

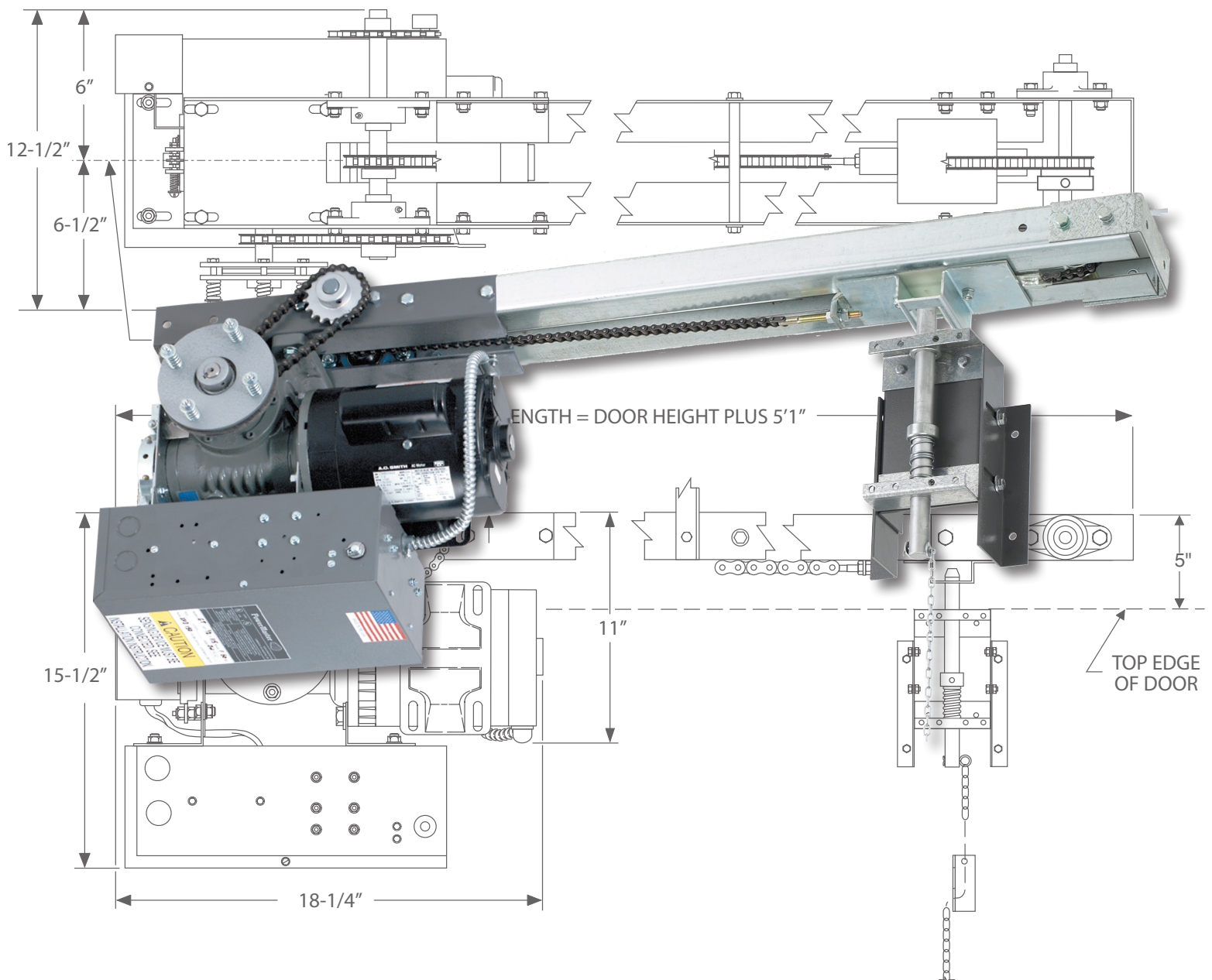


INSTALLATION AND OWNER'S MANUAL

MODEL GSL

Gearhead Slide Door Operator

UL 325 and UL 991 Listed



Serial #:

Date Installed:

Your Dealer:

READ THIS MANUAL CAREFULLY
BEFORE INSTALLATION OR USE.
SAVE THESE INSTRUCTIONS.



As of date of manufacture,
meets all ANSI/UL 325
Safety Requirements for
Vehicular door operators.

Table of Contents

Model GSL Gearhead Slide Door Operator

Product Features3

Preparation..... 4-9

 Component Identification5

 Important Installation Notes (Things to do Before & During Installation).....6

 Installation Instructions7

 Rail/Chain Assembly Instructions 7-8

 Operator Assembly Instructions9-11

Operator Installation 11-18

 Chain Routing..... 11

 Hanger Installation12

 Hanger Layout 14

 Mounting Disconnect Assembly 15

 Setting the Limit Switches16

 Electrical Wiring Instructions17

 Accepted Safety Equipment.....18

Operation and Adjustment Instructions 20-22

 Clutch Adjustment20

 Brake Adjustment21

 Fire Door Disconnect Installation22

 Testing24

Maintenance25

Trouble Shooting Chart26

Warranty29

READ THESE STATEMENTS CAREFULLY

AND FOLLOW THE INSTRUCTIONS CLOSELY

The Warning and Caution boxes throughout this manual are there to protect you and your equipment. Pay close attention to these boxes as you follow the manual.



WARNING

Indicates a Mechanical hazard of injury or death. Gives instructions to avoid the hazard.



CAUTION

Indicates a Mechanical hazard of damage to your operator or equipment. Gives instructions to avoid the hazard.



WARNING

Indicates an electrical hazard of injury or death. Gives instructions to avoid the hazard.



CAUTION

Indicates an electrical hazard of damage to your operator or equipment. Gives instructions to avoid the hazard.

PRODUCT FEATURES

The purpose of this booklet is to provide assembly, installation, and operation information concerning PowerMaster Model GSL Commercial Slide Door Operators and related Accessory Products.

NOTE: IT IS IMPORTANT THAT THIS INSTRUCTION MANUAL BE READ AND UNDERSTOOD COMPLETELY BEFORE INSTALLATION OR OPERATION IS ATTEMPTED. IT IS INTENDED THAT THE INSTALLATION OF THIS UNIT WILL BE DONE ONLY BY PERSONS TRAINED AND QUALIFIED IN THE INSTALLATION, ADJUSTMENT, AND SERVICE OF COMMERCIAL DOORS AND DOOR OPERATORS, AND BY QUALIFIED ELECTRICIANS.

The important safeguards and instructions in this manual cannot cover all possible conditions and situations which may occur during its use. It must be understood that common sense and caution be exercised by the person(s) installing, maintaining, and operating the equipment described herein.

Do not use this equipment for any purpose other than its intended use: the operation of an commercial vehicular slide door.

STANDARD FEATURES:

Limit Switches: Rotary limit switches, easily adjusted over a wide range. The motor may be removed without affecting the limit switch adjustments.

Manual Release: Permits manual operation of the door in the event of a power failure. The Model GSL Operator is equipped with a door arm disconnect to aid in manual operation. Use of this feature will not affect the limit switch adjustment.

Control circuit: Standard 3-button open, close, and stop. 24 Volts AC.

Connections for Auxiliary Entrapment Protection Devices: Use with reversing door edge components or a photoelectric beam device across the opening.

Constant pressure to close: Standard operation.

MODEL GSL OPERATOR APPLICATIONS:

Slide Door operators are intended for commercial and industrial use on sliding doors which use horizontal track. A drawbar operator - when properly installed - will effectively lock the door in the closed position.

Model GSL Slide Door operators are used in the following applications:

- Continuous Duty, Indoor Commercial installations only
- For doors that require 1/2HP to 1-1/2HP motors using single or 3-phase power.

OPTIONAL FEATURES:

Digital Radio Controls: Open, Close and Stop operation. Radio units are available to control multiple doors from one transmitter.

Keyless Entry System: Connection terminals provided for hard wired or wireless keyless entry systems.

PREPARATION

**WARNING**

ELECTRIC DOOR OPERATORS ARE DESIGNED FOR DOORS IN GOOD WORKING CONDITION: PROPERLY OPERATING, PROPERLY COUNTERBALANCED, AND PROPERLY ADJUSTED IN ACCORDANCE WITH THE DOOR MANUFACTURER’S INSTALLATION INSTRUCTIONS.

Before starting the installation of the operator, the door must be in good working condition, properly operating, and be properly counterbalanced. Inspect the door and track for loose or missing hardware. Test the door manually for balance and ease of operation. Lubricate door hinges and rollers. If necessary, employ a qualified technician to adjust the springs for proper counterbalance of the door.

Before removing the operator powerhead from the shipping carton, inspect the nameplate on the cover of the operator control box to verify that it is the correct model for the intended application, and that the voltage and phase are in accordance with electrical power provided at the job site. The rails are shipped separately from the powerhead.

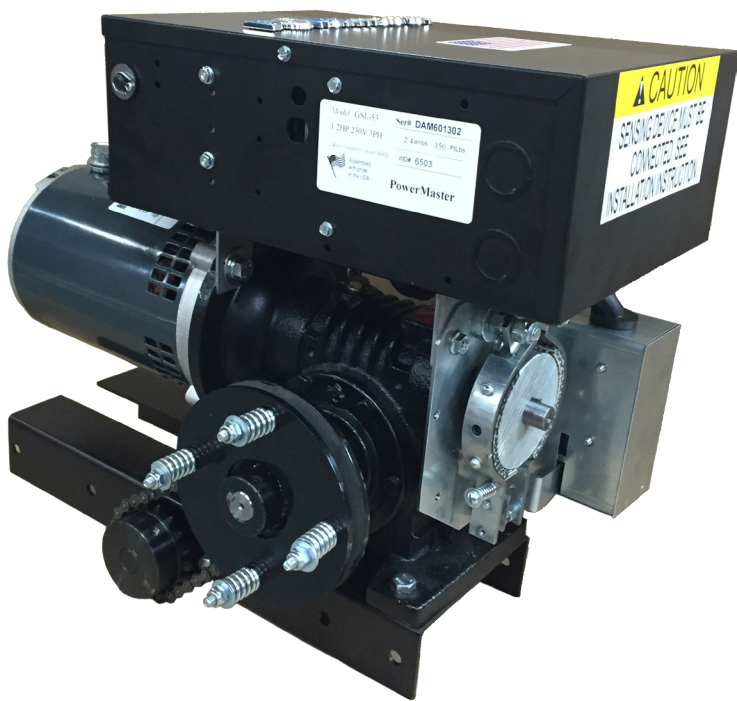
**WARNING**

SPRINGS ARE SUBJECT TO VERY HIGH FORCES AT ALL TIMES. ADJUSTMENTS ARE TO BE MADE BY QUALIFIED PROFESSIONAL DOOR INSTALLER ONLY.

**WARNING**

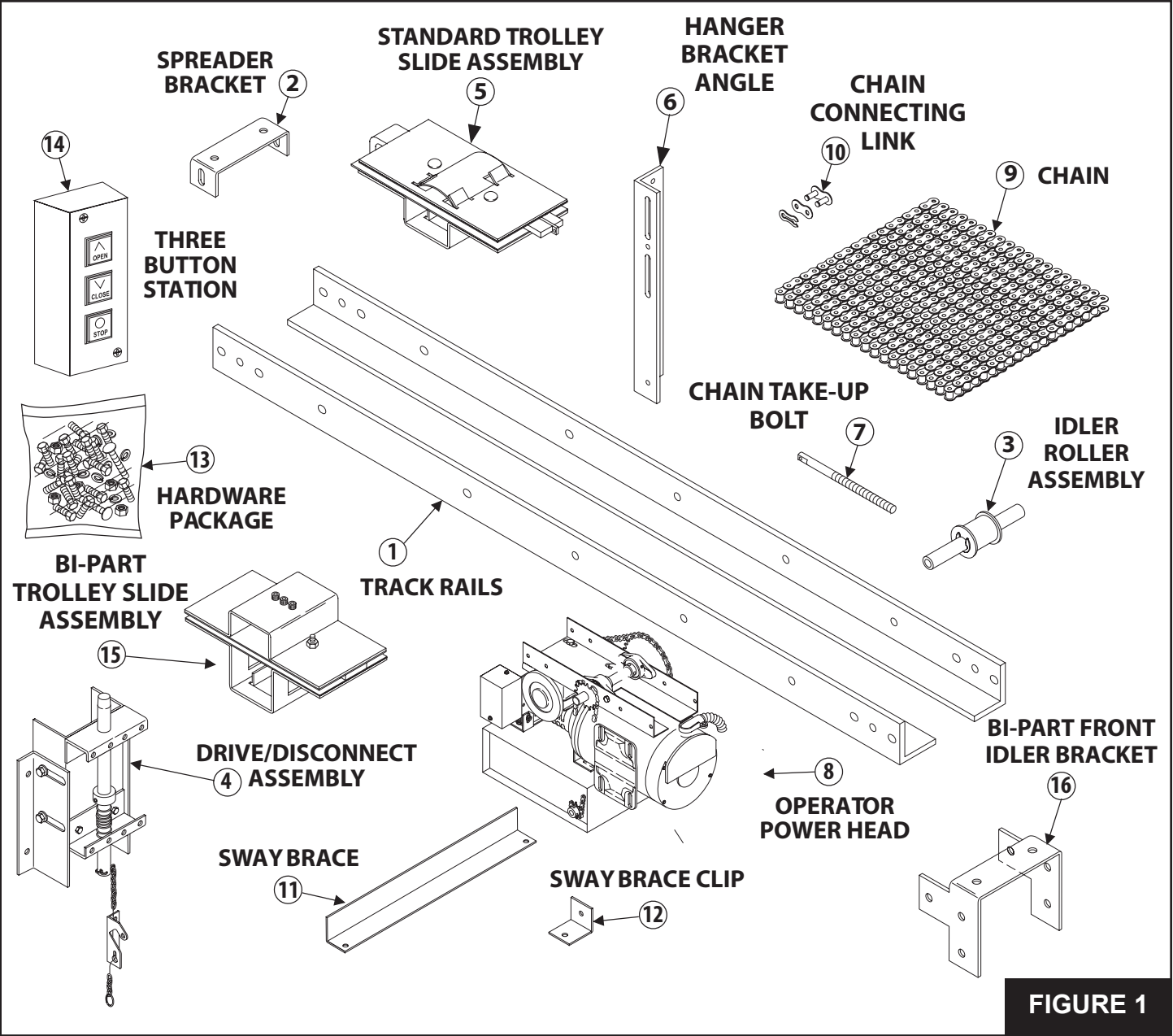
REMOVE OR DISABLE ANY LOCKING DEVICES FROM DOOR. REMOVE ALL ROPES.

Warning: Rope off the area to keep personnel and vehicles clear of the door and floor space in the vicinity of the operator during the installation.



GSL POWER HEAD

COMPONENT IDENTIFICATION



COMPONENT IDENTIFICATION LISTING

Item#	Description	Quantity
1	Track Rails	2
2	Spreader Bracket(s)	As reqd.
3	Idler Roller Assembly (2 for Bi-part)	1
4	Drive/disc. Assembly (2 for Bi-part)	1
5	Trolley Assembly (standard)	1
6	Hanger Bracket Angle	As reqd.
7	Chain Take-Up Bolt	1
8	Operator Power Head	1
9	Drive Chain	1
10	Chain Connecting Link	2
11	Sway Brace	1
12	Sway Brace Clip	1
13	Hardware Package	1
14	3 Button Station	1
15	Trolley Assembly (Bi-Part)	1
16	Bi-Part Front Idler Bracket	1

IMPORTANT INSTALLATION NOTES



WARNING

TO REDUCE THE RISK OF SEVERE INJURY OR DEATH, READ & FOLLOW ALL INSTALLATION INSTRUCTIONS!

- Install only on a properly operating Slide Door. An improperly operating door could cause severe injury. Have a qualified service person make repairs to cables, spring assemblies, and other hardware before installing the opener.
- Remove all ropes, and remove or make inoperative all locks that are connected to the garage door before installing the opener (unless mechanically and/or electrically interlocked to the power unit).
- Lightweight doors (fiberglass, aluminum etc.) must be reinforced to avoid door damage. Check the door manufacturer's instruction manual for a bracing procedure or the availability of a Reinforcement Kit.
- PowerMaster Model GSL Slide Door operators are for Commercial Vehicular Slide Doors, and as such, are NOT recommended for pedestrian traffic. In installations where it is known that the pedestrians will be nearby, ensure a pedestrian door is available for entrance and exit to the building. In addition, YOU MUST install an auxiliary entrapment protection device that is UL recognized and has been tested for use with this unit (such as a reversing door edge or photoelectric beam device) as part of the complete operator system.
- Connect an auxiliary entrapment protection device (reversing edge or photoelectric device across the door opening). A device of this type is **STRONGLY ADVISED FOR ALL** commercial operator installations. An auxiliary entrapment protection device is **REQUIRED** when the three button control station is out of sight of the door or any other automatic or manual control is used.
- Install the opener at least 8 feet or more above the floor.
- Do not connect the opener to the source of power until instructed to do so.
- Locate the control station:
 - a. Within sight of the door;
 - b. At a minimum height of 5 feet above the floor so small children cannot reach it; and
 - c. Away from the door, so the user is prevented from coming in contact with the door while operating the controls.
- Do not overtighten the clutch adjustment to compensate for a poorly working door.
- Securely attach any WARNING signs or placards to either the door or above the control station as directed.
- After installing the opener, all safety features must be tested for proper operation.

INSTALLATION INSTRUCTIONS

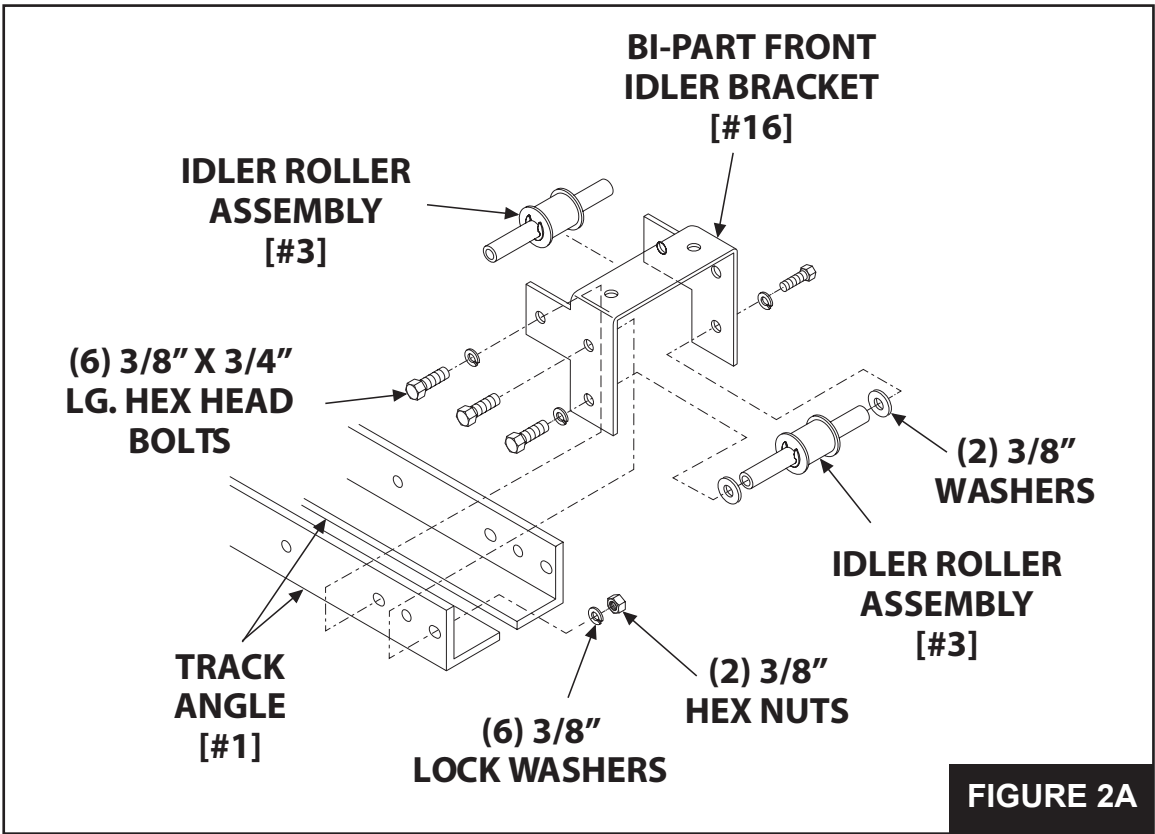
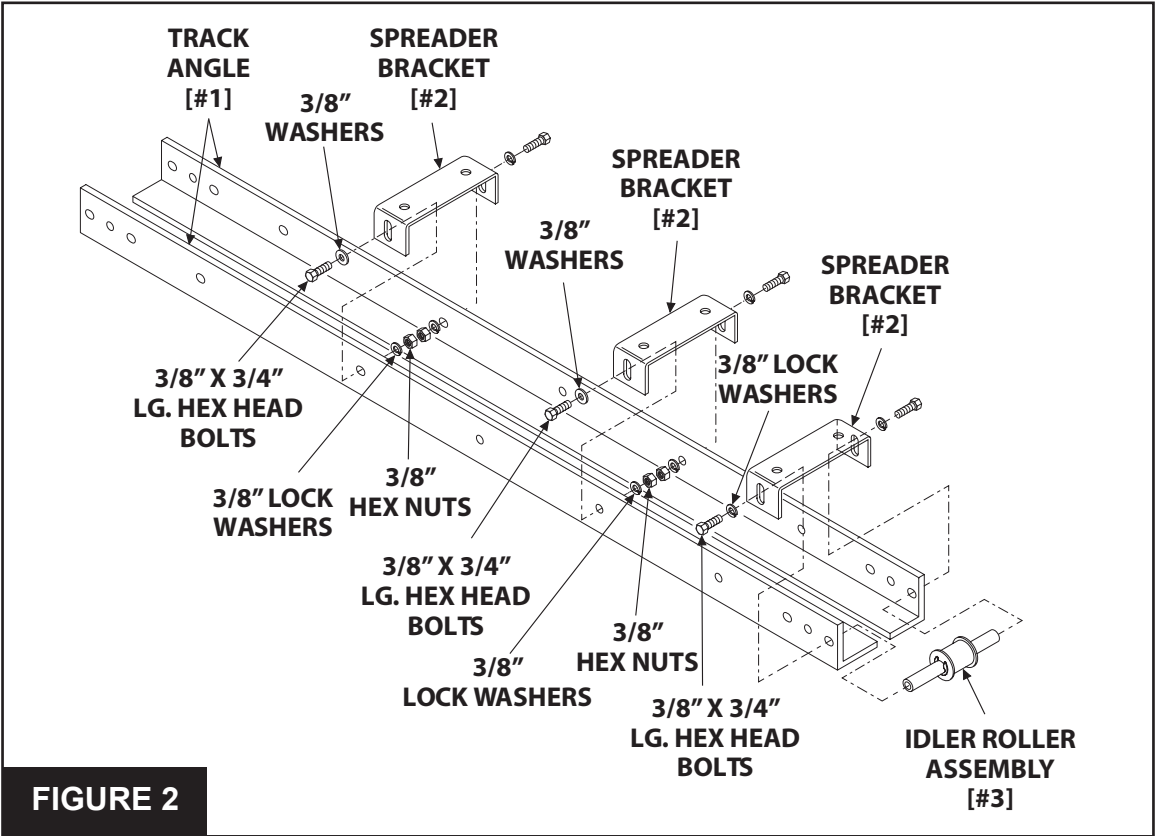


SPRINGS, PULLEYS, CABLES AND MOUNTING HARDWARE USED TO BALANCE YOUR GARAGE DOOR ARE UNDER EXTREME TENSION AT ALL TIMES AND CAN CAUSE SEVERE INJURY OR DEATH IF DISTURBED. DO NOT ATTEMPT ADJUSTMENT.

RAIL/CHAIN ASSEMBLY

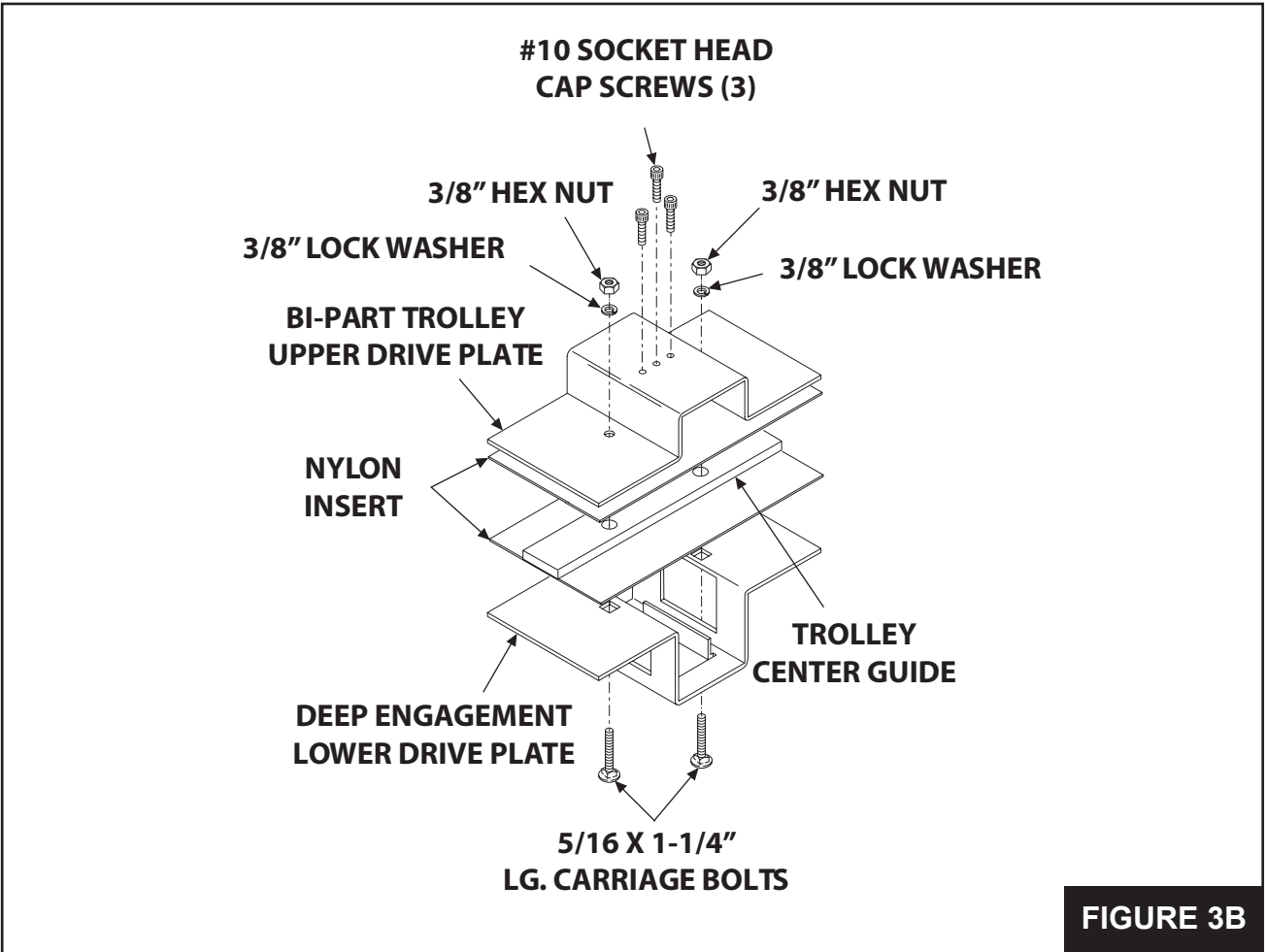
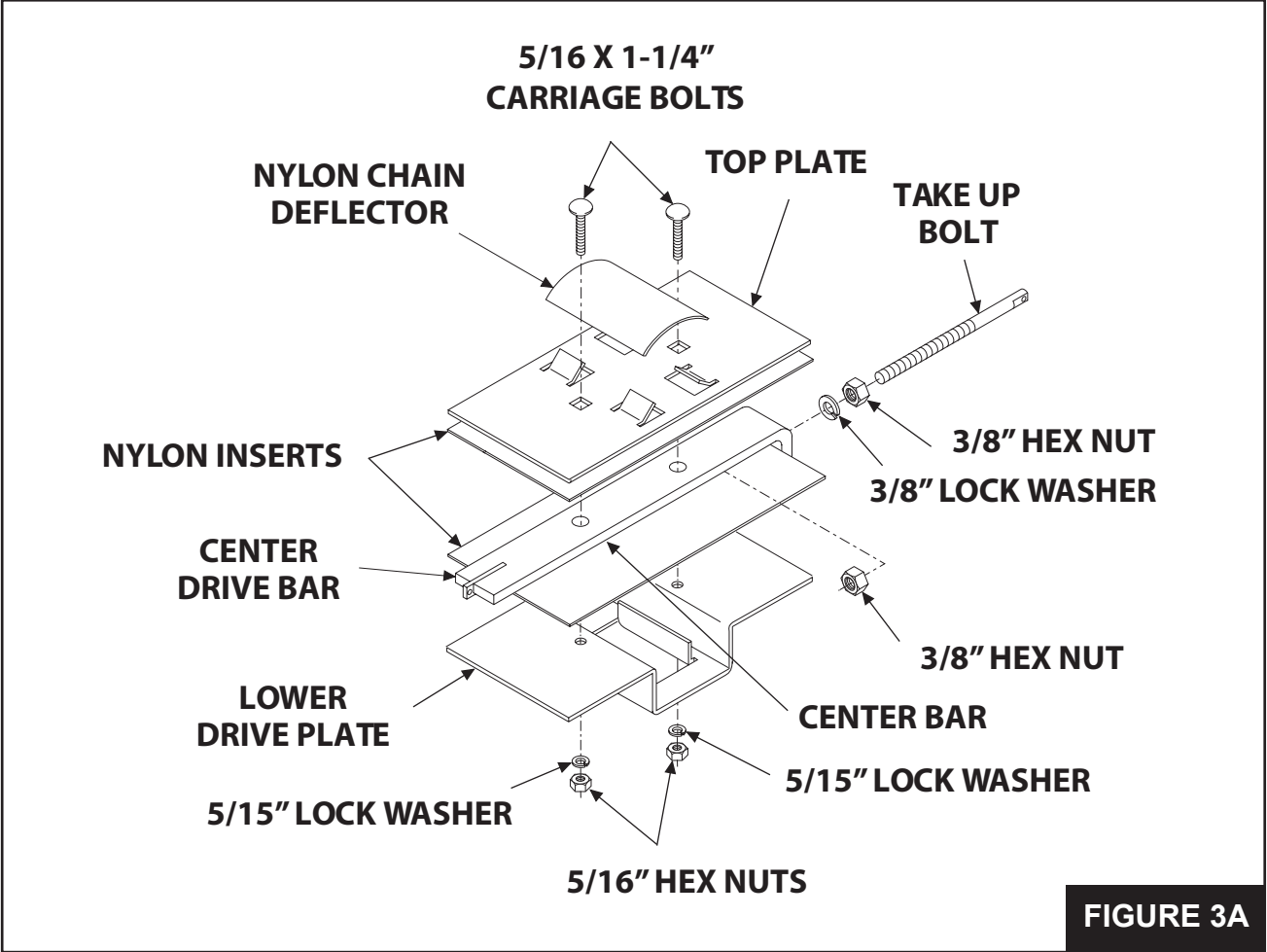
TRACK ASSEMBLY

1. Lay Track Angles [#1] on work surface as shown in **Figure 2**.
2. Install Track Spreader Brackets [#2] and Front Idler Roller Assembly [#3] to one end of track using 3/8 x 3/4 long hex head bolts and 3/8 lock washers, as shown in **Figure 2**.



SLIDE ASSEMBLY

- 1. Assemble Top Plate, Lower Drive Plate, Center Drive Bar and two Nylon Inserts using two 5/16 x 1-1/4 carriage bolts, two 5/16 Lock Washers and two 5/16 Hex Nuts as shown in **Figure 3**.
- 2. Install 3/8 Chain Take-up Bolt into Slide Assembly using one 3/8 Lock Washer and two 3/8 Hex Nuts as shown in **Figure 3A**. DO NOT TIGHTEN NUTS!
- 3. For Bi-Part Slide Assembly, see **Figure 3B**.



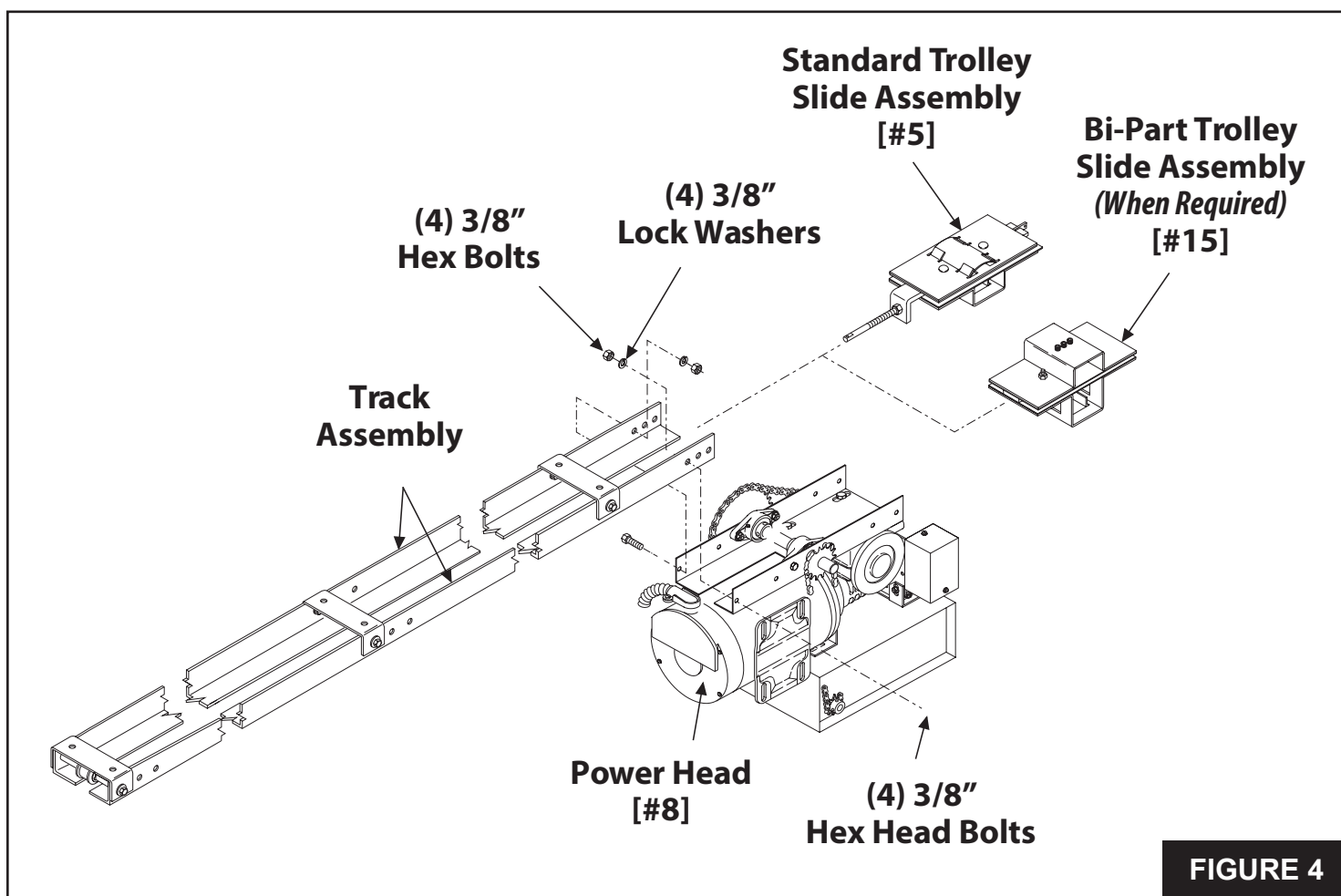


FIGURE 4

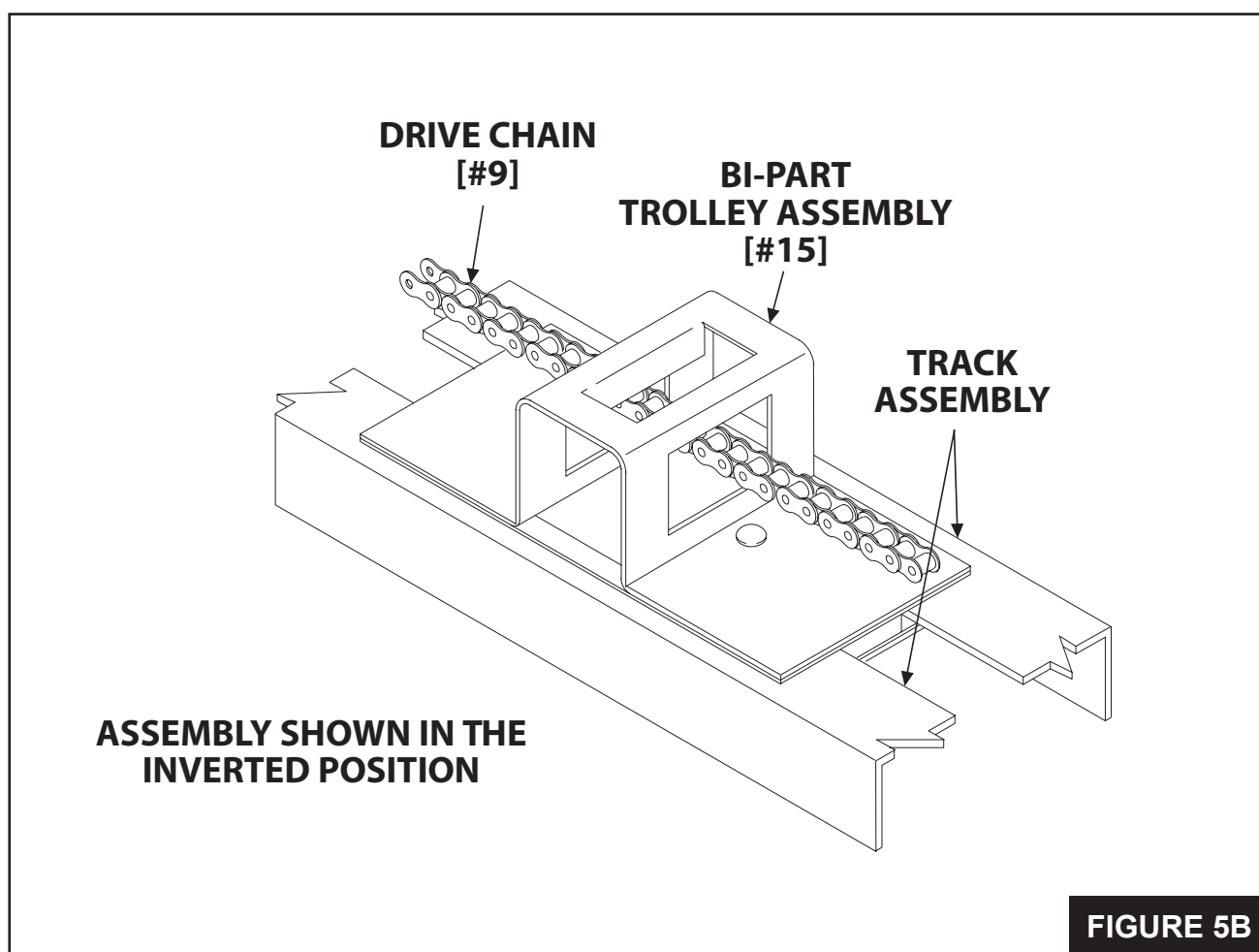
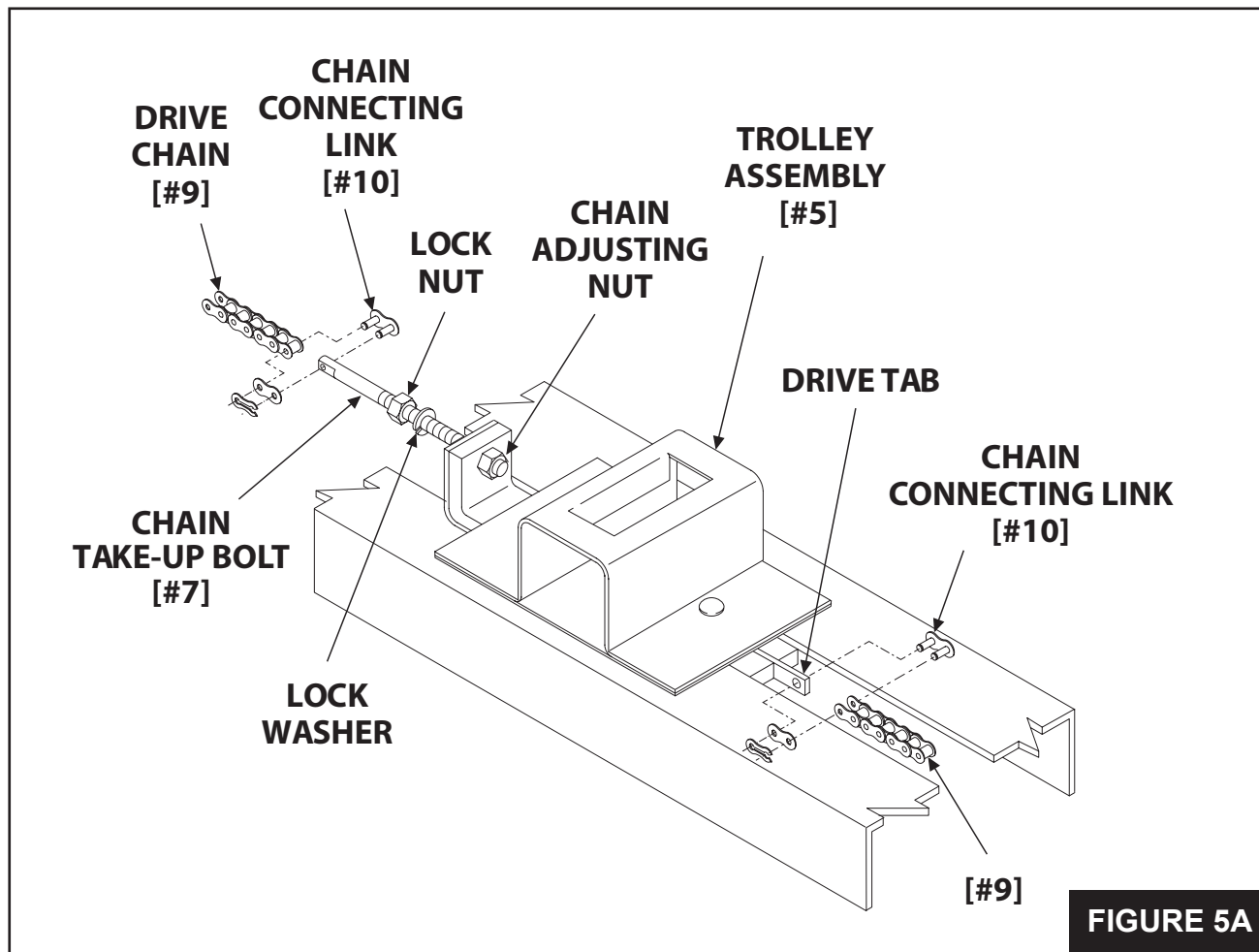
OPERATOR ASSEMBLY

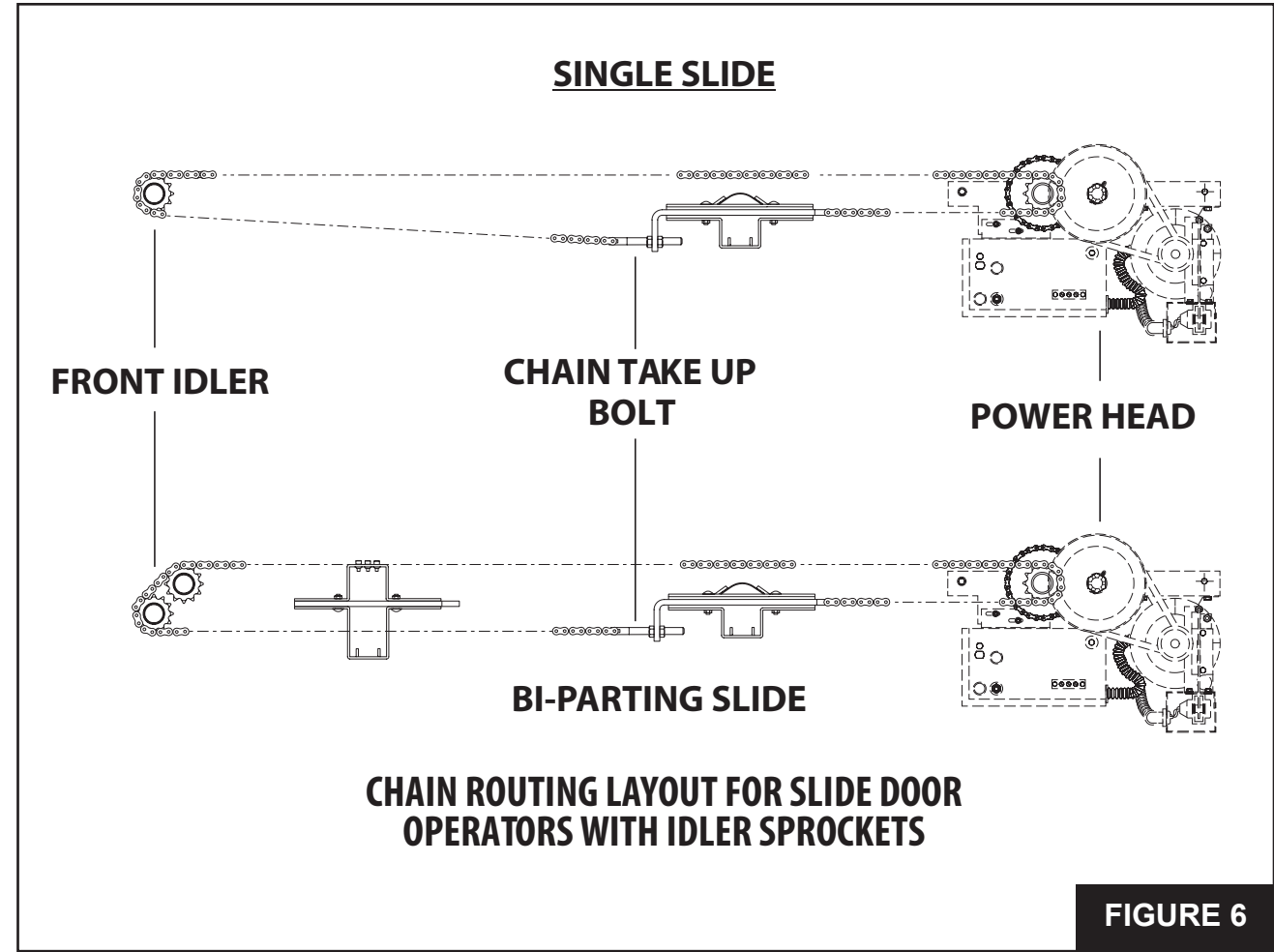
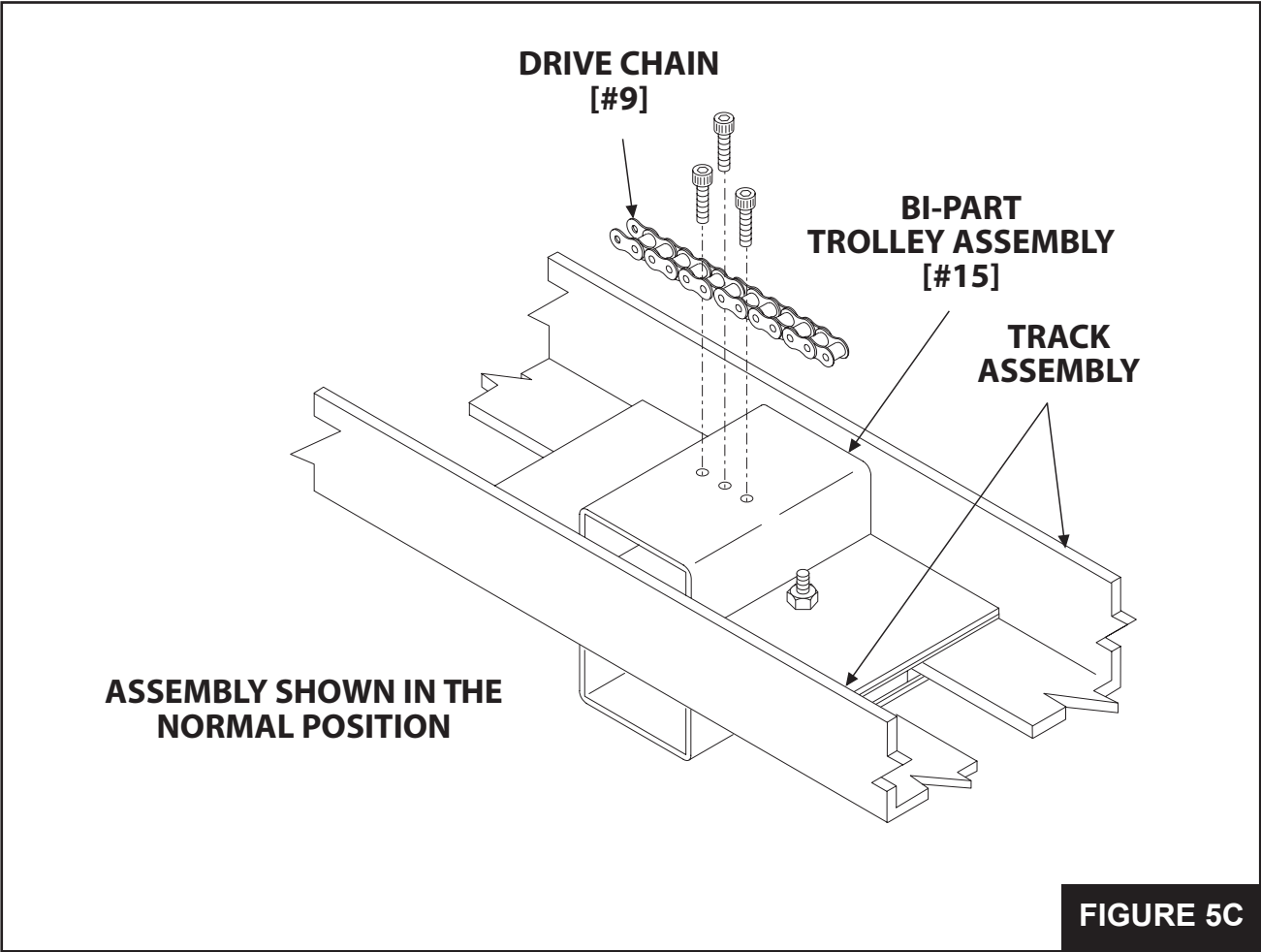
1. Install Trolley Slide Assembly on Track Assembly with Chain Take-up Bolt [#7] pointing away from end of track where Power Head [#8] will be mounted as shown in **Figure 4**.
NOTE: If Bi-Part installation, slide Bi-Part trolley slide on first.
2. Mount Power Head to Track Assembly using four 3/8 x 3/4 Long Hex Head Bolts, four 3/8 Lock Washers and four 3/8 Hex Nuts, as shown in **Figure 4**.
3. Turn operator assembly over and back off Chain Adjustment Nut to the end of the threads on Chain Take-up Bolt [#7]. See **Figure 5**.
4. Lay out Drive Chain [#9] next to operator assembly work surface.
5. Thread one end of the Operator Drive Chain around Operator Drive Sprocket and connect to the Drive Tab on the Trolley Slide Assembly with a Chain Connecting Link. See **Figure 5A** and **Figure 6**.
6. Thread the other end of the Drive Chain [#9] around the Idler Roller Assembly [#3]. See **Figure 6**.
7. Pull Drive Chain [#9] tight up to Trolley Traveler Assembly. Mark the link that lines up with the hole on the chain take up bolt on Slide Assembly on Traveler Assembly and cut Drive Chain to length.
NOTE: If installing a bi-part operator, Drive Chain [#9] must pass through Bi-Part Slide Assembly [#15] before being connected to Chain Take Up Bolt [#7] on Standard Slide Assembly [#5]. See **Figure 5B** and **Figure 6**.
8. Attach cut end of Drive Chain [#9] to Drive Tab on Trolley Traveler Assembly with a Chain Connecting Link. See **Figure 5A**.
9. Adjust chain tension using Chain Adjusting Nut to remove excess slack. See **Figure 5A**.

10. Lock in adjustment using Lock Washer and Lock Nut on Chain Take-up Bolt. See **Figure 5A**.

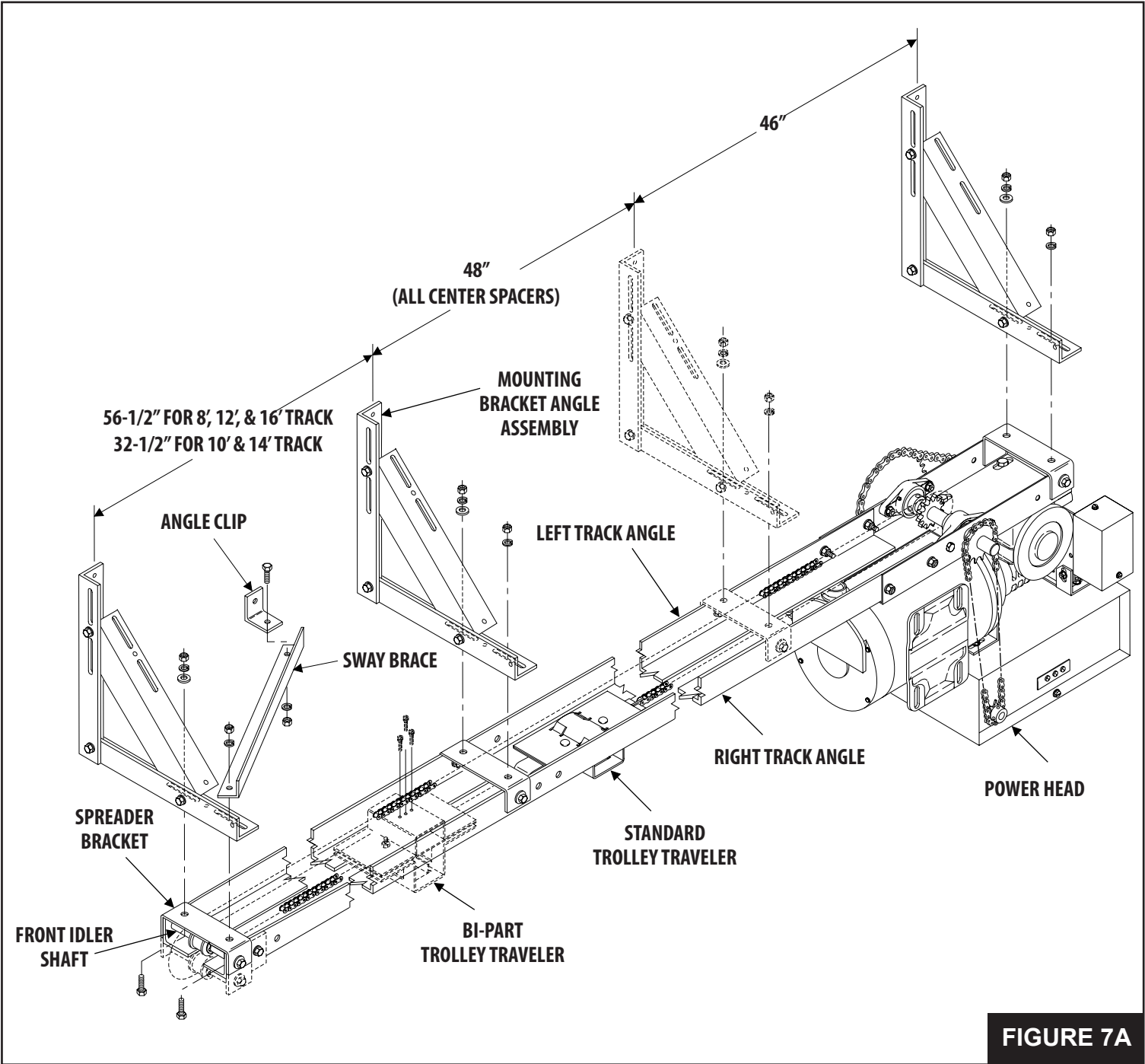
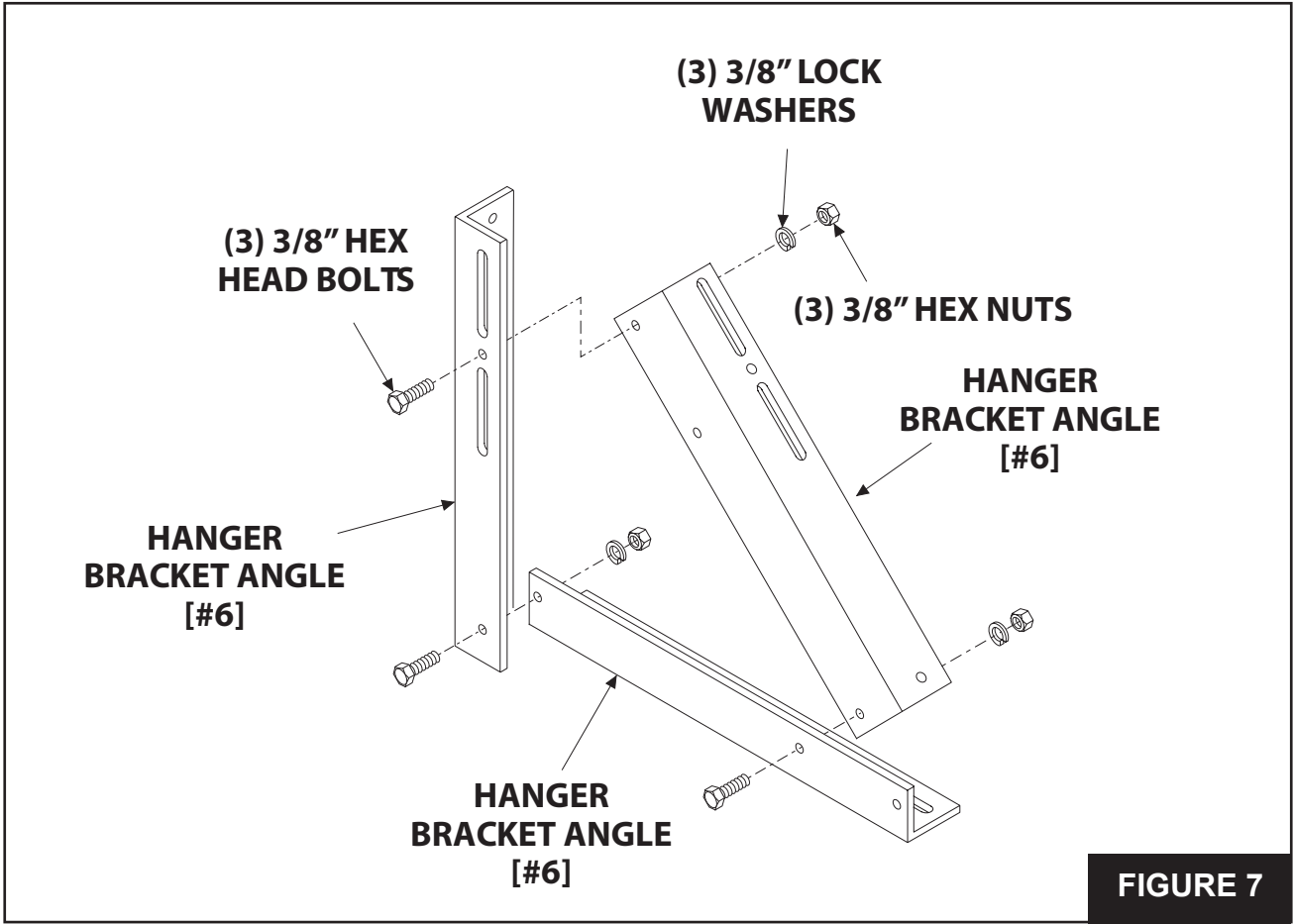
NOTE: Leave Bi-part slider carriage free at this time.

11. Bolt the hanger bracket angles together as shown in **Figure 7** to form mounting brackets. Attach the mounting brackets to the track spreader brackets using the 3/8" bolts, lock washers and nuts (See **Figure 7A**). Do not tighten as the distance from the wall to the track will have to be adjusted later.





HANGER INSTALLATION





TO AVOID DAMAGE TO DOOR AND OPERATOR, ENSURE ALL DOOR LOCKS ARE DISABLED. USE AN INTERLOCK SWITCH IF A LOCK IS REQUIRED TO RETAIN FUNCTIONALITY.

1. For single slide doors sliding right to open, locate first angle mounting bracket 9" to the left of the opening. For doors sliding left to open, locate first angle mounting bracket 9" to the right of the opening (See **Figure 8**).

NOTE: For bi-parting doors, this measurement is 15". See **Figure 9**.

2. Set the assembled operator into position and mark the holes for the angle mounting brackets on the wall, as low as possible without interfering with door travel (See **Figure 10**). Drill holes in the wall for mounting. Through bolts are recommended for this purpose. If wall construction does not permit the use of through bolts, lag bolts and shields may be used.
3. Secure the assembled operator to the wall. IMPORTANT: BE SURE THE OPERATOR TRACK AND DOOR TRACK ARE PARALLEL. Check that the door clears the power head when moving. Adjust the track location on the mounting brackets to the desired position and tighten all the bolts. It is recommended that at least one sway brace be used between the wall and one of the track hangers for increased rigidity - especially on large or heavy doors. See **Figure 7A**.
4. Mount the disconnect mechanism so that the top of the bracket is no more than 2" below the slider carriage (See **Figures 8, 10, 11**). This mechanism may be adjusted both front and back and up and down to align the disconnect pin. It may be necessary to shim between the mechanism and the door to bring the pin out into the center line of the track.
NOTE: For Bi-parting doors, mount both door disconnect mechanisms (See **Figures 9, 10, 11**)
5. It is necessary on a bi-part installation to bring the doors to a fully closed position for proper synchronization. With both disconnect pins engaged in their respective carriages, connect the drive chain to the bi-part slide assembly with the hardware provided (See **Figures 5C and 7**).
6. Install disconnect chain lock as shown in **Figure 11** so it will function as described in **Figure 12**.

HANGER LAYOUT RIGHT HAND OPERATOR

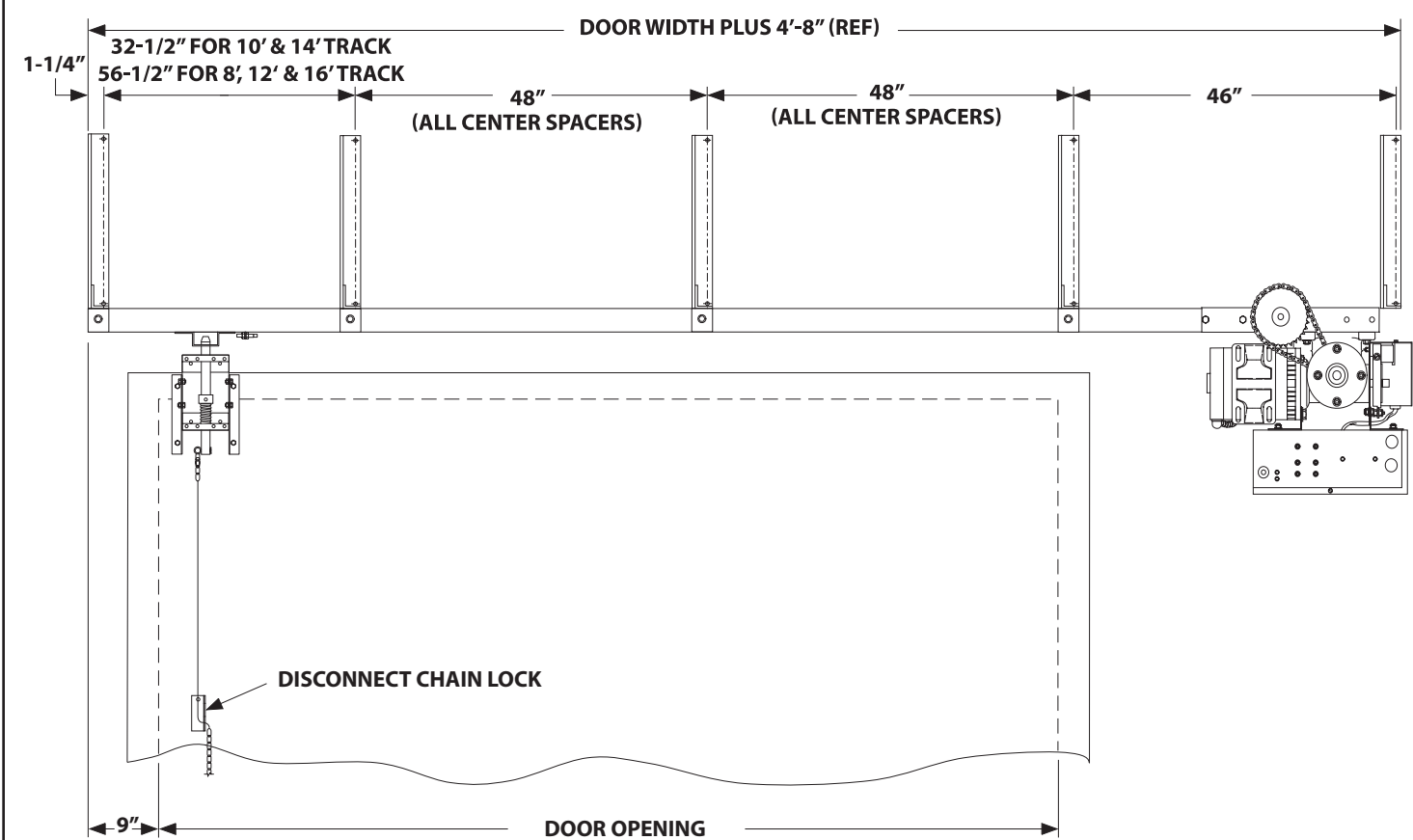


FIGURE 8

BI-PART INSTALLATION

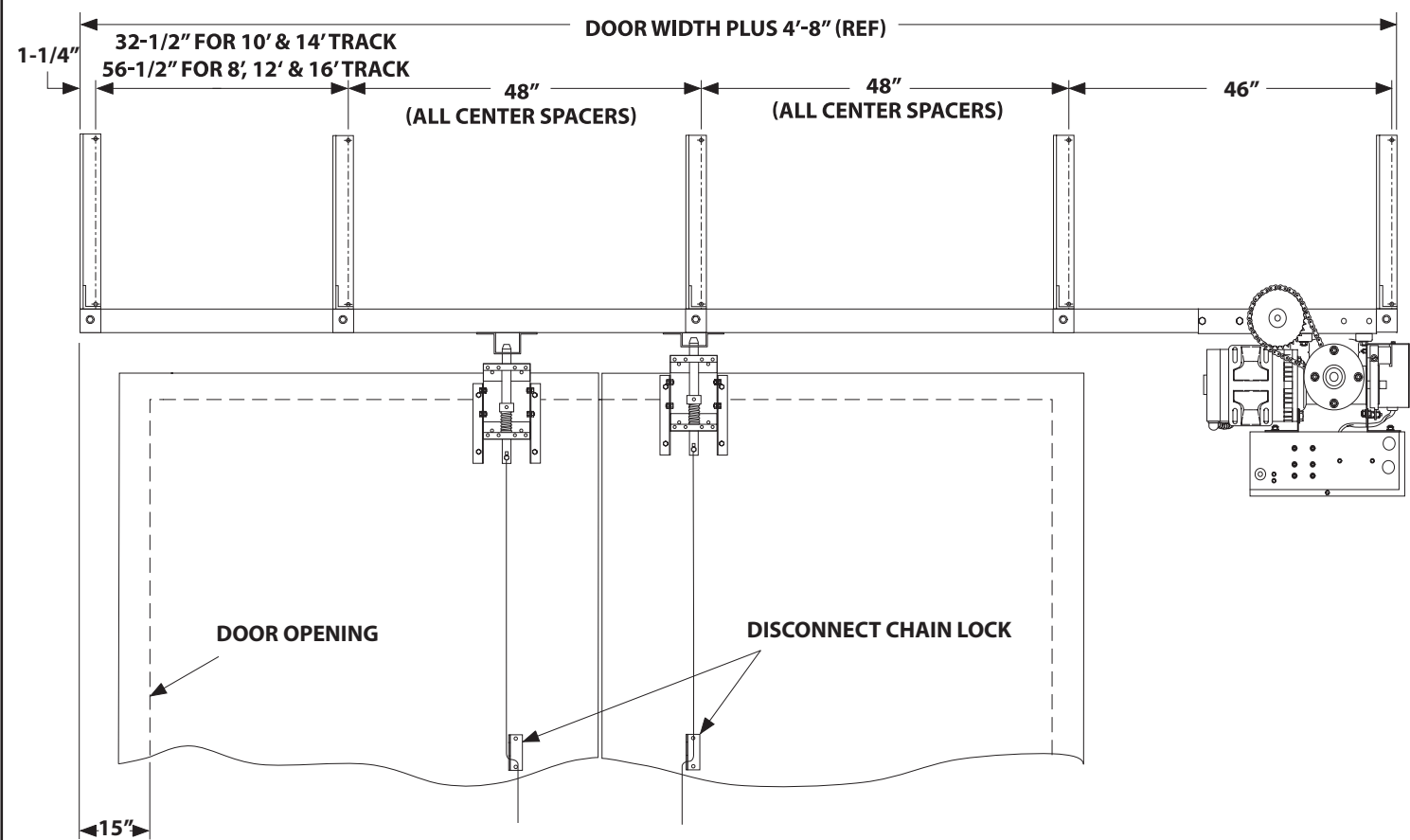
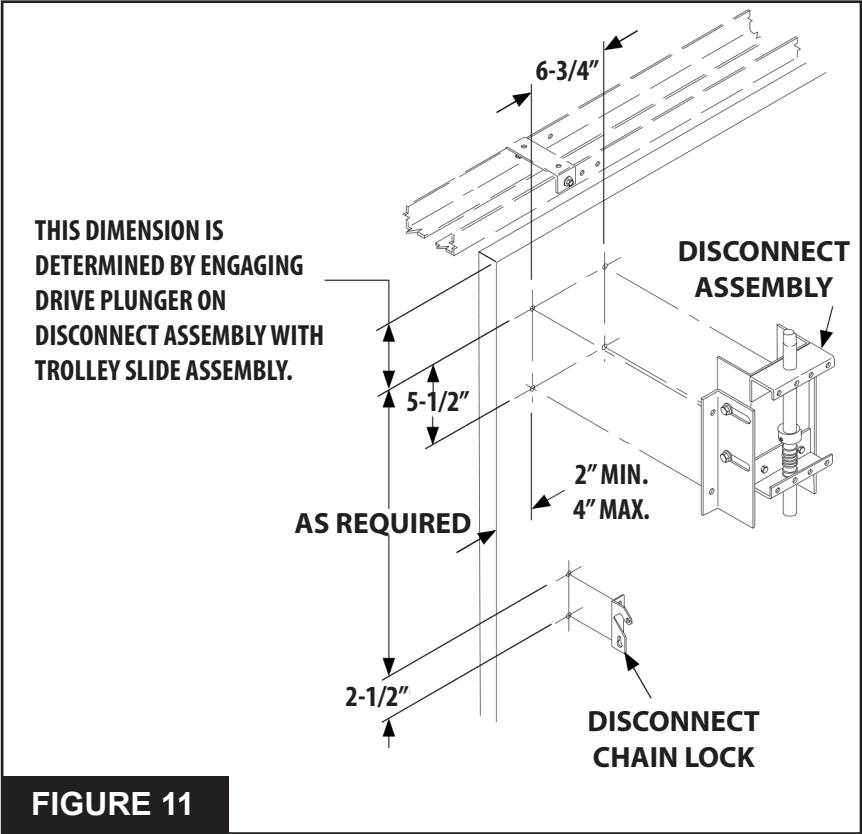
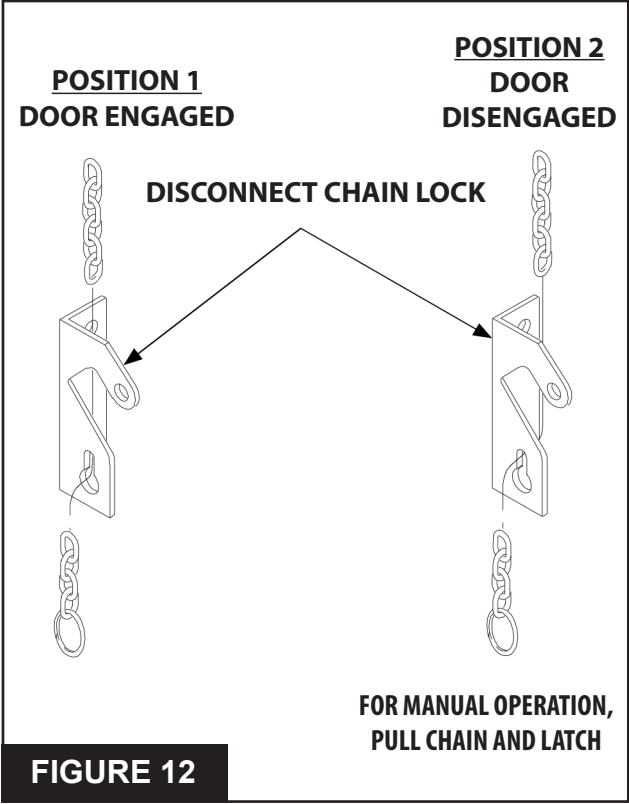
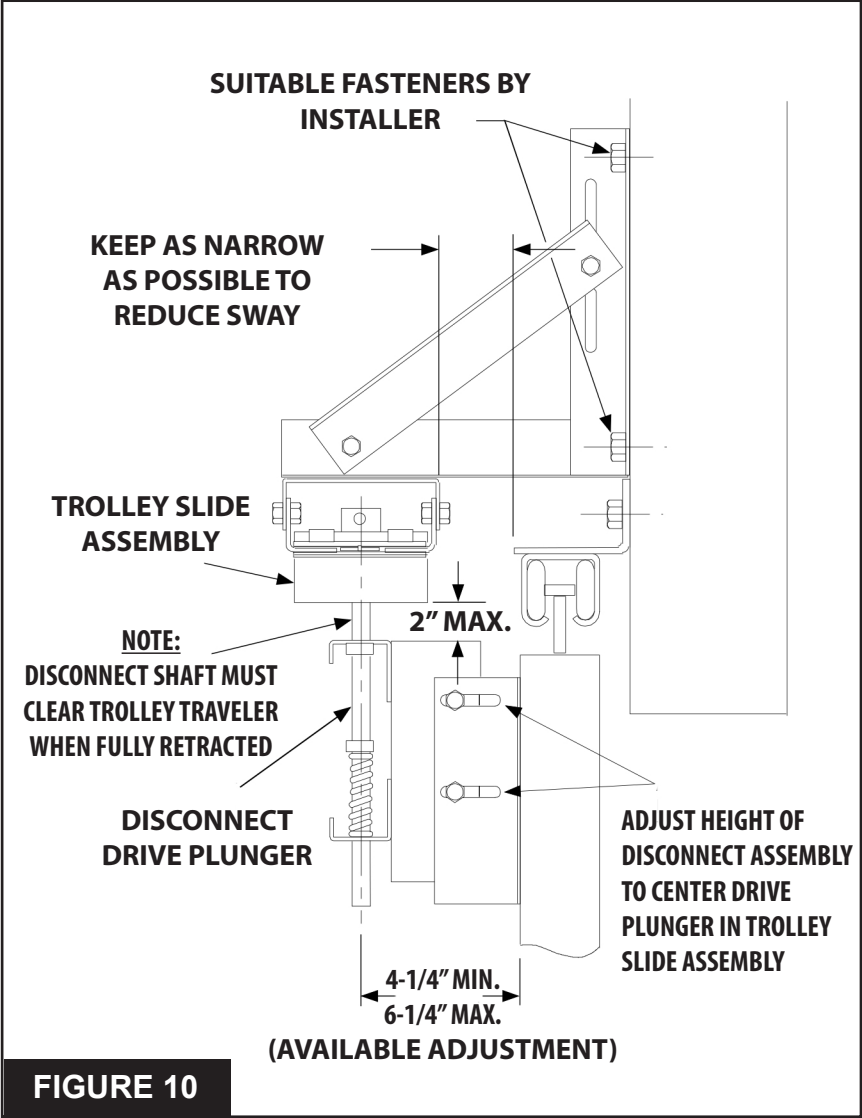


FIGURE 9





WARNING

TO AVOID RISK OF ENTRAPMENT AND POSSIBLE DAMAGE TO THE DOOR AND OPERATOR, THE LIMITS MUST BE ADJUSTED BEFORE APPLYING POWER TO THE OPERATOR.

SETTING THE LIMIT SWITCHES

1. Remove the cover on the electrical enclosure. There are two limit nuts on the threaded limit shaft that move laterally along the shaft as the operator opens and closes the door. When a limit nut nears the end of the shaft, it activates a (set of) switch(es). The *Open* Limit Switch is on the LEFT, and the *Close* Limit Switch is on the RIGHT. Auxiliary switches may also be present to control other function (They are mounted to a separate bracket and should not be confused with the *Open* and *Close* limit switches, which are mounted on the back of the electrical enclosure box and are somewhat hidden from view).
2. Manually set the door to a nearly closed position.
3. Refer to **Figure 8**. Depress the Limit Nut Retaining Bracket away from the slots in the limit nuts. Turn the Close Limit Nut on the shaft until it engages the Close Limit Switch. The switch will sound an audible “click” when engaged. If there are auxiliary switches present, the limit switch will be the second “click.” Release the Retaining Bracket and be sure that it engages in slots of both limit nuts.
4. Manually raise the door to a *Nearly Open* position, and repeat Step #3 with the Open Limit Nut and Switch.
5. If auxiliary switches are present, the limit nut will actuate them just prior to activating the Open or Close Limit Switch (This is pre-set at the factory).
6. Manually move the door to a half-open position to avoid door damage due to incorrect power supply phasing. On three-phase units, the door may initially run in the wrong direction when power is first applied. With the door in mid-position, there will be time to stop the door before damage can happen if incorrect phasing occurs.
7. A final limit adjustment will be necessary after the connection of the power supply in order to ensure the door stops in the proper *Open* and *Close* positions.

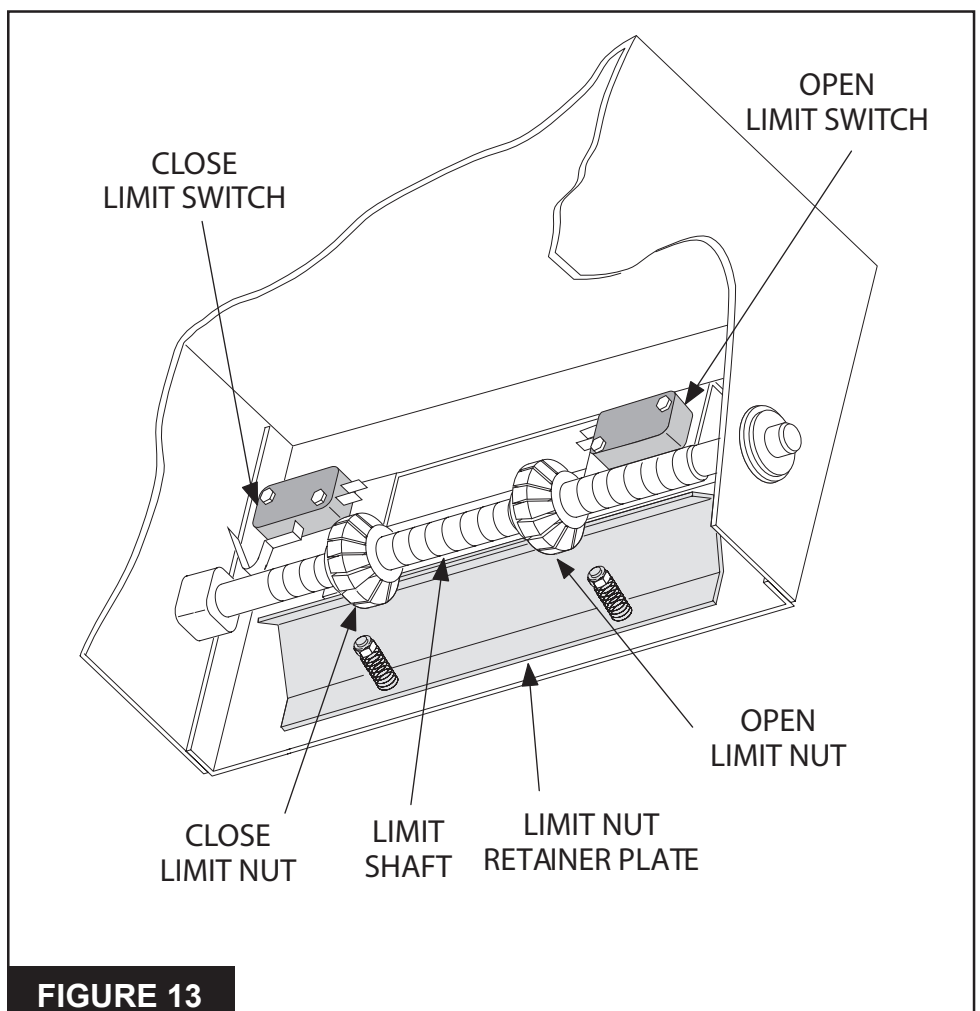


FIGURE 13

ELECTRICAL WIRING INSTRUCTIONS

NOTE: PowerMaster GSL operators have been designed and constructed for use with voltages from 115 Volts AC to 575 Volts AC, in single or three phase. Check the operator nameplate label on the control box cover for the proper voltage and phase. The application of an improper input voltage or phase will result in catastrophic failure to the internal electrical components. Observe local electrical codes when wiring the operator.

When hard wiring, observe state and local electrical codes. A wiring diagram is attached to the inside of the control box cover. Connect the appropriate voltage and phase power leads to the appropriate terminals as per the wiring diagram and connect a ground wire to the grounding screw. On three phase units, incorrect phasing of the power supply will cause the motor to rotate in the wrong direction (It will open when *Close* button is pushed and vice versa). To correct this, interchange any two of the incoming three phase conductors.

The wiring diagram attached inside the cover of the control box details all of the field wiring terminal connections for the operator. Always connect the wires to the push button controls and auxiliary devices exactly as shown.

Warning: Control voltage of the operator is 24 Volts AC, Class 2. Do not run the power leads and control circuit wiring in the same electrical conduit.

NOTE: All GSL operators are pre-wired to accept reversing edge components. To comply with UL requirements, one of these systems must be installed and wired to the operator.

For operator models not installed with reversing edge components or photoelectric device, ONLY ONE THREE BUTTON STATION OR A CONTROL WIRED FOR CONSTANT PRESSURE TO CLOSE MAY BE USED TO CONTROL THE OPERATOR. THIS IS TO COMPLY WITH UL SAFETY REQUIREMENTS. IN THIS CASE, THE CONTROL STATION MUST BE LOCATED WITHIN CLEAR SIGHT OF THE DOOR ADJACENT TO THE CONTROL STATION, THE WARNING PLACARD (INCLUDED WITH THE OPERATOR) MUST BE INSTALLED (**Figure 14**)

**WARNING**

TO PREVENT THE RISK OF PERSONAL INJURY OR DEATH:

- **DISCONNECT POWER AT THE FUSE BOX BEFORE PROCEEDING**
- **ELECTRICAL CONNECTIONS MUST BE MADE BY A QUALIFIED INDIVIDUAL**
- **OBSERVE LOCAL ELECTRICAL CODES WHEN WIRING THE OPERATOR**

**WARNING**

TO PREVENT THE RISK OF PERSONAL INJURY AND/OR DAMAGE TO DOOR OR PROPERTY, ONLY OPERATE DOOR CONTROL WHEN DOOR IS IN CLEAR VIEW. IF CONTROL STATION CANNOT BE LOCATED WHERE THE DOOR IS VISIBLE, OR IF ANY OTHER DEVICE IS USED TO CONTROL THE DOOR, AN AUXILIARY ENTRAPMENT DEVICE MUST BE CONNECTED TO THE UNIT.

WARNING: TO PREVENT ENTRAPMENT, DO NOT START DOOR DOWNWARD TRAVEL UNLESS DOORWAY IS CLEAR

FIGURE 14



WARNING

RISK OF ENTRAPMENT THAT MAY RESULT IN SERIOUS PERSONAL INJURY OR DEATH. DISCONNECT POWER TO THE OPENER BEFORE AND DURING INSTALLATION OF AN ACCESSORY, REVERSING DOOR EDGE OR PHOTOELECTRIC DEVICE. DO NOT RECONNECT POWER TO OPENER UNTIL INSTRUCTED TO DO SO. ENSURE DOORWAY IS CLEAR BEFORE STARTING TESTING OF UNIT.

ACCEPTED SAFETY EQUIPMENT

- Photoelectric safety sensors manufactured by Linear Corp.
- Door Edge Sensor and Interface Module manufactured by Miller Edge model series designated ME, MT, MU and CPT223 with suffix T2 provided with interface module model Signature Module model SM-102.
- Optical Door Edge Sensor and Photo Eye manufactured by Fraba Inc. models OPTOEDGE, OPTOEYE; Part Nos. OSE-T, OSE-R, OSE-P, OPE.



CAUTION

TO AVOID DAMAGE TO DOOR AND OPERATOR, ENSURE ALL DOOR LOCKS ARE DISABLED. USE AN INTERLOCK SWITCH IF A LOCK IS REQUIRED TO RETAIN FUNCTIONALITY.

SEE MANUFACTURER’S INSTRUCTIONS FOR INSTALLATION OF THIS SAFETY EQUIPMENT.

IMPORTANT SAFETY INSTRUCTIONS FOR OWNER



WARNING

TO REDUCE THE RISK OF SEVERE INJURY OR DEATH:
READ AND FOLLOW ALL INSTRUCTIONS!

- NEVER let children operate or play with door controls. Keep remote control away from children.
- ALWAYS keep a moving door in sight and keep people and objects away from the door area until the door is completely closed. NO ONE SHOULD CROSS THE PATH OF A MOVING DOOR.
- TEST THE DOOR OPENER’S REVERSING FEATURE MONTHLY (where applicable).
- After adjusting the force setting, if equipped with a clutch or the limit of travel, ALWAYS RETEST THE OPENER. Failure to adjust the opener properly may result in damage to the door or operator.
- DO NOT over adjust the force setting (clutch) to compensate for a poorly working door.
- KEEP THE GARAGE DOOR PROPERLY BALANCED (See the door owner’s manual).
- AN IMPROPERLY BALANCED DOOR MAY CAUSE SEVERE INJURY OR DEATH.
- Have a QUALIFIED SERVICE PERSON make repairs to cables, spring assemblies and other hardware.
- **SAVE THIS INSTRUCTION MANUAL AND GIVE IT TO THE END USER.**

NOTE: It is now necessary to turn on the power in order to run the Opener to check for proper operation and limit settings. Before doing so, ensure that all mounting hardware are installed and properly tightened, that all electrical connections are per local code requirements, and that proper wiring practices have been followed. **Also, double-check that all ropes and installation support hardware have been removed from the door and that the doorway is clear.**



WARNING

FAILURE TO TEST REVERSING SYSTEM COULD RESULT IN DEATH OR SERIOUS INJURY. TEST THIS SYSTEM ONCE A MONTH.



WARNING

AVOID ELECTROCUTION: DO NOT ROUTE LOW VOLTAGE WIRES IN SAME CONDUIT AS HIGH VOLTAGE WIRES. FOLLOW ALL LOCAL ELECTRICAL CODES OR THE NATIONAL ELECTRICAL CODE (NEC).

WIRING TERMS

MOMENTARY CONTACT: Button can be pushed and then released and door will keep moving or stop without maintaining pressure on the button.

CONSTANT PRESSURE: Constant pressure is required on the button in order for continued door movement. When the button is released, the door will stop and possibly reverse to full open depending on wiring type.

DOOR EDGE/ PHOTOELECTRIC INPUT: The operator wiring provides for input from an electric door safety edge or photoelectric device that will cause a closing door to stop and reverse it to open.

OPERATION AND ADJUSTMENT INSTRUCTIONS

CLUTCH ADJUSTMENT

The clutch serves to protect the door, the electric operator and other equipment from undue stress or damage caused by starting forces and/or an obstruction to the door. It should be set NO TIGHTER than is necessary to smoothly and consistently move the door throughout its full range of travel. When properly set, it will slip freely if the door should encounter an obstruction, and it should be possible to stop the travel of the door by hand.

WARNING: BEFORE ADJUSTMENT, REMOVE POWER TO THE OPERATOR!

CAUTION: NEVER COMPRESS CLUTCH SPRING BEYOND POINT LIMITED BY THE DESIGN OF THE OPERATOR OR REPLACE IT WITH A HEAVIER SPRING.

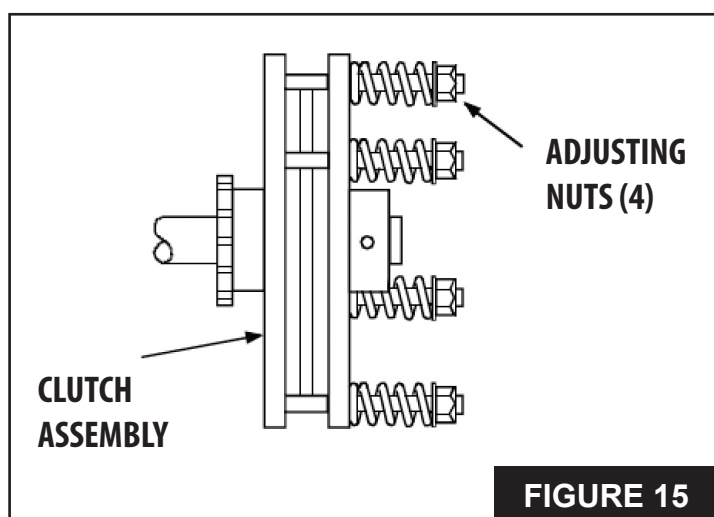


FIGURE 15

COUNTERBALANCED, AND THAT THE CLUTCH IS NOT SLIPPING BECAUSE OF LOOSE OR MISSING HARDWARE, BINDING IN THE TRACK, RUBBING AGAINST THE DOOR STOPS, OR DEFECTIVE OR MISADJUSTED SPRINGS. ANY SERVICE REQUIRED TO THE DOOR, DOOR SPRINGS OR DOOR OPERATOR MUST BE PERFORMED BY A QUALIFIED PROFESSIONAL DOOR INSTALLER.

The clutch pads will wear during normal operation and should be replaced when it becomes difficult or impossible to sufficiently tighten the clutch to obtain smooth operation of the door when it is in good working condition. To replace the clutch pad, first move the door to the closed position. Loosen and remove the clutch nuts and spring. Remove the pressure plate and other clutch pad.

To replace the inside clutch pad, loosen the set screws on the drive hub and remove it. When reassembling the clutch, tighten the drive hub set screws after the adjustment nuts are tightened enough to compress the clutch springs.



WARNING

RISK OF ENTRAPMENT THAT MAY RESULT IN SEVERE INJURY OR DEATH! DISCONNECT POWER TO THE OPERATOR BEFORE SERVICING OR MAKING ADJUSTMENTS. ENSURE DOORWAY IS CLEAR BEFORE STARTING TESTING OF UNIT.



CAUTION

ALWAYS DISCONNECT POWER TO THE OPERATOR BEFORE SERVICING, CONNECTING ACCESSORY DEVICES OR MAKING ADJUSTMENTS.

Clutch Adjustment: The clutch is set to its lightest adjustment by the manufacturer. To tighten the clutch, turn all four of the clutch adjustment nuts clockwise in 1/4 turn increments.

Due to changing conditions of the door and normal wear, it may be necessary to occasionally re-adjust the clutch to obtain dependable operation.

WARNING: BEFORE DOING SO, BE CERTAIN THAT THE DOOR IS IN GOOD WORKING CONDITION, IS PROPERLY



WARNING

IMPROPER ADJUSTMENT OF CLUTCH SETTING COULD CAUSE ENTRAPMENT, INJURY OR DEATH. SET CLUTCH ADJUSTMENT FOR JUST ENOUGH FORCE TO OPERATE THE DOOR RELIABLY, BUT NO STRONGER. CONTACT A SERVICE PROFESSIONAL TO CORRECT ANY BINDING, STICKING OR OTHER DOOR PROBLEMS. DO NOT OVER-ADJUST CLUTCH SETTING TO COMPENSATE FOR A POORLY WORKING DOOR.

BRAKE ADJUSTMENT

The solenoid brake on the GSL operator is adjusted at the factory. If it appears that the brake needs adjustment due to excessive coasting of the door, proceed as follows:

**CAUTION**

ALWAYS DISCONNECT POWER TO THE OPERATOR BEFORE SERVICING, CONNECTING ACCESSORY DEVICES OR MAKING ADJUSTMENTS.

1. Turn off power to the operator.
2. Loosen lock nuts.
3. Turn adjustment screws out evenly until they both do not touch actuator lever.
4. With actuator arm at its highest position, turn adjustment screws in until they just touch actuator lever.
5. Back out adjustment screws 1/2 turn.
6. Secure adjustment with lock nuts.
7. Turn on power and test operator.
8. Spring tension may need to be increased if brake does not hold properly after completing Steps 1 through 7.
9. To increase spring tension, loosen double lock nuts on spring screw.
- 10.Tighten spring screw two turns and test operator.
- 11.Repeat Step 10 until desired braking is achieved.
NOTE: If solenoid does not pull in fully or chatters when fully actuated, spring is too tight.
- 12.When a satisfactory adjustment has been accomplished, secure position with lock nuts.

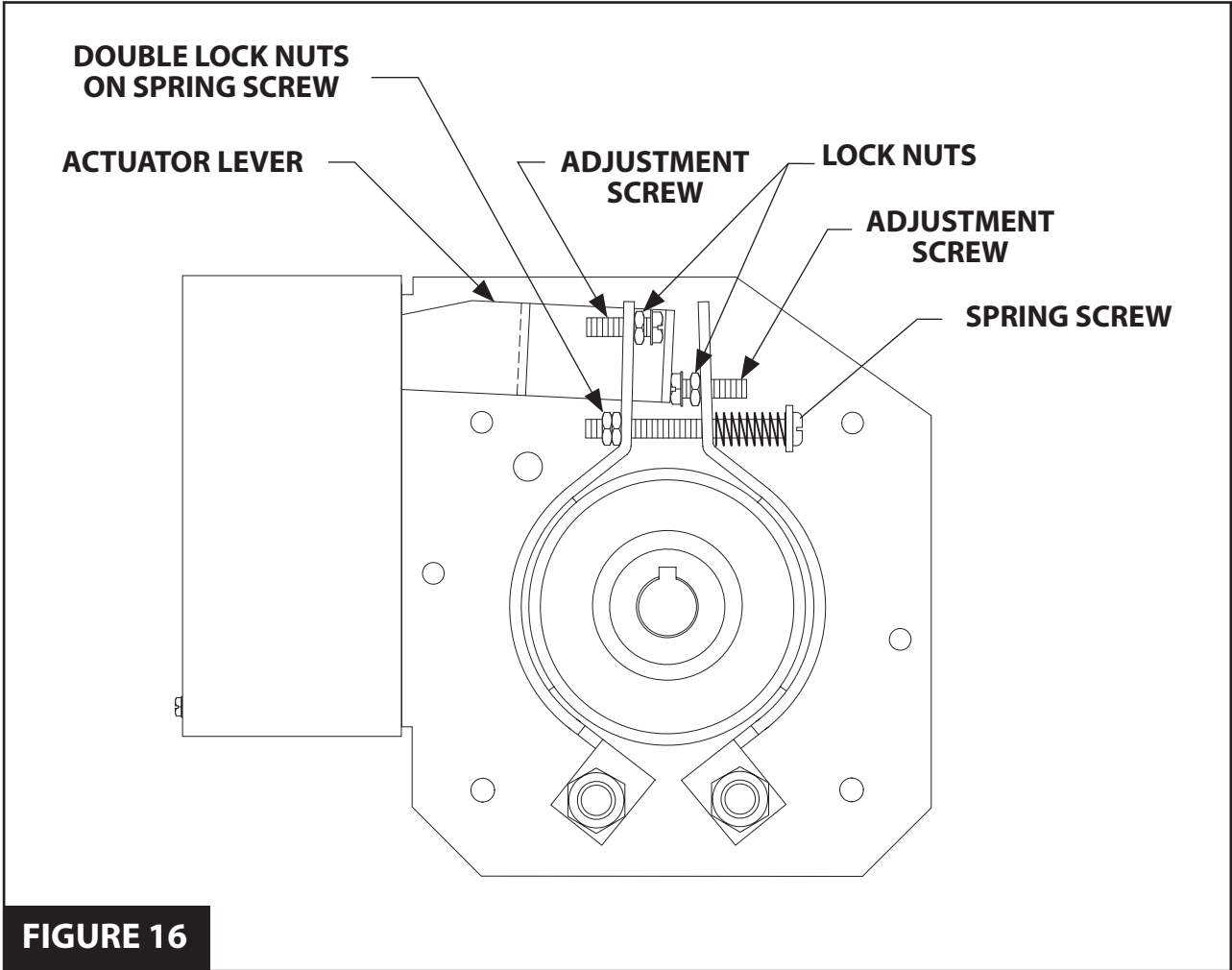


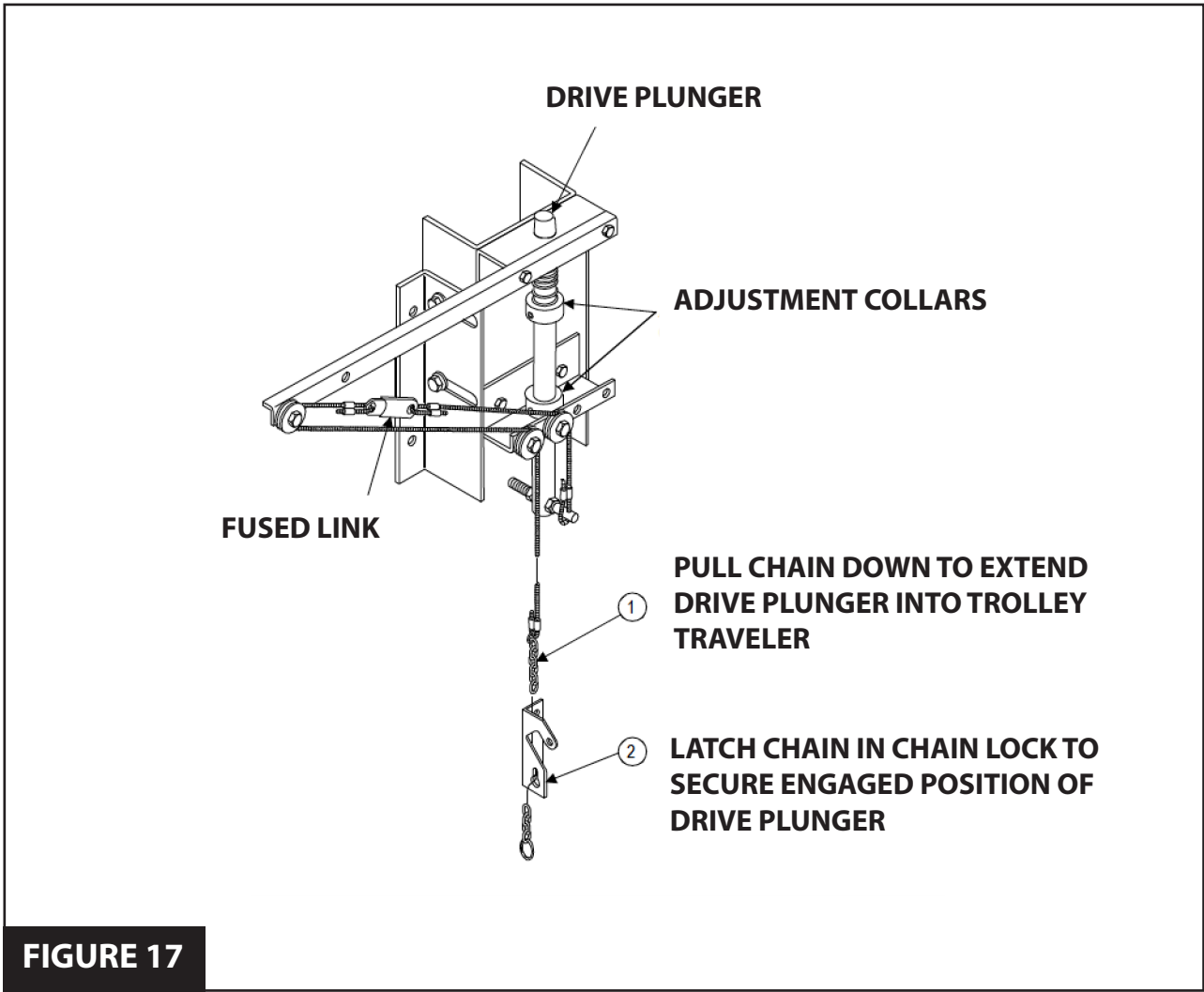
FIGURE 16

FIRE DOOR DISCONNECT INSTALLATION

1. Mount disconnect assembly to door as shown in **Figures 10** and **11**. To determine correct mounting height on door, place disconnect assembly directly under trolley traveler leaving 12" clearance between trolley traveler and plunger. Mark hold location on door. Extend plunger until spring is fully compressed. Make sure plunger has a good engagement in trolley traveler and is not obstructed from full compressing the spring. Make height adjustments as necessary.

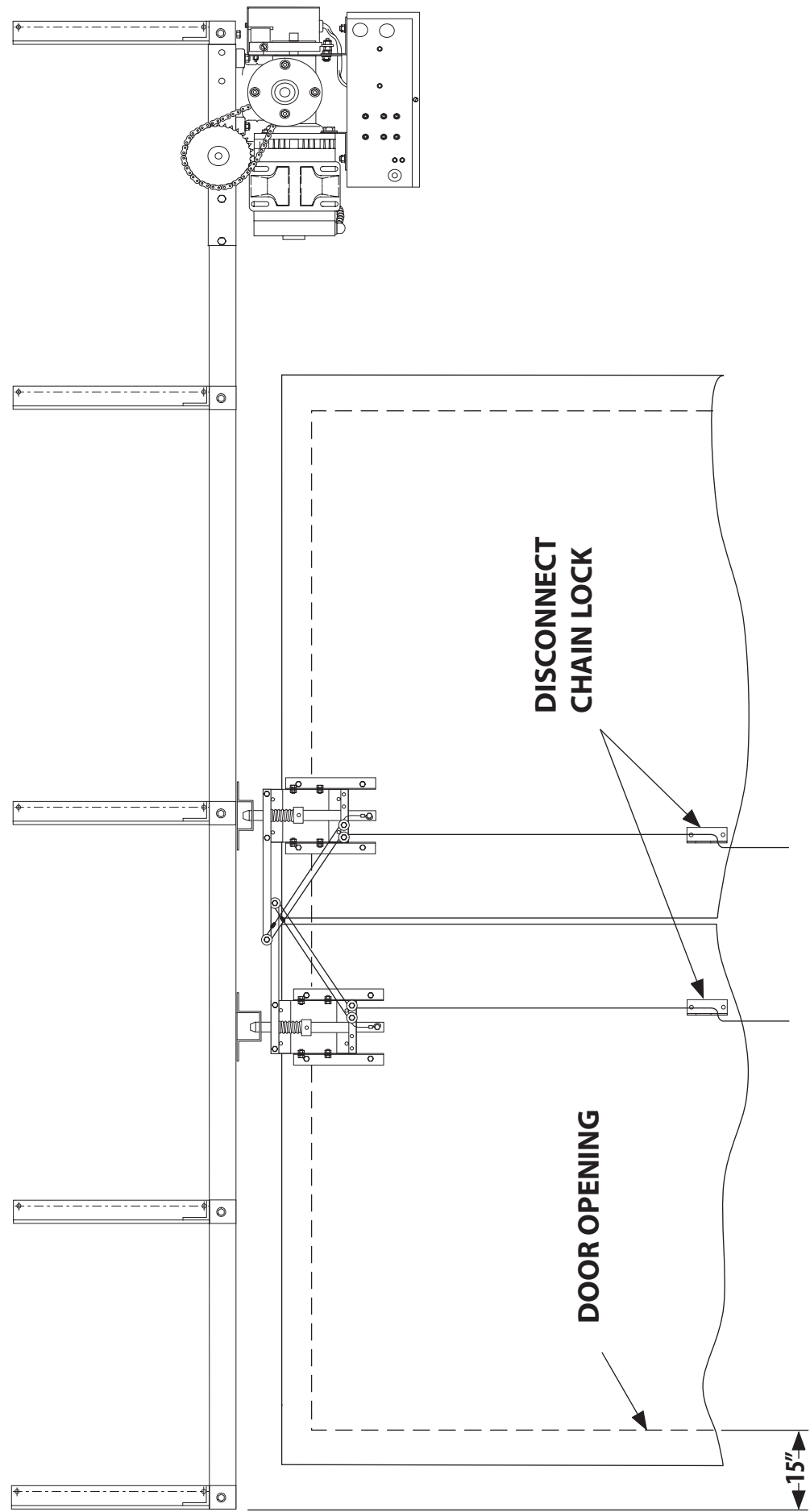
NOTE: Installation for Bi-Part Fire Slide Door is shown on the next page.

- When doors are open, fused link must extend into door opening.
- When doors are closed, fused link support arms must slide past each other. To accomplish this, the disconnect assemblies must be mounted at different heights on each door as allowed by their individual trolley travelers. They may also be adjusted to separate depths of the door.



2. Adjust drive plunger to center of trolley traveler (See **Figure 10**) unless offset is required for bi-part installation.
3. Install chain lock as shown.
4. Adjustment collars are preset at the factory, but may be moved to make adjustments if necessary.

**BI-PART INSTALLATION
WITH FIRE DOOR DISCONNECT**





WARNING

ALWAYS DISCONNECT POWER TO THE OPERATOR BEFORE SERVICING, CONNECTING ACCESSORY DEVICES OR MAKING ADJUSTMENTS.



WARNING

DO NOT STAND UNDER DOOR TO TEST REVERSING EDGE. USE A CORRUGATED BOX OR SIMILAR OBJECT.

TESTING

Following installation, the operator **MUST** be tested and respond correctly to all controls as specified on the wiring diagram. Keep personnel and equipment clear of the area around the door when performing the tests. When testing the 3-button wall station, first observe that each button operates the door in the direction indicated and that the STOP button performs that function. With the door stopped at its full open position, the OPEN button should be inoperative. This should be verified and, likewise, the CLOSE button should be inoperative with the door fully closed.

Certain operator control circuits use only a single-button or a 2-button control station, and may be designed to function differently than the more common 3-button circuit described above. Test the controls in accordance with the proper response for your installation.

Observe the door when traveling in each direction for smoothness of operation. Test the setting of the clutch by restraining the door by hand - **DO NOT USE YOUR BODY TO DO THIS**. The clutch should slip. Re-check the limit settings. The door should close tightly without excessive impact. Likewise, it should fully clear the door opening without the trolley traveler coming too close to the power head.

Model GSL Operators are equipped with a reversing edge circuit for use with UL recognized products specifically tested for use with this equipment. Each of these products should be tested separately to confirm proper operation.

To test a safety edge for proper reversal, place an object in front of the path of travel of the door so the edge being tested strikes the object. The door should instantly reverse when it comes into contact with the object, provided the opening of the door exceeds the cut out point built into the Close Limit Switch (approximately four inches).

If the operator is equipped with other means of control, such as additional 3 button stations or radio controls, each of these should be tested separately for proper operation.

To test the manual disconnect, first move the door to the fully closed position. Next, disconnect the power to the operator. Manual door operation is possible when the release cord is pulled and the door plunger releases from the trolley traveler. If it is difficult to disengage or engage the door arm assembly at the closed position because the chain appears to be under compression, reset the CLOSE limit slightly to reduce the door travel in the close direction.

MAINTENANCE SUGGESTIONS

Normally, very little maintenance is required. A monthly visual inspection must be made for loose or missing hardware and for excessive slack in the v-belt and chain. The clutch must be checked periodically and adjustments made if necessary.

**WARNING**

DO NOT STAND UNDER DOOR TO TEST REVERSING EDGE. USE A CORRUGATED BOX OR SIMILAR OBJECT.

Test the reversing edge circuit or components (where applicable) at least once a month by permitting the door to contact an obstruction while closing.

Lubrication of the operator is not required. It is important — for trouble-free service from the operator — that the door be kept free from binding, is properly counter-balanced and periodically lubricated. **An annual inspection of the door BY A QUALIFIED SERVICE TECHNICIAN IS RECOMMENDED.***

**The door must be in good operating condition. An electrical door operator cannot move a garage door that is in poor condition. The door must operate freely in the track, with no binding or obstructions, and must be well-balanced. Check the spring balance of your door by bringing the door to a half-open position and leaving it there. If the door stays in that position, it is well balanced. If it moves more than a few inches, the springs possibly need adjustment. CALL A QUALIFIED SERVICE TECHNICIAN.*

WARNING: Repairs and adjustments to the door and the door operator should be performed only by someone qualified to service commercial overhead doors and operators.

We constantly strive to maintain and improve quality of our products. Therefore, the components shown in the illustrations were accurate at time of printing but are subject to change without notice as quality improvements are made.

TROUBLE SHOOTING CHART

SYMPTOM	POSSIBLE CAUSE	SOLUTION
Motor runs but door does not move.	Door jammed or obstructed.	Check manual operation of door.
	Trolley Assembly disconnected from drive assembly.	Reconnect Drive plunger assembly to trolley traveler.
	Clutch slipping/ V-Belt slipping	Check clutch adjustment. Check belt for wear and proper tension.
Limit switches do not hold setting.	Drive chain too loose; permits chain to jump teeth on sprocket.	Adjust chain to proper tension.
	Limit sprocket slipping on limit shaft.	Check set screws for tightness.
	Limit nut retaining bracket not engaging notches in nuts.	Set nuts and be sure bracket is in notch on each nut.
Door drifts when operator shuts off.	If equipped with brake, brake not functioning properly.	Adjust brake.
Motor hums — does not run.	Dead phase (on 3-phase).	Check power supply.
	Brake (if equipped) does not release.	Check wires to brake solenoid. Check adjustment.
	Door locked or jammed.	Check door. Try manual operation.
Motor does not run when open or close wall button is pressed.	Building fuse blown or circuit breaker tripped.	Check power supply fuses, circuit breakers, disconnect switch for cause.
	Overload protector tripped.	Reset and check for cause.
	NOTE: To isolate cause, operate contactor solenoid plunger manually. If motor runs, cause is in pushbutton circuit.	Check control wiring. Contact Tech Support at 1-800-243-4476.
	IR Relay not functioning (1 Phase)	Relay is on when power first applied; drops out when motor runs.
Operator closes door when OPEN button is pressed, and limit switches do not function properly.	On 3-phase operators, power supply is connected out of phase.	Interchange connections of any two power supply leads (See wiring diagram).
	Operator controls not wired correctly, or unit is mounted upside down.	Check control wiring connections on wiring diagram, and check orientation of unit. Contact Tech Support at 1-800-243-4476.
Operator fails to shut off at fully open or fully closed position.	On 3-phase operators, power supply is connected out of phase.	Check phase as above.
	Limit nuts not adjusted properly.	See <i>Limit Adjustments</i> section.
	Defective limit switch.	Check continuity. Replace limit switch if necessary.
	Limit switch not being activated.	Check that limit nuts are moving correctly when operator runs and that they activate limit switch.
	Limit drive chain broken or too loose.	Replace chain, check limit screw for rotating.
	1 phase unit with motor rotation wrong.	Usually occurs after motor replacement. Check for correct type motor, motor wiring, and correct operator mounting.
	Limit sprocket slipping on shaft.	Check set screws for tightness.

PowerMaster

Limited 2-Year Warranty

MECHANICAL PARTS:

PowerMaster warrants all DOOR OPERATORS (MG, H, J, T, SL categories) to be free of defects in materials and workmanship for a period of two (2) years from date of manufacture, provided that product has been registered. A one year warranty applies if product has not been registered.

ELECTRICAL PARTS (including boards, switches, relays, etc):

PowerMaster warrants electrical parts for a two (2) year period, provided that product has been registered. A one year warranty applies if product has not been registered.

If any part is found to be defective during this period, new parts will be furnished free of charge. Failure of this product due to misuse, improper installation, alterations, vandalism, acts of God, or lack of maintenance is **not** covered under this warranty, and voids any other implied warranties herein.

PowerMaster is **not responsible** for any labor charges incurred in connection with the installation of warranted parts.

In order to activate this warranty, the registration form found with your operator **MUST BE COMPLETED AND RETURNED WITHIN THIRTY CALENDAR DAYS FROM DATE OF PURCHASE.** Send completed form to PowerMaster Registration, 140 Emjay Blvd, Brentwood NY 11717.

You can also register via email to technical@PowerMasterNY.com.

If registration is not activated, a **ONE YEAR** warranty from date of manufacture will apply for all claims.

REGISTRATION INFORMATION

Operator Information

Model GSL
Serial # _____
Date Installed _____

Location Installed

Address _____
Address _____
Address _____

Installer's Information

Company Name _____
Address _____
Address 2 _____
City, State, Zip _____
Telephone # _____
Contact Name _____

Need Technical Support?

Visit: www.PowerMasterNY.com

Call us toll free @ 1-800-243-4476

Email us: technical@PowerMasterNY.com



www.facebook.com/PowerMasterOperators



Scan **QR Code**
with your Smart
phone to **find us**
on the web!

www.PowerMasterNY.com

