OPERATION & MAINTENANCE MANUAL

WEBSTER U ISB

PREPARED FOR:

MAYS-MAUNE-McWARD, INC.

540 AXMINISTER DRIVE
FENTON, MO 63026

DESCRIPTION:

(4) SAFESCAPE S9000 SIDE COILING FIRE DOOR SYSTEMS

SIDE COILING FIRE & SMOKE RATED DOOR SYSTEMS WITH EGRESS

WITH EGRESS

Safescape® S9000 Fire Door Systems are undetectable when in the fully open, stored and fire ready position....

when activated the Safescape® S9000 creates both the fire & smoke protection necessary while also allowing for Egress.

SAFESCAPE®
MODELS S9000 & S9500

PRODUCT DESCRIPTION: The Safescape® S9000 Series Fire Door Systems are side coiling fire and smoke rated doors that incorporate integral swinging type doors to allow for egress. The side coiling design makes this product ideal for openings in fire walls where headroom clearance is limited. This Safescape® Fire Door System is unique in that it's side acting design enable it to navigate around tight curves and contoured openings.

PRODUCT HIGHLIGHTS:

- Available with up to a 3 hour fire rating.
- Available as a Smoke & Draft rated assembly.
- Utilizes the Auto-Set® automatic resetting technology.
- Fail-Safe Design - does not require electricity or battery back-up systems when activated to the self-closing fire condition mode.
- Navigates around curved and contoured openings requiring only 3'-0" radius.
- Custom designed up to 30 feet in height and unlimited in width.
- Available without a floor track assembly.
- Requires only 7" of clearance for the head track assembly.
- Can be designed as a bi-parting fire door system.
- Available with either one or multiple swinging egress doors which are the preferred method for egress.
- Retracts into a side pocket when in the stored fire ready position and becomes virtually undetectable.

***SAFESCAPE®* Model S9000 FIRE DOOR SYSTEM**

This product is covered under US Patents 5,203,392 - 5,245,879 - 5,355,927 - 5,386,891 - 5,542,460 - 5,605,185 - 5,673,514 - 5,893,234

www.McKeonDoor.com
tel: 800.266.9392, 631.803.3000 fax: 631.803.3030 email: info@mckeondoor.com

SAFETY SUMMARY

SAFETY SUMMARY SHEET
S9000 SERIES

WARNING!

These warning paragraphs must be observed in order to prevent serious injury or death to an installer or operator.

CAUTION!

These caution paragraphs must be observed in order to prevent damage, destruction, or loss of operating performance and effectiveness of the product.

It is the responsibility and duty of all personnel involved in the operating and maintenance of this equipment to fully understand the WARNING and CAUTION procedures by which hazards are to be reduced or eliminated. Personnel must become thoroughly familiar with all aspects of safety and equipment prior to any operation or maintenance of this equipment.

WARNING! Some doors include a spring charge-retaining pin near the end of the shaft for the counter balance spring. This pin should remain in the shaft until the curtain has been attached, the motor operator drive chain has been installed and power has been connected to the motor operator.

WARNING! Be aware of the inherent dangers of working on electrical equipment, as well as working above the finish floor.

WARNING! The motor is operated and controlled by a minimum of 110 volt power. Secure power source to the motor operator when conducting maintenance on the door.

WARNING! Install the spring charge-retaining pin whenever the curtain weight is removed from the shaft, because without the curtain's weight, there is a potential for an uncontrolled discharge of the counterbalance spring assembly.

CAUTION! Do not, under any circumstances, attempt to shift to manual operation while the motor operator is running because of potential damage to the clutch.

CAUTION! Care should be taken to prevent the curtain from doubling back on itself in handling before installation. In some cases the slats or panels may be forced apart when an effort is made to readjust the slats or panels back to their proper engagement.

CAUTION! If the door will not operate properly or freely in the manual mode, damage may occur if electrical operation is attempted.

CAUTION! Be prepared to immediately stop the door if it appears that the door will come in contact with the mechanical stops or go beyond the fully open position when opening as well as pile on the floor or into the receiver when closing. During the initial electrical checks, personnel should be in a position to turn off the power source in case the "STOP" push-button fails to work.

CAUTION! Do not attempt to operate the door electrically prior to these checks.

CAUTION! If limit switches are not set, allow door to travel only a short distance to verify operation, and then stop.

CAUTION! If door operation is reversed from the direction selected by the push-button or key switch control station, then motor rotation should be reversed by changing the phase of the motor's power source at the starter.

CAUTION! The "OPEN" and "CLOSE" control points must be wired to the terminals shown on the wiring diagram. Do not change push-button or key switch control station wiring if the door travels in the wrong direction.

CAUTION! Be prepared to stop the door with the "STOP" button when adjusting THE limit switches.

INSTALLATION INSTRUCTIONS
FOR
SAFESCAPE FIRE DOOR SYSTEMS
WITH EMERGENCY EGRESS
MODEL: S-9000
MODEL: S-9500

McKEON
Safescape S9000 Series

RETRACTABLE SIDE COILING FIRE DOOR SYSTEMS WITH EMERGENCY EGRESS

Pocket cover doors are not required, but they may be used to aesthetically conceal the McKeon S9000 fire doors. When properly done, they add to the continuity of the project and provide anonymity to the installation. McKeon Door Company, does not manufacture or install pocket cover doors, therefore they should be specified in a specification section other than of McKeon Safescape fire doors. Unless specifically required by the authority having jurisdiction, pocket doors need not be fire rated. The thickness and covering material is at the discretion of the designer. Many covering materials have been used successfully including plastic laminates, wood veneers, vinyl, paint, bronze, stainless steel and marble. The aggregate thickness of the pocket cover door and frame, however, must be added to the calculation of the pocket depth.

Some basic criteria for the successful design of pocket cover doors is as follows:

1. Doors must be side hinge swinging and must swing at least 180 degrees. When in the open position, pocket cover doors may not encroach on the 12" clear minimum opening width required for the pocket.

2. Doors must be operable with less than 40 lbs. of lateral force. As the Side Coiling Fire Door is activated, the leading edge will make contact with the cover door and push it open. 40 lbs. is the normal operating force required for egress-type swinging doors and only if unusual door weight is involved would special care need to be taken.

3. Pocket cover doors should remain held in the open position when activated so as not to obstruct the path of the Side Coiling Fire Door.

4. McKeon Door Company, recommends a spring-type hinge be specified such as a Stanley #2060R to hold pocket cover doors open when activated. These hinges allow the spring action to be manually reversed so that the pocket cover door becomes self-opening rather than self-closing. Pocket cover doors without spring-type hinges may swing back into the operating path of the Side Coiling Fire Door and cause damage or obstruct emergency operation.

5. A magnetic catch can serve to keep the pocket cover door in the closed position when the Side Coiling Fire Door is not in use. Positive latches such as hooks or throw bolts are not permitted because they impair the ability of the Side Coiling Fire Door to push the pocket cover door open.

6. A door frame is not required although one may be used. For aesthetic considerations, however, a "frame less" design leaves only two slight reveals at the door edges and provides a less noticeable pocket cover door installation.

INSPECTION OF MATERIALS

Upon receipt of shipment – immediately check that you have received the correct number of pieces, and that the entire shipment is intact and complete. Any damage or shortages should be noted on the freight carrier's bill of lading before signing and accepting the shipment.

Should damage or shortages be found after the shipment has been accepted notify the delivering carrier at once and confirm such notification to them in writing.

Call McKeon Door Company's Customer Service Department for the cost to replace/repair the items in question and submit this information in writing to the carrier. This forms the basis for the required freight claim.

All shipments are made F.O.B. factory, freight allowed, and it is the purchaser's responsibility to file all freight claims. McKeon Door Company will provide any necessary backup paperwork to substantiate your freight claim, but McKeon Door Company cannot file these claims for you, as ownership for the shipment determines who can and must file the freight claim.

Before beginning installation – read the Safety Summary Sheet, As-Built Shop Drawings and these Installation Instructions thoroughly. If you have any questions or concerns please contact our Technical Support Department at 800-266-9392.

INSTALLATION PROCEEDURE

STEP 1 – A Typical Side Coiling Fire Door with Integral Emergency Egress Door(s) Will Include The Following Components

a) Door curtain, consisting of a series of slats assembled together with two (2) counterbalance assemblies already installed in a predetermined coil box assembly.

b) Model S9000 will include one (1) egress door and frame assembly.

c) Model S9500 will include two (2) egress doorS and frame assemblies.

d) Head track assembly of length and configuration as indicated o the As-built shop drawings.

e) Floor track assembly including removable cover plates of length and configuration as indicated on the As-built shop drawings (optional).

f) Mounting hardware box.

g) Coil box cover panels (if required).

h) Receiving edge channel.

i) Motor operator drive assembly already installed onto coil box assembly.

WARNING!

Side coiling fire doors contain two (2) counterbalance assemblies which are both pre-charged from the factory with very high amounts of captured spring force.

1. Tension **retaining pin #1 must never be removed** (refer to figure 1).

2. Tension **retaining pin #2 must not be removed prior to power and central alarm system connection to fire door motor operator** and **must be removed prior to any operation of the door** (refer to figure 1).

   IMPORTANT NOTE: Not following this procedure as stated above can result in serious injury and / or damage to the door.

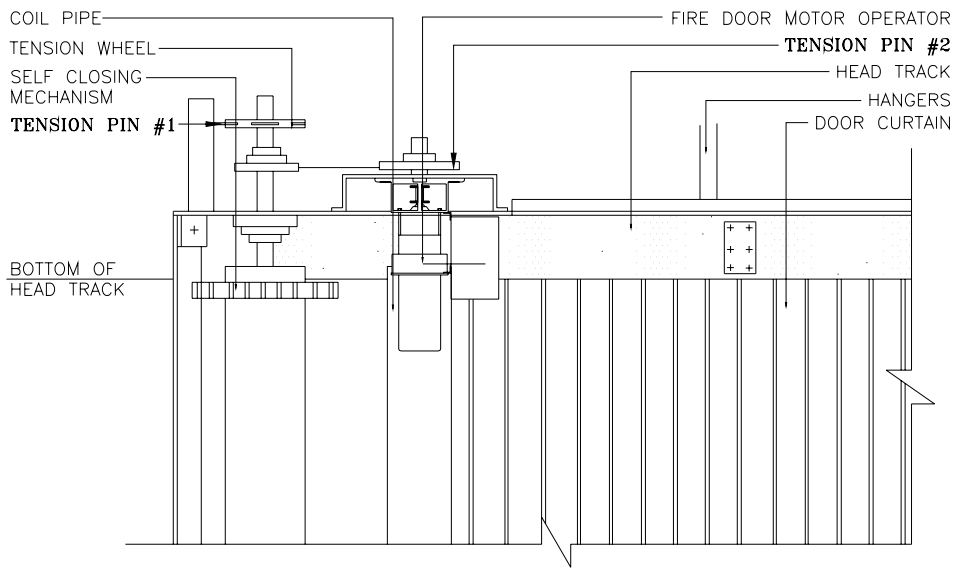


FIGURE 1

STEP 2 – Placement and Installation of Coil Box Assembly (Refer To Figures 2 & 3)

a) Verify that the coil box pit has the correct penetration into the floor, is of the correct size and orientation in accordance with the As-built shop drawings.

b) Carefully raise and place the coil box assembly into the floor pit.

c) Using the bottom plate leveling bolts raise the coil box so that it stands flat in the coil box pit and is perfectly level.

NOTE: Coil box assemblies are very heavy and may not have a symmetrical center of gravity, Coil box assembly must be moved very carefully.

d) In some cases depending on you project requirements the coil box assembly may be equipped with supporting clip angles for extra support to the adjacent construction (refer to As-Built Shop Drawing). If your coil box assembly was provided with supporting clip angles install them now.

e) Make sure that coil box is completely supported before removal of any hoisting or supporting equipment that was used.

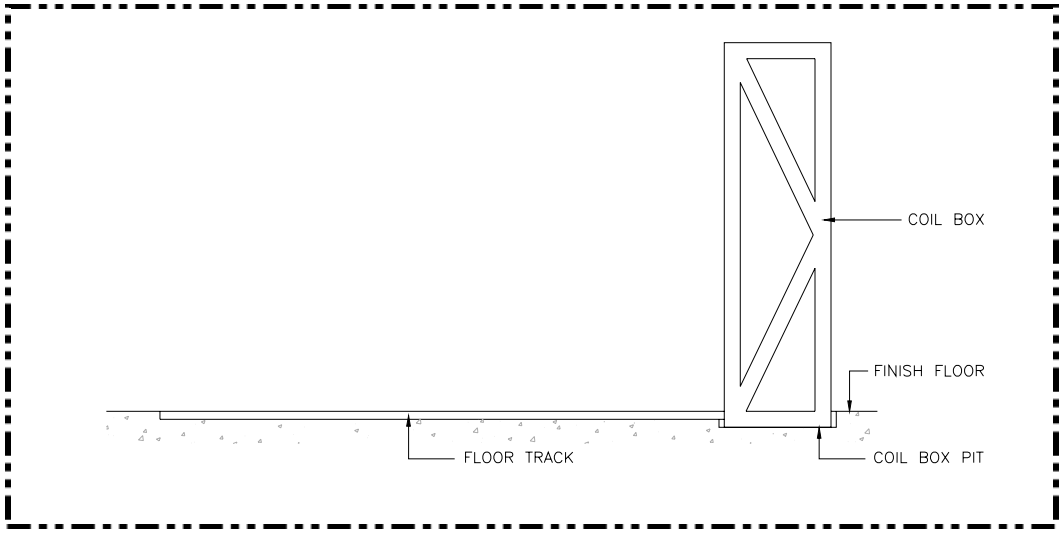


FIGURE 2 – WITH A FLOOR TRACK ASSEMBLY

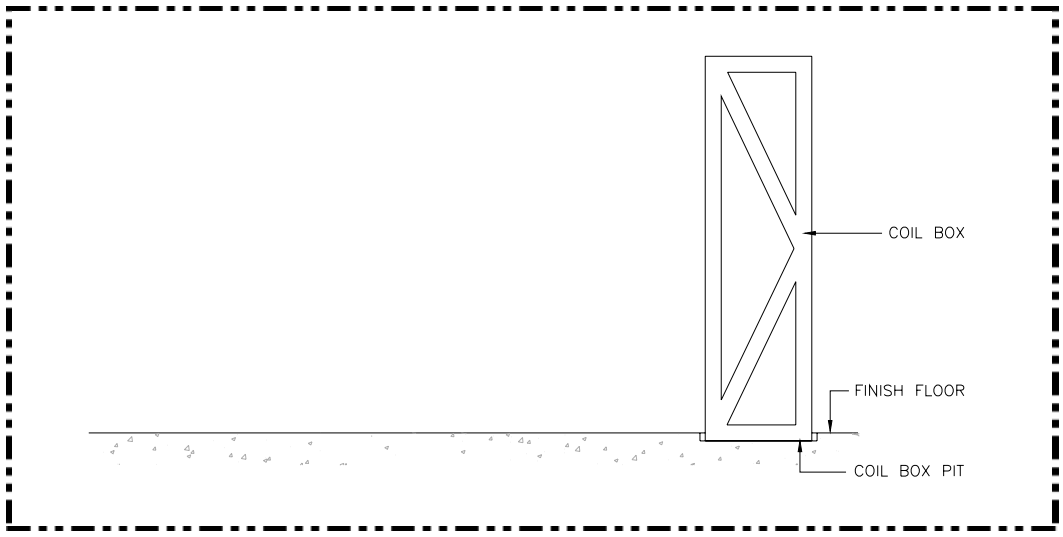


FIGURE 3 – WITHOUT A FLOOR TRACK ASSEMBLY

STEP 3 – Installation & Mounting of the Pocket Head Track Section

a) Determine the correct height for the pocket head track section as noted on the as-built shop drawings and make sure that dimension matches the current height dimension of the internal head track located inside the coil box assembly.

b) If the tip of floor track to tip of head track or the finish floor to tip of head track dimension does not match that which is noted on the as-built shop drawings or that which is required you may need to either raise or lower the coil box assembly.

c) If required install pocket head track mounting clips or rods and hardware as required to the existing head track support structure.

d) Carefully raise pocket head track assembly into position and secure to the existing overhead structural support.

e) Align and secure pocket head track assembly with the internal head track which is located inside the coil box assembly and make sure that the pocket head track assembly is level and true in accordance with the height requirement as noted in the as-built shop drawings.

NOTE: Misalignment of these tracks will cause the door to jam at the point where the door's internal head track and pocket head track meet.

STEP 4 – Installation of Pocket Side Floor Track Assembly (Optional Component Refer To As-Built Shop Drawings)

a) Verify that the floor track trench has the correct penetration into the floor, is of the correct size and configuration in accordance with the as-built shop drawings.

b) Carefully place the floor track assembly into the pocket side floor track trench.

c) Using shims level the floor track assembly so that it sits flat in the floor track trench and is perfectly level in both directions.

d) Align and secure the pocket floor track with the internal floor track assembly which is located inside the coil box Assembly.

e) Secure floor track in place and prep for grouting after the door has been fully installed and tested.

NOTE: Misalignment of these tracks will cause the door to jam at the point where the door's internal floor track and opening floor track meet.

f) Secure the pocket floor track in place and prep for grouting after the door has been fully installed and tested.

g) Check and verify overall dimensions in accordance with the as-built shop drawings, Pay special attention to the tip the tip of floor track to tip of head track dimension as this dimension must be exactly as shown and indicated in the as-built shop drawings. Please take note that these dimensions ARE NOT ADJUSTABLE.

STEP 5 – Installation of Egress Door Frame(s) Assembly

a) From the opening side of the pocket area, slowly slide each frame assembly into track(s) assembly by inserting the top roller assemblies which are located at the top of each frame into the head track (refer to as-built shop drawings). If your door is supplied with the optional floor track make sure the floor pins are also inserted into the floor track assembly.

b) Attach each frame to the curtain front slat with the hardware which was provided.

c) Install egress door(s) into the frame assembly.

STEP 6 – Installation of the Opening Head Track Assembly (Refer To Figures 4 & 5)

f) Determine the correct height for the head track as noted on the as-built shop drawings and make sure that dimension matches the current height dimension of the internal head track located inside the coil box assembly.

g) If the tip of floor track to tip of head track or the finish floor to tip of head track dimension does not match that which is noted on the as-built shop drawings or that which is required you may need to either raise or lower the coil box assembly.

h) If required install head track mounting clips or rods and hardware as required to the existing head track support structure.

i) Carefully raise head track assembly into position and secure to the existing overhead structural support.

j) Align and secure opening head track assembly with the pocket head track and make sure that the opening head track assembly is level and true in accordance with the height requirement as noted in the as-built shop drawings.

NOTE: Misalignment of these tracks will cause the door to jam at the point where the door's opening head track and pocket head track meet.

f) Check and verify overall dimensions in accordance with the as-built shop drawings, Pay special attention to the tip the tip of floor track to tip of head track dimension and the finish floor to tip of head track dimension as they must be exactly as shown and indicated in the as-built shop drawings. Please take note that these dimensions **are not adjustable**.

STEP 7 – Installation of Opening Floor Track Assembly Optional Component Refer To As-Built Shop Drawings (Refer to Figures 2 & 5)

a) Verify that the floor track trench has the correct penetration into the floor, is of the correct size and configuration in accordance with the as-built shop drawings.

b) Carefully place the floor track assembly into the floor track trench.

c) Using shims level the floor track assembly so that it sits flat in the floor track trench and is perfectly level in both directions.

d) Align and secure the floor track assembly with the pocket floor track.

NOTE: Misalignment of these tracks will cause the door to jam at the point where the door's opening floor track and pocket floor track meet.

e) Secure floor track in place and prep for grouting after the door has been fully installed and tested.

f) Check and verify overall dimensions in accordance with the as-built shop drawings, Pay special attention to the tip the tip of floor track to tip of head track dimension as this dimension must be exactly as shown and indicated in the as-built shop drawings. Please take note that these dimensions **ARE NOT ADJUSTABLE**.

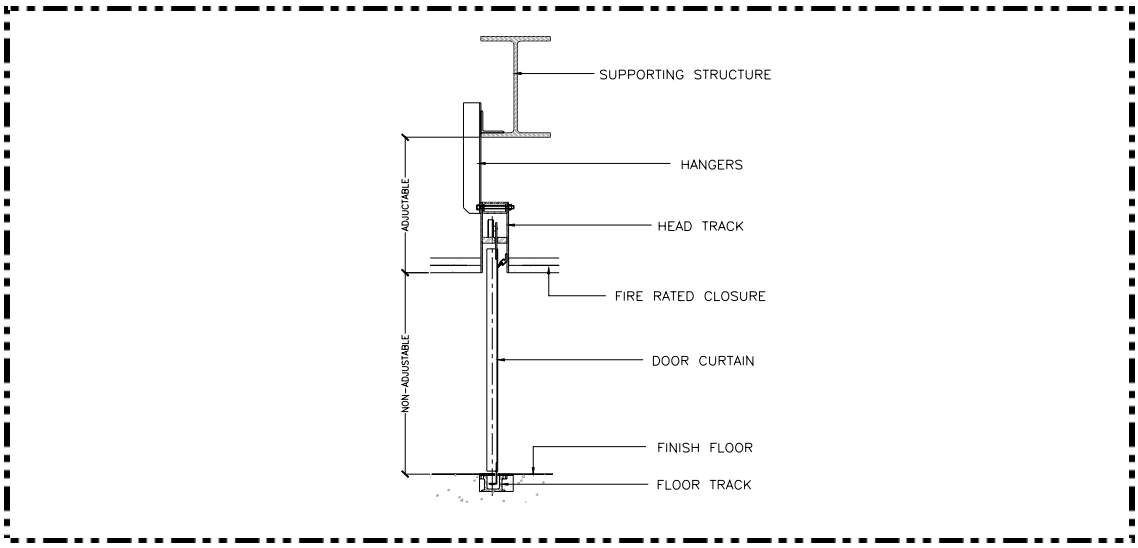


FIGURE 4 – WITH A FLOOR TRACK ASSEMBLY

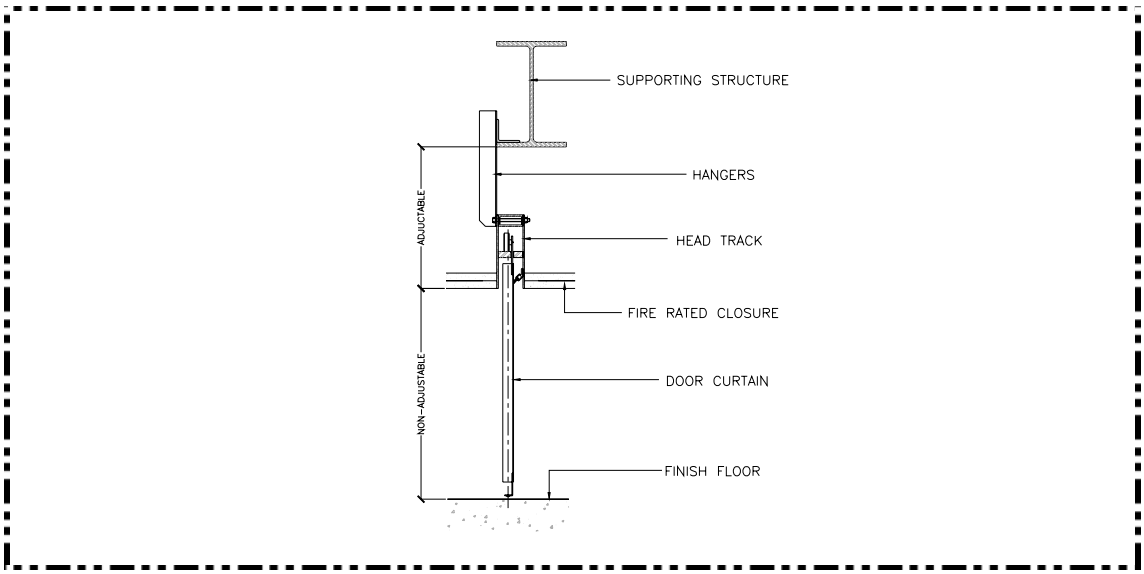


FIGURE 5 – WITHOUT A FLOOR TRACK ASSEMBLY

STEP 8 – INSTALLATION OF RECEIVING CHANNEL (REFER TO FIGURE 6)

a) POSITION RECEIVING CHANNEL UPRIGHT, STRAIGHT AND PLUMB AT THE LOCATION AS INDICATED IN THE AS-BUILT SHOP DRAWINGS.

b) MAKE SURE THAT THE RECEIVING CHANNEL LEVEL AND SQUARE WITH THE HEAD TRACK ASSEMBLY AND IF APPLICABLE WITH THE FLOOR TRACK ASSEMBLY PRIOR TO SECURING IT IN PLACE.

c) BE SURE THAT THE RECEIVING CHANNEL IS IN THE ALIGNED POSITION TO RECEIVE THE LEADING EDGE WHEN THE DOOR IS IN THE COMPLETELY CLOSED POSITION.

d) SECURE THE RECEIVING CHANNEL BY BOLTING IT DIRECTLY TO EXISTING STRUCTURAL SUPPORT MEMBER.

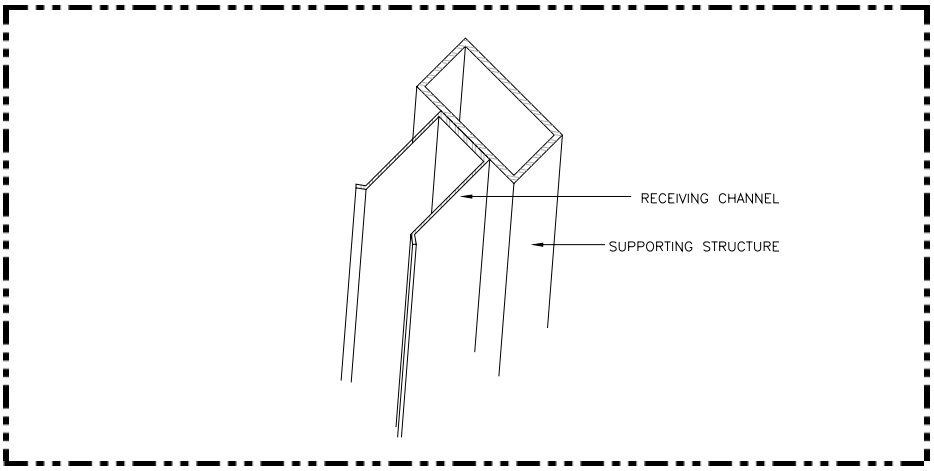


FIGURE 6

STEP 9 – INSTALLATION OF COIL BOX COVERS

a) INSTALL COIL BOX END COVERS BY USING THE SCREWS THAT WERE PROVIDED IN THE HARDWARE PACKAGE.

b) SECURE AND SCREW STRICTLY AROUND THE PERIMETER OF EACH FLAT COVER DIRECTLY TO THE PERIMETER OF THE COIL BOX FRAME.

STEP 10 – WIRING OF MOTOR OPERATOR (REFER TO WIRING DIAGRAM INSIDE CONTROL PANEL)

a) CONNECT LINE VOLTAGE TO THE PROPER TERMINALS IN ACCORDANCE WITH THE INSTRUCTIONS NOTED ON THE WIRING DIAGRAM.

NOTE: LINE VOLTAGE AND PHASE MUST MATCH THAT WHICH IS INDICATED ON THE AS-BUILT SHOP DRAWINGS AND THAT WHICH IS INDICATED ON THE WIRING DIAGRAM.

b) Determine location of key switch control station as directed by the owner architect or authority having jurisdiction and mount control station accordingly.

c) Run wiring from motor operator to the control station and connect wiring in accordance with the instructions noted on the wiring diagram.

d) Connect fire alarm to the proper terminals as noted on the wiring diagram.

NOTE: Fire alarm voltage and current must match that which is indicated on the As-built shop drawings.

IMPORTANT NOTE: After connection and activation of the line voltage and the fire alarm has been made to the motor operator make sure to remove tension pin #2 prior to attempting any operation of the door. **Tension pin #2 must be removed prior to any operation of the door (refer to figure 1).** Operating the door prior to removing tension pin #2 will result in damage to the door and/or possible serious injury to personnel.

STEP 11 – Testing & Final Adjustments

a) Check and make sure that the correct required line voltage and phase has been connected to door's motor operator.

b) Check and make sure that the correct required fire alarm/smoke detector voltage and current has been connected to door's motor operator alarm terminal strip.

c) Check and make sure that the control station has been correctly wired to door's motor operator terminal strip.

d) Prior to attempting to operate the door make sure set and adjust open and closed limit switches in accordance with the limit switch setting instructions located in the motor operator's owners manual.

e) Prior to attempting to operate the door make sure you tension pin #2 has been removed.

f) Activate the control station to check the closing and opening cycles to assure of the door's smooth normal operation.

g) Check the door's self closing operation by activating the fire alarm/smoke detector.

EGRESS DOOR
INSTALLATION INSTRUCTIONS

Total Door® Pre-Installation Check List

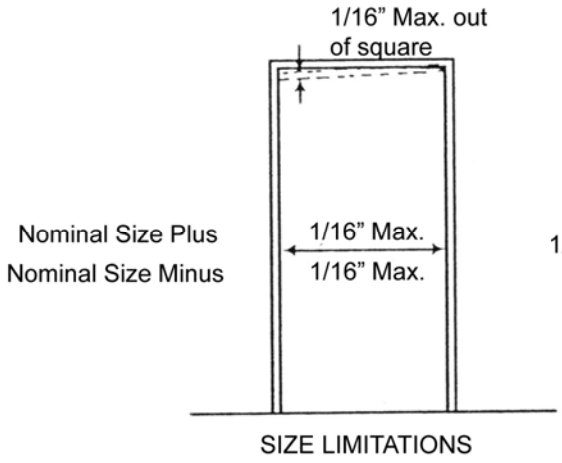
TOTAL DOOR® should never be installed in a frame that is not within stated tolerances.

A TOTAL DOOR® installed incorrectly or in a frame that is not within stated tolerances becomes the installer's responsibility. It is not covered by the Total Door® Performance Warranty.

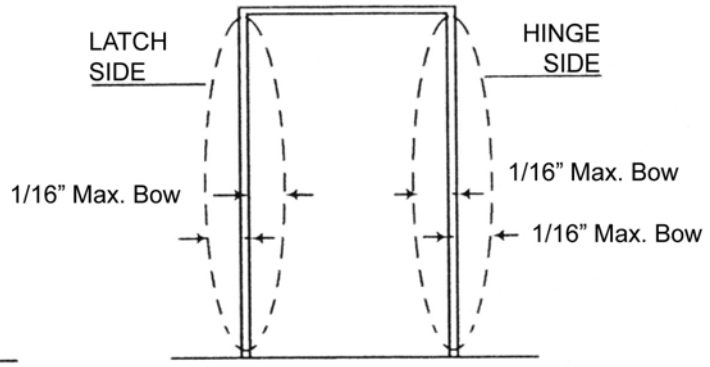
Thus, it is especially important in both replacement/renovation projects and new construction that frames be checked for size, straightness, and plumbness.

Field adjustments, including re-setting the frame, should be complete prior to installation of TOTAL DOOR®.

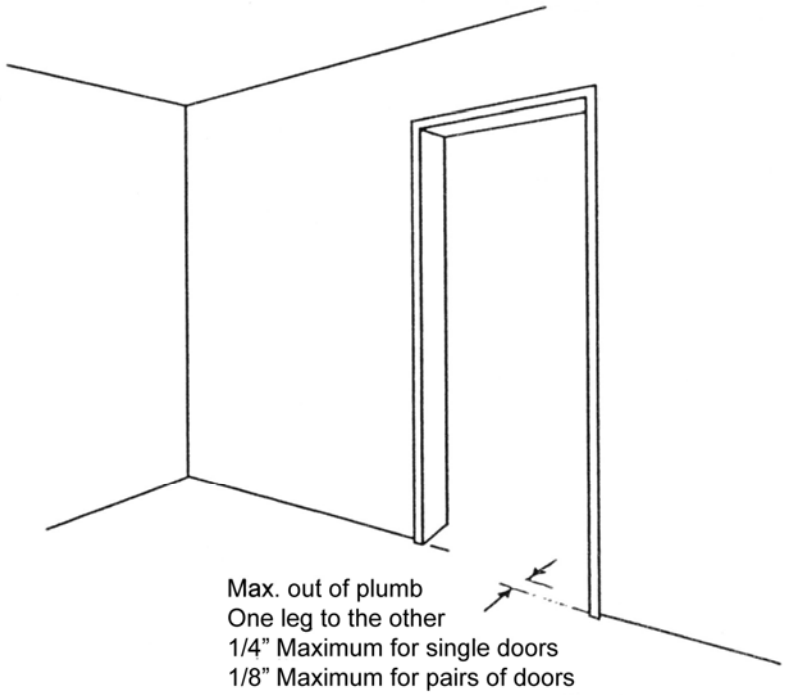
TOTAL DOOR® Dimensional Tolerances: (Note: These tolerances should never be exceeded)



SIZE LIMITATIONS



STRAIGHTNESS

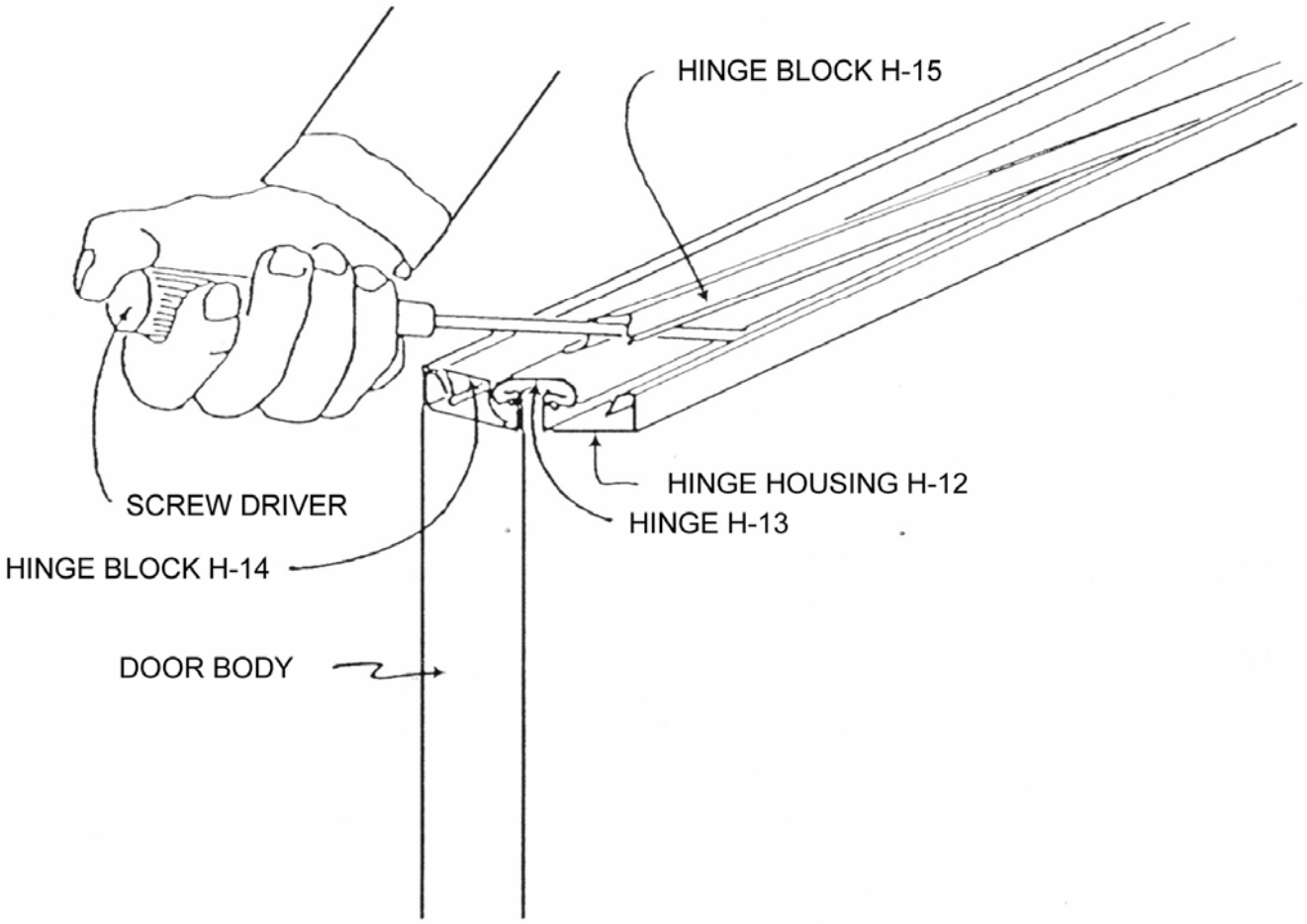


PLUMBNESS

Max. out of plumb
One leg to the other
1/4" Maximum for single doors
1/8" Maximum for pairs of doors

HINGE SIDE

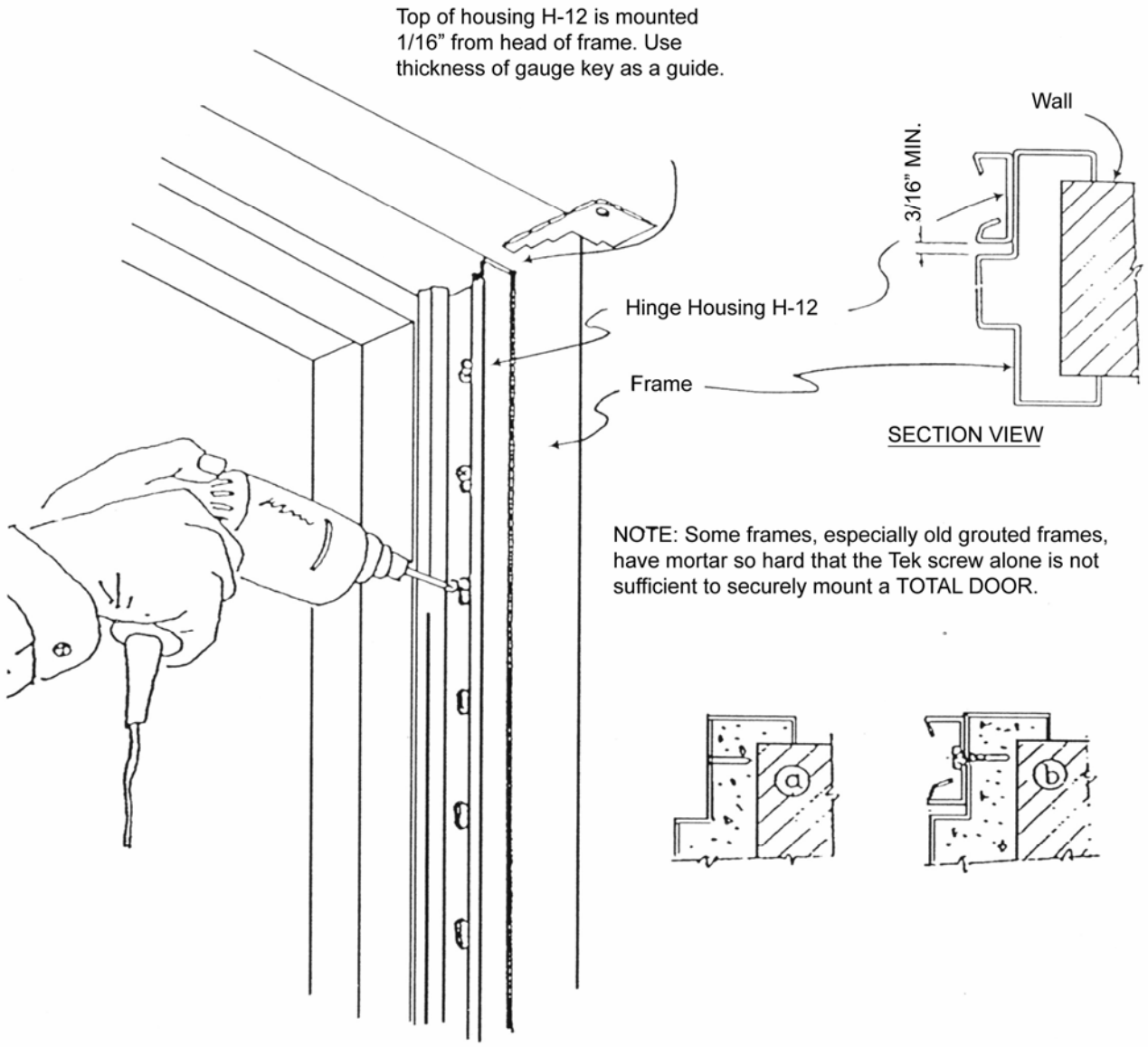
1. Pry out hinge block, H-15.
2. Hinge housing H-12 may now be removed.
3. Make certain hinge block H-14 and hinge H-13 remain securely seated in door stile.



NOTE:
Use screwdriver only to begin removal of hinge block H-15. Use prying action of fingers along full length "ROLL" out the H-15. Do not strip out or rip out the H-15, as this will deform the member.

4. Place hinge housing H-12, flat against jamb and 1/16” from frame head, with notch on the pull side. Allow 3/16” clearance between H-12 and rabbet (In a cased opening, H-12 may be flush to 1/16” from edge of jamb on pull side). Use installation key, which is provided, to insure proper tolerances.

5. Hold hinge housing H-12, in position and install 3 Tek screws, one at the top ROUND hole, one in the middle slot, and one at the bottom slot. The Tek screws, which are installed in the middle and bottom slots, should be at the bottom portion of those slots.



We have found the following procedure for installation to be fast, secure, and economical.

a) Use a 1/8” masonry drill bit to drill holes 3/4" deep.
b) Install the #10 Tek 3 screws supplied with the door.

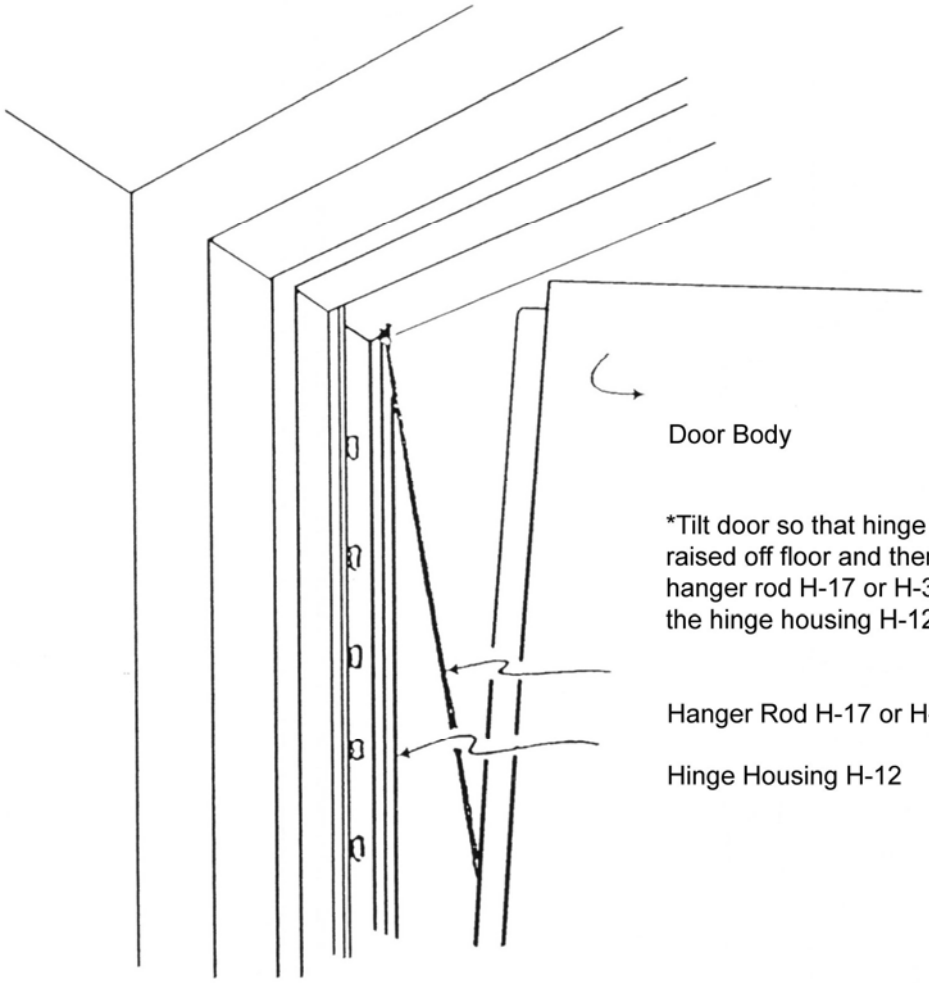
6. Stand door up. Place it at approximately 30° angle to the door jamb at the hinge housing H-12.

7. Tilt hinge side of door upwards* to facilitate seating the top hook of the hanger rod in the rectangular slot in the top of the hinge housing H-12.

8. Insert lower hook of stainless steel hanger rod in the rectangular notch on the pull side of the door stile about 24" from the top of the door. The door is now suspended from the frame by the hanger rod.

*When tilting the door, the space between the top of the door and the jamb, SHOULD NOT exceed 6".

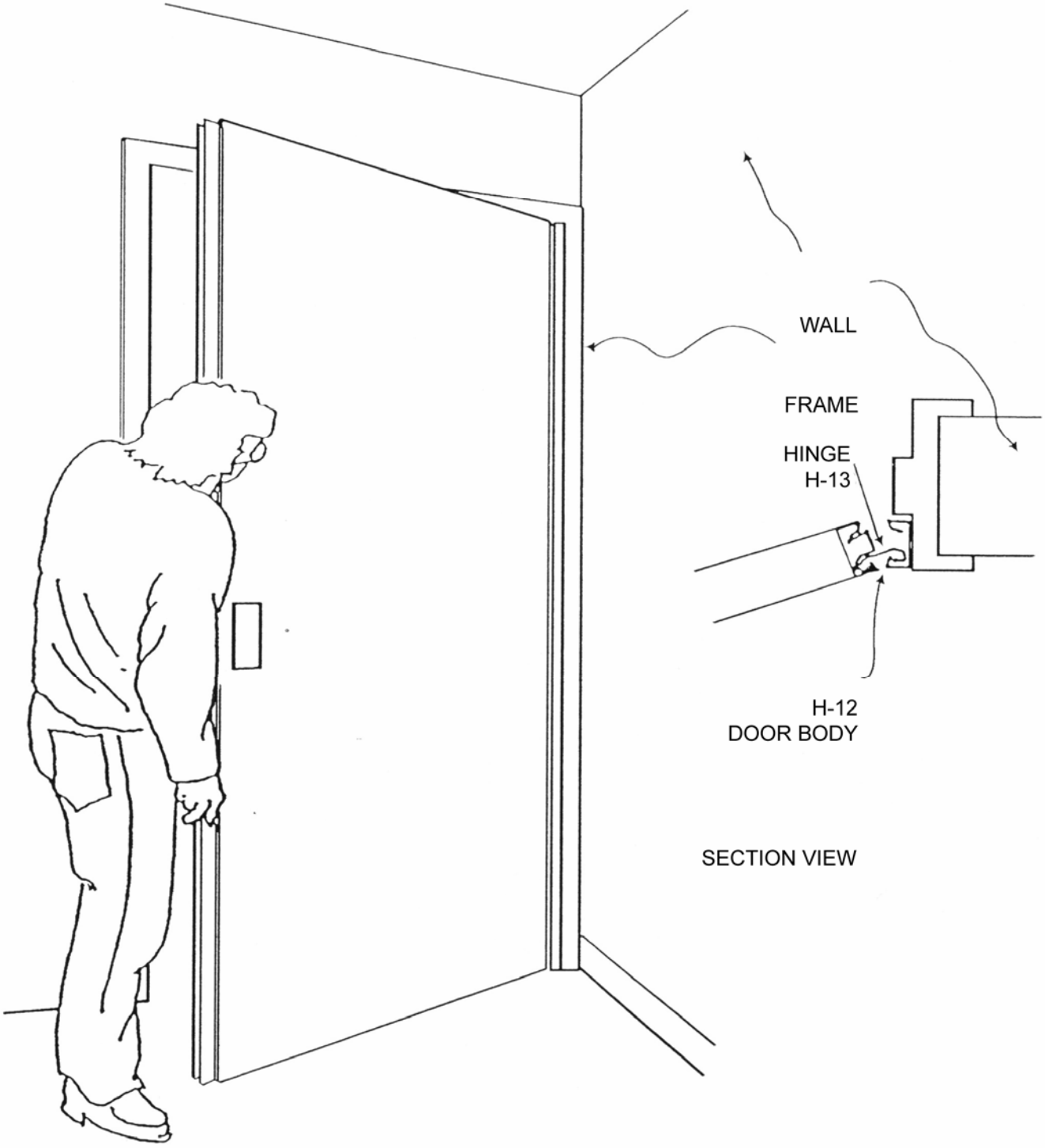
This can cause hanger rod failure.



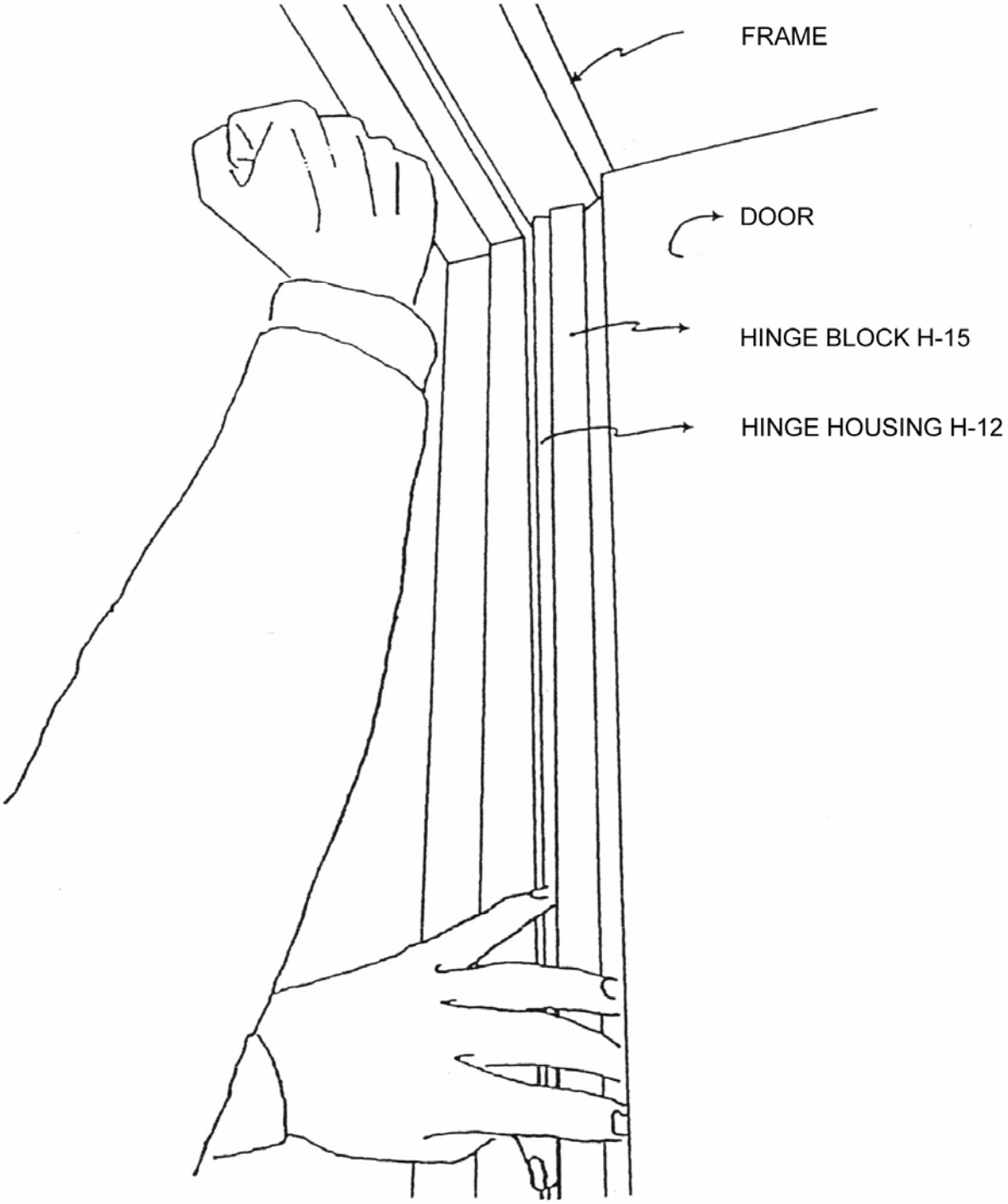
Note: See Technical Data Sheet #40B
For installation of H-50

9. Lift the latch side of the door so that the hinge side is vertical and parallel to the hinge housing H-12.

10. Move the door towards the hinge housing H-12 mounted on the jamb and engage the bulb of the hinge H-13 inside the near lip of the hinge housing H-12.



11. Assure the bulb of the hinge H-13 remains securely seated inside the lip of the hinge housing H-12 by opening the door to its maximum open position. Use the short sections of hinge block material supplied with your parts and snap them into place. This secures the door in the frame while allowing the door to be adjusted either up or down. If there is an adjustment to be made to allow the door to fit in the opening, remove the top screw from the round hole and loosen the middle and bottom screws. Slide the hinge housing as required and re-secure the top screw in the new hole. Tighten middle and bottom screws. Once the door is in the proper location in the opening, install the remaining 12 Tek screws in the remaining slots for a total of 15. Take out the short sections of hinge block material used for adjusting and snap the hinge block H-15 into place along the full length of the door— starting at the top without deforming the hinge block (if more than hand force is required, use only a rubber mallet, do not use a hammer or other hard object). The door is now installed.



INSTALLATION INSTRUCTIONS

AND

OPERATION MANUAL

FS-EP Series
Rolling Fire Door Operators

UL325-2010 Compliant

Restricted Duty Operators

SMART Control

McKEON

04/13
This Product is Covered Under US Patents 5,605,185 5,673,514 & 5,893,234

IMPORTANT INSTALLATION INSTRUCTIONS

WARNING –To reduce the risk of death or serious injury to persons:

1. READ AND FOLLOW ALL INSTALLATION INSTRUCTIONS.

   WARNING! – Components under **extreme spring tension** can cause death or serious injury.

2. Install only on a properly operating and balanced door. A door that is operating improperly could cause death or serious injury. Trained door systems technicians make all necessary adjustments and repairs to the door before installing the operator.

   Note: Fire door spring tension must be adjusted per the manufacturer's installation instructions to allow for automatic closing during a drop test, fusible link/alarm activation and/or power failure (Power failure condition only applies to operators capable of fail-safe closing).

3. Remove all pull ropes.

4. Unless the door operator includes an internal lock sensing system, or external electrical interlocks are installed, remove or make all door locks inoperative, or secure locks in the unlocked position to prevent operation with the locks engaged.

5. Install the door operator at least 8 feet or more above the floor if the operator has exposed moving parts. If it is installed less than 8 feet above the floor, any exposed moving parts must be covered or guarded.

6. Do not connect the door operator to the source of power until instructed to do so.

7. Locate the control station (open-close-stop push button, key station, or the like):
   a) within sight of the door
   b) at a minimum height of 5 feet above the floor so small children cannot reach it, and
   c) away from all moving parts of the door.

8. Install the Entrapment Warning Placard next to the control station in a prominent location.

9. Make sure the available power supply to be connected to the operator is of the same voltage, frequency, phase and wattage as indicated on the nameplate of the operator.

10. Read and understand the wiring diagram of the operator and the control station and any other equipment to be connected to the operator.

11. Always disconnect power whenever installing or servicing the door operator or door.

12. All wiring must be permanent and comply with National Electrical Code (NEC) and local code requirements.

13. Any change in mounting position may result in a change of operator rotation and consequently in a change of control functions. Consult factory for any changes.

14. For products having a manual release, instruct the end user on the operation of the manual release.

SPECIFICATIONS

MOTOR	
Type:	Restricted cycle duty (30 cycles per hour)
Horsepower:	1/3 hp, 1/2 hp, 3/4 hp
Speed:	1700 RPM
Voltage:	115, 230 – 1 phase 208/230, 460, 575 – 3 phase 230 volt 3 phase motor is suitable for use with 208 volts *(see Wiring Diagrams and Appendix 5 for wiring change instructions)*
Current:	See motor nameplate
ELECTRICAL	
Transformer:	24VAC
Wiring Type:	Momentary pressure open, stop, constant pressure close (provided standard), with provision for momentary pressure close*****
Limit Adjustment:	Linear driven, fully adjustable screw type cams.
MECHANICAL	
Drive Reduction:	43:1 (1/3 hp & 1/2 hp), 57:1 (3/4 hp)
Output Shaft Speed:	39 RPM (1/3 hp &1/2 hp), 30 RPM (3/4 hp)
Door Speed:	6 - 8” per sec. average (typical)
Brake:	Solenoid actuated brake
ENTRAPMENT PROTECTION	
Sensing Edge*:	(Optional) Sensing device attached to the bottom edge of the door.
Non-Contact Device*:	(Optional) Photo eye device.
*** Per the requirements of UL Standard 325, the door operator is setup for constant pressure to close the door. As an alternative, the door may be provided with a monitored entrapment protection device that will reverse the door upon contact with or detection of an obstruction during closing. Adding an entrapment device would enable momentary close operation.**	

Notes:

1. Non-contact device (photo eye) can be used on doors up to 45 ft. wide (or maximum rated range of device if less than 45 ft.). Use a sensing edge to provide entrapment protection on doors over 45 ft. wide.
2. Sensing edge can be used on all doors.

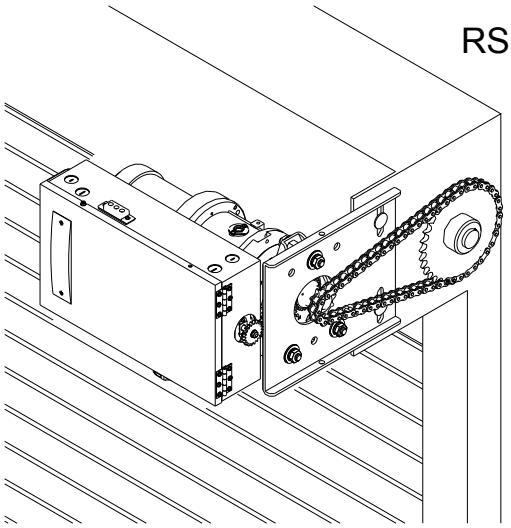
TYPES AND SIZES OF DOORS

Consult factory for details.

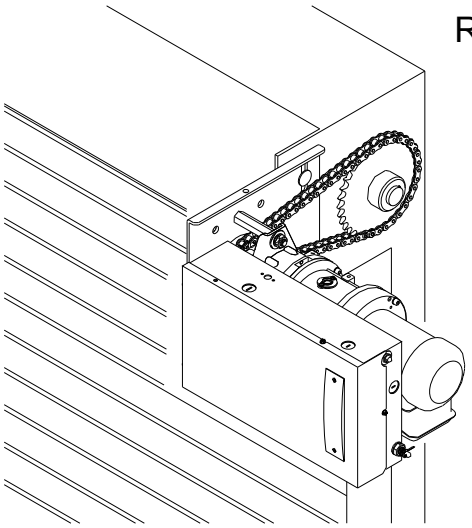
INSTALLATION INSTRUCTIONS

INSTALLATION POSITIONS (for 1/3 hp, 1/2 hp)

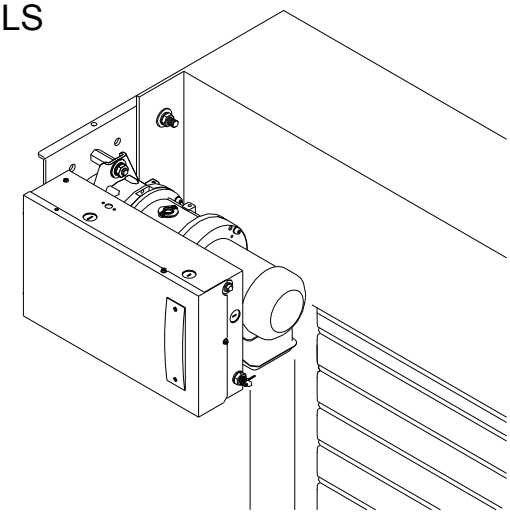
RS



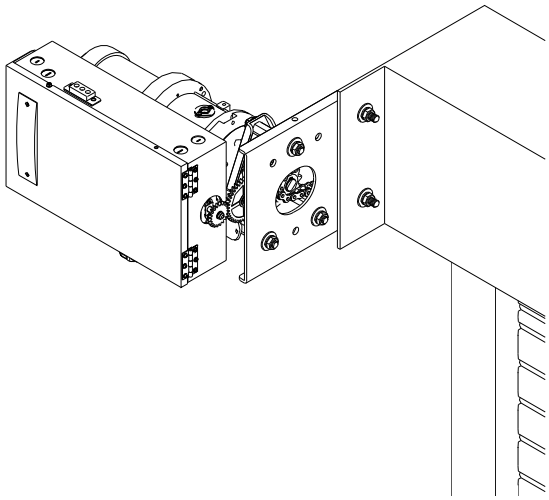
RA



LS



LA

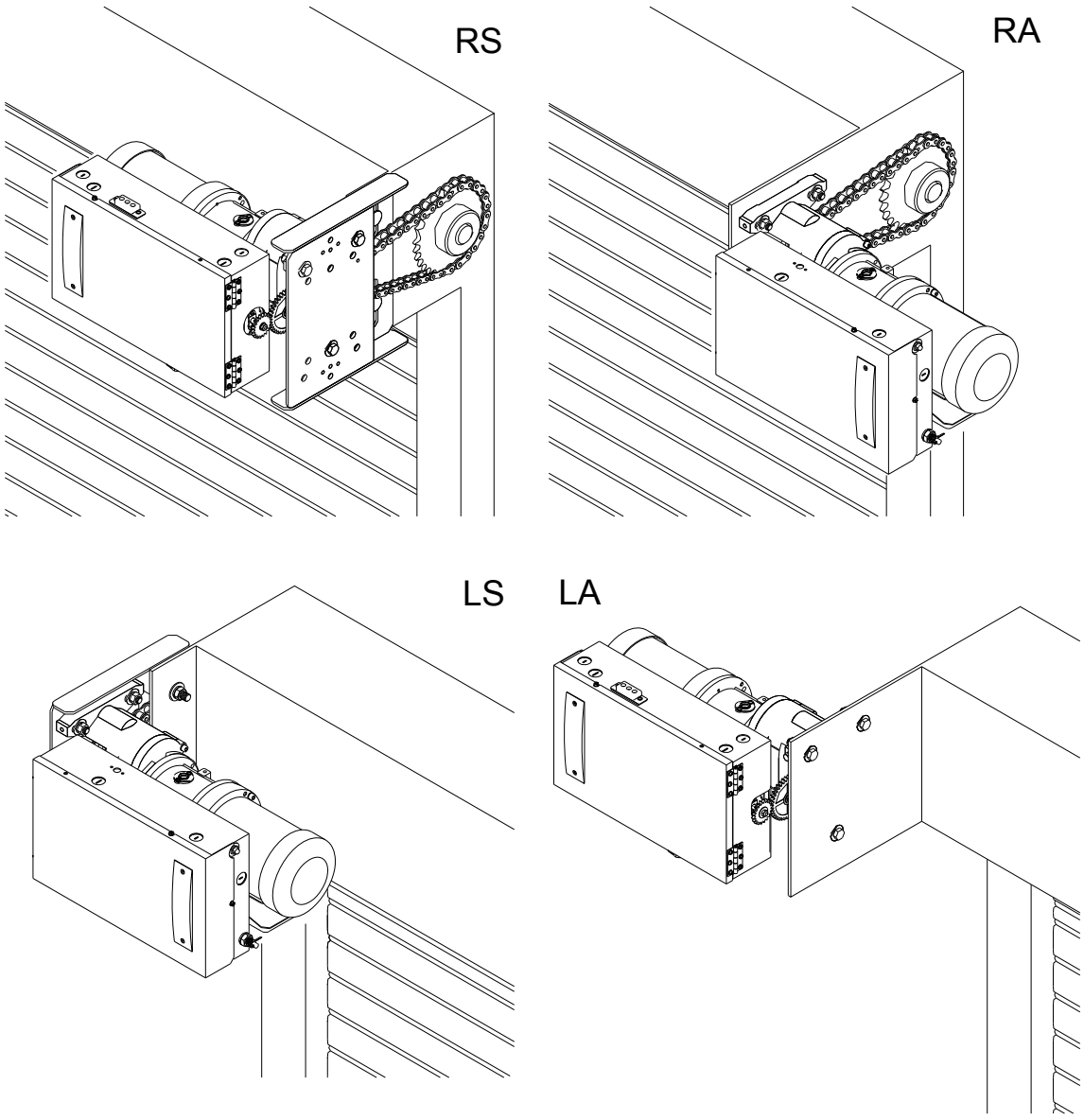


Consult factory for changes in installation positions.

NOTE: Any change in mounting position may result in a change of operator rotation and consequently in a change of control functions. Consult factory for any changes. (LS and RA mounting positions are LH operators, RS and LA positions are RH operators)

Operators mounted in alternate positions (LA, RA) require the long mounting legs in lieu of the standard short mounting legs.

INSTALLATION POSITIONS (for 3/4 hp)



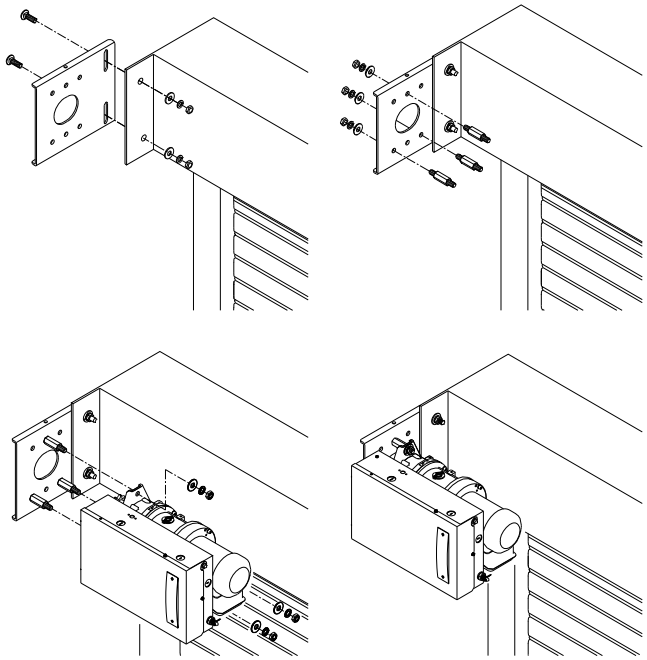
Consult factory for changes in installation positions.

NOTE: Any change in mounting position may result in a change of operator rotation and consequently in a change of control functions. Consult factory for any changes. (LS and RA mounting positions are LH operators, RS and LA positions are RH operators)

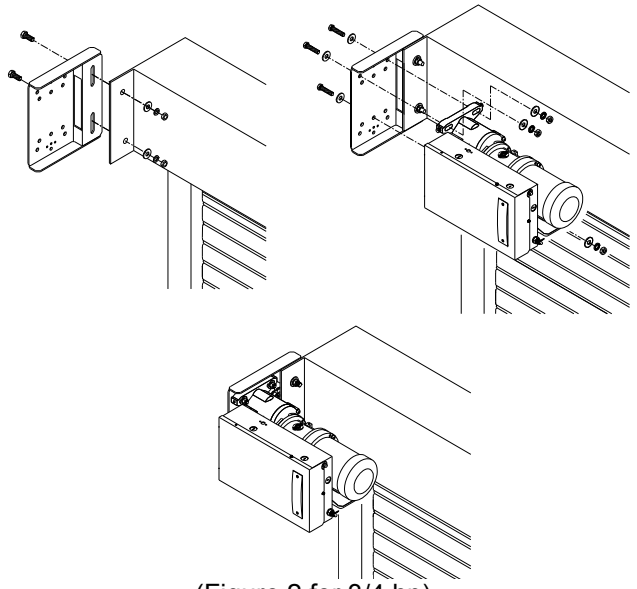
Operators mounted in alternate positions (LA, RA) require a straight mounting bracket in lieu of the standard off-set bracket.

OPERATOR MOUNTING

1. Before the operator is installed, verify that the door is properly operating and balanced.
2. Make sure the layout of the mounting holes on the bracket are correct.
3. Bolt the operator mounting plate to the door bracket plate.
4. Attach and tighten the three mounting legs to the mounting plate (for 1/3 and 1/2 hp only).
5. Mount the operator to the three legs and tighten (for 1/3 and 1/2 hp only). For 3/4 hp, mount the operator base to the mounting plate.



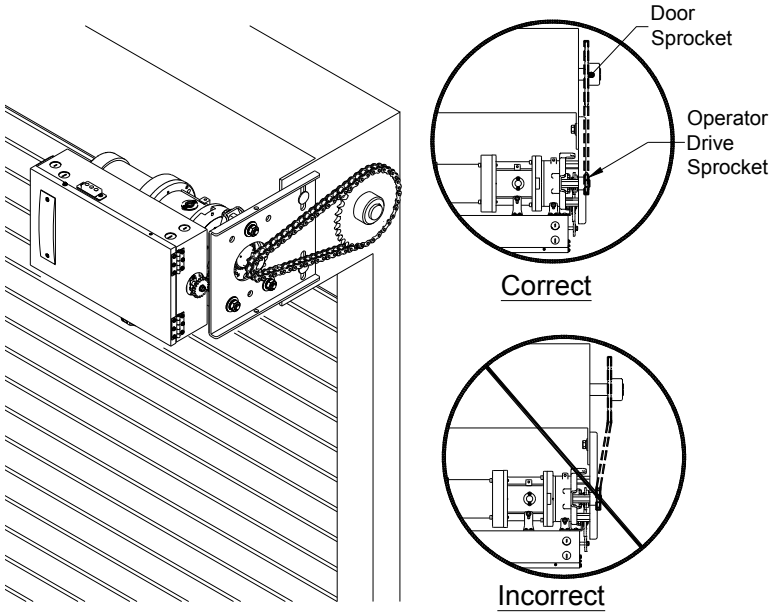
(Figure 1 for 1/3 hp and 1/2 hp)



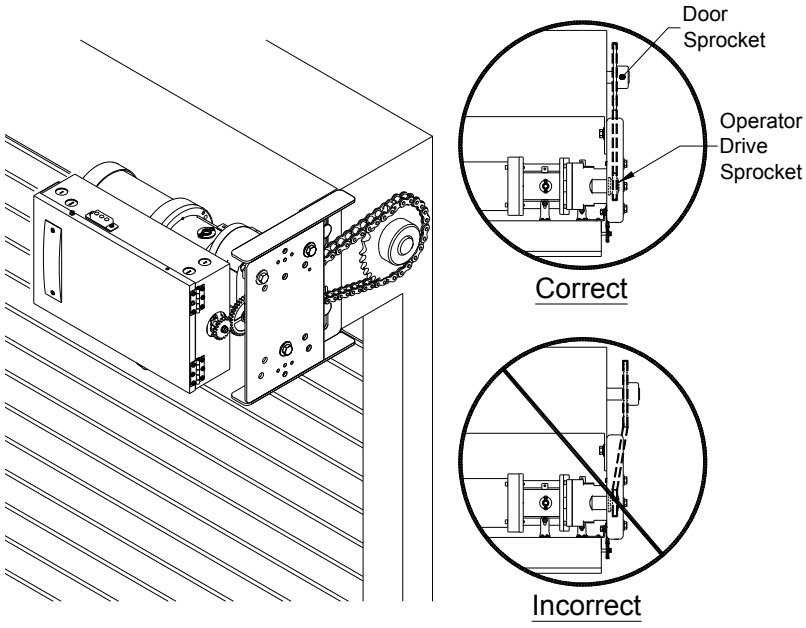
(Figure 2 for 3/4 hp)

6. When the operator assembly is attached to the door bracket, be sure the door driven sprocket is properly aligned with the operator drive sprocket before securing the driven sprocket to the shaft. (See Figure 1 for 1/3hp and 1/2hp; see Figure 2 for the 3/4hp)

7. The shelf or bracket must provide adequate support for the operator. Prevent play between the operator and the door shaft. The operator must be securely attached with the drive shaft parallel to the door shaft. It may be necessary to field brace the operator/bracket.



(Figure 1 for 1/3 hp and 1/2 hp)



(Figure 2 for 3/4 hp)

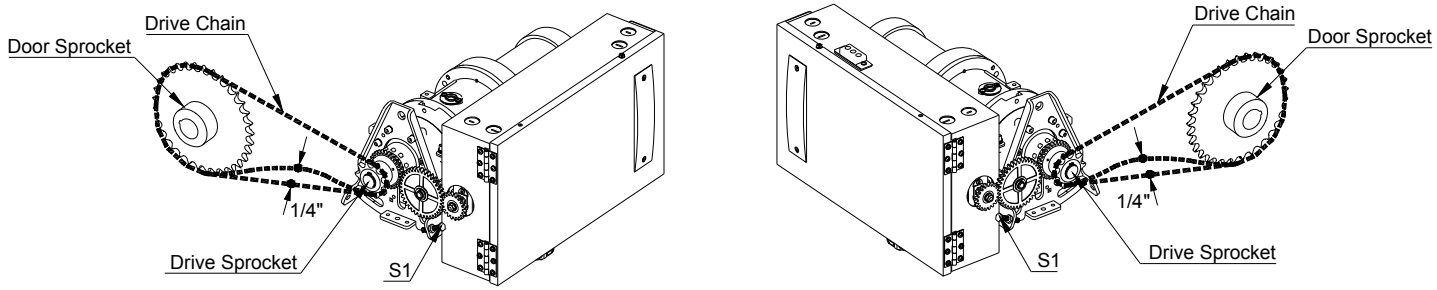
DRIVE CHAIN ADJUSTMENT

NOTE: Use correct type, size and proper length of roller chain.

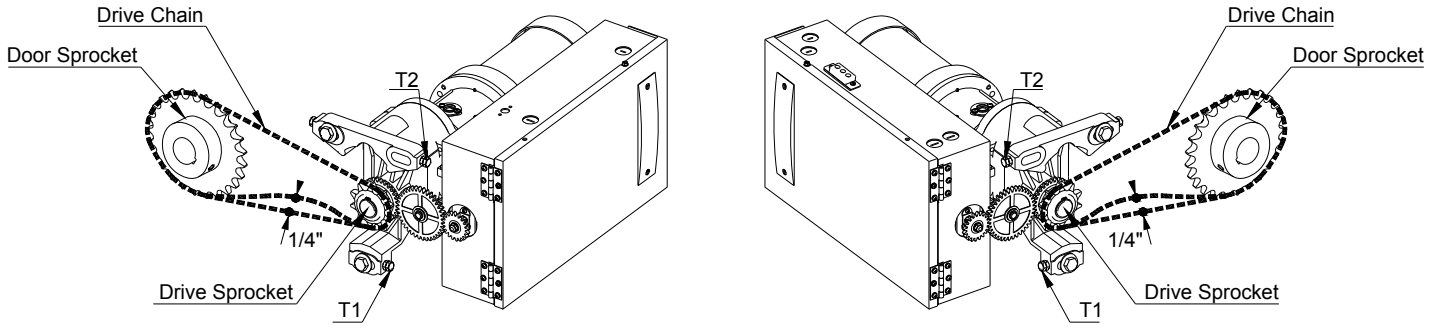
1. Adjust the drive chain by tilting or move the operator so that there is about 1/4” of slack when the chain is depressed.

Note: The set screw included in the operator may be used for adjustment. (See figure 1- S1 location for 1/3 hp and 1/2 hp), (See figure 2 - T1, T2 for 3/4 hp).

2. Once the drive chain has been tightened and the base leg screws have been set, and then tighten the operator screws.



(Figure 1 for 1/3 hp and 1/2 hp)



(Figure 2 for 3/4 hp)

LIMIT SWITCH ADJUSTMENT

Make sure the limit cams are positioned between the limit switch actuators before proceeding with adjustments.

1. Open / remove the control panel cover.

2. Open or close door to determine the moving direction of the limit switch cams.

3. Open or close door to the desired position.

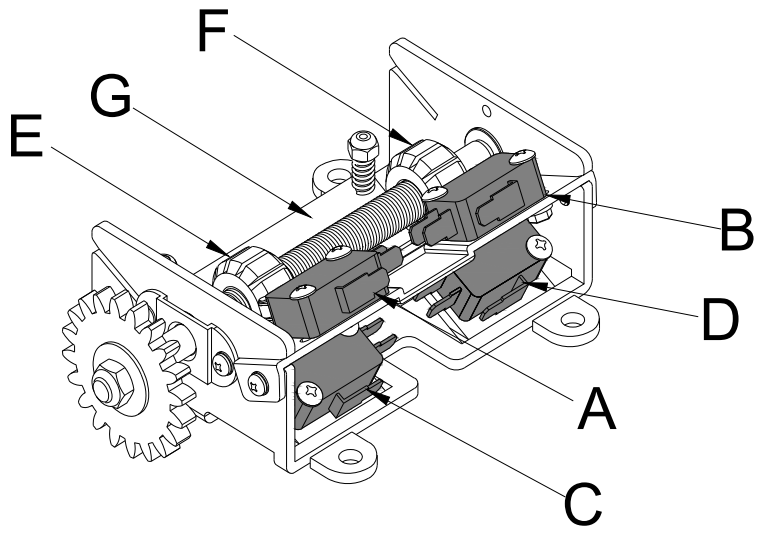
WARNING **Disconnect power before adjusting limit switch cams.**

4. While pressing the spring-loaded lever (G), which holds the limit switch cams in place, adjust the limit switch cam (E or F) until the micro switch (C or D) clicking sound is heard.

5. If the limit switch cam cannot be rotated to its desired position, release the lever and move the door away from the desired position, then adjust the limit switch cam to its desired position. It may be necessary to repeat this step until the exact position has been reached.

6. Repeat step 3 and 4 for the opposite direction. Adjust close limit cams so that actuator is engaged as door fully seats at the floor.

7. Micro switch (A or B) can be adjusted to accommodate sensing edge cut-off position.



NOTE: ***"C" is usually the opening side and "D" is usually the closing side.***

WIRING INSTRUCTIONS

Disconnect power at the fuse box before proceeding with any wiring.

WARNING

1. Do not install any wiring or attempt to run this operator without checking the wiring diagram located on the inside of the control box cover.

2. Do not turn on power until you have finished making all power and control wiring connections.

3. Do not run power and control wiring in the same conduit.

4. Any wire connected to the control panel must be protected by conduit or other means to ensure the safety and permanency of the wiring.

5. Use copper wire inside the control panel.

6. A separate fuse line of adequate capacity is needed for the operator.

7. The operator must be properly grounded. The ground screw, painted green, is located inside the control panel.

WARNING

Failure to properly ground the operator could result in electric shock and death or serious injury.

WARNING

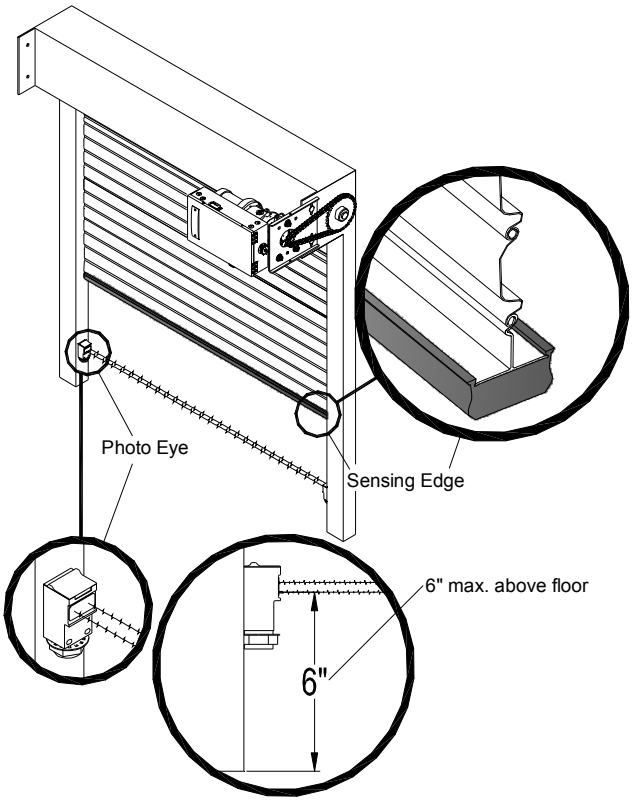
Unless the operator includes an internal lock sensing system, or external electrical interlocks are installed, remove or make all door locks inoperative, or secure locks in the unlocked position. Failure to disable the locks could result in damage to the door or operator.

CONTROL WIRING

WARNING

If the door is not visible from the control station, or if any device other than the control station is used to activate the door, an entrapment protection device must be installed on the door. Failure to install an entrapment protection device may result in serious injury or death to person(s) trapped beneath the door.

1. Complete limit switch adjustments before making any sensing edge/non-contact device wiring connections to the operator.



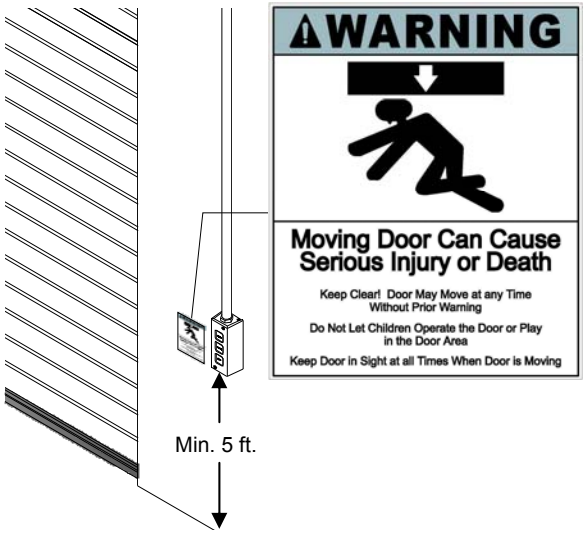
Entrapment Device Options:

Sensing Module	Device Manufacturer	Model
ELR 2-wire resistive sensing edge	Miller Edge Inc. * End of Line resistor type edge must have model number with Suffix T2.	ME110*, ME111*, ME120*, ME123*, ME112*, ME113*, ME116*, ME117*
		MT21*, MU21*, MT22*, MU22*, MC22*, MU33*, MC271*, CPT223*
		MEL-TXYY, MEL-RXYY
	ASO	GE225, GE125
IR Monitored photo eye	FRABA Inc.	Optical Edge Sensors and Photo Eyes, Models OPTOEYE [FOPE], OPTOEDGE; Part Nos. OSE-T, OSE-R, OSE-P, OPE.
	Martec Access Products Inc.	1266
	Miller Edge Inc.	IG2, MIRM

Note: Please refer to sensing device manufacturer for specific installation and maintenance requirements.

WARNING **Disconnect power at the fuse box before proceeding with any wiring.**

2. Locate the control station where the user can clearly see the operation of the door. Mount the enclosed placard adjacent or near the door.



WARNING **Controls shall be far enough from the door, or positioned such that the user is prevented from coming in contact with door while operating the controls.**

3. Do not run control wiring in the same conduit as power wiring.

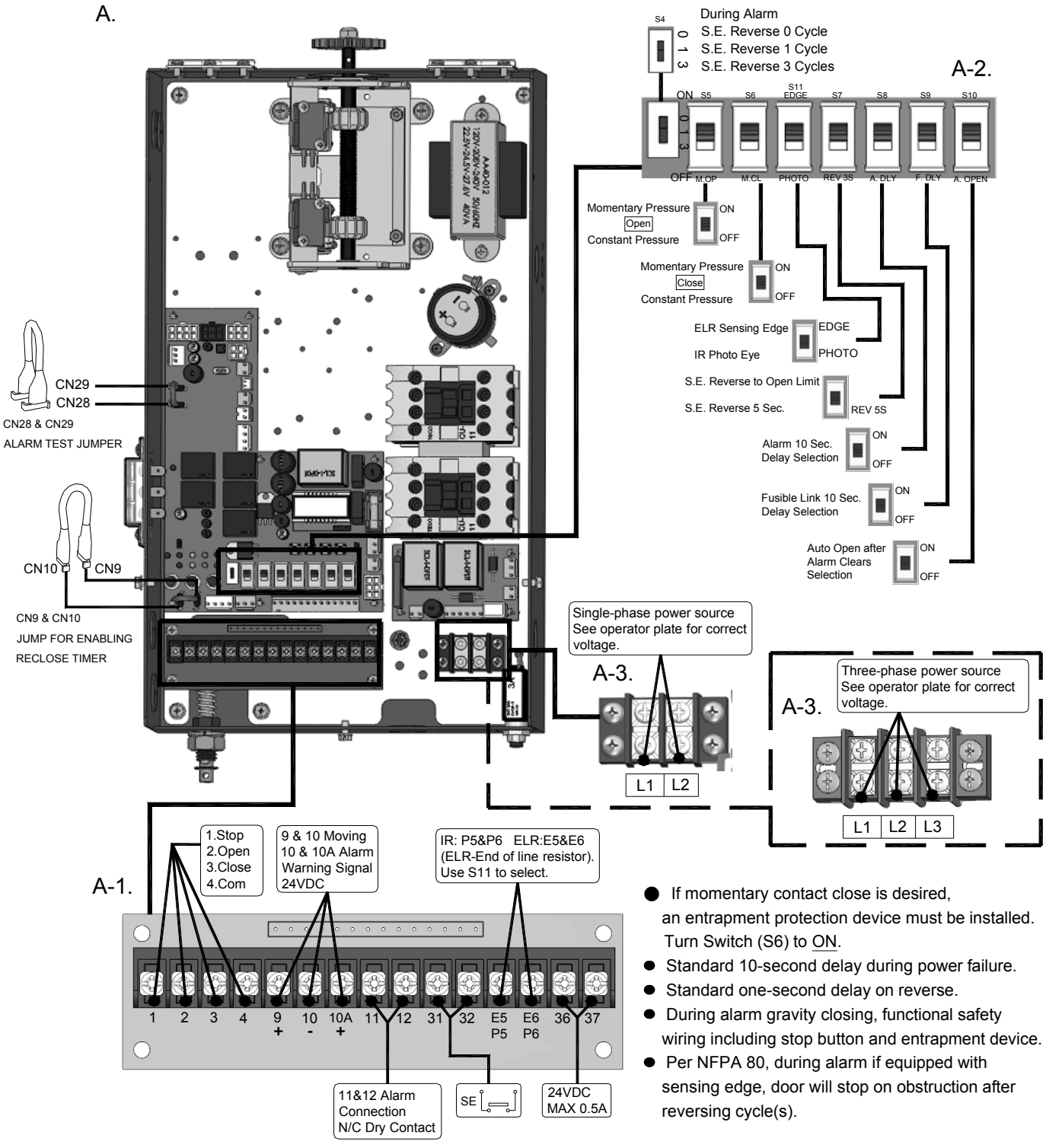
4. Any wire connected to the control panel must be protected by conduit or other means to ensure the safety and permanency of the wiring.

WARNING **Do not use radio controls with your operator unless some type of entrapment protection device has been installed. Failure to do so may result in death or serious injury to person(s) trapped beneath the door.**

WARNING **Changing from left hand to right hand or vice versa could result in change of control wiring. Consult factory for details.**

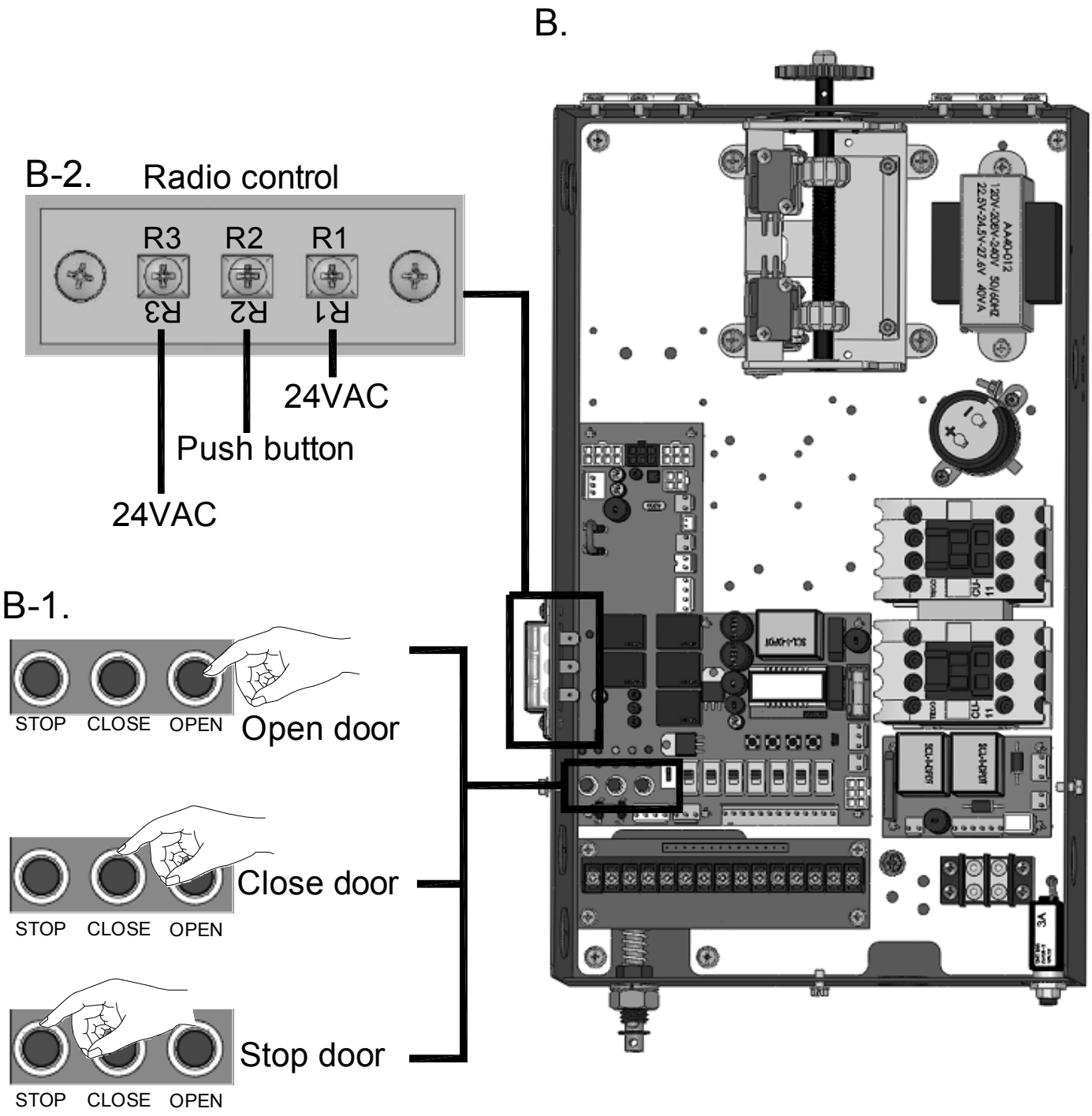
5. After installation, be sure that the operator, controls, and sensing edge or other entrapment protection devices have been tested and function properly.

A. Control Function:



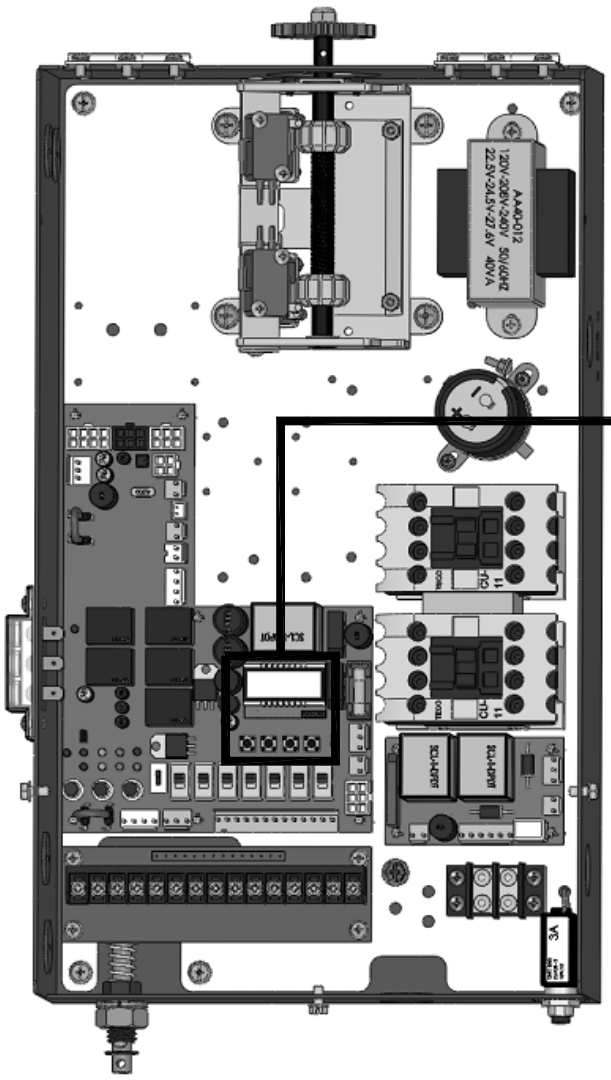
- If momentary contact close is desired, an entrapment protection device must be installed. Turn Switch (S6) to ON.
- Standard 10-second delay during power failure.
- Standard one-second delay on reverse.
- During alarm gravity closing, functional safety wiring including stop button and entrapment device.
- Per NFPA 80, during alarm if equipped with sensing edge, door will stop on obstruction after reversing cycle(s).

B. Auxiliary Function:

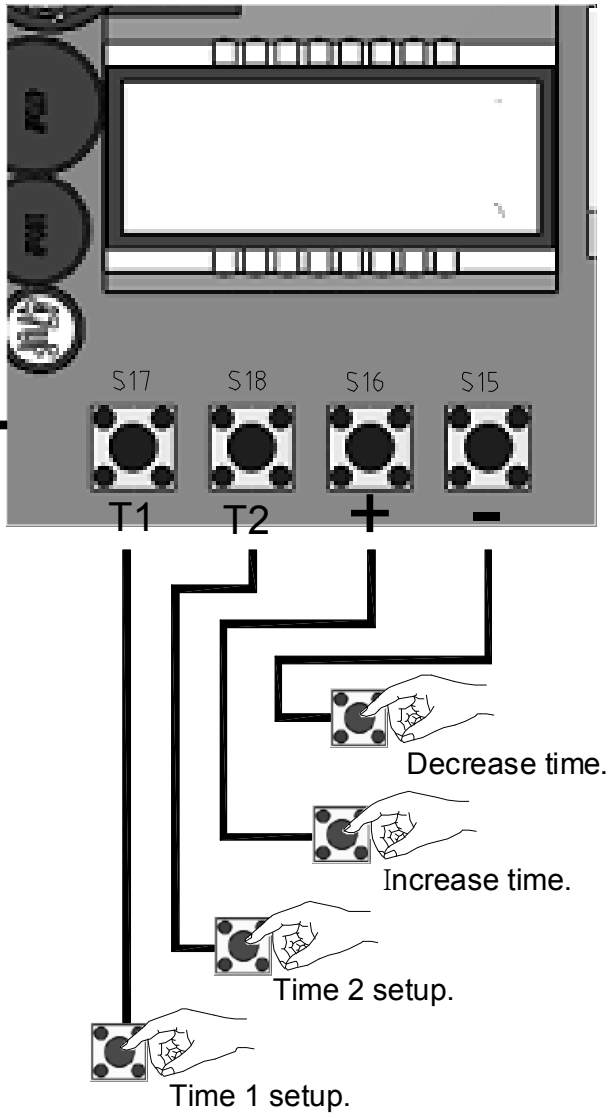


C. Timer Instruction:

C.



C-1.



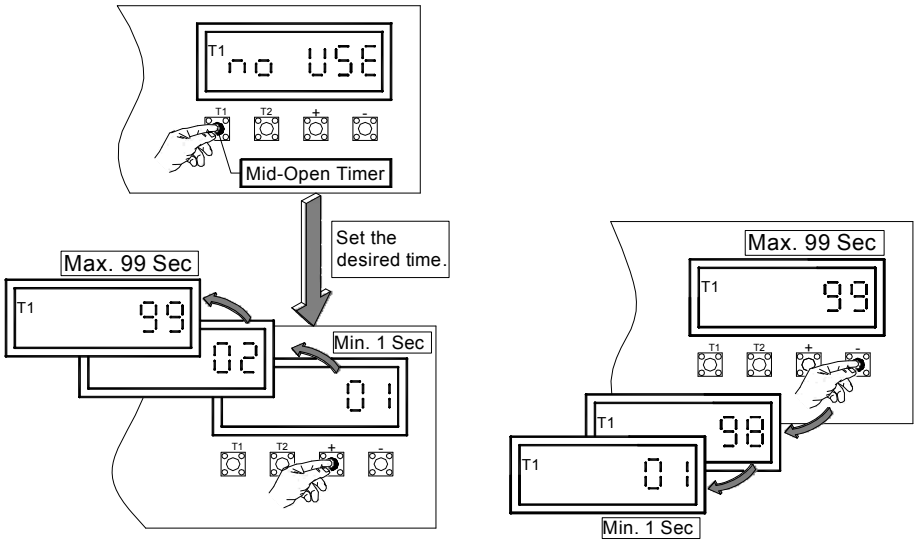
(1) Timer 1 – Mid-open timer: Timer starts counting when door leaves close limit. Door stops after opening for set time. Pressing open again at mid-open position will cause door to open limit.

Timer 2 – Close timer: Timer is active when door stops and is not at close limit.

(2) Standard Mode: Cycle counter

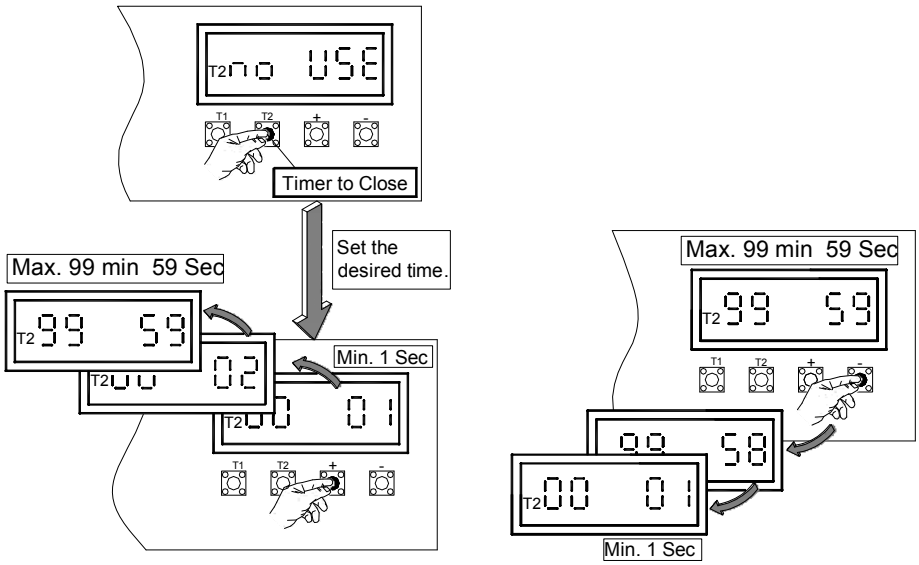
(3) To Set Timer 1 (Mid-open Timer):

- Press T1 and hold for 5 seconds. Display will flash.
- Use + or - to increase or to decrease time.
- Press T1 to save setting. Without pressing, no adjustment is saved.

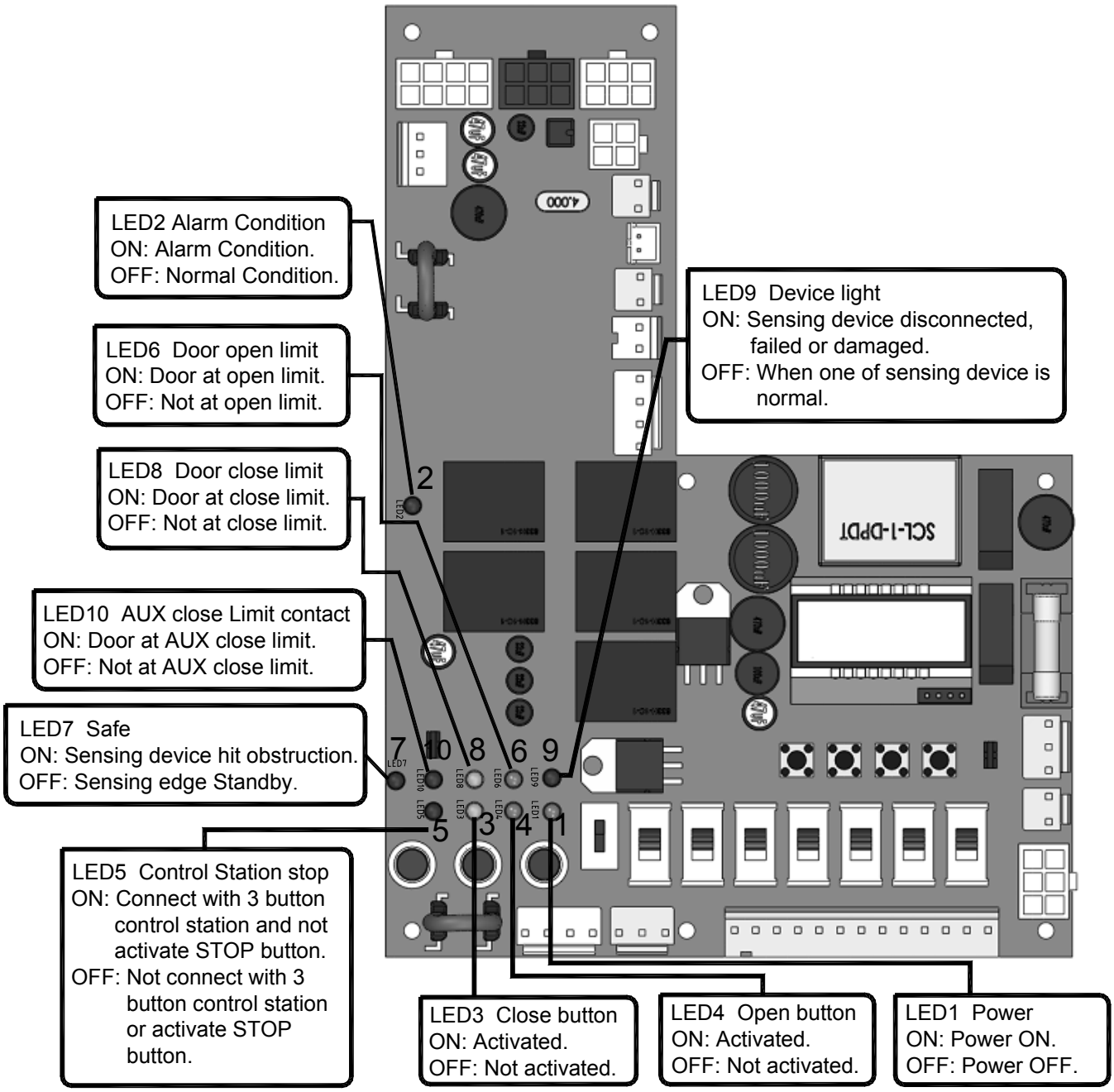


(4) To Set Timer 2 (Reclose Timer):

- Press T2 and hold for 5 seconds. Display will flash.
- Use + or - to increase or to decrease time.
- Press T2 to save setting. Without pressing, no adjustment is saved.

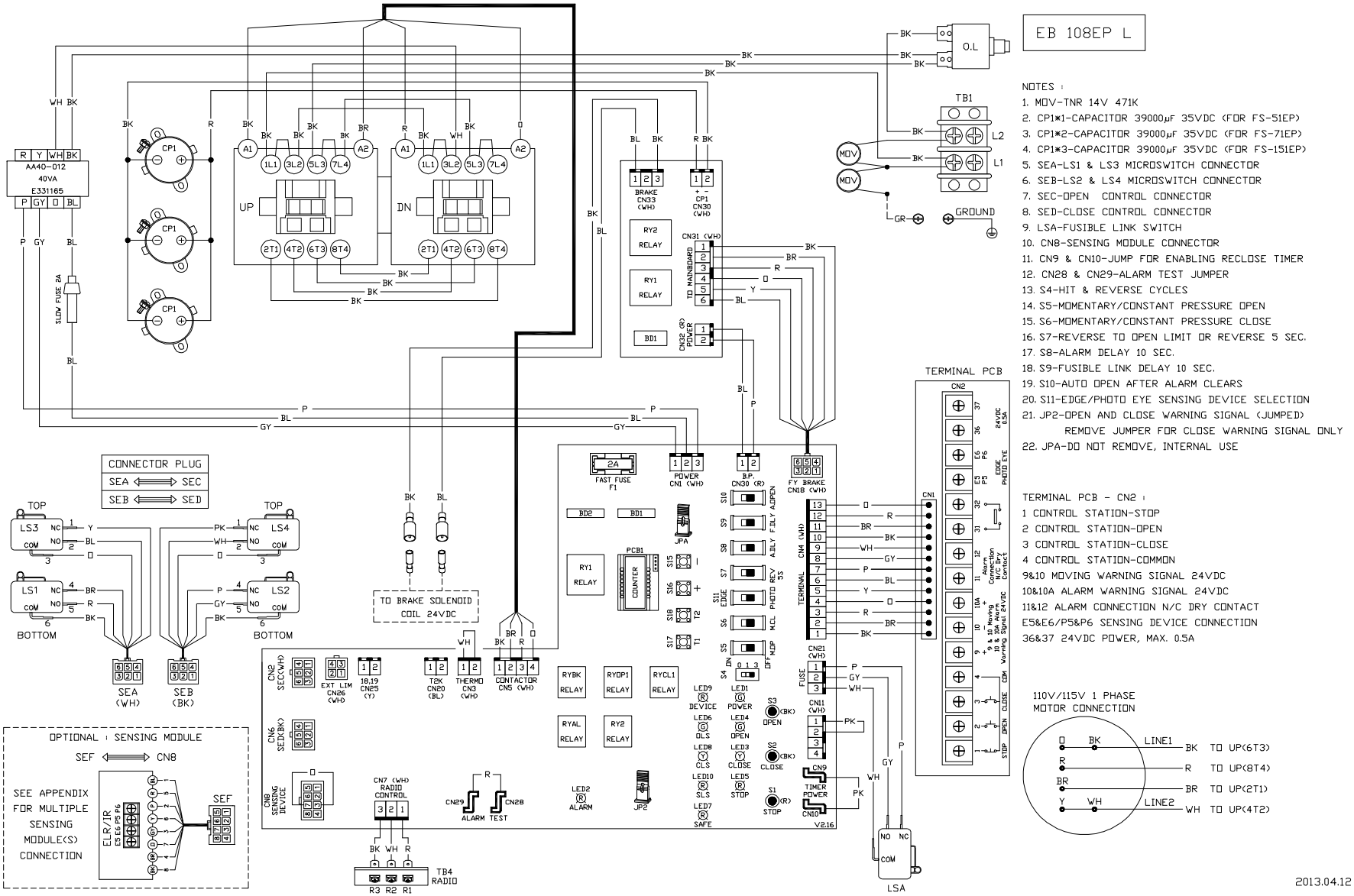


D. Light Indication:



FS-EP 115V 1 PHASE 50/60HZ LH (FSEP BOARD)

(FOR FS-51EP, 71EP, 151EP)



IMPORTANT SAFETY INSTRUCTIONS

WARNING –To reduce the risk of severe injury or death:

1. READ AND FOLLOW ALL INSTRUCTIONS.

2. Never let children operate or play with door controls. Keep the remote control (where provided) away from children.

3. Personnel should keep away from a door in motion and keep the moving door in sight until it is completely closed or opened. NO ONE SHOULD CROSS THE PATH OF A MOVING DOOR.

4. Test the door's safety features at least once a month. After adjusting either the force or the limit of travel, retest the door operator's safety features. Failure to adjust the operator properly may cause severe injury or death.

5. For products having a manual release, if possible, use the manual release only when the door is closed. Use caution when using this release when the door is open. Weak or broken springs may cause the door to fall rapidly, causing severe injury or death.

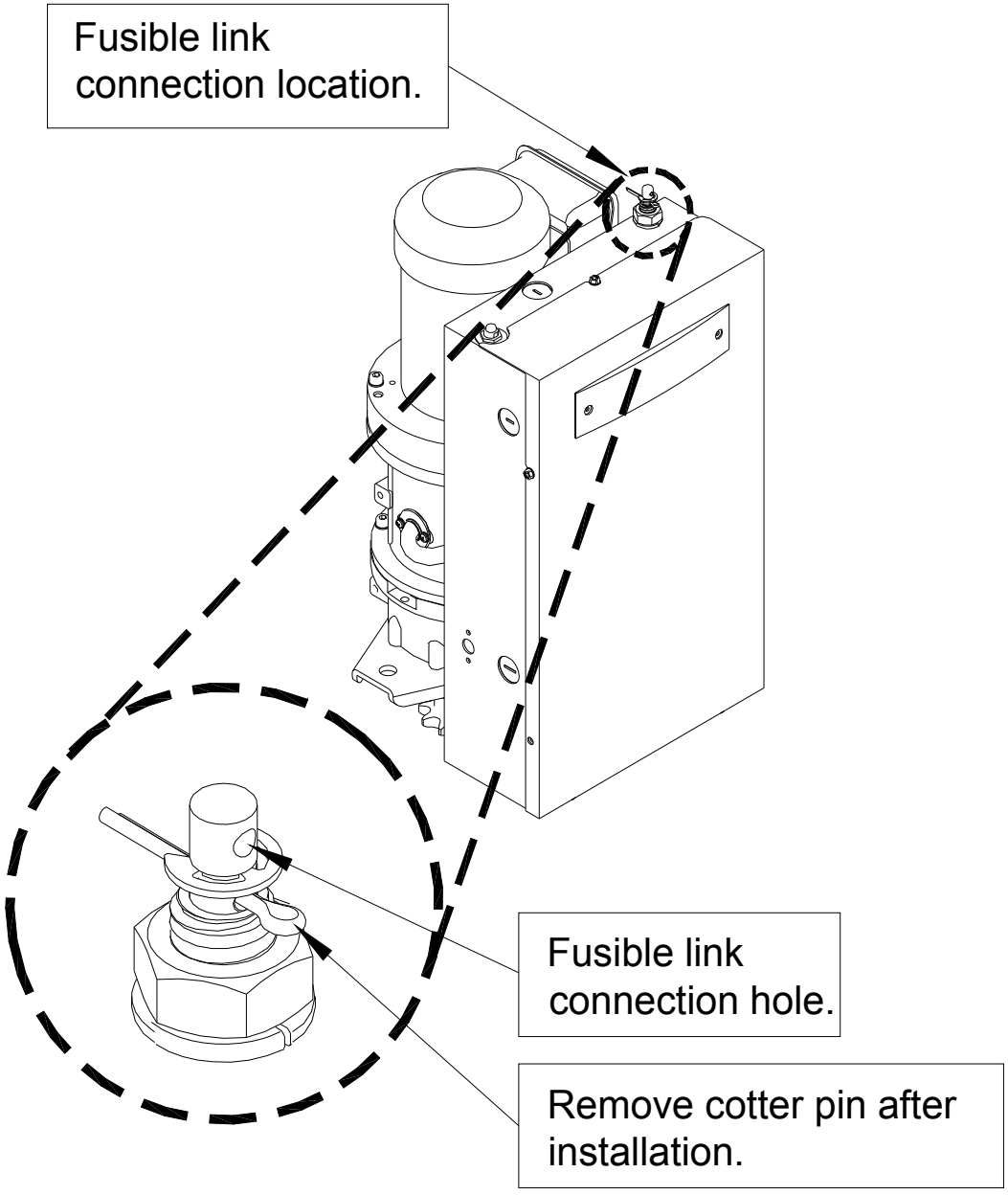
6. KEEP DOORS PROPERLY OPERATING AND BALANCED. See Door Manufacturer's Owner's Manual. An improperly operating or balanced door could cause severe injury or death. Have trained door systems technician make repairs to cables, spring assemblies, and other hardware.

7. SAVE THESE INSTRUCTIONS.

FUSIBLE LINK CONNECTIONS

- ***REMOVE COTTER PIN FROM RELEASE ASSEMBLY AFTER INSTALLATION IS COMPLETE.***

Refer to the fire door installation instructions for connection of the release assembly or consult NFPA-80 and the authority having jurisdiction for fusible link location(s) and method.



* Illustration only, not drawn to scale. See product for actual details.

OPERATING INSTRUCTIONS

1. If a 3-button control station is used to operate the door, push the “OPEN” button to open the door, push the “CLOSE” button to close the door, push the “STOP” button to stop movement of the door while opening or closing. Removing pressure from the “CLOSE” button will cause the door to stop.

2. If a key switch control station is used to operate the door, turn the key to the “OPEN” position to open the door, turn the key to the “CLOSE” position to close the door, push the “STOP” button to stop movement of the door while opening or closing. Removing pressure from the “CLOSE” key position will cause the door to stop.

⚠ **WARNING**

If a sensing edge is not installed on the bottom of the door, and removing pressure from the “CLOSE” button or key switch position does not cause the door to stop, this condition must be corrected immediately. Improper operation could result in serious injury or death to person(s) trapped beneath the door.

3. Door may also be operated by remote devices.

MAINTENANCE INSTRUCTIONS

The brake is a self-adjusting brake. It is maintenance free. The brake assembly requires no additional adjustments for its lifetime.

If an entrapment protection device is used, i.e. sensing edge or photoelectric sensors, please consult the manufacturer for maintenance instruction.

⚠ **WARNING**

Disconnect power supply to the operator before servicing.

Check the following items at the intervals listed:

CHECK LIST	DESCRIPTION	EVERY 3 MONTHS	EVERY 6 MONTHS	EVERY 12 MONTHS
Drive Chain	Check for excessive slack. Check & adjust as required Lubricate.	●		
Sprockets	Check set screw tightness	●		
Fasteners	Check & tighten as required		●	
Bearings & Shafts	Check for wear & lubricate	●		
Drop-test	Inspect door, drop-test for proper operation and full closure per NFPA-80			●

- ❖ Do not lubricate motor. Motor bearings are rated for continuous operation.
- ❖ Inspect and service whenever a malfunction either door or operator is observed or suspected.
- ❖ Before servicing, always disconnect power supply to the operator.
- ❖ Replace fuses only with those of the same type and rating.
- ❖ All replacement parts must be obtained from the door manufacturer per NFPA-80.

WARNING

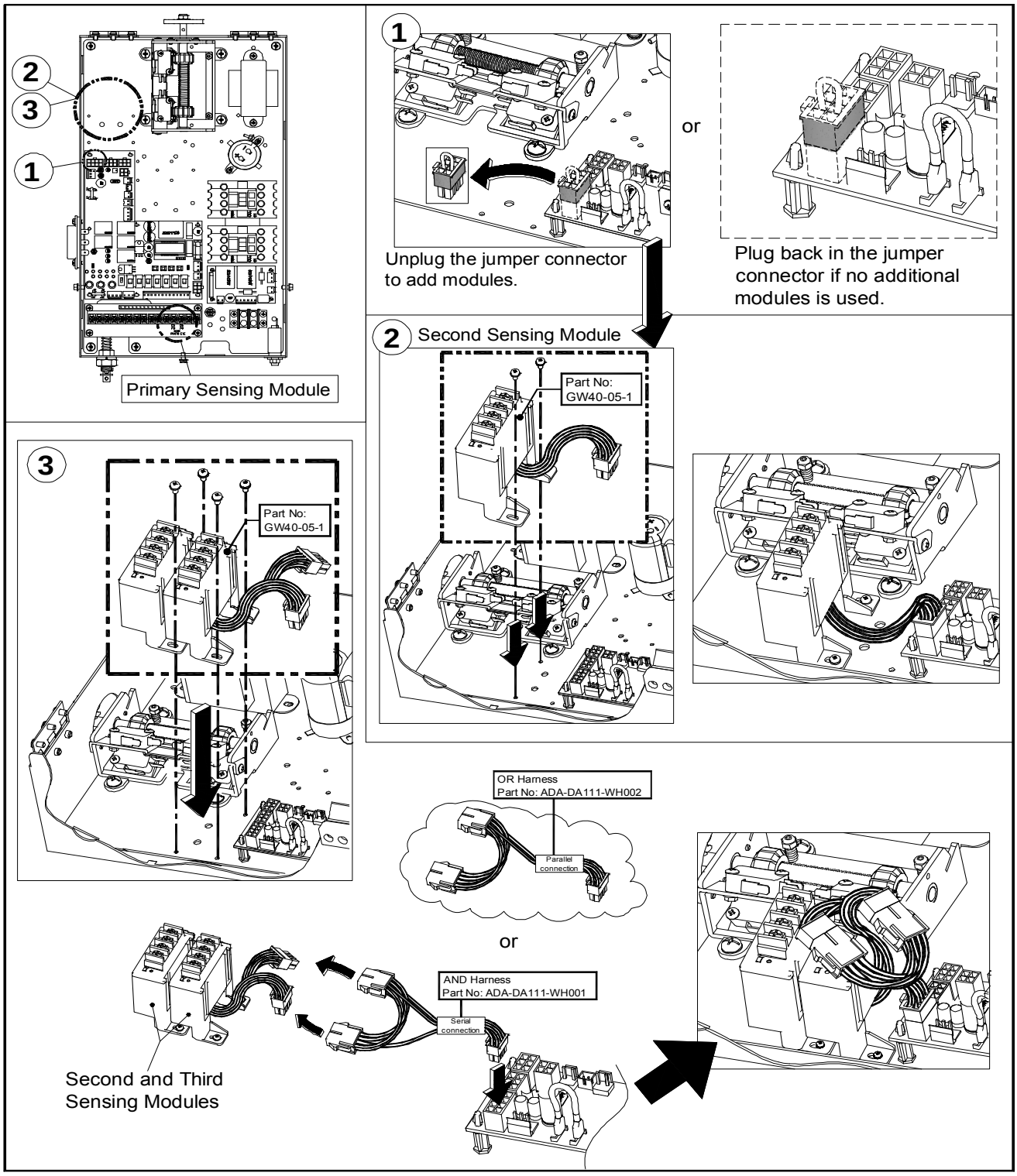
Do not place hands or tools in or near the operator when the power is connected or when testing control or sensing devices. Always disconnect power before servicing or adjusting the operator.

APPENDIX 1

Multiple Device Adapter With 2ND and 3RD ELR/IR Instructions

Warning: Power OFF When Connecting.

QST-FS-M-ADAPTER-2

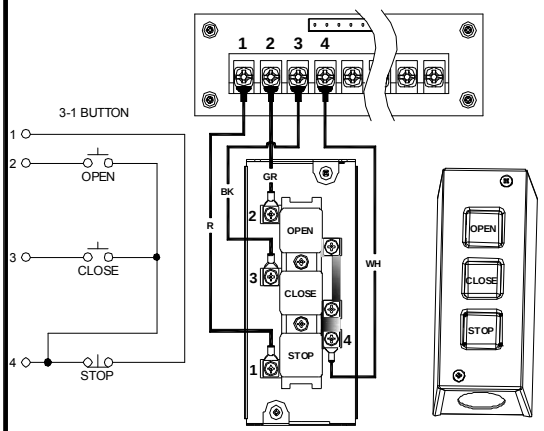


APPENDIX 2

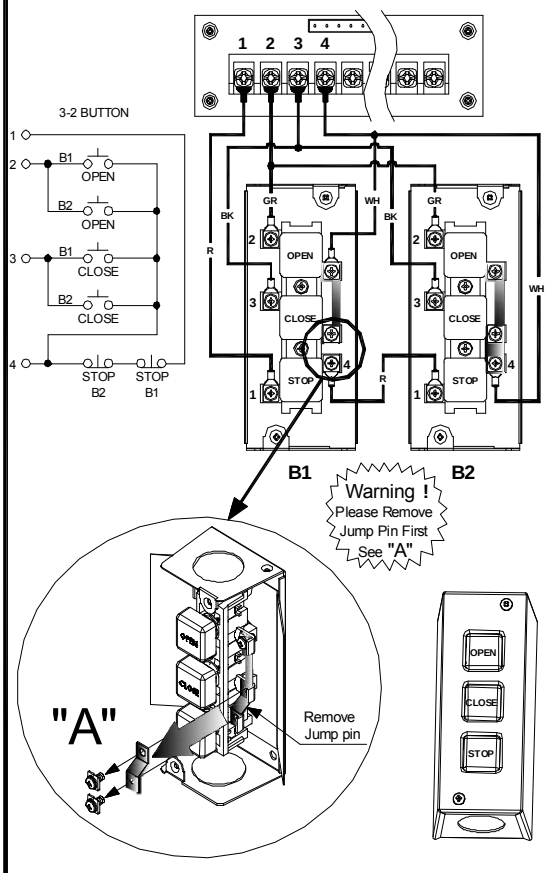
Control Connections Diagrams

Control Wiring for 3 Button Stations

1 Set of 3 Button Stations

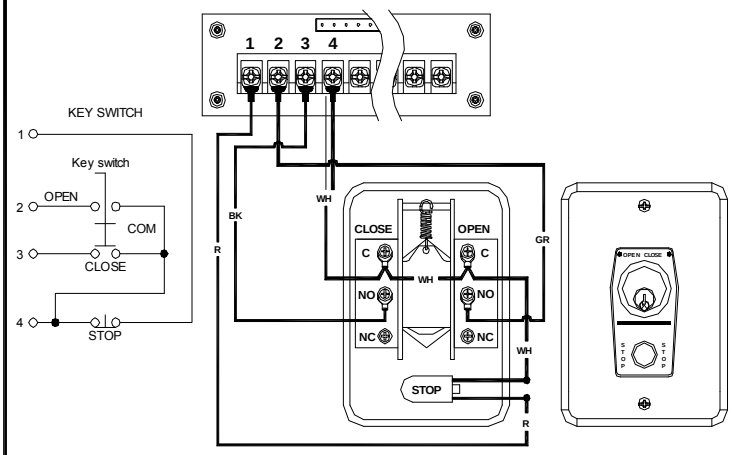


2 Sets of 3 Button Stations

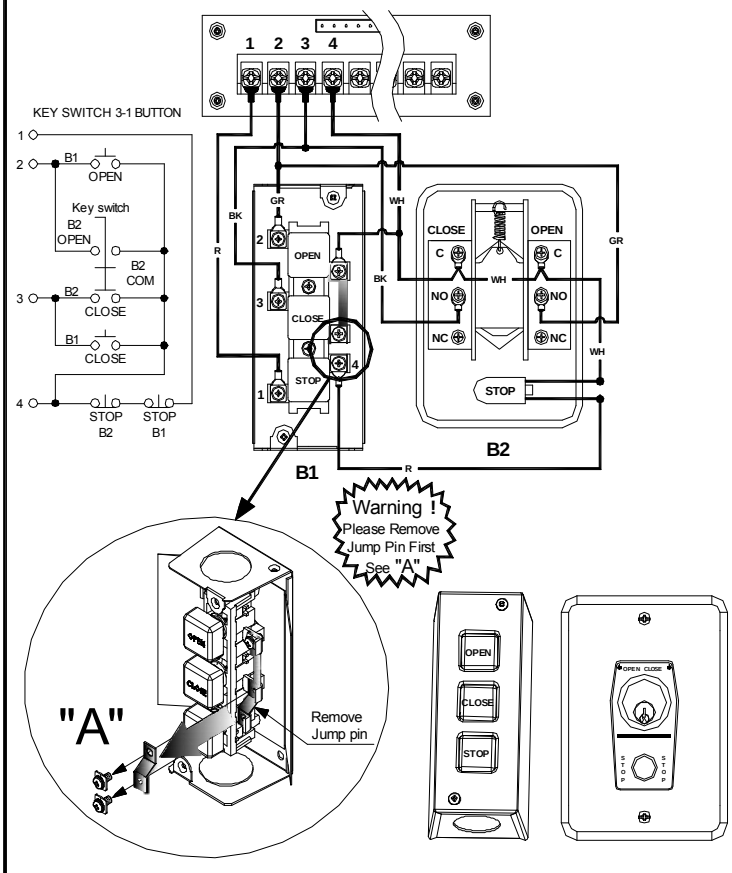


Control Wiring for Key Switch with Stop Button

Key Switch with Stop Button



Key Switch (with Stop Button) and 3 Button Stations

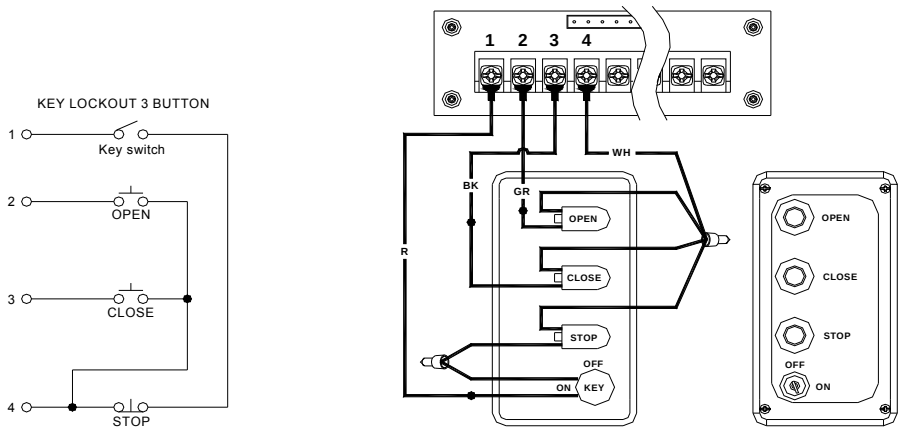


APPENDIX 3

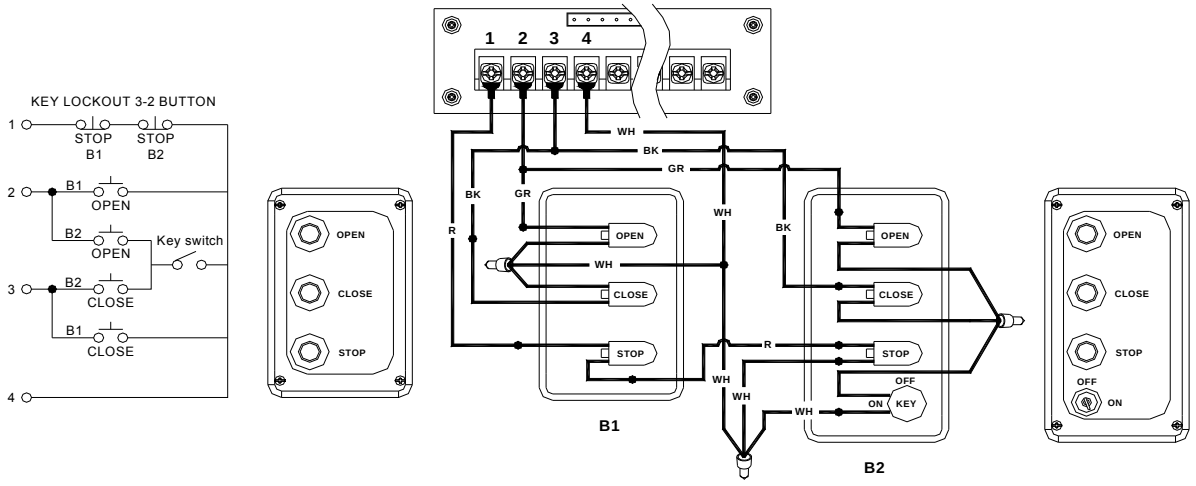
Control Connections Diagrams

Wiring 3 Button Stations With Key Lockout

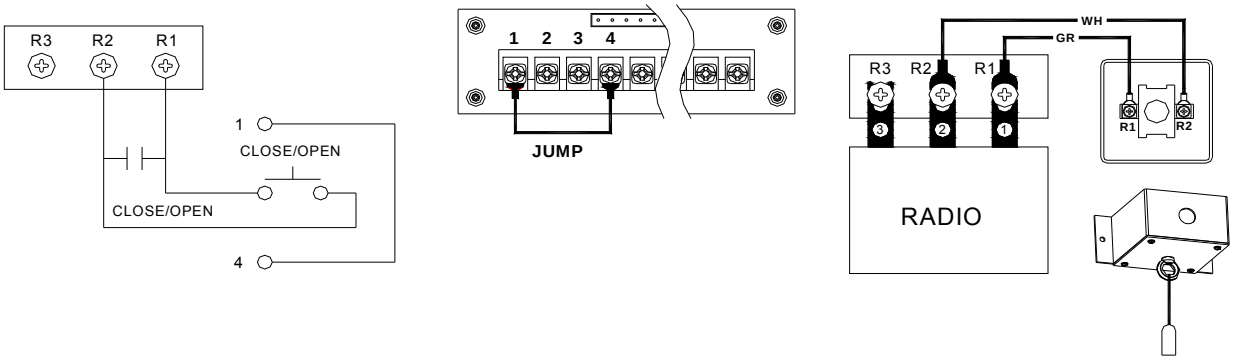
1 Set



With and without key lockout

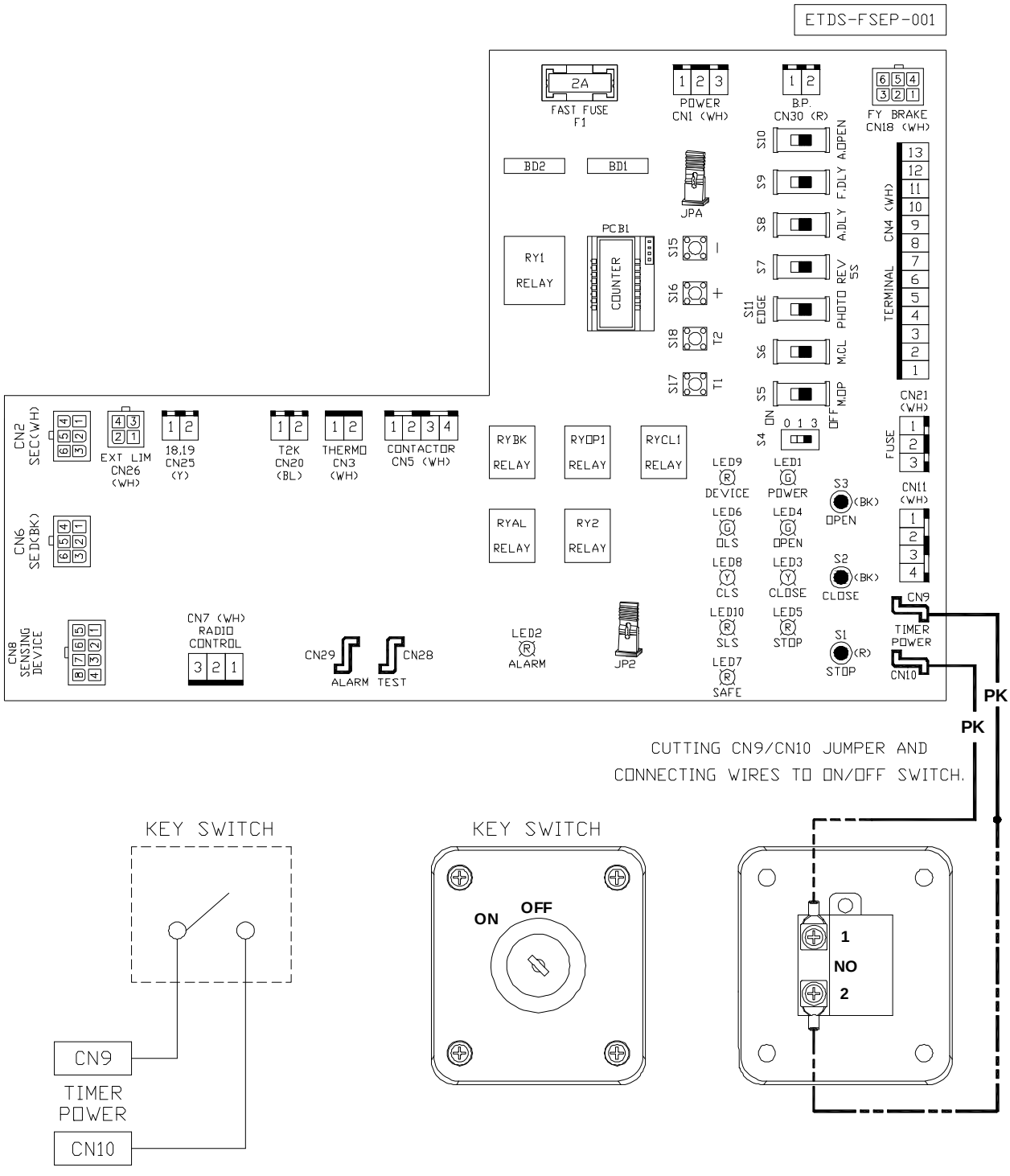


Ceiling Pull Switch Station



APPENDIX 4

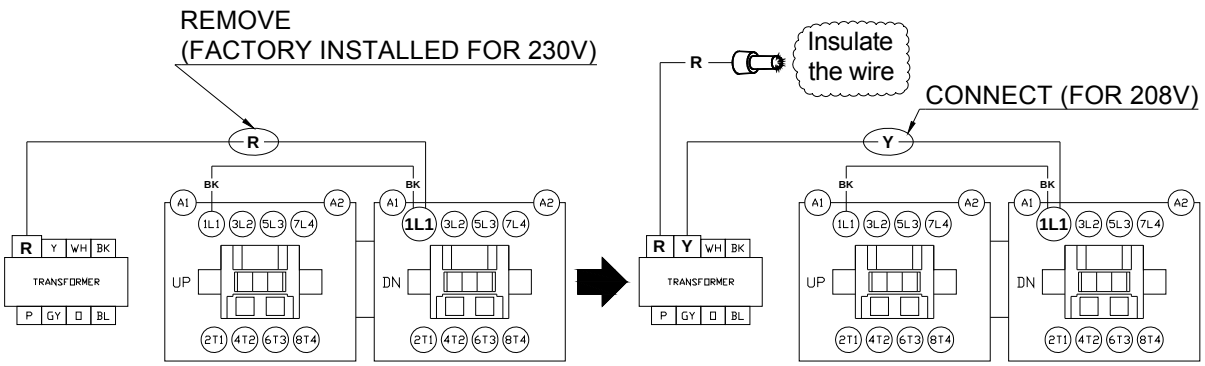
EXTERNAL TIMER DEFEAT SWITCH CONNECTION-FSEP BOARD



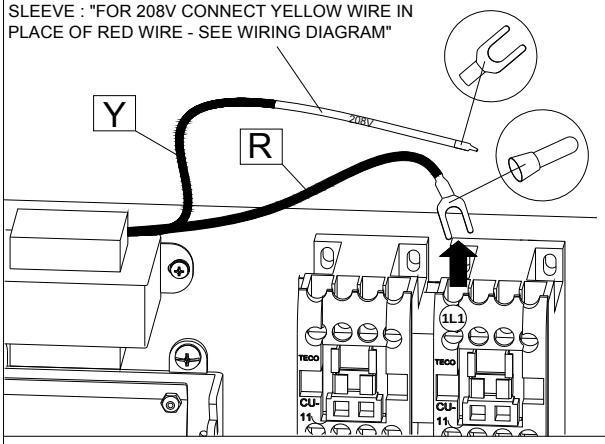
APPENDIX 5

Wiring Change Instruction from 230V to 208V 3 Phase Operator
FS EP Series

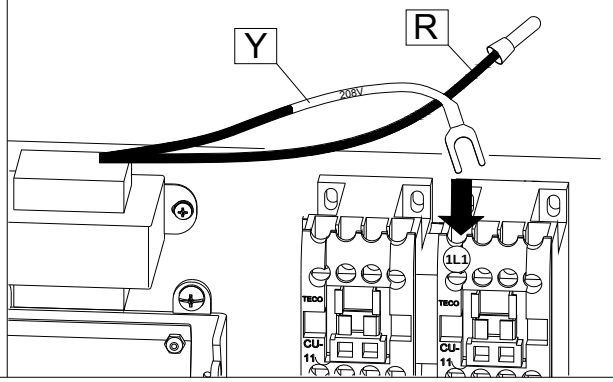
FS-EP-3P-V01



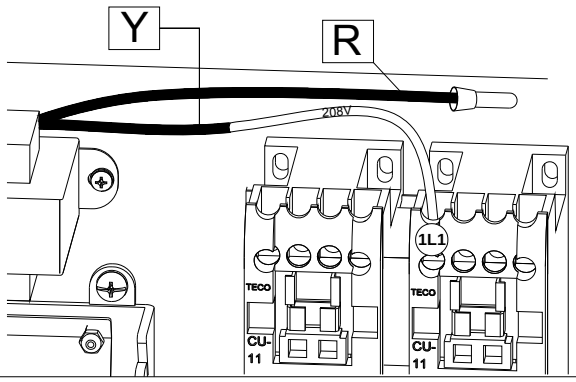
1. Remove RED wire from transformer to contactor (factory installed for 230V) and insulate end of wire.



2. Add spade to end of loose YELLOW wire and connect to contactor (for 208V).



3. Completed.



DROP TEST AND RESET INSTRUCTIONS

DROP TEST AND RESET INSTRUCTIONS
FOR McKEON AUTOMATIC RESETTING FIRE DOORS

NOTE: THIS FIRE DOOR IS EQUIPPED WITH THE AUTOMATIC DROP TEST AND RESET FEATURE. NO SPECIAL TOOLS ARE REQUIRED.

Option A To drop test the door, cut the fusible link or release the s-hook from the plunger located on the operator. Once the plunger is released the door will begin its self-closing sequence.

To reset the door, pull plunger up and re-attach fusible link or sash chain, and push "OPEN" button on control station.

Option B To drop test the door, cut the power to the operator by cutting off the power at the disconnect switch. Once the power has been cut the door will begin its self-closing sequence.

To reset the door, re-engage the power to the operator and push the "OPEN" button on the control station.

Option C To drop test the door, send signal from the fire alarm or remove alarm jumper (to simulate alarm activation), the door will begin its self-closing sequence.

To reset the door, clear signal from fire alarm ore re-install the alarm jumper and push "OPEN" button on control station.

NOTE: ALL ABOVE OPTIONS MEET NFPA REQUIREMENTS CONSTITUTING ACTUAL DROP TEST.

KEY SWITCH
CONTROL STATION

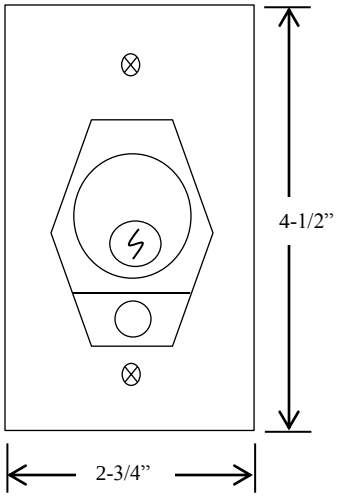
HBFS

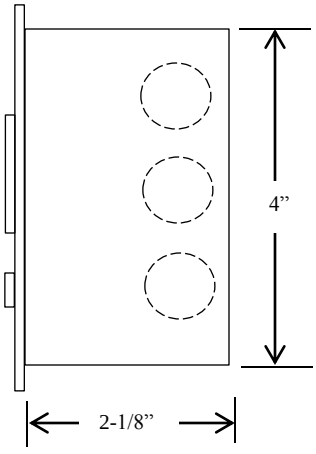
KEYED CONTROL

- NEMA 1
- FLUSH MOUNT
- TAMPER-PROOF
- TWO POSITION (OPEN-CLOSE) WITH STOP BUTTON
- CENTER RETURN
- SINGLE GANG BACK BOX
- STAINLESS STEEL FACEPLATE
- CYLINDER: MORTISE TYPE (5 PIN) 1-1/8" DIAMETER X 1" LENGTH
- KEYSWITCH: 15 amp @ 125/250VAC

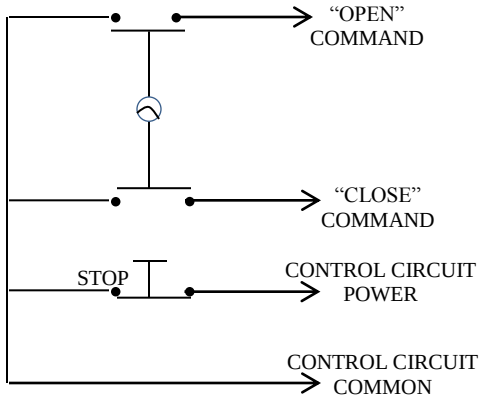
AVAILABLE WITH BEST CORE CYLINDER OR EQUIVALENT, SLF TYPE LARGE FORMAT EQUIVALENT, CC (CHANGEABLE CYLINDER) VERSION

DIMENSIONS





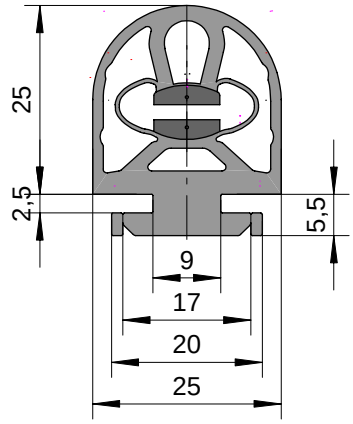
WIRING



MMTC Inc.
230 Route 206, Suite 206
Flanders, NJ 07836
(800) 942-6682 * (973) 584-6682 Fax
info@mmtcinc.com

ELECTRICAL
SAFETY EDGE

GE 225 TK



Allgemeine Daten — General Data

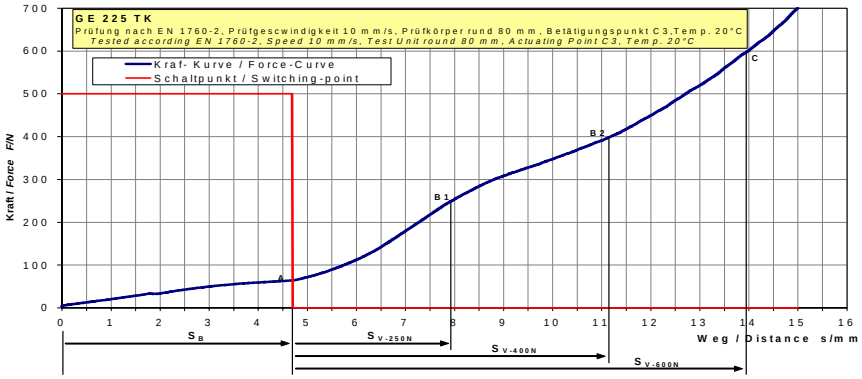
Typ	GE 225	Type
Artikelnummer	101120	Article No.
Material	EPDM	Material
Materialhärte	65 Shore A	Material Hardness
Lieferlänge	25 m	Delivery Length
Gewicht Kg/m	0,51	Weight Kg/m
Schutzart	IP 65	Enclosure
mech. Belastung	500 N	Mech. Force
Schaltspiele	10^5	Switching Cycles
Schaltwinkel	2 x 20°	Switching Angle
Betätigungswiderstand	≤ 100 Ω	Actuation Resistance
elek. Belastbarkeit	24 V 100 mA	Electrical Capacity
Betriebstemperatur	-20° → +55°	Operating Temperature
max. Temperaturbereich	-25° → +75°	Operating Temperature
max. Länge der Kontakt-leiste incl. Leitung	100 m	Max. Length of the Contact Edge inc. Cables
max. Reihenschaltung der Kontaktleisten	10 Kontaktleisten	Max. Series Connection of the Contact Edges
Inaktiver Endbereich	20 mm	Inactive end region
Leitungen	LIY11Y 2x0,34 mm	Connecting Cable
Material Leitung	PUR matt schwarz	Cable Material

Maße in mm, Toleranzen nach DIN ISO 3302-1 Klasse E2
Dimension in mm, Tolerances according to DIN ISO 3302-1 class E2

Kennwerte für Prüfgeschwindigkeit v = 10 mm/s
Characteristic values for test speed v = 10 mm/s

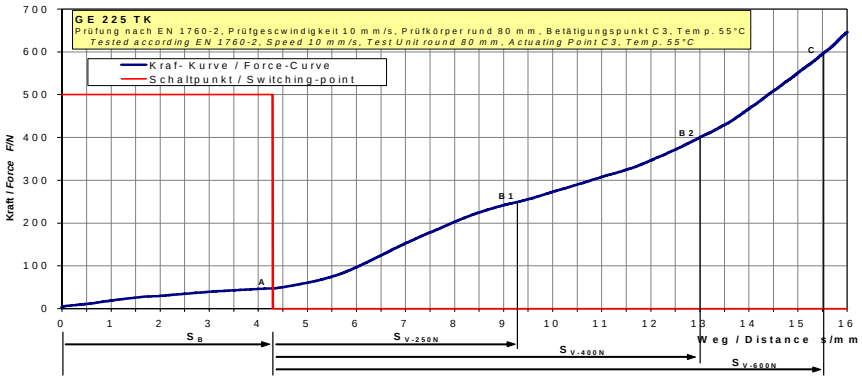
Prüf-Temperatur +20°C
Test-Temperature +20°C

Betätigungskraft F_A / Actuating Force F_A	64,1 N
Ansprechweg S_B / Actuating Distance S_B	4,7 mm
Nachlaufweg S_V bis 250N / Overtravel Dist. S_V to 250N	3,24 mm
Nachlaufweg S_V bis 400N / Overtravel Dist. S_V to 400N	6,48 mm
Nachlaufweg S_V bis 600N / Overtravel Dist. S_V to 600N	9,28 mm



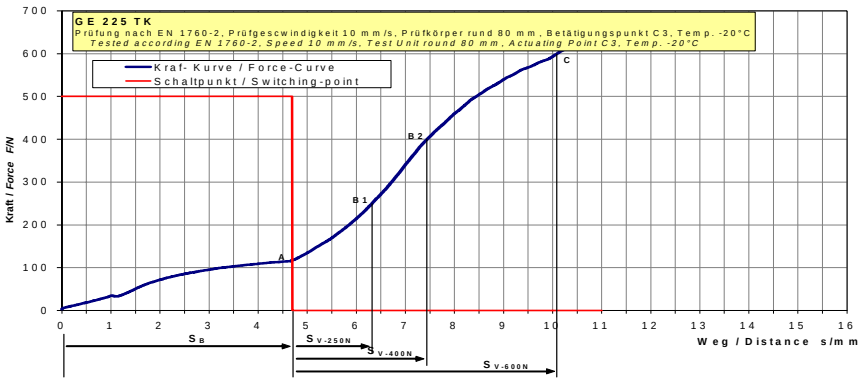
Prüf-Temperatur +55°C
Test-Temperature +55°C

Betätigungskraft F_A / Actuating Force F_A	47,5 N
Ansprechweg S_B / Actuating Distance S_B	4,3 mm
Nachlaufweg S_V bis 250N / Overtravel Dist. S_V to 250N	5,0 mm
Nachlaufweg S_V bis 400N / Overtravel Dist. S_V to 400N	8,7 mm
Nachlaufweg S_V bis 600N / Overtravel Dist. S_V to 600N	11,25 mm



Prüf-Temperatur -20°C
Test-Temperature -20°C

Betätigungskraft F_A / Actuating Force F_A	116,8 N
Ansprechweg S_B / Actuating Distance S_B	4,7 mm
Nachlaufweg S_V bis 250N / Overtravel Dist. S_V to 250N	1,62 mm
Nachlaufweg S_V bis 400N / Overtravel Dist. S_V to 400N	2,74 mm
Nachlaufweg S_V bis 600N / Overtravel Dist. S_V to 600N	5,4 mm



Die Reaktionszeit der angeschlossenen Auswertelektronik beeinfußen die ermittelten Nachlaufwege der Kontaktleiste.
The response time of the used controller affected the measured overtraveled distances of the edge.

Technische Daten Sicherheitskontaktleiste GE-Serie

Technical data safety contact edge GE-Series

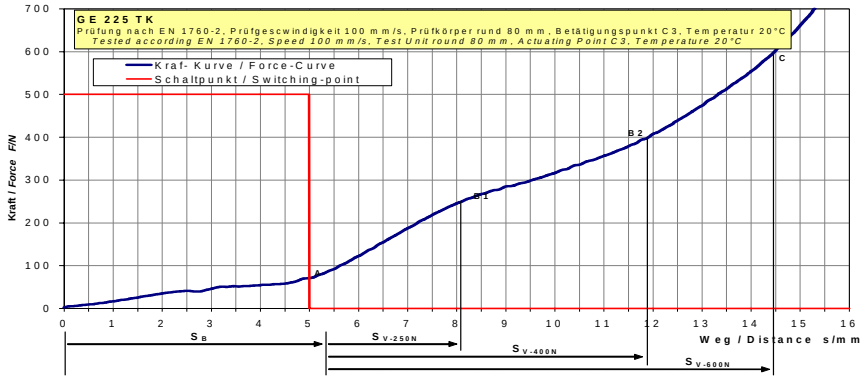
Kennwerte für Prüfgeschwindigkeit v = 100 mm/s

Characteristic values for test speed v = 100 mm/s

Prüf-Temperatur +20°C

Test-Temperature +20°C

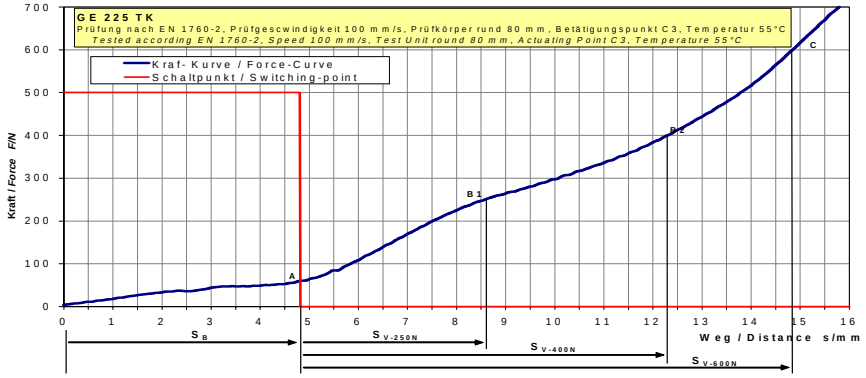
Betätigungskraft F_A Actuating Force F_A	70,9 N
Ansprechweg S_B Actuating Distance S_B	5 mm
Nachlaufweg S_V bis 250N Overtravel Dist. S_V to 250N	3,1 mm
Nachlaufweg S_V bis 400N Overtravel Dist. S_V to 400N	6,9 mm
Nachlaufweg S_V bis 600N Overtravel Dist. S_V to 600N	9,48 mm



Prüf-Temperatur +55°C

Test-Temperature +55°C

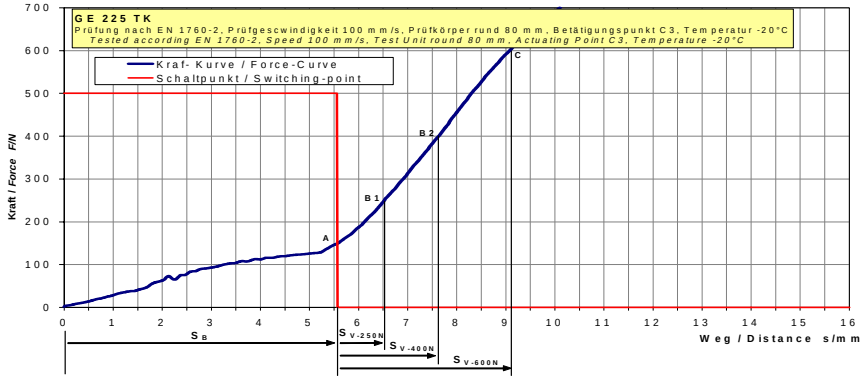
Betätigungskraft F_A Actuating Force F_A	47,5 N
Ansprechweg S_B Actuating Distance S_B	4,3 mm
Nachlaufweg S_V bis 250N Overtravel Dist. S_V to 250N	5 mm
Nachlaufweg S_V bis 400N Overtravel Dist. S_V to 400N	8,7 mm
Nachlaufweg S_V bis 600N Overtravel Dist. S_V to 600N	11,25 mm



Prüf-Temperatur -20°C

Test-Temperature -20°C

Betätigungskraft F_A Actuating Force F_A	148,8 N
Ansprechweg S_B Actuating Distance S_B	5,56 mm
Nachlaufweg S_V bis 250N Overtravel Dist. S_V to 250N	0,97 mm
Nachlaufweg S_V bis 400N Overtravel Dist. S_V to 400N	2,07 mm
Nachlaufweg S_V bis 600N Overtravel Dist. S_V to 600N	3,52 mm



Materialeigenschaften

Material Properties

Allgemeine — General

Reißfestigkeit	3	Tear Strength
Reißdehnung	3	Ultimate Tensile Strength
Rückprallelastität bei 20°C	2	Rebound Elasticity at 20°C
Widerstand gegen bleibende Verformung	2	Resistance Against Permanent Deformation
Abrieb	3	Abrasion
Weiterreißwiderstand	3	Elongation @ Tear
Kälteflexibilität	2	Cold Flexibility
Wärmebeständigkeit	2	Heat Stability
Oxidationsbeständigkeit	1	Oxidation Stability
UV-Beständigkeit	1	UV-Stability
Wetter- /Ozonbeständikeit	1	Weather- / Ozone Resist.
Flammwidrigkeit	6	Flame Resistance
Gasdurchlässigkeit	4	Gas Permeability

1 = sehr gut → 6 = ungenügend — 1 = very good → 6 = insufficient

Chem. Beständigkeit — Chem. Resistance

Wasser (dest.)	1 - 2	Water (dist.)
Säure (verd.)	2	Dilutes acid
Laugen (verd.)	2	Dilutes base
nicht oxid. Säuren	2	Not oxidizing acids
oxidierende Säure	4	Oxidizing acids
ASTM-Öl Nr.3	6	ASTM-oil No.3
Pflanzliche Öle	5	Vegetable oils
Ester-Lösungsmittel	2	Ester-solvents
Keton-Lösungsmittel	3	Keton-solvents
Kohlenwasserstoffe	5-6	Hydorcarbons
Alkohole	1	Alcohol

1 = keine Effekte	für Dauerkontakt
2 = geringe Effekte	Kontakt zulässig
3 = mäßige Effekte	Kontakt zulässig
4 = merkliche Effekte	Kontakt einschränken
5 = stake Effekte	nur kurzzeitigen Kontakt
6 = extreme Effekte	Kontakt vermeiden

1 = no Effects	Permanent Contact
2 = few Effects	Some Contact
3 = Medium Effects	Some Contact
4 = Noticeable Effects	Reduced Contact
5 = Severe Effects	Very Brief contact
6 = Extreme Effects	Avoid Contact

Die aufgelisteten Materialeigenschaften gelten als Richtlinie, kritische Anwendungen müssen von Seiten des Kunden praxisbezogen erprobt werden.

The listed material properties are considered as guideline, critical application must be practically tested by the customer.

Technische Änderungen vorbehalten
Technical changes reserved
Stand 03.06.2004
as of 03.06.2004
Technische Daten Version 1.1
Technical data version 1.1

ASO Safety Solutions
Am Grarock 8 • D-33154 Salzkotten
www.asogmbh.de • e-mail: info@asogmbh.de

McKEON

MECHANICAL
TROUBLE SHOOTING
SIDE ACTING DOORS

McKEON

MECHANICAL TROUBLE SHOOTING GUIDE

PROBLEM	PROBABLE CAUSE	SOLUTION
Door jambed, does not open or close completely.	1. Unleveled floor surface. 2. Unleveled head track. 3. Tracks not aligned properly.	1. Level floor surface to 1/8". 2. Level head track to 1/16" 3. Assure head track to be mounted properly and level to slats.

MAINTENANCE INSTRUCTION & SCHEDULE

MAINTENANCE INSTRUCTION FOR ROLLING STEEL DOORS

LUBRICATION: The most important single maintenance item on doors of this type is lubrication. This is required only at certain points because all rotating members are equipped with high quality sealed bearings that are lubricated for life.

The curtain guides and the teeth of the gears contained in chain hoist or hand crank mechanism (if supplied) should be lubricated at least twice a year (more often if door is operated frequently) with one of the following greases:

Summer: Dixon's #2 Graphite Cup Grease
Alemite MP Lithium Grease (#1 for winter weather, #2 for normal weather)
Texaco #904 Graphite Grease, or their equivalents.

If the door is electrically operated check the oil level in the worm gear speed reducer every six months and replenish if necessary with S.A.E. 140 gear oil for normally heated buildings, or thinner grades for outside installations exposed to low temperatures.

PAINT: All non-lubricated steel surfaces should be pained annually (more often if required in corrosive atmospheres) with a good grade of rust-inhibiting metallic base paint.

SPRING ADJUSTMENT: In time, the counter balancing springs may lose some of their initial tension. This condition imposes an extra load on the operator and should be corrected as follows:

1. Manually operated doors should be opened fully by hand and held open by C-clamps or vise grip pliers on each guide.

2. Mechanically operated doors should be opened fully and the crank or had chain should be locked to hold the door open.

3. Electrically operated doors should be opened fully by pushing the "UP" or "OPEN" button. Motor brake will hold the door open.

4. With a suitable tool (18" or 24" pipe wrench or large spanner) turn the spring adjusting wheel (1/8 turn at a time) until door is balanced properly. Make sure locking pawl is properly engaged in spring adjusting wheel.

For door with adjusting wheel on left hand side, wind springs clockwise.
For door with adjusting wheel on right hand side, wind springs counter clockwise.

McKEON

DOOR OPERATOR SCHEDULED MAINTENANCE

	MAINTENANCE PERFORMED	MONTHLY INTERVAL			
		1	3	6	12
DRIVE CHAIN	ADJUST TENSION AS REQUIRED LUBRICATE AS REQUIRED		○		
LIMIT ADJUSTMENTS	CHECK FOR FULL TRAVEL (NO OVERTRAVEL)		○		
DRIVE SPROCKETS	CHECK SET SCREWS CHECK FOR ABNORMAL WEAR		○		
DRIVE BELTS	CHECK FOR ABNORMAL WEAR CHECK TENSION & RETIGHTEN AS REQUIRED		○		
GEAR REDUCER	CHECK OIL LEVEL (CHECK FOR SIGNS OF LEAKAGE)			○	
CLUTCH	CHECK FOR PROPER OPERATION AND ADJUST AS REQUIRED (SEE CLUTCH ADJUSTMENT PROCEDURE IN OPERATION MANUAL) REPLACE PADS AND SPRING IF CLUTCH CAN NOT BE SET SATISFACTORILY		○		
MOUNTING BOLTS	CHECK AND TIGHTEN AS REQUIRED			○	
ELECTRICAL CONNECTIONS	INSPECT CONNECTIONS FOR LOOSE SCREWS, AND MECHANICAL DAMAGE SUCH AS WORN OR BROKEN INSULATION, BROKEN WIRE ENDS, OR FRAYED CONNECTIONS			○	
DOOR	INSPECT ALL MOVING PARTS FOR CORRECT OPERATION. (NO BINDING) INSPECT ROLLERS, HINGES FOR ABNORMAL WEAR, CHECK GUIDES FOR CORRECT CLEARANCE LUBRICATE AS REQUIRED	○			
OBSTRUCTION SENSING DEVICES	CHECK FOR PROPER OPERATION	○			

RECOMMENDED LUBRICATION:

ALL CHAINS - CHAIN LUBRICANT
IDLER SPROCKETS AND SHAFTS - GENERAL PURPOSE SILICON BASE GREASE
GATE ROLLERS OR HINGES - AS SPECIFIED BY MANUFACTURER
DISCONNEDT LEVERS AND OTHER MOVING SHAFT PARTS - 30 WT. OIL