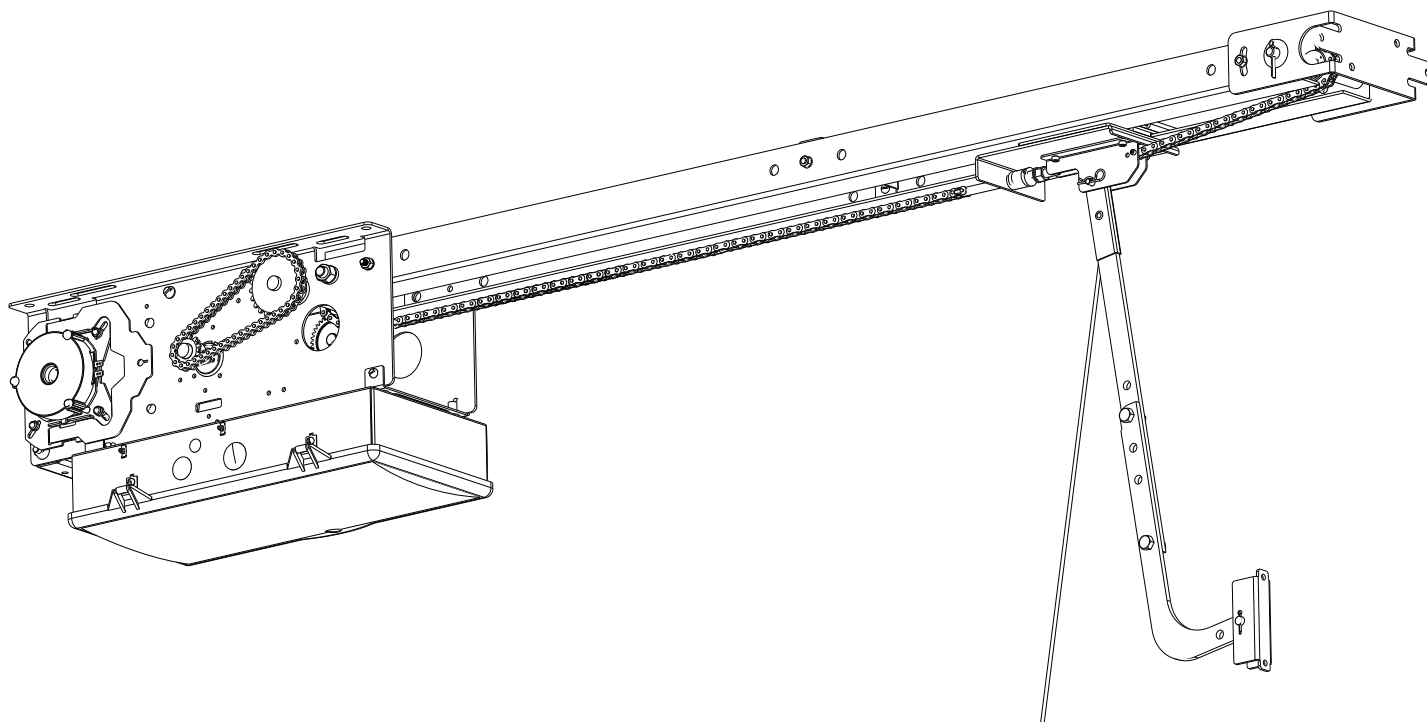


Trolley Operator



APPLICATIONS:

Trolley (Drawbar) Operators can be assembled in the following configurations:

- Trolley (Drawbar)

Trolley Operators can be installed on the following types of doors:

- Sectional Doors (Standard Lift and Low Head Room Track)

HP/Max Door Weight/Height:

- 1/2 HP Only - 620lbs./14 ft.

NOT FOR RESIDENTIAL USE

This installation manual provides the information required to install, program, troubleshoot and maintain a RMZ Trolley operator.

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WARRANTY

Section 1: General Information & Instructions

Job Site Issues to Consider/Concerns

The following list of items should be considered prior to selecting an operator for a given job site.

1. Available power supply.
2. Type of door.
3. Potential operator mounting obstructions. Items to consider include, but are not limited to: Room above door shaft, room below door shaft, available mounting surface integrity, power supply location, and convenient release cable positioning.
4. Size of door for appropriate operator torque and door travel speed selection.
5. Operator mounting environment. Items to consider include operator location, dampness of location, dustiness of the location and corrosiveness of the location.
6. Door activation needs/requirements. Examples include 3 button control stations, 1 button control stations, radio controls, pull cords, loop detectors, photoelectric controls, key switches, etc. See ENTRAPMENT PROTECTION Sec-1.5.
7. Interlock switches are required under certain conditions for doors with pass doors, door lock and dock levelers.
8. Accessory equipment. Examples include reversing edges and/or photocell beams, which are required for doors set to operate as momentary contact, auxiliary control relays, warning lights, etc. See ENTRAPMENT PROTECTION Sec-1.5.



CAUTION

Check working condition of door before installing the operator. Door must be free from sticking and binding. If equipped, deactivate any door locking device(s). Door repairs and adjustments, including cables and spring assemblies **MUST** be made by a trained service representative using proper tools and instructions.



ATTENTION

Vérifiez l'état de fonctionnement de la porte avant d'installer l'opérateur. La porte doit pouvoir bouger librement et ne pas coincer. Désactivez tous les dispositifs de verrouillage de la porte (si équipés). Les réparations et les réglages de porte, plus particulièrement pour les câbles et les ressorts **DOIVENT** être effectués par un technicien qualifié qui se sert d'outils appropriés et qui respecte les instructions.



WARNING

DO NOT apply line voltage until instructed to do so.



AVERTISSEMENT

NE PAS mettre sous tension tant que l'instruction n'est pas donnée de le faire.




Section 1: Safety Information & Instructions









WARNING

Overhead doors are large, heavy objects that move with the help of springs under high tension and electric motors. Since moving objects, springs under tension, and electric motors can cause injury, your safety and the safety of others depend on you reading the information in this manual. If you have any questions or do not understand the information presented, call your nearest service representative. For the number of your local Overhead Door Distributor, call 800-929-3667.

In this manual the words Danger, Warning, and Caution are used to stress important safety information. The word:

-  **DANGER** indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.
-  **WARNING** indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.
-  **CAUTION** indicates potentially hazardous situation which, if not avoided, may result in injury or property damage.

The word **NOTE**, is used to indicate important steps to be followed or important considerations.

POTENTIAL HAZARD	EFFECT	PREVENTION
MOVING DOOR 	 WARNING Could result in Serious Injury or Death	DO NOT operate unless the doorway is in sight and free of obstructions. Keep people clear of opening while door is moving. DO NOT allow children to play with the door operator. DO NOT change operator control to momentary contact unless and external reversing means is installed. DO NOT operate a door that jams or one that has a broken spring.
ELECTRICAL SHOCK 	 WARNING Could cause Serious Injury or Death	Turn off electrical power before removing operator cover. When replacing the cover, make sure wires are not pinched or near moving parts. Operator must be electrically grounded.
HIGH SPRING TENSION 	 WARNING Could cause Serious Injury or Death	DO NOT try to remove, repair or adjust springs or anything to which door spring parts are fastened, such as wood block, steel bracket, cable or any other structure or like item. Repairs and adjustments must be made by trained service representative using proper tools and instructions.

IMPORTANT

READ PRIOR TO ANY DOOR OPERATION




1. Read manual and warnings carefully.
2. Keep the door in good working condition. Periodically lubricate all moving parts of door.
3. If door has a sensing edge, check operations monthly. Make any necessary repairs to keep it functional.
4. AT LEAST twice a year, manually operate the door by disconnecting it from the operator. The Door should open and close freely. If it does not, the door must be taken out of service and a trained service representative must correct the condition causing the malfunction.
5. The Operator Motor is protected against overheating by an internal thermal protector. If the motor protector is tripped, a trained service technical may be needed to correct the condition which caused the overheating. When the motor has cooled, thermal protector will automatically reset and normal operation can be resumed.
6. In case of power failure, the door can be operated manually by pulling the release cable to disconnect the operator drive system.
7. Keep instructions in a prominent location near the pushbutton.

Section 1: Safety Information & Instructions







AVERTISSEMENT

Les portes basculantes sont de gros objets lourds qui fonctionnent à l'aide de ressorts soumis à une haute tension et de moteurs électriques. Dans la mesure où les objets en mouvement, les ressorts sous tension et les moteurs électriques peuvent entraîner des blessures, votre sécurité et celle des autres exigent que vous preniez connaissance des informations stipulées dans ce manuel. Si vous avez des questions ou si vous ne comprenez pas les informations ci-incluses, veuillez contacter le représentant de service le plus près. Pour obtenir le numéro du revendeur Overhead Door local, appelez le +1 (800) 929-3667.

Dans ce manuel, les mots Danger, Avertissement, et Attention sont utilisés pour faire ressortir d'importantes informations relatives à la sécurité. Le mot :

-  **DANGER** signale une situation dangereuse imminente qui si elle n'est pas évitée, risque d'entraîner des blessures graves, voire mortelles.
-  **AVERTISSEMENT** signale une situation potentiellement dangereuse qui, si elle n'est pas évitée, risque d'entraîner la mort ou des blessures graves.
-  **ATTENTION** signale une situation potentiellement dangereuse qui, si elle n'est pas évitée, risque d'entraîner des blessures ou des dommages matériels.

Le terme **REMARQUE** est utilisé pour signaler les étapes importantes à suivre ou d'importants éléments à prendre en considération.

DANGER POTENTIEL	EFFET	PRÉVENTION
PORTE EN MOUVEMENT 	 AVERTISSEMENT Pourrait entraîner des blessures graves voire la mort	Utiliser uniquement si la porte est en vue et libre de tout obstacle. Ne laisser personne se tenir dans l'ouverture de la porte pendant qu'elle est en mouvement. Ne pas permettre aux enfants de jouer avec l'opérateur de la porte. Ne pas modifier la commande de l'opérateur à contact momentané à moins qu'un moyen d'inversion externe soit installé. Ne pas faire fonctionner une porte qui bloque ou dont le ressort est cassé.
CHOC ÉLECTRIQUE 	 AVERTISSEMENT Pourrait entraîner des blessures graves voire la mort	Couper le courant avant d'enlever le couvercle de l'opérateur. Lorsque le couvercle doit être remplacé, s'assurer que les fils ne sont ni coincés ni près des pièces mobiles. L'opérateur doit être correctement mis à la terre.
TENSION ÉLEVÉE RESSORT 	 AVERTISSEMENT Pourrait entraîner des blessures graves voire la mort	Ne pas essayer d'enlever, réparer ni ajuster les ressorts ou toute autre pièce à laquelle le ressort de la porte est attaché, y compris blocs de bois, supports en acier, câbles ou autres articles semblables. Les réparations et les réglages doivent être effectués par technicien qualifié qui se sert d'outils appropriés et qui respecte les instructions.

Section 1: Critical Installation Information

IMPORTANT INSTALLATION INSTRUCTIONS

WARNING

To reduce the risk of severe injury or death:

1. READ AND FOLLOW ALL INSTALLATION INSTRUCTIONS.
2. Install only on a properly operating and balanced door. A door that is operating improperly could cause severe injury. Have qualified service personnel make repairs to cables, spring assemblies and other hardware before installing the operator.
3. Remove all pull ropes and remove, or make inoperative, all locks (unless mechanically and/or electronically interlocked to the operator) that are connected to the door before installing the operator.
4. Install the door operator at least 8feet. (2.44m) or more above the floor if operator has exposed moving parts. If the operator must be installed less than 8feet. (2.44m) above the floor, then exposed moving parts must be protected by covers or guarding, provided by the operator manufacturer.
5. Do not connect the door operator to the power source until instructed to do so.
6. Locate the control station: (a) within sight of the door, (b) a minimum of 5ft. above the floor so that small children cannot reach it, and (c) away from all moving parts of the door.
7. Install the Entrapment Warning Placard next to the control station and in a prominent location.
8. For products having a manual release, instruct the end user on the operation of the manual release.

IMPORTANT INSTRUCTIONS D'INSTALLATION

AVERTISSEMENT

Pour réduire les risques de blessures graves ou de mort:

1. LIRE ET RESPECTER TOUTES LES INSTRUCTIONS D'INSTALLATION.
2. Installez uniquement sur une porte fonctionnant correctement et bien équilibrée. Une porte qui fonctionne mal peut provoquer des blessures graves. Demandez à un technicien qualifié d'effectuer les réparations des câbles, des ressorts et de toute autre quincaillerie avant de procéder à l'installation de l'opérateur.
3. Retirez toutes les cordes de traction ainsi que tous les verrous ou rendez-les inopérants (à moins qu'ils ne soient mécaniquement et/ou électroniquement interverrouillés à l'unité motrices) qui sont connectés à la porte avant de procéder à l'installation de l'opérateur.
4. Installez l'opérateur de porte à une distance de 2,44 m (8 pi) ou plus au-dessus du sol si des pièces en mouvement de l'opérateur sont exposées. Si l'opérateur doit être installé à une distance de moins de 2,44 m (8 pi) au-dessus du sol, les pièces en mouvement exposées doivent être protégées par des couvercles ou systèmes de protection fournis par le fabricant de l'opérateur.
5. Ne pas raccorder l'opérateur de la porte à la source d'alimentation avant que l'instruction ne soit donnée de le faire.
6. Installez la station de commande : (a) en vue de la porte, (b) à 1,5 m minimum au-dessus du sol pour que les jeunes enfants ne puissent pas l'atteindre, et (c) à l'écart de toutes les pièces mobiles de la porte.
7. Installez le poster d'avertissement de pincement à côté de la station de commande à un endroit bien en vue.
8. Pour les produits ayant un déclenchement manuel, indiquez à l'utilisateur comment déclencher manuellement.

Section 1: Critical Installation Information

IMPORTANT INSTALLATION INFORMATION

ENTRAPMENT PROTECTION:

The installation of a monitored fail safe external reversing device is required on all momentary contact electronically operated commercial doors. If such a reversing device is not installed, the operator will revert to a constant contact control switch for close operation.

The Reversing Devices currently UL Approved are:

- MillerEdge® ME and MT series monitored edge sensors used in combination with Timer-Close Module (TCM) P/N OPABTCX.S or Sensing Module (ESM) P/N OPABESX.S
- MillerEdge® ME and MT series monitored edge sensors used in combination with MillerEdge Interface Module P/N OPAKMEIX.S. (Direct connect through STB inputs.)
- MillerEdge® Wireless (MEL) monitored edge sensor P/N OPAKMMWE2.S. (Direct connect through STB inputs.)
- ASO Sentir GF Series Monitored Sensing Edges used in combination with Timer Close Module (TCM) P/N OPABTCX.S or Edge Sensing Module (ESM) P/N OPABESX.S
- Residential Safe-T-Beam® Monitored Photocells - P/N 37220R (GST B-BX) and commercial P/N 38176R.S (includes extension brackets).
- Series II Commercial Safe-T-Beam® Monitored Photocells - P/N OPAKPE2.S and OPAKPEN4X.S (NEMA 4X).
- Monitored Retro-Reflective Photocells - P/N OPAKRPEN4X.S (NEMA 4X)
- Monitored MillerEdge Light Curtain - P/N OPAKMLC3.S & OPAKMLC6.S

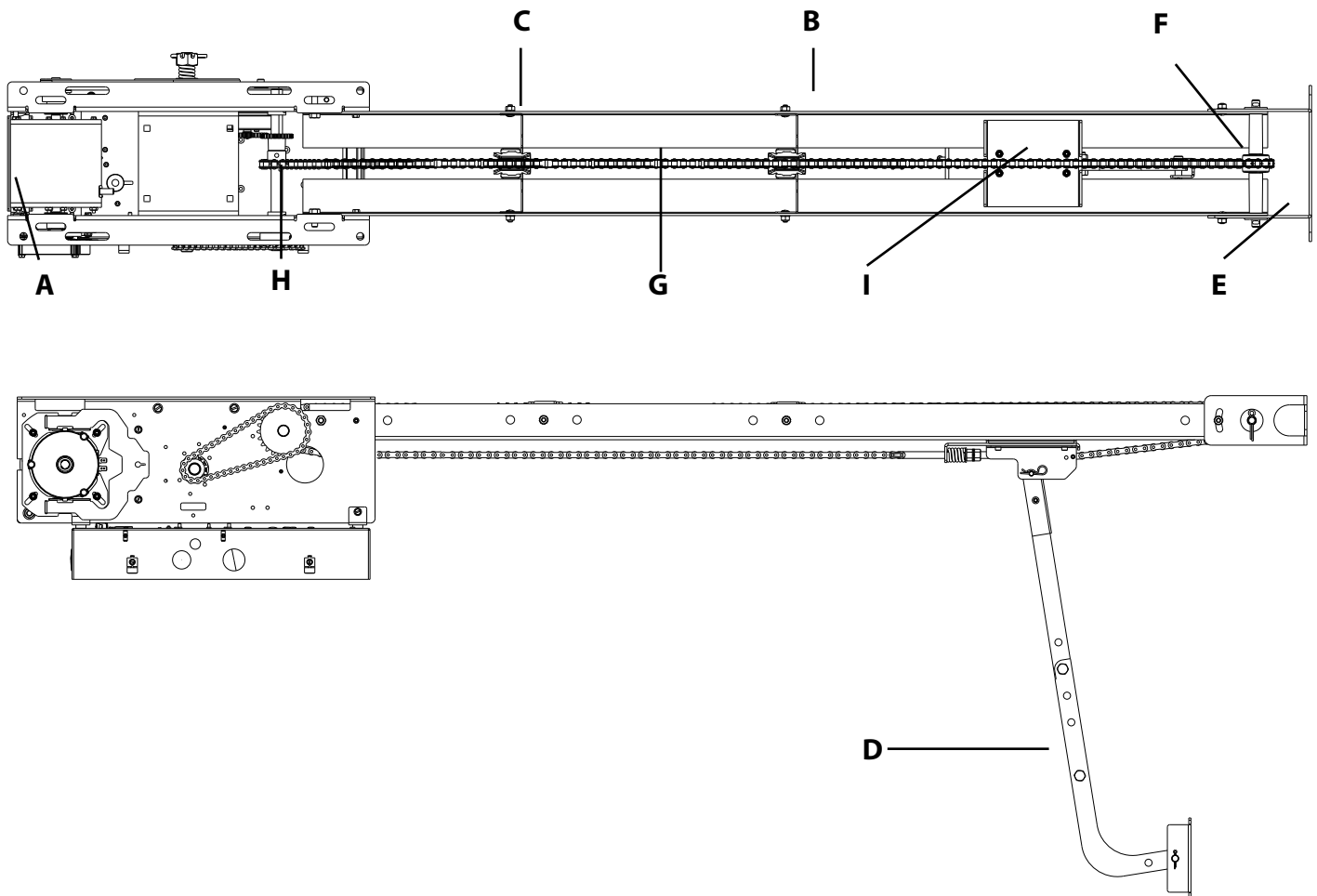
Monitored Sensing Edges are available in any door width.

NOTE: *DO NOT use take up reels in conjunction with the Monitored Sensing Edge system. Use Coil Cords Only.*

Section 2: Operator Installation

The drawbar operator consists of the:

- A. Operator
- B. Drawbar Track
- C. Chain Guides
- D. Drawbar Arm
- E. Front Spreader
- F. Front Idler Sprocket
- G. Drive Chain
- H. Drive Sprocket
- I. Carriage



NOTE: Drawbar tracks must be 29 inches longer than the door's height.
Tracks have been sized properly and pre-punched for the chain guide assemblies from the factory.

Section 2: Operator Installation

1. Attach Track to operator using two 7/16"-14 x 1" hex bolts, lock washers & hex nuts & two 1/4"-20 x 3/4" grade 8 bolts and lock nuts. FIG. 1.

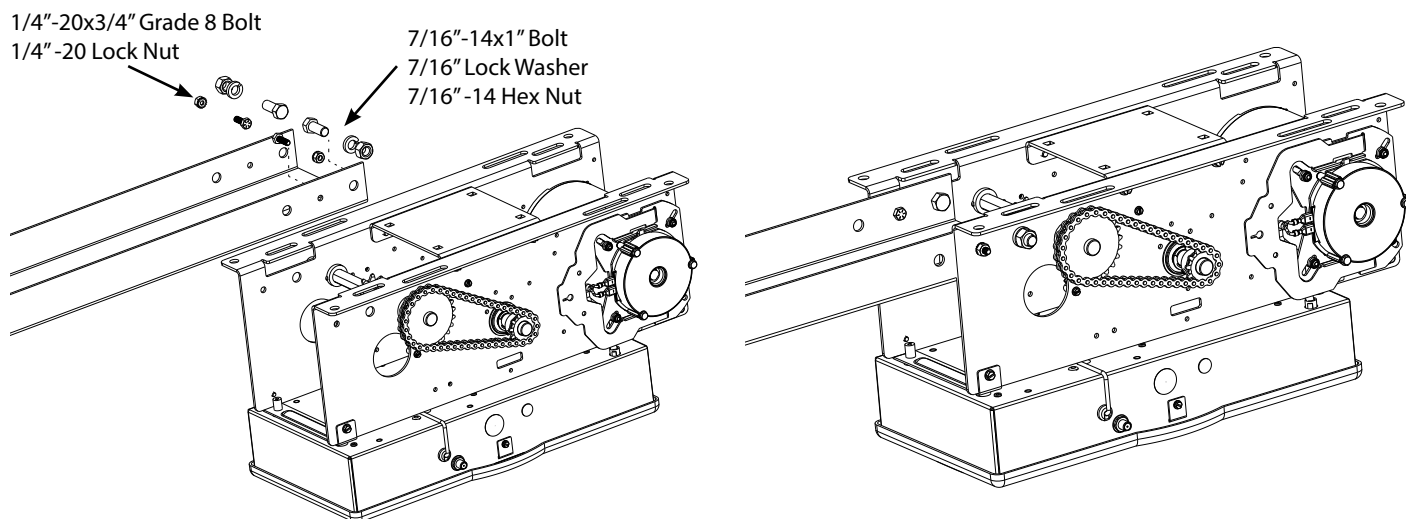


FIG. 1



CAUTION

Verify that screws are properly seated in track. Failure to seat screws can cause carriage to bind in door track.



ATTENTION

Vérifiez que les vis sont bien en place dans la piste. Si les vis sont mallogées, le chariot peut se coincer dans la piste de la porte.

2. Install chain guides.

NOTE: Space chain guides evenly between operator and header. Add a chain guide for every 4 feet of door height per chart A.

CHART A

Under 12'	14'
2	3

NOTE: Chain guide mounting holes have been pre-drilled at standard locations along the track. If different locations are needed, hole size should be 17/64" dia. Be sure to de-burr the holes.

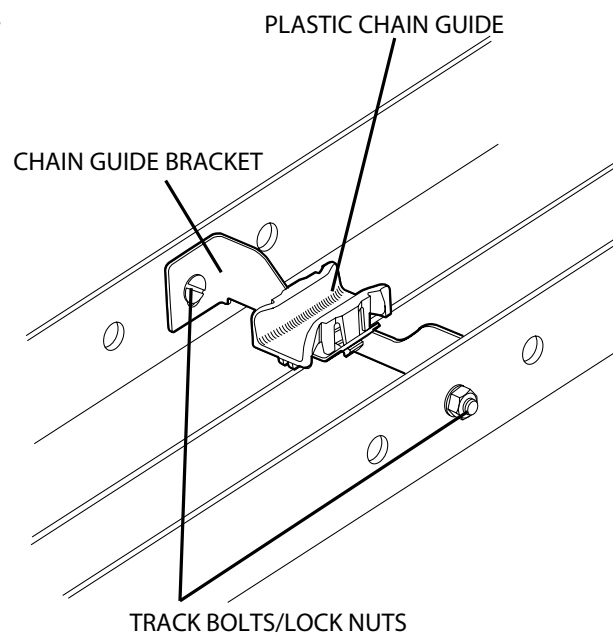


FIG. 2

Section 2: Operator Installation

3. Insert the carriage into the tracks as shown in FIG. 3.
4. Place the spreader bracket in position around the drawbar track. Do not insert the track bolts and lock nuts at this time. The spreader bracket will be held in place (temporarily) by the idler pin which holds the sprocket.
5. Install the idler sprocket inside the track by inserting the 7/16" x 7" idler pin through one side of the track. Feed pin through a sleeve and the idler sprocket followed by the second sleeve. Place 7/16" x 1-1/4" fender washer over each end of idler pin. Secure idler pin with cotter pin through the hole in each end of idler pin. FIG. 4.

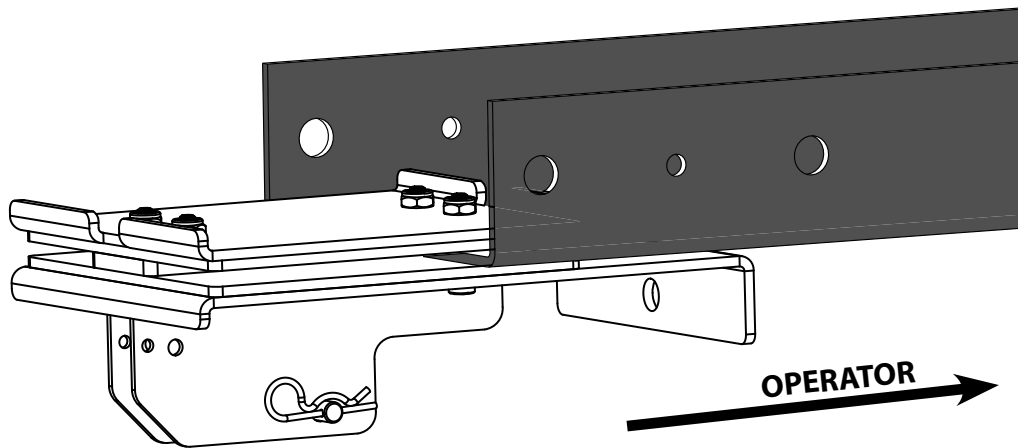


FIG. 3

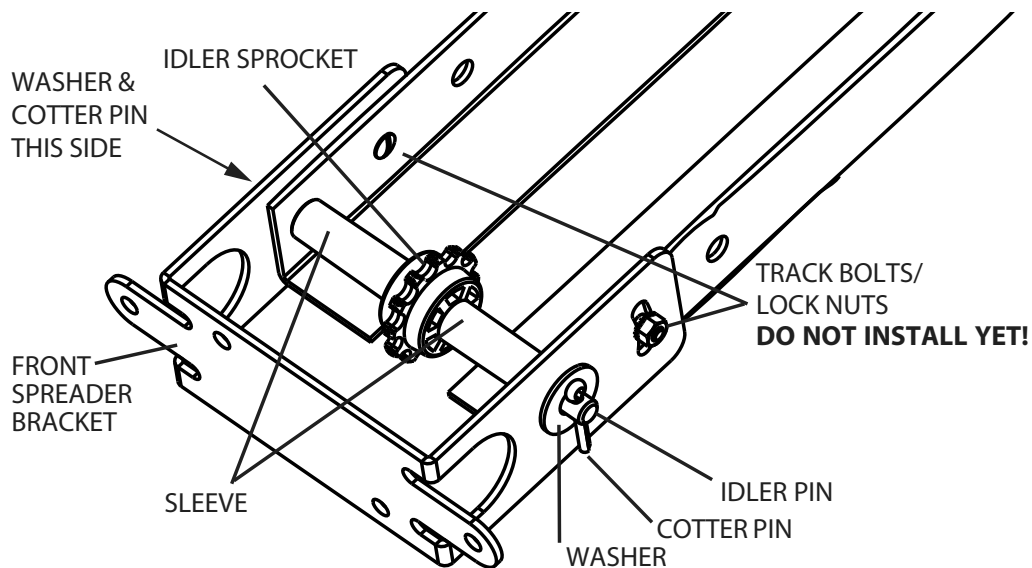


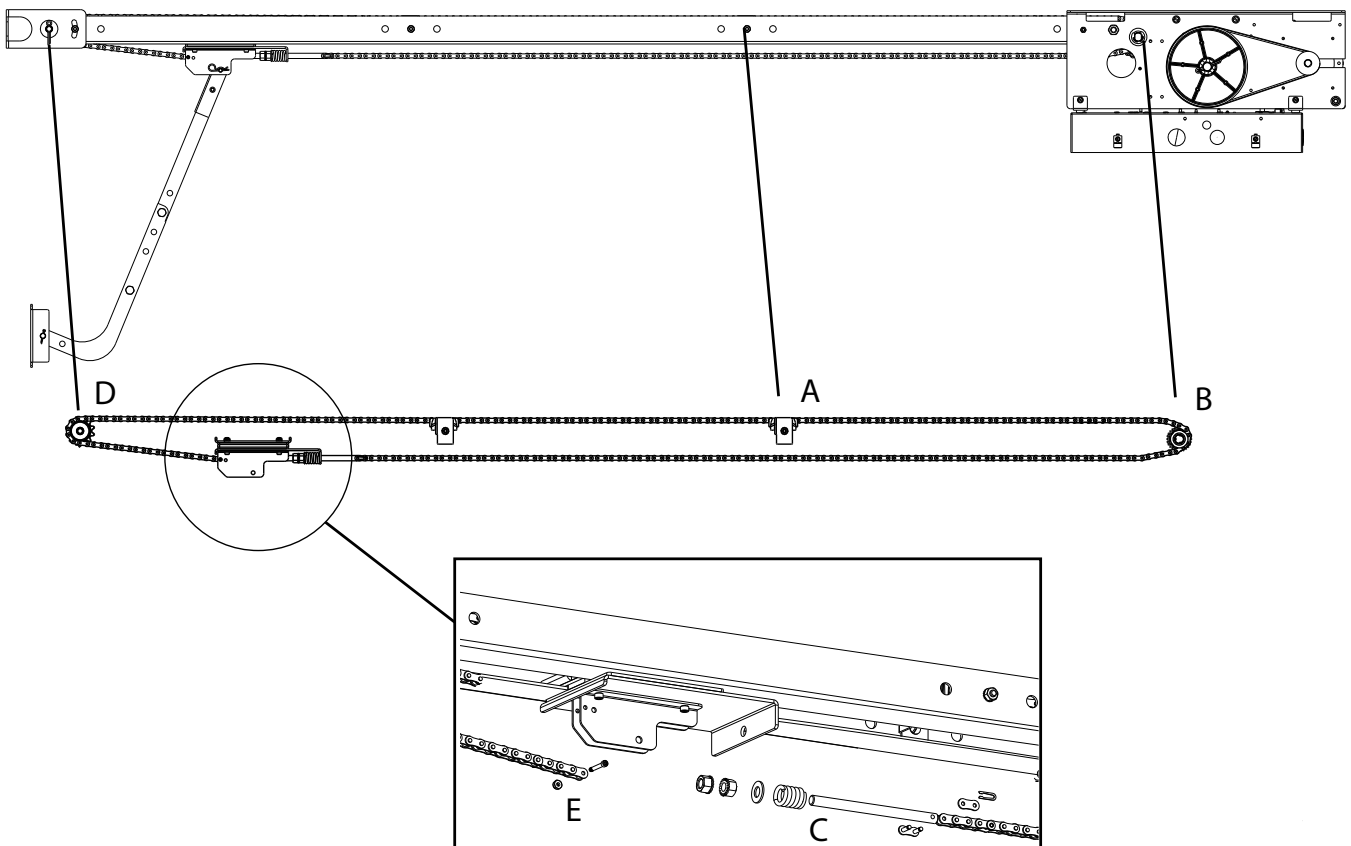
FIG. 4

Section 2: Operator Installation

1. Uncoil the drawbar chain and install by routing the chain over the chain guides (A) and around the drive sprocket (B) on the output shaft as shown in FIG. 5.
2. Attach to chain tension adjusting bolt (C) using a master link (provided).
3. Pass the other end of the chain between the header bracket and the idler sprocket (D). Make certain the chain is not twisted.
4. Attach the chain to the carriage using allen head bolt and nut (E).
5. Insert the adjusting bolt through the hole in the carriage and place the tensioning spring, flat washer and adjusting nut onto the bolt. DETAIL A, FIG. 5.
6. Tighten chain so that it will not jump the sprocket. Install and tighten lock nut.

Check to ensure the following:

- The chain is properly engaging the output sprocket.
- The chain is not twisted.



DETAIL A

FIG. 5

Section 2: Operator Installation



CAUTION

Check working condition of door before installing the operator. Door must be free from sticking and binding. If equipped, deactivate any door locking device(s). Door repairs and adjustments, including cables and spring assemblies **MUST** be made by a trained service representative using proper tools and instructions.

If the door lock is to remain functional, an interlock switch **MUST** be installed which will prevent operation of the door whenever the door lock is engaged. Refer to the Wiring Instructions of this manual for proper connection of the interlock switch.



ATTENTION

Vérifiez l'état de fonctionnement de la porte avant d'installer l'opérateur. La porte doit pouvoir bouger librement et ne pas coincer. Désactivez tous les dispositifs de verrouillage de la porte (si équipés). Les réparations et les réglages de porte, plus particulièrement pour les câbles et les ressorts **DOIVENT** être effectués par un technicien qualifié qui se sert d'outils appropriés et qui respecte les instructions.

Si le verrouillage de la porte doit rester fonctionnel, un commutateur de verrouillage **DOIT** être installé pour empêcher le fonctionnement de la porte chaque fois que le verrouillage de la porte est engagé. Reportezvous aux instructions de câblage de ce manuel pour établir une connexion correcte de l'interrupteur de verrouillage.



WARNING

Repairs and adjustments, including particularly to cables and spring assemblies under high tension, must be made by a trained service representative using proper tools and instructions.



AVERTISSEMENT

Les réparations et les réglages, plus particulièrement aux câbles et ensembles de ressort sous tension élevée doivent être effectués par un professionnel qui se sert d'outils appropriés et qui respecte les instructions.

Section 2: Operator Installation

1. Measure the width of the door to determine the center. Make a vertical line above the door, as shown in FIG. 6.
 - If the vertical line is not in line with a door stile, a means of attaching the door bracket to the door must be provided. This can be accomplished by spanning the center of the door's top section (between the top and bottom rail) with a suitable material such as wood or steel.
2. Prepare for attaching drawbar to header. If woodwork, or other suitable material is not already in place, securely affix a 2" x 6" block of wood or metal plate as shown in FIG. 6.
3. Center the block/plate on the header.
4. Mark the door's vertical center line on this block/plate.

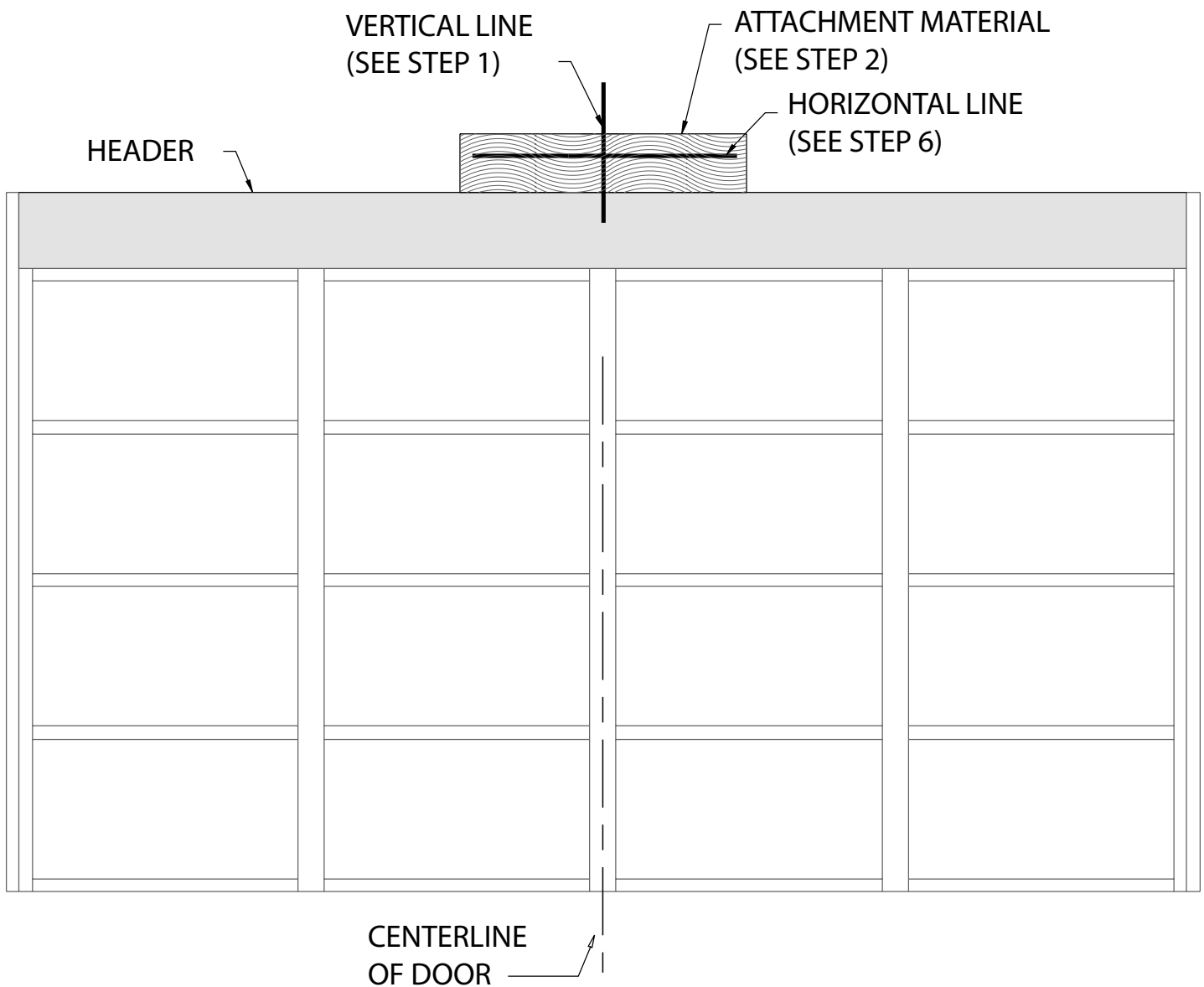


FIG. 6

Section 2: Operator Installation

5. Use a level, as shown in FIG. 7, to find the highest point of travel for the door.
6. Mark a horizontal line across the vertical line you made on the header at 5" above the highest point of door travel.
7. Raise the door end of the drawbar while resting the operator on the floor or other suitable material.
8. Position the spreader bracket on the centerline with its bottom edge on the horizontal mark. FIG. 8.
9. Fasten spreader bracket to header using fasteners appropriate for the header material.

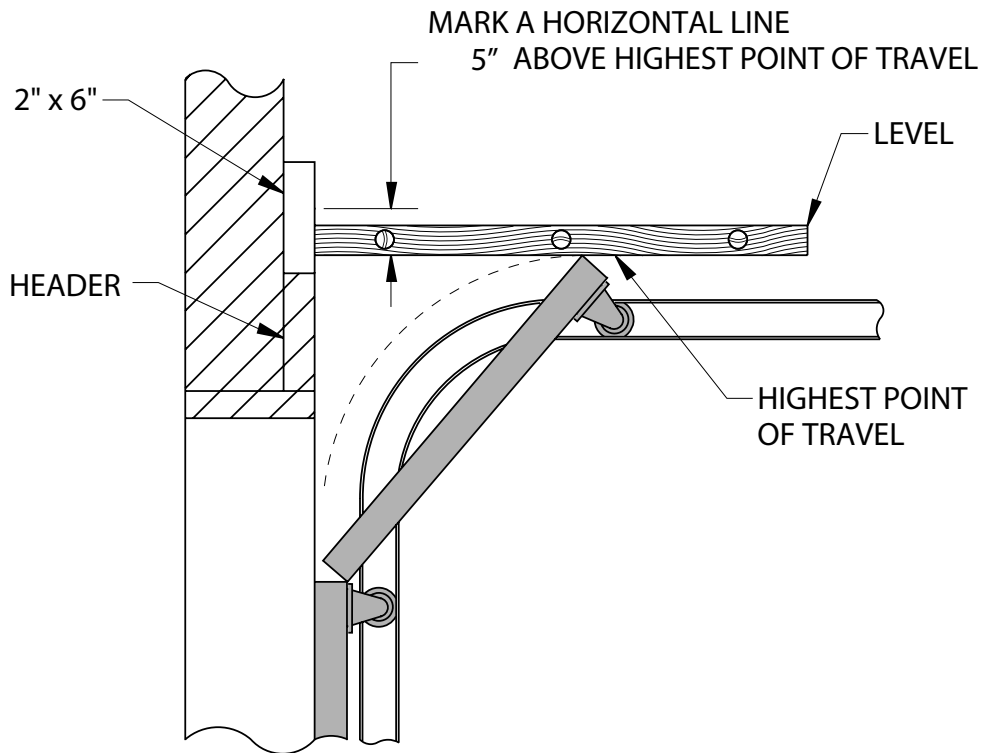


FIG. 7

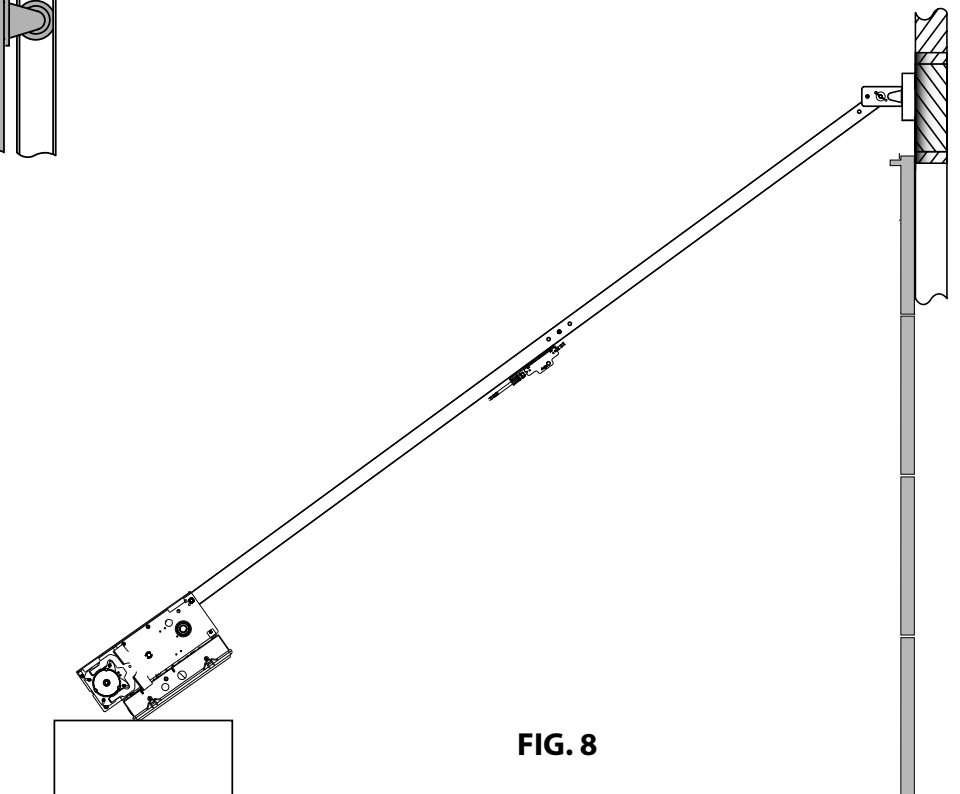


FIG. 8

Section 2: Operator Installation

1. Raise the operator and position it so that the drawbar tracks are level and perpendicular to the face of the door (or the stile where the door bracket will be attached). FIG. 9.
2. Lock the drawbar tracks into the spreader bracket using two 1/4"-20 x 9/16" track bolts & two lock nuts.

NOTE: Track bolts *MUST* be installed from inside the track.

3. Secure the operator in position by installing steel angles (not provided) between the ceiling superstructure and the operator. FIG. 10.

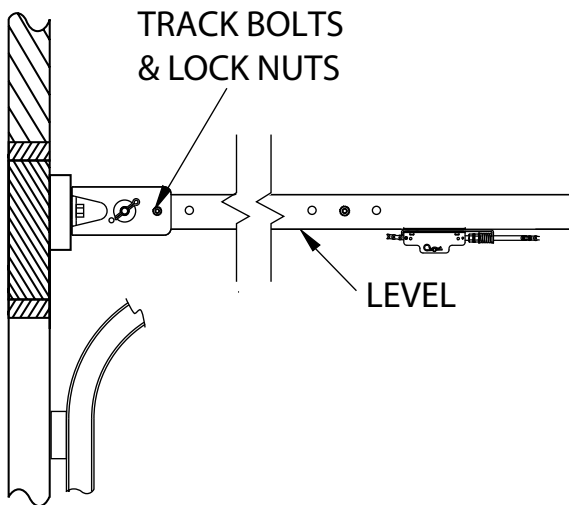


FIG. 9

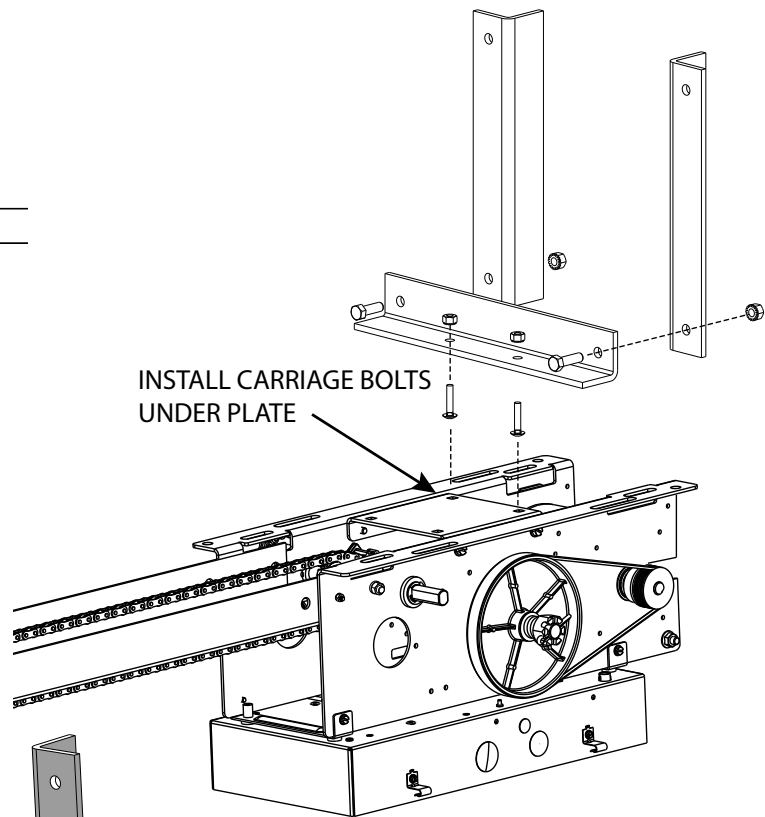
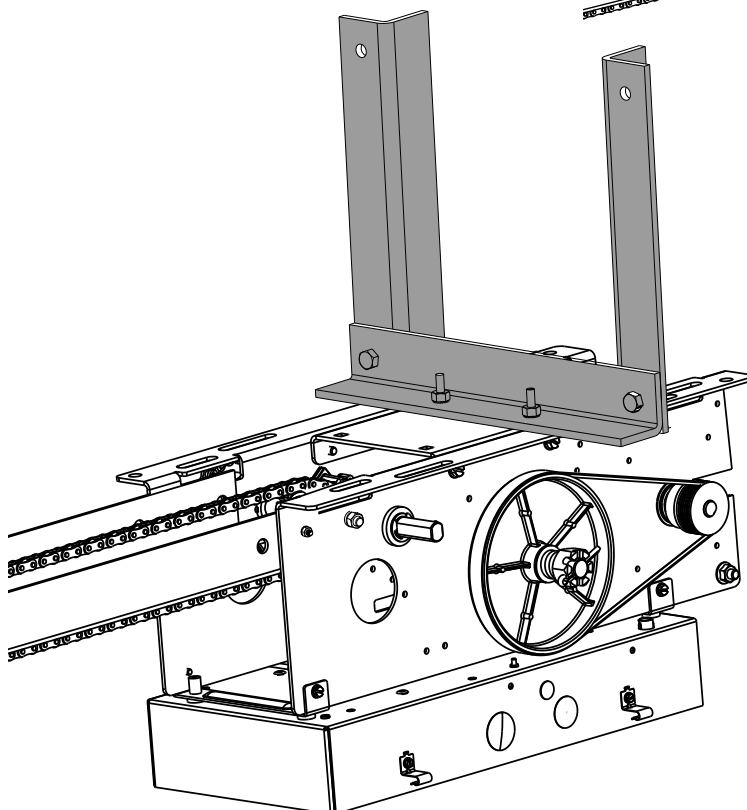


FIG. 10



COMPLETED
ASSEMBLY

Section 2: Operator Installation

1. Pull down on the drawbar arm locking sleeve and attach to carriage. (See NOTE 4)
2. Position the door bracket on the door as shown in FIG. 11, with mounting holes on the door centerline. (Even with or above top door roller).

NOTE 1: Use a reinforcement bracket. Do not attach door bracket directly to door section.

3. For wood doors, fasten the door bracket to the door using two 1/4"-20 x 2-1/4" carriage bolts and nuts. For metal doors, use two 1/4"-20 self-tapping sheet metal screws, or as recommended by the door manufacturer.
4. Use two 3/8"-16 x 7/8" bolts and nuts to attach the door arms together.

NOTE 2: Use the set of holes that align the drawbar arms at a 20-30 degree rearward angle. FIG. 12.

NOTE 3: If the door strut interferes with the mounting of the door bracket, position the door bracket below the strut. Do not, in any way, cut or modify the strut.

NOTE 4: In case of emergency, pulling the emergency release knob (FIG. 12) disengages the door from the operator allowing for manual operation of the door.

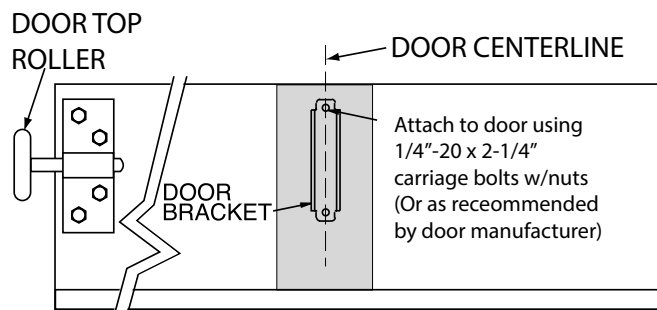


FIG. 11

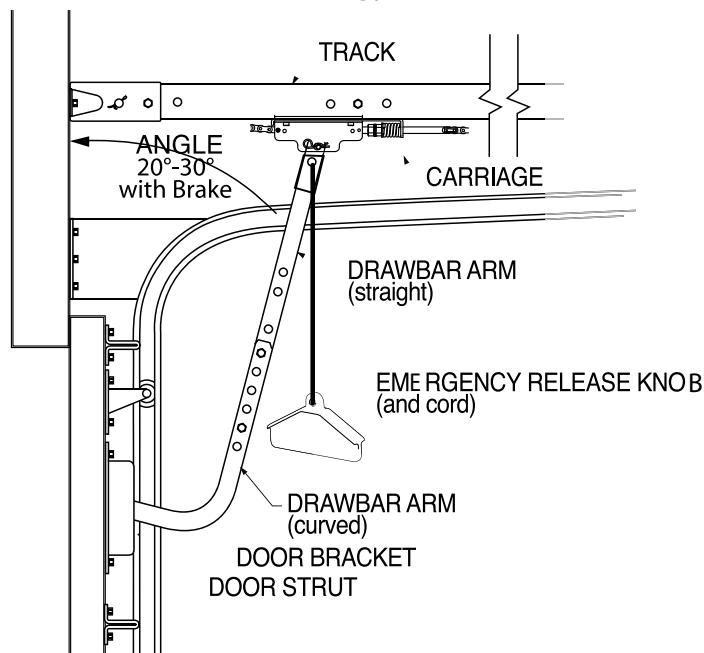


FIG. 12

Section 2: Operator Installation

Clutch Adjustment:

The RMZ Trolley operators have a friction-style clutch that can be adjusted.

NOTE: *The clutch is intended to provide protection for the door, the operator and associated equipment. It is not intended for entrapment protection. Therefore, the adjustment of the clutch should be such that the door and operator function in this manner.*

To Adjust the Clutch:

1. Decrease the tension on the clutch until the operator will not lift the door. Turn the adjusting castle nut counter-clockwise to decrease clutch tension and clockwise to increase clutch tension.
2. After completing step 1, begin to increase tension on the clutch until the operator is capable of lifting the door through the complete cycle without clutch slippage.
3. Finally, insert the cotter pin through the castle nut and shaft and bend the outer leg of the cotter pin.

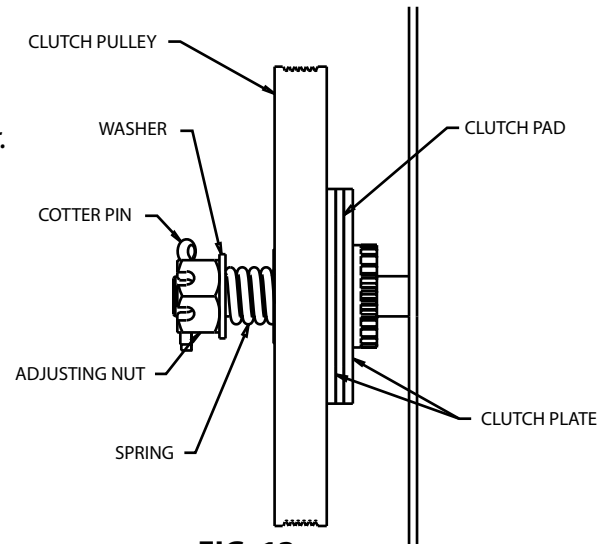


FIG. 13

NOTE: *Periodically check the system for proper clutch action. If clutch starts to slip after working properly for some time, check manual operation of door BEFORE adjusting clutch. The door may not be operating freely or the counterbalance spring may need adjusting. Repairs and adjustments must be performed by a trained service representative using proper tools and instructions.*

Section 3: Wiring



WARNING

- DO NOT apply power to operator until instructed to do so.
- It is strongly recommended, and may be required by law in some areas, that line voltage wiring be performed by a qualified electrician.
- Be sure that electrical power has been disconnected from the input power wires being connected to the operator prior to handling these wires. An appropriate lock-out/tag-out procedure is recommended.
- Line voltage wiring must meet all local building codes.
- Make sure operator voltage, phase and frequency nameplate ratings are identical to the job site line voltage ratings.
- Input power wiring must be properly sized for the operators amperage rating located on the nameplate.
- To reduce the risk of electric shock, make sure the chassis of this unit is properly grounded.



AVERTISSEMENT

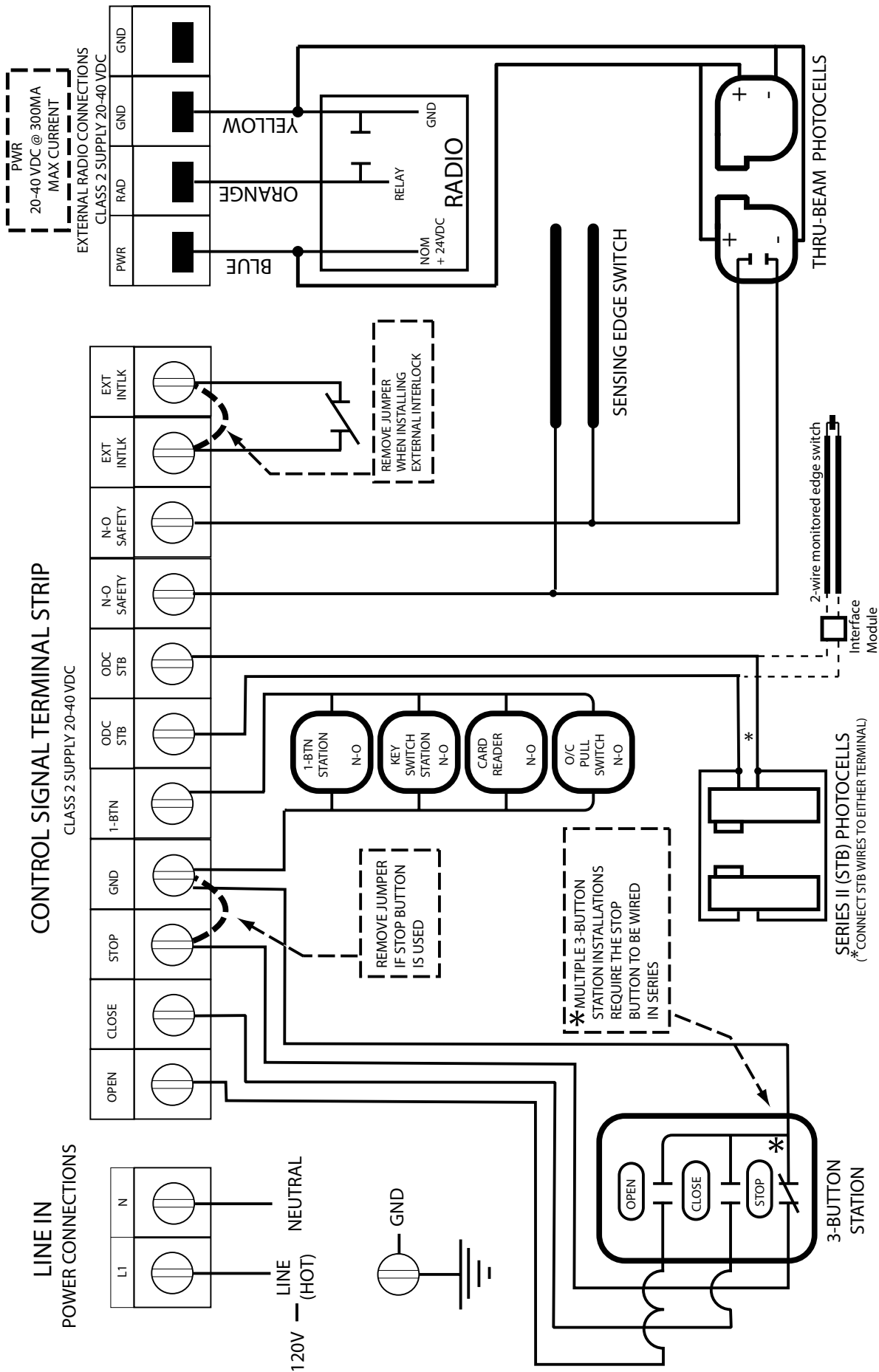
- NE PAS mettre sous tension tant que l'instruction n'est pas donnée de le faire.
- Il est fortement recommandé voire même exigé par la loi dans certaines régions, de contacter un électricien qualifié pour l'acheminement du fil électrique.
- Assurez-vous que l'alimentation électrique a été déconnectée des câbles d'alimentation d'entrée connectés à l'opérateur avant de manipuler ces câbles. Une procédure de verrouillage/étiquetage appropriée est recommandée.
- Le câblage au secteur doit satisfaire à tous les codes de construction locaux.
- Assurez-vous que les valeurs nominales de la plaque signalétique pour tension, phase et fréquence de l'opérateur correspondent à celles des tensions de l'alimentation sur site.
- La capacité d'entrée doit correspondre à la valeur nominale de l'ampérage des opérateurs indiquée sur la plaque signalétique.
- Pour réduire le risque de choc électrique, assurez-vous que le châssis de l'unité est correctement mis à la terre.

NOTE

Installation of all wiring and connections, including Power Limited Class 1 and Class 2 circuits, shall be performed in accordance with, but not limited to, the latest NFPA, UL, and N.E.C. standards and codes.

In addition, all installations subject to Canadian standards shall be performed in accordance with the Canadian Electrical Code, Part 1, with respect to wiring material type, wiring gauge related to power capacity requirements, circuit length and wiring methods.

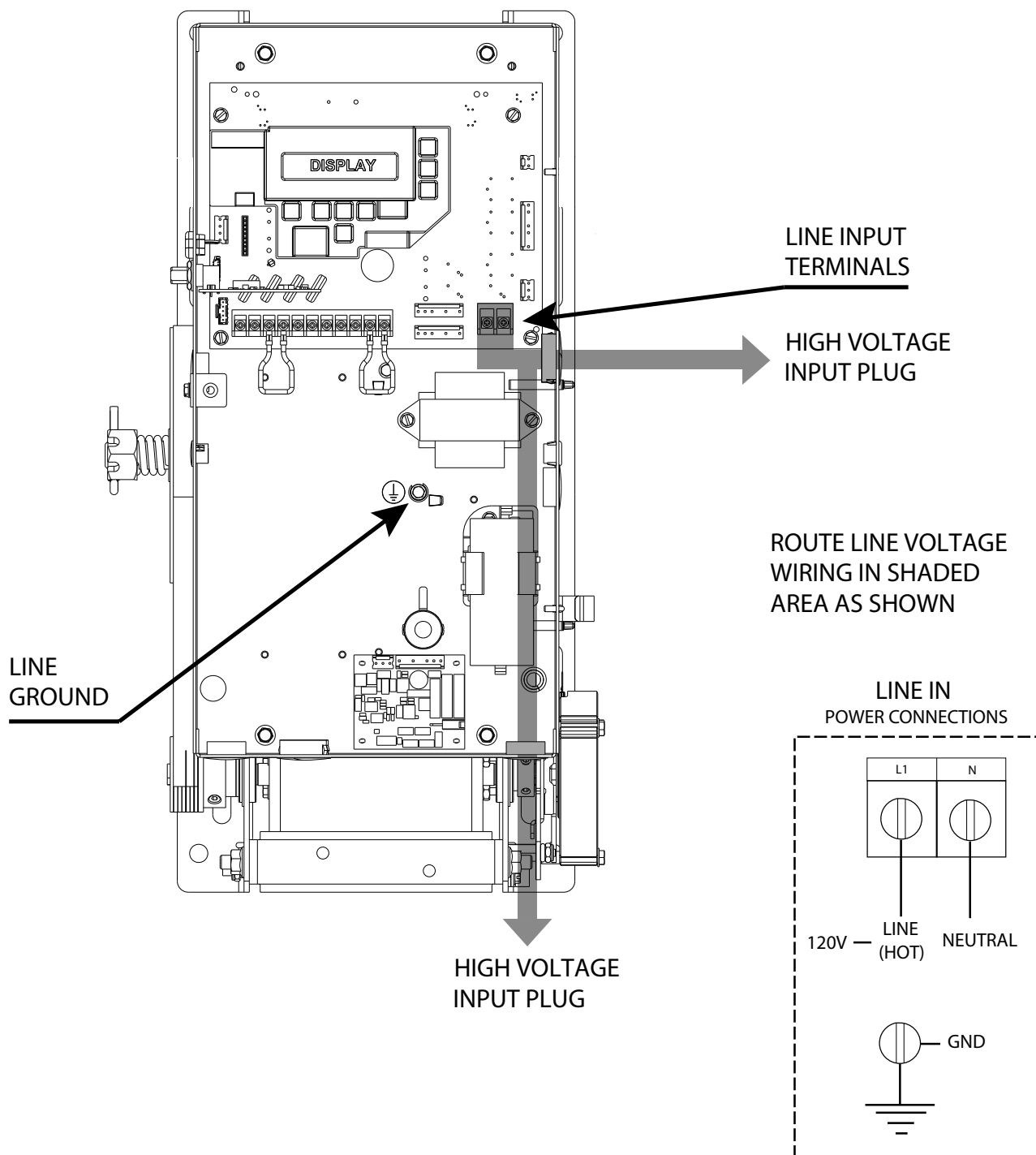
GENERAL INTERNAL WIRE DIAGRAM



Section 3: Wiring

Line Voltage Wiring

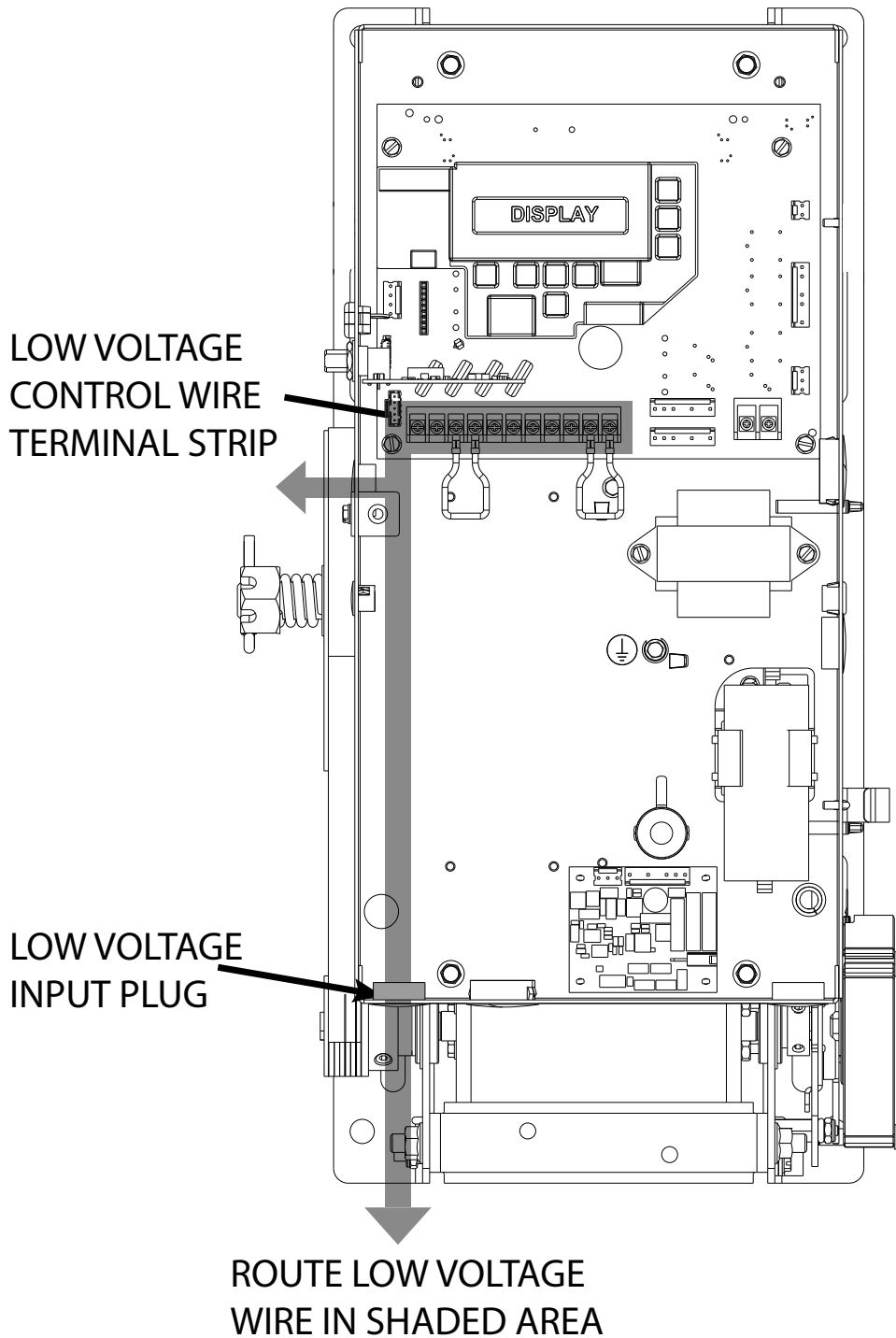
1. Remove line voltage input plug and install proper fittings and 1/2" conduit.
2. Route proper line voltage wires into operator.
3. Locate line input terminals on circuit board. Using correct connectors, attach wires to line inputs, and ground terminal.
 - Keep low voltage and line voltage wires separate.
 - Route all line voltage wires as shown.
 - Plug all unused conduit holes.



Section 3: Wiring

Low Voltage Control Wiring

1. Connect all low voltage control circuit wires using 1/2" conduit or flexible convoluted tubing.
 - Keep low voltage and line voltage wires separate.
 - Route all low voltage control wiring as shown. This includes all control circuit wires such as wall controls, interlock switches and single button input devices as well as safety circuit wiring.
 - Plug all unused conduit holes.



Section 3: Wiring

Wall Controls

WARNING

- Wall Control(s) must be located so that the door is within sight of the user and is far enough from the door, or positioned such that the user is prevented from coming in contact with the door while operating controls.
- Attach the Warning placard adjacent to the Wall Control. FIG. 4.

AVERTISSEMENT

- La ou les commandes murales doivent être situées de telle sorte que l'utilisateur puisse voir la porte et positionnées de telle sorte que l'utilisateur ne puisse pas entrer en contact avec la porte lorsqu'il se sert des commandes.
- Fixez le poster d'avertissement à côté de la commande murale. FIG. 4

WARNING

Before momentary contact control can be used on the CLOSE button, a monitored external reversing device such as a photocell system or sensing edge switch must be used.
See ENTRAPMENT SECTION for installation of entrapment protection devices.

AVERTISSEMENT

Avant d'utiliser la commande à contact momentané sur le bouton FERMETURE, un dispositif d'inversion externe surveillée tel qu'un système de cellule photoélectrique ou un commutateur de détection de bord doit être utilisé.
Voir l'installation des dispositifs de protection contre le coincement en.

Section 3: Wiring

1. For a single open/close/stop installation, make connections as shown in FIG. 1.
2. For single button accessory controls, make connections as shown in FIG. 2.
3. For a multiple open/close/stop installations, make connections as shown in FIG. 3.
4. Install WARNING placard next to control station. FIG. 4

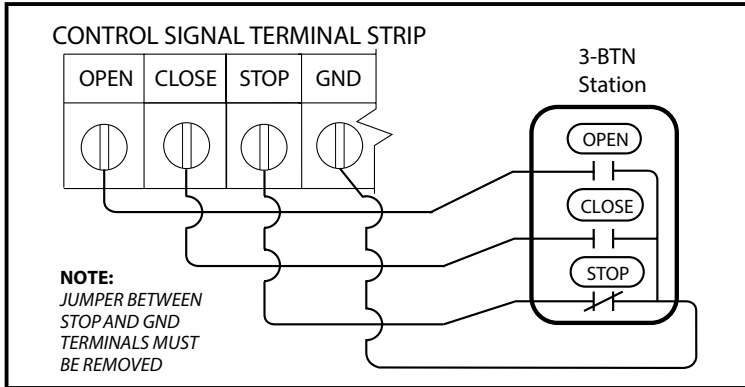


FIG. 1

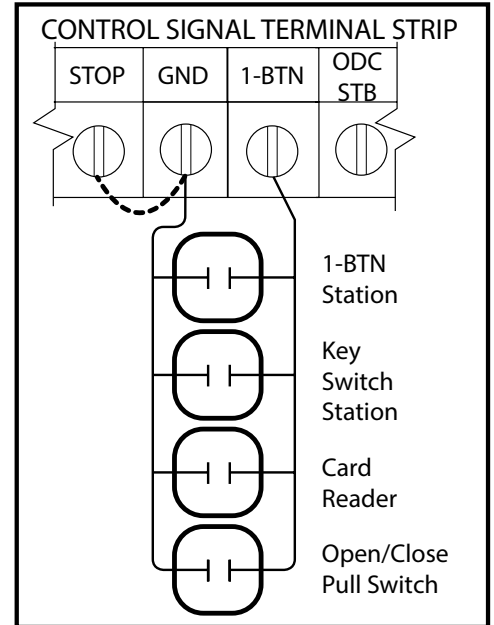


FIG. 2

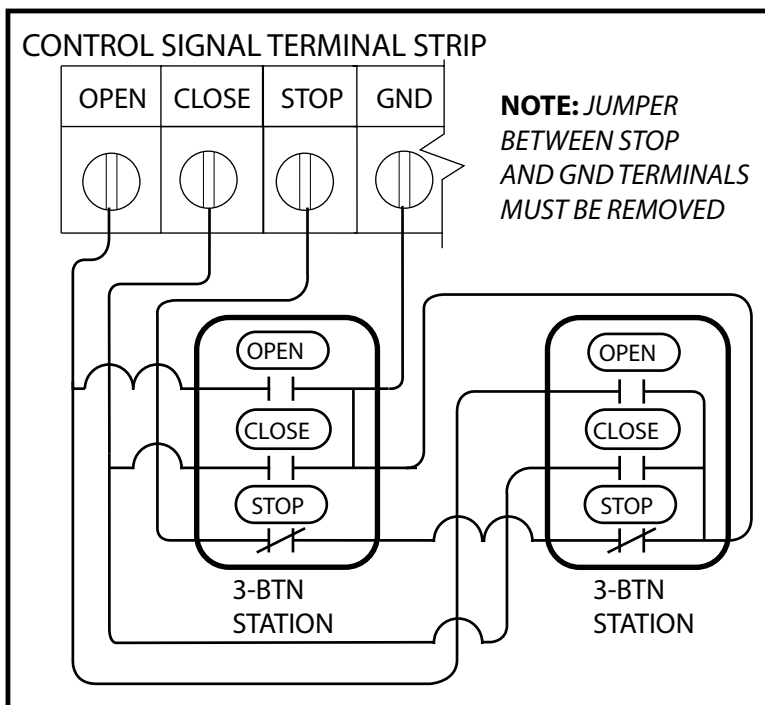
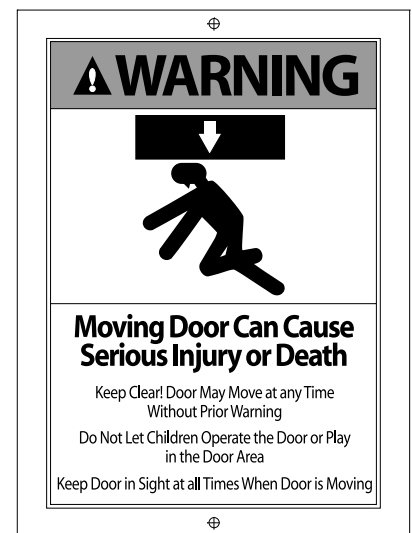


FIG. 3



Entrapment Warning
Placard

FIG. 4

NOTE: If an External STOP button is NOT being installed, a jumper wire must be installed between the "STOP" and "GND" terminals as shown.

NOTE: Low voltage wiring can be run a maximum of 1000 feet. Do not use long distance wiring kits on this operator.

Section 3: Wiring

External Accessories

Interlock Switches

If a slide lock is required on the door for pass-through doors or other requirements, an interlock will be required to prevent the opener from running when engaged. Install a Normally Closed interlock switch and wire directly to the operator. Remove the jumper between the EXT-INTLK terminals on the control board and install wiring to these terminals.

Photocells, Monitored

See ENTRAPMENT PROTECTION Sec-1.5 for a list of approved monitored photoelectric devices. See instructions included with the photocell kit for detailed installation, wiring and programming instructions. Wire directly to the control board at the ODC STB terminals.

NOTE: *The ODC STB must be programmed to ON on the control board. See programming section in this manual for details.*

Photocells, Non-Monitored

Non-Monitored reversing device must be Normally Open relay type. See instructions included with the photocell kit for detailed installation and programming instructions.

Wire directly to the control board at the N-O SAFETY terminals.

NOTE: *The use of Non-Monitored photoelectric devices will NOT provide Monitored Entrapment Protection. Exclusive use of Non-Monitored devices only will require the user to maintain constant contact to close.*

Sensing Edges, Monitored

See ENTRAPMENT PROTECTION Sec-1.5 for a list of approved monitored safety edge devices. See instructions included with the sensing edge for detailed installation and programming instructions.

Wire to the ODC STB terminals using the Monitored Edge Interface Module

NOTE: *The ODC STB must be programmed to ON on the control board when using the Monitored Edge Interface Module or Wireless Edge Sensing Module. See programming section in this manual for details.*

NOTE: *Monitored Sensing Edges can be used with the Timer Control Module (TCM) or External Sensing Module (ESM) when using monitored photocells and monitored sensing edges. See ACCESSORY MODULE section below.*

Sensing Edges, Non-Monitored

Non-Monitored reversing device must be Normally Open contact. See instructions included with the sensing edge for detailed installation and programming instructions.

Wire directly to the control board at the N-O SAFETY terminals.

NOTE: *The use of Non-Monitored edge sensing devices will NOT provide Monitored Entrapment Protection. Exclusive use of Non-Monitored devices will prevent the use of momentary contact to close operation.*

Sensing Edges, Wireless

See ENTRAPMENT PROTECTION Sec-1.5 for a list of approved monitored safety edge devices. See instructions included with the sensing edge for detailed installation and programming instructions.

Wire directly to the control board at the ODC STB terminals.

NOTE: *The ODC STB must be programmed to ON on the control board. See programming section in this manual for details.*

Accessory Modules

The RMZ Trolley operators can accommodate, up to, two accessory module boards for expanded features. See instructions included with the Accessory Module(s) for detailed features, installation and programming instructions.

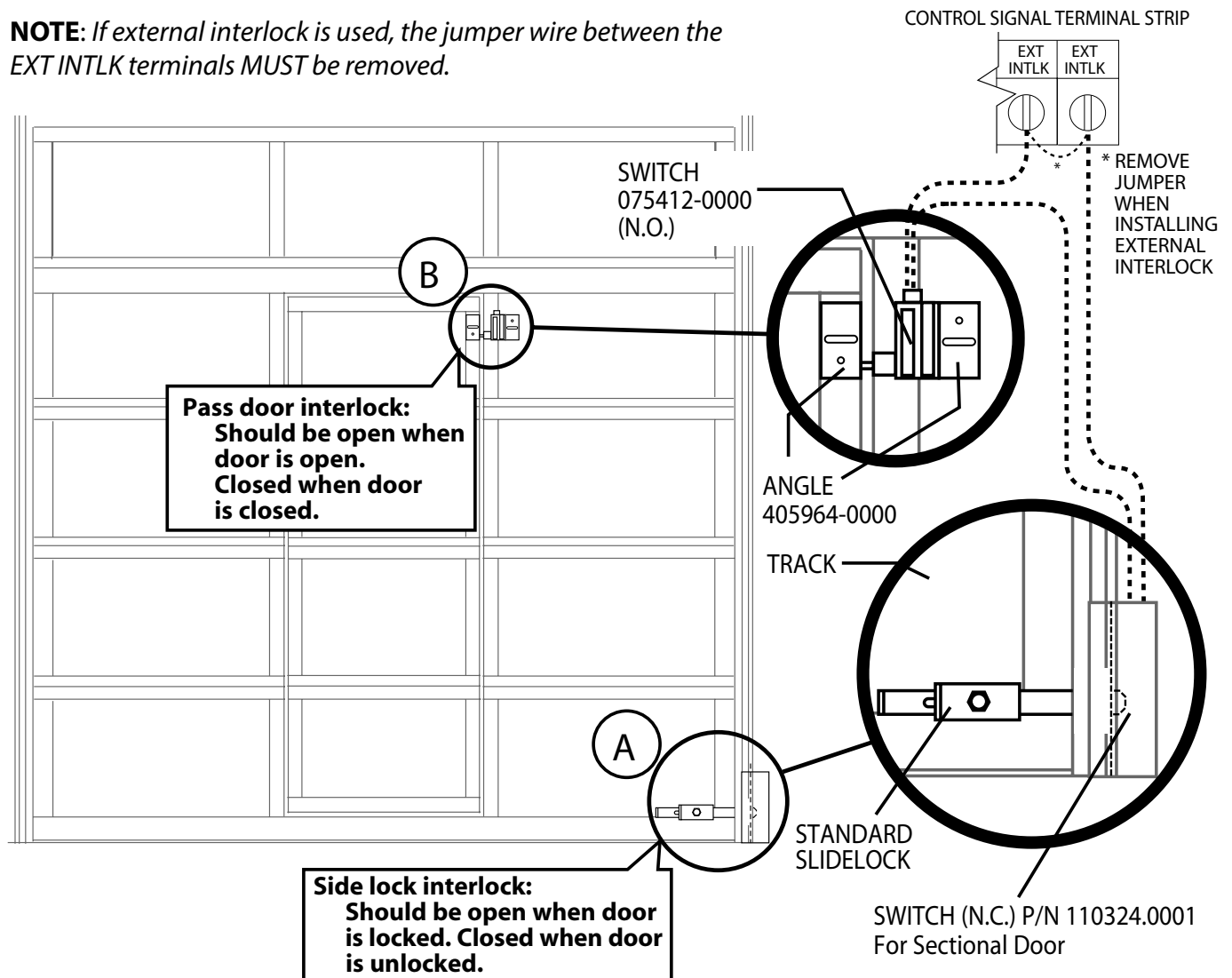
Section 3: Wiring

Interlock Switches

Optional external interlock switches are required with some doors to prevent the door from operating under certain conditions including the following:

- If the door is equipped with a functioning door lock, an interlock switch (A) must be installed to prevent electric operation when the lock is engaged.
- If the door is equipped with a pedestrian pass-through door, an interlock switch (B) must be installed at the pass-through door in order to prevent electrical operation when the pass-through door is open.
- If the door is equipped with a dock leveler the interlock circuit may be connected to the dock leveler to prevent motor operation when the leveler is not in the down position.

NOTE: If external interlock is used, the jumper wire between the EXT INTLK terminals **MUST** be removed.



Section 3: Wiring

Photocells



WARNING

Actuating the operator by using constant contact on the CLOSE button will override non-functioning external reversing devices, including photocells.



AVERTISSEMENT

L'activation de l'opérateur en utilisant un contact constant sur le bouton FERMER annulera les dispositifs d'inversions externes, y compris les cellules photoélectriques.



WARNING

Photocell systems provide entrapment protection when mounted near the doorway in such a way that the lower portion of an individual's leg will break the photocell beam during normal walking conditions.



AVERTISSEMENT

Les systèmes de cellules photoélectriques fournissent une protection contre le coincement pour le montage à proximité de la porte de manière à ce que la partie inférieure de la jambe d'un individu ne puisse pas rompre le faisceau de la cellule photoélectrique lors de passages normaux par la porte.

MONITORED PHOTOCELLS:

Monitored (STB) photocells FIG. 5. Wiring to these photocells can be connected to either terminal (they are not polarity sensitive).

See ENTRAPMENT PROTECTION Sec-1.5 for approved reversing devices.

NOTE: *Installer must enable ODC STB in CALIBRATION MODE. (See programming section)*

NON-MONITORED PHOTOCELLS:

Nominal 24 Volt DC commercial photocells with normally open contacts can be connected as shown. FIG. 6.

NOTE: *External radio connector harness supplies 20-40VDC across blue(+) and yellow(-) wires.*

NOTE: *If no voltage is present across blue & yellow wires, check the fuse near the external radio harness on the board.*

MOUNTING PHOTOCELLS:

1. Determine location for mounting. They do not need to be directly adjacent to the door but must be somewhere along the wall where there will be an unobstructed line between them. FIG. 7.
2. Photocells must extend out away from the wall sufficiently that no door hardware breaks the plane of the photo-beam.

Section 3: Wiring

Photocells

CONNECT WIRES TO EITHER TERMINAL.
(NOT POLARITY SENSITIVE)

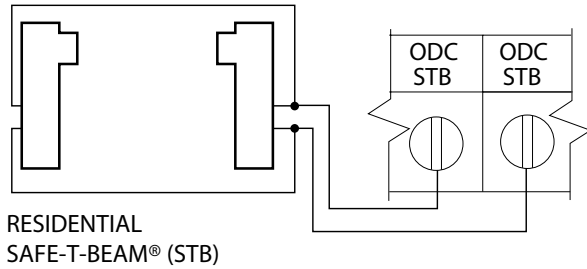


FIG. 5

Non-Monitored Type Photocells

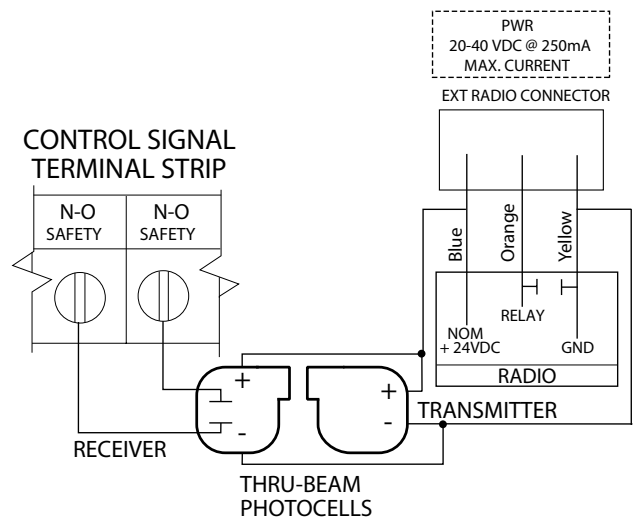


FIG. 6

Photocell Installation

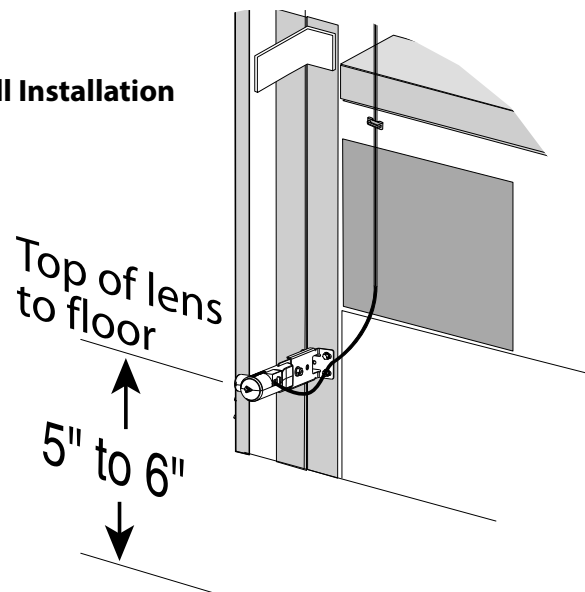


FIG. 7

Section 3: Wiring

Monitored Edges, Hardwired

⚠ WARNING

Actuating the operator by using constant contact on the CLOSE button will override non-functioning external reversing devices, including sensing edges.

⚠ Avertissement

L'activation de l'opérateur en utilisant un contact constant sur le bouton FERMER annulera les dispositifs d'inversions externes, y compris les systèmes de détection des bords.

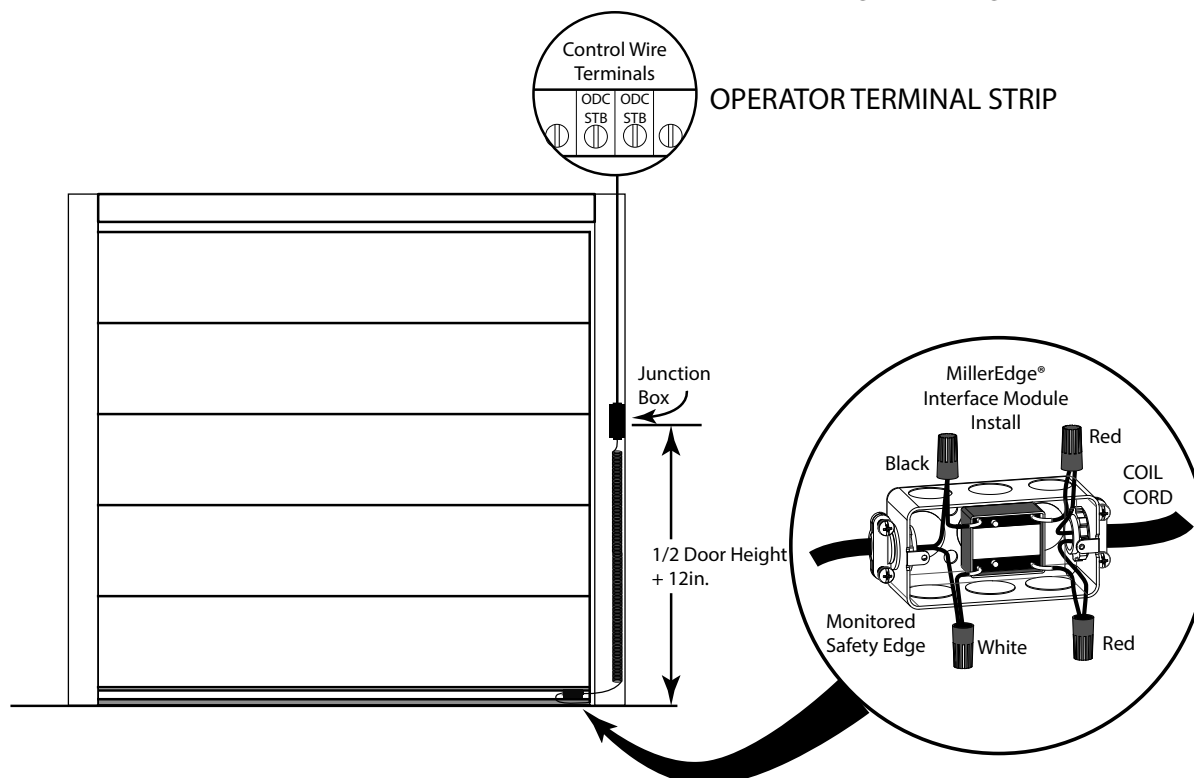
MillerEdge® “DC” Series & ASO Monitored Sensing Edge Installation with Interface Module.

Right-hand installation shown, Left-hand installation mirrored

1. Mount junction box to wall one half the door height plus 12 inches from floor.
2. Install hard-wiring from operator and coil cord to junction box and secure with conduit clamps.
3. Connect hard-wiring from operator to coil cord with wire nuts and install junction box cover plate. These are not polarity sensitive.
4. Install wires to ODC STB terminals in operator.
5. Attach coil cord to Monitored Edge Interface Module in junction box as shown and secure with conduit clamps.
6. Install wires from monitored edge to Interface Module as shown below.
7. Install cover plate.

NOTE: *DO NOT* use take up reels with Monitored Edge systems

NOTE: *Installer must enable ODC STB in CALIBRATION MODE (see programming section)*



Section 3: Wiring

Monitored Edges, Wireless



WARNING

Actuating the operator by using constant contact on the CLOSE button will override non-functioning external reversing devices, including sensing edges.



AVERTISSEMENT

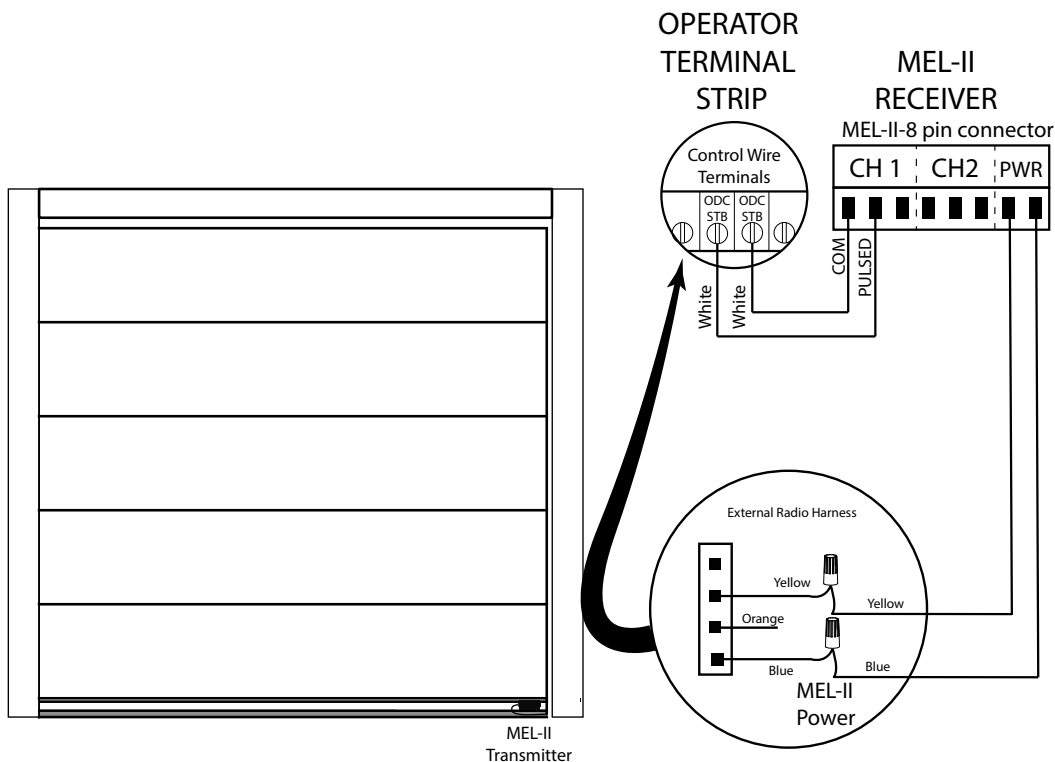
L'activation de l'opérateur en utilisant un contact constant sur le bouton FERMER annulera les dispositifs d'inversions externes, y compris les systèmes de détection des bords.

MillerEdge® Wireless Monitored Sensing Edge Installation

Right-hand installation shown, Left-hand installation mirrored

1. Mount Wireless Edge Receiver adjacent to operator.
2. Route MEL wireless receiver wires into operator electric box using suitable conduit and clamp systems.
3. Attach MEL wireless receiver power wires (blue/yellow) to external radio plug as shown below.
4. Attach MEL wireless receiver trip wires (white/white) to ODC STB terminals on control wire terminal strip.
5. Mount MEL wireless transmitter to bottom edge of door per MEL instructions.

NOTE: *Installer must enable ODC STB in CALIBRATION MODE (see programming section)*



Section 3: Wiring

Sensing Edges, Hardwired with Expansion Board

WARNING

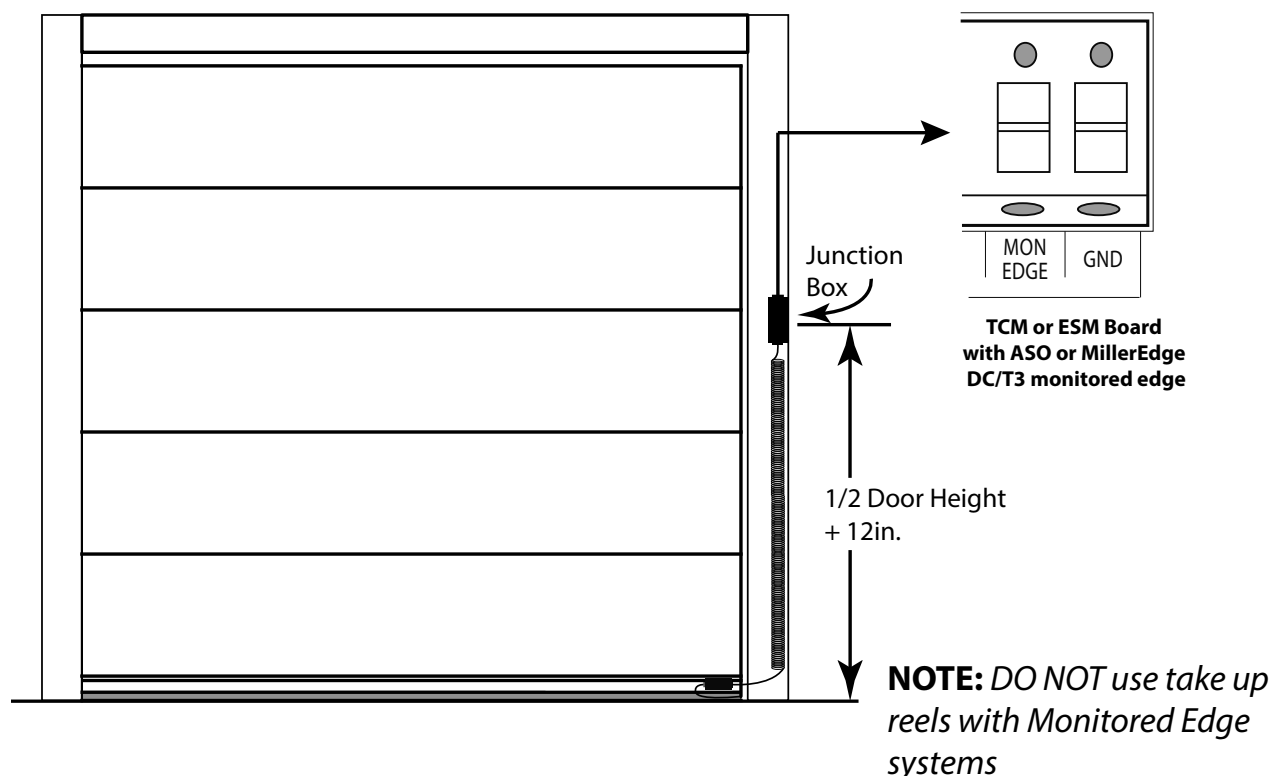
Actuating the operator by using constant contact on the CLOSE button will override non-functioning external reversing devices, including sensing edges.

AVERTISSEMENT

L'activation de l'opérateur en utilisant un contact constant sur le bouton FERMER annulera les dispositifs d'inversions externes, y compris les systèmes de détection des bords.

Miller Edge 'DC' Series & ASO Sentir GF Series Monitored Sensing Edge Installation with Timer Control Module (TCM) or Edge Sensing Module (ESM)

1. Mount junction box to wall one half the door height plus 12 inches from floor.
2. Install hard-wiring from operator and coil cord to junction box and secure with conduit clamps.
3. Connect hard-wiring from operator to coil cord with wire nuts and install junction box cover plate.
4. Connect coil cord to sensing edge with wire nuts.
5. Install hard-wires to TCM or ESM in operator. (See instructions included with expansion boards for detailed installation and wiring)



Section 3: Wiring

Non-Monitored Safety Edge



WARNING

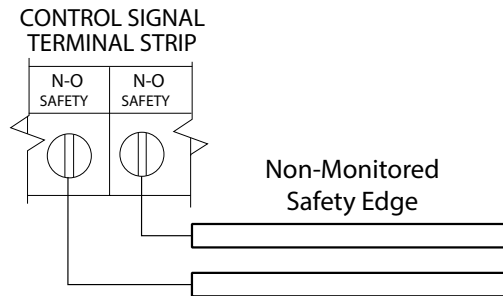
Actuating the operator by using constant contact on the CLOSE button will override non-functioning external reversing devices, including sensing edges.



AVERTISSEMENT

L'activation de l'opérateur en utilisant un contact constant sur le bouton FERMER annulera les dispositifs d'inversions externes, y compris les systèmes de détection des bords.

1. Route wires into operator electric box using suitable conduit and clamp systems.
2. Attach wires to N-O SAFETY terminals on control wire terminal strip.



External Radio Installation (Optional)

Installing external radio for remote operation. FIG. 8

1. Make wire connections to external radio harness (provided) as shown.
2. Install harness to external radio harness plug on control board as shown.

NOTE: A monitored safety device must be used when installing an external radio for remote operation. Operator controls must be set for momentary contact for remote operation.

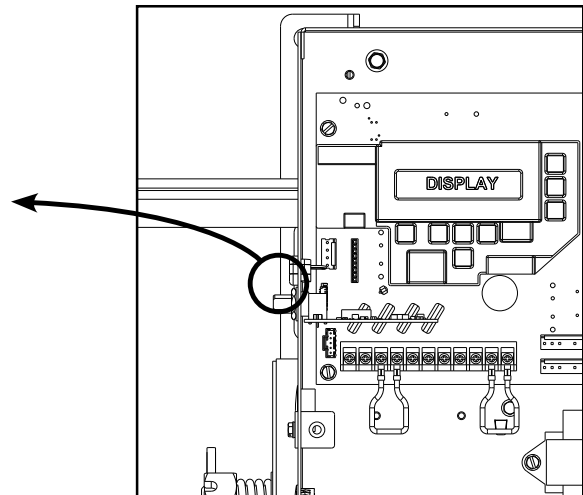
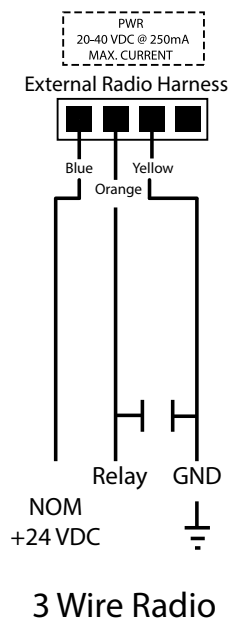


FIG. 8

Section 4: Programming

Apply Power To Operator



DANGER

After power is supplied to the operator, DO NOT make contact with components inside the control panel except for the Keypad Keys.



DANGER

Après avoir mis l'opérateur sous tension, NE PAS entrer en contact avec des composants à l'intérieur du panneau de commande, sauf pour les touches du pavé numérique.



WARNING

DO NOT calibrate operator or operate door unless doorway is in sight and free of obstructions. Door will move during setup. Keep people clear of opening while door is moving.



AVERTISSEMENT

Calibrer l'opérateur et utiliser la porte uniquement si la porte est en vue et libre de tout obstacle. La porte se déplacera pendant la programmation. Ne laisser personne se tenir dans l'ouverture de la porte pendant qu'elle est en mouvement



CAUTION

This door is operated by a limited-duty operator. To prevent the motor protector from tripping, do not exceed 15 cycles of opening and closing per hour.

NOT FOR RESIDENTIAL USE



ATTENTION

Cette porte est actionnée par un opérateur de service limité. Pour éviter que la protection du moteur ne se déclenche pas, ne pas dépasser 15 cycles d'ouverture et de fermeture à l'heure.

NON DESTINÉ POUR USAGE RÉSIDENTIEL.

Section 4: Programming

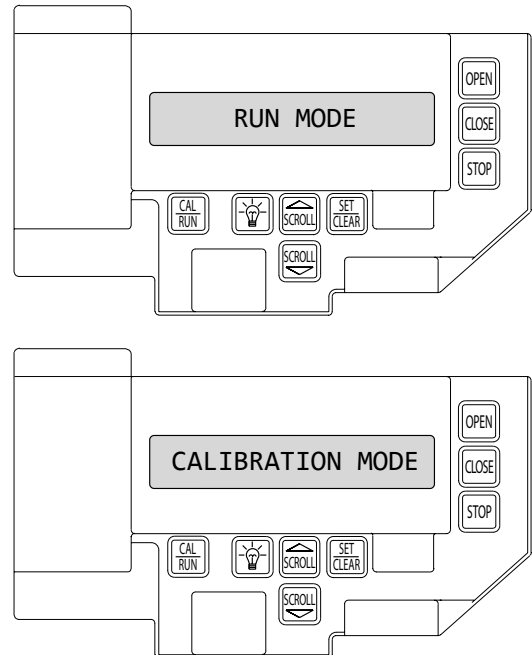
Calibration Mode Structure

If at any time should programming become confused. Press the CAL/RUN key once to enter RUN MODE then press CAL/RUN key again to re-enter CALIBRATION MODE.

Press the SCROLL key(s) to locate or check the settings on any menu item.

Operator Calibration Menu Structure

1. Open Mode
2. Close Mode
3. Down Limit Overrun
4. ODC STB
5. Mid-Stop
6. Max Run Timer
7. Learn New Transmitter
8. Clear One Transmitter
9. Clear All Transmitters
10. Error Code
11. Run Code
12. Cycles
13. GDO Version #
14. GDO Type
15. Set Close Direction
16. Set Up Limit
17. Set Down Limit



When entering CALIBRATION MODE the menu will always start at OPEN MODE >XXX. Press SCROLL key to bypass this item until desired menu item is displayed.

- MAX RUN TMR (MRT) will set itself once limits have been programmed and door has run one complete cycle.
- RUN and ERROR codes will retain the last 10 codes encountered. Press the SET/CLEAR key to toggle through all codes.

NOTE: Menu structure will change when any auxiliary board(s) are added. See instructions for each auxiliary board for changes.

Section 4: Programming

Setting Close Direction

The direction of motor rotation depends on mounting position and/or how the main input power phases are wired. This setting is used to ensure the door is closing and opening according to the input commands.

NOTE: Make sure door is in mid-travel.

1. If operator is in RUN mode, press CAL/RUN key to enter CALIBRATION MODE.
2. Use the SCROLL Key to scroll through the menu until SET CLOSE DIR is displayed. Press SET/CLR key.
3. Display will read HIT CLOSE KEY TO TEST. Briefly press the CLOSE key. FIG. 2 (Pressing the Scroll key at this point will exit this function). * The display will read DID DOOR CLOSE >YES< NO FIG. 3.
4. Press SCROLL key (up or down) to toggle between YES and NO. FIG. 4. If YES is selected, no change to operator calibration is made. If NO is selected, the board will change the operator's down direction.
5. Press the SET/CLEAR key to make the selection. Display will read CLOSE DIR > SET and then UP LIMIT > CLR.
6. Press CAL/RUN to return to run mode, or continue with LIMIT programming on next page.

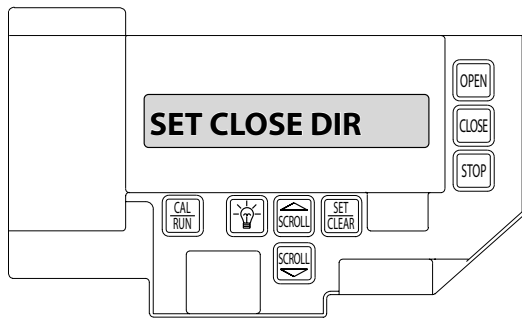


FIG. 1

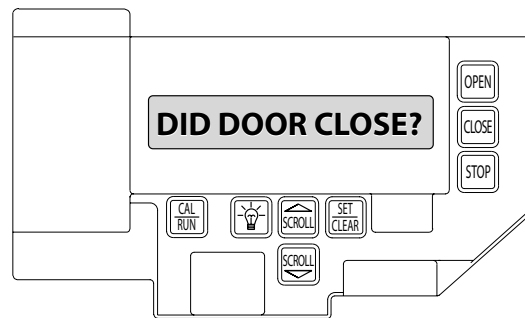


FIG. 3

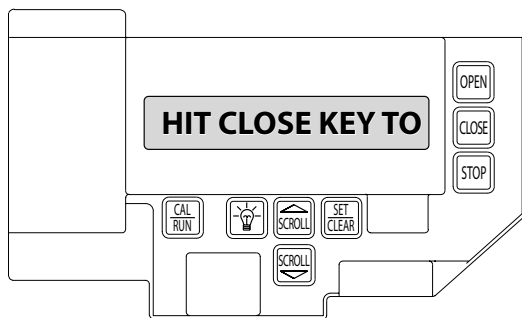


FIG. 2

TEST

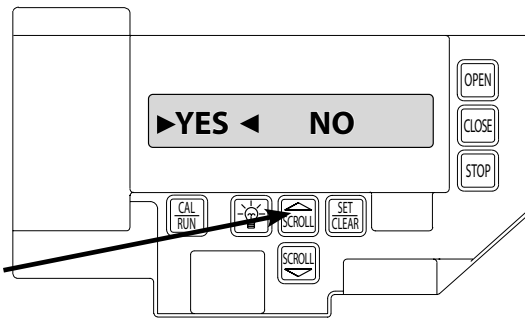


FIG. 4

Section 4: Programming

Setting Travel Limits

1. If operator is in RUN mode, press CAL/RUN key to enter CALIBRATION MODE.
2. Use the SCROLL Key to scroll through the menu until UP LIMIT > CLR is displayed.
3. Jog the door using the OPEN key until you reach the desired height.
4. Press SET/CLEAR key to switch display to UP LIMIT>SET . FIG. 5.
5. Press SCROLL DN key until display reads DOWN LIMIT CLR.
6. Jog door down to 2in. from floor. (See note below).
7. Press SET/CLR to switch display to DOWN LIMIT SET. FIG. 6.
8. Press SCROLL DN key until display reads LIMIT OVERRUN.

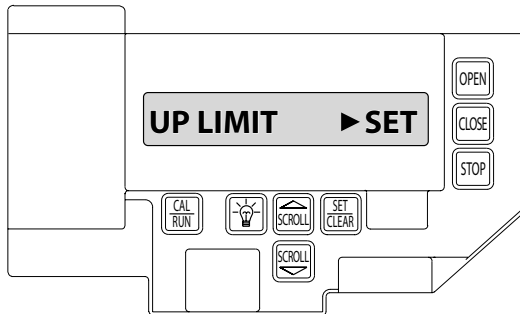


FIG. 5

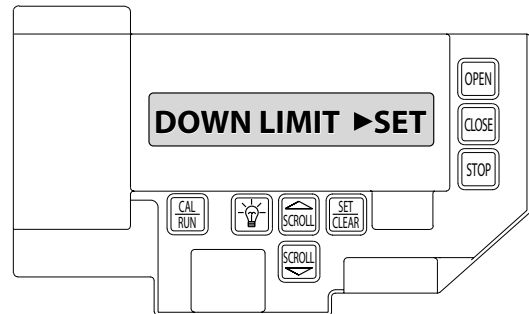


FIG. 6

NOTE: The recommended set-point for the DOWN travel limit is at approximately 2in. off the floor. This final distance will be covered by the Limit Overrun Function to establish a more accurate seal.

Resetting Travel Limits

UP and/or DOWN

1. If operator is in RUN mode, press CAL/RUN to enter CALIBRATION MODE.
2. Press SCROLL until display reads UP LIMIT>SET or DOWN LIMIT>SET. FIG. 5.
3. Press SET/CLEAR to switch display to UP LIMIT>CLR or DOWN LIMIT>CLR.
4. Jog the door using the OPEN or CLOSE key until you reach the desired position.
5. Press SET/CLEAR to switch display to UP LIMIT>SET or DOWN LIMIT>SET.
6. Press CAL/RUN to return to run mode, or continue with LIMIT OVERRUN programming on the next page.

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Section 4: Programming

Setting Limit Overrun



WARNING

The Limit Overrun will override external reversing devices, including photocells and sensing edges or reversing edges. Therefore, any externally connected devices will be disabled during that portion of the door travel controlled by the Limit Overrun function.

The Down Limit Overrun function should be used to close the door no more than the final 2in.



AVERTISSEMENT

La fonction de dépassement de limite annulera les dispositifs de renversement externes, y compris les cellules photoélectriques et des systèmes de détection ou d'inversion aux bords. En conséquence, tous les dispositifs externes connectés seront désactivés pendant la partie de la course de la porte qui est contrôlée par la fonction de dépassement de limite.

La fonction de dépassement de limite inférieure doit être utilisée pour fermer la porte uniquement aux derniers 5 cm.

- A. The Limit Overrun setting is a matter of trial and error. The goal is to adjust the Limit Overrun until an appropriate seal is obtained between the bottom edge of the door and the floor.
- B. The Limit Overrun setting can be varied between 0 and 9. 0 - disables the Limit Overrun so that the door stops at the down limit switch setting. 9 - causes the greatest amount of door travel beyond the limit switch setting. Door should close gently with light tension on door cables, or minimal stacking on rolling steel slats.
1. If operator is in RUN mode, press CAL/RUN key to enter CALIBRATION MODE.
2. Use the SCROLL key to scroll through the menu until LIMIT OVERRUN is displayed.
3. Press SET/CLEAR until the display reads the desired value (1-9).
FIG. 8.
4. Press the OPEN key to open the door a few feet, then release.
5. Press the CLOSE key to close the door and hold until the operator stops.
6. Check the door seal and repeat steps 2-4 until the appropriate seal is obtained between the door and the floor.
7. Press CAL/RUN to return to run mode, or continue with MONITORED REVERSING DEVICE programming on the next page.

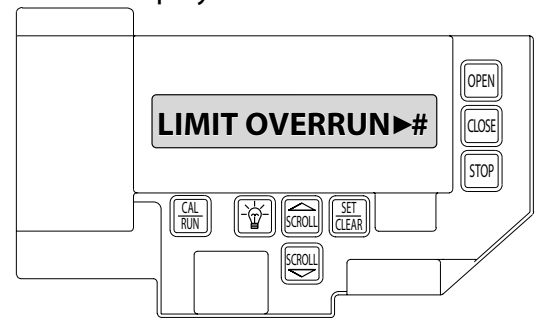


FIG. 8



CAUTION

If proper seal cannot be obtained at a setting of 9, reset the Limit Overrun back to 0 and reset the down limit position as described on 4.4. Then adjust the Limit Overrun as instructed above.



ATTENTION

Si une adhésion appropriée ne peut être obtenue à un réglage de 9, réinitialiser le dépassement de limite à 0 puis la position de déplacement de la limite inférieure selon les instructions de la page 4.4. Régler ensuite le dépassement de limite tel qu'indiqué ci-dessus.

Section 4: Programming

Monitored Reversing Devices

WARNING

Photocell systems provide entrapment protection when mounted near the doorway in such a way that the lower portion of an individual's leg will break the photocell beam during normal walking through the doorway.

AVERTISSEMENT

Les systèmes de cellules photoélectriques fournissent une protection contre le coincement s'ils sont installés à proximité de la porte de manière à ce que la partie inférieure de la jambe d'un individu puisse rompre le faisceau de la cellule photoélectrique lors de passages normaux par la porte.

1. If operator is in RUN mode, press CAL/RUN key to enter CALIBRATION MODE.
2. Use the SCROLL Key to scroll through the menu until ODC STB>OFF is displayed. Press SET/CLEAR key to toggle to ODC STB > ON. FIG. 9.
3. Press CAL/RUN to return to run mode, or continue with setting OPEN AND CLOSE MODE programming on the next page.

NOTE: See ENTRAPMENT PROTECTION Sec-1.5 for approved monitored reversing devices. See Sec- 3 for wiring of approved monitored sensing devices that can be installed onto the ODC STB operator terminals.

NOTE: Turn this feature ON if monitored reversing device is connected to the operators ODC STB terminals. If using an expansion board for reversing devices, see instructions included with expansion board for additional menu items.

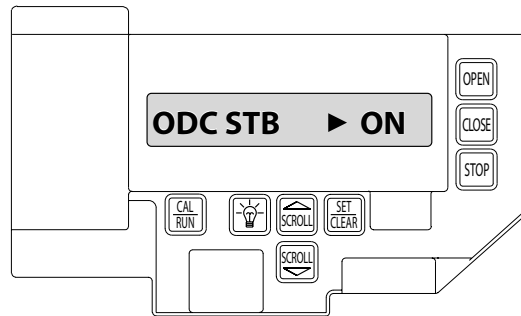


FIG. 9

Section 4: Programming

Setting Open and Close Modes (Constant vs. Momentary Contact)



WARNING

Before momentary contact control can be used on the CLOSE button, a monitored external reversing device such as a photocell system or sensing edge switch must be used.
See WIRING SECTION for installation of entrapment protection devices.



AVERTISSEMENT

Avant d'utiliser la commande à contact momentané sur le bouton FERMETURE, un dispositif d'inversion externe surveillée tel qu'un système de cellule photoélectrique ou un commutateur de détection de bord doit être utilisé.
Voir la section CÂBLAGE pour l'installation des dispositifs de protection contre les piégeages.

OPEN

1. If operator is in RUN mode, press CAL/RUN to enter CALIBRATION MODE.
2. Press SCROLL key until display reads OPEN MODE>MOM or OPEN MODE>C-STP.
 - MOM=momentary contact, meaning you press and release the OPEN or pushbutton and the door will continue to move until it reaches its travel limit. (See NOTE).
 - C-STP=constant contact-stop, meaning if you release the OPEN key or pushbutton prior to the door reaching its travel limit, the door will stop.
3. Press SET/CLEAR key to toggle between OPEN MODE>C-STP or OPEN MODE>MOM on the display.
4. Press CAL/RUN to return to run mode, or continue to CLOSE MODE programming below.

CLOSE

5. If operator is in RUN mode, press CAL/RUN to enter CALIBRATION MODE.
6. Press SCROLL down arrow key until display reads CLOSE MODE>MOM, CLOSE MODE>C-STP or CLOSE MODE>C-REV.
 - MOM=momentary contact, meaning you press and release the CLOSE key or pushbutton and the door will continue to move until it reaches its travel limit. (See NOTE)
 - C-STP=constant contact-stop, meaning if you release the CLOSE key or pushbutton prior to the door reaching its travel limit, the door will stop.
 - C-REV=constant contact-reverse, meaning if you release the CLOSE key or pushbutton prior to the door reaching its travel limit, the door will reverse direction. (See NOTE)
7. Press SET/CLEAR key to toggle between CLOSE MODE>C-STP or CLOSE MODE>C-REV or CLOSE MODE>MOM on the display.
8. Press CAL/RUN to return to run mode, or continue to TRANSMITTER PROGRAMMING on next page.

NOTE: Momentary contact (MOM) or Constant Reverse (C-REV) may not be used unless both the OPEN and CLOSE Limits have been set.

In situations where an external reversing device is either not installed or not operating properly, Constant Contact (C-STP) MUST BE USED.

NOTE: During adjustment of a travel limit, the open and close modes will automatically fail-safe to constant contact until the limit has been set. At that time, the open and close modes will revert to their previous setting.

Section 4: Programming

Transmitter Programming (Optional)

Adding a Transmitter

1. If operator is in RUN mode, press CAL/RUN to enter CALIBRATION MODE.
2. Press SCROLL (up or down) until display reads LEARN NEW XMTR? FIG. 1.
 - This question along with the instruction HIT SET FOR YES will continuously pan across the display window. (Pressing SCROLL or CAL/RUN will cancel the operation).
3. Press SET/CLEAR.
 - Display will read PUSH XMTR BUTTON TWO TIMES TO LEARN XMTR.
4. Press transmitter button two times.
 - The display will read XMTR ____LEARNED. Where it assigns a random number to the transmitter. That transmitter is entered and ready to operate the door. (Label/mark the transmitter).
5. Press SCROLL (up or down) to move on to another menu item, or CAL/RUN to exit CALIBRATION mode.

Removing Individual Transmitter

6. If operator is in RUN mode, press CAL/RUN to enter CALIBRATION MODE.
7. Press SCROLL (up or down) until display reads CLR ONE XMTR? FIG. 2.
8. Press SET/CLEAR.
 - A menu displaying the available transmitter numbers will appear.
 - Press SCROLL (up or down) to cycle through the menu to the number of the transmitter to be removed. (Pressing CAL/RUN will cancel the operation).
9. Press SET/CLEAR
 - The transmitter is removed.
10. Press SCROLL (up or down) to move on to another menu item, or CAL/RUN to exit CALIBRATION mode.

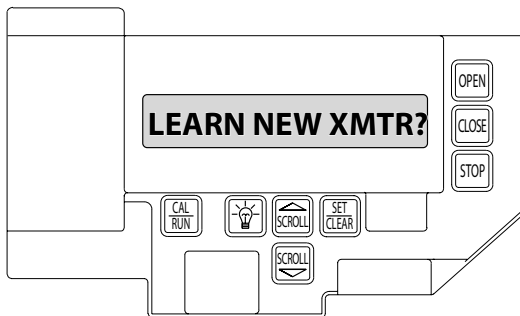


FIG. 1

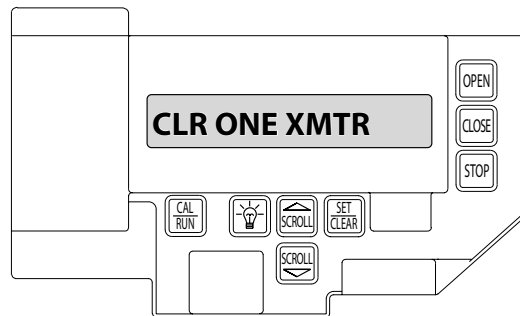


FIG. 2

Removing All Transmitters

1. If operator is in RUN mode, press CAL/RUN enter CALIBRATION MODE.
2. Press SCROLL (up or down) until display reads CLR EVERY XMTR FIG. 3.
3. Press the SET/CLEAR key.
 - The display will read <YES> NO.
4. Press SET/CLEAR key.
 - All transmitters are removed.
5. Press SCROLL (up or down) to move on to another menu item, or CAL/RUN to exit CALIBRATION mode.

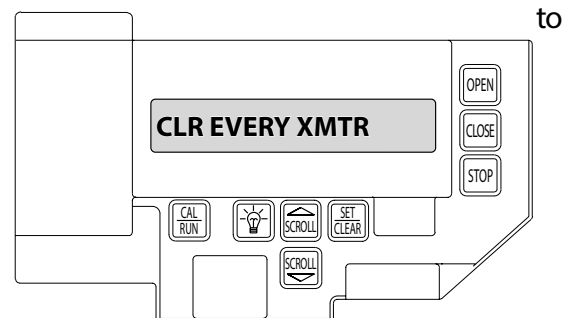


FIG. 3

Section 4: Programming

Mid-Stop Limit (Optional)

NOTE: Setting of the MID-STOP should only be performed AFTER the travel limits and max run timer settings have been made.

1. If operator is in RUN mode, press CAL/RUN to enter CALIBRATION MODE.
2. Press the CLOSE key to close the door to the down limit.
3. Press SCROLL (up or down) until display reads MID-STOP > CLR. FIG.4
 - If display reads MID-STOP > SET, Press the SET/CLEAR key to reset to CLR.
4. Press the OPEN key to open door to desired height.
5. Press SET/CLEAR key to set mid-stop. Display will show MID-STOP > SET.
6. Press CAL/RUN key to return to RUN mode.

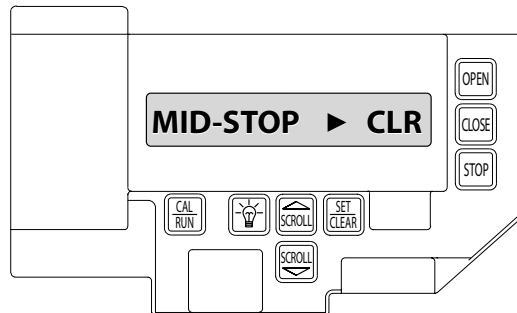


FIG. 4



CAUTION

The MID-STOP feature must be turned off in order to properly set the Max Run Timer.



ATTENTION

La fonction MID-STOP doit être désactivée afin de régler correctement la minuterie de course maximum.

Section 4: Programming

Resetting the Max Run Timer ^(MRT)



CAUTION

The MID-STOP feature must be turned off in order to properly set the Max Run Timer.



ATTENTION

La fonction MID-STOP doit être désactivée afin de régler correctement la minuterie de course maximum.

NOTE: The Max Run Timer is set automatically once the unit is cycled between limits.

NOTE: The Max Run Timer prevents the unit from running continuously in the event of a problem. The MRT is set to the time required to run from one limit to the other, plus 5 seconds (nominal). When the MRT is exceeded, the operator stops and will not respond to any command until it is reset by pressing one of the calibration keys or by cycling power to the unit.

TO RESET:

1. Press CAL/RUN to enter CALIBRATION MODE.
2. Press SCROLL (up or down) until display reads MAX RUN TMR > SET. FIG. 5.
3. Press SET/CLEAR until display reads MAX RUN TMR > CLR.
4. Press CAL/RUN to return to RUN mode.
5. Cycle the door between limits.

NOTE: The Max Run Timer must be reset any time the travel limits are adjusted. Reset MRT by running the door a full cycle after any adjustments.

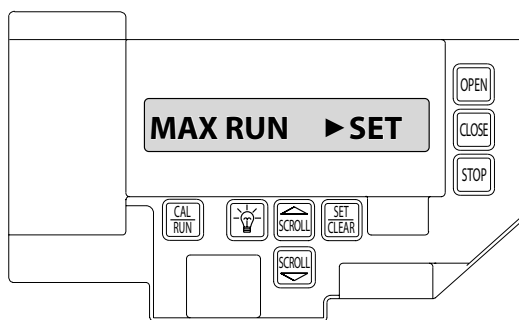


FIG. 5

Section 4: Programming

Operator Cycle Count

1. Press CAL/RUN to enter CALIBRATION MODE.
2. Press SCROLL until display reads CYCLES>1,2,3 etc. where the number shown is the number of open/close cycles the operator has performed. FIG. 7.
3. Press CAL/RUN to return to RUN mode.

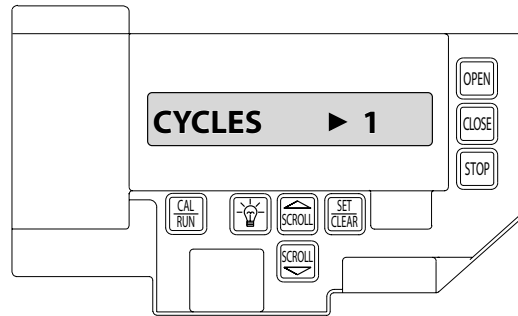


FIG. 7

Section 4: Programming

GDO and Display Firmware

1. Press CAL/RUN to enter CALIBRATION MODE.
2. Press SCROLL until display reads GDO V# > #####. FIG. 8.
 - This display will cycle between the version number of the current GDO firmware and the current display firmware.
3. Press CAL/RUN to return to RUN mode.

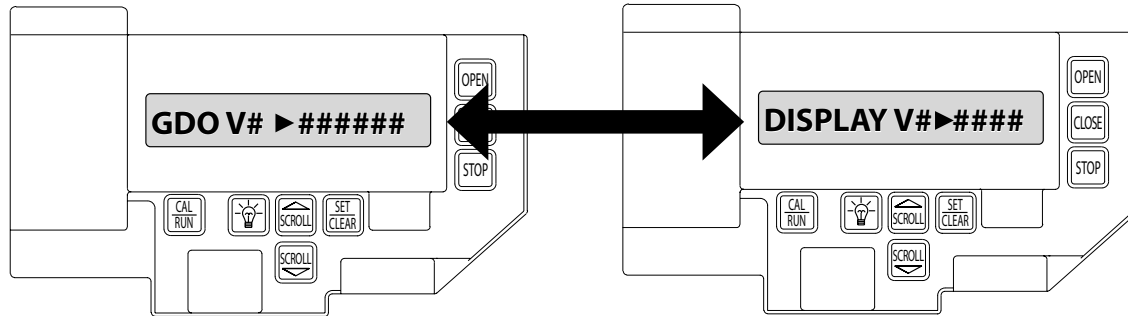


FIG. 8

GDO Type

This operator is available for use in trolley configuration only. However, the same control board is used for jackshaft and trolley models. Service replacement boards need to have GDO TYPE set for the appropriate model configuration.

NOTE: The GDO type is factory set. The installer should not have to set this feature. However, if the GDO type is inadvertently changed, or if a board needs to be replaced in the field, follow these instructions to set GDO type.

1. Press CAL/RUN to enter CALIBRATION MODE.
2. Press SCROLL until display reads GDO TYPE >. FIG. 9.
 - This will display the current GDO type.
3. Press SET/CLEAR until display indicates correct GDO TYPE.
4. Press CAL/RUN to return to RUN mode.

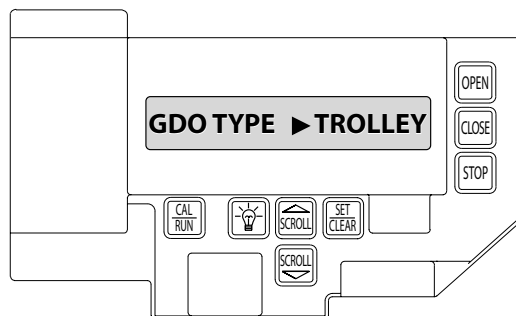
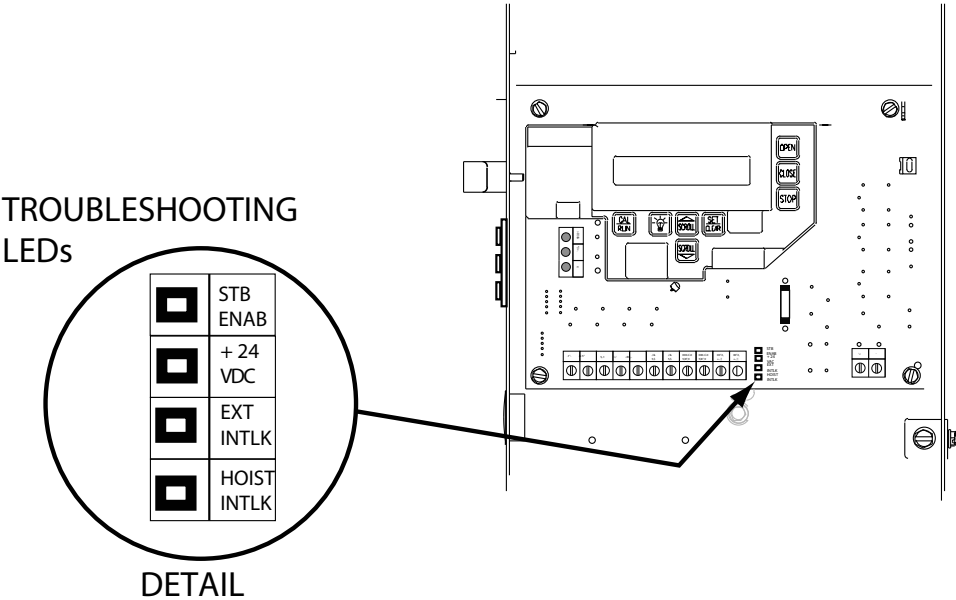


FIG. 9

Section 5: Troubleshooting

The RMZ Trolley operators include a self-diagnostic circuit board using troubleshooting LED indicators to signal the technician of a problem.



TROUBLESHOOTING LED's				
HOIST INTERLOCK	EXTERNAL INTERLOCK	+24VDC	STB ENABLE	INDICATION
			OFF	STB Disabled
			ON	STB Enabled
ON	ON	ON		Normal Operating Condition
OFF	ON	ON		Hoist Interlock Switch Open: <ul style="list-style-type: none"> Hoist release requires reset Hoist interlock connector not plugged in Hoist interlock defective
OFF	OFF	ON		External Interlock Open
OFF	OFF	OFF		Power Supply Problem: <ul style="list-style-type: none"> Check AC power supply Check main power fuse Check secondary fuse (2A)

Section 5: Troubleshooting

Display Operation in RUN Mode

This operator will display its status on the integrated display. Each time the operator runs, stops, reverses or refuses to run, the display will indicate the operating action, what device initiated the action, and any error condition that prevented/impacted the intended operation.

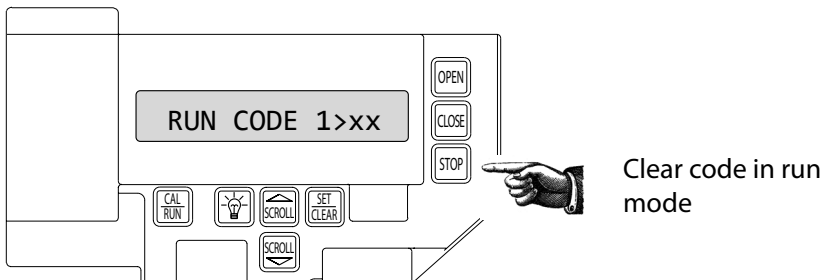
Once an error code has been generated, the operator will continue to display the error code while the operator is not running. This error code can be cleared by pressing the stop button or stop key on the keypad. The error code will automatically clear when the operator stops at the down limit. The last ten error codes will continue to be stored in the operator's error code memory after they have been cleared from the display in the run mode.

The operator will display any uncleared trouble codes, in turn, on the integrated display, alternating with the active condition (error or run) code, until all of the trouble codes have been cleared. Trouble codes can only be cleared after the condition causing the code has been resolved. Trouble codes are not cleared by pressing the stop button or stop key on the keypad. Trouble codes are stored in the operator's memory.

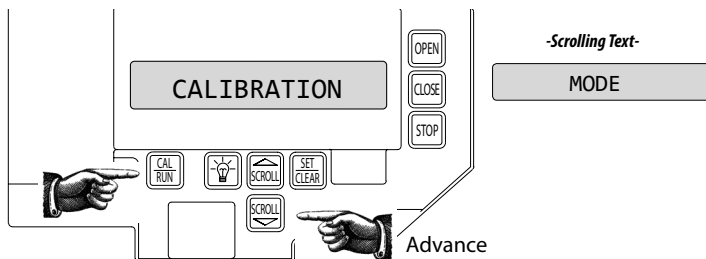
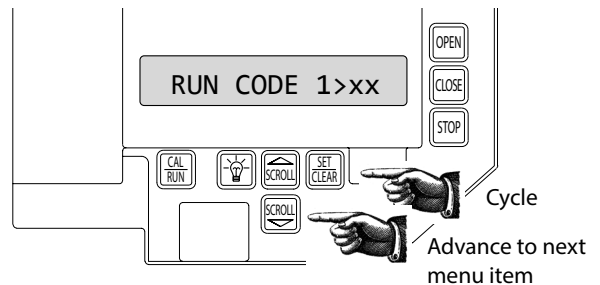
Run Codes

To aid in troubleshooting problems, this operator includes a run code memory that stores the most recent ten events. These codes are stored with or without power. Each time the operator runs or stops, it generates a code that it stores in this memory, used together with the error code memory, it becomes a powerful troubleshooting aid.

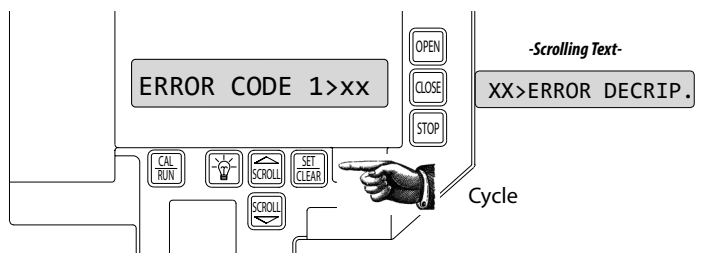
The run code memory stores the last ten codes in sequence. Once ten codes are stored, the oldest code is erased to make room for the newest code. These codes are displayed in calibration mode. The display will flash the number of the run code and the 2-digit code followed by a description of the run code.



IN CALIBRATION MODE:
Displays last ten RUN CODES stored in memory. See RUN CODES for more details.
Press SCROLL down key to advance to next menu item.



IN CALIBRATION MODE:
Displays last ten ERROR Codes stored in memory. See ERROR CODES for more details.
Press SCROLL down key to advance to next menu item.



Section 5: Troubleshooting

RUN CODES

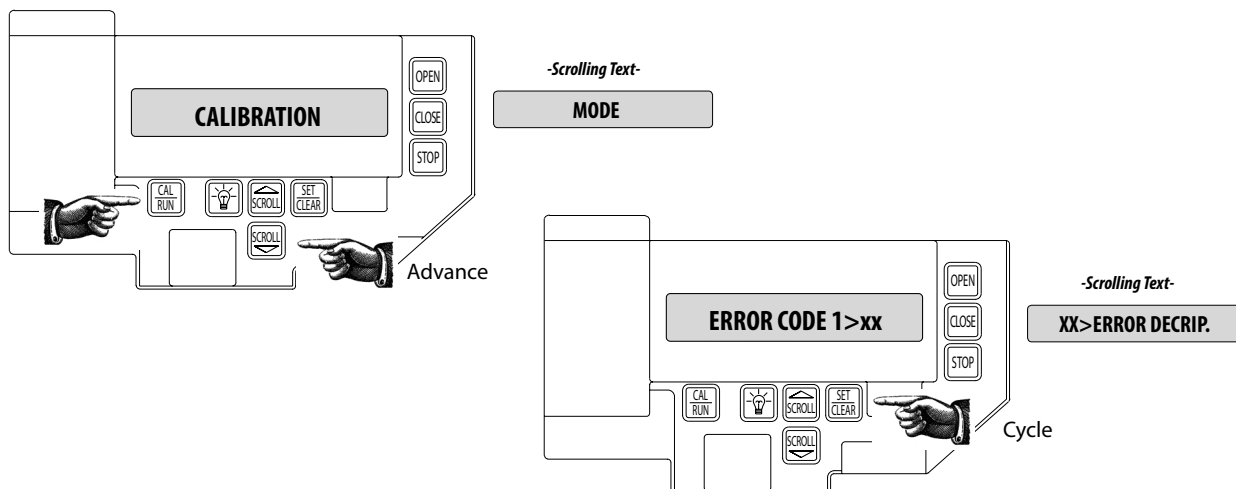
Code	Display	Detailed/Expanded Description	Corrective Action
0C	IDLE > DOWN LIMIT	The door is at the Down Limit position.	None
0D	IDLE > UP LIMIT	The door is at the Up Limit position.	None
0E	IDLE > MID STOP	The door is at the Mid-Stop Limit position.	None
0F	IDLE > NO LIMIT	The door is at no established limit position.	None
10	OPENING > OPEN BTN	The Open Pushbutton input was activated causing the door to move in the opening direction.	None
11	OPENING > ONE BTN	The 1- Button input was activated causing the door to move in the open direction.	None
12	OPENING > RADIO	The External Radio input was activated causing the door to move in the open direction.	None
13	OPENING > AUX OPEN	The Auxiliary Open input (on the TCM Module) was activated causing the door to move in the open direction.	None
14	OPENING > OPEN KEY	The Open Key (on the circuit board) was activated causing the door to move in the open direction.	None
20	CLOSING > CLOSE PB	The Close Pushbutton input was activated causing the door to move in the close direction.	None
21	CLOSING > ONE BTN	The 1- Button input was activated causing the door to move in the close direction.	None
22	CLOSING > RADIO	The External Radio input was activated causing the door to move in the close direction.	None
24	CLOSING > CLOSE KP	The Close Key (on the circuit board) was activated causing the door to move in the close direction.	None
2A	CLOSING > TCM CLS	The TCM Module sent a close signal causing the door to move in the close direction.	None
2B	CLOSING > FDM CLS	The Fire Door Module sent a signal causing the door to move in the close direction.	None
30	HALT > WALL BUTTON	The door stopped because the Stop Pushbutton was activated.	None
31	HALT > ONE BUTTON	The door stopped (and /or reversed) because the 1-Button input was activated.	None
32	HALT > RADIO	The door stopped and reversed because the Radio input was activated.	None
33	HALT > AUX. OPEN	The door stopped (and /or reversed) because the Auxiliary Open input on the TCM Module was activated.	None
34	HALT > KEYPAD KEY	The door stopped because the Stop Key was activated.	None
35	HALT > N-O SAFETY	The door stopped and reversed because the Normally Open Reverse input was activated.	None
36	HALT > ODC STB	The door stopped and reversed because the Safe-T-Beam or Monitored Edge with the Monitored Edge Interface Module was activated.	None
37	HALT > N-C SAFETY	The door stopped and reversed because the Normally Close Reverse input on the TCM Module was activated.	None
38	HALT > MON. EDGE	The door stopped and reversed because the Monitored Edge input on the TCM Module was activated.	None
39	HALT > DOOR FORCE	The door stopped because the Speed of the Limit Assembly slowed down (Trolley Models only).	Check the door balance. Check the Clutch adjustment to make sure it's not slipping. Check for mechanical issues. Replace the Limit Module. Replace the Main Control Board.
3A	HALT > LOSS OF C/C	The door stopped (and /or reversed) because the constant contact activation was removed before the door reached a limit.	None. User input was removed.
3B	HALT > SHUTDOWN	The door stopped because the Hoist Interlock, External Interlock circuit became active (opened) or the motor overheated.	Check the Hoist Interlock switch and wires. Check an External Interlock switch and wires. If no External Interlock is use check the gray jumper between the two EXT INTLK terminals. Check for a hot motor.
3C	HALT > DOWN LIMIT	The door stopped because it reached the Down limit position.	None
3D	HALT > UP LIMIT	The door stopped because it reached the Up limit position.	None
3E	HALT > MID STOP	The door stopped because it reached the Mid-Stop limit position.	None

Section 5: Troubleshooting

Error Codes

To aid in troubleshooting problems, this operator includes an error code memory that stores the most recent 10 error events. These codes are stored with or without power. The latest error code detected is also displayed on the lcd until the stop button or key is pressed or the operator stops at the down limit.

The error code memory stores its codes in time sequence. Once 10 codes are stored, the oldest code will be erased to make room for the next newest code. These codes are displayed in calibration mode. The display will flash the number of the code in the sequence and the 2 digit code id, followed by a description of the code.



Code	Display	Detailed/Expanded Description	Corrective Action
3F	HALT > MODULE FAIL	The door stopped because it determined there was a problem with an Expansion Module. (Timer Close or Auxiliary Output Module)	Check Expansion Module LED Status. Power the operator off, remove the module and re-apply power, if the operator starts working replace the module.
40	REV > OPEN BUTTON	The door stopped traveling down and reversed and is now traveling open because the Open Pushbutton was activated.	Check the Open Pushbutton and Open Pushbutton wires for a closed circuit.
41	REV > ONE BUTTON	The door stopped traveling down and reversed and is now traveling open because the 1-Button input was activated.	Check the 1-Button and 1-Button wires for a closed circuit.
42	REV > RADIO	The door stopped traveling down and reversed and is now traveling open because the External Radio input was activated.	Check the External Radio for a short circuit.
43	REV > AUX OPEN	The door stopped traveling down and reversed and is now traveling open because the Auxiliary Open input on the Timer Close Module was activated.	Check the Auxiliary Open Input on the Timer Close Module and the Auxiliary Open Input wires for a closed circuit.
44	REV > OPEN KEY	The door stopped traveling down and reversed and is now traveling open because the Open Key (on the circuit board) was activated.	Power the unit down and back up. If the error persists then replace the main circuit board.
45	REV > N-O SAFETY	The door stopped traveling down and reversed and is now traveling open because the Normally Open Reverse input was activated.	Check the N-O Reverse input and N-O Reverse wires for a closed circuit.
46	REV > ODC STB	The door stopped traveling down and reversed and is now traveling open because the Monitored Safety Beam (STB) or Monitored Edged with the Monitored Edge Interface Module input was activated.	Check the ODC STB input and ODC STB wires for an open or shorted (closed) circuit.
47	REV > N-C SAFETY	The door stopped traveling down and reversed and is now traveling open because the Normally Close Safety Input on the Timer Close Module was activated.	Check the Normally Closed Safety Input on the Timer Close Module and the Normally Closed Safety Input wires for an open circuit.
48	REV > MON. EDGE	The door stopped traveling down and reversed and is now traveling open because the Monitored Edge Input on the Timer Close Module was activated.	Check the Monitored Edge Input on the Timer Close Module and the Monitored Edge Input wires for an open or shorted (closed) circuit.
49	REV > DOOR FORCE	The door stopped traveling down and reversed because the Speed of the Limit Assembly slowed down (Trolley Models only).	Check the door balance. Check the Clutch adjustment to make sure it's not slipping. Check for mechanical issues. Replace the Limit Module. Replace the Main Control Board.
4A	REV > LOSS OF C/C	The door stopped traveling down and reversed because the constant contact activation was removed before the door reached the down limit.	User input was removed.

Section 5: Troubleshooting

Code	Display	Detailed/Expanded Description	Corrective Action
4B	REV > MAX RUN TMR	The door stopped traveling down and reversed because the Maximum Run Time between Limits was exceeded.	Check the door balance. Check the Clutch adjustment to make sure it's not slipping. Re-record the Max Run Timer values in both directions.
4F	REV > EXP MOD FAIL	The door stopped traveling down because it determined there was a problem with an Expansion Module.	Review the menu looking for a missing menu item. For example, if the limit module is defective there will not be any limit setting information in the menu.
50	STOP > HOT MOTOR	The door stopped moving because the motor overheated.	Check for a hot motor. Check the motor plug on the main board making sure the plug and wires are seated.
51	STOP > OPEN MRT	The door stopped traveling open because the Maximum Run Time between Limits was exceeded.	Check the door balance. Check the Clutch adjustment to make sure it's not slipping. Re-record the Max Run Timer values in both directions.
52	STOP > CLOSE MRT	The door stopped traveling close because the Maximum Run Time between Limits was exceeded.	Check the door balance. Check the Clutch adjustment to make sure it's not slipping. Re-record the Max Run Timer values in both directions.
57	STOP > OPEN INTLK	The door stopped because the Hoist Interlock or the External Interlock circuit became active (open).	Check the Hoist Interlock switch and wires. Check an External Interlock switch and wires. If no External Interlock is use check the gray jumper between the two EXT INTLK terminals
58	STOP > WRONG GDO	The door stopped because it determined the circuit board is set as a J-Shaft (side-mounted unit) but is installed on a Trolley unit.	Review the "GDO TYPE" in the calibration setting of the unit.
59	STOP > DOOR FORCE	The door stopped traveling up because the Speed of the Limit Assembly slowed down (Trolley Models only).	Check the door balance. Check the Clutch adjustment to make sure it's not slipping. Check the GDO Type in the set-up menu for the proper setting for the model installed (Trolley or J-Shaft). Check for mechanical issues. Replace the Limit Module. Replace the Main Control Board.
5A	STOP > WRONG LIMIT	The door stopped traveling because the unit was looking for the Up Limit and the Down Limit became active or the unit was looking for the Down Limit and the UP limit became active.	Review the calibration setting. Reset motor direction and limits.
5B	STOP > WRONG DIR	The door stopped traveling because the unit was looking for Limit direction input in one direction but received input in the opposite direction.	Review the calibration setting. Reset motor direction and limits.
5C	STALL > DOWN LIMIT	The door stopped traveling because it expected the Down Limit to clear (door moved off the down limit position) but it did not receive that signal.	Check door balance. Review the calibration setting. Reset motor direction and limits.
5D	STALL > UP LIMIT	The door stopped traveling because it expected the Up Limit to clear (door moved off the up limit position) but it did not receive that signal.	Check door balance. Review the calibration setting. Reset motor direction and limits.
5E	STALL > MID-STOP	The door stopped traveling because it expected the Mid-Stop Limit to clear (door moved off the mid stop limit position) but it did not receive that signal.	Check door balance. Review the calibration setting. Reset motor direction and limits.
60	CHECK STOP BTN	The door will not move because the Stop Circuit (normally closed circuit) in not completed.	Check the Stop Pushbutton and Stop Pushbutton wires.
61	TCM DISABLED	The door will not time out and close because there are no Monitored Sensing/Safety devices enabled and/or not working.	Check the ODC STB and ODC STB wires. Check the Monitored Edge, review the set-up in the menu to ensure the proper setting for the installed safety input.
62	NO RADIO >> C/C	The door will not move with a radio input (transmitters) because the unit is set for Constant Contact in the Open and/or Close Modes.	Review the calibration setting. Reset Open and Close Modes to Momentary
63	CHECK AUX OPEN	The unit determined the Auxiliary Open input on the Timer Close Module is active. This input will be ignored until it changes state.	Check the Auxiliary Input device wired into the Timer Close Module and Auxiliary Input device wires for a closed circuit.
64	CHECK STOP KEY	The unit will not run because it determined the Stop Key input on the circuit board is active.	Power the unit down and back up. If the error persist then replace the main circuit board.
65	CHECK N-O SAFETY	The unit will not close because it determined the Normally Open Reverse input on the circuit board is active (shorted).	Check the N-O Reverse device wired into the main board and the N-O Reverse Input device wires for a closed circuit.
66	CHECK ODC STB	The unit will not close because it determined the ODC STB input on the circuit board is active.	Check the ODC STB and ODC STB wires.

Section 5: Troubleshooting

Code	Display	Detailed/Expanded Description	Corrective Action
67	CHECK N-C SAFETY	The unit will not close because it determined the Normally Closed Reverse input on the Timer Close Module is active (Open circuit).	Check the Normally Close (N-C Safe) Input device wired into the Timer Close Module and device wires for an open circuit.
68	CHECK MON. EDGE	The unit will not close because it determined the Monitored Edge (MON EDGE) input on the Timer Close Module is active.	Check the Monitored Edge (MON EDGE) Input device wired into the Timer Close Module and device wires.
69	OVERHEATED MOTOR	The unit will not run because it determined the Thermal Overload in the motor is active.	Check the door balance. Check the wires in the motor connector that plugs into the circuit board. Replace the motor.
6C	NO RUN > DOWN LIM	The unit will not run because the Down/close input was activated but the unit was already at the Down Limit position.	User input error
6D	NO RUN > UP LIMIT	The unit will not run because the Up/open input was activated but the unit was already at the Up Limit position.	User input error
6E	NO RUN > MID STOP	The unit will not run because the Up/open input was activated but the unit was already at or beyond the Mid Stop Limit position. This active input is preventing the unit from closing as well.	User input error
6F	EXP MODULE FAIL	The unit may not run because it had lost communication with one or more Expansion Modules (Limit Module, On-board Radio, Timer Close Module and/or Auxiliary Output Module)	Review the menu looking for a missing menu item. For example, if the limit module is defective there will not be any limit setting information in the menu.
85	EXP PORT PROBLEM	The unit may not run because it has determined that it has lost communication with one or more Expansion Modules (Limit Module, On-board Radio, Timer Close Module and/or Auxiliary Output Module)	Review the menu looking for a missing menu item. For example, if the limit module is defective there will not be any limit setting information in the menu.
88	TCM FAILURE	The unit has determined that the Timer Close Module has stopped communicating.	Check the ribbon cable connection. Power the unit down and back up. If the error persists then replace the Timer Close Module.
89	FDM FAILURE	The unit has determined that the Fire Door Module has stopped communicating.	Check the ribbon cable connection. Power the unit down and back up. If the error persists then replace the Fire Door Module.
8A	AOM FAILURE	The unit has determined that the Auxiliary Output Module has stopped communicating.	Check the ribbon cable connection. Power the unit down and back up. If the error persists then replace the Auxiliary Output Module.
8B	SPARE MOD FAILURE	Not Used	Contact Technical Services
8C	LOW SYSTEM VOLTS	The unit has determined that the secondary voltage is less than acceptable.	Check supply voltage to the unit. Make sure the Motor Connector is plugged into the correct socket for the voltage supplied.
8D	HI SYSTEM VOLTS	The unit has determined that the Line Voltage input to the unit is too high for the configuration of the unit.	Check supply voltage to the unit. Make sure the Motor Connector is plugged into the correct socket for the voltage supplied. Contact an Electrician
8E	REV INTERRUPTED	The unit did not complete a 2 second reversal before it had encountered an issue and stopped.	None

Section 5: Troubleshooting

Code	Display	Detailed/Expanded Description	Corrective Action
8F	LIMIT MOD. FAIL	The unit has determined that the Limit Module has stopped communicating.	Check the limit cable connection. Power the unit down and back up. If the error persist then replace the Limit Module.
A0	OPEN BTN BAD > PU	The unit determined that the Open Pushbutton input was active (shorted) when power was applied. This input will be ignored until it changes state.	Check the Open Pushbutton and Open Pushbutton wires for a closed circuit.
A1	CLOSE BTN BAD > PU	The unit determined that the Close Pushbutton input was active (shorted) when power was applied. This input will be ignored until it changes state.	Check the Closed Pushbutton and Close Pushbutton wires for a closed circuit.
A2	ONE BTN BAD > PU	The unit determined that the 1- Button input was active (shorted) when power was applied. This input will be ignored until it changes state.	Check the 1-Button and 1-Button wires for a closed circuit.
A3	RADIO BAD > PWR UP	The unit determined that the External Radio input was active when power was applied. This input will be ignored until it changes state.	Check the External Radio for a short circuit.
A4	AUX OPEN BAD > PU	The unit determined that the Auxiliary Open input on the Timer Close Module was active (shorted) when power was applied. This input will be ignored until it changes state.	Check the Auxiliary Input device wired into the Timer Close Module and Auxiliary Input device wires for a closed circuit.
A5	OPEN KEY BAD > PU	The unit determined that the Open Key input on the circuit board was active (shorted) when power was applied. This input will be ignored until it changes state.	Power the unit down and back up. If the error persist then replace the Main Circuit Board.
A6	CLOSE KEY BAD > PU	The unit determined that the Close Key input on the circuit board was active (shorted) when power was applied. This input will be ignored until it changes state.	Power the unit down and back up. If the error persists then replace the Main Circuit Board.
A7	MULT KEYS BAD > PU	The unit determined that more than one input on the circuit board keypad was active (shorted) when power was applied. These inputs will be ignored until they change state.	Power the unit down and back up. If the error persists then replace the Main Circuit Board.
B0	OPENING > XMTR #	The unit received a valid input from a "Learned" transmitter and the door is traveling open. The transmitter ID is displayed.	None
B1	CLOSING > XMTR #	The unit received a valid input from a "Learned" transmitter and the door is traveling close. The transmitter ID is displayed.	None
B2	HALT > XMTR #	The unit received a valid input from a "Learned" transmitter and has stopped the door. The transmitter ID is displayed.	None
B3	"Rev > XMTR# NO XMTR > CC"	The unit received a valid input from a "Learned" transmitter and the closing door stopped and reversed and is now traveling open	None
I2C Comm Error	I2C Comm Error	The system cannot communicate on the I2C communication line.	While the operator is powered start unplugging the expansion devices one at a time (Timer Close Module, Auxiliary Output Module, On-board Radio, Limit Module), allow the unit to try to re-initiate, if the operator is able to re-initiate the LCD will update with the current status. If this happens then the last device you have unplugged is defective and needs to be replaced. if all devices have been unplugged and the operator still displays I2C Comm Error, replace the main control board.

Section 6: Service & Maintenance

The following table provides a schedule of recommended service and maintenance items to be completed by qualified service personnel.



CAUTION

Failure to perform the recommended Service & Maintenance may result in premature failure of the operator.



ATTENTION

Si les instructions de service et de maintenance recommandés ne sont pas suivies, l'opérateur pourrait tomber en panne prématurément.



WARNING

To avoid SERIOUS INJURY or DEATH:

- Disconnect power BEFORE performing ANY adjustment or maintenance.
- ALL maintenance MUST be performed by qualified service personnel.



AVERTISSEMENT

Pour éviter LES BLESSURES GRAVES OU MORTELLES :

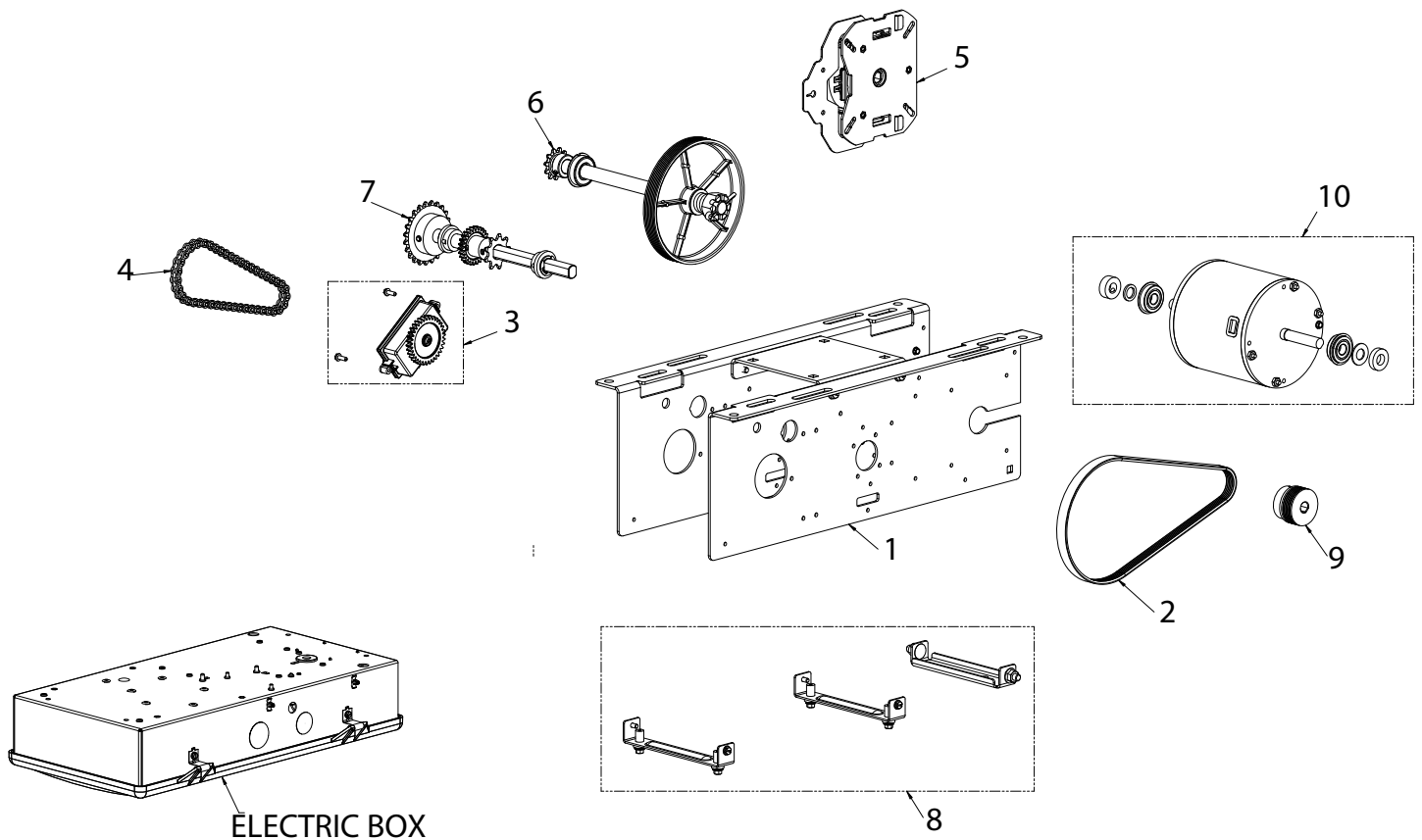
- Coupez l'alimentation avant d'effectuer toute opération de réglage ou d'entretien.
- Les opérations d'entretien doivent obligatoirement être effectuées par un personnel qualifié.

Maintenance Schedule

SERVICE ITEM	SERVICE INTERVAL		
	MONTHLY	EVERY 3 MO. OR 5000 CYCLES	EVERY 6 MO. OR 5000 CYCLES
SENSING EDGE OPERATION	X		
CHECK BRAKE SYSTEM		X	
SPROCKET SET SCREWS		X	
MANUAL OPERATION			X

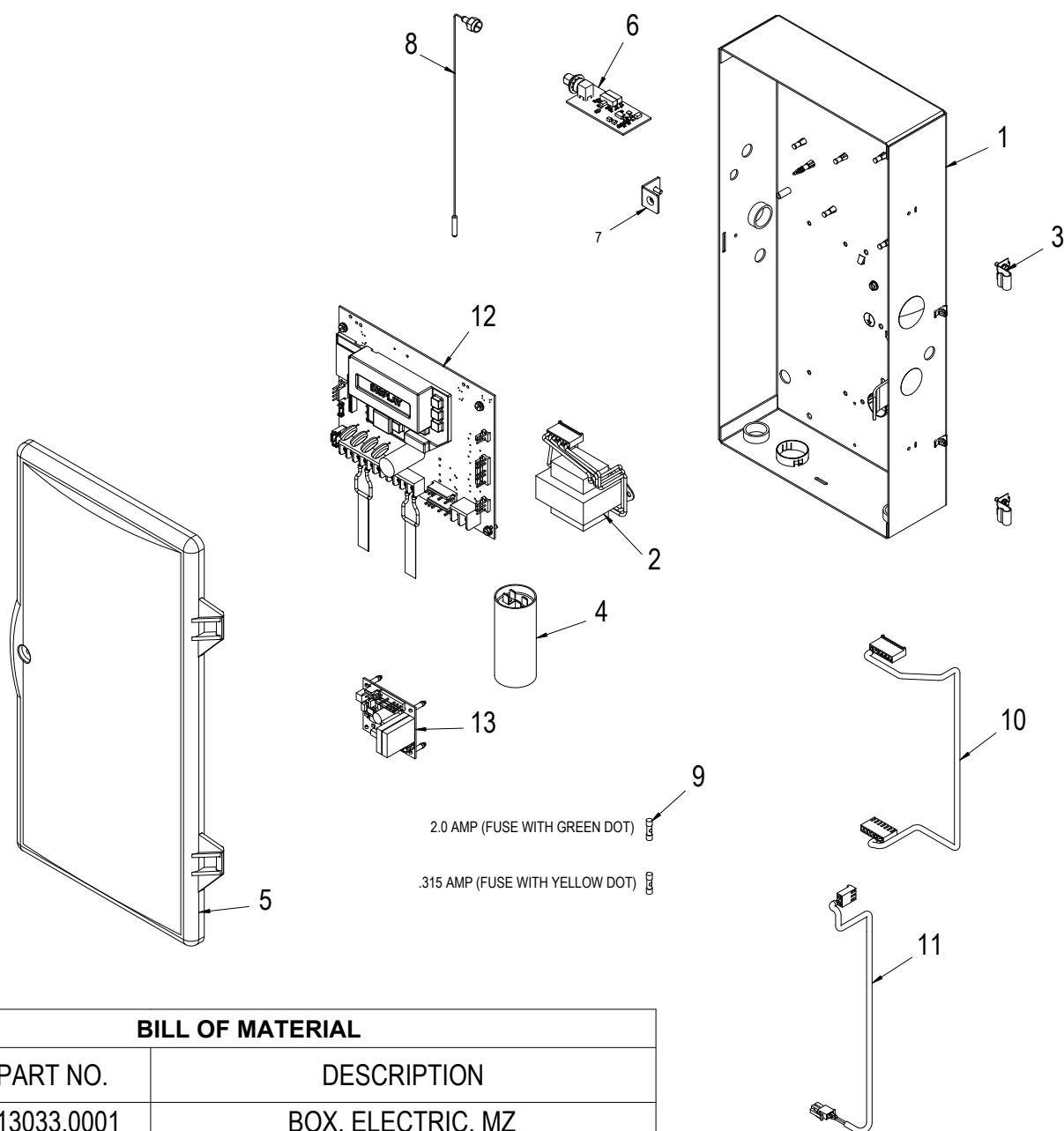
SERVICE ITEM	SERVICE INTERVAL		
	EVERY 12 MO. OR 10000 CYCLES	EVERY 24 MO. OR TROUBLE INDICATOR	EVERY 36 MO. OR 30000 CYCLES
CHECK DRIVE CHAINS AND LUBRICATE	X		
CLUTCH ADJUSTMENT	X		
CHECK FOR LOOSE OR MISSING HARDWARE	X		
CHECK LIMIT POSITIONS			X
CHECK GEAR TRAIN WEAR			X

Section 6: Service & Maintenance



BILL OF MATERIAL		
ITEM NO.	PART NO.	DESCRIPTION
1	113125.0001	KIT, ENCLOSURE, MZ
2	111010.0001	BELT, POLY-V, STRETCH
3	111421.0003	LIMIT MODULE, X-SERIES, AK
4	110877.0046	CHAIN, #35 X 46P, LOOP
5	113068.0001	BRAKE ASSY, TROLLEY/JACKSHAFT, MZ
6	113057.0001	SHAFT ASSY, CLUTCH, TROLLEY, MZ
7	113058.0001	SHAFT ASSY, OUTPUT, TROLLEY
8	113126.0001	KIT, BRKT, MZ
9	113030.0001	PULLEY, MOTOR, MZ
10	113021.0001	KIT, MOTOR, SVCE, MZ

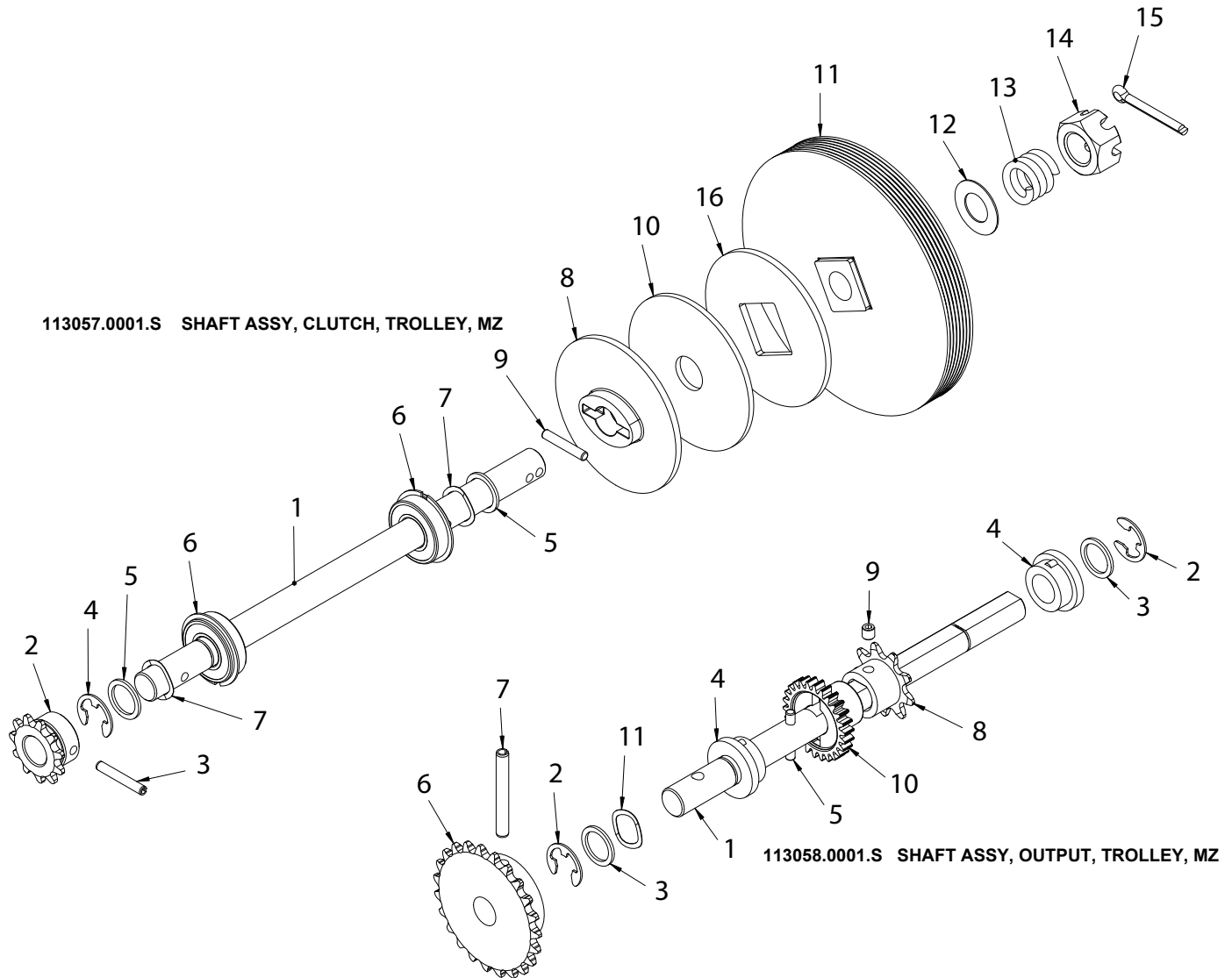
Section 6: Service & Maintenance



BILL OF MATERIAL

ITEM NO.	PART NO.	DESCRIPTION
1	113033.0001	BOX, ELECTRIC, MZ
2	110846.0001	XFMR, 120V
3	110950.0001	HINGE, ELECTRIC BOX
4	19988A	CAPACITOR, 70 MFD
5	111851.0002	COVER, ELECTRIC BOX, BLACK
6	111397.0001	RCVR ASSY, 315/390,
7	110951.0001	LATCH, ELECTRIC BOX
8	111800.0003	PARTS PK, ANTENNA
9	110957.0001	FUSE KIT, MZ
10	113088.0001	HARNESS, 7 POSITION, BRAKE BD
11	113086.0001	HARNESS, 2-WIRE, BRAKE PCB
12	112365.0001	BD ASSY, CONTROL, MZ
13	41368R	PCBA, BRAKE, MZ

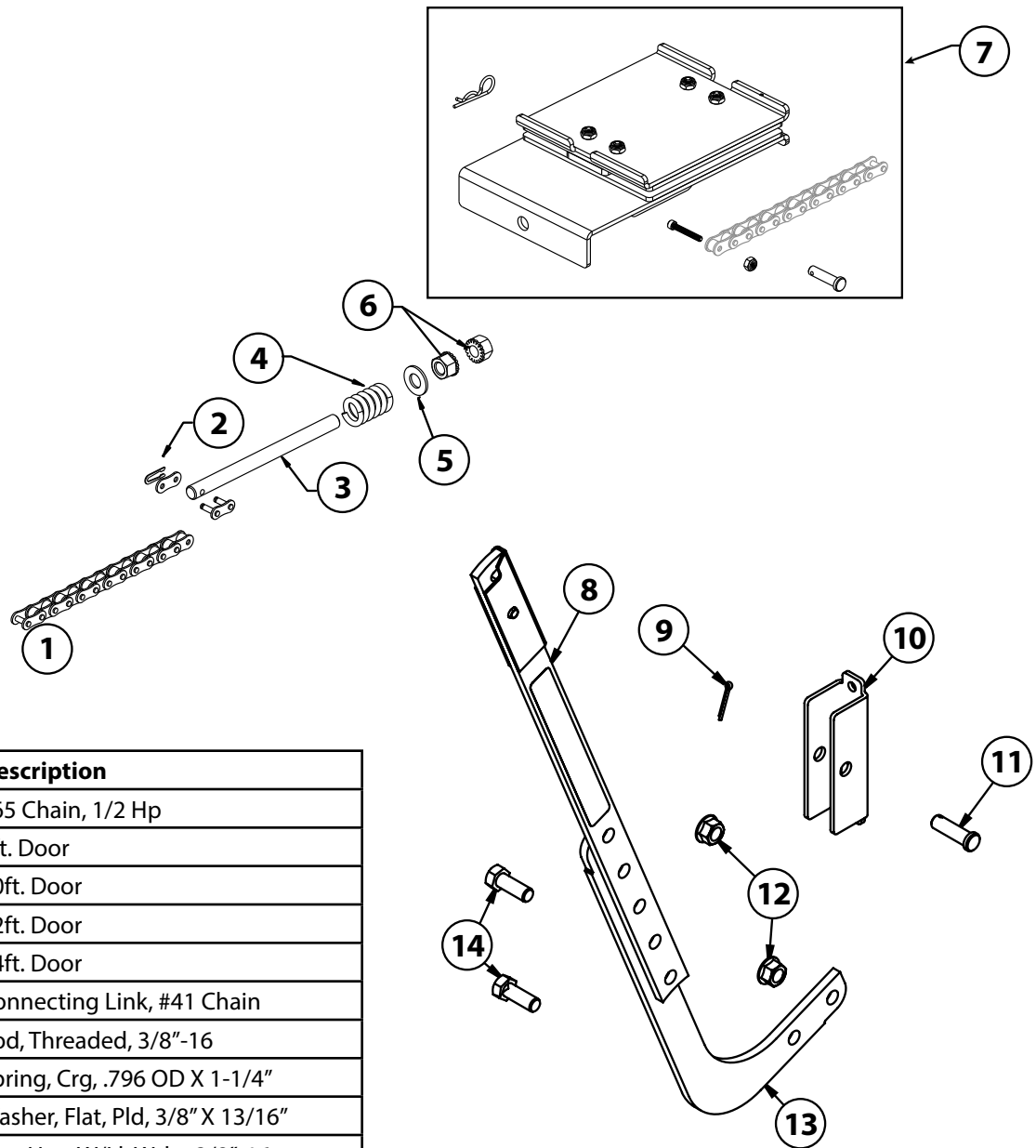
Section 6: Service & Maintenance



113057.0001.S SHAFT ASSY, CLUTCH, TROLLEY, MZ		
ITEM	PART NO.	DESCRIPTION
1	113059.0001	SHAFT, CLUTCH, TROLLEY
2	110465.0001	SPROCKET, 11T, #35 CHAIN, 3/8 P
3	110313.0008	PIN, SPRING, .188 DIA DIA X 1.38
4	080415.0021	RING, RTNG, EXT, STL, 5/8"SFT
5	110819.0001	WASHER, PLAIN, .651 ID
6	110813.0001	BEARING, .625 ID
7	110818.0001	WASHER, WAVE SPRING, .650 ID
8	111037.0001	DISC, CLUTCH
9	110881.0001	PIN, DOWEL, .188 X 1.13/1.00
10	075193.0000	LINING, CLUTCH
11	113031.0001	PULLEY, CLUTCH, MZ
12	086649.0029	WASHER, THRUST, .64
13	075197.0000	SPRING, CLUTCH
14	110472.0001	NUT, HEX, SLOTTED, 5/8-11
15	080401.0624	PIN, COTTER, 3/16 X 1 1/2 L
16	108015.0001	DISC, CLUTCH - MOVABLE

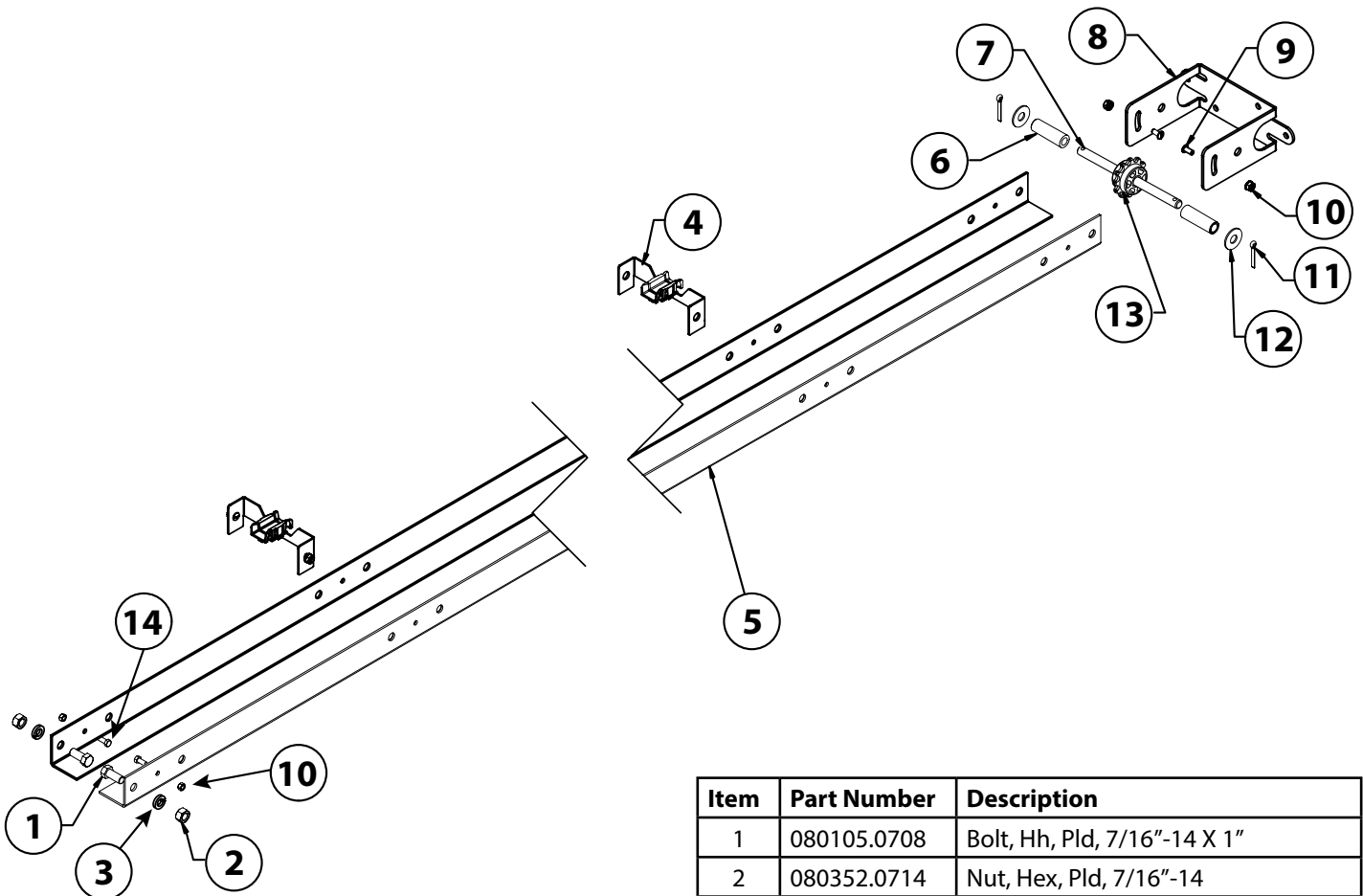
113058.0001.S SHAFT ASSY, OUTPUT, TROLLEY, MZ		
ITEM	PART NO.	DESCRIPTION
1	113060.0001	SHAFT, OUTPUT, TROLLEY, MZ
2	080415.0021	RING, RTNG, EXT, STL, 5/8"SFT
3	110819.0001	WASHER, PLAIN, .651 ID
4	106062.0003	BUSHING 5/8" ID
5	110881.0001	PIN, DOWEL, .188 X 1.13/1.00
6	113056.0001	SPRKT, 23T, #35, 3/8 PITCH
7	110313.0010	PIN, SPRING, .250 DIA X 2.00
8	107894.0001	SPRKT, 9T, 1/2P
9	080300.1604	SCR, SET, SCH, KNRLD, 1/4-20 X 1/4"L
10	111885.0001	GEAR, LIMIT, 26T
11	110818.0001	WASHER, WAVE SPRING, .650 ID

Section 6: Service & Maintenance



Item	Part Number	Description
1		#65 Chain, 1/2 Hp
	080839.4951	8ft. Door
	080839.5911	10ft. Door
	080839.6871	12ft. Door
	080839.7831	14ft. Door
2	080884.0003	Connecting Link, #41 Chain
3	110784.0001	Rod, Threaded, 3/8"-16
4	075064.0000	Spring, Crg, .796 OD X 1-1/4"
5	080302.2626	Washer, Flat, Pld, 3/8" X 13/16"
6	086480.2416	Nut, Hex, W/Lk Wshr, 3/8"-16
7	112819.0001	Carriage, Trolley
8	110844.0001	Door Arm Assy
9	606-E04	Pin, Cotter
10	110842.0001	Bracket, Door
11	086621.0620	Pin, Clevis
12	24121-D05	Nut, 3/8"-16
13	26013D	Door Arm, Curved
14	5973-Q04	Bolt, 3/8"-16 X 7/8"

Section 6: Service & Maintenance



Item	Part Number	Description
1	080105.0708	Bolt, Hh, Pld, 7/16"-14 X 1"
2	080352.0714	Nut, Hex, Pld, 7/16"-14
3	080322.0446	Wshr, Lk, 7/16" X 25/32" OD
4	111390.0001	Chain Guide
5	110732.1125	Track, 8ft. Door
	110732.1149	Track, 10ft. Door
	110732.1173	Track, 12ft. Door
	110732.1197	Track, 14ft. Door
6	110744.0001	Spacer
7	110768.0001	Pin, Idler
8	111078.0001	Spreader Bracket
9	080019.0001	Bolt, Trk, 1/4"-20 X 9/16"
10	086480.1620	Nut, Hex, W/Lk Wshr, 1/4"-20
11	080401.0616	Pin, Cotter
12	080302.3240	Washer, Plain, Steel
13	112893.0002	Sprocket, Idler, 12T #65 Chain
14	113161.0001	Bolt, 1/4"-20 X 3/4" Grade 8

The Genuine. The Original.



Commercial Operator Limited Warranty

The authorized distributor of Overhead Door Corporation products whose name appears below ("Seller") warrants to the original purchaser of the commercial RMZ-T door operator specified below ("Operator"), subject to all the terms and conditions hereof, that the operator will be free from defects in material and workmanship under normal use and service until the earlier of the following to occur:

RMZ Trolley Operator

1. Two (2) years after the date of installation
or
2. When the Operator exceeds 20,000 cycles of operation, as measured by the integrated cycle counter contained in the Operator.

Sellers sole obligation under this warranty is specifically limited to repairing or replacing, at it's option, any parts which shall be determined by Seller to be defective during the warranty period. Any labor charges are excluded and will be the responsibility of the owner.

This warranty applies only to an operator which is installed in commercial or industrial building applications. This warranty does not apply if the Operator has been altered or repaired by any person not authorized by Overhead Door Corporation to do so, or if it has been damaged due to misuse, accident or failure to provide necessary maintenance. This warranty is made only to the original purchaser of the Operator and is not transferable or assignable.

THIS WARRANTY IS EXCLUSIVE AND IN LIEU OF ANY OTHER WARRANTIES, EITHER EXPRESSED OR IMPLIED, INCLUDING BUT NOT LIMITED TO ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.

IN NO EVENT SHALL OVERHEAD DOOR CORPORATION BE RESPONSIBLE FOR, OR LIABLE TO ANYONE FOR, SPECIAL, INDIRECT, COLLATERAL, PUNITIVE, INCIDENTAL OR CONSEQUENTIAL DAMAGES, even if Overhead Door Corporation has been advised of the possibility of such damages. Such excluded damages include, but are not limited to, loss of goodwill, loss of profits, loss of use, interruption of business, or other similar indirect financial loss.

Claims under this warranty must be made in writing promptly to the Seller whose name and address appears to the right, and must be made within the warranty period. (Proof of purchase and identification as the original purchaser may be required.)

Overhead Door Corporation's Operator Division will only accept returned materials that are in warranty. Products being returned must be accompanied by a Return Authorization (RA) Tag. To obtain a Return Authorization Tag please use the following guidelines.

- Complete Operators will not be replaced without prior approval from the Operator Division.
- To return an Operator part during the warranty period, the Seller must contact the Technical Service Group of the Operator Division at 1-800-275-6187. The following information is required: Operator Model Number, Date Code, Voltage, Phase & Horsepower, and a description of the malfunction. The Technical Service Group will issue, via mail, an RA Tag for the part.
- Upon receipt of the part, the Operator Division will evaluate the part for a defect in material and/or workmanship. If it is determined there is a defect, the Seller will be credited the cost of the part. If it is determined there is not a defect in material and/or workmanship, no credit will be issued.

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**Overhead Door Corporation
1 Door Drive, Mount Hope, OH. 44660
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www.overheaddoor.com