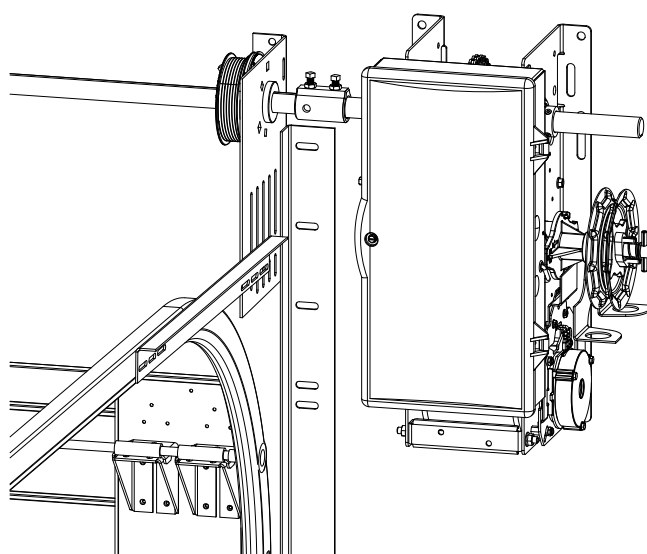
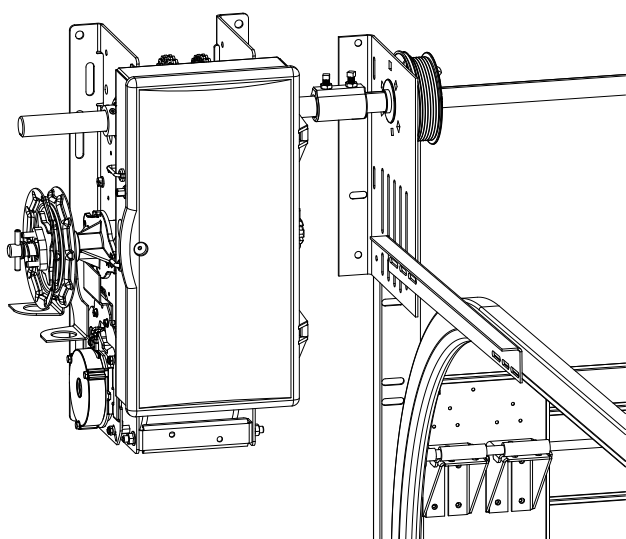


Sidemount Operator



APPLICATIONS:

Hoist Operators can be assembled in the following configurations:

- Direct Couple

Hoist Operators can be installed on the following types of doors up to 16 feet high:

- Sectional Doors - Vertical Lift, Lift Clearance Type

HP/Max Door Weight/Height:

- Sectional - 1/2 HP Only - 620lbs/16 ft.

NOT FOR RESIDENTIAL USE

**This installation manual provides the information required to install,
program, troubleshoot and maintain
RMZH operators.**

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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: side room, room above door shaft, room below door shaft, available mounting surface integrity, power supply location, and convenient chain hoist and 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" section.
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" section.



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 technician 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 8ft. (2.44m) or more above the floor if operator has exposed moving parts. If the operator must be installed less than 8ft. (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 5 feet 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 4).
- Monitored Retro-Reflective Photocells - P/N OPAKRPEN4X.S
- 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: Direct Couple Operator Installation

Direct Couple:

The MZ Direct Couple operator can be directly coupled to the door shaft when the centerline of the shaft is 3-3/4". FIG. 1. When using the optional mounting kit P/N OPMKDCMZ5.S, the operator can also be directly coupled when the door shaft centerline is 5".

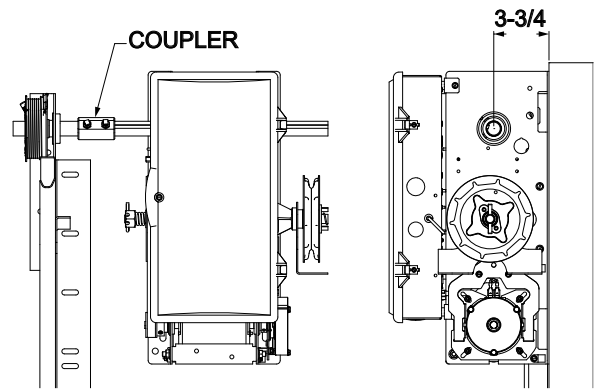


FIG. 1

Standard 3-3/4" door shaft mounting:

1. Slide coupler onto operator shaft.
2. Raise operator into position.
3. Slide coupler onto door shaft. Do NOT secure coupler at this time.
4. Make certain operator and door shafts are in alignment.
5. Secure operator to the wall or mounting pads using the 4 outer most mounting lock down holes.
6. Secure coupler to operator and door shaft using the method shown on the next page.

NOTE: If using slotted mounting holes to mount unit, you must use at least 2 lock down holes in opposite corners to firmly mount unit to wall. See operator footprint below.

NOTE: The output shaft of the operator can be moved from side to side to increase/decrease the effective shaft length for direct coupling. This is done by loosening the set screws in the shaft set collars and sprocket, moving the shaft and retightening the set screws. Be sure the bearings are fully seated in the side frames before re-tightening the set screws. FIG. 2.

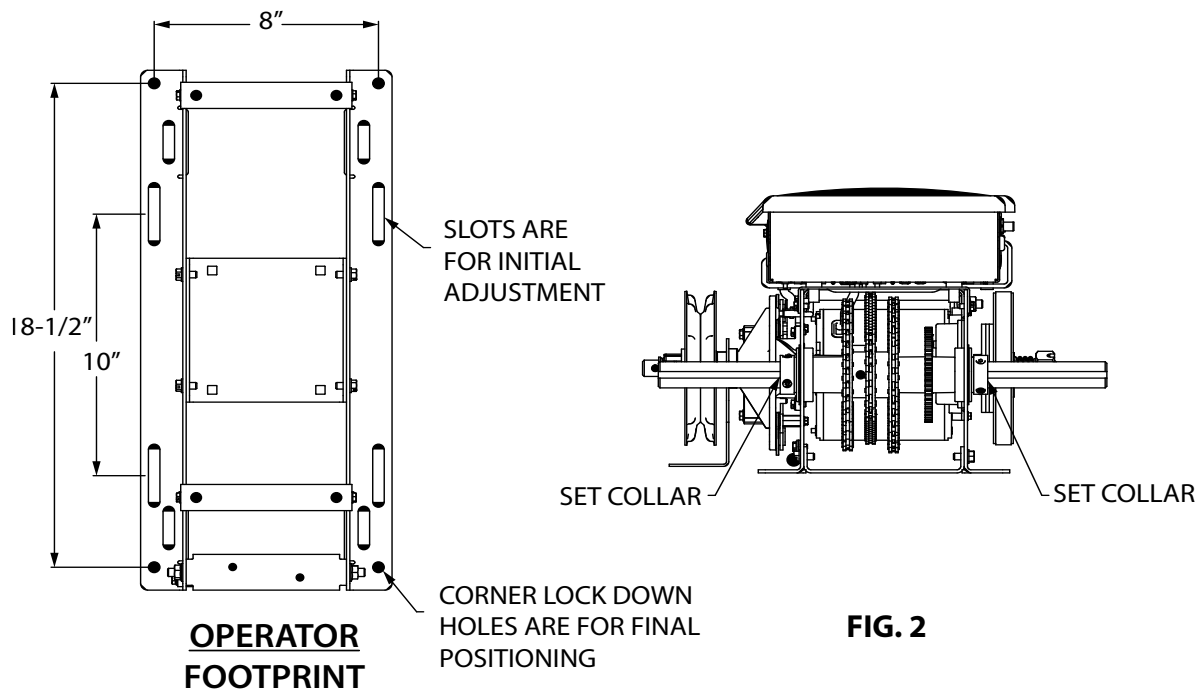


FIG. 2

Section 2: Direct Couple Operator Installation

Direct Couple (continued):

Solid Door Shaft

1. Raise door until the keyway of door shaft is in line with keyway of the operator coupler.
2. Insert key. If keyway on the door shaft restricts insertion, move coupler toward the operator, insert key and return.
3. Lift operator back into position and align output shaft of the operator with built-in key on coupler.
4. Slide operator shaft into coupler and mount the operator to the wall.
5. Tighten both set screws and jamb nuts on coupler.

COUPLER HAS BUILT-IN KEY ON ONE END
AND KEYWAY FOR A KEY ON THE OTHER END

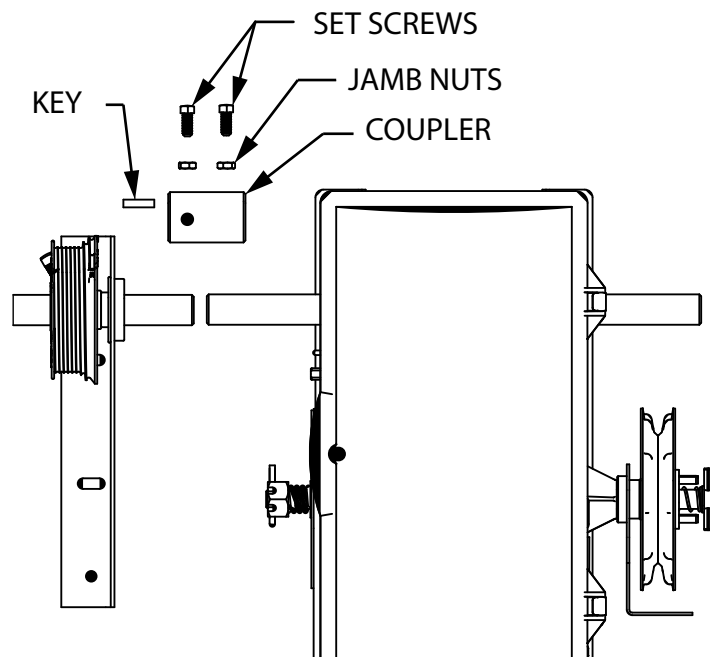


FIG. 3.

Section 2: Chain Couple Operator Installation

Chain Couple :

The MZ Direct Couple operator can be mounted as a chain coupled operator when using the 1:1 sprocket kit P/N 109049.0001. The operator can be assembled above or below the door shaft. FIG.1.

The output shaft extends 5" on each side of the operator frame.

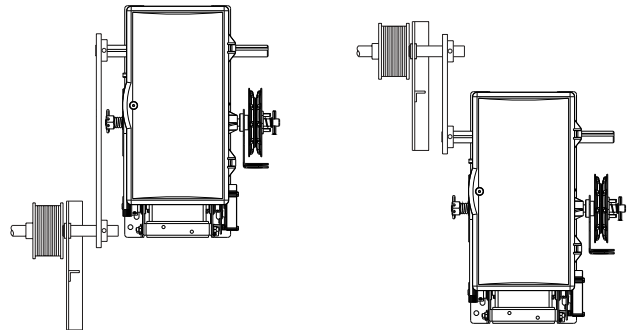


FIG. 1

1. Attach 12 tooth sprocket to operator output shaft.
2. Align keyways and insert key into sprocket and output shaft keyway. Do not tighten set screws at this time.
3. Attach door sprocket to door shaft. Align keyways and insert key into sprocket and door shaft keyway. Do not tighten set screws at this time.
4. Assemble chain using chain connecting link.
5. Place assembled chain over door shaft sprocket.
6. Raise or lower operator to remove slack from the chain.
7. Be certain operator output shaft is parallel with door shaft.
8. Align chain and secure operator to wall or mounting pad using lock down holes. FIG. 2.
9. Tighten operator and door sprocket set screws.

INSTALLATION TIP:

While sprocket set screws are loose, if possible, manually operate door to help align chain. A properly tensioned drive chain should deflect no more than 1/2" when thumb pressure is applied mid-way between the 2 sprockets.

NOTE: If using the slotted mounting hole to mount the unit, you must use at least 2 lock down holes in opposite corners to firmly mount unit to wall. FIG. 2.

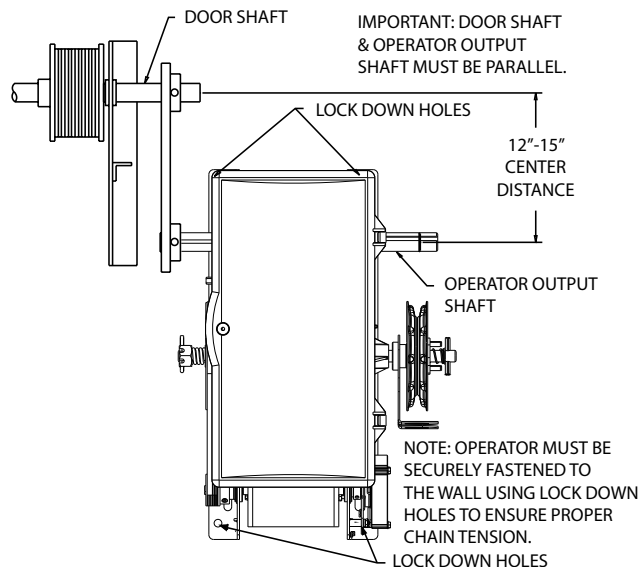


FIG. 2

Section 2: Chain Couple Operator Installation

Chain Couple (continued):

Complete the Installation:

If needed, realign operator sprocket with door sprocket. If you have excessive door shaft movement, an optional chain tension bracket is available.

Chain Tension Spreader Bracket:

Bracket is available as an optional kit for 1" door shafts, P/N 111005.0001.S

Installation of optional chain spreader bracket: FIG 1 .

1. Place sprocket, upper plate and bearing assembly on door shaft as shown.
2. Place lower plate, bearing assembly and sprocket on operator shaft as shown.
3. Install chain assembly.
4. Install bolts and nuts through plates.
5. Tighten and align chain and plate and secure operator to wall.
6. Tighten spreader bracket bolts.
7. Tighten sprocket set screws.

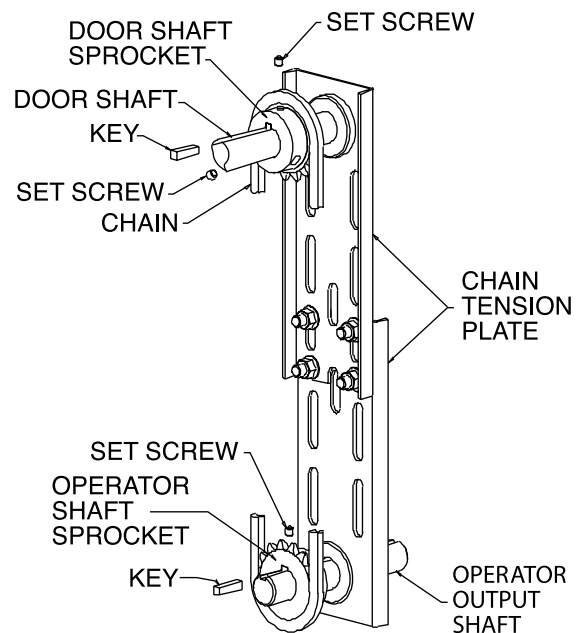
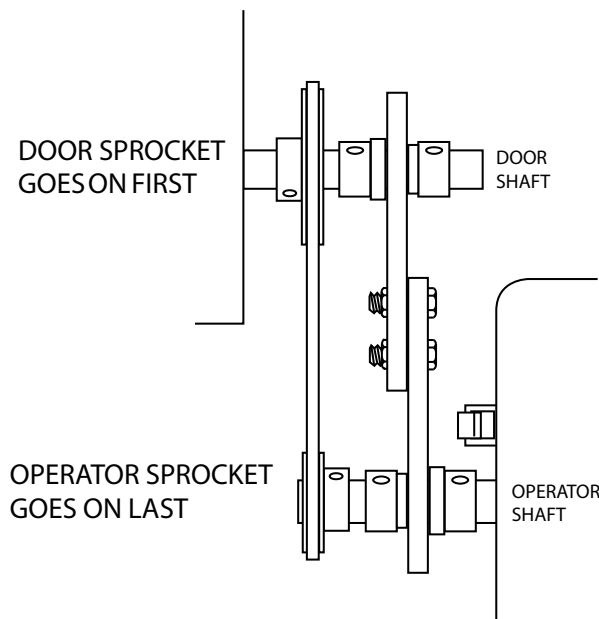


FIG. 1

SOLID COUNTERBALANCE
DOOR SHAFT

Finish Installation:

See page 2.5 for Chain Hoist Installation

See page 2.6 for Clutch Adjustment and Release Cord Installation.

Section 2: Operator Installation (Sheet Door)

Sheet Door Chain Couple:

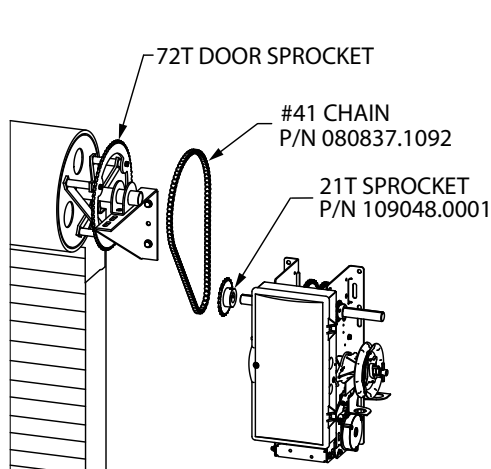


FIG. 1

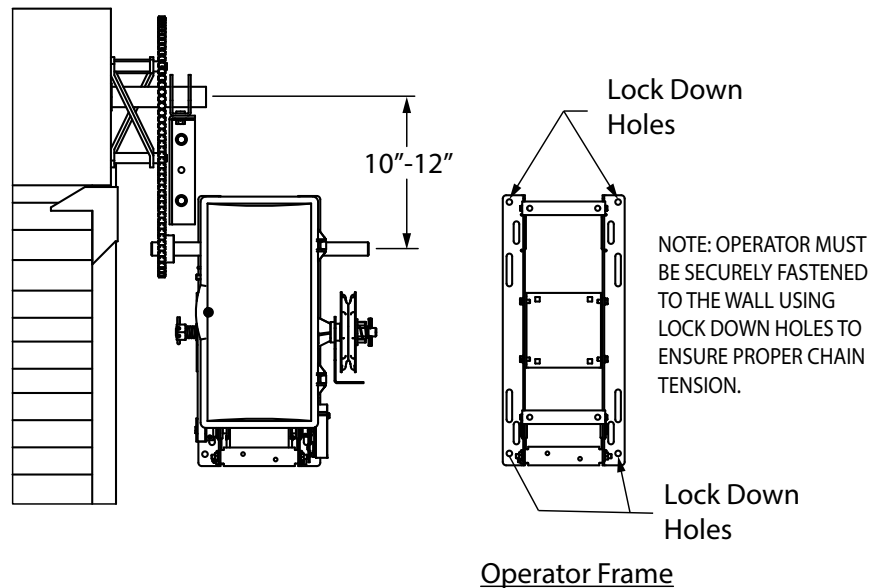


FIG. 2

INSTALLATION:

1. Attach 21 tooth sprocket to operator output shaft. FIG. 1.
2. Align keyways and insert key into sprocket and output shaft keyway. Do not tighten set screws at this time.
3. Place chain over door 72 tooth door sprocket and 21 tooth operator sprocket. Assemble chain using connecting link.
4. Raise and lower operator to remove slack from chain.
5. Be certain operator output shaft is parallel with door shaft.
6. Align chain and secure operator to wall or mounting pad using lock down holes. FIG. 2.
7. Tighten operator sprocket set screws.

INSTALLATION TIP:

While sprocket set screws are loose, if possible, manually operate door to help align chain. A properly tensioned drive chain should deflect no more than 1/2" when thumb pressure is applied mid-way between the two sprockets.

NOTE: If using the slotted mounting hole to mount the unit, you must use at least 2 lock down holes in opposite corners to firmly mount unit to wall. FIG 2.

Section 2: Operator Installation

Hand Chain & Keeper

1. Route the hand chain through the chain guide, around the pocket wheel and back through the chain guide. FIG.1.
2. Connect the hand chain ends together as shown in FIG 2. by twisting open the last link on one end of the chain, and slipping the last link on the opposite end onto the open link.
3. Twist open link closed again.
4. Mount chain keeper to wall in line with chain approximately 4 feet from floor.
5. Loop chain around keeper as shown. FIG. 3. Optional Padlock not provided.

NOTE: To ensure smooth operation, make sure there are no twist in the hand chain before connecting the link ends together.

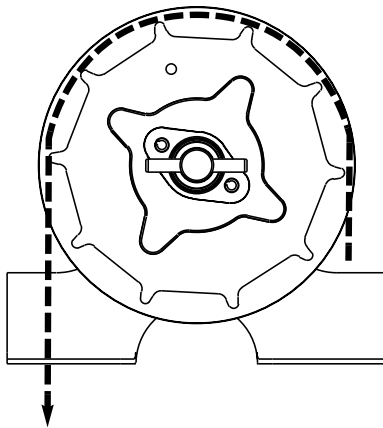


FIG. 1

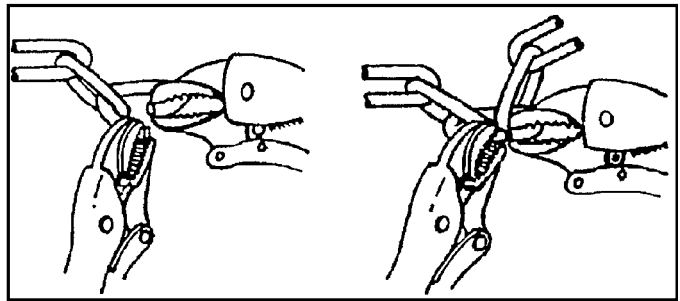


FIG. 2

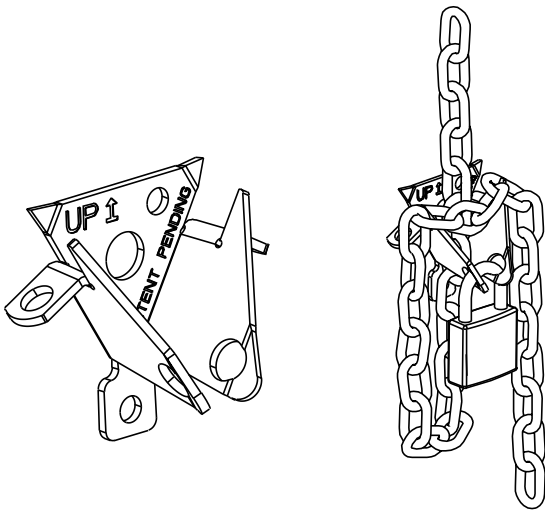
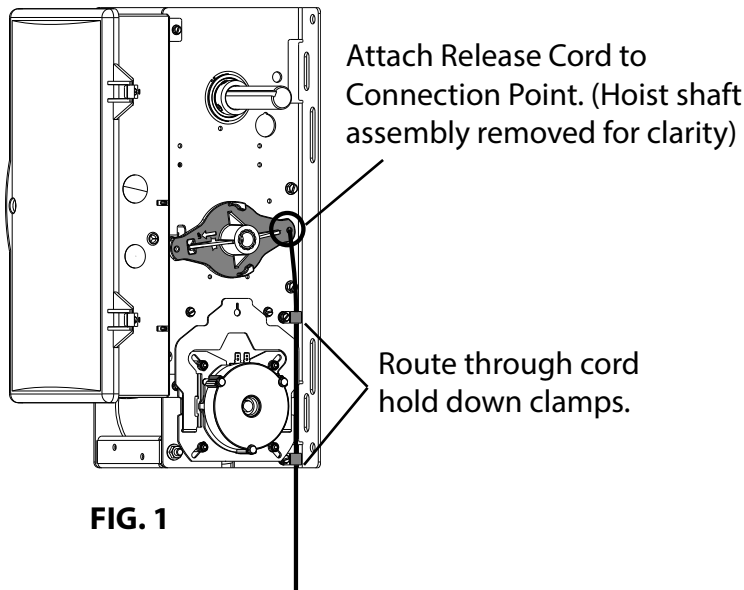


FIG. 3

Section 2: Operator Installation

Install Release Cord:

- HOIST MODELS: Attach release cord to clutch shaft release lever and route as shown in FIG. 1.



Clutch Adjustment:

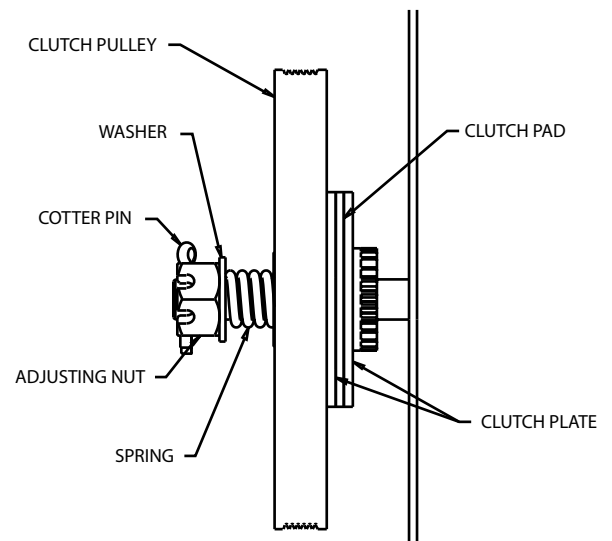
The RMZ Operators have a friction style clutch that can be adjusted.

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 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. Insert the cotter pin through the castle nut and shaft and bend the outer leg of the cotter pin.

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.



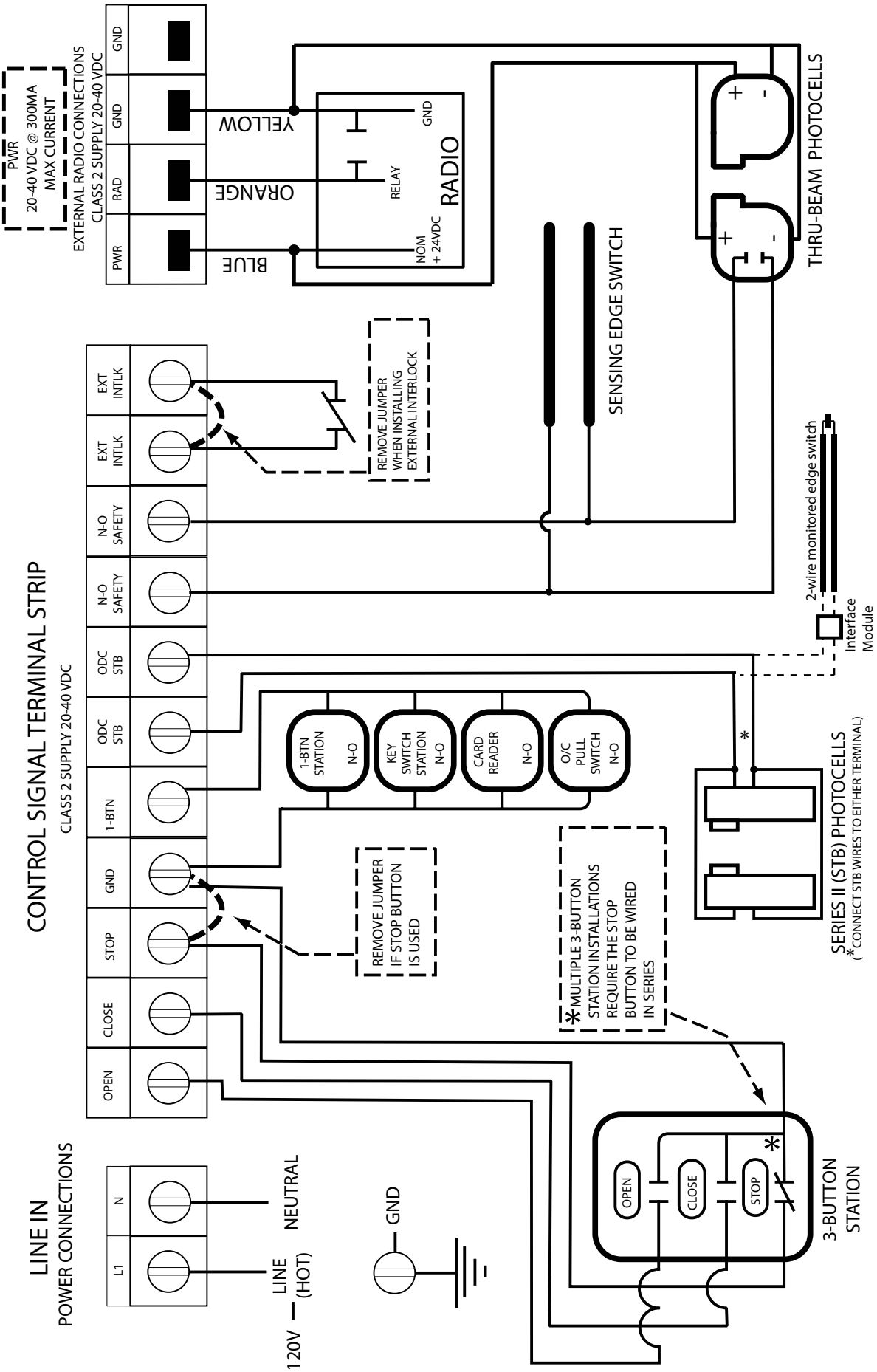
AVERTISSEMENT

- 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.

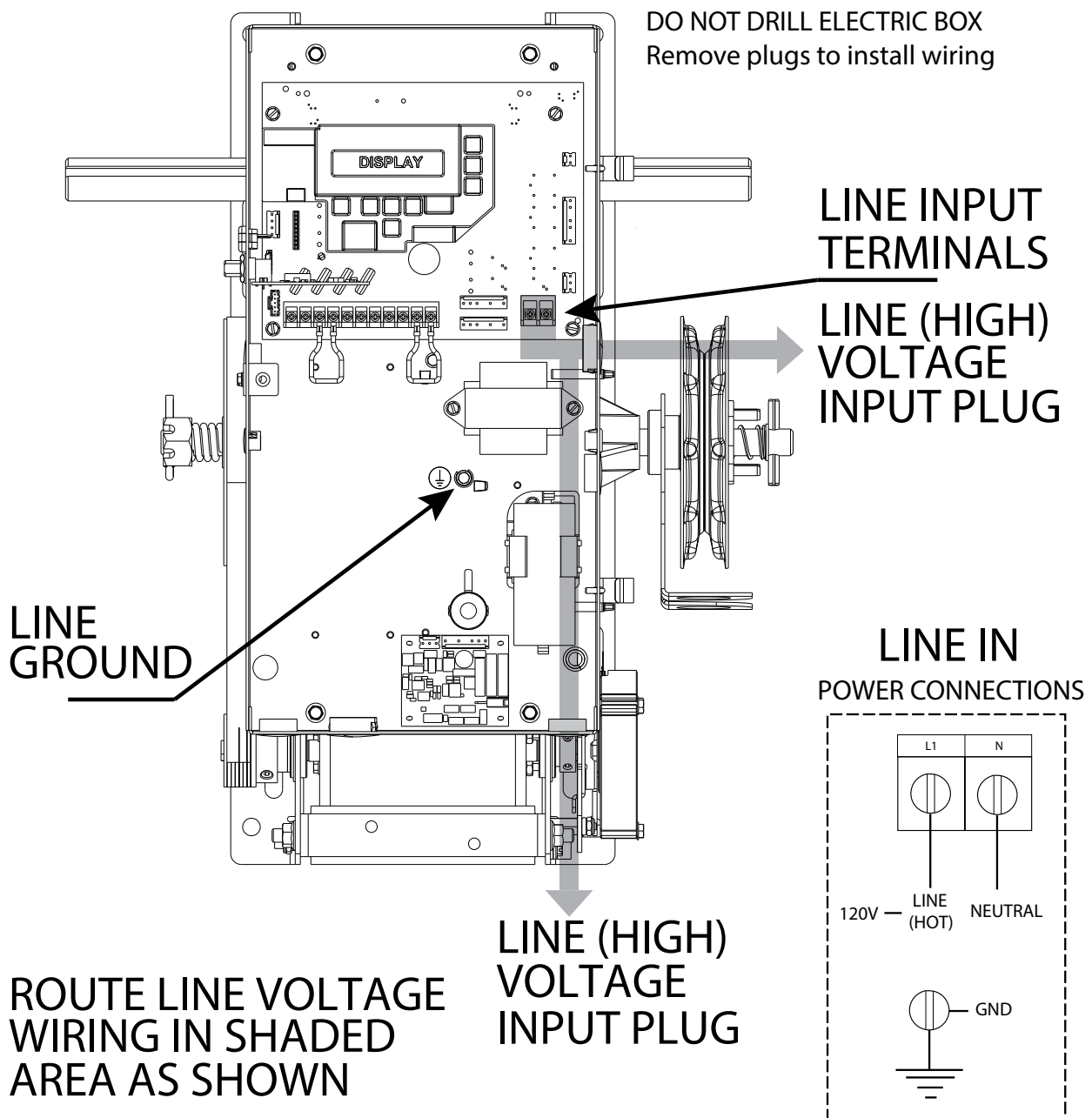
GENERAL INTERNAL WIRE DIAGRAM



Section 3: Wiring

Line Voltage Wiring

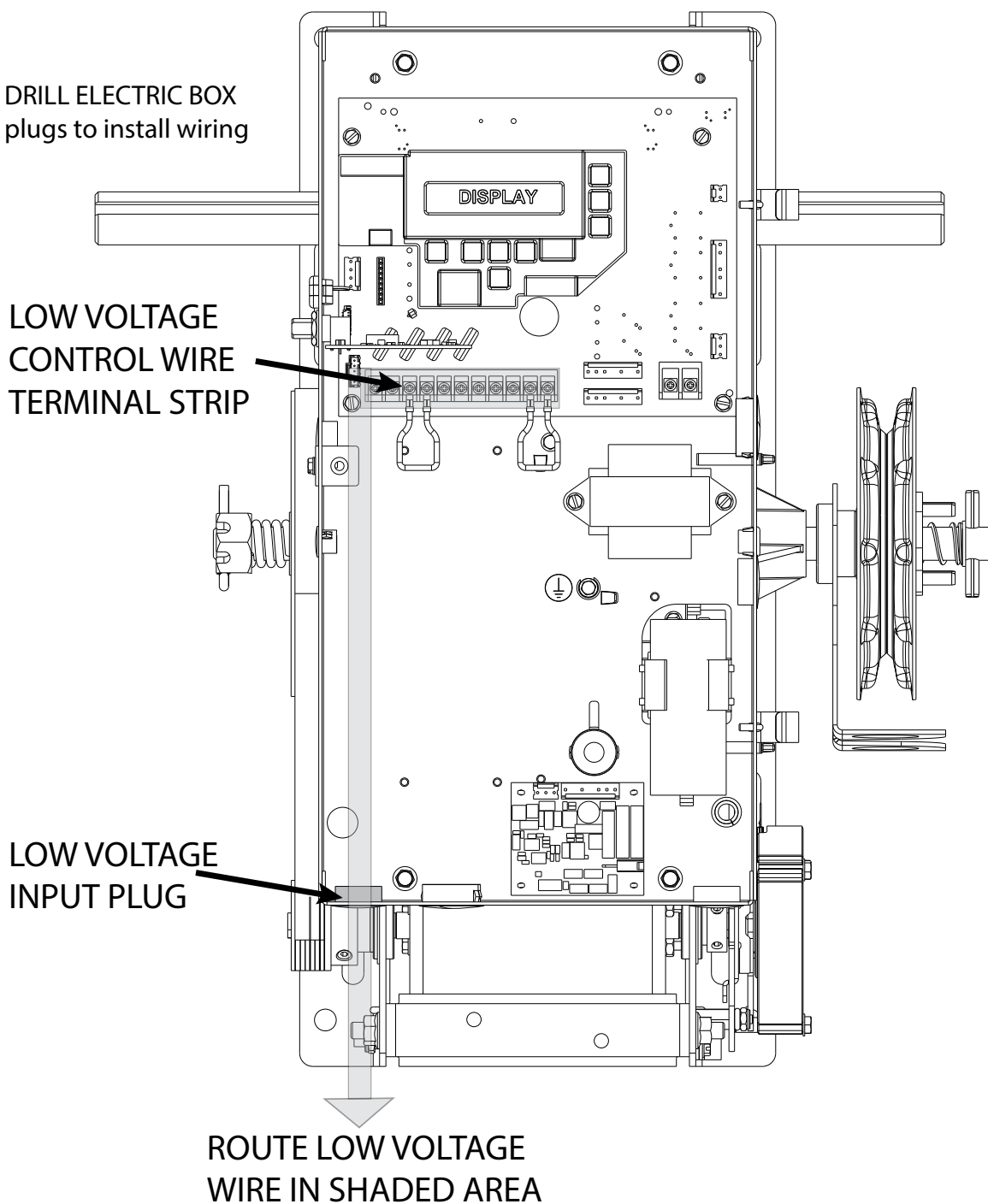
1. Remove LINE VOLTAGE INPUT PLUG and install proper fittings. There are two holes sized for 1/2" or 3/4" conduit.
2. Route proper LINE VOLTAGE wires into operator.
3. Locate LINE INPUT terminals on circuit board. Using correct connectors, attach wires to LINE INPUTS, and GROUND terminal.
 - Keep low 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, timers and single button input devices as well as safety circuit wiring.
 - Plug all unused conduit holes.



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

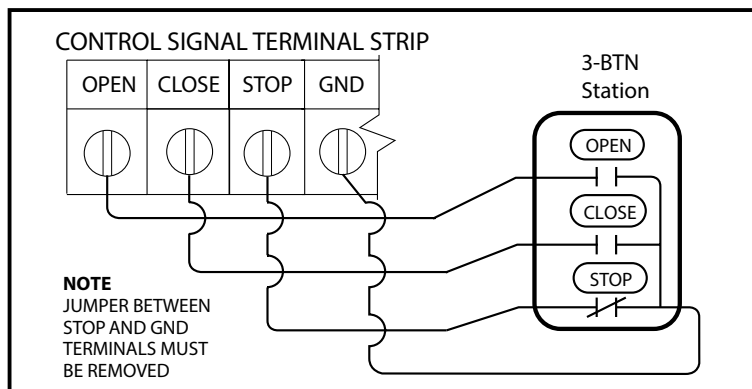


FIG. 1

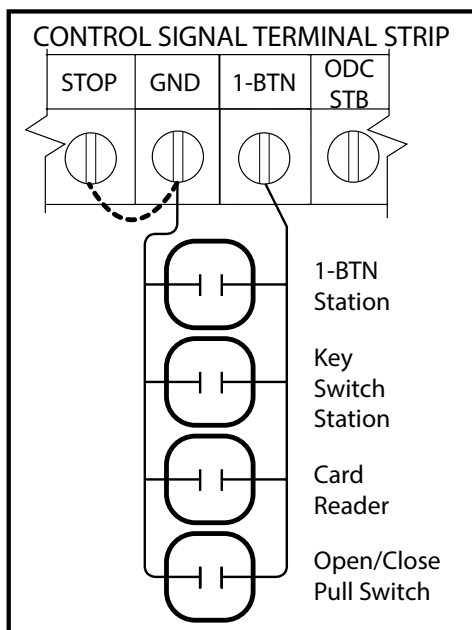


FIG. 2

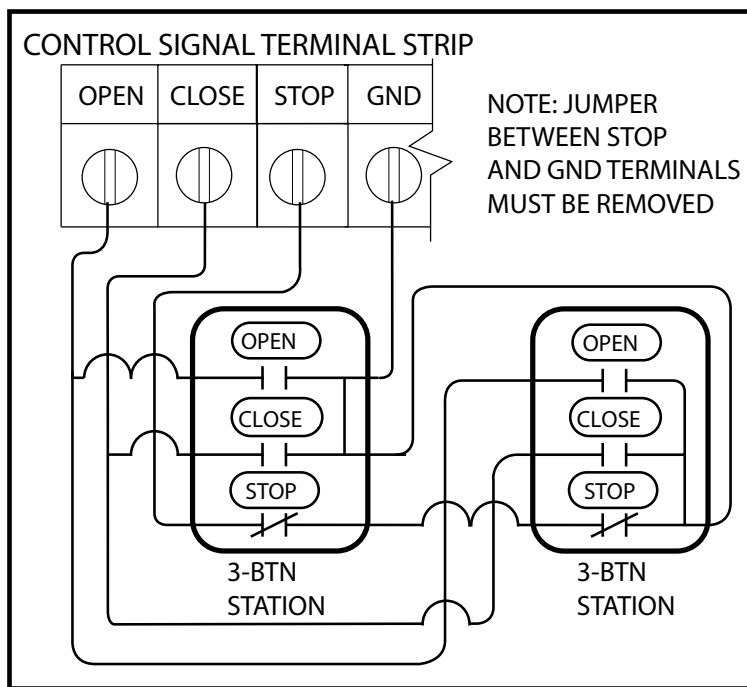
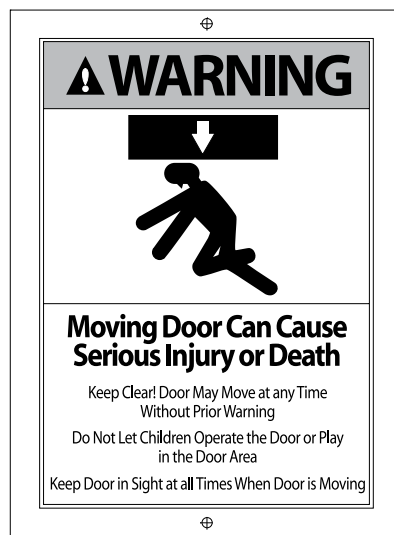


FIG. 3



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.

Sec-3.6

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 page 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. Use of Non-Monitored devices only will require the user to maintain constant contact to close.*

Sensing Edges, Monitored

See ENTRAPMENT PROTECTION page 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 page 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 operators can accommodate, up to, 2 (two) accessory module boards for expanded features. See instructions included with the Accessory Module(s) for detailed features, installation and programming instructions.

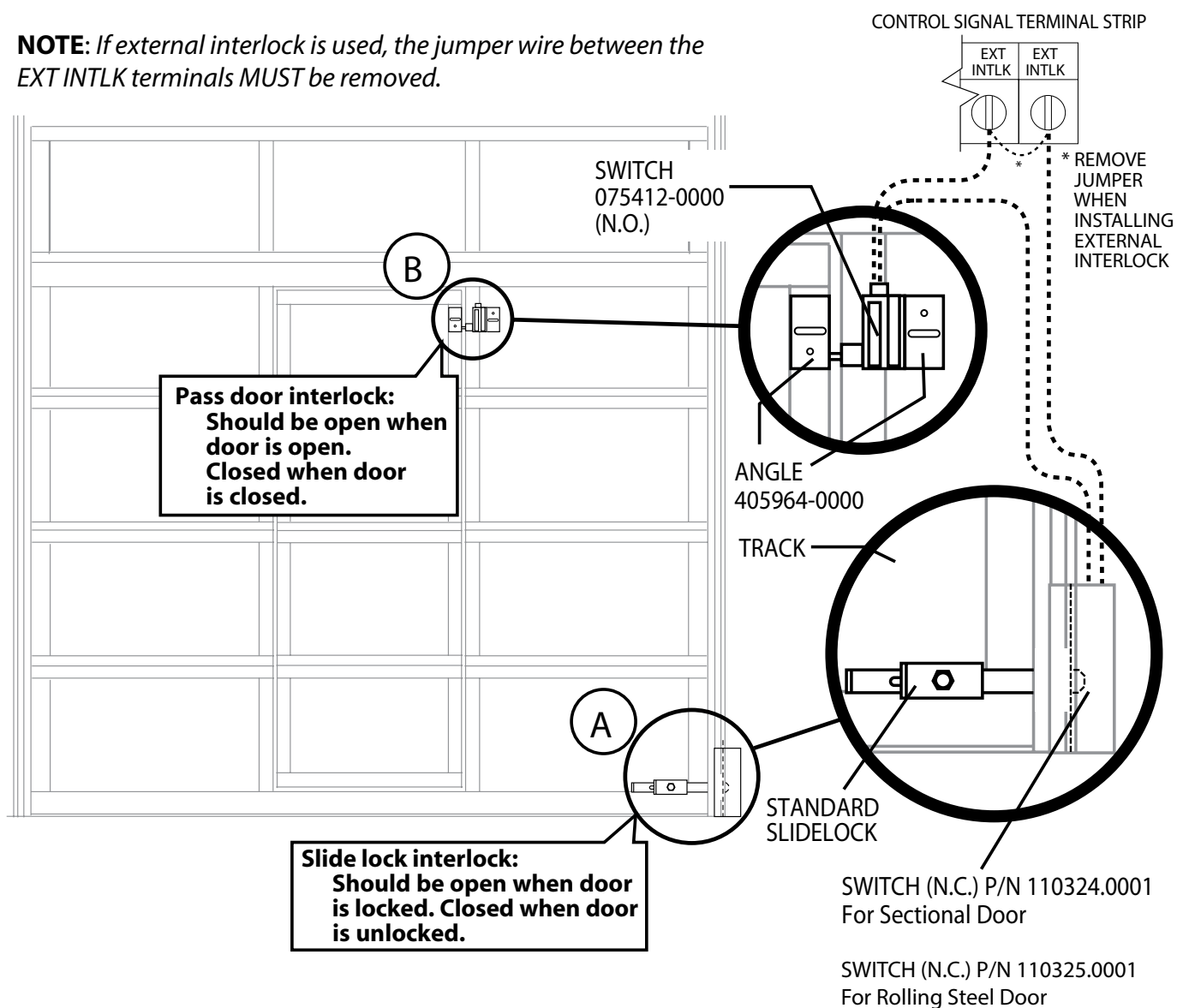
Section 3: Wiring

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 (page 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. Monitored photocells need to be mounted so photocell lens is 5"-6" from the floor. 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)

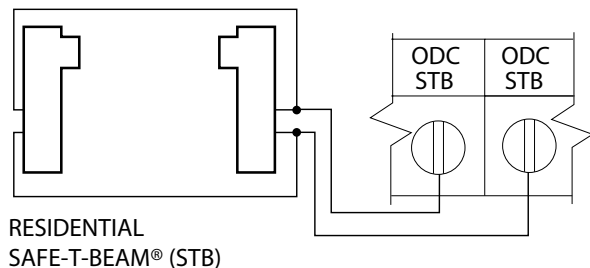


FIG. 5

Monitored Type Photocells

Non-Monitored Type Photocells

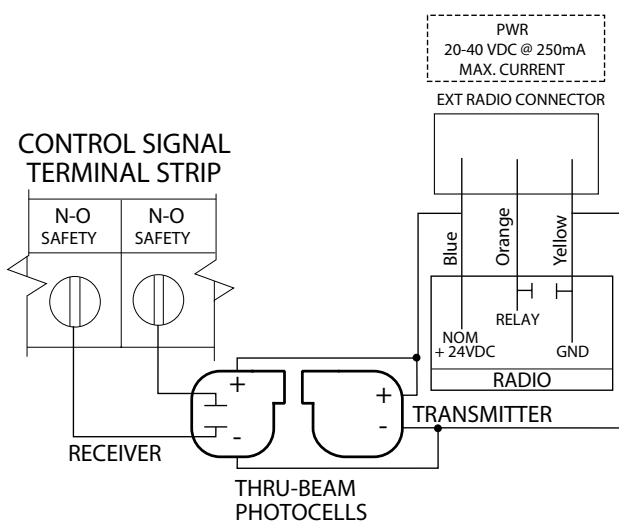


FIG. 6

Photocell Installation

Top of lens
to floor

5" to 6"

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.

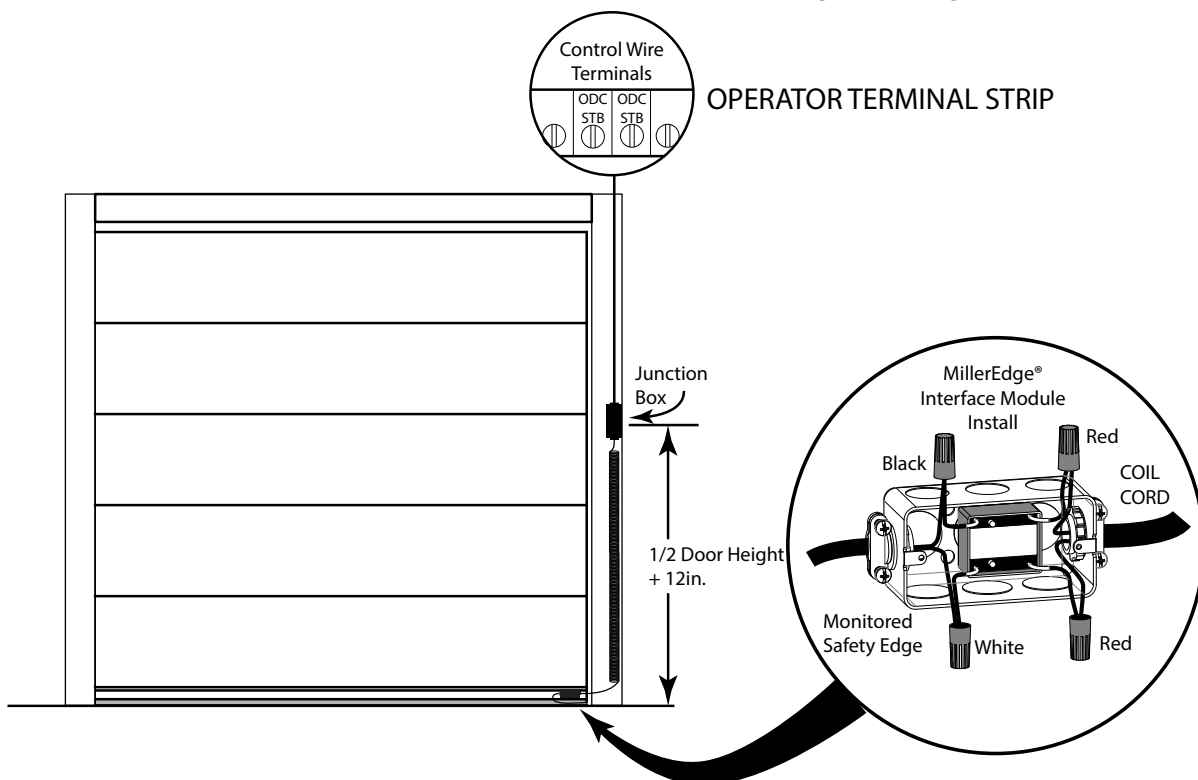
MillerEdge® “DC” Series Monitored Sensing Edge Installation with Interface Module.

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 hard-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.
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

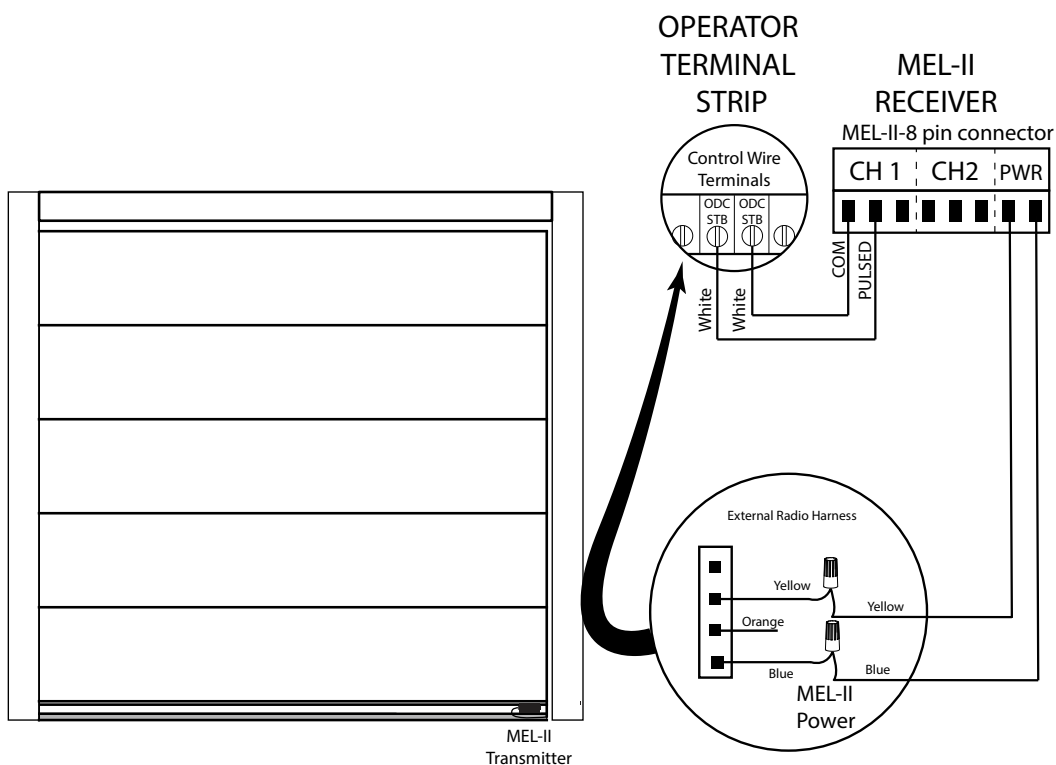
L'activation de l'opérateur en utilisant un contact constant sur le bouton FERMER annulera les dispositifs d'inversions externes, y compris les systèmes de détection des bords.

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.
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

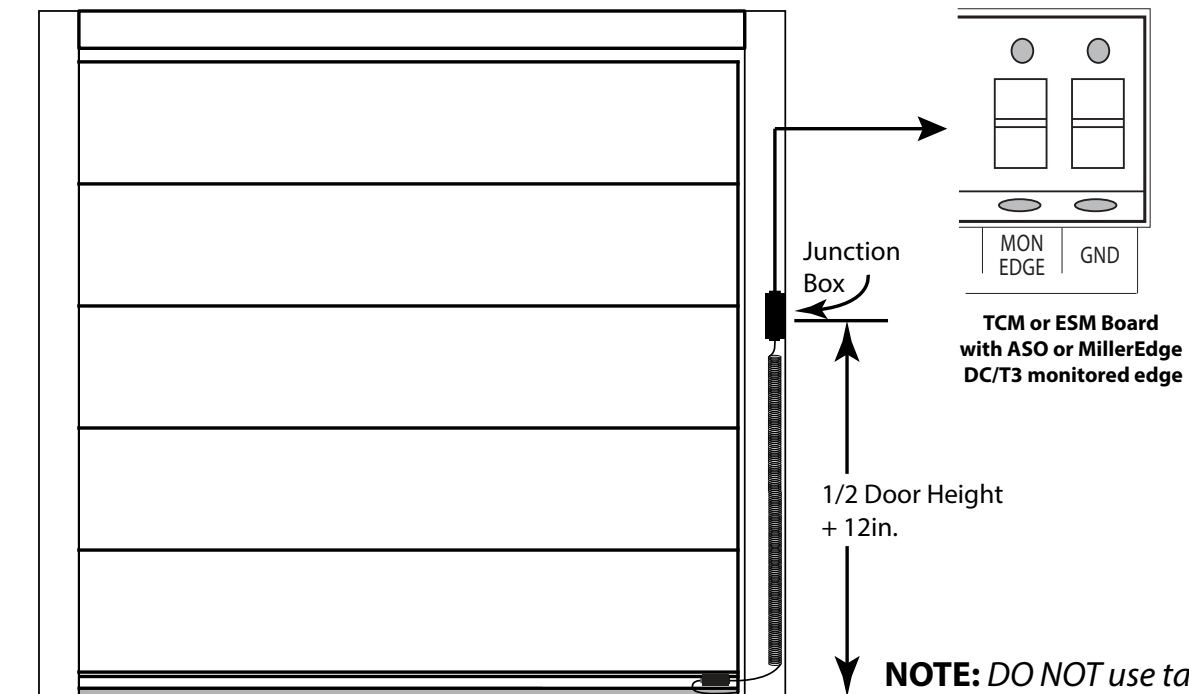
Actuating the operator by using constant contact on the CLOSE button will override non-functioning external reversing devices, including sensing edges.

! 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. These are not polarity sensitive.
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)



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

Section 3: Wiring

Non-Monitored Safety Edge

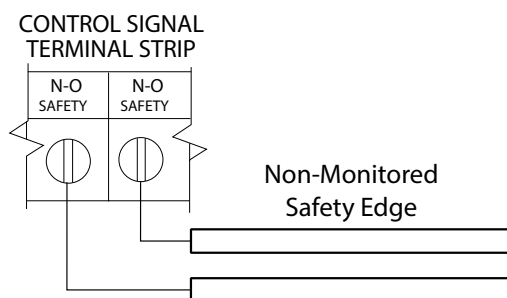
! WARNING

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.

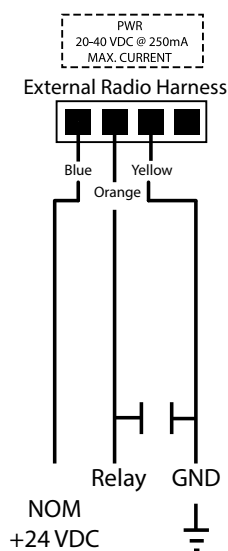


External Radio Installation (Optional)

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.



3 Wire Radio

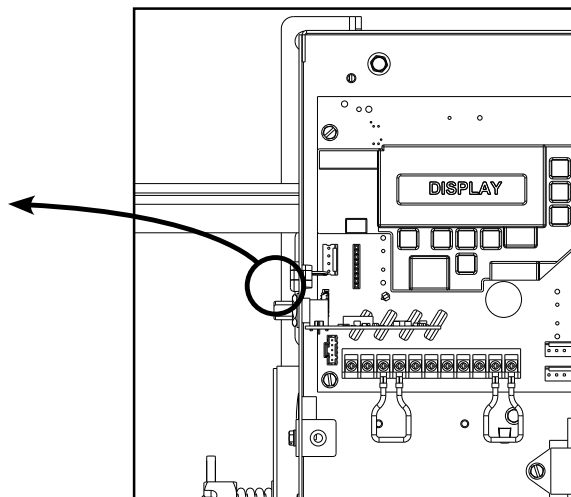


FIG. 8

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

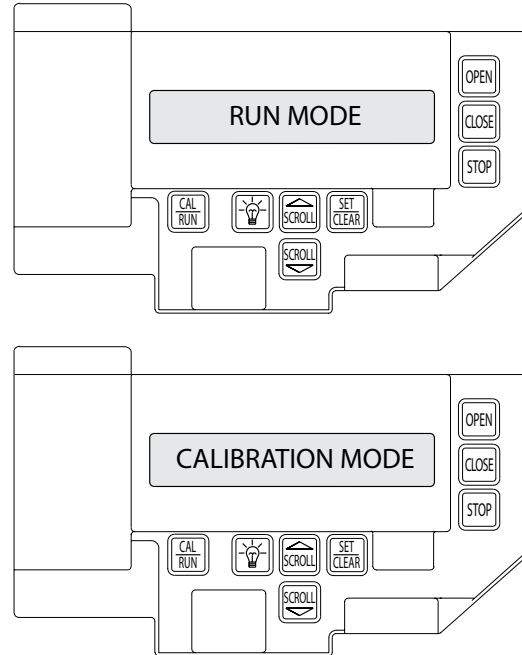
Calibration Mode Structure

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 reenter 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 Every Transmitter
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.

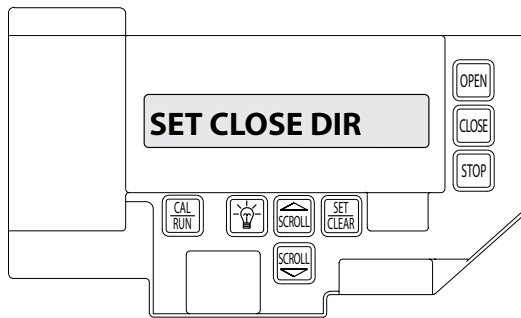


FIG. 1

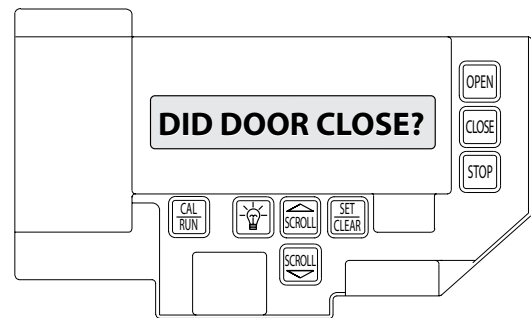


FIG. 3

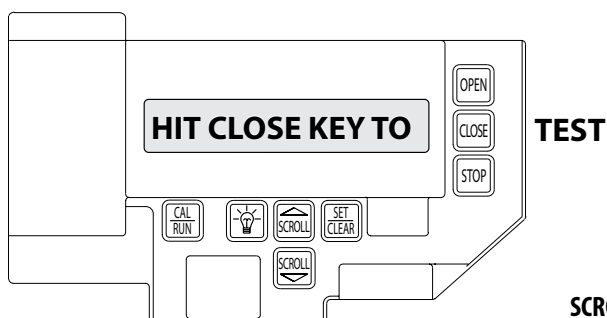


FIG. 2

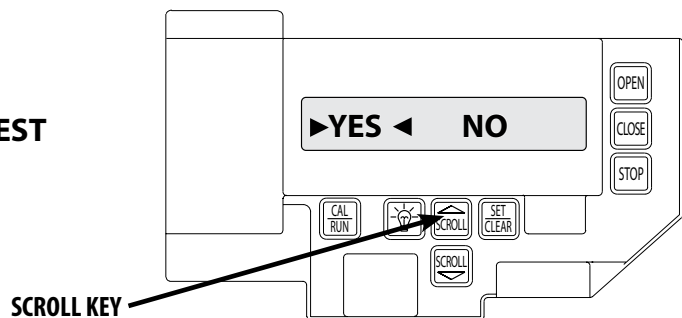


FIG. 4

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 2 in. 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".

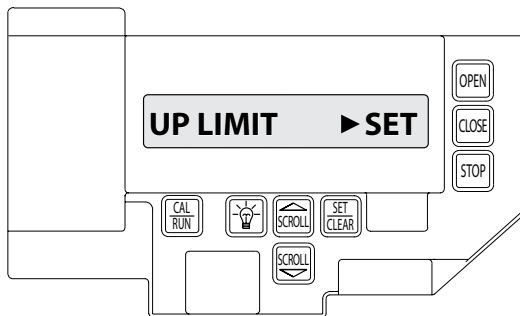


FIG. 5

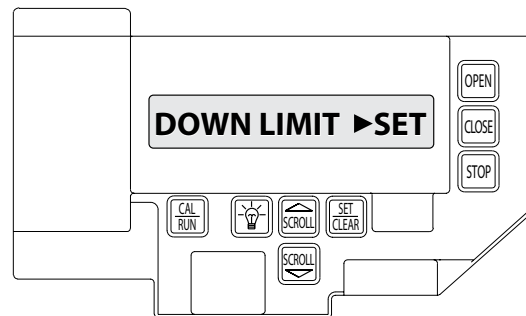


FIG. 6

NOTE: The recommended set-point for the DOWN Travel Limit is at approximately 2 inches 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.

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 2".



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.

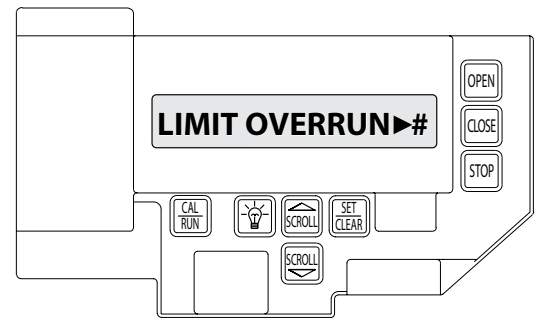


FIG. 8



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 section 1 for approved monitored reversing devices. See section 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.

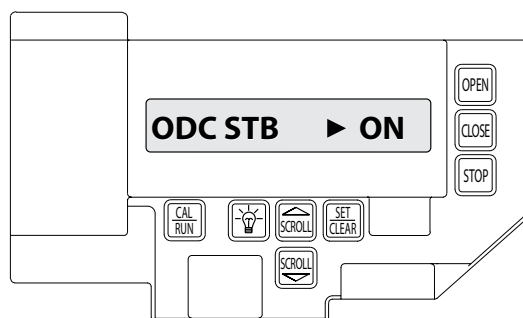


FIG. 9

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 down 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

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.

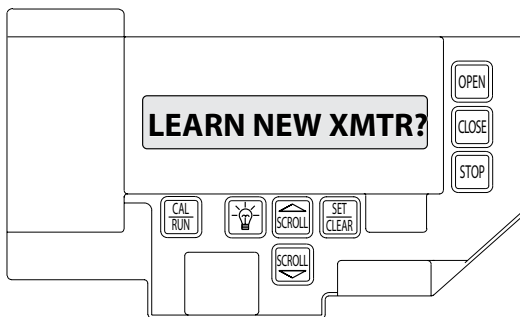


FIG. 1

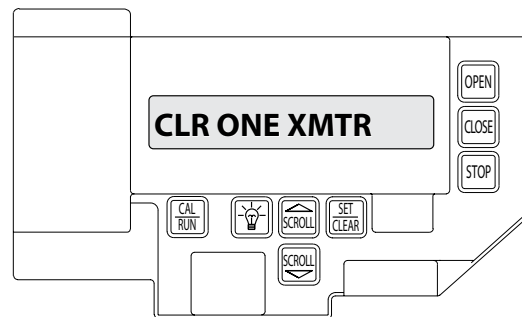


FIG. 2

Removing All Transmitters

1. If operator is in RUN mode, press CAL/RUN to 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.

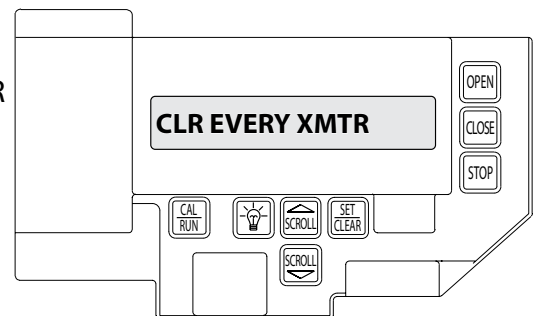


FIG. 3

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.

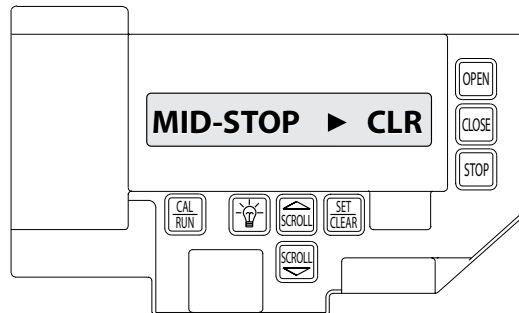


FIG. 4



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 MRT (Max Run Timer)



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. Door needs to be at either OPEN or CLOSE limit before setting.
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.

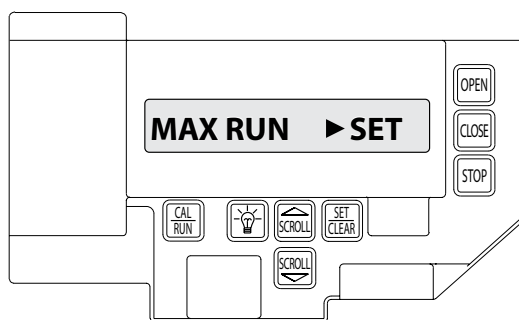


FIG. 5

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.

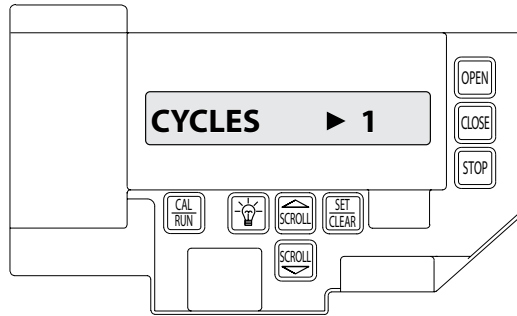


FIG. 7

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.

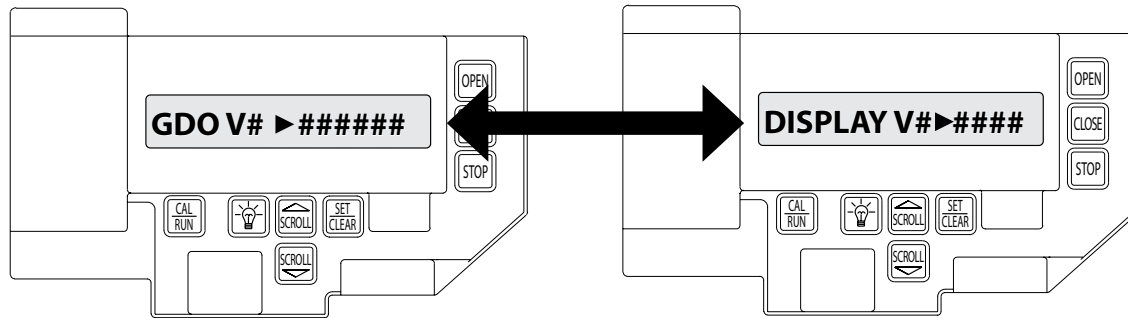


FIG. 8

GDO Type

This operator is available for use in JACKSHAFT 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.

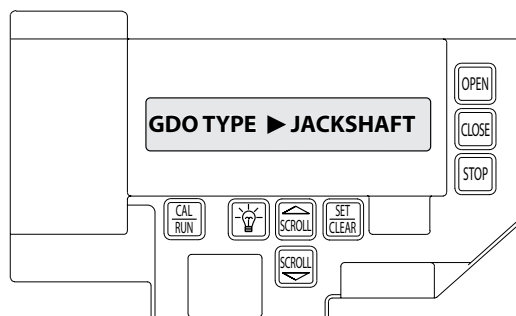
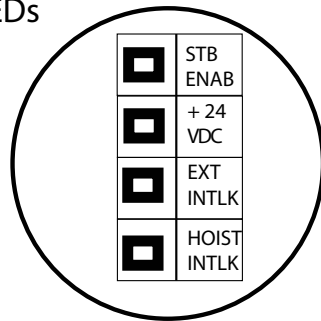


FIG. 9

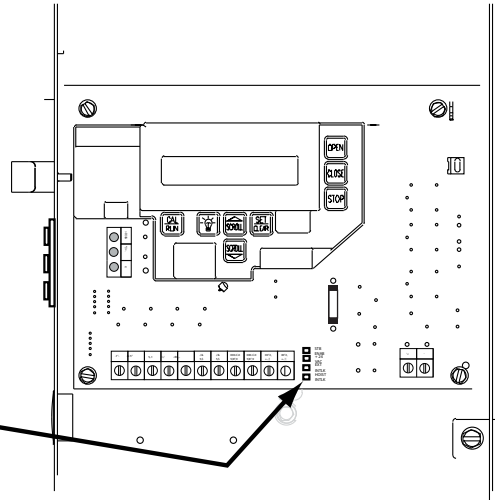
Section 5: Troubleshooting

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

TROUBLESHOOTING
LEDs



DETAIL



| 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 why the action did, or did not, take place.

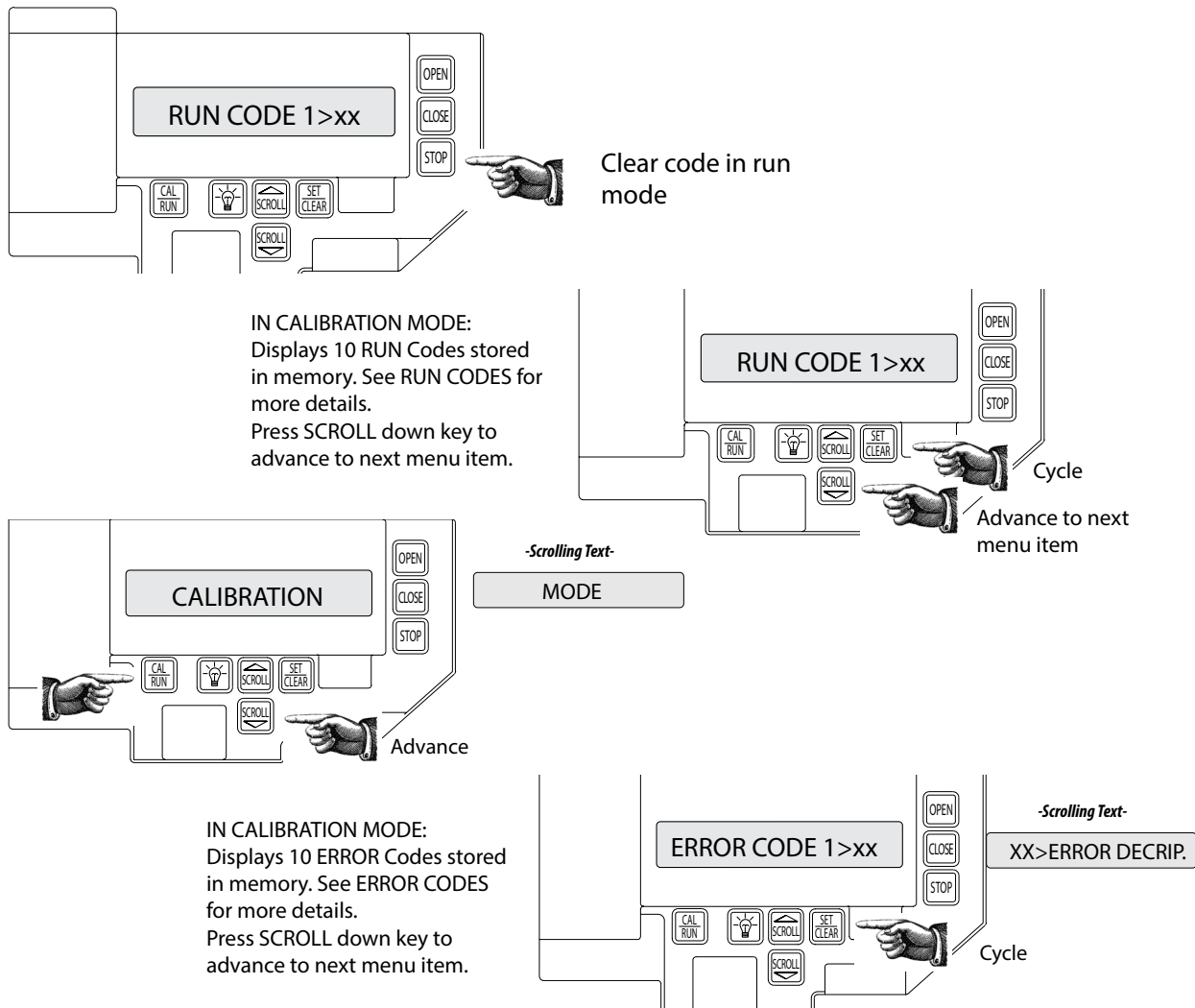
Once an error code has been generated, the Operator will continue to display the error code while the operator is not running. This error code can be cleared by pressing the STOP button or STOP key on the keypad. The error code will automatically clear when the operator stops at the down limit. Error 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. The last 10 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 10 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 10 codes in sequence. Once 10 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 run code followed by a description of the run code.



Section 5: Troubleshooting

Run Codes

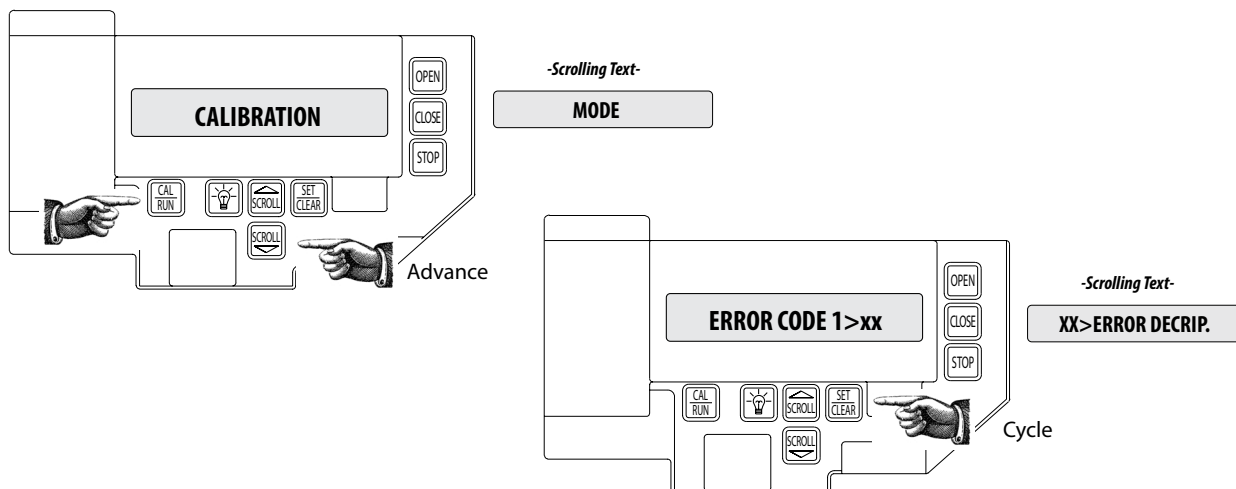
| Code | Display | Detailed/Expanded Description | Corrective Action |
|------|--------------------|---|---|
| 0C | IDLE > DOWN LIMIT | The door is at the Down Limit position. | None |
| 0D | IDLE > UP LIMIT | The door is at the Up Limit position. | None |
| 0E | IDLE > MID STOP | The door is at the 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 a 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) is 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 Safe-T-Beam 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 persist 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.

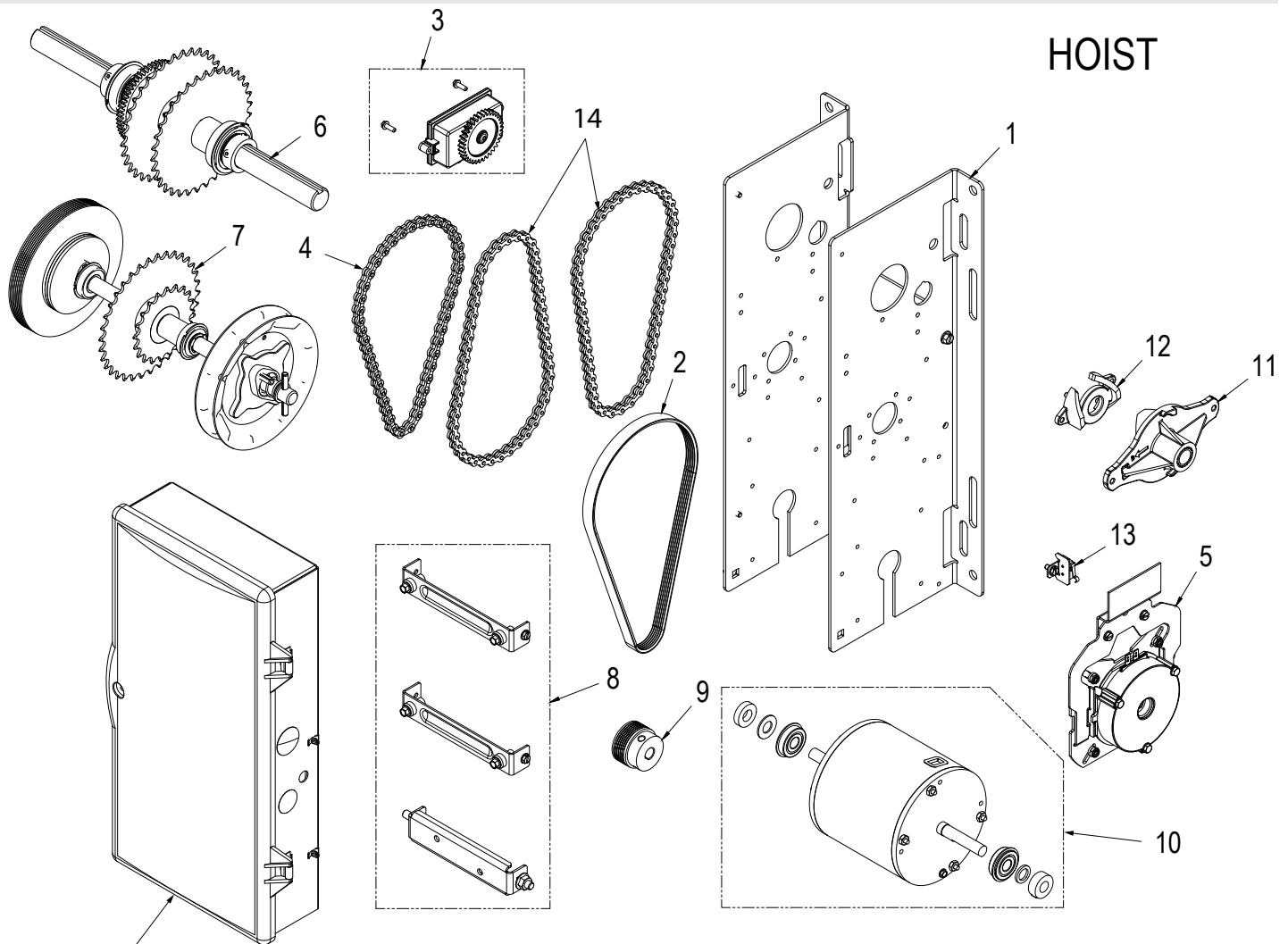
Maintenance Schedule

| 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

HOIST

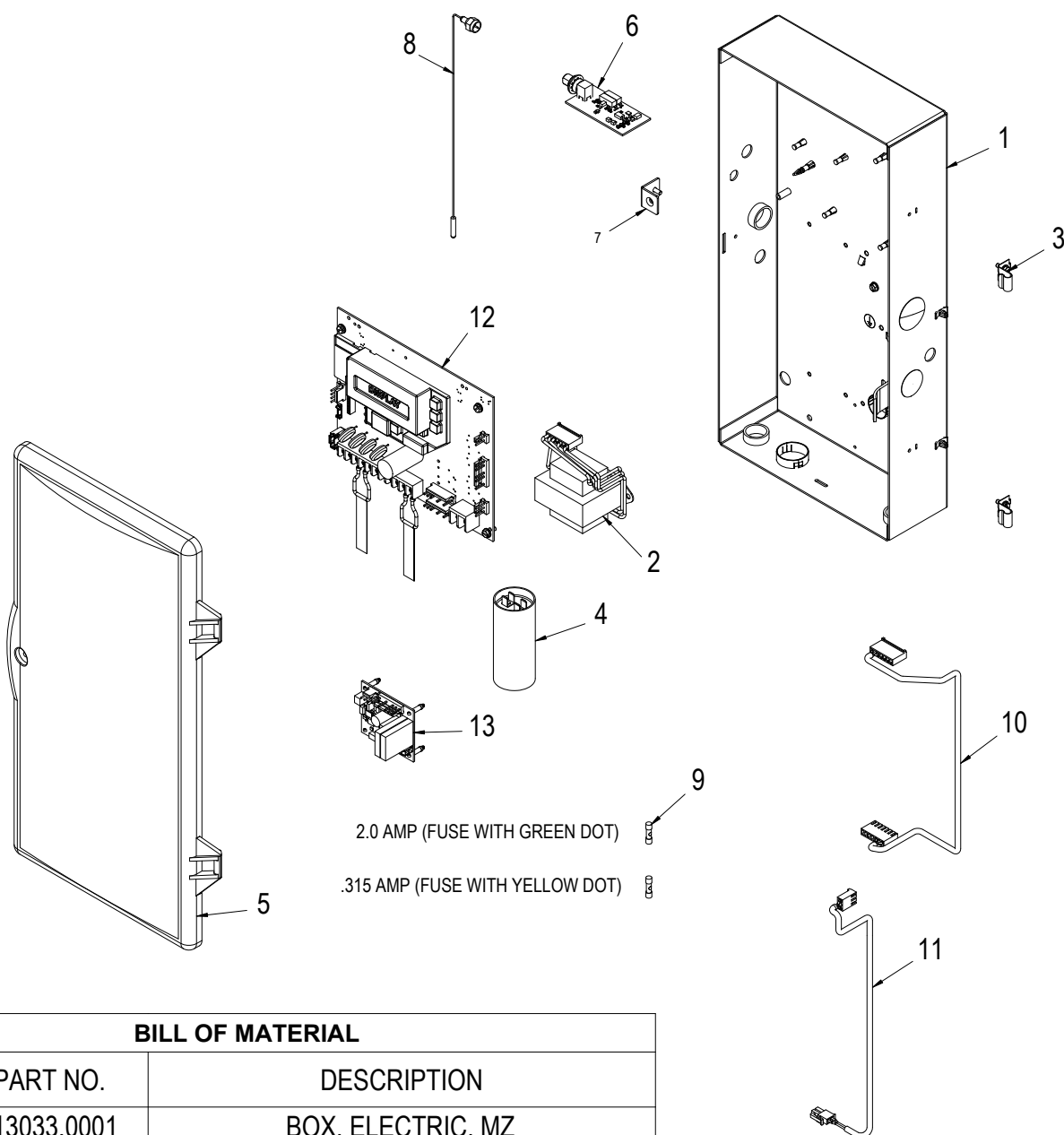


ELECTRIC BOX

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 | 113055-0048 | CHAIN, #410 X 48P, LOOP |
| 5 | 113068-0001 | BRAKE ASSY, HOIST, MZ |
| 6 | 113109-0001 | SHAFT ASSY, OUTPUT, DC, MZ |
| 7 | 113108-0002 | SHAFT ASSY, CLUTCH, HOIST, MZ |
| 8 | 113126.0001 | KIT,BRKT, MZ |
| 9 | 113030.0001 | PULLEY, MOTOR, MZ |
| 10 | 113021.0001 | KIT, MOTOR, SVCE, MZ |
| 11 | 111089-0001 | RELEASE ASSY, HOIST |
| 12 | 111036-0001 | LIFTING RAMP, RELEASE |
| 13 | 111420.0001 | SWITCH ASSY,INTERLOCK, RH |
| 13 | 113144.0001 | SWITCH ASSY,INTERLOCK, LH |
| 14 | 113055-0052 | CHAIN, #410 X 52P, LOOP |

Section 6: Service & Maintenance

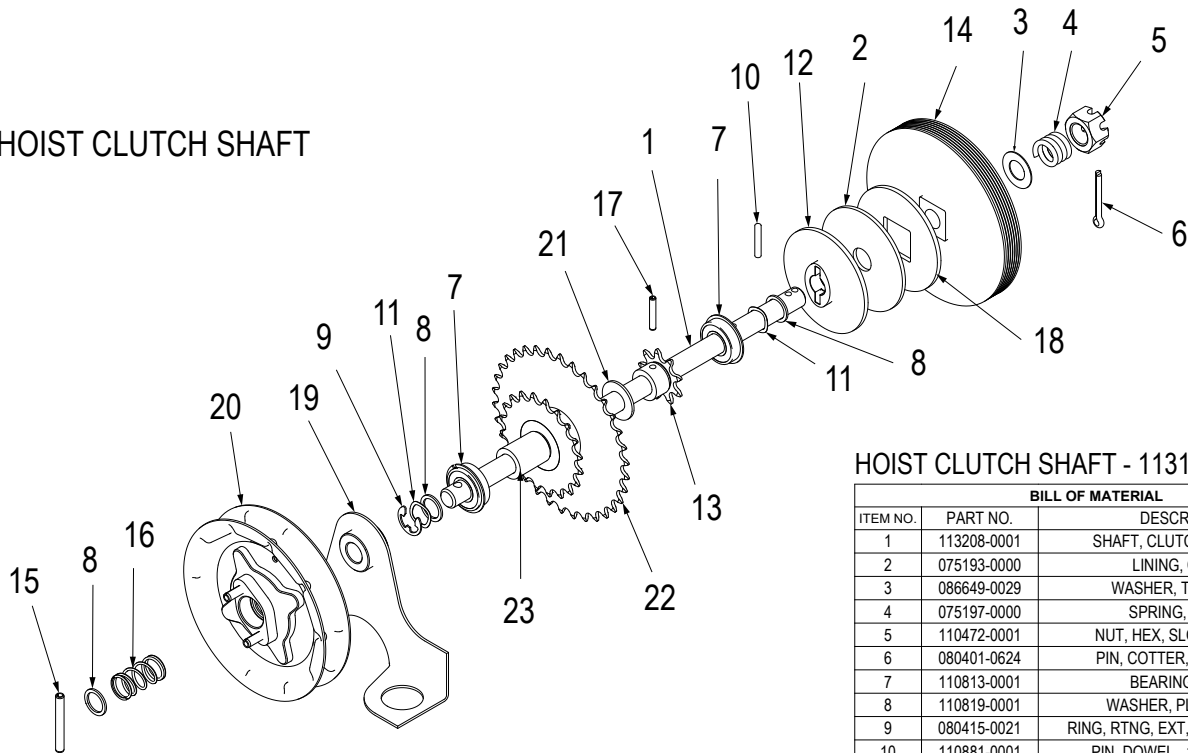


BILL OF MATERIAL

| 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 | 111883.0001 | BD ASSY, CONTROL, MZ |
| 13 | 41368R | PCBA, BRAKE, MZ |

Section 6: Service & Maintenance

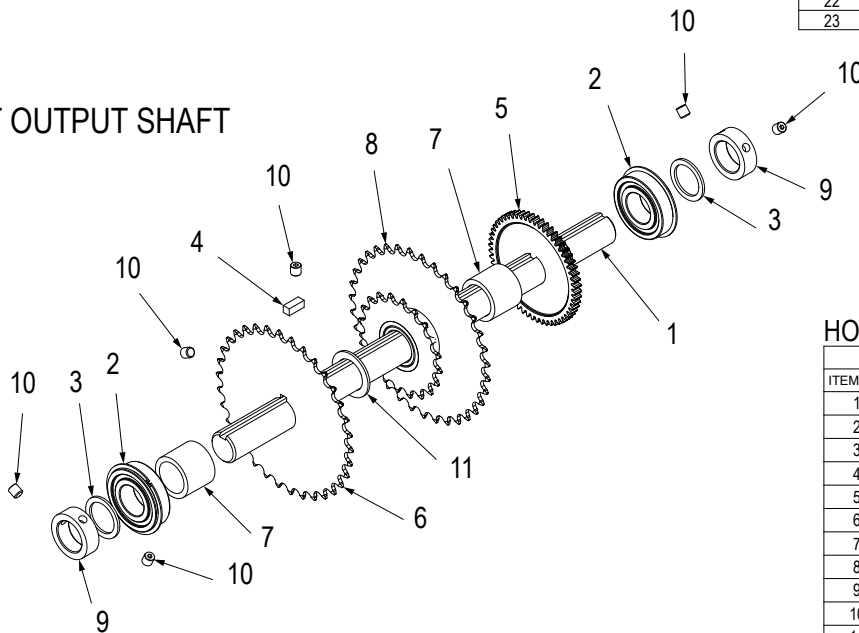
HOIST CLUTCH SHAFT



HOIST CLUTCH SHAFT - 113108.0001

| BILL OF MATERIAL | | |
|------------------|-------------|-------------------------------------|
| ITEM NO. | PART NO. | DESCRIPTION |
| 1 | 113208-0001 | SHAFT, CLUTCH, HOIST, MZ |
| 2 | 075193-0000 | LINING, CLUTCH |
| 3 | 086649-0029 | WASHER, THRUST, .64 |
| 4 | 075197-0000 | SPRING, CLUTCH |
| 5 | 110472-0001 | NUT, HEX, SLOTTED, 5/8-11 |
| 6 | 080401-0624 | PIN, COTTER, 3/16 X 1 1/2 L |
| 7 | 110813-0001 | BEARING, .625 ID |
| 8 | 110819-0001 | WASHER, PLAIN, .651 ID |
| 9 | 080415-0021 | RING, RTNG, EXT, "E", STL, 5/8" SFT |
| 10 | 110881-0001 | PIN, DOWEL, .188 X 1.13/1.00 |
| 11 | 110818-0001 | WASHER, WAVE SPRING, .650 ID |
| 12 | 111037-0001 | DISC, CLUTCH |
| 13 | 113185-0001 | SPRKT, 9T, 410 |
| 14 | 113031-0001 | PULLEY, CLUTCH, MZ |
| 15 | 110313-0010 | PIN, SPRING, .250 DIA X 2.00 |
| 16 | 112389-0001 | SPRING, .796 OD X 1.50 LG. |
| 17 | 110313-0003 | PIN, SPRING, .188 DIA X 1.13 |
| 18 | 108015-0001 | DISC, CLUTCH - MOVABLE |
| 19 | 110411-0001 | CHAIN GUARD ASSY |
| 20 | 110872-0001 | HANDWHEEL, STANDARD CHAIN |
| 21 | 110391-0001 | WASHER, SPACER, CLUTCH SHAFT |
| 22 | 113130-0001 | SPRKT ASSY, 34T-20T, 5/8 ID |
| 23 | 113041-0001 | SPACER, 5/8" SFT, CLUTCH, DC |

HOIST OUTPUT SHAFT



HOIST OUTPUT SHAFT - 113109-0001

| BILL OF MATERIAL | | |
|------------------|-------------|---------------------------------------|
| ITEM NO. | PART NO. | DESCRIPTION |
| 1 | 110644-0001 | SHAFT, OUTPUT, 1.00 DIA, SDMT |
| 2 | 110694-0001 | BEARING, 1.000 ID |
| 3 | 110819-0002 | WASHER, PLAIN 1.026 ID |
| 4 | 080340-0078 | KEY, STD, SQ, 1/4 X 5/8 |
| 5 | 111074-0001 | GEAR, LIMIT, 56T, SIDEMOUNT |
| 6 | 113026-0001 | SPRKT,34T,410 |
| 7 | 113040-0001 | SPACER, 1", OUTPUT |
| 8 | 113131-0001 | SPRKT ASSY, 35T-20T |
| 9 | 112884-0001 | COLLAR, SET, 1"ID, W/ SSCR |
| 10 | 080300-2005 | SCR, SET, SCH, KNRLD, 5/16-18 X 5/16L |
| 11 | 110393-0001 | WASHER, SPACER, OUTPUT SHAFT |

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-J & RMZ-H 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 Hoist/Jackshaft 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.

Seller's sole obligation under this warranty is specifically limited to repairing or replacing, at its 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.

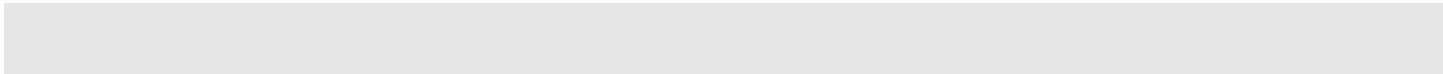
IN NO EVENT SHALL OVERHEAD DOOR CORPORATION BE RESPONSIBLE FOR, OR LIABLE TO ANYONE FOR, SPECIAL, INDIRECT, COLLATERAL, PUNITIVE, INCIDENTAL OR CONSEQUENTIAL DAMAGES, even if Overhead Door Corporation has been advised of the possibility of such damages. Such excluded damages include, but are not limited 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.





The Genuine. The Original.



**Overhead Door Corporation
1 Door Drive, Mount Hope OH. 44660
1-800-929-3667**

www.overheaddoor.com