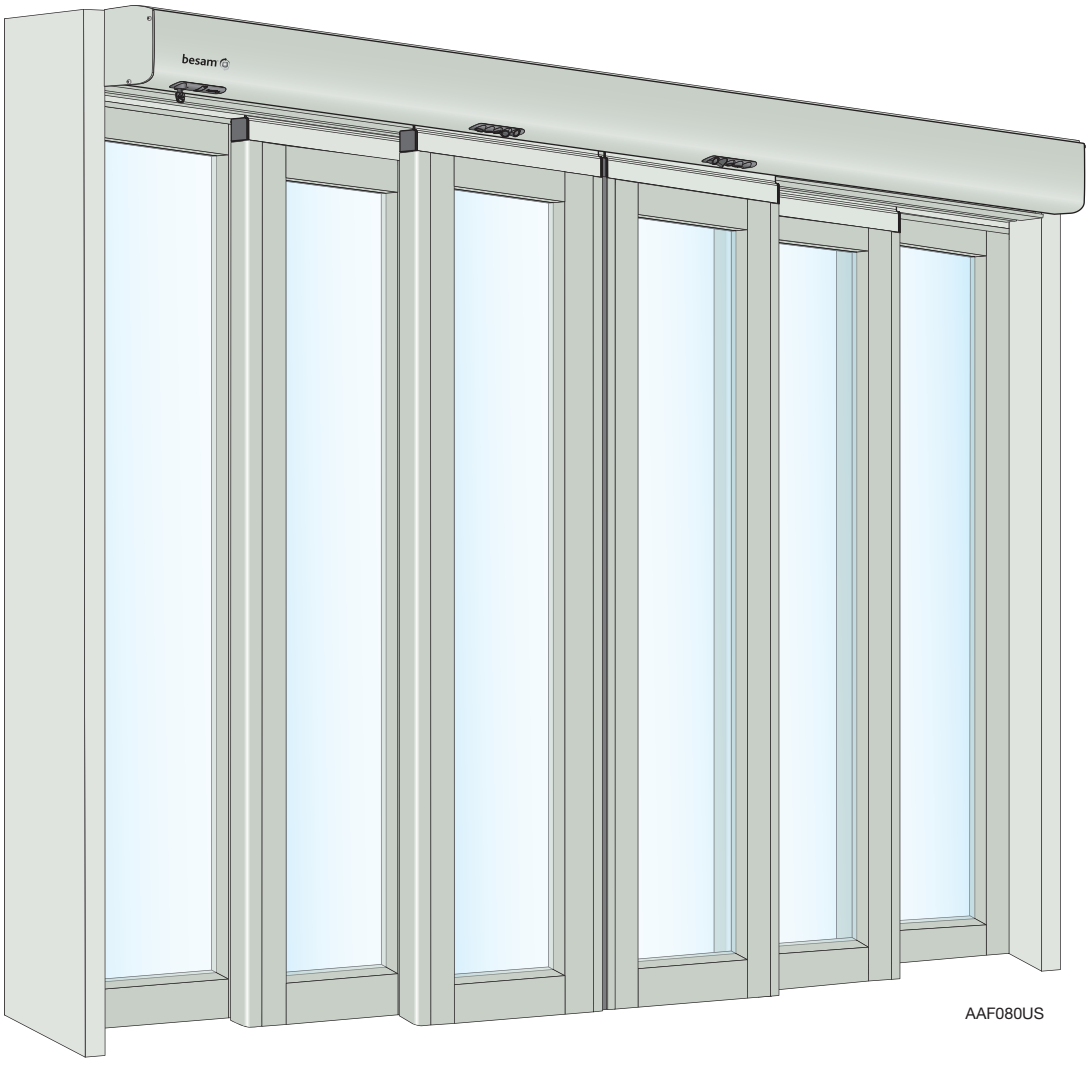
besam

entrance solutions

Besam Unislide Telescopic
Installation, Adjustment and Troubleshooting Manual for Concealed and Surface Applied Packages



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

CAUTION

AAE407

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 the following 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.

At each revision all revised pages will get a new updated issue number (month-day-year).
The first page will always have the same issue number as the revised pages.
Changes will be marked with a vertical line in the margin.
The table below shows the latest issue numbers.

Page	Issue No.	Page	Issue No.	Page	Issue No.
01	XX-XX-2006	22	XX-XX-2006	43	XX-XX-2006
02	XX-XX-2006	23	XX-XX-2006	44	XX-XX-2006
03	XX-XX-2006	24	XX-XX-2006	45	XX-XX-2006
04	XX-XX-2006	25	XX-XX-2006	46	XX-XX-2006
05	XX-XX-2006	26	XX-XX-2006	47	XX-XX-2006
06	XX-XX-2006	27	XX-XX-2006	48	XX-XX-2006
07	XX-XX-2006	28	XX-XX-2006	49	XX-XX-2006
08	XX-XX-2006	29	XX-XX-2006	50	XX-XX-2006
09	XX-XX-2006	30	XX-XX-2006	51	XX-XX-2006
10	XX-XX-2006	31	XX-XX-2006	52	XX-XX-2006
11	XX-XX-2006	32	XX-XX-2006	53	XX-XX-2006
12	XX-XX-2006	33	XX-XX-2006	54	XX-XX-2006
13	XX-XX-2006	34	XX-XX-2006	55	XX-XX-2006
14	XX-XX-2006	35	XX-XX-2006	56	XX-XX-2006
15	XX-XX-2006	36	XX-XX-2006	57	XX-XX-2006
16	XX-XX-2006	37	XX-XX-2006	58	XX-XX-2006
17	XX-XX-2006	38	XX-XX-2006	59	XX-XX-2006
18	XX-XX-2006	39	XX-XX-2006	60	XX-XX-2006
19	XX-XX-2006	40	XX-XX-2006		
20	XX-XX-2006	41	XX-XX-2006		
21	XX-XX-2006	42	XX-XX-2006		

Contents

Caution	2
Revision	3
Content	4-5
Important information	6
Introduction	7
Technical specifications	8
Design and function description	9
Models	10
Part Identification & Options	11
Telescopic Hardware	12
Fast Moving Leaf Panic Break Out system	13
Side Light, fixed	14
Side Light, break out	14
Slow Moving Active Leaf	15
Bottom Guide System	16
Various Options	17
Pre Installation Questions	18
Space required	19
Installation Overview	20
Installation Examples	21
Concealed	21
Surface Applied	22
Installation Requirements	23
Opening/Closing and Locking of the cover	24
Site Inspection	25
Mechanical Installation	25-43
Checking - Marking out - Fastening	26
Leveling Header and Jambs	26
Fitting the floor guide track	27-28
Fixed Sidelite Installation Procedure	29
Full Beakout Sidelite Installation Procedure	30
Setting of the Slow Moving Leaves (Fixed Sidelite)	31
Setting of the Fast Moving Leaves (Fixed Sidelite)	32
Alignment of Both Doors (Fixed Sidelite)	33
Setting of the Slow Moving Leaves (Full Break Out)	34
Setting of the Fast Moving Leaves (Full Break Out)	35
Alignment of Both Doors (Full Break Out)	35
Setting the Active Leaf Pin Guide Pivot (Full Break Out)	36
Height adjustment	37
Replacement or Adjustment of Belts	38
Adjustment of the leading edge (to avoid finger traps)	39

Checking and adjusting the belt tension 40
Interlocks for FBO units 41
Adjusting ball catches 42
Manual lock system adjustment and re-keying 43
Electrical connections 44
Installation 44
Main connection 44
Control unit 45
Contacts for connection of standard units 45
Terminal block for connection of auxiliary units 45
Function selector, FS 46
Potentiometers and learn button 46
Connection of program selectors 47
Extension units 48-50
Fitting the extension units 48
Extension unit, EXU-1 49
Extension unit, EXU-3 49
Convenience battery, UPS 50
Start-Up 51
Program selectors and functions 52
Sign Placement 53
Troubleshooting 54-55
ANSI / BHMA A156.10 56
Planned Maintenance Checklist 57
Door Handing and Layout 58

Radio and Television Reception

This equipment generates and uses radio frequency energy and if not installed and used properly, that is, in strict accordance with the manufacturer's instructions, may cause interference to radio and television reception. It has been designed to comply with the emission limits in accordance with EN 50081-1 (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.
If necessary, the user should consult the dealer or an experienced radio/ television technician for additional suggestions.

Note!

Instructions, design, specifications and illustrations which are contained in this manual are not binding. Rights reserved for changes without previous notice.

Environment

This operator may be equipped with batteries containing materials which are hazardous to the environment. Remove the batteries from the operator before it is scrapped. The batteries must be disposed of safely.

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

The Besam Unislide Telescopic 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 and sidelites.

A Besam Unislide Telescopic operator ensures all-around safety. It can be combined with the full range of Besam recommended safety units, such as UltraView presence and motion detector or BEA Wizard. It is easy to install for new construction applications and can be adapted to a wide range of concealed or surface applied installations.

Mains power supply	100 V AC -15% to 240 V AC +10% 50/60 Hz, 3 Amp
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 OCT2 110 lb./leaf (50 kg/leaf) Single Slide UniSlide OCT1 220 lb./leaf (100 kg/leaf)
Clear opening	Bi-parting UniSlide OCT2: 59 3/16" – 107 3/16" (1503 – 2723 mm) Single Slide UniSlide OCT1: 36 7/16" – 60 7/16" (926 – 1535 mm)
*Opening and closing speed	Bi-parting (UniSlide OCT2) variable up to approx. 4.5 ft/sec. (1.4 m/s)
*Hold open time	0-60 seconds
Ambient temperature	-4°F to 122°F (-20°C to +50°C) [-31°F to 122°F (-35°C to +50°C) 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

The sliding door operator Besam Unislide Telescopic 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 gear box transmit movement to the door leaves by means of a tooth belt. The door carriers for all active leaves are shipped from the factory installed on the header. The installation order of the doors is first the sidelite, then the Slow Moving Leaf(center), and lastly the Fast Moving Leaf.

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 run out.

Safety Functions Integrated in the Operator

To permit safe passage between closing doors, the doors immediately reverse to 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 which 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 Telescopic can be combined with an emergency unit that automatically opens or closes[1] the doors in the event of a power failure and can also be interfaced with the fire alarm or smoke detector.
Safety is further reinforced by incorporating a panic fitting. This enables the doors and/or sidelites to be swung outwards in an emergency situation by applying pressure.

[1] Battery backup only

Safety Sensors

Safety sensors such as Besam UltraView or BEA Wizard must be installed per ANSI 156:10 on Pedestrian Applications.

Besam provides several varieties of the Unislide Telescopic 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 emergency situations.

All Unislide Telescopic 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 Telescopic system, check to see that you have been supplied the correct equipment and that all necessary tools and hardware are at hand (see page 23). Also, check the installation site for any factors that might interfere with proper installation (see page 25).

Before attempting to install the active door leaves, the lower edge must be removed from the header. The lower edge is connected to the telescopic track by five support plates on a Bipart or three support plates on a Single Slide, each plate having two screws. The center plate for a Bipart connects the left and right hand side lower edge together. Remove these screws to drop the lower edge.

Naming conventions	Explanation	
Unislide Telescopic OCT1 FSL	overhead concealed,	single slide right hand, fixed sidelight
Unislide Telescopic OCT1 FBO	overhead concealed,	single slide right hand, full break out
Unislide Telescopic OCT2 FSL	overhead concealed,	bi-part, fixed sidelight
Unislide Telescopic OCT2 FBO	overhead concealed,	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)

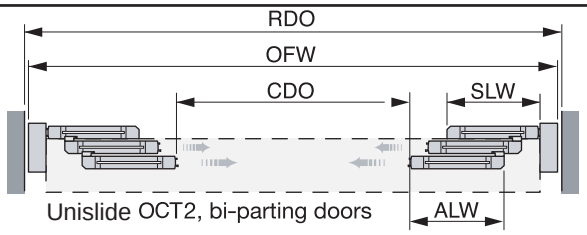
SINGLE SLIDE

UNISLIDE OVERHEAD CONCEALED	DOOR OPENING A	OVERALL FRAME WIDTH B	MASONRY OPENING WIDTH C	ACTIVE & SIDELITE LEAF WIDTH D
6′	36 7/16″ (925.5)	72″ (1828.8)	72 1/2″ (1841.5)	24 9/16″ (623.9)
7′	44 7/16″ (1128.7)	84″ (2133.6)	84 1/2″ (2146.3)	28 9/16″ (725.5)
8′	52 7/16″ (1331.9)	96″ (2438.4)	96 1/2″ (2451.1)	32 9/16″ (827.1)
9′	60 7/16″ (1535.1)	108″ (2743.2)	108 1/2″ (2755.9)	36 9/16″ (928.7)
KEY	(2B/3)-11 9/16 (2B/3)-(293.7)	(C-1/2″) (C-12.7)	(B+1/2″) (B+12.7)	(B/3)+9/16″ (B/3)+(14.3)

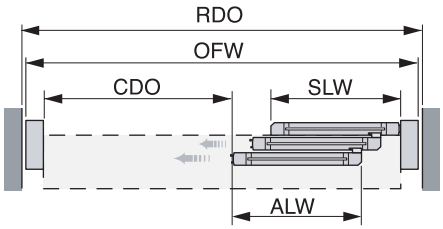
BIPART

UNISLIDE OVERHEAD CONCEALED	DOOR OPENING A	OVERALL FRAME WIDTH B	MASONRY OPENING WIDTH C	ACTIVE & SIDELITE LEAF WIDTH D
10′	59 3/16″ (1503.4)	120″ (3048)	120 1/2″ (3060.7)	21 3/16″ (538.2)
12′	75 3/16″ (1909.8)	144″ (3657.6)	144 1/2″ (3670.3)	25 3/16″ (639.8)
14′	91 3/16″ (2316.2)	168″ (4267.2)	168 1/2″ (4279.9)	29 3/16″ (741.4)
16′	107 3/16″ (2722.6)	192″ (4876.8)	192 1/2″ (4889.5)	33 3/16″ (843)
KEY	(2B/3)-20 13/16 (2B/3)-(528.6)	(C-1/2″) (C-12.7)	(B+1/2″) (B+12.7)	(B/6)+1 3/16″ (B/6)+(30.2)

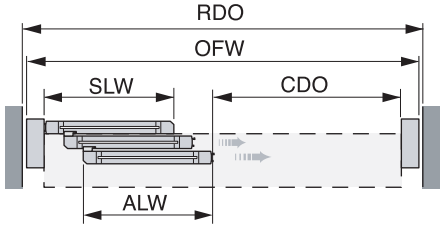
Note: Charts are for narrow stile doors with 1/4" glazing. Wider stiles or thicker glazing will reduce the CDO dimension accordingly.



Unislide OCT2, bi-parting doors



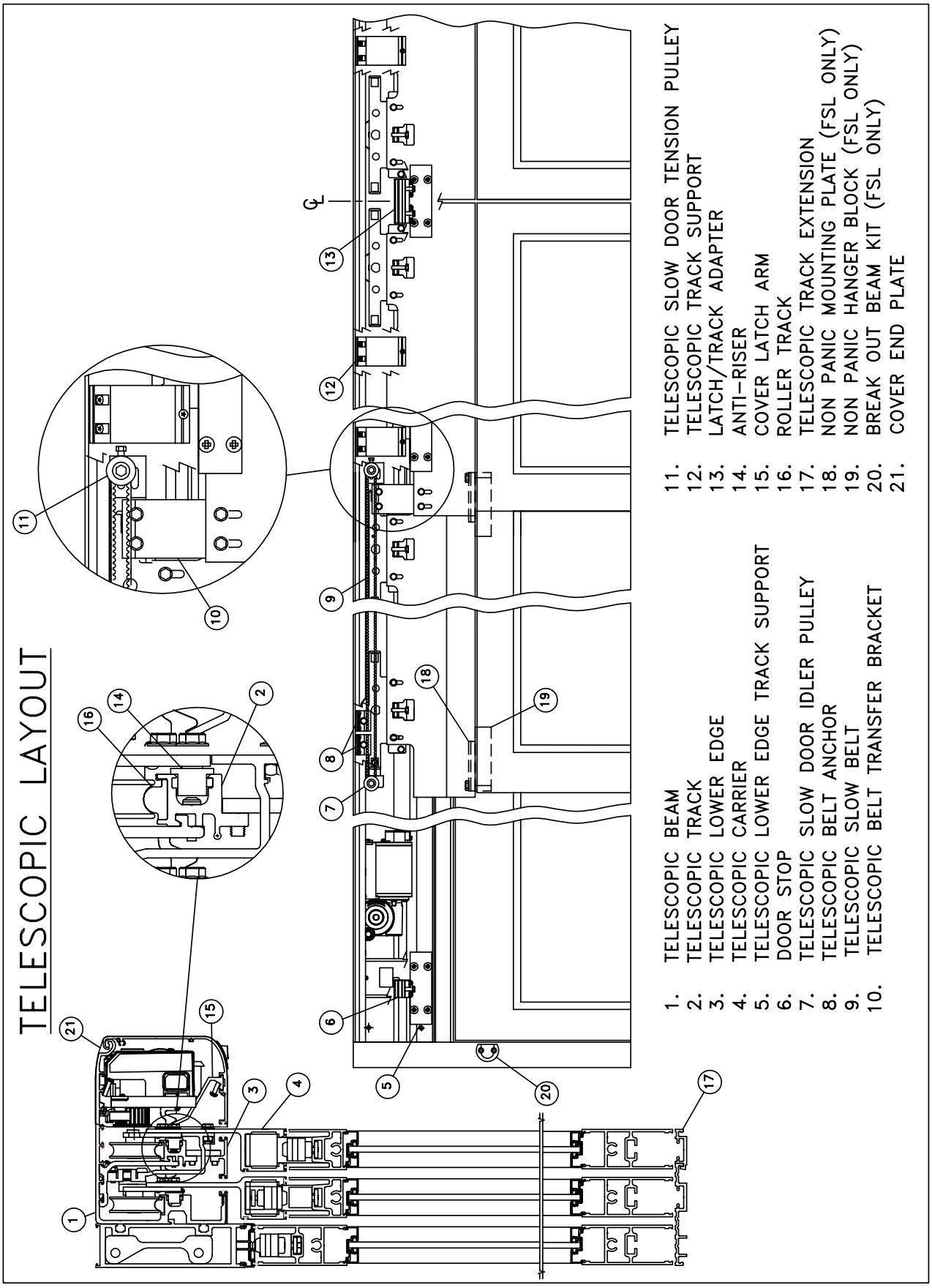
Unislide OCT1, single-sliding door, right-opening



AAF041US

Unislide OCT1, single-sliding door, left-opening

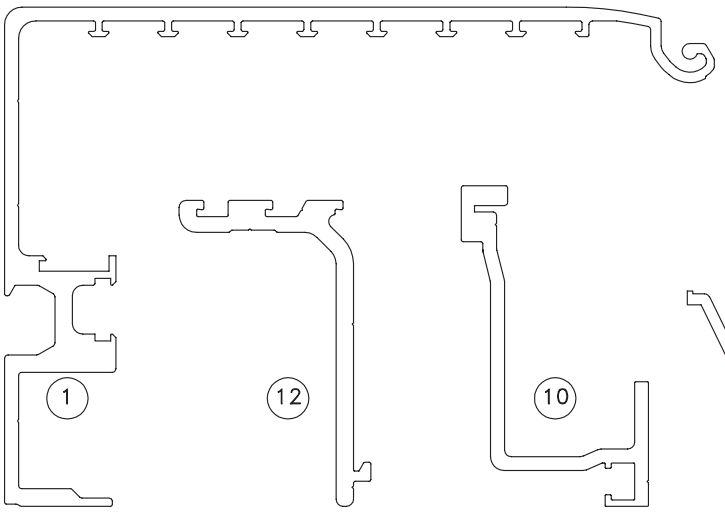
OFW = Frame width CDO = Clear Door Opening
SLW = Sidelite width RDO = Rough Door Opening
ALW = Active Leaf width



TELESCOPIC PARTS & HARDWARE

NEW TELESCOPIC HARDWARE/MISC.

P/N	DESCRIPTION	USED ON
18-09-006	M6 LOCKNUT	US05-0613-01
US09-0342-01	M6 x 8 PPH SCREW	US05-0613-01
724476	M6 x 10 FLANGED SCREW	US05-0614-01
US09-0610-01	M4 x 16 T20 PH SCREW	US04-0610-01, -02
US09-0598-01	M4 x 10 PPH SCREW	US05-0598-01, -02
US09-0256-01	M4 WASHER	US05-0598-01, -02
US09-0332-01	5/16" x 1" HHC SCREW	US05-0598-01, -02
US04-0303-01	COVER END PLATE	
US15-0604-01	ANTI-RISER KIT	
US05-0601-01	COVER LATCH ARM	
US15-0136-02	BREAK OUT BEAM KIT	

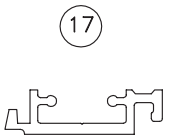


1 TELESCOPIC BEAM US01-0520-LLMF

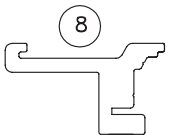
12 TELESCOPIC TRACK SUPPORT US05-0612-01

10 TELESCOPIC BELT TRANSFER BRACKET US05-0613-01

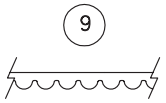
15 COVER LATCH US05-0601-01



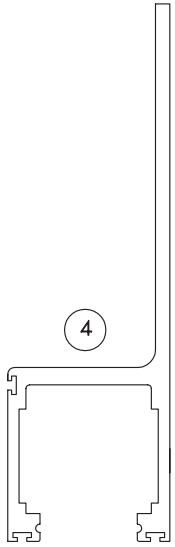
17 TELESCOPIC THREHOLD EXTENSION US01-0281-LLMF



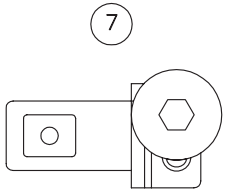
8 TELESCOPIC BELT ANCHOR US05-0614-01



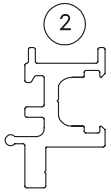
9 TELESCOPIC SLOW BELT 1000062



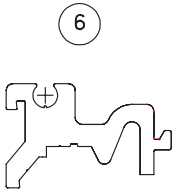
4 TELESCOPIC CARRIER US01-0292-LLCL, -LLDB



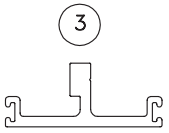
7 TELESCOPIC SLOW DOOR IDLER PULLEY 1000290



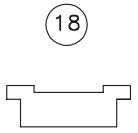
2 TELESCOPIC TRACK US01-0610-LLMF



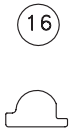
6 DOOR STOP (1 3/16") US05-0600-01
LATCH TRACK ADAPTER (3") US05-0600-02



3 TELESCOPIC LOWER EDGE US01-0611-LLCL, -LLDB

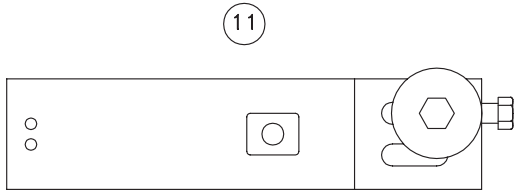


18 NON PANIC MOUNTING PLATE US04-0332-01

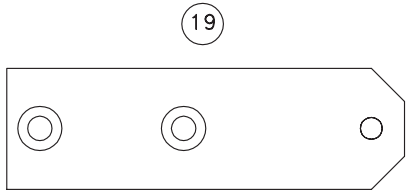


16 NYLON ROLLER TRACK US21-0620-01

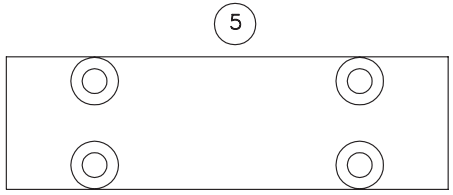
DOOR STOP BUMPER US20-0600-01



11 TELESCOPIC SLOW DOOR TENSION PULLEY US05-0598-01(RH), -02 (LH)



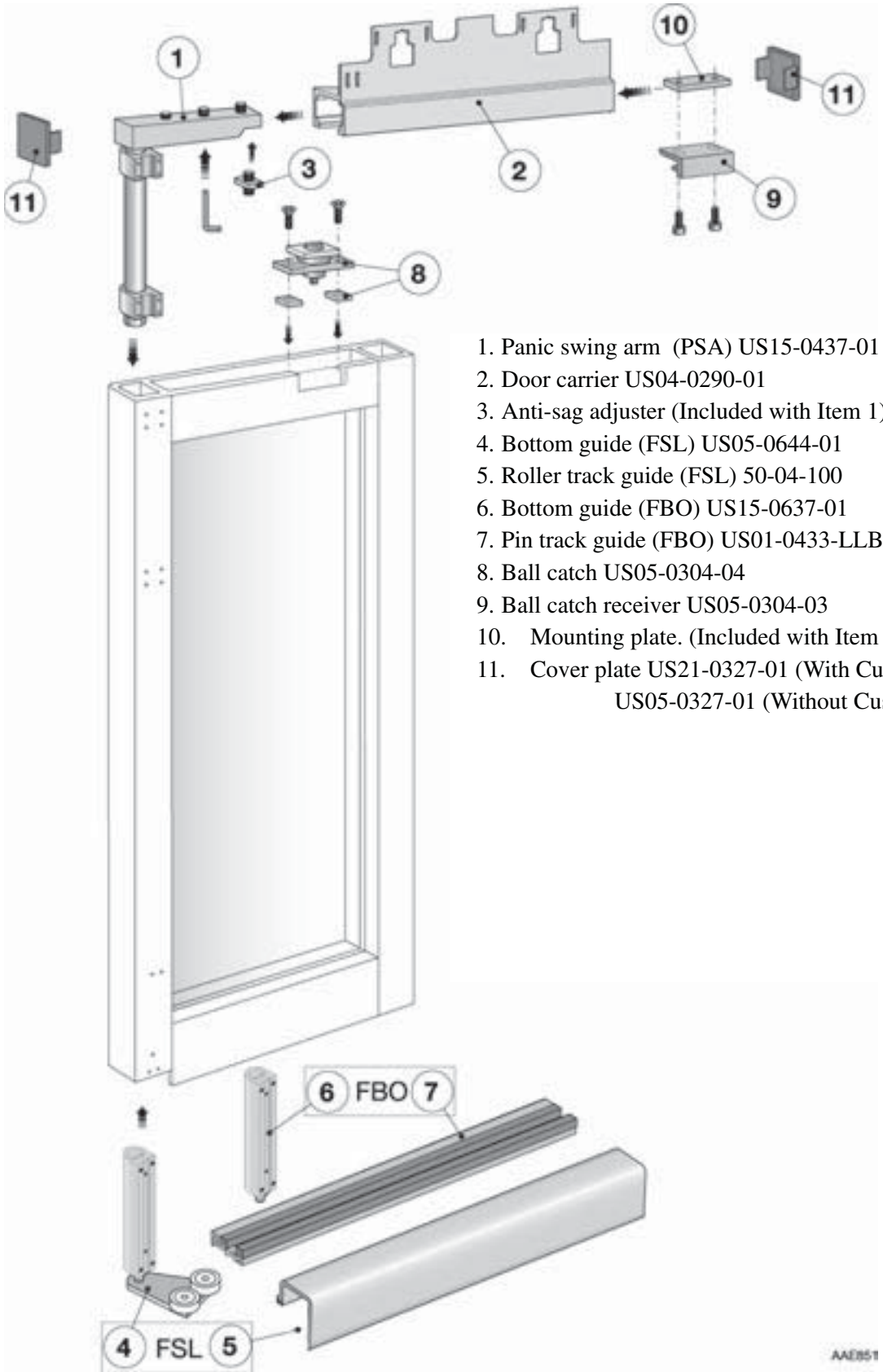
19 NON PANIC HANGER BLOCK US04-0333-01



5 LOWER EDGE TELESCOPIC TRACK SUPPORT US04-0615-01

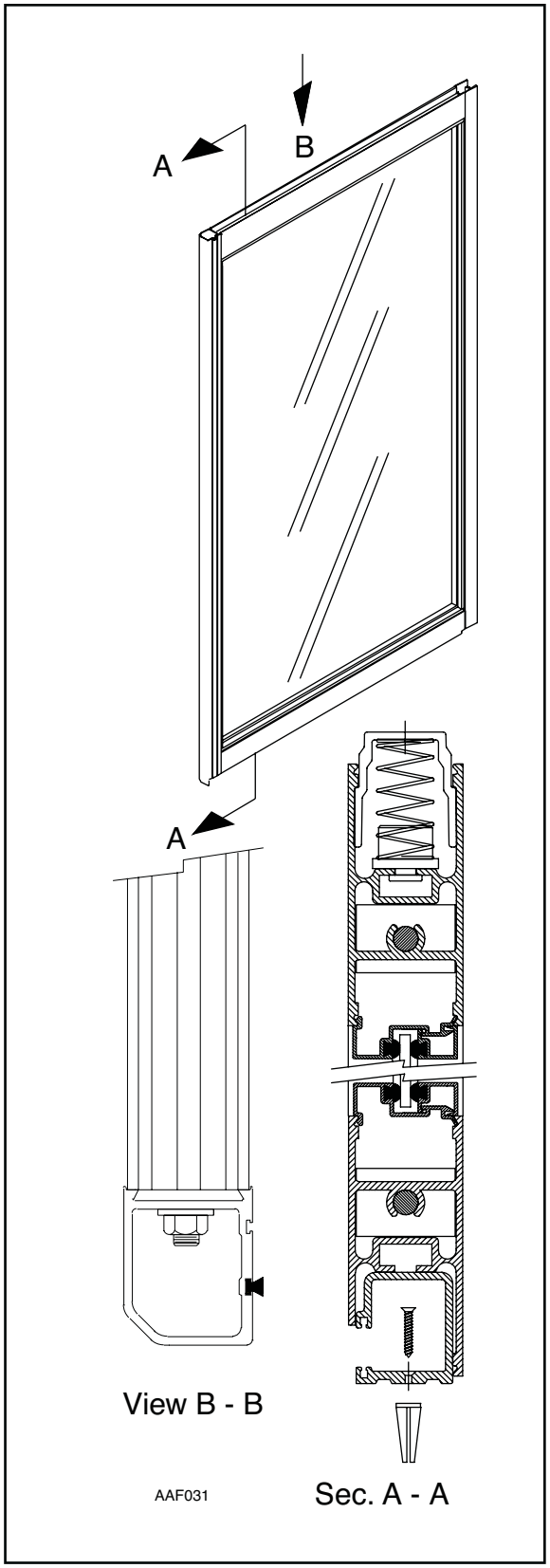
US23-0582-02
5/2/05

Fast Moving Leaf Panic Break Out System

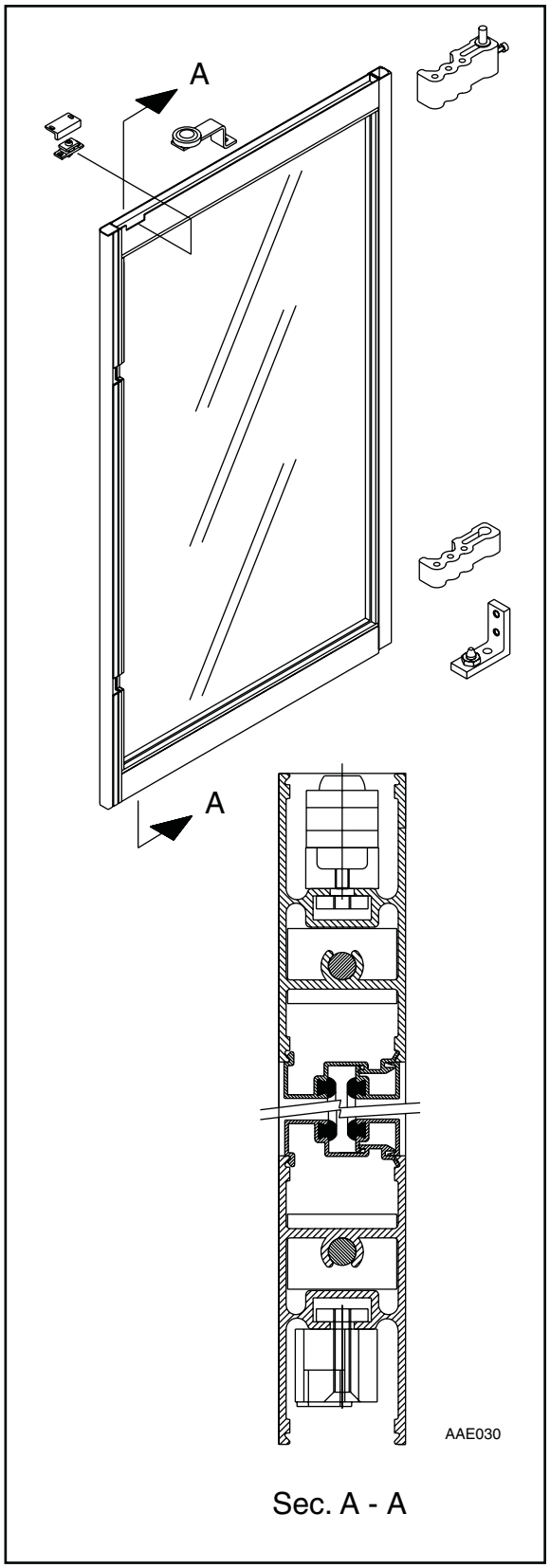


1. Panic swing arm (PSA) US15-0437-01
2. Door carrier US04-0290-01
3. Anti-sag adjuster (Included with Item 1)
4. Bottom guide (FSL) US05-0644-01
5. Roller track guide (FSL) 50-04-100
6. Bottom guide (FBO) US15-0637-01
7. Pin track guide (FBO) US01-0433-LLBK
8. Ball catch US05-0304-04
9. Ball catch receiver US05-0304-03
10. Mounting plate. (Included with Item 9)
11. Cover plate US21-0327-01 (With Cushion)
    US05-0327-01 (Without Cushion)

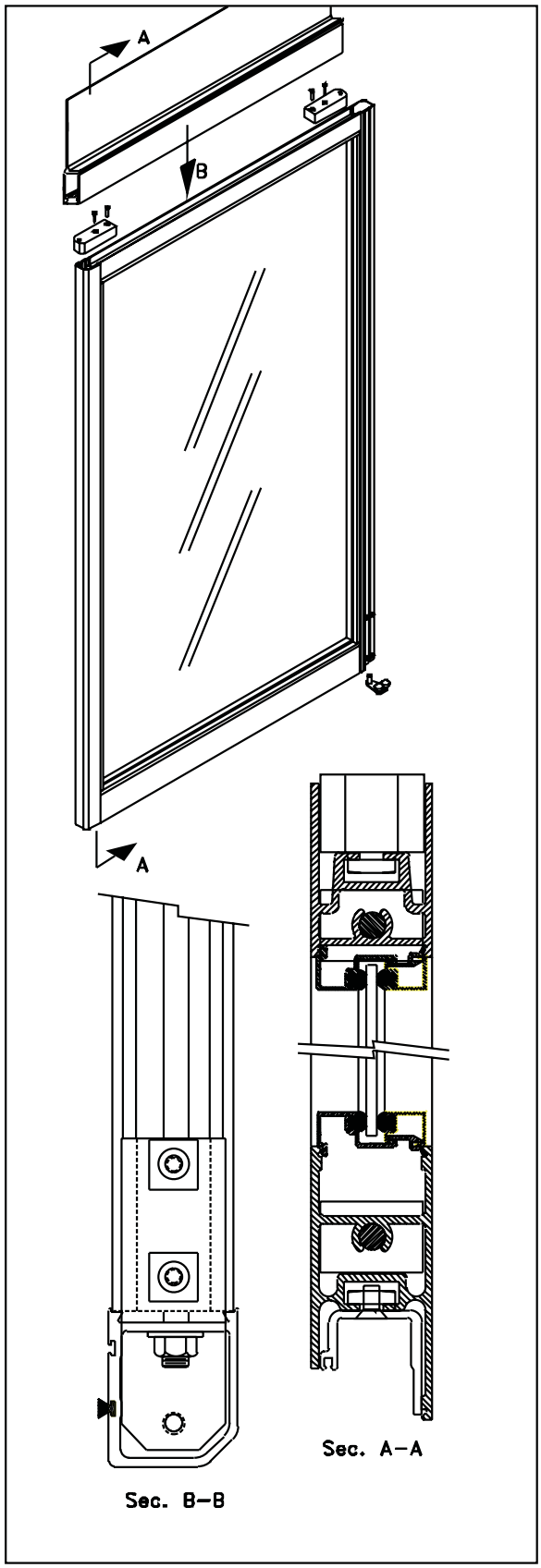
Sidelite, Fixed



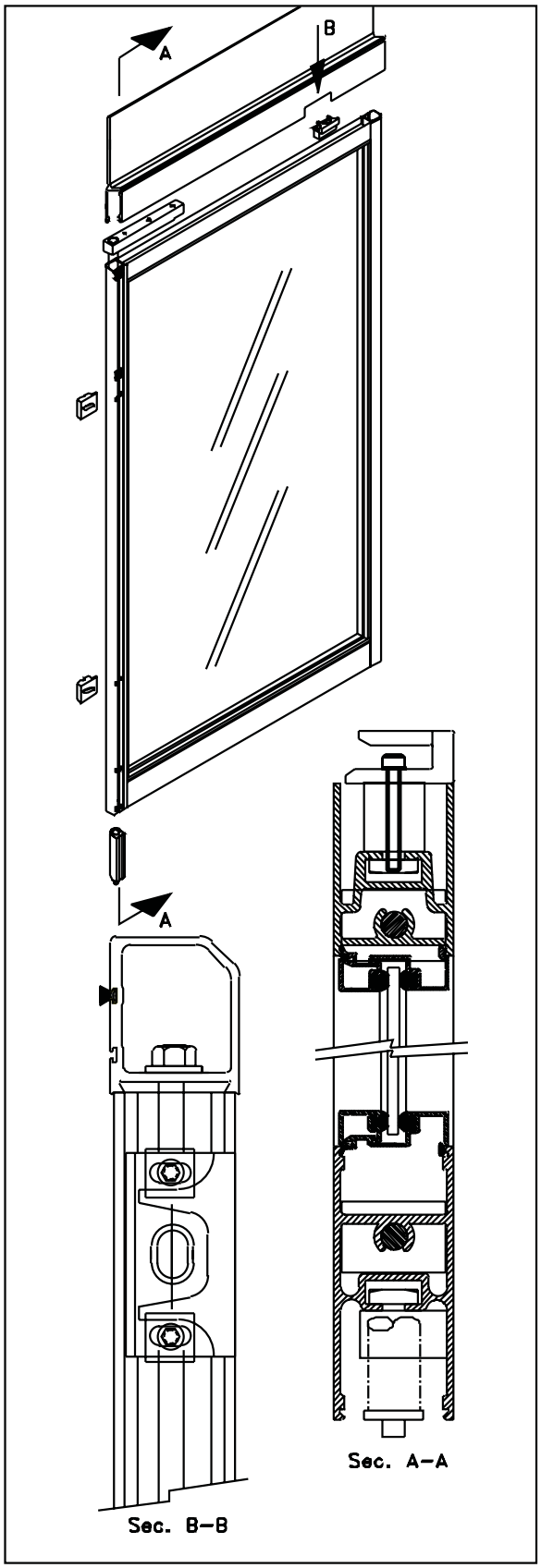
Sidelite, Break Outt



Slow Moving Panel, FSL



Slow Moving Panel, FBO



Bottom Guide Systems

Two basic guide systems are available:

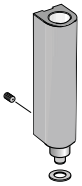
- The standard pin guide (FBO, or Full Break Out) with guide track: Surface or Recessed
- The roller guide (FSL, or Fixed sidelite) with fixed sidelite track: Surface or Floor Mounted

See pages 27-31 for guide installation.

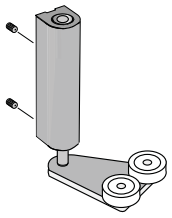
Pin Guide
P/N: US15-0637-01

Roller Guide
P/N: US05-0644-01

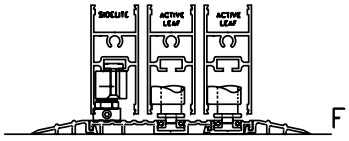
Pin Guide



Roller Guide

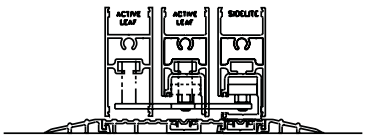


FBO



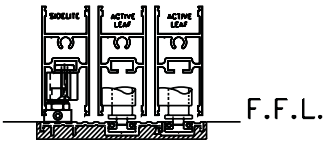
SURFACE THRESHOLD AND TRACK (PIN GUIDE)

FSL



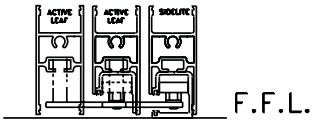
SURFACE THRESHOLD AND TRACK (G–CHANNEL)

FBO



RECESSED THRESHOLD AND TRACK (PIN GUIDE)

FSL



FLOOR MOUNTED TRACK (G–CHANNEL)

Recessed Track Lengths

Equal Lengths:
Std. and Telescopic Track = 2 x Door Width – x

RAIL	X
NARROW	2 5/8" (66.7)
MEDIUM	4 3/8" (111.1)
WIDE	5 3/8" (136.5)

Different Lengths:
Std. Track = Door Width + 1/8" (3.18mm)
Telescopic Track = 2 x Door Width – x

AAF051US

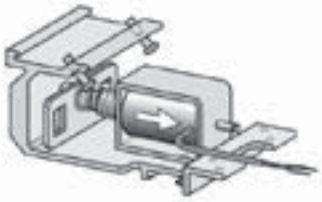
Various Options

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

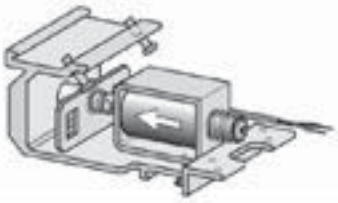
Program selector PS-5R
Always integrated in the cover or plank trim (std)
Part. No. 600135

Knob part number 1000474

Electromechanical lock
Fail secure (Locked without power)
Art. No. 550494
See installation drawing 656007



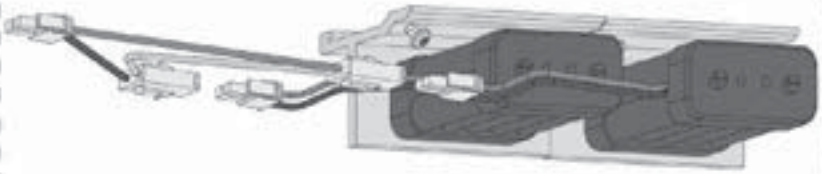
Electromechanical lock
Fail safe (Locked with power)
Art. No. 550516
See installation drawing 656007



Program selector PS-5M
Art. No. 600139
Remote Mounted (Field Installed and Prepped)
Program selector PSMB-5 (box only) Art. No. 600093
Jamb Mounted 5-Way Box (Field Installed and Prepped for overheight doors)

Extension Unit EXU-3
Art. No. 655953

Convenience battery UPS
Art. No. 550473



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 page 21 or 22).

D. Does this installation include a transom? (Consult Factory).

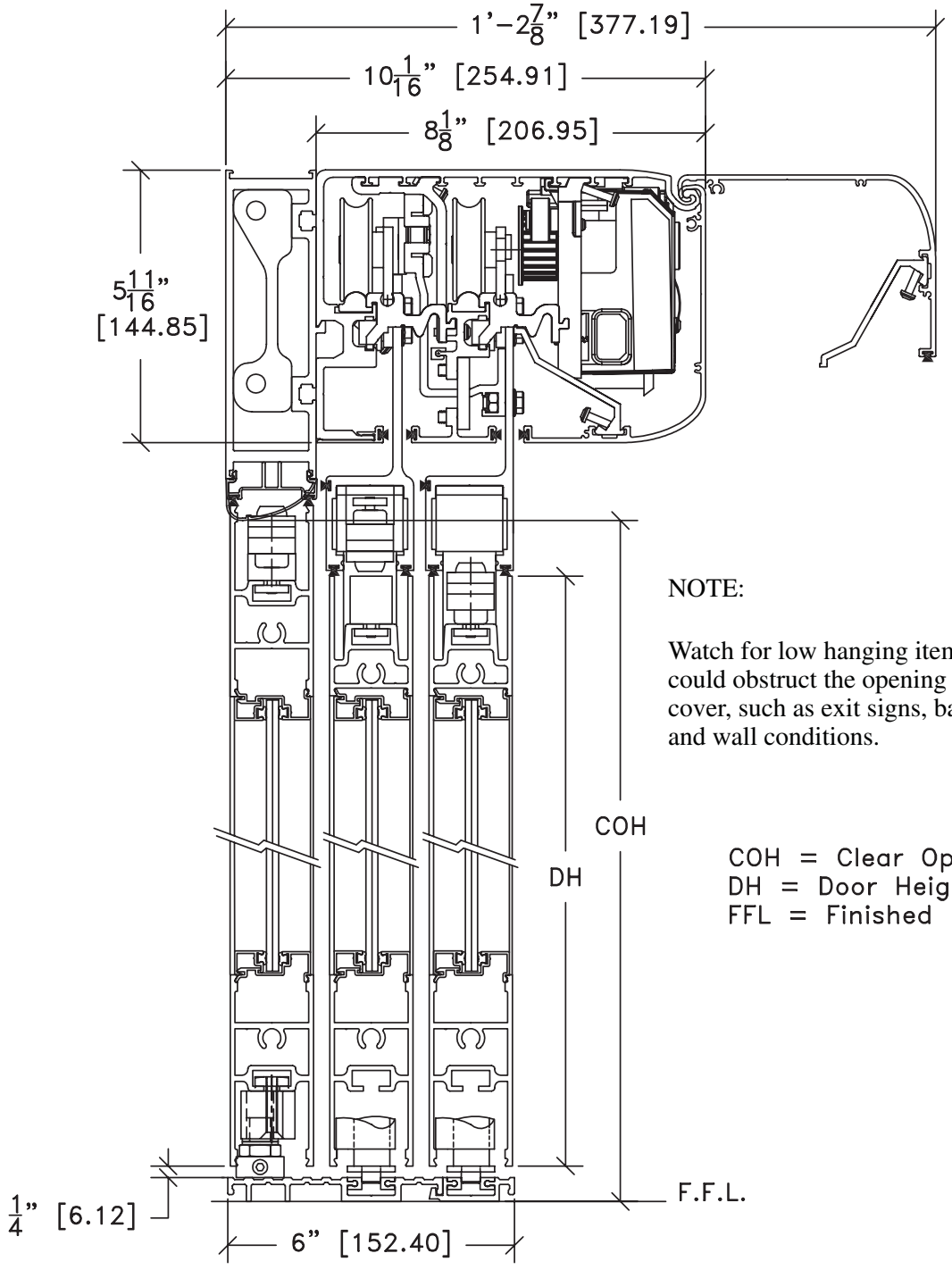
E Where will power and signal wires enter the operator housing? (Left jamb on cover side.)

F. Is this a Full Break out (FBO), Fixed Sidelite (FSL).

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.



NOTE:

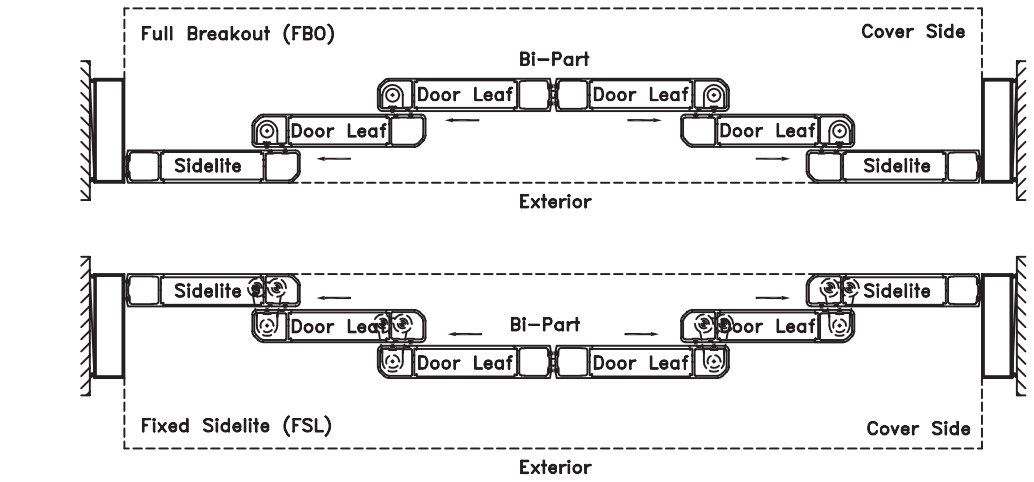
Watch for low hanging items that could obstruct the opening of the cover, such as exit signs, banners and wall conditions.

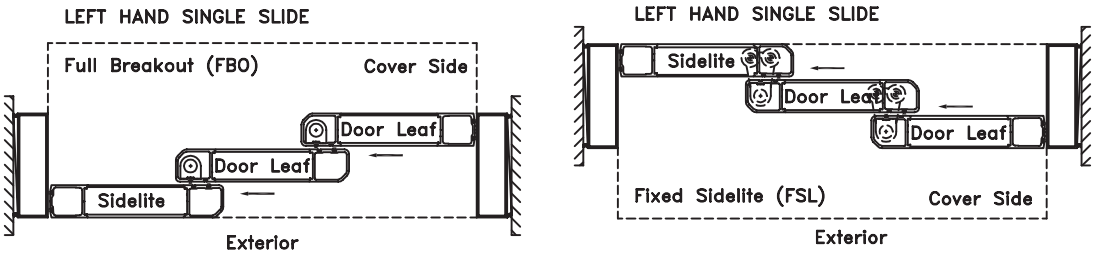
COH = Clear Opening Height
DH = Door Height
FFL = Finished Floor Level

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

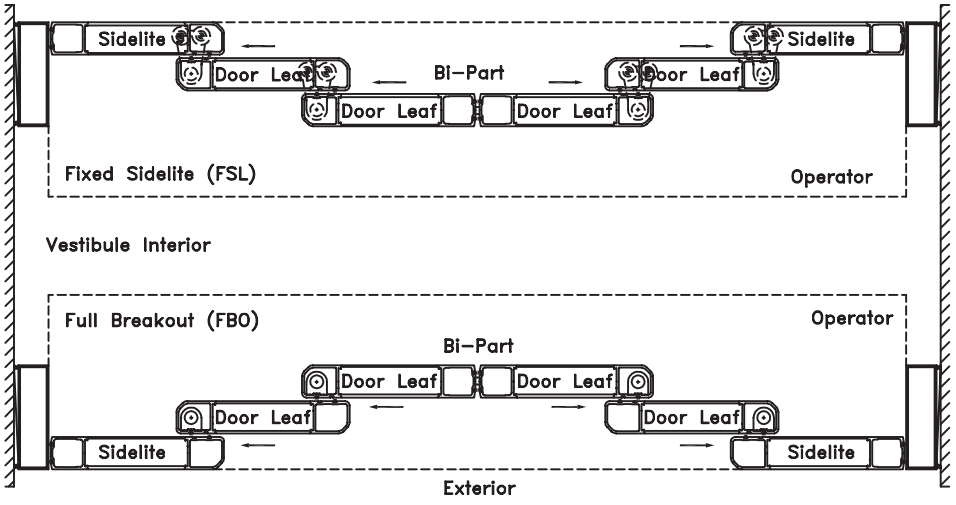
1. Start by determining the answers to the pre-installation questions on page 18.
2. If concealed, first install header to jamb tubes tilt into place, level and plumb, then secure to rough opening with shims and appropriate fasteners. See page 23 for fastener recommendations.
   If surface applied, mount operator to rough opening header and level.
3. Full Breakout: mount the pin guide track.
   Fixed Sidelite: mount the roller guide track.
4. Mount the sidelites.
5. Mount the moving door panels.
6. Adjust all door panels for alignment and smooth manual movement. Adjust all break outs 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.

Concealed



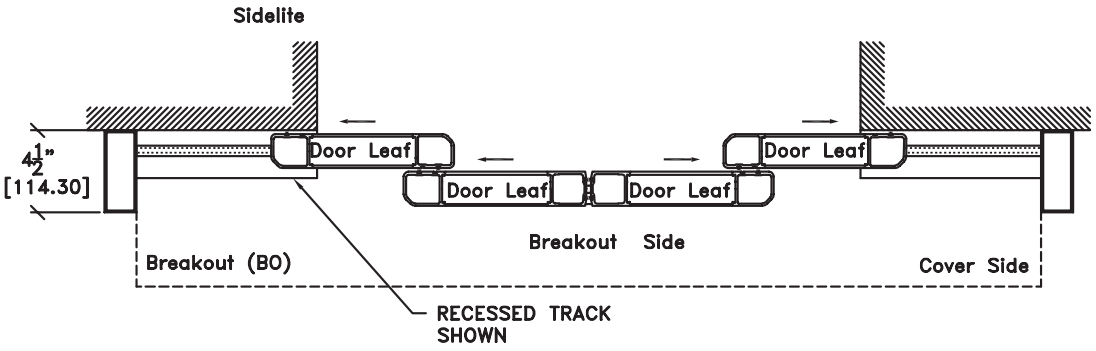


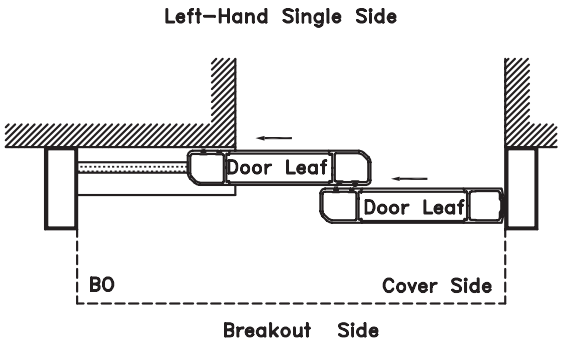
Breakout in Bi–Part Vestibule (Half for Single Slide)

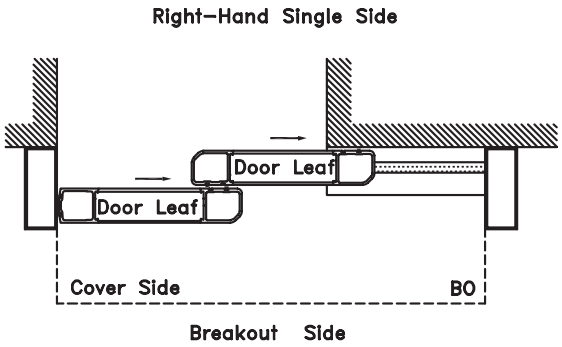


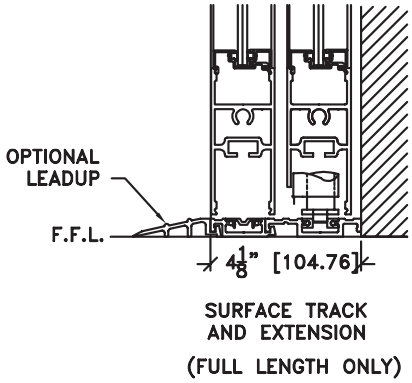
Note: Operator covers both face interior for ease of access.

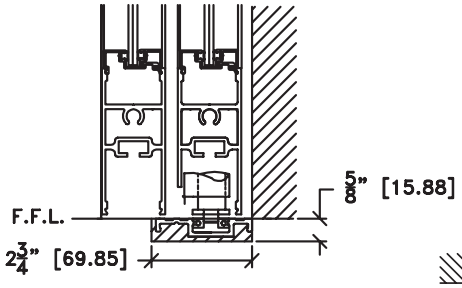
Surface Applied

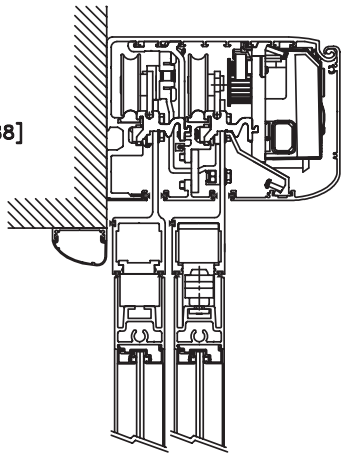












Fastening Requirements

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

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

Test Equipment

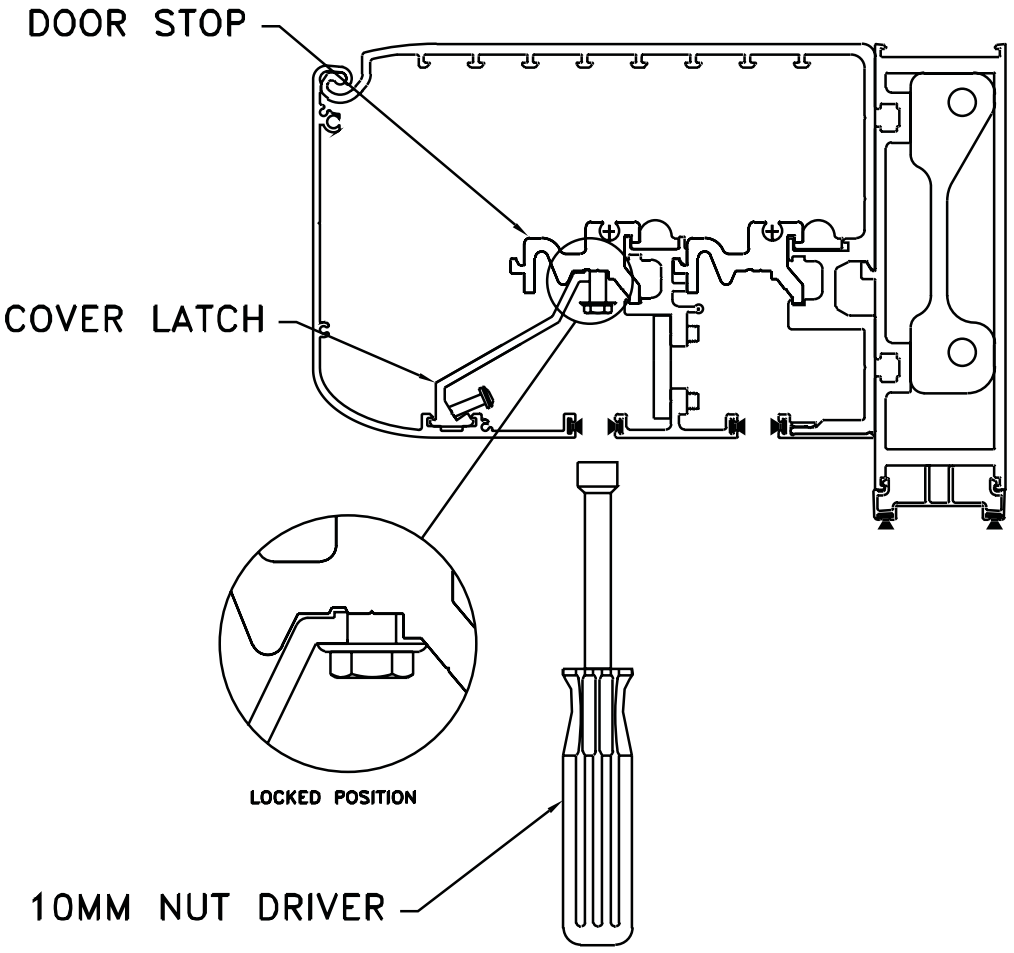
Stopwatch
Force gauge (50 lb. force range)
Multimeter

Tools Required

Carpenter's 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
10mm Nut Driver and wrench
Additional mounting hardware (not supplied - see fastening requirements above)

Opening/Closing and Locking of Cover

1. Locate the door stops at each end of the beam & latch adapter in the center of the beam (Bipart only). For Single Slide, there are only (2) locking points. For a Bipart, there are (4) locking points.
2. Using a 10mm nut driver, loosen each bolt at these locking points. At each point, gently pull the cover back. If the bolt is loose enough, you will feel the cover latch disengage and the cover able to rotate at that point.
3. Once all of the bolts are loosened, the cover can be opened.
4. The reverse operation should be done to close and lock the cover. When closing the cover, ensure that each cover latch arm engages into the door stops or latch adapters.



The rough opening must be plumb and square and the finished floor must not vary by more than 1/4" from the highest to the lowest point. If necessary, have the floor leveled before attempting to install the sliding door system. See Fig. 2.

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). See Fig. 1.

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", requiring an ROH of 90" from the highest point of the floor.

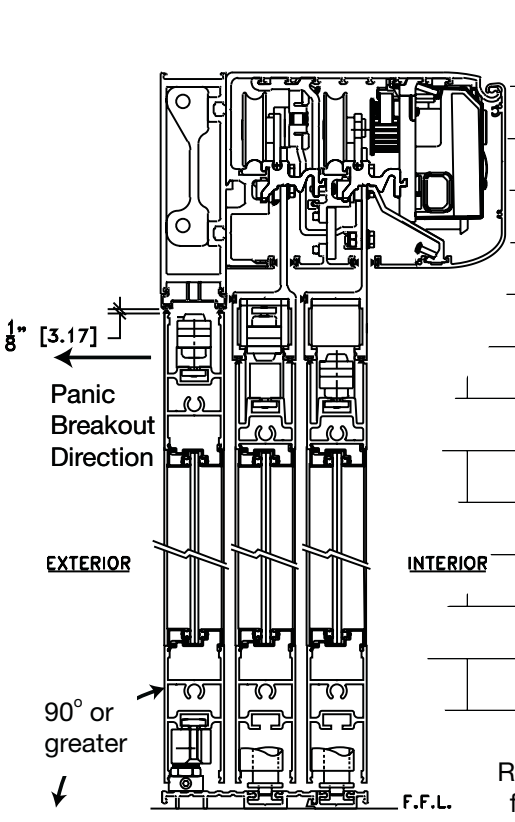


Fig. 1

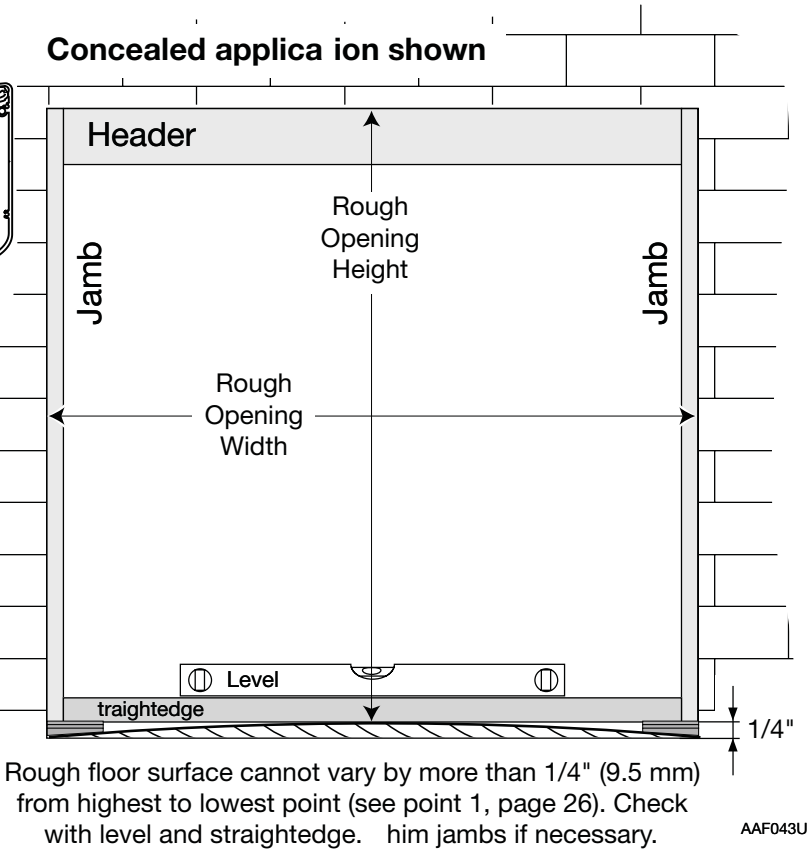


Fig. 2

Note! Surface applied is a similar process, however, fasten through operator header to building header.

Checking – Marking Out – Fastening

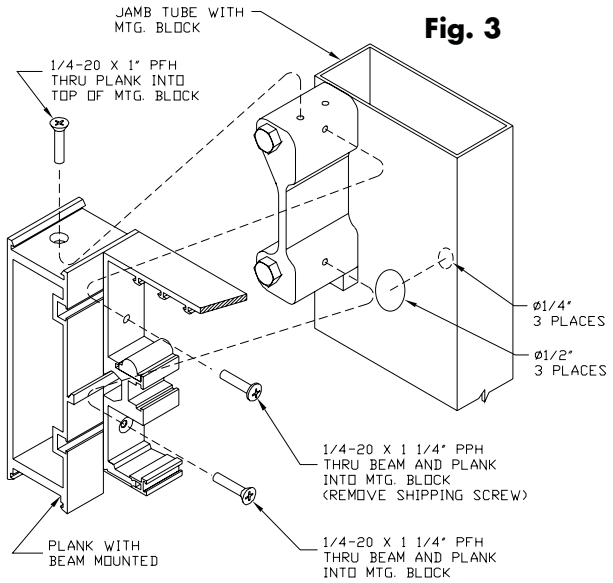


Fig. 3

Mark the center of the rough opening width and the center of the header. The center marks will be aligned during installation.

Drill holes at the top, middle and bottom of the jambs for securing to the door opening, adjusting for site conditions that may require the holes to be at a certain height.

Drill 1/2" holes through the face of the jamb and then drill the back holes to a maximum of 1/4".

Besam jambs are factory prepared for header installation. Mount jambs to header using three screws per jamb. See Fig. 3.

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 (see page 25); 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.

Installation steps for floor mounted guide tracks, recess and surfaced mounted pin guide tracks and G channel tracks for fixed sidelite applications:

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 Fig. 5), 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. **The G track is not to be mounted and leveled any lower than the bottom of the jamb and it must have an equal measurement from the top of the G track to the bottom of the header across its length.**
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.

• See page 16 for Recess Track applications.

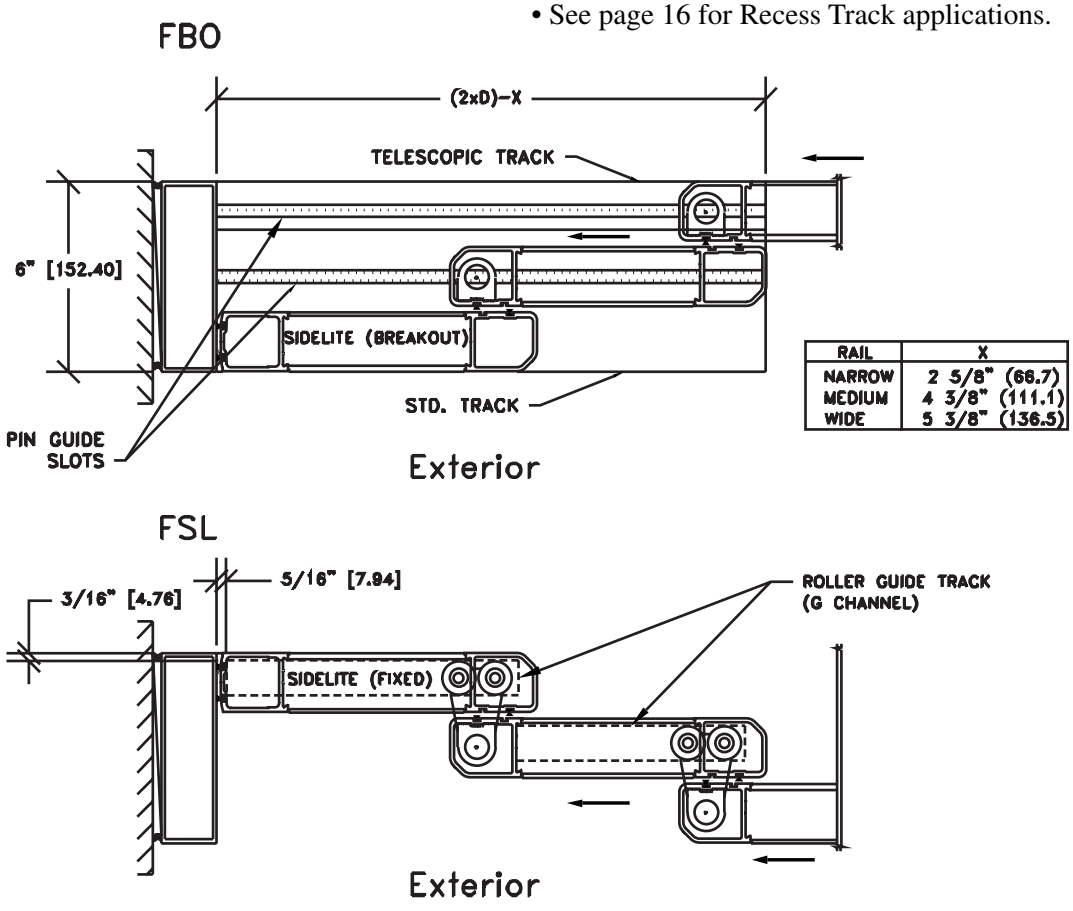
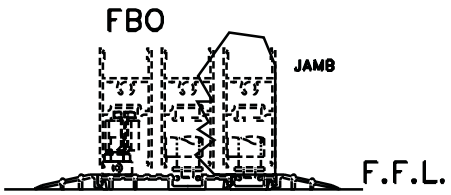
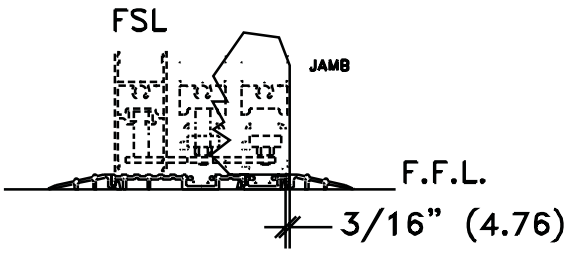


Fig. 5

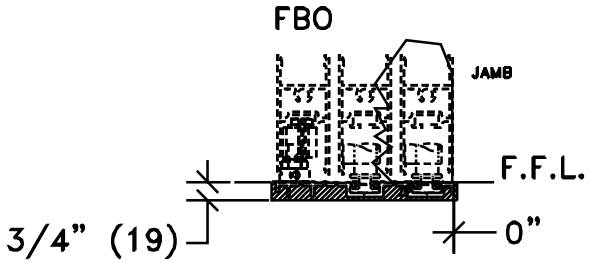
Fitting the Floor Guide Track Cont.



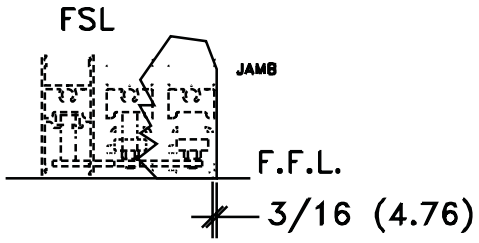
SURFACE THRESHOLD
AND TRACK (PIN GUIDE)



SURFACE THRESHOLD
AND TRACK (G–CHANNEL)



RECESSED THRESHOLD
AND TRACK (PIN GUIDE)



FLOOR MOUNTED
TRACK (G–CHANNEL)

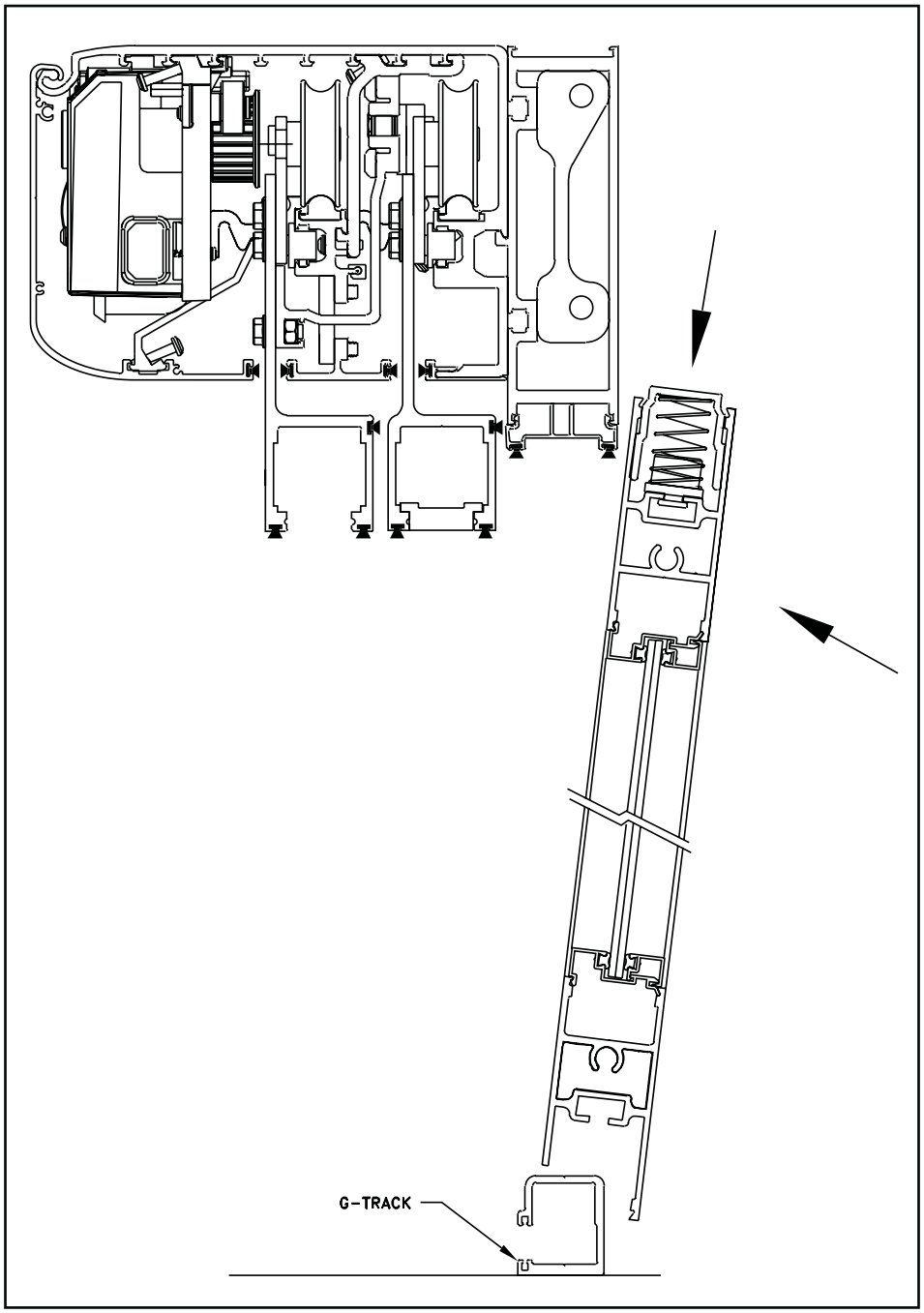
Measurements are based on Besam 6" (203 mm) width jambs.
All but recessed guides are level with jamb bottoms.

See Page 22 for Surface Applied Packages

Fixed Sidelite Installation Procedure

Note: Remove any glass stop or packing material from the Sidelite before installation.

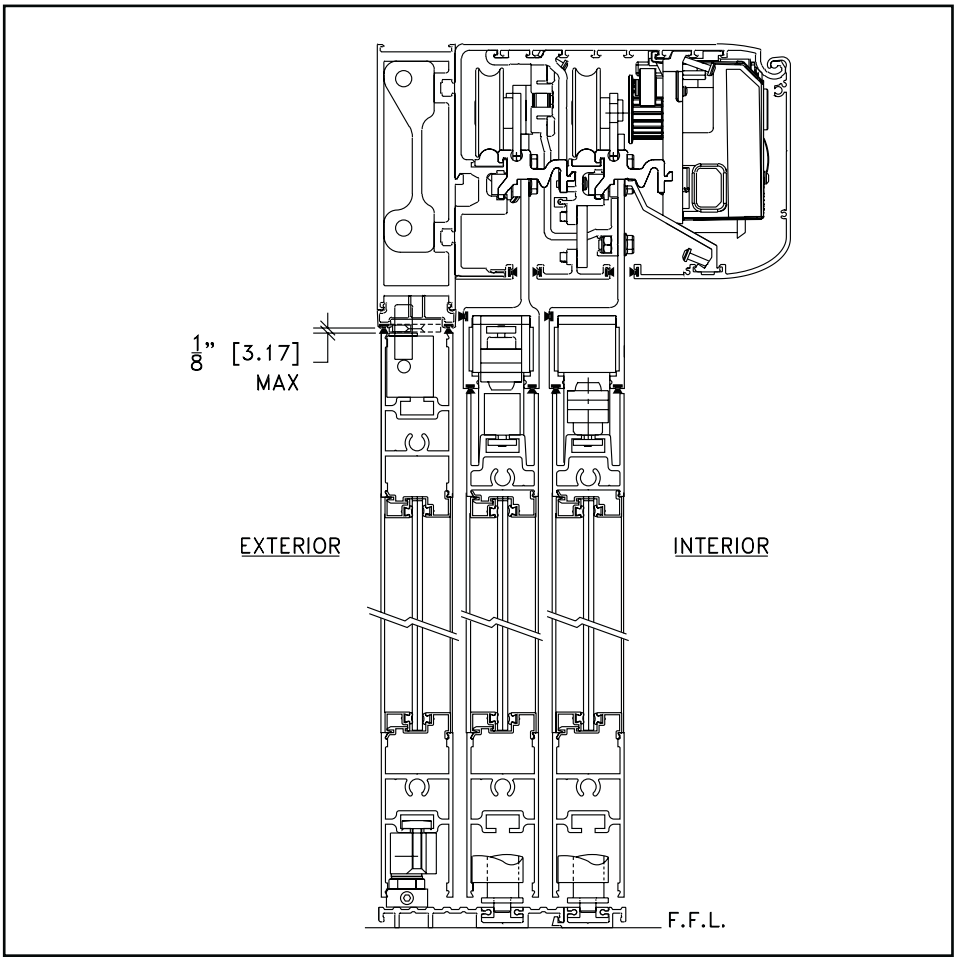
1. Place Sidelite on "G" track. Press down the spring loaded bar in top of Sidelite panel. Tilt Sidelite into place until spring loaded bar snaps into place.



Full Breakout 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.
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 make adjustments to the break out ball catch (See pg. 42).
6. When all sidelite panels are installed, tighten top pivot security set screw to prevent depressing pivot pin.



Setting of the Slow Moving Leaves (Fixed Sidelite)

1. The telescopic lower edge should be removed for greater access of the slow moving leaves adjustments and anti-risers.
2. Put the carriers at the closed position, remove the black plastic end caps located at each end of the carriers and loosen the carriage wheel screws.
3. Maneuver the door towards the jamb “opposite the carrier” and insert the bottom roller guide wheels “located at the bottom heal of the active leaf door” into the cutout in the bottom horizontal rail of the sidelite. See fig. 9 and 10
4. Maneuver the carrier and door such that the boltholes in the brackets inside the carrier line up with the bolt holes on the blocks at the top of each end of the active leaf door. See figure 11
5. Insert the bolts through each end of the carrier and through the bracket and fasten the carrier to the blocks. See figure 11
6. Make sure that the lead edge of the door and the lead edge of the carrier is flush, adjusting brackets if necessary.
7. Reinstall the black plastic end cap that was removed earlier.
8. Raise door up to maximum height and tighten carriage wheel screws.

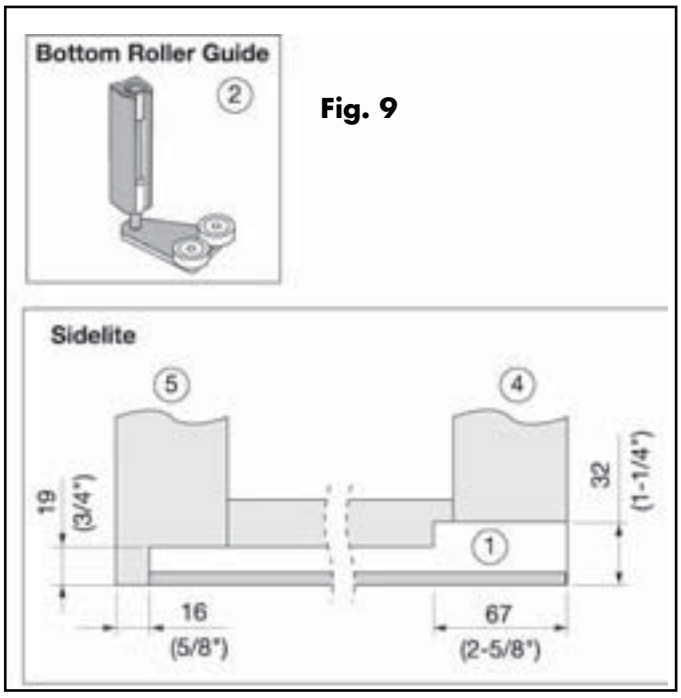


Fig. 9

Fig. 10

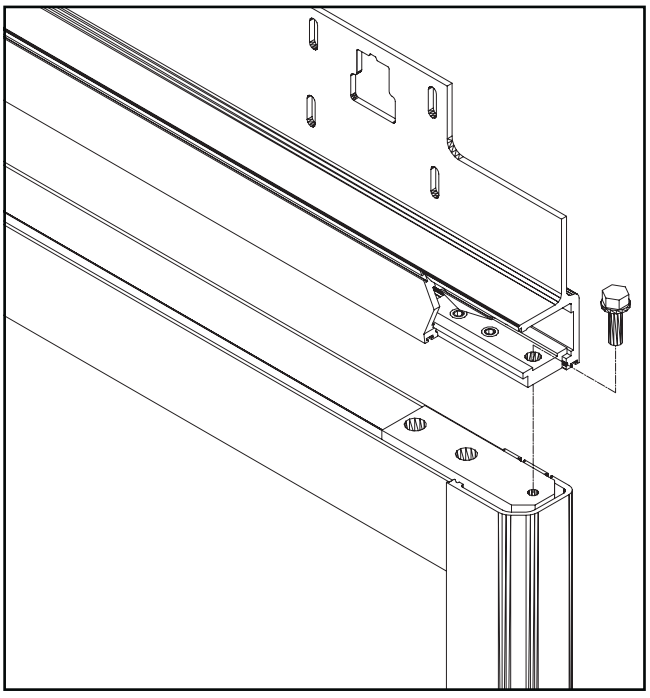
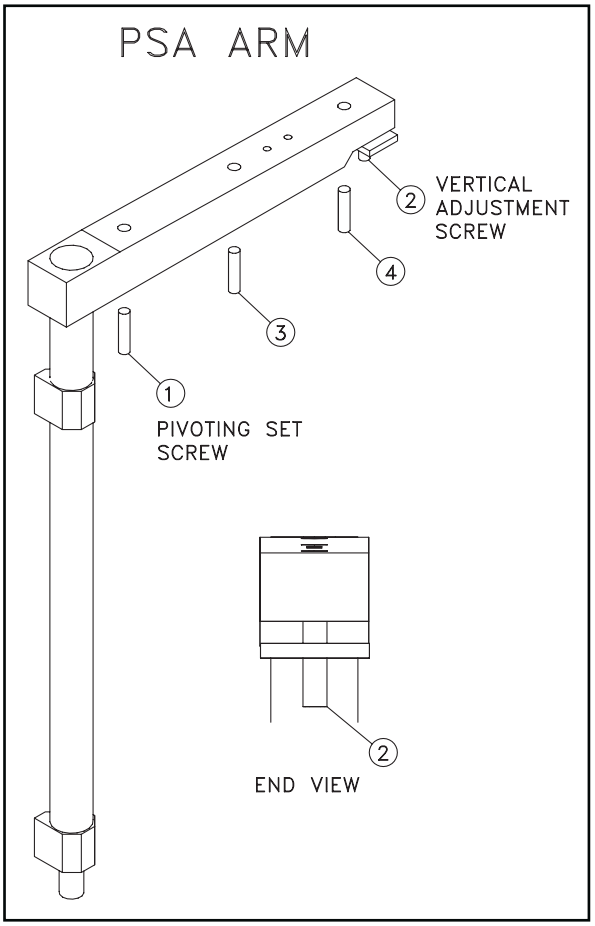


Fig. 11

Setting of the Fast Moving Leaves (Fixed Sidelite)

1. Align carriers to the closed position and confirm that the fast moving carriers are adjusted to maximum height and that the wheel bracket screws are tight.
2. Maneuver the fast moving leaf behind the carrier in the breakout position, 90 degrees of the carrier.
3. Rotate the PSA arm “located at the top heal of the door” perpendicular to the door aligning it with the back of the carrier.
4. Rotate the bottom roller foot guide so that it will not interfere as you load the door into the carrier.
5. Maneuver the door so that you can slide the PSA arm completely into the rear of the carrier.
6. Slowly and carefully swing the door closed taking care not to damage the flooring or threshold, adjusting horizontally such that the ball catch engages into the ball catch receiver.
7. Make sure that the lead edge of the door and the lead edge of the carrier is flush, adjusting the ball catch location if necessary.
8. Open the door and lock down the #1 screw (pivoting set screw) of the PSA arm and loosen setscrews #3 & #4.
9. Carefully attempt to close the door. You will notice that the door needs to be adjusted vertically so that the ball catch can engage into the ball catch receiver without obstruction.



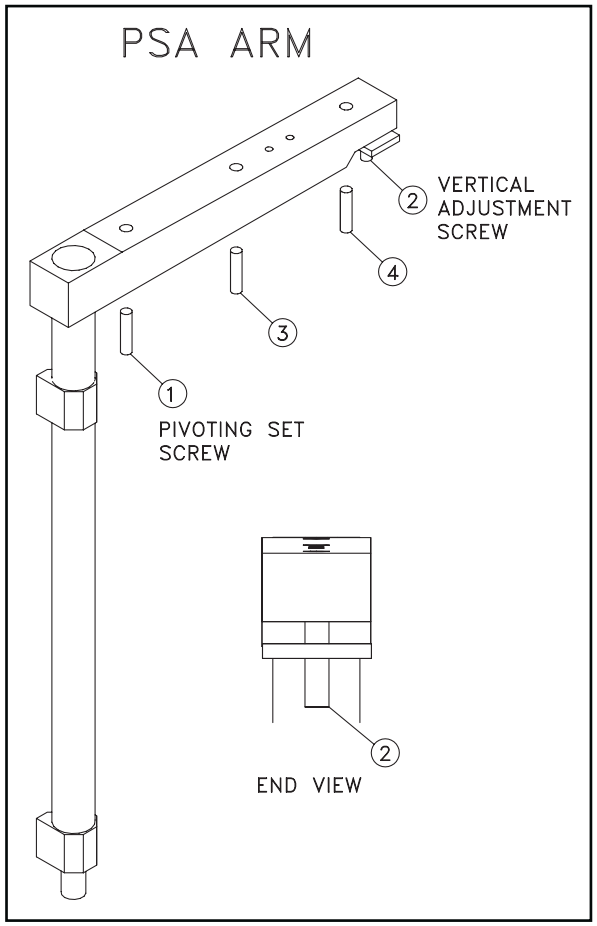
10. Adjust the #2 screw (PSA vertical adjustment screw) on the PSA arm to lift the lead edge of the door and ball catch into alignment with the ball catch receiver. Note, if the glass has not been previously installed you will need to recheck alignment once glass is in place and readjust as necessary.
11. Once adjustment is complete, tighten the remaining setscrews #3 & #4 on the PSA arm and close the door engaging the ball catch. Confirm that the lead edge of the door and lead edge of the carriers are still flush.
12. Reinstall the black plastic end cap that was removed earlier.
13. Now adjust fast moving leaves to proper height using the adjustment screw on the wheel brackets, taking into account the floor condition for the full travel of the doors and making sure that the bottom roller guide assembly stays under the slow moving leaves.
14. Rotate the roller guide wheels so that they are now under the slow moving leaves.
15. Tighten the carriage wheel screws and double check that each anti-riser is not dragging or binding. Note: If additional adjustment is needed you must recheck the anti-risers for dragging.

Alignment of Both Doors (Fixed Sidelite)

1. Once the fast moving leaves are installed and adjusted, loosen the wheel bracket screws of the slow moving leaves and adjust doors to proper height using the adjustment screw on the wheel brackets, taking into account the floor condition for the full travel of the doors and the adjoining fast moving leaves.
2. Adjust the slow moving leaves so that its carrier is in perfect alignment with the fast moving leaves carrier.
3. Check that the bottom roller guide assembly is still under the slow moving leaves and will slide back and forth with out any binding or dragging. Adjust the bottom roller guide as necessary.
4. Tighten the wheel bracket screws and double check that each anti-riser is not dragging or binding. Note: If additional adjustment is needed you must recheck the anti-risers for dragging.
5. Adjust the transfer bracket to 1/16" (1.59) min. above the lower edge. See page 38-39.

Setting of the Slow Moving Leaves (Full Break Out)

1. Remove end caps from carriers.
2. Align carriers to the closed position and confirm that the slow moving carriers are adjusted to maximum height and that the wheel bracket screws are tight.
3. Maneuver the slow moving leaf behind the carrier in the breakout position, 90 degrees of the carrier.
4. Rotate the PSA arm “located at the top heal of the door” perpendicular to the door aligning it with the back of the carrier.
5. Maneuver the door so that you can slide the PSA arm completely into the rear of the carrier.
6. Slowly and carefully swing the door closed taking care not to damage the flooring or threshold, adjusting horizontally such that the ball catch engages into the ball catch receiver.
7. Make sure that the lead edge of the door and the lead edge of the carrier is flush, adjusting the ball catch location if necessary.
8. Loosen the setscrew at the pin guide and align so that the pin guide falls into the track.
9. Open the door and lock down the #1 screw (pivoting set screw) of the PSA arm and loosen setscrews #3 & #4.



10. Carefully attempt to close the door. You will notice that the door needs to be adjusted vertically so that the ball catch can engage into the ball catch receiver without obstruction.
11. Adjust the #2 screw (PSA vertical adjustment screw) on the PSA arm to lift the lead edge of the door and ball catch into alignment with the ball catch receiver. Note, if the glass has not been previously installed you will need to recheck alignment once glass is in place and readjust as necessary.
12. Once adjustment is complete, tighten the remaining setscrews #3 & #4 on the PSA arm and close the door engaging the ball catch. Confirm that the lead edge of the door and lead edge of the carriers are still flush.
13. Reinstall the black plastic end cap that was removed earlier.

Setting of the Fast Moving Leaves (Full Break Out)

1. Remove end caps from carriers.
2. Align carriers to the closed position and confirm that the fast moving carriers are adjusted to maximum height and that the wheel bracket screws are tight.
3. Maneuver the fast moving leaf behind the carrier in the breakout position, 90 degrees of the carrier. Rotate the PSA arm “located at the top heal of the door” perpendicular to the door aligning it with the back of the carrier.
4. Maneuver the door so that you can slide the PSA arm completely into the rear of the carrier.
5. Slowly and carefully swing the door closed taking care not to damage the flooring or threshold, adjusting horizontally such that the ball catch engages into the ball catch receiver.
6. Make sure that the lead edge of the door and the lead edge of the carrier is flush, adjusting the ball catch location if necessary.
7. Loosen the setscrew at the pin guide and align so that the pin guide falls into the track.
8. Open the door and lock down the #1 screw (pivoting set screw) of the PSA arm and loosen setscrews #3 & #4.
9. Carefully attempt to close the door. You will notice that the door needs to be adjusted vertically so that the ball catch can engage into the ball catch receiver without obstruction.
10. Adjust the #2 screw (PSA vertical adjustment screw) on the PSA arm to lift the lead edge of the door and ball catch into alignment with the ball catch receiver. Note, if the glass has not been previously installed you will need to recheck alignment once glass is in place and readjust as necessary.
11. Once adjustment is complete, tighten the remaining setscrews #3 & #4 on the PSA arm and close the door engaging the ball catch. Confirm that the lead edge of the door and lead edge of the carriers are still flush.
12. Reinstall the black plastic end cap that was removed earlier.

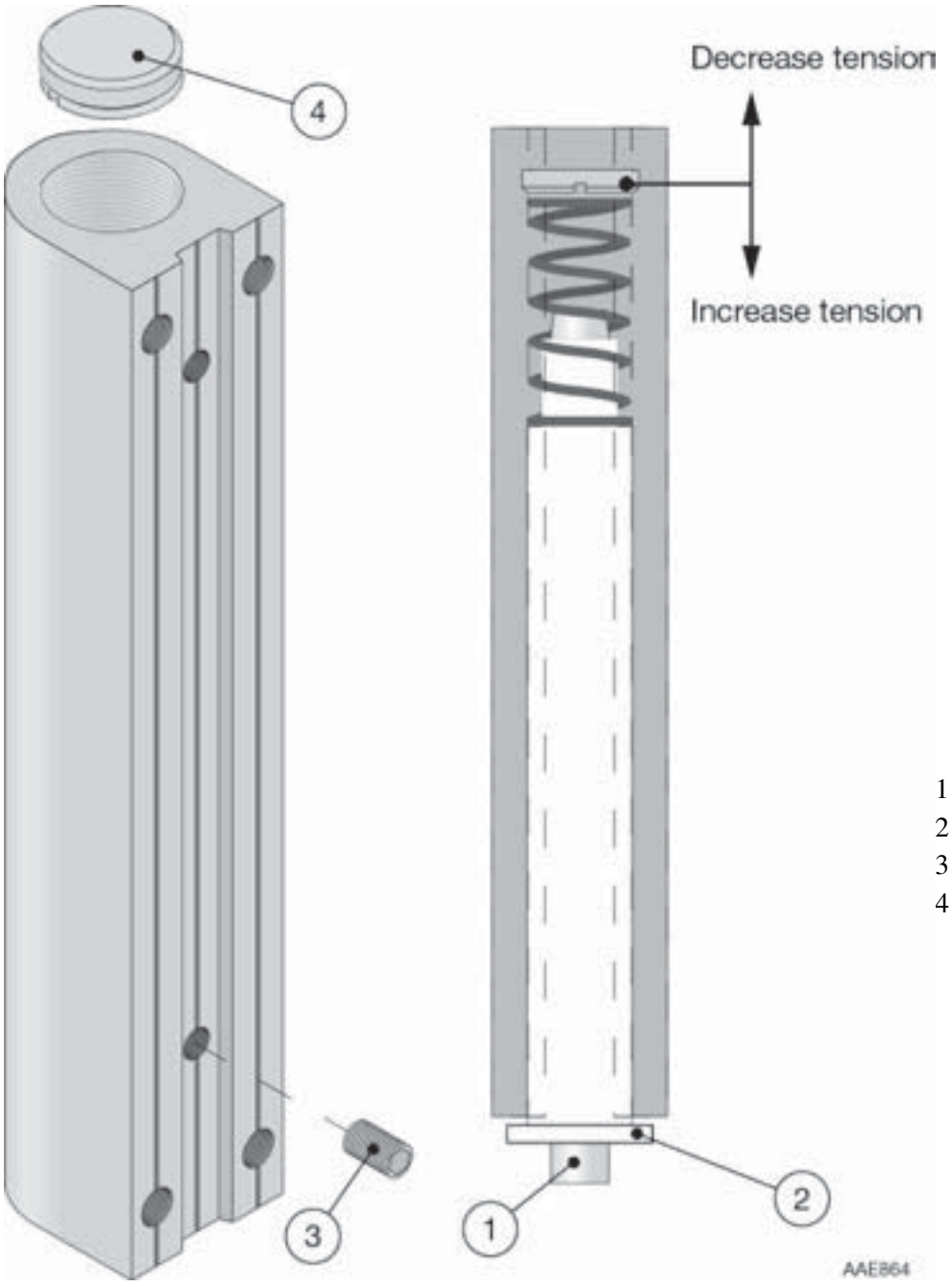
Alignment of Both Doors (Full Break Out)

1. Once the fast moving leaves are installed and adjusted, loosen the wheel bracket screws of the slow moving leaves and adjust doors to proper height using the adjustment screw on the wheel brackets, taking into account the floor condition for the full travel of the doors and the adjoining fast moving leaves.
2. Adjust the slow moving leaves so that its carrier is in perfect alignment with the fast moving leaves carrier.
3. Check that the guide pin is still in the guide track and will slide back and forth with out any binding or dragging.
4. Tighten the wheel bracket screws and double check that each anti-riser is not dragging or binding. Note: If additional adjustment is needed you must recheck the anti-risers for dragging.
5. Adjust the transfer bracket to 1/16" (1.59) min. above the lower edge. See pages 38-39.

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 set screw.

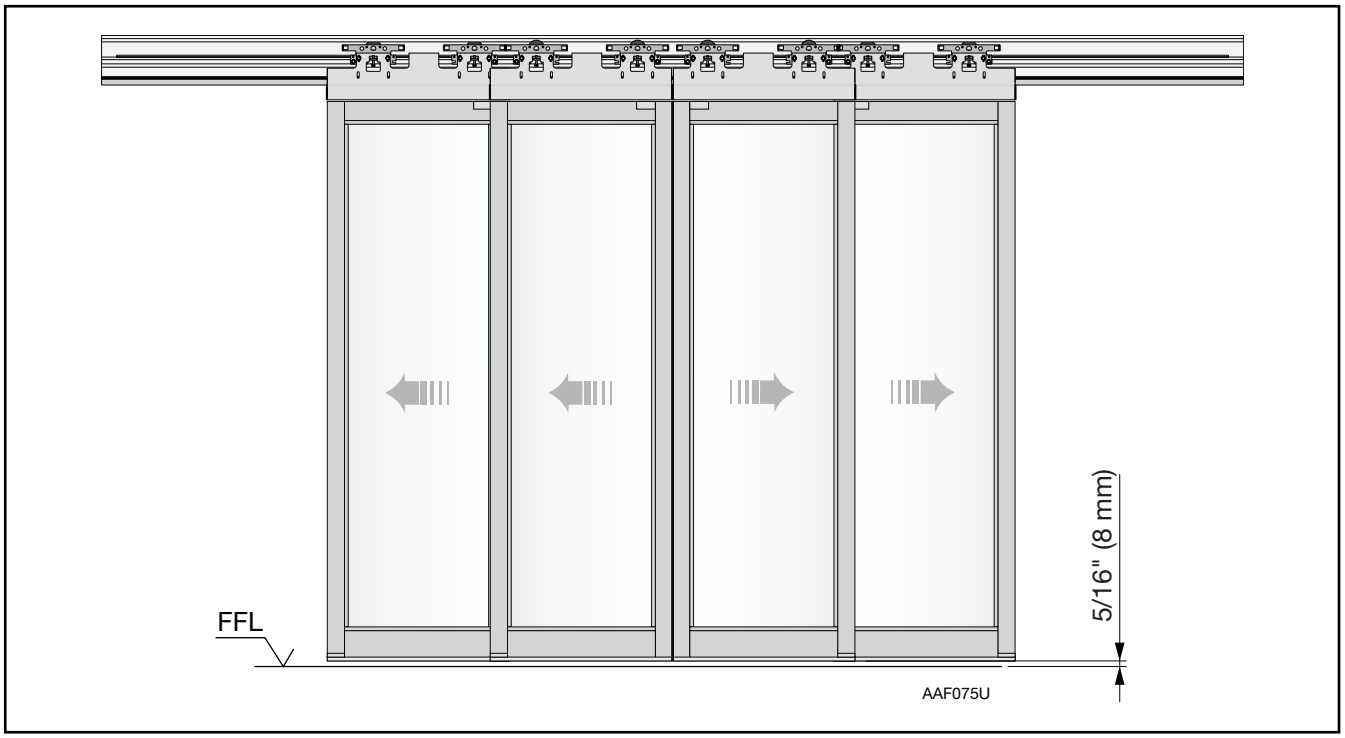


1 Pin guide
2 Washer
3 Set screw
4 Threaded slug

Height Adjustment

The height adjustment is to be carried out with the vertical adjustment screw. (See Page 32)

1. 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).
2. The guide pin roller (frame doors) should not touch the upper edge of the door guide track or become easily disengaged.
3. If a weather brush is used on the lower edge of the door leaf, it should only lightly touch the floor.
4. Check that the slow moving door leaf is parallel with the fixed panel, and the Fast Moving leaf is parallell with the slow moving leaf.



FFL = Finished floor level

Replacement or Adjustment of Belts

The Belt Systems are factory installed. For replacement or adjustment, refer to the following.

Synchronization Belt Between Fast Moving Leaves

Bi-Parting Operators

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

Single-Sliding Operators

1. Put door in fully open position.
2. Pull belt joining clamp ① next to carrier belt fitting (away from nose of door).
3. Insert tooth belt ③ into belt fitting (L.H. upper ④, R.H. lower ⑤).
4. Check door panel for fully closed position.

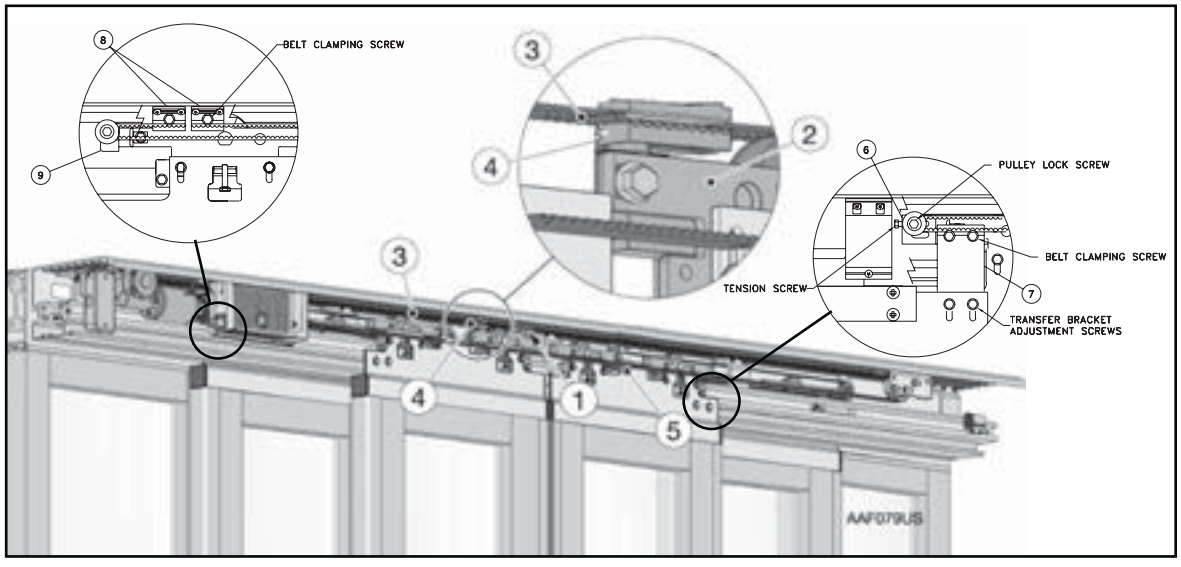
Synchronization Belt for Slow Moving Leaves

Biparting and Single Slide Operators

1. Put doors in fully closed position.
2. Loosen both the tensioner screw and locking screw located on ⑥ (belt tensioner).
3. Slide one end of the belt into either of ⑧ (belt anchors) and tighten the clamping screw. Every tooth in the anchor should be filled.
4. Loop the belt around ⑥ (idler pulley) or ⑨ (tension pulley) located on each side of the door and insert into ⑦ (transfer bracket) and tighten clamping screws.
5. Run the remaining belt into ⑧ (belt anchor) and tighten clamping screw. Every tooth in the anchor should be filled.
6. Tighten the belt using the tension screw on the ⑥ (belt tensioner).
7. At the desired tension, tighten the pulley lock screw.
8. Ensure that there is at least 1/16” gap (see Fig. 12, page 39) between the bottom of ⑦ (transfer bracket) and the ⑩ (lower edge) by raising/lowering the transfer bracket by setting the screws that connect ⑦ (transfer bracket) to the carrier.

Note!

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



Replacement or Adjustment of Belts Cont.

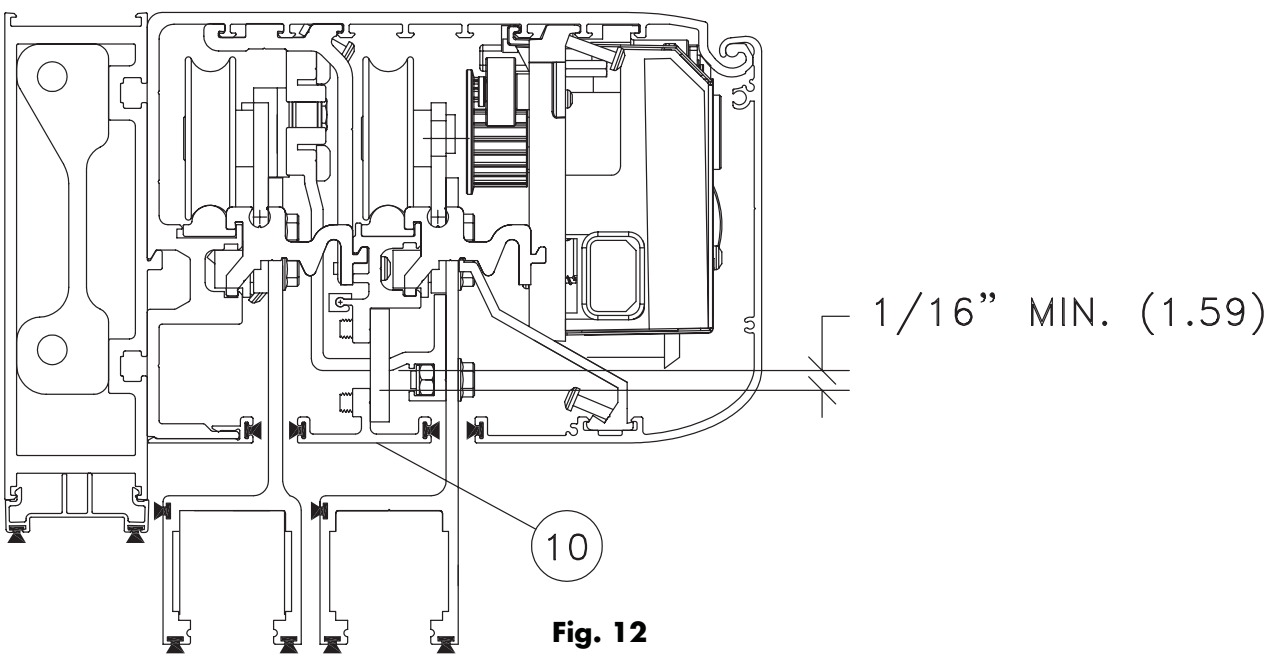
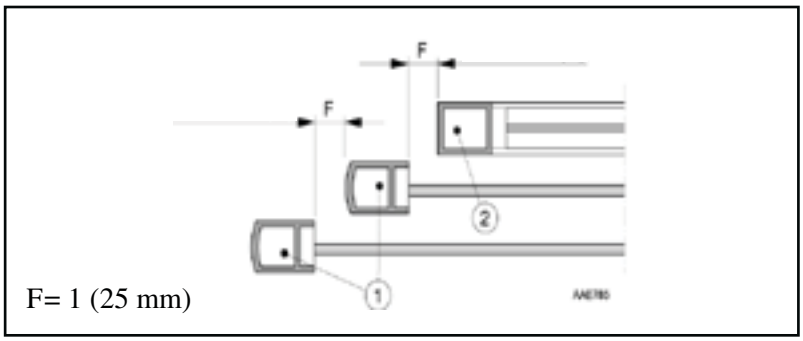


Fig. 12

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, and must stop at least 1" (25 mm) before to avoid finger traps.
2. Loosen the door stops, move them in against the carriage wheel brackets and tighten firmly.
3. Check that the required opening and finger protection (if any) are achieved.

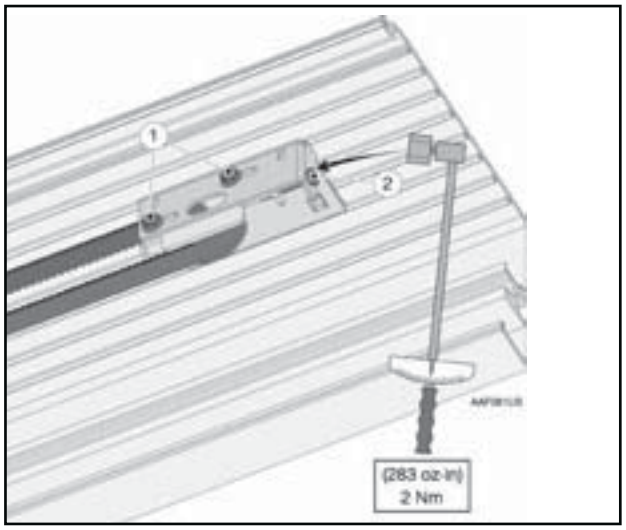


Checking and Adjusting the Belt Tension

Fast Belt Adjustment

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:

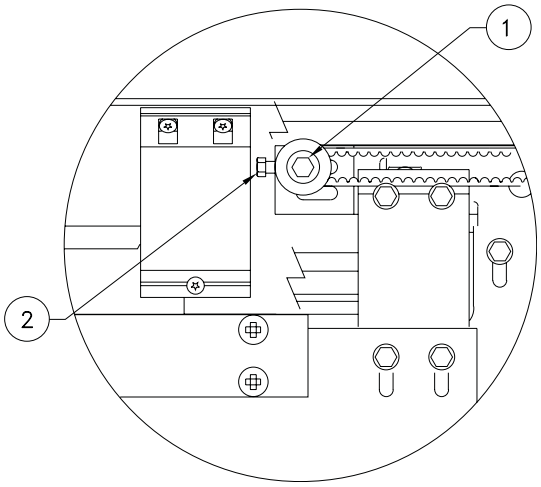
1. Loosen the two fixing screws ①
2. Tighten the belt adjustment screw ② to a torque of 283 oz·in ±35 oz in (2 Nm ±0,25 Nm)
3. Tighten the two fixing screws ①



Slow Belt Adjustment

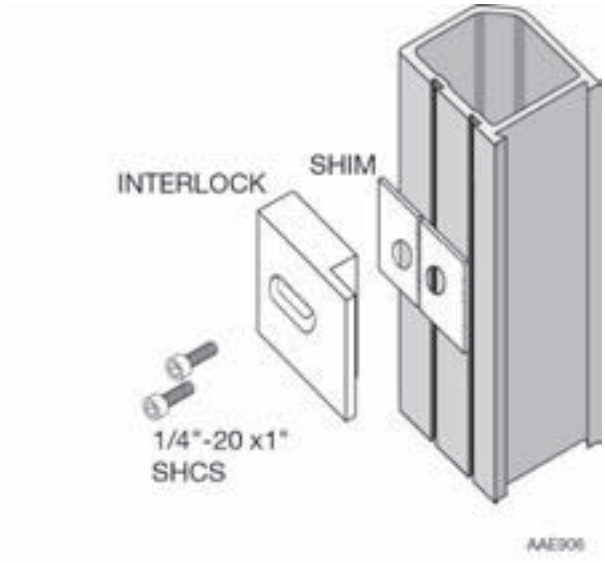
The belt tension is factory-adjusted and readjustment is normally not needed. If despite this the belt tension has to be corrected, proceed in the following way:

1. Loosen the pully lock screw ①
2. Tighten screw ② to a torque of 283 oz·in ±35 oz in (2 Nm ±0,25 Nm)
3. Tighten the pully lock screws ①



Interlocks for FBO Units

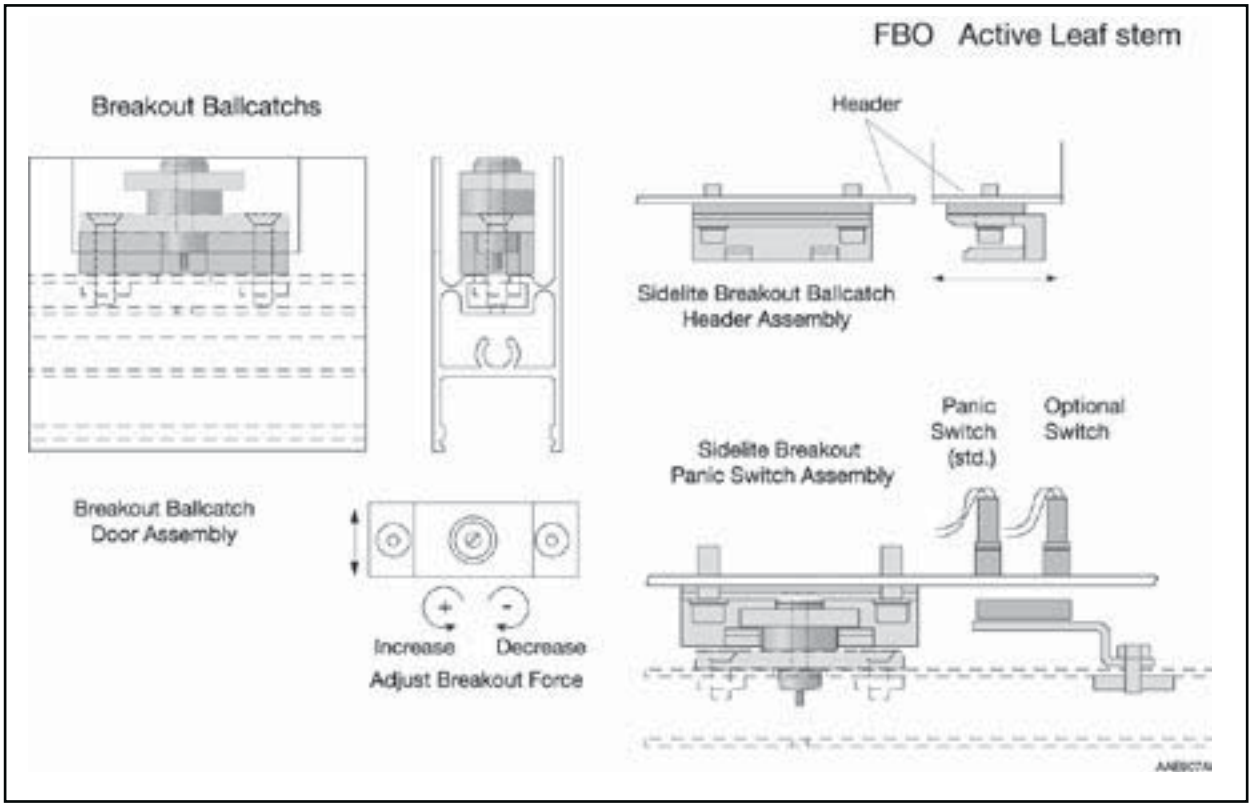
Slide the active leaf into the closed position and check to see that the interlock hardware engages the sidelite cutouts. Adjust (and shim if necessary) for proper alignment.



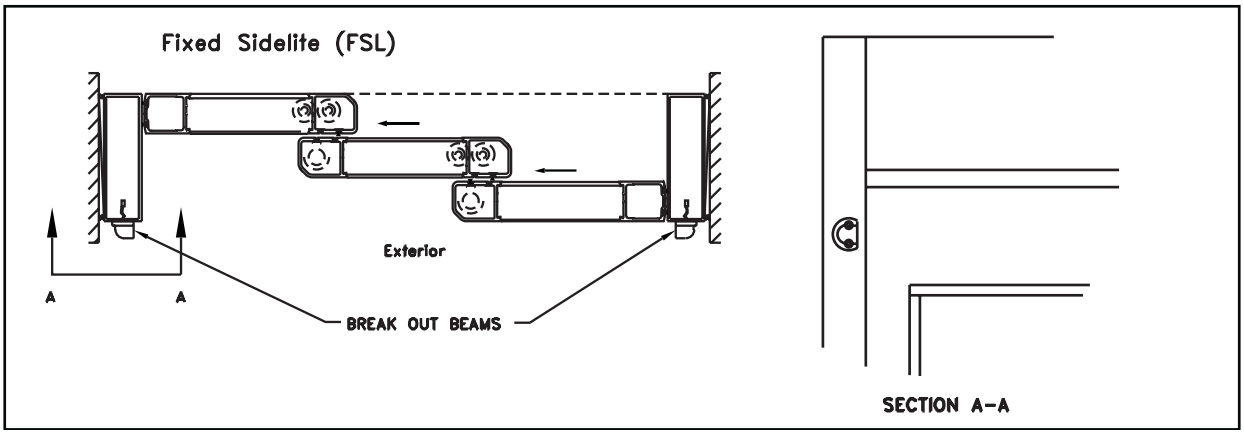
Adjusting Ball Catches

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 ballcatch by turning the adjustment screw, as required by local egress codes. Tension is not to exceed 50 lbs. break out force; see page 57 for ANSI/BHMA standards.

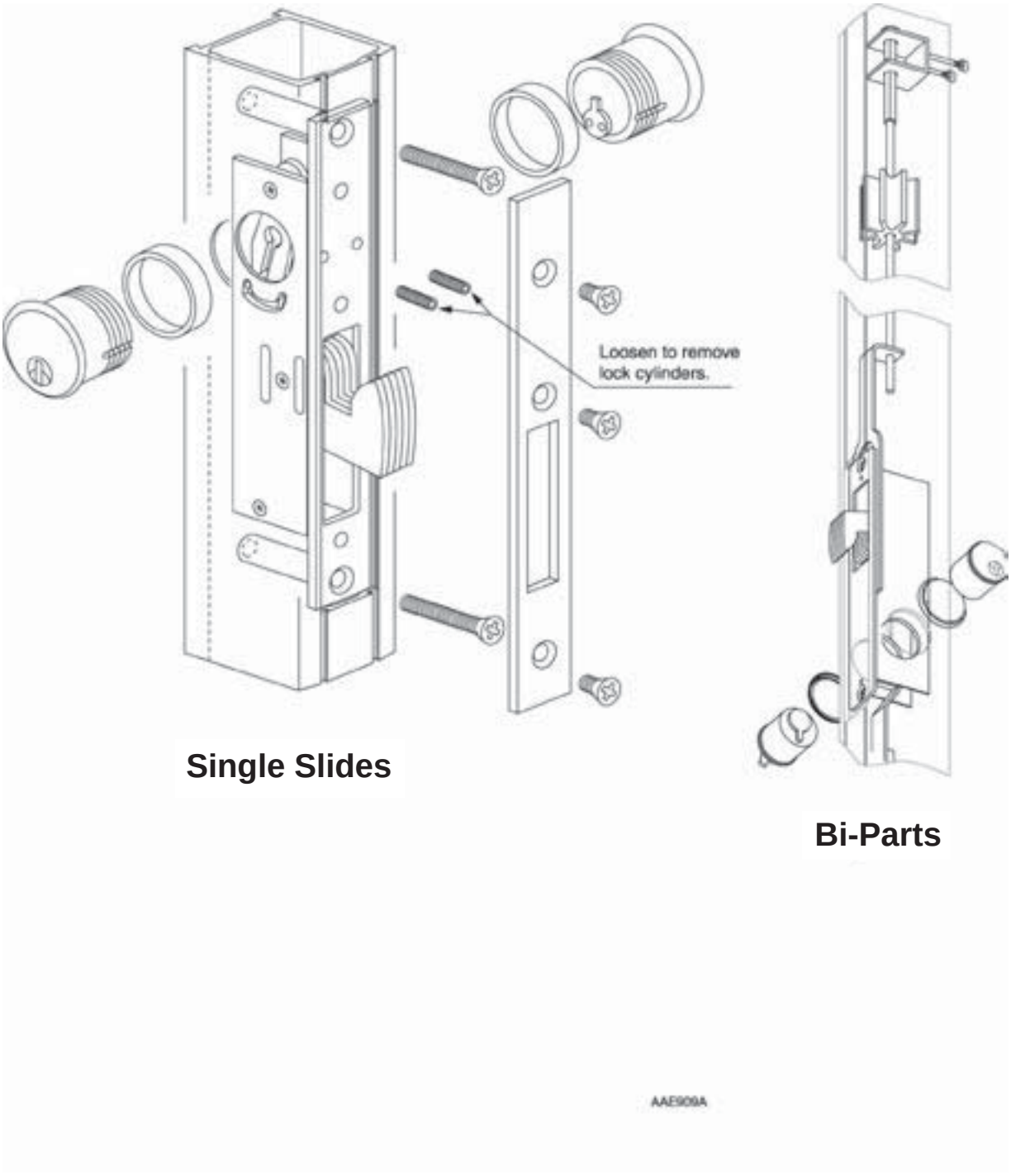
A magnetic panic break out switch (bi-parting units have two) shuts the operator off when the sidelite is opened. A ceramic magnet is located in the upper horizontal sidelite rail. The switch(s) are located over the magnet in the lower edge of the support plank. The magnet location can be field adjusted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



Note! FSL fixed Sidelites and surface applied packages utilize a Breakout Beam. See wiring diagram on Page 48



Manual Lock System Adjustment and Re-Keying



Note!

During any work with the electrical connections the
- main power and the
- electrical emergency unit must be disconnected.

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

Installation

1. Open the cover (see page 24).
2. Install extension unit EXU-1 or EXU-3 if required (see page 49-50).
3. Install and connect the main cables (see page 45).
4. Install, but do not connect activation units, presence sensors and accessories.
5. Carry out “Start-Up” (see page 52).

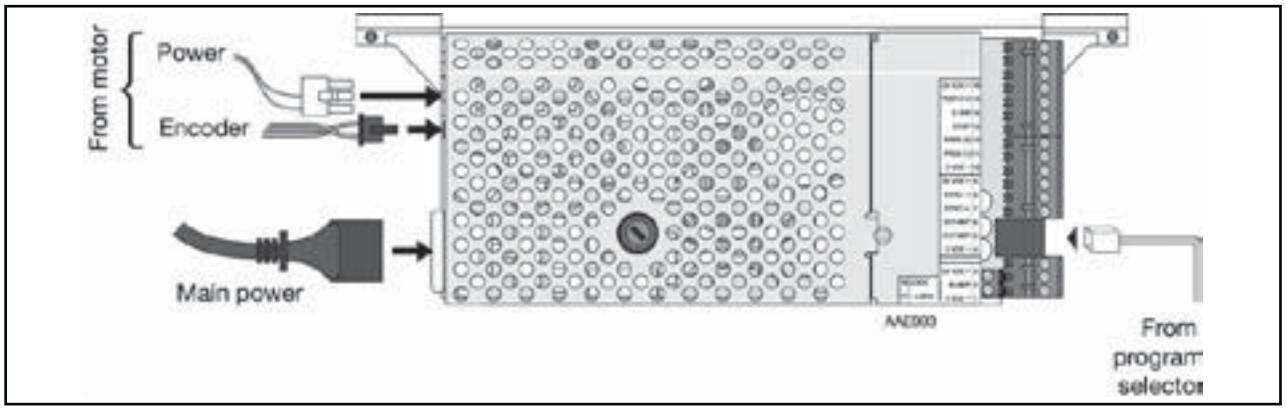
Note! Basic adjustments and function selections can be carried out with the potentiometers and the function selector on the control unit (see page 46).

Main Connection

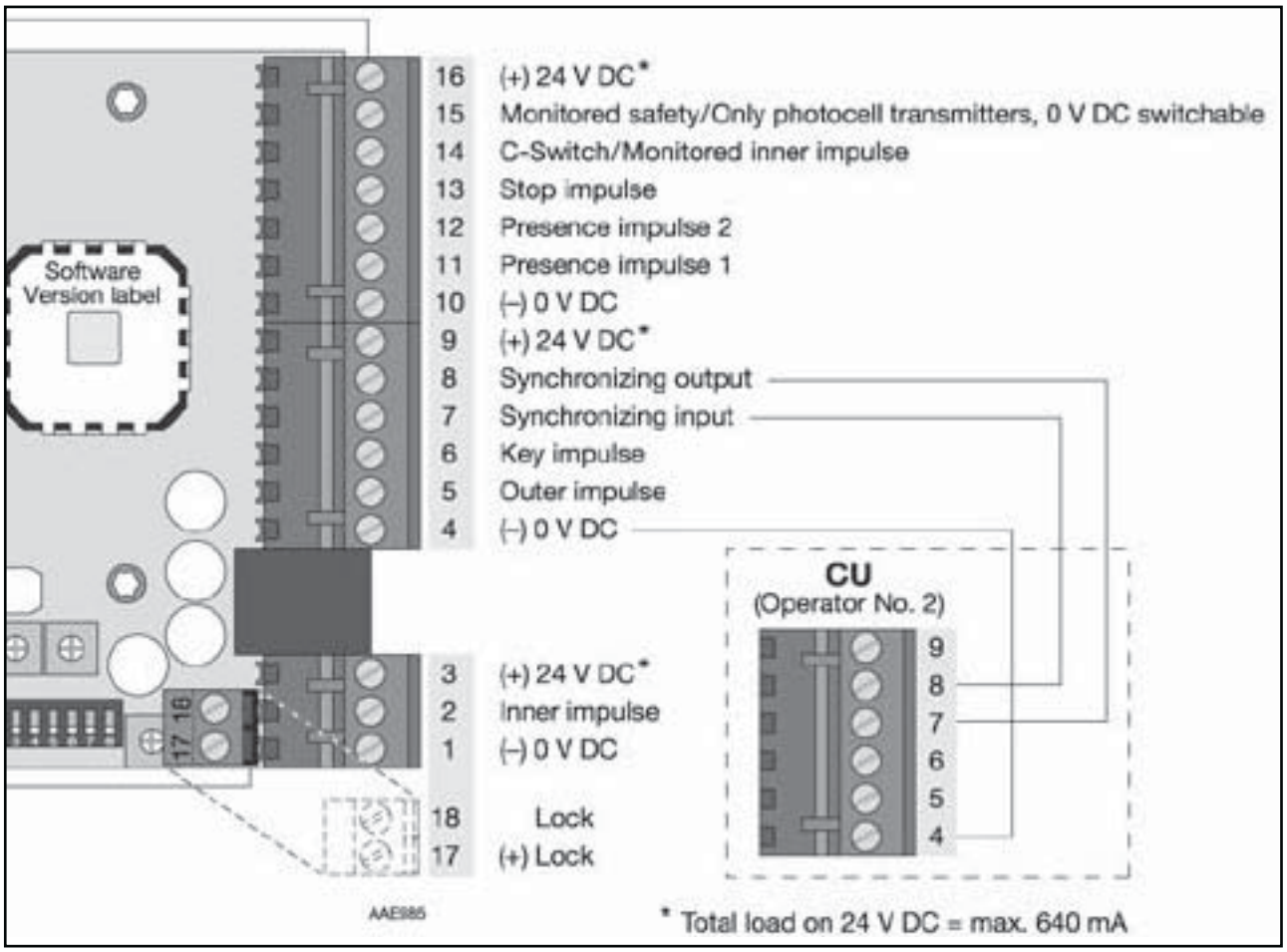
1. Remove the cover plate from the junction box.
2. Connect the incoming main power through the strain relief
   - White wire to white wire
   - Black wire to black wire
   - Green wire to green wire
3. Replace the cover plate

The Control Unit Is Equipped with:

Contacts for Connection of Standard Units

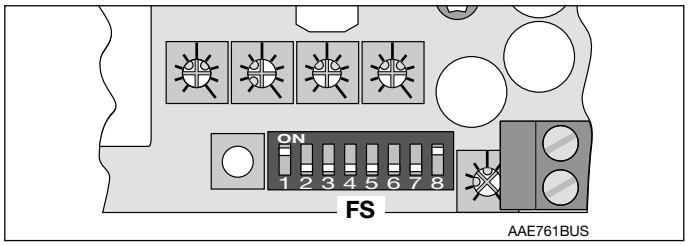


Terminal Block for Connection Accessories



Note! To be able to adjust the functions below the lid must be removed (see page 49).

Function Selector, FS, 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]	**NO**	NC
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**

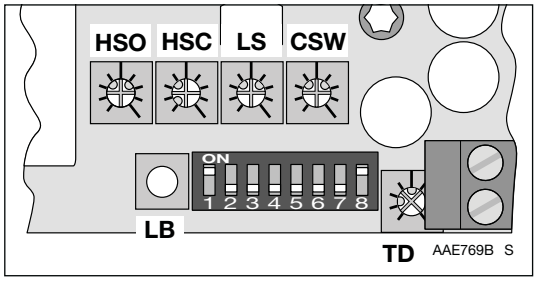
1 If “Lock release” is active, the door will apply force in the closing direction when the lock is unlocked. This is made to prevent a lock from being stuck in locked position when opening.

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 the function selector FS-5 must be set to ON (Mechanical).

4 Used to **keep** the door in closed position.

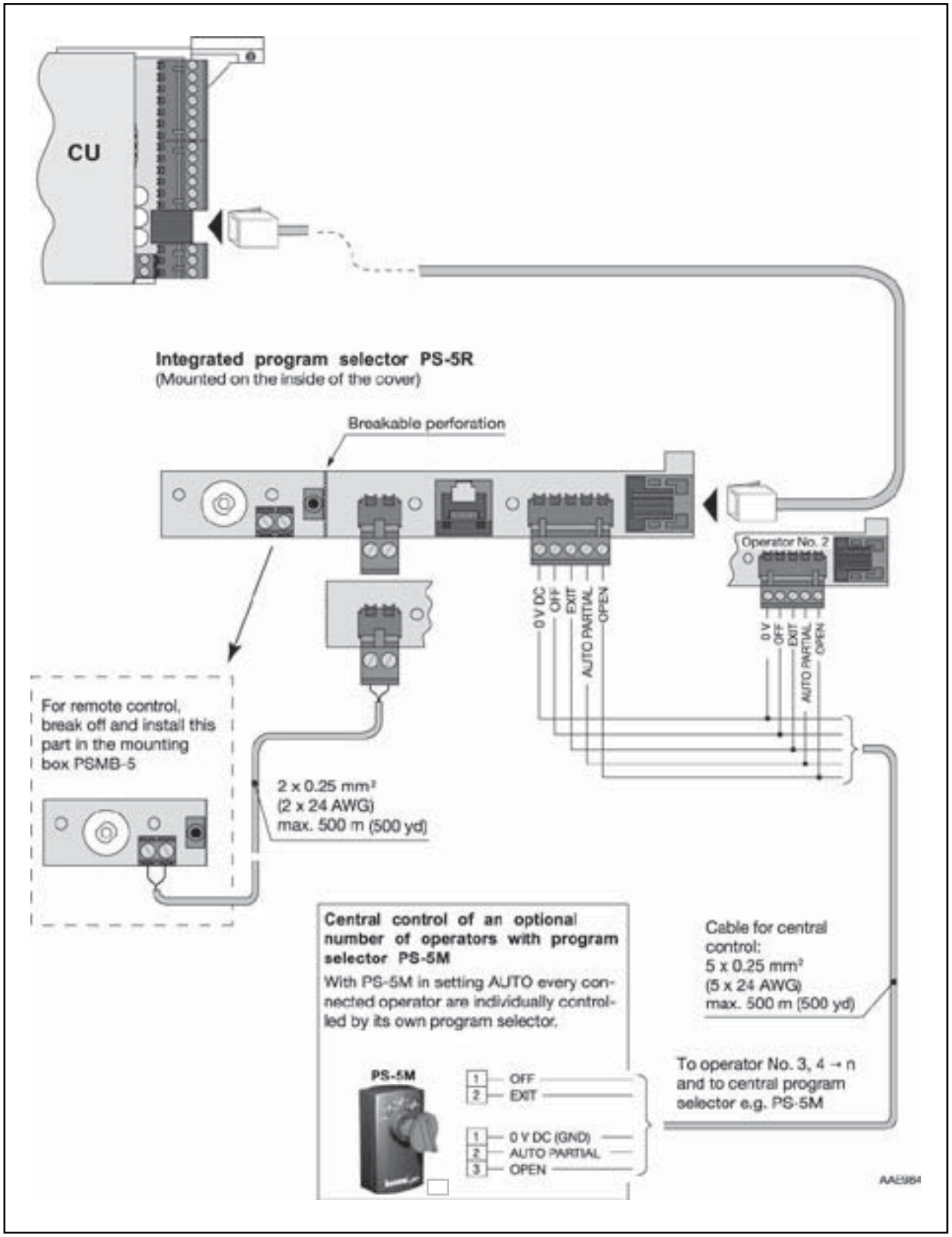
Potentiometers and Learn Button



Note!
Potentiometers factory settings see arrows on potentiometers

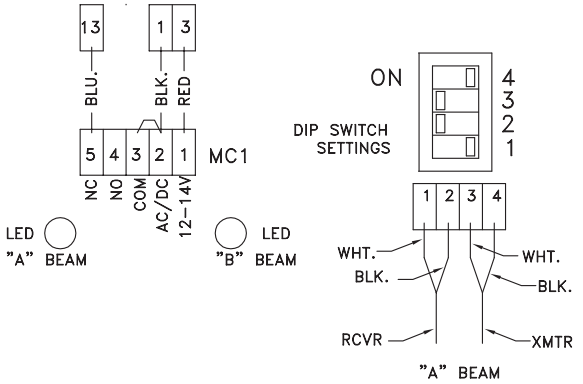
Parameter (speed applies to single panel)		
HSO: High speed opening	0.10 – 0.70 m/s	(0.33– 2.30 ft/s)
HSC: High speed closing	0.10 – 0.70 m/s	(0.33– 2.30 ft/s)
LS:	Low speed	0.05 – 0.70 m/s (0.17 – 2.30 ft/s)
CSW: C-switch distance	Min. = 0 mm / Middle = 700 mm (2.3 ft) / Max. = 1400 mm (4.6 ft)	
TD: Hold open time	0 – 60 s (setting applies also to “Partial Hold Open Time”)	
LB: Learn button		

Connection of Program Selectors

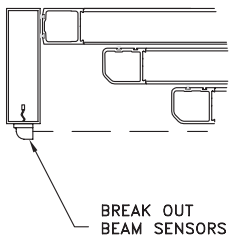


BREAK OUT/SAFETY-HOLD BEAM CONNECTION DIAGRAM

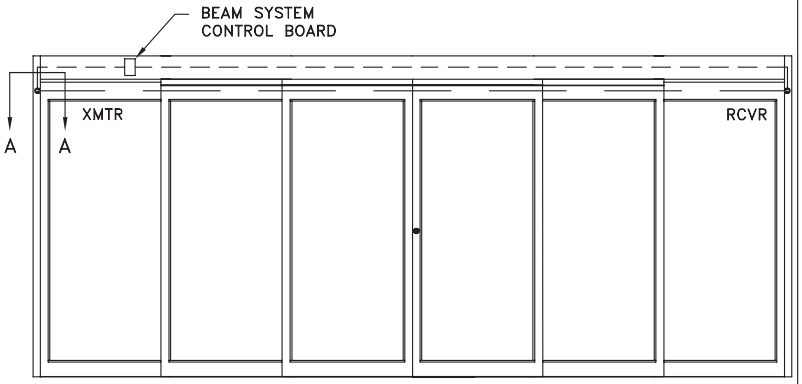
BREAK OUT APPLICATION (FOR TELESCOPIC FSL AND SURFACE APPLIED PACKAGES)
KIT #US15-0136-02



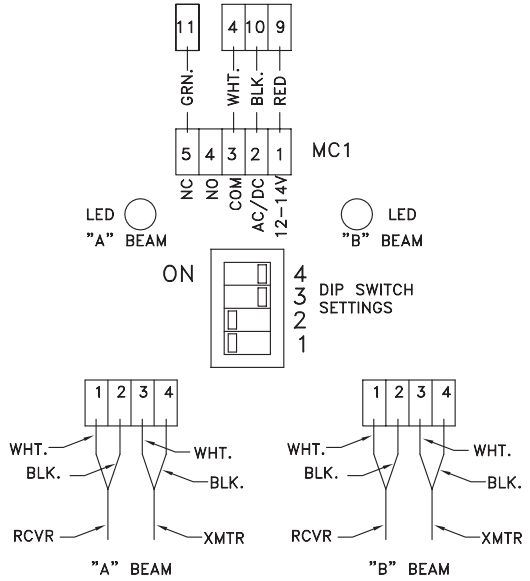
* NOTE: JUMPER BETWEEN 2 & 3 ON LTO BOARD AS SHOWN.



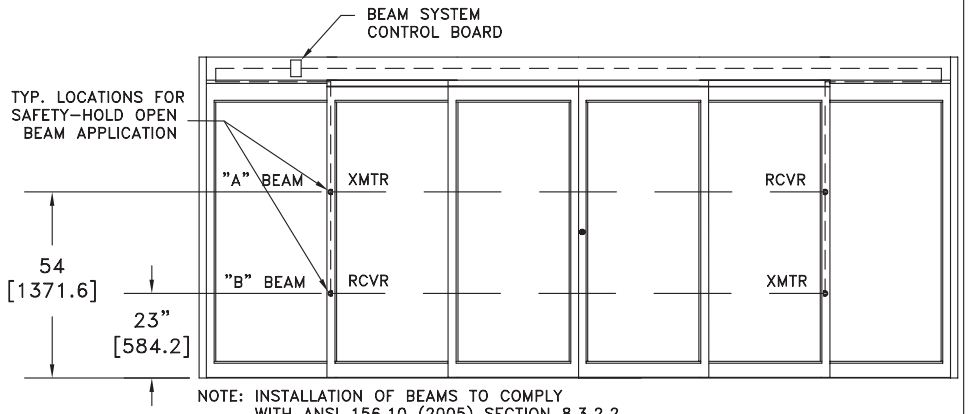
SECTION A-A



SAFETY-HOLD APPLICATION (FOR BIPART TELESCOPIC PACKAGES OVER 14' AND STANDARD BIPART PACKAGES OVER 16' OR WHERE CODE WOULD DICTATE)
KIT #US15-0136-01



NOTE: FOR OTHER TECHNICAL INFORMATION AND TROUBLE-SHOOTING; REFER TO (BEA) MICROCELL ONE MANUAL.



NOTE: INSTALLATION OF BEAMS TO COMPLY WITH ANSI 156,10 (2005) SECTION 8.3.2.2

US23-0136
5/18/05
REV.C

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 the Control Unit CU

① Fastening screws (2 pcs)

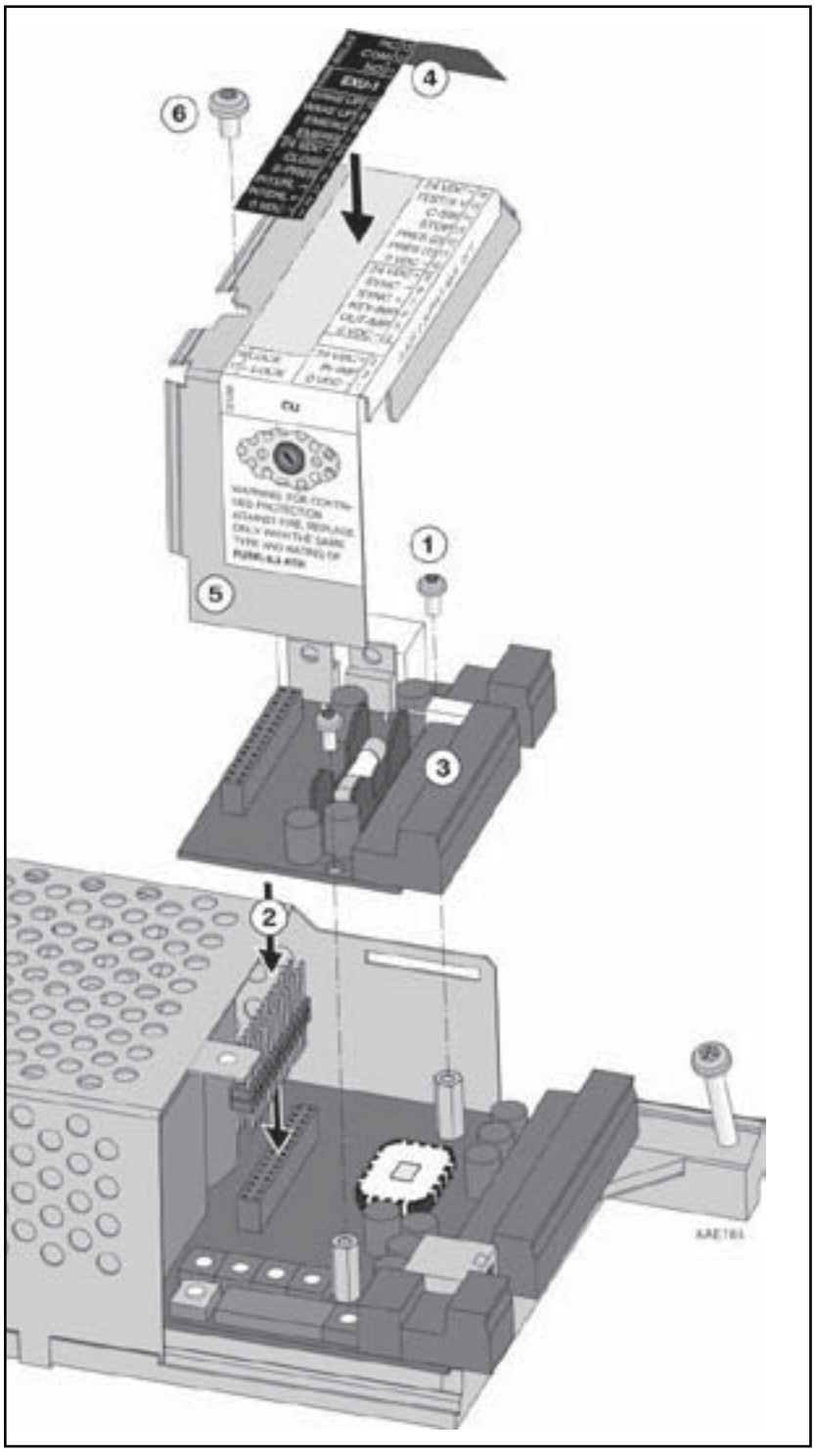
② Inter connect strip (long pins to be fitted into the EXU)

③ Extension unit, EXU-1 or EXU-3

④ Label (EXU-1 or EXU-3)

⑤ Lid

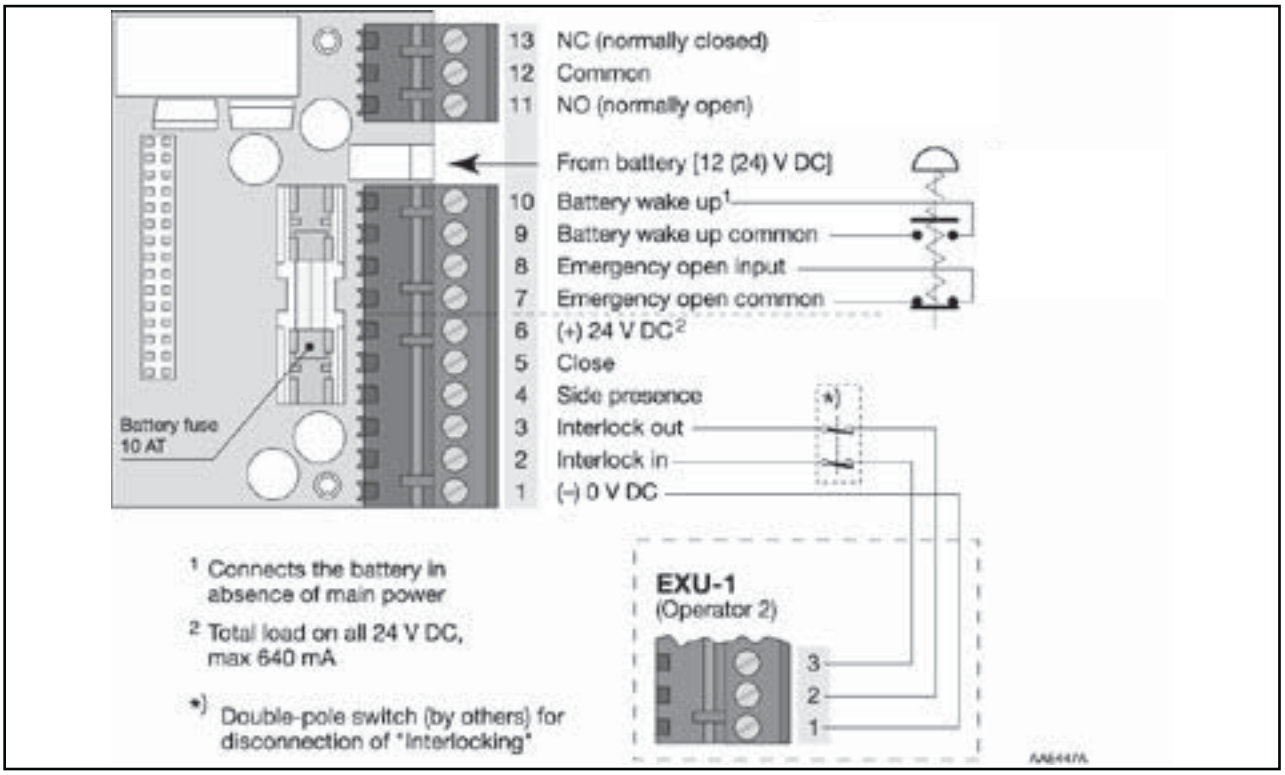
⑥ Screw to fix the lid



Extension Unit, EXU-1

Following functions can be obtained with this unit:

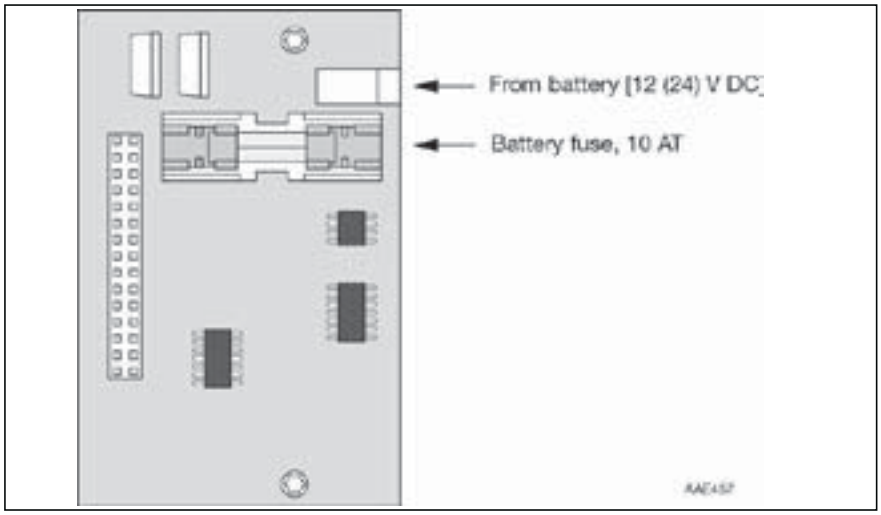
1. Connection of interlocking



Extension Unit, EXU-3

This extension unit has the functions **electrical emergency unit** and **convenience battery**.

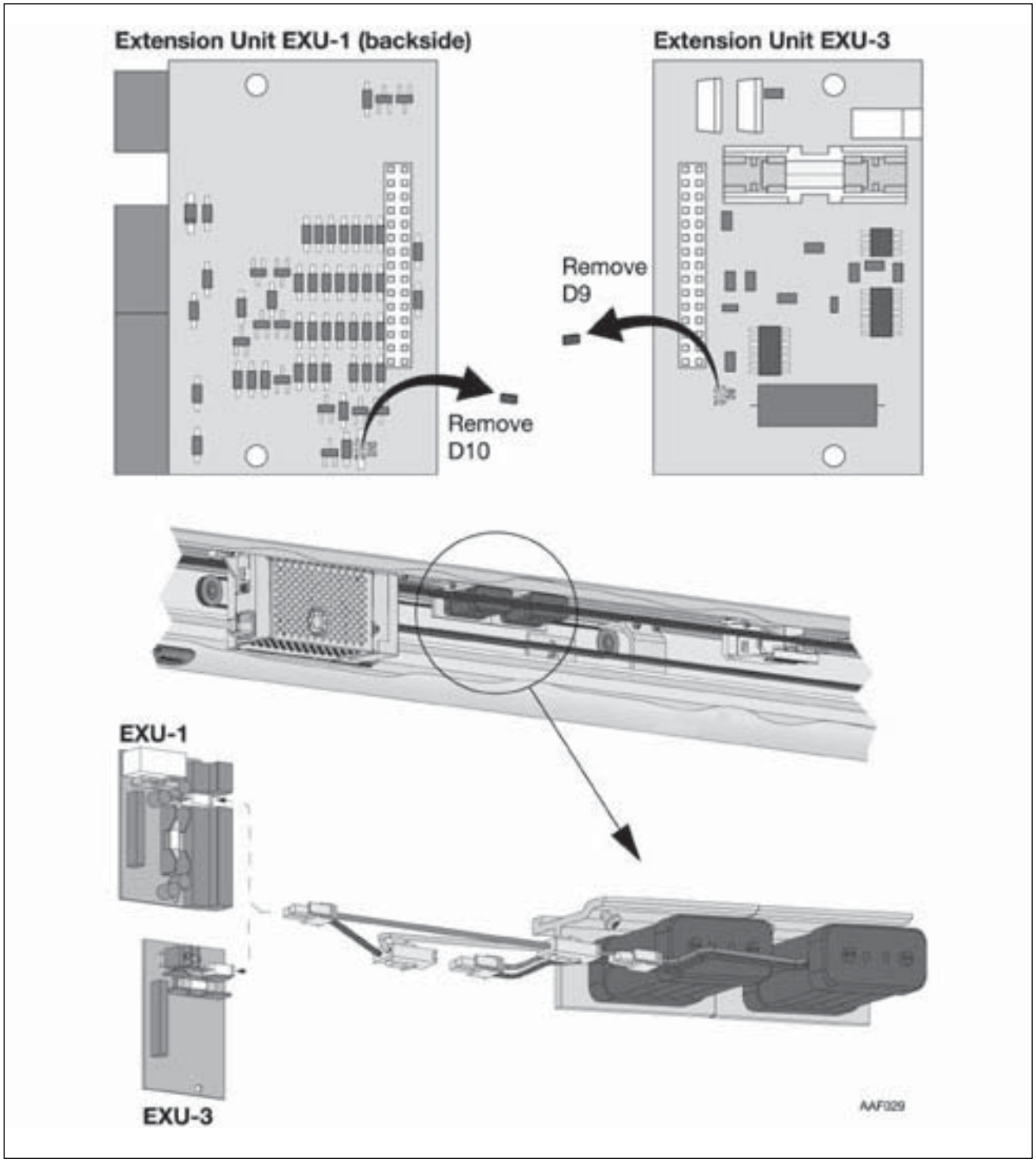
The cable from the emergency unit (battery) is to be connected to the EXU-3.



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 OFF (Electrical).



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, (see page 46).
3. Disconnect UltraView and breakout switch.
4. Set the program selector PS-5 to “Auto”. Apply the main power plug to the control unit. If the door is open and no opening, presence or stop impulse is active, it will move to closed position with low speed.
5. Make sure the door is closed and stands still. Push the learn button, LB (see page 46). 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 shorting the terminals No. 1 and 2 on the control unit.
7. If necessary adjust the door speeds with the potentiometers to the required values (see page 46).
8. Select correct functions with the function selector FS, for the accessories to be connected (see page 46 or 53).
9. **Disconnect the main power,** install activation units and accessories and reconnect Motion/Presence Sensor and breakout.
10. Connect the mains power and check that the installation complies with valid regulations and requirements from the authorities.

Note! The door must stand still when adjustments are carried out.

Operation

The functions of the door are set with key program selectors:

- PS-5R, recessed in the cover, can be remote-controlled by PS-5M.
- PS-5M, flush or surface mounted, for central control of an optional number of operators. In setting "Auto" every connected operator are individually controlled by its own program selector.
- PSMB-5, mounting box, flush or surface mounted on the sidelite or on the wall close to the door.

Recessed in the Cover

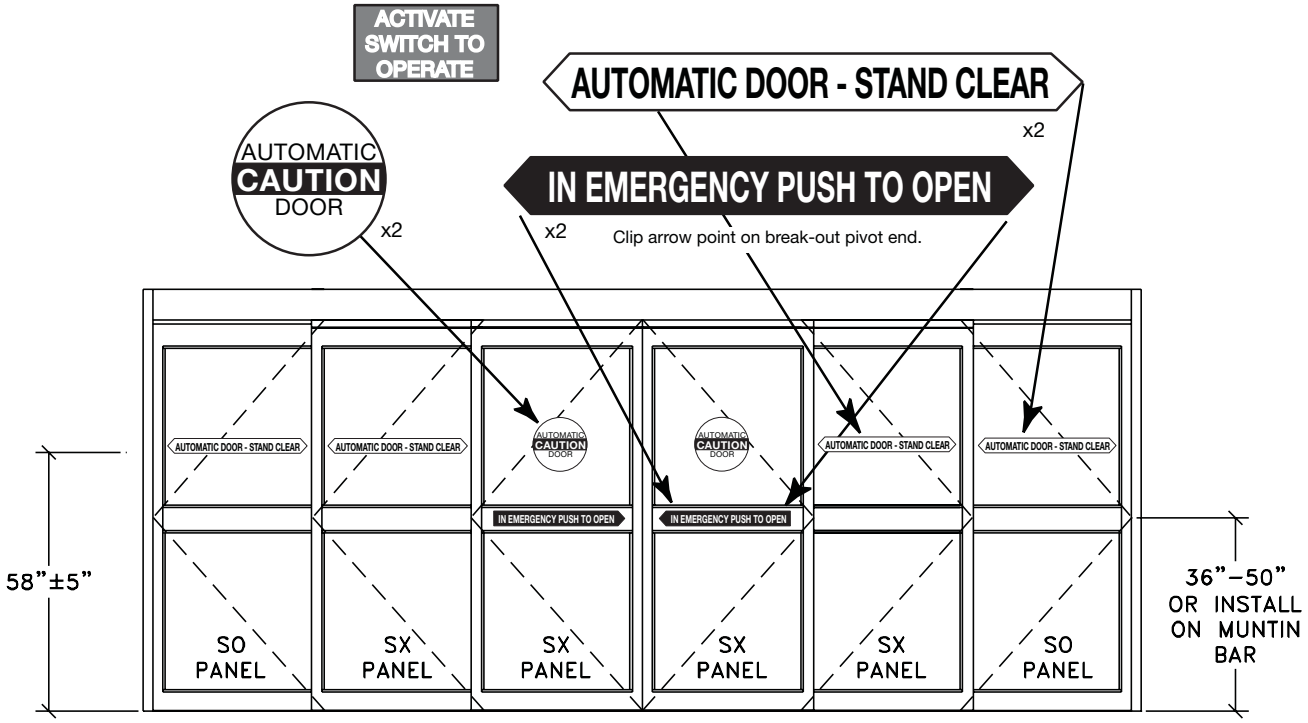
Flush Mounted

Surface Mounted

Program selector functions

– –	"Off"	The inner and outer activation units are disconnected. The door is locked if an electromechanical locking device has been installed. The door can be opened with an emergency push-button/key switch (if installed).
- ↑ -	"Exit"	Passage through doorway from inside only. The door is locked if an electromechanical locking device has been attached. The door can only be opened with the inner activation unit and with an emergency push-button/key switch (if installed).
- ↓↑ -	"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"	**Set the program selector to "Auto". Insert a narrow object in the small hole on the program selector board and push. The operator makes a system test of the battery, electro-mechanical lock, watch dog relay and closed position. It also reads FS switch settings, CSW distance and Time delays. After closing the operator is reset and ready for normal operation again.**
	"Learn"	Learn can only be achieved by pressing the learn button on the control unit. The door must stand still in closed position. The door opens as much as it can and clears its position register, then it closes as much as possible and calculates and saves the opening width. Closed position is always zero and open always the calculated opening width. Learn is normally only performed when the door is installed. The door adapts temporarily to obstacles but never changes its learned opening width.

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 center line 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.



Always start any troubleshooting by checking the mechanical and electrical parts of the operator in the following order.
The control unit, emergency unit and electromechanical lock are fixed with brackets in the support beam. To replace, the complete unit is to be loosened and replaced.

1. Mechanical Checking and Remedies

Disconnect the main power. Remove the tooth belt from the tooth belt fitting. 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 weather brush. Clean the floor guide, adjust the door leaf height/depth or take other necessary measures until the door leaf is running smoothly when manually operated. Repeat for the other door if bi-parting.

2. 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 out of function or waiting for monitoring acknowledgement.

LED

FLASH FREQUENCY	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
Continuos; no pause	Battery system	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

3. No Error Indication, No Control LED Illumination

1. Check Fuse
2. Check Mains Power
3. Check Main Wiring

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

1. Study the door movement and adjust the functions to the values required for a smooth door operation.
2. 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.
3. Clean the cover and the doors.

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.

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.

8.2.2.1 If photoelectric beams are used :

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" (76mm) 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 :

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.

8.2.2.3 If presence sensors are installed on each side of the sliding door opening :

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. Break away devices incorporating swing out side lites shall interrupt actuation of the operator when used in the break out mode.

Planned Maintenance Checklist

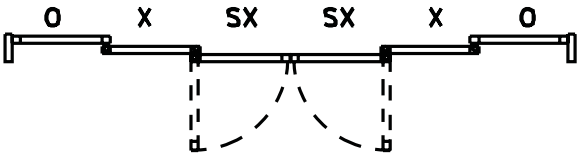
To perform a proper Planned maintenance inspection, you must follow the checklist below. Please use your service tickets to note that this was done and record any problems discovered and the action(s) taken.

- ❑ 1. Visually inspect door operation.
- ❑ 2. Check activation and threshold detection devices.
- ❑ 3. Check for tripping hazards.
- ❑ 4. Check door function switch.
- ❑ 5. Check for proper operation of lock assembly.
- ❑ 6. Check for required signage.
- ❑ 7. Check for loose glass stops or damaged glass.
- ❑ 8. Check all panels for damage and missing or damaged weather stripping.
- ❑ 9. Check panic latches for proper release force.
- ❑ 10. Check panic circuit operation for operator cut off or spring return.
- ❑ 11. Clean and inspect bottom guide tracks.
- ❑ 12. Check bottom guide assembly for proper adjustment and excessive wear.
- ❑ 13. Check door closing speed and closing force.
- ❑ 14. Check closing latch location.
- ❑ 15. Check that door hold open time is 1.5 seconds or longer.
- ❑ 16. Remove access cover and check motor and gearbox for leakage and noise.
- ❑ 17. Inspect drive pulleys and belt for proper alignment.
- ❑ 18. Inspect drive belt for proper tension and excessive wear.
- ❑ 19. Clean hanger rollers and repair or replace if damaged. Adjust roller height if necessary.
- ❑ 20. Clean roller track and remove any debris. (Do not lubricate track.)
- ❑ 21. Inspect anti-riser block or rollers for damage and/or binding.
- ❑ 22. Insure that all wiring in the header is properly routed and protected from any moving components.
- ❑ 23. Reinstall and secure access cover and recheck the complete door operation.
- ❑ 24. Clean door, glass and header thoroughly.
- ❑ 25. Note on the Planned Maintenance review any recommendations to improve door performance and reliability, and review with customer.

Door Handing (Automatic Door Industry)

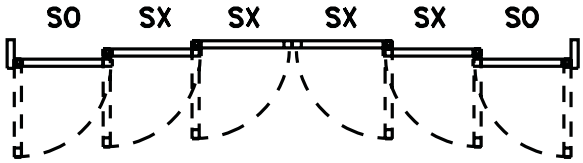
Sliding door handing is referenced from the exterior side of the door opening. Bi-parting sliders are not handed.

FIXED SIDELITE



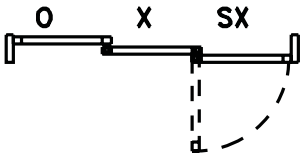
EXTERIOR

FULL BREAKOUT



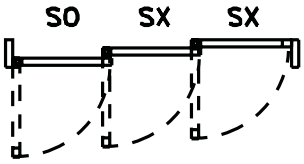
EXTERIOR

FIXED SIDELITE, LEFT HAND



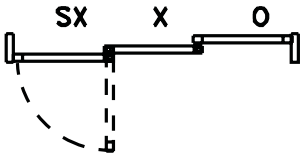
EXTERIOR

FULL BREAKOUT, LEFT HAND



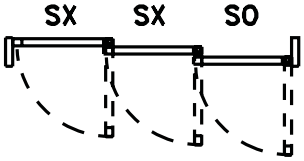
EXTERIOR

FIXED SIDELITE, RIGHT HAND



EXTERIOR

FULL BREAKOUT, LEFT HAND



EXTERIOR

O= FIXED SIDELITE
X= SLIDE PANEL

SO= SWINGOUT SIDELITE
SX= SWINGOUT SLIDE PANEL

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