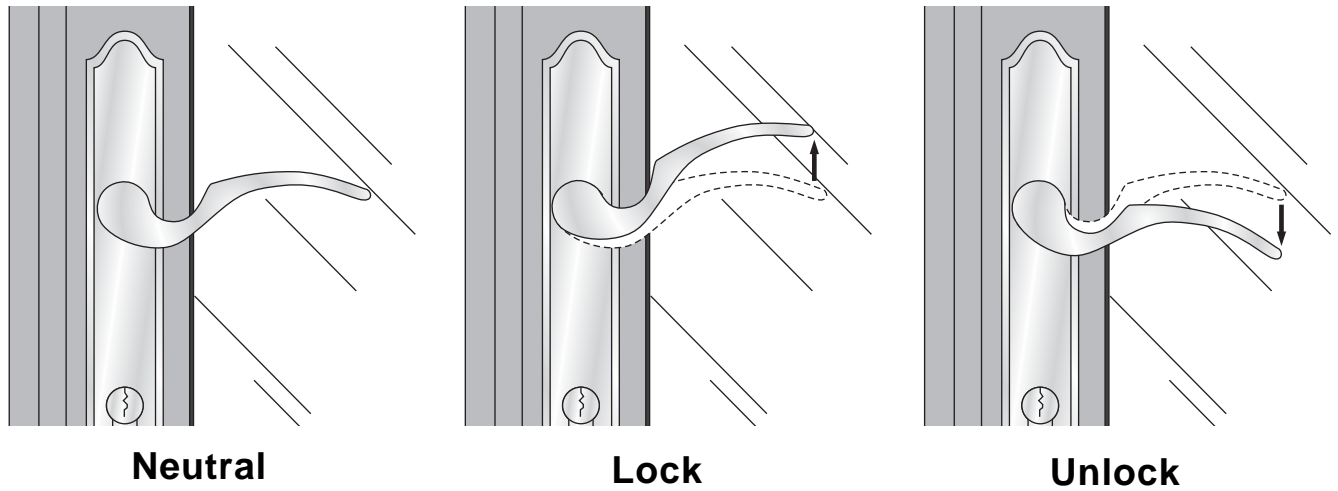


DETAIL 21 – Keeper Out

FINISH HARDWARE

VERIFY HARDWARE OPERATION

-Operate door handle to ensure operation. See **Detail 22**.



DETAIL 22

Note: See manufacturer's limited warranty/care and maintenance instructions in Appendix A for proper care of finish hardware.

FINISH HARDWARE**DOOR LEVER OPTIONS**

- 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:

Darkened Oil Rub, Satin Nickel, Lifetime Brass, and Chrome.



E1-1816
Germania Handle



E1-1817
Katy Handle



E1-1819
Raffaella Handle

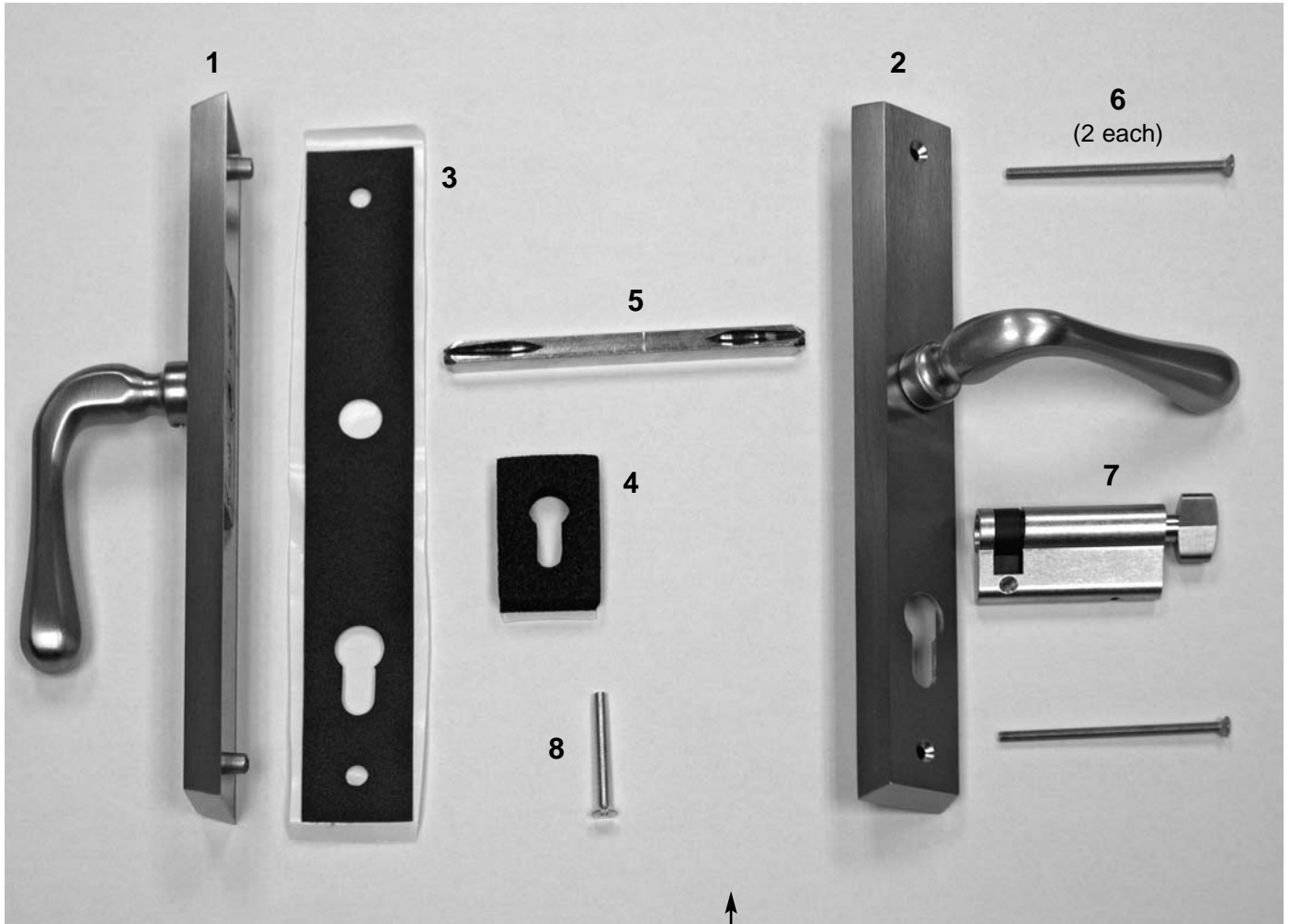


E1-1820
Roma Handle

FINISH HARDWARE**STEP 13****INSTALL FINISH HARDWARE**

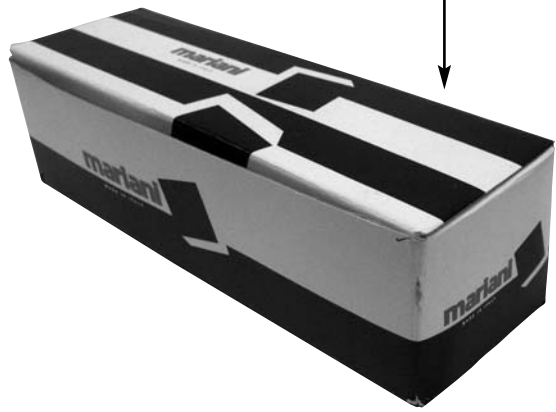
1. Remove the backing paper from the cylinder gasket (foam-rubber seal) [4] and punch out the pre-cut hole/slot.
2. Center the profile cylinder pad over the cylinder hole on the back side of exterior escutcheon plate [1] and attach it to the unfinished surface using the adhesive on the back of the pad.
3. Remove the backing paper from the escutcheon plate gasket [3] and punch out the pre-cut holes and slot. Using the adhesive side of the gasket attach it to the exterior escutcheon plate [1]. Make sure to press down along the edge of the escutcheon plate to ensure a tight seal.
4. Insert the solid square spindle [5] into the lock mechanism.
5. Slide the interior and exterior handles onto the spindle. Be sure that the levers point toward the hinge side of the door. Also, be sure the interior escutcheon plate (with countersunk holes) is on interior of door panel.
6. Insert the escutcheon mounting screws [6] through the interior escutcheon plate and screw into the exterior plate. DO NOT fully tighten the screws at this time.
7. Insert the cylinder [7] through the handle and secure with mounting screw [8] through the lock mechanism cover plate on latch edge of door panel. Tighten all fasteners at this time.

FINISH HARDWARE



These parts should all be contained in this box.

- 1 Exterior Escutcheon Plate & Handle 1 ea.
- 2 Interior Escutcheon Plate & Handle 1 ea.
- 3 Escutcheon Gasket 1 ea.
- 4 Cylinder Gasket 1 ea.
- 5 Spindle 1 ea.
- 6 Escutcheon Attachment Fastener 2 ea.
- 7 Cylinder Thumb Turn 1 ea.
- 8 Cylinder Fastener 1 ea.



Appendix A

Care and Maintenance Instructions

Note: These care and maintenance instructions *must* be presented to final owner.

Limited Warranty

NOTE: All finishes should be coated with a protective product upon installation in harsh environments or in coastal applications. All handles are covered for 2 years for any mechanical failure. Limited warranty is void if scheduled care is not performed. Each finish type will react differently to harsh environments. Please read below for each type of finish.

Polished Chrome Finish

Lacquered finish should be cleaned with a mild non-abrasive soap and a soft cloth at least once a month. A protective coating can be applied to the lacquer finish to extend the life of the finish, such as FLITZ Faucet & Fixture Wax. After the lacquered finish wears off, a brass cleaner and protecting polish should be used (such as FLITZ Metal Cleaner and Metal Polish) as recommended by the manufacturer. Lacquered finishes will be covered for finish defects such as pitting of the surface for 6 months. Finish defects such, as abrasion and scratches will not be covered.

PVD Lifetime Finish

The surface of these handle sets has been treated with the PVD process (Physical Vapor Deposition). This type of finish protects the surface from atmospheric agents and normal wear. This finish guarantees protection from alterations and from superficial abrasions. **PVD finishes still must be cleaned with a clean wet or dry cloth at least every two months to avoid atmospheric agents damaging the surface.** To help avoid any microscopic agents from damaging the surface, a product such as FLITZ Faucet and Fixture Wax can be used as recommended by the manufacturer. PVD lifetime finish will be covered for 2 years for finish defects. Heavy abrasion will not be covered.

Appendix A (Cont'd.)

Oil Rubbed Bronze Finish

These finishes are prematurely “aged” brass finishes and will continue to tarnish over time. The surface should be cleaned once a month with a mild non-abrasive soap and soft cloth, or just a damp soft cloth. To extend time between cleaning, a protective coating can be applied. Two readily available coatings are gun oil, and FLITZ Faucet & Fixture Wax, either of which can be used to protect the finish. Please see manufacturer instructions for recommended application. Metal cleaners will remove the “aged” coating and change the look of the product. There will be no guarantee for Oil Rubbed Bronze finishes because they change over time. Finish defects such as abrasion and scratches will not be covered.

Satin Nickel Finish

This is a hard finish and will protect the base metal, brass, from normal atmospheric agents and wear. These handles must be cleaned with a mild non-abrasive soap and soft cloth, or just a damp soft cloth at least every two months to avoid atmospheric agents damaging the surface of the product. To avoid any pitting or build up on the surface and extend the life of the finish, a product such as FLITZ Faucet and Fixture Wax can be used as recommended by the manufacturer. FLITZ Metal Cleaner and Metal Polish should not damage the finish, but will remove any tarnish and built up debris. Satin Nickel finish will be guaranteed for 6 months for surface pitting. Finish defects, such as abrasion or scratches, will not be covered.

NOTE: For harsh environments, more frequent cleaning may be required. FLITZ products are available at several local hardware stores or on the Internet at www.flitz.com. Gun oil is available at most sporting goods stores.



7680 The Bluffs
Suite 100
Austell, Georgia 30168
www.ykkap.com