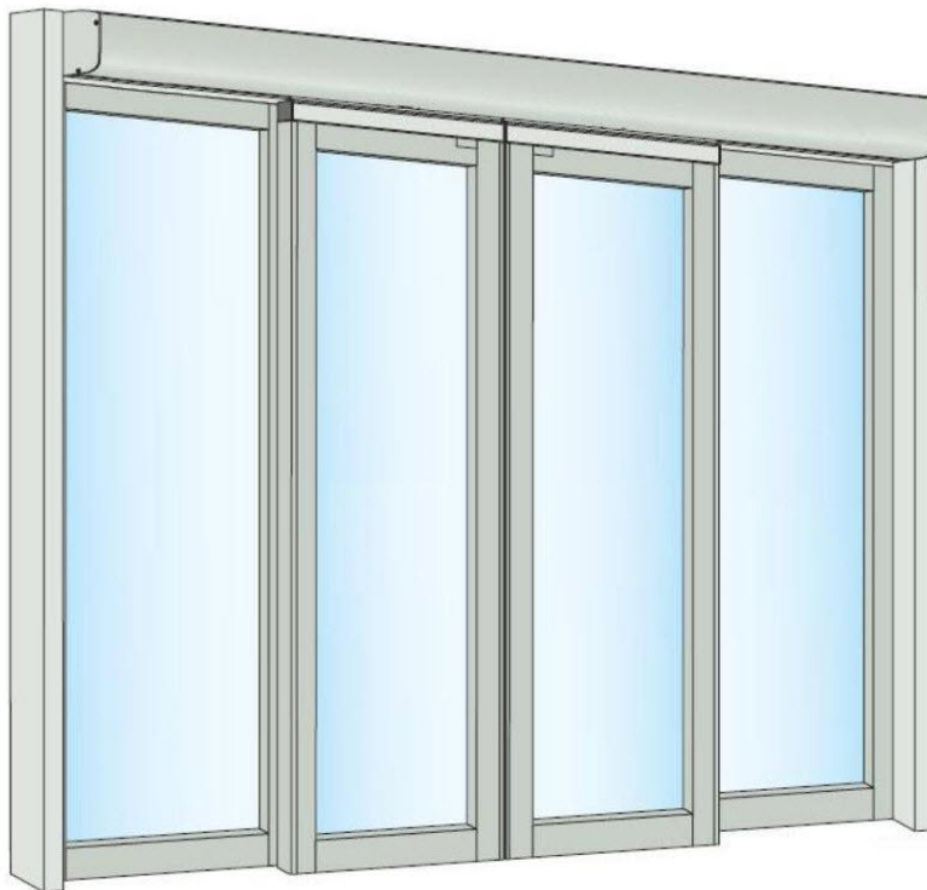




## **Besam UniSlide™**

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### **Installation Manual**



Complies with ANSI/BHMA A156.10 standard for Power Operated Pedestrian Doors. UL 325 Listed.



## Revisions

The following pages have been revised:

<b>Page</b>	<b>Revision</b>
Title	New release date and update revision level
30	Surface Applied track info added

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# CAUTION

**Improperly adjusted doors** can cause injury and 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 adjustment or repair.

In this manual, the word:

**CAUTION** - means that injury or property damage can result from failure to follow instructions;

**NOTE!** - indicates important steps to be followed or important differences in equipment.



# Table of Contents

<b>Revisions</b> .....	<b>3</b>
<b>Important Information</b> .....	<b>9</b>
Important Notice! .....	9
Radio and Television Reception .....	9
<b>Introduction</b> .....	<b>11</b>
<b>Technical Specifications</b> .....	<b>12</b>
Design .....	13
Function .....	13
Opening .....	13
Closing .....	13
Safety Functions Integrated in the Operator .....	13
Microprocessor for Precise Control .....	13
Emergency Escape .....	13
Safety sensors .....	13
<b>Models</b> .....	<b>14</b>
<b>Part Identification &amp; Options</b> .....	<b>15</b>
<b>Active Leaf Panic Break Out System</b> .....	<b>16</b>
Bottom Guide Systems .....	18
Various Options .....	19
Space Required .....	20
<b>Pre-Installation Questions</b> .....	<b>21</b>
General Tips / Safety Concerns .....	21
<b>Installation Overview</b> .....	<b>22</b>
<b>Installation Examples</b> .....	<b>23</b>
Concealed .....	23
Surface Applied .....	24
<b>Installation Requirements</b> .....	<b>25</b>
Fastening Requirements .....	25
Test Equipment .....	25
Tools required .....	25
<b>Site Inspection</b> .....	<b>26</b>
<b>Concealed Mechanical Installation</b> .....	<b>27</b>
Checking – Marking Out – Fastening .....	27
Leveling Header and Jambs .....	27
<b>Fitting the Floor Guide Track</b> .....	<b>29</b>
<b>Fixed Sidelite Installation Procedure</b> .....	<b>31</b>
<b>Full Breakout Sidelite Installation Procedure</b> .....	<b>32</b>
<b>Setting the Active Leaf Roller Guide Pivot (Fixed Sidelite)</b> .....	<b>33</b>
<b>Hanging the Active Door Leaves (Full Break Out)</b> .....	<b>34</b>
<b>Setting the Active Leaf Pin Guide Pivot (Full Break Out)</b> .....	<b>35</b>
<b>Height Adjustment</b> .....	<b>36</b>
<b>Attachment of Tooth Belt Fittings</b> .....	<b>37</b>
Bi-parting operators .....	37
Single-sliding operators .....	37
<b>Adjustment of the Leading Edge (to Avoid Finger Traps)</b> .....	<b>38</b>
<b>Checking and Adjusting the Belt Tension</b> .....	<b>39</b>

<b>Interlocks for FBO Units .....</b>	<b>40</b>
<b>Adjusting Ball Catches.....</b>	<b>41</b>
<b>Manual Lock System Adjustment and Re-Keying .....</b>	<b>42</b>
<b>Installing/Removing the Cover .....</b>	<b>43</b>
Installing.....	43
Removing is made in Reversed Order.....	43
<b>Transom .....</b>	<b>44</b>
<b>Electrical Connections.....</b>	<b>45</b>
Main Connection.....	45
<b>Control Unit Assemblies.....</b>	<b>46</b>
Standard Units Connection Contacts.....	46
Terminal Block for Connection Accessories .....	46
Program Selector Wiring Options (PS Accessory Board).....	47
Exit-Only or Night Mode .....	47
FS Function Selector .....	48
Potentiometers and Learn Button.....	49
Connection of Program Selectors.....	50
Connection of Activation Units .....	51
Extension Units.....	52
Fitting the Extension Unit EXU-4 to Control Unit CUF .....	52
Extension Unit, EXU-4.....	53
Start-Up.....	53
Program Selectors .....	55
Program Selectors and Functions .....	55
<b>Signage.....</b>	<b>56</b>
<b>Troubleshooting .....</b>	<b>57</b>
Mechanical checking and remedies.....	57
LED Indication and Error Codes .....	57
Normal Operation/Non-critical errors .....	57
Power failure (no error code).....	57
LED indication.....	58
Sensor Error.....	58
Emergency Unit Error .....	59
CUF Error .....	59
Motor / Encoder Error .....	60
Lock Error .....	61
Motor Temperature High.....	61
<b>ANSI / BHMA A156.10.....</b>	<b>62</b>
<b>Maintenance/Service .....</b>	<b>64</b>
<b>Planned Maintenance Checklist .....</b>	<b>65</b>
<b>Door Handing &amp; Layout.....</b>	<b>67</b>
Door Handing (Automatic Door Industry) .....	67



## Important Information

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### Important Notice!

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 UltraView™ 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	120/240V, 60Hz Fuse: 10 Amp <b>Note!</b> Permanent wiring is to be employed as required by local codes.
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 200 kg (440 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. Glazing material for pedestrian doors shall also comply with ANSI Z97.1, except that single strength or heavier glass may be used for those portions of doors involving a glass area of less than 1ft<sup>2</sup> (0.9m<sup>2</sup>) and having no dimension greater than 18 in (457mm)

## 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 Sidelights)

### 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 door package is equipped with mechanical panic break-out hardware. This enables the doors and/or sidelites, by applying the appropriate amount of pressure, to be swung outward in an emergency per ANSI 156.10.

### Safety sensors

Safety sensors such as Besam UltraView™ 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 page 62 for illustrations of various layouts.)

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.

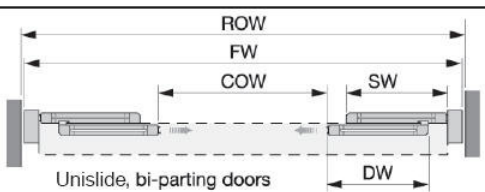
Before installing the UniSlide system, check to see that you have been supplied the correct equipment and that, all necessary tools and hardware are at hand. Also, check the installation site for any factors that might interfere with proper installation. (See [Installation Examples](#) section)

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

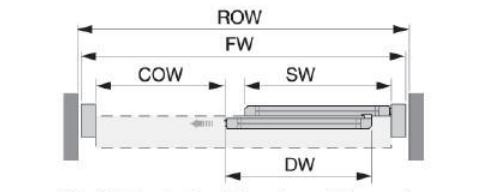
**Notes!**  
 Length and height is specified in inches and fractions of an inch after the dash - based on the following list.  
 0/8" = - 00; 1/8" = - 18; 1/4" = - 14; 3/8" = - 38; 1/2" = - 12; 5/8" = - 58; 3/4" = - 75; 7/8" = - 78;  
 Finish is specified by the following list  
 CL = Clear Anodize; DB = Dark Bronze Anodize SP = Special (May consist of Wet Process, Powder Coat or Cladding)

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"

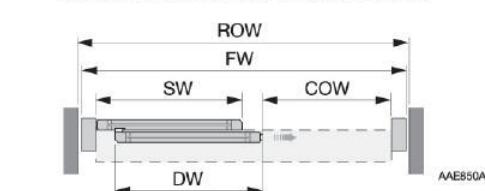
Single Slide FBO Model No.	COW	FW	DW
Unislide OC S-R FBO 84.0 Unislide OC S-L FBO 84.0	35-1/4"	84"	41-1/2"
Unislide OC S-R FBO 96.0 Unislide OC S-L FBO 96.0	41-1/4"	96"	47-1/2"
Unislide OC S-R FBO 102.0 Unislide OC S-L FBO 102.0	44-1/4"	102"	50-1/2"
Key:	(FW/2)-6-3/4"	ROW - 1/2"	(FW/2)-1/2"



Unislide, bi-parting doors



Unislide R, single-sliding door, right-opening

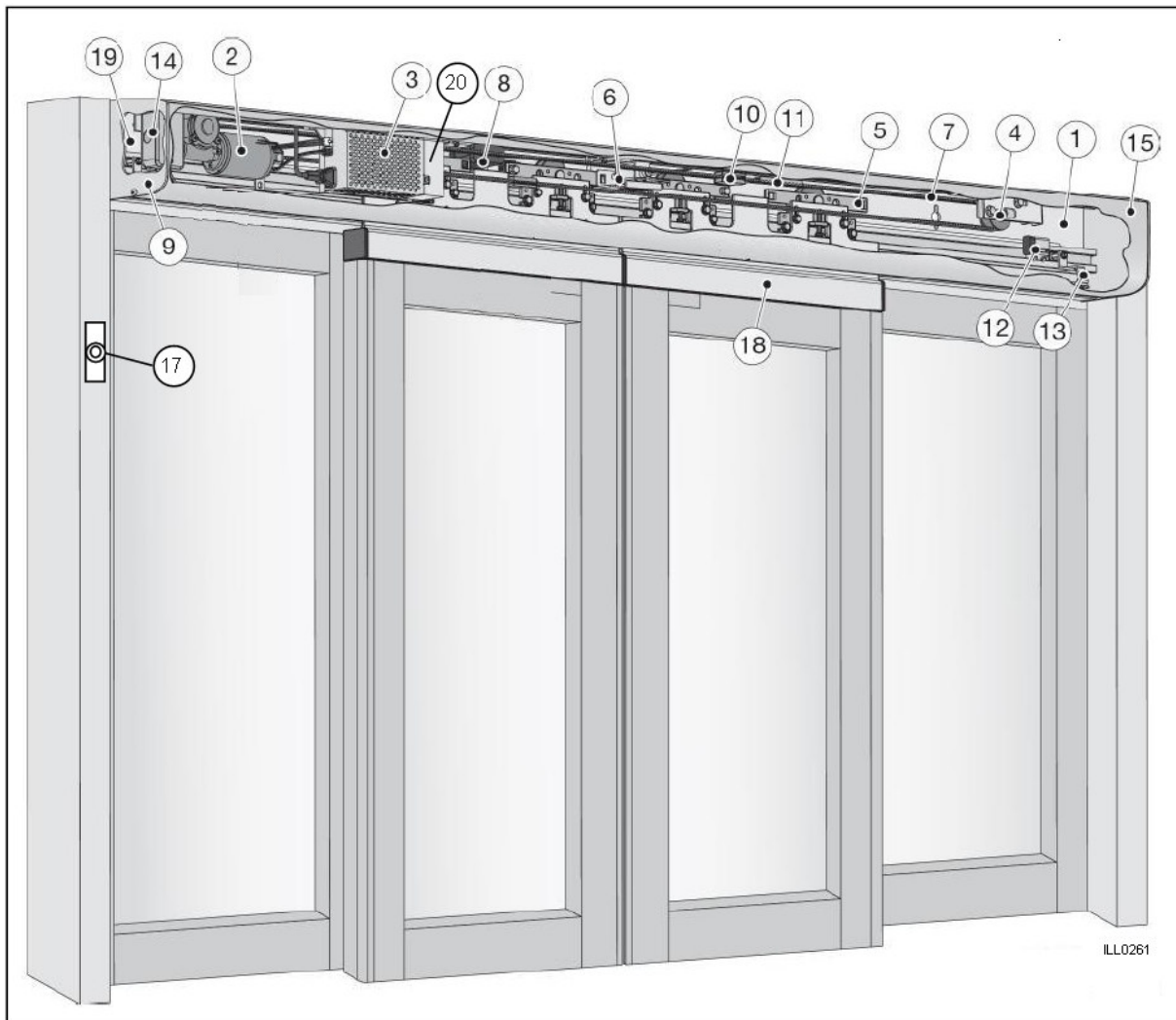


Unislide L, single-sliding door, left-opening

**Note:** Charts are for narrow stile doors with 1/4" glazing. Wider stiles or thicker glazing will reduce the COW dimension accordingly.

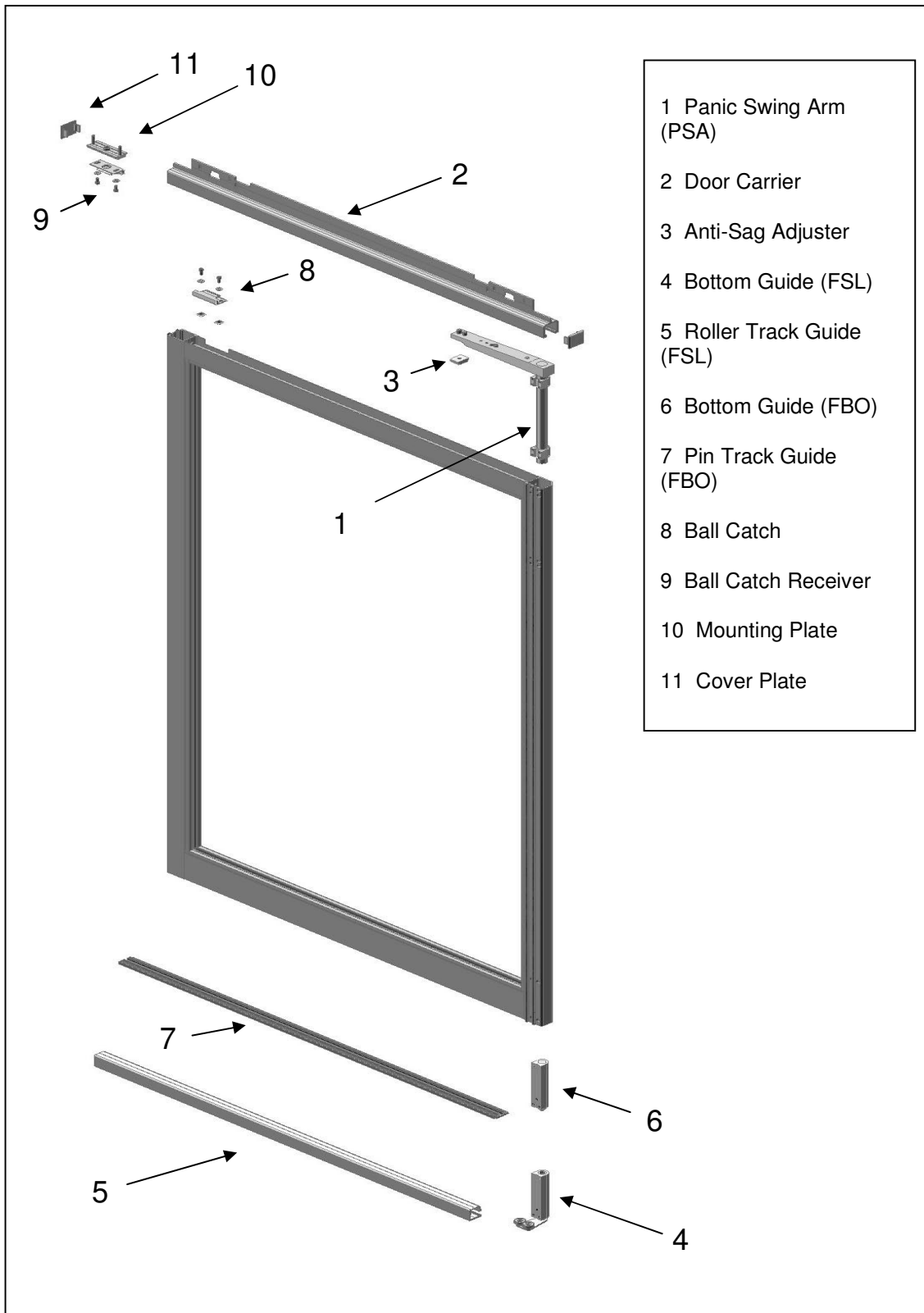
FW = Frame width	COW = Clear opening width/Net opening
SW = Sidelite width	ROW = Rough opening width
DW = Door leaf width	

## Part Identification & Options



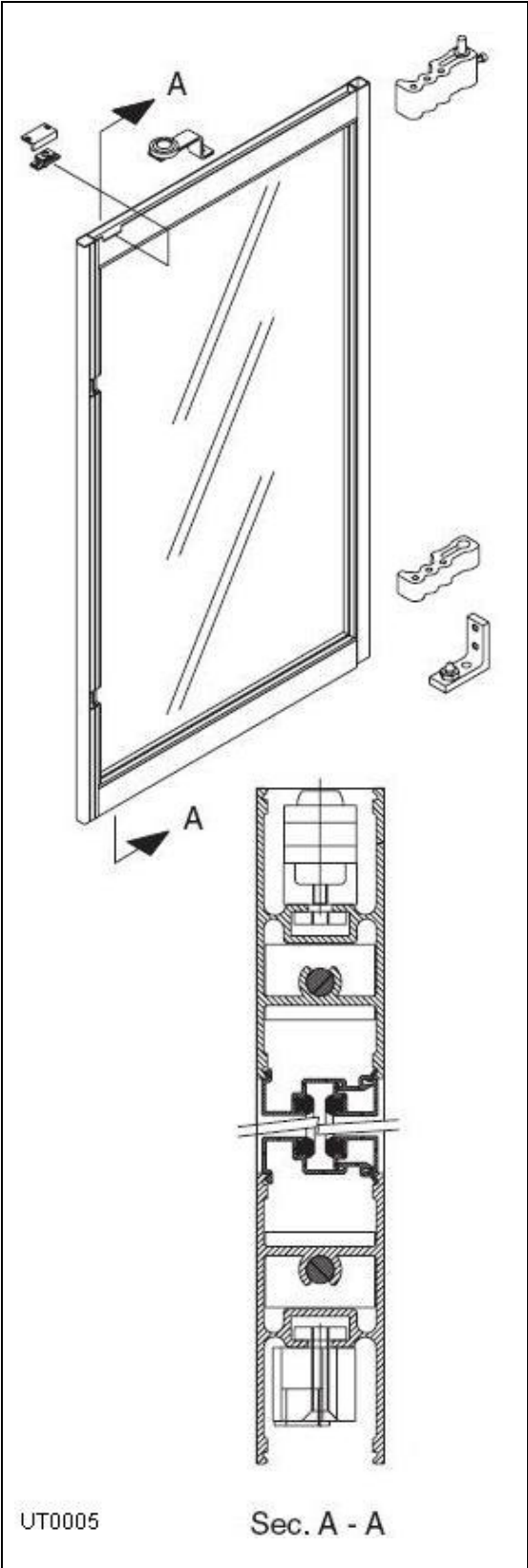
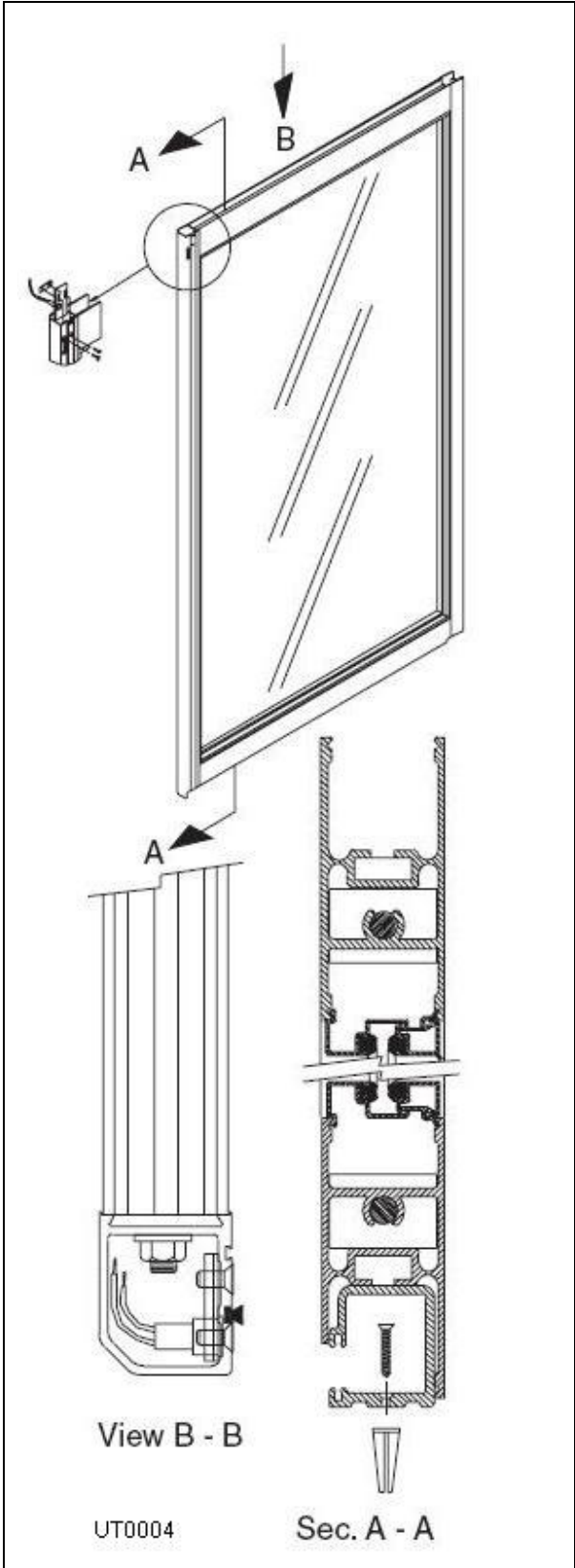
Part Id	Assembly Name	Part Id	Assembly Name
1	Support Beam	11	Belt Joining Clamp
2	Drive Unit	12	Door Stop
3	CUF (Standard)	13	Cover Lock
4	Tension Wheel	14	Connection Box
5	Carriage Wheel Bracket	15	Cover
6	Locking Device (Option)	17	Program Selector
7	Tooth Belt	18	Door Carrier
8	Electronic Emergency Unit (Option)	19	Cable Inlet
9	End Plate	20	Extension Board (EXU-4)
10	Tooth Belt Fitting		

## Active Leaf Panic Break Out System





# Sidelight, Fixed Sidelight, Break Out



## 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 pages 24-25, 28 and 30 for guide installation.

Pin Guide

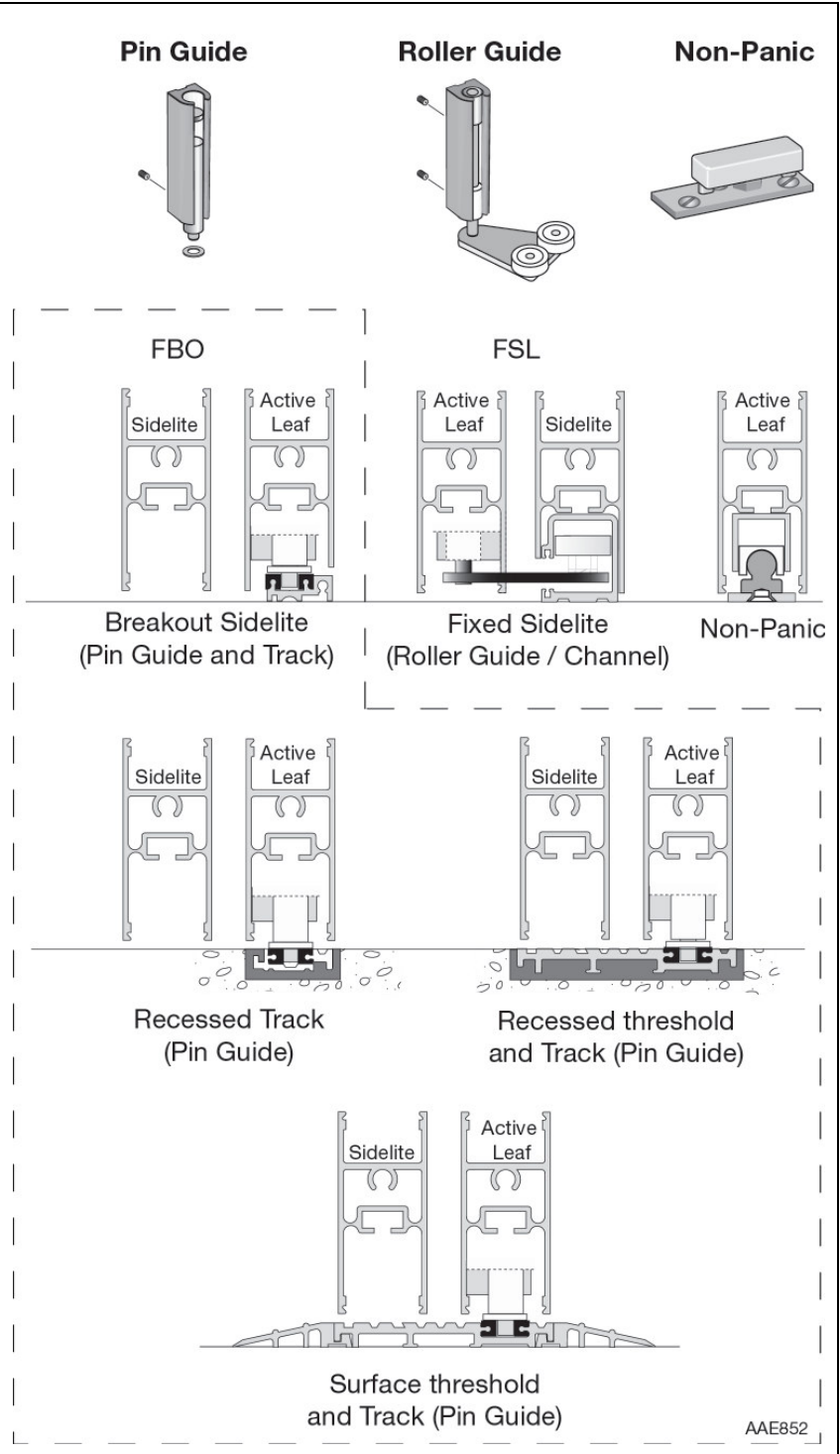
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Roller Guide



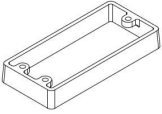
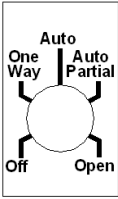
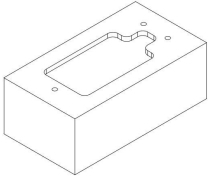
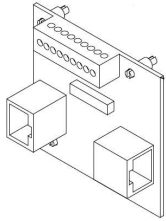
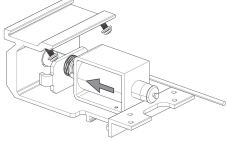
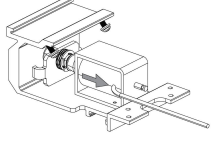
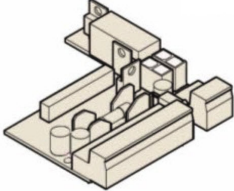
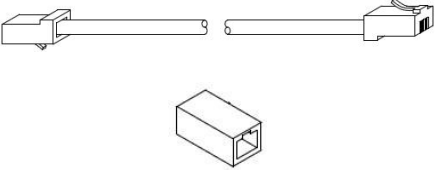
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Non-Panic Floor Guide

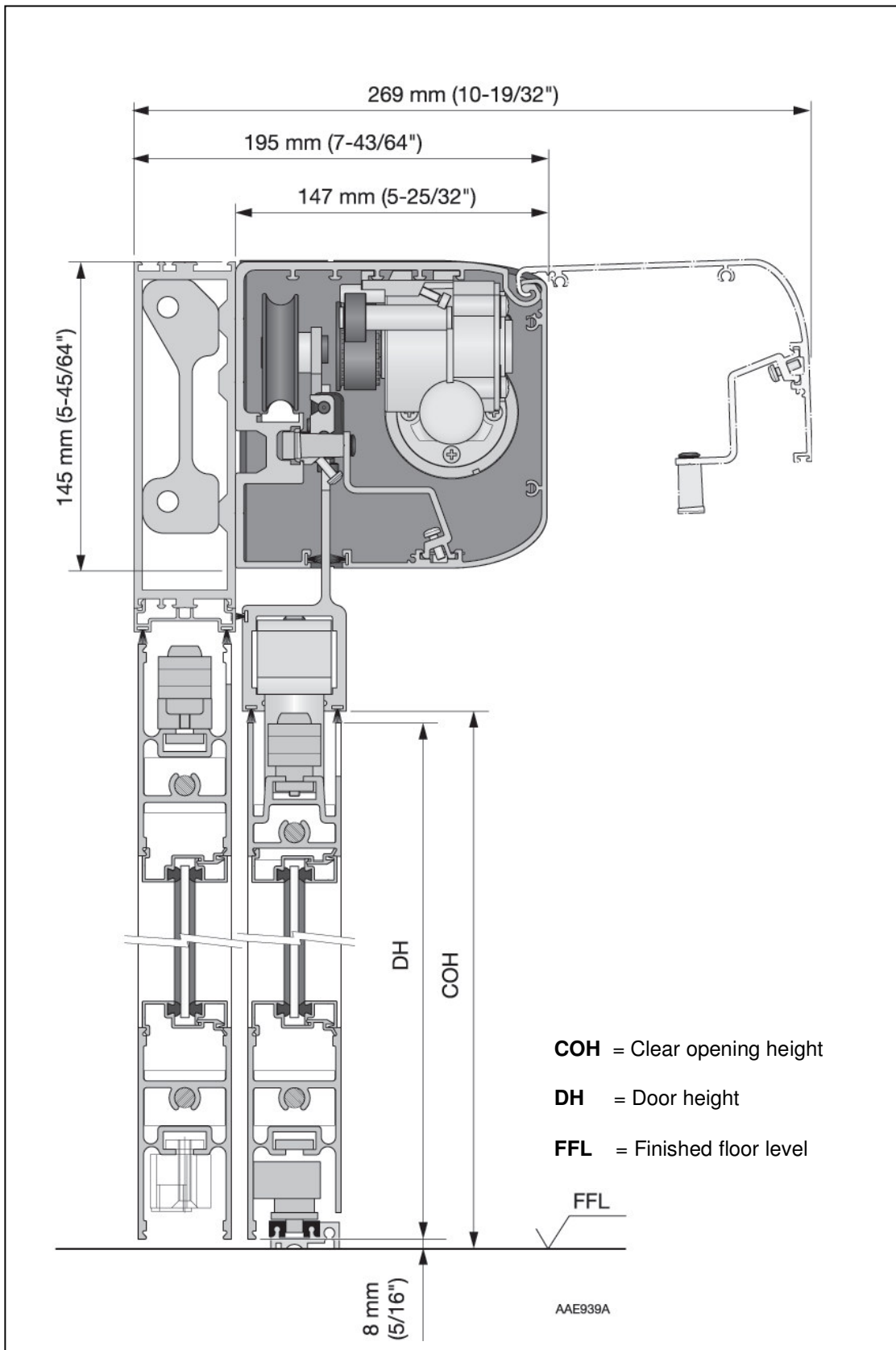
P/N: 50-15-015



## Various Options

<p><b>Push button PB</b> Art. No. 600134 See installation drawing 656005</p> 	<p><b>Program Selectors</b></p>  <p><b>5 Pos Switch (Key)</b>   <b>5 Pos Switch (Knob)</b>   <b>3 Pos Switch (Knob)</b> US15-1500-06   US15-1500-04   US15-1500-05</p>		
 <p><b>Spacer</b> US15-1500-03 Spacer Kit. Switch also part of Kit US15-1500-06 5 Pos Key Sw Kit</p>	 <p><b>Vinyl Decal</b> 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)</p>	 <p><b>Optional Remote Box</b> US15-1500-07 Remote Switch Box Kit, also contains US15-1500-02 PS Extension Kit (8ft Cable RJ45 &amp; Cable Coupler)</p>	 <p><b>PS Accessory Board</b> US15-1500-01 PS Accessory Board Kit</p>
 <p><b>Electromechanical Lock LDP</b> Fail Safe (Locked with power) Art. No. 550516</p>	 <p><b>Electromechanical Lock LD</b> Fail Secure (Locked without power) Art. No. 550494</p>	 <p><b>EXU-4</b> 331006705</p>	
 <p><b>PS Extension Kit</b> US15-1500-02 PS Extension Kit (8ft Cable RJ45 &amp; Cable Coupler)</p>			

## 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? (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 page 20 for specifications and suggestions.

## Installation Overview

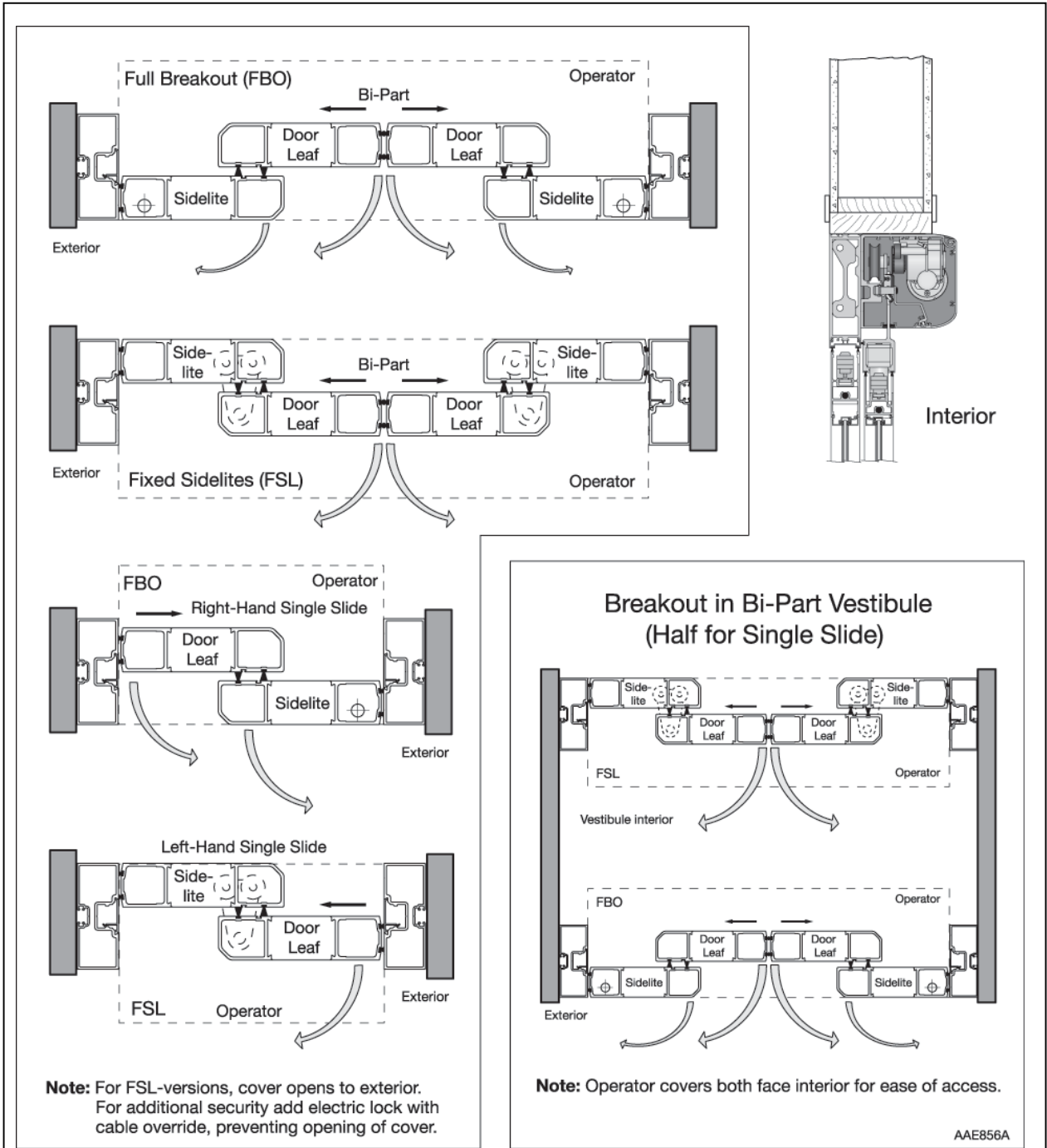
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This is only a summary of the installation process. See the rest of this manual for detailed information.

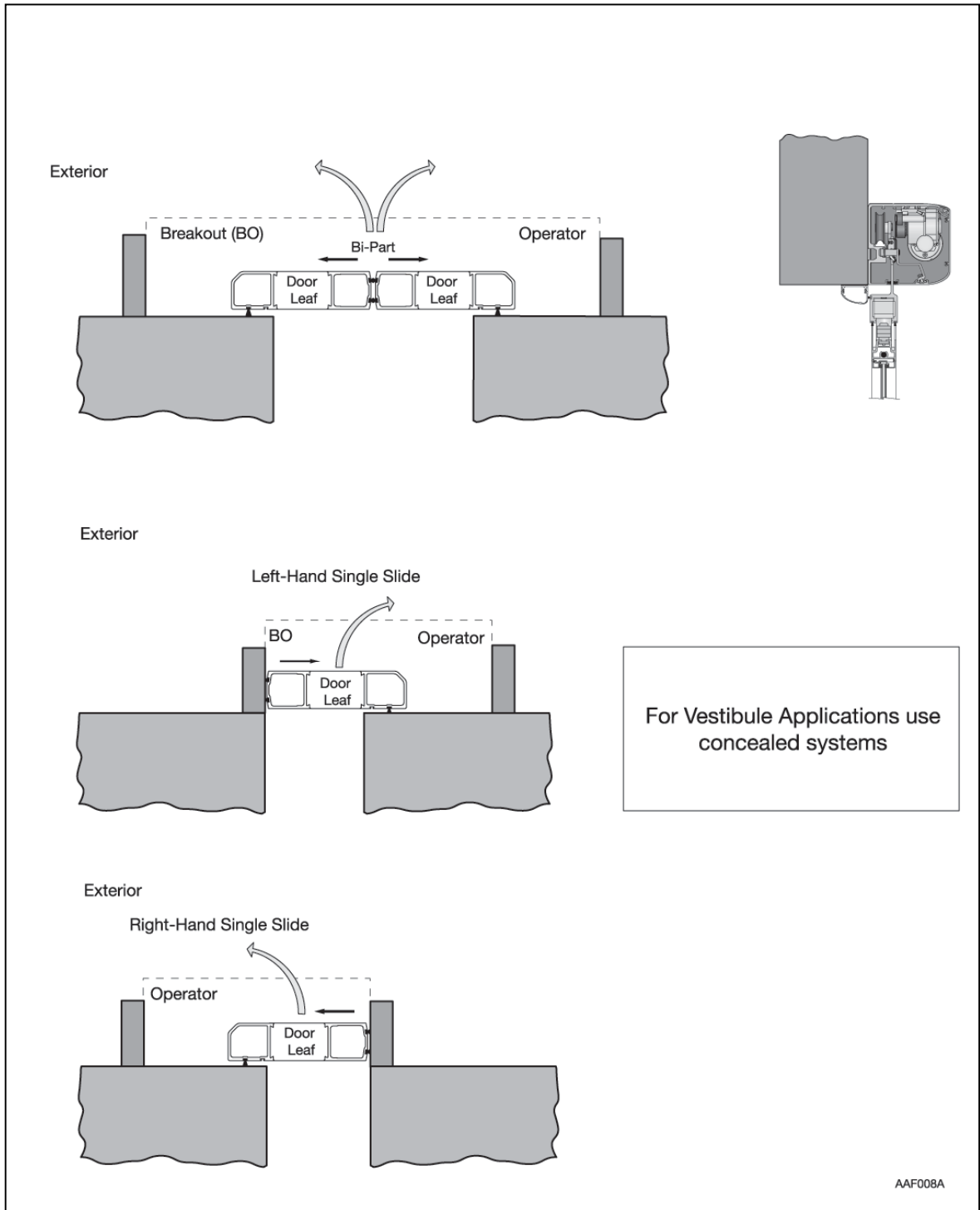
1. Start by determining the answers to the pre-installation questions.
2. First install header to jamb tubes if concealed, tilt into place, level and plumb, then secure to rough opening with shims and appropriate fasteners. See Surface Applied Section, for fastener recommendations. If surface applied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



# Surface Applied





# Installation Requirements

---

## Fastening Requirements

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

\* 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
- Spirit level
- 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)

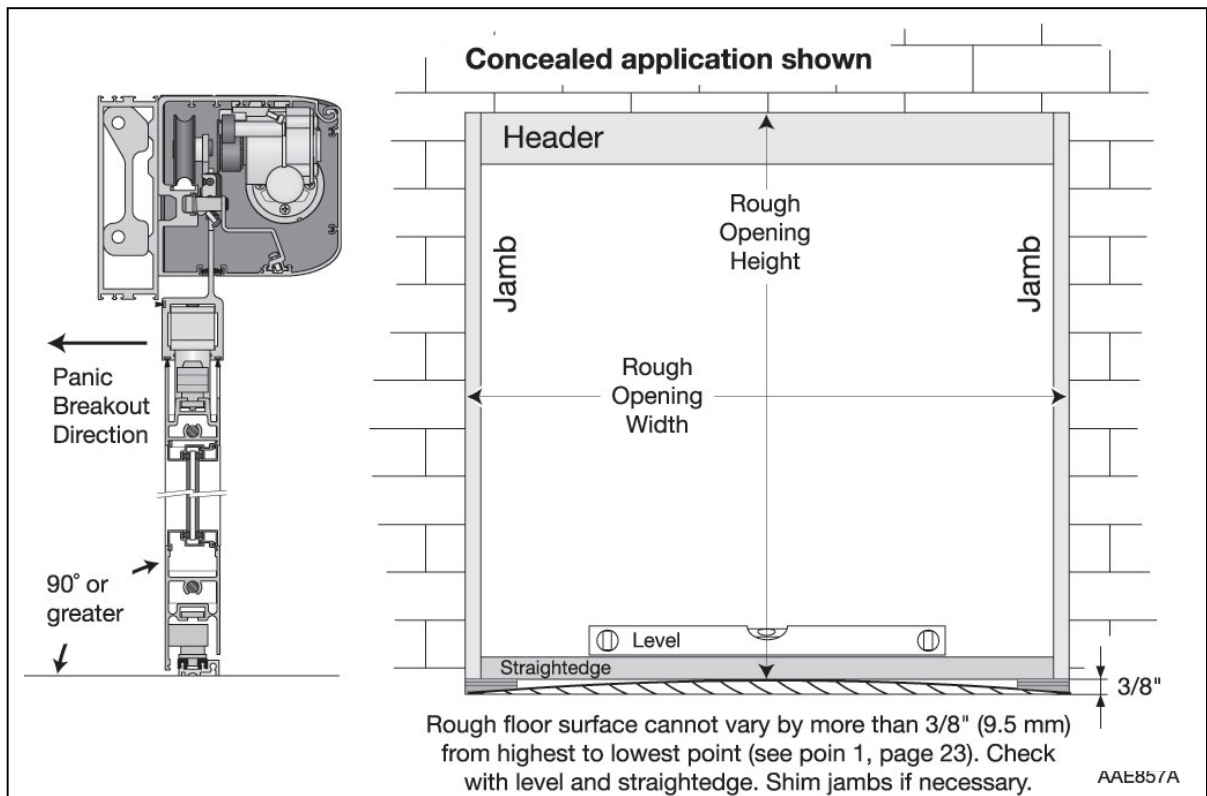
## Site Inspection

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 (see pages 39-45).



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

For Bi-parts the overall frame width is equal to twice the rough opening plus 9 1/2". [FW= 2(ROW) + 9 1/2"].

For Single Slides the overall frame width is equal to twice the rough opening plus 6 1/4". [FW= 2(ROW) + 6 1/4"]

## Concealed Mechanical Installation

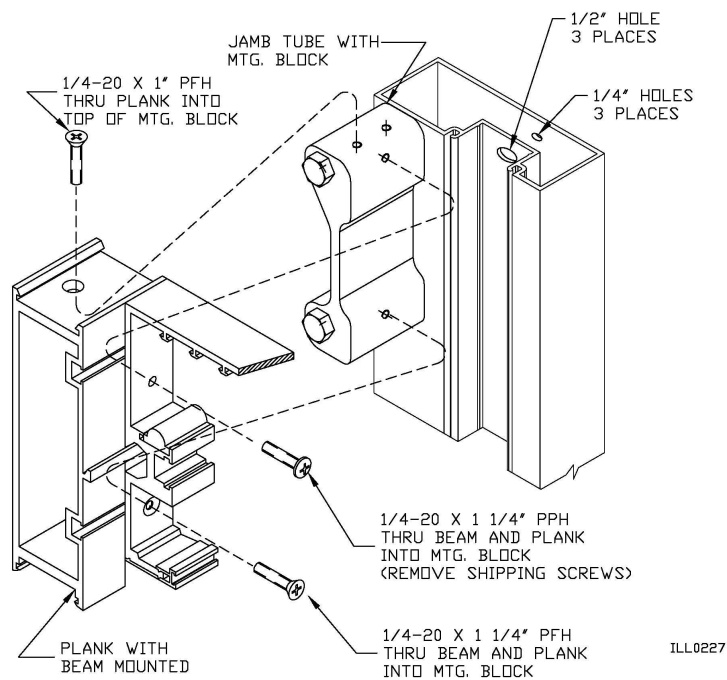
---

### Note!

Surface applied similar process, however fasten through operator header to building header. Fasten jambs.

### 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 header using three screws per jamb. (Besam jambs are factory prepared for header installation.)

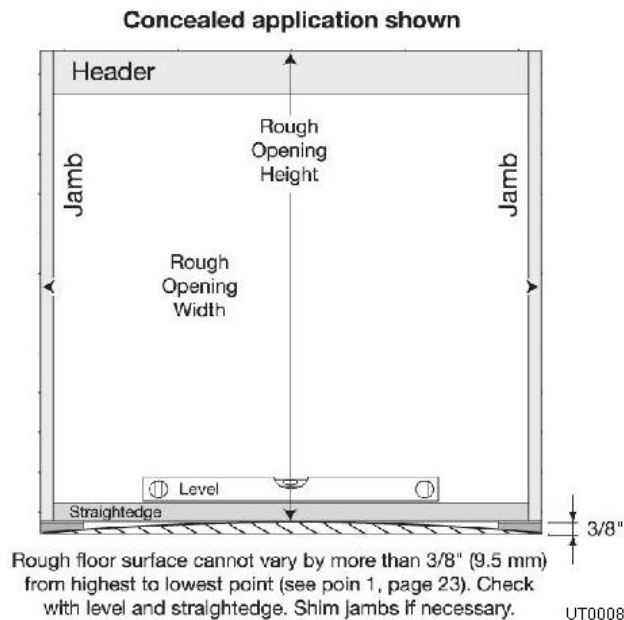


### Leveling Header and Jambs

### 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.



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. Recheck the jambs, using a level on the outside and inside of each jamb, and the header. If the header and jambs are truly square, the top jamb-to-jamb and bottom jamb-to-jamb measurement should 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, than the package is twisted and needs adjustment before proceeding.)

## Fitting the Floor Guide Track

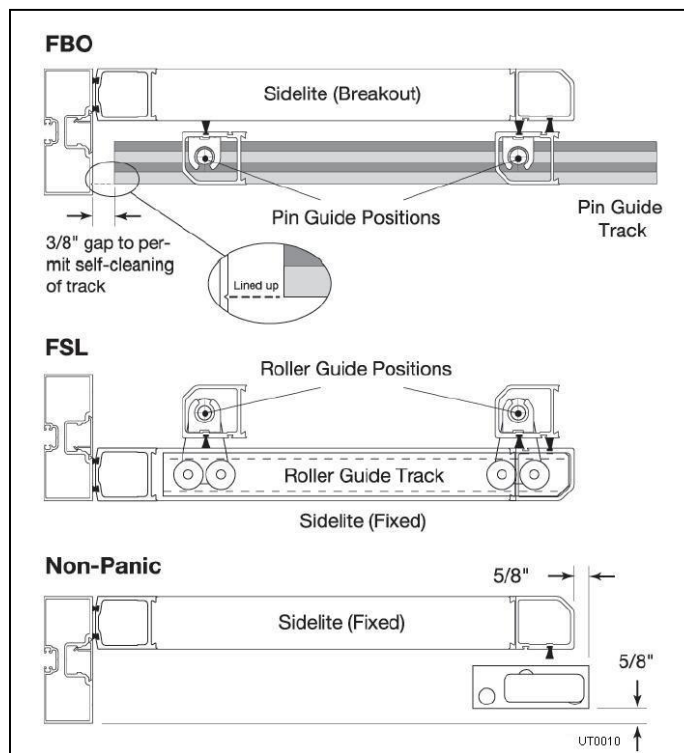
### Note!

It is important that the floor guide track is fixed absolutely level to prevent derailment of the floor guide foot when the door is swung out.

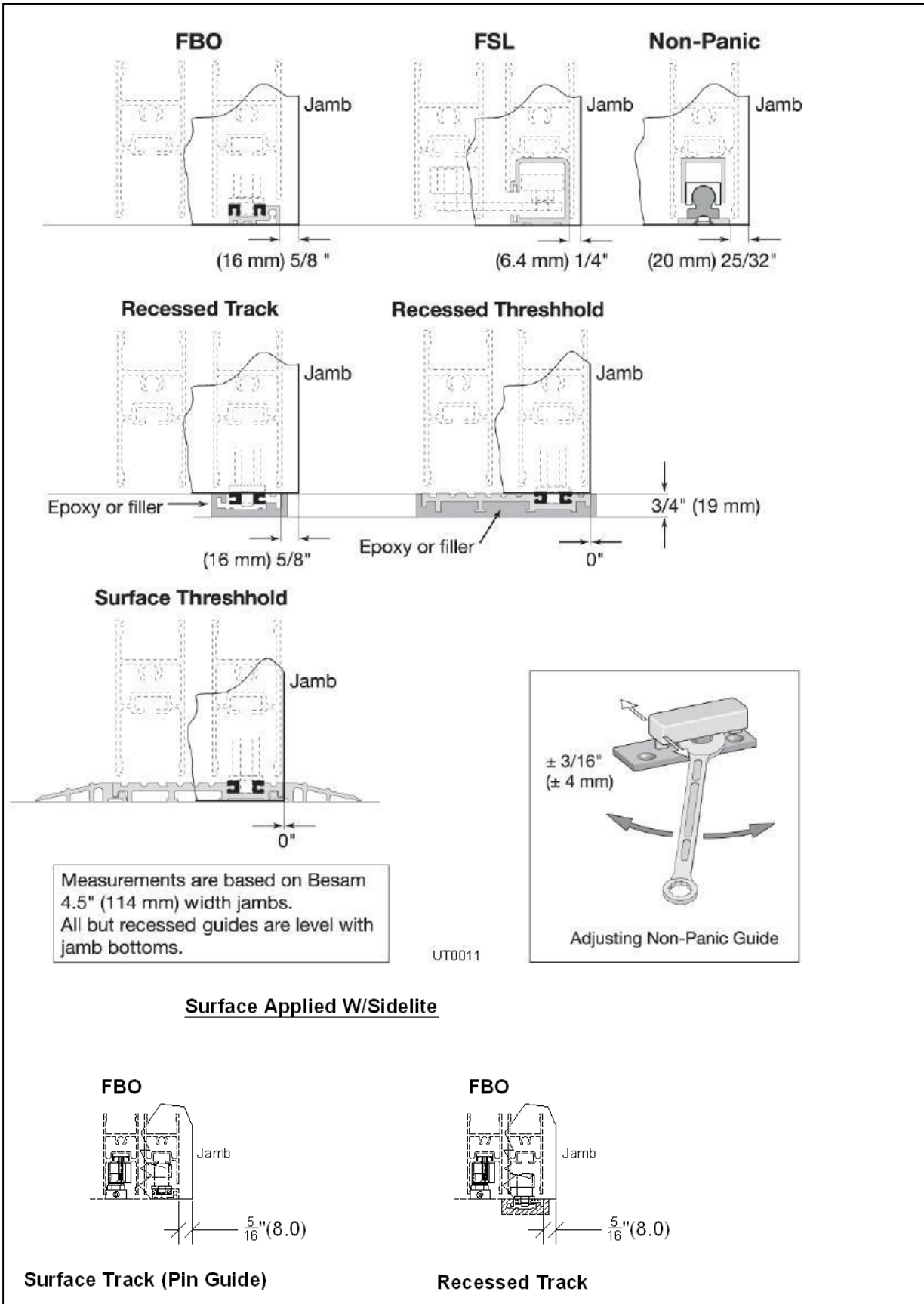
1. Installation steps for floor mounted guide tracks, recess and surfaced mounted pin guide tracks and G channel tracks for fixed sidelite applications.
2. Inspect the floor for conditions such as high and low spots that can cause the track to twist and rock. High spots (such as small rocks) should be removed; shim the track assembly at the low spots.
3. Using a chalk line, snap a reference line from jamb to jamb on the side where the track is being installed.
4. Using the measurements provided (see page 25), 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.
5. 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.



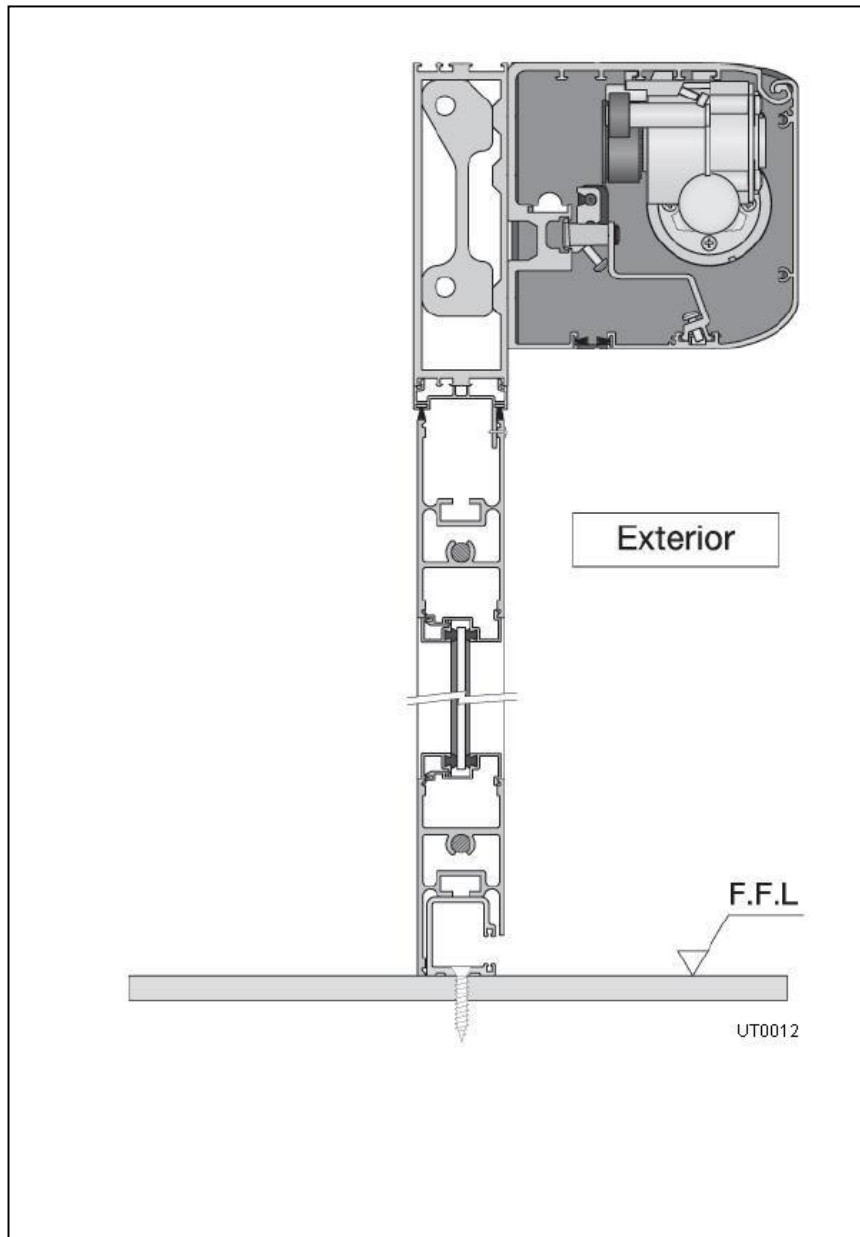
## Fixed Sidelite Installation Procedure

---

**Note:**

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

1. End load the sidelite panel on the roller track guide, and top lower edge extrusion. Slide the panel fully to jamb and fasten with screw through door panel to top lower edge extrusion where active panel hides screw. Run break out pigtailed up through hole in plank to header.
2. For bi-part, install 2nd sidelite as above.



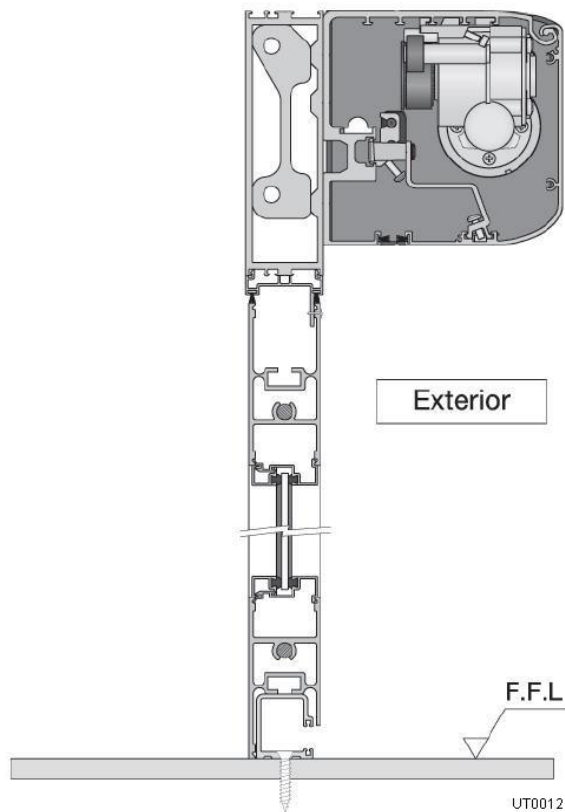
## Full Breakout Sidelite Installation Procedure

---

### Note!

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

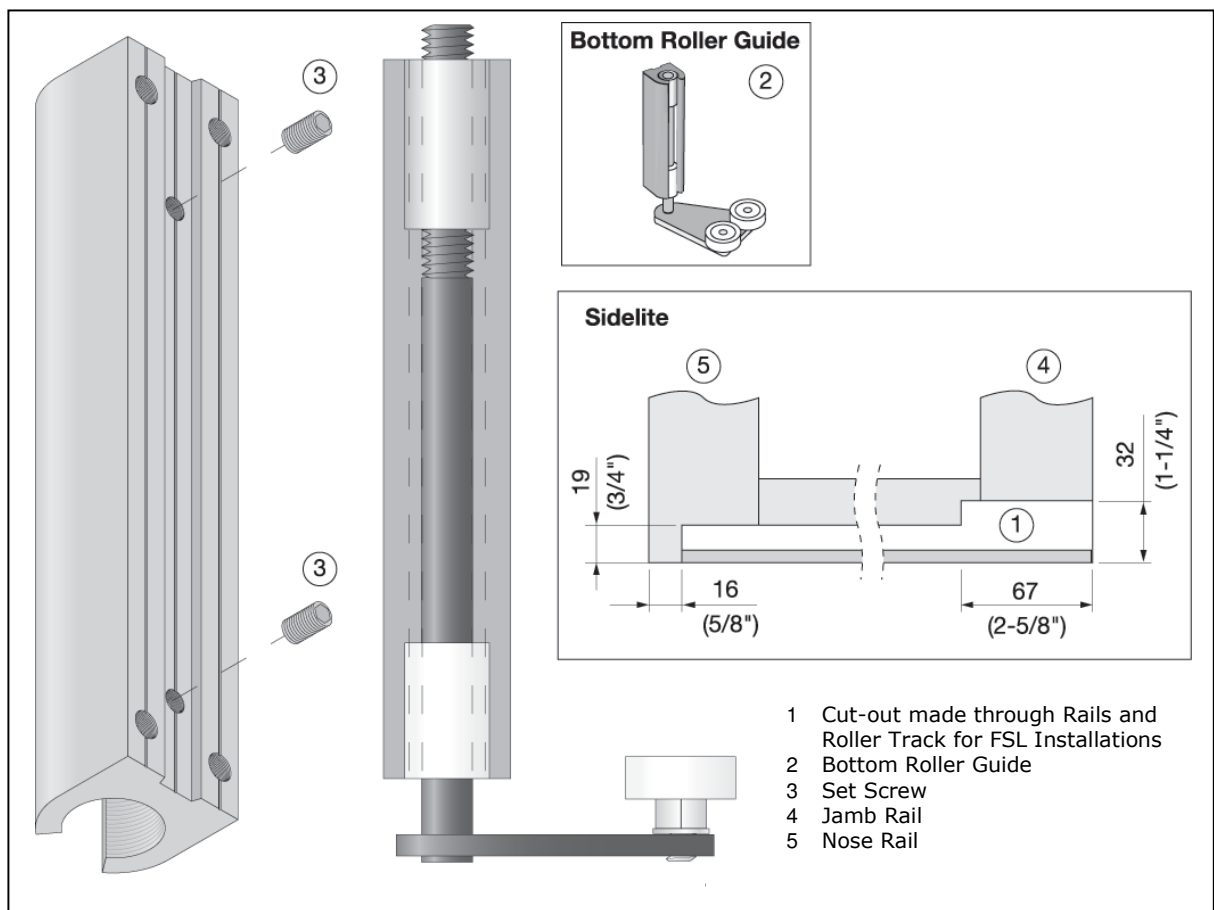
1. Install and level any thresholds (surface or recessed) before installing any of the door panels.
2. Check that jamb mounted bottom pivot is installed and tight.
3. If the pivot base does not rest fully on the floor, support the pivot base with shims.
4. Place the bearing washer on the pivot base. 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. 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. 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.
5. Check all clearances and adjust the break out latch (See page 36).
6. 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 door stops. 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.
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 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 on page 31. 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 page 33).
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.



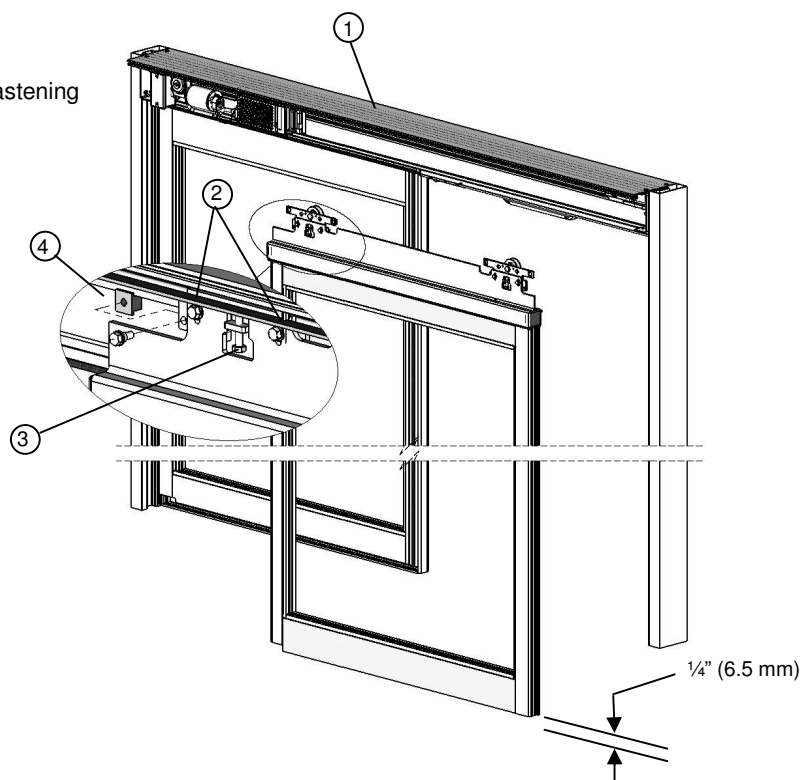
## Hanging the Active Door Leaves (Full Break Out)

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 leaves 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 to desired position.
5. Adjust screw until the door leaf is about 6.5 mm (1/4") above the floor. Adjustment range  $\pm 8$  mm ( $\pm 5/16$ ").
6. Tighten the fastening screws and thereafter the adjustment screw to secure the assembly.
7. Remove the screws from the anti-rise plastic blocks and apply them from the other (ridge) side of the blocks. Place the blocks with screws in the groove in the support beam and slide them in the slotted fastening holes in the carriage wheel brackets (one in each bracket) and screw the blocks tight.

### 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.

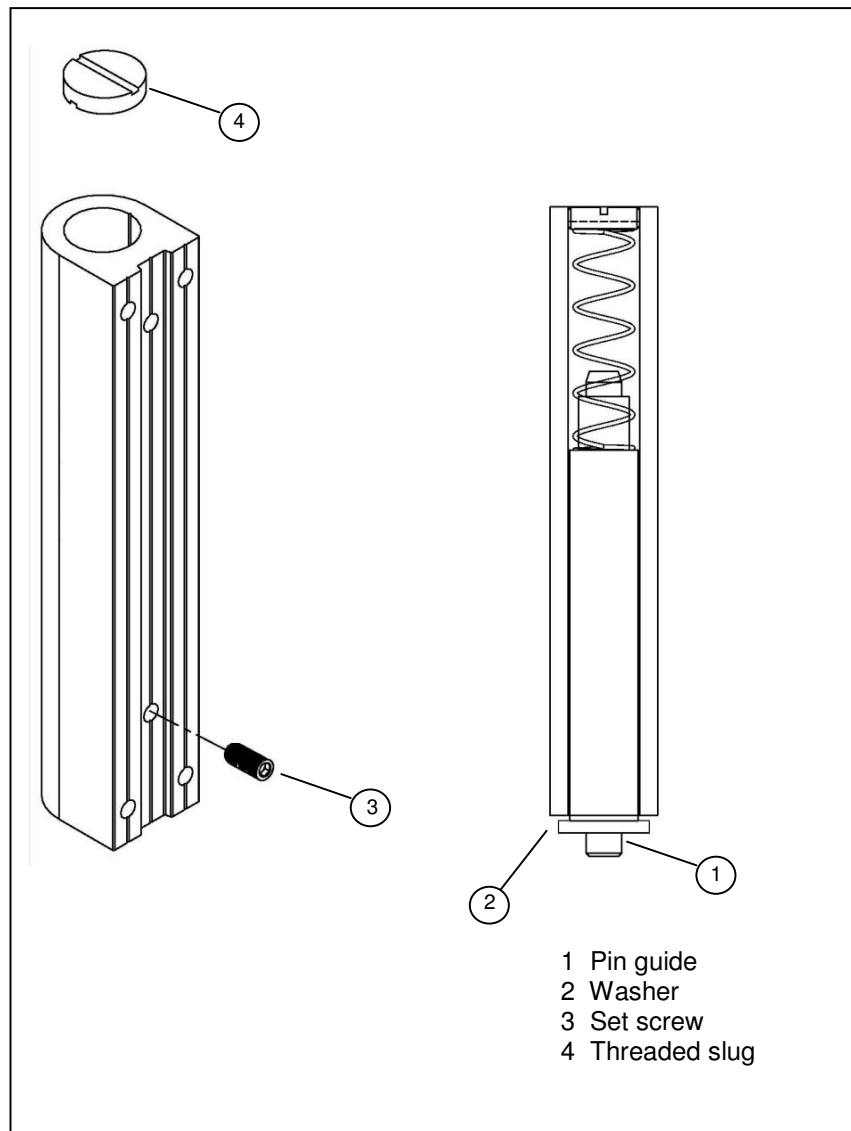
- ① Sliding track
- ② Fastening screw
- ③ Height adjustment screw
- ④ Anti-rise plastic block with fastening screw



## 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.

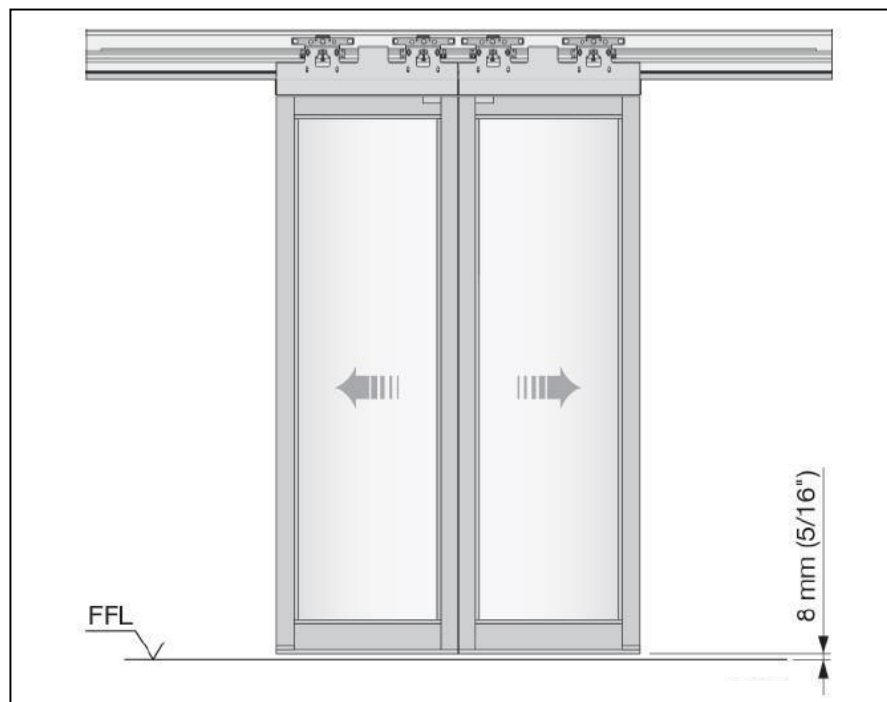


## Height Adjustment

---

The height adjustment is to be carried out with the vertical adjustment screw as described on page 29.

- 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

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UniSlides are viewed from the cover side.

### Bi-parting operators

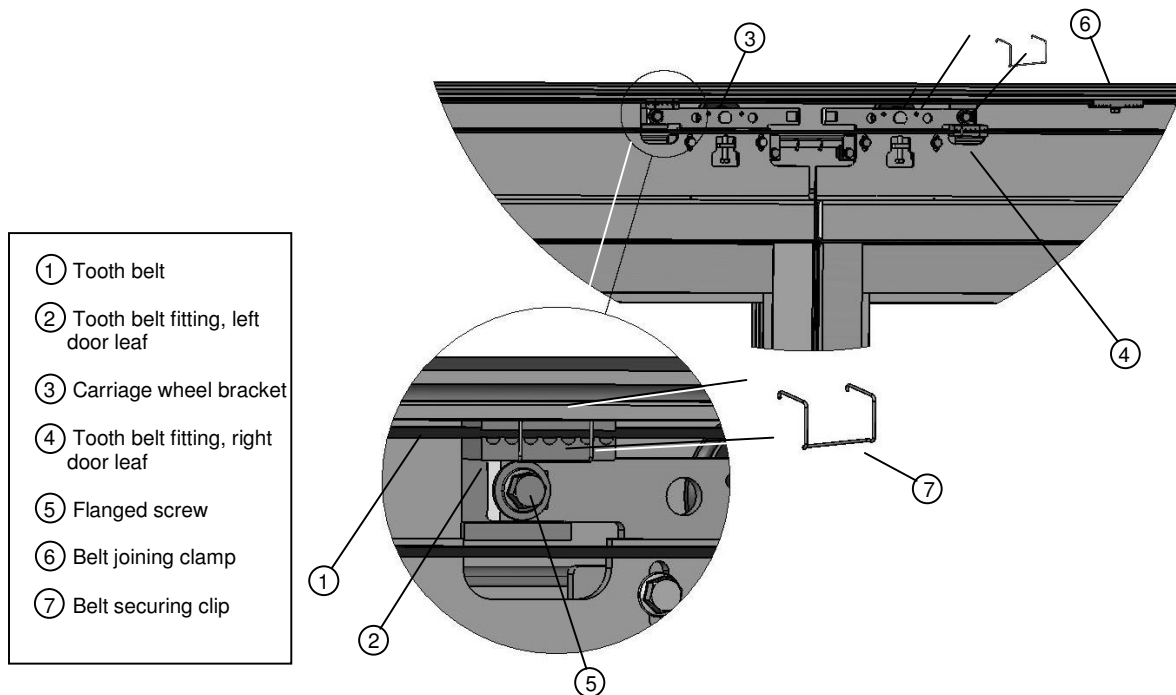
1. Put doors in fully closed position.
2. Pull belt joining clamp to left door panel and center it over the (nose) carriage wheel bracket.
3. Insert tooth belt into left door carrier (upper) belt fitting.
4. Insert tooth belt into right door carrier (lower) belt fitting.
5. Check door panels for proper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

### Single-sliding operators

1. Put door in fully open position.
2. Pull belt joining clamp next to carrier belt fitting (away from nose of door)
3. Insert tooth belt into belt fitting (L.H. upper, R.H. lower)
4. 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)

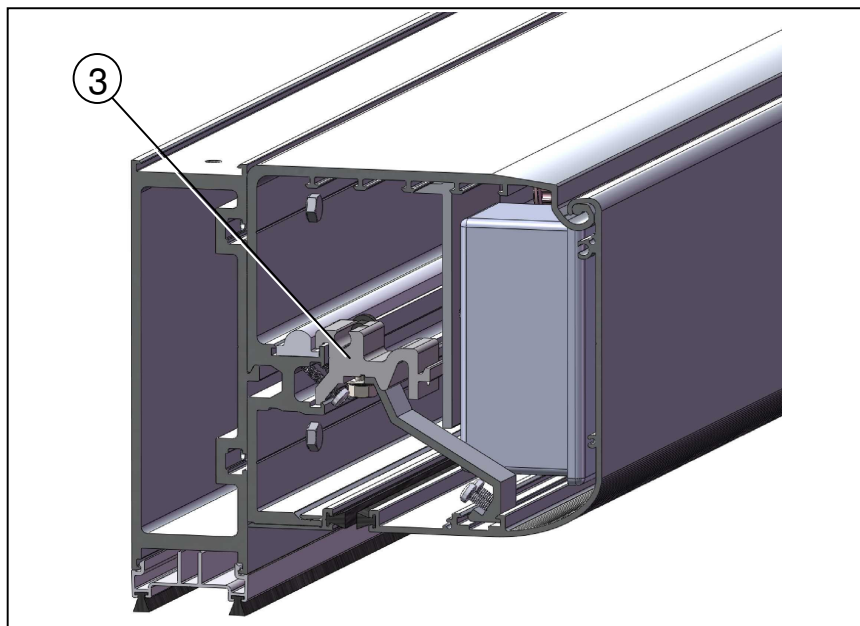
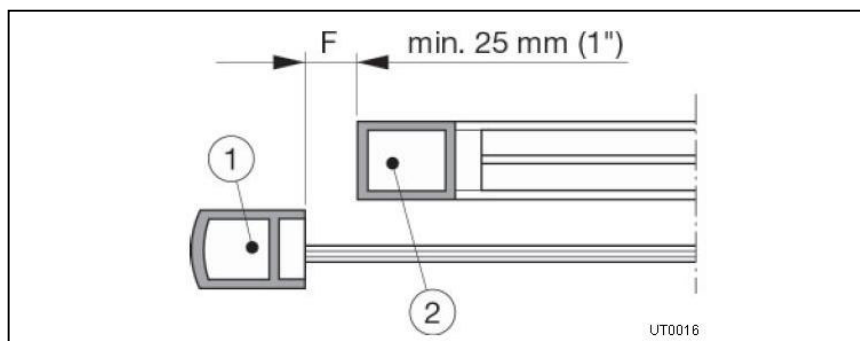
1. Push the doors by hand to the desired opening.

### Note!

For frame doors 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 25 mm (1") 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 Door leaf

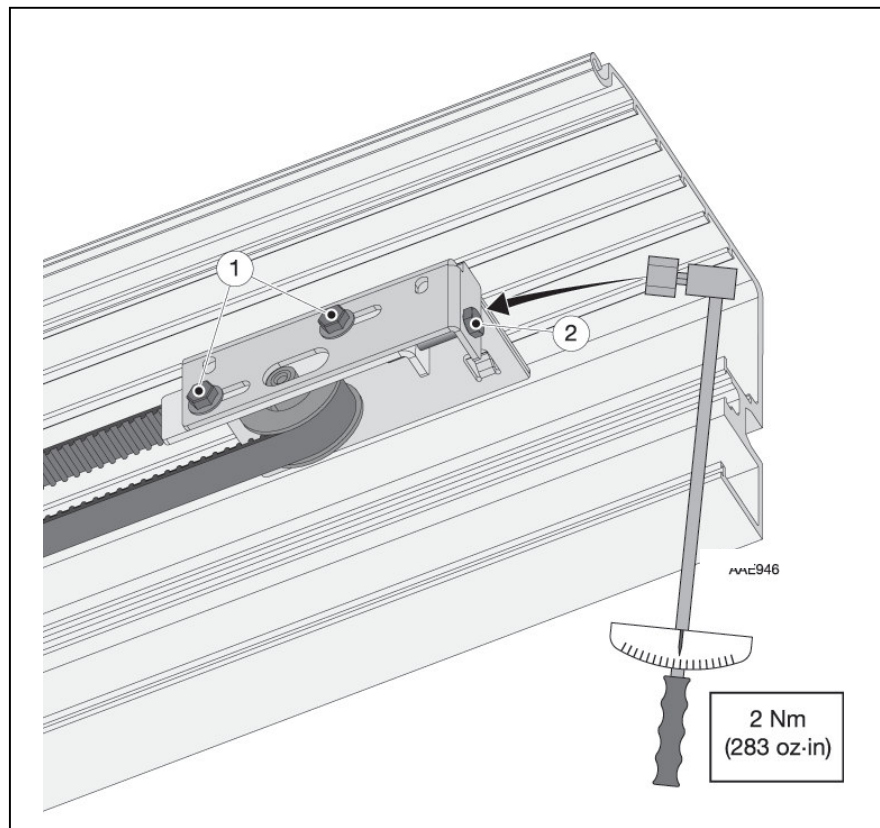
2 Vertical rail of the sidelite leaf

3 Door stop

## Checking and Adjusting the Belt Tension

The belt tension is factory-adjusted and readjustment is normally not needed. If despite this the belt tension has to be corrected, proceed in the following way.

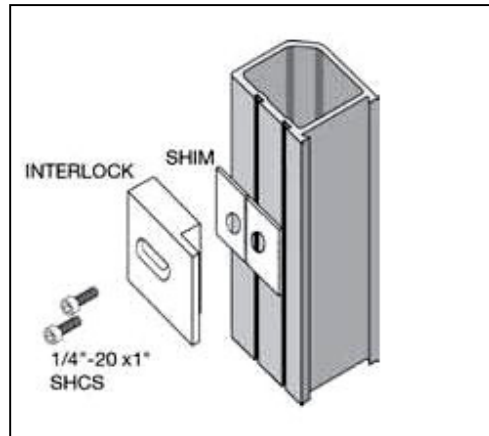
1. Loosen the two fixing screws (1).
2. Tighten the belt adjustment screw (2) to a torque of  $2 \text{ Nm} \pm 0,25 \text{ Nm}$  ( $283 \text{ oz}\cdot\text{in} \pm 35 \text{ oz}\cdot\text{in}$ )
3. Tighten the two fixing screws (1).



## Interlocks for FBO Units

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

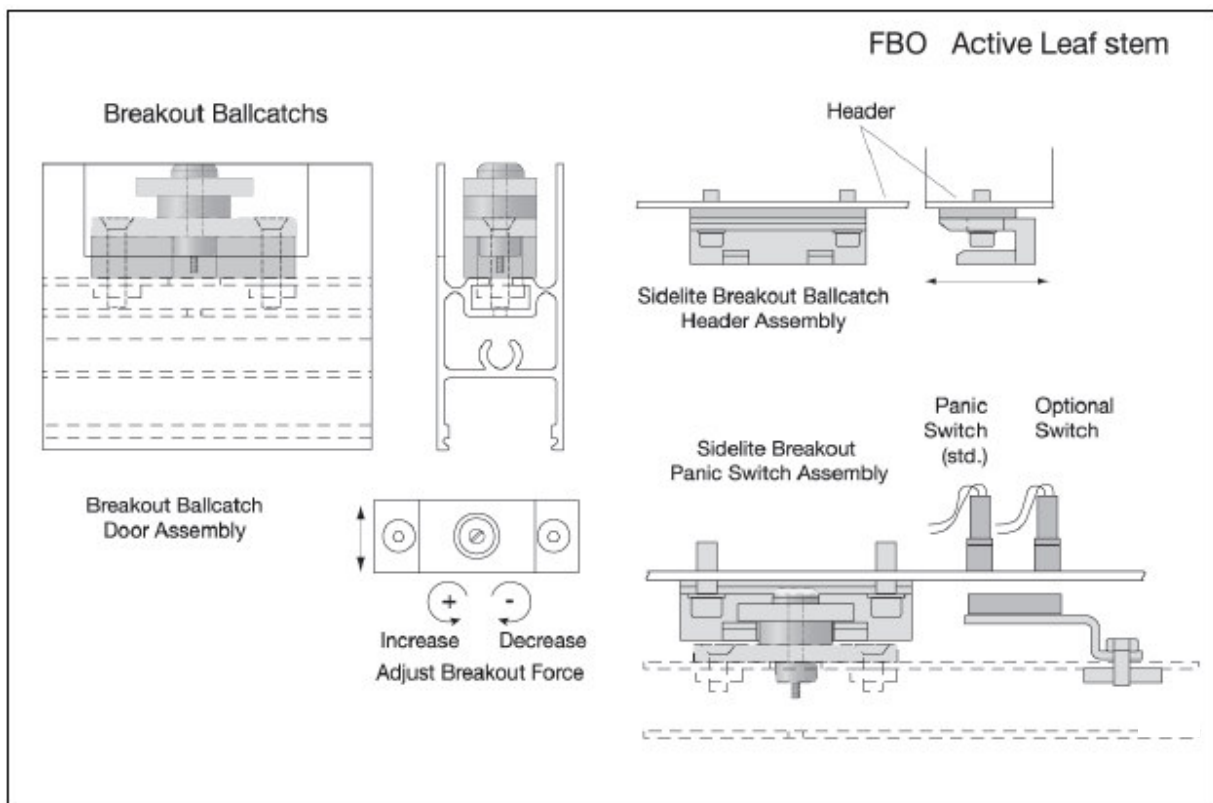




## Adjusting Ball Catches

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.

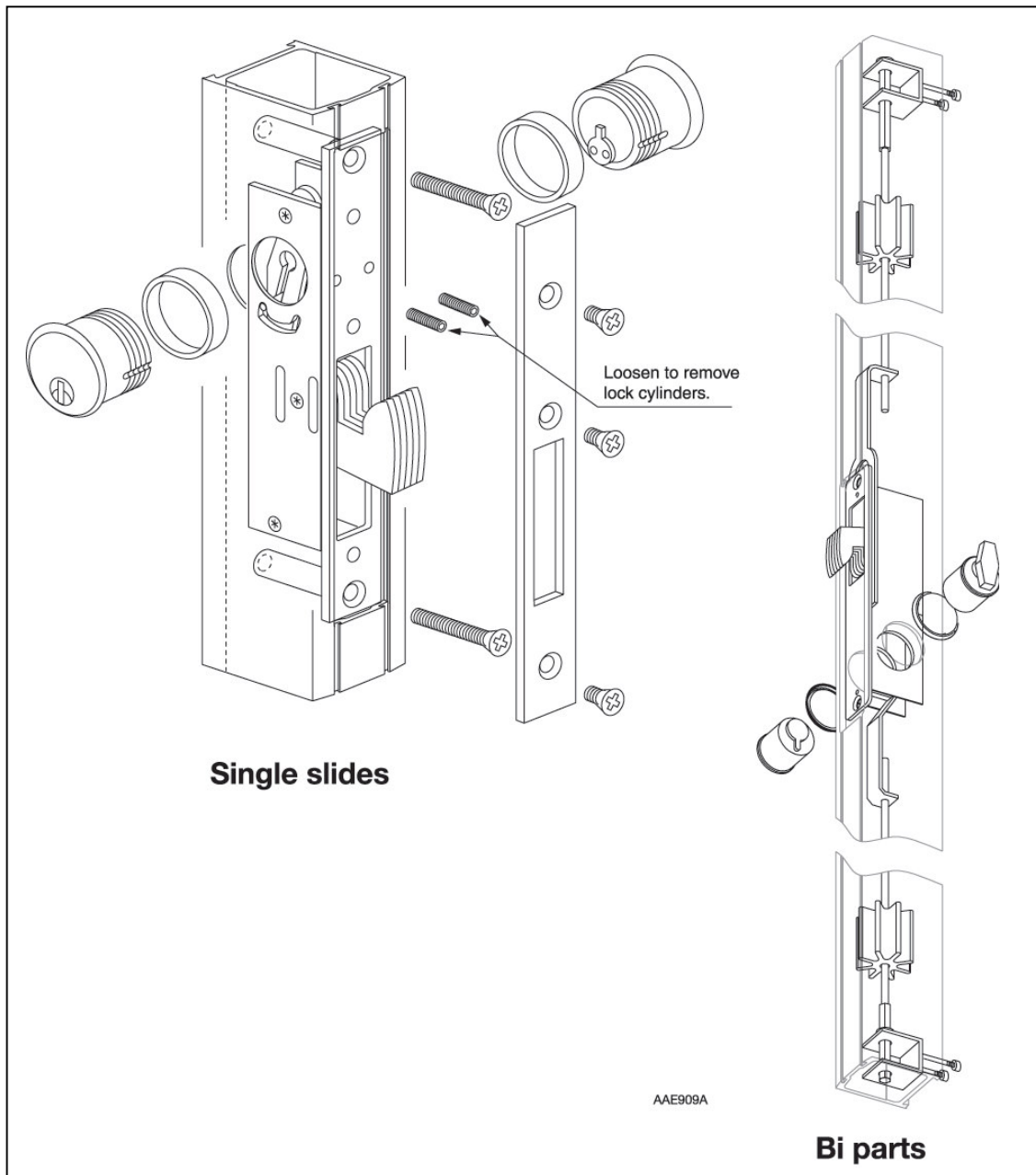
A magnetic panic break out switch (bi-parting units have two) shuts the operator off when the sidelite is opened. A ceramic magnet is located in the upper horizontal sidelite rail. The switch(s) are located over the magnet in the lower edge of the support plank. The magnet location can be field adjusted 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.

## Manual Lock System Adjustment and Re-Keying



## Installing/Removing the Cover

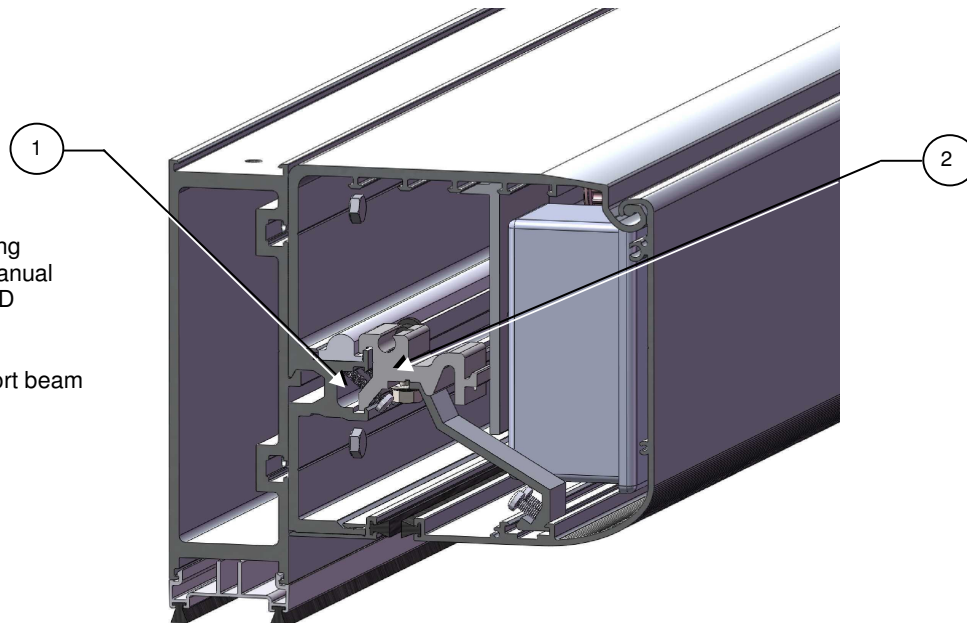
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For single-sliding operators two pre-mounted rotary locks are hooked into a groove in each end of the cover and tightened. Bi-parting operators may have a third lock in the center. When the cover is closed the rotary locks fit into a groove in the support beam. By turning the locks clockwise the cover is secured.

### Installing

1. The rotary locks are made rectangular with guide grooves to secure the horizontal position. Make sure they are turned "horizontally".
2. Fit the upper part of the cover into the hinge and place the support tool to keep the cover open.
  - a) Connect the cable coming from the program selector (if installed in the cover) to the modular socket in the control unit (See [Control Unit Assemblies](#)).
3. Remove the support tool and push the lower part of the cover in against the support beam.
4. Make sure the rotary locks fit into the groove. Fasten the cover by inserting a 10 mm standard wrench from the underside and turn the rotary locks clockwise (approx. 90°). Test to ensure engaged and locked.

### Removing is made in Reversed Order



**Note!**

On exterior covers using electrical locks, use manual unlocking device MOLD

- 1 Rotary lock
- 2 Groove in the support beam

## **Transom**

---

For Transom Installation, reference Transom Installation Manual US23-0961-01 shipped with this package.

## Electrical Connections

### Note!

During any work with the electrical connections:

- disconnect main power
- A suitable lockout is required for OSHA regulation compliance and is highly recommended for personal safety.

### Note!

Permanent wiring shall be employed as required by local codes.

Installation

1. Open the cover (Reference [“Installing/Removing the Cover”](#) section).
2. Install extension unit EXU-4 if required (Reference [“Extension Unit, EXU-4”](#) 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”](#) (See Section titled, “Start-Up”).

### Note!

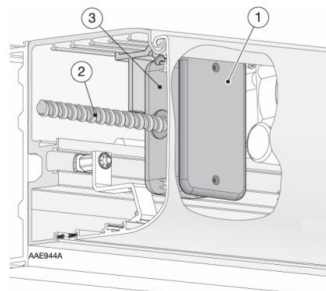
Basic adjustments and function selections can be carried out with the potentiometers and the function selector on the control unit (see section titled, “Connection of Program Selectors”).

## Main 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



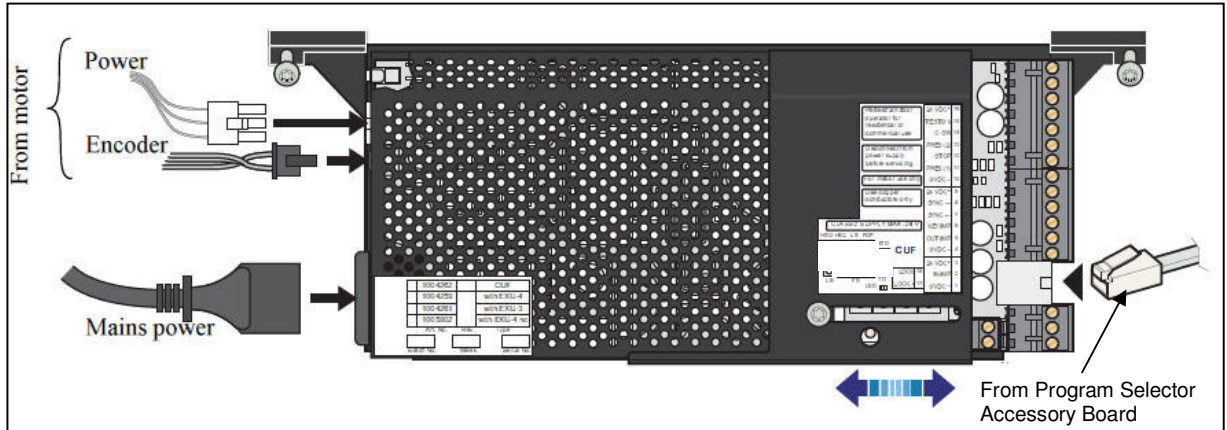
\* Installer must properly ground door package! Improper grounding can lead to risk of personal injury.



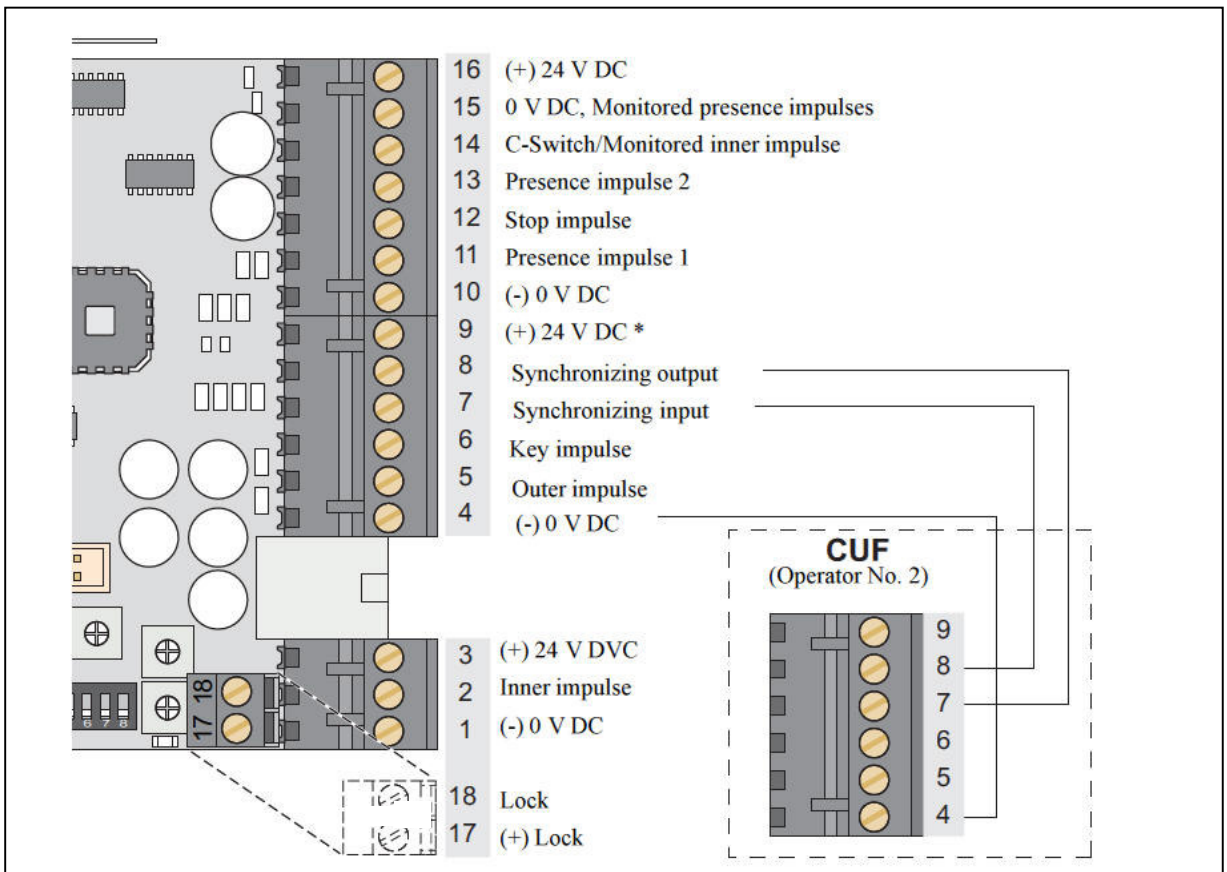
- 1 Cover plate
- 2 Mains power
- 3 Work box

## Control Unit Assemblies

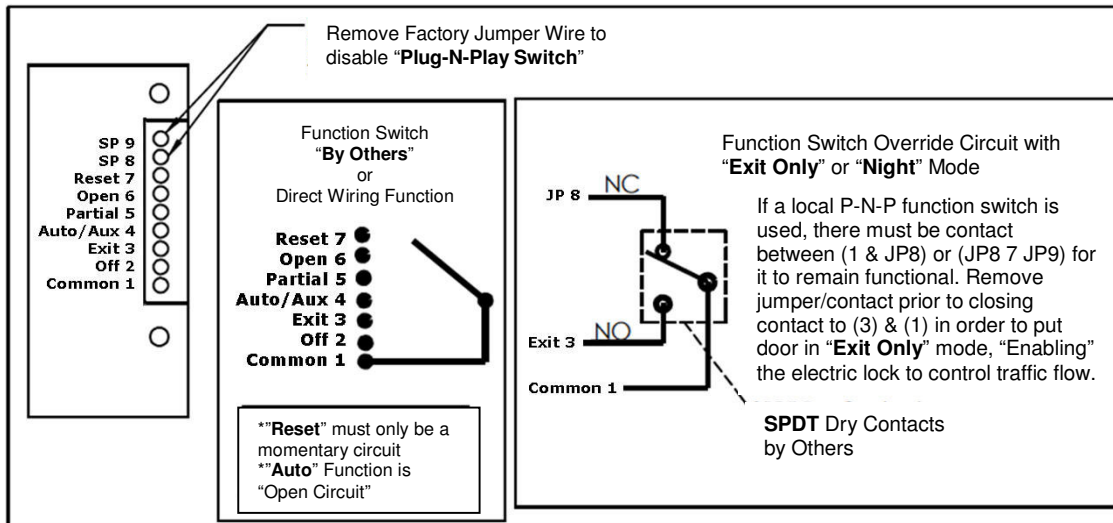
### Standard Units Connection Contacts



### Terminal Block for Connection Accessories



## Program Selector Wiring Options (PS Accessory Board)



### Exit-Only or Night Mode

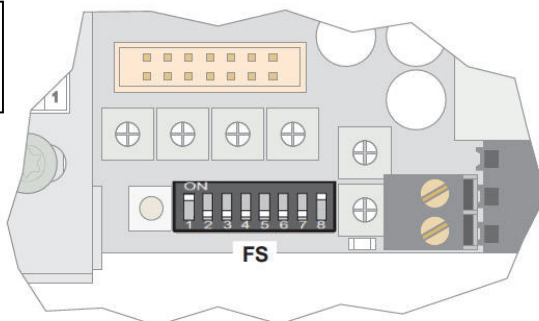
To place the door system into "Exit-Only" or "Night Mode" the customer will need to supply a SPDT (Single Pole Double Throw) dry set of contacts from their control system or night switch. The common will need to go to terminal (1) of the PS Accessory Board, the Normally Open (NO) contact to terminal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

**Note! To adjust the functions below, the lid must be removed.**

### FS Function Selector

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



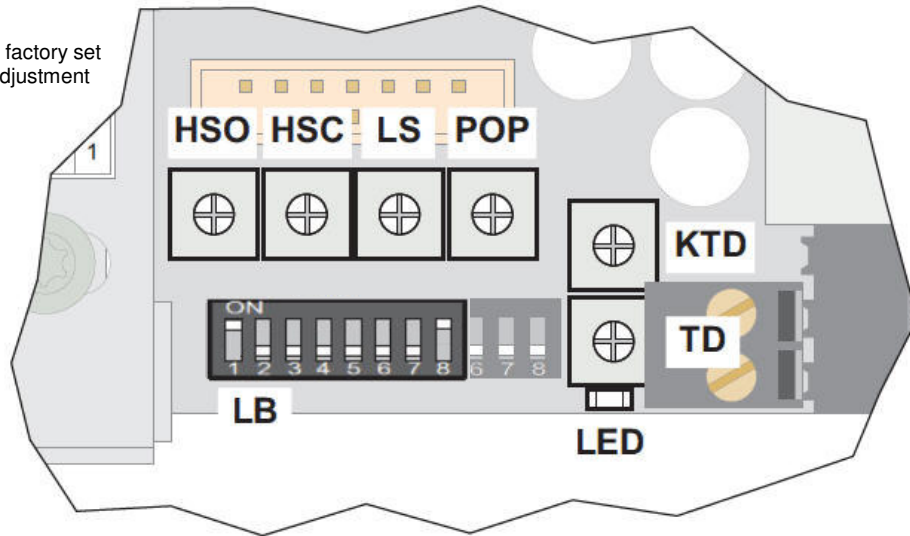
Function Selector (FS)	OFF	ON
1 - Motor direction of rotation [CCW = Counterclockwise [CW = Clockwise	CCW	CW
2 – Lock type (locked with/without power)	With	Without
3 – Lock release [To be set to ON if electric lock is installed]	NO	NC
4 – Presence detection type (normally open/closed) [Applies in common for the terminals 11, 12 and 13 on the control unit CUF and terminal 4 on the EXU-4]	NO	NC
5 - Emergency unit type [To be set to OFF if no emergency unit is installed]	Electrical	Mechanical
6 – Emergency unit monitoring [To be set in accordance with local authority requirements]	No	Yes
7 – Sensor monitoring [To be set in accordance with local authority requirements]	No	Yes
8 – Hold force on closed door (ON / 45 N) [Setting ON always recommended]	No	Yes



## Potentiometers and Learn Button

**Note!**

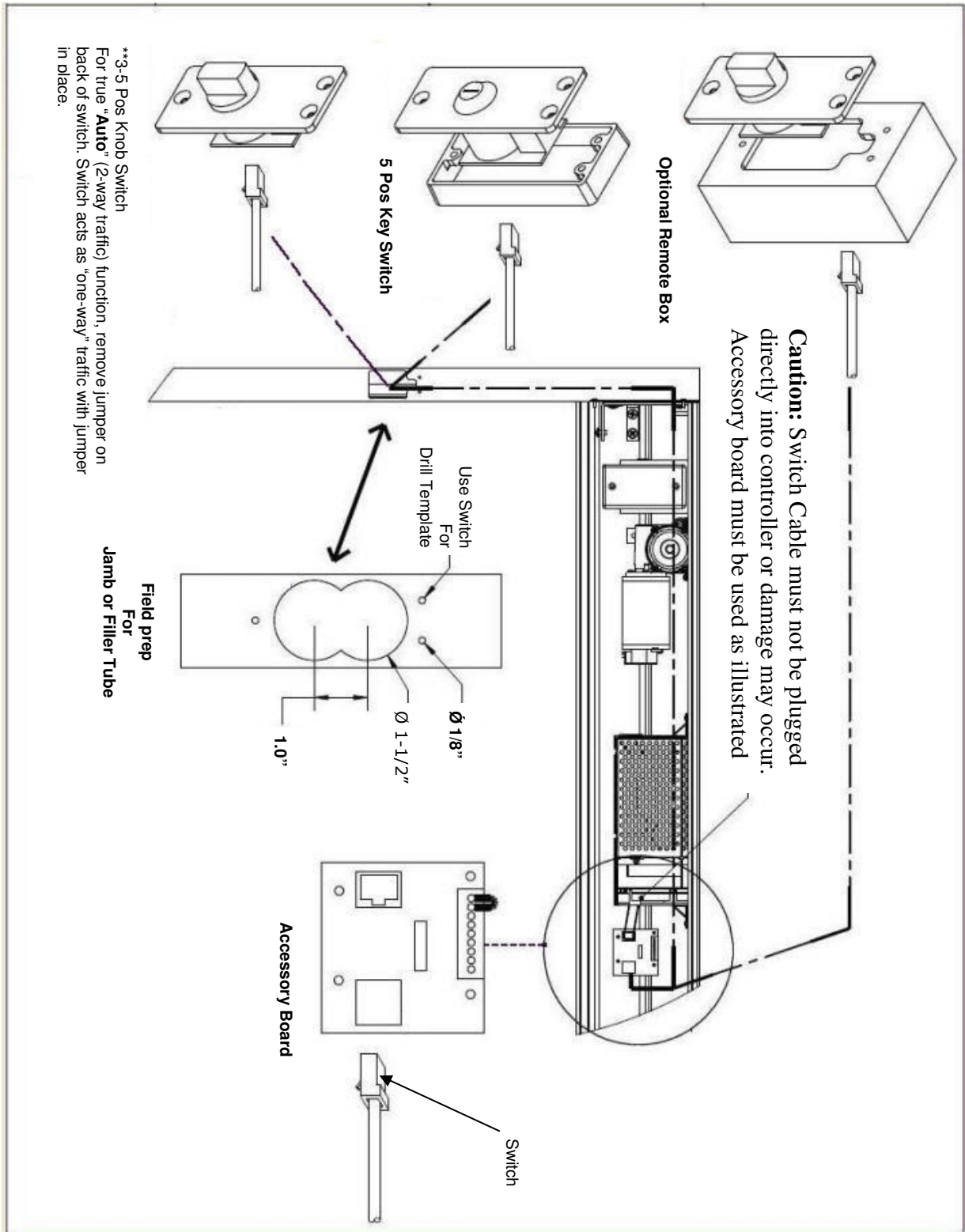
The potentiometers are factory set to approx. 50% of the adjustment range.



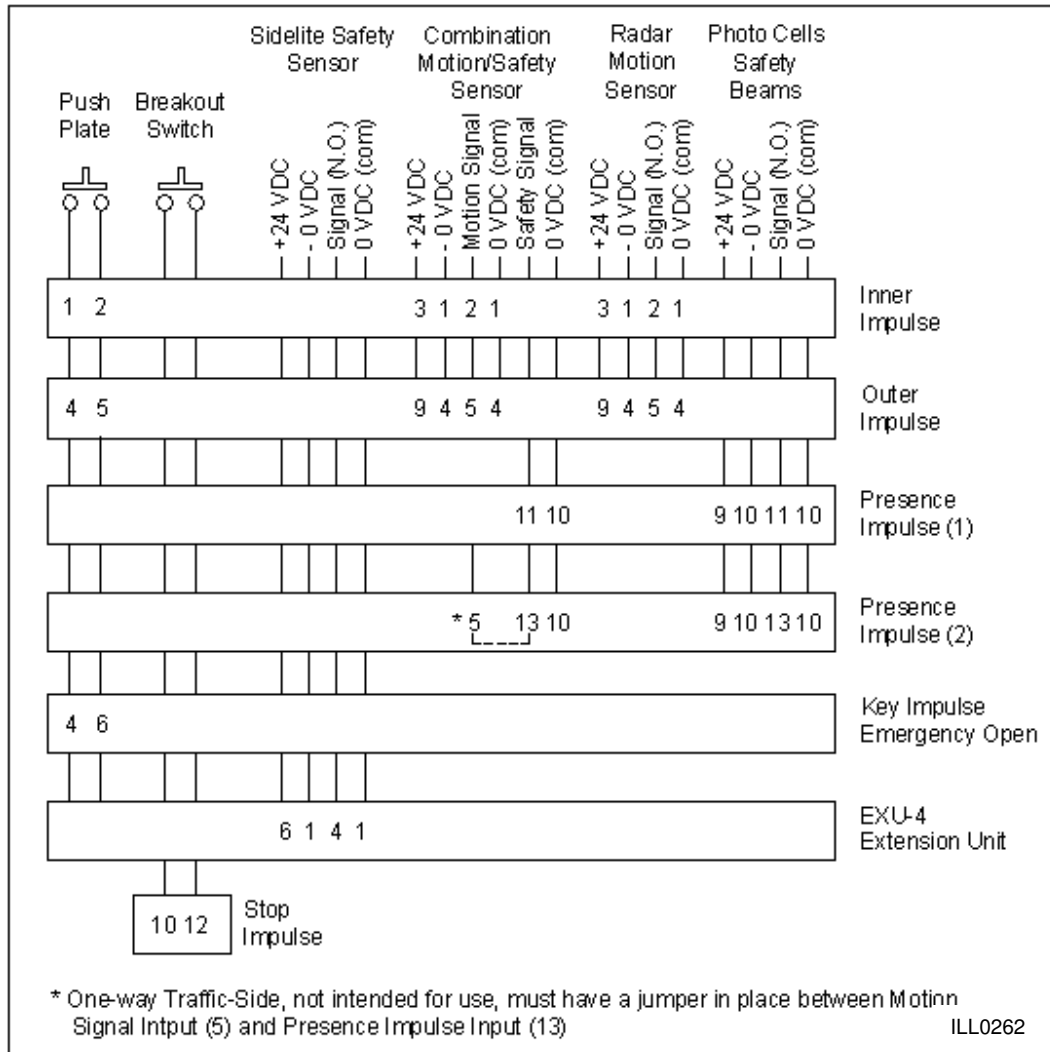
Parameter (speed applies to single panel)		
HSO	High speed opening	0.10 – 0.70 m/s (0.33 – 2.30 ft/s)
HSC	High speed closing	0.10 – 0.70 m/s (0.33 – 2.30 ft/s)
LS	Low speed	0.05 – 0.70 m/s (0.17 – 2.30 ft/s)
POP	Partial opening position	0 – 100%
KTD	Key Hold open time	0 – 60s
TD	Hold open time	0 – 60s
LB	Learn button	See page
LED	Error indication	See page

**Note:** In order to use the new configuration, press the learn button briefly after any potentiometer adjustment. The speed applies to single sliding operator.

# Connection of Program Selectors



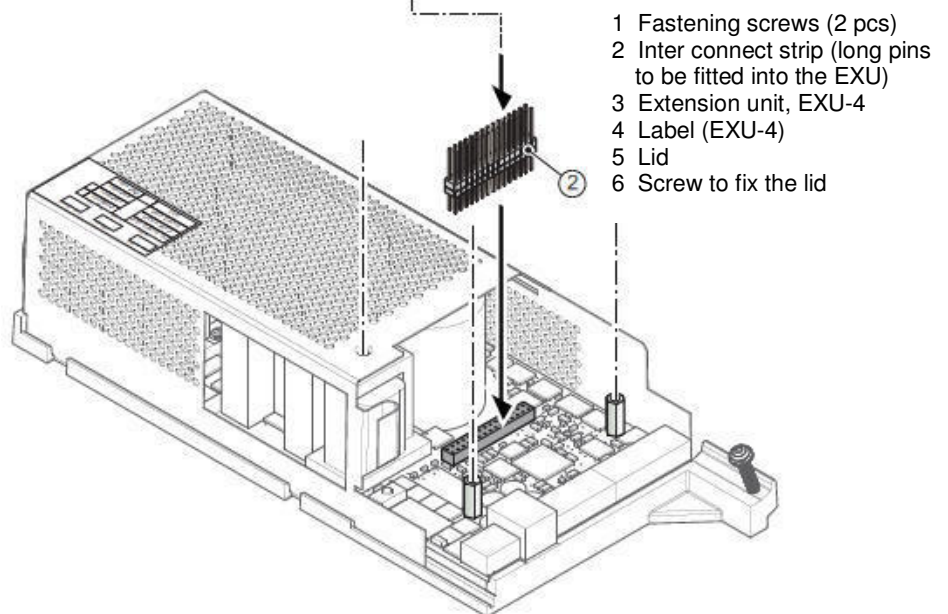
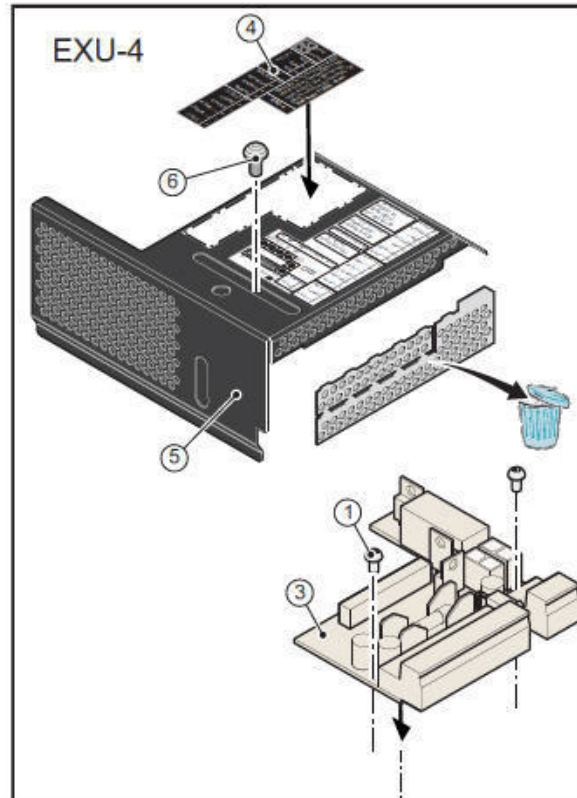
## Connection of Activation Units



## Extension Units

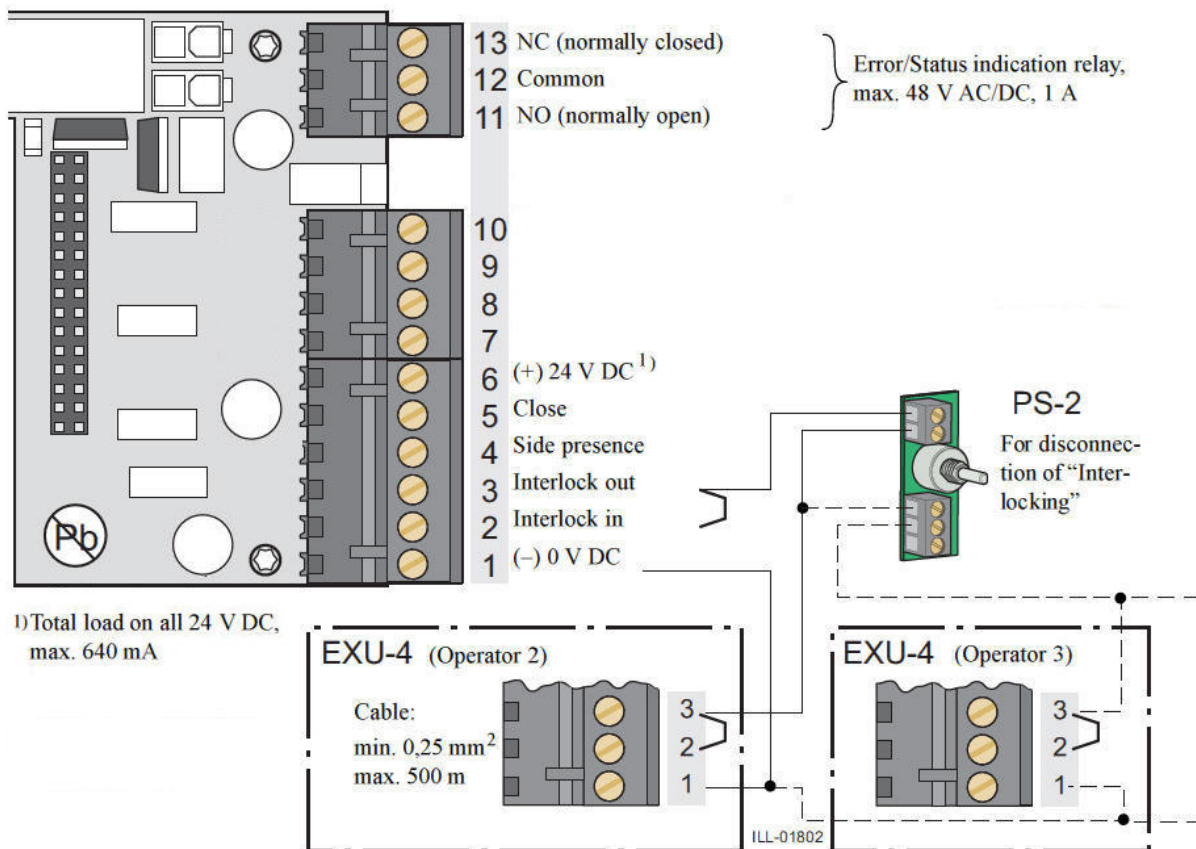
When functions beyond those implemented on the main control unit are required, an extension unit is available, EXU-4 and this unit is to be applied on top of the control unit (if not factory installed).

### *Fitting the Extension Unit EXU-4 to Control Unit CUF*



- 1 Fastening screws (2 pcs)
- 2 Inter connect strip (long pins to be fitted into the EXU)
- 3 Extension unit, EXU-4
- 4 Label (EXU-4)
- 5 Lid
- 6 Screw to fix the lid

## Extension Unit, EXU-4



## Start-Up

After installing the operator, the Start-up and adjustment must be carried out in the following order (reference "[Electrical Connections](#)" section of this manual).

1. Remove the mains power plug from the control unit CUF.
2. Connect the mains power cables to the connection block.
3. Make sure that FS-1 (direction of rotation) and FS-2 (locked with or without power) are correctly set.
4. Unplug the Program Selector. Unplug all activation units and presence sensors, terminals 1-16.
5. Put the door in half open position. Connect the main power plug to the control unit CUF and push the learn button LB for minimum 2 seconds. The door will now carry out a complete open/close cycle at low speed to learn the opening width and the closed position. When finished, check that the door is closed.

**Note:** The learn button LB has different functions:

- Push LB briefly and adjusted potentiometer and/or function selector FS settings will be accepted.

- If the LB is pushed for a minimum of 2 seconds, the operator will carry out a complete open/close cycle at low speed to learn the opening width and the closed position.
6. To check the door movement, give opening impulse by strapping the terminals No. 1 and 2 on the control unit CUF.
  7. Disconnect the main power plug from the CUF and install activation units, presence sensors, Program Selector and accessories
  8. Select correct functions with the function selector FS, for the connected accessories
  9. Connect the main power plug to the CUF, push shortly the learn button LB.

If necessary, adjust the door speeds and sensor detection field values to meet the specific application and regulation requirements.

**Note:** When adjusting the low speed, please refer to latch check section of the current ANSI 156.10 standard to meet proper requirements.

**Note:** Press the learn button briefly after any FS or potentiometer adjustment to ensure proper configuration.

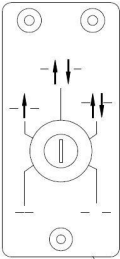
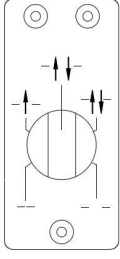
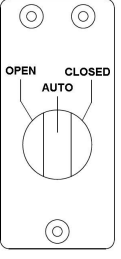
## Program Selectors

### ***Program Selectors and Functions***

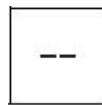
The functions of the door are selected with mechanical or key Program Selectors:

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.

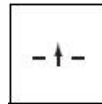
5 Pos Switch (Key)	5 Pos Knob Switch	3 Pos Knob Switch
		

#### Program Selector Functions



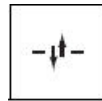
**OFF**  
**(Closed)**

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).



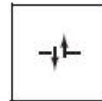
**EXIT**  
**(One Way Traffic)**

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.



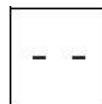
**\*AUTO**

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).



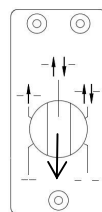
**AUTO partial**

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.

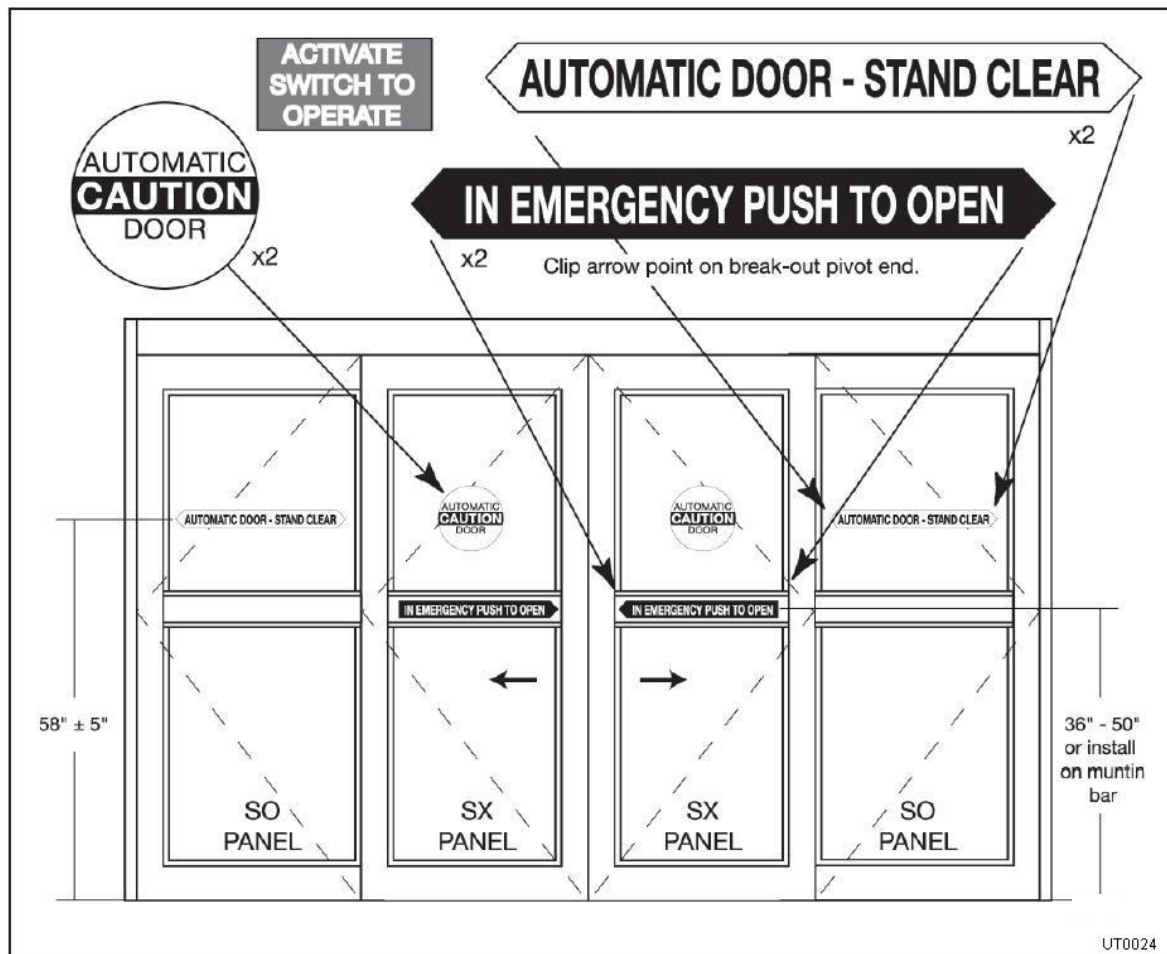
#### **Note!**

If equipped with key and the Program Selector is set to the RESET position, the key cannot be removed.

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

## Signage

ANSI/BHMA standard 156.10-2005 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

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Before starting the troubleshooting, check that the Program Selector setting is correct and then reset the operator. Start the troubleshooting by checking the mechanical and electrical parts of the operator in the following order.

The control unit and electromechanical lock are fixed with brackets in the support beam. To replace, the complete unit is to be loosened and replaced.

### **Mechanical checking and remedies**

Disconnect the mains power. Unlock all mechanical locks. Pull the door leaf manually 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 draught excluders. Clean the floor guide, adjust the door leaf height/depth or take other necessary measures for example, replacement of wear parts until the door leaf is running smoothly when manually operated.

### **LED Indication and Error Codes**

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

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

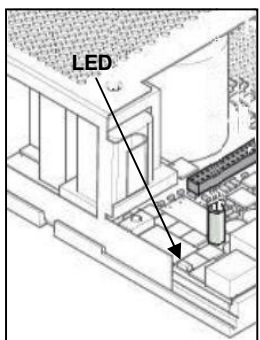
#### ***Normal Operation/Non-critical errors*** ---








During normal operation and for non-critical errors the LED on the control unit is illuminated.

#### ***Power failure (no error code)***

If the LED is extinguished, check the mains power, power supply cable and perform a reset. If the problem remains, replace the control unit.

## LED indication



- **Sensor error**  
1 fast flash (0,2s), pause (1,0s) etc. 
- **Emergency Unit error**  
2 fast flashes (0,4s), pause (1,0s) etc. 
- **CUF error**  
3 fast flashes (0,6s), pause (1,0s) etc. 
- **Motor/Encoder error**  
4 fast flashes (0,8s), pause (1,0s) etc. 
- **Lock error**  
5 fast flashes (1,0s), pause (1,0s) etc. 
- **Motor Temperature High**  
1 slow flash (1,8s), pause (0,2s) etc. 
- **Normal operation/Non-Critical errors**  
Illuminated 

## Sensor Error



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

CT Error Code	Reason	Remedy
Presence Impulse Error	The control unit doesn't get a test answer from the activation unit.	Make sure that the monitoring output is connected and the connections are OK. Replace the presence activation unit.
Slide Presence Impulse Error	The control unit doesn't get a test answer, from the activation unit.	Make sure that the monitoring output is connected and the connections are OK. Replace the side presence activation unit.
Inner Impulse Error	The control unit doesn't get a test answer, from the activation unit.	Replace the presence activation unit. 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.

CT Error Code	Reason	Remedy
Emergency Unit Error	<ul style="list-style-type: none"><li>The door is prevented from fulfilling its emergency unit test within a stated time, due to high friction or jammed door.</li></ul>	<ul style="list-style-type: none"><li>Check rubber band tension depending on configured "Emergency Unit Type" and ensure that the door can open fully.</li><li>Replace the EXU-4 extension unit.</li><li>Make sure that the cables are okay and connected.</li></ul>

## CUF Error

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

Error Code	Reason	Remedy
RAM Error	Internal RAM memory error.	Reset, and if the problem remains, replace the control unit.
ROM Error	Internal ROM memory error	Reset, and if the problem remains, replace the control unit.
EEPROM Error	Serious internal EEPROM memory error	Reset Download a saved parameter set or DEFAULT parameter set and perform a reset. If the problem remains, replace the control unit.
EEPROM Critical Write Error	Internal write EEPROM memory error. This error mainly occurs when it's impossible to change a configuration parameter.	Reset. Try to change the configuration parameter that caused the problem, and if the problem remains, replace the control unit.
SMPS Over Voltage	The internal link voltage has for some reason increased to above 47 V.	Reset, and if the problem remains, replace the control unit.
A/D Converter Error	The internal A/D Converter or multiplexer is broken.	Reset, and if the problem remains, replace the control unit.
Lock Circuit Error	It is not possible to disconnect the lock with the lock relay.	Reset, and if the problem remains, replace the control unit.
Hardware Watchdog Error	It is not possible to disable the motor bridge	Reset, and if the problem remains, replace the control unit.

Error Code	Reason	Remedy
Output Enable Error	Test of safety related circuits failing.	Reset, and if the problem remains, replace the control unit.
Register Error	Internal register error.	Reset, and if the problem remains, replace the control unit.
OS Error	Internal program error.	Reset, and if the problem remains, replace the control unit.
Flash Code Error	Serious internal programming error	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 Code	Reason	Remedy
Encoder Error	The encoder, encoder cable, or Motor cable is damaged. Wrong Motor type is selected.	Make sure that the encoder cable and the motor cable is connected. Check Motor Type configuration with the CT-Tool.
Motor Current Error	The Motor cable or Encoder cable is damaged. Wrong Motor type is selected.	Make sure that the encoder cable and the motor cable is connected. Check Motor Type configuration with the CT-Tool.
Encoder Cable Error	The encoder of the encoder cable is damaged.	Make sure that the encoder cable is connected.

### **Lock Error**



The motor and lock power are disconnected.

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

<b>Error Code</b>	<b>Reason</b>	<b>Remedy</b>
Lock Failure	The lock or something else was preventing the door from opening the first 14 mm from closed position.	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.

<b>Error Code</b>	<b>Reason</b>	<b>Remedy</b>
Motor Temperature High	The duty cycle of the door is too high for the current speed settings and hold open time.	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.
	The heavy-duty motor is replaced with a normal duty motor.	Put the door in PS OPEN and wait for at least 5 minutes.

Note: This error is not removable by reset, only by setting the door in program selection "Open" with the power on.

### **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

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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 for a minimum of 30 seconds.

### 8.3 Sliding Doors

8.3.1 Activating zones for swinging, **sliding** and folding doors shall have a minimum **width** equal to the width of the clear opening measured at 8 in. and 30 in. perpendicular from the face of the closed door(s). The length from the face of the door shall be 43 in. minimum measured at the center of the clear opening. Detection shall be effective to within 5 in. from the face of the door measured at the center of the clear opening. Exception: If the 43" activation zone length is not practical due to physical or environmental conditions, it shall be permissible to be reduced to 30 inches, along with an additional sign, visible from the side the zone has been reduced on, stating "AUTOMATIC CAUTION DOOR" as describe in 11.2.3.

8.3.2 A presence sensor shall be used to detect a person fully in the space between two non overlapping activating zones for the width of the clear opening as follows:

8.3.2.1 If photo electric beams are used (See Figure A-18A):

(1) A minimum of four photo electric beams shall be installed, two minimum **on each side of the sliding door**. The beams' location shall alternate from side to side. The lowest beam shall be installed 6 to 28 in. from the floor and the other three at a spacing between 6 and 12 in. apart with the top beam at 45-55in. from the floor. The photo electric beam area of detection shall extend across the clear door opening. (See Figure A-18A); and

(2) The beams shall be installed within 3 in. from the centerline of the slide door; and

(3) The beams shall remain active from fully open to within 6 in. of closed; and

(4) The door shall remain fully open for 2.5 seconds minimum after loss of detection.

8.3.2.3 If overhead 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 in. extending out from the face of the door. If the inactive area exceeds 3 in. from the face of the door, it shall have a minimum of two photo electric beams on one side of the door, with the lower beam installed 6-28 in., and top beam 45-55 in. from the floor; and

(2) The detection zone shall remain active from open to within 6 in. of closed.

(3) If beams are required they shall be installed within 3 in. from the centerline of the slide door and remain active from fully open to within 6 in. of closed.

(4) The door shall remain fully open for 1.5 seconds minimum after loss of detection.

### 10. Entrapment Protection

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

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

V = Velocity in ft/sec

W = weight of door in pounds

10.1.2 **Latch check** shall occur for sliding doors at no less than 2 in. from the closed position of each sliding door leaf.

10.1.3 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.

10.1.4 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 automatic operation when used in the break out mode. Break away devices incorporating swing out sidelites shall interrupt automatic operation when used in the break out mode.

10.1.5 Sliding doors utilizing sensors or control mats shall remain fully open a minimum of 1.5 seconds after loss of detection, unless otherwise specified within this standard

## 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

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

1. Remove dust and dirt from the operator. Dirt on the sliding track should be removed with methylated spirits. If necessary, replace the sliding track.
2. None of the parts need lubrication. The tooth belt must be kept dry and clean. Check the belt tension.
3. Check that all nuts and bolts are tightened well.
4. 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.
- 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.

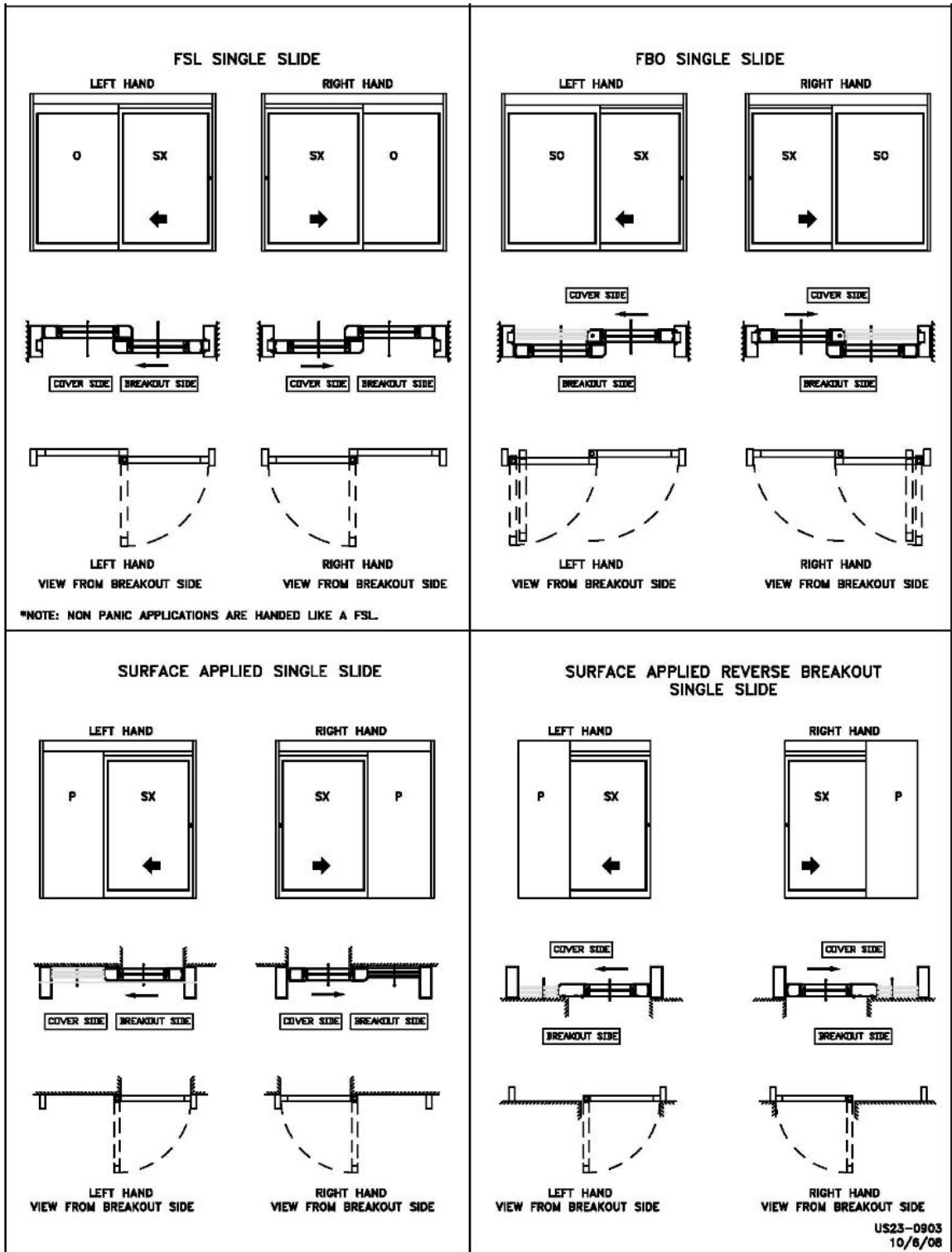
Note on the Planned Maintenance review, any recommendations to improve door performance and reliability, and review with customer.

## **Door Handing & Layout**

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### **Door Handing (Automatic Door Industry)**

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



**NOTES**

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