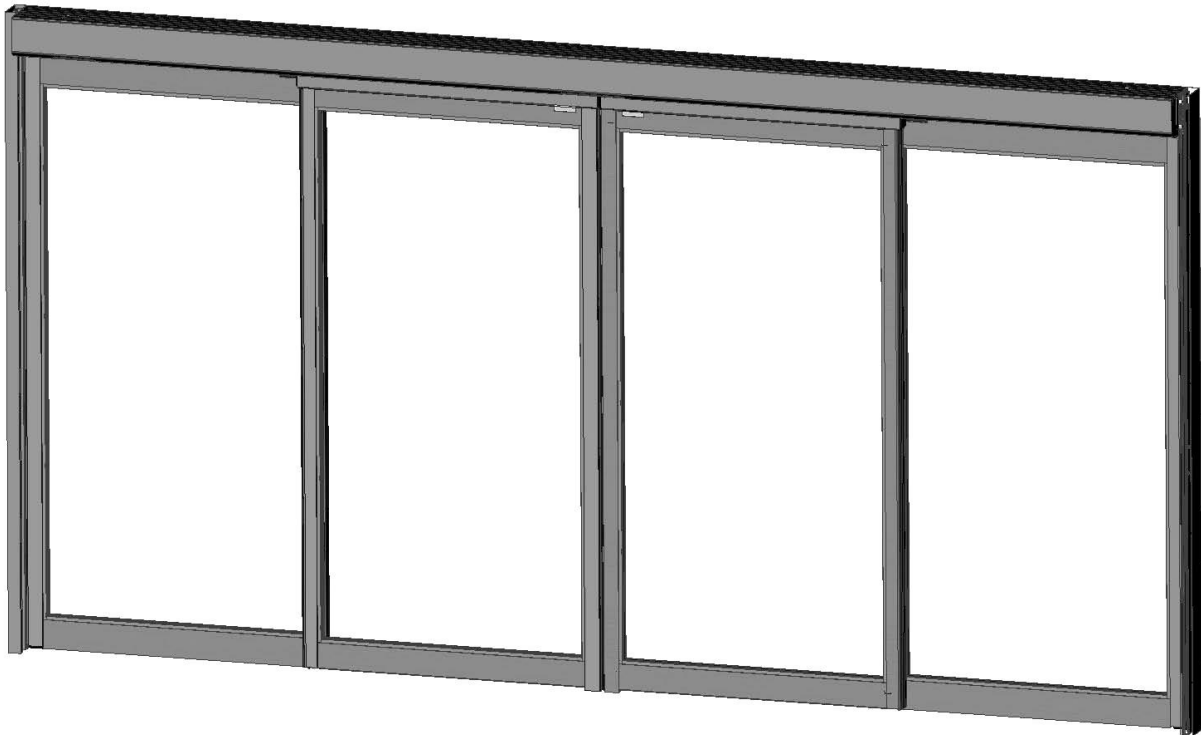




ASSA ABLOY

Besam UniSlide™ PL

Installation and Adjustment Manual



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CAUTION

Improperly adjusted doors can cause injury and/or equipment damage.

Inspect door operation daily using safety checklist in Owner's Manual.

Have door adjusted as described in Owner's Manual.

Safety devices must be in place and operational.

Have door inspected at least once a year by an AAADM inspector, and always after any adjust or repair.

In this manual, the word:

CAUTION - Means that personal injury or property damage can result from failure to follow instructions.

NOTE! - Means that there is additional helpful information directly relevant to the subject matter.

Revisions

The following pages have been revised:

Page	Revision
Title	New release date and updated revision level to Rev G
50	Added PSA Arm Adjustment
52	Updated graphic; Manual Lock System Adjustment and Re-Keying
-----	Title page and all footers updated with new release date and Revision level to G

Table of Contents

Revisions	3
Important Information	9
Important Notice!	9
Radio and Television Reception	9
Environmental Requirements	9
Introduction	10
Technical Specifications.....	11
Design & Function Description	12
Design	12
Function	12
Opening	12
Closing	12
Safety Functions Integrated in the Operator	12
Microprocessor for Precise Control	12
Emergency Escape	12
Safety sensors	13
Models	13
Part Identification & Options	14
Active Leaf Panic Break-Out System.....	15
Sidelites Fixed and Break-Out.....	16
Bottom Guide Systems.....	17
Various Options	18
Space Required.....	19
Pre-Installation Questions	20
General Tips / Safety Concerns.....	20
Installation Overview.....	21
Installation Examples.....	22
Concealed	22
Surface Applied	23
Surface Applied	24
Pre-Installation Requirements.....	25
Fastening Requirements	25
Test Equipment.....	25
Tools required.....	25
Site Inspection	26
Installation and Adjustment Processes.....	27
Surface Applied Mechanical Installation.....	27
Overhead Concealed Mechanical Installation	31
Checking – Marking Out – Fastening.....	31
Leveling Header and Jambs.....	34
Fitting the Floor Guide Track.....	36
Fixed Sidelite Installation Procedure.....	38
Full Break-Out Sidelite Installation Procedure.....	39
Setting the Active Leaf Roller Guide Pivot (Fixed Sidelite)	40
Hanging the Active Door Leaves (Full Break-Out).....	41
Setting the Active Leaf Pin Guide Pivot (Full Break-Out)	43
Height Adjustment.....	44

Attachment of Tooth Belt Fittings	45
Bi-parting operators	45
Single-sliding operators.....	45
Adjustment of the Leading Edge (to Avoid Finger Traps).....	46
Checking and Adjusting the Belt Tension	47
Interlocks for FBO Units	48
Adjusting Ball Catch.....	49
PSA Arm Adjustment.....	50
FSL Break-Out Switch Adjustment.....	51
Manual Lock System Adjustment and Re-Keying.....	52
Installing/Removing the Cover	53
Transom	55
Electrical Connections.....	55
Installation	55
Main Power Connection	56
Control Unit Assemblies.....	56
Standard Units Connection Contacts.....	56
Terminal Block for Connection Accessories	57
Program Selector Wiring Options (PS Accessory Board).....	57
FS Function Selector	58
Potentiometers and Learn Button.....	58
Connection of Program Selectors.....	59
Connection of Activation Units	60
Extension Units.....	61
Fitting the Extension Units EXU-1 or EXU-3 to Control Unit CU	61
Extension Unit, EXU-1.....	62
Extension Unit, EXU-3.....	62
Convenience Battery UPS (Stand-By Supply)	63
Start-Up.....	64
Program Selectors	65
Program Selectors and Functions	65
Signage	66
Troubleshooting	67
Mechanical Checking and Remedies.....	67
LED Indication Error Codes.....	68
LED Indication.....	69
Sensor Error	69
Emergency Unit Error	69
CU Error.....	70
Motor / Encoder Error	71
Lock Error	71
Motor Temperature High.....	71
After Remedy or Replacement the Operator Has to Be Checked as Follows.....	71
ANSI / BHMA A156.10.....	72
Maintenance/Service	74
Planned Maintenance Checklist	74
Door Handing & Layout	76
Door Handing (Automatic Door Industry)	76

Glazing and Blocking.....77

Important Information



Important Notice!

WARNING!

To reduce the risk of personal injury, all instruction and installation of safety equipment must be performed in accordance to ANSI A156.10 for pedestrian usage.

Radio and Television Reception

Electronic Equipment Reception Interference

This equipment may generate and use radio frequency energy and if not installed and used properly, that is, in strict accordance with the manufacturer's instructions, it may cause interference to radio, television reception or other radio frequency type systems. It has been designed to comply with the emission limits in accordance with EN 61000-6-3 (US market FCC Part 15), which are designed to provide reasonable protection against such interference in a residential installation.

However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Re-orient the receiving antenna.
- Relocate the receiver with respect to the equipment.
- Move the receiver away from the equipment.
- Plug the receiver into a different outlet so that equipment and receiver are on different branch circuits.
- Check that protective earth (PE) is connected.

If necessary, the user should consult the dealer or an experienced electronic technician for additional suggestions.

Environmental Requirements

Please act according to your local regulations and dispose of your old product(s) and packaging properly. The correct disposal will help prevent potential negative consequences for the environment and human health.

Besam products are equipped with electronics and may also be equipped with batteries containing materials, which are hazardous to the environment. Remove this material from the operator before it is scrapped and make sure that it is disposed of safely along with the packaging.

According to European Directives and equivalent national legislation outside of the European Union, the following are the responsibility of the owner or caretaker of the equipment - that the equipment operates correctly, that regular inspection and maintenance and service is made, so that it gives sufficient protection in regard to safety and health.

Introduction

This manual contains the necessary details and instructions for the installation, maintenance and service of the sliding door operator, Besam UniSlide.

The Besam UniSlide is designed for an overhead-concealed installation between two vertical jambs or surface applied. The header holds the drive and control units and supports the sliding doors, Sidelites and transom above the operator, if required.

A Besam UniSlide operator ensures all-around safety. It can be combined with the full range of Besam safety units, such as presence and motion detector. It is easy to install for both new construction and retrofit application and can be adapted to a wide range of overhead concealed or surface applied installations.

Technical Specifications

Mains Power Supply	100 V AC -15% to 240 V AC +10% 50/60 Hz, 3 Amp Note! Switch with clearly marked off position, having a contact separation of at least 3 mm (1/8") in all poles, must be incorporated in the mains wiring.
Power Consumption	Max. 250 W
Auxiliary Voltage	24 V DC, 0.64 Amp (640 mA)
Control Unit Fuse	6.3 Amp (6,3 AT)
Recommended Max. Door Weight	Bi-parting UniSlide-2 100 kg/leaf (220 lb./leaf) Single Slide UniSlide-R/L 100 kg (330 lb.)
Clear Opening	Bi-parting UniSlide-2: 900 – 2400 mm (35.5" – 94.5") [Optional up to 2800 mm (110")] Single Slide UniSlide-R/L: 900 – 2000 mm (35.5" – 78.5") [Optional up to 2800 mm (110")]
*Opening and Closing Speed	Bi-parting (UniSlide -2) variable up to approx. 1.4 m/s (4.5 ft/sec.)
*Hold Open Time	0-60 seconds
Ambient Temperature	-20°C to +50°C (-4°F to 122°F) [-35°C to +50°C (-31°F to 122°F) with silicone belt]
Relative Humidity (Non-condensing)	5%-85%

To be installed internally or with suitable weather protection externally.

* To be adjusted to comply with ANSI/BHMA A156.10.

Note that local codes may vary.

Note!

The glazing material of all doors shall comply with the requirements in the American National Standard Performance Specification and Methods of Test for Safety Glazing Material Used in Buildings, Z97.1-1975.

Design & Function Description

Design

The sliding door operator Besam UniSlide works electro-mechanically. The motor, control unit, transmission – and optional emergency unit and electromechanical locking device – are all assembled in a support beam with integrated cover. The motor and gearbox transmit movement to the door leaves by means of a tooth belt. The door leaf is attached to a door adapter/carriage wheel fitting and hangs on a sliding track. The guiding at the bottom is carried out by means of floor guides. (Full Break-Out) or Side Panel Guides (Fixed Sidelites)

Function

Opening

When an opening impulse is received by the control unit, the motor starts and transmits movement to the door leaves, which move to open position.

Closing

The closing starts when the “opening impulse” and the “hold open time” has timed out.

Safety Functions Integrated in the Operator

To permit safe passage between closing doors, the doors immediately reverse to the open position if an obstruction is detected, then resume their interrupted movement at low speed to check whether the obstruction has disappeared or not. If an obstruction is detected between opening doors and surrounding walls or interior fittings, the doors immediately stop and then close after a time delay.

Microprocessor for Precise Control

The microprocessor has an integral self-monitoring device that detects most interference or faulty signals in door operation. If an input signal does not correspond to the preprogramming, the microprocessor automatically takes necessary measures to ensure a safe operation.

Emergency Escape

The Besam UniSlide can be combined with an emergency unit that automatically opens or closes¹ the doors in the event of a power failure and can be interfaced with a fire alarm or smoke detector.

Safety is further reinforced by incorporating a panic fitting. This enables the doors and/or sidelites, by applying light pressure, to be swung outwards in an emergency.

¹ Electronic emergency unit only

Safety sensors

Safety sensors must be installed per ANSI A156.10 Standards for Power Operated Pedestrian Applications.

Models

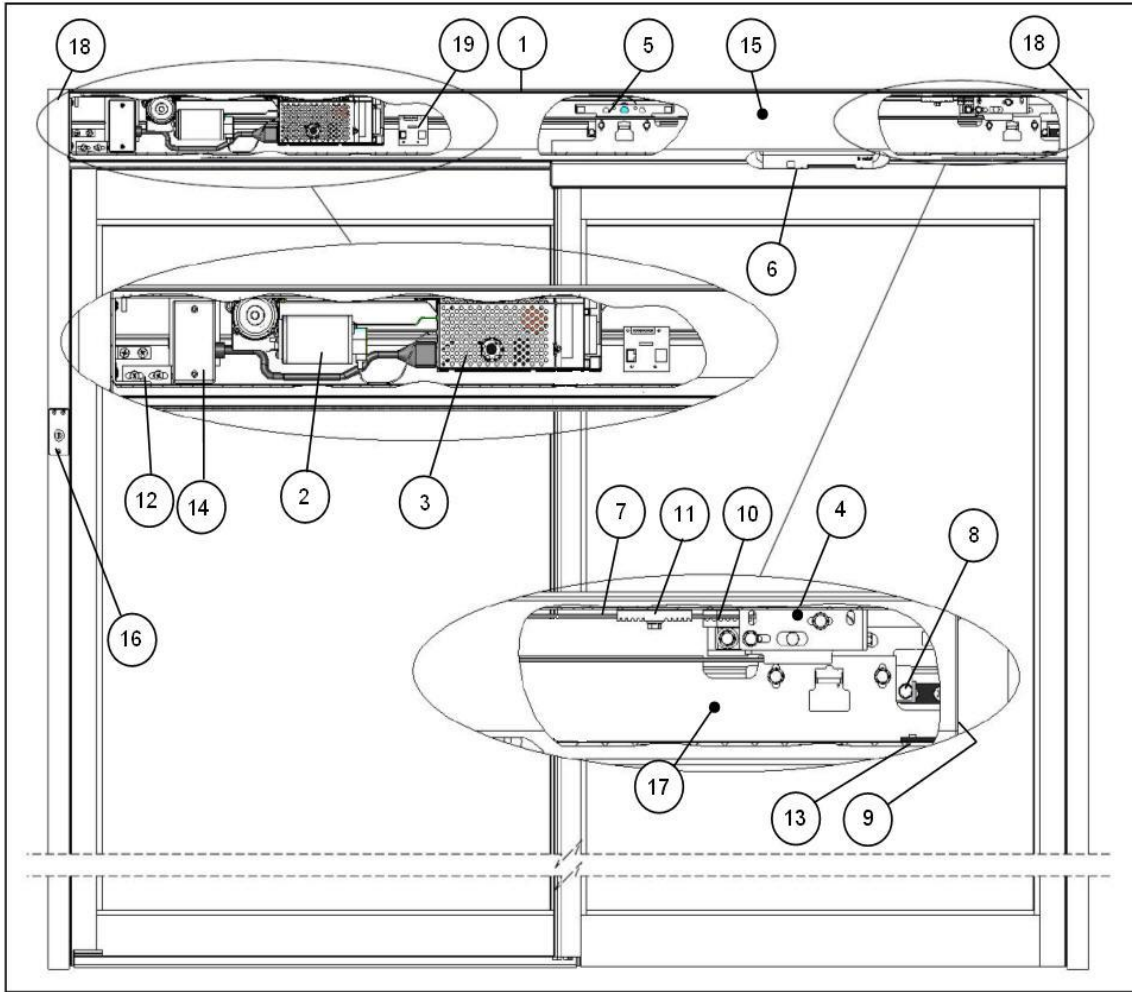
Besam provides several layouts for the UniSlide sliding door system. Operators can be bi-parting or single slide (left or right handed) and sidelites may be installed fixed to the interior or hinged to Break-out in emergencies. (See illustrations of various layouts in the [Installation Examples](#) Section.)

All UniSlide systems are ready for installation when delivered. The sidelites and active leaves are fully prepared and all hardware is installed. Operators are supplied with all mounting hardware, and rivnuts have been installed in the side jambs.

Before installing the UniSlide system, check to see that you have been supplied the correct equipment and that, all necessary tools and hardware are at hand. Also, check the installation site for any factors that might interfere with proper installation. (See [Installation Examples](#) section.)

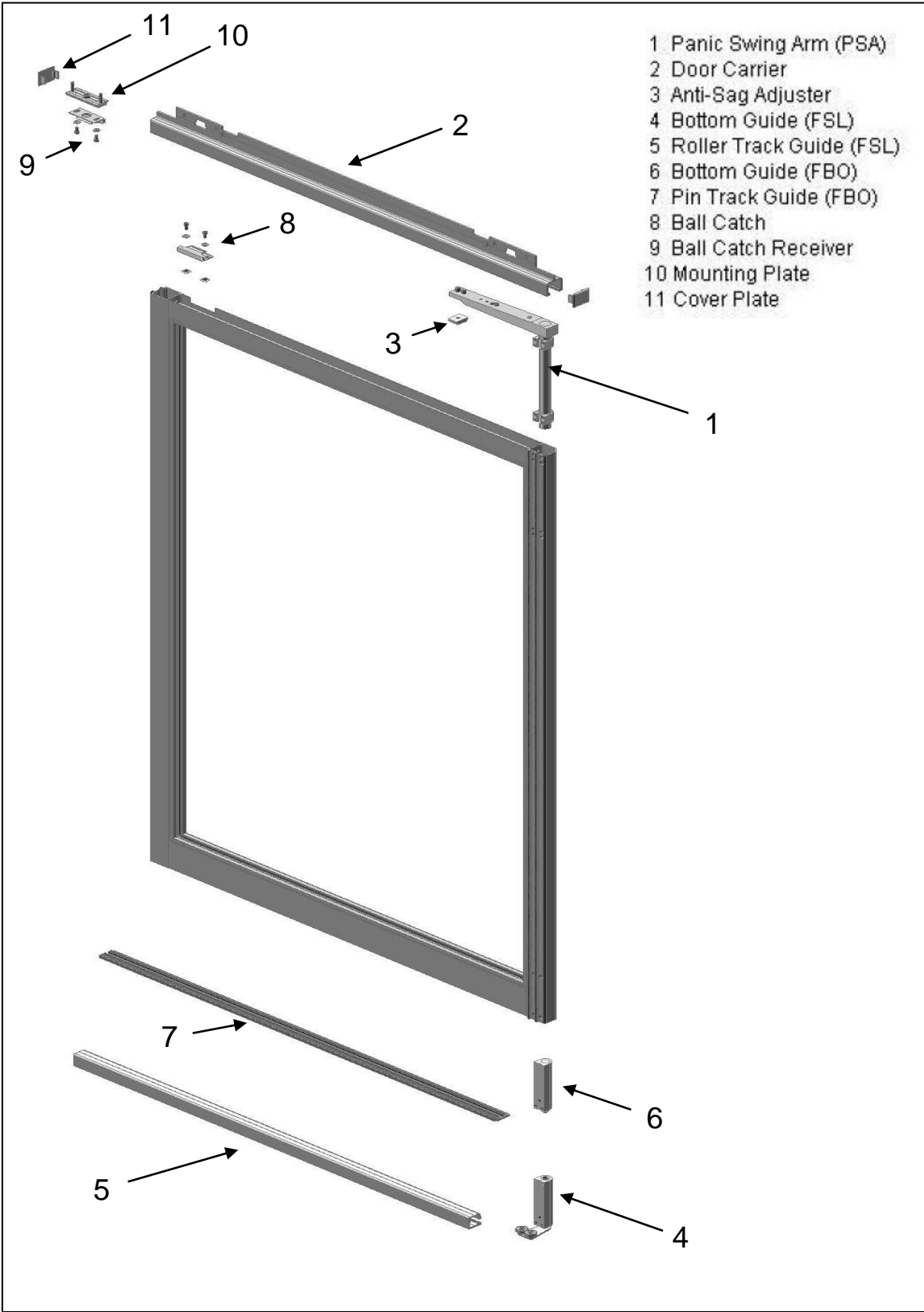
Naming Conventions				Explanation																																	
Unislide OC S-R FSL	length height finish	overhead concealed,	standard,	single slide right hand, fixed sidelight																																	
Unislide OC S-R FBO	length height finish	overhead concealed,	standard,	single slide right hand, full break out																																	
Unislide OC S-L FSL	length height finish	overhead concealed,	standard,	single slide left hand, fixed sidelight																																	
Unislide OC S-L FBO	length height finish	overhead concealed,	standard,	single slide left hand, full break out																																	
Unislide OC S-B FSL	length height finish	overhead concealed,	standard,	bi-part, fixed sidelight																																	
Unislide OC S-B FBO	length height finish	overhead concealed,	standard,	bi-part, full break out																																	
Notes!																																					
Length and height is specified in inches and fractions of an inch after the dash - based on the following list. 0/8" = - 00; 1/8" = - 18; 1/4" = - 14; 3/8" = - 38; 1/2" = - 12; 5/8" = - 58; 3/4" = - 75; 7/8" = - 78;																																					
Finish is specified by the following list CL = Clear Anodize; DB = Dark Bronze Anodize SP = Special (May consist of Wet Process, Powder Coat or Cladding)																																					
<table border="1"> <thead> <tr> <th>Bi-Part FBO Model No.</th> <th>COW</th> <th>FW</th> <th>DW</th> </tr> </thead> <tbody> <tr> <td>Unislide OC S-B FBO 96.0</td> <td>36"</td> <td>96"</td> <td>24-3/8"</td> </tr> <tr> <td>Unislide OC S-B FBO 120.0</td> <td>48"</td> <td>120"</td> <td>30-3/8"</td> </tr> <tr> <td>Unislide OC S-B FBO 144.0</td> <td>60"</td> <td>144"</td> <td>36-3/8"</td> </tr> <tr> <td>Unislide OC S-B FBO 168.0</td> <td>72"</td> <td>168"</td> <td>42-3/8"</td> </tr> <tr> <td>Key:</td> <td>(FW/2) - 12"</td> <td>ROW - 1/2"</td> <td>(FW/4)+3/8"</td> </tr> </tbody> </table>		Bi-Part FBO Model No.	COW	FW	DW	Unislide OC S-B FBO 96.0	36"	96"	24-3/8"	Unislide OC S-B FBO 120.0	48"	120"	30-3/8"	Unislide OC S-B FBO 144.0	60"	144"	36-3/8"	Unislide OC S-B FBO 168.0	72"	168"	42-3/8"	Key:	(FW/2) - 12"	ROW - 1/2"	(FW/4)+3/8"	<p>Unislide, bi-parting doors</p>											
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		<p>Unislide L, single-sliding door, left-opening</p>																																			
<p>Note: Charts are for narrow stile doors with 1/4" glazing. Wider stiles or thicker glazing will reduce the COW dimension accordingly.</p> <table border="0"> <tr> <td>FW = Frame width</td> <td>COW = Clear opening width/Net opening</td> </tr> <tr> <td>SW = Sidelite width</td> <td>ROW = Rough opening width</td> </tr> <tr> <td>DW = Door leaf width</td> <td></td> </tr> </table>						FW = Frame width	COW = Clear opening width/Net opening	SW = Sidelite width	ROW = Rough opening width	DW = Door leaf width																											
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SW = Sidelite width	ROW = Rough opening width																																				
DW = Door leaf width																																					

Part Identification & Options



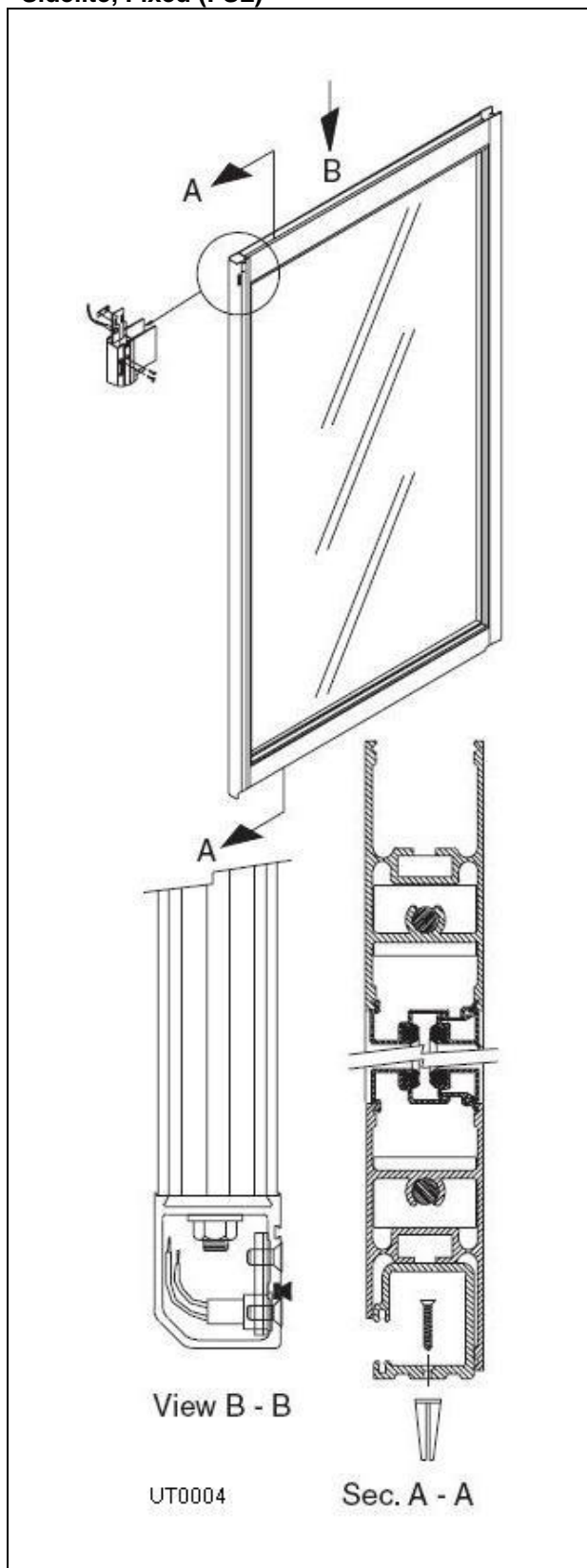
Part Id	Assembly Name	Part Id	Assembly Name
1	Support Beam	11	Belt Joining Clamp
2	Drive Unit	12	Door Stop
3	Control Unit	13	Cover Lock
4	Tension Wheel	14	Connection Box
5	Carriage Wheel Bracket	15	Cover
6	Concealed Sensor (Option)	16	Program Selector
7	Tooth Belt	17	Door Carrier
8	Anti-Riser	18	Cable Inlet
9	End Plate	19	Resistor PCB
10	Tooth Belt Fitting		

Active Leaf Panic Break-Out System

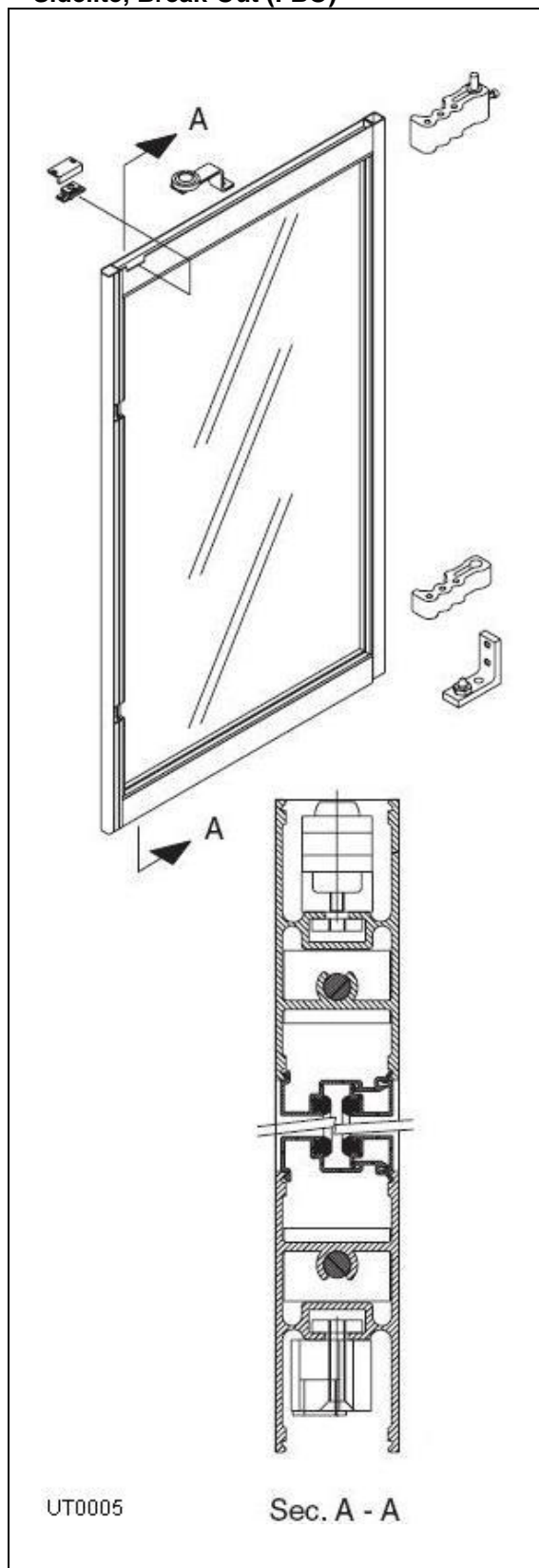


Sidelites Fixed and Break-Out

Sidelite, Fixed (FSL)



Sidelite, Break-Out (FBO)



Bottom Guide Systems

Three basic guide systems are available:

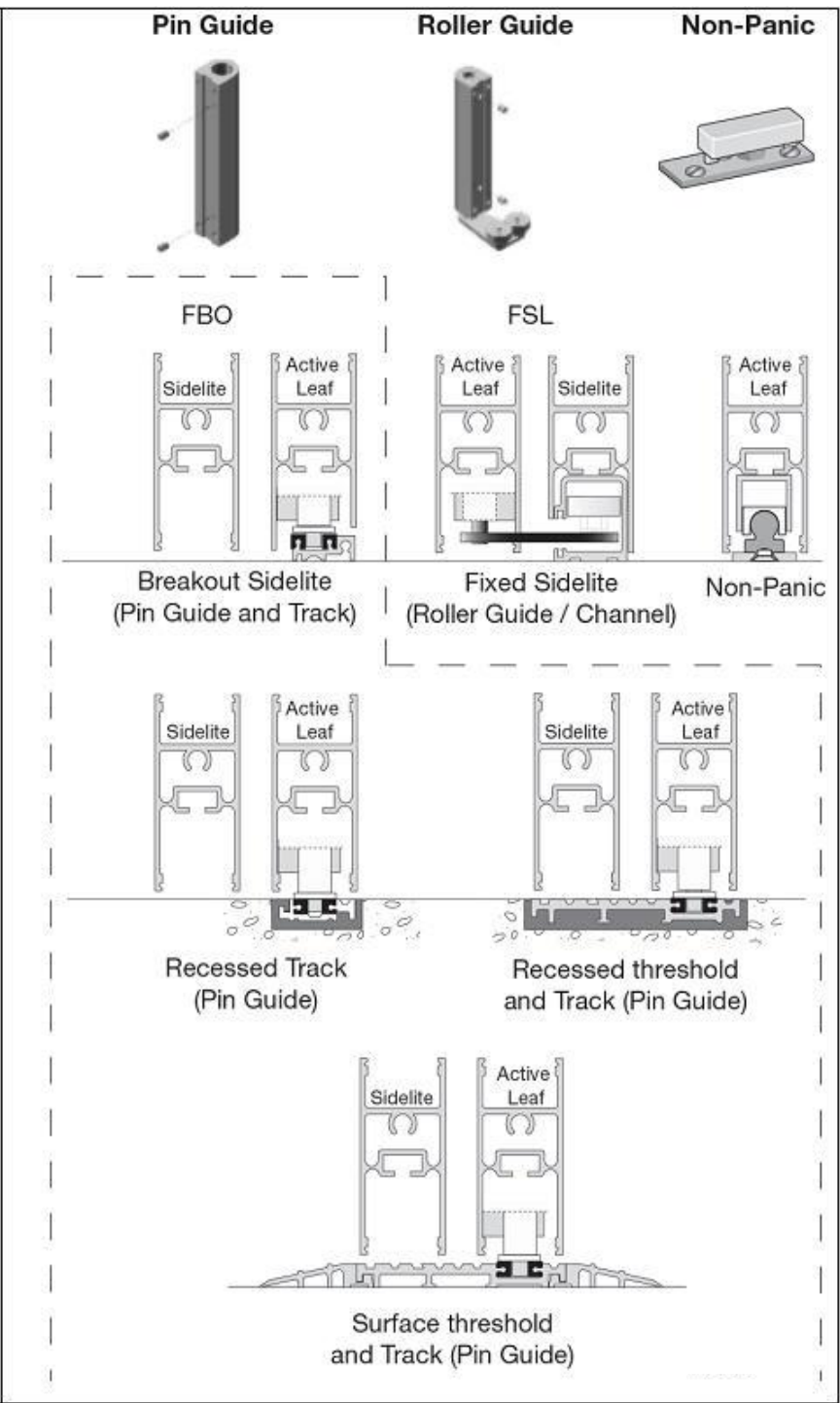
- The standard pin guide
- (FBO, or Full Break Out) with guide track
- The roller guide (FSL, or Fixed Sidelite) with fixed sidelite track
- The non-panic floor guide
-
- The FBO pin guide has several options for guide tracks, including:
- Recessed track (flush with floor level)
- Recessed threshold and surface threshold

See [Installation Requirements](#) section for guide installation.

Pin Guide
P/N: US15-0435-01

Roller Guide
P/N: US15-0644-03

Non-Panic Floor Guide
P/N: 50-15-015

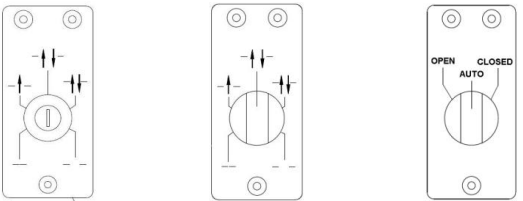


Various Options

Push button PB
 Art. No. 600134
 See installation drawing 656005

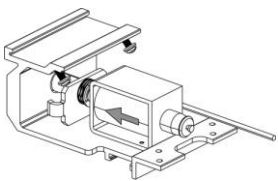


Program Selectors

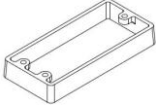


5 Pos Switch (Key) US15-1500-06
5 Pos Switch (Knob) US15-1500-04
3 Pos Switch (Knob) US15-1500-05

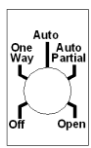
Electromechanical Lock LDP
 Fail Safe (Locked with power)
 Art. No. 550516



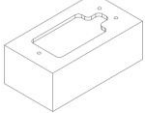
Spacer
 US15-1500-03 Spacer Kit, Switch also part of Kit US15-1500-06 5 Pos Key Sw Kit



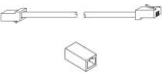
Vinyl Decal
 US24-1500-51 Vinyl Decal, obtained with kits US15-1500-04 (5 Pos Knob Sw Kit) and US15-1500-06 (5 Pos Key Sw Kit)



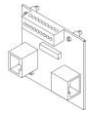
Optional Remote Box
 US15-1500-07 Remote Switch Box Kit, also contains US15-1500-02 PS Extension Kit (8ft Cable RJ45 & Cable Coupler)



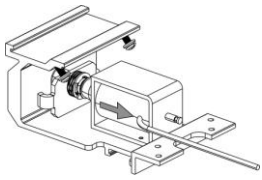
PS Extension Kit
 US15-1500-02 PS Extension Kit (8ft Cable RJ45 & Cable Coupler)



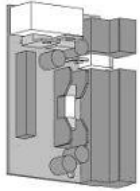
PS Accessory Board
 US15-1500-01 PS Accessory Board Kit



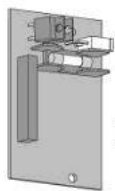
Electromechanical Lock LD
 Fail Secure (Locked without power)
 Art. No. 550494



EXU-1



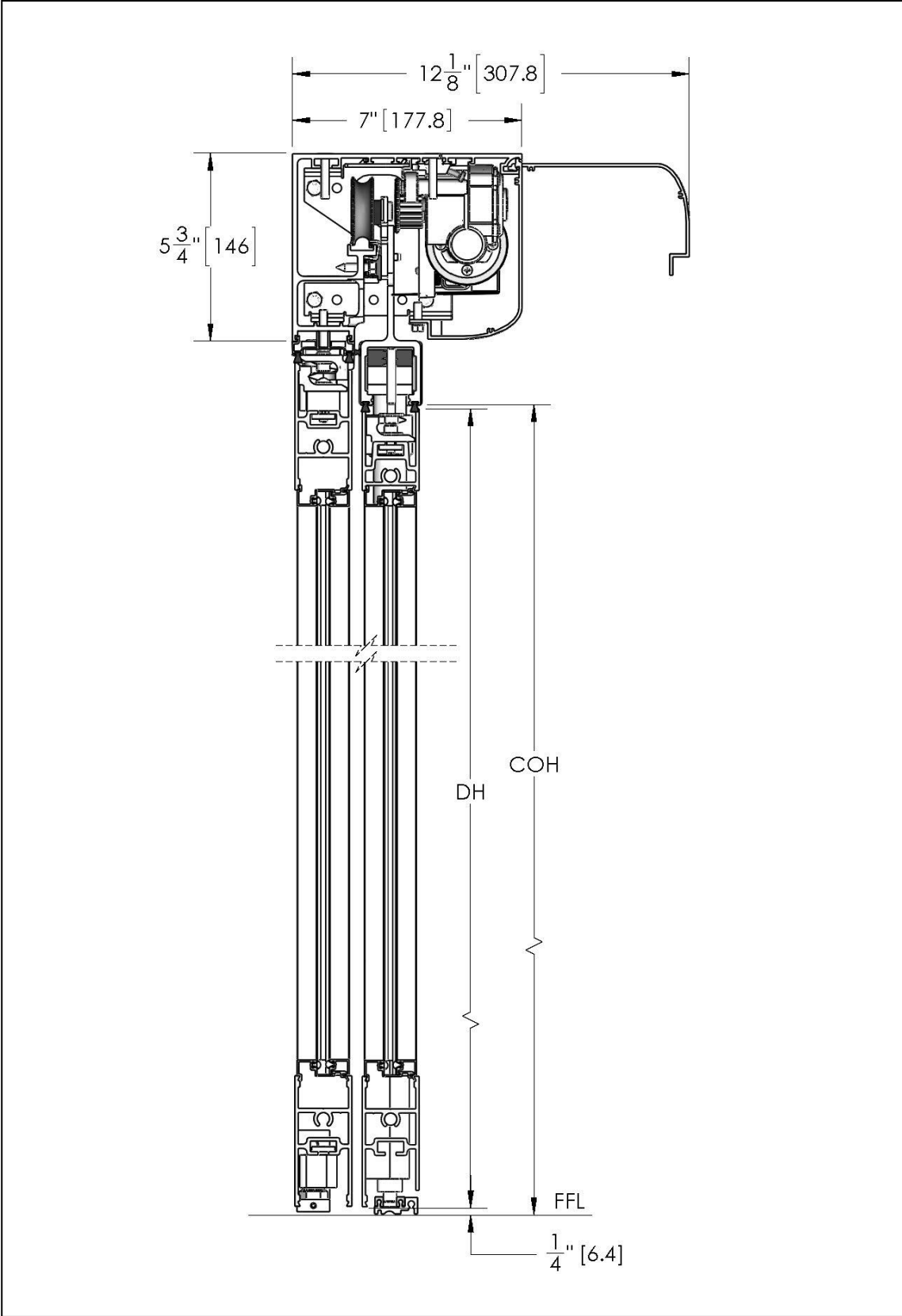
EXU-3



Micro switch kit LSK (used e.g. to indicate door position)
 Art. No. 550492
 See installation drawing 656006



Space Required



Pre-Installation Questions

This section will help you to determine the right configuration and preparation for your doors.

- A. Is this a Surface Applied or Concealed Package?
- B. Is this installation a bi-parting or single-slide?
- C. If a single slide, what is the handing, left or right? (See Door Handing and Setup Section).
- D. Does this installation include a transom? (If so, see Transom Manual shipped with this package).
- E. Where will power and signal wires enter the operator housing? (Back, End cover, Transom tube.)
- F. Is this a Full Break-Out (FBO), Fixed Sidelite (FSL), or Non Panic installation?

General Tips / Safety Concerns

Caution!

Make sure that the power is off before installing, including battery backup if so equipped.

Caution!

Make sure that the wall is properly reinforced at the installation points. See [Installation Requirements](#) section for specifications and suggestions.

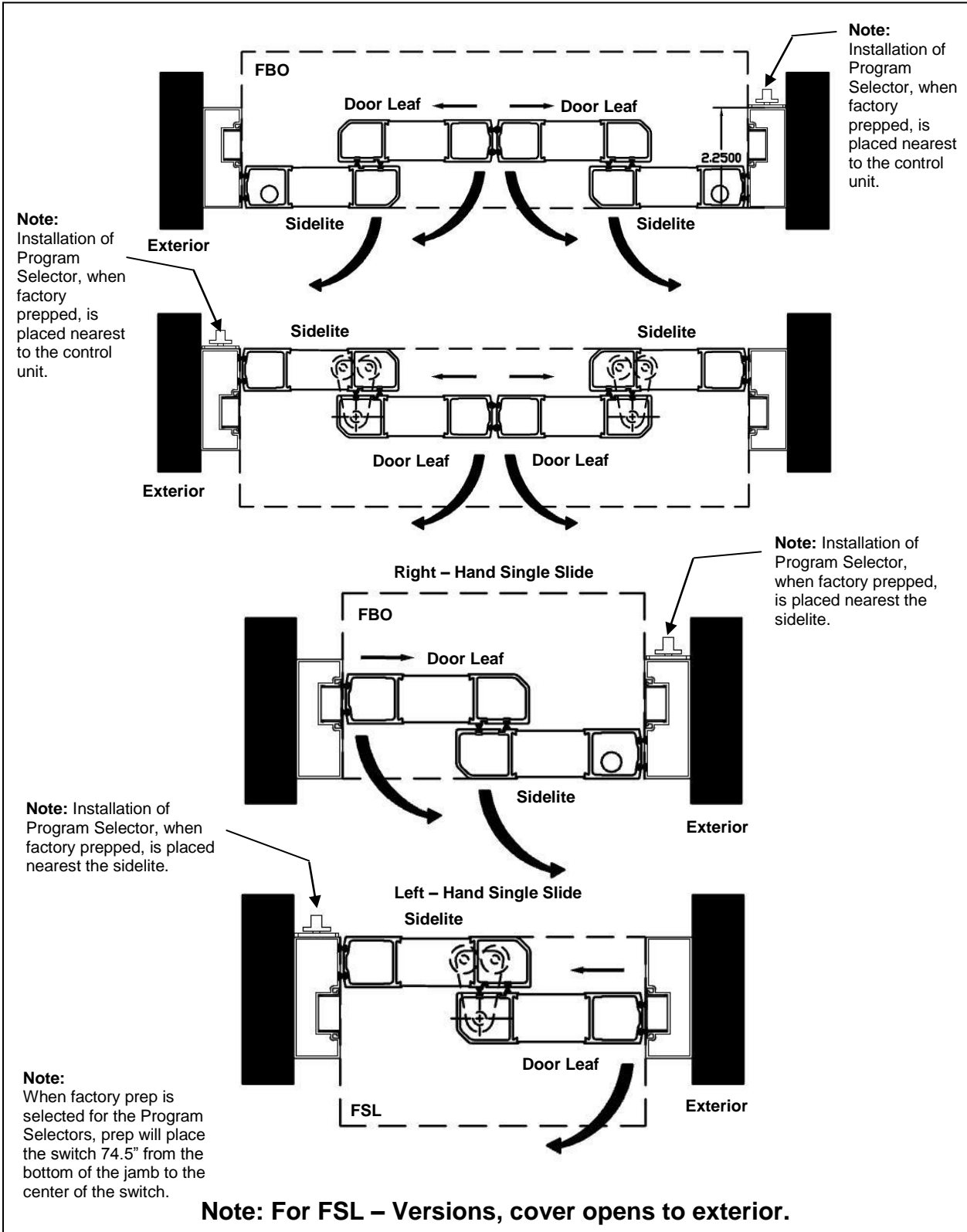
Installation Overview

This is only a summary of the installation process. See the rest of this manual for detailed information.

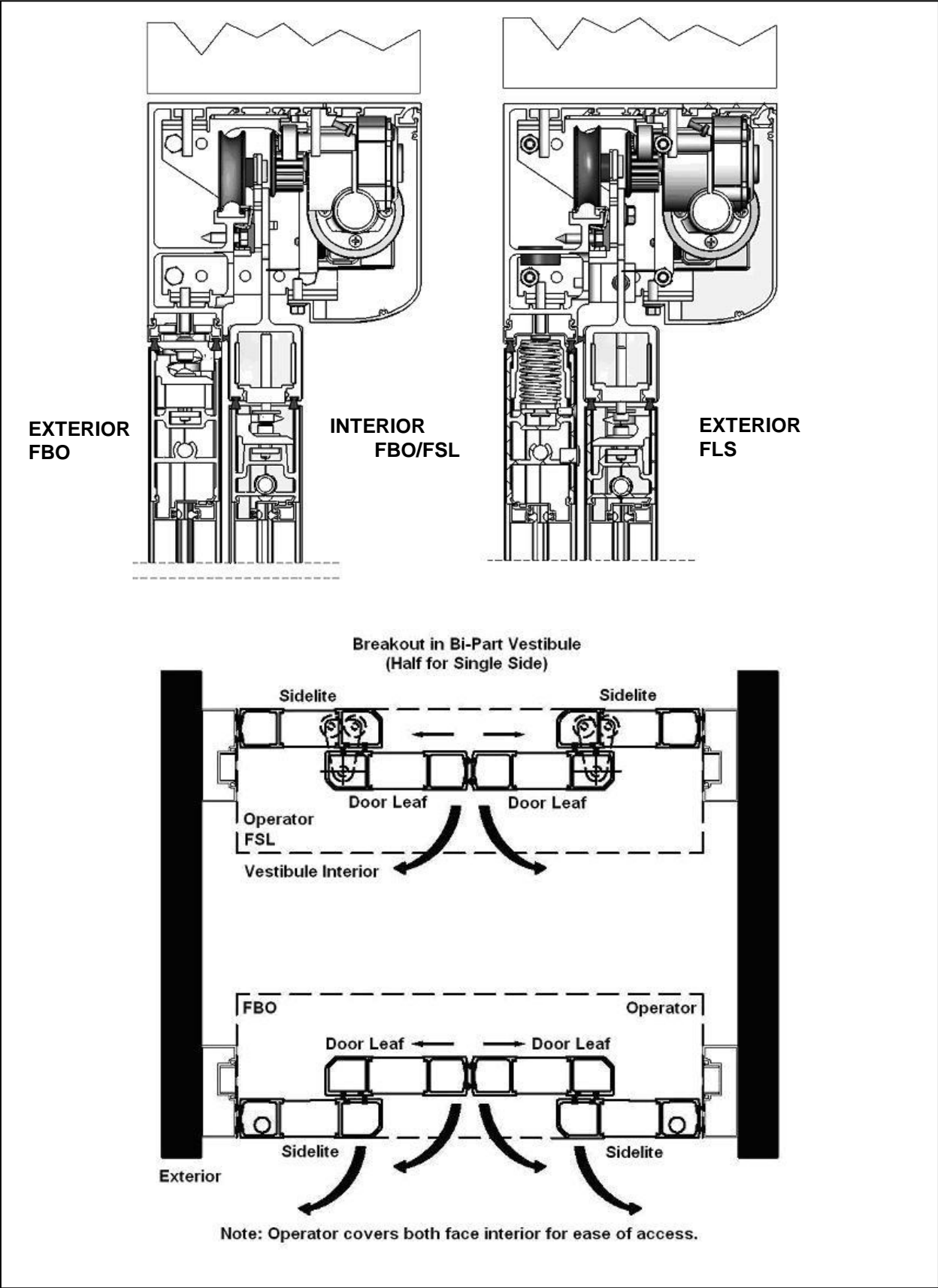
1. Start by determining the answers to the pre-installation questions.
2. First install header to jamb tubes if concealed, tilt into place, level and plumb, then secure to rough opening with shims and appropriate fasteners. See Surface Applied Section, for fastener recommendations. If surface applied mount operator to rough opening header and level.
3. Full Break-Out: mount the pin or threshold guide track.
4. Fixed Sidelite: mount the roller guide track.
5. Non-Panic: mount the non-panic floor guide(s).
6. Mount the sidelites.
7. Mount the moving door panels.
8. Adjust all door panels for alignment and smooth manual movement. Adjust all break-outs to comply with applicable building codes.
9. Connect tooth belt from drive unit to active door panels.
10. Complete all electrical connections to other operators or optional equipment.
11. Adjust the control unit for optimal and safe performance, in accordance with current ANSI/BHMA A156.10 specifications.
12. Adjust sensor systems for optimal and safe performance in accordance with current ANSI/BHMA A156.10 specifications.
13. Apply safety signage to the door(s).
14. Train facility manager in operation.
15. Explain to the facility manager the daily safety check described in the owner's manual, and leave a copy of the owner's manual with the facility manager.

Installation Examples

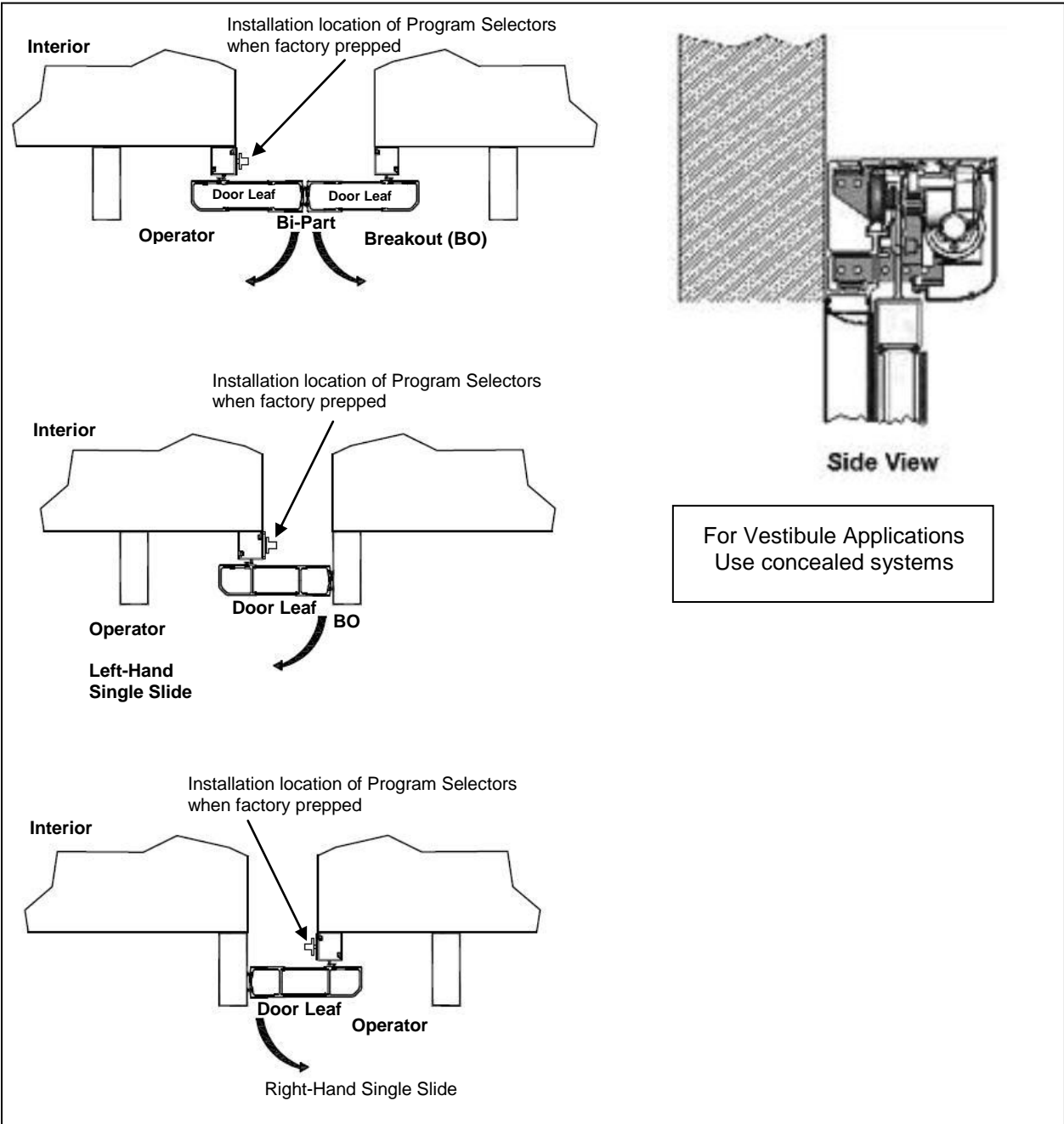
Concealed



Concealed (Continued)



Surface Applied



Pre-Installation Requirements

Fastening Requirements

Base door / wall material	Minimum anchor / bolt requirement*
Steel	5 mm (3/16")*
Aluminum	6 mm (1/4")*
Reinforced concrete	min. 50 mm (2") from the edge
Wood	50 mm (2")
Brick wall	Expansion-shell bolt, min. (1/4" x 3 1/2"), min. 50 mm (2") from the edge

* Besam minimum recommended requirements. Building Codes may give different specifications

* Thinner wall profiles must be reinforced with rivnuts

Test Equipment

- Stopwatch
- Force gauge (50 lb. force range)
- Multimeter

Tools required

- Set of metric box and wrenches
- 9/16" Nut Driver
- Spirit level (48" +)
- Tape rule
- Power drill and set of drill bits, Unibit, Hammer drill
- Metric hex key set 6, 5, 4 mm and 2.5 mm
- Screw driver Torx T10, T20
- Flat blade screw driver (small/medium/large)
- Screw driver for adjustment of potentiometers
- #2 Phillips screw driver
- Center punch
- Wire stripper
- Plumb bob
- Silicone sealant
- Pencil

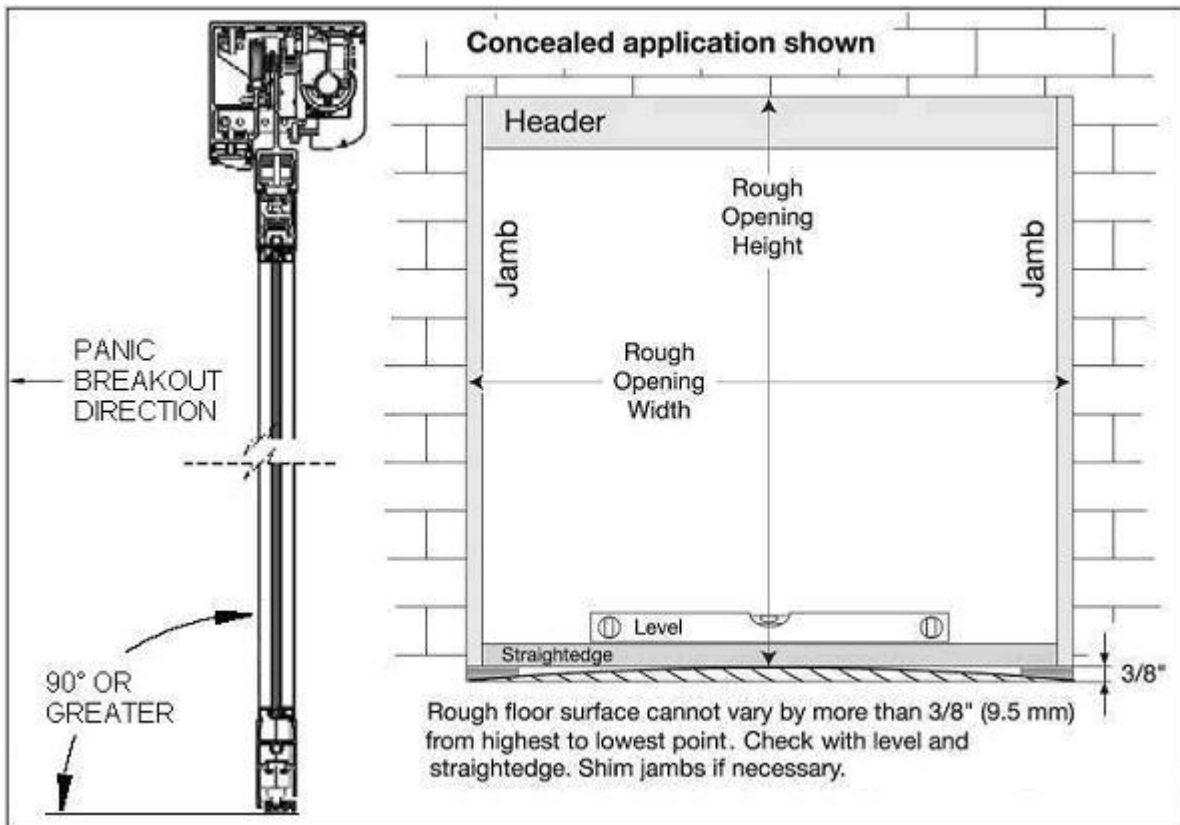
Additional mounting hardware (not supplied - see fastening requirements above)

Site Inspection

The rough opening must be plumb and square and the finished floor must not vary by more than 3/8" from the highest to the lowest point. If necessary, have the floor leveled before attempting to install the sliding door system.

It is important to check the floor level within the path of the doors in Break-Out mode. The doors must not encounter any obstruction when broken out. The grade of the floor in the direction of break-out should ideally be 90° or greater, measuring from the highest point of the floor (see below).

For concealed the rough opening width should be 1/2" wider than the overall frame width of the sliding door system, and the rough opening height should be 1/4" higher than the overall frame height. For standard installations, the overall frame height will be 89-3/4", higher with transoms.



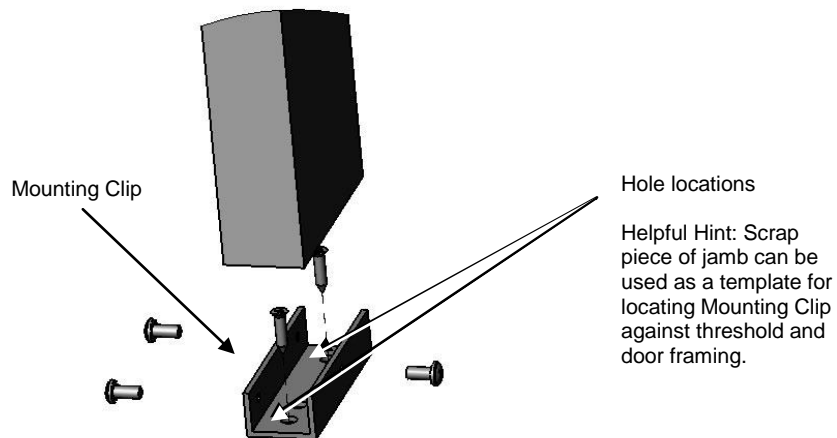
For Surface Applied Standard Applications all narrow frame with 1/4" glass, both Single Slide and Bi-parts, the overall frame height is 89". (Overhead Concealed overall frame height is 89 3/4".)

Installation and Adjustment Processes

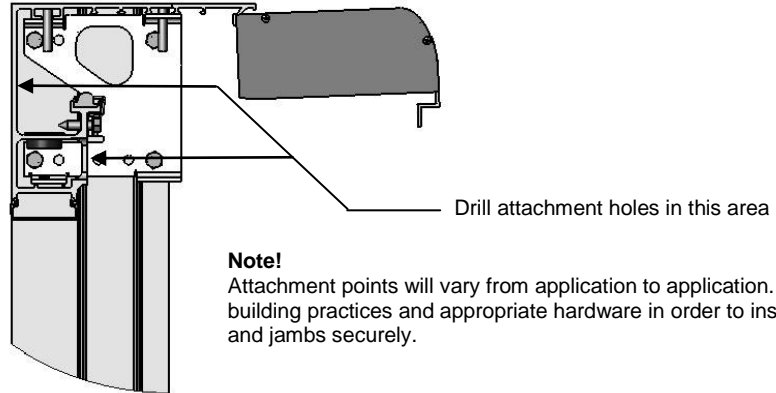
Surface Applied Mechanical Installation

In most instances, Surface Applied installation is similar to the Overhead Concealed Package installation with the exception that it is mounted to the side of the door opening. With this in mind, rather than to repeat the same information, references are made within this process to those found in the Overhead Concealed Package installation process.

1. Ensure that existing doorframe work is square to the threshold and the threshold area is level including the break-out area (reference [“Checking – Marking Out – Fastening”](#) section). Look for high spots in the floor, if there is a slight rise in the floor at any point then the bottom of the jambs should be set level with the highest point, with the header leveled across the opening. Reference, [“Leveling Header and Jambs”](#) process.
2. Using the same criteria as above, check the wall where the beam and jamb will be attached. Look for high spots and fill in the valleys and shim where our fasteners will be going in order to give the beam a flat level surface to be mounted. Failure to do this could cause the beam to bend and twist, resulting in component binding.
3. Determine location of Mounting Clip – mark, drill and secure.



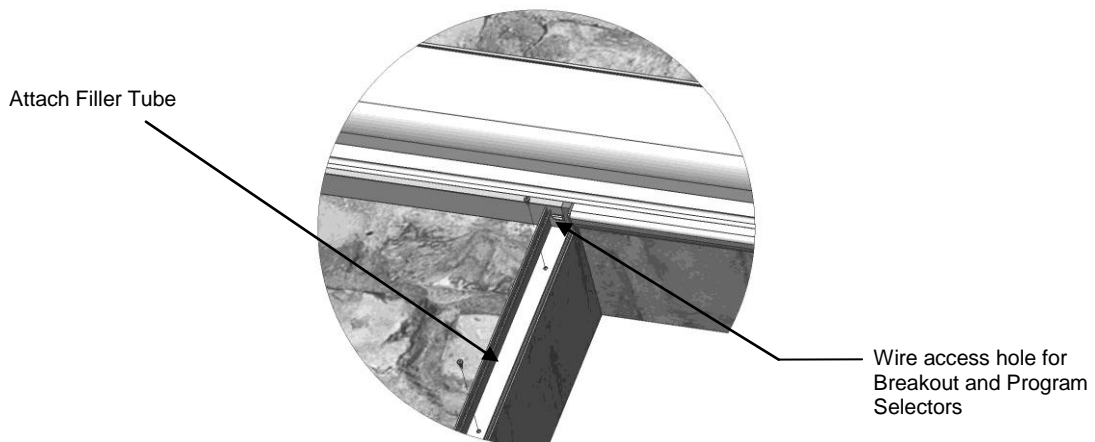
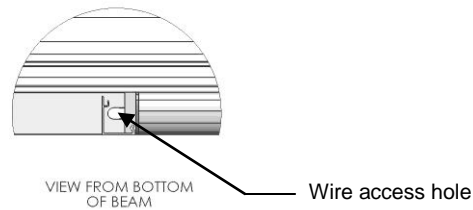
4. Attach Jamb Tubes to Header. See "[Checking – Marking Out – Fastening](#)" section.
5. Lift Header and dry fit. Drill for attachment and attach to substrate or wall using standard construction methods.



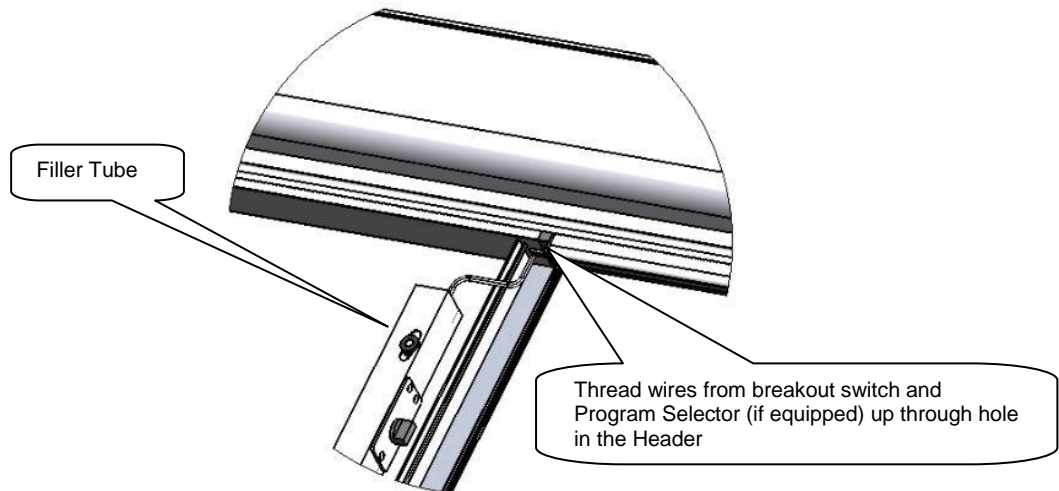
6. Caulk back of Header and Jambs and attach to existing structure.
7. Slide Filler Tube apart and attach back section of it to existing structure so that it will be flush with the existing opening and so that the wire can access the hole(s) in header.

Caution!

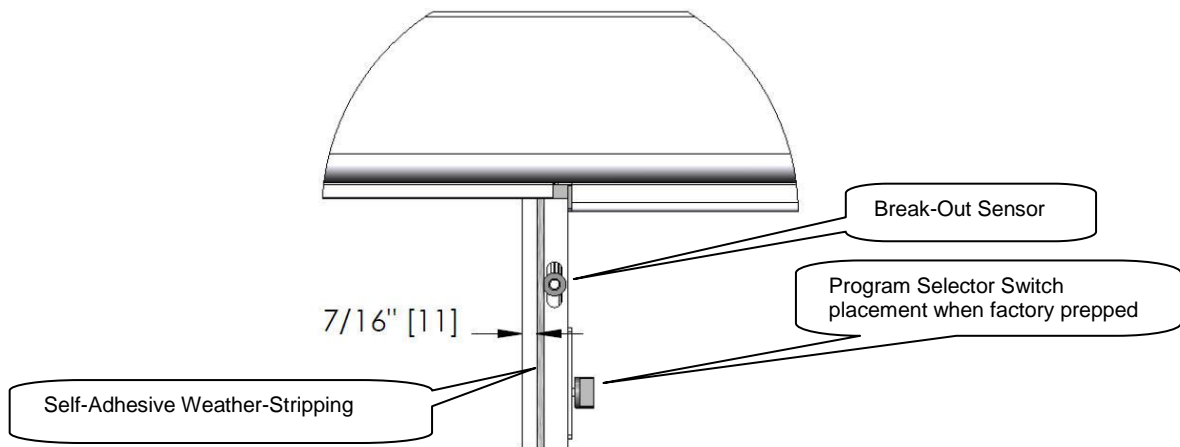
Ensure that the surface is even, particularly when attaching to block or concrete surfaces - level and shim as necessary. (Failure to provide and even surface results in warping the profile making it impossible to snap the filler tube together.)



8. Layout the other half of the Filler Tube allowing the wire to be run up through Filler Tube to Header, threading wire through wiring hole in Header. (Caution: Use care that all holes are deburred to prevent electrical shorts.)



9. Attach other half of Filler Tube to half mounted on existing structure. (Note, if there is any bowing to the Filler Tube, the Filler Tube halves will not snap securely in place.)
10. Attach Self-Adhesive Weather-Stripping, where shown below.



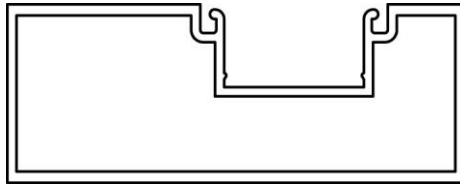
11. When running break-out wires, make connections at Terminal Block located directly above access holes. (Wire according to Electrical Drawings.)
12. To wire package, see "[Electrical Connections](#)" section.
13. To attach doors to Beam, see "[Hanging Active Door Leaves](#)", and "[Fixed Sidelite Installation](#)".
14. To attach drive belt, see "[Attachment of Tooth Belt Fittings](#)" section.
15. To adjust Levelers and to attach anti-riser, see "[Hanging Active Door Leaves](#)" section.

16. To install Door Stops and make adjustments, see "[Adjustment of Leading Edge](#)" section.
17. Once the doors are properly adjusted, adjust Break-Out Sensor in a manner that allows it to sense the presences of the doors until doors are broke out. (This is accomplished by setting the sensor so that it aligns with the magnetic strip in the door frame.)
18. Sensor systems are installed at the factory, but will need wires connected where required. See "[Electrical Connections](#)" and "[Program Selectors and Functions](#)" sections to complete this task.
19. Secure cover and attach with screws. See "[Install and Remove Cover](#)" section.

Overhead Concealed Mechanical Installation

Checking – Marking Out – Fastening

1. Mark the center of the rough opening width and the center of the header. (The center marks will be aligned during installation.)
2. Drill holes at the top, middle and bottom of the jambs for securing to the door opening. (Adjust for site conditions that may require the holes to be at a certain height.)
3. Drill 1/4" holes through the face or pocket of the jamb and out the back. Then drill the back holes to a minimum of 1/2" to allow for later adjustment – see illustration.



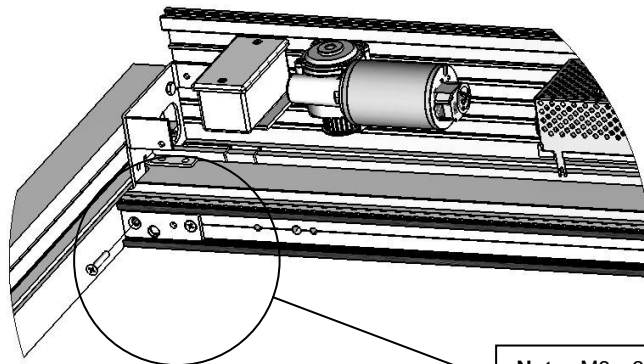
4. Mount jambs to beam using five screws per jamb. (Besam jambs are factory prepared for Header installation.)

Hint: To aid in installing the jambs and aligning them to the Header on a non-transom package, position the header on its top, on a pair of saw horses and install the jamb Tubes so the legs are pointing up in the air.

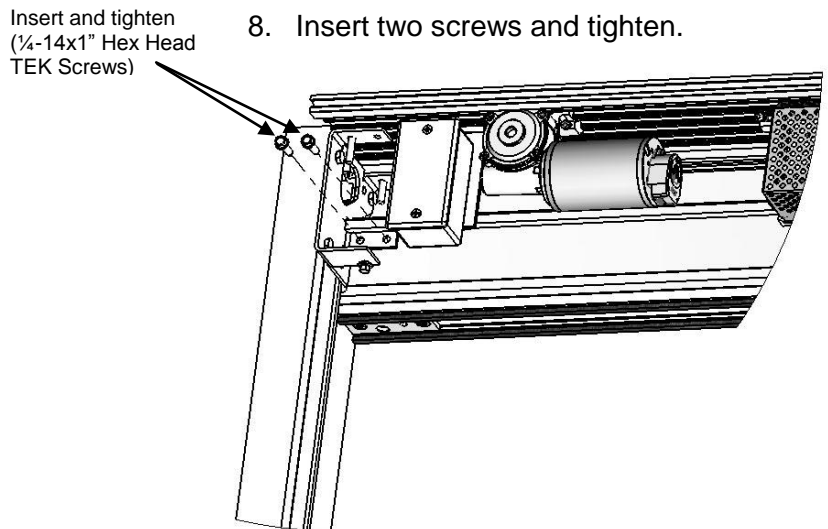
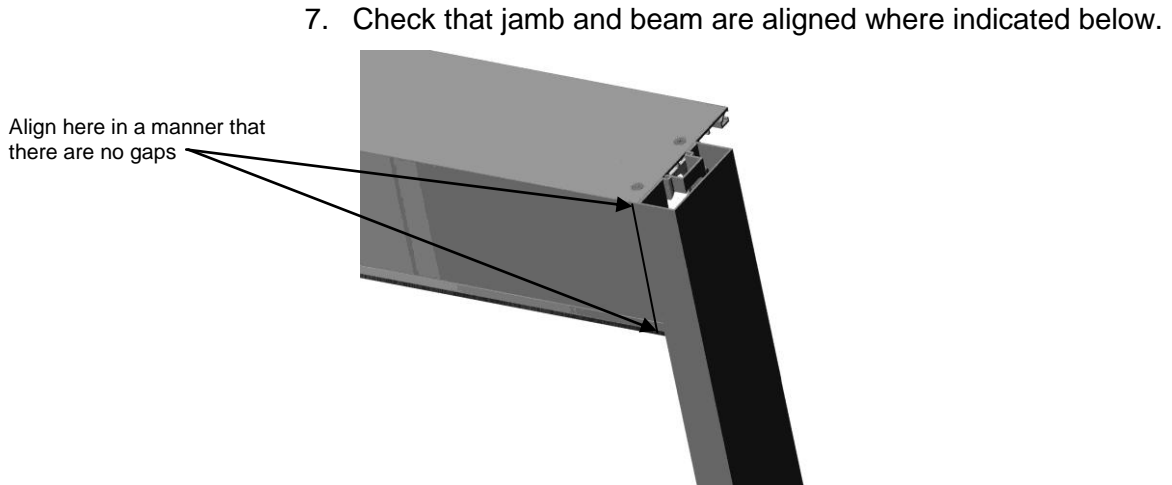
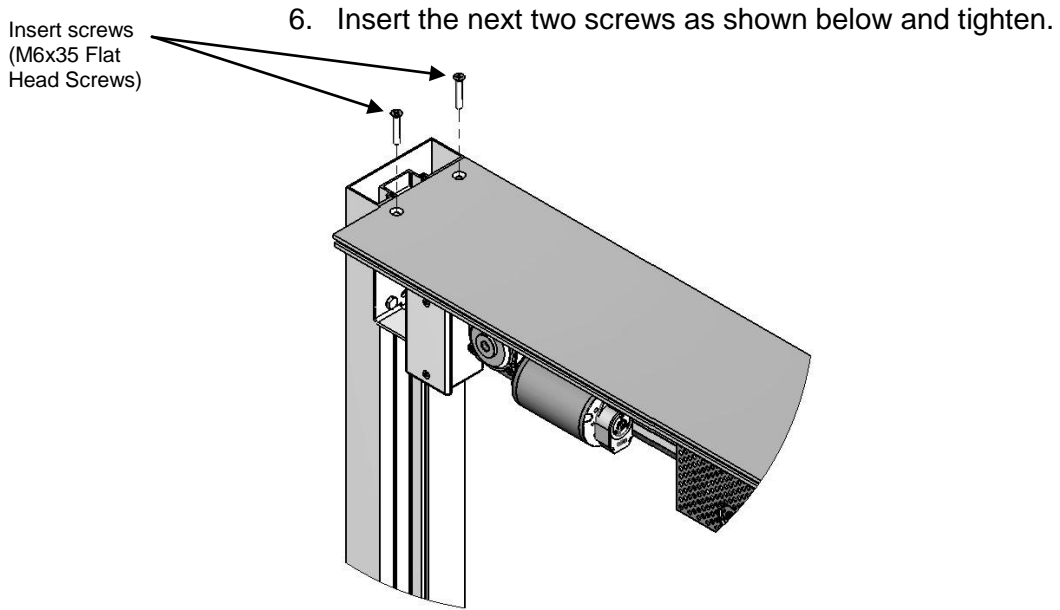
5. After joining the jamb to the Beam, install the first screw and tighten as shown below. (For Single Slide Packages, remove the sensor cap to install this screw.)

Note!

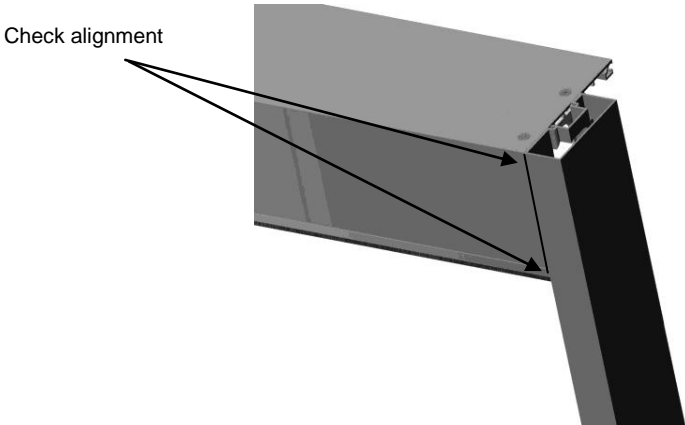
It is important that the following steps be completed in the order presented to prevent jamb and beam misalignment.



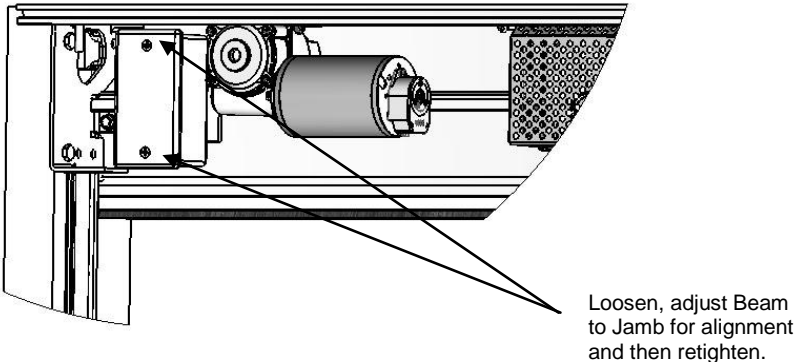
Note: M6 x 35 Flat Head Screw for FBO (Shown)
M6 x 35 Pan Head Screw for FSL and SA.



9. Check alignment of beam to jamb, if OK, proceed to the next process. If the alignment is off, proceed to the next step.



10. If the beam to jamb is not properly aligned, loosen the screws indicated below, align beam to jamb and retighten screws.



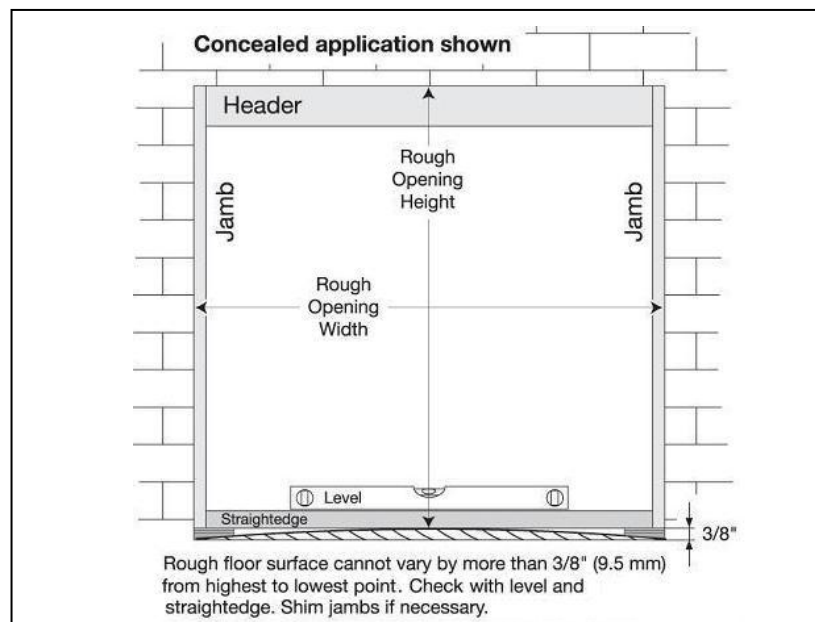
11. For Single Slide Packages, attach the Sensor Plank Cap back onto the beam.

Leveling Header and Jambs

Note!

The header and jambs must be square and level to ensure a proper installation!

1. Inspect the rough door opening, measuring from side to side and using a level, to find areas where shims may be needed. Look for high spots in the floor, if there is a slight rise in the floor at any point then the bottom of the jambs should be set level with the highest point of the floor, with the header leveled across the opening. Also, check the floor in the break-out panel's swing area for being level. Any high spots will need to be considered when setting header height.



2. Tilt header/jamb assembly up into rough opening in wall, being careful to pull power through access hole in jamb.
3. Start with one jamb. Loosely install the middle fastener, using a level on the outside of the frame to plumb the jamb. Confirm that the header is level across the opening. Repeat for the opposing jamb, loosely installing first the middle fastener, then the top and bottom. Return to the first jamb and install the remaining top and bottom fasteners loosely.
4. Starting with the top screws on both jambs, equally shim behind both jambs, leaving equal gaps and centering the package in the door opening. Tighten the top fasteners. Use your level on the inside of one jamb to determine shim requirements for the middle fastener, then shim and tighten. Repeat for the bottom fastener. Shim and tighten the middle and bottom fasteners on the other jamb in the same way. Check for jamb bowing with a straightedge and correct if present.

5. If the header and jambs are truly square, the top and bottom jamb-to-jamb measurements will be identical and both diagonal measurements will be identical. If necessary, strings can be taped from corner-to-corner on the outside of the jambs. The strings should cross in the center of the door opening, slightly touching each other. If there is a gap between the strings or the strings are pushing against each other, then the package is twisted and needs adjusting.

Fitting the Floor Guide Track

The following are installation steps for floor mounted guide tracks, recess and surfaced mounted pin guide tracks and G channel tracks for Fixed Sidelite applications.

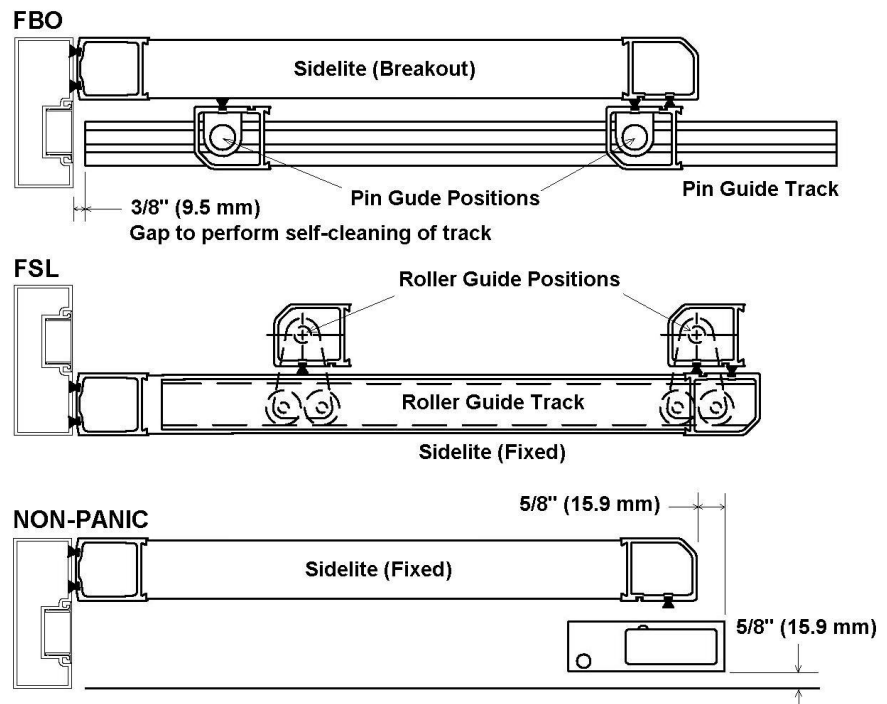
Note!

It is important that the floor guide track is installed level, to prevent derailment of the floor guide foot when the door is swung out and to provide proper door operation.

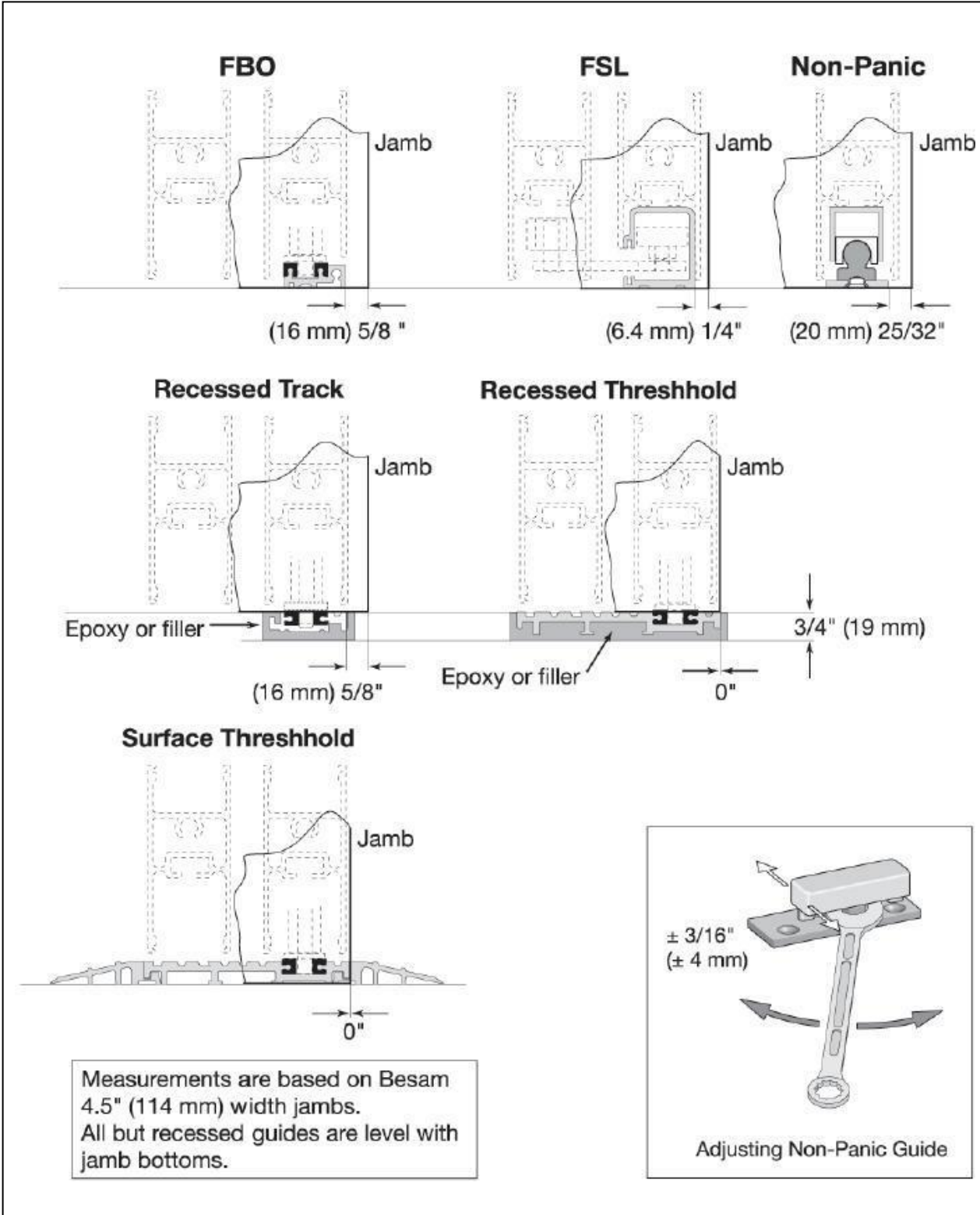
1. Inspect the floor for conditions such as high and low spots that can cause the track to twist and rock. High spots (such as small rocks) should be removed; shim the track assembly at the low spots.
2. Using a chalk line, snap a reference line from jamb to jamb on the side where the track is being installed.
3. Using the measurements provided (see [Site Inspection section](#)), lay the track in place. While standing on the track and keeping it in line with the chalk line, mark the holes to be drilled.
4. Secure the track to the floor with concrete anchors and screws, leveling it with shims from end to end. If possible, a sealant should be used under the track assembly. To check for proper leveling, measure from the top of the track to the bottom of the header, checking for the same result at each fastener.

Note!

All screws must be countersunk and fully tightened to avoid interference with pivot travel.



Fitting the Floor Guide Track Cont.

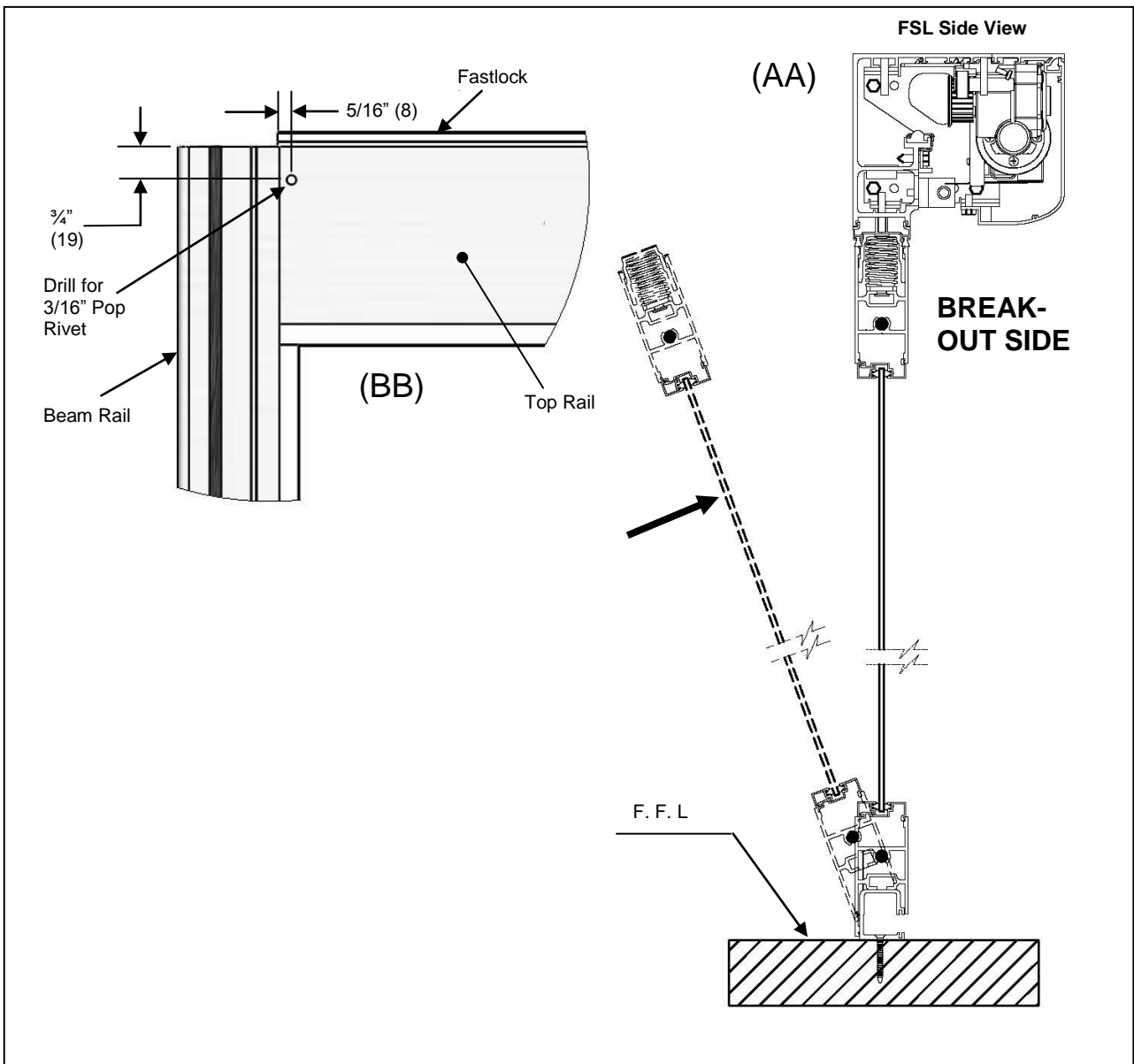


Fixed Sidelite Installation Procedure

Note:

Remove any glass stop or packing material from the sidelite before installation.

1. End load the sidelite panel on the roller track guide, and Plank Cap (reference AA). Slide the panel fully to jamb. Run Break-out pigtails up through hole in beam to header.
2. Drill the top rail on the sidelite as shown (Reference BB) for a 3/16" pop-riquet (supplied with the door). The leaf panel, once installed, will hide the rivet.
3. For bi-part, install 2nd sidelite as above.

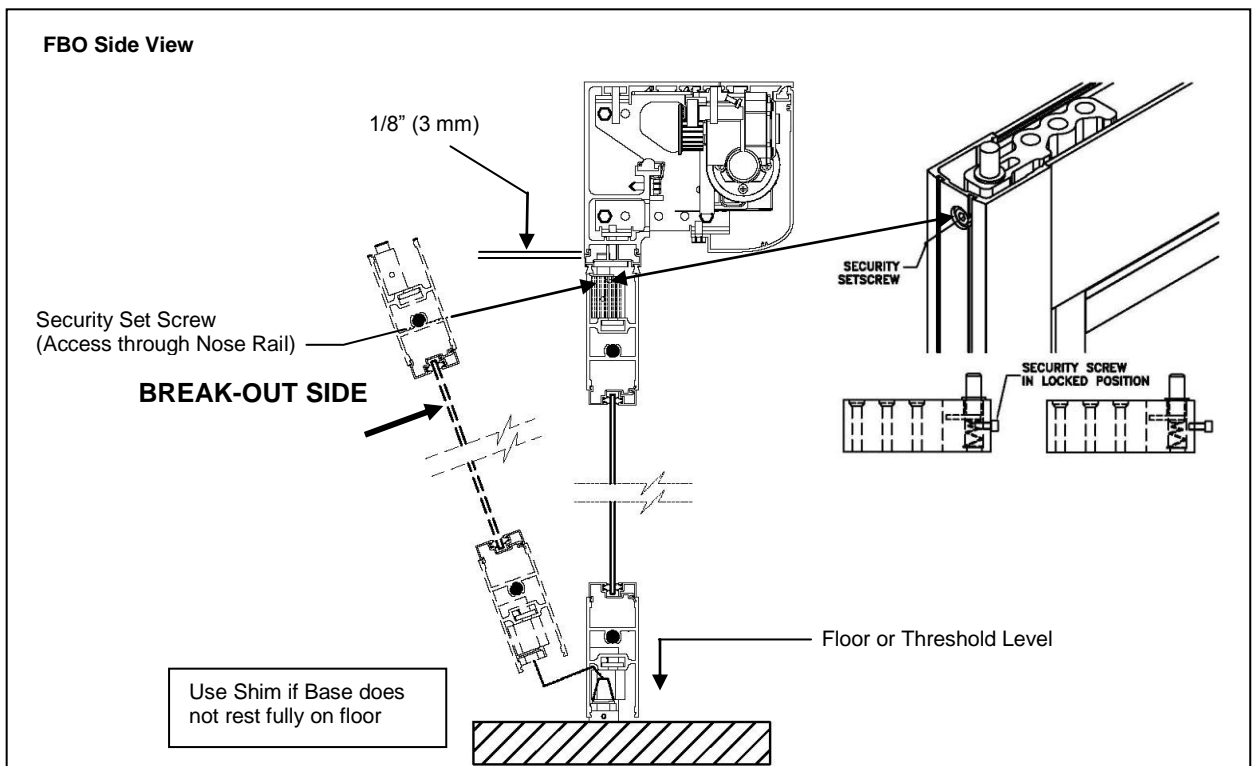


Full Break-Out Sidelite Installation Procedure

Note!

Remove any glass stop or packing material from the sidelite before installation.

1. Install and level any thresholds (surface or recessed) before installing any of the door panels.
2. Check that jamb mounted bottom pivot is installed and tight. Also make sure that the pivot plate is also secured to the floor.
3. If the pivot base does not rest fully on the floor, support the pivot base with shims.
4. Place the bearing washer on the pivot base.
5. Set the sidelite on the pivot and tilt it into place. (There should be no more than 1/8" between the bottom of the header and the top of the sidelite.)
6. To adjust, raise or lower the bottom pivot by loosening the set screw at the side of the floor portion of the pivot and turn the shaft clockwise to lower the sidelite and counter clockwise to raise the sidelite; then retighten the set screw.
7. With the sidelite on the bottom pivot, carefully push down the top spring-loaded pivot pin and line it up with its receiving hole in the header portion of the pivot until the shaft pops into place.
8. Check all clearances and adjust the Break-Out Latch (See [Adjust Ball Catches](#) section).
9. If the distance between the jamb and hinge stile needs to be adjusted, loosen the top and/or bottom door portion pivot and slide left or right. Once adjusted properly, retighten screws.
10. When all sidelite panels are installed, tighten top pivot security set screw to prevent depressing (carding) pivot pin.



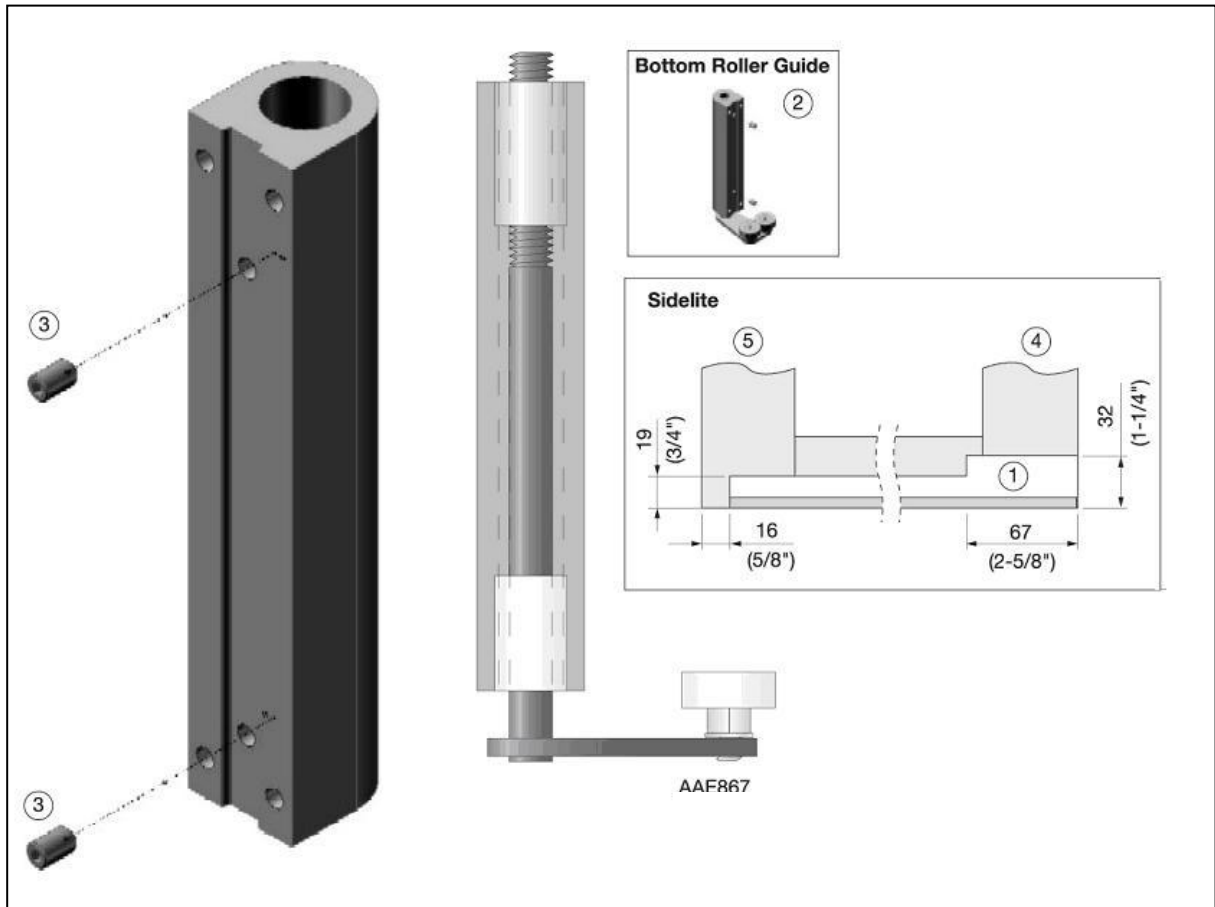
Setting the Active Leaf Roller Guide Pivot (Fixed Sidelite)

1. Temporarily loosen and remove the doorstops. With the door positioned so that the carriage wheels are riding on the plastic track in the header beam, adjust the carriage wheels to a height that will raise the door slightly off the finished floor.

Note!

Ensure that the sliding track in the support beam is clean.

2. Slide the door to the open position until the roller guide lines up with the cut out in the roller track, and insert the bottom guide. (If the roller guide does not line up properly with the cut out, loosen the roller guide top set screw, which is accessible when the panel is broken out. Adjust the roller guide until it will slide into the cut out.) Slide the door closed.
3. Proceed to adjust the door as instructed in section titled, "[Height Adjustment](#)". With the door(s) adjusted properly, position the roller guide so that it has clearance to slide open and closed without any drag on the top or bottom of the track assembly. Retighten top setscrew. Reposition the doorstops and adjust accordingly to avoid finger traps at trailing edge (see [Adjustment of Leading Edge](#) section).
4. The bottom set screw on the roller guide can be adjusted to create drag on the door pivot when the door is broken out.

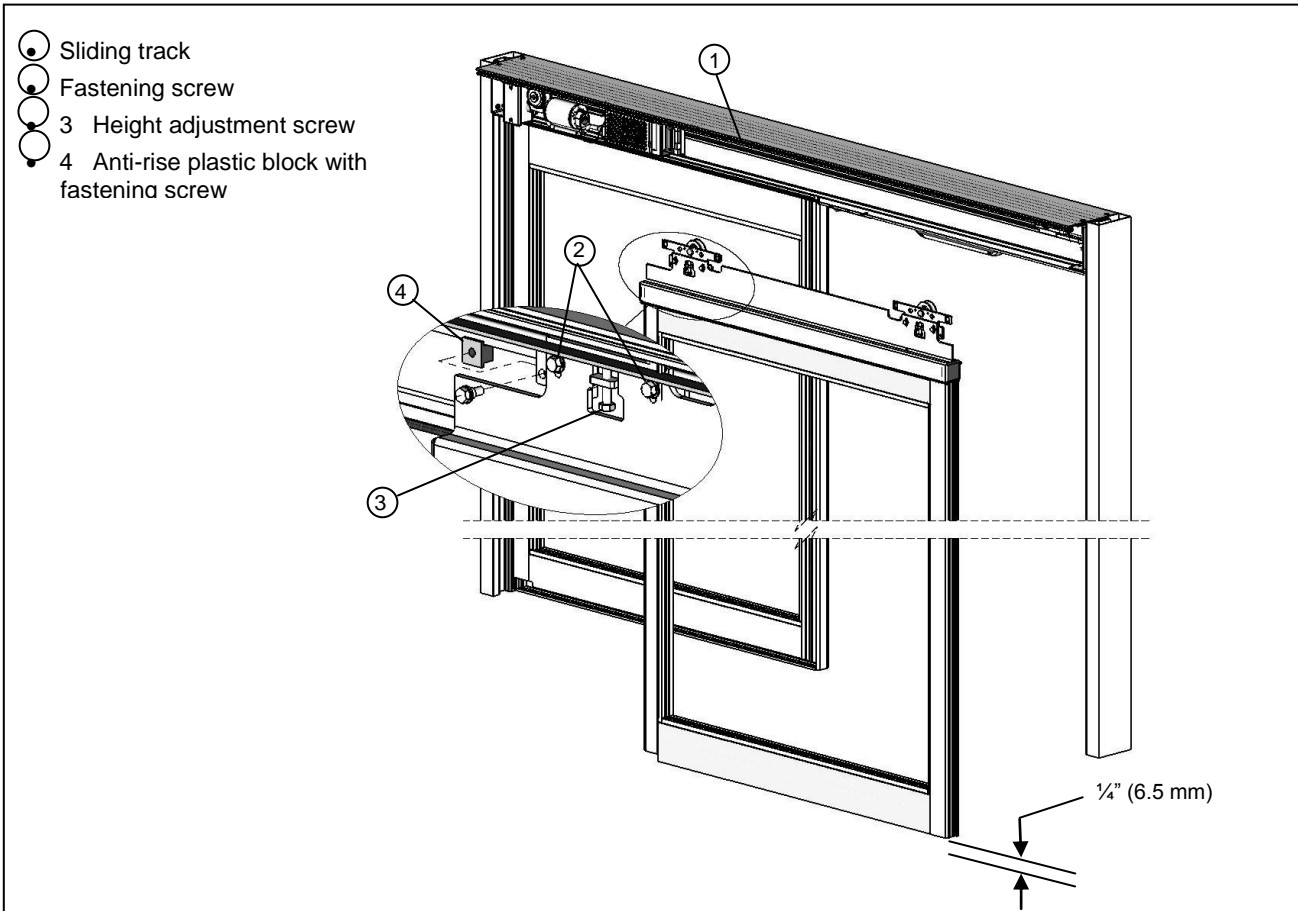


Hanging the Active Door Leaves (Full Break-Out)

1. Ensure that the sliding track in the support beam is clean.
2. Raise the door leaf and place it carefully over the floor guide, ensuring the pin washer is in place.
3. Lean the door leaf against the frame and lift the wheel fittings over the sliding track, lifting the drive belt over the carrier.
4. Loosen the fastening screws and let door settle.
5. Adjust screw until the door leaf is about 1/4" (6.5 mm) above the floor. Adjustment range $\pm 5/16"$ (± 8 mm).
6. Tighten the fastening screws and thereafter the adjustment screw to secure the assembly.
7. Insert Anti-Riser Block between Wheel Bracket and Header. Attach using Shoulder Bolt provided (typical for each Wheel Bracket).

Note!

- Anti-rise blocks have a ridge side which when facing the fastening bolt ensure the proper clearance.
- Belt drive brackets are factory installed to door.
- Both carriage wheel brackets should be adjusted in the same way.



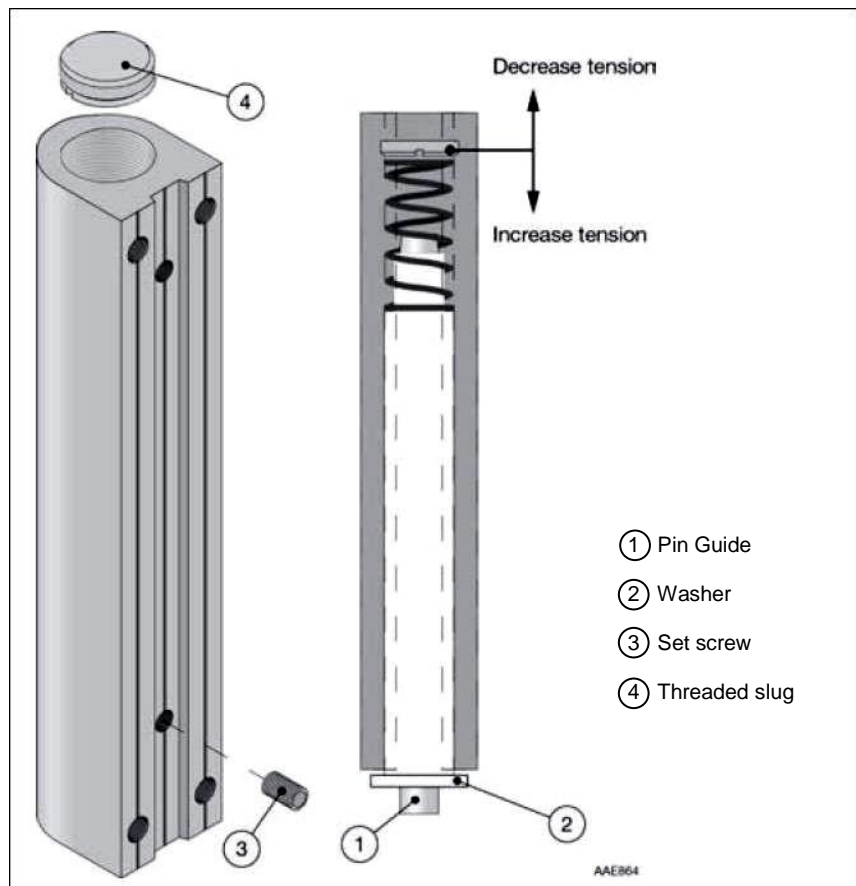
Setting the Active Leaf Pin Guide Pivot (Full Break-Out)

Spring tension has been factory adjusted; it may be changed to ensure that pin stays engaged in track. Readjustment requires removing the pivot from the door and adjusting the threaded slug.

For additional security, the pin guide may be locked at its highest point of travel along the floor track, using the setscrew.

Note!

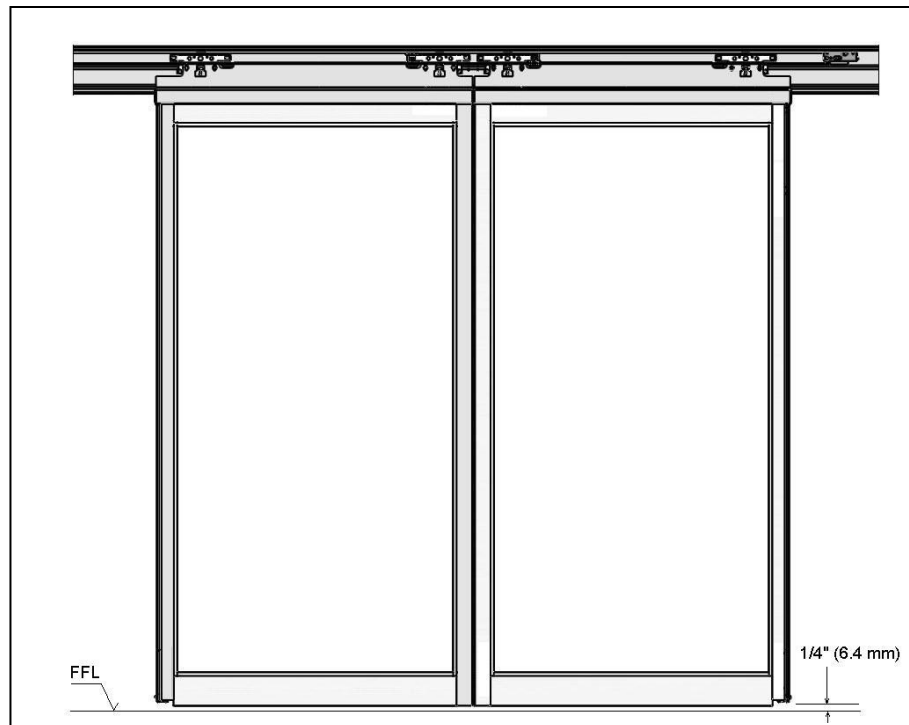
If this option is selected, then you must level the floor track in order for the pin to stay completely engaged.



Height Adjustment

The height adjustment is to be carried out with the vertical adjustment screw as described in section titled, "[Hanging the Active Door Leaves](#)".

- It is very important that the door leaf hangs vertically after the adjustment and that bi-parting doors are parallel in the closed position (no gap at the top or bottom).
- The guide pin roller (frame doors) should not touch the upper edge of the door guide track or become easily disengaged.
- If a weather brush is used on the lower edge of the door leaf, it should only lightly touch the floor.
- Check that the door leaf is parallel with the fixed panel.



FFL = Finished Floor Level

Note!

Once the door height is adjusted, verify that doors do not exceed a force of 30 pounds applied in either direction to prevent the door from closing.

Attachment of Tooth Belt Fittings

Please note, that UniSlides are viewed from the cover side.

Bi-parting operators

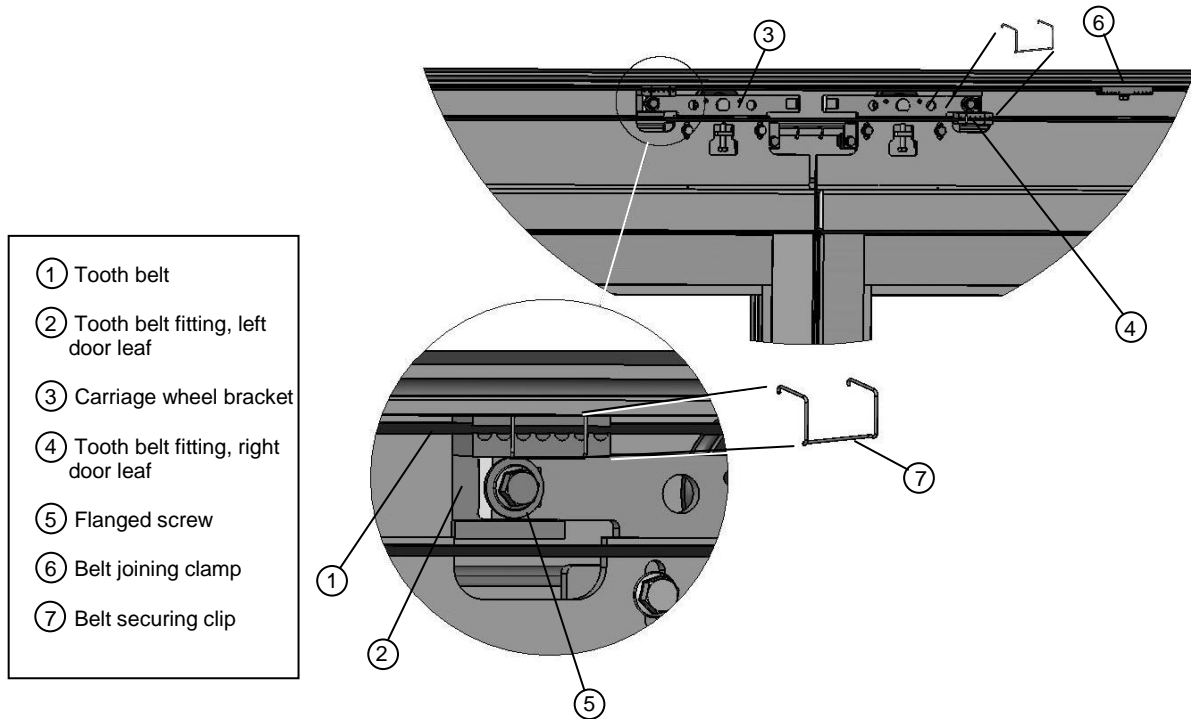
1. Put doors in fully closed position.
2. Pull belt-joining clamp to left door panel and center it over the (nose) carriage wheel bracket.
3. Insert tooth belt into left door carrier (upper) belt fitting.
4. Insert tooth belt into right door carrier (lower) belt fitting.
5. Check door panels for proper centering.

Single-sliding operators

6. Put door in fully open position.
7. Pull belt joining clamp next to carrier belt fitting (away from nose of door)
8. Insert tooth belt into belt fitting (L.H. upper, R.H. lower)
9. Check door panel for fully closed position.

Note!

Control function selector setting #1—ON—(clockwise). Actual belt movement is counter clockwise.



Adjustment of the Leading Edge (to Avoid Finger Traps)

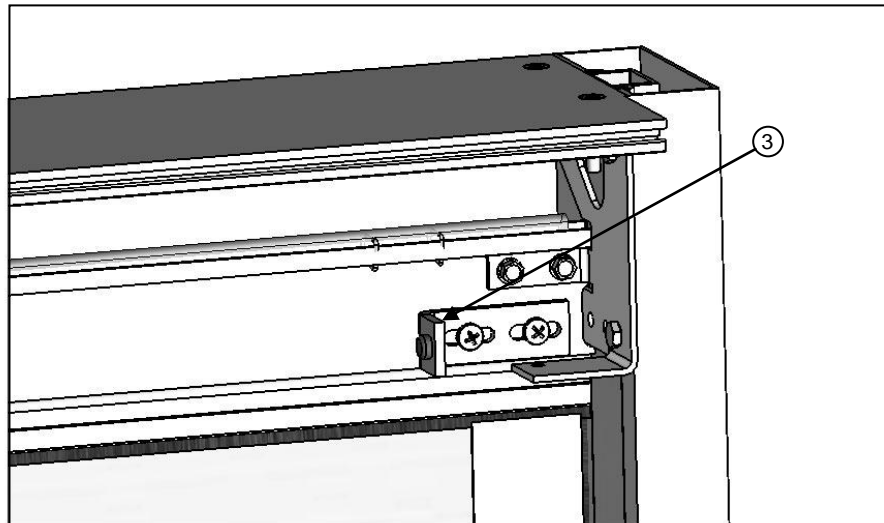
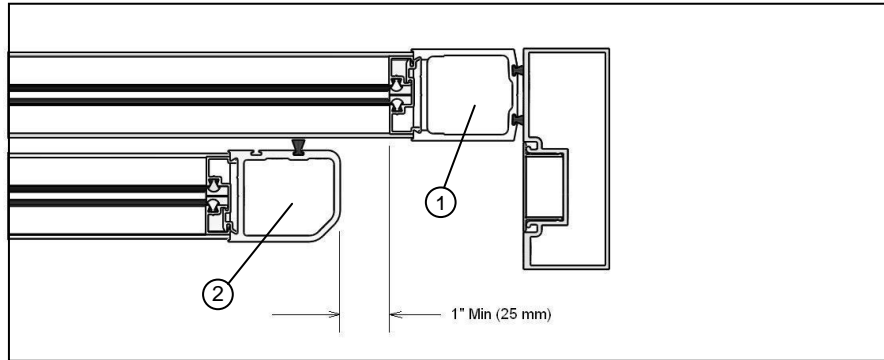
1. Push the doors by hand to the desired opening.

Note!

For door frames made by others, the lead edge of the door leaf must not pass the vertical rail of the sidelite leaf, but must stop at least 1" (25 mm) before to avoid finger traps.

2. Loosen the doorstops, move them in against the carriage wheel brackets and tighten firmly.
3. Check that the required opening and finger protection (if any) are achieved.

Frame doors by others



F = Safety distance (finger protection)

① Sidelite

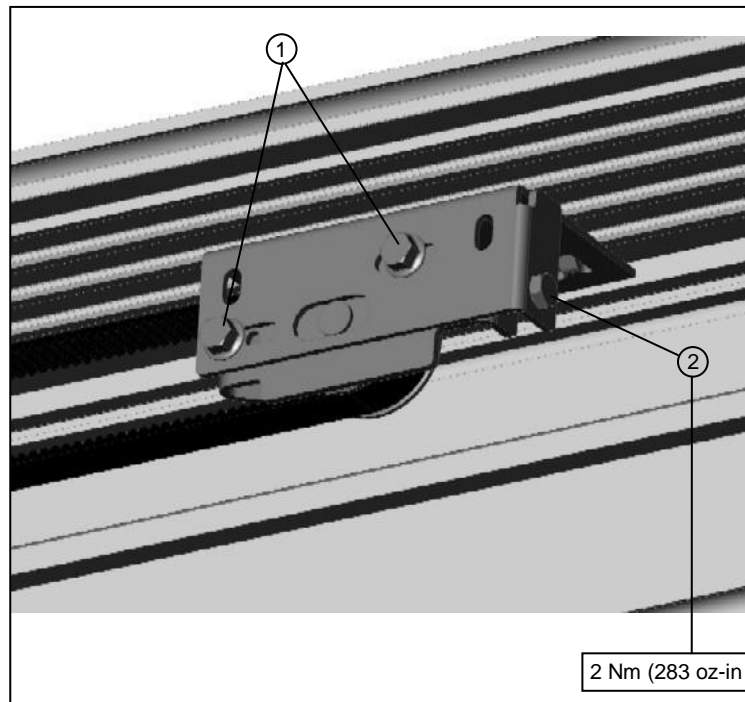
③ Door stop

② Active Sliding Leaf

Checking and Adjusting the Belt Tension

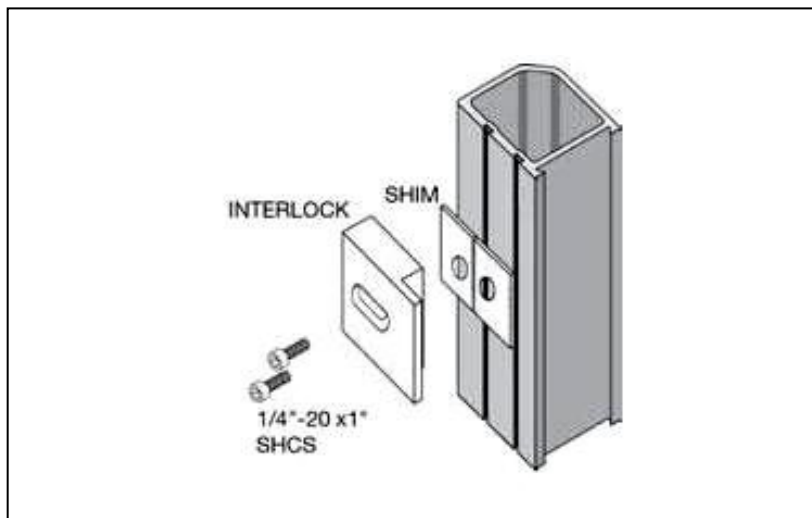
The belt tension is factory-adjusted and readjustment is normally not needed. If the belt tension has to be corrected, proceed as follows:

1. Loosen the two fixing screws (1).
2. Tighten the belt adjustment screw (2) to a torque of 2 Nm \pm 0,25 Nm (283 oz-in \pm 35 oz in)
3. Tighten the two fixing screws (1).



Interlocks for FBO Units

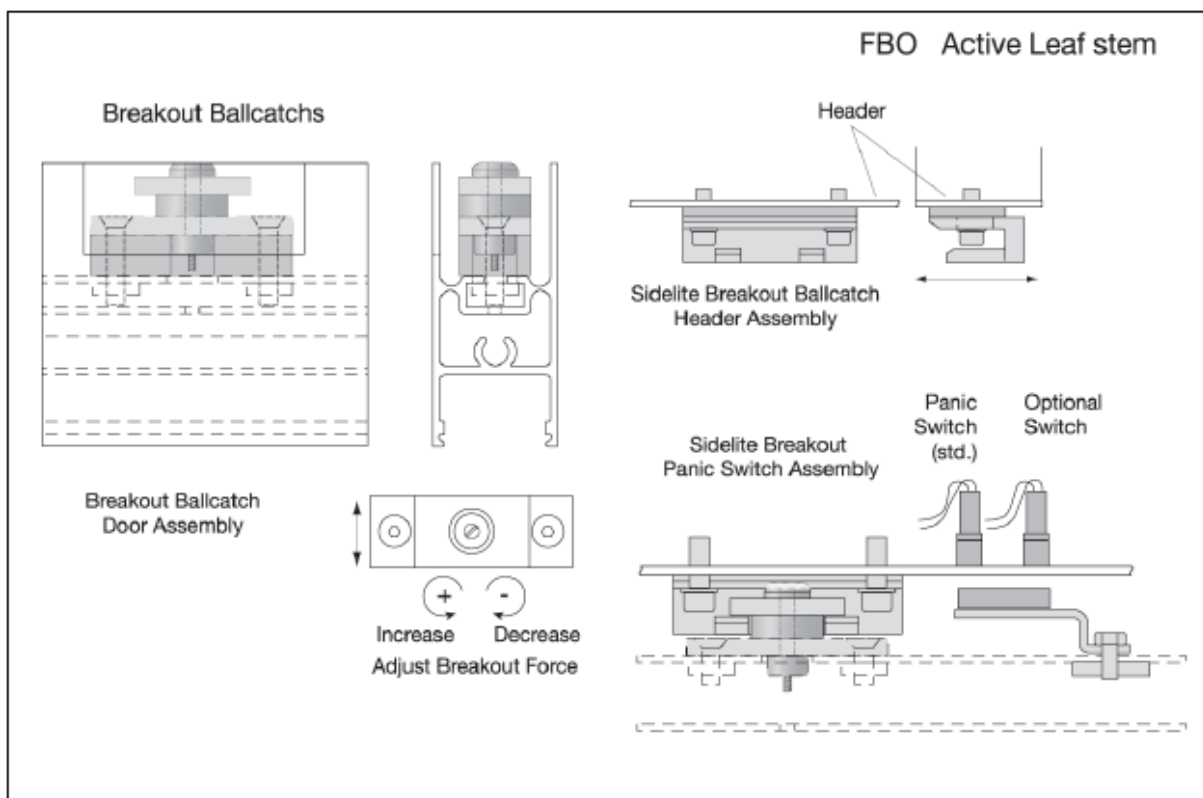
Slide the active leaf(s) into the closed position and check to see that the interlock hardware engages the sidelite cutouts. Adjust Interlock (and shim if necessary) for proper alignment.



Adjusting Ball Catch

1. Check that the sidelite door assembly engages properly with the sidelite header assembly. Both can be repositioned slightly if necessary.
2. Adjust the tension on the ball catch by turning the adjustment screw, as required by local egress codes. Tension is not to exceed 50 lbs. break out force; see ANSI/BHMA standards at back of manual. Installer must verify that without power, break-out force does not exceed 50 lbs.

A magnetic panic break out switch (bi-parting units have two) shuts the operator off when the sidelite is opened. A ceramic magnet is located in the upper horizontal sidelite rail. The switch(s) are located over the magnet in the lower edge of the support plank. The magnet location can be field adjusted by loosening the bracket mounting screw. See Electrical section to wire the break out switches (terminals 10 and 13).

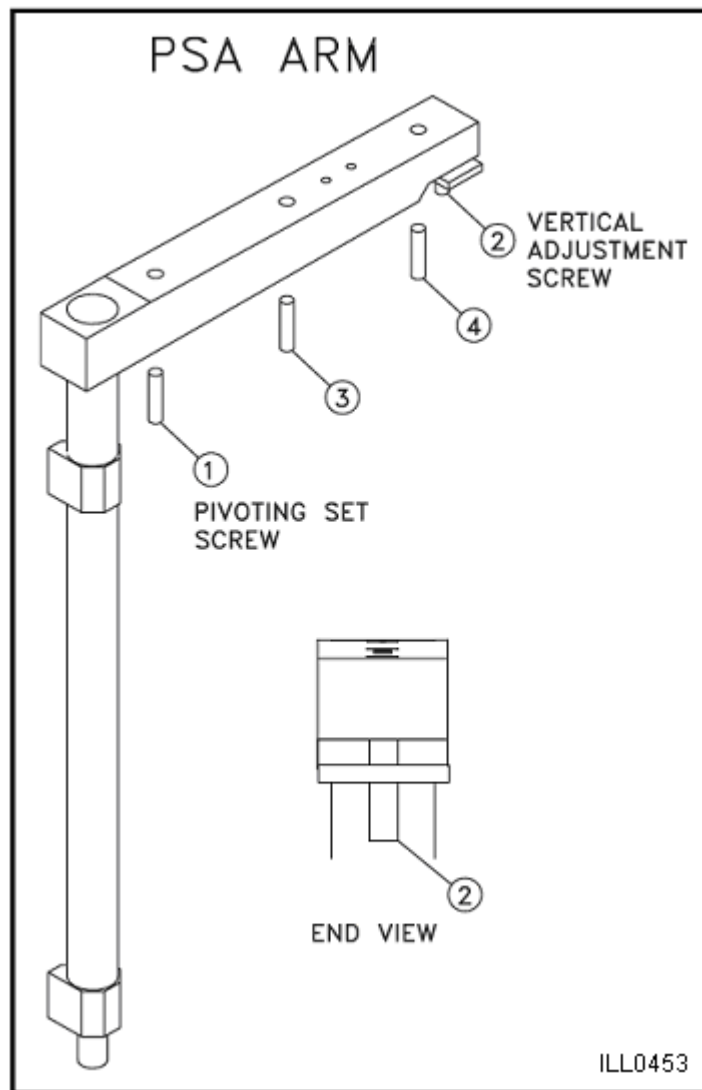


Note!

FSL (Fixed Sidelites) utilize a strip magnet on top rail of the active panel and a reed switch in the sidelite.

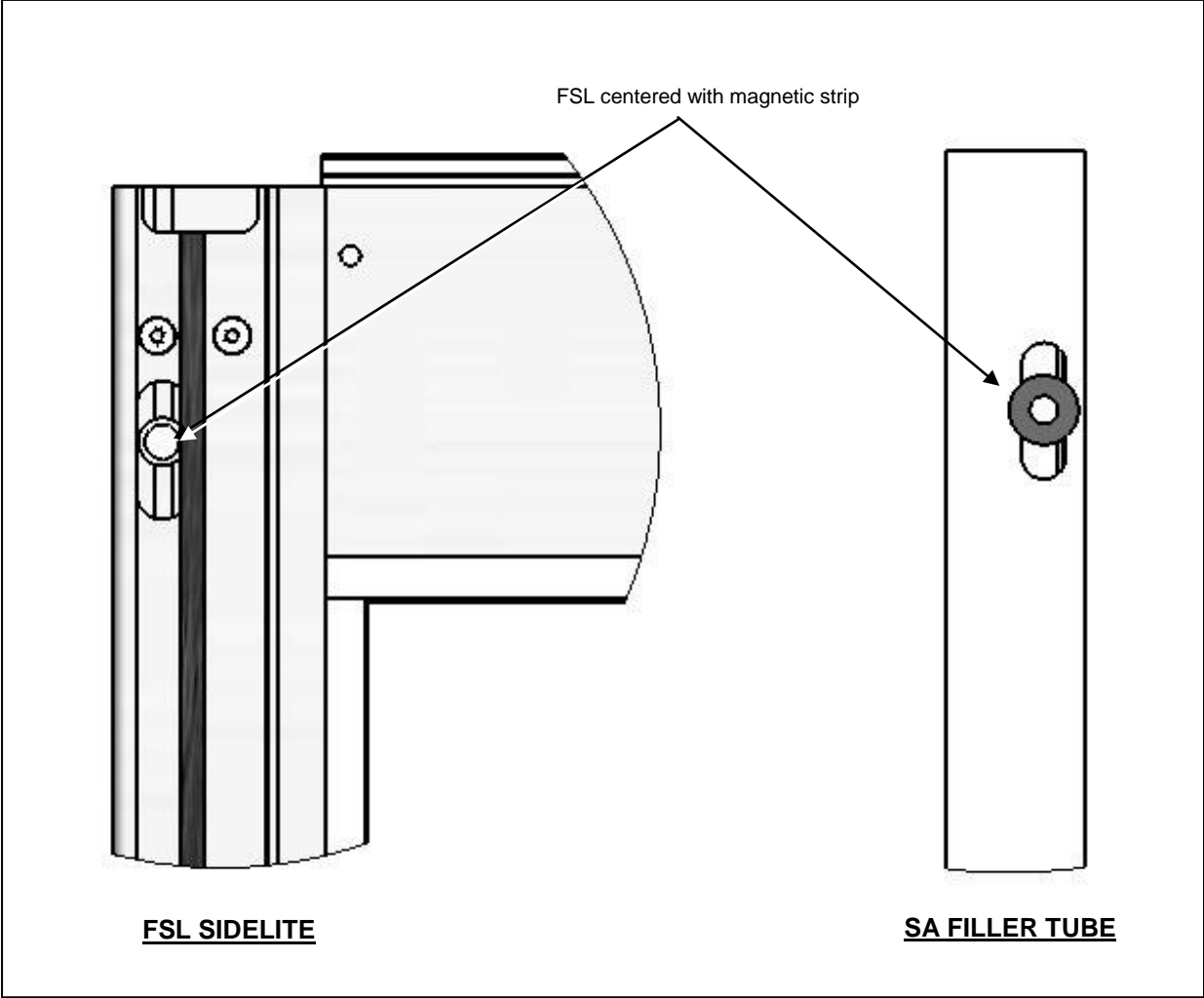
PSA Arm Adjustment

1. Open door and lock down #1 screw (pivoting set screw) of PSA arm, and loosen setscrews #3 and #4.
2. Adjust #2 screw (PSA vertical adjustment screw) on PSA arm to lift the door and ball catch lead edge into alignment with ball catch receiver. (Note, if the glass has not previously been installed, you will need to recheck alignment once the glass is in place and readjust as necessary.)
3. Once the adjustment is complete, tighten remaining setscrews #3 and #4 on PSA arm and close the door engaging the ball catch.
4. Confirm that the lead edge of the door and lead edge of the carriers are still flush.

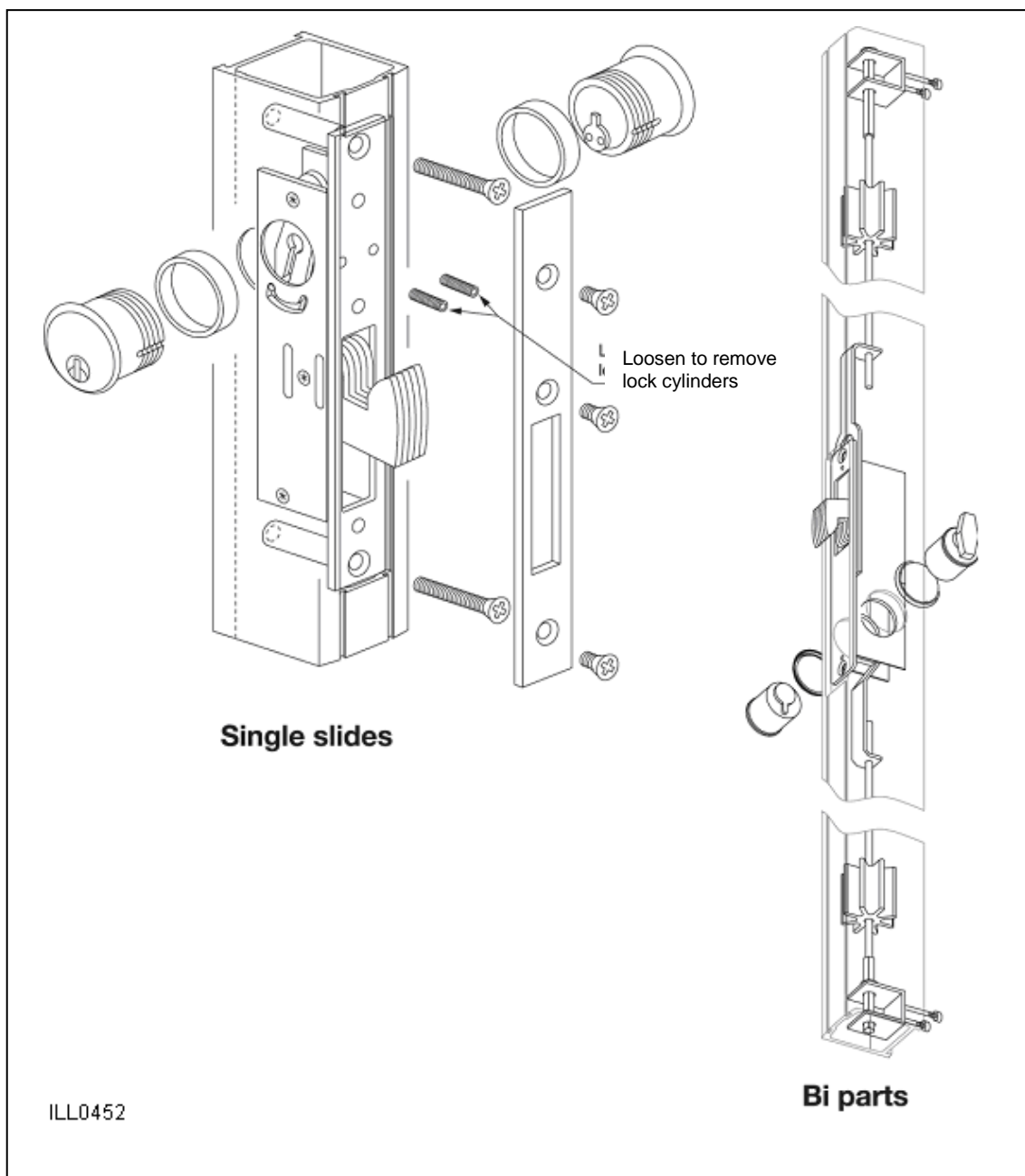


FSL Break-Out Switch Adjustment

Adjust the Break-Out Switch in the sidelite up or down so it is centered with the magnetic strip located in the top of the active panel.



Manual Lock System Adjustment and Re-Keying



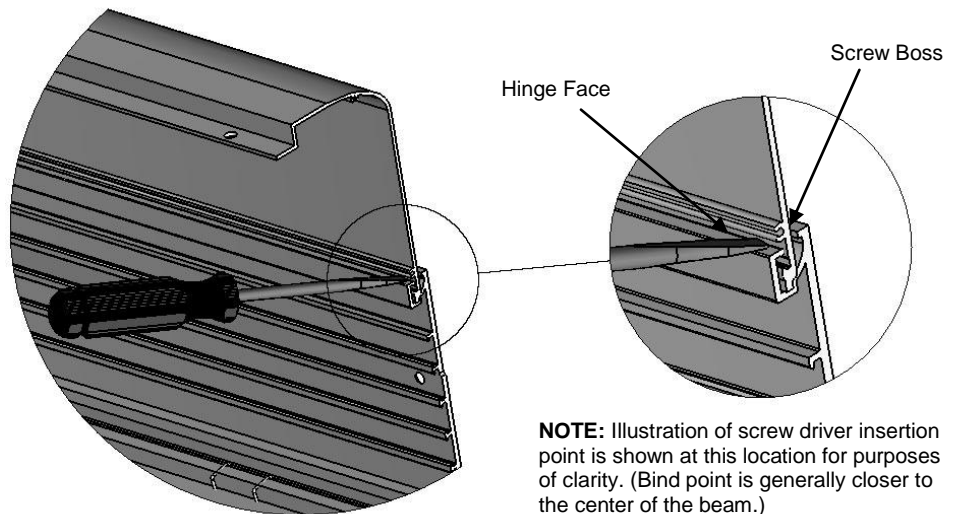
Installing/Removing the Cover

WARNING!

In all instances, where work is being done, the area is to be secured from pedestrian traffic, and the power removed to prevent injury.

Cover latching can be achieved when the cover is in the full open position by pressing the cover toward the unit. (Usually when opening the cover, it will latch with little effort, making it appear to be an automatic function.)

To unlatch the cover, lift slightly, pull and the cover will rotate downward, thereby allowing it to close. Should the cover become hard to close, due to binding, take a flat head screw driver and pry between the screw boss on the cover and the face of the hinge, at the location of the bind, while lifting and pulling as described above. (See graphic below.) The location of the bind can be seen by observing the alignment of the cover to the beam. (There will be a narrowing of the distance between the beam hinge and the cover, generally near the center of the cover.)



To secure the cover, unlatch and close, then attach at the lower edge on both ends with two hex head screws.

To remove the cover, start by uninstalling each door panel. Next, disconnect wiring coming from the Program Selector (if installed in the cover) to the PS Accessory Board mounted to the right of the control unit, (see section title, "[Control Unit](#)"). Then, unscrew the jambs and/or header from the opening. Tilt the Package out and lay it on a set of saw horses. Unscrew and remove the cover end caps.

Slide the cover, laterally, out from one end of the beam.

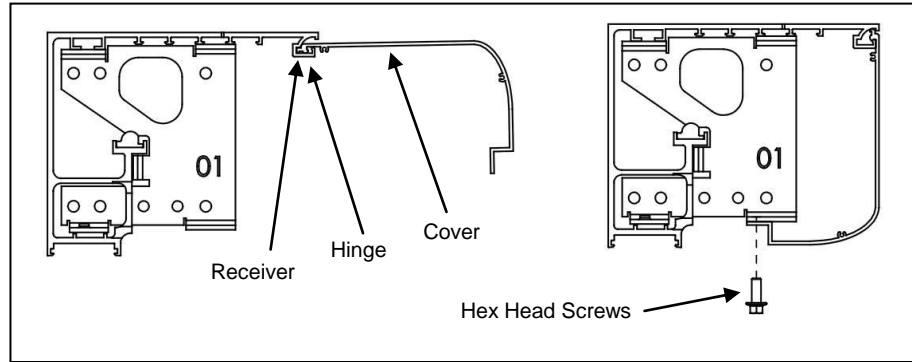
To install the cover, starting at the end of the cover, line the cover's hinge portion with the receiver portion. While ensuring that hinge and receiver engage properly, slide the cover down the length of the header. Reinstall cover end-caps. If wires were disconnected, proceed with the "Reconnect the wires" part of this process, if wires

were not disconnected, close and secure cover as shown in the following illustration.

Reconnect the wires:

A) Connect the cable coming from the Program Selector (if installed in the cover) to the PS Accessory Board mounted to the right of the control unit, (see section title, "[Control Unit](#)").

Close and secure cover with Hex Head Screws, as shown below.



Note! Cover is end load only.

Transom

For Transom Installation, reference Transom Installation Manual US23-1289-01, shipped with this package.

Electrical Connections

Note!

During any work with the electrical connections, disconnect:

- main power
- electronic emergency unit must be disconnected

A suitable lockout is required for OSHA regulation compliance and highly recommended for personal safety.

Note!

Permanent wiring shall be employed as required by local codes.

Installation

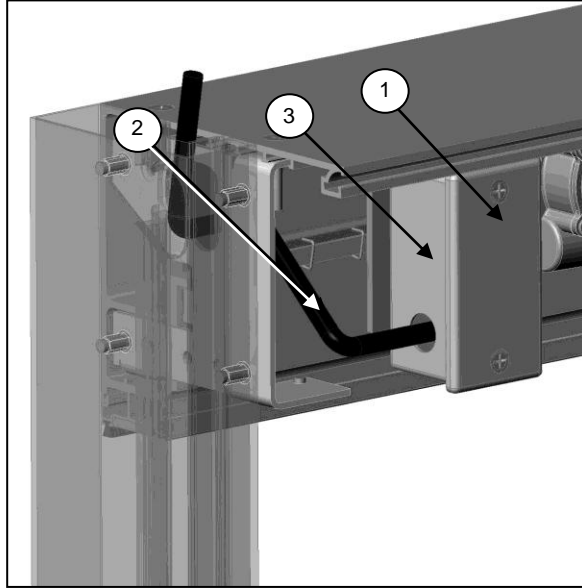
1. Open the cover (reference, "[Installing and Removing the Cover](#)" section).
2. Install extension unit EXU-1 or EXU-3 if required (see "[Extension Units](#)" section).
3. Install and connect the main cables (see below).
4. Install, but do not connect activation units, presence sensors and accessories.
5. Carry out "Start-Up" (reference, "[Startup](#)" section).

Note!

Basic adjustments and function selections can be carried out with the potentiometers and the function selector on the control unit (refer to section titled, "[Extension Units](#)").

Main Power Connection

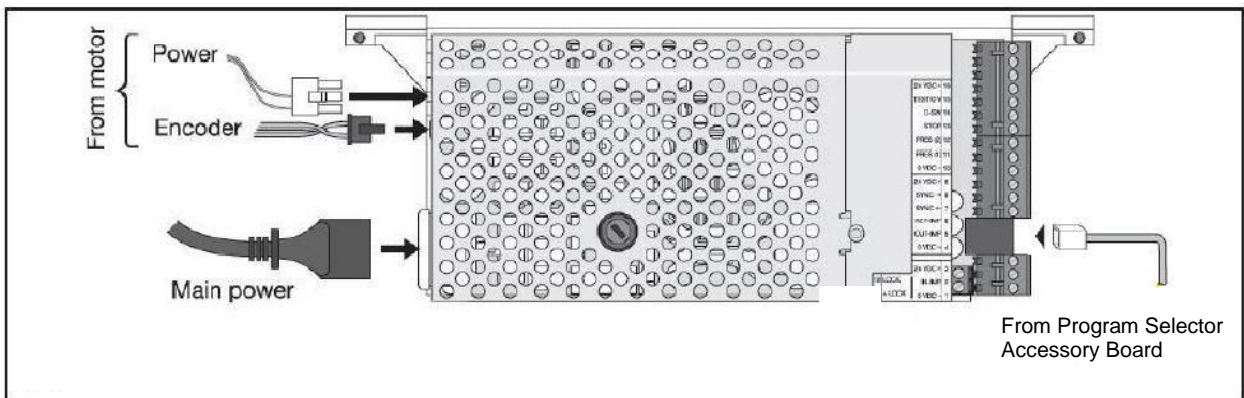
1. Remove the cover plate from the workbox.
2. Connect the incoming main power through the strain relief
 - White wire to white wire
 - Black wire to black wire
 - Green wire to green wire* (see footnote)
3. Replace the cover plate



- 1 Cover plate
- 2 Main power Supply (High Voltage)
- 3 Work box

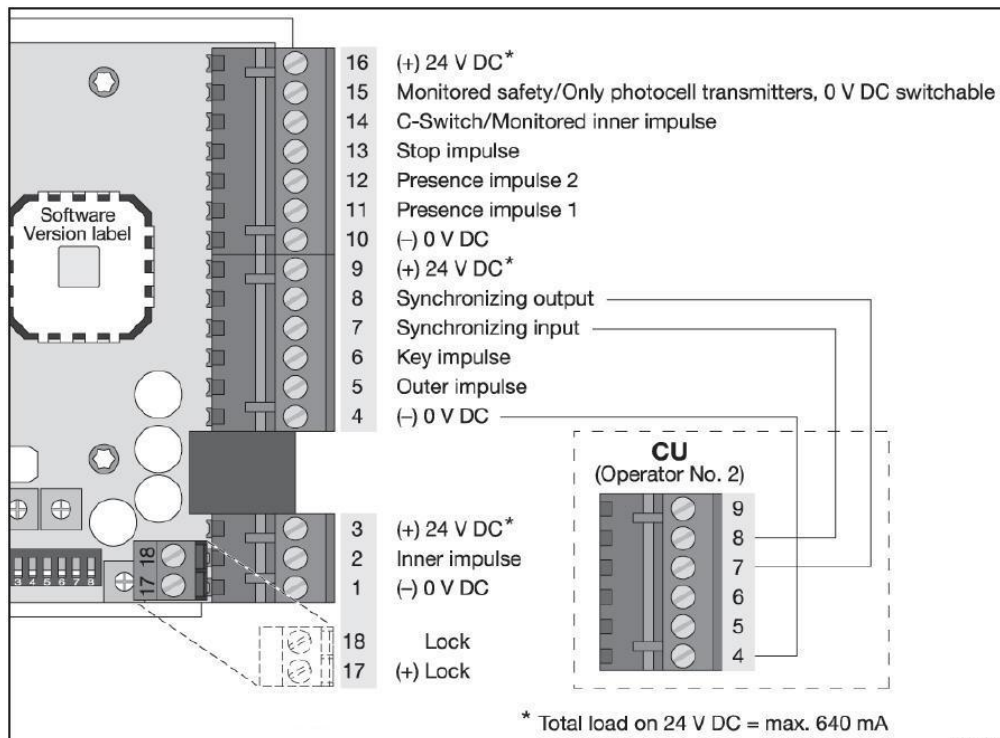
Control Unit Assemblies

Standard Units Connection Contacts

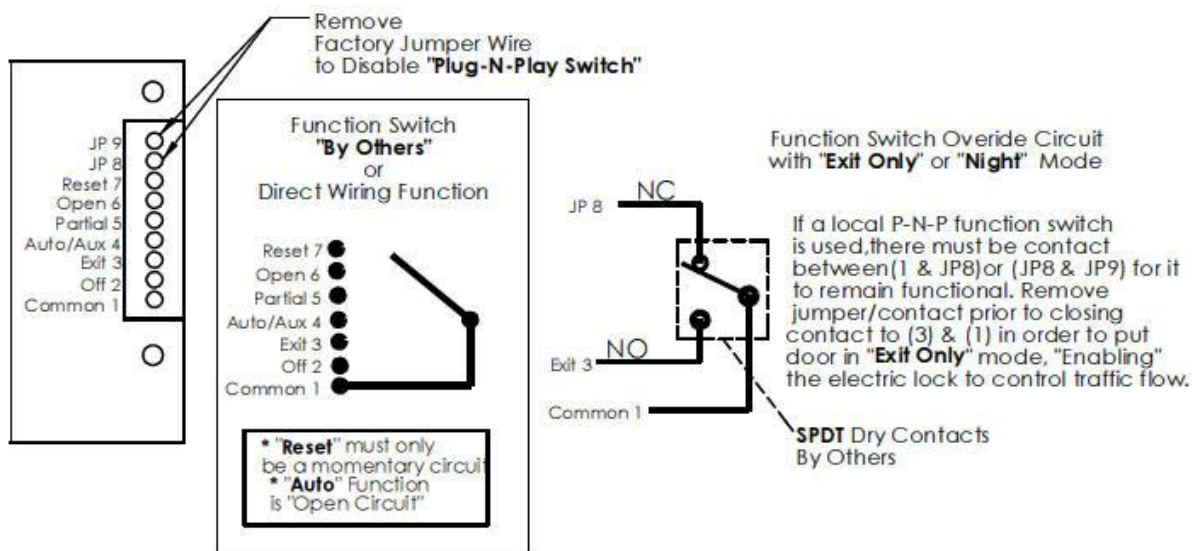


* Installer must properly ground door package! Improper grounding can lead to risk of personal injury.

Terminal Block for Connection Accessories



Program Selector Wiring Options (PS Accessory Board)



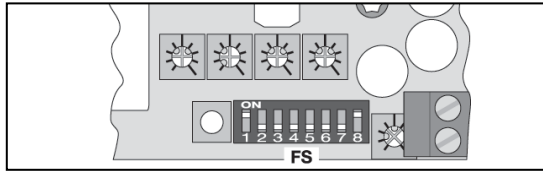
Exit-Only or Night Mode

To place the door system into "Exit-Only" or "Night Mode" the customer will need to supply a SPDT (Single Pole Double Throw) dry set of contacts from their control system or night switch. The common will need to go to terminal (1) of the PS Accessory Board, the Normally Open (NO) contact to terminal (3), and the Normally Closed (NC) contact to terminal (8) as shown above.

Note: If the control system can only supply either open or closed, or if it is an existing installation and new contacts cannot be brought to the door operator, then a relay could be added at the door to supply the required feature.

FS Function Selector

The FS Function Selector is used to Select Special Operating Functions.



Function Selector FS	OFF	ON
1 Belt travel direction on opening facing cover side	CW	CCW
2 Lock configuration (locked with/without power)	With	Without
3 Lock release ¹	No	Yes
4 Presence detection type (normally open/closed) ²	N.O.	N.C.
5 Emergency unit type ³	Electric.	Mech.
6 Emergency unit monitoring	No	Yes
7 Inner imp. monitoring & No. of monit. pres. imp.	No & 0	Yes & 1
8 Hold force on closed door ⁴ (0 N / 45 N)	No	Yes

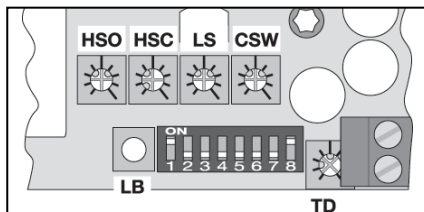
¹ If “Lock release” is active, the door will apply force in the closing direction when the lock is unlocked. This is made to prevent a lock from being stuck in locked position when opening.

² Applies in common for the terminals 11, 12 and 13 on the control unit CU.

³ Choose between “Electrical” (Battery) or “Mechanical” (Rubber band). If no emergency unit is installed the parameter should be set to “Electrical” (default setting). When convenience battery is used in the function selector FS-5 must be set to ON (Mechanical).

⁴ Used to keep the door in closed position.

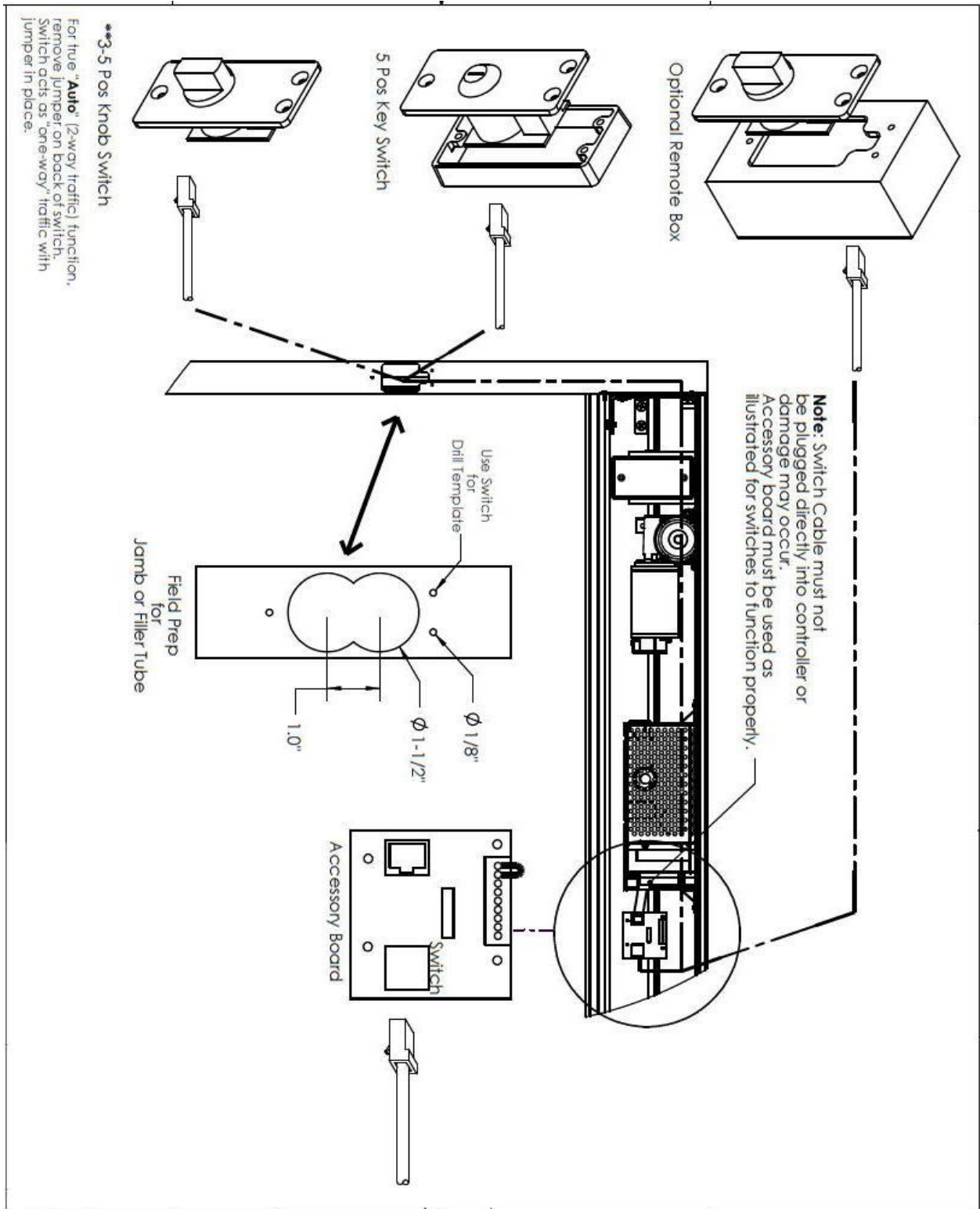
Potentiometers and Learn Button



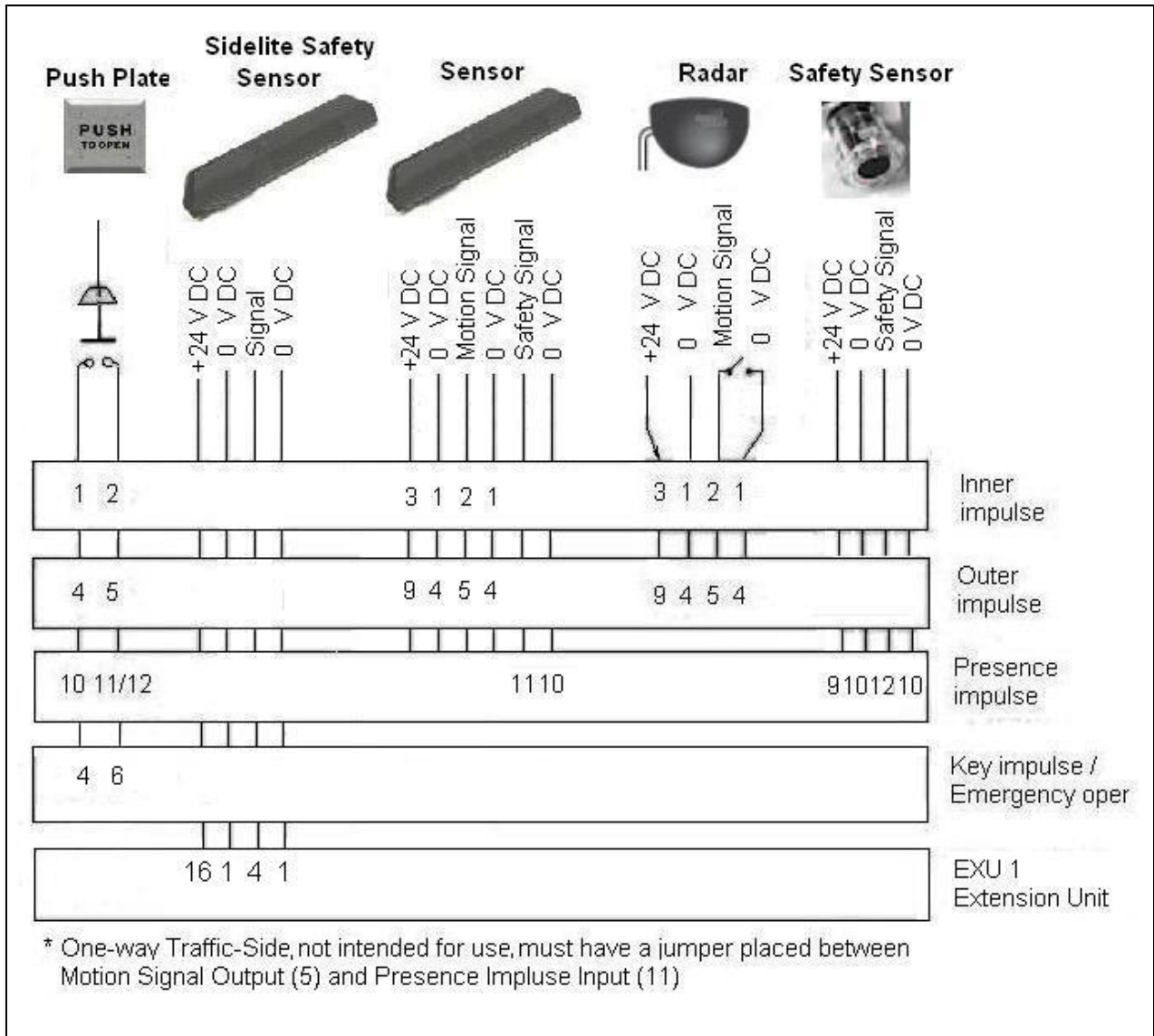
Note! Potentiometers factory settings see arrows on potentiometers

Parameter (speed applies to single panel)		
HSO	High speed opening	0.10 – 0.70 m/s (0.33 – 2.30 ft/s)
HSC	High speed closing	0.10 – 0.70 m/s (0.33 – 2.30 ft/s)
LS	Low speed	0.05 – 0.70 m/s (0.17 – 2.30 ft/s)
CSW	Not Used	Min. = 0 mm / Middle = 700 mm (2.3 ft) / Max. = 1400 mm (4.6 ft) As default locked to 100 mm distance to suit the sensor.
TD	Hold open time	0 – 60 s (also to “Partial Hold Open Time”)
LB	Learn button	

Connection of Program Selectors



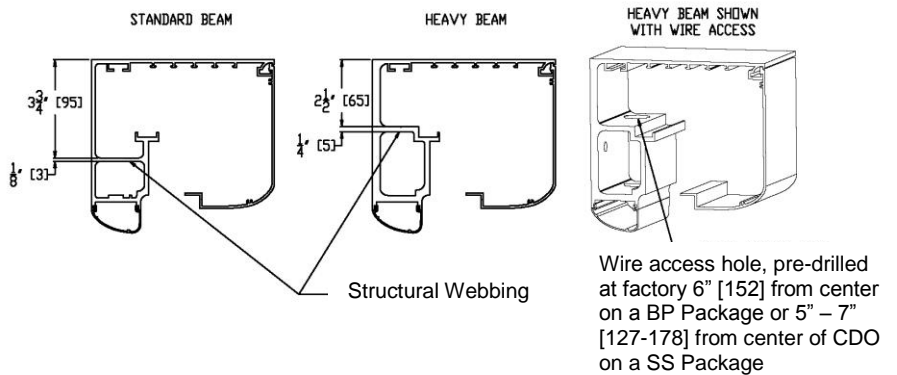
Connection of Activation Units



Note!

Photocells and other sensors are factory installed.

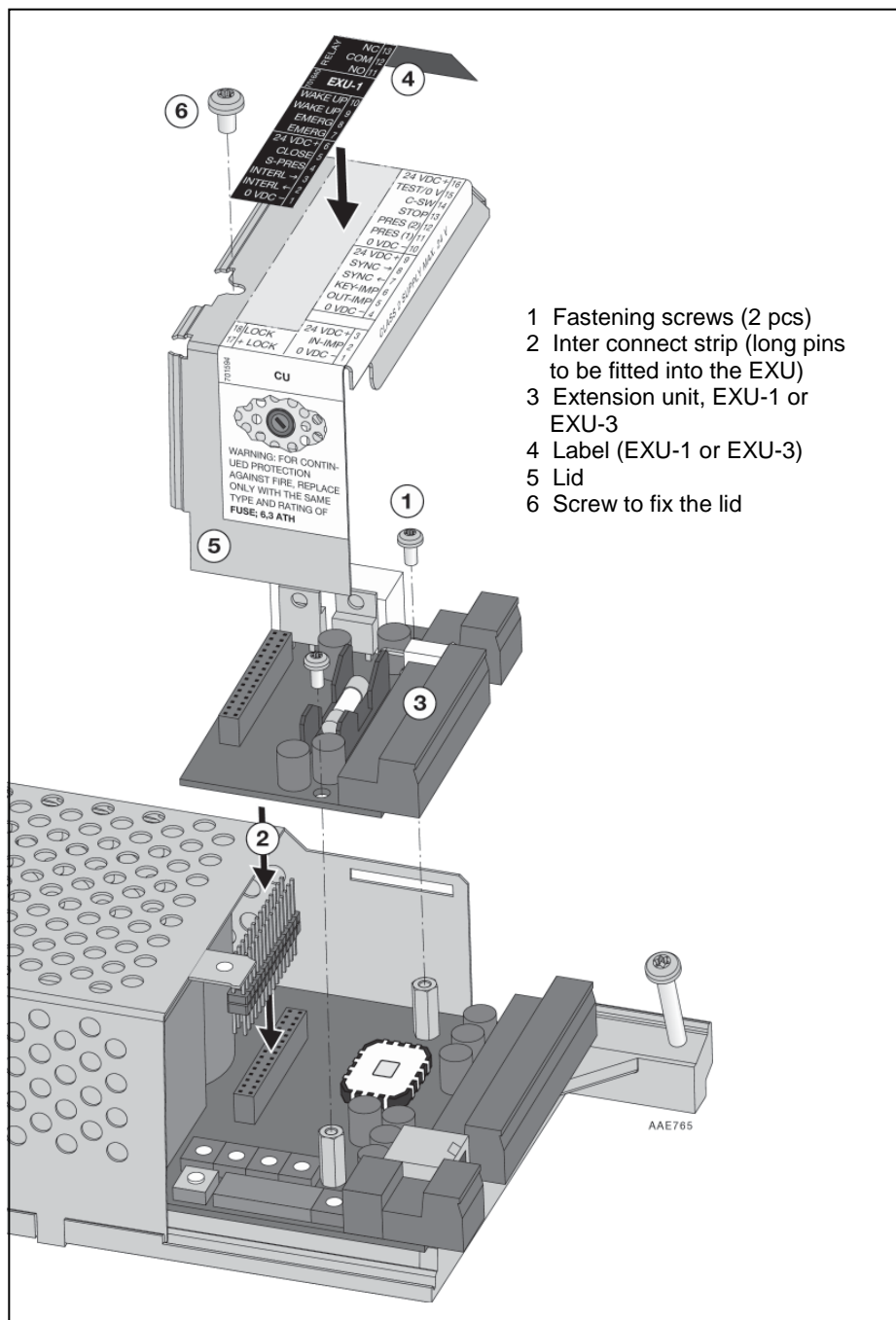
When installing competitive sensors and taking into account the manufacturers recommended installation instructions, please be cautious of how you route the wires in the header. When installing the sensors you will need to avoid the structural webbing when drilling the access hole. If the access hole is located inside the box of the profile, you must route the wire up through a factory pre-drilled hole, then down the back of the beam, securing the wire along its route to ensure that it does not get entangled in the wheels and belts.



Extension Units

When functions beyond those implemented on the main control unit are required, two extension units are available, EXU-1 and EXU-3. These units are to be applied on top of the control unit.

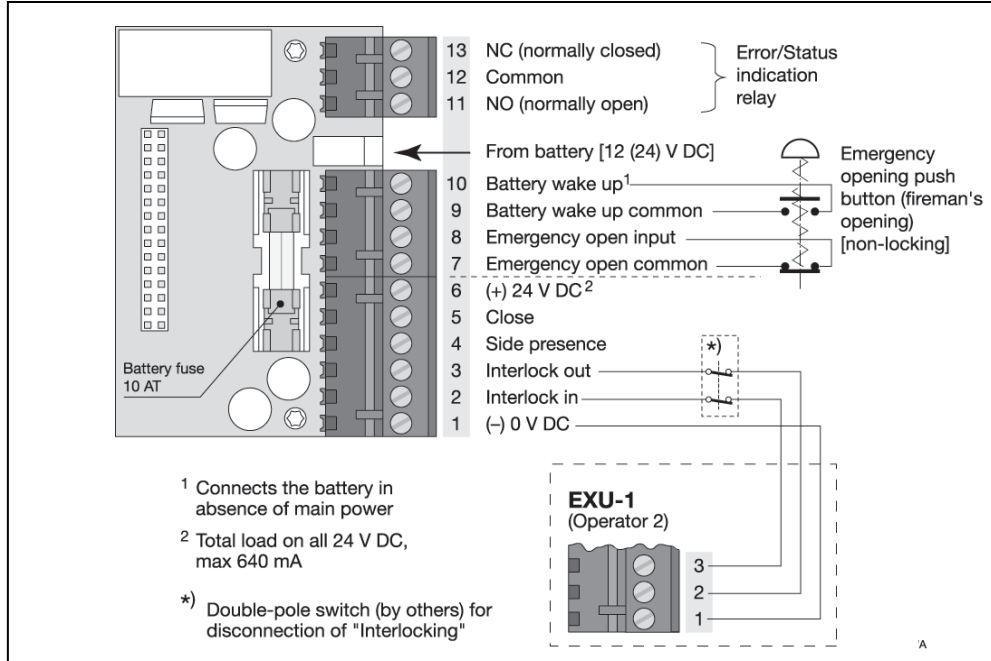
Fitting the Extension Units EXU-1 or EXU-3 to Control Unit CU



Extension Unit, EXU-1

Following functions can be obtained with this unit:

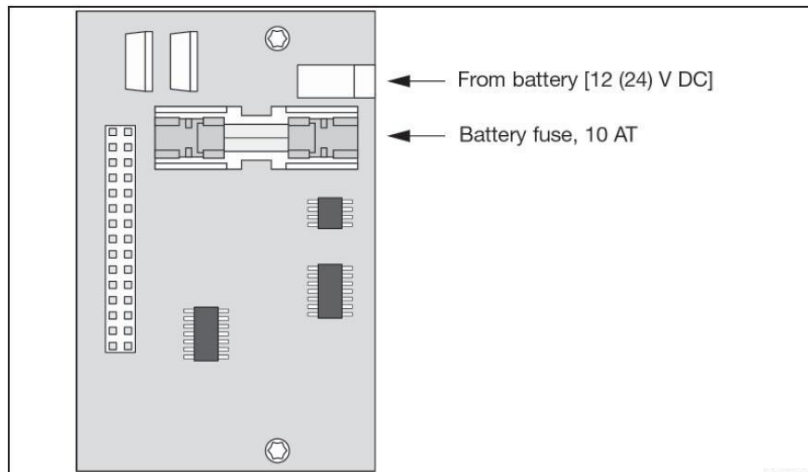
1. Connection of Error/Status indication relay.
2. Connection of “emergency opening push button” (fireman's opening). The cable from the emergency unit (battery) is to be connected to the EXU-1.
3. Connection of interlocking.



Extension Unit, EXU-3

This extension unit has only one function (electrical emergency opening) that opens the door in absence of main power.

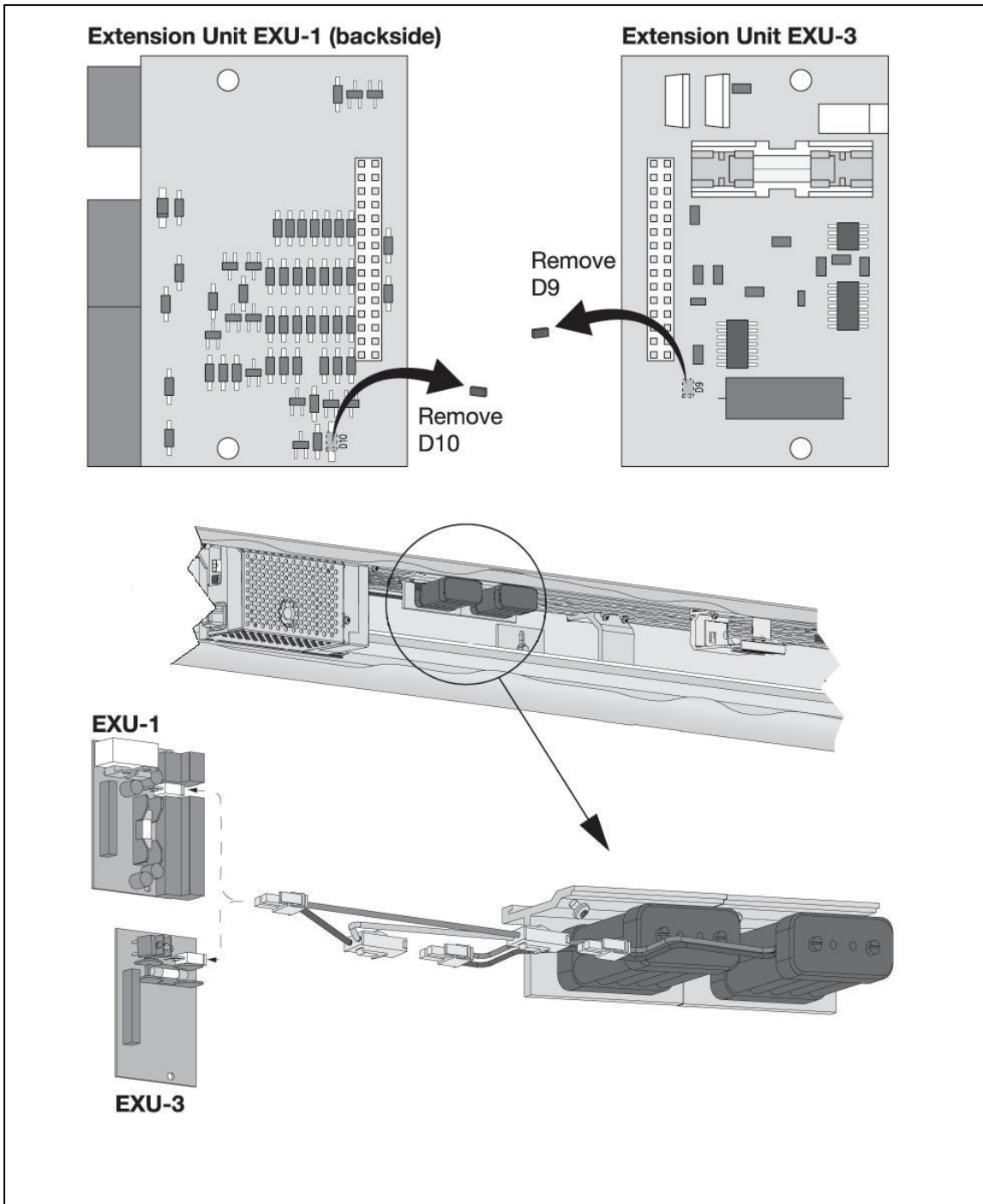
The cable from the emergency unit (battery) is to be connected to the EXU-3.



Convenience Battery UPS (Stand-By Supply)

The convenience battery UPS makes the door operate normally in short absence of main power.

1. Remove the diode D10 (EXU-1) or D9 (EXU-3).
2. Set the function selector FS-5 to ON (Mechanical). (This is set by the factory.)



Start-Up

After installing the operator, the Start-up and adjustment must be carried out in the following order (see also electrical connections).

1. If a lock is installed, make sure the “Lock configuration” is correctly set (locked with or without power) and that lock release is correctly set to Yes (ON)
2. Make sure that correct belt direction of rotation is selected, CCW or CW, (reference, “[Function Selector](#)” section).
3. Set the Program Selector to the “AUTO” position (see [Program Selector Functions](#)). With all other accessories such as sensors and breakout switches disconnected, connect the main power plug to the control unit. If the door is open and no opening impulse is active, it will move to the closed position with low speed.
4. Push the Learn button, LB (reference, “[Function Selector](#)” section). The operator will carry out a complete open/close cycle at low speed to learn the opening width and the closed position.
5. To check the door movement, give opening impulse by shorting the terminals No. 1 and 2 on the control unit.
6. If necessary adjust the door speeds with the potentiometers to the required values (reference, “[Function Selector](#)” section).
7. Select correct functions with the Function Selector FS, for the accessories to be connected (reference, “[Function Selector](#)” section).
8. **Disconnect the main power**, install activation units and accessories and reconnect sensor.
9. Connect the mains power and check that the installation complies with valid regulations and requirements from the authorities.

Note!

The door must not be moving when adjustments are carried out.

About the Learn Button

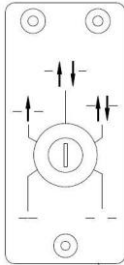
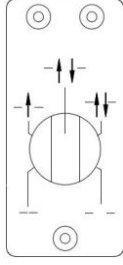
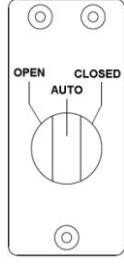
LEARN button	Learn is activated by pushing the Learn Button located on the control unit while doors are in the closed or open position. The door opens to the full open position, clears its position register, then closes, calculating and saving open width information. (Closed position is always Zero and Open position is the calculating open width position.) Learn is usually only used when the door is installed.
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Program Selectors


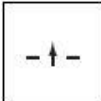
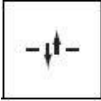

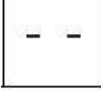
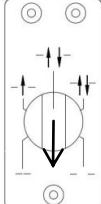
Program Selectors and Functions

The functions of the door are selected with mechanical or key Program Selectors:

- 5 Position with Key uses 1/2" spacer or can be surface mounted
- 5 Position Mechanical Switch, flush or surface mounted.
- 3 Position Mechanical Switch, flush or surface mounted.

5 Pos Switch (Key)	5 Pos Knob Switch	3 Pos Knob Switch
		

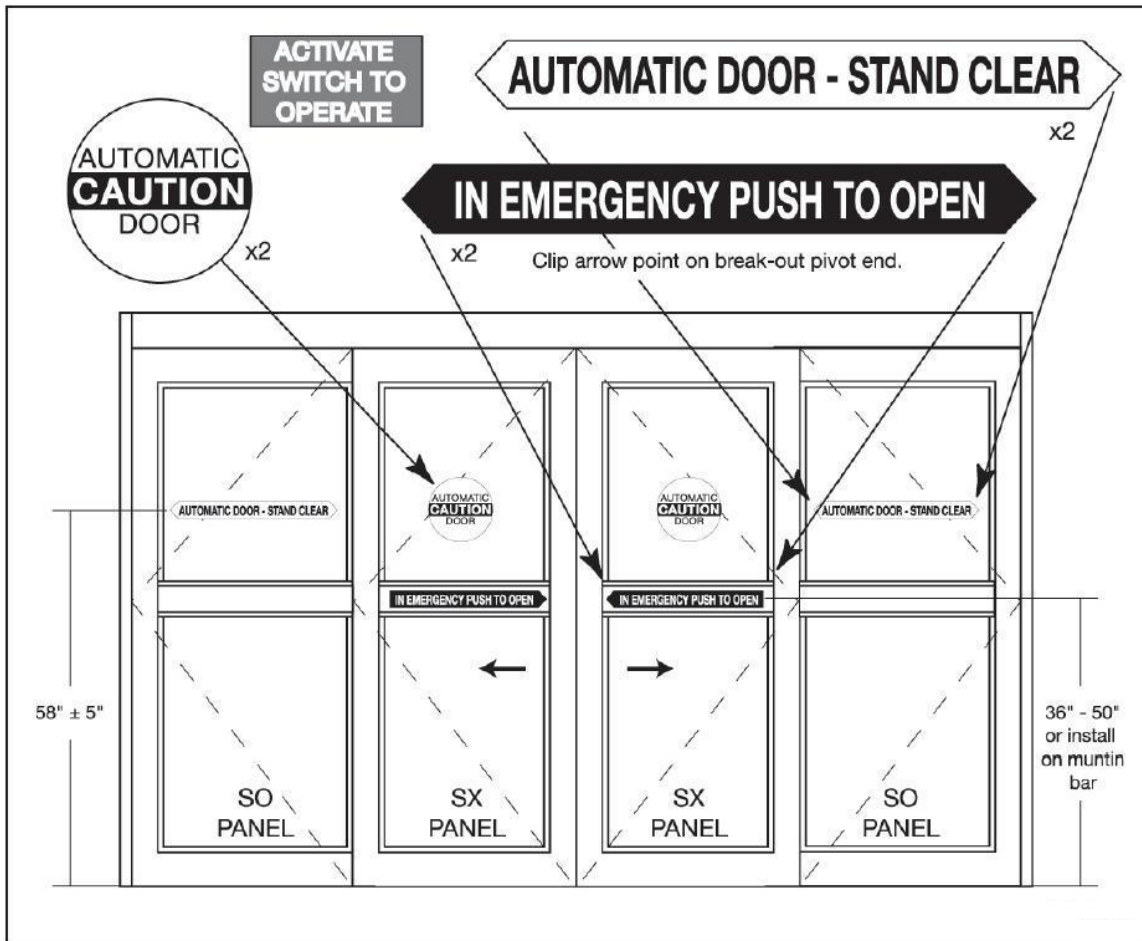
Program Selector Functions

	OFF (Closed)	The inner and outer activation units are disconnected. The door is locked if an electro-mechanical locking device has been installed. The door can be opened with an emergency push-button/key switch (if installed).
	EXIT (One Way Traffic)	Passage through doorway from one side only. The door is locked if an electro-mechanical locking device has been attached. The door can be opened with an activation to INNER IMPULSE 2 or KEY IMPULSE 6.
	*AUTO	Two-way traffic, normal operation of the door. The door can be opened with the inner and outer activation units and with an emergency push-button/key switch (if installed).
	AUTO partial	Two-way traffic. The door can be opened partially with the inner and outer activation units and with an emergency push-button/key switch (if installed).
	OPEN	The door is permanently held open.
	RESET	Momentarily (5 seconds), set the Program Selector as shown and then place at "AUTO" or "OFF" position. The operator makes a system test of the battery, electro-mechanical lock, watchdog relay and closed position. It also reads FS switch settings, CSW distance and Time Delay. After closing, the operator is reset and ready for normal operation again.

* 3-pos switch is selectable between AUTO and EXIT functionality at the AUTO position by removing the jumper on the back side of the switch.

Signage

ANSI/BHMA standard 156.10 and Besam standards specify that caution signs must be affixed to both sides of any power operated pedestrian door. With double doors, signs should be applied to each door. Sliding doors with swinging (Break-out leaves) shall be provided with signs reading "IN EMERGENCY PUSH TO OPEN". The signs shall have red backgrounds with contrasting letters one-inch high minimum. The signs shall read horizontally and be located adjacent to the lockstile on a centerline 36 inches minimum and 60 inches maximum from the floor, applied to the side appropriate for egress. ANSI/BHMA A156.10. In addition, the sign "AUTOMATIC DOOR" with letters 1/2" high minimum will be applied to the door, visible from both sides. If switch activated, use "AUTOMATIC DOOR - ACTIVATE SWITCH TO OPERATE" Note – the kit decals are double-sided and normally will only need to be applied to one side of a clear glass door. If the decals are not clearly visible on the other side due to the condition of the glass (e.g., tinted or textured glass), the decals should be placed on both sides.



Troubleshooting

Always start any troubleshooting by checking the mechanical and electrical parts of the operator in the order that each section header is presented.

The control unit, emergency unit and electromechanical lock are fixed with brackets in the support beam. To replace, loosen each unit, remove and replace.

Mechanical Checking and Remedies

1. Disconnect the main power.
2. Remove the tooth belt from the tooth belt fitting.
3. Manually pull the door leaf and check that the door can be easily moved over the complete sliding track/floor guide. (If the door leaf stops or is hard to move, the reason may be sand, stones, rubbish etc. in the floor guide. The door leaf may also be jamming on the floor or on the weather brush.)
4. Clean the floor guide.
5. Adjust the door leaf height/depth or take other necessary measures until the door leaf is running smoothly when manually operated.
6. Repeat for the other door if bi-parting.

LED Indication Error Codes

The control unit is equipped with a light emitting diode LED for error indication.








During normal operation, the light emitting diode (LED) on the control unit is illuminated.

A flashing light on the LED or an extinguished LED indicates that the operator is not functioning or waiting for monitoring acknowledgement.

LED Flash Freq	Reason	Remedy
4 fast flashes, pause; repeats	Motor temperature high	Wait one minute for the operator to recover. If necessary, replace the control unit.
2 fast flashes, pause; repeats	EEProm access error	Reset the operator. Replace the control unit if necessary.
Continuous; no pause	Battery system (power failure – no error code)	Check battery connection Check battery fuse Check that battery is charged
	Motor/Encoder	Check motor connection Check encoder connection Check door moves with low friction Check that EXU-1 or 3 is seated properly Replace the motor/encoder unit Replace the control unit
	Processor error	Press reset
No Error Indication	Fuse may be blown	Check Fuse
No Control LED Illumination	Power may be OFF	Check Mains Power
	Wiring may not be correct	Check Main Wiring
See additional LED Troubleshooting		

LED Indication

See the table below for the LED indicator and their corresponding Error Codes.

<ul style="list-style-type: none"> Sensor error 1 fast flash (0,2s), pause (1,0s) etc. 	
<ul style="list-style-type: none"> Emergency Unit error 2 fast flashes (0,4s), pause (1,0s) etc. 	
<ul style="list-style-type: none"> CU error 3 fast flashes (0,6s), pause (1,0s) etc. 	
<ul style="list-style-type: none"> Motor/Encoder error 4 fast flashes (0,8s), pause (1,0s) etc. 	
<ul style="list-style-type: none"> Lock error 5 fast flashes (1,0s), pause (1,0s) etc. 	
<ul style="list-style-type: none"> Motor Temperature High 1 slow flash (1,8s), pause (0,2s) etc. 	
<ul style="list-style-type: none"> Normal operation/Non-Critical errors Illuminated 	

Sensor Error



LED indication: 1 flash (0,2s), pause (12,0s), etc.

Error	Reason	Remedy
Presence Impulse	<ul style="list-style-type: none"> The control unit doesn't get a test answer, within 200 ms, from the activation unit. 	<ul style="list-style-type: none"> Make sure that the monitoring output is connected and the connections are OK. Replace the presence activation unit.
Inner Impulse Error	<ul style="list-style-type: none"> The control unit doesn't get a test answer, within 200 ms, from the activation unit. 	<ul style="list-style-type: none"> Make sure that the monitoring output is connected and the connections are OK. Adjust sensor field so that the sensor can give a test answer.

Emergency Unit Error



The door is open and stays open

LED indication: 2 fast flashes (0,4s), pause (1,0s), etc.

Error	Reason	Remedy
Emergency Action Timeout	<ul style="list-style-type: none"> The door is prevented from performing its battery test within 30 seconds, due to low opening speed or high friction. 	<ul style="list-style-type: none"> Make sure that the High Speed. Opening is above 0.2 m/s, and that the door is moving with low friction.

Error	Reason	Remedy
Emergency Unit Error •	<ul style="list-style-type: none"> The door is prevented from performing its rubber band test within 10 seconds, due to broken or weak rubber band or high friction. The battery voltage drops below 9 V, due to low capacity. 	<ul style="list-style-type: none"> Check rubber band tension and make sure that the door can open to fully open position. Charge or replace battery.
Battery Error	<ul style="list-style-type: none"> The battery is disconnected or short-circuited. 	<ul style="list-style-type: none"> Make sure that the cables are OK and connected. Check the battery fuse. Charge or replace battery.

CU Error



LED indication: 3 fast flashes (0,6s), pause (1,0s), etc.

Error	Remedy
<ul style="list-style-type: none"> Internal RAM memory error 	<ul style="list-style-type: none"> Reset, and if the problem remains, replace the control unit.
<ul style="list-style-type: none"> Internal RAM memory error 	<ul style="list-style-type: none"> Reset, and if the problem remains, replace the control unit.
<ul style="list-style-type: none"> Serious internal EEPROM memory error 	<ul style="list-style-type: none"> Reset. Download a saved parameter set or DEFAULT parameter set and perform a reset. If the problem remains, replace the control unit.
<ul style="list-style-type: none"> Internal write EEPROM memory error. This error mainly occurs when it's impossible to change a configuration parameter. 	<ul style="list-style-type: none"> Reset. Try to change the configuration parameter that caused the problem, and if the problem remains, replace the control unit.
<ul style="list-style-type: none"> The internal link voltage has for some reason increased to above 47 V. 	<ul style="list-style-type: none"> Reset, and if the problem remains, replace the control unit.
<ul style="list-style-type: none"> The internal A/D Converter or multiplexer is broken. 	<ul style="list-style-type: none"> Reset, and if the problem remains, replace the control unit.
<ul style="list-style-type: none"> It's not possible to disconnect the motor bridge and lock with the watchdog relay. 	<ul style="list-style-type: none"> Reset, and if the problem remains, replace the control unit.
<ul style="list-style-type: none"> It's not possible to disable the motor bridge. 	<ul style="list-style-type: none"> Reset, and if the problem remains, replace the control unit.

Motor / Encoder Error 

The motor and lock power are disconnected.

LED indication: 4 fast flashes (0,8s), pause (1,0s), etc.

Error	Reason	Remedy
Encoder Error	<ul style="list-style-type: none"> The encoder, encoder cable, or Motor cable is damaged. 	<ul style="list-style-type: none"> Make sure that the encoder cable and the motor cable is connected.
Motor Current Error	<ul style="list-style-type: none"> The Motor cable or Encoder cable is damaged. 	<ul style="list-style-type: none"> Make sure that the encoder cable and the motor cable is connected.

Lock Error 

The motor and lock power are disconnected.

LED indication: 5 fast flashes (1,0s), pause (1,0s), etc.

Error	Reason	Remedy
Lock Failure	<ul style="list-style-type: none"> The lock or something else was preventing the door from opening the first 14 mm from closed position. 	<ul style="list-style-type: none"> Make sure that the lock is operating without friction. Make sure that Hold Force and Lock Release are set correctly.

Motor Temperature High 

The door is opened and stays open.

LED indication: 1 slow flash (1,8s), pause (0,2s), etc.

Error	Reason	Remedy
Motor Temperature High	<ul style="list-style-type: none"> The duty cycle of the door is too high for the current speed settings and hold open time. 	<ul style="list-style-type: none"> If the motor is warm, put the door in PS OPEN and wait for at least 1 minute. Reduce speeds and increase hold open time.

After Remedy or Replacement the Operator Has to Be Checked as Follows

- Study the door movement and adjust the functions to the values required for a smooth door operation.
- Check that correct functions and values have been selected for the installed accessories and that the installation complies with valid regulations and requirements from the authorities.
- Clean the cover and the doors.

ANSI / BHMA A156.10

From American National Standard for power-operated pedestrian doors. Please refer to full standard if necessary, obtainable through BHMA at (212) 661-4261. All figures referred to below can be found in the full standard. Excerpts reprinted with BHMA permission.

Sliding Doors

Automatic Sliding Doors are flat panels that slide horizontally or linearly. These systems have a variety of configurations. No matter what the configuration or system, automatic sliding doors shall include sensors, or control mats and signage for the safety and convenience of the user.

For control mats, joining of control mats and performance requirements of control mats, refer to the full ANSI/BHMA standard.

Motion sensors shall detect a 28 inch (710 mm) minimum high person or equivalent and moving at a rate of 6 inches (150 mm) per second towards the center of the door within the detection areas described.

Presence sensors shall detect a 28-inch (710 mm) minimum high person or equivalent within the detection areas described.

8.2 Sliding Doors

8.2.1 Activating detection areas shall have a minimum width equal to the width of the clear opening measured at 15 inches (380 mm) and 30 inches (760 mm) perpendicular from the face of the closed door(s). The length from the face of the door shall be 43 inches (1090 mm) minimum measured at the center of the clear opening. Detection shall be effective to within 5 inches (125 mm) from the face of the door measured at the center of the clear opening. (See Figures A-13 & 18A, B & C.)

8.2.2 A presence sensor shall be used to prevent a fully open door(s) from closing when a person is in the space between two non-overlapping activation detection areas. (See Figure 18A, B & C.)

8.2.2.1 If photoelectric beams are used (See Figure A-18A):

- 1) A minimum of two photo electric beams shall be installed with the lower beams installed 6"-28" (150-710 mm) and top beam 45"-55" (1145-1400 mm) from the floor; and
- 2) They shall be installed within 3" (76 mm) from the center of the slide door if both are installed on the same side or within 5" (125 mm) of the centerline of the slide door if more than two photo electric beams are installed on each side of the sliding door; and
- 3) The beams shall remain active from fully open to within 6 inches (150 mm) of closed.

8.2.2.2 If an area presence sensor is used through the door opening it (See Figure A-18B):

1) Shall detect a 28 inch (710 mm) minimum high person or equivalent and extend out a minimum of 5 inches (125 mm) from the face of the door on each side; and

2) The detection zone shall remain active from fully open to within 6 inches (150 mm) of close or shall have a photo electric beam at 6"-28" (150-710 mm) from the floor or a time delay of 4 seconds minimum after the activation signal ceases. (See Figure 18B.)

8.2.2.3 If presence sensors are installed on each side of the sliding door opening (See Figure A-18C):

1) They shall not have an inactive area more than 5 inches (125 mm) extending out from the face of the door. If the inactive area exceeds 3 inches, (76 mm) from the face of the door, one beam is required at 6"-28" (150 - 710 mm) from the floor; and

2) The detection zone shall remain active from fully open to within 6 inches (150 mm) of closed or shall have a photo electric beam at 6"-28" (150-710 mm) from the floor or a time delay of 4 seconds minimum after the activation signal ceases. For Knowing Acts, see full standard.

10. Entrapment Protection

10.1 Entrapment Protection measures shall be taken under neutral air conditions.

10.6 Swing, sliding and folding doors utilizing sensors or control mats shall remain open a minimum of 1.5 seconds after loss of detection.

10.9 A stopped sliding or folding door shall not require more than a 30 lbf (133 N), measured at the leading edge, to prevent it from closing at any point in the closing cycle.

10.10 A sliding door shall be adjusted so that the closing speed is one foot per second maximum for doors weighing up to and including 160 lbs (71 kg) per leaf. For doors weighing more than 160 lbs (71 kg):

$$V = \sqrt{(161 / W)}$$

V = Velocity in ft/sec

W = weight of door in pounds

11. Signage

For Signage, see full standard.

12.4 Break Away Device for Sliding Doors. Sliding doors provided with a break away device shall require no more than a 50 lbf (222 N) applied 1 inch (25 mm) from the leading edge of the lock stile for the Break-out panel to open. Break away devices (swinging panels) for doors that slide on the egress side of an opening shall be equipped with a self-closing device or interrupt action of the operator when used in the Break-Out mode. Breakaway devices incorporating swing out sidelites shall interrupt actuation of the operator when used in the Break-Out mode.

Maintenance/Service

Automatic door installations must be subjected to regular maintenance, the frequency of which is governed by the environmental conditions and density of traffic.

- Remove dust and dirt from the operator. Dirt on the sliding track should be removed with methylated spirits. If necessary, replace the sliding track.
- None of the parts needs lubrication. The tooth belt must be kept dry and clean. Check the belt tension.
- Check that all nuts and bolts are tightened well.
- Adjust, if necessary, the door leaf speed, the hold open time and the door leaf position to comply with valid regulations and requirements from the authorities.

Planned Maintenance Checklist

- Measure / Adjust Speeds – Measure to ANSI/BHMA A156.10 and local codes; adjust if necessary (Open time - 1.5 seconds or longer).
- Measure / Adjust Forces – Measure to ANSI/BHMA A156.10 and local codes; adjust if necessary.
- Measure / Adjust Time Delays – Measure to ANSI/BHMA A156.10 and adjust if necessary.
- Check Functioning – Mats, Sensors, Operator/Control, and Push Plates per device checklist.
- Check Signage – Are all signs in place, readable, and in good condition?
- Check Door Hinging / Mechanical Soundness – all attachments, covers, arms, crash bars, etc..
- Check Finger Guards, Glass and Glass Stops, Trip Hazards, Rails, Sharp Edges.
- Check Emergency Egress (if so equipped).
- Check all wiring for good connections, proper insulation and clearance from moving parts.
- Check Battery Backup if equipped.
- Go through Daily Safety Checklist with facility manager.
- Visually check door for operation.
- Check activation and threshold detection devices.

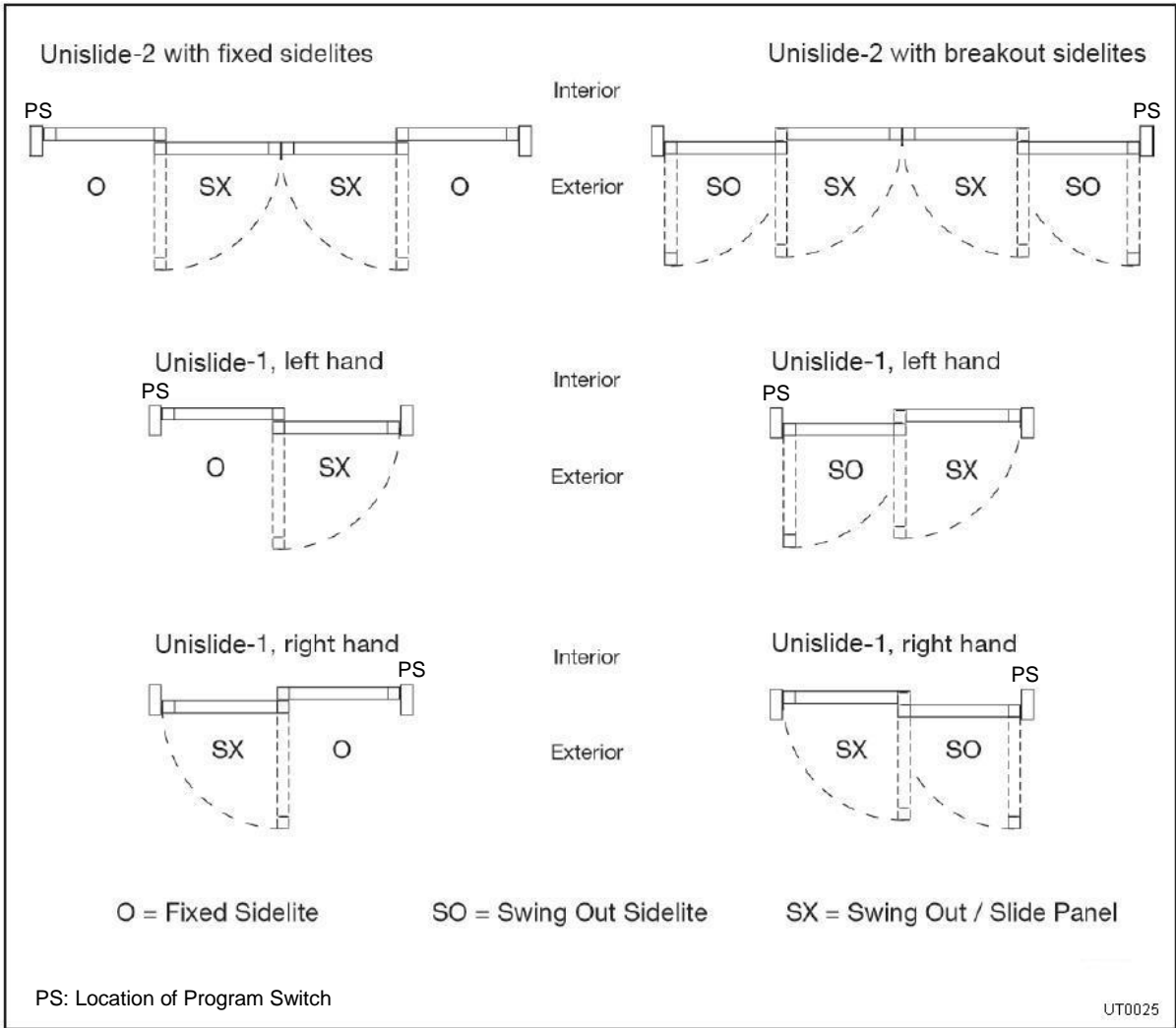
- Check for tripping hazards.
- Check door function switch.
- Check for proper operation of lock assembly.
- Check for loose glass stops or damaged glass.
- Check all panels for damaged or loose weather stripping.
- Check panic latches for proper release force.
- Check panic circuit operation for operator cut off or spring return.
- Check bottom guide assembly for proper adjustment and for excessive wear.
- Remove access cover, and check motor and gear box for leakage and noise.
- Inspect drive pulleys and belt for proper alignment.
- Clean hanger rollers and repair or replace if damaged. Adjust roller height if necessary.
- Inspect anti-riser block or rollers for damage and/or binding.
- Ensure that all wiring in the header is properly routed and protected from any moving parts.
- Reinstall and secure access cover and recheck the complete door operation.
- Clean door, glass and header thoroughly.

Note on the Planned Maintenance review, any recommendations to improve door performance and reliability, and review with customer.

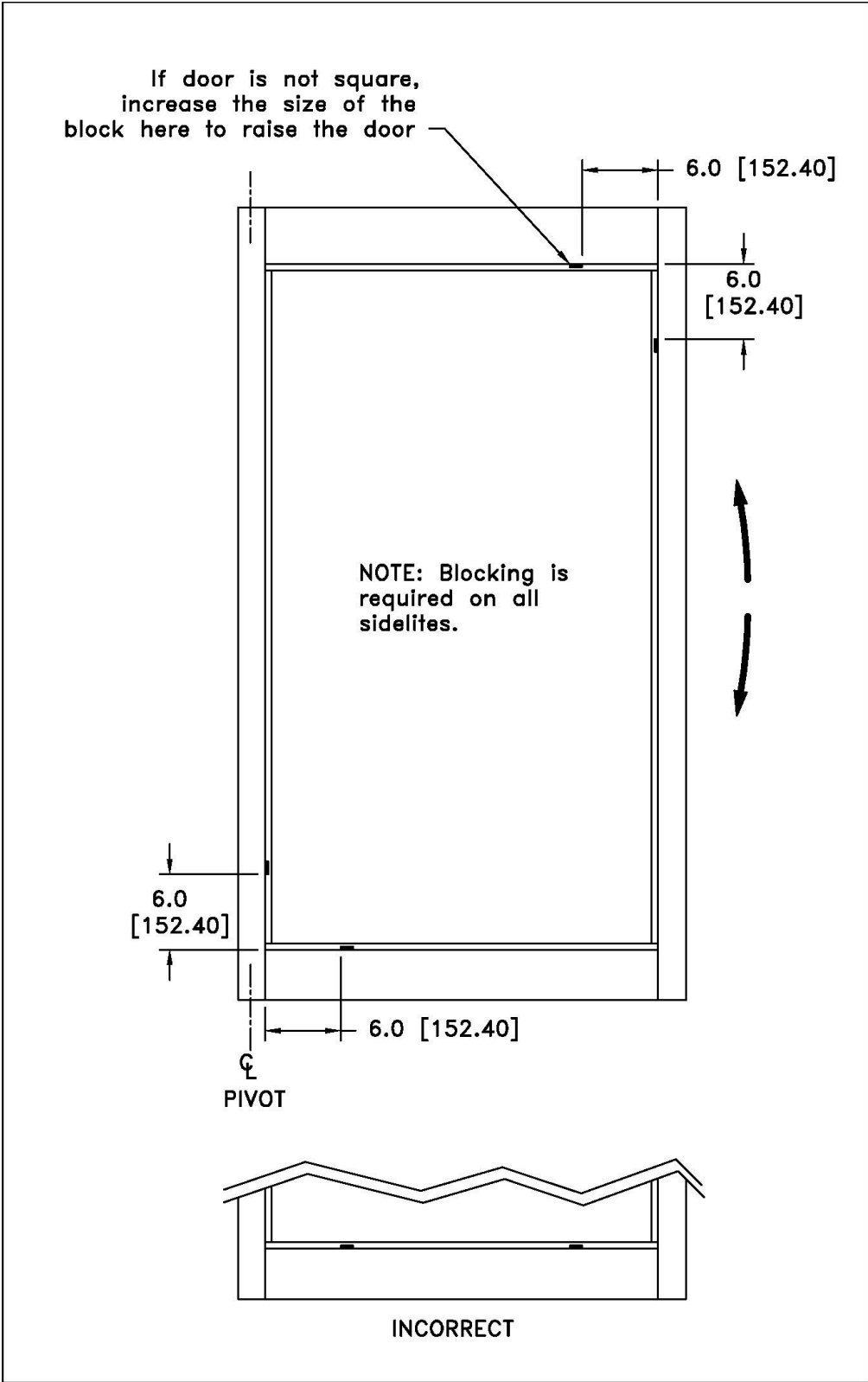
Door Handing & Layout

Door Handing (Automatic Door Industry)

Sliding door handing is referenced from the exterior side of the door opening. Bi-parting sliders are not handed.



Glazing and Blocking





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