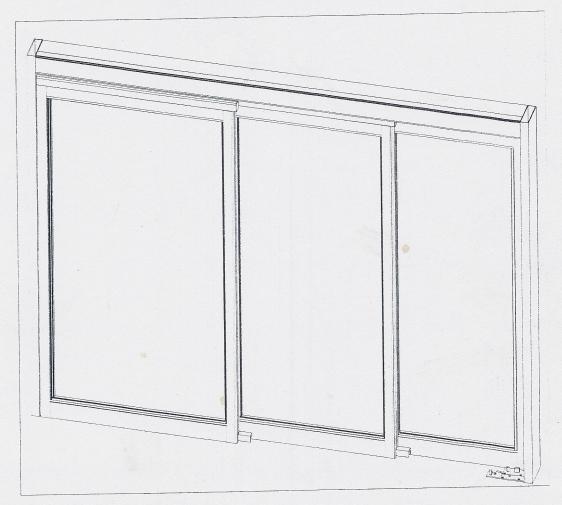


# Besam Telescopic ICU/CCU Installation Manual



Complies with NFPA 101 Life Safety Code for Manually Operated Pedestrian Doors

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#### Section 1 - Introduction

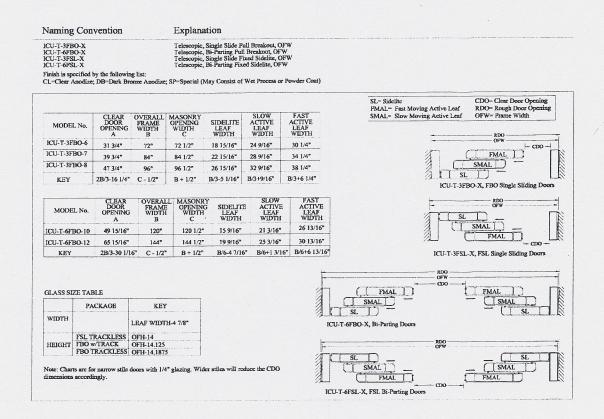
This manual contains the necessary details and instructions for the installation, maintenance and service of the manual sliding door package, Besam Telescopic ICU/CCU.

The Besam Telescopic ICU/CCU is designed for an overhead, concealed installation between two vertical jambs. The header supports the sliding doors and sidelites.

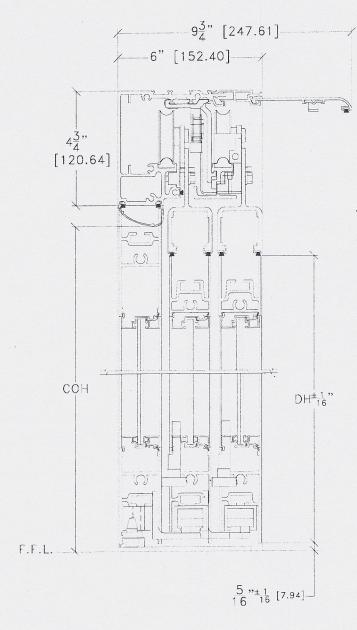
#### Section 2 - Models

Besam provides several varieties of the manual Telescopic ICU/CCU sliding door system. Packages can be bi-parting or single-slide (left or right handed).

Before installing the system, check to see that you have been supplied the correct equipment and that all necessary tools and hardware are on hand. Also, check the installation site for any factors that might interfere with proper installation.



#### Section 3 - Space Required



NOTE: Watch for low hanging items that could obstruct the opening of the cover, such as exit signs and wall conditions.

COH= Clear Opening Height DH= Door Height FFL= Finished Floor Level

#### Section 4 – Fastening Requirements

Base door / wall material	Minimum anchor / bolt requirement
Steel	3/16" (5 mm)*
Aluminum	<sup>1</sup> / <sub>4</sub> " (6 mm)*
Reinforced concrete	Minimum 2" (50 mm) from the underside
Wood	Expansion-shell bolt, minimum (1/4" x 3 ½"), Minimum 2" (50 mm) from the underside

- \* Besam minimum recommended requirements. Building codes may give different specifications.
- \* Thinner wall profiles must be reinforced with rivnuts.

#### Section 5 - Tools Required

Carpenter's level

Tape rule

Straight edge

Power drill and set of drill bits, Unibit, Hammer drill

Metric hex key set 2.5, 4, 5, and 6 millimeter

Screw driver, Torx T10, T20

Screwdriver

Chalk line

#2 Phillips screwdriver

Center punch

Silicone sealant

Pencil

10 mm nut driver

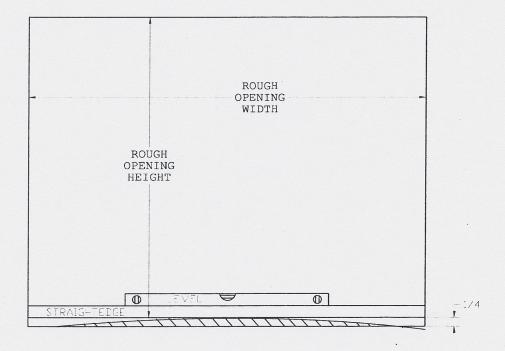
10 mm open end wrench

Additional mounting hardware (not supplied – see fastening requirements)



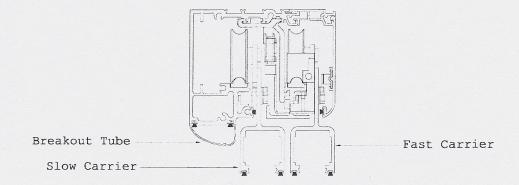
#### Section 6 - Floor and Rough Opening Inspection

- 6.1 Use a level (four foot minimum) to check the floor across the entire opening. You must be aware of any high spot that may interfere with the operation of the door. In addition to checking the floor across the opening, you should check the floor in the direction the door will break out. The floor may not vary more than ¼ inch from the highest to the lowest point. If necessary, have the floor leveled before attempting to install the door system.
- 6.2 The width of the rough opening should be ½ inch wider than the overall width of the door system. The height of the rough opening should be ¼ inch higher than the overall frame height. For standard installations, the overall frame height will be 89 ¾ inches, requiring a rough opening height of 90 inches from the highest point of the floor.

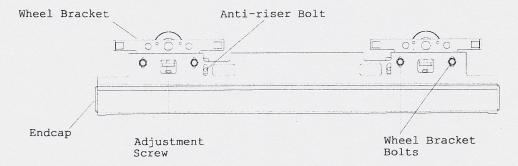


#### Section 7 - Header and Jamb Preparation

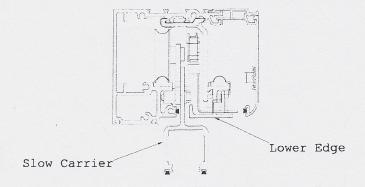
7.1 Remove the breakout tube.



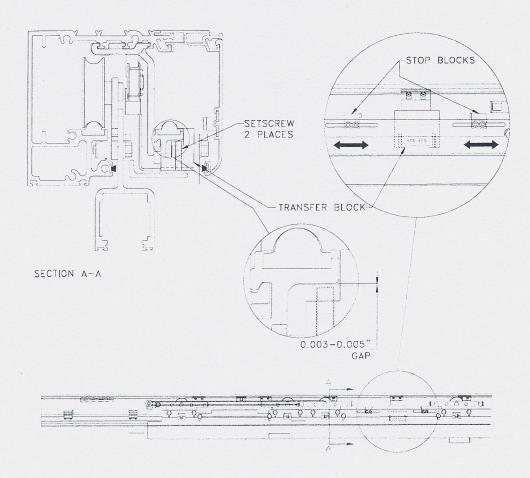
- 7.2 Remove end caps from left side of both carriers.
- 7.3 Remove fast carrier from the header by first loosening wheel bracket bolts. Loosen the anti-riser bolts until the anti-risers are released from the anti-riser bolts. Lift the carrier free of the track and header. Make certain to retrieve the anti-risers from the header.



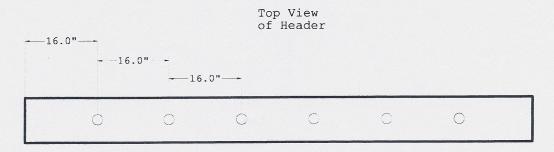
- 7.4 Adjust the carrier height for the slow leaf to its midpoint. To adjust the height of the slow leaf, loosen the wheel bracket bolts and anti-riser bolts. Use a 10mm wrench to turn the adjustment screws on the wheel brackets to move the leaf up or down.
- 7.5 Remove five screws securing lower edge to header and remove the lower edge.



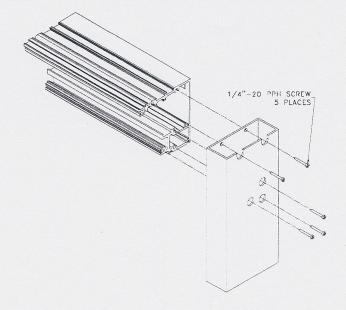
7.6 Adjust the setscrews in the transfer block. The gap between the setscrews and the track should be 0.003" to 0.005" (about the same thickness as a business card). The transfer block should travel across the track without binding or rubbing.



7.7 Drill ¼ inch holes spaced every 16 inches along the centerline in the top of the header. Make sure the area inside the header is clear before drilling holes. These will be needed when installing anchor screws to secure the header to the opening.

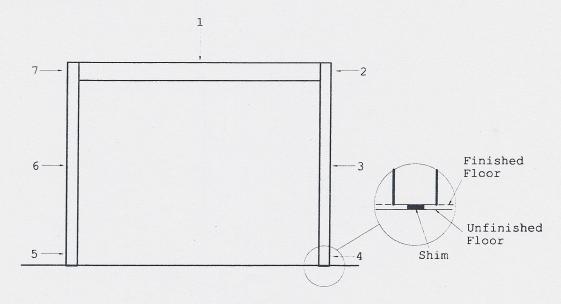


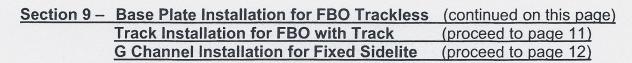
- 7.8 Drill three holes in each jamb tube for the screws needed to secure the jambs to the opening. The holes should be located 3 inches from the bottom of the jamb tube, 45 inches from the bottom of the jamb tube and 1 3/4 inches from the top of the jamb tube. Drill back holes a maximum of ¼ inch. Drill ½ inch holes through the face of the jamb.
- 7.9 After drilling anchor holes in the jambs, attach each jamb to the header.



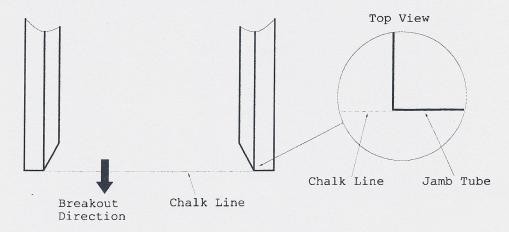
#### Section 8 - Header and Jamb Installation

- 8.1 Stand the header/jamb subassembly into the door opening.
- 8.2 To prevent the assembly from falling, install one screw (1) into the center of the header to secure the header to the opening. Do not tighten the screw.
- 8.3 Check the level of the header. Always place the level along the bottom edge of the header. Level the header by installing shims under the jamb tubes as needed.
- 8.4 If installing doors over an unfinished floor you must take into account the thickness of the flooring that will be installed. Make certain to install the jamb tubes so the bottom of the jamb tubes are at the height of the finished floor (see detail in figure below).
- 8.5 Measure the distance between the inside of the jambs at floor level. Measure the distance between the inside of the jambs at the header. The measurements must be equal.
- 8.6 Make certain the jambs are plumb by placing a level along the jambs. Install shims between the jambs and the rough opening as needed. Install and tighten lower anchor screws (4, 5) and recheck the plumb of both jambs. Recheck level of the header and the distance between the jamb tubes.
- 8.7 Install additional anchor screws (2, 3, 6, 7) and shim as needed.
- 8.8 Install shims above the header as needed to maintain level. Install all screws to secure header to the opening.



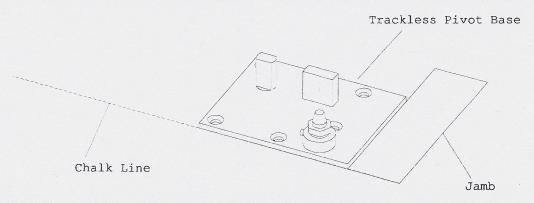


9.1 Snap a chalk line from the inside corners of the jambs.

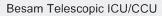


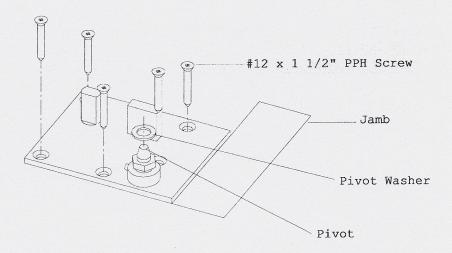
9.2 Place the outside edge of trackless pivot base on the chalk line and the rear edge of the pivot base against the jamb as shown. The chalk line takes precedent when positioning the pivot base because the chalk line represents the line along which the door will travel.

Note: The outside edge of the base plate must be positioned exactly on the chalk line even if the rear edge of the base plate does not rest squarely against the jamb tube.

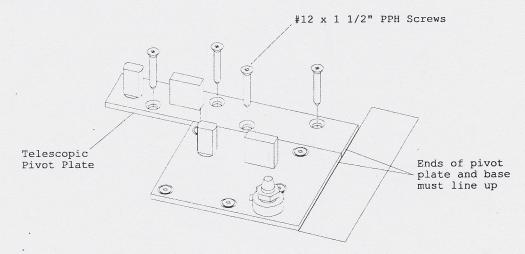


- 9.3 Mark the position of the holes for the pivot base and remove pivot base.
- 9.4 Drill holes for the anchors and install anchors.
- 9.5 Make certain the bottom of the pivot base is at the same height as the bottom of the jamb tube. Shim pivot base as needed.
- 9.6 Secure pivot base to floor with the five screws provided.





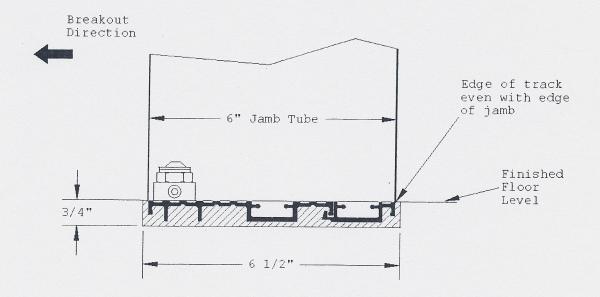
- 9.7 Install pivot washer on pivot.
- 9.8 Place edge of telescopic pivot plate against the edge of the pivot base. The end of the telescopic pivot base must line up with the end of the trackless pivot base. Mark the position of the holes.



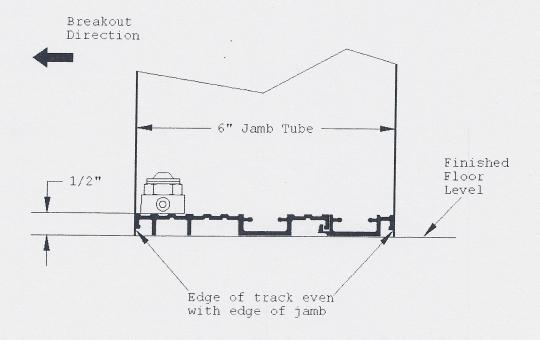
- 9.9 Drill holes for the telescopic pivot plate and install anchors. The bottom of the telescopic pivot plate must be at the same height as the bottom of the jamb tube. Shim telescopic base plate as needed.
- 9.10 Secure telescopic pivot plate to floor with the four screws provided.
- 9.11 Proceed to Section 10.

#### Section 9 - Track Installation for FBO with Track

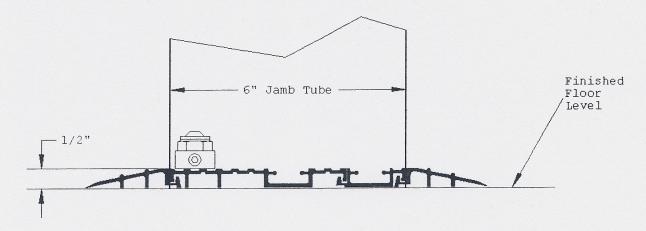
9.12 Recessed track requires a ¾" deep x 6 ½" wide cutout in the floor for grouting. The ends of the track should rest squarely against the jambs with the outside edges of the track even with the edge of the jamb.



9.13 If using surface mounted track, place the track between the jambs so the ends of the track rest squarely against the jambs and the outside edges of the track are even with the edge of the jamb.



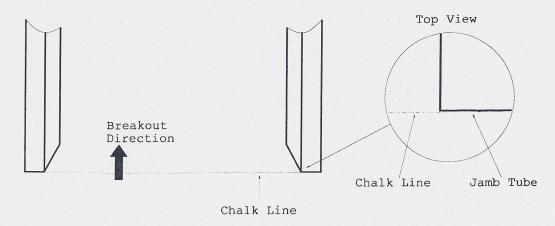
9.14 If your installation includes threshold, make certain to add threshold to track before securing track to floor.



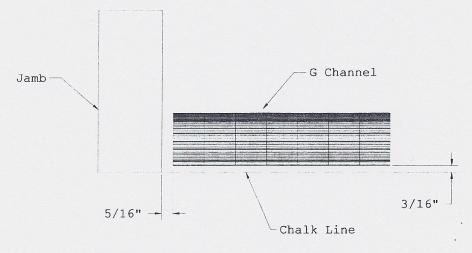
- 9.15 Mark the position of the holes for the track and remove track
- 9.16 Drill holes for the anchors and install anchors.
- 9.17 Make certain the bottom of the track is at the same height as the bottom of the jamb tube. Shim track if needed.
- 9.18 Secure track to floor with the screws provided. All screws must be countersunk and fully tightened to avoid interference with pivot travel.
- 9.19 Proceed to Section 11.

#### Section 9 - G Channel Installation for Fixed Sidelite

9.20 Snap a chalk line from the inside corners of the jambs.



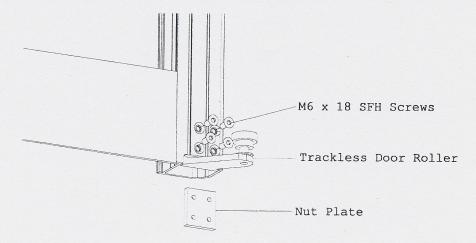
9.21 Place the outside edge of G channel parallel to the chalk line with a 5/8" offset as shown. Place the end of the G channel 5/16" off the jamb as shown.

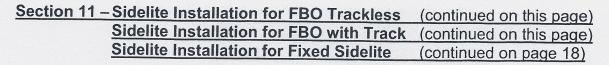


- 9.22 Mark the position of the holes for the G channel and remove G channel
- 9.23 Drill holes for the anchors and install anchors.
- 9.24 Make certain the bottom of the G channel is at the same height as the bottom of the jamb tube. Shim if needed.
- 9.25 Secure G channel to floor with the screws provided. All screws must be countersunk and fully tightened to avoid interference with pivot travel.
- 9.26 Check for proper leveling by measuring from the top of the track to the bottom of the header. Check for the same result at each fastener.
- 9.27 Proceed to Section 11.

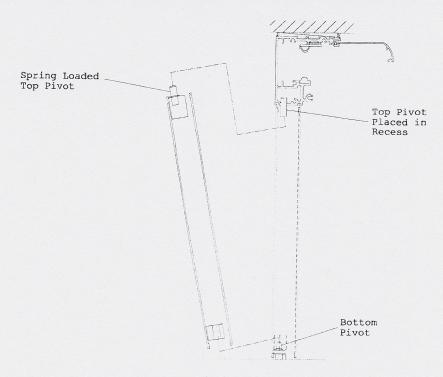
## <u>Section 10 – Sidelite Preparation for FBO Trackless Only</u>

- 10.1 Place trackless door roller and nut plate into the bottom of the nose rail.
- 10.2 Install four screws as shown. Make certain all four screws engage the nut plate and tighten.

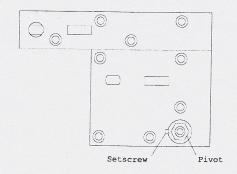




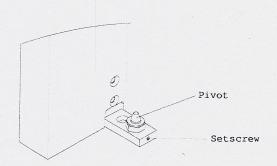
- 11.1 Install bottom of sidelite on bottom pivot with the sidelite positioned as shown.
- Press the top pivot and install the top pivot into the recess in the header.



11.3 Check the distance from the bottom of the sidelite to the floor. It must be 1/8 - 1/16 inches. To adjust the height of the sidelite, lift up on the sidelite (compressing the upper pivot) and lift the bottom of the sidelite off the pivot. The height of the bottom pivot can be changed by loosening the setscrew and then turning the pivot clockwise (to lower) or counterclockwise (to raise) the sidelite.

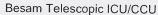


Pivot for FBO Trackless

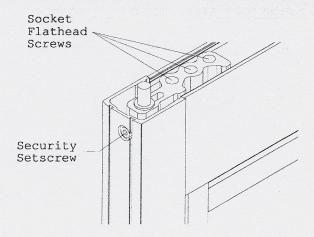


Pivot for FBO with Track

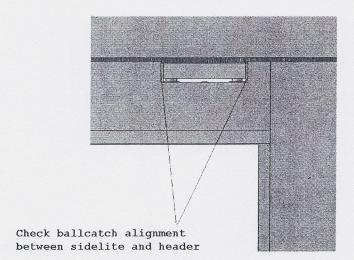
11.4 Check the level of the sidelite by placing a level on the muntin bar.



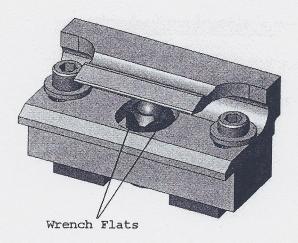
To adjust the level of the sidelite, use a 4mm hex key to loosen three socket flathead screws in the upper pivot and adjust as needed for the door to hang level.



Slowly attempt to close the sidelite to see if the sidelite is level. The gap between the top of the sidelite the header and must be even. Check the alignment of the ball catch between the sidelite and the header. Make certain the ball catch will engage properly.



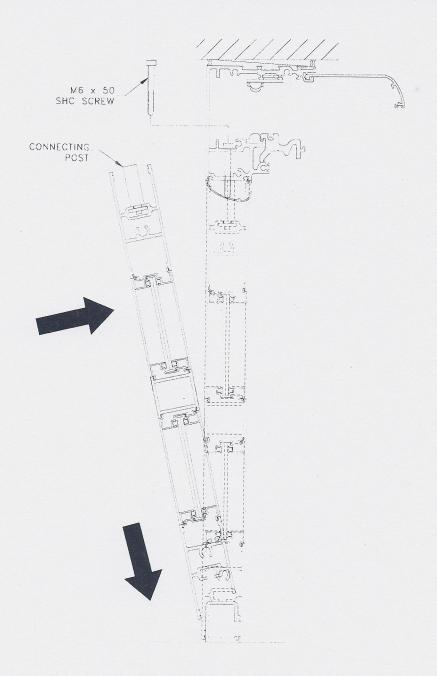
- 11.7 After all adjustments are complete, tighten the security setscrew in the top pivot to lock the pin in place.
- 11.8 The tension for the ball catch and ball detent are adjustable as required by local egress codes. Tension is not to exceed 50 lbs. breakout force. To adjust, use a 10 mm wrench on the wrench flats to turn the detent assembly. To increase the tension on the ball catch, rotate CCW. To decrease the tension, rotate CW.



11.9 If the glass has not been previously installed, you will need to recheck and possibly readjust the height, level and alignment of the sidelite after the glass is installed.

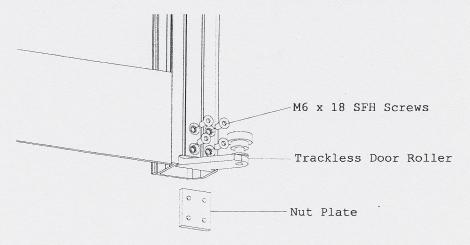
#### Section 11 - Sidelite Installation for Fixed Sidelite

- 11.10 Place sidelite on "G" track and tilt sidelite into place.
- 11.11 Line up the two connecting post in the sidelite with the two holes in the bottom of the header.
- 11.12 Fasten the sidelite to the header by inserting the M6 screws through the header into the connecting post.
- 11.13 Proceed to "Section 13 Slow Leaf Installation for Fixed Sidelite", on page 25

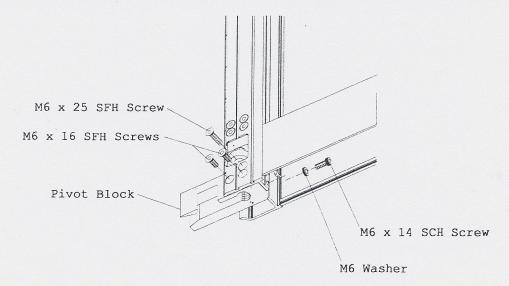


#### Section 12 - Slow Leaf Preparation for FBO Trackless Only

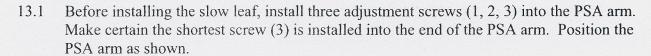
- 12.1 Place trackless door roller and nut plate into the bottom of the nose rail.
- 12.2 Install four screws as shown. Make certain all four screws engage the nut plate and tighten.

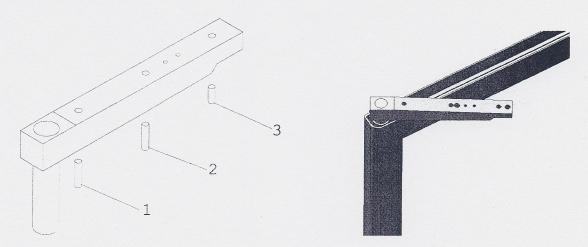


- 12.3 Turn slow leaf over.
- Place pivot block in bottom of slow leaf. To ensure proper alignment of the pivot block, make certain to install the M6 washer and M6 x 14 screw before installing any of the other screws. After fully tightening the M6 x 14 screw, install additional screws and tighten.

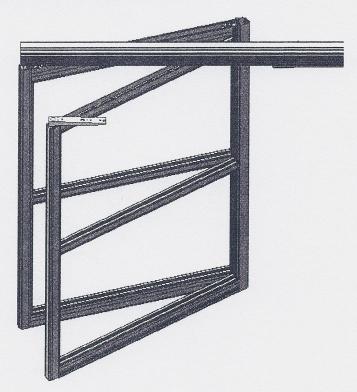


## Section 13 – Slow Leaf Installation for FBO Trackless (continued on this page) Slow Leaf Installation for FBO with Track (continued on this page) Slow Leaf Installation for Fixed Sidelite (continued on page 25)

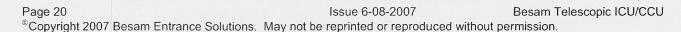




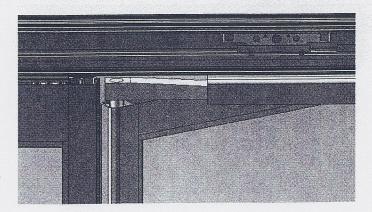
13.2 **FBO Trackless Only**. Holding the slow leaf at the angle shown, place the slow leaf and the sidelite nose-to-nose. The track inside the bottom rail of the slow leaf has a cutout to make it easier to position the slow leaf onto the roller.



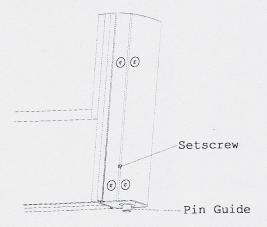
13.3 Slide the slow leaf forward until the PSA arm lines up with the slow leaf carrier



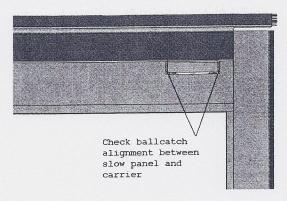
Place the end of the PSA arm into the slow leaf carrier. Continue pulling the slow leaf forward until the PSA arm is pulled completely into the slow leaf carrier.



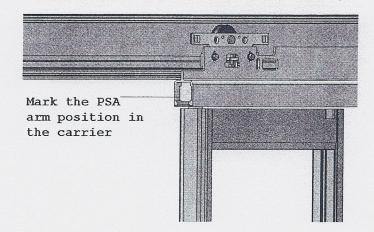
- When the PSA arm is completely in the carrier, the back of the PSA arm should be recessed into the carrier by approximately ½ inch.
- 13.6 **FBO** with Track Only. Loosen the setscrew (which is hidden by the weather stripping), at the pin guide and align so the pin guide falls into the track.



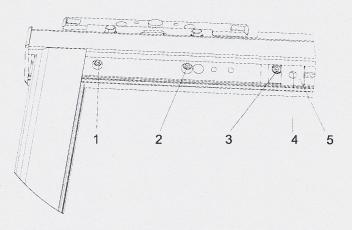
13.7 Slowly attempt to close the door to see if the door is level. Check the alignment of the ball catch between the door and the carrier. Make certain the ball catch will engage properly. Adjust the position of the PSA arm in the carrier if it is needed.



#### 13.8 Mark the position of the PSA arm in the carrier.

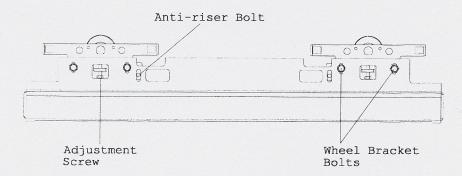


- 13.9 Break the slow leaf out far enough to access the first screw (1) in the PSA arm.
- 13.10 Make certain the rear of the PSA arm is still on the mark make in step 13.8 and tighten the PSA arm screw (1). This screw will act as a pivot point for the PSA arm.
- 13.11 Install screw (4) into the adjustment block (5) and install adjustment block under the PSA arm as shown.

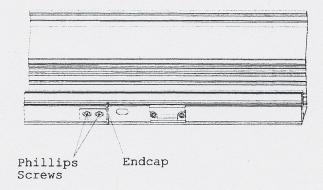


- 13.12 Adjust the vertical adjustment screw (4) to lift the lead edge of the door. Check the level of the door and check the alignment between the ball catch and the ball catch receiver.
- 13.13 **FBO Trackless only**. It is undesirable to have the slow panel dangling loosely over the pivot pin. Adjust the PSA arm so the pivot block applies some weight onto the pivot pin
- 13.14 After completing the adjustment, tighten screws (2 and 3).
- 13.15 Check the level of the slow leaf by placing a level on the muntin bar. Also, check the level from the slow leaf to the sidelite by placing a level across the muntin bars.

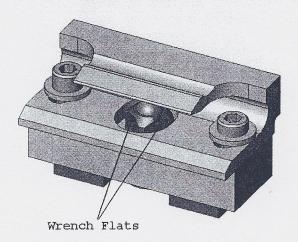
- 13.16 Check the vertical alignment of overlapping rails.
- 13.17 Check the distance from the bottom of the slow leaf to the floor. Must be 1/8-1/16 inches.
- 13.18 To adjust the height of the slow leaf, loosen the wheel bracket bolts and anti-riser bolts. Use a 10mm wrench to turn the adjustment screws on the wheel brackets to move the leaf up or down.



- 13.19 Recheck the level from the slow leaf to the sidelite by placing a level between the muntin bars. Check the vertical alignment of overlapping rails.
- 13.20 To adjust the breakout tube, first slide the slow leaf to the fully open position and attempt to break it out. If the endcap interferes when breaking out the slow moving leaf, loosen screws and adjust the endcap. There should be a gap of approximately 1/8 inch between the endcap and the nose rail of the slow moving leaf. After adjusting the endcap, it may be necessary to trim the end of the breakout tube for a correct fit.



13.21 The tension for the ball catch and ball detent are adjustable as required by local egress codes. Tension is not to exceed 50 lbs. breakout force. To adjust, use a 10 mm wrench on the wrench flats to turn the detent assembly. To increase the tension on the ball catch, rotate CCW. To decrease the tension, rotate CW.

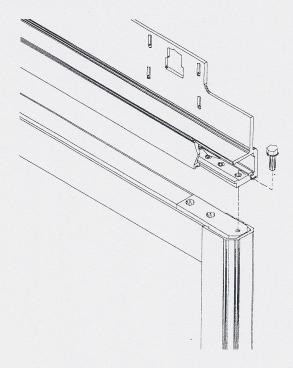


13.22 If the glass has not been previously installed, you will need to recheck and possibly readjust the height, level and alignment of the slow leaf after the glass is installed.



#### Section 13 - Slow Leaf Installation for Fixed Sidelite

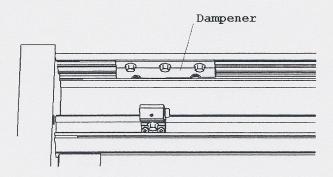
- 13.23 Position the slow leaf so the bottom roller guide wheels can be inserted into the cutout in the bottom horizontal rail of the sidelite.
- 13.24 Position the slow panel under the carrier so the bolt holes in the slow panel line up with the bolt holes in the carrier as shown.



- 13.25 Install one bolt at each end of the carrier to secure the slow leaf to the carrier.
- 13.26 Make certain the lead edge of the slow leaf is flush with the lead edge of the carrier.
- 13.27 Adjust the height of the carriers to the mid-point and tighten the carriage wheel screws.
- 13.28 If the glass has not been previously installed, you will need to recheck and possibly readjust the height, level and alignment of the active leaf after the glass is installed.

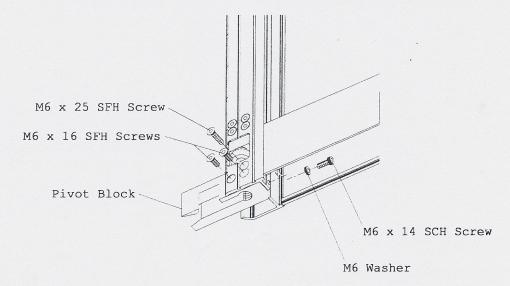
#### Section 14 - Dampener Adjustment for All Models

- 14.1 After all adjustments are complete, slowly slide the slow panel to the full open position and make certain that the slow panel is stopped by the dampener. The dampener is in place to prevent a hard collision between the pivot block and the base plate.
- 14.2 If needed, loosen the three hex screws securing the dampener and adjust the position of the dampener as needed so it will stop the slow panel just before the pivot block engages the pins on the pivot base.



#### Section 15 – Fast Leaf Preparation for FBO Trackless Only

Place pivot block in bottom of door. To ensure proper alignment of the pivot block, make certain to install the M6 washer and M6 x 14 screw before installing any of the other screws. After fully tightening the M6 x 14 screw, install additional screws and tighten.

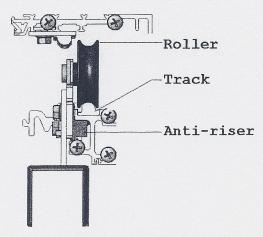




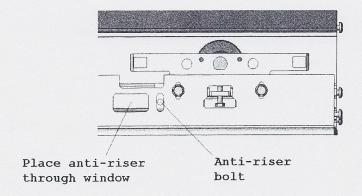


#### Section 16 - Fast Leaf Carrier Installation for All Models

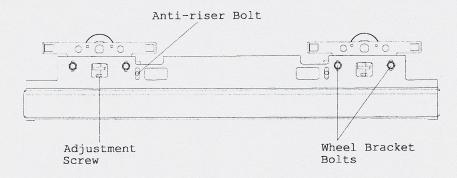
16.1 Place fast leaf carrier so rollers are squarely on the track.



16.2 Place anti-risers through window of the carrier and position in front of the anti-riser bolts. Make certain the anti-risers are positioned so the rollers are firmly against the track (as shown in the figure above) and tighten the anti-riser bolts.

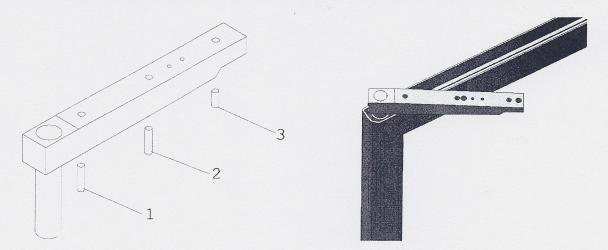


16.3 To adjust the carrier, loosen the wheel brackets bolts and anti-riser bolts. Use a 10mm wrench to turn the adjustment screws on the wheel brackets to move the carrier up or down.

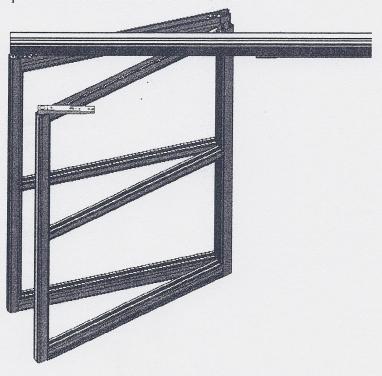


Section 17 – Fast Leaf Installation for FBO Trackless	(continued on this page)
Section 17 – Fast Leaf Installation for FBO with Track	(continued on this page)
Section 17 – Fast Leaf Installation for Fixed Sidelite	(continued on page 30)

17.1 Install three adjustment screws (1, 2, 3) into the PSA arm. Make certain the shortest screw (3) is installed into the end of the PSA arm. Position the PSA arm of the fast leaf as shown.

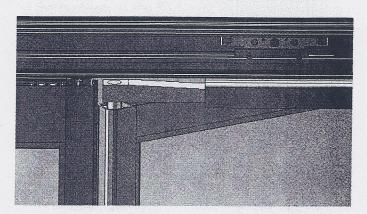


- 17.2 **FBO Trackless Only**. Slide the slow leaf half closed. Break out the slow leaf (the breakout tube should have been removed in Section 7), approximately 20 degrees.
- 17.3 **FBO Trackless Only**. Holding the fast leaf at the angle shown, place the fast leaf and the slow leaf nose-to-nose. The track inside the bottom rail of the fast leaf has a cutout to make it easier to position the fast leaf onto the roller.

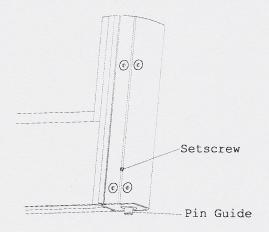




- 17.4 Slide the fast leaf forward until the PSA arm lines up with the fast leaf carrier.
- 17.5 Place the end of the PSA arm into the fast leaf carrier. Continue pulling the fast leaf forward until the PSA arm is pulled completely into the fast leaf carrier.



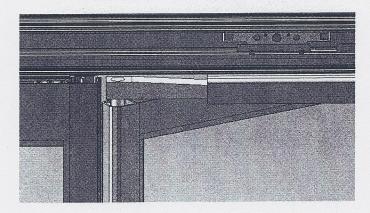
- When the PSA arm is completely in the carrier, the back of the PSA arm should be recessed into the carrier by approximately ½ inch.
- 17.7 **FBO with Track Only**. Loosen the setscrew (which is hidden by the weather stripping), at the pin guide and align so the pin guide falls into the track.



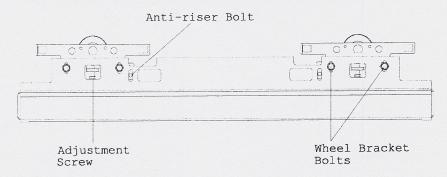
17.8 Proceed to "Section 18 - Fast Leaf Adjustment".

#### Section 17 – Fast Leaf Installation for Fixed Sidelite Only

- Position the fast leaf so the bottom roller guide wheels can be inserted into the cutout in the 17.9 bottom horizontal rail of the slow leaf.
- 17.10 Slide the fast leaf forward until the PSA arm lines up with the fast leaf carrier.
- 17.11 Place the end of the PSA arm into the fast leaf carrier. Continue pulling the fast leaf forward until the PSA arm is pulled completely into the fast leaf carrier.



- 17.12 When the PSA arm is completely in the carrier, the back of the PSA arm should be recessed into the carrier by approximately ½ inch.
- 17.13 To adjust the height of the fast leaf, loosen the wheel bracket bolts and anti-riser bolts. Use a 10mm wrench to turn the adjustment screws on the wheel brackets to move the leaf up or down. Adjust the fast leaf up so the roller guide is inside the slow moving leaf and moves freely without binding on the floor or the bottom of the door.



17.14 Proceed to "Section 18 - Fast Leaf Adjustment".

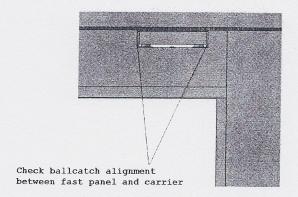


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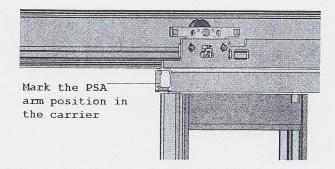
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#### Section 18 - Fast Leaf Adjustment for All Models

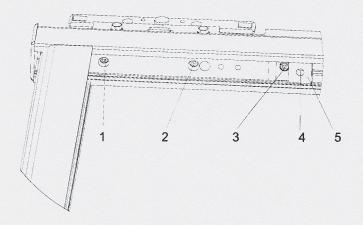
18.1 Slowly attempt to close the door to see if the door is level. Check the alignment of the ball catch between the fast panel and the carrier. Make certain the ball catch will engage properly. Adjust the position of the PSA arm in the carrier if it is needed.



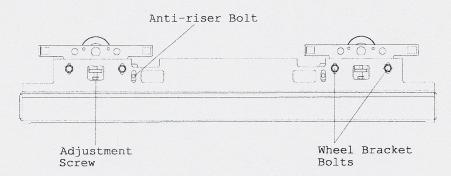
18.2 Mark the position of the PSA arm in the carrier.



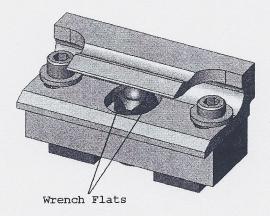
- 18.3 Break the fast panel out enough to access the first screw (1) in the PSA arm.
- 18.4 Make certain the rear of the PSA arm is still on the mark made in step 18.2 and tighten the PSA arm screw (1). This screw will act as a pivot point for the PSA arm.
- 18.5 Install screw (4) into the adjustment block (5) and install adjustment block under the PSA arm as shown.



- 18.6 Adjust the vertical adjustment screw (4) to lift the lead edge of the door. Check the level of the door as shown and check the alignment between the ball catch and the ball catch receiver.
- 18.7 After completing the adjustment, tighten screws (2 and 3).
- 18.8 Check the level of the fast leaf by placing a level on the muntin bar.
- 18.9 Check the distance from the bottom of the fast leaf to the floor. Must be 1/8-1/16 inches.
- 18.10 To adjust the height of the fast leaf, loosen the wheel bracket bolts and anti-riser bolts. Use a 10mm wrench to turn the adjustment screws on the wheel brackets to move the leaf up or down.

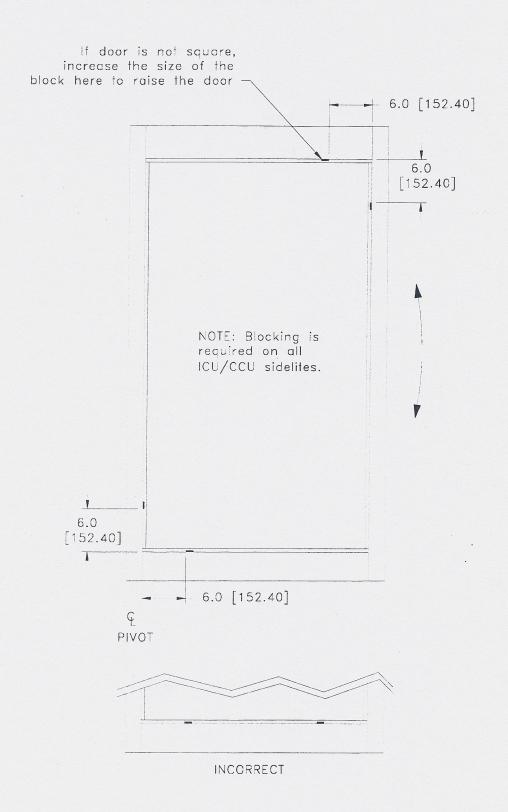


18.11 The tension for the ball catch and ball detent are adjustable as required by local egress codes. Tension is not to exceed 50 lbs. breakout force. To adjust, use a 10 mm wrench on the wrench flats to turn the detent assembly. To increase the tension on the ball catch, rotate CCW. To decrease the tension, rotate CW.

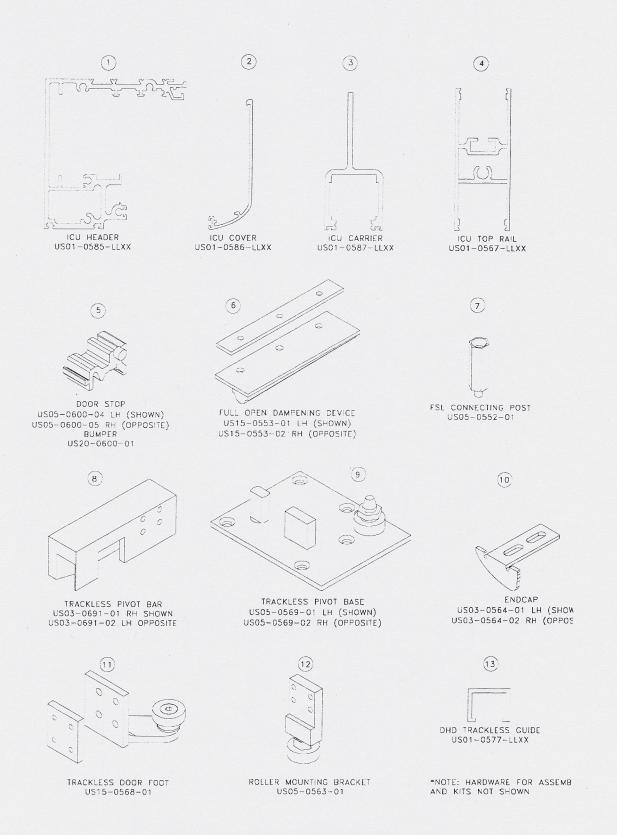


18.12 If the glass has not been previously installed, you will need to recheck and possibly readjust the height, level and alignment of the fast leaf after the glass is installed.

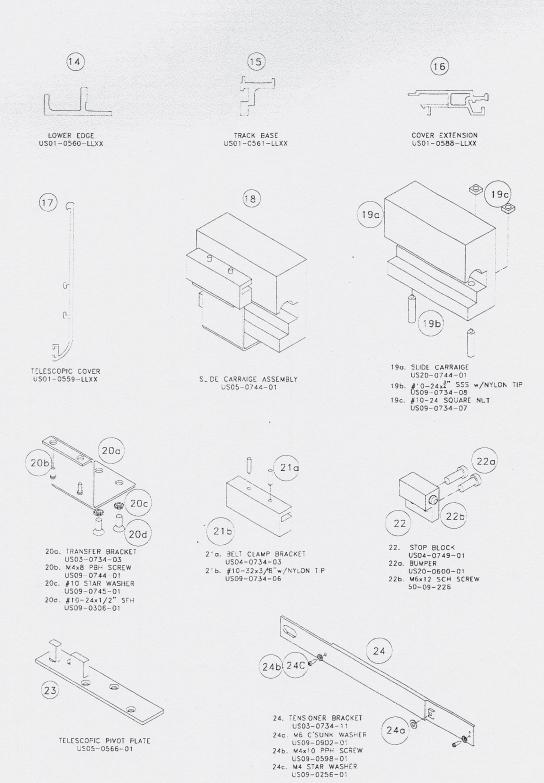
#### Section 19 - Glazing and Blocking for All Models

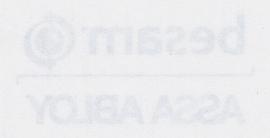


### Appendix A – Parts Identification



## Appendix A – Parts Identification





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