INSTALLATION AND OWNERS MANUAL
MODEL SL
SLIDE DOOR TROLLEY OPERATORS

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.

Serial #: Date Installed: Your Dealer:
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.
The purpose of this booklet is to provide assembly, installation and operation information concerning PowerMaster Model SL 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.

**NOTE:** 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 MUST BE EXERCISED BY THE PERSON(S) INSTALLING, MAINTAINING AND OPERATING THE EQUIPMENT DESCRIBED HEREIN. DO NOT USE THIS EQUIPMENT FOR ANY OTHER THAN ITS INTENDED PURPOSE - OPERATING COMMERCIAL VEHICULAR SLIDE DOORS.

**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 SL is equipped with a manual disconnect to aid in manual operation. Use of this feature will not affect the limit switch adjustment.

**Control Circuit:** Standard three button open, close and stop. 24 Volts AC.

**Connections For Auxiliary Entrapment Protection Devices:** Use with pneumatic reversing door edge components or a photoelectric beam (across the opening) device.

**Constant Contact To Close:** Standard operation.

**Momentary Contact To Close:** Feature can be activated by moving a wire on the terminal strip.

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**Model SL Slide Door Operator Applications**

Slide Door operators are intended for commercial and industrial use on sliding doors which use horizontal track.

Please refer to Figure 10, on page 10 for basic installation layout of track.

A Slide Door operator when properly installed will effectively lock the door in the closed position.

**Model SL Slide Door operators are used in the following applications:**
- Continuous Duty, Indoor Commercial installations only
- For doors that require from 1/3 HP to 1HP motors using single or three phase power.
- Use with foam/pneumatic reversing door edge or photoelectric device - REQUIRED where the 3-button station is out of sight of the door, or any other automatic, remote or manual control is used to activate the door.

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**OPTIONAL FEATURES:**

**Digital Radio Controls:** Open, Close and Stop operation. Radio units are available to control up to 27 doors from one transmitter

**Digital Timer to Close:** Adjustable from 0 to 17 minutes in one second intervals.

**Keyless Entry System:** Connection terminals provided for hard wired or wireless keyless entry systems.
Before starting the installation of the operator, the door must be in good working condition. Inspect the door and track for loose or missing hardware and test the door manually for ease of operation. Lubricate door rollers.

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 power head.

**WARNING**

REMOVE OR DISABLE ANY LOCKING DEVICES FROM DOOR AND REMOVE ALLropes.

**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.

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**FIGURE 1 - COMPONENT IDENTIFICATION**

![Component Identification Diagram](image-url)
• Install only on a properly operating Slide Door. An improperly operating door could cause severe injury. Have a qualified service person make any before installing the opener.

• Remove all ropes and remove or make inoperative all locks (unless mechanically and/or electrically interlocked to the power unit) that are connected to the door before installing the opener.

• 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 or a Reinforcement Kit.

• PowerMaster Model SL 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 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 (reversing door edge or photoelectric beam device) as part of the compete 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 and;
  b) at a minimum height of five feet above the floor and;
  c) away from all moving parts of the door.

• Do not overtighten the clutch adjustment to compensate for a poorly working door.

• Securely attach any WARNING signs or placards to both the door and above the control station.

• After installing the opener, all safety features must be tested for proper operation (see page 17).

<table>
<thead>
<tr>
<th>Item #</th>
<th>Description</th>
<th>Qty.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Track Rails</td>
<td>2</td>
</tr>
<tr>
<td>2</td>
<td>Spreader bracket (s)</td>
<td>As reqd.</td>
</tr>
<tr>
<td>3</td>
<td>Idler roller assembly (2 for Bi-part)</td>
<td>1</td>
</tr>
<tr>
<td>4</td>
<td>Drive/disc. Assembly (2 for Bi-part)</td>
<td>1</td>
</tr>
<tr>
<td>5</td>
<td>Trolley Assembly (standard)</td>
<td>1</td>
</tr>
<tr>
<td>6</td>
<td>Hanger bracket angle</td>
<td>As reqd.</td>
</tr>
<tr>
<td>7</td>
<td>Chain Take-Up Bolt</td>
<td>1</td>
</tr>
<tr>
<td>8</td>
<td>Operator Power head</td>
<td>1</td>
</tr>
<tr>
<td>9</td>
<td>Drive Chain</td>
<td>1</td>
</tr>
<tr>
<td>10</td>
<td>Chain Connecting Link</td>
<td>2</td>
</tr>
<tr>
<td>11</td>
<td>Sway Brace</td>
<td>1</td>
</tr>
<tr>
<td>12</td>
<td>Sway Brace clip</td>
<td>1</td>
</tr>
<tr>
<td>13</td>
<td>Hardware package</td>
<td>1</td>
</tr>
<tr>
<td>14</td>
<td>3 Button Station</td>
<td>1</td>
</tr>
<tr>
<td>15</td>
<td>Trolley Assembly (Bi-Part)</td>
<td>1</td>
</tr>
<tr>
<td>16</td>
<td>Bi-Part Front Idler Bracket</td>
<td>1</td>
</tr>
</tbody>
</table>
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) on 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 ¼ carriage bolts, two 5/16 lock washers and two 5/16 hex nuts as shown in Figure # 3A.

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 3A and Figure 3B](image)

**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 ¾ 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. Layout 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 (10). 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 slide assembly; mark link that lines with hole on chain take up bolt on slide 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.**
Operator Assembly

8. Attach cut end of drive chain (9) to chain take up bolts on trolley traveler assembly with a chain connecting link. See figure 5A.

9. Adjust chain tension using adjusting nut on chain take up bolt, to remove excess slack. See Figure # 5A.

10. Secure 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.
BI-PART TROLLEY ASSEMBLY

- 15

TRACK ASSEMBLY

ASSEMBLY SHOWN IN THE INVERTED POSITION

FIGURE 5B

BI-PART TROLLEY ASSEMBLY

- 15

TRACK ASSEMBLY

ASSEMBLY SHOWN IN THE NORMAL POSITION

FIGURE 5C

SINGLE SLIDE

FRONT IDLER

CHAIN TAKE UP BOLT

POWER HEAD

BI-PARTING SLIDE

CHAIN ROUTING LAYOUT FOR SLIDE DOOR OPERATORS WITH IDLER SPROCKETS

FIGURE 6
INSTALLATION INSTRUCTIONS

56-1/2" for 8', 12', & 16' Track
32-1/2" for 10' & 14' Track

48" (All center spacers)

FIGURE 7

HANGER INSTALLATION DRAWING

56-1/2" for 8', 12', & 16' Track
32-1/2" for 10' & 14' Track

FIGURE 7A
1. For single slide doors sliding right to open locate first angle mounting bracket 9” to left of opening, for doors sliding left to open locate first angle mounting bracket 9” to right of 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 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 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 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 figure 8,10, and 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 centerline 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 figure 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
INSTALLATION INSTRUCTIONS

1. **DISCONNECT SHAFT MUST CLEAR TROLLEY TRAVELER WHEN FULLY RETRACTED.**

2. **KEEP AS NARROW AS POSSIBLE TO REDUCE SWAY.**

3. **SUITE FASTENERS BY INSTALLER.**

4. **NOTE:**
   - **ADJUST HEIGHT OF DISCONNECT ASSEMBLY TO CENTER DRIVE PLUNGER IN TROLLEY SLIDE ASSEMBLY.**

**FIGURE 10**

- 4-1/4" MIN.
- 6-1/4" MAX.
- (AVAILABLE ADJUSTMENT)
- 2" MAX.

**FIGURE 11**

- 6-3/4" (AS REQUIRED)
- 2" MIN.
- 4" MAX.
- 5-1/2"
- 2-1/2"
- 1-1/2"
- THIS DIMENSION IS DETERMINED BY ENGAGING DRIVE PLUNGER ON DISCONNECT ASSEMBLY, WITH TROLLEY SLIDE ASSEMBLY. (SEE FIGURE )

**FIGURE 12**

- FOR MANUAL OPERATION, PULL CHAIN AND LATCH.

**POSITION 1**
- DOOR ENGAGED

**POSITION 2**
- DOOR DISENGAGED
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). Auxiliary switches may also be present, they are used to control other functions. These are mounted on a separate bracket and should not be confused with the the OPEN and CLOSE Limit Switches which are mounted on a bracket secured to the base 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 13. 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 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 preset 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 a 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 at the proper Open and Close positions.

FIGURE 13
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:**

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.

**Note:** PowerMaster SL 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 (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 SL 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. Refer to Figure 14 for Edge component wiring.

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 a placard (supplied with the operator) with this wording:**

**Warning to Prevent Entrapment Do Not Start Door Closing Unless Door Way Is Clear**

Operators which are equipped with a reversing edge circuit may have one or more additional means of control which should be wired in accordance with the diagram supplied in the operator. Refer to Figure 14.
NOTES:

⚠️ - INSTALL BROWN JUMPER WIRE IF THERE IS NO STOP BUTTON OR EXTERNAL INTERLOCK SWITCH CONNECTED TO TERMINAL STRIP.
⚠️ - REMOVE VIOLET JUMPER WIRE WHEN TIMER DEFEAT SWITCH IS USED.
⚠️ - INTERNAL ORANGE JUMPER.
   - MOVE THIS JUMPER FROM TERMINAL #7 TO #8 IF ALL OBSTRUCTIONS SENSORS ARE 2-WIRE TYPE.
   - REMOVE JUMPER IF 3-WIRE DEVICES ARE USED.
⚠️ - TREADLES, PULL SWITCHES, KEY SWITCHES, PHOTO-ELECTRIC DEVICES, ETC. MAY BE CONNECTED TO TERMINALS INDICATED.
⚠️ - REMOTE CONTROL UNITS (EXCLUDING TREADLES AND PHOTO-ELECTRIC UNITS). PULL SWITCHES AND SINGLE CONTACT CONTROL STATIONS MAY BE CONNECTED TO TERMINALS INDICATED.

FIGURE 14
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.

IMPORTANT SAFETY INSTRUCTIONS FOR OWNER

- **NEVER** let children operate or play with door controls. Keep the 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** (where applicable) **MONTHLY.**
- 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 **SERIOUS INJURY OR DEATH.**
- **DO NOT** over adjust the force setting (clutch) to compensate for a poorly working door. See figure 15 for procedure to check the door operation and for proper clutch adjustment.
- **SAVE THIS INSTRUCTION MANUAL AND GIVE TO THE END USER.**

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

- **NEVER** let children operate or play with door controls. Keep the 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.**
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- **DO NOT** over adjust the force setting (clutch) to compensate for a poorly working door. See figure 15 for procedure to check the door operation and for proper clutch adjustment.
- **SAVE THIS INSTRUCTION MANUAL AND GIVE TO THE END USER.**

**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).

**WARNING**

**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 optional pneumatic or electric door bottom edge or photoelectric device that will cause a closing door to stop and may reverse it to open depending on the wiring type.
CLUTCH ADJUSTMENT

WARNING
RISK OF ENTRAPMENT THAT MAY RESULT IN SERIOUS PERSONAL INJURY OR DEATH. DISCONNECT POWER TO THE OPENER BEFORE SERVICING OR MAKING ADJUSTMENTS. ENSURE DOORWAY IS CLEAR BEFORE STARTING TESTING OF UNIT.

WARNING
DO NOT STAND IN FRONT OF DOOR TO TEST REVERSING EDGE. USE A CORRUGATED BOX OR SIMILAR OBJECT.

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.

1. Remove cotter pin from slotted hex nut and clutch shaft.
2. Back off slotted hex nut until there is insufficient tension on clutch spring to permit clutch to drive door.
3. Tighten slotted hex nut gradually until there is just enough tension on spring to permit operator to move door smoothly, but to allow clutch to slip if door is obstructed.
4. Be sure cotter pin is reinstalled each time operator is tested for clutch adjustment and that it is locked in place on completion of adjustment.

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

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

WARNING: BEFORE DOING SO BE CERTAIN THAT THE DOOR IS IN GOOD WORKING CONDITION, AND THAT THE CLUTCH IS NOT SLIPPING BECAUSE OF LOOSE OR MISSING HARDWARE, OR THE DOOR BINDING IN THE TRACK. ANY SERVICE REQUIRED TO THE DOOR, DOOR SPRINGS OR DOOR OPERATOR MUST BE PREFORMED BY A QUALIFIED PROFESSIONAL DOOR INSTALLER.

The clutch pad 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 loosen the motor mounting bolts and remove the V-belt then the clutch adjusting nuts, spring and clutch pulley. Check condition of V-belt before reassembly and replace if required. After reassembly, adjust clutch as described.

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

**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.

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

1. Turn off power to the operator.
2. Loosen lock nut.
3. Tighten adjustment nut to increase spring pressure.
4. Secure adjustment nut with lock nut.
5. Turn on power and test operator.
6. If more braking is required, repeat steps 1 through 5.
7. If solenoid does not pull in or makes a buzzing sound when fully retracted, the brake spring is too tight.

**WARNING**

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

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**CLUTCH ADJUSTMENT**

TURN CLOCKWISE TO INCREASE DRIVE FORCE.
TO ADJUST REMOVE COTTER PIN AND TURN NUT 1/4 TURN AT A TIME UNTIL DOOR OPENS AND CLOSES SMOOTHLY. TO MAINTAIN PROTECTION OF EQUIPMENT DO NOT OVER TIGHTEN. REPLACE COTTER PIN TO SECURE ADJUSTMENT.

**FIGURE 15**
1. Mount disconnect assembly to door as shown in figures 10 & 11 of manual. To determine correct mounting height on door, place disconnect assembly directly under trolley traveler leaving 1/2” clearance between trolley traveler and plunger. Mark hole 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 fully compressing the spring. Make Height adjustments as necessary.

**Note:** Installation for Bi-Part fire slide door is shown on next page.

   A. When doors are open fused link must extend into door opening.

   B. 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 off 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

DOOR OPENING

DISCONNECT CHAIN LOCK
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 in the path of 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 two button control station and may be designed to function differently than the more common three-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, 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.

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. Then 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.
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. (See page 16)

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

Door must be in good operating condition. An electrical door operator cannot move a garage door that is in poor condition.

It is important, for trouble free service from the operator, that the door be properly maintained, kept free from binding, and periodically lubricated.

An annual inspection of the door by a qualified overhead door professional is recommended.

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

We constantly strive to maintain and improve the 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.
<table>
<thead>
<tr>
<th>SYMPTOM</th>
<th>POSSIBLE CAUSE</th>
<th>SOLUTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Motor runs but door does not move</td>
<td>Door jammed or obstructed.</td>
<td>Check manual operation of door.</td>
</tr>
<tr>
<td></td>
<td>Trolley disconnected from drive</td>
<td>Reconnect Drive plunger assembly to trolley traveler.</td>
</tr>
<tr>
<td></td>
<td>Clutch slipping/v-Belt slipping</td>
<td>Check clutch adjustment. (Pg 16) Check belt for wear and proper tension.</td>
</tr>
<tr>
<td>Limit switches do not hold setting</td>
<td>Drive chain too loose; permits chain to jump teeth on sprocket.</td>
<td>Adjust chain to proper tension.</td>
</tr>
<tr>
<td></td>
<td>Limit sprocket slipping on limit shaft.</td>
<td>Check set screws for tightness.</td>
</tr>
<tr>
<td></td>
<td>Limit nut retaining bracket not engaging notches in nuts.</td>
<td>Set nuts and be sure bracket is in notch on each nut. See Figure 13.</td>
</tr>
<tr>
<td>Door drifts when operator shuts off.</td>
<td>If equipped with brake, brake not functioning properly.</td>
<td>Check stroke and spring pressure on brake arm. Adjust if necessary.</td>
</tr>
<tr>
<td>Motor hums — does not run.</td>
<td>Dead phase (on 3 phase).</td>
<td>Check power supply.</td>
</tr>
<tr>
<td></td>
<td>Brake (if equipped) does not release.</td>
<td>Check wires to brake solenoid, check adjustment.</td>
</tr>
<tr>
<td></td>
<td>*Door locked or jammed.</td>
<td>Check door. Try manual operation.</td>
</tr>
<tr>
<td>Motor does not run when open or close wall button is pressed.</td>
<td>Building fuse blown or circuit breaker tripped.</td>
<td>Check power supply fuses, circuit breakers, disconnect switch, check for cause.</td>
</tr>
<tr>
<td></td>
<td>Overload protector tripped.</td>
<td>Reset and check for cause.</td>
</tr>
<tr>
<td></td>
<td>NOTE: To isolate cause, operate contactor solenoid plunger manually. If motor runs, cause is in push button circuit.</td>
<td>Check control wiring. Contact Tech Support at 1-800-243-4476</td>
</tr>
<tr>
<td></td>
<td>IR Relay not functioning (1Phase)</td>
<td>Relay is on when power first applied, drops out when motor runs.</td>
</tr>
<tr>
<td>Operator closes door when &quot;Open&quot; button is pressed, and limit switches do not function properly.</td>
<td>On three phase operators power supply is connected incorrectly. (Out of Phase)</td>
<td>Interchange connections of any two power supply leads. (See wiring diagrams)</td>
</tr>
<tr>
<td></td>
<td>Operator controls not wired correctly, or unit is mounted upside down.</td>
<td>Check control wiring connections on wiring diagram, and check orientation of unit. Contact Tech Support at 1-800-</td>
</tr>
<tr>
<td>Operator fails to shut off at fully Open or Closed position.</td>
<td>On three phase operators power supply</td>
<td>Check phase as above.</td>
</tr>
<tr>
<td></td>
<td>Limit nuts not adjusted properly.</td>
<td>See limit adjustments page 12.</td>
</tr>
<tr>
<td></td>
<td>Defective limit switch.</td>
<td>Check continuity. Replace limit switch if necessary.</td>
</tr>
<tr>
<td></td>
<td>Limit switch not being activated.</td>
<td>Check that limit nuts are moving correctly when operator</td>
</tr>
<tr>
<td></td>
<td>Limit drive chain broken or too loose.</td>
<td>Replace chain, check limit screw for rotating.</td>
</tr>
<tr>
<td></td>
<td>1 phase unit with motor rotation wrong</td>
<td>Usually occurs after motor replacement. Check for correct type motor, motor wiring, and correct operator mounting.</td>
</tr>
<tr>
<td></td>
<td>Limit sprocket slipping on shaft</td>
<td>Check set screws for tightness.</td>
</tr>
</tbody>
</table>
PowerMaster
Limited 2-Year Warranty

PowerMaster warrants all door operators to be free of defects in materials and workmanship for a period of two (2) years from date of purchase. 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 MUST be completed and returned within **THIRTY CALENDAR DAYS** FROM DATE OF PURCHASE. Log onto our website at [www.VEpower.net](http://www.VEpower.net) and click on **Register your Product** link. You can also send via fax (631-231-4274) or via email at pmtech@optonline.net. If registration is not activated, a **one-year warranty** will apply.

**REGISTRATION INFORMATION:**

<table>
<thead>
<tr>
<th>Operator Information:</th>
<th>Location Installed:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model: <strong>SL</strong></td>
<td>Address</td>
</tr>
<tr>
<td>Serial #:</td>
<td>Address</td>
</tr>
<tr>
<td>Date Installed:</td>
<td>Address</td>
</tr>
</tbody>
</table>

**Installer’s Information**

<table>
<thead>
<tr>
<th>Company Name</th>
<th>Address:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Address</td>
<td></td>
</tr>
<tr>
<td>Address 2</td>
<td></td>
</tr>
<tr>
<td>City, State, Zip</td>
<td></td>
</tr>
<tr>
<td>Telephone #</td>
<td></td>
</tr>
<tr>
<td>Contact Name</td>
<td></td>
</tr>
</tbody>
</table>
Need Technical Support?

Visit: www.vepower.net/faqs
Call us toll free @ 1-800-243-4476
Email us: PMtech@VEpower.net

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