besam®

Manual
US23-0222-01

PowerGlide™ AMD II

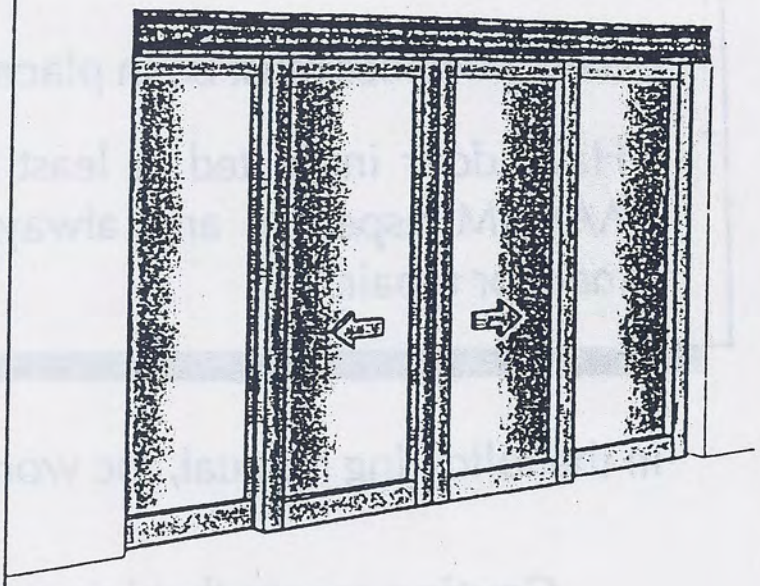
(Concealed)

Sliding Door Operator

Installation, Adjustment and Troubleshooting Manual
Includes Access Control Options

Applications:

- Pedestrian Applications
- Colleges / Schools
- Light Industry
- Medical Centers
- Office Buildings
- Pharmacies
- Residential
- Shopping Malls
- Specialty



Complies with ANSI/BHMA A156.10-1999 standards for power operated pedestrian doors. UL 325 Listed.

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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 and at door.

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.

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Important Information

Important notice!
To avoid bodily injury, material damage and malfunction of the product, the instructions contained in this manual must be strictly observed during installation, adjustment, repairs and service etc. Only Besam trained experts should be allowed to carry out these operations.

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.

Technical Specifications

Power supply	120 V AC ±10 %, 60 Hz breaker 10 A per Operator **Note!** A switch with clearly marked off-position, having a contact separation of at least 1/8" in all poles, must be incorporated in the Mains wiring.
Power consumption	max. 250 W
Auxiliary voltage	18 V DC, 0.5 A
Control fuse F1	2 Amp
Motor fuse F2	5 Amp
Recommended max. door weight:	1 leaf - 440 lb 2 leaves - 220 lb per door leaf
Door Travel	AMDII -1 & -2 35.5" to 118"
Opening/Closing Speed	Variable up to approx. 4.5 ft/sec. (Two leaves) *
Low Speed	Variable up to approx. 1 ft/sec. (Two leaves) *
Hold open time	0-60 seconds *
Ambient temperature	-30° F to 113° F

To be installed internally or externally with suitable weather protection.

* 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.

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Introduction

This manual contains the necessary details and instructions for the installation, maintenance and service of the Besam sliding door operator, PowerGlide AMD II. The PowerGlide AMD II is designed for an overhead concealed installation between two vertical jambs. The header holds the drive and control units, and supports the sliding doors, sidelites and a transom above the operator, if required.

A Besam PowerGlide AMD II sliding door operator ensures all-around safety. It can be combined with the full range of Besam safety units, such as Eye-Cue MWD presence and microwave motion detectors. It is easy to install for both new construction and retrofit applications and can be adapted to a wide range of concealed installations.

How The PowerGlide AMD II Works

The PowerGlide AMD II consists of a motor, gear box, control unit, tension wheel, and transmission rods, (plus optional battery unit and locking devices), forming a compact drive unit mounted inside a header/support beam. The door leaf is fitted to a door carrier/carriage wheel bracket and is driven by a tooth belt on a field-replaceable Delrin track.

Opening

When an opening signal is received by the control unit, the door is opened at the PowerGlide AMD II's high speed. Before the door is fully open, it slows to low speed. The motor stops when the door is fully open.

Closing

When the hold-open time has run out, the door will close, slowing to low speed before it reaches the fully closed position.

Safety functions integrated in the PowerGlide AMD II

Opening and Closing

When opening, the doors will stop if an obstruction is contacted by the moving door leaf. The door will close again after a time delay.

When closing, the doors immediately reverse if an obstruction is contacted, then resume closing at low speed to detect whether the obstruction has cleared.

Microprocessor

The control unit's microprocessor has a self-monitoring device that detects interference within its functional range, or faulty signals in door operation, and automatically adjusts to ensure safe operation.

Other Safety Features

The optional emergency battery unit automatically opens or closes the doors during a power failure. The operator can also interface with a fire alarm or smoke detector. The doors are equipped with a panic breakout kit that allows the doors to swing outward when pushed in an emergency situation.

Safety Sensors

Safety sensors, such as the Besam Eye-Cue MWD, can be connected for an even higher degree of safety.

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Introduction

PowerGlide AMD II layout types

Besam provides several layouts for the PowerGlide AMD II 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. (See page 77 for illustrations of various layouts.)

All PowerGlide AMD II sliding door 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. (If you are retrofitting the PowerGlide AMD II to existing frames or doors, see pages 78-80 for guidelines.)

Before installing the PowerGlide AMD II sliding door system, check to see that you have been supplied the correct equipment and that all necessary tools and hardware are at hand (see page 13). Also, check the installation site for any factors that might interfere with proper installation (see page 14).

PowerGlide AMD II naming conventions

The designation AMD refers to a concealed operator and sliding door system. EMD refers to a surface mount operator.

The Roman numeral II indicates the second generation drive module for these operators.

This may be followed by several hyphenated numbers. If the numeral 2 appears as the first digit, it means that the model in question is a bi-parting door system; otherwise, it is a single-slide door system. The remaining numbers shows the overall frame width (OFW) of the door system in feet, then inches if needed.

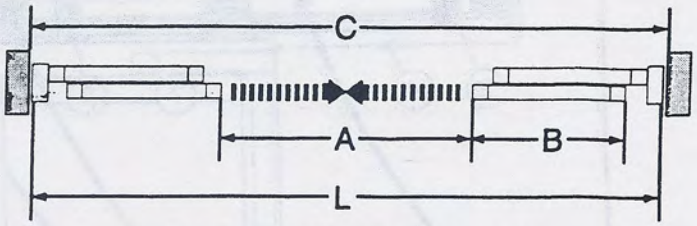
Thus, the PowerGlide AMD II-2-8-6 (for example), is a concealed operator with a second generation drive module; bi-part system with two sliding leaves; with an OFW of eight feet and six inches. The PowerGlide AMD II-8-6 is a concealed operator with a second generation drive module; single-slide system with one sliding leaf; with an OFW of eight feet and six inches.

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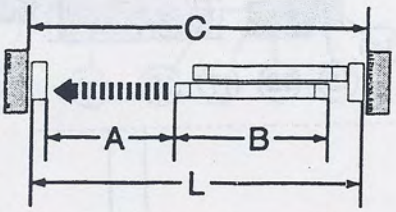
Models

Two main models are available: Bi-Parting and Single Sliding, as shown below. The tables describe the measurements for each model. See page 28 for the relative drive units.

Bi-Part Model No.	A	L	B
AMD II-2-8 *	36"	96"	24-3/8"
AMD II-2-10	48"	120"	30-3/8"
AMD II-2-12	60"	144"	36-3/8"
AMD II-2-14	72"	168"	42-3/8"
Key:	(L/2) - 12"	C - 1/2"	(L/4)+3/8"

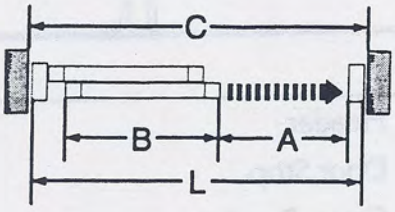


AMD II-2, bi-parting doors



AMD II, single-sliding door, right-opening

Single Slide Model No.	A	L	B
AMD II-7	35-1/4"	84"	41-1/2"
AMD II-8	41-1/4"	96"	47-1/2"
AMD II-8-6	44-1/4"	102"	50-1/2"
Key:	(L/2) - 6-3/4"	C - 1/2"	(L/2)-1/2"



AMD II, single-sliding door, left-opening

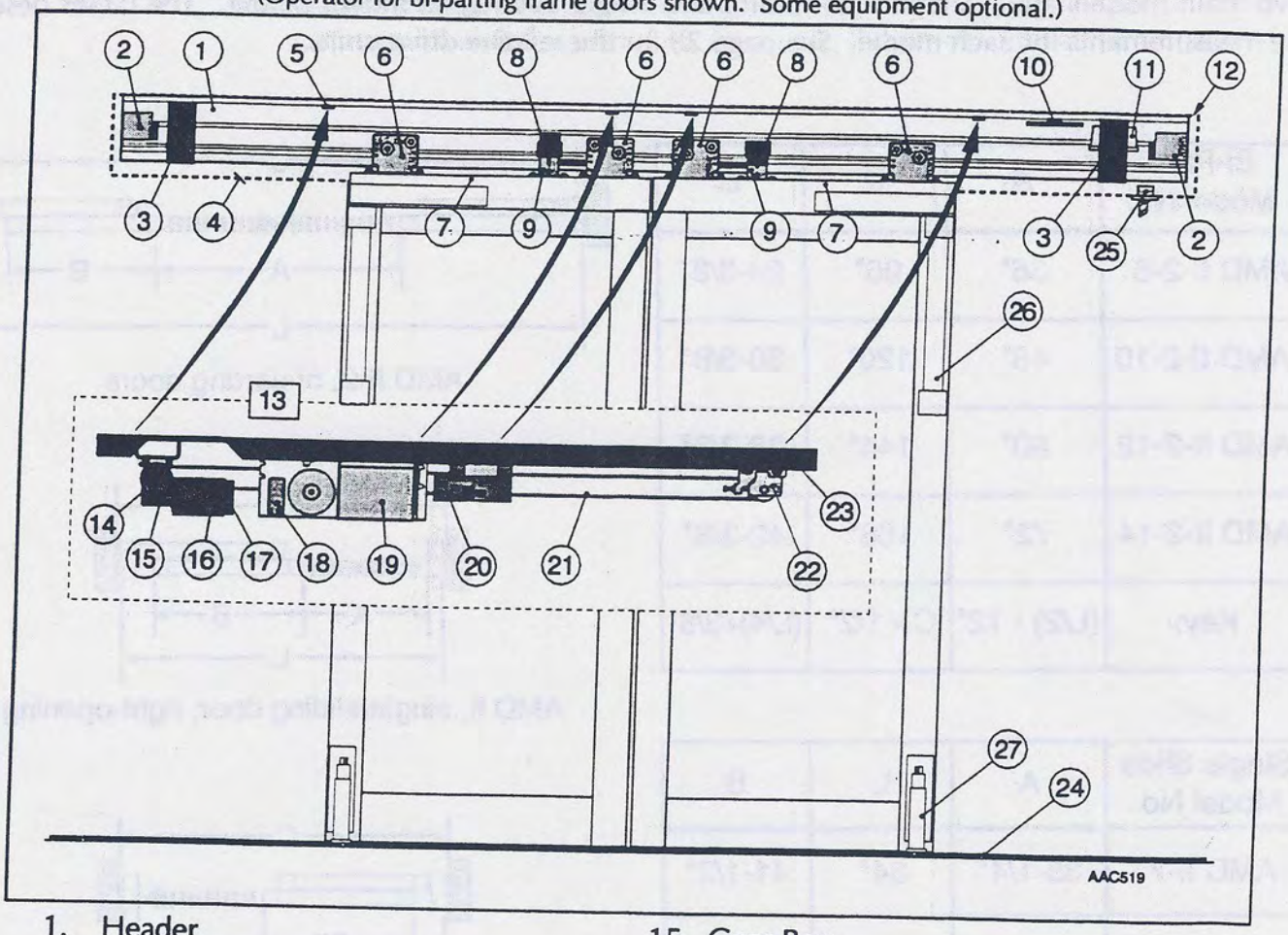
Note: Charts are for narrow stile doors with 1/4" glazing. Wider stiles or thicker glazing will reduce the A dimension accordingly.

A = Clear Door Opening
L = Overall Frame Width
B = Door leaf Width (Active and Side Leaves)
C = Rough Opening Width
Key = Formula of Door Dimensions

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Part Identification & Options

(Operator for bi-parting frame doors shown. Some equipment optional.)

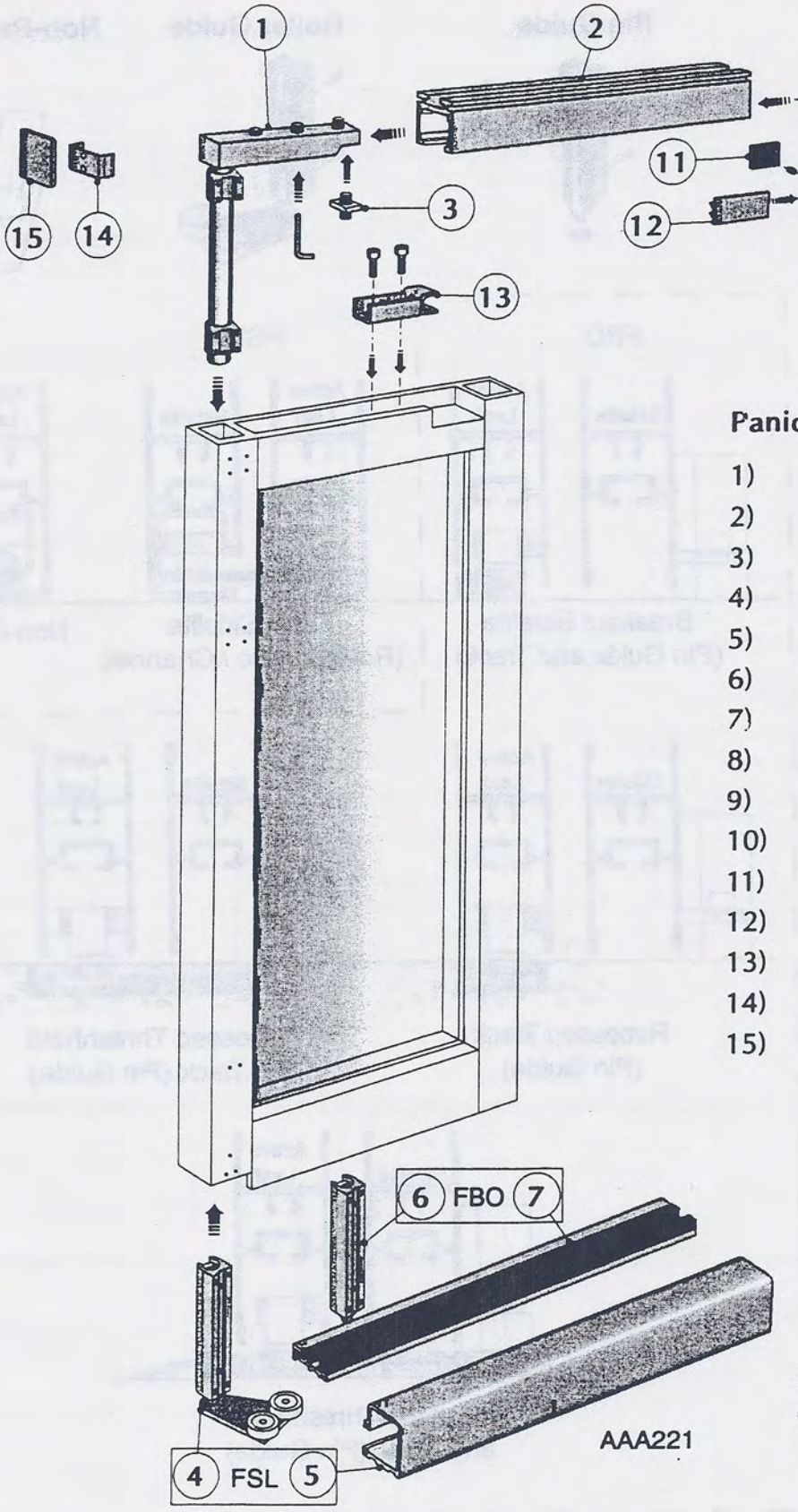


1. Header
2. Door Stop
3. Cover Bracket
4. Cover
5. Bracket for Drive Unit (4 pcs)
6. Carriage Wheel Bracket
7. Door Carrier
8. Transmission Rod Attachment
9. Door Drive Bracket
10. Cable Shelf
11. Junction Box
12. Cable Inlet
13. Drive Unit
14. Drive Wheel
15. Gear Box
16. Motor Unit
17. Revolution Counter
18. Emergency Battery Unit (Optional)
19. Control Unit
20. Electro-mechanical Locking Device (Optional)
21. Tooth Belt
22. Tension Wheel
23. Cable Channel
24. Floor Guide Track
25. Program Selector
26. PSA
27. Pin Guide / Roller Guide

See page 83-85 for spare part numbers.

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Part Identification & Options



Panic Break-Out System

1) Panic swing arm (PSA)
2) Door carrier
3) Anti-sag adjuster
4) Bottom guide (FSL)
5) Roller track guide (FSL)
6) Bottom guide (FBO)
7) Pin track guide (FBO)
8) Ball catch
9) Ball catch body
10) Mounting plate.
11) Rubber pad
12) Cover plate
13) Ball catch shoe
14) End stop clip
15) End stop

See page 81 for installation of optional door sweeps.

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Part Identification & Options

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 Side Lite) with fixed sidelite track; and the non-panic floor guide.

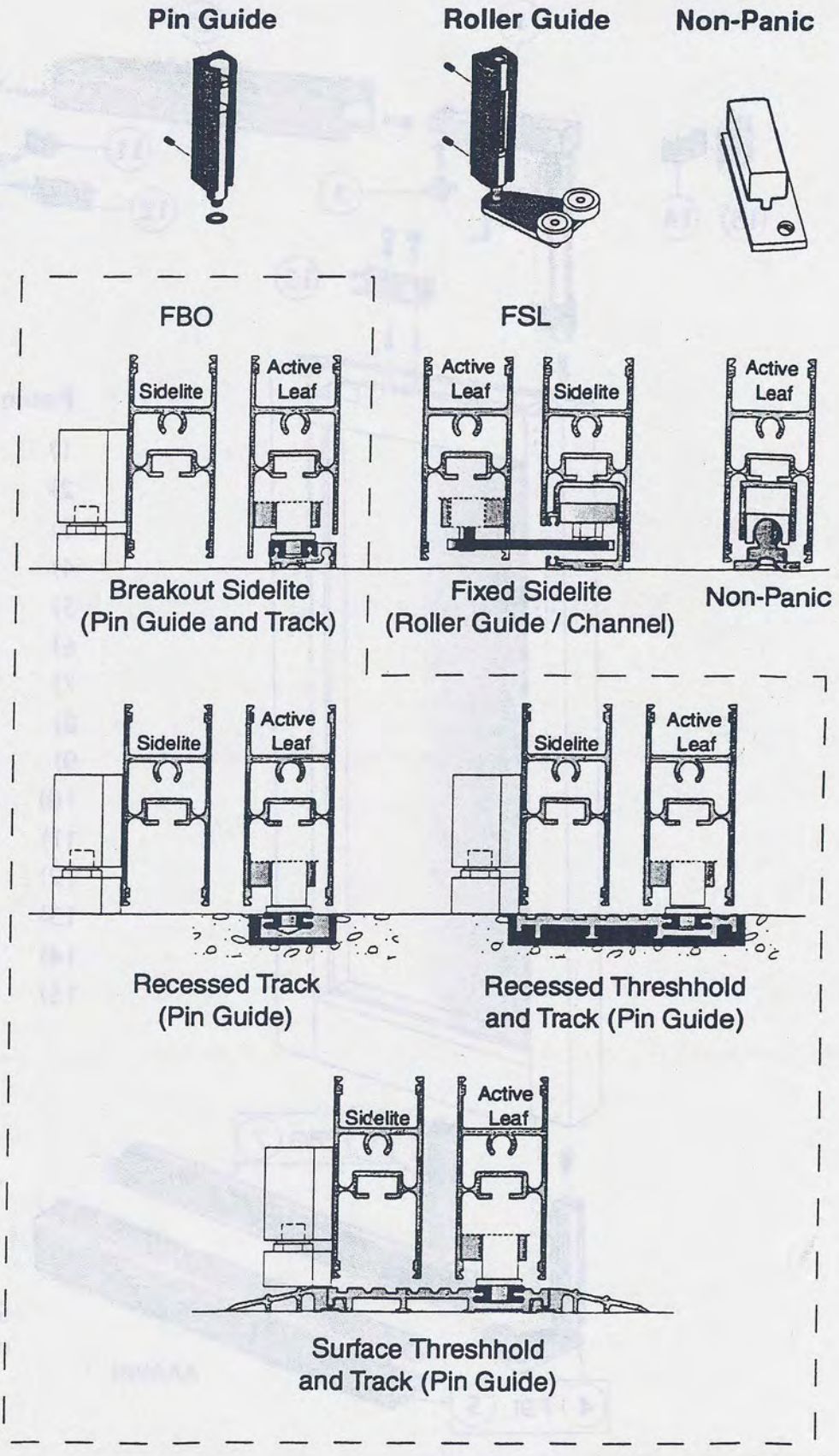
The FBO pin guide has several options for guide tracks, including recessed track (flush with floor level), recessed threshhold, and surface threshhold.

See pages 16-17, 19 and 21 for guide installation.

Pin Guide
P/N: 50-15-390

Roller Guide
P/N: 50-15-147

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

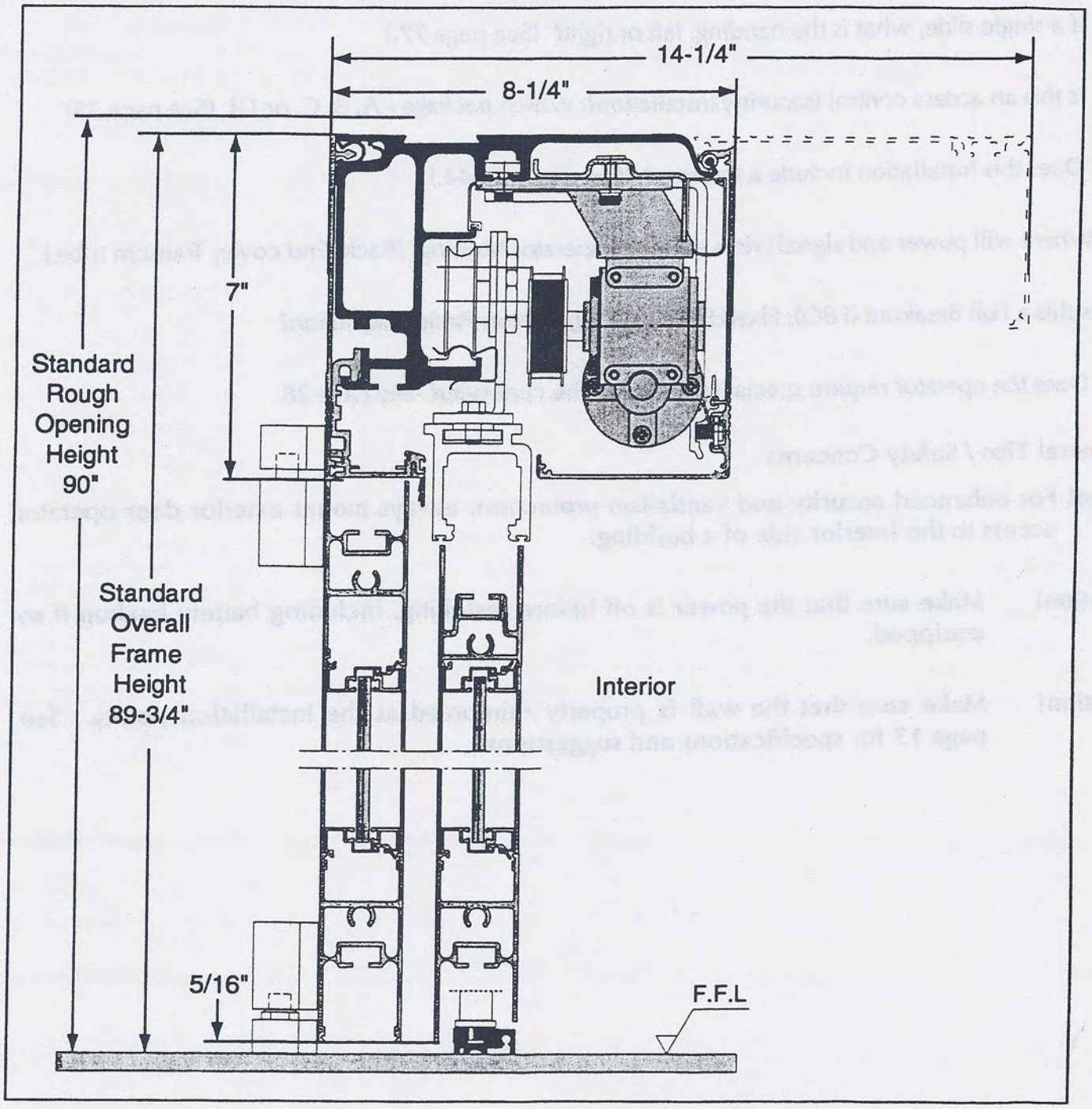


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Space required

Frame doors

Full Breakout package (FBO) shown.



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Pre-Installation Questions

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

A. Is this installation a bi-parting or single-slide?

B. If a single slide, what is the handing, left or right? (See page 77.)

C. Is this an access control (security) installation? Which package - A, B, C, or D? (See page 35)

D. Does this installation include a transom? (See pages 38-44.)

E. Where will power and signal wires enter the operator housing? (Back, End cover, Transom tube.)

F. Is this a Full Breakout (FBO), Fixed Sidelite (FSL), or Non Panic installation?

G. Does the operator require special software for the controller? See page 28.

General Tips / Safety Concerns

Note! For enhanced security and vandalism protection, always mount exterior door operator access to the interior side of a building.

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 13 for specifications and suggestions.

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Installation Overview

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

1: Start by determining the answers to the pre-installation questions on page 10.

2: First install header to jamb tubes, tilt into place, level and plumb, then secure to rough opening with shims and appropriate fasteners. See page 13 for fastener recommendations.

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 moving door panels.

5: Mount the sidelites.

5: Adjust all door panels for alignment and smooth manual movement. Adjust all breakouts.

6: Install the drive unit.

7: Connect and adjust transmission rods 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.

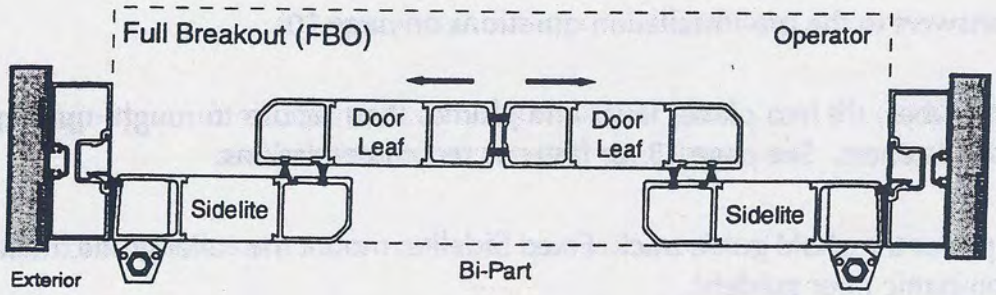
10: Apply safety signage to the door(s).

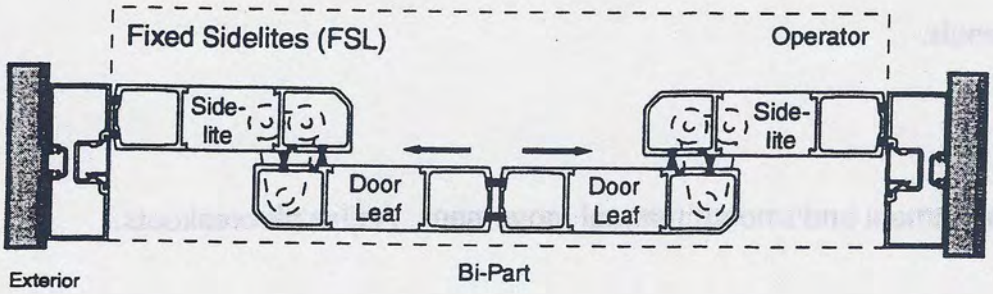
11: Train facility manager in operation.

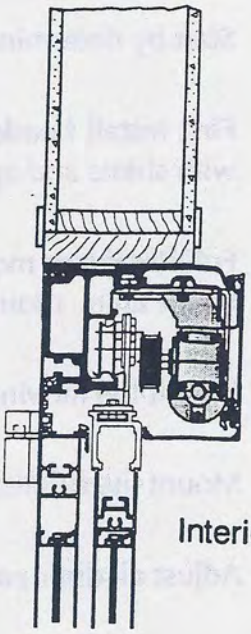
12: Explain to the facility manager the daily safety check described in the owner's manual, and leave a copy of the owner's manual with the facility manager.

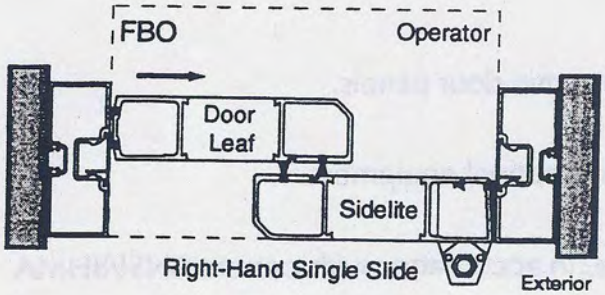
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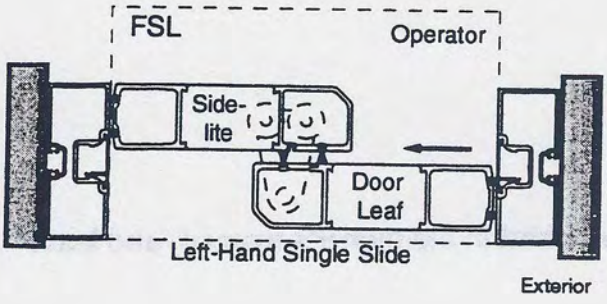
Installation Examples



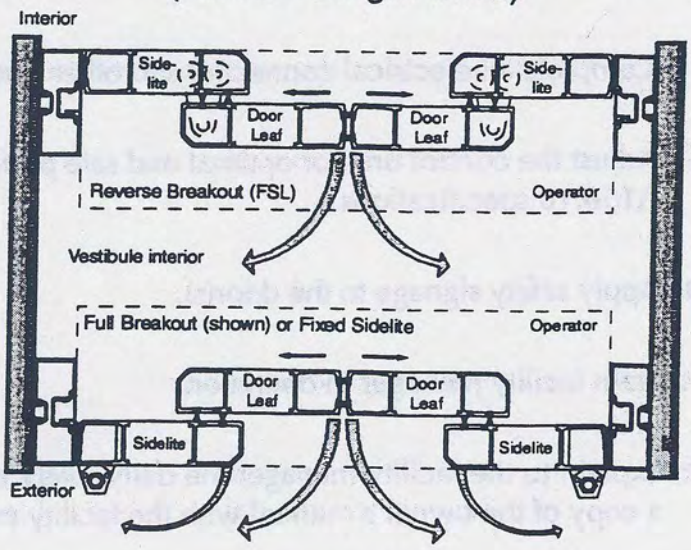








Reverse Breakout in Bi-Part Vestibule (Half for Single Slide)



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

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Fastening Requirements

Base door / wall material	Minimum anchor / bolt requirement *
Steel	3/16" **
Aluminum	1/4" **
Reinforced concrete	min. 2" from the underside
Wood	2"
Brick wall	Expansion-shell bolt, min. 1/4" x 3 1/2", min. 2" from the underside

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

** Thin-wall profiles must be reinforced with rivnuts.

Test Equipment

Stopwatch
Force gauge (50 lb force range)
PMD Programming Module (for CUD-9 control; not used for CUJ-9)
Multimeter

Tools Required

Set of metric box end wrenches
Carpenter's level
Tape rule
Power drill and set of drill bits, Hammer drill
Metric hex key set (6,5,4 mm and 2.5 mm)
Torx (T20)
Center punch
#2 Phillips screwdriver
Flatblade screwdriver (small/med./large)
Wire stripper
Pencil
Additional mounting hardware (not supplied – see Fastening Requirements above)
Silicone sealant
Plumb bob

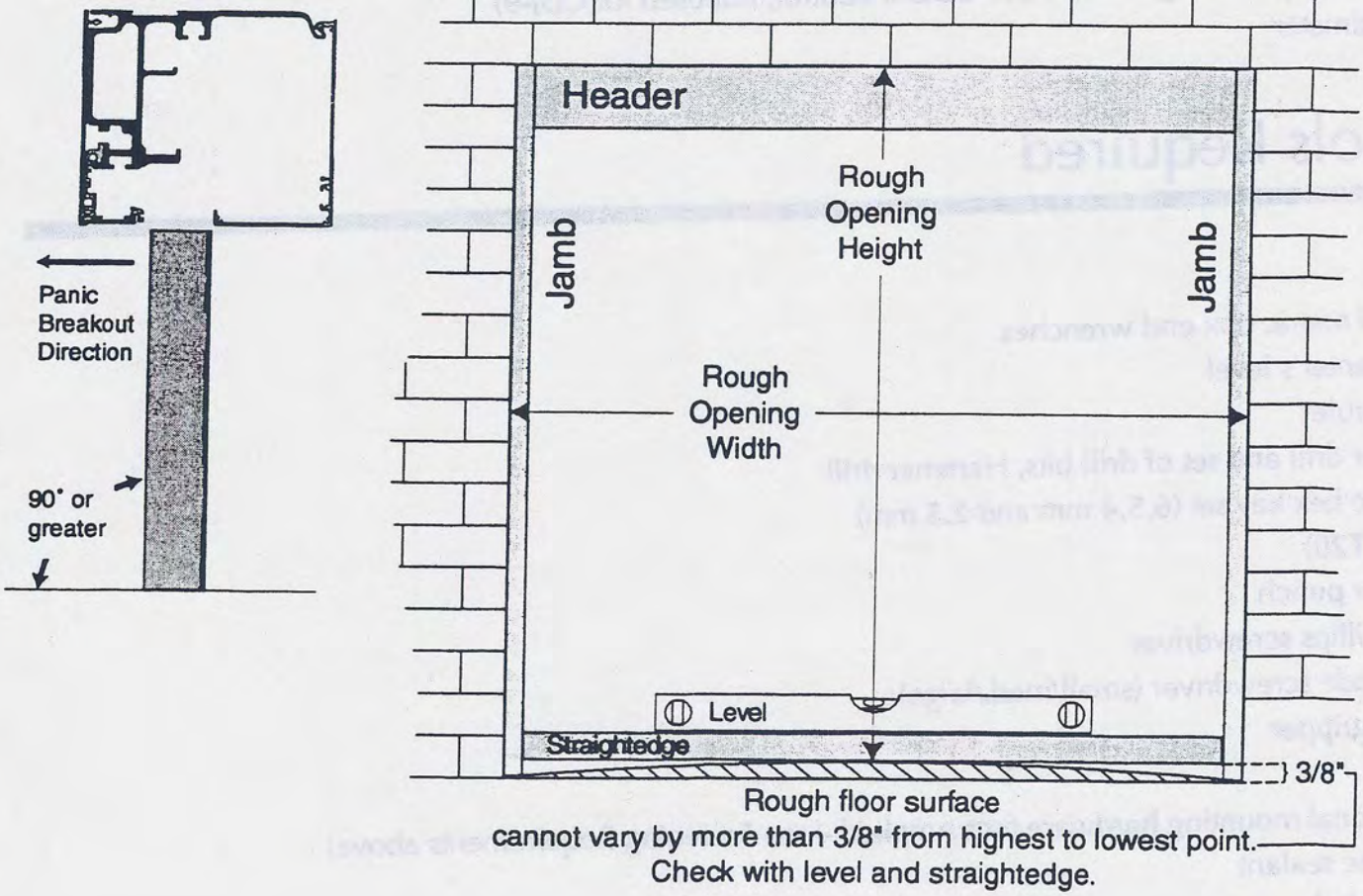
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Site Inspection

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 breakout mode. The doors must not encounter any obstruction when broken out. The grade of the floor in the direction of breakout should ideally be 90° or greater, measuring from the highest point of the floor (see below).

The rough opening width should be 1/2" wider than the overall frame 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 38-44).



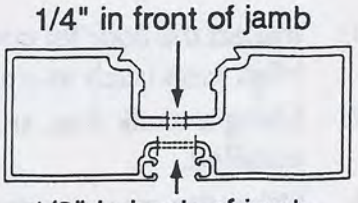
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Checking – Marking out – Fixing

Prior to installation of the header, the cover and the drive unit (if installed) have to be removed. See pages 29 and 34.

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 1/4" 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 at right. (Besam jambs are factory prepared for header installation. If non-factory jambs are provided, use end brackets as templates, and drill mounting holes and cable inlets.)



Pocket jamb shown

Mount the end brackets to the jamb tubes, then mount the header to the end brackets. Check straightness with carpenter's level. Follow steps below to level and square the header and jambs.

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 14); 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.
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 no 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

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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.

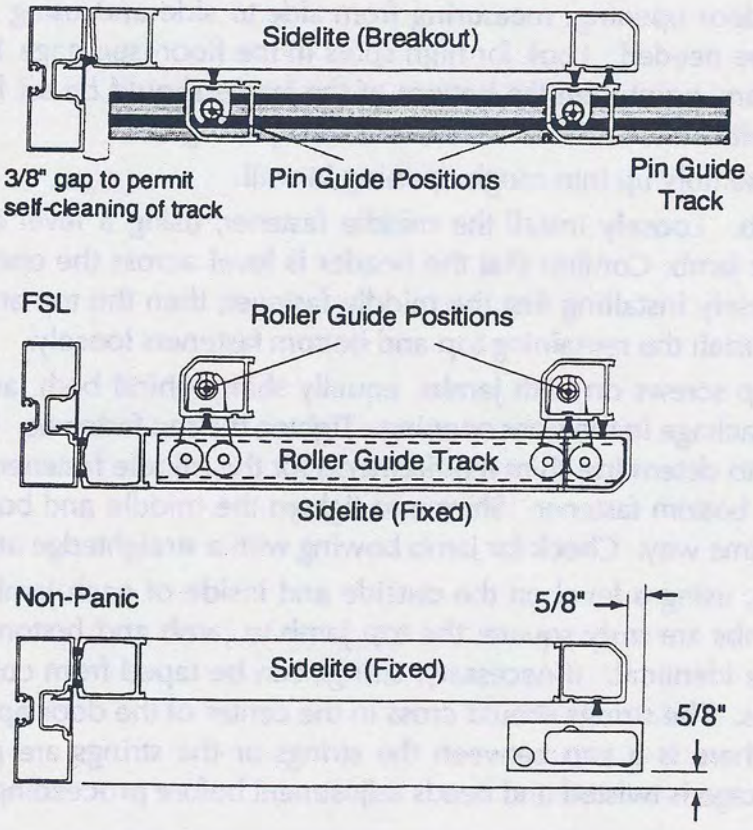
1: Inspect the floor for conditions such as high and low spots that can cause the track to twist and rock. High spots (such as small rocks) should be removed; shim the track assembly at the low spots.

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 page 17), lay the track in place. While standing on the track and keeping it in line with the chalk line, mark the holes to be drilled.

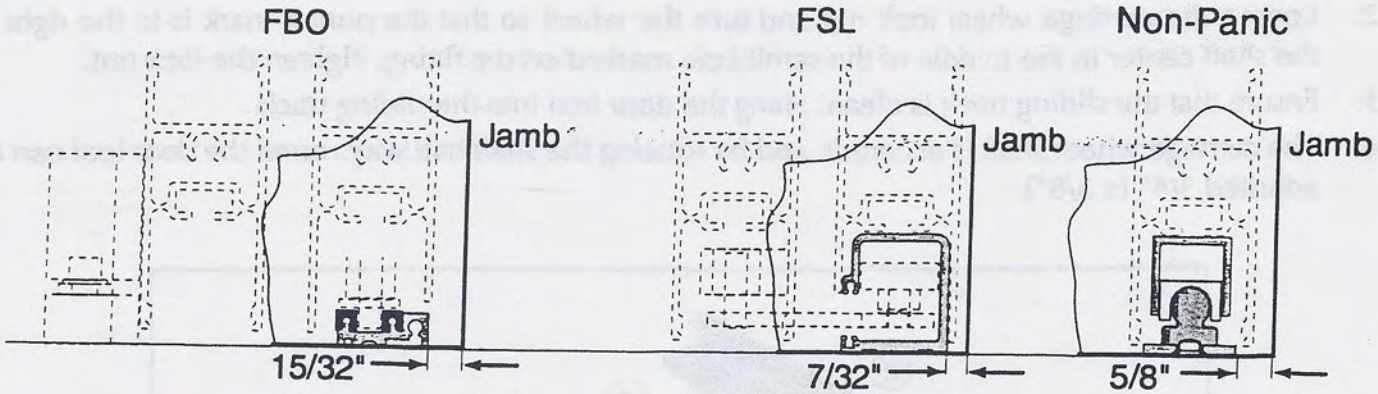
4: Secure the track to the floor with concrete anchors and screws, leveling it with shims from end to end. If possible, a sealant should be used under the track assembly. To check for proper leveling, measure from the top of the track to the bottom of the header, checking for the same result at each fastener.

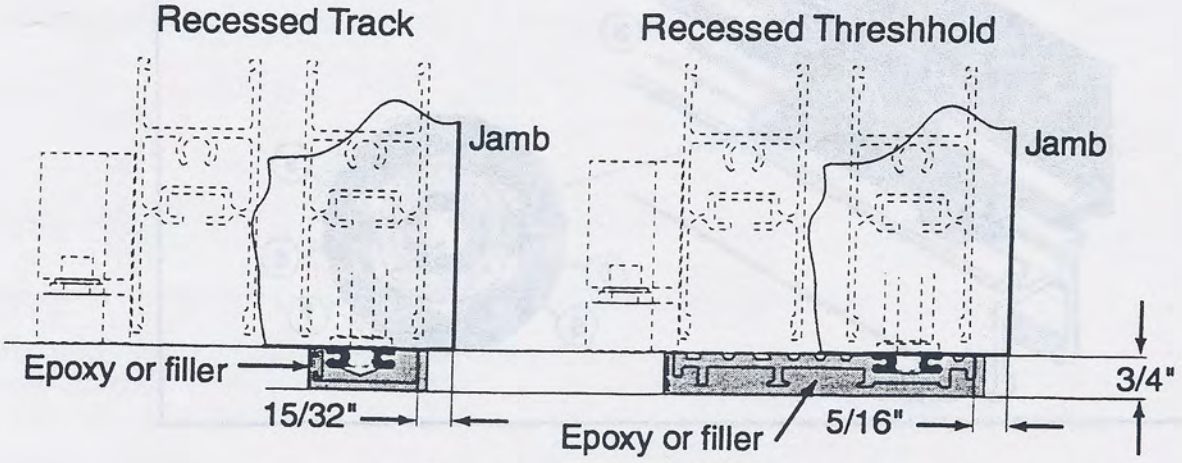
Note: All screws must be countersunk and fully tightened to avoid interference with pivot travel.

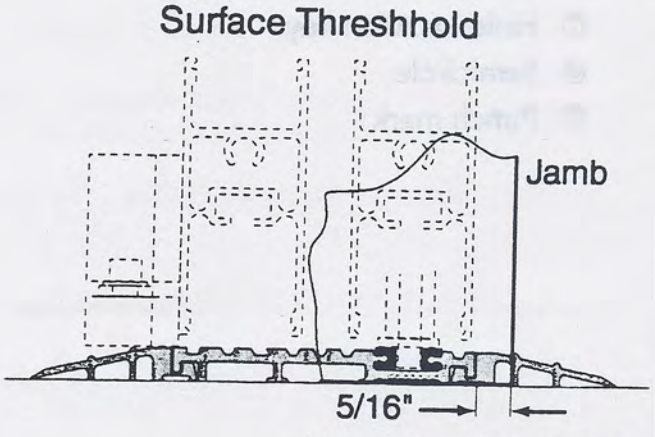


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Fitting the floor guide track (continued)

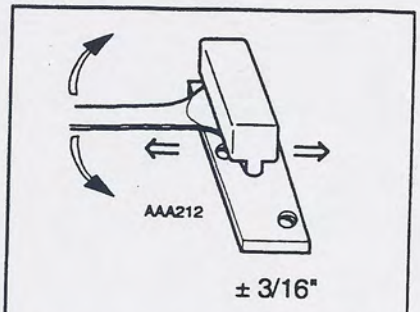






Measured to edge of baseplate

Measurements are based on Besam 4.5" width jambs.
All guides are level with jamb bottoms.



Adjusting Non-Panic Guide

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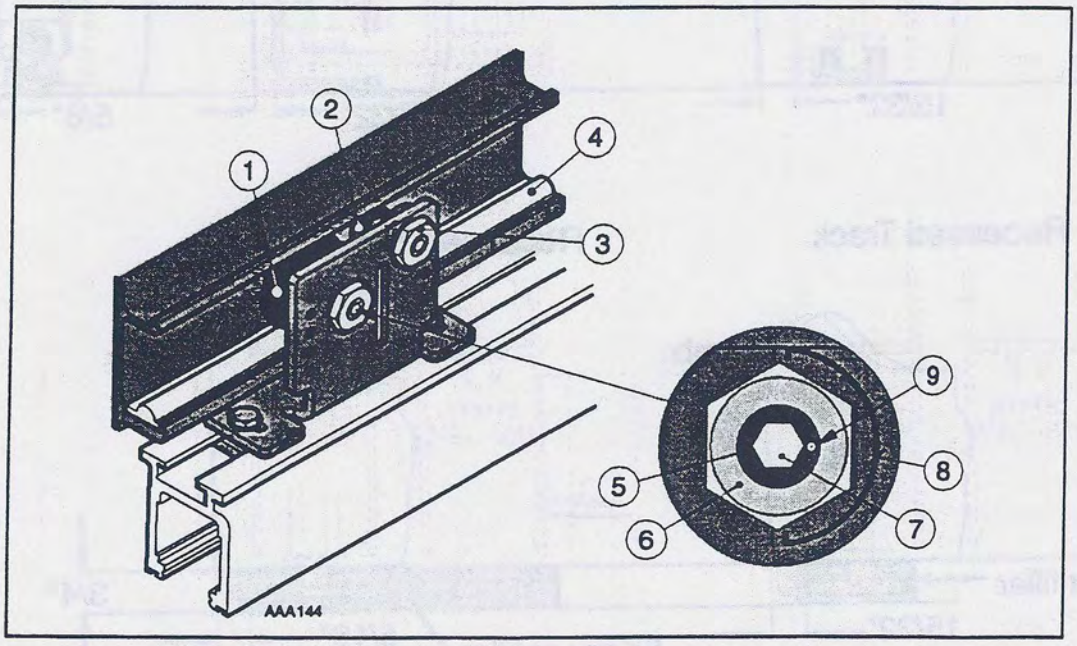
Hanging the active door leaves

1: Loosen the stabilizing wheel lock nut and turn the wheel to its lowest position.

2: Loosen the carriage wheel lock nut and turn the wheel so that the punch mark is to the right of the shaft center in the middle of the semicircle marked on the fitting. Tighten the lock nut.

3: Ensure that the sliding track is clean. Hang the door leaf into the sliding track.

4: The carriage wheel shaft is eccentric and by rotating the shaft half way round the door leaf can be adjusted 3/4″ (± 3/8″).



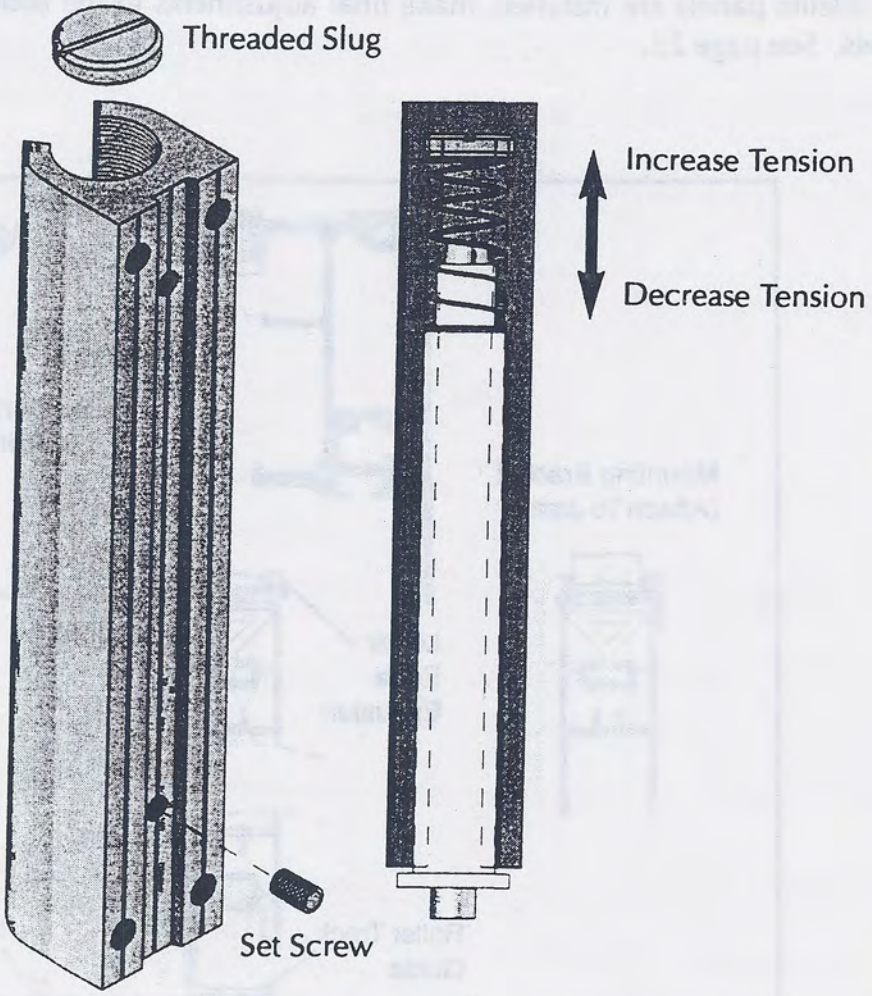
① Carriage wheel
② Stabilizing wheel
③ Lock nut for the stabilizing wheel
④ Sliding track
⑤ Carriage wheel shaft
⑥ Lock nut
⑦ Hole for Allen key
⑧ Semicircle
⑨ Punch mark

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Setting the active leaf pin guide pivot (Full Break Out)

With the door positioned so that the carriage wheels are riding on the plastic track in the header beam, cut and remove the elastic band holding the pin guide and washer. Push the pin guide up into the door and set the pin guide with washer into the floor track (if pin guide does not move vertically, loosen the set screw). Proceed to adjust the door as instructed on pages 23-25. 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.

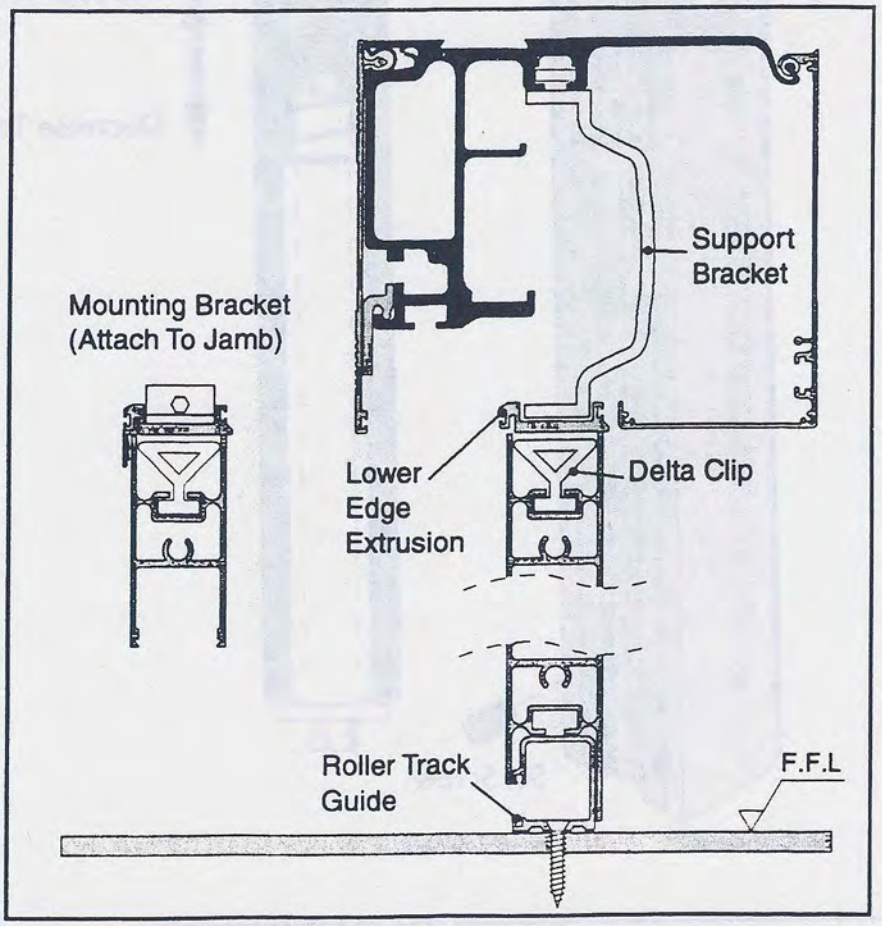


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Fixed Sidelite installation procedure

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

1. The active leaf doors and tracks must be installed and adjusted prior to installing the sidelites.
2. Install the lower edge extrusion from jamb to jamb just above the sidelite. Secure it at both ends to the jamb tubes with the mounting brackets, and adjust the support brackets to line up with the predrilled holes provided in the extrusion. The smooth side of the extrusion should be facing down so that the door can be tilted into place.
3. Set the sidelite panel on the roller track guide, with the back of the sidelite against the jamb tube. Tilt the door up to the lower edge extrusion and line up the holes in the delta clips (located in the top web of the door) with the holes in the lower edge extrusion and the support brackets. Route the wires from the breakout switch through the hole that lines up with the center of the lead edge vertical stile. Position the wires in the notch located on the inside face of the sidelite and carefully tilt the panel into place. Secure the sidelite to the extrusion through the support bracket and though the lower edge extrusion holes that line up with the delta clips.
4. When all sidelite panels are installed, make final adjustments to the sliding door leafs to properly align all panels. See page 25.



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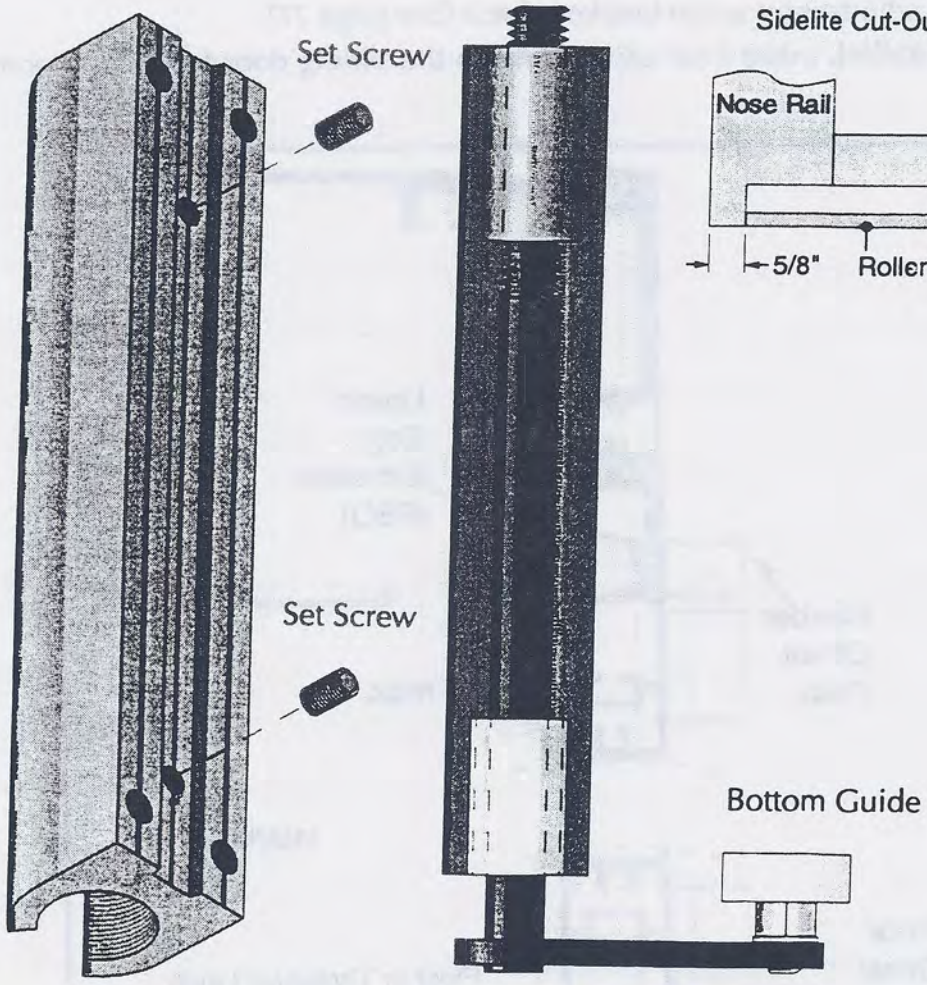
Setting the active leaf roller guide pivot (Fixed Side Lite)

Temporarily remove the door stops. With the door position 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.

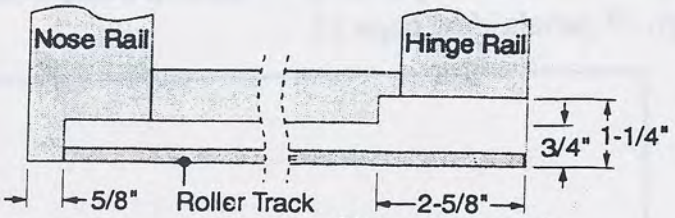
Slide the door to the open position until the roller guide lines up with the cut out in the track, and insert the bottom guide. (If the roller guide does not line up properly with the cut out, loosen the top set screw, which is accessible when the panel is broken out. Adjust the roller guide until it will slide into the cut out.) Slide the door closed.

Proceed to adjust the door as instructed on pages 23-25. 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 set screw. Replace the door stops and adjust accordingly to avoid finger traps at trailing edge (see page 24).

The bottom set screw on the roller guide can be adjusted to create drag on the door pivot when the door is broken out.



Sidelite Cut-Out for FSL Installations



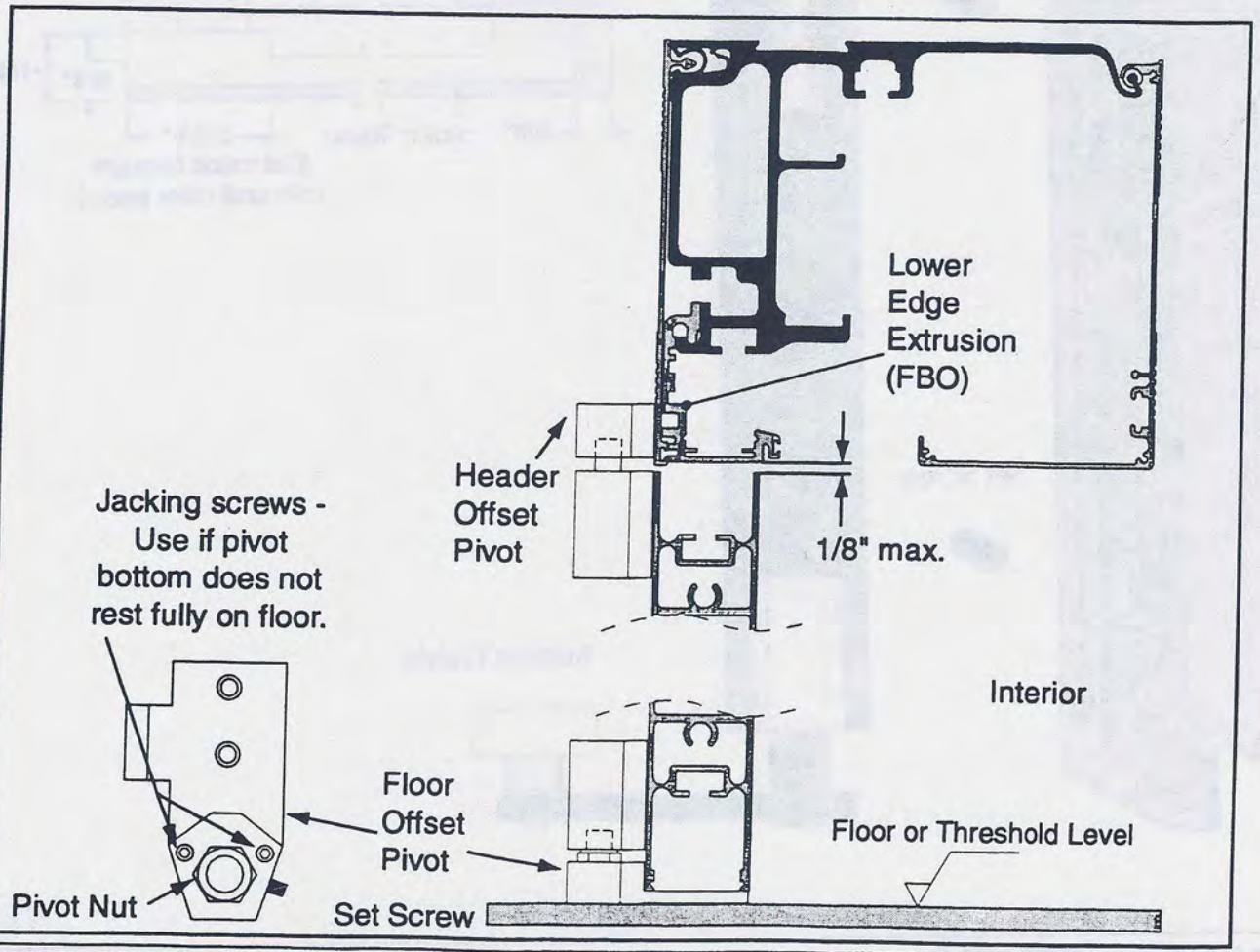
(Cut made through rails **and** roller track.)

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Full Breakout Sidelite installation procedure

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

1. The active leaf doors and tracks must be installed and adjusted prior to installing the sidelites.
2. Install and level any thresholds (surface or recessed) before installing any of the door panels.
3. Install the offset pivot (header portion) to the lower edge of the header, using the factory prepped holes.
4. Install the offset pivot (floor portion) to the jamb bottom(s) and to the finished floor or threshold, if needed. If the floor pivot does not rest fully on the floor, turn the jacking screws until they make firm contact with the floor, and support the pivot base with shims.
5. Set the sidelite on the floor 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.
6. Check all clearances and make adjustments to the breakout latch (See page 27).
7. When all sidelite panels are installed, make final adjustments to the sliding door leafs to properly align all panels. See page 25.



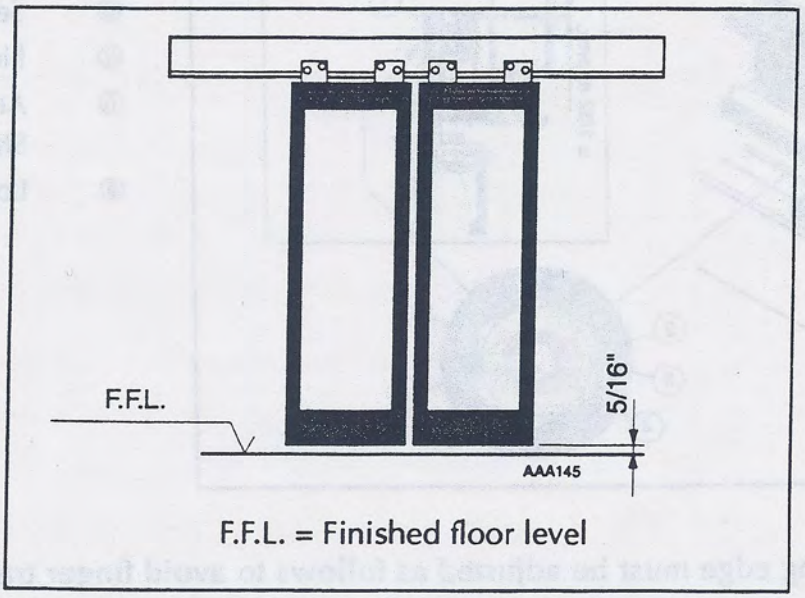
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Height adjustment

Insert a 5/16" Allen key in the hexagonal hole on the carriage wheel. Loosen the lock nut and turn the key until the door leaf is about 5/16" above the floor. Tighten the lock nut. Both carriage wheels should be adjusted in the same way. Make sure that the punch mark on the carriage wheel shaft is to the right of the shaft center within the semicircle; a condition necessary for self-locking of the wheels.

Note: It is very important that the door leaf hangs vertically after the adjustment and that bi-parting doors are parallel in the closed position.

The guide pin or roller (frame doors) should not touch the upper edge of the door guide track, or become easily disengaged. If a weather stripping 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 screen.



F.F.L. = Finished floor level

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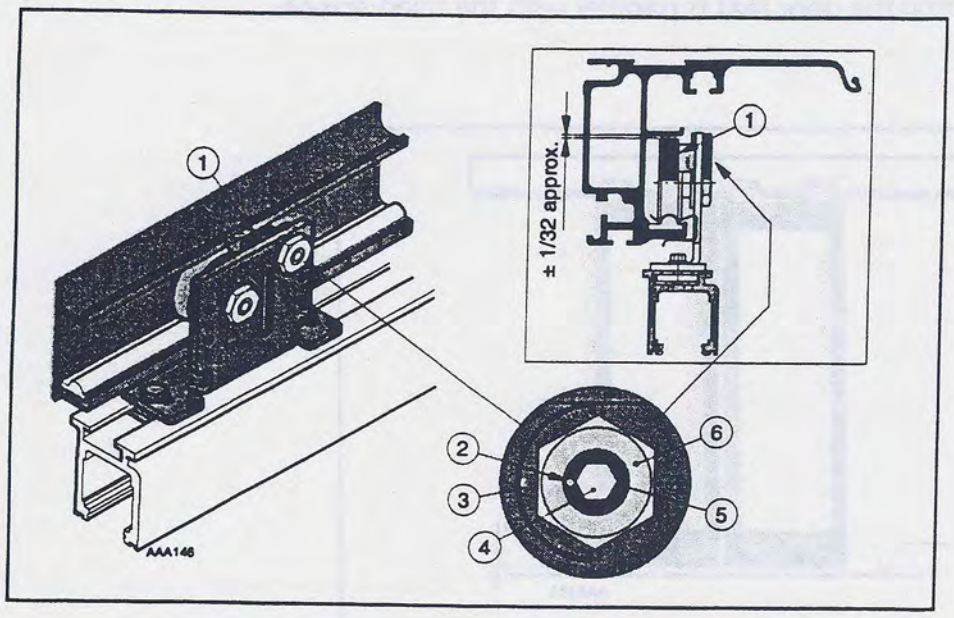
Adjustment of the anti-riser wheel

1: Insert an 8 mm Allen key in the hexagonal hole and turn the key clockwise until the anti-riser wheel is in contact with the underside of the flange of the header.

2: Lower the wheel approx. 1/32" and tighten the lock nut (about the thickness of a matchbook cover).

Make sure that the punch mark on the stabilizing wheel shaft is to the left of the shaft center within the semicircle marked on the fitting; a condition necessary for self-locking of the wheel after final adjustment. Both anti-riser wheels should be adjusted in the same way.

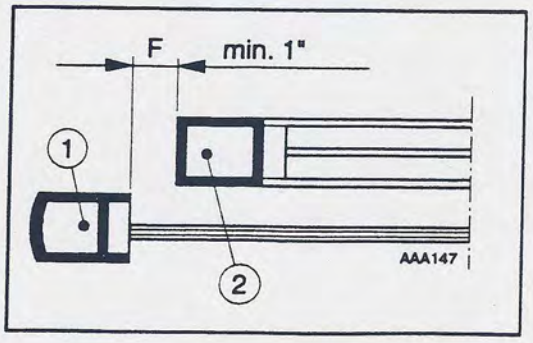
Note! Check that the clearance is consistent for the complete travel of each active door panel.



① Anti-Riser Wheel
② Punch Mark
③ Semicircle
④ Hole for Allen Key
⑤ Anti-Riser Wheel Shaft
⑥ Lock Nut

CAUTION: The trailing edge must be adjusted as follows to avoid finger traps:

Push the doors by hand to the desired opening. In the case of framed doors, the lead edge of the door leaf must not pass the vertical rail of the sidelite leaf, but must stop at least 1" before to avoid finger traps. Loosen the door stops, move them in against the carriage wheel fittings and tighten firmly. (If pocketed doors are used, this is not required.)



F= Safety distance
① Door leaf
② Fixed screen

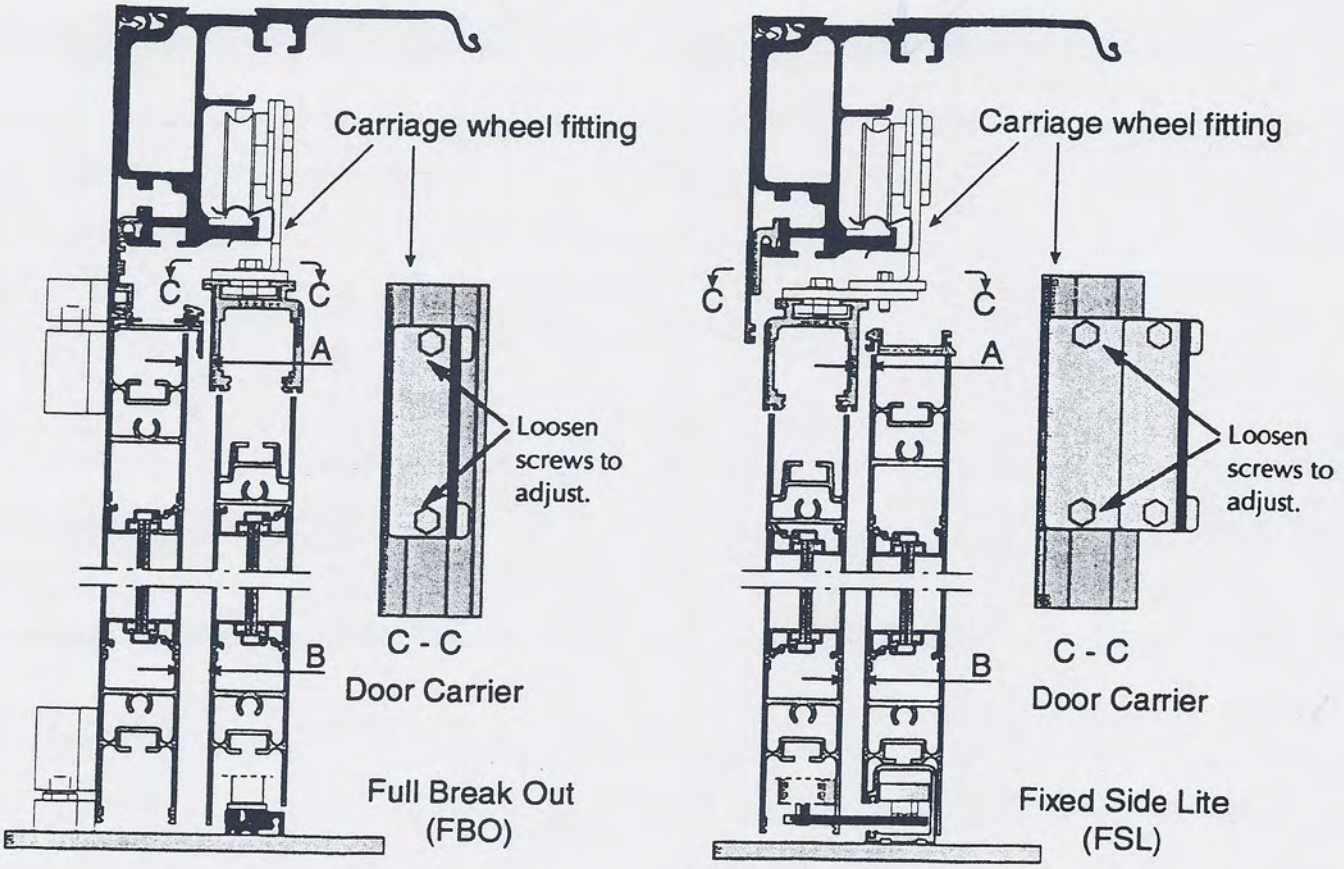
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Depth adjustment

1. The distance A, between the top of the door leaf and the fixed sidelite, is to be adjusted by loosening the two screws connecting the carriage wheel fitting to the door carrier. The holes in the carriage wheel fitting are slotted and the door leaf/carrier can be adjusted ± 3/16" (3 mm) left to right.

   Note! Make sure that the carriage wheel fitting is completely parallel with the door carrier.
2. The distance B is to be adjusted when placing the pin guide track or 'G' channel bottom guide during installation, and should not require changes.

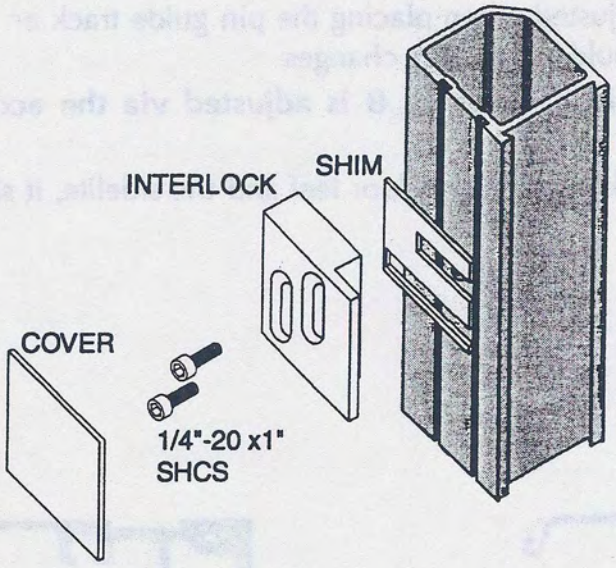
   Note! For non-panic guides, distance B is adjusted via the eccentric nut on the floor guide (see page 17).
3. If weather stripping is used between the door leaf and the sidelite, it should seal equally for the total vertical height.



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Interlocks for FBO units

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



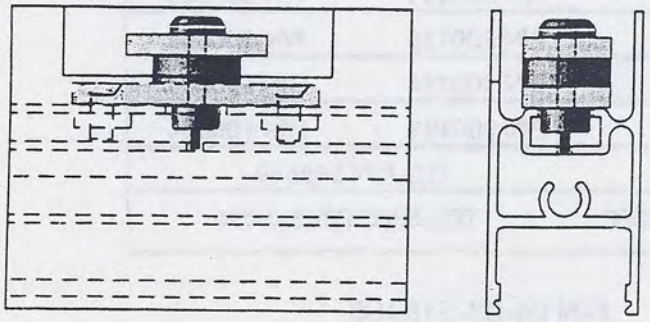
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Adjusting ball catches

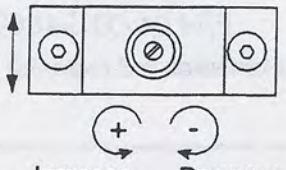
Check that the sidelite door assembly engages properly with the sidelite header assembly. Both can be repositioned slightly if necessary. Adjust the tension on the ballcatch by turning the adjustment screw, as required by local egress codes. Tension is not to exceed 50 lbs. breakout force; see page 73 for ANSI/BHMA standards.

A magnetic panic breakout 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(es) are located over the magnet in the lower edge of the support beam. The magnet location can be field adjusted by loosening the bracket mounting screw. See page 47 or 56 to wire the breakout switches.

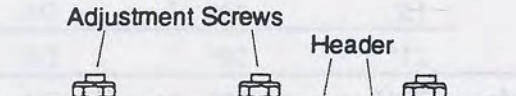
Sidelite Breakout Ballcatch



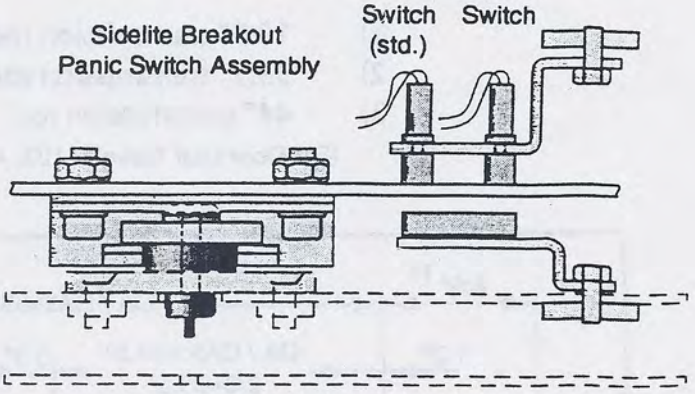
Sidelite Breakout Ballcatch
Ballcatch Door Assembly



Increase Decrease
Adjust Breakout Force

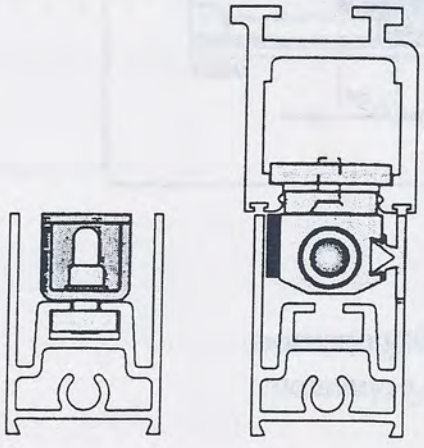


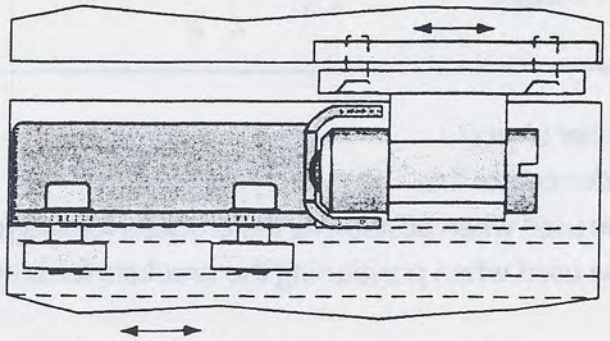
Sidelite Breakout Ballcatch
Header Assembly



Sidelite Breakout
Panic Switch Assembly

Active Leaf Ballcatch







Inner screw adjusts
breakout force

Outer screw adjusts
ball/socket
engagement

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Drive units

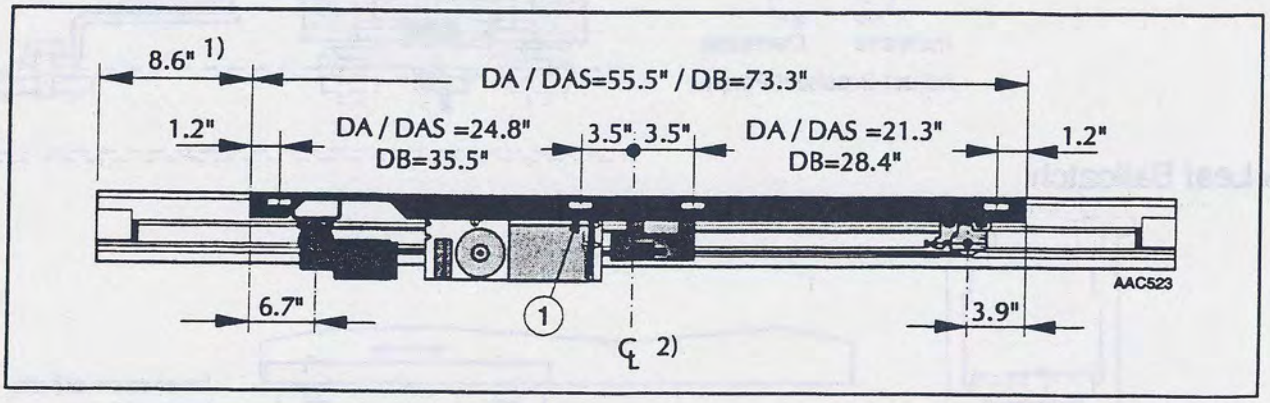
There are three types of drive module: DA, DAS, and DB. The DAS is a special short-stroke module. Module applications are shown in the table below. Part numbers under "Extra Wide" are to be used in addition to standard DA part numbers listed in the table.

Each controller (CUD-9, CUJ-9) has a special version (designated CUD-9S or CUJ-9S) for the DAS module. A standard controller can be altered to the special version by changing the processor - see page 82.

Besam	Max OFW	Max Door Leaf Travel	Drive module	/w/ CUD-9 (S)	/w/ CUJ-9 (S)
Bi-Part	9′	< 26-5/8″ [2]	DAS	P/N 500329	P/N 500331
	15′	39″ [2]	DA	P/N 500194	P/N 500063
	21′	59″ [1]	DB	P/N 500195	P/N 500064
Single	7′ 6″	39″ [2]	DA	P/N 500194	P/N 500063
Slide	10′ 6″	59″ [1]	DB	P/N 500195	P/N 500064
Extra	12′ 9″	70″ [2]	DA + TED	TED P/N 549849	
Wide	20′ 9″	118″ [3]	DA + TED-SPEC	TED-SPEC P/N 549850	

1) 10.5″ transmission rod P/N 04-03-548468
2) 33.5″ transmission rod P/N 04-03-548467
3) 44″ transmission rod P/N 04-03-548694

(For Door Leaf Travel > 102, 44″ transmission rod required)



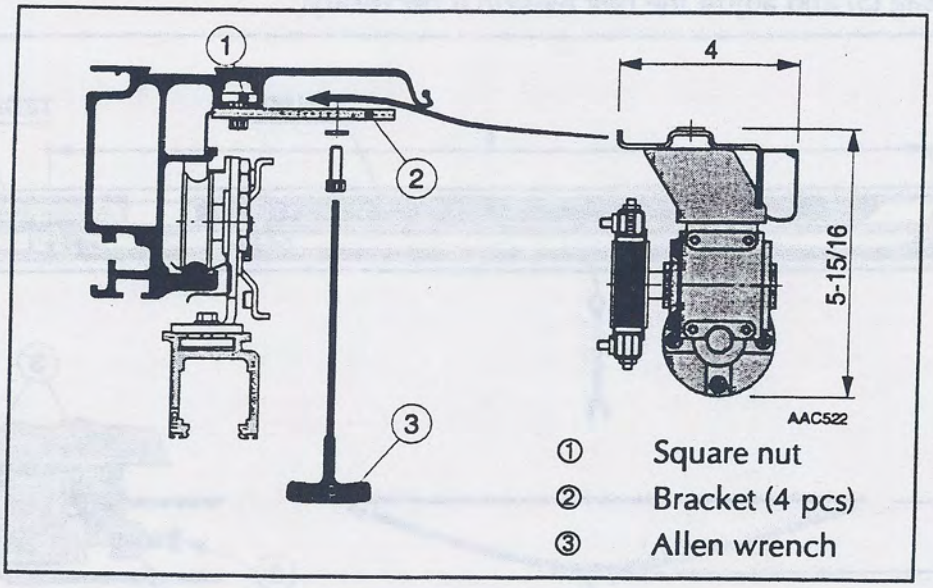
① Bracket (4 pcs)
℄ header center line
1) To be used when positioning the brackets for **single-sliding** operators
2) To be used when positioning the brackets for **bi-parting** operators

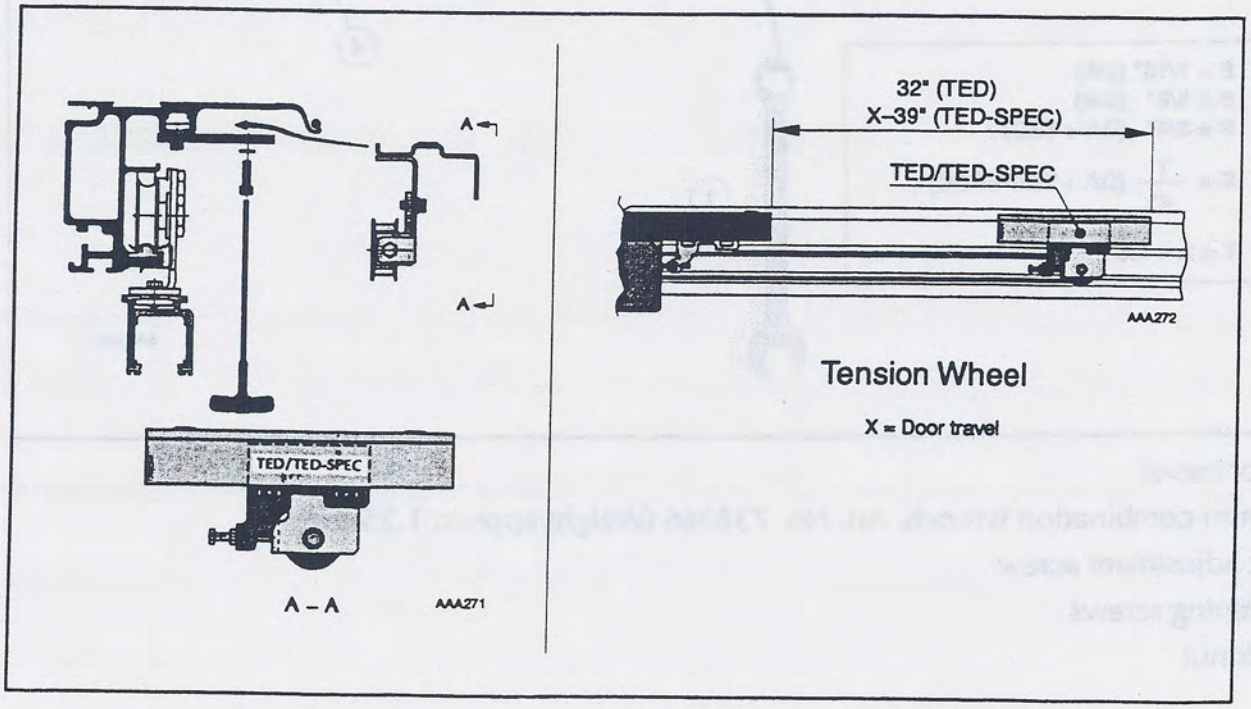
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Installation of drive units

Hang the drive unit on the four brackets and fasten it with screws and washers with a metric Allen wrench.

If the accessory device TED/TED-SPEC is used, the tension wheel fitting has to be removed from the drive module and mounted in the TED/TED-SPEC bracket. The whole unit with a new longer tooth belt should then be fitted to the support beam.



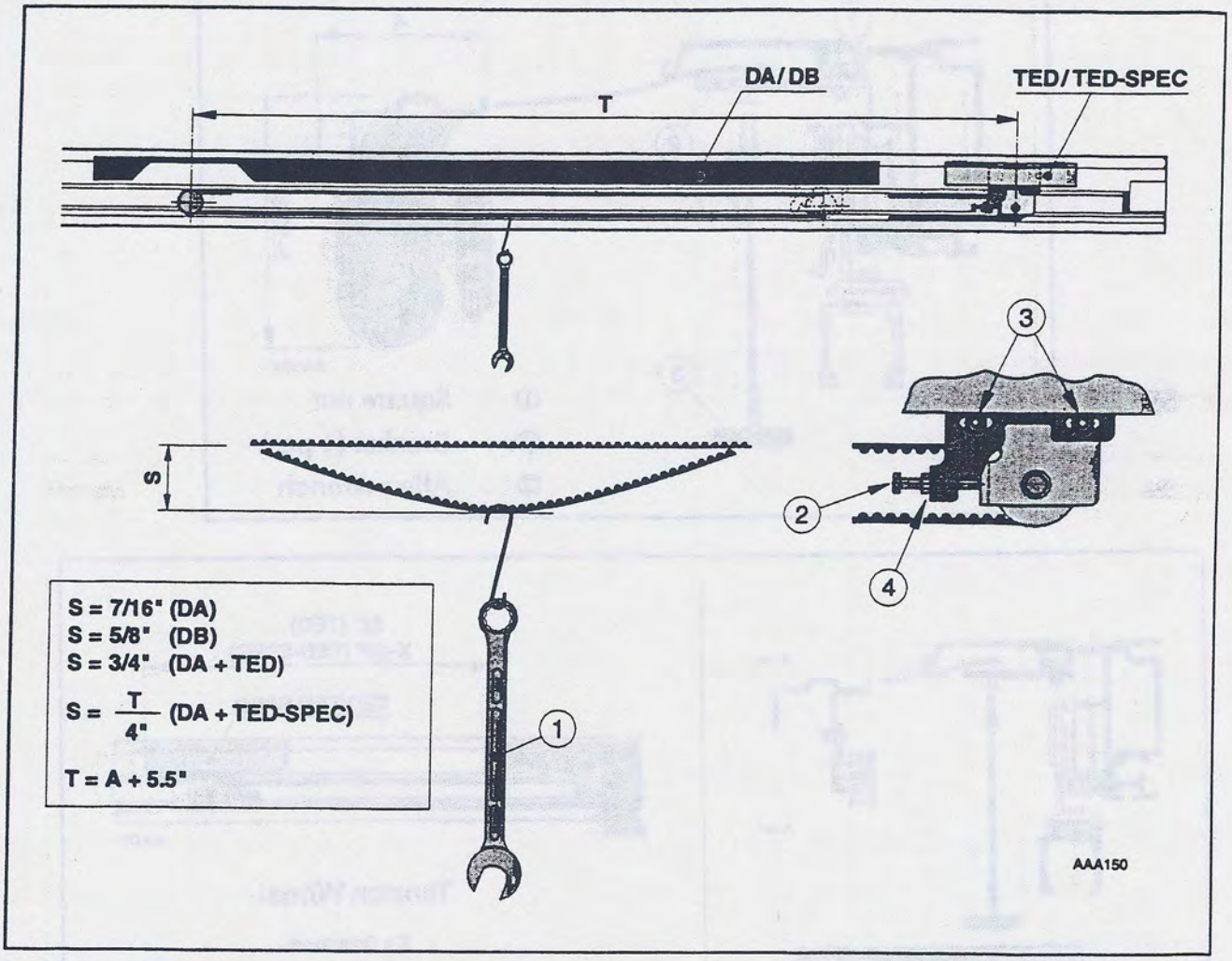


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Checking and adjusting the belt tension

Correct belt tension is checked in the following way:

1: Dismantle the lower transmission rod (applies only to Besam AMD-2).
2: Make a hook of a steel wire, or similar, to hang around the belt.
3: Hang, by means of the hook, the 28 mm combination wrench used for adjustment of the carriage and stabilizing wheels, exactly in the middle of the belt.
4: Measure the sag (S) and adjust the belt tension if necessary.



A= Door travel
① 28 mm combination wrench. Art. No. 738366 (Weight approx. 1.25 lb.)
② Belt adjustment screw
③ Fastening screws
④ Lock nut

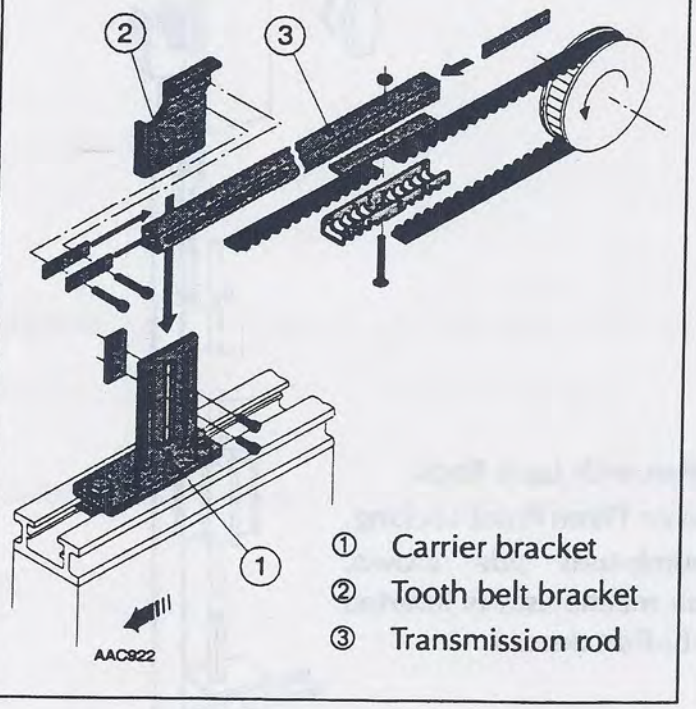
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Attachment of tooth belt brackets and transmission rod(s)

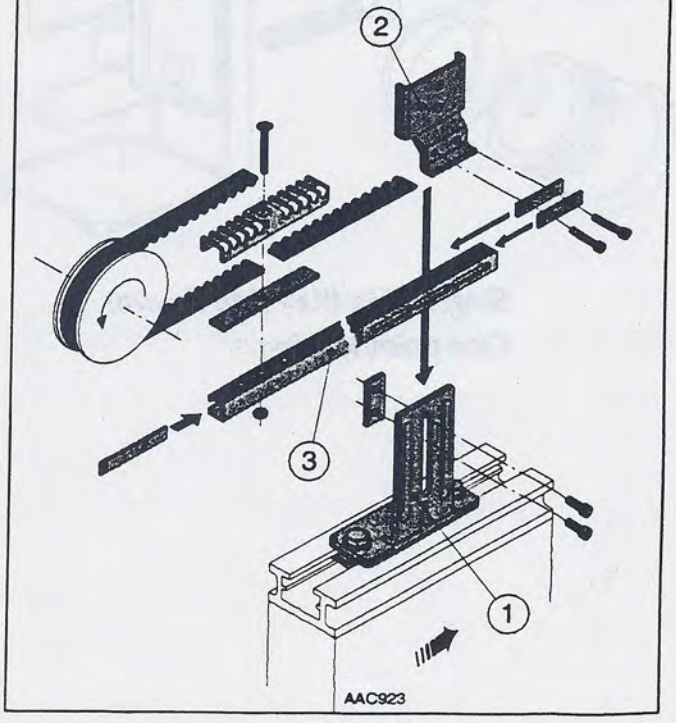
When standard operator sizes are shipped, one end of the transmission rod is screwed and the other end strapped to the tooth belt.

1: Cut the shipping strap open and pull the tooth belt so that the transmission rod is accessible.
2: Attach the two rectangular washers to the tooth belt bracket, using two Allen screws.
3: Slide the unit into the transmission rod with one rectangular washer inside and the other one outside the rod.
4: Adjust the unit so that the screws are accessible through the slotted holes in the rod. Do not tighten the screws firmly, because of later adjustment.
5: **Bi-parting operators:** Push the doors together and slide them until their meeting point is aligned with the center of the daylight opening.
Single-sliding operators: Slide the door to the closed position.
6: Pull the tooth belt until the tooth belt bracket is just opposite the carrier bracket. Adjust the transmission rod if necessary and tighten the Allen screws through the slotted hole(s).
7: Fix the tooth belt bracket to the carrier bracket by using two screws and one rectangular nut. Adjust so that the upper and lower parts of the tooth belt are parallel and tighten the screws.
8: Check that the transmission rod, viewed from the side, is completely in line with the tooth belt. If necessary adjust the carrier bracket depthwise.

Left-opening door leaf (single & bi-part)

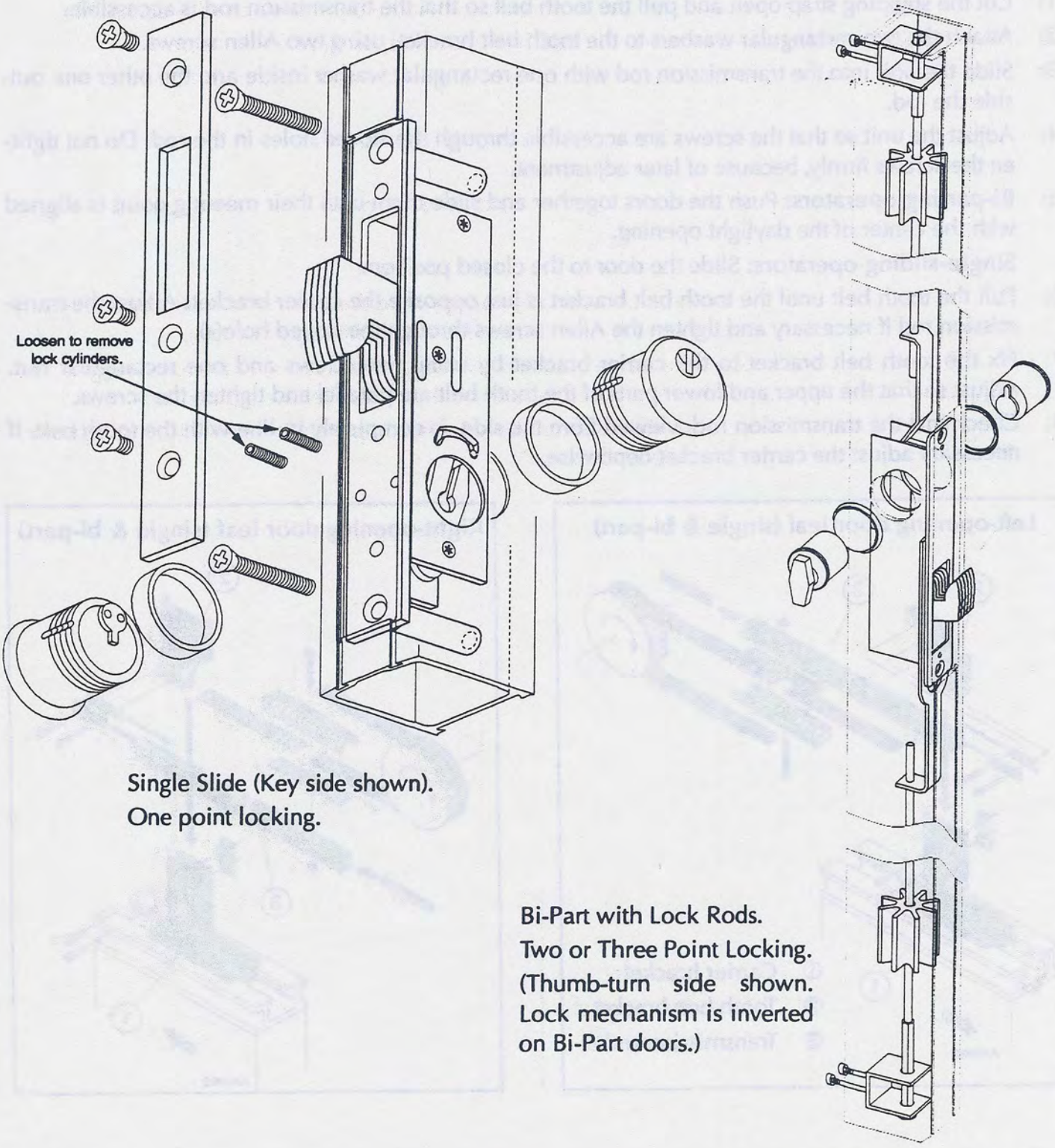


Right-opening door leaf (single & bi-part)



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Manual lock system adjustments and re-keying



Single Slide (Key side shown).
One point locking.

Bi-Part with Lock Rods.
Two or Three Point Locking.
(Thumb-turn side shown. Lock mechanism is inverted on Bi-Part doors.)

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Installing the cover

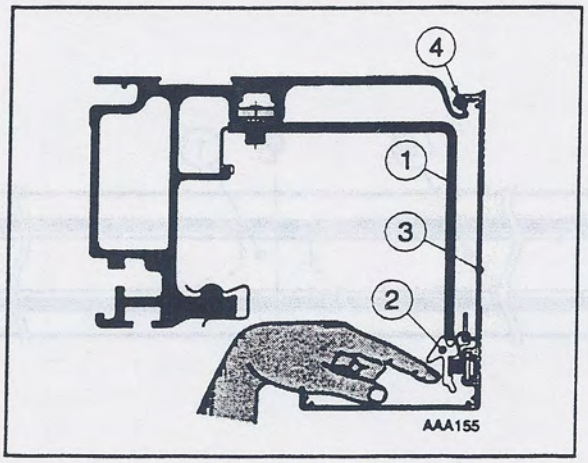
1: Two cover brackets are always mounted in the header. For bi-parting operators with door travel > 78-3/4", a third cover bracket is mounted in the drive unit in the middle of the door opening

2: The cover is fixed by means of pre-mounted spring-loaded cover locks. The cover locks are slid over a special flange in the lower part of the cover and positioned as indicated below.

3: Fit the upper part of the cover into the hinge and push it in against the cover brackets.

4: The cover locks will engage around the lower part of the brackets (see below).

5: Connect the ground cable to the cover and connect the program selector, if installed.



① Cover bracket
② Cover lock
③ Cover
④ Plastic tube

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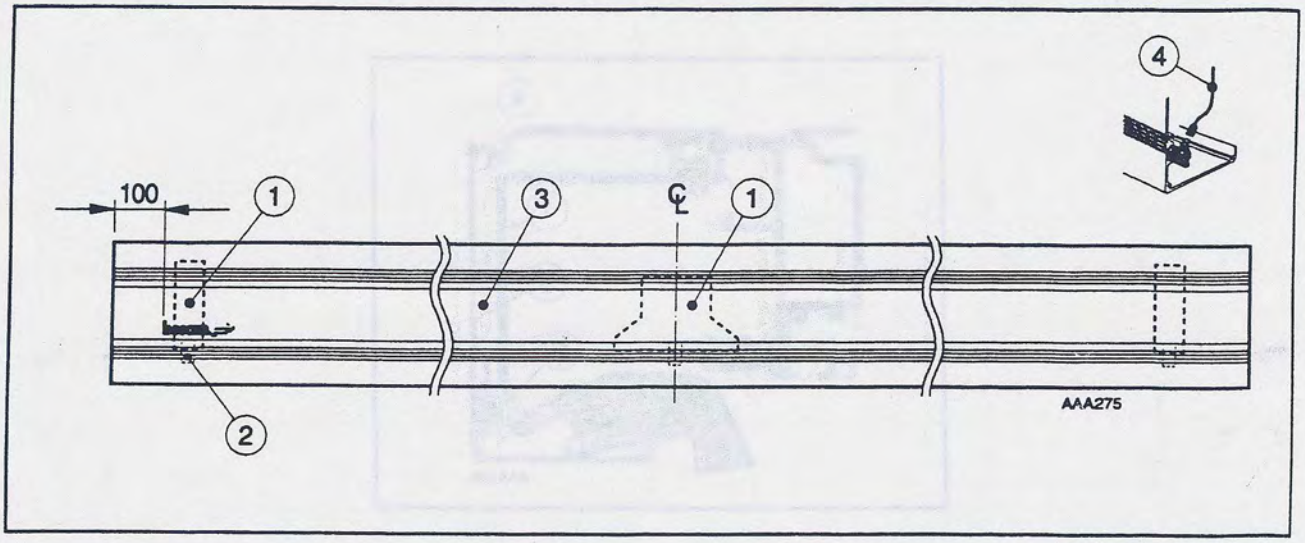
Opening / Removing The Cover

1: Set the program selector (if fitted) to the "open" position and close the doors manually to half open position.

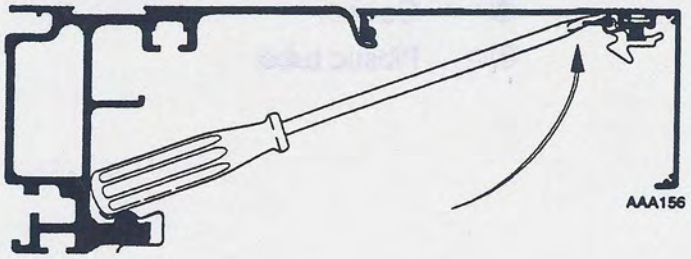
2: Reach into the bottom of the cover and push on the cover lock. At the same time pull the lower part of the cover outward until the cover is released from the cover lock. Repeat this procedure for all cover locks (two or three).

3: Disconnect the ground cable and the program selector, if necessary.

4: Pull the bottom of the cover out about 10°. The cover can now be lifted off at the hinge joint or swung fully out, with a support (such as a screwdriver) used to keep it open.



① Cover bracket (2 or 3 pcs)
② Cover lock (2 or 3 pcs)
③ Cover
④ Ground cable



Caution: Be careful when using tool to prop cover.

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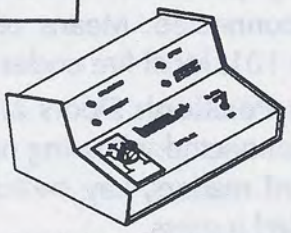
PowerGlide AMD II Installation – Access Control

Besam access control packages C&D allow remote monitoring and control of an automatic sliding door.

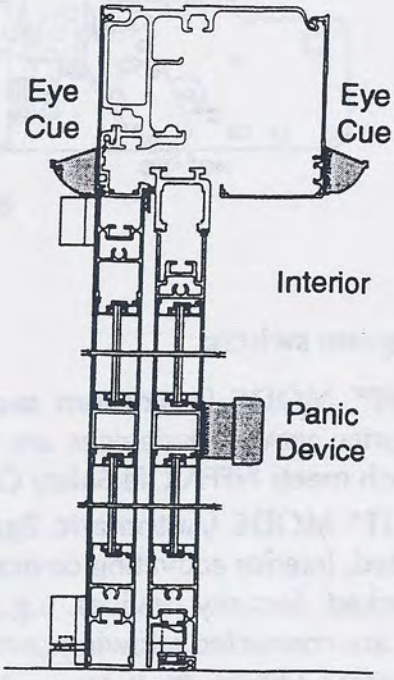
The maximum security system (Package "D") consists of a remote access control panel, program switch (located on panel), tamper proof panic exit device, fail secure electronic carriage lock, hydraulic door closers, an Eye-Cue motion detector system, and battery pack. For bi-part packages: carriage lock mechanically secures both active leaves to each other.

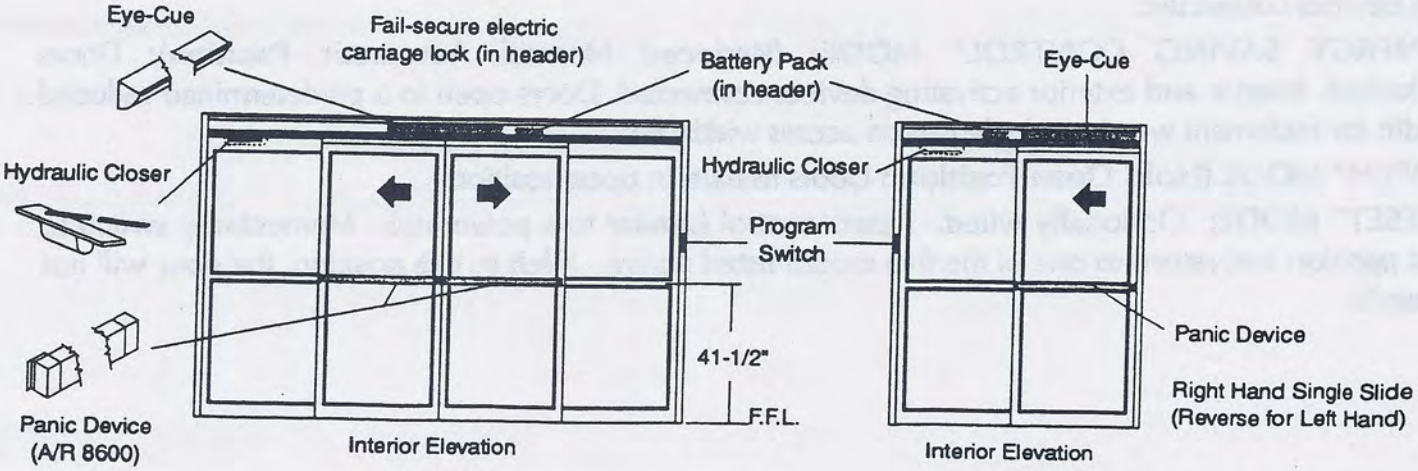
The panic device is an Adams Rite 8600 mounted in line with the muntin of active door leaf(s) with external key access. Door(s) swing out only in direction of egress when panic device is pressed. Panic devices guard against the door(s) being pulled open from the exterior side.

	AVAILABLE OPTIONS						
	Two Position Program Switch	Multi Position Program Switch	Panic Exit Device	Electronic Carriage Lock	Hydraulic Door Closers	Remote Access Control Panel	Battery Pack
Package A	Jamb Mounted		X	X			
Package B		Jamb Mounted	X	X	X		
Package C		(On Remote Panel)	X	X	X	X	
Package D		(On Remote Panel)	X	X	X	X	X



Remote Access Control Panel



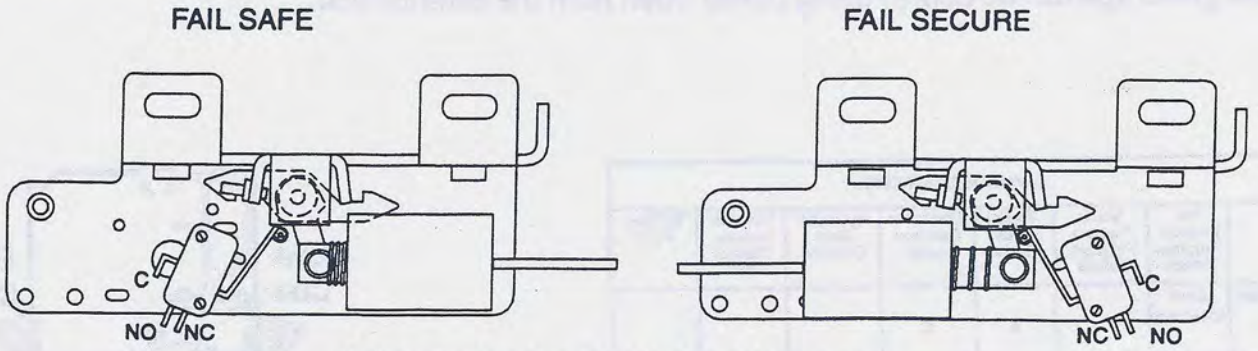


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PowerGlide AMD II Installation – Access Control

Access Control functions

During any power interruption the fail-secure lock is de-energized and locked, securing door(s) in closed position. The battery pack allows doors to close and lock after power has been cut to the package. Hydraulic door closers mounted in each door leaf returns door(s) to a closed and latched position after a panic breakout. The fail secure lock is standard; A fail safe lock may be ordered, or reconfigured from the fail secure lock



Solenoid and sensor switch are reversed.

Program switch:

"OFF" MODE (maximum security position): doors are locked. All activating devices including security activating devices are disconnected. Means of egress accomplished by panic exit device which meets NFPA Life Safety Code 101, local fire codes and ANSI A156.10 - 1991.

"EXIT" MODE (Automatic Egress Position): Doors are locked. Exterior activating devices disconnected. Interior activating devices connected, allowing normal automatic egress after which doors are relocked. Security devices, e.g., card readers, key switches, remote control panel activating switch, etc. are connected allowing controlled ingress.

"AUTO" MODE (Full Normal Automatic Position): Doors unlocked. Interior and exterior activating devices connected.

"ENERGY SAVING CONTROL" MODE: (Reduced Normal Automatic Position): Doors unlocked. Interior and exterior activating devices connected. Doors open to a predetermined reduced width for inclement weather, single person access width, etc.

"OPEN" MODE (Hold Open Position): Doors remain in open position.

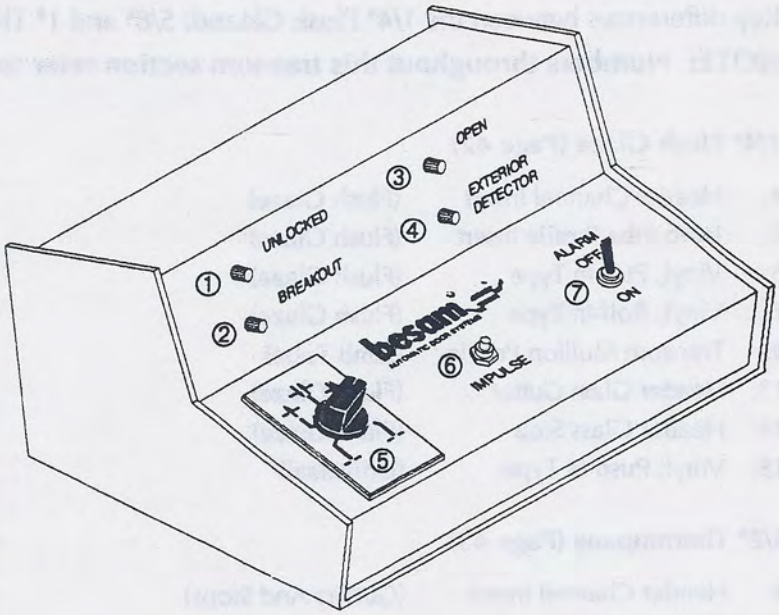
"RESET" MODE: Optionally wired. Resets control (similar to a power-up). Momentarily switch to this position and return to one of the five modes listed above. If left in this position, the door will not operate.

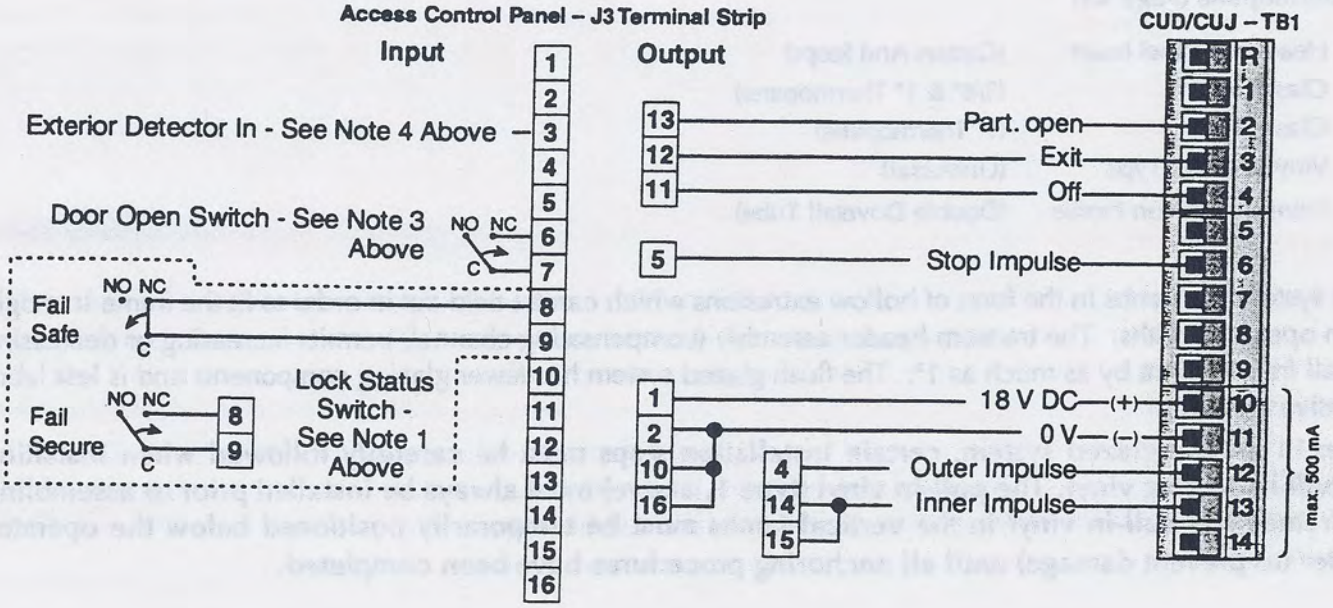
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Access Control Panel

Control Panel functions

1. Doors unlocked, green light "on."
2. Sliding door or panels broken out, red light "on."
3. Sliding door open, red light "on".
4. Exterior detector energized to observe motion only or loitering, program switch is in "off" or "exit" mode, red light "on."
5. Program switch - see page 36.
6. Impulse button - activates doors when engaged.
7. Alarm on-off - toggle switch for the audio alarm. When ON, the alarm sounds when any light is on.





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PowerGlide AMD II Installation – Transom

Transoms are supplied as standard with a flush glazing system for 1/4" glass (page 42). This system has no visible glass stops in the vertical and transom header channel extruded elements.

Alternate systems are available (pages 43-44) with readily visible snap-in gutter members and different glass stops with push-in vinyl to accept either 5/8" or 1" Thermopane lites.

Key differences between the 1/4" Flush Glazed, 5/8" and 1" Thermopane units are described below.

NOTE: Numbers throughout this transom section refer to diagrams on pages 42-44.

1/4" Flush Glaze (Page 42)

4:	Header Channel Insert	(Flush Glaze)
5:	Jamb tube Profile Insert	(Flush Glaze)
6:	Vinyl, Pull-In Type	(Flush Glaze)
7:	Vinyl, Roll-In Type	(Flush Glaze)
9:	Transom Mullion Profile	(Jamb Tube)
13:	Header Glass Gutter	(Flush Glaze)
14:	Header Glass Stop	(Flush Glaze)
15:	Vinyl, Push In Type	(Universal)

5/8" Thermopane (Page 43)

4:	Header Channel Insert	(Gutters And Stops)
5:	Glass Gutter	(5/8" & 1" Thermopane)
6:	Glass Stop	(5/8" Thermopane)
7:	Vinyl, Push In Type	(Universal)
9:	Transom Mullion Profile	(Double Dovetail Tube)

1" Thermopane (Page 44)

4:	Header Channel Insert	(Gutters And Stops)
5:	Glass Gutter	(5/8" & 1" Thermopane)
6:	Glass Stop	(1" Thermopane)
7:	Vinyl, Push In Type	(Universal)
9:	Transom Mullion Profile	(Double Dovetail Tube)

GLAZING VINYLS



Flush Glaze Only

1: Pull-In Vinyl – installed **prior** to frame assembly.

2: Roll-In Vinyl – installed after setting glass.

Universal

3: Push-In Vinyl – gutter and stop installed on top of operator header for flush glaze.

Each system has jambs in the form of hollow extrusions which can be field cut in order to fit the frame into tight finish opening widths. The transom header assembly (compensating channel) permits increasing or decreasing overall frame height by as much as 1". The flush glazed system has fewer glazing components and is less labor intensive to install.

Note: In a flush glazed system, certain installation steps must be carefully followed when installing the pull in glazing vinyl. The pull-in vinyl (type 1, above) must always be installed prior to assembling the frame. The pull-in vinyl in the vertical jambs must be temporarily positioned below the operator header (to prevent damage) until all anchoring procedures have been completed.

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PowerGlide AMD II Installation – Transom

General preparation

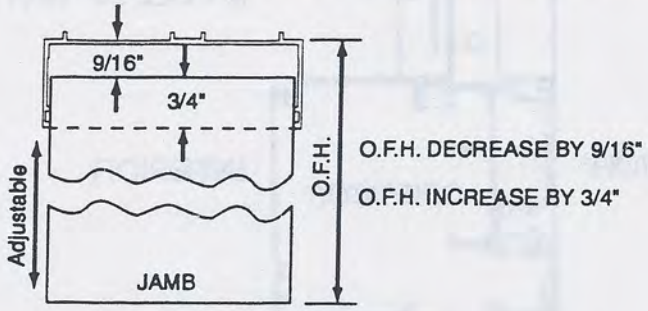
Carry out site inspection (see page 12) Establish the overall frame width (OFW) and overall frame height (OFH). Check that all components are available.

Unpackage transom header channel (3) which is the same length as the OFW and check fit at various points in the opening height. If the header channel fits properly, the sliding door package will fit also.

Note: If the rough opening is determined to be short, one or both jambs (hollow) may be carefully field cut (maximum 3/4" each jamb) as desired. Be certain to cut header channel also.

Establish the high point of the finished floor (FFL) and the finished opening height (FOH). Lay the header channel, unexposed side down, across the finished opening. Shim, level and measure the distance from the underside of the channel to the underside of the finished opening header. This measurement is the finished opening height (FOH) and can be no larger than 3/4" or smaller than 5/16" of the established OFH.

The transom header channel is adjustable (see below) to allow for differences between the FOH and the OFH.

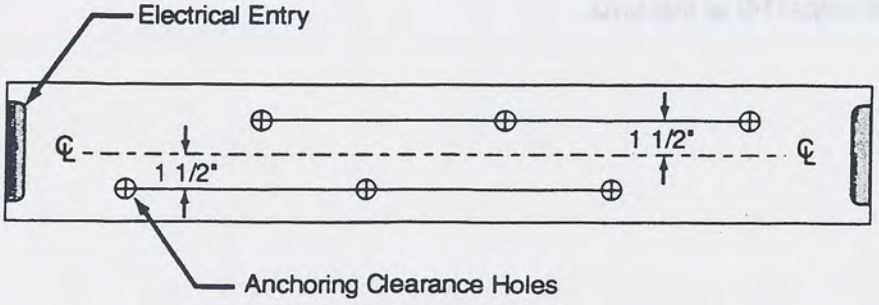


Frame preparation

Position the right and left jambs in their proper position in the finished opening. Mark the desired anchoring points. It's important that the jambs are shimmed to the established finished floor height before marking. Drill necessary anchoring clearance holes. Be certain to countersink all anchoring holes located in the transom area. This will help to prevent glass breakage when setting the transom glass. Due to clearances, the countersink tool must be slid down from the top of the jamb tubes.

Reposition both prepped jambs to their permanent position in the finished opening, shim jambs to the finished floor height, then plumb, level and drill (see page 15 for guidelines). Use jamb anchoring notes as template for appropriate anchoring locations. Remove jambs, complete drilling procedure and install anchoring shields if required.

Carefully remove header channel inserts (4). Drill anchoring clearance holes 1-1/2" from the center line of the header channel (see below).



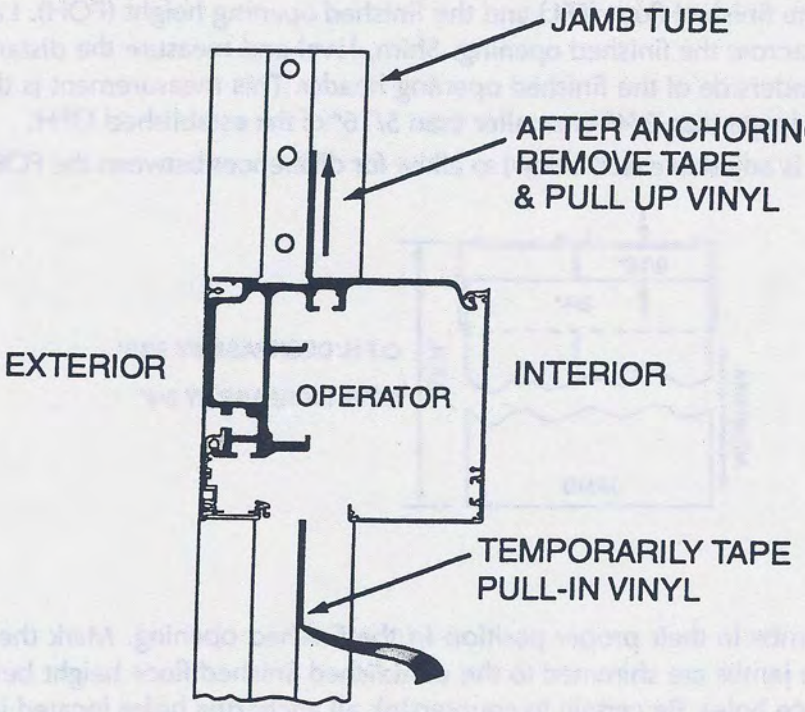
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PowerGlide AMD II Installation – Transom

***IMPORTANT* (Flush Glaze System)**

Install pull-in vinyl (6) to the interior side of all channel inserts (4) and all transom muillions (9).

Cut two lengths of pull-in vinyl (6) to fit between top of jamb tubes (1) to the top of the operator. Install vinyl (6) to the interior side and tape temporarily to prevent damage in the operator area of jamb tube. See diagram below. Note: Vinyl will be pulled up into transom area after all anchoring procedures have been completed.



Secure both jambs (1) to the operator header. Check to see that vinyl (6) is free and can be easily repositioned into transom area.

Install into the top of operator header and tight to jamb tube (1) the appropriate length of snap-in gutter member (13). This will correctly locate the transom mullion (9) and proper positioning of transom mullion clip (10). Secure mullion clip with mounting screws (11).

Install transom mullion(s) (9) and remaining gutter members. Push-in vinyl (15) can be installed into all gutter members (13) and glass stops (14) at this time.

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PowerGlide AMD II Installation – Transom

Setting the frame

Install transom header channel (3) by carefully sliding it over and completely down on all transom verticals. Position frame in its correct position (pre-drilled anchoring holes must align) in the finished opening. Shim jambs in the operator area until frame is centered and secured in the finished opening. Check level of operator.

Plumb and secure one jamb. Measure OFW at the operator height, shim and secure opposite jamb at established OFW measurement. Measure clearance, at several points, between the finished opening header (see fig. 6) and the top of the header channel (3). Measurement must be 1" or smaller and finished opening header must be level to within 1/4". Perform the following header channel adjustments according to conditions.

Clearance 1" or less – Push header channel (3) tight to opening header and secure.

Clearance 1-1/8" or greater – Shim between header channel (3) and header opening and secure.

Out of level – If more than 1/4", shim header channel (3), level and secure.

Install header channel inserts (4) and secure verticals to channel with self-tapping screws (8). **Note: Be certain inserts have pull-in vinyl (6) installed and positioned to interior.**

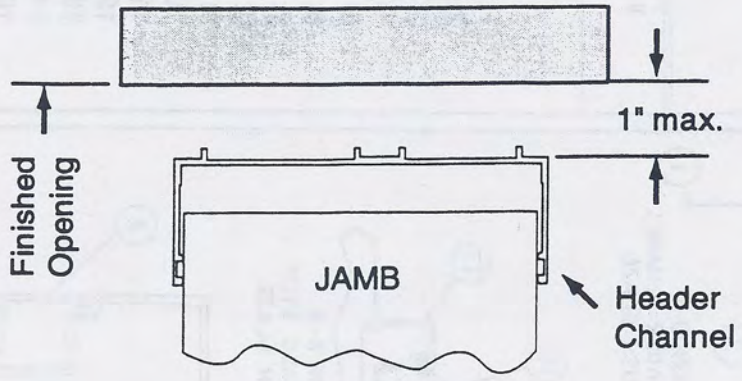
Measure transom glass requirements (Flush Glaze System Only):

Width = daylight opening plus 3/4".

Height = daylight plus 9/16".

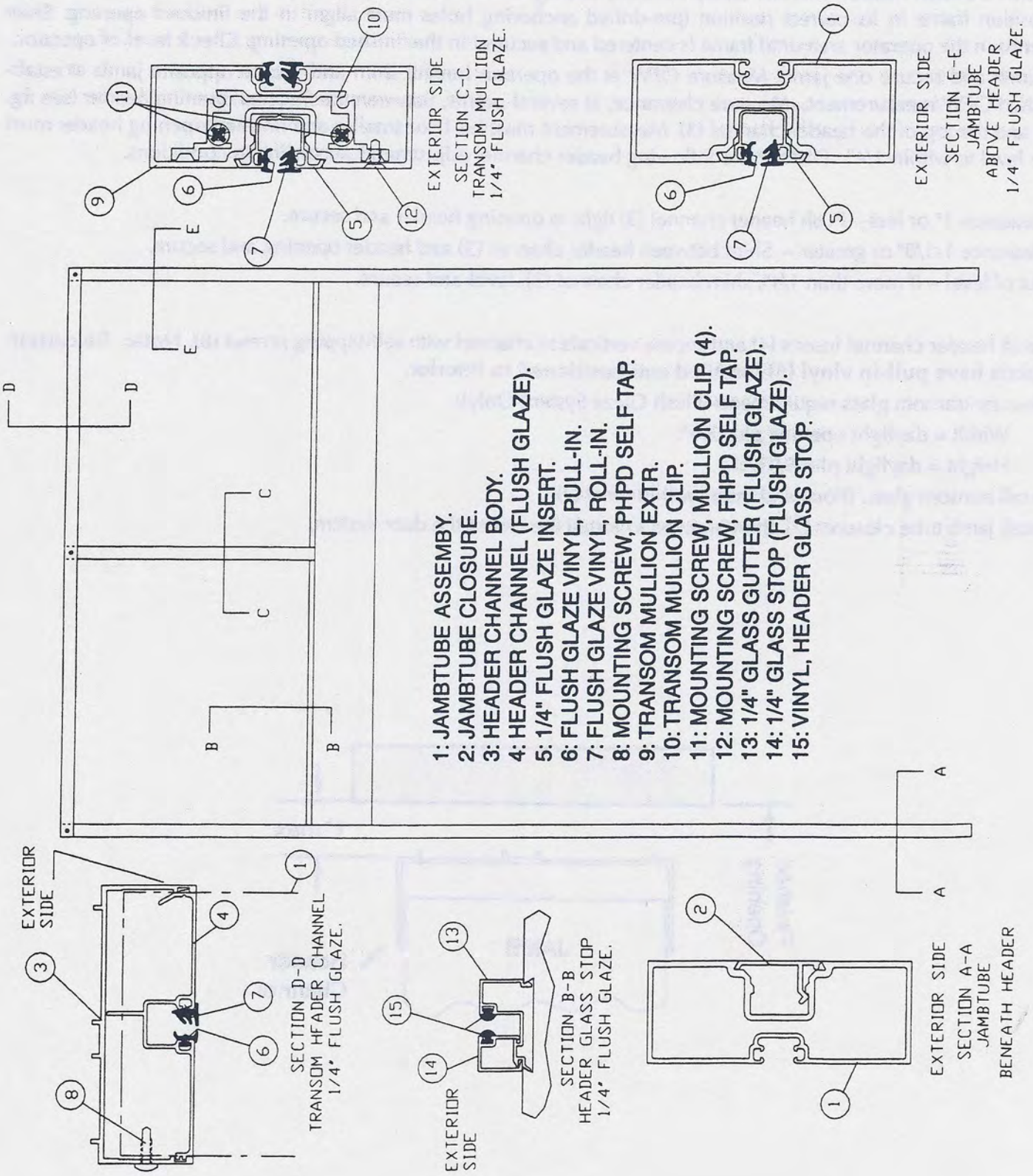
Install transom glass. Block and install roll-in vinyl (7).

Install jamb tube closures (2), then proceed to install the rest of the door system.



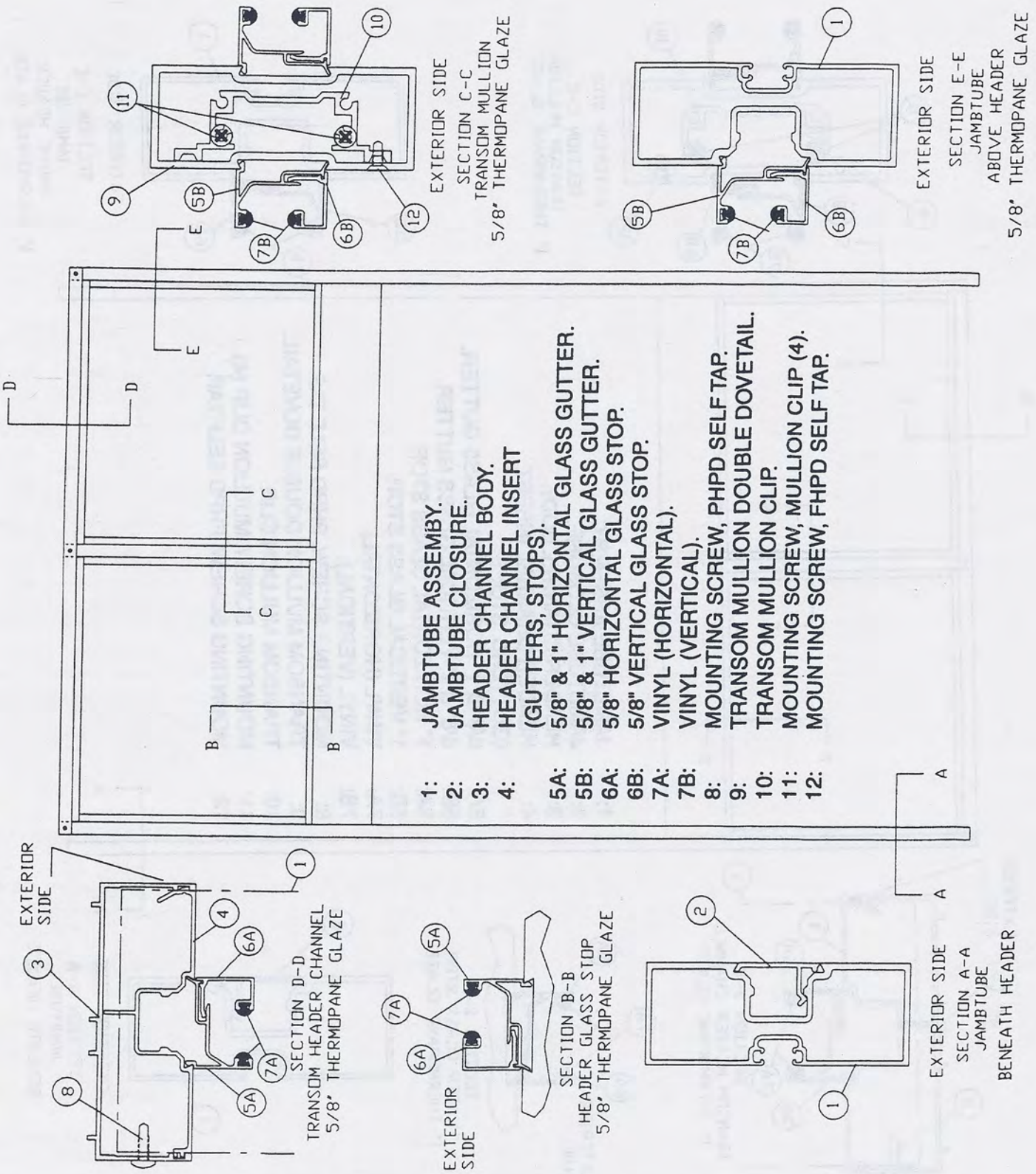
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TRANSOM SYSTEM: 1/4" FLUSH GLAZE



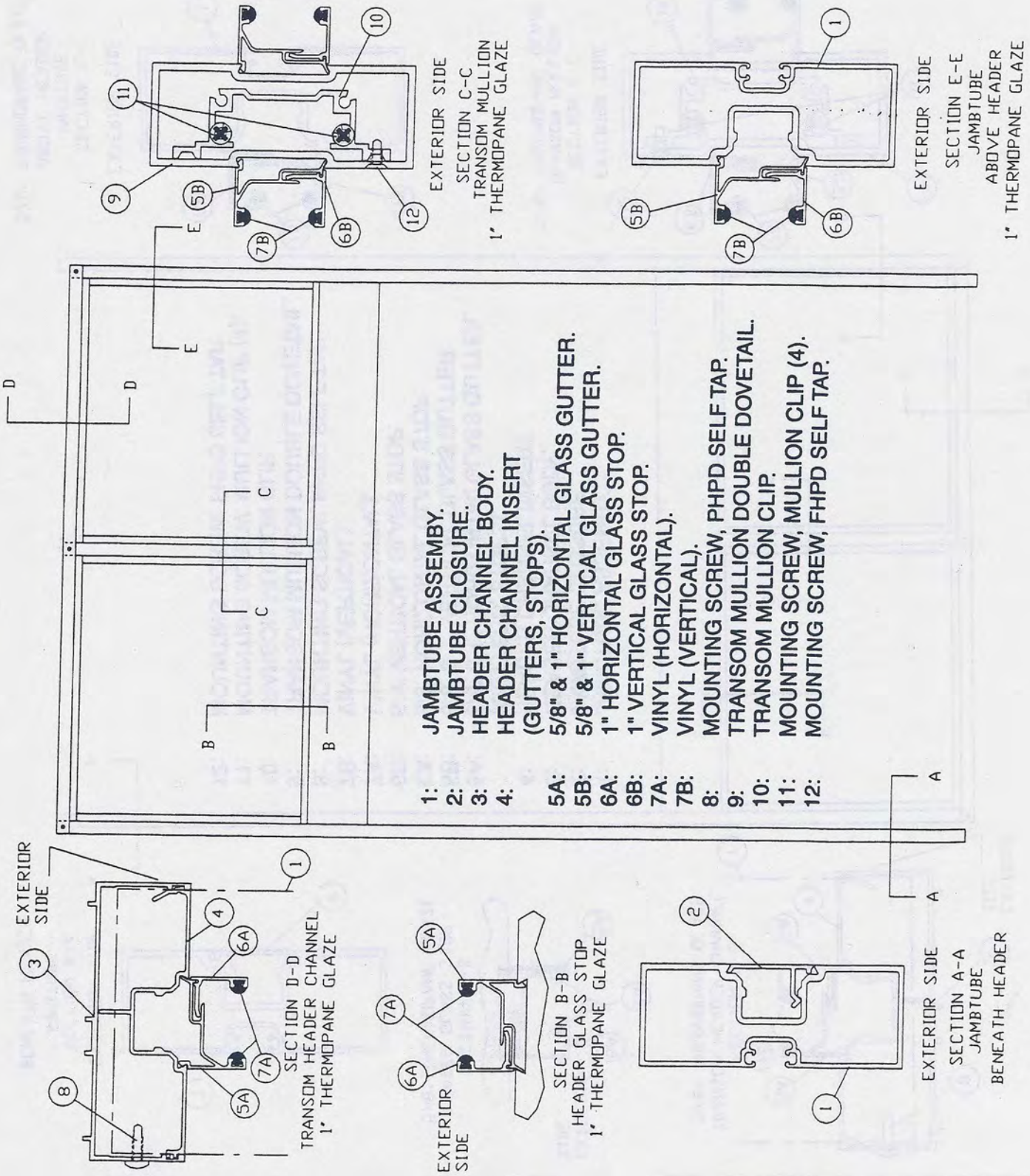
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TRANSOM SYSTEM: 5/8" THERMOPANE GLAZE



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TRANSOM SYSTEM: 1" THERMOPANE GLAZE



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Electrical connections

CAUTION!

During any work with the electrical connections the

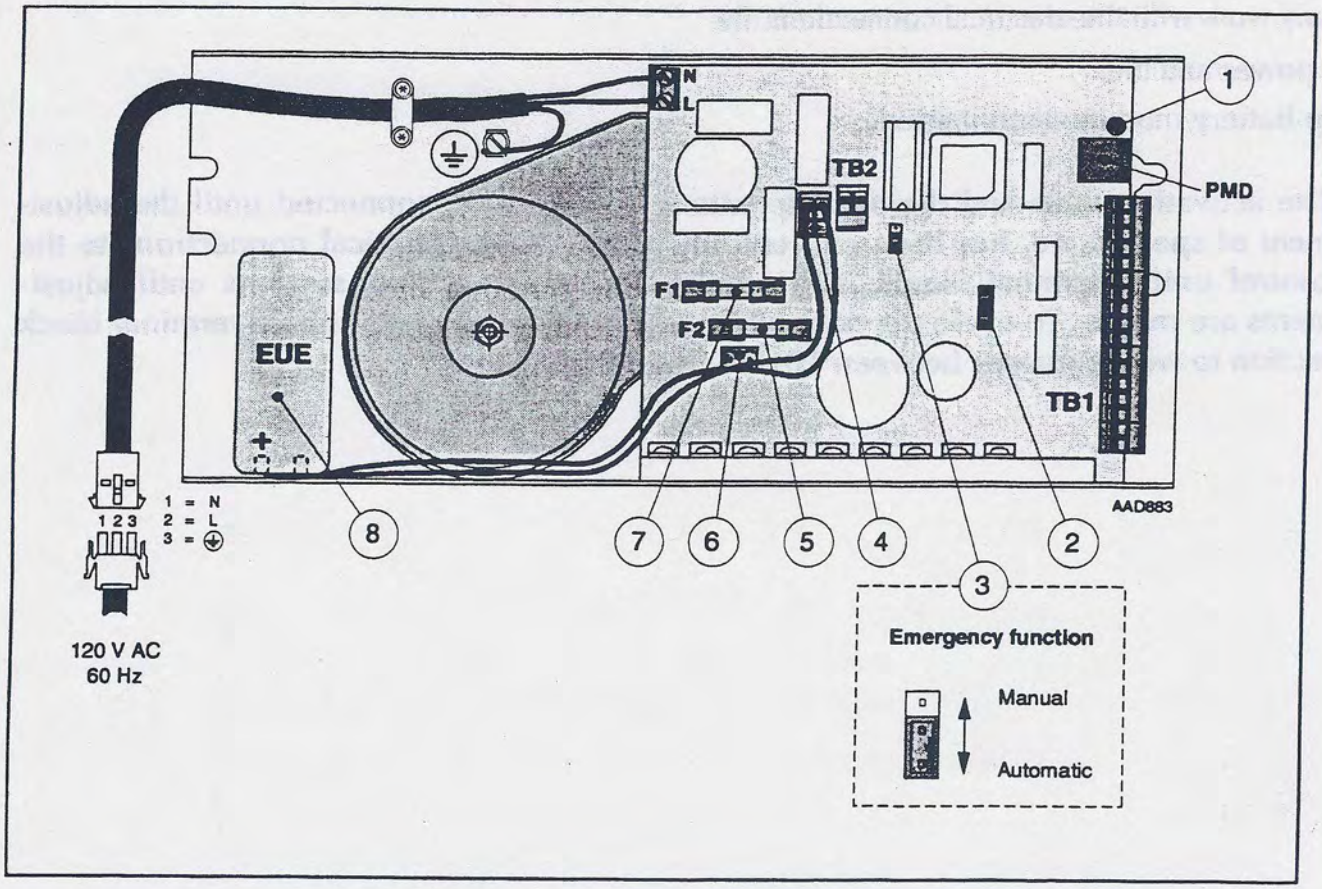
- **mains power** and the
- **backup battery** must be disconnected.

Note! The activation units and the backup battery are not to be connected until the adjustment of speeds, etc. has been carried out. (Tip: Make electrical connections to the control unit's terminal blocks, and unplug the terminal block sections until adjustments are made. To cycle the door while adjusting speeds, use a spare terminal block section to wire a jumper between TB1-11 and TB1-13)

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Control Unit – CUD-9 (CUD-9S)

Connection of units and accessories - CUD-9, PMD programmable



① LED; Power on = Fixed light
Error indication = Flashing light

② Connector for revolution counter

③ Selection of automatic or manual emergency function

④ Connector for emergency battery pack

⑤ Control fuse 2.0 Amp (F2)

⑥ Connector for motor

⑦ Motor fuse 5.0 Amp (F1)

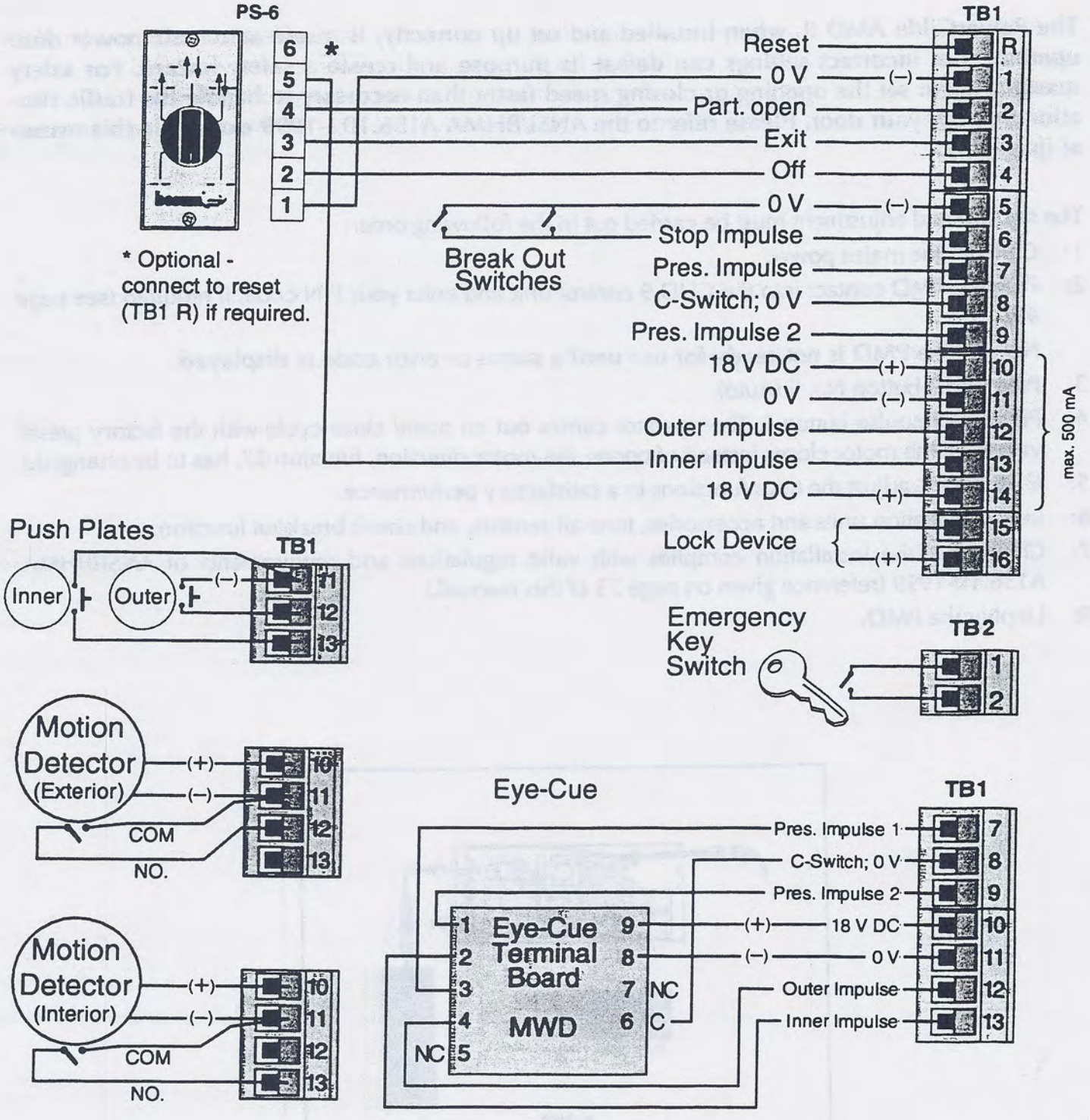
⑧ Emergency unit (Battery Pack - Optional)

TB1/TB2 = Terminal blocks

Note: All instructions in this manual for the CUD-9 controller are valid for the short stroke version, CUD-9S.

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Wiring The CUD-9 (CUD-9S)



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Adjusting The CUD-9 (CUD-9S)

CAUTION!

The PowerGlide AMD II, when installed and set up correctly, is a safe automatic power door operator, but incorrect settings can defeat its purpose and create a safety hazard. For safety reasons, never set the opening or closing speed faster than necessary to handle the traffic situation through your door. Please refer to the ANSI/BHMA A156.10 - 1999 excerpt in this manual (page 73).

The start-up and adjustment must be carried out in the following order:

1: Connect the mains power.

2: Plug the PMD contact into the CUD 9 control unit and enter your PIN code, if required (see page 49).

Note! The PMD is not ready for use until a status or error code is displayed.

3: Press PMD button No. 5 (Auto).

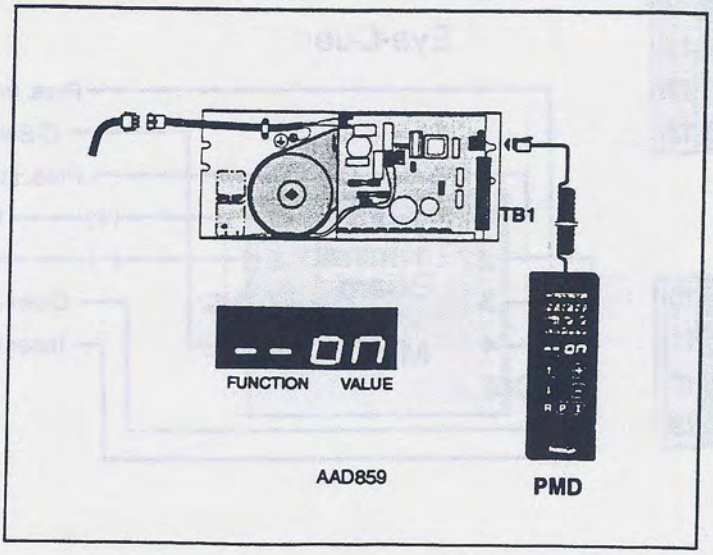
4: Press the impulse button I. The operator carries out an open/ close cycle with the factory preset values. (If the motor closes instead of opens, the motor direction, function 27, has to be changed.)

5: If necessary, adjust the door functions to a satisfactory performance.

6: Install activation units and accessories, tune all sensors, and check breakout function.

7: Check that the installation complies with valid regulations and requirements of ANSI/BHMA A156.10-1999 (reference given on page 73 of this manual.)

8: Unplug the PMD.



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Introduction To PMD

The programming module PMD is used to program the operating values into the control units.
The PMD has a limited service life. A countdown is made at every connection and the remaining "value" is shown on the display. When the figures "-- 71" are shown, the PMD is unusable and must be updated.

PMD models:

PMDB Service life: 2000 connections.
PMDCService life: 400 connections.
PMDE Customer version with restricted use. Service life: 400 connections.

PIN-code

Note: Some older PMDs are factory programmed with the PIN-code "1234". Follow the instructions below with an older unit. PMDs of version 19 or newer do not require a pin code.

1. Connect the PMD to the control unit.
2. **"Pin_"** with a flashing dash will be shown on the display.
3. If no personal PIN-code has been set, enter the factory default code **"1234"**. Every entered digit will be indicated with a dash "_" on the display.

   Note: After five unsuccessful attempts to enter the correct PIN-code the error code "71" will be displayed. This means that the PMD is unusable and must be returned to be updated.
4. Push the button **"P"**.
5. The display will consecutively show:
   a) Type of control unit; e.g. CUD or CUP.
   b) Remaining "value" of the service life.
   c) **"00"**.
   d) Actual status or error code; e.g. **"on"**.

   Note: If status code 10 is displayed for swing doors, check that the correct operator type has been selected under function 15.

The factory pre-programmed PIN-code can be changed to a personal code as follows:

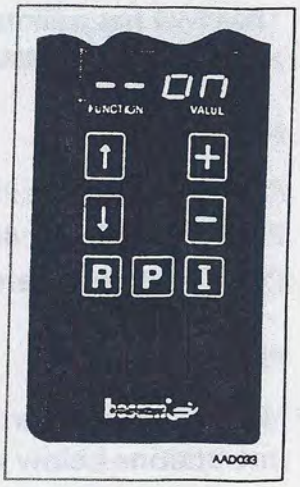
1. Carry out the instructions 1-5 under "PIN-code" above.
2. Select function **"30"**, value **"b"**.
3. Push the button **"P"**.
4. The display will show four flashing dashes **"_ _ _ _"**.
5. Enter your personal code (four digits). Every entered digit will be shown on the display.

   Note: If a wrong digit is entered, disconnect and reconnect the PMD and start from the beginning with the factory pre-programmed PIN-code.
6. Push the button **"P"**.
7. **"Pin_"** with a flashing dash will be shown on the display.
8. Enter your **"personal code"** and push **"P"** once more to confirm that the correct code was entered.

   Note: It is not possible to revert to old codes if you have forgotten the new one. If a mistake was made during the programming the PMD will revert to step 4 ("_ _ _ _").

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PMD – Push Button Set



Function buttons

These buttons are used to set or check* the functions (01-99) for speed, hold open time, monitoring, and so on. The up and down arrow buttons increase and decrease the number by one digit. If the button is held down for more than 1 second, the function number will be increased/decreased every 0.1 second. When the final function (99) has been reached, the digits will roll over to function 01 and start again.

* ***Note! When selecting any of these functions, the last value programmed into the control unit will be displayed, except for function 99, where value 01 will always be displayed.***

Value buttons

These buttons are used to set the value for the selected function. The plus and minus buttons increase and decrease the value by one digit. If the button is held down for more than 1 second, the value will be increased/decreased every 0.1 second. When the end value has been reached the digits will roll over and start again.

Program button

This button is used to program the control unit with the function and value selected on the PMD. To indicate that data have been transferred into the control unit, the display will blank (fractions of a second) and then show the selected digits.

Impulse button

This button is used to give an opening impulse to the operator. If the button is held down, an impulse is given every 0.2 seconds.

Reset button

This button is used to reset the control unit. Hold the button down for about 2 seconds to reset.

Function display

When a FUNCTION button is depressed, the latest function used will be presented on the function display. If no function has been selected previously, the function "01" will be shown. If the FUNCTION and VALUE buttons are not activated for 5 s, the display will show "– –".

Value display

The VALUE display shows the value for the selected function. If the FUNCTION and VALUE buttons are not activated for 5 s, the VALUE display will show the present status or error code for the operator.

Back

The function description card on the back of the PMD is reversible. The **green side** is to be used when adjusting sliding doors and the **blue side** when adjusting swing doors.

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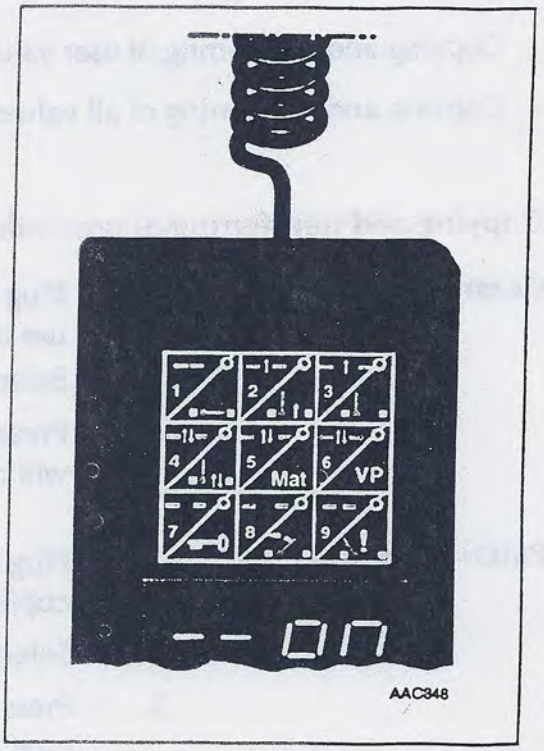
PMD – Program Selection

Program selector (green push-button set to be used)

Buttons 1-4 control necessary functions of the operator. The PMD will override the settings of the program selector, if installed. The program selector will resume function about 30 seconds after the PMD is removed.

Settings

1.	"Off"	The door is closed.
2.	"Exit partial"	Exit only, the door opens partially.
3.	"Exit"	Exit only, the door opens fully.
4.	"Auto partial"	The door opens partially with inner and outer activation units.
5.	"Auto"	The door opens fully with inner and outer activation units.
6.	"Auto width"	The door selects full or partial opening depending on the volume of traffic.
7.	"Open partial"	The door is permanently partially open.
8.	"Open"	The door is permanently fully open.
9.	"Pharmacy" *	The door opens to the fixed pharmacy opening and closes after the impulse is released. * Does not apply to all operators.



Pre-programmed run programs (Function 98)

Pre-programmed basic values for six different run programs (operating performance) can be selected with the function 98 and any of the values from 01 to 06. The value 98/03 is factory pre-programmed and selected to give a satisfactory function for most doors.

When selecting the values in the order from 01 to 06, the performance of the operator is gradually increased and can be adapted to the valid operating conditions. If the performance has to be increased depending on door size and/or door weight, never use a higher value than necessary. To comply with authority requirements, the value selected must give the operator a smooth and safe closing. **CAUTION! See ANSI/BHMA A156.10.**

Programming the run programs into the control unit

1: Plug the PMD into the control unit on the operator.

2: Select function 98 and any of the values from 01 to 06.

3: Press the program button P within 5 seconds. The selected run program will now be transferred from the PMD to the control unit.

Note! The only values transferred will be values that affect the operator performance.

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PMD – Push Button Set

Copying and transferring of programmed values (Function 98)

This function is used to ease adjustment by copying and transferring the values from one smoothly running operator to another one with similar operating conditions. The values can be copied and transferred in two levels.

- Copying and transferring of user values only – Functions 01–27.
- Copying and transferring of all values.

Copying and transferring of user values only:

Control Unit → PMD

1. Plug the PMD into the control unit on the operator having the values to be copied.
2. Select function **98** and value **99.**
3. Press the program button **P** within 5 seconds. The user values only will now be transferred from the control unit to the PMD.

PMD → Control Unit

1. Plug the PMD into the control unit on the operator receiving the copied values.
2. Select function **98** and value **98**
3. Press the program button **P** within 5 seconds. The user values will now be transferred from the PMD to the control unit on the new operator.

Copying and transferring of all values:

Control Unit → PMD

1. Plug the PMD into the control unit on the operator having the values to be copied.
2. Select function **98** and value **97.**
3. Press the program button **P** within 5 seconds. All programmed values will now be transferred from the control unit to the PMD.

PMD → Control Unit

1. Plug the PMD into the control unit on the operator receiving the copied values.
2. Select function **98** and value **96.**
3. Press the program button **P** within 5 seconds. All values will now be transferred from the PMD to the control unit on the new operator.

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PMD – Functions And Values

Function	Description	Eng. Value (approx.)	Metric Value (approx.)	*)
01	High speed opening	7.8 - 27.5 in/sec	20-70 cm/sec	60
02	Low speed opening	1.9 - 5.9 in/sec	05-15 cm/sec	07
03	Low speed distance opening	0 - 11.8 inches	00-30 cm	10
04	High speed closing	5.9 - 27.5 in/sec	15-70 cm/sec	20
05	Low speed closing	1.9 - 5.9 in/sec	05-15 cm/sec	07
06	Low speed distance closing	0 - 11.8 inches	00-30 cm	10
07	Hold open time		00-60 sec	02
08	Hold open time with key impulse		00-60 sec	06
09	Presence and stop impulse type, make/break [1]		A/b (make/break)	A
10	Not used		A/b	A
11	Emergency opening / Emergency closing (EUE) [2]		A/b (opening/closing)	A
12	Electronic emergency unit / Elastic cord [2]		A/b (elect./elastic cord)	A
13	Monitoring of the emergency unit [2]		A/b (no/yes)	A
14	Emergency function with the PS... in "Off" [2]		A/b (yes/no)	A
15	Partial opening width [3]	11.8 - 78.7 inches	03-20 decimeters	08
16	Hold open time for partial opening [3]		00-60 sec	02
17	"Auto width" hold open time [3]		00-60 sec	02
18	Perm. partial opening/Time from "Auto width" to full opening [3]		00-60 sec	15
19	Resume time for "Auto width" after closing, from full opening [3]		00-60 sec	05
20	Add run program, opening [4]		00-20	10
21	Opening delay for unlocking [5]		00-60	00
22	Electro-mechanical lock, locked without/with power [6]		A/b (without/with)	A
23	Hold force on closed door [7]	0 - 44.5 pounds	00-10 Newtons	00
24	Not used		A/b	A
25	Interlocking [8]		A/b (yes/no)	b
26	C-switch distance (always select a value)	0 - 31.5 inches	00-80 cm	45
27	Motor direction [9]		A/b	b
28	Number of operator cycles performed x 10 000		00-99	00
29	Number of operator cycles performed x 100		00-99	00
30	Change of PIN code [10]		A/b (no/yes)	A
98	Run program [11]		01-06	02
	Copying and transferring of values between operators [10]		96-99	–
99	System tests [12]		01-07	–

*) Values factory pre-programmed into the control unit.

1) See monitoring of activation units, pages ##.

2) See emergency units pages ##-##. If emergency unit is not installed, select value A.

3) See program selectors, page ##.

Note! Value 00 for function 18 gives permanent partial opening.

4) Value 00 = Function 98
Value 05 = Function 98 + 1
Value 10 = Function 98 + 2
Value 15 = Function 98 + 3
Value 20 = Function 98 + 4

Note! Max. performance can never exceed the performance valid for run program 98/06.

5) Value 00 = Used when lock is not installed.
Value 01 = Used for ELD/ELDP.
Value 02-60 = Opening delay (0,1-3 seconds).

6) Always press the reset button R after changing.

7) With this function a hold force can be selected that holds the door with a certain force in closed position.

8) See "Interlocking," page 62.

9) Always press the reset button R after changing the direction of rotation.

10) See PMD manual.

11) Pre-programmed basic values for 6 different run programs can be selected (see PMD manual).

12) See "Troubleshooting" or PMD manual.

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Control unit – CUJ-9 (CUJ-9S)

CAUTION!

During any work with the electrical connections the

- **mains power** and the
- **backup battery** must be disconnected.

Note! The activation units and the backup battery are not to be connected until the adjustment of speeds, etc. has been carried out. (Tip: Make electrical connections to the control unit's terminal blocks, and unplug the terminal block sections until adjustments are made. To cycle the door while adjusting speeds, use a spare terminal block section to wire a jumper between TB1-11 and TB1-13)

The CUJ-9, a potentiometer based, non PMD control unit, is equipped with the following:

Function selector, FS – used to select special operating functions.

Light emitting diode, LED – indicating "power on" with a fixed light and "error" with a flashing light (see illustration on page 55 and Troubleshooting, page 67).

Potentiometers:

HSC	High speed closing	7-7/8 – 15-3/4 inches/second (1-leaf)
HSO	High speed opening	7-7/8 – 19-11/16 inches/second (1-leaf)
TD	Hold open time	0 – 30 s
LSO	Low speed opening	1-31/32 – 3-15/16 inches/second (1-leaf)
LSC	Low speed closing	1-31/32 – 3-15/16 inches/second (1-leaf)

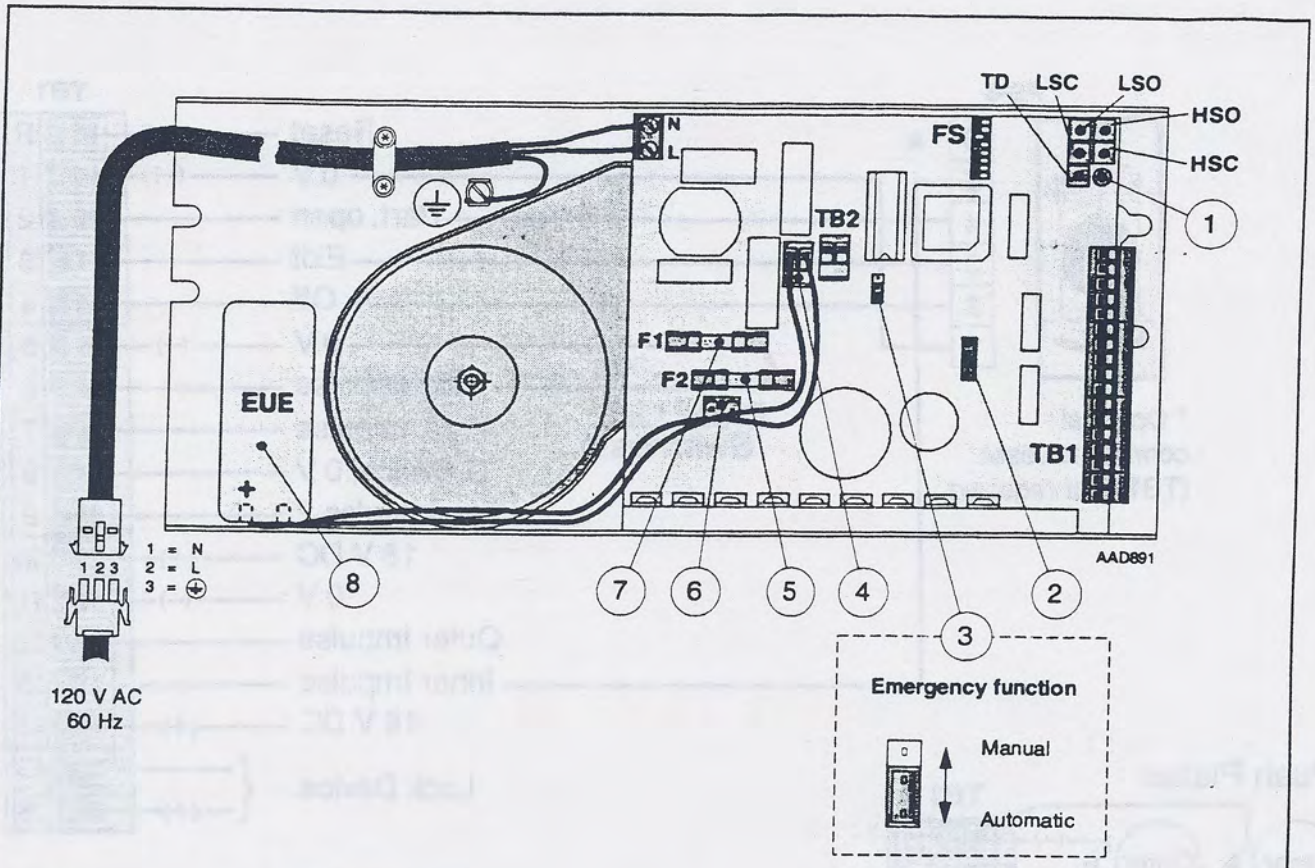
The control unit is delivered with the potentiometers pre-set.

CAUTION! See ANSI/BHMA A156.10 for door safety limits.

Note: All instructions in this manual for the CUJ-9 controller are valid for the short stroke version, CUJ-9S.

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Control Unit – CUJ-9 (CUJ-9S)



① LED; Power on = Fixed light
Error indication = Flashing light

② Revolution counter connector

③ Selection of automatic or manual emergency function

④ Emergency unit connector

⑤ Control fuse 2.0 Amp (F2)

⑥ Motor connector

⑦ Motor fuse 5.0 Amp (F1)

⑧ Emergency unit (Battery Pack - Optional)

FS = Function selector

TB1/TB2 = Terminal blocks

Potentiometers

HSC= High speed closing

HSO= High speed opening

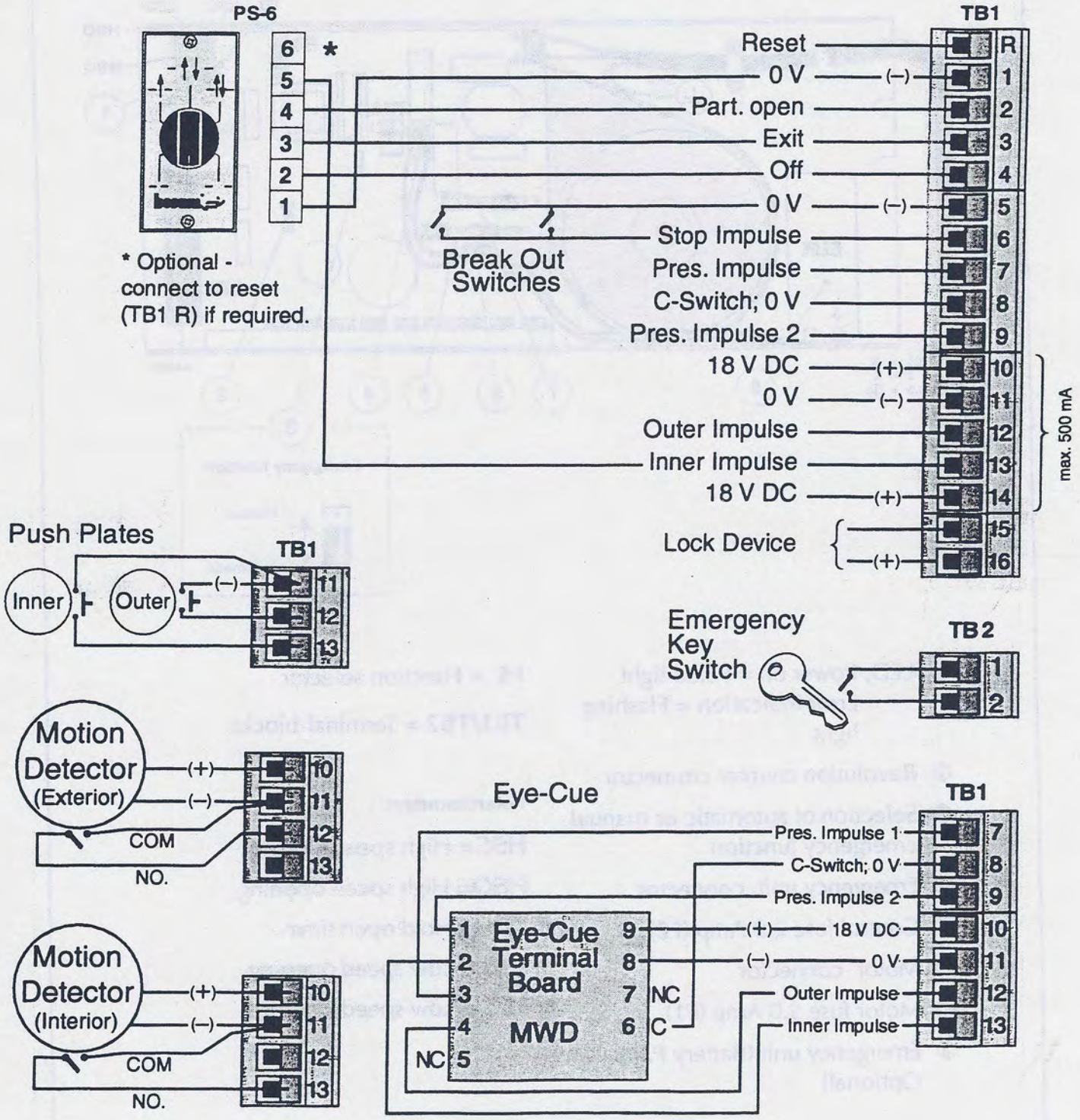
TD = Hold open time

LSO = Low speed opening

LSC = Low speed closing

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Wiring The CUJ-9 (CUJ-9S)



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Adjusting the CUJ-9 (CUJ-9S) – Start-Up

CAUTION!

The PowerGlide AMD II, when installed and set up correctly, is a safe automatic power door operator, but incorrect settings can defeat its purpose and create a safety hazard. For safety reasons, never set the opening or closing speed faster than necessary to handle the traffic situation through your door. Please refer to the ANSI/BHMA A156.10 - 1999 excerpt in this manual (page 73).

1: Set the program selector to position "Auto".

2: Check the setting of the switches on the function selector "FS" so that they correspond to the required functions and accessories.

Note! If FS No. 1 to be set to ON (for automatic monitoring of the emergency unit), do not set it until you have reached step 8 below.

3: Switch on the mains power. The door shall now open/close automatically.

4: Give an opening impulse. The door now carries out a cycle open/close with the pre-set speeds for "HSO", "LSO", "HSC" and "LSC".

5: "Low speed distance, closing" (FS-4) and "low speed distance, opening" (FS-5) are selected with the function selector "FS".

6: "TD" is factory pre-set to the shortest hold open time possible (max. anticlockwise turning). Turning clockwise increases the hold open time (max. 30 s).

7: Give opening impulse and adjust the speeds to the values wanted. Clockwise turning increases the speed.

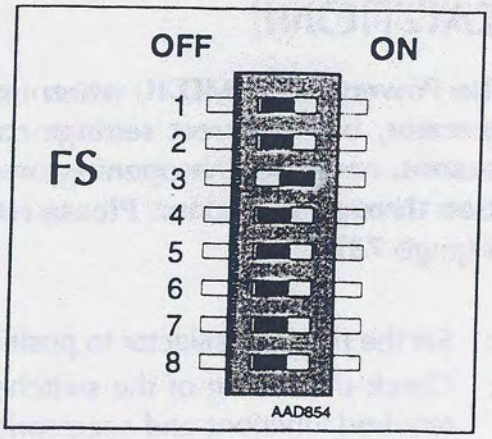
8: Additional operating functions can be selected with the function selector "FS".

CAUTION! Adjust to meet ANSI/BHMA A156.10 requirements!

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Adjusting the CUJ-9 (CUJ-9S) – Function selector FS

This selector, placed on the control unit, has 8 switches, FS No. 1 – FS No. 8 with different functions. The illustration below shows the factory pre-set functions. If required the pre-set functions can be changed.



Note!

If the setting for one of the switches is changed, the computer has to be reset by switching off the voltage temporarily.

Control measures and functions

FS No. 1 – Automatic monitoring of the emergency unit

OFF = **No** automatic monitoring of the function of the emergency unit, or emergency unit is not installed

ON = Automatic monitoring of the function of the emergency unit except when the program selector is in setting "Off"

FS No. 2 – Hold force on closed door. With this switch a hold force can be selected that holds the door with a constant force in closed position.

OFF = **No** hold force

ON = Hold force

FS No. 3 – Not to be used

This switch shall always be set to position ON.

FS No. 4 – Low speed distance, closing. Two different "low speed distance, closing" can be selected with this switch.

OFF = 4"

ON = 2"

FS No. 5 – Low speed distance, opening. Two different "low speed distance, opening" can be selected with this switch.

OFF = 4"

ON = 2"

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Adjusting the CUJ-9 (CUJ-9S) – Function selector FS

Control measures and functions continued:

FS No. 6 – Presence function. In certain cases it is required that the door operator should be equipped with PRESENCE and STOP functions.

PRESENCE function means that presence sensors are installed in the door opening. If a sensor is activated when the door is fully open or during the closing cycle, the door will stay open or reverse to the open position as long as the sensor is activated.

STOP function is used e.g. when the door is fitted with a break-out panic unit. The STOP function can be obtained by means of a photocell. If the beam of the photocell is broken the door will immediately stop. Mechanical stop switches can also be used.

The PRESENCE and STOP activation units are connected to the terminals 6, 7 and 9 on the terminal block TB1.

The impulse signal given is either closing (make) or opening (break), depending on the design of the activation unit. The control unit is designed to receive both types.

OFF = The terminals 6, 7 and 9 on TB1 only receive closing (make) impulse signals

ON = The terminals 6, 7 and 9 on TB1 only receive opening (break) impulse signals

If ON is selected all connected PRESENCE and STOP functions are monitored in all the program selector settings. This means that the control unit checks the function of the PRESENCE and STOP activation units before each closing. If any of the units is not working, the door remains open.

If value ON is selected and one or more of the PRESENCE and STOP activation unit terminals are not used, they have to be linked to terminal No. 8 on the terminal block TB1 as follows:

- If the STOP function is not used, terminal No. 6 is to be linked to terminal No. 8.
- If the PRESENCE (1) function is not used, terminal No. 7 is to be linked to terminal No. 8.
- If the PRESENCE (2) function is not used, terminal No. 9 is to be linked to terminal No. 8.

Note! If no terminals on TB1 are used, linking is not necessary and value OFF should be selected.

FS No. 7 – Locking function. With this switch the electro-mechanical locking device can be selected to lock with or without power.

OFF = Locked without power

ON = Locked with power

FS No. 8 – Mechanical emergency opening unit, ME (elastic cord). The ME can be monitored if FS No. 1 is set to ON. In the event of power failure, the ME opens the door by means of an elastic cord. **(European use only.)**

OFF = No mechanical emergency opening unit ME installed

ON = Mechanical emergency opening unit ME installed

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Wiring Options

Emergency unit (EUE) - Automatic emergency opening or closing

The optional electronic emergency unit, EUE, automatically opens or closes the door once in case of a power failure by means of a rechargeable battery unit, constantly charged from the main. The door remains in this last position until the power is restored. The operator will then resume the function set by the program selector.

On CUD-9 controls, the following may be selected via PMD:

a) whether the battery pack is monitored;

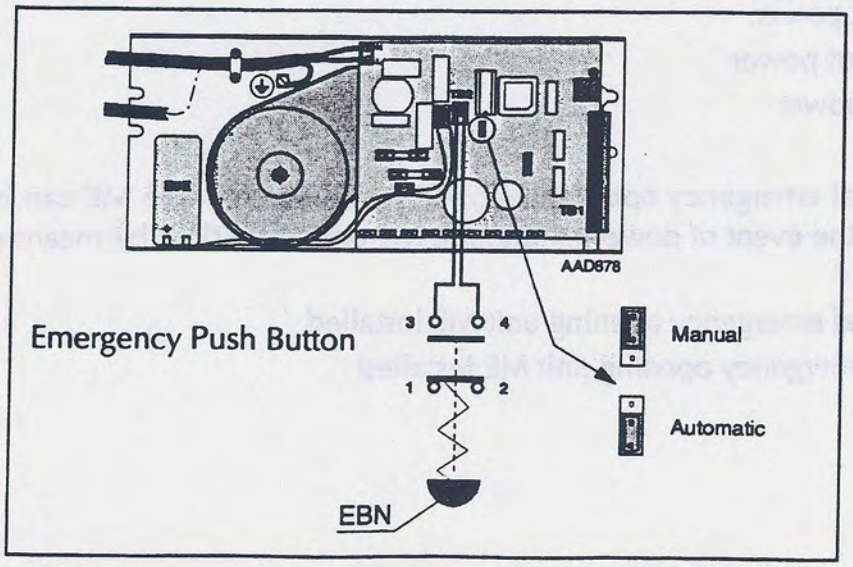
b) whether the door will open or close on loss of main power.

On CUJ-9 controls, the following may be selected via function switches:

a) whether the battery pack is monitored. (Emergency open only.)

Installation steps

1: Shut off main power.
2: Fasten EUE battery pack in the location shown below, with provided screws.
3: Plug prewired connector into location shown below.
4: Set emergency function jumper to automatic. (See text on page 61 for options.)
5: Set monitoring on or off as required by application.
6: Turn on power.
7: CUD-9 only: set direction (open or close on loss of power) via the PMD. [The CUJ-9 will only open on loss of power.]



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Manual emergency opening (CUD-9 only)

If the emergency opening should not be performed automatically in case of a power failure, a non-locking emergency push-button (EBN) for manual control of the door can be connected. When the EBN is pressed the door will open by means of the emergency unit EUE. The door remains open until the power is restored. In order to obtain this function, the jumper on the CUD9 is set to manual position. The push-button is connected in accordance with the illustration on page 60.

Combination of automatic and manual emergency opening or closing:
Automatic – with program selector setting not "Off"
Manual – with program selector setting "Off" (only opening)

If the emergency opening or closing, in case of a power failure, should be carried out automatically when the program selector is not set to "Off" – and with an emergency push-button (only opening), when the program selector is set to "Off" – a non-locking emergency push-button (EBN) for manual control of the door can be connected. When the EBN is pressed the door will open by means of the emergency unit. The door remains in this position until the power is restored. The push-button is to be connected in accordance with the illustration and the programming module PMD is to be set to function 14 value b.

Monitoring of EUE unit (CUD-9/CUJ-9)

When the programming module PMD is set to function 13, value 'b', the function of the emergency unit is monitored and tested by the control unit.

Note! If the program selector (PS...) is set to position "Off" or "Open", the monitoring and testing is not carried out.

The function is tested with normal opening impulses every three and a half hours. If impulses are not given, the test is automatically carried out every fourth hour. The function test is carried out in the following way:

The door opens automatically by means of the emergency unit and closes by means of the mains power if the test has been accepted. If the test fails, i.e. a proper emergency opening cannot be achieved, the door will open with the mains power and remain open until the fault has been taken care of. When the test has discovered a defective emergency unit and the door stands open, the operator does not react to any impulses. The door can be closed by setting the program selector to "Off".

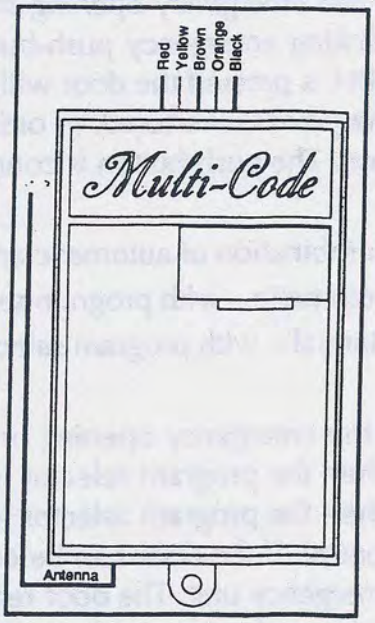
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Wiring Options

Connecting the Radio Frequency (RF) remote control unit.

Place the receiver unit in the open space in the header.

Note! The single black wire at the bottom of the receiver unit is the antenna, and must not be confused with the power input black wire in the group of five wires at the top of the receiver unit.



Connect the power input (red and top black wires) of the receiver unit, red to terminal 10 on TB1 and black to terminal 11 on TB1. Connect the switch output (orange and brown wires), orange to terminal 13 on TB1 and brown to terminal 11 on TB1.

Arrange the antenna wire just inside the cover, or, for improved range, drill a small hole in the cover and run the antenna outside the case. Fasten the wire with silicone sealant and seal the end cover hole as well.

Using two pushplates, with different timing for each (e.g., normal and handicapped) (only valid with CUD-9)

Wire a pushplate with a normally open switch to the key switch inputs (TB2 - 1 and 2), then use the PMD to program Function 08, "Key Operation", to a value other than 00 (e.g., 05 = 5 seconds of hold open time). See page 47 or 56 for standard pushplate connection.

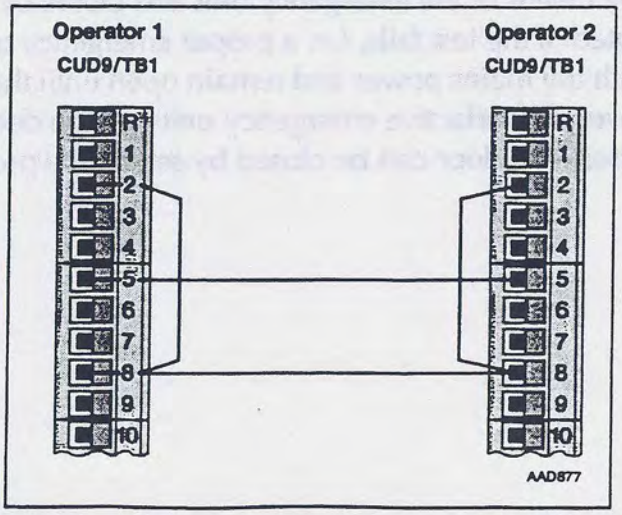
Interlocking (only valid with CUD-9)

Interlocking joins two operators so that one must close before the other one can open, in the manner of an airlock. Connect between the operators as shown below, and set PMD function 25 to 'A'.

Note! a) With interlocking, other connections to terminals No. 2 and 8 must be removed.

b) The functions "Partial opening" and "Auto width" cannot be used with interlocking.

c) Also see question 2 (page 74) for retaining Eye-Cue functionality with interlocking.



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Wiring Options

PSK-6, PSW-6, PSK-6F and PSW-6F

Some door functions can be set with a program selector, which is factory installed in the cover unless order specifies loose pack.

PS...-6 This program selector is used for the following functions:

-- Off The inner and outer activation units are disconnected. The door is locked if an electro-mechanical locking device has been fitted. The door can be opened with an emergency push-button/key switch.

-⍿- Exit Passage through doorway from inside only. The door is locked if an electro-mechanical locking device has been fitted. The door can only be opened with the inner activation unit and with an emergency push-button/key switch.

⍿- 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.

⍿ Auto P/W In this setting "Auto partial" or "Auto width" are selectable with the PMD.

Auto partial The door can be opened partially with the inner and outer activation units and with an emergency push-button/key switch.

Auto width The operator is programmed to select full or partial opening depending on the volume of traffic.

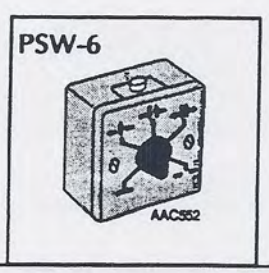
If the door is closed from full opening for more than the time set by the PMD, the next opening will be partial. If the door remains partly open, or is prevented from closing, more than the time set by the PMD, full opening is automatically selected.

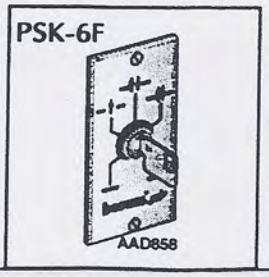
The width of the partial opening and the "Auto width" hold open time are set by the PMD.

- - Open The door is permanently open.

Reset This setting has no marking, but if the knob/key is turned clockwise to the position "six o'clock" and back to the required setting, the operator will be reset. The door then carries out an open/close cycle with low speed. When this cycle is terminated the operator is ready for normal operation. **NOTE: This function is optional and may or may not be wired.**

The illustration PSW-6 shows a program selector with knob which is intended for surface or flush mounting, but the selector is also available with key (PSK-6). The illustration PSK-6F shows a program selector with key which is intended for flush mounting in the cover. This selector is also available with knob (PSW-6F).







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Wiring Options

Monitoring of activation units (CUD-9 only)

PRESENCE function means that presence sensors are installed in the door opening. If a sensor is activated when the door is fully open or during the closing cycle, the door will stay open or reverse to the open position as long as the sensor is activated.

STOP function is used e.g. when the door is fitted with a break-out panic unit. The STOP function can be obtained by means of a photocell. If the beam of the photocell is broken the door will immediately stop. Mechanical stop switches can also be used.

The PRESENCE and STOP activation units are connected to the terminals 6, 7 and 9 on the terminal block TB1.

The impulse signal given is either closing (make) or opening (break), depending on the design of the activation unit. The control unit is designed to receive both types.

Function 09

Value A = The terminals 6, 7 and 9 on TB1 only receive closing (make) impulse signals

b = The terminals 6, 7 and 9 on TB1 only receive opening (break) impulse signals

If value b is selected all connected PRESENCE and STOP functions are monitored in all the program selector settings. This means that the control unit checks the function of the PRESENCE and STOP activation units before each closing. If any of the units is not working, the door remains open.

If value b is selected and one or more of the PRESENCE and STOP activation unit terminals are not used, they have to be linked to terminal No. 8 on the terminal block TB1 as follows:

- If the STOP function is not used, terminal No. 6 is to be linked to terminal No. 8.
- If the PRESENCE (1) function is not used, terminal No. 7 is to be linked to terminal No. 8.
- If the PRESENCE (2) function is not used, terminal No. 9 is to be linked to terminal No. 8.

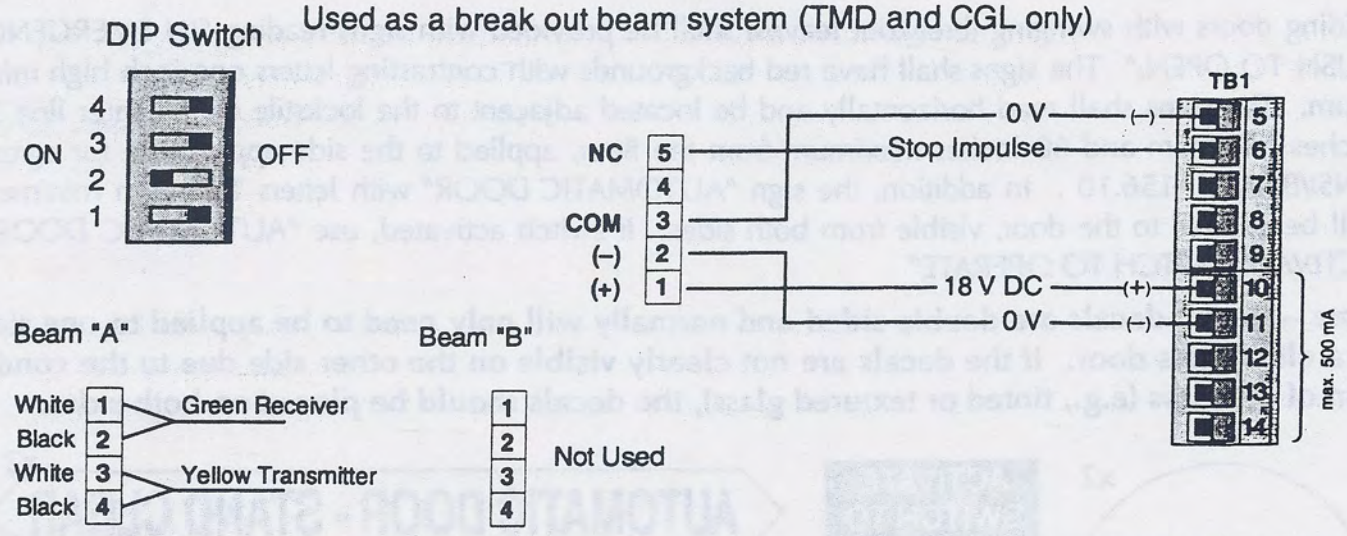
Note! If no terminals on TB1 are used, linking is not necessary, and value A should be selected.



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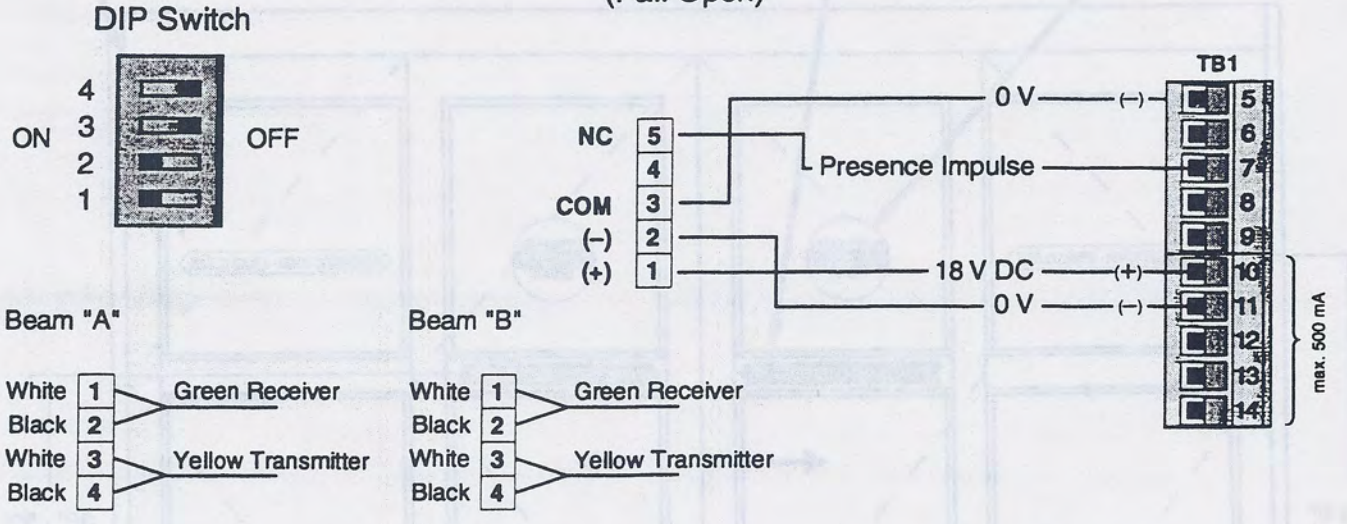
Wiring Options

BEA Microcell 1
Used as a break out beam system (TMD and CGL only)



P/N: US15-0136-01

BEA Microcell 1
Used as a two channel hold open beam system
(Fail Open)



P/N: US15-0136-01

NOTE: Beams to be installed in accordance with current ANSI/BHMA 156.10

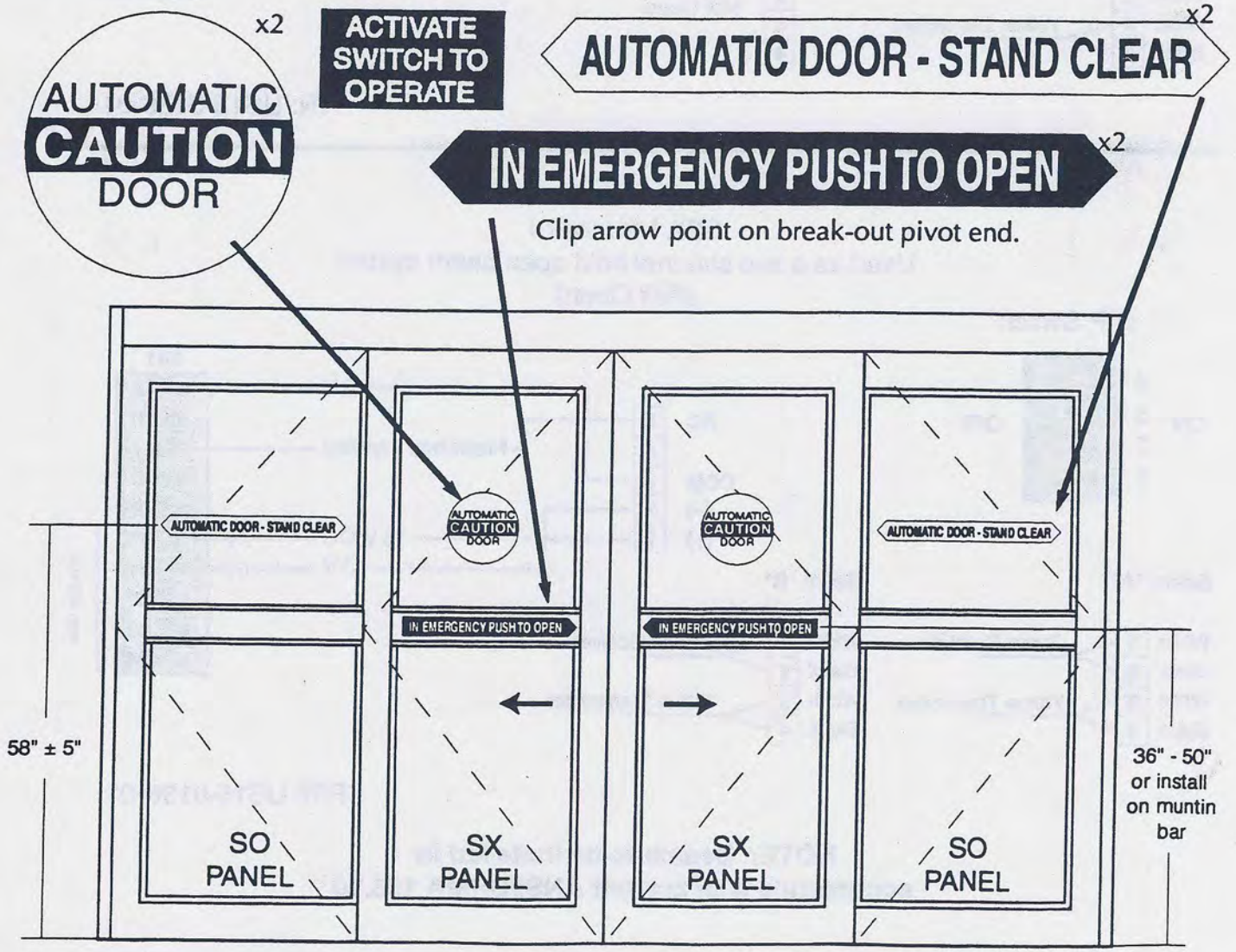
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Sign Placement

ANSI/BHMA standard 156.10-1999 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 (breakout 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.



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Troubleshooting

Overview of Structured Troubleshooting

When troubleshooting a complex system where the source of the problem is not readily apparent, break the problem down into component subsystems, such as the door panels, pivot guides, tooth belt assembly, and so on.

1. Mechanical checking and remedies

Disconnect the main power and the transmission rods. 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 stripping. 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.

Motion and presence sensors are in reality switches and are either on or off. Check each sensor for proper voltage and check output at the control box for a switch change when tested*. Likewise, test any door panel breakout switches and the six-position program switch, if used.

* Test motion sensors by walking. Test presence sensors with a trash can or similar object in the sensor zone.

2. Error indication on CUD-9 or CUJ-9 control

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.

Flash frequency	Reason	Remedy
2 flashes/sec.	EUE defective.	1. Replace EUE.
1 flash/sec.	Overspeed detected during closing.	1. Reset the operator with the program selector PS-6 or 2. Switch off the power, wait 60 s, switch on the power. 3. Make sure "C" switch distance (Func. 26) has been selected.
1 flash every two sec.	The operator is powered by the EUE (main power failure). The LED will normally extinguish after 60 sec.	1. Restore the main power. 2. If the LED keeps on flashing, check the motor fuse (F1).
The LED is extinguished.	1. Program selector is set to the "Reset" position. 2. Main power failure. 3. Control fuse (F2) defective.	1. Set the program selector to correct position. 2. Restore the main power. 3. Check the control fuse (F2).

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Troubleshooting

3. PMD as a troubleshooting tool

Connect the main power.

Symptom	Remedies
No lights on the PMD-display.	Check the mains power and fuses (F1, F2).

4. Check if any error code is flashing on the PMD display

If the operator does not function properly depending on any of the reasons below, an error code will be flashing on the PMD display. If more than one reason for the malfunction is found, the highest code will be displayed. After remedy the second highest code will be displayed, etc.

Note! Before replacement disconnect the mains power and all necessary plugs.

Reason	Error code (value)	Remedies
Door opened without impulse	- - 50 flashing	Check why the door moved (e.g., door opened manually)
Presence/Stop detection unit defective	- - 51 flashing	Check safety systems and breakout switches
Electronic emergency unit EUE defective	- - 53 flashing	Replace EUE
Mechanical emergency unit ME defective	- - 54 flashing	Check the emergency unit ME / Set emergency function switch to auto
Motor direction error	- - 55 flashing	Replace the control unit or motor / Check motor leads
Control unit defective	- - 56 flashing	Replace the control unit
Overspeed detection	- - 57 flashing	Reset the operator (check function 26 for value other than 00)
Programming module PMD defective	- - 69 flashing	Replace the PMD
Communication error PMD ↔ CUD9	- - 70 flashing	Check the connections
PMD access denied	- - 71 flashing	Return the PMD to be updated; try another PMD

5. Check the status code on the PMD display

The PMD display continuously shows the following status codes during the operation. These status codes are not error codes but show the present active impulse. If any of the status codes is constantly displayed the corresponding unit has to be checked and if necessary remedied or replaced. Always press the **reset** button **R** after remedy/ replacement.

Status code (value)	Status	Remedies
-- on	Operation OK	—
-- 10	Search cycle running (open/close)	Let the door finish its cycle
-- 11	Inner impulse is active	Check the impulse input
-- 12	Outer impulse is active	Check the impulse input
-- 14	Key impulse is active	Check the impulse input
-- 16	Interlocking impulse is active	Check the connections
-- 17	Presence impulse -1 is active	1. Check that correct photocell type is selected on the PMD, function 09 2. Check the photocells or Eye-Cues
-- 18	Presence impulse -2 is active	Same as 17 above
-- 21	Stop impulse is active	1. Check that correct photocell type is selected on the PMD, function 09 2. Check breakout switch function
-- 24	EUE active	Check the mains power, fuses and CUD9
-- 27	Door blocked	Check for obstacles or increase run program

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Troubleshooting

6. 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 accessories to be installed and that the installation complies with valid regulations and requirements from the authorities.
   3. A direct selection system test (function 99) can be carried out on some of the units stated in the table below.

7. PMD/System test codes (function 99)

Make sure that correct parameters are selected for the unit to be tested. See **Function/Value** in the table.

Select function **99** and any of the values **01-07** on the PMD. Press the program button **P** and the test corresponding to the selected value will be performed. If the test is unsuccessful an error code will be flashing on the PMD-display.

Value	Test of	Error code	Function/Value
01	Presence/Stop detection units	51 flashing	09/b
02	Not used	—	—
03	Electronic emergency unit EUE	53 flashing	12/A, 13/b
04	Mechanical emergency unit ME	54 flashing	12/b, 13/b
05	Not used	—	
06	Motor, visual test [1]	—	
07	Revolution counter [1]	57 flashing	

[1] Close and unlock the door(s) before commencing the test. The motor runs approx. 1 second in the opening direction and then closes the door(s) again.

If problem still cannot be diagnosed and fixed, please refer to the detailed step guide on the following page.

Troubleshooting

FAULT	CHECK	FIX / REMEDIES
1. The door does not open-motor does not start.	• Is there120 VAC power at control box?	• Check / replace / reset main panel fuse or breaker. **Note: if it repeatedly trips, there is a short. Check wiring from panel to control for an open circuit.** **Note: there may be an in-line on/off wall switch.**
2. Control has power but still no operation.	• Is the six position switch set to off? • Is push plate working (if used)?	• Change switch position to on. • Check push plate connections to control. Check for proper operation of push plate by using a multi-meter to check for 0 ohms (when the switch is pressed) as measured at the control inputs.
	• Is motor power absent? • Are the two fuses on the control blown?	• Check the motor cable plug on the control unit. • Check with a multimeter for 0 ohms, and replace with a fuse of the same rating. Continued blowing of fuses suggests either a short, miswiring or lastly a bad control unit.
	• Is door panel broken out? • Is breakout switch or wiring faulty?	• Reset door panel. • Test and replace switch or wiring.
3. The motor starts but door does not open, or does not open properly.	• Is the transmission rod disconnected? Is the belt broken or loose? • Is the door binding anywhere? • Is there a door lock? • Is motor rotation correct for door handing? • Have the settings been checked and do they conform to the recommended settings in the instructions? • Is revolution counter plugged in? • Is belt travel less than 21.66"?	• Remove power, close door fully and tighten transmission rod or replace/tension belt. • Correct the binding condition. • Check wiring and adjust lock. • Check the instructions and correct if necessary. • Connect the PMD and change settings to conform to recommended settings. • Check revolution counter and cable. •Check control unit for special short-stroke processor. See page 28 for more information.
4. The door does not open to the required width.	• Is the encoder plugged into the control? • Is the encoder, its wiring or the plug damaged? • Is the operator or the mechanical door stop adjusted? • Is the six position switch on 'Reduced Opening?' • Is function 18 set to value 00, and the six position switch set to 'Partial Opening?'	• Plug it in to the proper socket. • Repair or replace as necessary. • Readjust. • Set switch to 'Auto.' • Set function 18 to value other than 00, and/or deselect 'Partial Opening?'

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FAULT	CHECK	FIX / REMEDIES
5. The door does not open fully when impulsed during closing.	• Is there binding in the door swing or arm system? • Are speeds and power levels set correctly?	• Repair/replace of re-align as necessary. • Retune control.
6. The door opens more than to the adjusted width.	• Is the revolution counter disc defective or loose?	• If loose try tightening, otherwise replace drive unit.
7. The door does not close.	• Are mechanical stops in place? • Is there a shorted input signal? • Is the 6 position switch in 'Hold Open' position? • Is the operate mat or the presence sensor active?	• Install stops and adjust. • Correct the short. • Switch to 'On' position. • Repair the operate mat or the presence sensor. If the door still does not close, replace the control unit.
8. The door does not close fully.	• Is the door binding? • Is there excessive draft or wind conditions?	• Fix binding condition. • Increase run program, close speed, close check speed.
9. No lights on the PMD.	• Is power present?	• Check mains. • Check fuses • PMD properly connected. • Try second PMD.
10. PMD will not communicate.	• Can you do anything with the PMD?	• Enter PIN code. • Turn power off, wait 1 minute then on again. • If you still cannot adjust, first try 2nd PMD, then a new control.
11. PMD flashes an error code.	• What is the code?	See charts on page 68 for explanation and correction.

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

Sliding Doors

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

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

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

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

8.2 Sliding Doors

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

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

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

1) A minimum of two photo electric beams shall be installed with the lower beams installed 6"-28" (150-710 mm) and top beam 45"-55" (1145-1400 mm) from the floor; and

2) They shall be installed within 3" (76 mm) from the center of the slide door if both are installed on the same side or within 5" (125 mm) of the centerline of the slide door if more than two photo electric beams are installed on each side of the sliding door; and

3) The beams shall remain active from fully open to within 6 inches (150 mm) of closed.

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

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

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

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

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

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

For Knowing Acts, see full standard.

10. Entrapment Protection

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

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

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

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

For doors weighing more than 160 lbs (71 kg):

$V = \sqrt{161 / W}$ where:

V = Velocity in ft/sec
W = weight of door in pounds

11. Signage

For Signage, see full standard and/or page 66 of this manual.

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. (See Appendix D1.3)

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Frequently Asked Questions

1: Q. Can interlocking and functional auto-width (partial opening) be used in the same installation?

A. No. The functional auto width input is redefined to be Interlock In when you use the PMD to select the interlock. Note: There exists third party interlock electronics which may allow this function.

2: Q. Can interlocking and Eye-Cue be used in the same installation?

A. Yes, but not directly. The following things must be done:

1: Do not connect auto width from the 6 position switch; see question 1 above.

2: When interlocking is selected, the C-switch output is redefined to be interlocking, and is therefore no longer available for sending the C-switch signal to the Eye-Cue. Instead, place a reed switch (as was done with the Powerglide 4000) with the tape magnet placed in the carrier to replicate this signal.

3: Q. Can I synchronize two operators?

A. Yes. Wire impulses in parallel, then tune the operators to the same speeds, delays and other operational parameters. See page 52 to copy parameters for the CUD-9 controller via PMD.

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Maintenance/Service

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

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.

5: Check bottom guide/track and clear all debris.

6: Carriage wheels should be checked/replaced as needed.

7: Bottom guide pin or roller should be checked/replaced as needed.

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Planned Maintenance Checklist

- ❑ Measure / Adjust Speeds – Measure to ANSI/BHMA A156.10 and local codes; adjust if necessary.
- ❑ 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 and AAADM.
- ❑ Check Signage – Are all signs in place, readable, and in good condition?
- ❑ Check Door Hinging / Mechanical Soundness – all attachments, covers, arms, crash bars, etc.
- ❑ Check Finger Guards, Glass and Glass Stops, Trip Hazards, Rails, Sharp Edges
- ❑ Check Emergency Egress (if so equipped).
- ❑ Check all wiring for good connections, proper insulation and clearance from moving parts.
- ❑ Check Battery Backup if equipped.
- ❑ Go through Daily Safety Checklist with facility manager.

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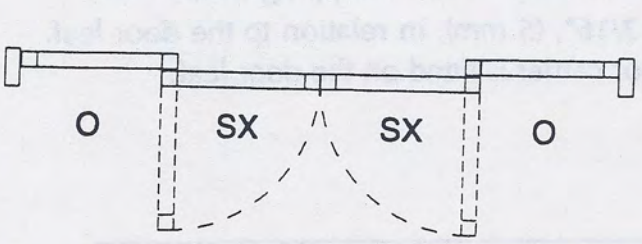
Door Handing and Layout

Door Handing (Automatic door industry)

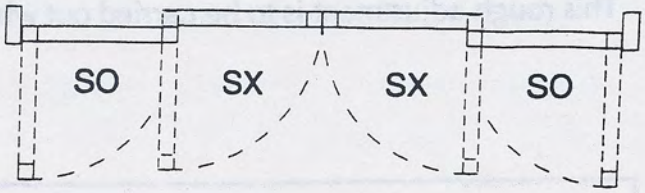
Sliding door handing is referenced from the exterior side of the door opening. Bi-parting sliders are not handed.

For sample reverse breakout layout, see page 12.

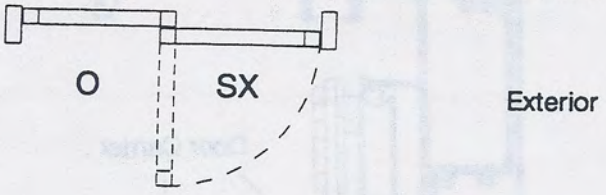
AMD II - 2 with fixed sidelites



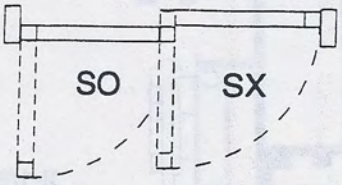
AMD II - 2 with breakout sidelites



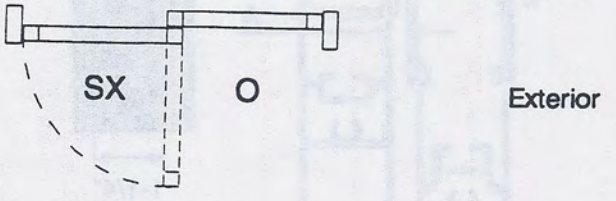
AMD II - 1, left hand



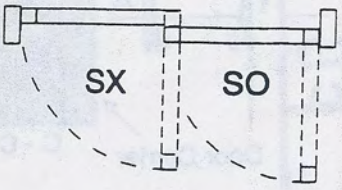
AMD II - 1, left hand



AMD II - 1, right hand



AMD II - 1, right hand



O = Fixed Sidelite SO = Swing Out Sidelite SX = Swing Out / Slide Panel

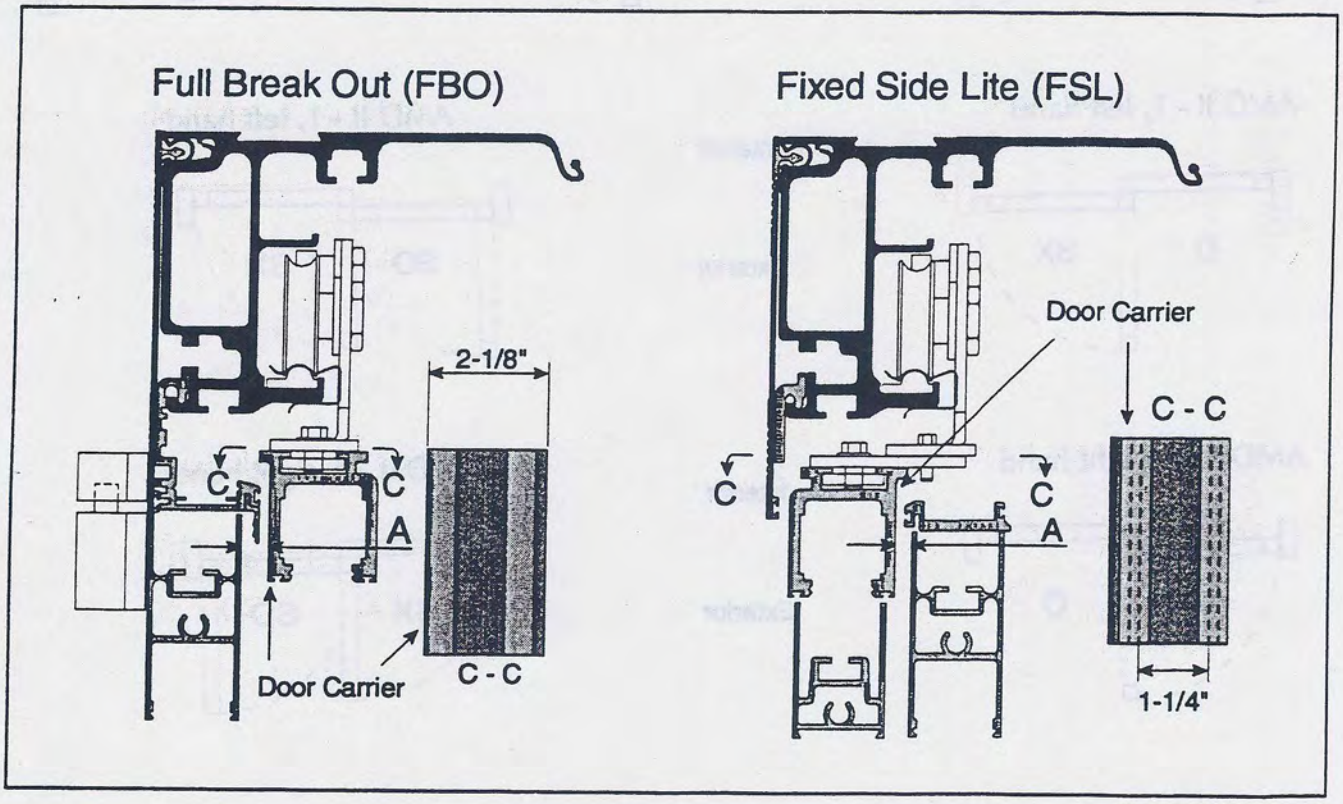
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Appendix

Besam Frame Doors - Installing the door carrier on top of the door leaf

Note: Door carriers are normally pre-installed at the factory. See Step 4 for weather stripping adjustments.

1. Make sure that the upper part of the door leaf is sufficiently reinforced.
2. Establish the distance between the door leaf and the fixed sidelight, considering door design and weather stripping.
3. Place the door carrier on top of the door leaf. The distance between the door leaf and sidelite serves to ensure the correct depth installation. Take into account weather stripping where used.
4. The door carrier can be roughly adjusted for depth, ± 3/16", (5 mm), in relation to the door leaf. This rough adjustment is to be carried out when the door carrier is fitted on the door leaf.

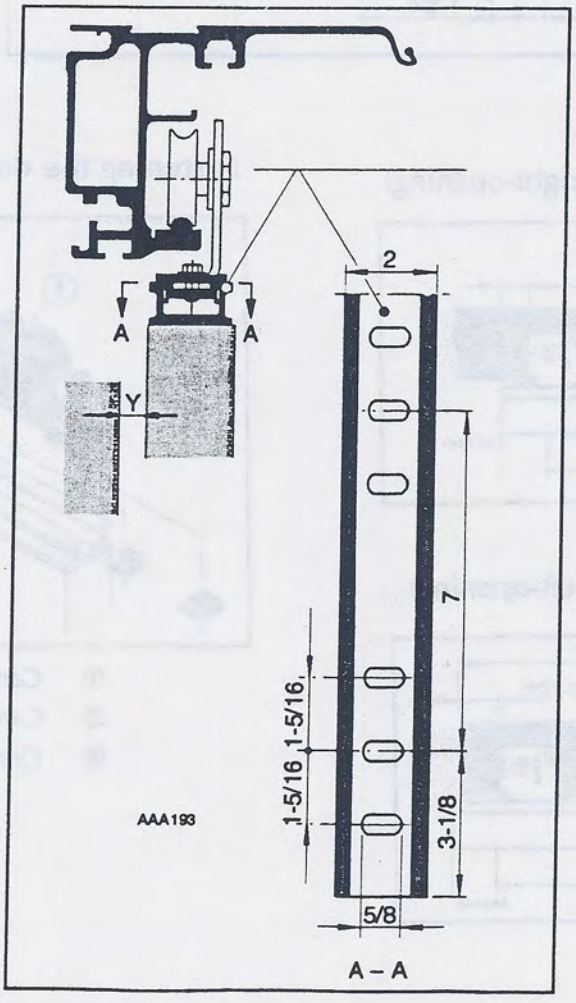


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Non-Besam Frame Doors - Installing the door carrier on top of the door leaf

1. If necessary, cut the door carrier to correspond with the door leaf width.
2. Make sure that the upper part of the door leaf is sufficiently reinforced to receive the carrier.
3. Establish "Y"; the distance between the door leaf and the fixed sidelight, considering door design and weather stripping.
4. Place the door carrier on top of the door leaf. The distance "Y" serves to ensure the correct depth of installation. Take into account weather stripping where used.
5. Mark the door leaf through the pre-drilled slotted holes. One slotted hole in each group of three must be used as the attachment carries the whole weight of the door leaf. If carrier is undrilled, use diagram below for layout, and drill holes accordingly.
6. Drill and thread the door leaf appropriately.
7. The door carrier can be roughly adjusted laterally ± 3/16" in relation to the door leaf. This rough adjustment is to be carried out when the door carrier is fitted on the door leaf.
8. Fasten the door carrier with Allen screws and washers.

Note: If panic break-out fittings are required, a panic carrier must be factory ordered and sized to the door.



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Appendix

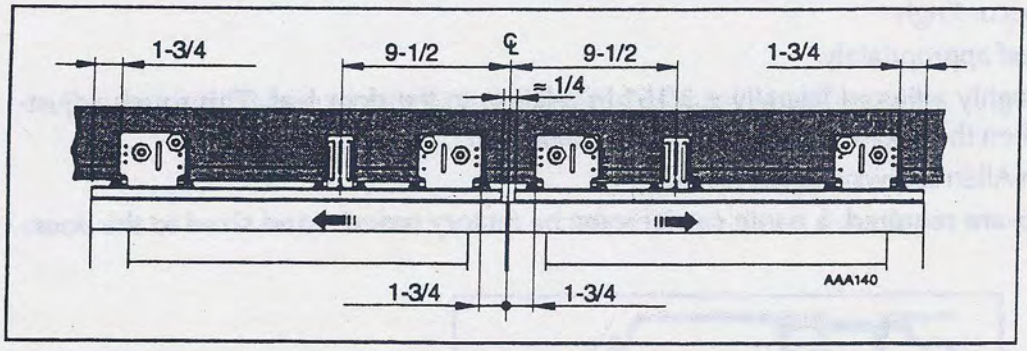
Installing the door fittings on the door carrier

Note: Door fittings are normally pre-installed at the factory on Besam frame doors.

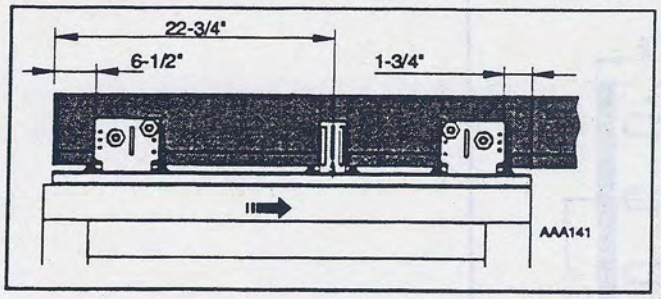
Install the door fittings on the door carrier in accordance with the figures and tables below.

Note! Make sure that the carriage wheel brackets are correctly installed, i.e. turned so that the position of the three small holes corresponds to the illustrations. It is also important that the fittings are completely in line with the door carrier.

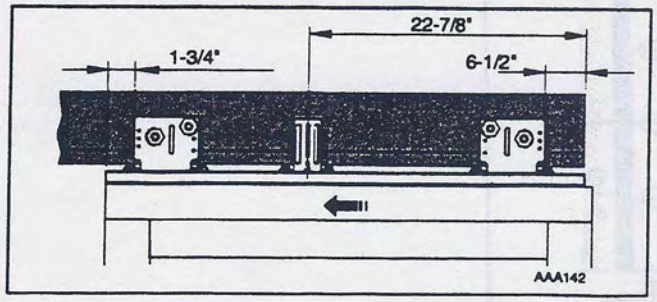
Besam PowerGlide AMD II-2 (bi-parting)



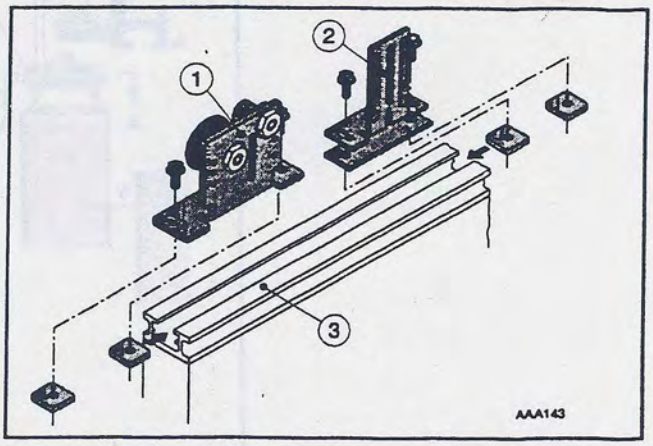
Besam AMD II-1 (single-sliding, right-opening)



Besam AMD II-1 (single-sliding, left-opening)



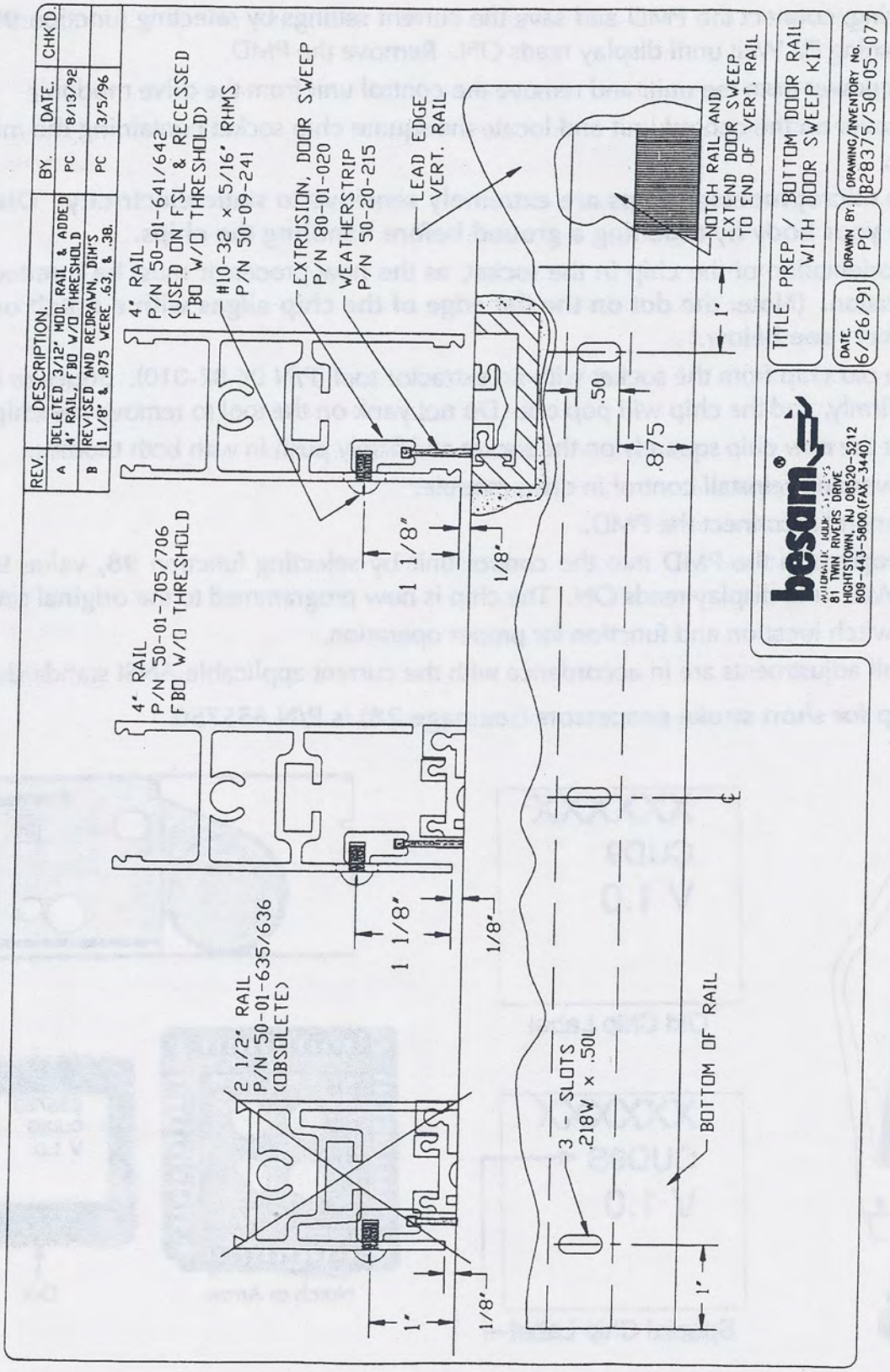
Fastening the door fittings



① Carriage wheel fitting
② Carrier fitting
③ Door carrier

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Installing optional door sweeps



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Appendix

Changing the processor on CUD-9 and CUJ-9 control units

1: Before starting, connect the PMD and save the current settings by selecting function **98**, value **97**, and pushing **P**. Wait until display reads ON. Remove the PMD.

2: Disconnect power from the unit, and remove the control unit from the drive module.

3: Open the cover on the control unit and locate the square chip socket containing the microprocessor chip.

4: **Note: The microprocessor chips are extremely sensitive to static electricity. Discharge static from your body by touching a ground before handling the chips.**

5: Check the orientation of the chip in the socket, as the new processor must be inserted in the same orientation. **(Note: the dot on the flat edge of the chip aligns with a notch or arrow on the socket - see below.)**

6: Remove the old chip from the socket with an extractor tool (P/N 04-02-010). Squeeze the tool gently and firmly, and the chip will pop out. Do not yank on the tool to remove the chip.

7: Carefully set the new chip squarely on the socket and firmly push in with both thumbs.

8: Reattach cover and reinstall control in drive module.

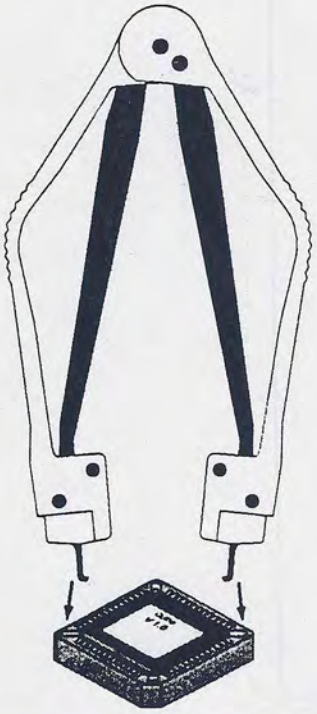
9: Apply power and reconnect the PMD.

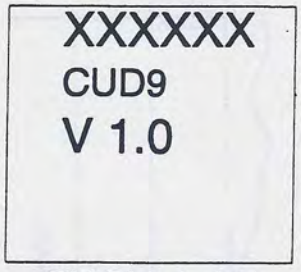
10: Load the program in the PMD into the control unit by selecting function **98**, value **96**, and pushing **P**. Wait until display reads ON. The chip is now programmed to the original settings.

11: Check "C" switch location and function for proper operation.

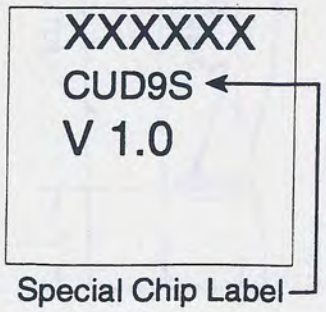
12: Check that all adjustments are in accordance with the current applicable ANSI standards.

Note: Special chip for short stroke processors (see page 28) is P/N 655750

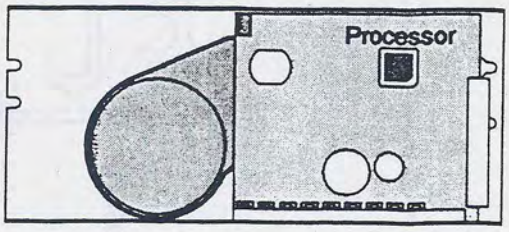


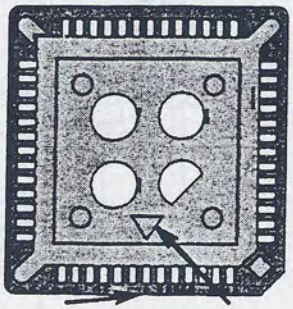


Old Chip Label



Special Chip Label



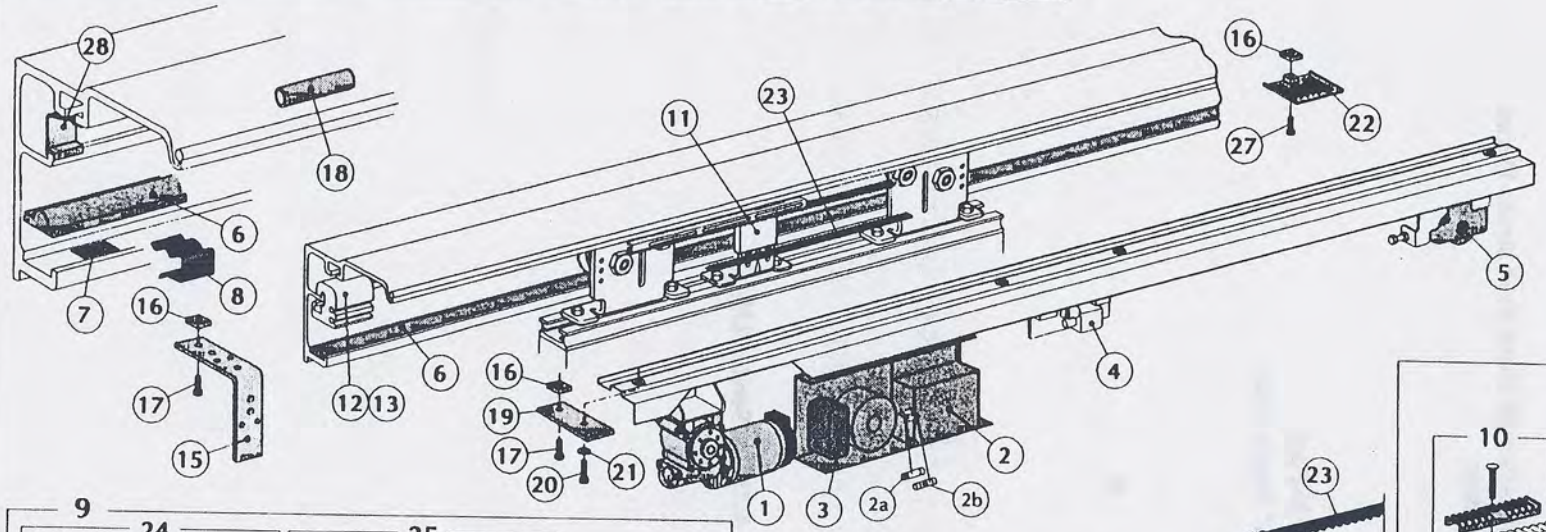

Notch or Arrow

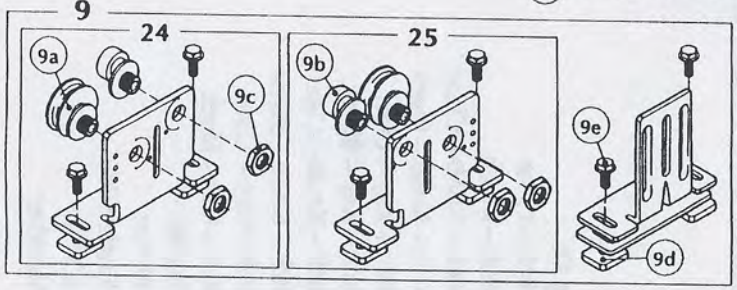


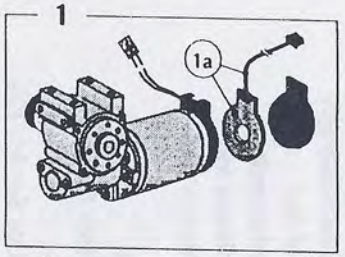
Dot

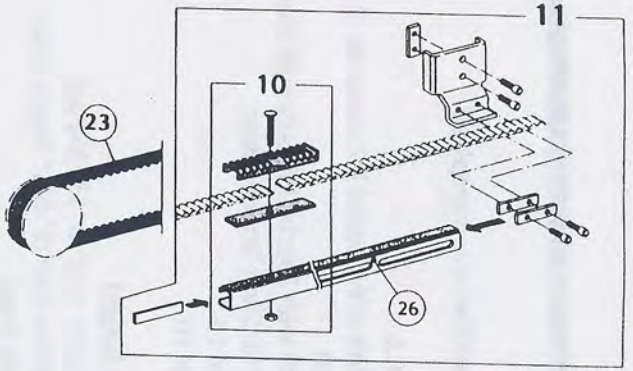
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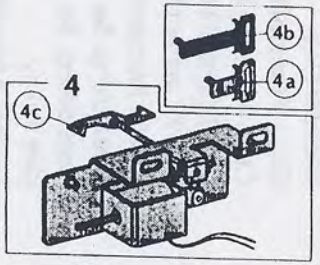
POWER-GLIDE AMD II / EZ-FIT EMD II SPARE PARTS

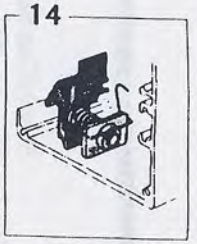


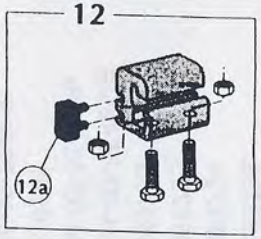


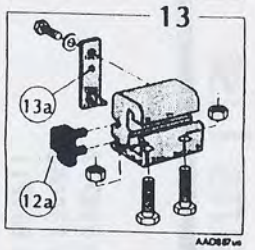












1	549712	MOTOR, GEARBOX
1a	738686	DISC, ENCODER
2	655711	CONT. BOX, CUD9, 120 V
2a	24-02-654658	FUSE, 2AT, 120 V, SET OF 10
2b	04-02-654659	FUSE, 5AT, 120 V, SET OF 10
3	30-02-654745	BATTERY PACK, EUE
4	655107	LOCK, ELECTRO-MECH. LP
	655108	LOCK, ELECTRO-MECH. LS
4a	04-03-654423	LOCK, FINGER, AMD/EMD
4b	04-03-654595	LOCK, FINGER, CGL
4c	04-05-655103	LOCK, SHAFT
5	550191	PULLEY, IDLER
6	04-21-701239	ROLLER TRACK
7	93-50-549172	TAPE, DOUBLE-BACKED
8	04-03-544958	CLIP, RETAINING, HD. TRK.
9	04-15-548377	KIT, WHEEL, TRACKING

9a	04-15-832376	ASSY, CARRIER, GDE. WHL.
9b	04-15-832440	ASSY, ANTI-RISE WHEEL
9c	04-09-830374	NUT, FITTING, CAR. WHL.
9d	546294	NUT, SQUARE, M6
9e	724336	SCREW, FLANGE, M6 X 14
10	549855	KIT, BELT FITTING
11	549824	KIT, TRANSMISSION
12	04-15-832372	ASSY, DOORSTOP, BI-PART
12a	04-20-830176	ABSORBER, DOORSTOP
13	04-15-832413	KIT, DOORSTOP, L.H.
	04-15-832414	KIT, DOORSTOP, R.H.
13a	04-15-654431	ARM, LOCKING -L
	04-15-654430	ARM, LOCKING -R
14	04-15-549043	KIT, CLAMPING
15	04-03-548372	SUPPORT, REMOVE. COVER
16	04-09-548474	NUT, SQUARE, M6

17	93-09-723123	SCREW, SHC, M6 X 16
18	04-20-549157	DAMPENER, COVER, SPLIT
19	04-05-549034	HDWR. PACK, MTG. MOD.
20	04-09-723055	SCREW, SHC, M6 X 20
21	04-09-729016	WASHER, FLT, M6
22	549751	HOLDER, CABLE, (BRKT)
23	04-20-735251	TOOTHBELT
24	93-05-548978	ASSY, BRKT, L.H. (SHORT)
25	93-05-548979	ASSY, BRKT, R.H. (SHORT)
26	04-03-548694	BAR, DRIVE, 44 3/32" LG.
	04-03-548467	BAR, DRIVE, BI-PART
	04-03-548468	BAR, DRIVE, S/S
27	04-09-723035	SCREW, SHC, M6 X 12
28	549842	HOLDER, CABLE

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Parts List

P/N: 549712	Motor/Gearbox and Encoder (complete)
P/N: 738686	Encoder Disc
P/N: 655711	CUD-9 Control Unit
P/N: 655753	CUD-9 Control Unit with Special Processor for Short Stroke Doors
P/N: 655724	CUJ-9 Control Unit
P/N: 655755	CUJ-9 Control Unit with Special Processor for Short Short Stroke Doors
P/N: 655750	Special Processor for Short Stroke Doors
P/N: 24-02-654658s	Fuses 2Amp. Set of 10
P/N: 04-02-654659s	Fuses 5Amp. Set of 10
P/N: 550191	Idler Pulley
P/N: 04-20-735251	ToothBelt (specify length)
P/N: 04-20-548722	Toothbelt for DA Drive Unit (8'-15' Bi-Part)
P/N: 04-20-548723	Toothbelt for DB Drive Unit (8'-8'6" Single Slide)
P/N: 04-21-701239	Carrier Roller Guide Track
P/N: 04-03-544958	Track Retaining Clip
P/N: 04-15-832376	Carrier Guide Wheel Assembly
P/N: 04-15-832440	Anti-Rise Wheel Assembly
P/N: 04-09-830374	Carrier Wheel Nut
P/N 04-03-548694	44" transmission rod
P/N 04-03-548467	33.5" transmission rod
P/N 04-03-548468	10.5" transmission rod
P/N: 50-15-390	Pin Guide
P/N: 50-15-147	Roller Guide
P/N: 50-15-015	Non-Panic Floor Guide

P/N: 04-02-654509B	PMD, 2000 Use Service Life
P/N: 04-02-654509C	PMD, 400 Use Service Life
P/N: 04-02-654509E	PMD, Restricted Customer Version, 400 Use Service Life

For Drive Module assemblies, see page 28.

Kits:

P/N: 549855	Belt Clamping Kit
P/N: 75-15-310	3 Position Switch – Clear
P/N: 75-15-311	3 Position Switch – Black
P/N: 75-15-100	4 Position Switch – Knob – Clear
P/N: 75-15-101	4 Position Switch – Knob – Black
P/N: 75-15-105	4 Position Switch – Key – Clear
P/N: 75-15-106	4 Position Switch – Key – Black
P/N: 655743	6 Position Switch – Knob – Clear
P/N: 655763	6 Position Switch – Knob – Black
P/N: 655740	6 Position Switch – Key – Clear
P/N: 655765	6 Position Switch – Key – Black
P/N: 04-15-548377	Carrier Mounting Kit
P/N: 04-15-548731	Drive Bar Kit, Bi-Part
P/N: 04-15-548732	Drive Bar Kit, Single Slide
P/N: 04-03-548694	Drive Bar (44-3/32")
P/N: 04-20-654461	Transmission Absorber

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Parts List

P/N: 04-05-832372	Door Stop
P/N: 04-20-830176	Door Stop Absorber
P/N: 04-15-832413	Door Stop Kit, Left Hand
P/N: 04-15-832414	Door Stop Kit, Right Hand
P/N: 04-15-645431	Door Stop Kit, Left Hand
P/N: 04-15-654430	Door Stop Kit, Right Hand

Labels:

P/N: 75-20-100	Dual Side "Automatic Door / Do Not Enter" – (Out)
P/N: 75-20-101	Dual Side "Automatic Door / Do Not Enter" – (In)
P/N: 75-20-102	Dual Side "Caution Automatic Door"
P/N: ????	Dual Side "In Emergency, Push To Open"
P/N: ????	Dual Side "Automatic Door - Stand Clear"

Push Plates:

P/N: US02-0153-02	Square: "Push To Open"
P/N: US02-0153-04	Square: Blank
P/N: 75-02-100	Round: "Push To Open"
P/N: 75-02-104	Round: Blank
P/N: 75-02-281	Narrow: "Push To Open"
P/N: 75-21-002	Installation Box for Narrow plates

Remote Push Plates (RF):

P/N: 75-02-269	Narrow: "Push To Open"
P/N: 75-02-273	Round: "Push To Open"
P/N: 75-02-271	Remote Receiver

Locks:

P/N: 04-02-692064	Lock, Fail-secure, Bi-Part
P/N: 04-02-692065	Lock, Failsafe, Bi-Part
P/N: 04-02-692066	Lock, Fail-secure, Right Hand
P/N: 04-02-692067	Lock, Fail-secure, Left Hand
P/N: 04-02-692068	Lock, Failsafe, Right Hand
P/N: 04-02-692069	Lock, Failsafe, Left Hand
P/N: 04-02-654423	Lock Fitting

Emergency Unit:

P/N: 30-02-654745	EUE Battery Pack

Miscellaneous:

P/N: 04-02-010	Chip Extractor Tool

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Notes

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Bulletins and Revisions

No bulletins or revisions are presently available for this manual.

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information bulletin

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(609) 443-5800 ■ FAX (609) 443-5629

#300

SEPT 2001

AMDII/MO

POWER-GLIDE AMD II CLOSING FORCE

Responding to a field inquiry, we tested the current inventory of AMD II controls (0103) & found that the measured forces of the AMD II are within ANSI standards, as delivered to & shipped from Besam Hightstown, with all PMD values at "Factory Settings". This is with function 98 "run program" set to a value of 02 from AB, which is not changed for the US market.
A situation has been found in changing the "run program" value (up or down) causes the closing cycle to increase in force to approximately 50lbs or more. This will also occur by simply programming the same factory setting of 02.
(Any change to the run program can result in these higher forces).

Further evaluation of the situation enabled us to reverse the condition by down-loading the original factory settings from a new control to the PMD using " F98 V97 "; then up-loading the settings from the PMD to the control in question using " F98 V96 ". This will bring the forces back to the factory settings as shipped from Hightstown & the door will work normally.
(As long as function 98 is not changed).

We also found that with a high speed closing setting of 35 (F04 V35) the door will travel at 1.5 seconds per foot with an approximate force of 29lbs., this may vary due to size & weight of the door. If you increase the closing speed to the ANSI maximum (1 foot per second) the closing force could exceed 40lbs., with that in mind function 04 should not be set higher than a value of 35.
(In every case the door should be checked with a gauge & an AAADM inspection performed when making any of the above adjustments).

We have made our parent company in Sweden aware of this issue & await their test results. Until then, to insure proper ANSI forces you must use the above method to rectify this situation on controls that have had function 98 changed.

If you have any questions please contact Besam Engineering at (800) 592-3726.