TerraSwing Access

Architectural Terrace Door

Installation & Maintenance Manual

NOTE: The installation details found in this package are generic and are for representation only with the intent of giving the installation team a visual representation as to how the assemblies typically install. The shop drawings and details are the governing documents and as such this package is to be used only as a resource.

Follow sealant manufacturers recommendations for use and application of structural silicone sealant and weather seal silicone sealant.

Note: Customer/Project quality assurance procedures are separate documents and are to be followed in conjunction with this manual.

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Completely read these instructions prior to beginning work. These recommendations are for general erection/installation procedures only. For actual job conditions, see shop drawings if applicable. For perimeter anchor types and spacing, refer to the approved shop drawings or consult structural engineer/project design professional.

Table of Contents

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GENERAL NOTES:

BUILDING CODES

Glass and glazing codes governing the design and use of the product vary widely. OBE does not control the selection of product configurations, operating hardware or glazing material, and assumes no responsibility for these design considerations. It is the responsibility of the owner, specifier, architect, general contractor and installer to make these selections in strict conformance with all applicable codes.

MATERIAL HANDLING

Doors are finished products and should be protected against damage. The following precautions are recommended:

A. PROTECTION AND STORAGE
Material should be unloaded, stored and protected from environmental elements and to prevent abuse, damage and defacement by construction materials or contaminants such as, but not limited to lime, mortar, runoff from concrete and copper, careless handling of tools, weld spatter, acids, roofing tar and solvents.

Stack units vertically on sill edge to prevent warping and scratching. Use wood or plastic shims to allow drainage and air circulation. Remove all paper wrappings or interleavings that are or could become wet during storage. Store units inside, if possible, or cover with tarpaulins to allow air circulation and prevent damage from dust, corrosive fumes or other contaminants.

B. CHECK MATERIAL
Check all material on arrival for quantity and damage. Any visible damaged material must be noted on the freight bill at the time of receipt. If a claim is required, then the receiving party must process a claim with the freight company.

C. CLEANING MATERIAL
All plaster, mortar, cement, drywall and masonry cleaning compounds must be removed before being allowed to dry or permanent staining will occur. After removal, flush off metal surfaces with clear water. Never attempt to clean surfaces with abrasive cleaning compounds or steel wool. Use only mild soap, warm water and a soft sponge. Spot testing is recommended before any cleaning agent is used.

For cleaning of anodized surfaces, refer to AAMA 609.1 "Voluntary Guide Specification for Cleaning and Maintenance of Architectural Anodized Aluminum"

For cleaning of painted surfaces, refer to AAMA 610.79 "Voluntary Guide Specification for Cleaning and Maintenance of Painted Aluminum Extrusions and Curtain Wall Panels"

NOTE: If a protective coating is specified, remove it in areas that require sealant.

CAUTION: Doors are not to be used as ladders, temporary tables, scaffolds or scaffold supports.

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FIELD GLAZING – SHIPPED OPEN

The following are standard practice for Oldcastle BuildingEnvelope® (OBE):

A. For all ship open door lites, OBE will provide glazing bead, gasket(s), and setting blocks, based on customer noted nominal glazing thickness and the assumption that the customer will glaze the door similar to OBE standard practices.

B. Customer should also understand that OBE will not supply glazing sealants. Settings blocks will be shipped in bulk with sizes determined by standard in-house glazing details. All required adjustments to glazing blocks due to glazing variations are not the responsibility of OBE.

C. Glazing beads are shipped approximately 1/32" long to accommodate manufacturing tolerances and may need to be cut down by the customer in the field.

CONSTRUCTION NOTES:

The following practices are recommended for all door installations. These architectural framing systems are intended for fabrication, assembly, sealing, installation and glazing by professionals with appropriate knowledge and experience of the system(s) and their incorporation into various building conditions.

A. REFERENCE SHOP DRAWINGS
Prior to commencing work, check shop drawings, project specifications, erector instructions and installation instructions to become thoroughly familiar with the product installation. The shop drawings take precedence and include specific details for the project. These are general installation instructions and cover most generic conditions.

B. CHECK OPENINGS
Accuracy of openings should always be reviewed by installer prior to door installation. Make certain that construction, which will receive your material, is in accordance with the contract documents. If not, notify the general contractor in writing and resolve differences before proceeding with your work.

C. BENCHMARK LAYOUT
All work should start from benchmarks and / or column centerlines as established by the architectural drawings and the general contractor.

D. ALUMINUM ISOLATION
Aluminum components are to be isolated from contacting masonry and other incompatible materials with plastic isolators or bituminous paint.

E. PLUMB/LEVEL/TRUE
All materials are to be installed plumb, level and true (see diagram). Products are to be installed maintaining tolerances of 1/8" in 12'-0" of length.

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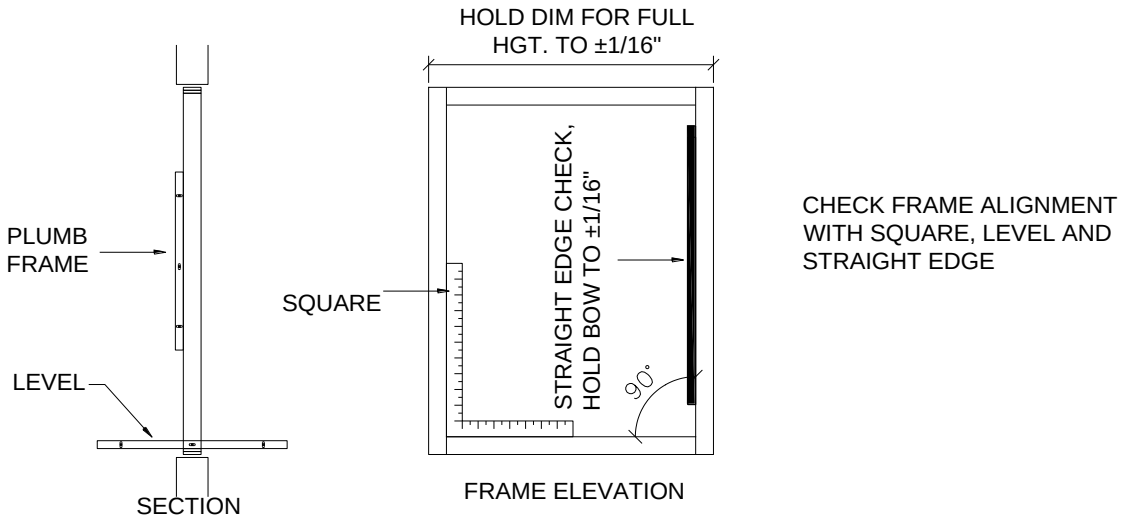

Figure 1

F. FASTENING

'Fastening' means any method of securing one part to another or to adjacent materials. These instructions are specifically created to illustrate various anchoring options into generic conditions. Refer to project conditions for specific installation needs. The installer is responsible for properly sizing anchors and determining anchor spacing. For these anchor requirements, refer to the shop drawings, or consult the fastener supplier. Anchor fasteners are not by OBE.

G. BLOCKING

All blocking and shims are to be of high strength plastic or non-corrosive materials not by OBE. Blocking must be of appropriate size and shape to support the frame at all anchorage locations. The blocking used must prevent bowing, racking, twisting or distorting of the door frames and accessories from the anchorage fasteners.

H. SEALANT

Sealants must be compatible with all materials they come in contact with, this includes adhesion and compatibility. Any sealant details shown, unless specifically called out to be by OBE, are by others. It is not OBE's position/responsibility to recommend sealant or caulking types and will not assume liability. Consult the sealant supplier for recommendations relative to compatibility, adhesion, priming, tooling, shelf life, and joint design. It is the sole responsibility of the customer to perform adhesion and compatibility testing as required by the sealant manufacturer chosen by the customer.

The fabrication and installation of a structural silicone-glazed (SSG) or wet glazed system requires more technical knowledge and experience than is required for a conventional pressure-glazed or dry glazed system. The glazing contractor should take all steps as outlined and required by the structural silicone sealant manufacturer, glass fabricator, framing manufacturer, and the project professional engineer of record as well as follow local building code requirements and industry best practices to ensure the proper installation and safe performance of the SSG system.

The glazing contractor for each project needs to ensure compliance with each step, including, but not limited to, design reviews, formal adhesion testing, formal compatibility testing, project specification

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compliance, validating procedures, field testing, and quality control validation of installed product and surrounding conditions.

Testing of component materials for use in a SSG or wet glazed system is mandatory to fulfill project specifications and warranty requirements and must be submitted by the glazing contractor to the structural silicone manufacturer. All materials that comprise the structural silicone joint, such as the framing system (with the job-specific finish) and job-specific glass must be tested by the structural silicone manufacturer for compatibility and adhesion. All other accessory materials in contact with the structural silicone, such as setting blocks, spacers, gaskets, sweeps, air seals and expansion joints, must also be submitted to the silicone sealant manufacturer for compatibility testing.

To ensure that nothing has changed in formulation or chemistry since the initial tests, subsequent testing during periodic time frames of the project is to be conducted to confirm continued acceptance of the material for use on the project.

To ensure the structural performance and integrity of the insulating glass unit (IGU), the glazing contractor must submit the project shop drawings to the glass fabricator to obtain approval for use of their product(s) in any 2, 3 or 4-sided SSG applications.

Quality control procedures for field glazing are to be increased beyond those required for shop glazing. Job conditions will normally have dust, dirt, and other construction debris on the surfaces where structural silicone is to be applied. Great care should be exercised in cleaning and preparing these surfaces for silicone application. The recommendations of the silicone sealant manufacturer are to be strictly enforced and followed. The fabrication and installation of the SSG system and its components, whether shop or field glazed, should be governed by a quality control program, and all steps, procedures, and test reports should be documented throughout the project.

Prior to installation of any SSG system, refer to industry documents (e.g., AAMA Curtain Wall Design Guide Manual, ASTM C1401-14, and AAMA SSGDG-17) for detailed instructions and recommendations.

THE GLAZING CONTRACTOR ASSUMES FULL RESPONSIBILITY FOR ENSURING COMPLIANCE WITH THE ABOVE, AND ASSUMES FULL LIABILITY FOR ANY ISSUES ARISING FROM NONCOMPLIANCE.

I. ACCESSORIES

Do not fasten drapery tracks, ceiling supports, or convector covers to doors. The door must be free to contract and expand.

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DOOR INSTALLATION:

A. Establish the door reference line, inside surface of the door frame on the masonry, sill, head and jamb. Use architectural drawings and general contractor's reference lines to establish the sill line, then transfer to head and jamb. Establish by sketch or check on the shop drawings, the relations between head and sill, and between jambs.

B. These instructions are specifically created to illustrate various anchoring options into generic conditions. If project specific conditions differ from these instructions, anchors used will depend on job conditions and the installer's preference. Refer to the fastener manufacturer recommendations for proper edge distance for masonry applications. Different parts of the door can utilize different anchorage techniques and components.

C. The design of building components to which the doors are anchored must be adequate to resist the transfer of wind and dead loads from the door system.

D. Isolate aluminum that directly contacts uncured masonry or incompatible materials with an isolating material. This includes steel.

E. In no case should the attachment of the door or components be through or affect the thermal barrier. Do not drill penetrate or alter the thermal barrier in any way.

F. All anchor screws must be sealed to prevent water from entering the building through the fastener hole.

G. Seal all exposed perimeter joints (between structure and door perimeters) with a skinning type sealant. Refer to approved shop drawings for joint design, if applicable.

H. All door leaves are custom fit to the frame. CLEARLY MARK/IDENTIFY EACH LEAF AND FRAME COMBINATION, IF LEAF IS REMOVED FOR ERECTION OR GLAZING. LEAF IS TO BE MATED BACK TO ORIGINAL FRAME IF REMOVED.

I. Upon completion of the door installation, all leaves must be checked for proper alignment and operation. It may be necessary to adjust the hardware to ensure proper sealing and locking. All hardware must be cleaned and lubricated, as necessary, to provide smooth operation.

J. Use appropriate shim in frames at perimeter anchor locations. Shimming material not by OBE

LEAF INSPECTION OR REINSTALLATION

A. Upon completion of the door installation, all leaves must be checked for proper alignment and operation. All hardware must be cleaned and lubricated as necessary to provide smooth operation.

B. If the leaves are removed, care must be taken to ensure the leaves are reinstalled into the same frames they were removed from. It may be necessary to adjust the hinges, keepers, limit stops, snubbers and friction arms to ensure proper sealing and locking. See hardware adjustment section of this manual.

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RECOMMENDED ANCHOR/BLOCKING LOCATIONS:

The following diagrams illustrate the recommended anchor locations. Essentially an anchor is required at every lock and hinge location.

Using a transit or string line determine the high point of the rough opening sill and shim/block the remainder of the opening to match. Support needs to be provided for the door threshold and bottom of frame jambs, particularly the hinge side. The weight of the door leaf is transferred though the butt hinges to the hinge jamb and to the floor. The hinge jamb frame must either sit directly on the floor or on a shim between the floor and frame.

ANCHOR LOCATIONS AND QUANTITIES SHOWN ARE MEANT AS GENERAL GUIDELINES TO SATISFY WIND LOAD AND OPERATIONAL CONSIDERATIONS. HOWEVER, EACH SPECIFIC JOB SHOULD BE INDEPENDENTLY ANALYZED TO DETERMINE THE EXACT ANCHOR SIZING, LOCATIONS AND QUANTITIES. CONSULT A STRUCTURAL ENGINEER FOR ANCHOR DESIGN, LOCATION AND QUANTITY.

HEAD AND SILL ANCHORS MAY NOT BE NECESSARY FOR ALL INSTALLATIONS.

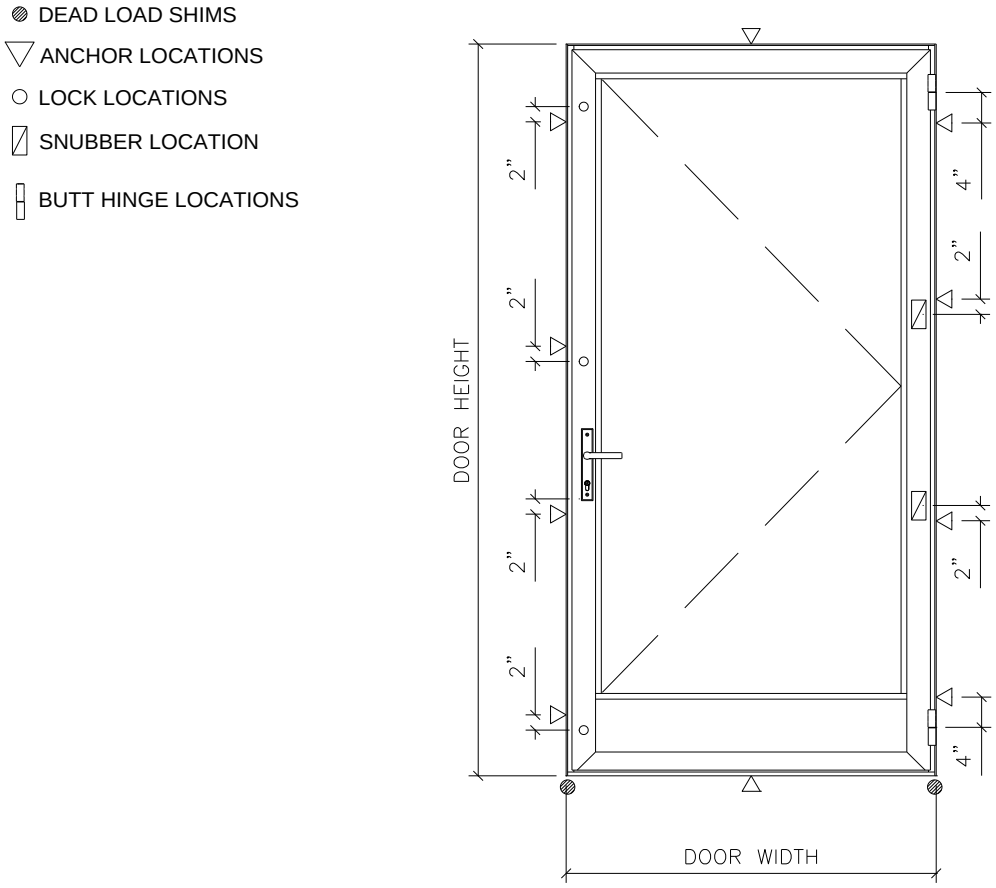

Figure 2

Completely read these instructions prior to beginning work. These recommendations are for general erection/installation procedures only. For actual job conditions, see shop drawings if applicable. For perimeter anchor types and spacing, refer to the approved shop drawings or consult structural engineer/project design professional.

PERIMETER ANCHORAGE:

A. From the approved shop drawings, determine the size, type, and quality of perimeter fasteners required. All perimeter fasteners not by OBE should be purchased prior to arriving at the job site.

Due to varying opening conditions, door configurations, design pressures, and methods of anchorage, perimeter fasteners are not specified in these instructions. For perimeter anchor type and spacing, refer to approved shop drawings or consult the project design professional. The design professional should analyze the anchorage system and consider the following information.

1. Frame dimension and configuration of the as-installed door.
2. Material properties of the door frame.
3. Allowable tension, shear, and bending properties of the perimeter fastener.
4. Design pressure
5. Details of the surrounding condition for the head, sill, and jambs.
6. Relative building movements and expected thermal movement of the door system.

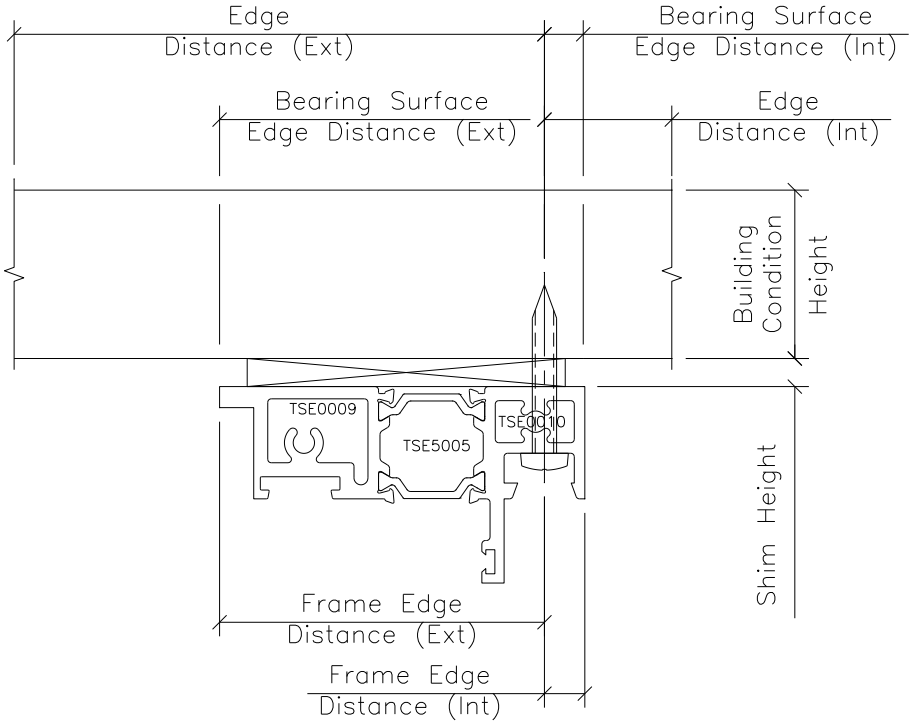

Figure 3

B. Perimeter anchors should never penetrate a tank or tubular shape at a door sill. Any penetration of the frame must be visible for sealing purposes.

C. Blocking must be of sufficient size and shape to support the frame at all anchorage locations. The blocking must prevent the anchorage fasteners from bowing, racking, twisting, or distorting the door frames and accessories in any manner. Excessive shim heights could increase the prying tension and/or bending forces on the perimeter fastener. Refer to the approved shop drawings and/or design professional for project specific applications.

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GENERAL PROCEDURE FOR THE INSTALLATION OF DOOR UNITS IN ROUGH OPENINGS

A. See [Section: RECOMMENDED ANCHOR/BLOCKING LOCATIONS] for recommended anchor locations and drill all necessary holes. Also, verify the proper anchor fastener and locations per the structural calculations. NOTE: Anchor sizing, selection, and structural calculations not by OBE, unless in OBE's contract.

B. Clean and prepare the door frame and rough opening per the sealant manufacturer recommendations. The installer is responsible for sealant joint design, material adhesion, compatibility, and other considerations. Consult the sealant manufacturer for recommendations.

C. Insert the door into the opening. Be sure to properly set and fully shim/block the door, so that the threshold is level and that the alignment meets the requirements from the general notes. NOTE: Doors are fabricated to allow, at minimum, 1/4" shim around the exterior of the frames at the head and jambs. The threshold is designed to sit directly onto a level floor. Shimming material not by OBE.

HINGE JAMB ANCHORAGE/FASTENING:

A. After verifying the threshold is level and the hinge jamb is fully supported on either the floor or shims, shim the hinge jamb. All hinge/snubber points need to be shimmed/blocked to plumb in the rough opening. Shimming/blocking at the top and bottom of the lock jamb may be required to provide pressure to keep the hinge jamb in place. Support the weight of the leaf to prevent frame movement/twisting and open the door leaf if anchorage is required in the hardware pocket (Option "B"). Install perimeter hinge anchors as shown.

B. Pre-drill pilot hole into building condition as required per structural calculations and fastener type, if required.

C. Fill anchor holes with compatible silicone sealant prior to installation of anchor fastener.

D. Verify door frame is plumb, level, square and not racked or twisted prior to and after snugging fasteners down securing the hinge jamb to the building condition.

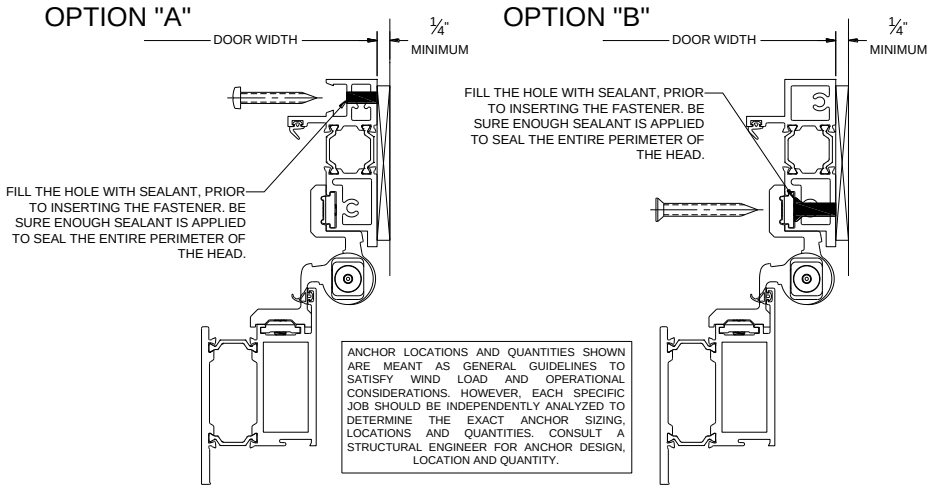

Figure 4

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LOCK JAMB ANCHORAGE/FASTENING:

A. After fully anchoring the hinge jamb to the building condition, shim/block the lock jamb. All lock points need to be shimmed/blocked to plumb the lock jamb. A properly shimmed door will have an even 9/16" gap along the entire length of the hinge and lock jambs.

B. Pre-drill pilot hole into building condition as required per structural calculations and fastener type, if required.

C. Fill anchor holes with compatible silicone sealant prior to installation of anchor fastener.

D. Verify door frame is plumb, level, square and not racked or twisted prior to and after snugging fasteners down securing the hinge jamb to the building condition.

E. Open and close the door several times to ensure smooth operation, adjust anchorage as required.

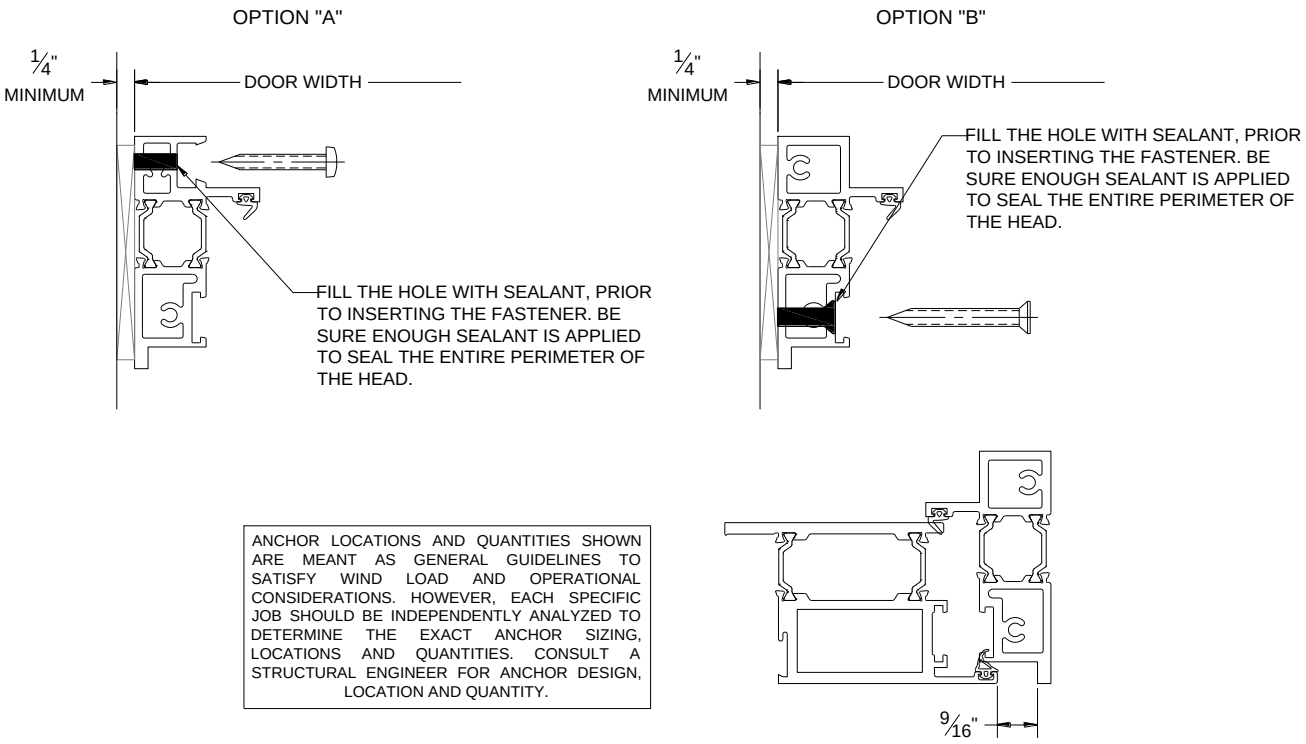

Figure 5

HEAD & SILL ANCHORAGE/FASTENING:

Head and sill anchorage not typical, consult shop drawings and structural calculations for locations and fastener type, if required.

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SEALING:

A. Once anchored and the door operates smoothly, apply a silicone seal over all anchor fasteners and seal around the perimeter of the door as shown below. The installer is responsible for sealant joint design, material adhesion, compatibility, and other considerations. Consult the sealant manufacturer for recommendations. (Backer rod and sealant not by OBE).

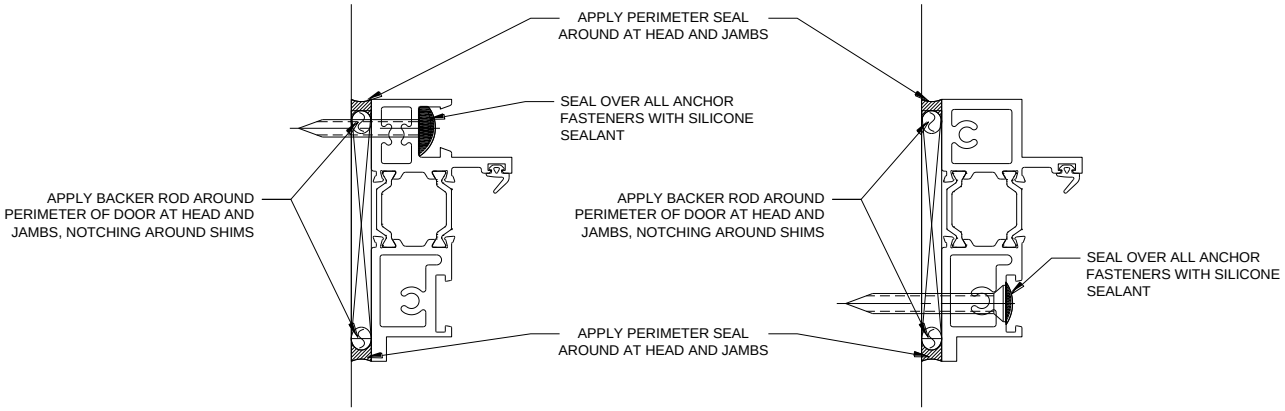

Figure 6

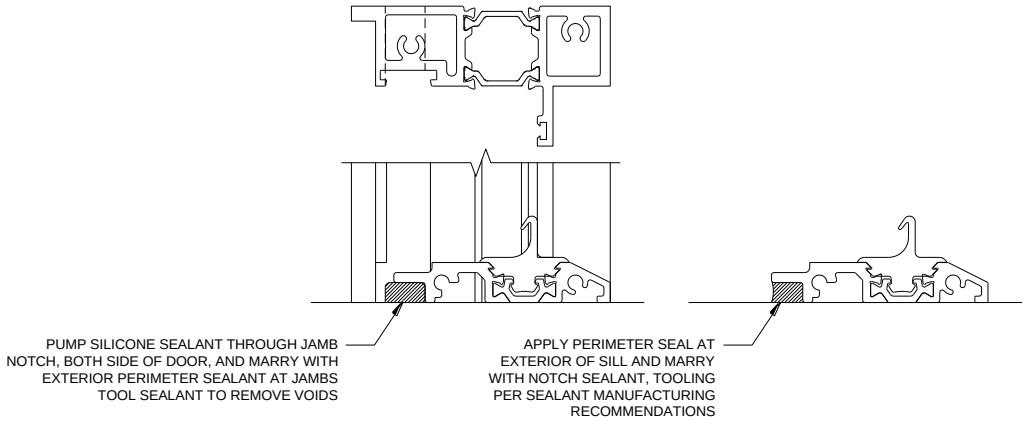

Figure 7

B. Install and seal exterior trim piece at sill using fasteners provided by OBE.

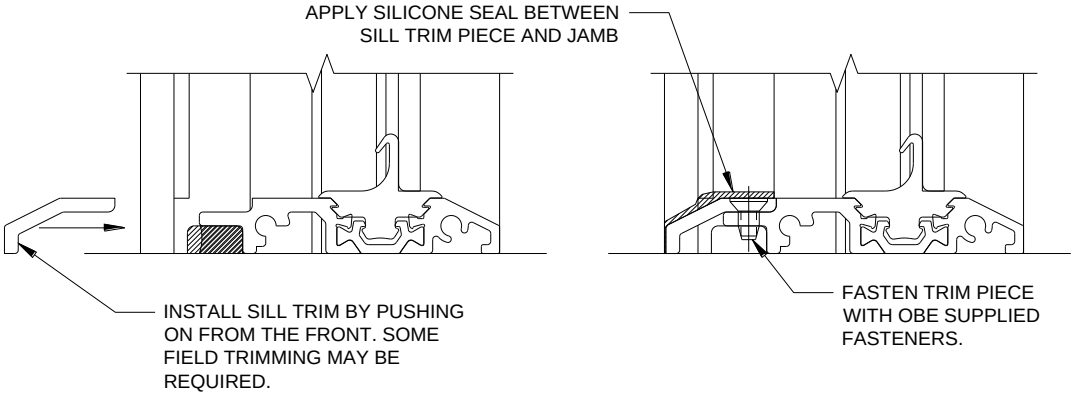

Figure 8

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GLAZING INSTRUCTIONS:

Glazing Practices:
The air and water performance of the framing system is directly related to the completeness and integrity of the installation process, including but not limited to the assembly seals of the framing joinery, the installed glazing gaskets, and the alignment of the framing joinery glazing plane. Before glazing, verify the glazing pocket width and glazing infill thickness, as both must be in tolerance to assure adequate edge pressure and to achieve the desired air and water performance levels. (In general, framing systems utilizing 1" insulating glass are designed to accommodate a thickness variance of +/- 1/32"). Note: Excessive pressure can cause glass breakage and/or IGU failure. Consult the glass manufacturer for their recommended edge pressure per lineal inch.

To achieve the designed and tested air and water performance, best practices include:

- Glazing gaskets should be cut ¼" longer per foot, and lay flat, preferably for 24 hours
- Gaskets should be cut as single monolithic pieces and "crowded" during their installation to avoid corner gaps caused by post-installation relaxation
- The interior glazing gasket should be installed so as to avoid stretching, buckles, or tears
- Corners must be cut square, and at a slight angle when required to conform to the bevel on the intersecting gasket; sealed and butted together.
- Gasket corner joinery must also be crowded, and sealant applied onto the gasket contact frame surface and into gasket reglet raceway where applicable.
- Gasket corner seals are to be done just prior to installing glass, while the sealant is still wet and uncured, and ensure exterior gaskets are installed so as to place the glass into it's final in service condition and allow the sealant to conform to optimum configuration. Note: If the sealant cures prior to glazing, the cured sealant could create excessive edge pressure onto the glass and has the potential to cause glass breakage.
- The glass must be checked for squareness, size dimension, and thickness along the edges paying attention to any variances from center edge to corner edge
- Check the placement of the installed glass and verify there is proper edge bite into the pocket, and proper edge clearance from framing elements

After sealant has set and a representative amount of the wall has been installed and glazed (250 square feet or more) run a water hose test in accordance with AAMA 501.2 specifications to check installation. On large projects the hose test should be repeated during the glazing operation. Consult and follow NGA's GANA Manual and FGMA Glazing Manual for proper glazing technique and procedure.

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Architect/Contractor/Dealer note:
The following glazing information is being provided by OBE as a service to help facilitate field glazing and de-glazing.

Sealants must be compatible with all the materials they contact, including other sealant surfaces. Consult the sealant suppliers for recommendations relative to compatibility, adhesion, cleaning, priming, tooling, and shelf life.

The following basic glazing concepts must be reviewed and incorporated.

A. The "Glass Association of North America" (GANA) current "Glazing Manual" and "Sealing Manual" publications for recommended handling, preparation, shimming, cross blocking, glazing procedures, sealant requirements, ect.
B. The glass manufacturer's data, glazing recommendations, and special requirements.
C. The glazing specification for the project.
D. The sealant and glazing material supplier’s application requirement
E. The door unit is erected plumb and square.
F. The glass unit properly cross blocked. (Suggested blocking shown and in the GANA Manual).
G. The proper setting blocks and locations are used (Normally at 1/4 points unless otherwise noted).
H. Spandrel glass must not be viewed as vision glass in areas without back-up scattered pinholes and some non-uniformity of coating thickness or coverage may be evident. Spandrel glass is designed to be glazed against a dark background and is not recommended for use in transoms, partitions, or other areas where a dark background is not available.

If additional glazing information is required, please contact OBE.

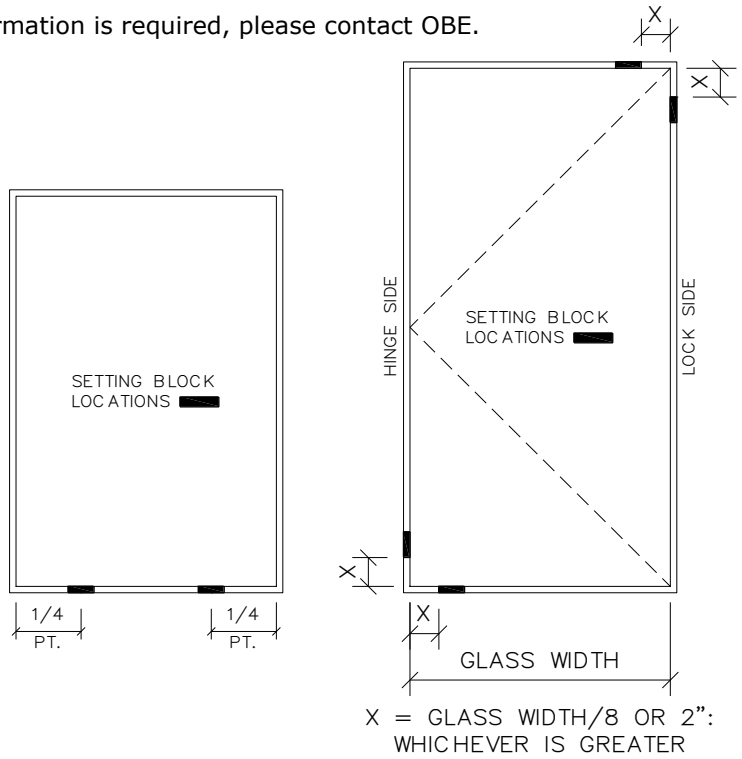

Figure 9

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DE-GLAZING INSTRUCTIONS:

DOOR LEAF

Cut the Silicone enough to remove the glass, remove the glazing wedge, followed by the glazing bead/glass stops and take out the glass. Clean out the remaining silicone. DO NOT USE ABRASIVE CLEANING AGENTS. Keep the old glazing beads, wedge gaskets and setting blocks.

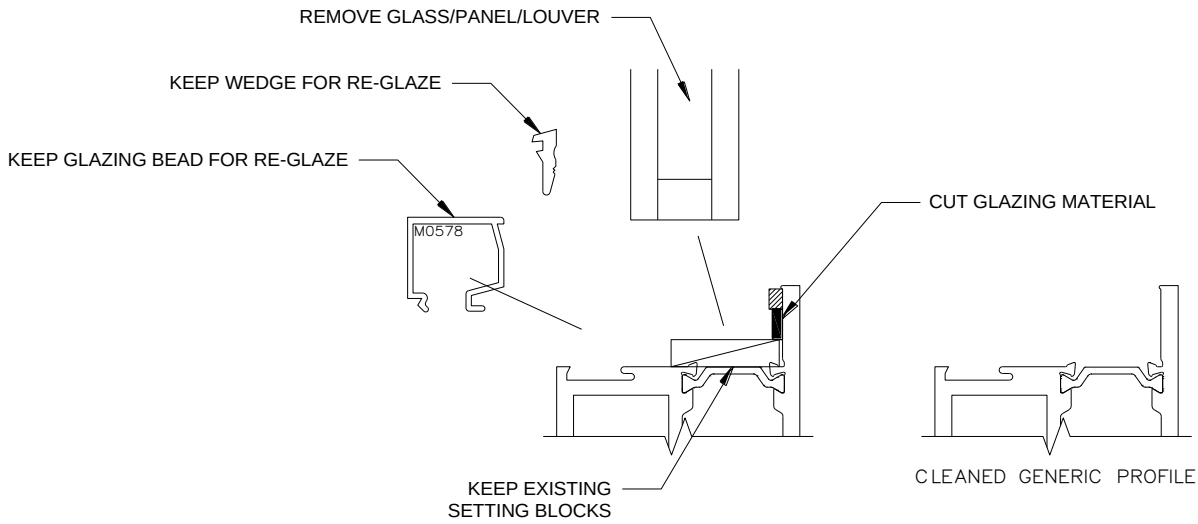

Figure 10

DOOR TRANSOM

Cut the Silicone enough to remove the glass, remove the glazing wedge, followed by the glazing bead/glass stops and take out the glass. Clean out the remaining silicone. DO NOT USE ABRASIVE CLEANING AGENTS. Keep the old glazing beads, wedge, gaskets and setting blocks.

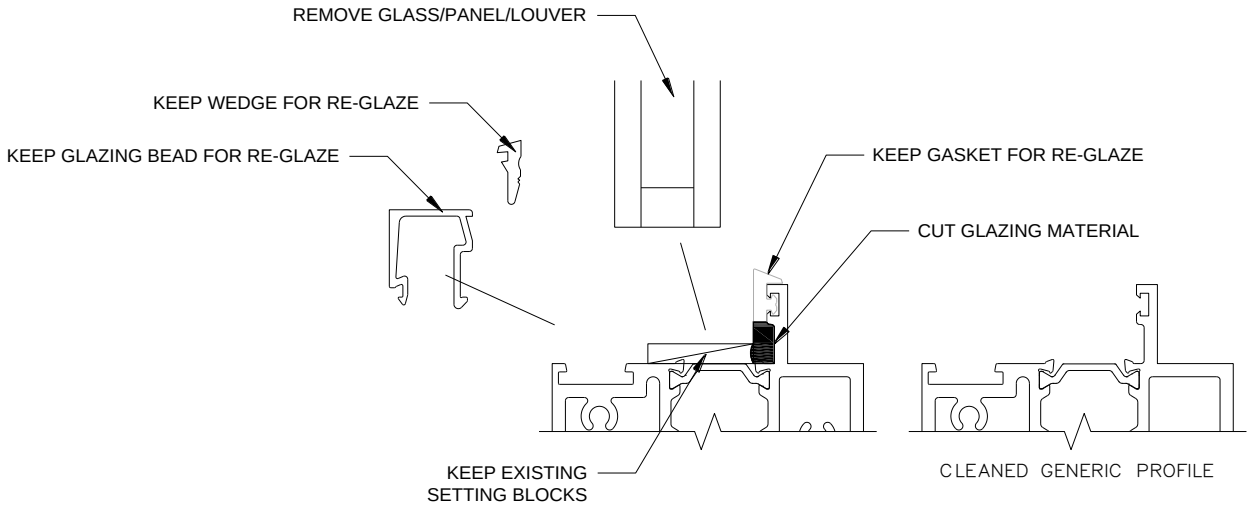

Figure 11

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FIELD GLAZING INSTRUCTIONS:

DOOR LEAF

A. Clean glazing surface. Contact sealant manufacturers for specific cleaning requirements and instructions, such as priming the surface. Apply a continuous bead of structural silicone. Consult with the manufacturer for proper structural silicone compound.

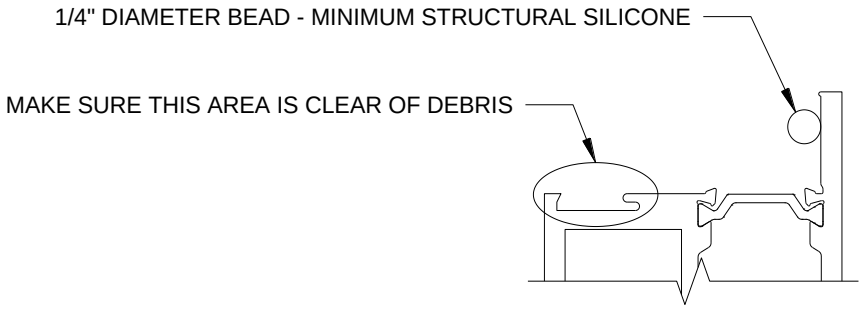


Figure 12

B. Insert setting blocks per the GANA (See first page of Glazing Instructions) and secure in place with silicone sealant on the back of the blocks. Firmly press the glass onto the structural silicone, allowing it to compress silicone across the entire glass bite. Glass bite should be even and approximately 1/2". Apply the glazing bead/glass stop to the horizontal members first, then the vertical members. Clean off any excess silicone.

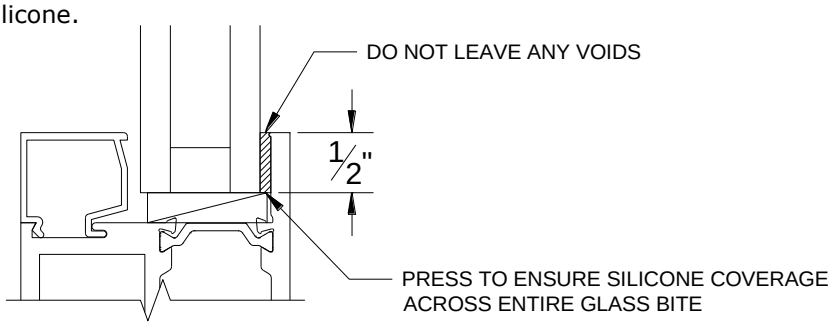


Figure 13

C. Install exterior glazing wedge, wetting the glass with soapy water, isopropyl alcohol, or glass cleaner to prevent the gasket from tearing or rolling. Work from both ends to the middle of each member to ensure proper compression.

D. After all glazing beads and wedge are in place, cap seal the interior and tool neatly.

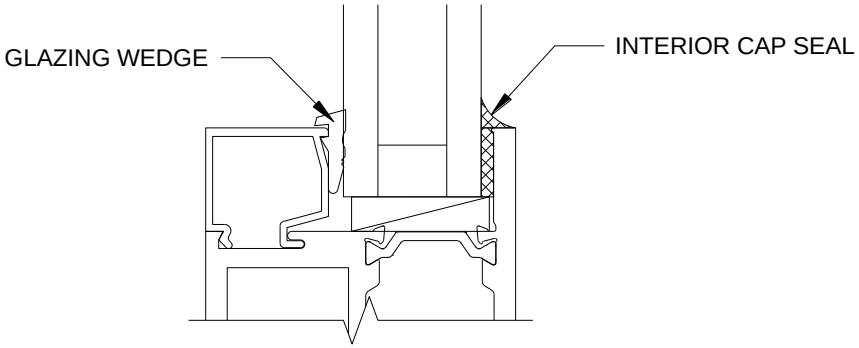


Figure 14

Completely read these instructions prior to beginning work. These recommendations are for general erection/installation procedures only. For actual job conditions, see shop drawings if applicable. For perimeter anchor types and spacing, refer to the approved shop drawings or consult structural engineer/project design professional.

DOOR TRANSOM

A. Clean glazing surface. Contact sealant manufacturers for specific cleaning requirements and instructions, such as priming the surface. Install interior glazing gasket starting at the ends and working towards the center of each run. Apply a continuous bead of structural silicone. Consult with the manufacturer for proper structural silicone compound.

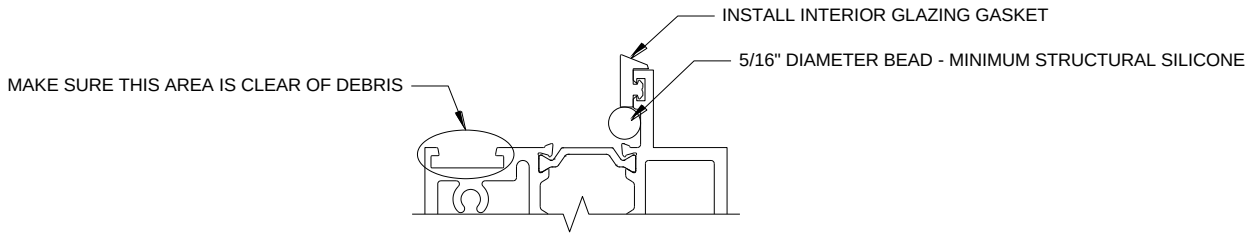


Figure 15

B. Insert setting blocks per the GANA (See first page of Glazing Instructions) and secure in place with silicone sealant on the back of the blocks. Firmly press the glass onto the structural silicone, allowing it to compress silicone across the entire glass bite. Glass bite should be even and approximately 1/2". Tool the sealant around the perimeter of the glass. Apply the glazing bead/glass stop to the horizontal members first, then the vertical members. Clean off any excess silicone.

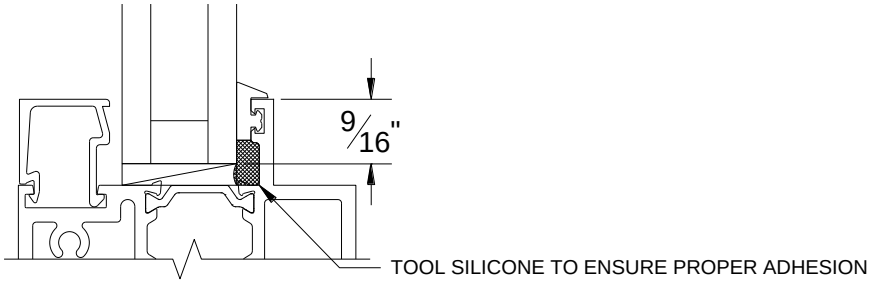


Figure 16

C. Install exterior glazing wedge, wetting the glass with soapy water, isopropyl alcohol, or glass cleaner to prevent the gasket from tearing or rolling. Work from both ends to the middle of each member to ensure proper compression.

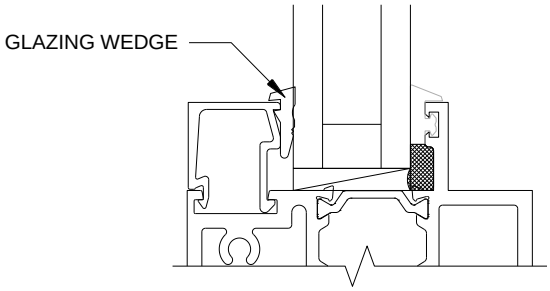


Figure 17

Completely read these instructions prior to beginning work. These recommendations are for general erection/installation procedures only. For actual job conditions, see shop drawings if applicable. For perimeter anchor types and spacing, refer to the approved shop drawings or consult structural engineer/project design professional.

HARDWARE CARE AND MAINTENANCE

GENERAL CARE

- In general, the hardware should not require any maintenance. The parts are internally lubricated and will function correctly, unless disassembled.
- Lubrication, however, may be required on butt hinges, friction devices, locking points, and strikes to ensure smooth operation.
- Hardware may be cleaned periodically with warm soapy water or isopropyl alcohol and a cloth rag. (DO NOT USE SOLVENT BASED OR ABRASIVE CLEANERS SUCH AS BRASS CLEANER, AS IT WILL REMOVE THE PROTECTIVE COATING AND FINISH)
- Hardware comes pre-adjusted from OBE. However, if field adjustments are required, please consult the following pages.
- The handle set is typically shipped loose to prevent damage and must be installed after the construction phase has been completed, not by OBE.
    - Use the construction handle during the construction phase to operate the door. Lift the handle up to engage the multipoint system and push down to open the door.

LOCK OPERATION

All locking hardware works in a similar manner to that shown below.

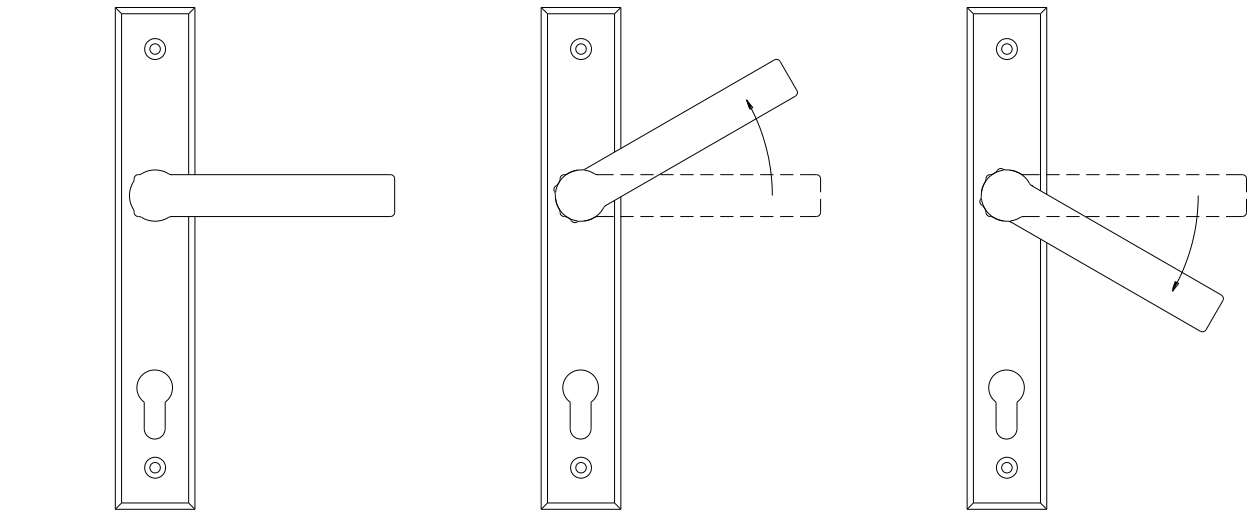


Figure 18

Completely read these instructions prior to beginning work. These recommendations are for general erection/installation procedures only. For actual job conditions, see shop drawings if applicable. For perimeter anchor types and spacing, refer to the approved shop drawings or consult structural engineer/project design professional.

HTD1 HARDWARE (HOPPE & CALDWELL)

HANDLE SET INSTALLATION

A. Apply the backplate gasket to the inside of each backplate. Push gaskets firmly into place to ensure a tight seal. Snap a nylon bushing into the handle hole of each backplate.
B. Attach interior and exterior backplates to door and fasten loosely with the M5 phillips head backplate screws provided. Note: The screw heads must be on the interior side of the door.
C. If the handles are handed, determine which one is the interior handle. Push shaft into interior handle until it stops.
D. Holding interior handle in the proper horizontal position, insert the handle with shaft attached through the backplate and door gear handle hole, until handle is firmly seated against the nylon bushing.
E. While holding interior handle in place, slide exterior handle onto shaft and press both handles together until secure and tight to backplates.
F. On the key/knob cylinder or thumbturn insert, apply lithium grease on the interior surface and tool into the joint between the cylinder and the cylinder body. If using a thumbturn, it may work best to loosen the set screw and remove the thumbturn. Wipe away excess grease and replace the thumbturn and set screw if applicable. Reference page 18 for photos.
G. Insert the key/knob cylinder or thumbturn insert from the interior side of the door until cylinder body is flush with backplate.
H. Install the cylinder screw through the screw (400101) M5-0.8 x 45mm (These are provided separately) hole below the deadbolt in the edge of the door to secure in place.
I. Hand-tighten backplate screws. Note: If handles seem loose after tightening backplates, push handles together again until tight.

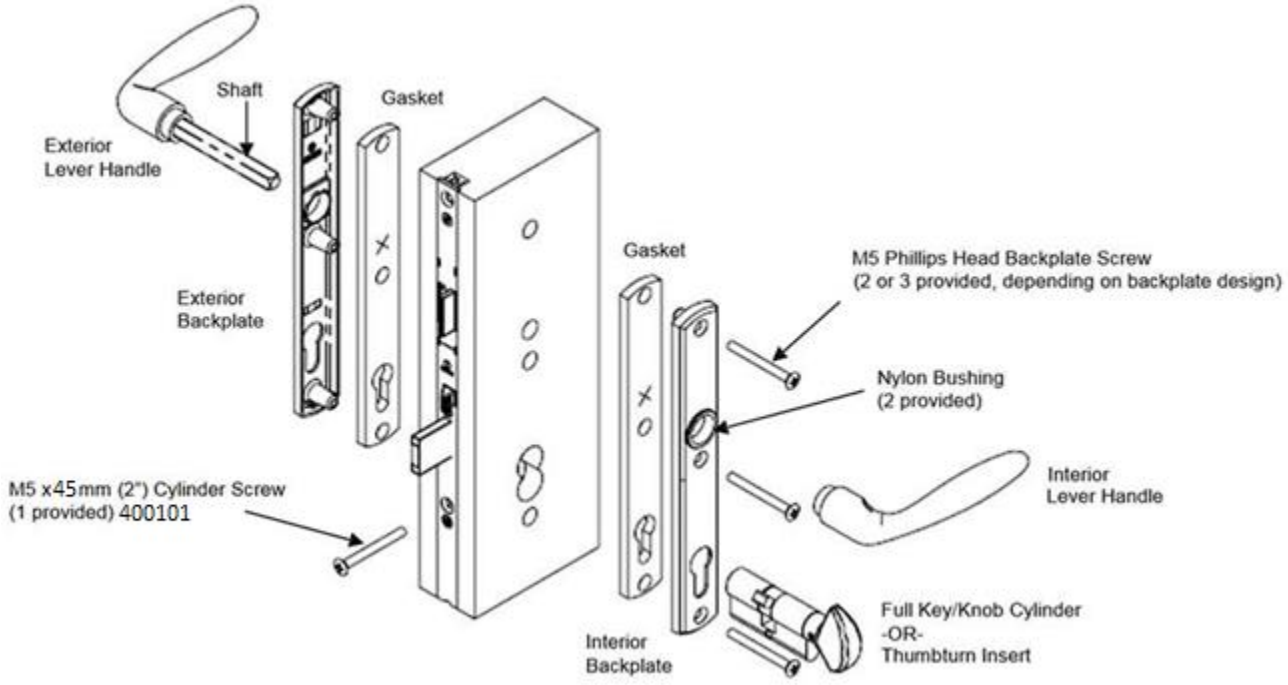


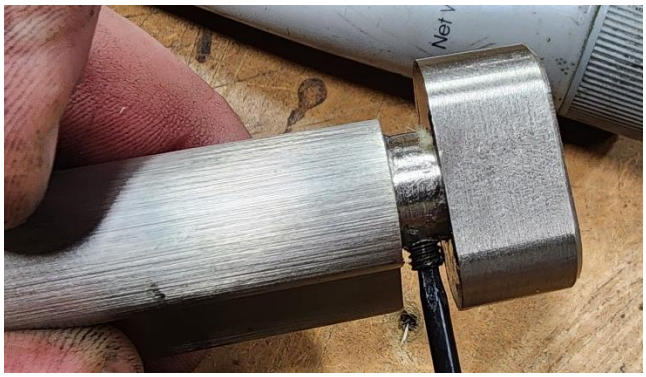
Figure 19

Completely read these instructions prior to beginning work. These recommendations are for general erection/installation procedures only. For actual job conditions, see shop drawings if applicable. For perimeter anchor types and spacing, refer to the approved shop drawings or consult structural engineer/project design professional.

LOCK CYLINDER LUBRICATION

Note: Giesse thumbturn insert shown. Procedure similar for all lock cylinders.

1. Remove set screw and thumbturn (if using).



2. Apply lithium grease to interior surface.

3. Tool grease into joint between cylinder and cylinder body.

4. Wipe off excess grease and replace thumbturn and set screw (if using).

Completely read these instructions prior to beginning work. These recommendations are for general erection/installation procedures only. For actual job conditions, see shop drawings if applicable. For perimeter anchor types and spacing, refer to the approved shop drawings or consult structural engineer/project design professional.

LOCKING SYSTEM

- INSPECTION
  - The locking system should be inspected on an annual basis (more if necessary) to ensure proper operation, in addition all fasteners should be checked at this time to ensure none have loosened.

- ADJUSTMENT
  - If adjustment is required, the locking points are eccentric studs that can be adjusted ±0.04" using a hex key

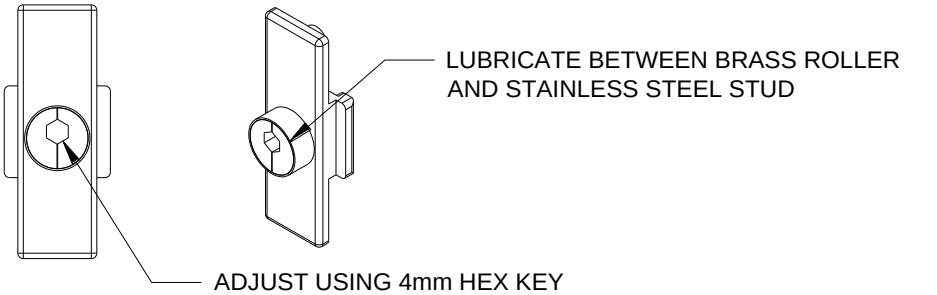


Figure 20

  - If strike plate adjustment is required, the plate can be adjusted ±0.10".

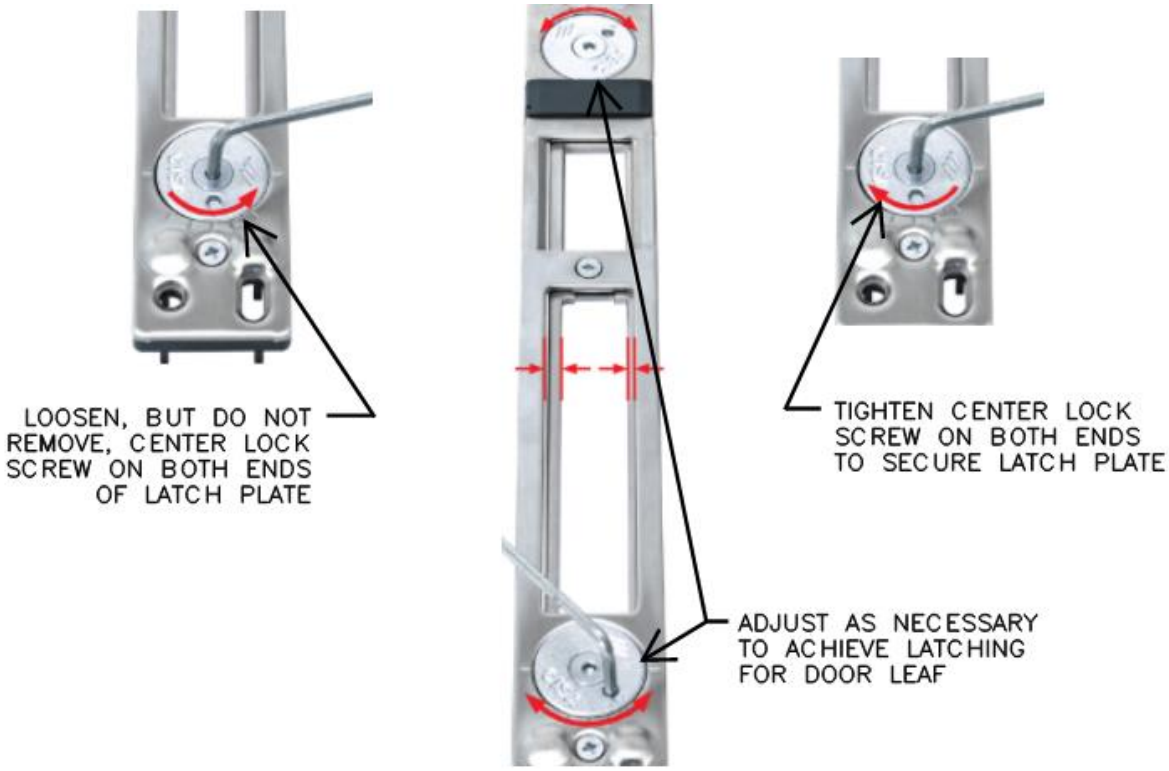


Figure 21

Completely read these instructions prior to beginning work. These recommendations are for general erection/installation procedures only. For actual job conditions, see shop drawings if applicable. For perimeter anchor types and spacing, refer to the approved shop drawings or consult structural engineer/project design professional.

- CLEANING
  - If required, the lock system should be cleaned with a mixture of mild dish soap and water.
  - After cleaning, the lock system should be thoroughly rinsed with clean water.

- LUBRICATION
  - The lock system should be clean and dry prior to applying lubrication.
  - Apply a light coat of oil as required on the lock points between the brass roller and stainless-steel stud (Figure 20), care must be taken when applying oil as it may stain other components of the door system.
  - If low friction is required (e.g. ADA) apply a lithium grease to the face of lock strike in addition to the oil in the lock point.
  - Close and lock/unlock door several times to work lubrication into the lock system.

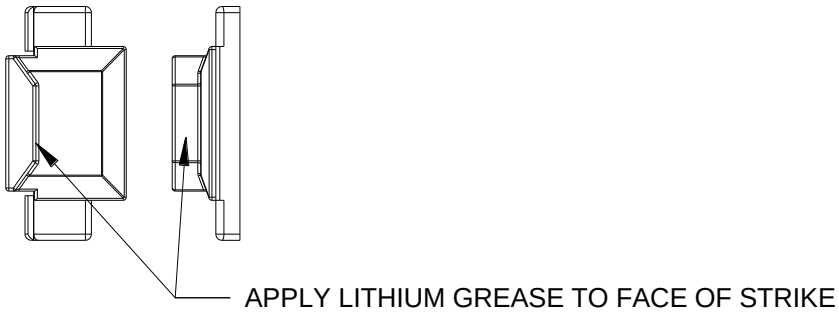


Figure 22

BUTT HINGE

- INSPECTION
  - The hinges should be inspected on an annual basis (more if necessary) to ensure proper operation, in addition all fasteners should be checked at this time to ensure none have loosened.
- ADJUSTMENT
  - For lateral adjustment carefully remove the hinge trim cover on the sash leaf, take care as this need to be re-installed after adjustment.
  - Follow the instructions in Figure 23 below, there should be an even 9/16” gap around the perimeter of the door leaf at the head and jambs.

Completely read these instructions prior to beginning work. These recommendations are for general erection/installation procedures only. For actual job conditions, see shop drawings if applicable. For perimeter anchor types and spacing, refer to the approved shop drawings or consult structural engineer/project design professional.

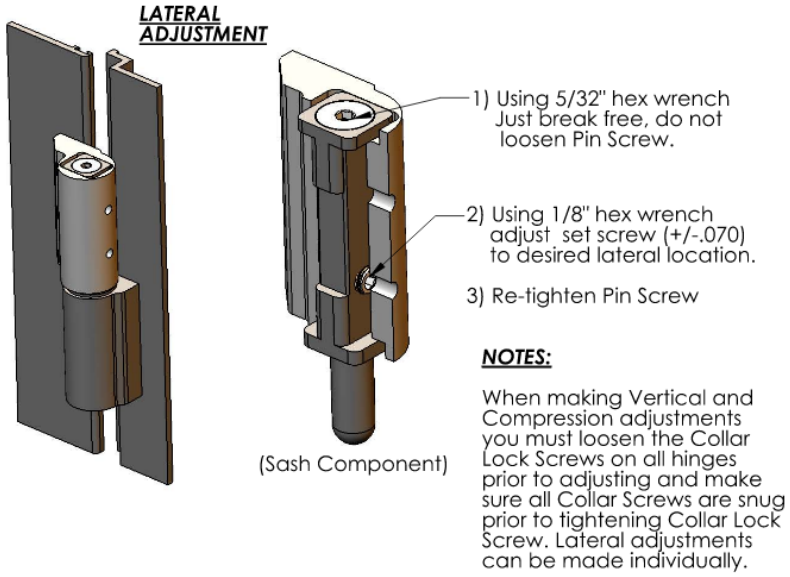


Figure 23

- After adjustment carefully re-install the hinge trim cover on the sash leaf.
- For vertical or compression adjustment follow the instructions in Figure 24 below.

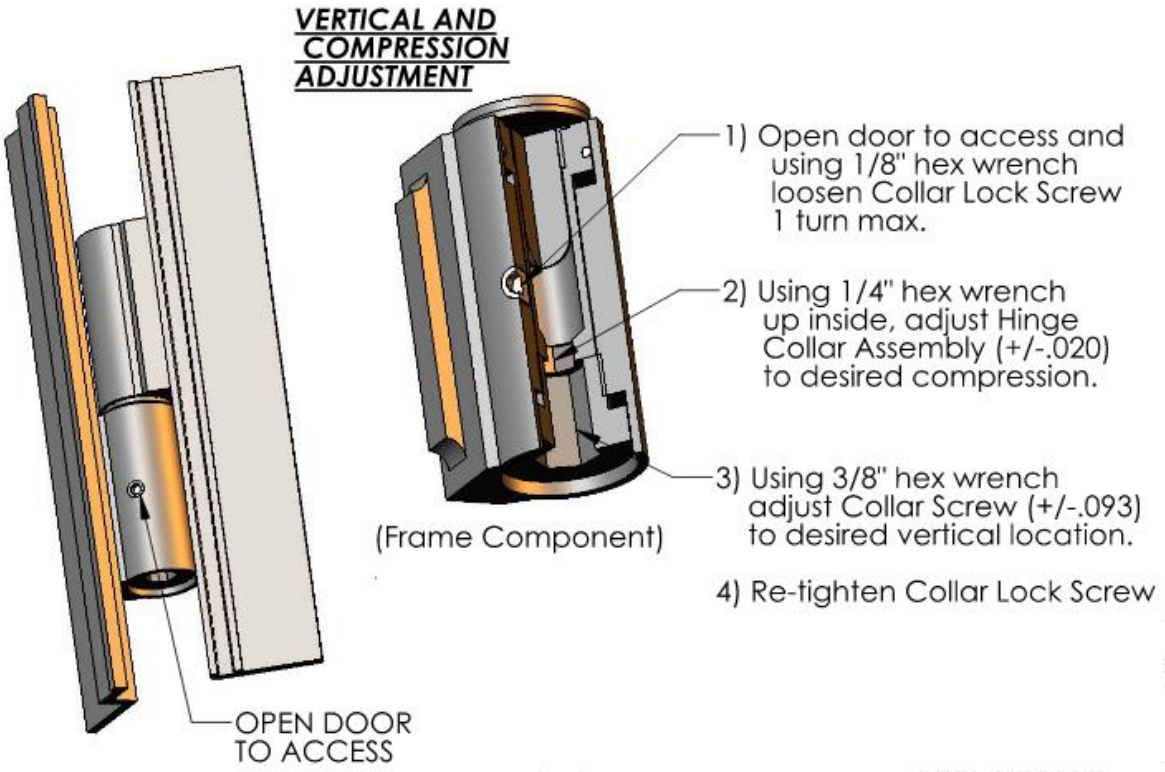


Figure 24

Completely read these instructions prior to beginning work. These recommendations are for general erection/installation procedures only. For actual job conditions, see shop drawings if applicable. For perimeter anchor types and spacing, refer to the approved shop drawings or consult structural engineer/project design professional.

- CLEANING
  - If required, the hinges should be cleaned with a mixture of mild dish soap and water.
  - After cleaning, the hinges should be thoroughly rinsed with clean water.

- LUBRICATION
  - The hinges should be clean and dry prior to applying lubrication.
  - Apply a light coat of oil as required between the hinge leaves, care must be taken when applying oil as it may stain other components of the door system.
  - Open and close the door several times to work lubrication into the hinges.

FRICTION ADJUSTER

- INSPECTION
  - The friction adjuster should be inspected on an annual basis (more if necessary) to ensure proper operation, in addition all fasteners should be checked at this time to ensure none have loosened.

- ADJUSTMENT
  - If the door does not stay in the open position, the friction adjustment screw can be tightened.
  - If the force to operate the door (open/close) is to great, the friction adjustment screw can be loosened.

- CLEANING
  - If required, the friction adjuster should be cleaned with a mixture of mild dish soap and water.
  - After cleaning, the friction adjuster should be thoroughly rinsed with clean water.

- LUBRICATION
  - The friction adjuster should be clean and dry prior to applying lubrication.
  - Apply a light coat of oil as required on the at the arm pins and the leaf track (Figure 25), care must be taken when applying oil as it may stain other components of the door system.
  - If low friction is required (e.g. ADA) apply a lithium grease instead of a light oil.
  - Move the door through its complete range of motion several times to work the lubrication in.

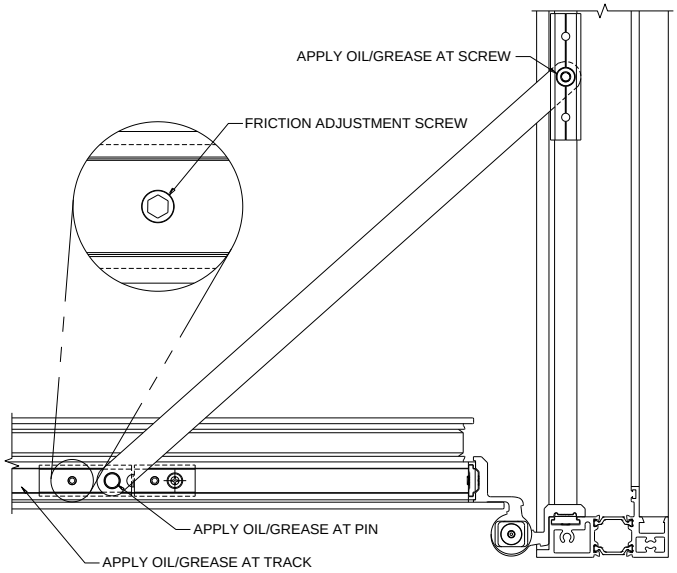


Figure 25

Completely read these instructions prior to beginning work. These recommendations are for general erection/installation procedures only. For actual job conditions, see shop drawings if applicable. For perimeter anchor types and spacing, refer to the approved shop drawings or consult structural engineer/project design professional.

SNUBBERS

- INSPECTION
  - The snubber(s) should be inspected on an annual basis (more if necessary) to ensure proper operation, in addition all fasteners should be checked at this time to ensure none have loosened.

- ADJUSTMENT
  - If the door leaf does not close correctly, adjust the location of the blocks and the tighten the set screw. (Figure 26)

- CLEANING
  - If required, the snubber(s) should be cleaned with a mixture of mild dish soap and water.
  - After cleaning, the snubber(s) should be thoroughly rinsed with clean water.

- LUBRICATION
  - The snubber(s) should be clean and dry prior to applying lubrication.
  - Apply a light coat of oil as required to the faces of the snubber blocks, care must be taken when applying oil as it may stain other components of the door system.
  - If low friction is required (e.g. ADA) apply a lithium grease to the face of the snubber blocks.

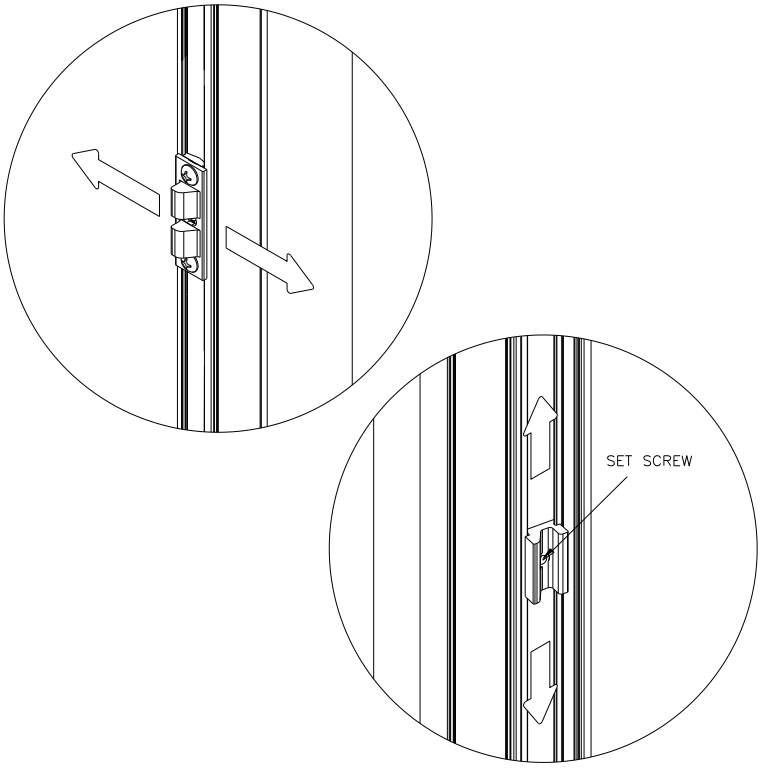


Figure 26

Completely read these instructions prior to beginning work. These recommendations are for general erection/installation procedures only. For actual job conditions, see shop drawings if applicable. For perimeter anchor types and spacing, refer to the approved shop drawings or consult structural engineer/project design professional.

HTD2 HARDWARE (FAPIM)

HANDLE SET INSTALLATION

A. Push and twist the handle base cover towards the handle revealing the mounting holes.
B. If the handles are handed, determine which one is the Interior Handle. Push Shaft into Interior Handle until it stops.
C. Holding Interior Handle in the proper horizontal position, insert the handle with shaft attached through the door leaf and gear handle hole, until handle is firmly seated against the leaf.
D. Secure the interior handle to the door with the provided fasteners and twist the handle base cover to fasteners.
E. Slide the exterior handle onto the shaft and press until the handle is firmly seated against the door leaf.
F. Secure the exterior handle to the door with the provided fasteners and twist the handle base cover to fasteners.
G. Mount the baseplate for the lock cylinder cover(s) to the door leaf with the provided fasteners (Depending on the ordered lock configuration there may be a cover on either the exterior, interior, or both). See Figure 27 for orientation.
H. Install the lock cylinder cover(s) onto the baseplate(s) and turn slightly to align the keyway notch to lock into place.
I. On the Key/Knob Cylinder or Thumbturn Insert, apply lithium grease on the interior surface and tool into the joint between the cylinder and the cylinder body. If using a Thumbturn, it may work best to loosen the set screw and remove the Thumbturn. Wipe away excess grease and replace the Thumbturn and set screw if applicable. Reference page 18 for photos.
J. Insert the Key/Knob Cylinder or Thumbturn Insert from the interior side of the door until cylinder body is approximately flush with the cylinder cover.
K. Install the Cylinder Screw (400101) M5-0.8 x 45mm (These are provided separately) through the screw hole below the deadbolt in the edge of the door to secure in place.

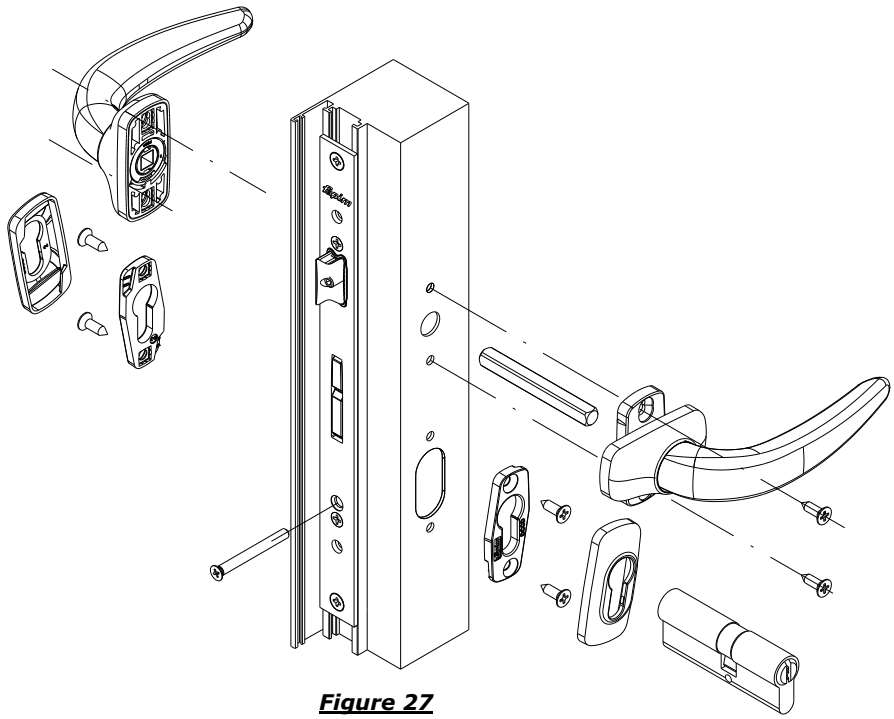


Figure 27

Completely read these instructions prior to beginning work. These recommendations are for general erection/installation procedures only. For actual job conditions, see shop drawings if applicable. For perimeter anchor types and spacing, refer to the approved shop drawings or consult structural engineer/project design professional.

LOCKING SYSTEM

- INSPECTION
  - The locking system should be inspected on an annual basis (more if necessary) to ensure proper operation, in addition all fasteners should be checked at this time to ensure none have loosened.

- ADJUSTMENT
  - If adjustment is required, the locking points are eccentric studs that can be adjusted ±0.04" using a hex key

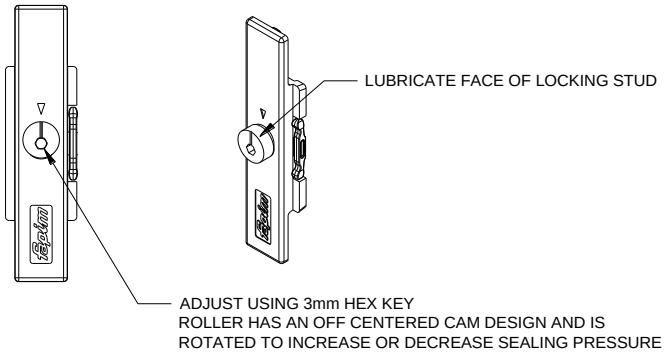


Figure 28

  - If strike plate adjustment is required, the plate can be adjusted ±0.06".

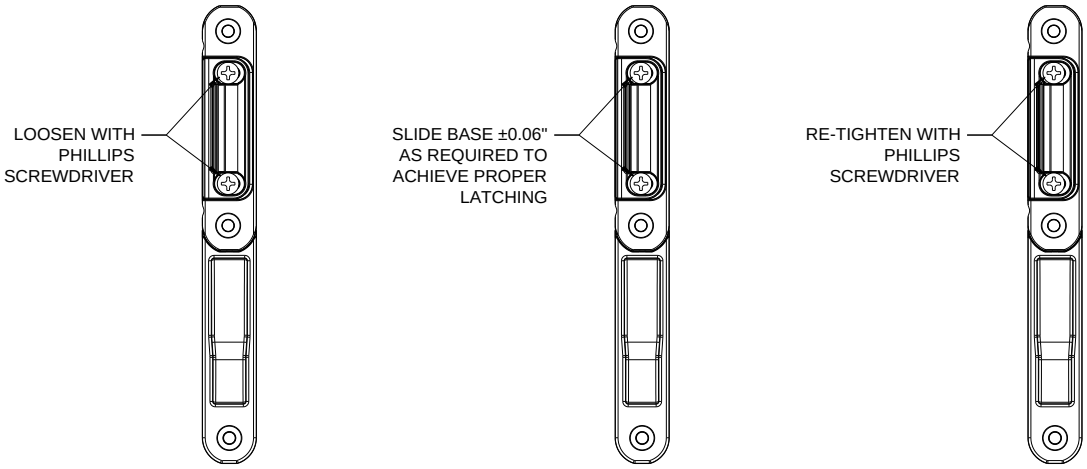


Figure 29

Completely read these instructions prior to beginning work. These recommendations are for general erection/installation procedures only. For actual job conditions, see shop drawings if applicable. For perimeter anchor types and spacing, refer to the approved shop drawings or consult structural engineer/project design professional.

- CLEANING
  - If required, the lock system should be cleaned with a mixture of mild dish soap and water.
  - After cleaning, the lock system should be thoroughly rinsed with clean water.

- LUBRICATION
  - The lock system should be clean and dry prior to applying lubrication.
  - Apply a light coat of oil as required to the face of the lock stud (Figure 28), care must be taken when applying oil as it may stain other components of the door system.
  - If low friction is required (e.g. ADA) apply a lithium grease to the face of lock strike in addition to the oil on the lock point.
  - Close and lock/unlock door several times to work lubrication into the lock system.

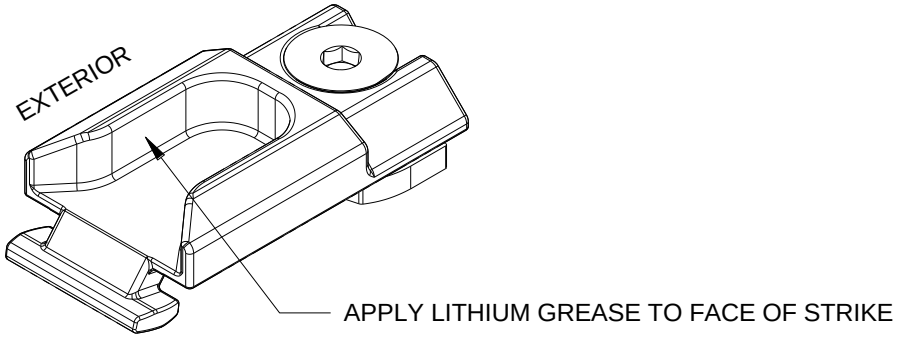


Figure 30

BUTT HINGE

- INSPECTION
  - The hinges should be inspected on an annual basis (more if necessary) to ensure proper operation, in addition all fasteners should be checked at this time to ensure none have loosened.
- ADJUSTMENT
  - For lateral adjustment carefully remove the hinge trim cover on the sash leaf, take care as this need to be re-installed after adjustment.
  - Using a 4mm hex wrench loosen the front facing set screws.
  - Using a 6mm hex wrench adjust the door leaf laterally as shown in Figure 31, and re-tighten the front facing set screws. There should be an even 9/16” gap around the perimeter of the door leaf at the head and jambs.

Completely read these instructions prior to beginning work. These recommendations are for general erection/installation procedures only. For actual job conditions, see shop drawings if applicable. For perimeter anchor types and spacing, refer to the approved shop drawings or consult structural engineer/project design professional.

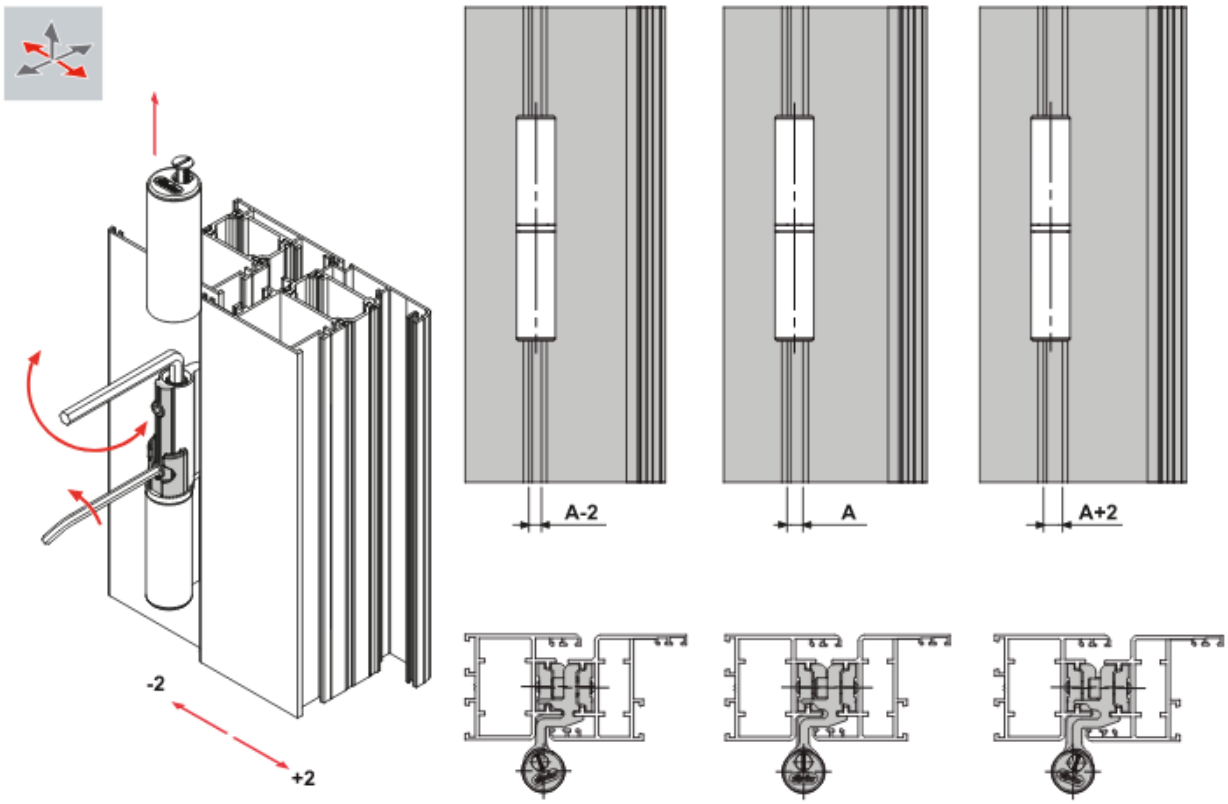


Figure 31

- After adjustment carefully re-install the hinge trim cover on the sash leaf.
- For vertical adjustment remove the bottom hinge cover and adjust the door leaf using a 6mm hex wrench. There should be an even 9/16" gap around the perimeter of the door leaf at the head and jambs. Snap bottom cover back onto hinge after adjustment.

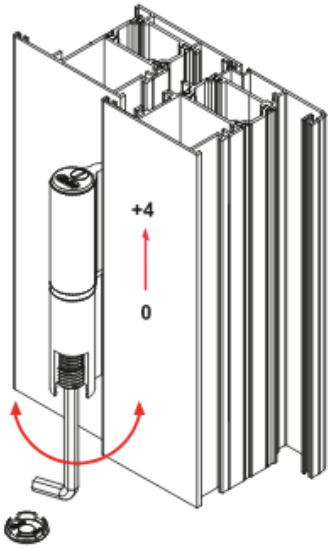


Figure 32

Completely read these instructions prior to beginning work. These recommendations are for general erection/installation procedures only. For actual job conditions, see shop drawings if applicable. For perimeter anchor types and spacing, refer to the approved shop drawings or consult structural engineer/project design professional.

- CLEANING
  - If required, the hinges should be cleaned with a mixture of mild dish soap and water.
  - After cleaning, the hinges should be thoroughly rinsed with clean water.

- LUBRICATION
  - The hinges should be clean and dry prior to applying lubrication.
  - Apply a light coat of oil as required between the hinge leaves, care must be taken when applying oil as it may stain other components of the door system.
  - Open and close the door several times to work lubrication into the hinges.

FRICTION ADJUSTER

- INSPECTION
  - The friction adjuster should be inspected on an annual basis (more if necessary) to ensure proper operation, in addition all fasteners should be checked at this time to ensure none have loosened.

- ADJUSTMENT
  - If the door does not stay in the open position, the friction adjustment screw can be tightened.
  - If the force to operate the door (open/close) is to great, the friction adjustment screw can be loosened.

- CLEANING
  - If required, the friction adjuster should be cleaned with a mixture of mild dish soap and water.
  - After cleaning, the friction adjuster should be thoroughly rinsed with clean water.

- LUBRICATION
  - The friction adjuster should be clean and dry prior to applying lubrication.
  - Apply a light coat of oil as required on the at the arm pins and the leaf track (Figure 33), care must be taken when applying oil as it may stain other components of the door system.
  - If low friction is required (e.g. ADA) apply a lithium grease instead of a light oil.
  - Move the door through its complete range of motion several times to work the lubrication in.

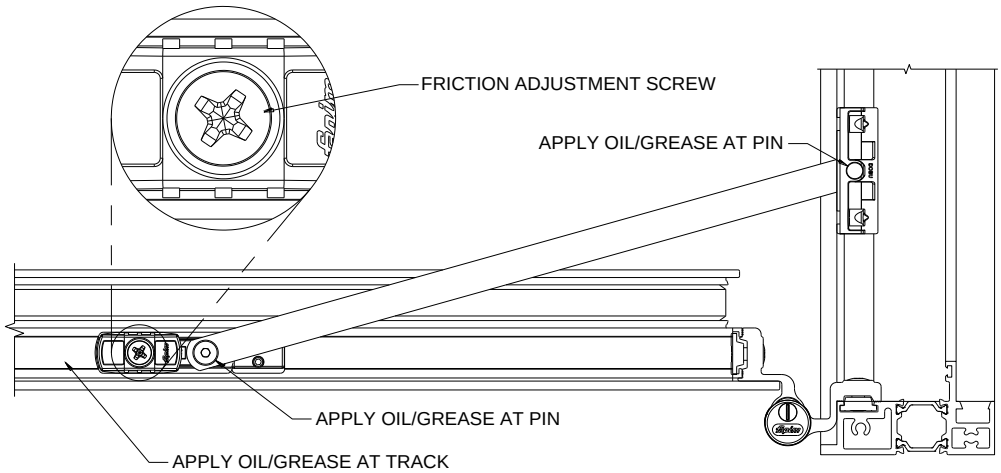


Figure 33

Completely read these instructions prior to beginning work. These recommendations are for general erection/installation procedures only. For actual job conditions, see shop drawings if applicable. For perimeter anchor types and spacing, refer to the approved shop drawings or consult structural engineer/project design professional.

SNUBBERS

- INSPECTION
  - The snubber(s) should be inspected on an annual basis (more if necessary) to ensure proper operation, in addition all fasteners should be checked at this time to ensure none have loosened.

- ADJUSTMENT
  - If the door leaf does not close correctly, adjust the location of the frame block(s) and the re-tighten the set screw. (Figure 34)

- CLEANING
  - If required, the snubber(s) should be cleaned with a mixture of mild dish soap and water.
  - After cleaning, the snubber(s) should be thoroughly rinsed with clean water.

- LUBRICATION
  - The snubber(s) should be clean and dry prior to applying lubrication.
  - Apply a light coat of oil as required to the faces of the snubber blocks, care must be taken when applying oil as it may stain other components of the door system.
  - If low friction is required (e.g. ADA) apply a lithium grease to the face of the snubber blocks.

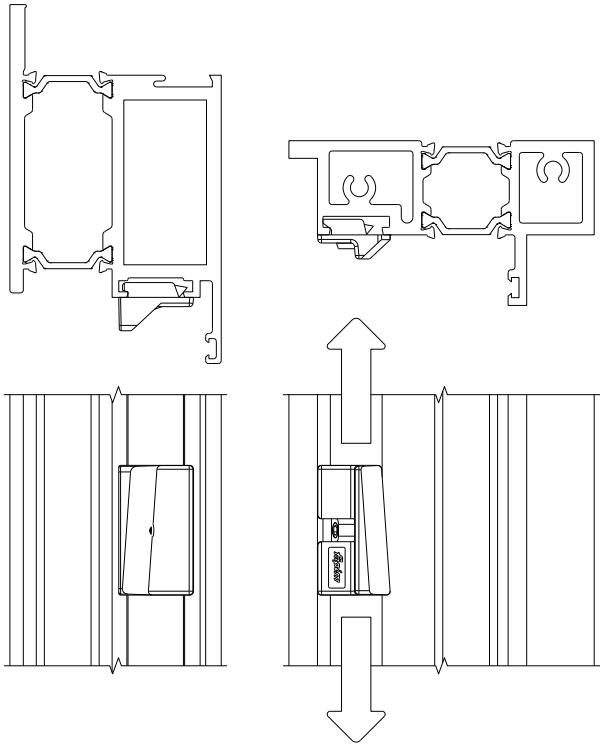


Figure 34

Completely read these instructions prior to beginning work. These recommendations are for general erection/installation procedures only. For actual job conditions, see shop drawings if applicable. For perimeter anchor types and spacing, refer to the approved shop drawings or consult structural engineer/project design professional.

HTD3 HARDWARE (GIESSE)

HANDLE SET INSTALLATION

A. Push and twist the handle base cover towards the handle revealing the mounting holes.
B. If the handles are handed, determine which one is the Interior Handle. Push Shaft into Interior Handle until it stops.
C. Holding Interior Handle in the proper horizontal position, insert the handle with shaft attached through the door leaf and gear handle hole, until handle is firmly seated against the leaf.
D. Secure the interior handle to the door with the provided fasteners and twist the handle base cover to fasteners.
E. Slide the exterior handle onto the shaft and press until the handle is firmly seated against the door leaf.
F. Secure the exterior handle to the door with the provided fasteners and twist the handle base cover to fasteners.
G. Mount the baseplate for the lock cylinder cover(s) to the door leaf with the provided fasteners (Depending on the ordered lock configuration there may be a cover on either the exterior, interior, or both). See Figure 35 for orientation.
H. Install the lock cylinder cover(s) onto the baseplate(s) by pressing into place.
I. On the Key/Knob Cylinder or Thumbturn Insert, apply lithium grease on the interior surface and tool into the joint between the cylinder and the cylinder body. If using a Thumbturn, it may work best to loosen the set screw and remove the Thumbturn. Wipe away excess grease and replace the Thumbturn and set screw if applicable. Reference page 18 for photos.
J. Insert the Key/Knob Cylinder or Thumbturn Insert from the interior side of the door until cylinder body is approximately flush with the cylinder cover.
K. Install the Cylinder Screw (400101) M5-0.8 x 45mm (These are provided separately) through the screw hole below the deadbolt in the edge of the door to secure in place.

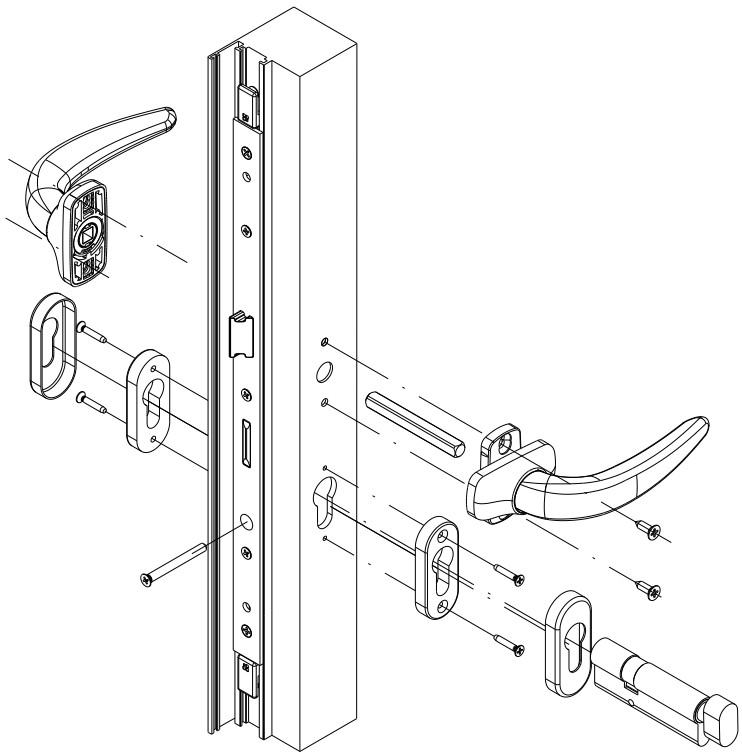


Figure 35

Completely read these instructions prior to beginning work. These recommendations are for general erection/installation procedures only. For actual job conditions, see shop drawings if applicable. For perimeter anchor types and spacing, refer to the approved shop drawings or consult structural engineer/project design professional.

LOCKING SYSTEM

- INSPECTION
  - The locking system should be inspected on an annual basis (more if necessary) to ensure proper operation, in addition all fasteners should be checked at this time to ensure none have loosened.

- ADJUSTMENT
  - If adjustment is required, the locking strikes can be adjusted ±0.04” using a hex key.

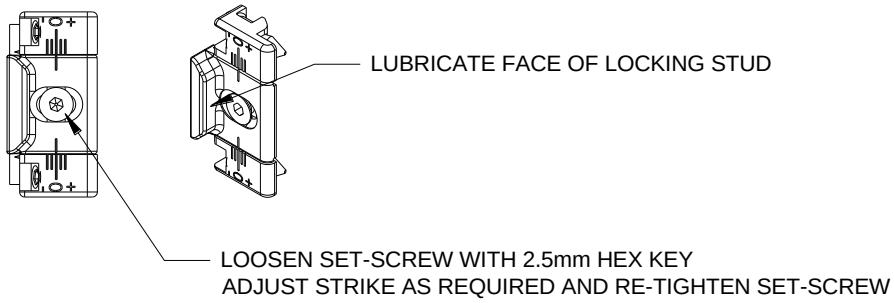


Figure 36

  - If strike plate adjustment is required, the plate can be adjusted ±0.08”.

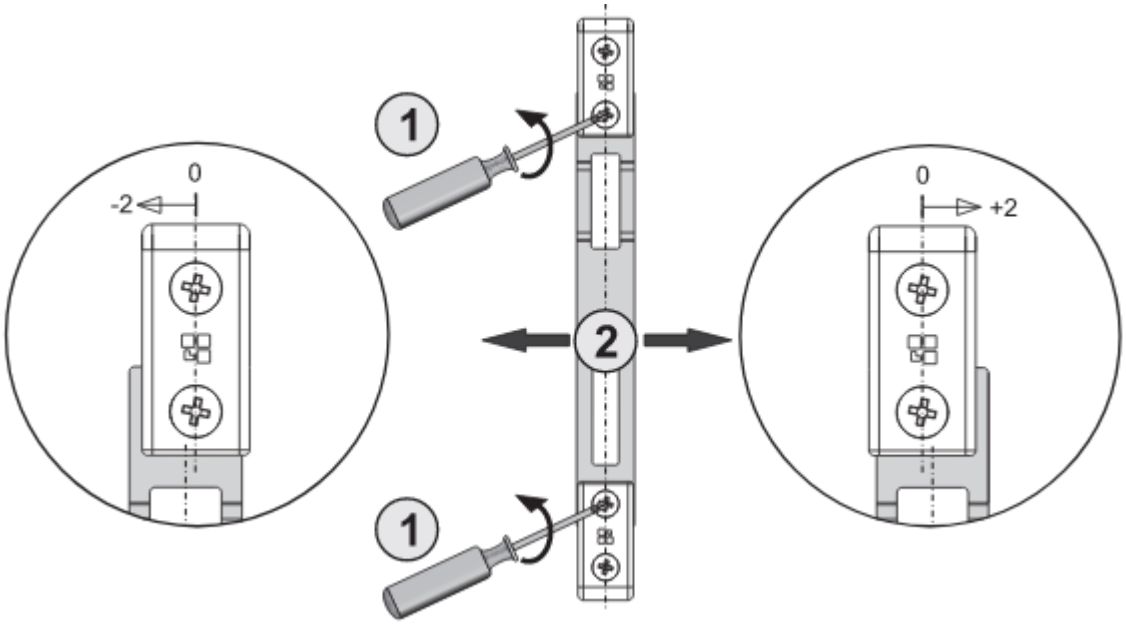


Figure 37

Completely read these instructions prior to beginning work. These recommendations are for general erection/installation procedures only. For actual job conditions, see shop drawings if applicable. For perimeter anchor types and spacing, refer to the approved shop drawings or consult structural engineer/project design professional.

- CLEANING
  - If required, the lock system should be cleaned with a mixture of mild dish soap and water.
  - After cleaning, the lock system should be thoroughly rinsed with clean water.

- LUBRICATION
  - The lock system should be clean and dry prior to applying lubrication.
  - Apply a light coat of oil as required to the face of the lock stud and strike (Figure 38), care must be taken when applying oil as it may stain other components of the door system.
  - If low friction is required (e.g. ADA) apply a lithium grease to the face of lock strike in addition to the oil on the lock point.
  - Close and lock/unlock door several times to work lubrication into the lock system.

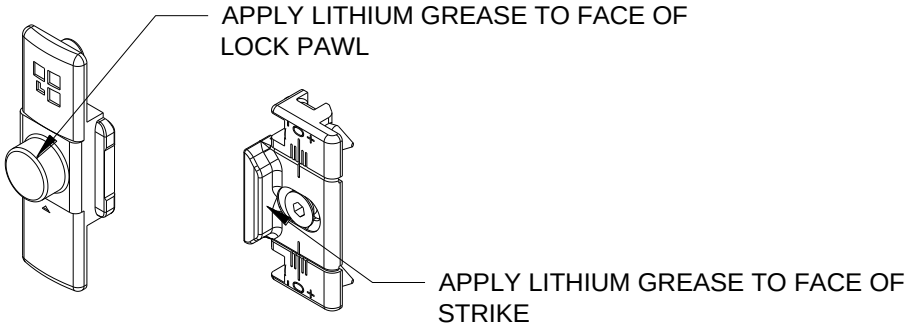


Figure 38

BUTT HINGE

- INSPECTION
  - The hinges should be inspected on an annual basis (more if necessary) to ensure proper operation, in addition all fasteners should be checked at this time to ensure none have loosened.
- ADJUSTMENT
  - For lateral adjustment carefully remove the hinge trim cover on the sash leaf, take care as this need to be re-installed after adjustment.
  - Using a 3mm hex wrench loosen the set screw.
  - Using a large flat screw driver or Giesse Adjustment Key adjust the door leaf laterally as shown in Figure 39 and re-tighten the set screw. There should be an even 9/16" gap around the perimeter of the door leaf at the head and jambs.

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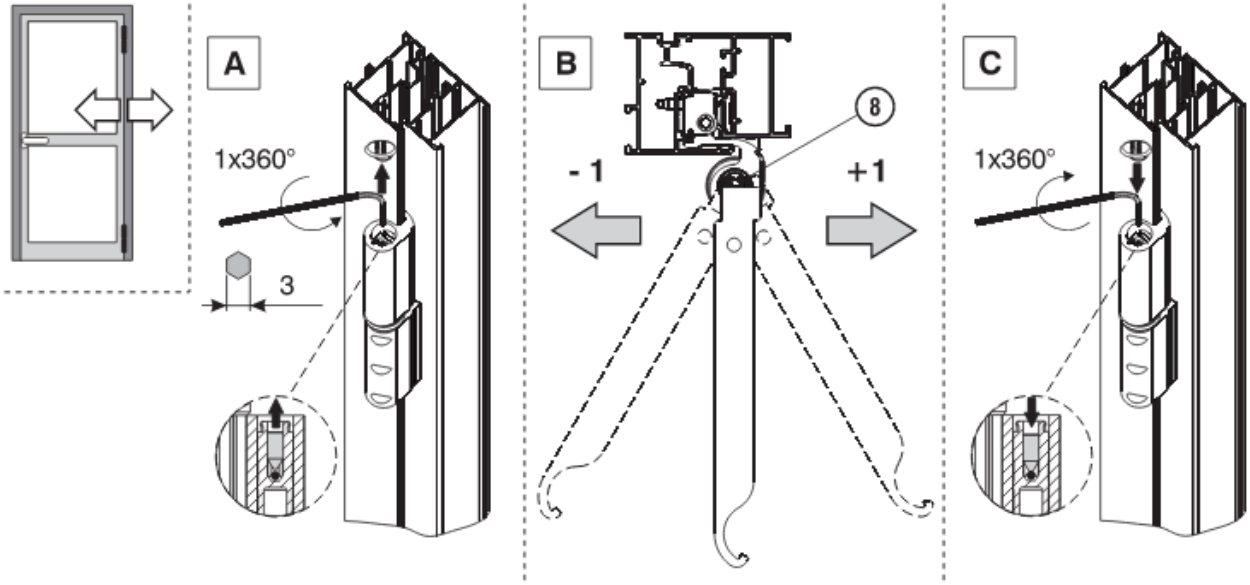

Figure 39

- After adjustment carefully re-install the hinge trim cover on the sash leaf.
- For vertical adjustment loosen the hinge screws at the leaf (all hinges) using a 4mm hex wrench, but DO NOT REMOVE.
- Using a 4mm hex wrench adjust the door leaf as required. There should be an even 9/16” gap around the perimeter of the door leaf at the head and jambs.
- Re-tighten all hinge screws at the leaf.

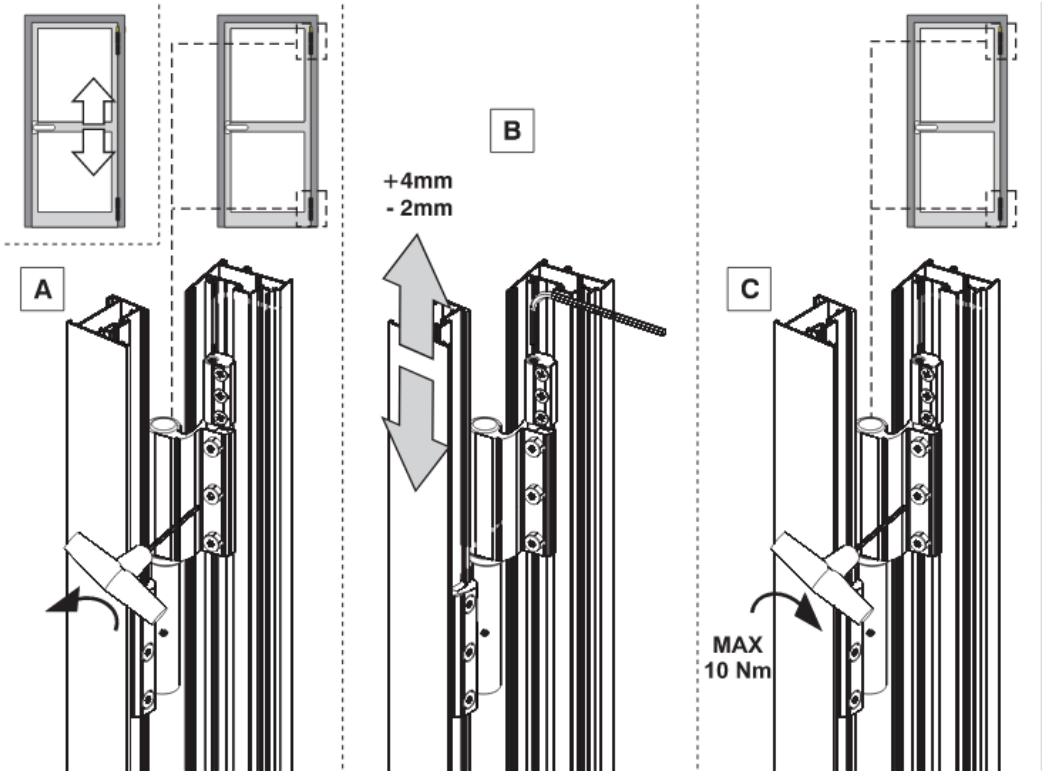

Figure 40

Completely read these instructions prior to beginning work. These recommendations are for general erection/installation procedures only. For actual job conditions, see shop drawings if applicable. For perimeter anchor types and spacing, refer to the approved shop drawings or consult structural engineer/project design professional.

- CLEANING
  - If required, the hinges should be cleaned with a mixture of mild dish soap and water.
  - After cleaning, the hinges should be thoroughly rinsed with clean water.

- LUBRICATION
  - The hinges should be clean and dry prior to applying lubrication.
  - Apply a light coat of oil as required between the hinge leaves, care must be taken when applying oil as it may stain other components of the door system.
  - Open and close the door several times to work lubrication into the hinges.

FRICTION ADJUSTER

- INSPECTION
  - The friction adjuster should be inspected on an annual basis (more if necessary) to ensure proper operation, in addition all fasteners should be checked at this time to ensure none have loosened.

- ADJUSTMENT
  - If the door does not stay in the open position, the friction adjustment screw can be tightened.
  - If the force to operate the door (open/close) is to great, the friction adjustment screw can be loosened.

- CLEANING
  - If required, the friction adjuster should be cleaned with a mixture of mild dish soap and water.
  - After cleaning, the friction adjuster should be thoroughly rinsed with clean water.

- LUBRICATION
  - The friction adjuster should be clean and dry prior to applying lubrication.
  - Apply a light coat of oil as required on the at the arm pins and the leaf track (Figure 41), care must be taken when applying oil as it may stain other components of the door system.
  - If low friction is required (e.g. ADA) apply a lithium grease instead of a light oil.
  - Move the door through its complete range of motion several times to work the lubrication in.

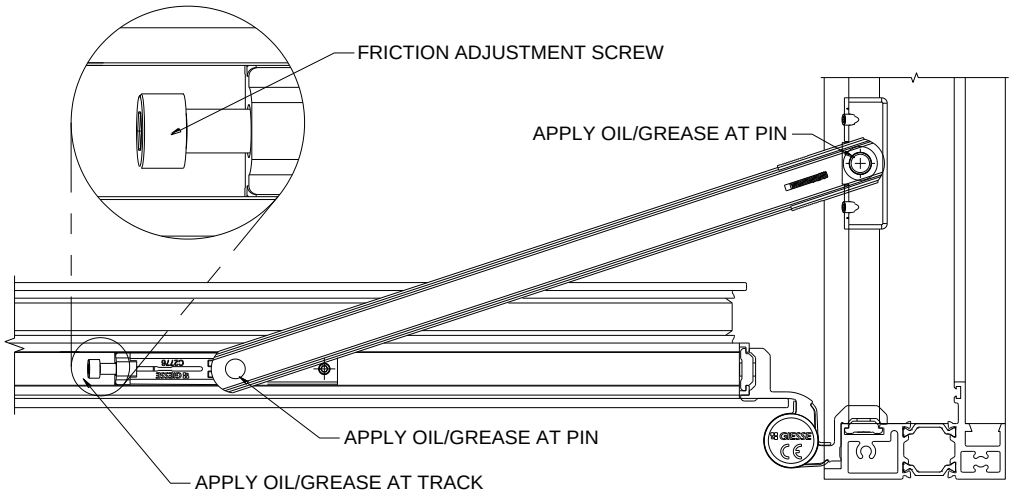

Figure 41

Completely read these instructions prior to beginning work. These recommendations are for general erection/installation procedures only. For actual job conditions, see shop drawings if applicable. For perimeter anchor types and spacing, refer to the approved shop drawings or consult structural engineer/project design professional.

SNUBBERS

- INSPECTION
  - The snubber(s) should be inspected on an annual basis (more if necessary) to ensure proper operation, in addition all fasteners should be checked at this time to ensure none have loosened.

- ADJUSTMENT
  - If the door leaf does not close correctly, adjust the location of the leaf block(s) and the re-tighten the set screw. (Figure 42)

- CLEANING
  - If required, the snubber(s) should be cleaned with a mixture of mild dish soap and water.
  - After cleaning, the snubber(s) should be thoroughly rinsed with clean water.

- LUBRICATION
  - The snubber(s) should be clean and dry prior to applying lubrication.
  - Apply a light coat of oil as required to the faces of the snubber blocks, care must be taken when applying oil as it may stain other components of the door system.
  - If low friction is required (e.g. ADA) apply a lithium grease to the face of the snubber blocks.

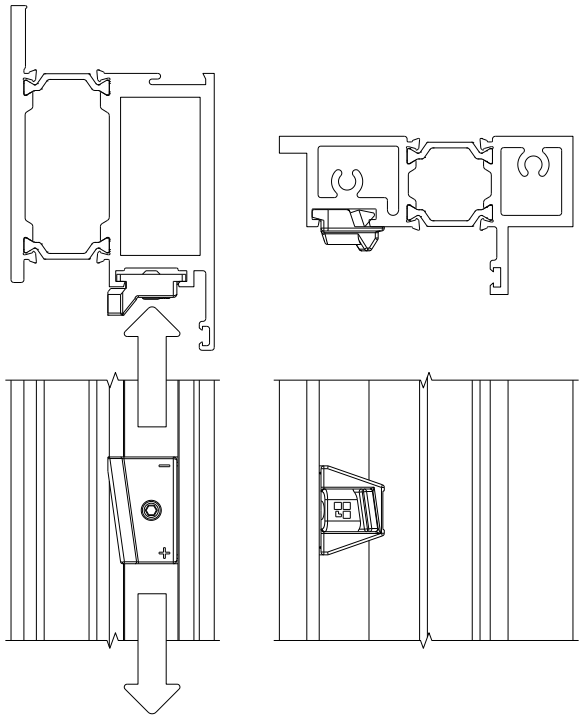

Figure 42