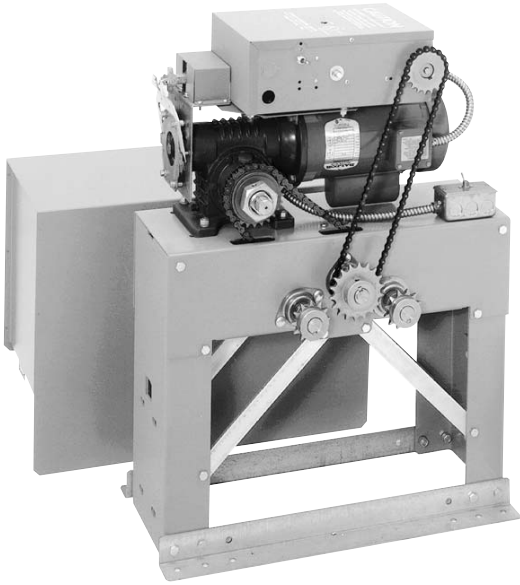


CHAMBERLAIN®

**LiftMaster®**  
**PROFESSIONAL**



**MODEL SL580**  
*HEAVY DUTY SLIDE GATE OPERATOR*



**MODEL SL590**  
*HEAVY DUTY, HARSH ENVIRONMENT  
SLIDE GATE OPERATOR*

**2 YEAR WARRANTY**

Serial # \_\_\_\_\_

(located on electrical box cover)

Installation Date \_\_\_\_\_

**MODELS SL580 AND SL590 ARE FOR VEHICULAR PASSAGE GATES ONLY  
AND ARE NOT INTENDED FOR PEDESTRIAN PASSAGE GATE USE**



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## IMPORTANT NOTE

- BEFORE attempting to install, operate or maintain the operator, you MUST read and fully understand this manual and follow all safety instructions.
- These instructions are intended to highlight certain safety related issues. These instructions are not intended to be comprehensive. Because each application is unique, it is the responsibility of the purchaser, designer, installer and end user to ensure that the total gate system is safe for its intended use.

## CARTON INVENTORY

Before beginning your installation check that all components were supplied and received undamaged. Refer to list below for factory supplied parts.

## HARDWARE KIT SL580/SL590 (K77-SL580)

Part No.	Description	Qty.
01-G0582	Safety Gate Brochure	1
02-401-SP	Stop Button	1
10-3209	Gate Bracket	2
11-3503	Take-Up Bolt	2
19-3025	Chain, #50 x 481 Links, NP	1
80-3001	U-Bolt 5/16-18	4
80-3002	U-Bolt 3/8-16	4
82-QN43-12	Square Head Bolt 7/16-14 x 3/4"	4
84-RH-50	Hex Nut 1/2-13	4
84-FN-31	Flange Nut 5/16-18	8
84-FN-38	Flange Nut 3/8-16	8
85-FW-38	Flat Washer 3/8"	8
85-FW-50	Flat Washer 1/2"	4
85-LS-50	Lock Washer 1/2"	4

## WARNING

Mechanical

## WARNING

Electrical

## CAUTION

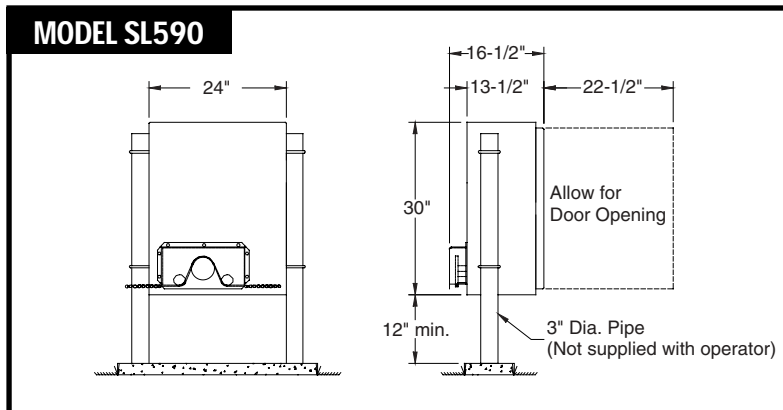
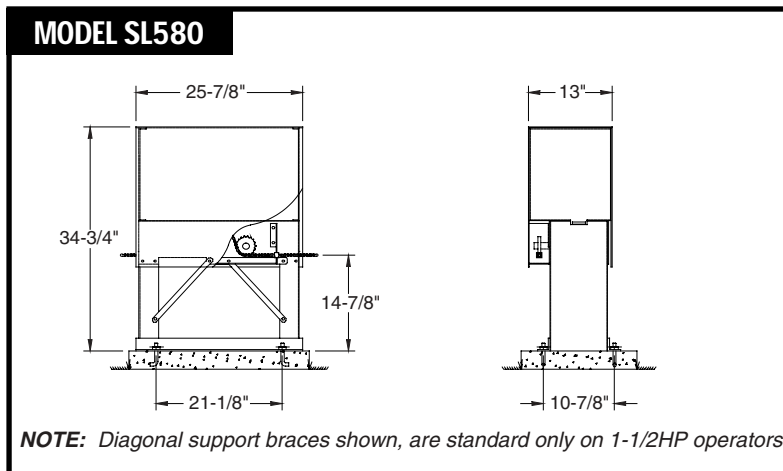
When you see these Safety Symbols and Signal Words on the following pages, they will alert you to the possibility of serious injury or death if you do not comply with the warnings that accompany them. The hazard may come from something mechanical or from electric shock. Read the warnings carefully.

When you see this Signal Word on the following pages, it will alert you to the possibility of damage to your gate and/or the gate operator if you do not comply with the cautionary statements that accompany it. Read them carefully.

# GATE SPEED AND HORSEPOWER CHART

Model	H.P.	Gate Speed	Max. Gate Weight	Max. Cant'l. Width	Max. O/H Width	Max. V-Track Width
SL580	1/2	11"/sec	1000 lbs.	25 ft.	45 ft.	35 ft.
SL580	3/4	11"/sec	1300 lbs.	30 ft.	60 ft.	45 ft.
SL580	1	11"/sec	1600 lbs.	35 ft.	70 ft.	50 ft.
SL580	1-1/2	11"/sec	1900 lbs.	40 ft.	75 ft.	55 ft.
SL590	1/2	12"/sec	1100 lbs.	25 ft.	45 ft.	35 ft.
SL590	3/4	12"/sec	1400 lbs.	30 ft.	60 ft.	45 ft.
SL590	1	12"/sec	1700 lbs.	35 ft.	70 ft.	50 ft.
SL590	1-1/2	12"/sec	2100 lbs.	40 ft.	80 ft.	55 ft.
SL590	2	12"/sec	2500 lbs.	45 ft.	90 ft.	60 ft.

# OPERATOR DIMENSIONS



# UL325 MODEL CLASSIFICATIONS

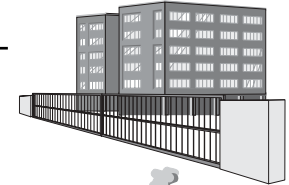
## CLASS I – RESIDENTIAL VEHICULAR GATE OPERATOR

A vehicular gate operator (or system) intended for use in a home of one to four single family dwellings, or a garage or parking area associated therewith.



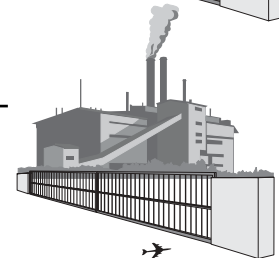
## CLASS II – COMMERCIAL/GENERAL ACCESS VEHICULAR GATE OPERATOR

A vehicular gate operator (or system) intended for use in a commercial location or building such as a multi-family housing unit (five or more single family units), hotel, garage, retail store or other building servicing the general public.



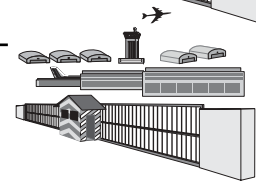
## CLASS III – INDUSTRIAL/LIMITED ACCESS VEHICULAR GATE OPERATOR

A vehicular gate operator (or system) intended for use in an industrial location or building such as a factory, loading dock area or other location not intended to service the general public.



## CLASS IV – RESTRICTED ACCESS VEHICULAR GATE OPERATOR

A vehicular gate operator (or system) intended for use in a guarded industrial location or building such as an airport security area or other restricted access locations not servicing the general public, in which unauthorized access is prevented via supervision by security personnel.



**NOTE: Models SL580 and SL590 meet the following specifications**

MODEL	CLASS 1	CLASS 2	CLASS 3	CLASS 4
SL580	✓	✓	✓	✓
SL590	✓	✓	✓	✓

# UL325 MODEL CLASSIFICATIONS continued

## SAFETY ACCESSORY SELECTION

All UL325 compliant LiftMaster gate operators will accept external entrapment protection devices to protect people from motorized gate systems. UL325 requires that the type of entrapment protection correctly matches each gate application. Below are the six types of entrapment protection recognized by UL325 for use on this operator.

## ENTRAPMENT PROTECTION TYPES

**Type A:** Inherent obstruction sensing system, self-contained within the operator. This system must sense and initiate the reverse of the gate within two seconds of contact with a solid object.

**Type B1:** Connections provided for a non-contact device, such as a photo eye can be used as a secondary protection.

**Type B2:** Connections provided for a contact sensor. A contact device such as a gate edge can be used for secondary protection.

**Type C:** Inherent adjustable clutch or pressure relief valve.

**Type D:** Connections provided for a control requiring continuous pressure to operate the operator open and close.

**Type E:** Built-in audio alarm. Examples include sirens, horns or buzzers.

**NOTE:** UL requires that all installations must have warning signs placed in plain view on both sides of the gate to warn pedestrians of the dangers of motorized gate systems. Many signs and labels are included with each operator.



This document is current with the UL325 specification at the time of printing. However, please check the most current version of UL325 for update information.

## UL325 ENTRAPMENT PROTECTION REQUIREMENTS

### GATE OPERATOR ENTRAPMENT PROTECTION

UL325 Installation Class	Slide Gate Operator		Swing & Gate Barrier (Arm) Operator	
	Primary Type	Secondary Type	Primary Type	Secondary Type
Class I & II	A	B1, B2 or D	A or C	A, B1, C, or DA, B1
Class III	A, B1, B2 or B2	A, B1, D or E	A, B1, C or C	D or E
Class IV	A, B1, B2 or D	A, B1, B2, D or E	A, B1, C or D	A, B1, C, D or E

The chart above illustrates the entrapment protection requirements for each of the four UL325 classes. (For more information on UL325 classes, refer to the previous page.)

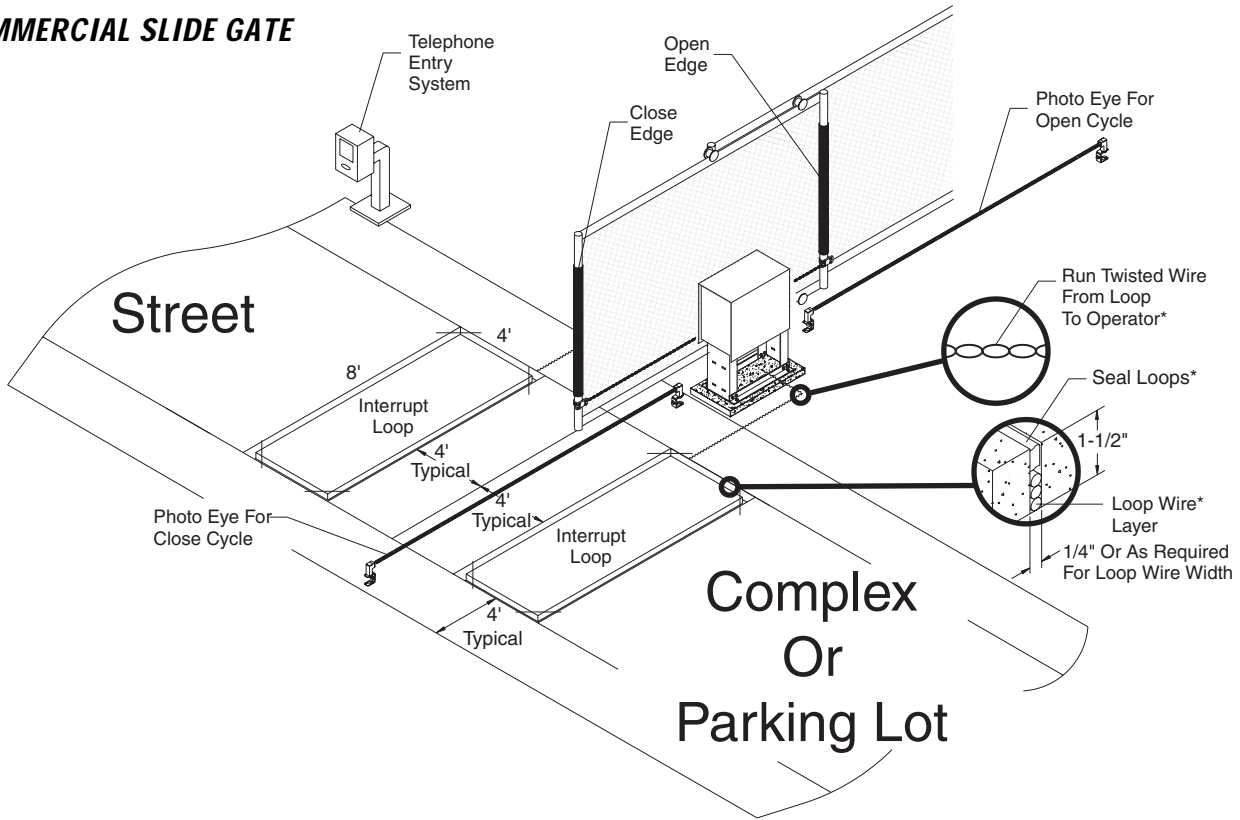
In order to complete a proper installation you must satisfy the entrapment protection chart shown above. That means that the installation must have one primary means of entrapment protection and one independent secondary means of entrapment protection. Both primary and secondary entrapment protection methods must be designed, arranged or configured to protect against entrapments in both the open and close directions of gate travel.

**For Example:** For a slide gate system that is installed on a single-family residence (UL325 Class I) you must provide the following: As your primary type of entrapment protection you must provide **Type A** inherent (built into the operator) entrapment sensing and *at least one of the following* as your secondary entrapment protection:

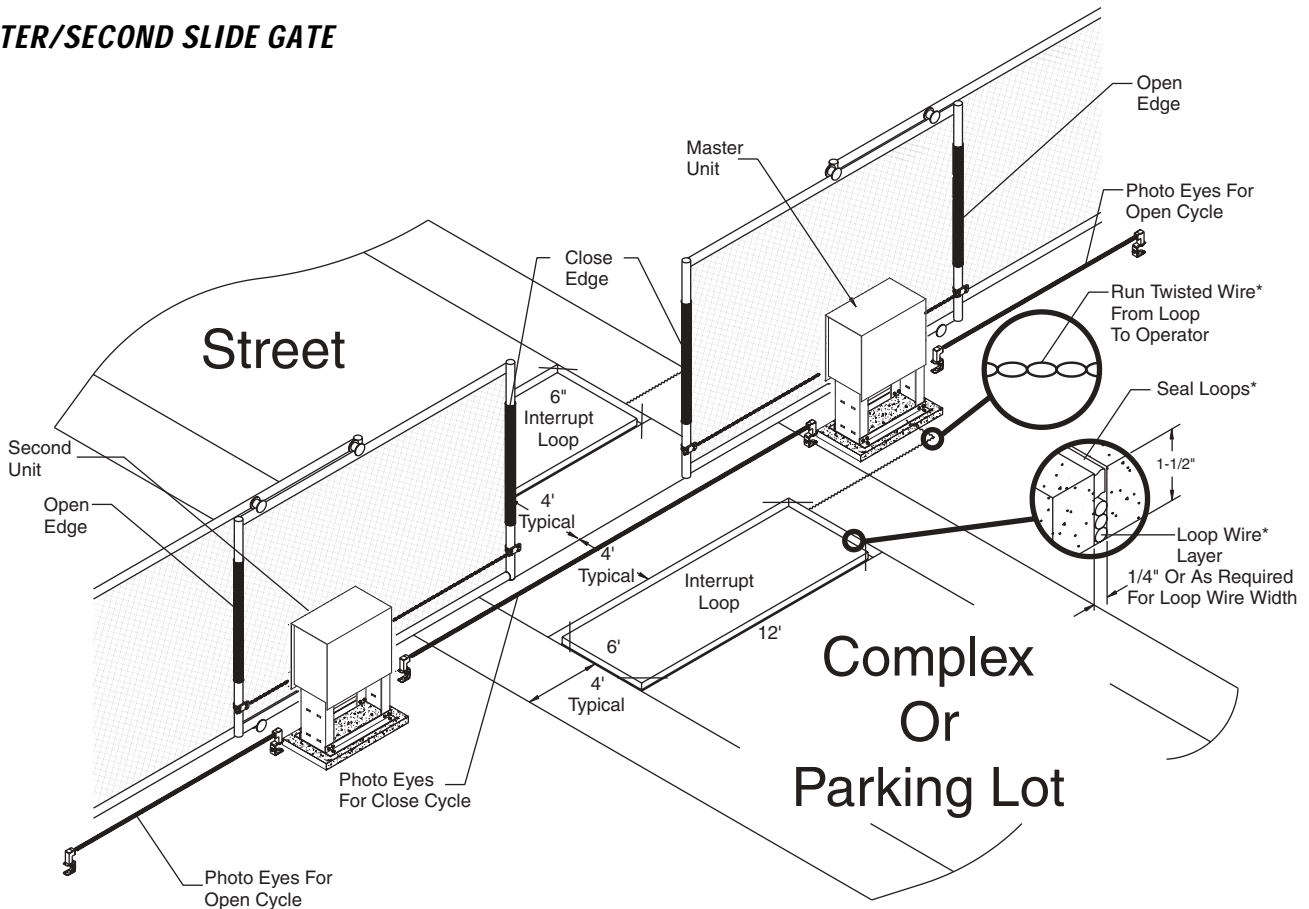
- **Type B1** - Non-contact sensors such as photo-eyes
- **Type B2** - Contact sensors such as gate edges or
- **Type D** - Constant pressure control

# GATE SYSTEMS

## COMMERCIAL SLIDE GATE



## MASTER/SECOND SLIDE GATE



\* REFER TO LOOP MANUFACTURER'S INSTRUCTIONS FOR DETAILED INSTALLATION & LOOP WIRING INSTRUCTIONS.

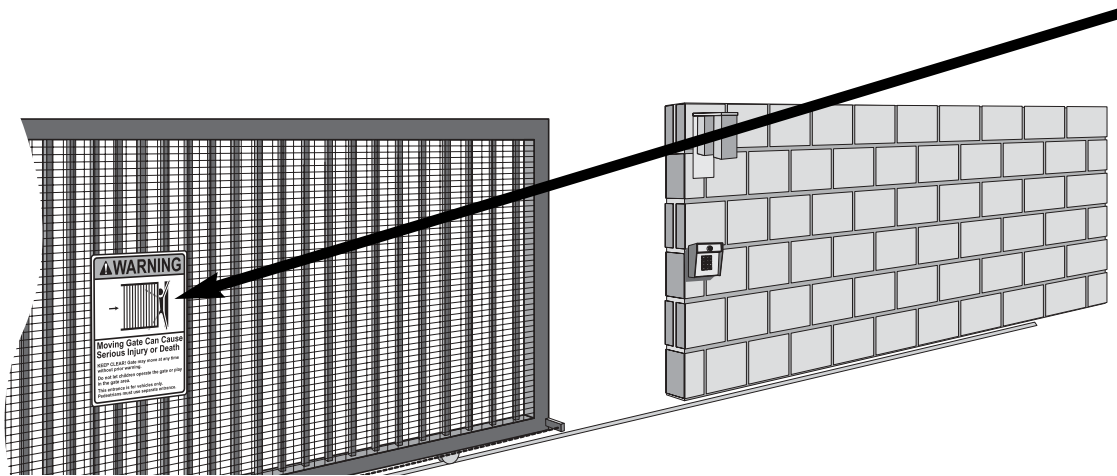
# SAFETY INSTALLATION INFORMATION

1. Vehicular gate systems provide convenience and security. Gate systems are comprised of many component parts. The gate operator is only one component. Each gate system is specifically designed for an individual application.
2. Gate operating system designers, installers and users must take into account the possible hazards associated with each individual application. Improperly designed, installed or maintained systems can create risks for the user as well as the bystander. Gate systems design and installation must reduce public exposure to potential hazards.
3. A gate operator can create high levels of force in its function as a component part of a gate system. Therefore, safety features must be incorporated into every design. Specific safety features include:
  - Gate Edges
  - Guards for exposed rollers
  - Photoelectric Sensors
  - Screen Mesh
  - Enclosed Track
  - Vertical Posts
  - Instructional and Precautionary Signage
4. Install the gate operator only when:
  - a. The operator is appropriate for the construction and the usage class of the gate.
  - b. All openings of a horizontal slide gate are guarded or screened from the bottom of the gate to a minimum of 4' (1.2 m) above the ground to prevent a 2-1/4" (57.15 mm) diameter sphere from passing through the openings anywhere in the gate, and in that portion of the adjacent fence that the gate covers in the open position.
  - c. All exposed pinch points are eliminated or guarded, and guarding is supplied for exposed rollers.
5. The operator is intended for installation only on gates used for vehicles. Pedestrians must be supplied with a separate access opening.
6. The gate must be installed in a location so that enough clearance is supplied between the gate and adjacent structures when opening and closing to reduce the risk of entrapment.
7. The gate must be properly installed and work freely in both directions prior to the installation of the gate operator.
8. Controls must be far enough from the gate so that the user is prevented from coming in contact with the gate while operating the controls.
9. Controls intended to be used to reset an operator after 2 sequential activations of the entrapment protection device or devices must be located in the line of sight of the gate, or easily accessible controls shall have a security feature to prevent unauthorized use.
10. All warning signs must be installed where visible, on each side of the gate.
11. For a gate operator utilizing a non-contact sensor:
  - a. See instructions on the placement of non-contact sensor for each type of application.
  - b. Care shall be exercised to reduce the risk of nuisance tripping, such as when a vehicle trips the sensor while the gate is still moving.
  - c. One or more non-contact sensors shall be located where the risk of entrapment or obstruction exists, such as the perimeter reachable by a moving gate or barrier.
12. For a gate operator utilizing a contact sensor such as an edge sensor:
  - a. One or more contact sensors shall be located at the leading edge, trailing edge and post mounted both inside and outside of a vehicular horizontal slide gate.
  - b. One or more contact sensors shall be located at the bottom edge of a vehicular vertical lift gate.
  - c. One or more contact sensors shall be located at the pinch point of a vehicular vertical pivot gate.
  - d. A hard wired contact sensor shall be located and its wiring arranged so the communication between the sensor and the gate operator is not subject to mechanical damage.
  - e. A wireless contact sensor such as the one that transmits radio frequency (RF) signals to the gate operator for entrapment protection functions shall be located where the transmission of the signals are not obstructed or impeded by building structures, natural landscaping or similar obstruction. A wireless contact sensor shall function under the intended end-use conditions.

# SAFETY LABEL PLACEMENT



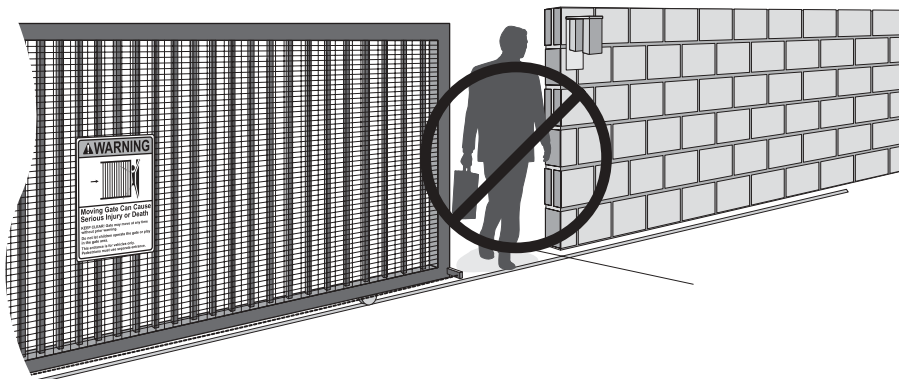
The UL required Warning Signs must be installed in plain view and on both sides of each gate installed. Each sign is made with fastening holes in each corner and should be permanently secured in a suitable manner. Warning label on unit should be visible.



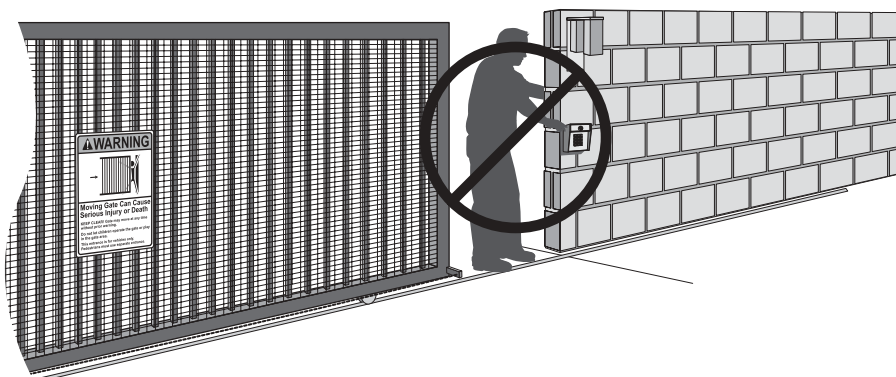
# WARNINGS AND PRECAUTIONS



**NOT FOR USE AS PEDESTRIAN PASSAGE!**



**DO NOT MOUNT ACCESSORIES THAT ARE ACCESSIBLE THROUGH GATE!**





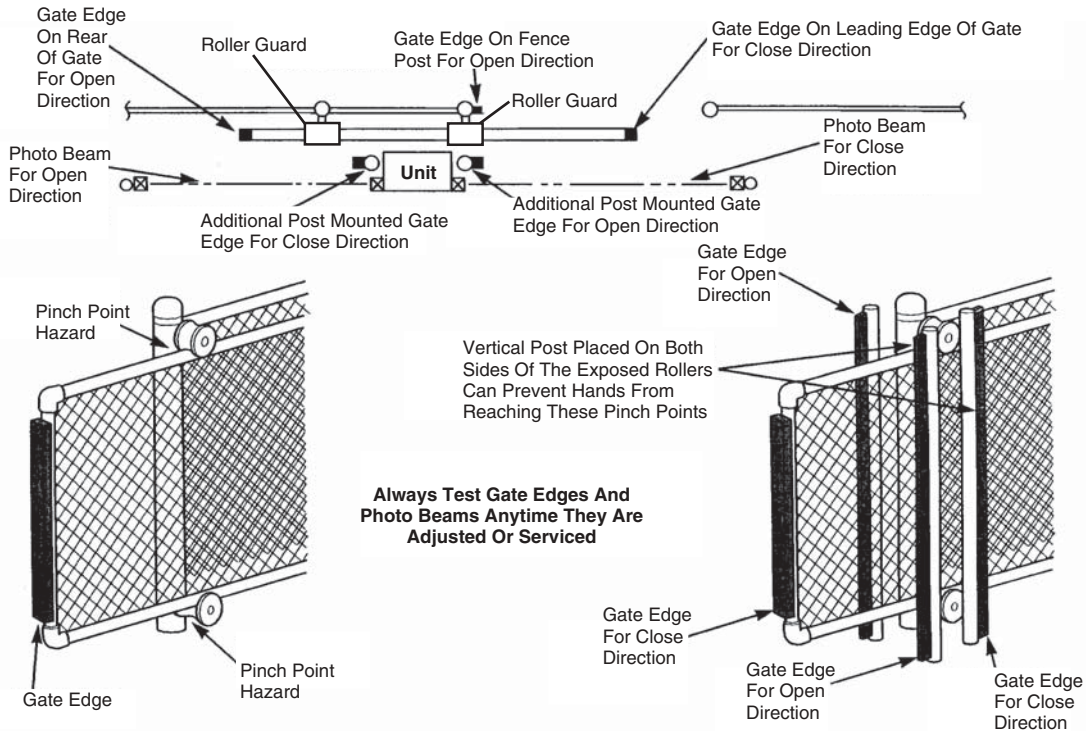
## SAFETY PRECAUTIONS FOR OPEN ROLLER GATES



Injuries occur when people get their hands or feet caught between the top or bottom of the gate and the gate roller. This potential pinch-point should be guarded against at all times. Enclosed style gate tracks are available for refitting of these rollers from many fence suppliers. Also, roller guards are available for installing over the rollers.



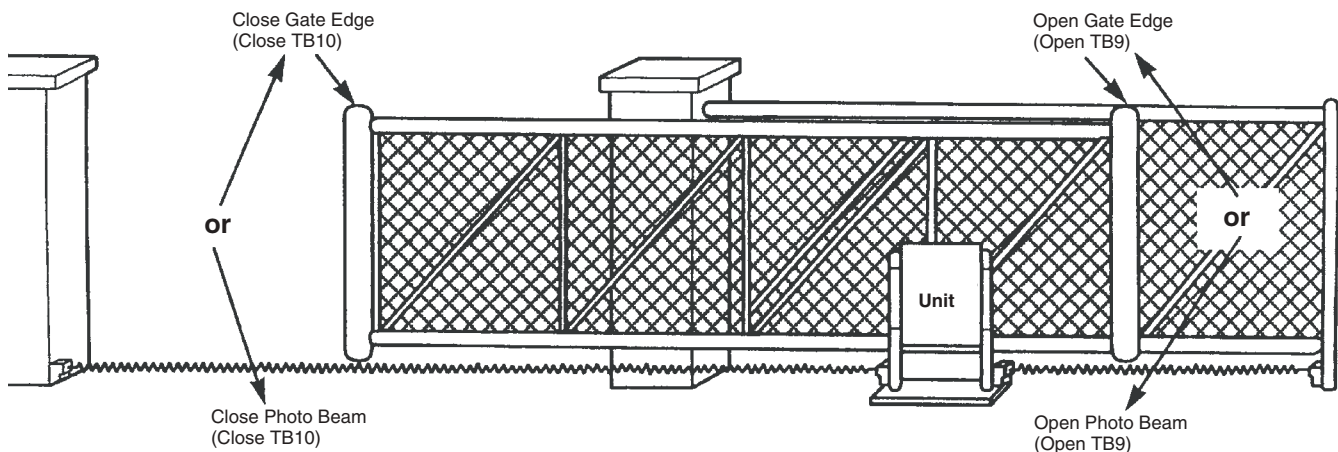
UL325 requires that, when used, contact sensors shall be located at the leading edge, trailing edge, and post-mounted both inside and outside of a vehicular horizontal slide gate. Non-contact sensors such as photo eyes must protect during both open and close gate cycles.



## SAFETY PRECAUTIONS FOR ORNAMENT "GRILL TYPE" GATES



Injuries occur when people put their hands and arms through openings in the grill while the gate is operating. They cannot retract their arm and it gets caught between the moving gate grill and the stationary fence post or fence. This potential hazard can be averted by placing a 4' screen mesh on the gate to prevent access through openings anywhere the gate may travel. See Safety Brochure for details.



# PAD MOUNTING (SL580 ONLY)

## CONCRETE PAD PREPARATION

**NOTE:** For the following instructions refer to Figures 1 and 2.

1. Lay out concrete pad as detailed in Figure 1.
2. Locate electrical conduit, as required, prior to pouring concrete.
3. Pour concrete pad
4. Secure operator to the concrete pad using (4) 1/2" concrete anchoring bolts (not provided). Refer to Figure 2.

Figure 1

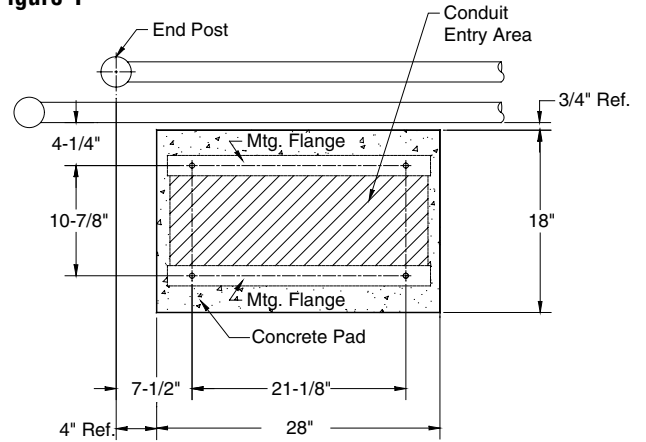
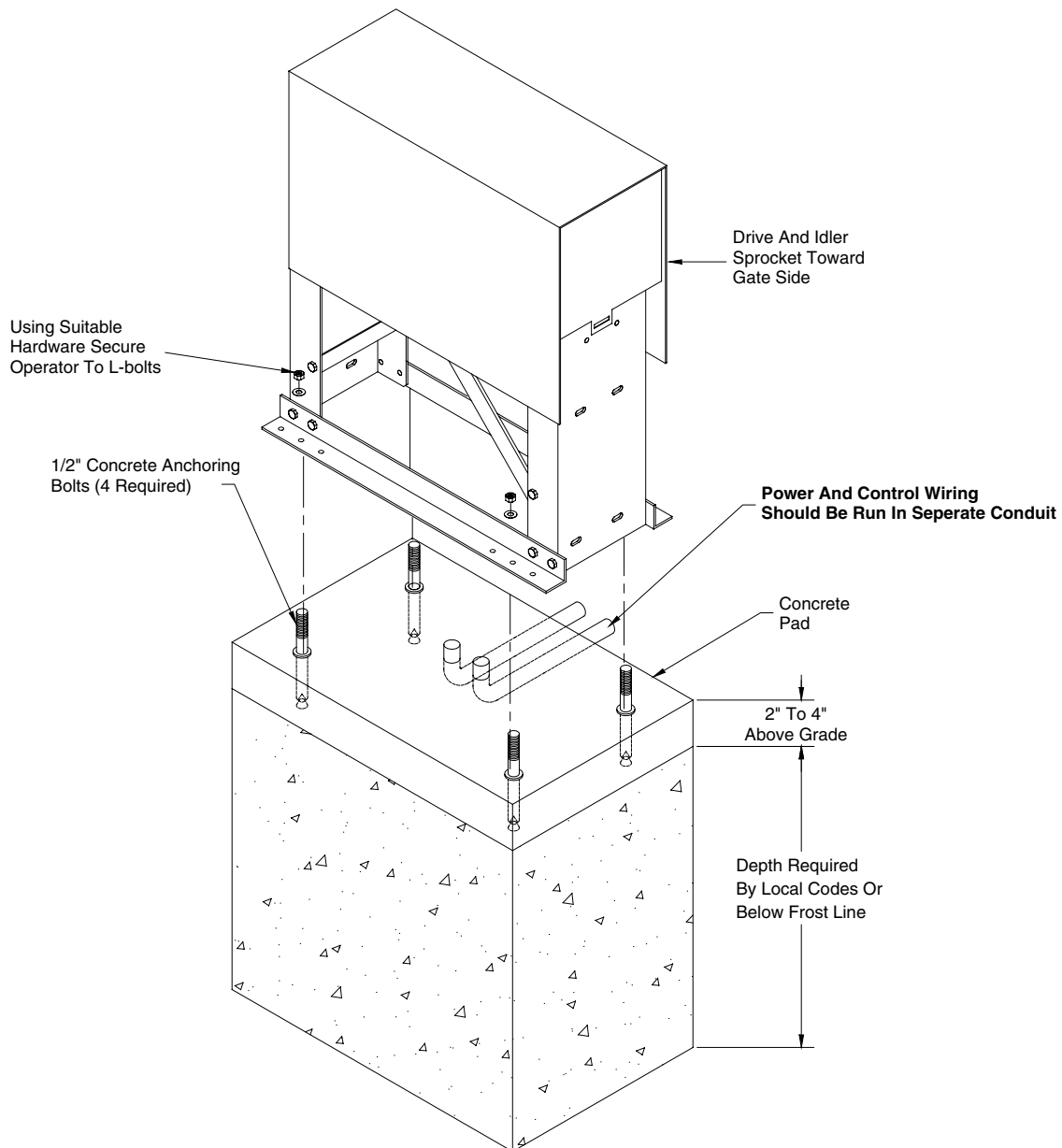


Figure 2



# POST MOUNTING (SL580)

## POST PREPARATION (SL580 ONLY)

**NOTE:** For the following instructions refer to Figures 1 and 2.

1. Locate and anchor two posts made of 3" outer diameter heavy walled pipe. Posts should be parallel and square to the gate (Figure 1).
2. Remove the mounting angles from base of the operator. Use the angles as a guide for proper distance between posts. Secure the angles to the posts using U-bolts that are provided.

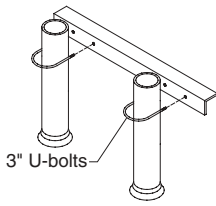
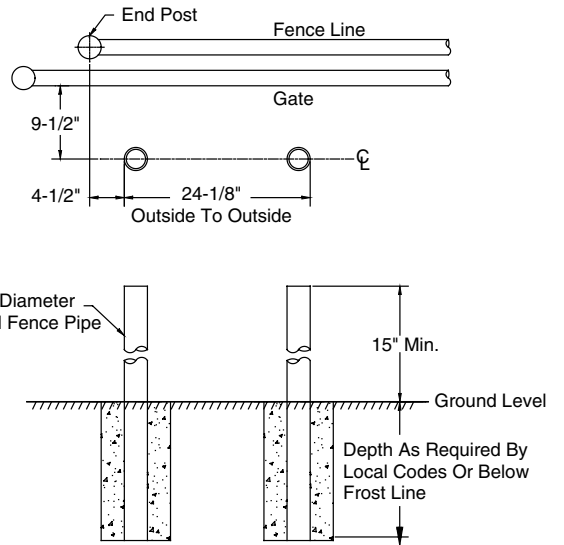
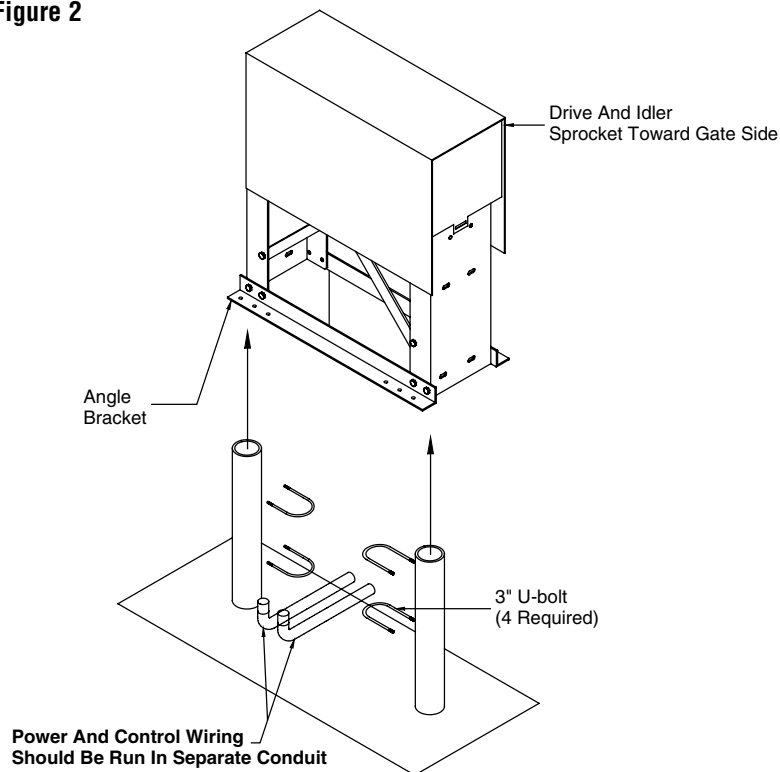


Figure 1



3. Locate electrical conduit, as required, prior to pouring concrete.
4. After concrete has set, remove angle brackets from post and reinstall on operator.
5. Secure operator to posts using (4) 3" U-bolts and hardware provided (Figure 2).

Figure 2



# POST MOUNTING (SL590)

## POST PREPARATION (SL590 ONLY)

**NOTE:** For the following instructions refer to Figures 1 and 2.

1. Locate and anchor two posts made of 3" outer diameter heavy walled pipe. Posts should be parallel and square to the gate (Figure 1).
2. Locate electrical conduit, as required, prior to pouring concrete.
3. Secure operator to posts using (4) 3" U-bolts and hardware provided (Figure 2).

Figure 1

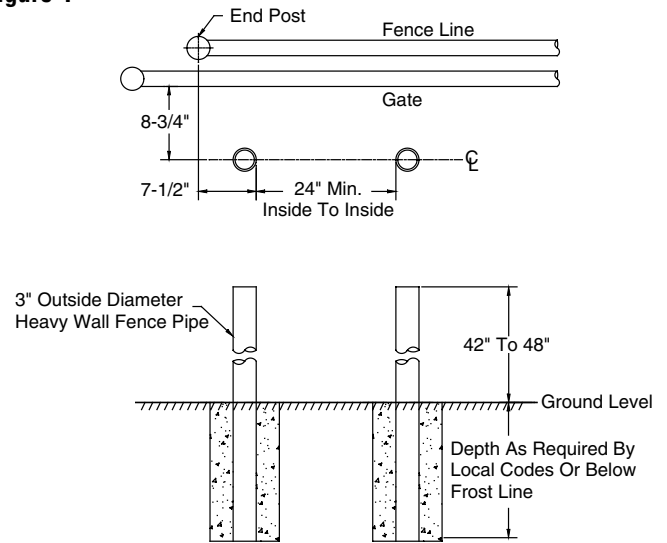
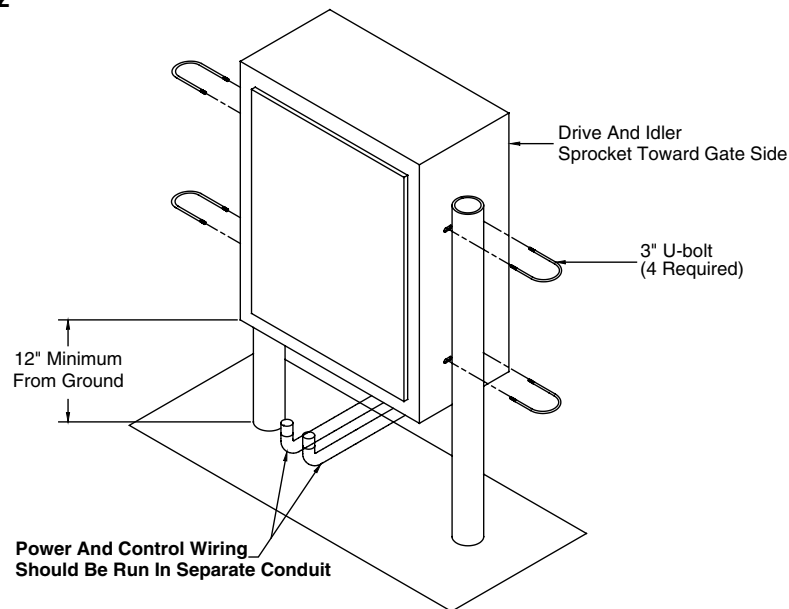


Figure 2



# GATE BRACKET & DRIVE CHAIN INSTALLATION

## ⚠ WARNING

When pulling the chain through the operator, the limit shaft will turn. **DO NOT** drive the limit (nuts) actuators on this shaft past their normal positions.

1. Mount gate brackets to the vertical front and rear posts of the gate (Figure 1).
2. Remove the operator cover or open access door.
3. Locate and engage the manual disconnect and lock it in place. Refer to page 14.
4. Connect one chain take-up bolt to the end of the chain and attach to the rear gate bracket (Figure 2).
5. Ensure that the drive and idler sprockets are in line with each other. Thread the chain through the plastic chain guide, around drive and idler sprockets, and then through the second plastic chain guide toward front gate bracket (Figure 3).
6. Adjust the chain to proper length and attach second take-up bolt to chain end. Secure the take-up bolt to the front gate bracket as shown.

Adjust nuts on chain take-up bolts to remove chain slack. Leave a maximum of one (1) inch of chain slack for every 10 feet of chain length. **Do not over-tighten chain.**

### NOTE ABOUT SOME TYPES OF CANTILEVER GATES:

With some cantilever gates over 20 feet long, you may need to add a brace along the length of the gate to prevent the gate from bowing when chain is tightened. This may also be required on some styles of gates that are constructed out of aluminum. Note that if positioned properly, this brace can also be used as a chain support.

Figure 1

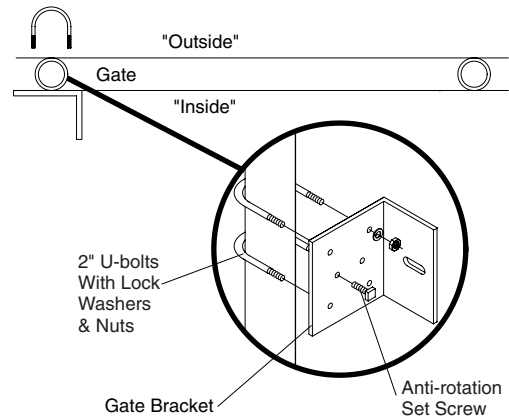


Figure 2

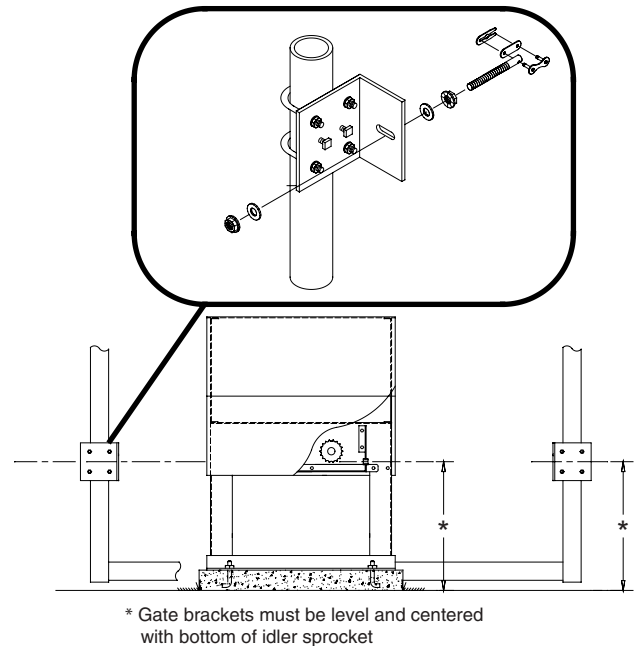
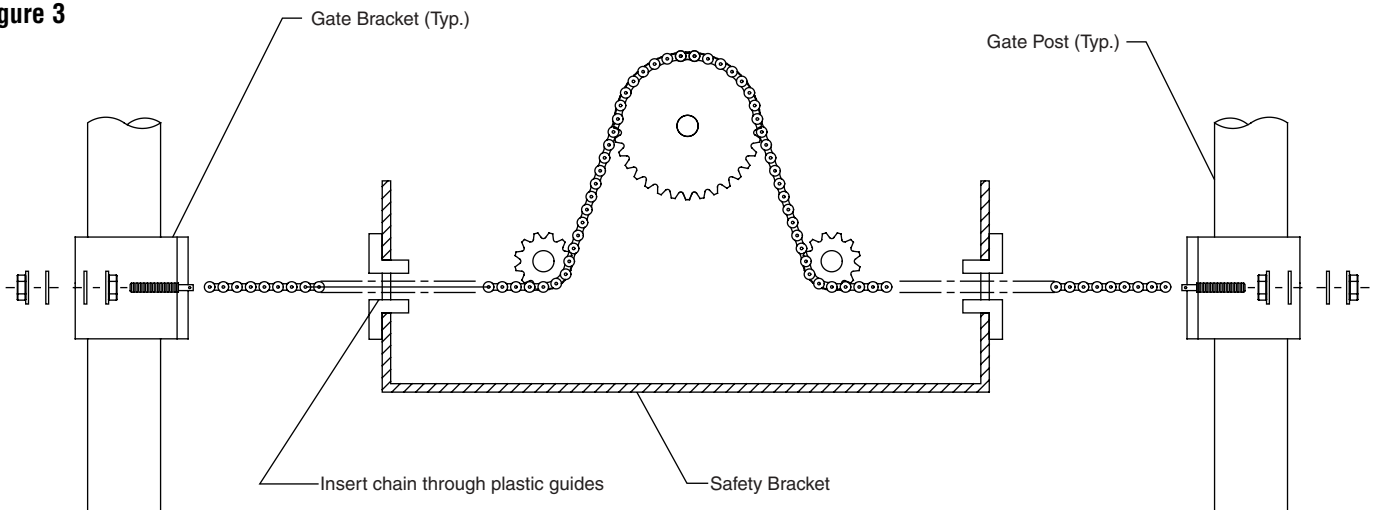


Figure 3



# MANUAL DISCONNECT

**NOTE:** When the operator is under load, you may find it necessary to relieve the tension on the drive chain before disengaging the system.

## **MODEL SL580 (Refer to Figure 1)**

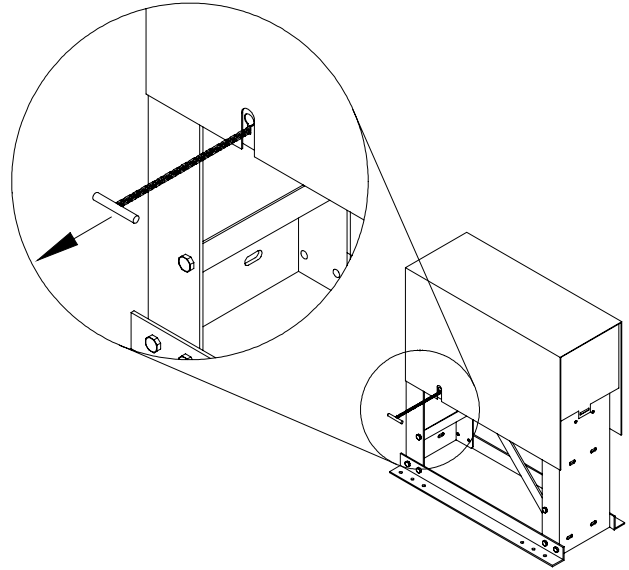
### **DISENGAGEMENT:**

Pull the disconnect chain and engage it in the slot provided. The gate may now be moved manually.

### **RE-ENGAGEMENT:**

Release the chain from the slot. (Some operator output sprocket rotation may be required for engagement).

Figure 1



## **MODEL SL590 (REFER TO FIGURE 2)**

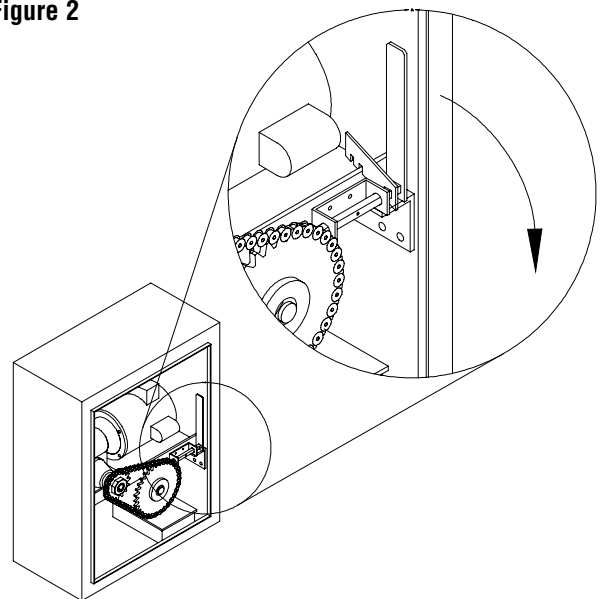
### **DISENGAGEMENT:**

Open the hinged door and pull the disconnect lever and lock it in place. The gate may now be moved manually.

### **RE-ENGAGEMENT:**

Release the lever and close the door. (Some operator output sprocket rotation may be required for engagement).

Figure 2



# INSTALL POWER WIRING & CONTROL STATION

## WARNING

ANY maintenance to the operator or in the area near the operator MUST not be performed until DISCONNECTING the electrical power and locking-out the power via the operator power switch. Upon completion of maintenance the area MUST be cleared and secured, at that time the unit may be returned to service.

## WARNING

DISCONNECT power at the fuse box BEFORE proceeding. Operator MUST be properly grounded and connected in accordance with local electrical codes. **NOTE:** The operator should be on a separate fused line of adequate capacity. ALL electrical connections MUST be made by a qualified individual.

## WARNING

BEFORE installing power wiring or control stations be sure to follow all specifications and warnings described below. Failure to do so may result in SEVERE INJURY to persons and/or damage to operator.

## WARNING

DO NOT install any wiring or attempt to run the operator without consulting the wiring diagram. We recommend that you install an optional reversing edge BEFORE proceeding with the control station installation.

# WIRING SPECIFICATIONS

## POWER WIRING INSTALLATION

On a Dual Gate System, each unit must be installed on ITS OWN separate circuits. Wire length in feet (stranded copper wire).

	SINGLE PHASE		THREE PHASE		
	115 Vac	230 Vac	230 Vac	460 Vac	575 Vac
<b>WIRE GAUGE 6</b>					
● 1/3 HP Motor	615 ft.	2769 ft.	4263 ft.	12789 ft.	31974 ft.
● 1/2 HP Motor	425 ft.	1845 ft.	2557 ft.	12789 ft.	15987 ft.
● 3/4 HP Motor	291 ft.	1107 ft.	1827 ft.	6394 ft.	10657 ft.
● 1 HP Motor	213 ft.	852 ft.	1278 ft.	5115 ft.	7993 ft.
● 1-1/2 HP Motor	142 ft.	583 ft.	852 ft.	3654 ft.	5328 ft.
● 2 HP Motor	-	393 ft.	639 ft.	2557 ft.	4441 ft.
<b>WIRE GAUGE 8</b>					
● 1/3 HP Motor	388 ft.	1747 ft.	2671 ft.	8072 ft.	20179 ft.
● 1/2 HP Motor	269 ft.	1165 ft.	1614 ft.	8072 ft.	10089 ft.
● 3/4 HP Motor	183 ft.	699 ft.	1152 ft.	4035 ft.	6726 ft.
● 1 HP Motor	134 ft.	537 ft.	807 ft.	3228 ft.	5044 ft.
● 1-1/2 HP Motor	90 ft.	368 ft.	530 ft.	2305 ft.	3363 ft.
● 2 HP Motor	-	269 ft.	403 ft.	1614 ft.	2525 ft.
<b>WIRE GAUGE 10</b>					
● 1/3 HP Motor	243 ft.	1096 ft.	1688 ft.	5064 ft.	12661 ft.
● 1/2 HP Motor	168 ft.	730 ft.	1012 ft.	5064 ft.	6330 ft.
● 3/4 HP Motor	115 ft.	438 ft.	723 ft.	2532 ft.	4220 ft.
● 1 HP Motor	84 ft.	337 ft.	506 ft.	2025 ft.	3165 ft.
● 1-1/2 HP Motor	55 ft.	230 ft.	337 ft.	1447 ft.	2110 ft.
● 2 HP Motor	-	168 ft.	252 ft.	1012 ft.	1582 ft.
<b>WIRE GAUGE 12</b>					
● 1/3 HP Motor	170 ft.	686 ft.	1057 ft.	3171 ft.	7929 ft.
● 1/2 HP Motor	105 ft.	458 ft.	634 ft.	3171 ft.	3964 ft.
● 3/4 HP Motor	72 ft.	274 ft.	503 ft.	1585 ft.	2643 ft.
● 1 HP Motor	53 ft.	211 ft.	316 ft.	1269 ft.	1982 ft.
● 1-1/2 HP Motor	35 ft.	144 ft.	211 ft.	903 ft.	1321 ft.
● 2 HP Motor	-	105 ft.	157 ft.	634 ft.	990 ft.

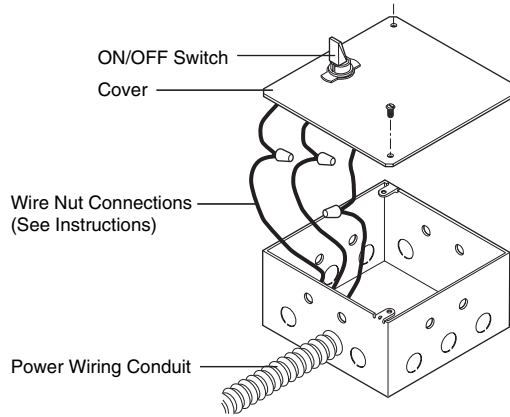
**NOTE:** Calculated using NEC guidelines. Local codes and conditions must be reviewed for suitability of wire installation. All power wiring should be dedicated and protected. Location of primary power disconnect should be labeled.

# DISCONNECT SWITCH POWER WIRING

**NOTE:** Before running power wiring refer to wiring specifications on page 15 for correct wire gauges.

Secure all electrical power connections inside the disconnect switch electrical box. Refer to electrical wiring diagram on pages 37, 38, 39 and 40.

**Important:** On three phase operators, power connections must be properly phased. If phased incorrectly, the gate operator will run reversed. To correct this situation, shut off power at main power source and at the operator's electrical disconnect switch. Then reverse any two of the three power leads.



## SINGLE PHASE

All single phase operators will have the following:

- |                       |                   |
|-----------------------|-------------------|
| <b>115V</b>           | <b>208/230V</b>   |
| ● L1 (NEUTRAL), WHITE | ● L1 (HOT), BLACK |
| ● L2 (HOT), BLACK     | ● L2 (HOT), BLACK |
| ● GROUND, GREEN       | ● GROUND, GREEN   |

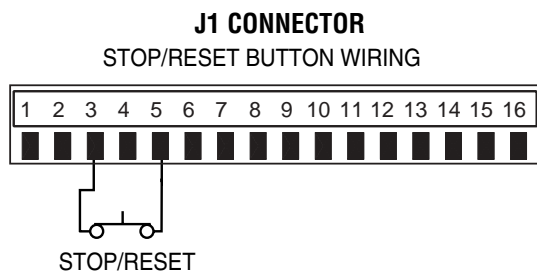
## THREE PHASE

All three phase operators will have the following:

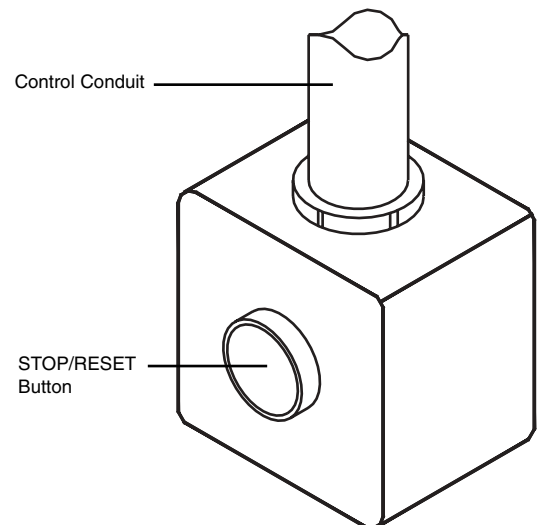
- L1 (HOT), BLACK
- L2 (HOT), BLACK
- L3 (HOT), BLACK
- GROUND, GREEN

# STOP/RESET BUTTON CONTROL WIRING (REQUIRED)

1. This control will function as a Stop/Reset command and is to be wired within line of sight of the gate. **The operator will not function unless this circuit is completed.**
2. Wire control station to terminals 3 and 5 in the control box on the operator.



**NOTE:** For additional control station options refer to pages 20 and 21.





# PROGRAMMING THE RADIO RECEIVER

## SET SECURITY MODE

The Universal Receiver can be used with up to 15 rolling code transmitters or passwords in HIGH security mode. Alternately, it can be used with up to 31 of any type transmitter in NORMAL security mode, including any combination of rolling code, billion code, or dip switch remotes.

The jumper must be set at the HIGH position for the receiver to operate in HIGH security mode. It must be set at NORMAL position to operate at the NORMAL mode (Figure 1).

When changing from NORMAL to HIGH security mode, any previous transmitter codes must be erased. Repeat Steps 2 and 3 in the Programming Section below to reprogram the receiver for each remote control transmitter in use.

The receiver is factory set at HIGH.

## SET OUTPUT DURATION

### ! WARNING

To prevent possible SERIOUS INJURY or DEATH, the use of CONSTANT OPERATION on residential openers is PROHIBITED.

For commercial applications, the receiver can be set for either constant or momentary closure on the output contacts. Use of constant closure is prohibited on residential garage door openers because it overrides the safety reversal devices.

With the jumper in the "M" (Momentary) position, the contacts will close for 1/4 second regardless of the length of radio transmission. With the jumper in "C" (Constant) position, the contacts will stay closed as long as the radio continues transmitting (Figure 2).

The receiver is factory set at M.

## PROGRAMMING THE REMOTE TO THE RECEIVER

1. Pry open the front panel of receiver case with a coin or a screwdriver. Re-connect power to opener (Figure 3).
2. Press and release the "learn" button on the receiver. The learn indicator light will glow steadily for 30 seconds.
3. Within 30 seconds, press and hold the button on the hand-held remote that you wish to operate your garage door.

The opener will now operate when the push button on either the receiver or the remote control transmitter is pressed.

Repeat Steps 2 and 3 for each remote control that will be used to operate the garage door opener.

## TO ERASE ALL REMOTE CONTROL CODES

Press and hold the "learn" button on the receiver panel until the indicator light turns off (about 6 seconds). All transmitter codes are now erased. Then follow the steps above to reprogram each remote control.

### ! WARNING

To prevent possible SERIOUS INJURY or DEATH from electrocution:

- Be sure power is not connected BEFORE installing the receiver.
- To prevent possible SERIOUS INJURY or DEATH from a moving gate or garage door:
  - ALWAYS keep remote controls out of reach of children. NEVER permit children to operate, or play with remote control transmitters.
  - Activate gate or door ONLY when it can be seen clearly, is properly adjusted, and there are no obstructions to door travel.
  - ALWAYS keep gate or garage door in sight until completely closed. NEVER permit anyone to cross path of moving gate or door.

NOTICE: To comply with FCC and/or Industry Canada (IC) rules, adjustment or modifications of this receiver and/or transmitter are prohibited, except for changing the code setting or replacing the battery. THERE ARE NO OTHER USER SERVICEABLE PARTS.

Tested to Comply with FCC Standards FOR HOME OR OFFICE USE. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

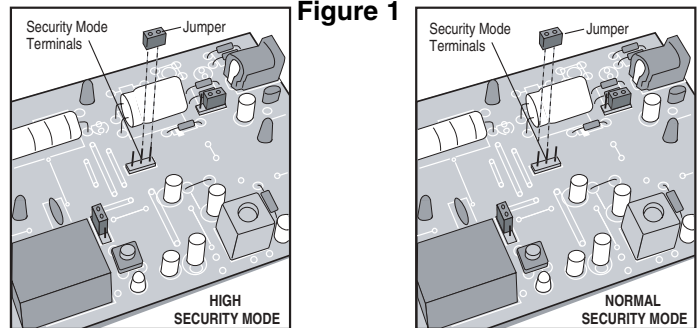


Figure 1

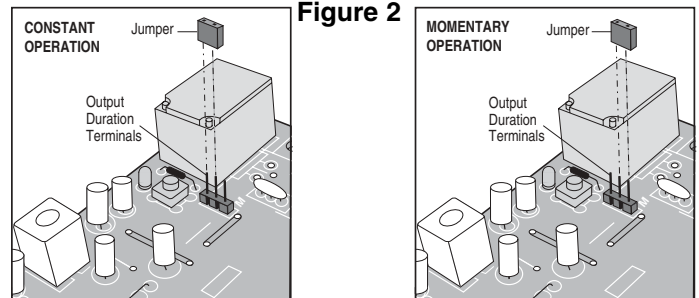


Figure 2

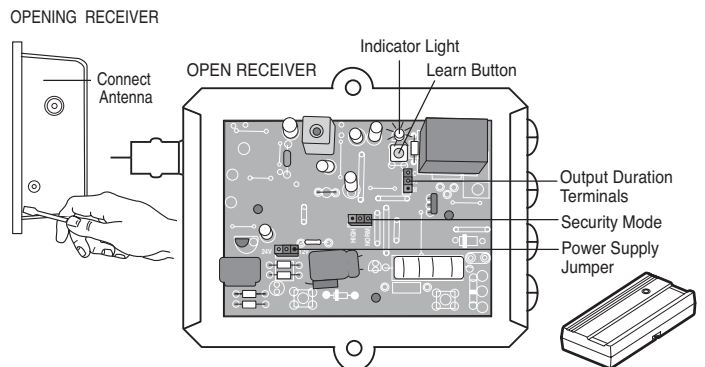


Figure 3

# LIMIT SWITCH ADJUSTMENT FOR GATE TRAVEL

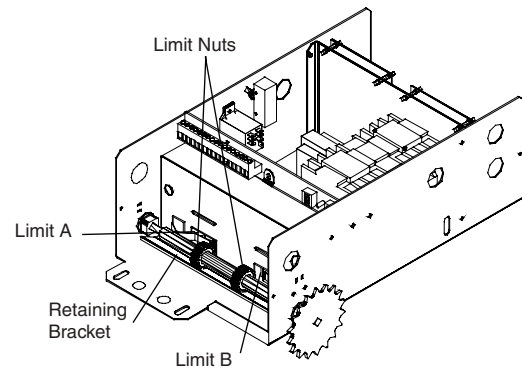
## **⚠ WARNING**

To avoid **SERIOUS PERSONAL INJURY** or **DEATH** from electrocution, **DISCONNECT** electric power **BEFORE** manually moving limit nuts.

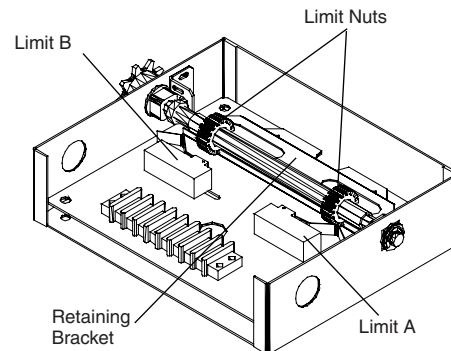
**MAKE SURE THE LIMIT NUTS ARE POSITIONED BETWEEN THE LIMIT SWITCH ACTUATORS BEFORE PROCEEDING WITH ADJUSTMENTS.**

1. Remove control panel cover and locate the rotary limit switch assembly.
2. Disengage the unit's manual disconnect (see page 14), then manually open the gate to its full open position (note direction of limit nut travel).
3. Adjust the open limit nut by depressing the retaining bracket to allow nut to spin freely. Adjust open limit nut so that it trips the open limit switch. After adjustment, release plate and ensure it seats fully in slots of both nuts.
4. Manually close the gate to its full closed position.
5. Disengage the retaining bracket and rotate the close limit nut until it trips the close limit switch.
6. Re-engage the retaining bracket into both limit nuts and also re-engage the manual disconnect (see page 14).

### MODEL SL580 LIMIT ASSEMBLY



### MODEL SL590 LIMIT ASSEMBLY



### LIMIT DIRECTION

DIRECTION OF GATE TO OPEN	OPEN LIMIT	CLOSE LIMIT
RIGHT	A	B
LEFT	B	A

# SAMS (SEQUENCED MANAGEMENT SYSTEM)

## SAMS DEFINITION

The Sequenced Access Management System or SAMS allows the customer more control when managing vehicular entrances to areas such as apartment complexes, businesses and gated communities. The basic concept of the system is that traffic is controlled by two gates installed in tandem, a fast moving gate such as a barrier gate operator and a slower moving more secure or ornamental gate such as a single or pair of slide/swing gate operator. The design of this gate system balances the demands of speed during high traffic periods with security during low traffic periods. Barrier gates typically have the fastest open times of the many gate operator types and the slide or swing gates allow you to effectively seal off the perimeter of the complex you are planning to secure.

**NOTE:** Connect all entry devices to the slide or swing gate. If using a device, such as a 7-day timer, to latch the slide or swing gate open during high traffic times, connect the device's N/O relay output to the GL board's Interrupt Loop input. Once the device activates the Interrupt Loop input, the next vehicle to access the SAMS system will lock the gate in the open position until the device deactivates. When the device deactivates, the timer to close will automatically close and secure the gate.

## SAMS OPERATION

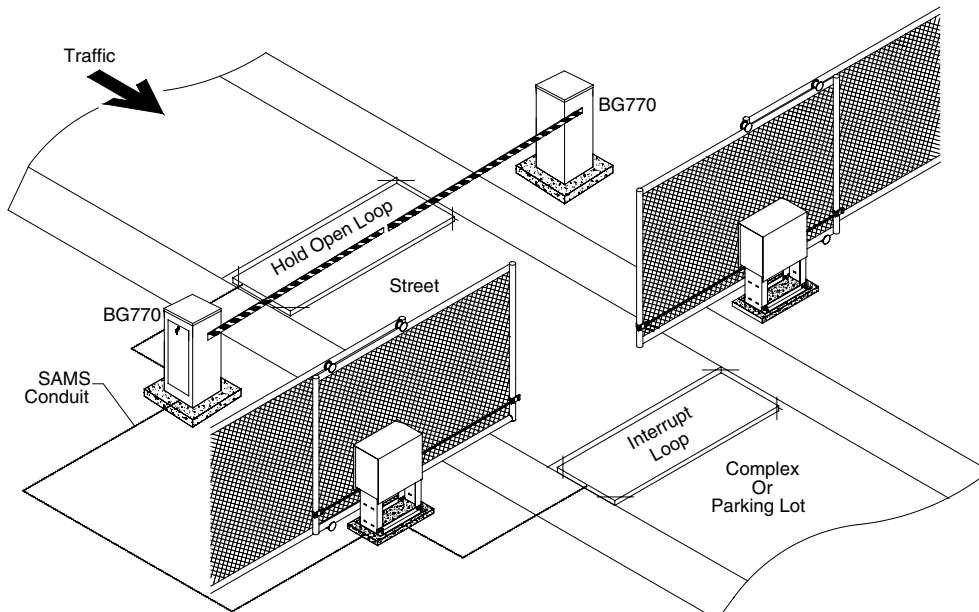
- 1) When an authorized vehicle accesses the gate system, the SAM system responds by first opening the gate farthest from the vehicle, the swing or slide gate.
- 2) Once the swing or slide gate is open, the barrier gate begins its open cycle.
- 3) Once the barrier is open the vehicle may pass through the SAM system. At this point you have two options in how you would like to initiate the SAM systems closure. You may chose to:
  - a) Use a timer to close system to automatically close the barrier gate after a preset amount of time or
  - b) Use a loop system to close the barrier gate after the vehicle has passed through the SAM system.
- 4) Once the barrier gate is closed the slide or swing gate will activate its internal timer to close and begin closing.
- 5) If another authorized vehicle accesses the SAM system before the slide or swing begins to close the barrier will open and allow the vehicle to pass through the SAM system.
- 6) If another authorized vehicle accesses the SAM system during the slide or swing gates closing cycle the SAM system will reopen the slide or swing gate. Once the slide or swing gate reaches the open position the barrier will then open to allow the vehicle to pass through the SAM system.
- 7) If no other authorized vehicles access the SAM system the swing or slide gate will close followed by the barrier.

## SAMS WIRING

- 1) Install conduit between the BG770 and the SL580/590 for SAMS control wiring.
- 2) Run a 4-conductor cable in the conduit between the BG770 SL580/590.
- 3) Locate the SAMS relay terminals (J5) on the GL board in the SL580/590 and locate the auxiliary limit switch in the BG770.
- 4) Attach a wire from the SAMS relay terminal (J5) on the GL board to terminal 1 on the BG770 terminal strip.
- 5) Attach a wire from the SAMS relay terminal (J5) on the GL board to terminal 3 on the BG770 barrier gates terminal strip.
- 6) Attach a wire from terminal J1-5 on the GL board to the common (COM) on the auxiliary limit switch in the barrier gate.
- 7) Attach a wire from terminal J1-8 on the GL board to the normally open (NO) on the auxiliary limit switch.
- 8) Test for correct functionality of the SAM system.

GL Board	BG770 Barrier Gate
Interrupt Loop Input	Auxiliary Limit Switch
J1 - 5	N/O
J1 - 8	COM
SAMS Relay At J5	Terminal Strip
N/O	1 (OPEN)
COM	3 (COMMON)

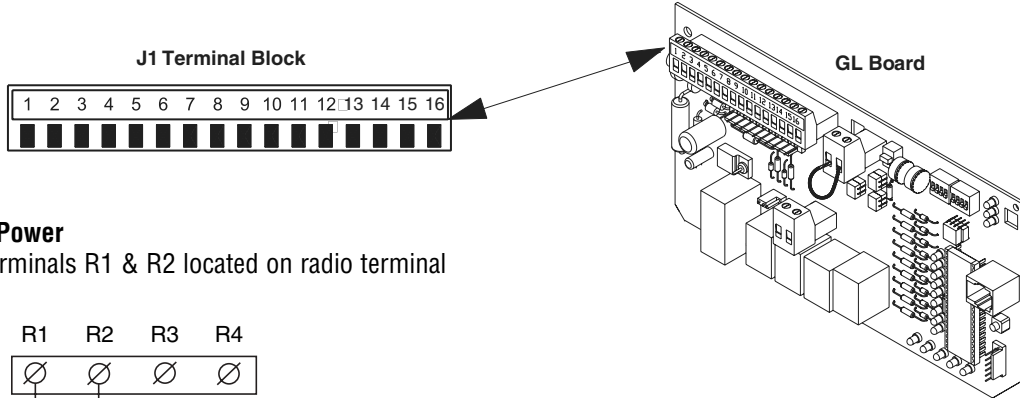
Figure 1



# OPTIONAL CONTROL DEVICES

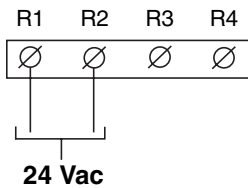
All inputs are normally open and momentary, except the stop (N.C.). The following instructions are based upon UL325, and include recommendations for significant increase in safety.

We strongly recommend that you follow the UL guidelines presented throughout the manual. Refer to instructions shipped with optional control devices for mounting, wiring, programming and adjustment.



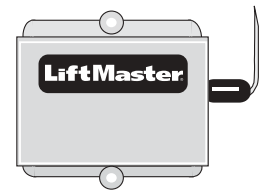
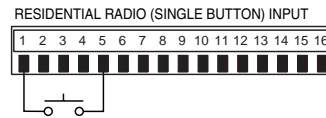
## 24Vac Accessory Power

Can be found at terminals R1 & R2 located on radio terminal block.



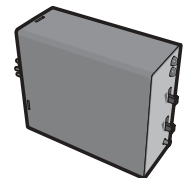
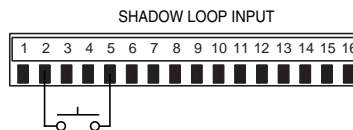
## Terminals 1 & 5 - Residential Radio (single button) Input

These terminals are intended for use with a radio receiver in a residential application or as a single button control. This allows the user to open the gate by activating the transmitter when the gate is closed or between limits. This input also gives the user the ability to close the gate by activating the transmitter when the gate is on the open limit.



## Terminals 2 & 5 - Shadow Loop Input

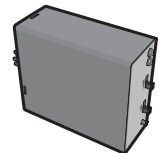
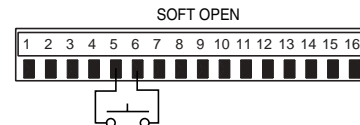
These terminals are intended for use with a loop detector and is primarily used on swing gate operators. This input protects cars by preventing the gate from moving off of the **open or close limit** when the shadow loop input is active.



## Terminals 6 & 5 - Soft Open

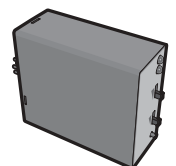
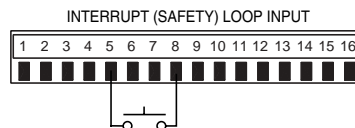
These terminals are intended for use as a general open control. Accessories that may be wired to this input include: Telephone Entry Systems, Radio Receiver (Commercial Applications), Exit Loop Detector, Keypads, 7-Day Timer.

**NOTE:** Will not override a double entrapment (signalled by the gate stopped and entrapment alarm on).



## Terminals 8 & 5 - Interrupt (Safety) Loop Input

These terminals are intended for use with a loop detector. This input functions to reverse a closing gate to the open limit. Latching this input will reset the timer to close.



# OPTIONAL CONTROL DEVICES cont'd

## Terminals 9 & 5 - Obstruction Open (Edge/ Photo Eye Input)

### Edge Input: See Programming Section

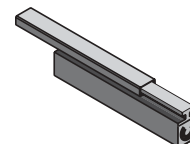
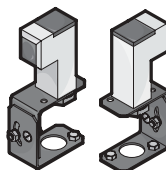
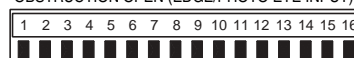
This input will reverse an opening gate to the close limit. Activating this input when the gate is closing will have no effect.

**NOTE:** If upon reversal a second separate obstruction is detected (gate edge or RPM sensor), gate will stop and alarm.

### Photo Eye Input: See Programming Section

This input will pause an opening gate. Once the input (photo eye) is cleared, the gate continues to open. Activating this input when the gate is closing will have no effect.

OBSTRUCTION OPEN (EDGE/PHOTO EYE INPUT)



## Terminals 10 & 5 - Obstruction Close (Edge/ Photo Eye Input)

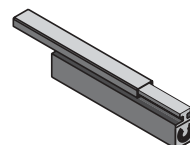
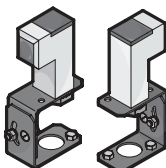
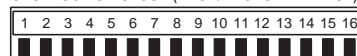
### Edge Input: See Programming Section

This input will reverse a closing gate to the open limit. When reaching the open limit the timer to close, if enabled, will be disabled until another command is given. Activating this input when the gate is closing will have no effect. **NOTE:** If upon reversal a second separate obstruction is detected (gate edge or RPM sensor), gate will stop and alarm.

### Photo Eye Input: See Programming Section

This input will reverse a closing gate to the open limit. This input will not affect the timer to close. Activating this input when the gate is closing will have no effect.

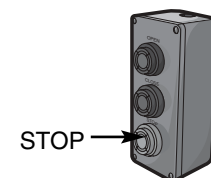
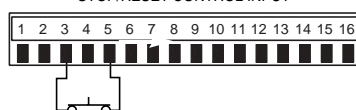
OBSTRUCTION CLOSE (EDGE/PHOTO EYE INPUT)



## Terminals 3 & 5 - Stop/Reset Control Input

These terminals are intended for use with a single stop/reset button or the stop control of a three-button station that is installed within line of site of the gate. This input functions to stop the gate or to reset the gate after an entrapment fault. **NOTE:** This input uses a normally closed circuit and the operator will not run until a stop control is installed.

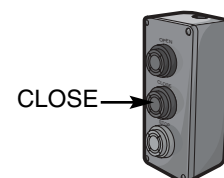
STOP/RESET CONTROL INPUT



## Terminals 4 & 5 - Hard Close Control Input

These terminals are intended for use only with the close control of a three-button station that is installed within line of sight of the gate. A momentary activation of this input will cause the gate to close. **Activation of this input for longer than three seconds will enable the control to be used as a constant pressure override device.** This will allow the user, in emergencies, to override a failed accessory such as a loop detector or photo-eye.

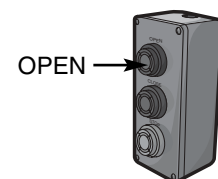
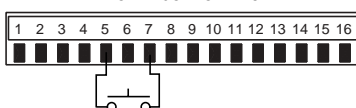
HARD CLOSE CONTROL INPUT



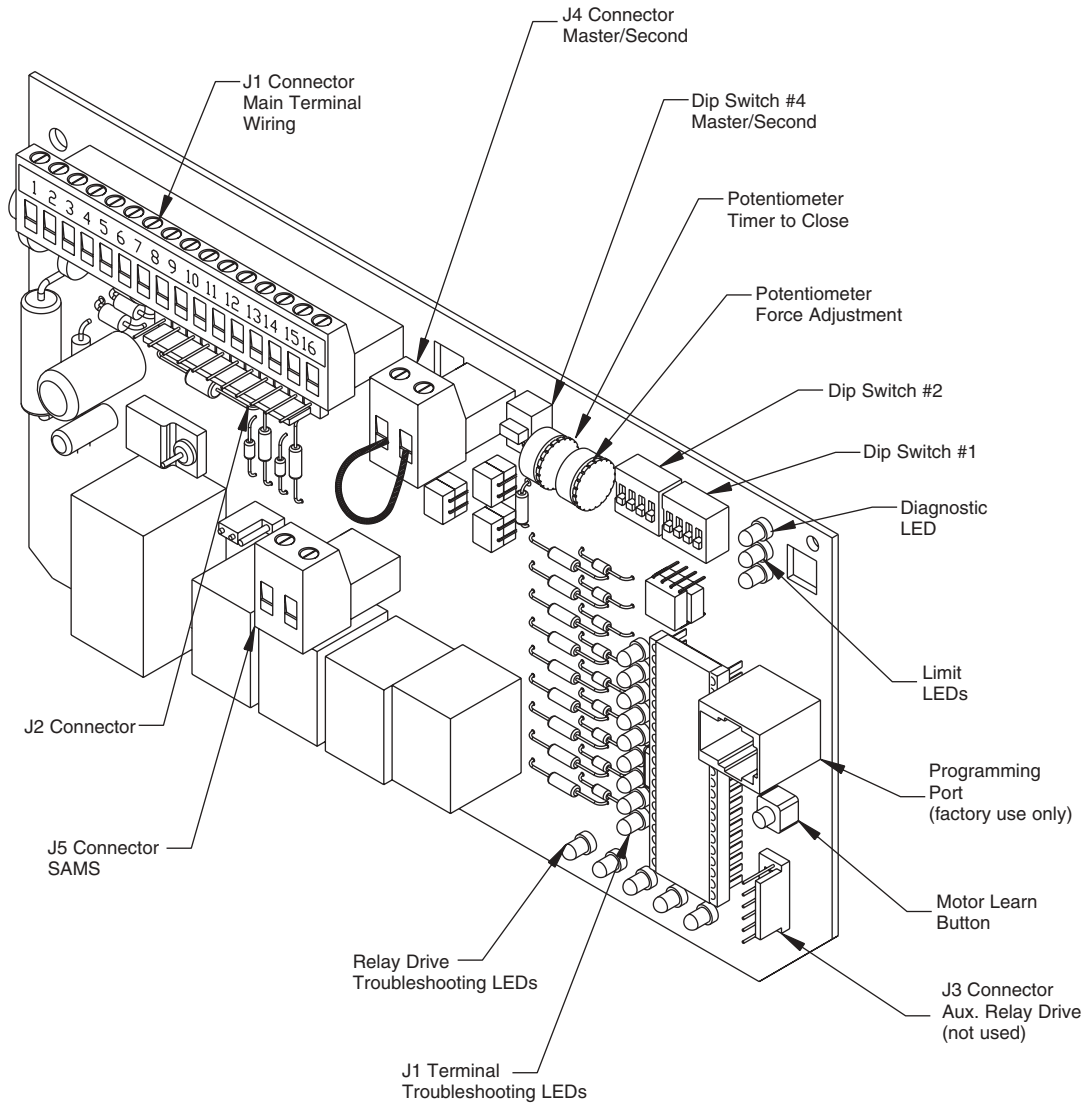
## Terminals 7 & 5 - Hard Open Control Input

These terminals are intended for use only with the open control of a three-button station that is installed within line of sight of the gate. A momentary activation of this input will cause the gate to open. **Activation of this input for longer than three seconds will enable the control to be used as a constant pressure override device.** This will allow the user, in emergencies, to override a failed accessory such as a loop detector or photo-eye.

HARD OPEN CONTROL INPUT



# CONTROL BOARD ILLUSTRATIONS



# CONTROLLER PROGRAMMING AND FEATURES

## MOTOR LEARN FUNCTION (FORCE PROFILE)

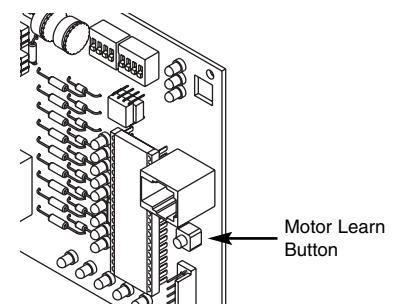
This function is preprogrammed at factory. If either board or motor is replaced, the controller will need to be programmed to “LEARN” the specific motor RPM profile of your operator. Switch “S3” is provided for this. This is important for accurate force control. Failure to do so may result in improper and unsafe operation.

### To learn the motor:

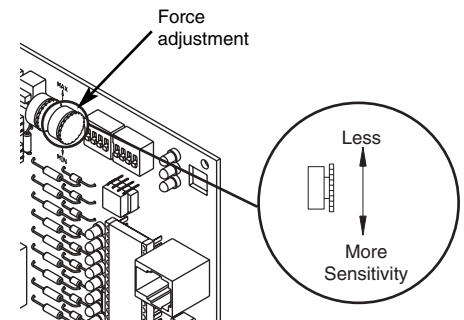
**NOTE:** On SL580 model, board may need to be removed from metal shield. Motor Learn must be performed in stand alone mode.

1. Detach the unit from the gate, the motor needs to be learned without a load. (**Do not use the manual release, the limit shaft must be turning**)
  2. Press the motor learn button. The yellow LED should start to flash rapidly.
  3. Install a jumper on either the hard open or the hard close input terminals. The motor will run for a few seconds and then stop. If the LED goes out the motor is learned. If the unit activates a limit before completing the learn or some other error occurs the LED will go back to on continuously. If this happens try learning while running in the opposite direction.
- NOTE:** It is important that the jumper is in constant contact while the gate is moving in learn mode.
4. Reconnect the unit to the gate, reset the limits and adjust the force control.

## MOTOR LEARN BUTTON



## FORCE CONTROL



## FORCE CONTROL

Set the force control pot such that the unit will complete a full cycle of gate travel but can be reversed off an obstruction without applying an unreasonable amount of force. On most operators this will be around the middle of the range.

**NOTE:** For LED location refer to illustration on previous page.

## DIAGNOSTICS (LEDS AND CODES)

There are three diagnostic LEDs. Two red LEDs (OL, CL) are indicators for the open and close limits. The LEDs are illuminated when the limit switch contacts are closed.

The third amber LED (DIA) is used to blink out diagnostic codes. The number is the count of the number of times the LED is on in an 8 second period. The LED is on for approximately 1/2 second and repeats every second until the number is reached. There will be a pause following each pulse cycle (1-6 pulses) to differentiate between the different diagnostic codes.

LED CODE FLASHED	DIAGNOSTIC MEANING	CLEARED BY
OFF	Normal operation.	N/A
1	Single entrapment sense.	Control Input
2	Double entrapment sense.	Hard Input*
3	Failed or no hall effect sensor.	Removal of problem.
4	Exceed maximum motor run time.	Hard Input*
5	Limit fault.	Control Input*
6	Loss of communications between master and second during run mode.	Removal of problem.
ON NO FLASH	Motor not learned.	Completion of motor Learn Routine

\* HARD INPUTS INCLUDE HARD OPEN, CLOSE AND STOP INPUTS.

## TROUBLESHOOTING LEDS

There are 9 troubleshooting LEDs (D11, D13, D15, D17, D19, D21, D24, D29, D31).

LED	LED NAME	DESCRIPTION
D11	RADIO	On when radio switch activated.
D13	SHADOW	On when shadow loop is activated.
D15	HARD CLOSE	On when hard close switch is activated.
D17	STOP	On when stop switch is not activated.
D19	SOFT OPEN	On when soft open switch is activated.
D21	HARD OPEN	On when hard open switch is activated.
D24	INT. LOOP	On when interrupt/safety loop activated.
D29	OBS. OPEN	On when edge is activated or when photo eye beam is broken.
D31	OBS. CLOSE	On when edge is activated or when photo eye beam is broken.

## RELAY DRIVE TROUBLESHOOTING LEDS

There are 5 troubleshooting LEDs (D2, D3, D4, D5, D6) on relay drives K1 through K5. These LEDs will be illuminated when the microcontroller relay drive is activated.

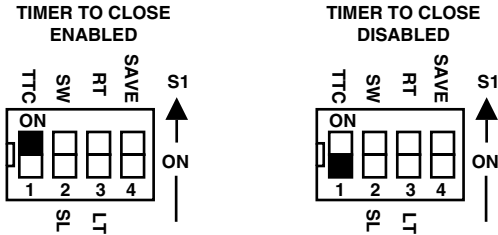
LED	LED NAME	DESCRIPTION
D6	CONT A	On when CONTACTOR A activated.
D5	CONT B	On when CONTACTOR B activated.
D4	SAM	On when Sam Relay is activated.
D3	LOCK	On when Mag Lock Relay is activated.
D2	ALARM	On when Alarm Relay is activated.

# PROGRAMMING SETTINGS (DIP SWITCH #1)

**NOTE:** For all S1, S2 and S4 switch settings to take effect, the Save Mode must be set to the OFF position.

## TIMER TO CLOSE ENABLE

This switch (S1-1) enables the auto close timer. The timer to close feature works in conjunction with the potentiometer located on the board.



## SLIDE/SWING

This switch (S1-2) selects slide or swing gate operation, in order to optimize gate behavior for specific application.

SL = Slide  
SW = Swing

## RIGHT/LEFT OPERATION

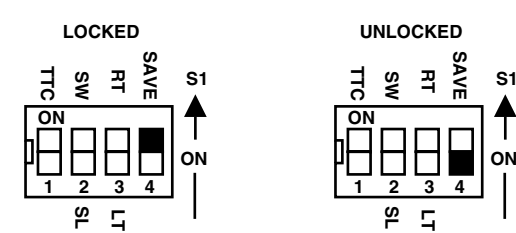
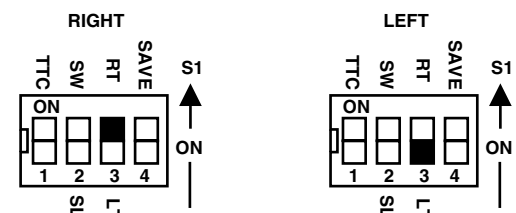
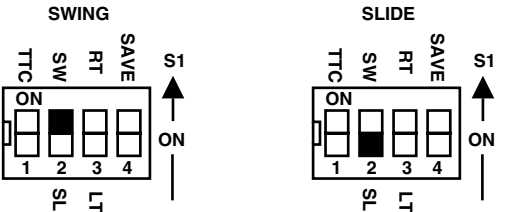
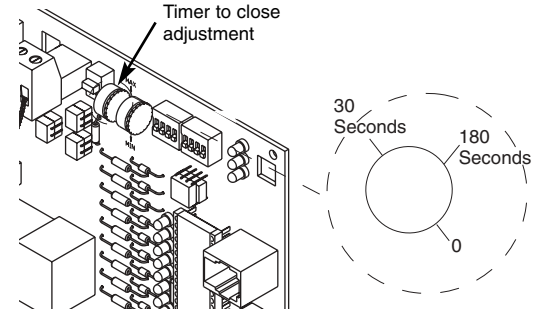
This switch (S1-3) selects the gate opening direction, to the left or to the right. Right/Left operation is determined from the inside of fence looking out.

## SAVE MODE

This switch (S1-4) stores S1, S2 and S4 DIP switch settings into memory & locks out changes.

**NOTE:** For any programming changes to take effect this switch must be in OFF position.

## TIMER TO CLOSE



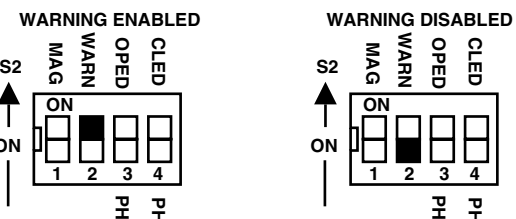
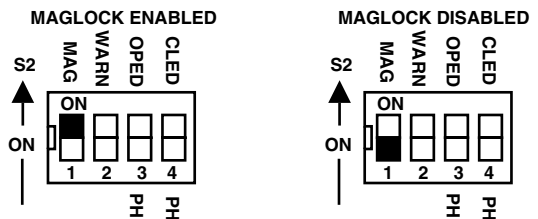
# PROGRAMMING SETTINGS (DIP SWITCH #2)

## MAGLOCK ENABLE

This switch (S2-1) enables the Maglock feature. On an open command there will be a half second delay after the maglock relay is released before the motor starts.

## WARNING ENABLE

This switch (S2-2) enables the gate "in motion" alarm feature. The alarm will beep 3 seconds prior to movement and throughout movement.





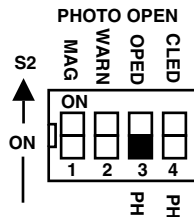
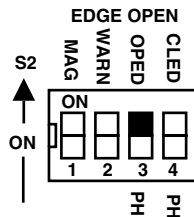
# PROGRAMMING SETTINGS (DIP SWITCH #2) continued

## EDGE/PHOTO OPEN

This switch (S2-3) selects edge or photo sensor for the gate opening protection input.

**Open Photo Eye (Pause):** When the controller is configured for photo eyes, the input functions to pause the gate during the opening cycle. Once the input is cleared the gate continues to open.

**Open Edge:** When the controller is configured for safety edges, the input functions to reverse the gate to the close limit when the edge is activated during the opening cycle.



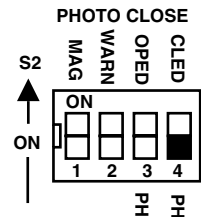
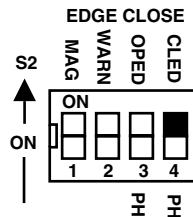
## EDGE/PHOTO CLOSE

This switch (S2-4) selects edge or photo sensor for the gate closing protection input.

**Close Photo Eye (Reverse):** When the controller is configured for photo eyes, the input functions to reverse the gate to the open limit when activated during the close cycle.

**NOTE:** Timer to close will reset if enabled.

**Close Edge:** When the controller is configured for safety edges, the input functions to reverse the gate to the open limit when activated during the close cycle. The entrapment is not cleared at the limit and the timer to close will be disabled. The timer to close may be enabled by activating the interrupt loop, soft open or hard open input.



# PROGRAMMING SETTINGS (DIP SWITCH #4)

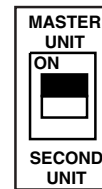
## DUAL GATE COMMUNICATIONS

The controller is capable of running the operator in a master or second mode depending on (S4) switch setting.

Before initiating any command the master unit queries for the presence of a "second unit" for a time period of one second. If the master gets no response the operator will operate in a stand alone mode. **NOTE:** For single unit applications, a jumper must be placed between J4-1 and J4-2. In this mode no further communications will take place during travel. If the master detects the presence of a second unit the master will continue to query the second unit during travel. The second unit will send a response to the master for every query. The second operator will stop if there is a period of one second or more of no communications.

When two operators are connected in dual gate configuration accessories may be connected to either the master or second.

### MASTER OR STAND ALONE GATE SETTING



### SECOND GATE SETTING

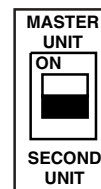
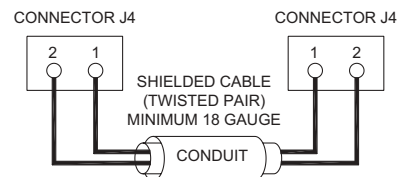
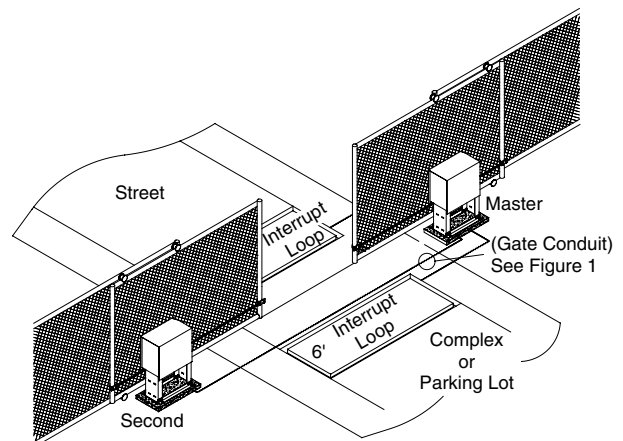


Figure 1



### NOTES:

- Do not run Master/Second communication wiring in the same conduit as the power and control wiring.
- The Second unit will require a normally close stop circuit for proper system operation.
- After Master/Second wiring has been completed and the S4 switch programmed, both units must have their power cycled to initiate proper Master/Second communication.
- The motor learn function must be completed in stand alone mode prior to Master/Second wiring.



## FRICITION TYPE SLIPPING CLUTCH

### **⚠ WARNING**

To avoid **SERIOUS PERSONAL INJURY** or **DEATH** DISCONNECT electric power **BEFORE** adjusting clutch.

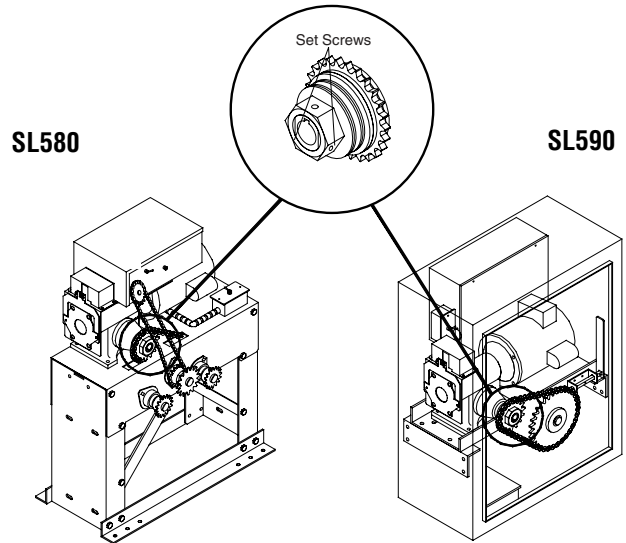
This clutch mechanism must be adjusted properly. During the installation of the operator, you must tighten the clutch spring lock nut so it is tight enough to operate the gate, yet loose enough so that if the gate meets an obstruction, the clutch will slip easily.

### ADJUSTING

1. Loosen set screws of torque adjustment nut on the gear reducer output shaft.
2. Back off torque nut until there is very little tension on the spring washers.
3. Tighten torque nut gradually until there is just enough tension to permit the operator to move the gate smoothly through a complete open/close cycle, but to allow the clutch to slip if the gate is obstructed.
4. Re-tighten the set screw that is directly over the flat portion of the shaft.

### **⚠ WARNING**

This friction clutch system is **NOT** an automatic reversing device. It only serves to minimize damage to the gate operator and gate, and to **HELP** minimize vehicle damage. If you need an external automatic obstruction sensing device, items such as gate edges and photo beams are available to help protect pedestrians.



## SOLENOID ACTUATED BRAKE

### **⚠ WARNING**

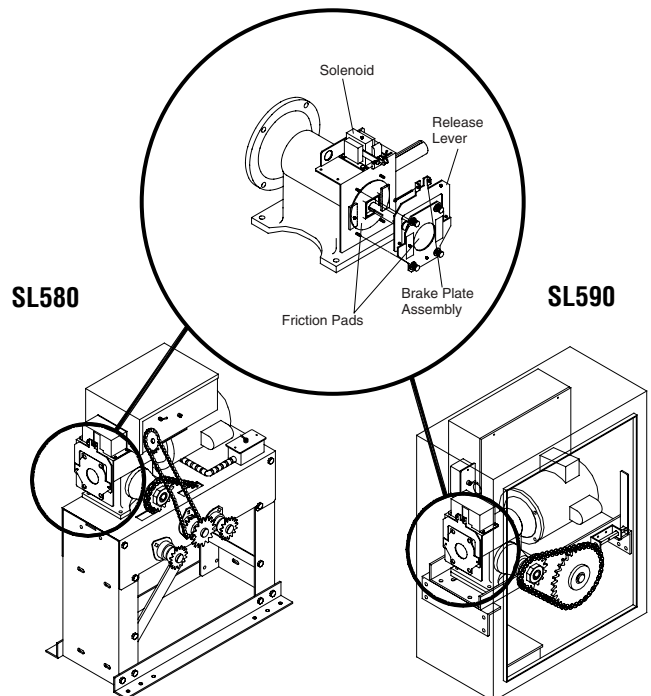
To avoid **SERIOUS PERSONAL INJURY** or **DEATH** DISCONNECT electric power **BEFORE** adjusting clutch.

The brake minimizes over-travel caused by gate coasting. An added feature of the brake is to assist in preventing backdriving of the gate. The brake is spring-applied whenever the motor is not running. Anytime the motor is running, the electric solenoid physically releases the brake.

### ADJUSTING

A solenoid brake is standard on SL580/590 operators. The brake is adjusted at the factory and should not need additional adjustment for the the life of the friction pad.

Replace friction pads when necessary. Refer to the illustration for identification of components for the solenoid type brake system.



# TROUBLESHOOTING

SYMPTOMS • POSSIBLE CAUSES ► SOLUTIONS

## Operator fails to run

- **No stop control**
  - Check the green LED (D17) on GL board. If the green LED is off, check to make sure a stop control has been installed across terminals J1-3 and J1-5 of the GL board.
- **Fault in the operator – check the yellow diagnostic LED at the top right of the GL board next to the programming dip switches**
  - If the yellow LED blinks six times, there is a master/second unit communication failure. If operator is a single unit, make sure there is a jumper across terminals J4-1 and J4-2. If operator is in a dual gate configuration, make sure that the communication wiring between the two units is undamaged and complete.
  - If the yellow light is solid, the board needs to learn the motor. Follow the directions on page 23.
- **An accessory is active or malfunctioning – check the red input status LEDs, D11-D31**
  - If any red LEDs are on, check the corresponding input. An installed accessory may be wired incorrectly or malfunctioning. Remove the accessory and test the operator.
  - If the soft open or interrupt loop LED is on, make sure factory plug-in loop detectors are working properly (SL580 only) and appropriate loops are installed on the loop input terminals P1-P4.
- **Improper J4 connector wiring (master/second)**
  - Stand-Alone Operators: Make sure there is a jumper installed across the J4 connector.
  - Master/Second Operation: Make sure that the master/second wiring is installed correctly and is intact (not damaged).
- **Low or no high voltage power**
  - Measure the incoming voltage at the unit's on/off switch. It should be within 5% of the operator's rating when running. Make sure that the proper wire gauge was used for the distance between breaker and operator by consulting the wiring specifications section on page 15 of this manual.
- **Low or no low voltage power**
  - Measure the voltage at terminals R1 and R2 in the operator. This voltage should be within 5% of 24Vac. If the high voltage power is good and the low voltage power is bad, check to make sure the circuit fuse is not tripped and that the correct primary tap is used on the transformer. If fuse and tap are correct, replace the transformer.
- **No LEDs illuminated on GL board**
  - If both primary and secondary power is good, check to make sure that the J2 connector is making good contact with the pins on the GL board. If all is good, replace GL board.

## Contactors chatters when operator begins to move

- **Transformer's secondary is overloaded**
  - Remove all accessory devices and test the operator. If the contactor stops chattering, find an alternate power source for some of the devices.
- **Low primary (high voltage) power**
  - Measure the incoming line voltage at the unit's on/off switch. It should be within 5% of the operator's rating when running. Make sure that the proper wire gauge was used for the distance between breaker and operator by consulting the wiring specifications section on page 15 of this manual.

## Operator runs slow and/or trips the internal overload

- **Low primary (high voltage) power**
  - Measure the incoming line voltage at the unit's on/off switch as well as the meter base or sub panel. Make sure there is not a major change in voltage. The voltage at the operator should be within 5% of the operator's rating when running.
  - Check the number of amps currently being drawn from the panel. Make sure that the total power being drawn does not exceed the panel's rating.
  - Make sure that the proper wire gauge was used for the distance between breaker and operator by consulting the wiring specifications section on page 15 of this manual.
- **Problem in the motor**
  - Perform a visual inspection of the motor. Examine the motor's labels for any distortion or signs of overheating. Replace the motor if it is humming, grinding or making excessive noise. **NOTE:** *Repeated motor problems indicate poor primary power.*
- **Problem in the contactor**
  - Examine the contactor for sparking, smoke or burn marks. Remove the wires from one side of the contactor, then measure the contact points for high resistance (above 1 ohm). Replace the contactor.
- **Problem in the brake system**
  - Make sure that the brake is disengaging when the contactor pulls in and engaging when the contactor releases. Replace solenoid.

## Master or second operator is not functioning properly

- **Failure to cycle power after setup**
  - The power to each unit must be cycled in order to initiate proper master/second communication if the operators were previously in stand-alone mode.
- **Communication wiring may be damaged or improperly wired for dual gate operation**
  - Make sure that the communication wire that is used is a twisted pair and not run in the same conduit with any power wiring. Failure to do so will result in interference across the master/second communication line.
- **Master or second unit is not programmed correctly**
  - Review program settings pages 24-25 and check both the master and second for proper programming.

# TROUBLESHOOTING cont'd

## Operator runs in wrong direction

- **Operator's main power is out of phase (three phases only)**
  - Turn off the unit's main power at the breaker and swap any two power leads at the operator's main power switch. Apply power and retest the operator. See important note on page 16.

## Operator runs but then stops and reverses direction

- **Entrapment (force pot) incorrectly set**
  - This pot must be set so that the gate will run smoothly normally and reverse when encountering an obstruction. See page 23.
- **Gate is binding or not running smoothly**
  - Disengage the manual release and roll gate open and close by hand at normal operating speed. Make sure that the gate runs smoothly and does not bind. If the gate is hard to move or binds, repair the gate.
- **Clutch is not adjusted properly**
  - Adjust the clutch so that the operator can move the gate throughout its travel without slipping but will slip when the gate hits an obstruction.
- **Brake is not functioning properly**
  - Make sure that the brake operates correctly. The brake should disengage when the contactor activates and engage when the contactor releases.
- **Observe red LEDs D29 and D31**
  - Both LEDs will indicate the activation of entrapment protection devices on terminals J1-9 and J1-10 on the GL board. Remove the devices and retest. If the operator now runs without fault, check those accessories as well as their wiring.
- **Hall Effect Sensor is not aligned/adjusted correctly**
  - Make sure that the sensor is adjusted so that it is centered over the limit shaft's magnet and is .010 - .015 of an inch (business card thickness) from the magnet.
  - Replace the sensor if it is adjusted correctly but continues to fail.

## Motor runs but gate doesn't move; operator stops and alarms

- **Clutch is not adjusted properly**
  - Adjust the clutch so that the operator can move the gate throughout its travel without slipping but will slip when the gate hits an obstruction.
- **Operator's manual release is engaged**
  - Make sure that the unit's manual release is not engaged. The unit's manual release, when engaged, will set off the entrapment if the gate is given a command to move.

## Operator opens immediately upon power up and does not close

- **Check the red input status LEDs, D11-D13, for indication of an active or malfunctioning accessory**
  - If any red LEDs are on, check the corresponding input. An installed accessory may be wired incorrectly or malfunctioning. Remove the accessory and test the operator.
  - If the soft open or interrupt loop LED is on, make sure factory plug-in loop detectors are working properly and appropriate loops are installed on the loop input terminals P1-P4.

## Operator has trouble learning the motor

- **Operator's manual release is engaged**
  - Make sure that the unit's manual release is not engaged. The unit's manual release, when engaged, will not allow the entrapment sensor to provide feedback to the GL board when the operator is moving.

## Programming changes do not effect the gate

- **Check the save switch on switch S1-1**
  - If the switch S1-1 is in the on position, any subsequent programming changes will not affect the gate. To make programming changes, switch S1-1 off, make desired changes, and then switch S1-1 on.

## Gate edge pauses gate when struck during opening

- **Open obstruction input is programmed incorrectly**
  - The open obstruction input has been programmed to function with photo eyes, not gate edges. Refer to page 25 and reprogram the obstruction inputs for correct operation.

## Gate does not activate timer to close after the close photo eye is broken

- **Close obstruction input is programmed incorrectly**
  - The close obstruction input has been programmed to function with gate edges, not photo eyes. Refer to page 25 and reprogram the obstruction inputs to match the accessories that are installed on operator.

## Radio controls will not close the gate from the open limit

- **Radio terminals R1-4 are factory configured for commercial radio function**
  - Configure terminals R1-4 for residential radio function by performing the following modifications:
    1. Locate and disconnect the end of the wire running to terminal 6 (TB6) from R4.
    2. Connect the end of the wire removed from terminal 6 (TB6) to terminal 1 (TB1). Refer to page 44.

# HALL EFFECT SENSOR ADJUSTMENT

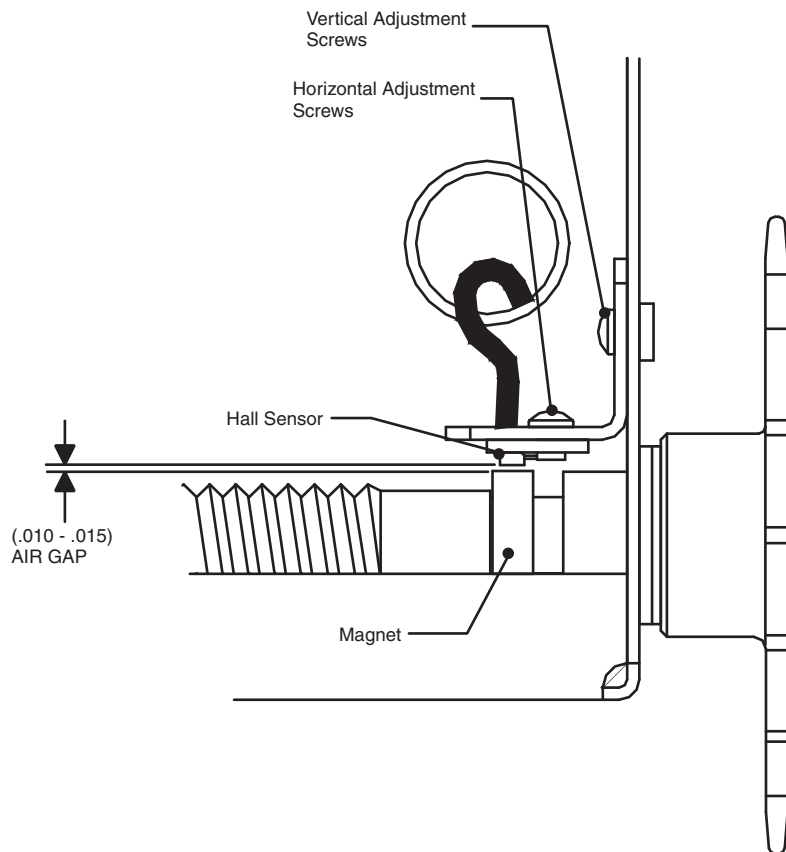
**NOTE:** Normally the Hall Effect sensor does not need adjustment, but may go out of alignment due to shipping vibration or rough handling.

These operators use an internal entrapment protector system. This system consists of the GL control board, magnet, and Hall Effect sensor. It may become necessary to adjust the sensor for correct alignment. To do so please perform the following steps:

1. The sensor must be centered over the magnet wheel. Adjust with horizontal screws.
2. The sensor must be level.
3. The sensor air gap should be adjusted to .010 - .015 of an inch (the thickness of a business card may be used to gauge the correct distance). Adjust with vertical screws.

## WARNING

To avoid SERIOUS PERSONAL INJURY or DEATH DISCONNECT electric power BEFORE adjusting Hall Effect.



# OPERATOR MAINTENANCE

		<b>CHECK AT LEAST ONCE EVERY</b>		
<b>DESCRIPTION</b>	<b>TASK</b>	<b>3 MONTHS</b>	<b>6 MONTHS</b>	<b>12 MONTHS</b>
Internal speed sensor	Check for proper operation	●		Complete Check Out
External entrapment protection systems	Check for proper operation	●		
Gate caution signs	Make sure they are present	●		
Clutch system	Check and adjust if required	●	●	
Brake system	Check and adjust if required			
Manual disconnect	Check and operate		●	
Drive chain	Check for excessive slack & lubricate		●	
Sprockets & Pulleys	Check for excessive slack & lubricate		●	
Gate	Inspect for wear or damage		●	
Accessories	Check all for proper operation		●	
Electrical	Inspect all wire connections		●	
Frame bolts	Check for tightness		●	
Total unit	Inspect for wear or damage		●	



**All power must be disconnected from operator before maintenance can be performed.**

**All maintenance must be done by a LiftMaster dealer.**

**Notes:**

1. Severe or high cycle usage will require more frequent maintenance checks.
2. Inspection and service should always be performed anytime a malfunction is observed or suspected.
3. Limit switches may have to be reset after any major drive chain adjustments.
4. If lubricating chain, use only a proper chain lube spray or a lightweight motor oil. Never use grease or silicone spray.
5. When servicing, please do some "house cleaning" of the operator and the area around the operator. Pick up any debris in the area. Clean the operator as needed.
6. It is suggested that while at the site voltage readings be taken at the operator. Using a Digital Voltmeter, verify that the incoming voltage to the operator it is within ten percent of the operator's rating.

# REPAIR PARTS - SL580

Refer to the parts lists below for replacement parts available for your operator. If optional modifications and/or accessories are included with your operator, certain components may be added or removed from these lists. Please consult a parts and service representative regarding availability of individual components. Refer to page 36 for all repair part ordering information.

### Complete Electrical Box Replacement Kits

To order a complete electrical box replacement kit, add a K prefix to the model number of your operator. For example:

*SL580-50-11 (Operator) = K73SL580-50-11 (Electrical Box Kit)*

### Motor Kits

To order a motor replacement kit, add a K prefix to the number of your motor and remove the second dash (-). For example:

*20-1050C-2T (Motor Number) = K20-1050C2T (Motor Kit)*

### DRIVE SHAFT ASSEMBLY KIT (K72-18621)

ITEM	DESCRIPTION	QTY
R1	DRIVE SHAFT	1
R2	LIMIT SPROCKET	1
R3	50B16 SPROCKET	1
R4	#50 CHAIN	1

### CLUTCH ASSEMBLY KIT (K75-12858)

ITEM	DESCRIPTION	QTY
C1	ADAPTER	1
C2	PRESSURE PLATE	2
C3	1/4 x 1/4 x 1-1/4L DIS KEY	1
C4	CLUTCH DISC	2
C5	3" BELL WASHER	4
C6	1-1/2-12 HEX JAM NUT	1
C7	TORQUE LIMITER SPRKT ASSY	1

### INDIVIDUAL PARTS

ITEM	PART #	DESCRIPTION	QTY
1	10-3209	GATE BRACKET	2
2	10-3501	SL580 CHASSIS	1
3	10-3502	LEG CHANNEL	2
4	10-3503	SL580 BOTTOM COVER	1
5	10-3504	MOUNTING ANGLE	2
6	10-3509	STIFFENER (OPTIONAL)	1
7	10-3510	CHAIN GUARD	1
8	10-3511	LOCKING BAR	1
9	10-3512	BAR GUIDE	1
10	10-3515	RETAINER GUIDE	2
11	10-3522	REDUCE SHIM	2
12	11-3503	TAKE-UP BOLT	2
13	12-4164	SELF-ALIGN FLANGE MNT	6
14	13-3510	CHAIN GUIDE	4
15	19-3501	#40 CHAIN	1
16	19-5040	#40 CHAIN MASTER LINK	1
17	See Page 35	MOTOR	1
18	32-55011	GEAR REDUCER	1
19	76-G0537	ALARM ASSEMBLY	1
20	82-PX08-10T	8-32 x 5/8 SELF TAP PHILP SCREW	5
21	82-QN43-12	7/16-14 x 3/4 SQUARE HD SET SCR	4
22	91-G0143	DISCONNECT SPROCKET ASSY	1
23	10-G0326	SWITCH BOX COVER	1
24	See Page 35	SWITCH	1
25	28-G0518	CONDUIT BOX	1
26	35-310-032	SECONDARY FUSE	1
27	K001A5566	REPLACEMENT GL BOARD	1

### IDLER SHAFT ASSEMBLY KIT (K72-18622)

ITEM	DESCRIPTION	QTY
S1	IDLER SHAFT	2
S2	1/4 x 1-1/2 KEY	3
S3	50B12 SPROCKET	2

### BRAKE KIT 115V (K75-18616) & 230/460V (K72-18617)

ITEM	DESCRIPTION	QTY
B1	BRAKE PRESSURE PLATE ASSY	1
B2	.875L COMPRESS SPRING	4
B3	SPRING CUP	4
B4	BRAKE STUD	4
B5	BRAKE RELEASE LEVER	1
B6	DISC BRAKE	1
B7	.20 ID x .31 I SPACER	2
B8	BRAKE HUB	1
B9	BRAKE PLATE ASSEMBLY	1
B10	BRAKE SOL COVER	1
B11	SEE PAGE 35, VARIABLE PARTS	1

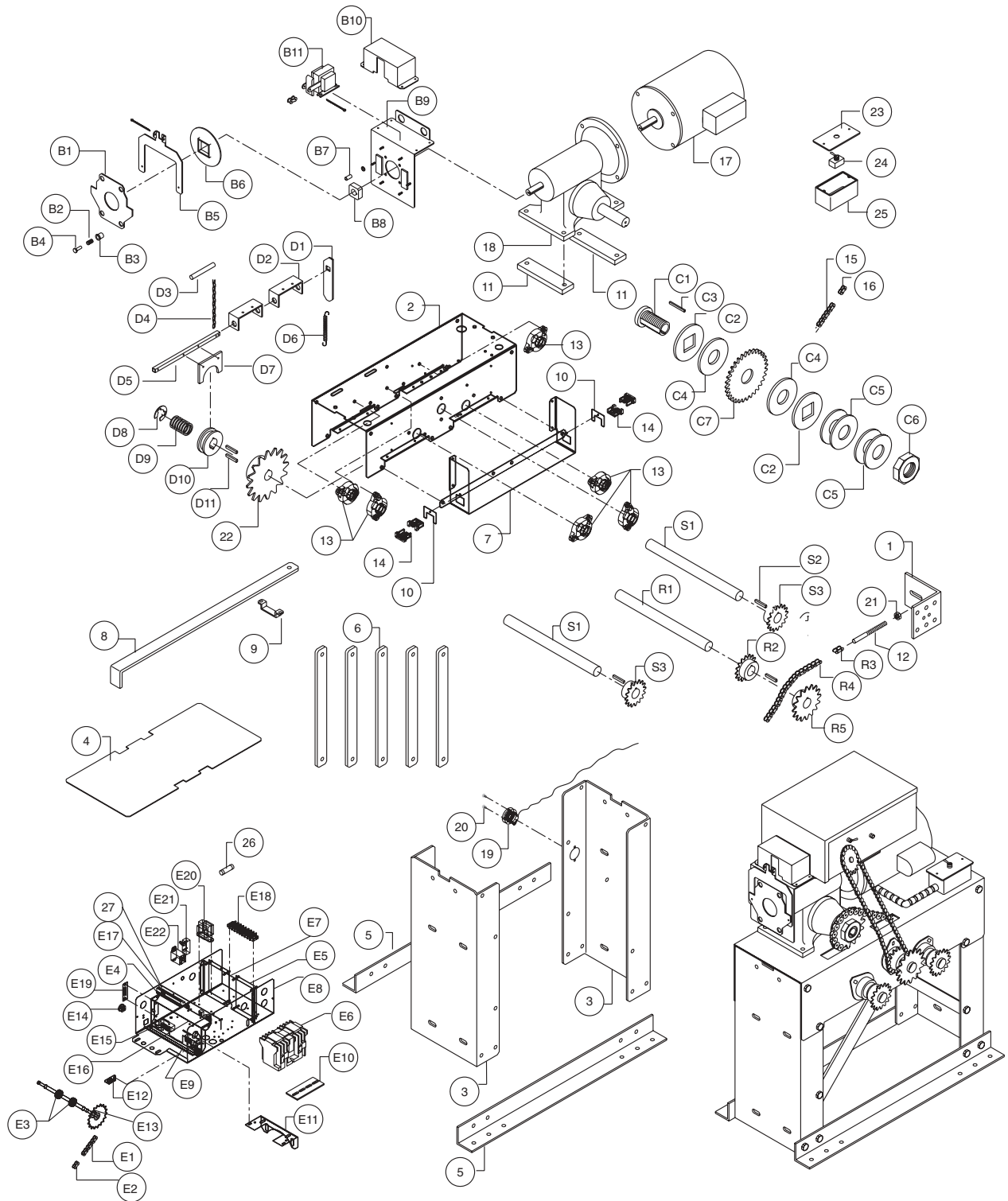
### CONTROL BOX ASSEMBLY KIT (SEE ABOVE)

ITEM	DESCRIPTION	QTY
E1	LIMIT CHAIN #48 X 73 PITCH	1
E2	#48 CHAIN MASTER LINK	1
E3	LIMIT NUTS	2
E4	16 POS TERM BLOCK	1
E5	24V LOOP BOARD (OPTL)	1
E6	24V REVER CONTACT	1
E7	BRACKET LOOP	1
E8	CONTROL BOX	1
E9	DEPRESS PLATE	1
E10	DIN RAIL	1
E11	EBOX MTNG BRACKET	1
E12	HALL EFFECT SENSOR	1
E13	LIMIT SHAFT ASSEMBLY	1
E14	LIMIT SHAFT BEARING	2
E15	LIMIT SWITCH NC SPST	2
E16	GL BRD MNTG BRACKET	1
E17	GL PCB ASSEMBLY	1
E18	TERM BLOCK 7 POSITION	1
E19	TERM BOARD FOR RADIO	1
E20	TRANSFORMER, 60VA	1
E21	SEE PAGE 35, VARIABLE PARTS	1
E22	SEE PAGE 35, VARIABLE PARTS	1

### DISCONNECT ASSEMBLY KIT (K75-18623)

ITEM	DESCRIPTION	QTY
D1	DISCONNECT LEVER	1
D2	DISCONN SUP BRACKET	2
D3	DISCONNECT HANDLE	1
D4	8A SASH CHAIN	1
D5	SHAFT DISC	1
D6	DISCONNECT SPRING	1
D7	BEVEL RELEASE YOKE	1
D8	E-RING	1
D9	COMPRESSION SPRING	1
D10	DISCONNECT HUB	1
D11	1/4 x 1/4 x 1 KEY	2

# ILLUSTRATED PARTS - SL580





# REPAIR PARTS - SL590

Refer to the parts lists below for replacement parts available for your operator. If optional modifications and/or accessories are included with your operator, certain components may be added or removed from these lists. Please consult a parts and service representative regarding availability of individual components. Refer to page 36 for all repair part ordering information

## BRAKE KIT 115V (K75-18616) & 230/460V (K72-18617)

ITEM	DESCRIPTION	QTY
B1	MOLDED BRAKE HUB	1
B2	RELEASE LEVER BRAKE	1
B3	DISC BRAKE	1
B4	SPRING CUP	4
B5	BREAK STUD	4
B6	SPRING, COMPRE .875" LONG	4
B7	SEE PAGE 35, VARIABLE PARTS	1
B8	SPACER, .20 I.D. X .31	2
B9	BRAKE PLATE ASSY	1
B10	BRAKE PRESS PLATE	1

## DISCONNECT ASSEMBLY KIT (K75-18618)

ITEM	DESCRIPTION	QTY
R1	DISCONNECT SUPPORT BRACKET	2
R2	DETENT PLATE	1
R3	DISCONNECT LEVER	1
R4	RELEASE YOKE BEVEL	1
R5	DISCONNECT SHAFT	1

## INDIVIDUAL PARTS

ITEM	PART #	DESCRIPTION	QTY
1	10-3602	MOUNTING SHELF	1
2	10-3603	SHELF BRACKET	2
3	10-3609	ANGLE PLATE	2
4	19-3501	#40 CHAIN	1
5	19-5040	#40 MASTER LINK	1
6	See Page 35	MOTOR	1
7	32-55011	GEAR REDUCER	1
8	80-5001	3/16 x 3/16 x 1-3/4L KEY	2
9	10-3515	GUIDE RETAINER 2 PER M	2
10	10-3607	CHAIN COVER	1
11	10-3610	CHAIN GUARD	1
12	10-5207	SOLENOID COVER FOR BR	1
13	11-3602	IDLER SHAFT 2 PER	2
14	13-3510	CHAIN GUIDE	4
15	15-3619	50B19 1-1/4 X 1/4	1
16	305-153613	IDLER SPROCKET ASSY	2
17	10-3209	GATE BRACKET	2
18	11-3503	TAKE-UP BOLT 2 PER GSL	2
19	19-3025	CHN, #50 NICKEL PLTD X	1
20	44-18491	ENCLOSURE	1
21	82-QN43-12	SQ HD SS 7/16-14 X 3/4	4
22	10-3606	PLATE STIFF 1 PER	1
23	82-PX08-10T	SCREW, 8-32 X 5/8" SELF TAP PHILP	2
24	76-G0537	590 ALARM ASSY	1
25	91-G0149	IDLER BOLT W/ ZIRC FITTING	2
26	35-310-032	SECONDARY FUSE	1
27	K001A5566	REPLACEMENT GL BOARD	1

## CLUTCH ASSEMBLY KIT (K75-12858)

ITEM	DESCRIPTION	QTY
C1	CLUTCH REV	1
C2	PRESSURE PLATE	2
C3	TORQUE LIMITER SPRKT ASSY	1
C4	BEL WSHR 3" OD X 1-1/2" I	4
C5	NUT 1-1/2"-12 HEX JAM	1
C6	CLUTCH DISC	2
C7	1/4 x 1-1/2 KEY	1

## LIMIT BOX ASSEMBLY (K75-18620)

ITEM	DESCRIPTION	QTY
L1	LIMIT SW BOX	1
L2	BOX COVER	1
L3	L/S PANEL	1
L4	LIMIT SW ADJ PLATE 1	1
L5	MTG BKT L/L BOX	2
L6	LIMIT SHAFT BRNG: #544	1
L7	SPRING, COMPRE .875" LO	2
L8	LIMIT SWITCH NC SPS	2
L9	LIMIT SWITCH SPACER	4
L10	LIMIT NUT	2
L11	TERMINAL BLOCK, 10 POSITION	1
L12	HALL EFFECT SENSOR ASSY	1
L13	SPACER, 13/32ID x 3/64 WALL	4
L14	TINNERMAN NUT DOUBLE	2
L15	NUT, LK, 10-32 NYL INSR	2
L16	E RING 3/8"	1
L17	LIMIT SHAFT ASSY	1

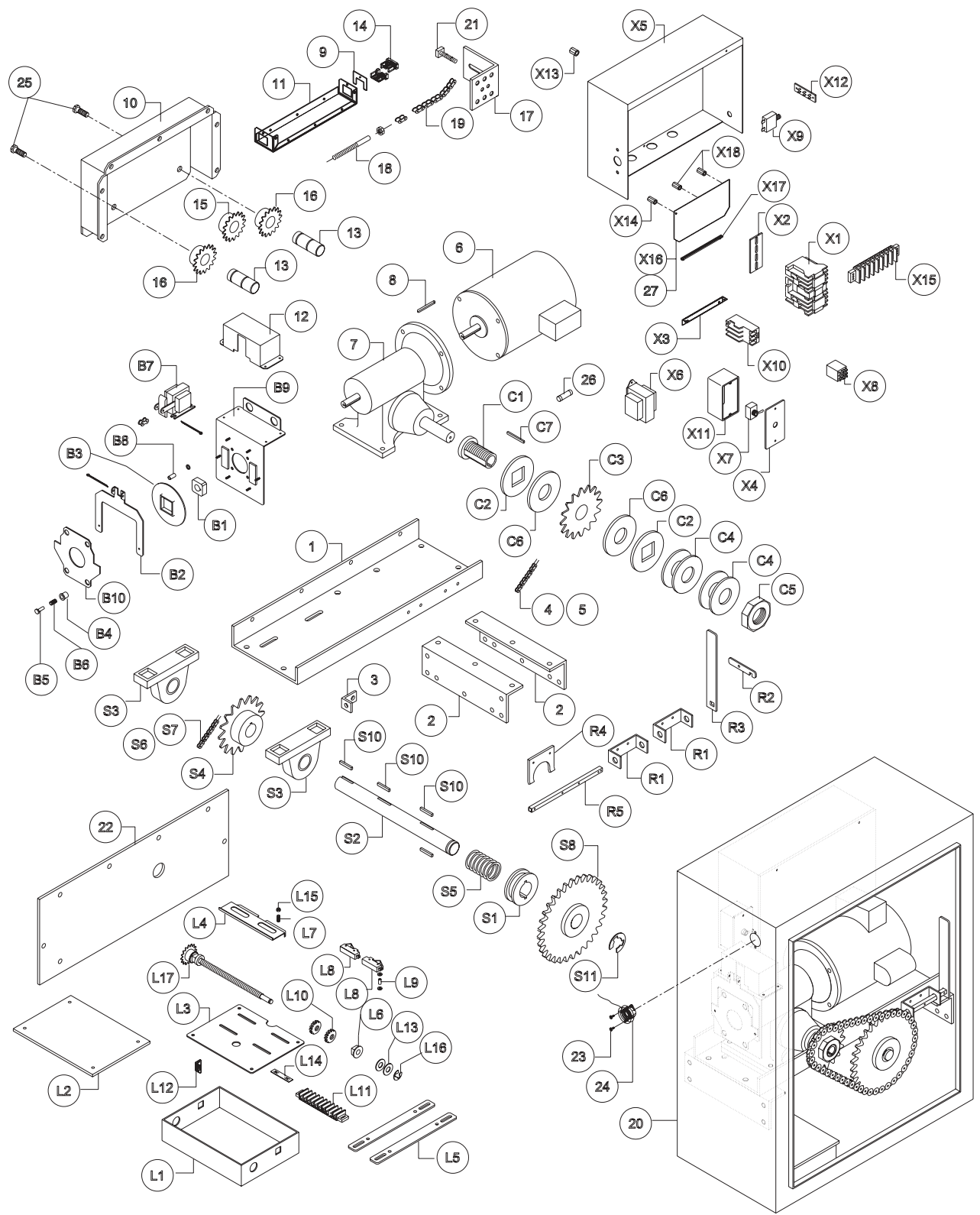
## DRIVE SHAFT KIT (K72-18615)

ITEM	DESCRIPTION	QTY
S1	DISCONNECT BUSHING	1
S2	DRIVE SHAFT	1
S3	PILLOW BLOCK BEARING	2
S4	SPRKT 48B18 1-1/4 BORE 1/4KY	1
S5	DISCONNECT SPRING	1
S6	CHAIN, #40 MASTER LINK	1
S7	#48 LIMIT CHAIN	1
S8	40B36 SPROCKET ASSEMBLY	1
S10	1/4 x 1/4 x 1-1/4 DISCONNECT KEY	4
S11	1-3/16 E-RING	5

## CONTROL BOX KIT (SEE PAGE 31 FOR SERVICE KITS)

ITEM	DESCRIPTION	QTY
X1	CONTACTOR, TELE 24V	1
X2	DIN RAIL PIECES CUT B	1
X3	GL MOUNTING BRACKET	1
X4	SWITCH BOX COVER	1
X5	EL ENCL 1 PER	1
X6	TRANSFORMER	1
X7	SEE PAGE 35, VARIABLE PARTS	1
X8	SEE PAGE 35, VARIABLE PARTS	1
X9	SEE PAGE 35, VARIABLE PARTS	1
X10	SEE PAGE 35, VARIABLE PARTS	1
X11	CONDUIT BOX 4 x 4 2.125	1
X12	TERMINAL BOARD FOR RA	1
X13	1/4-20 COUPLING NUT	4
X14	STANDOFF HEX ALUM	1
X15	TERM BLK PC BOARD 16	1
X16	GL PCB ASSEMBLY	1
X17	PLASTIC 6" CARD GUIDE	1
X18	STANDOFF HEX NYLON	1

# ILLUSTRATED PARTS - SL590



## VARIABLE PARTS SL580 & SL590

Variable	P/N	Description	Used On
20-XXXX (Motor)	20-1050C-2T	1PH 1/2HP C-FACE 115/230 TEFC	SL580-50-11, SL580-50-21
	20-1075C-2T	1PH 3/4HP C-FACE 115/230V TEFC	SL580-75-11, SL580-75-21
	20-1100C-2T	1PH 1HP C-FACE 115/230V TEFC	SL580-100-11, SL580-100-21
	20-1150C-2T	1PH 1-1/2HP C-FACE 115/230V TEFC	SL580-150-11, SL580-150-21
	20-3050C-4T	3PH 1/2HP C-FACE 230/460V TEFC	SL580-50-23, SL580-50-43
	20-3075C-4T	3PH 3/4HP C-FACE 230/460V TEFC	SL580-75-23, SL580-75-43
	20-3100C-4T	3PH 2HP C-FACE 230/460V TEFC	SL580-100-23, SL580-100-43
	20-3150C-4T	3PH 1-1/2HP C-FACE 230/460V TEFC	SL580-150-23, SL580-150-43
	20-1050C-2	1PH 1/2HP C-FACE 115/230V	SL590-50-11, SL590-50-21
	20-1075C-2	1PH 3/4HP C-FACE 115/230V	SL590-75-11, SL590-75-21
	20-1100C-2	1PH 1HP C-FACE 115/230V	SL590-100-11, SL590-100-21
	20-1150C-2	1PH 1-1/2HP C-FACE 115/230V	SL590-150-11, SL590-150-21
	20-3050C-4	3PH 1/2HP C-FACE 230/460V	SL590-50-23, SL590-50-43
	20-3075C-4	3PH 3/4HP C-FACE 230/460V	SL590-75-23, SL590-75-43
	20-3100C-4	3PH 2HP C-FACE 230/460V	SL590-100-23, SL590-100-43
20-3200C-4	3PH 2HP C-FACE 230/460V	SL590-150-23, SL590-150-43	
22-XXX (Solenoid)	22-120	115V	ALL 115-1PH
	22-240	230V	ALL 230-1PH & 3PH, 460V-3PH
23-XXXX (Switch)	23-3001	On/Off SW, 1PH	ALL 1PH
	23-3005	On/Off SW, 3PH	ALL 3PH
24-XXX-X (Relay)	24-115-1	TPDT, 115V coil (IR)	ALL 115V 1PH
	24-230-5	TPDT, 230V coil (IR)	ALL 230V 1PH
25-20XX (Overload)	25-2006	6 AMP	SL590 & SL580-50-21, SL590 & SL580-75-21
	25-2008	8 AMP	SL580 & SL590-75-21
	25-2010	10 AMP	SL590 & SL580-50-11, SL590-150-21, SL580 & SL590-100-21
	25-2015	15 AMP	SL 590 & SL580-75-11, SL580-150-21
	25-2020	20 AMP	SL 590 & SL580-100-11
	25-2025	15 AMP	SL 590 & SL580-150-11
25-40XX (Overload)	25-4002-5	1.6 - 2.5 AMP	SL590 & SL580-100-43
	25-4004	2.5 - 4.0 AMP	SL590 & SL580-150-43
	25-4006	4.0 - 6.0 AMP	SL590 & SL580-100-23
	25-4008	5.5 - 8.0 AMP	SL590 & SL580-150-23

# WARRANTY POLICY

Seller warrants that the goods are free from defect in materials and/or workmanship for a period of two years from the date of shipment from the F.O.B. point. Goods returned to Seller for warranty repair within the warranty period, which upon receipt by Seller are confirmed to be defective and covered by this limited warranty, will be repaired or replaced (at Seller's sole option) at no cost and returned pre-paid. Defective parts will be repaired or replaced with new or factory-rebuilt parts at Seller's sole option. Authorization instructions for the return of any goods must be obtained by Buyer from Seller before returning the goods. The goods must be returned with complete identification, freight prepaid, and in accordance with Seller's instructions or they will not be accepted. In no event will Seller be responsible for goods returned without proper authorization or identification.

THIS LIMITED WARRANTY IS IN LIEU OF ANY OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, OR OTHERWISE, AND OF ANY OTHER OBLIGATIONS OR LIABILITY ON SELLER'S PART. THIS LIMITED WARRANTY DOES NOT COVER NON-DEFECT DAMAGE, DAMAGE CAUSED BY IMPROPER INSTALLATION, OPERATION OR CARE (INCLUDING, BUT NOT LIMITED TO ABUSE, MISUSE, FAILURE TO PROVIDE REASONABLE AND NECESSARY MAINTENANCE, OR ANY ALTERATIONS TO THIS PRODUCT), LABOR CHARGES FOR DISMANTLING OR REINSTALLING A REPAIRED OR REPLACED UNIT, OR REPLACEMENT BATTERIES. UNDER NO CIRCUMSTANCES SHALL SELLER BE LIABLE FOR CONSEQUENTIAL, INCIDENTAL OR SPECIAL DAMAGES ARISING IN CONNECTION WITH THE SUE, OR INABILITY TO USE, THIS PRODUCT. IN NO EVENT SHALL SELLER'S LIABILITY FOR BREACH OF WARRANTY, BREACH OF CONTRACT, NEGLIGENCE OR STRICT LIABILITY EXCEED THE COST OF THE PRODUCT COVERED HEREBY. NO PERSON IS AUTHORIZED TO ASSUME FOR US ANY OTHER LIABILITY IN CONNECTION WITH THE SALE OF THIS PRODUCT. Some states do not allow the exclusion or limitation of consequential, incidental or special damages, so the above limitation or exclusion may not apply to you. This limited warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

## HOW TO ORDER REPAIR PARTS

OUR LARGE SERVICE ORGANIZATION  
SPANS AMERICA

INSTALLATION AND SERVICE INFORMATION  
ARE AVAILABLE 6 DAYS A WEEK

CALL OUR TOLL FREE NUMBER: 1-800-528-2806

HOURS 6:00 a.m. TO 7:00 p.m. (Central Std. Time)  
MONDAY Through FRIDAY

HOURS 8:00 a.m. TO 6:00 p.m. (Central Std. Time)  
SATURDAY

[WWW.LIFTMASTER.COM](http://WWW.LIFTMASTER.COM)

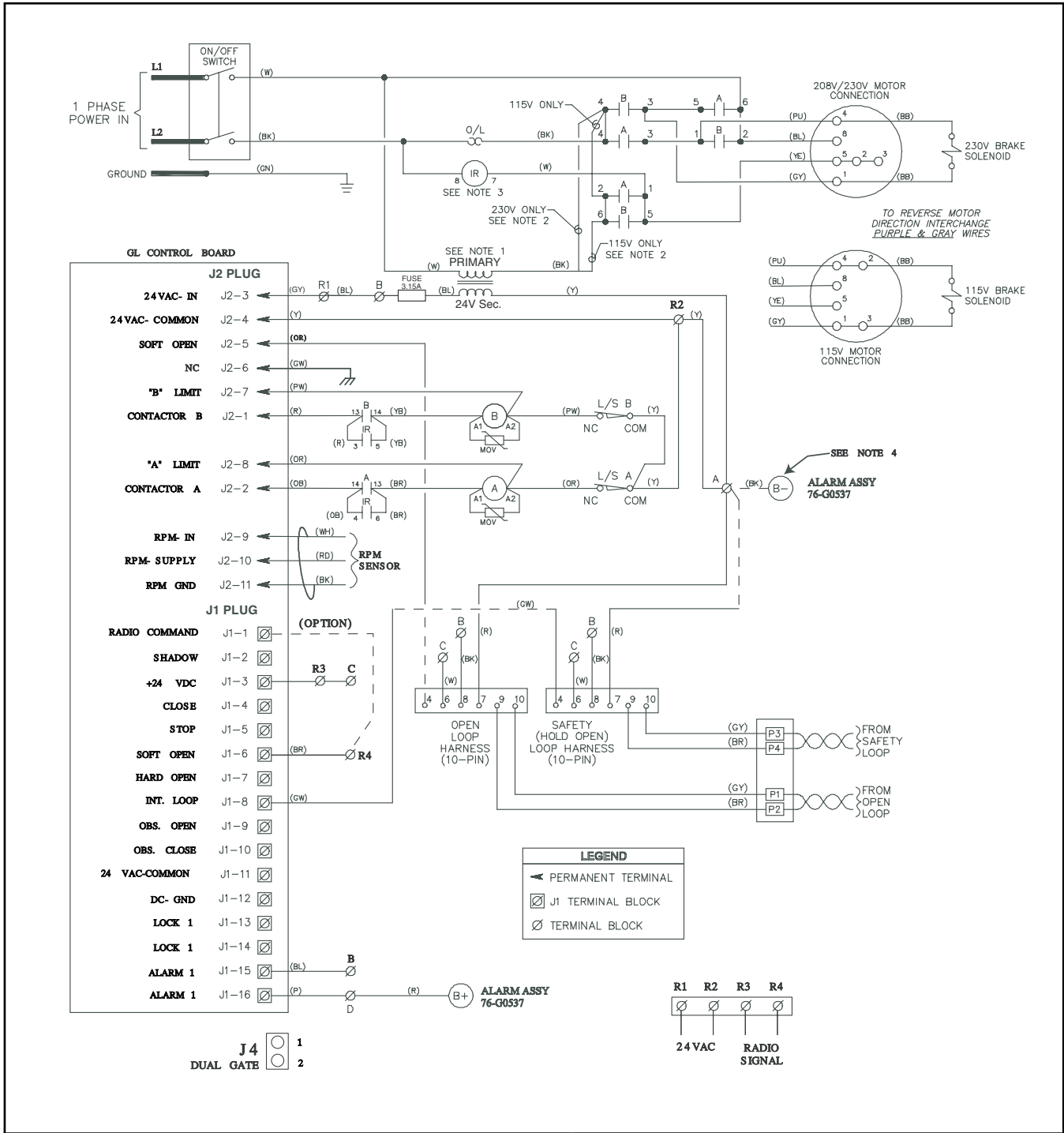
**WHEN ORDERING REPAIR PARTS  
PLEASE SUPPLY THE FOLLOWING INFORMATION:**

***PART NUMBER DESCRIPTION MODEL NUMBER***

### ADDRESS ORDER TO:

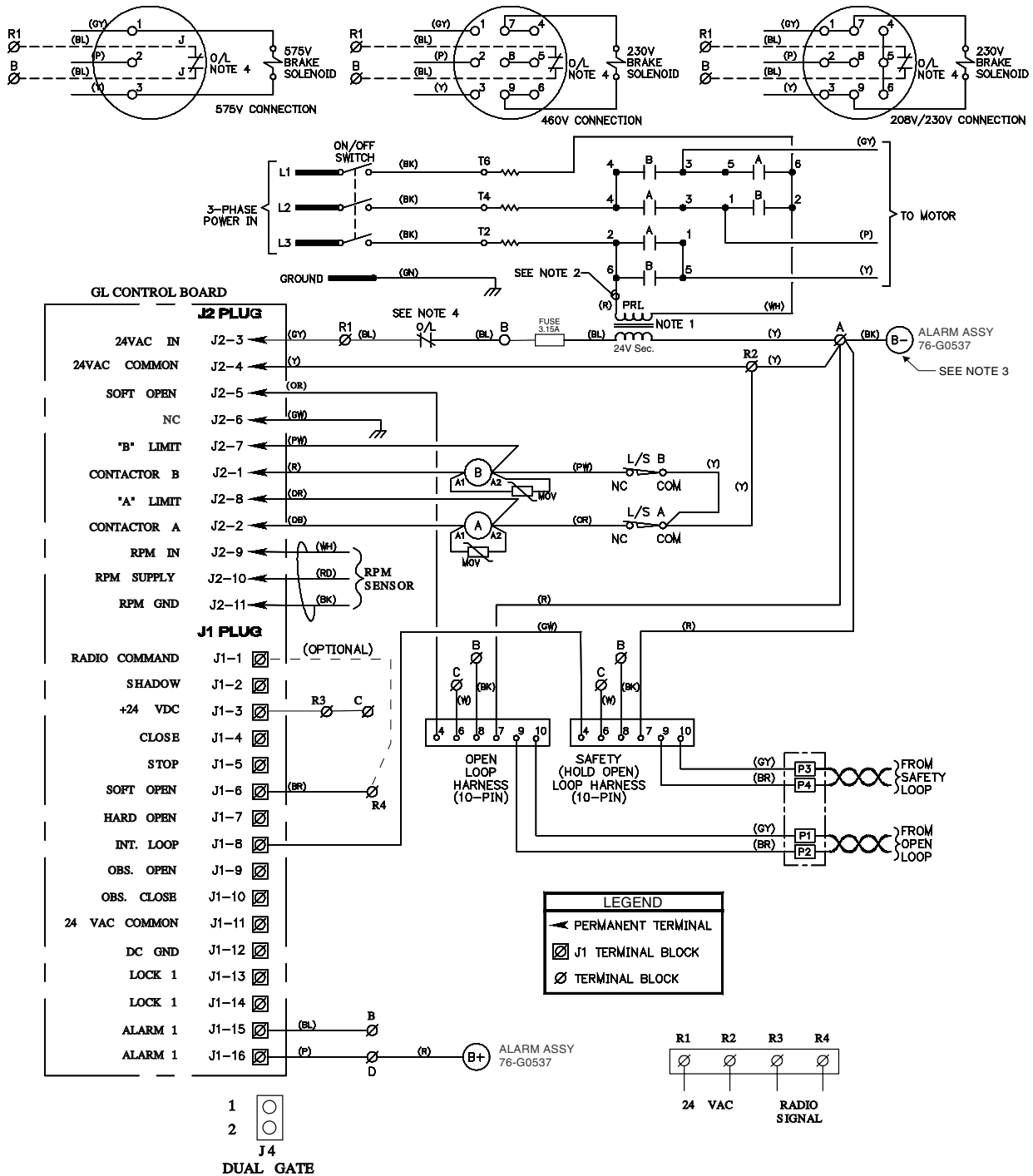
THE CHAMBERLAIN GROUP, INC.  
Electronic Parts & Service Dept.  
6020 S. Country Club Road  
Tucson, AZ 85706

# SINGLE PHASE WIRING DIAGRAM (SL580)



845 Larch Avenue, Elmhurst, IL 60125

# THREE PHASE WIRING DIAGRAM (SL580)



**NOTES:**

- 1) TRANSFORMER PRIMARY VOLTAGE SAME AS OPERATOR LINE VOLTAGE 24V SECONDARY 60VA.
- 2) WIRE COLOR: 208V RED, 230V ORANGE, 460V VIOLET, 575V GRAY.
- 3) (B+) AND (B-) ARE 100db SAFETY ALARMS.
- 4) OVERLOAD PROTECTION EITHER IN MOTOR OR FROM AN EXTERNAL OVERLOAD.

**APPLICATIONS:**

**CONTROL WIRING TYPE - GL**

**FIELD WIRING & ADJUSTMENTS**

MODEL TYPES: SL580

HORSEPOWER: 1/2, 3/4, 1 & 1-1/2

VOLTAGE/PHASE: 208,230,460 & 575V - 3 PHASE ONLY



845 Larch Avenue, Elmhurst, IL 60125

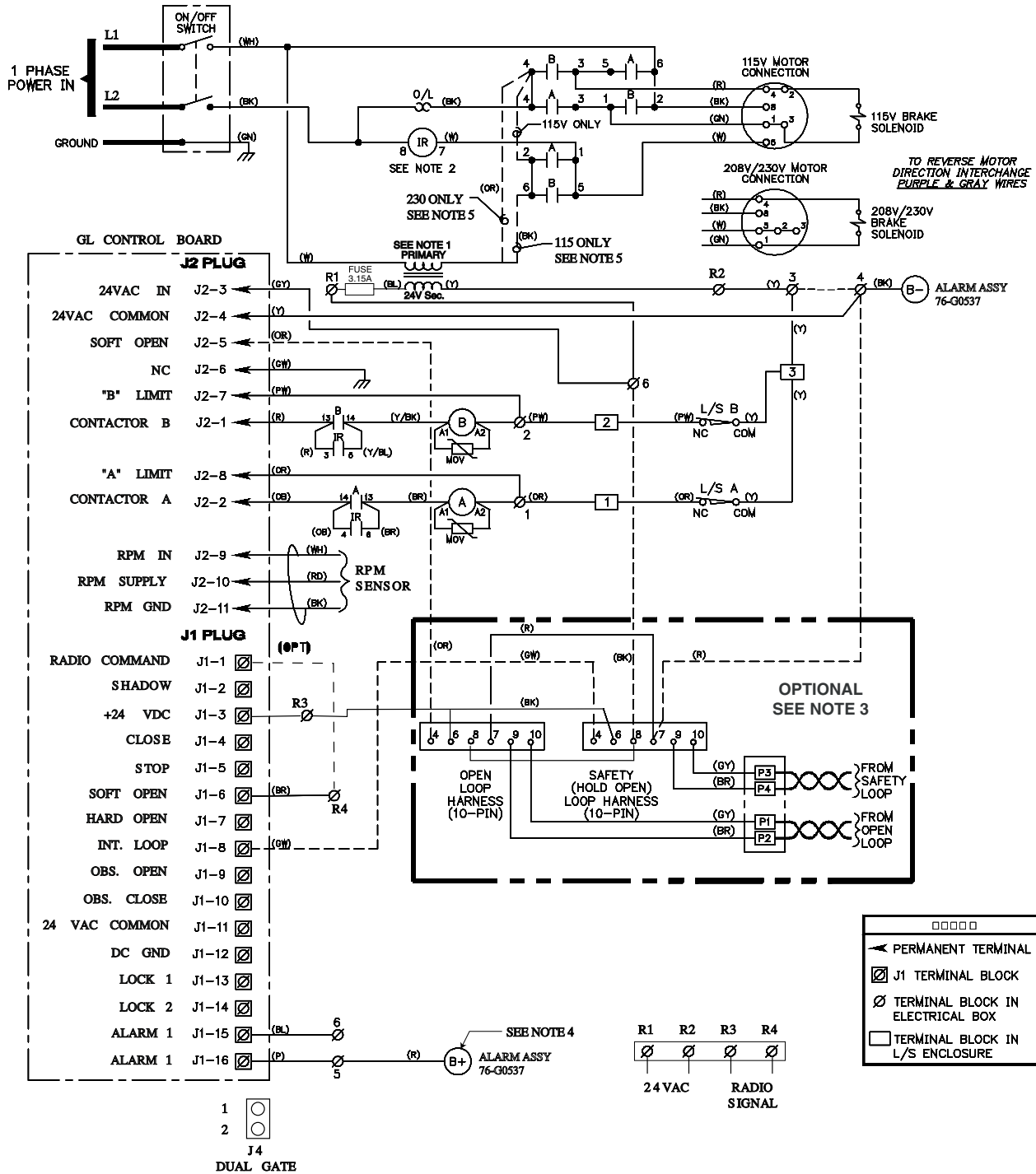
DRAWING NUMBER:

**G1981-3**

REV:

D

# SINGLE PHASE WIRING DIAGRAM (SL590)



**NOTES:**

- 1) TRANSFORMER PRIMARY VOLTAGE SAME AS OPERATOR LINE VOLTAGE 24V SECONDARY 60VA.
- 2) COIL VOLTAGE SAME AS LINE VOLTAGE.
- 3) OPTIONAL WIRE HARNESS.
- 4) (B+) AND (B-) ARE 100db SAFETY ALARMS.
- 5) WIRE COLOR: 120V BLACK, 208V RED, 230V ORANGE.

**APPLICATIONS:**

**CONTROL WIRING TYPE - GL**

**FIELD WIRING & ADJUSTMENTS**

MODEL TYPES: SL590

HORSEPOWER: 1/2, 3/4, 1 & 1-1/2

VOLTAGE/PHASE: 115, 208 & 230V - 1 PHASE ONLY

DRAWING NUMBER:

**G1982-1**

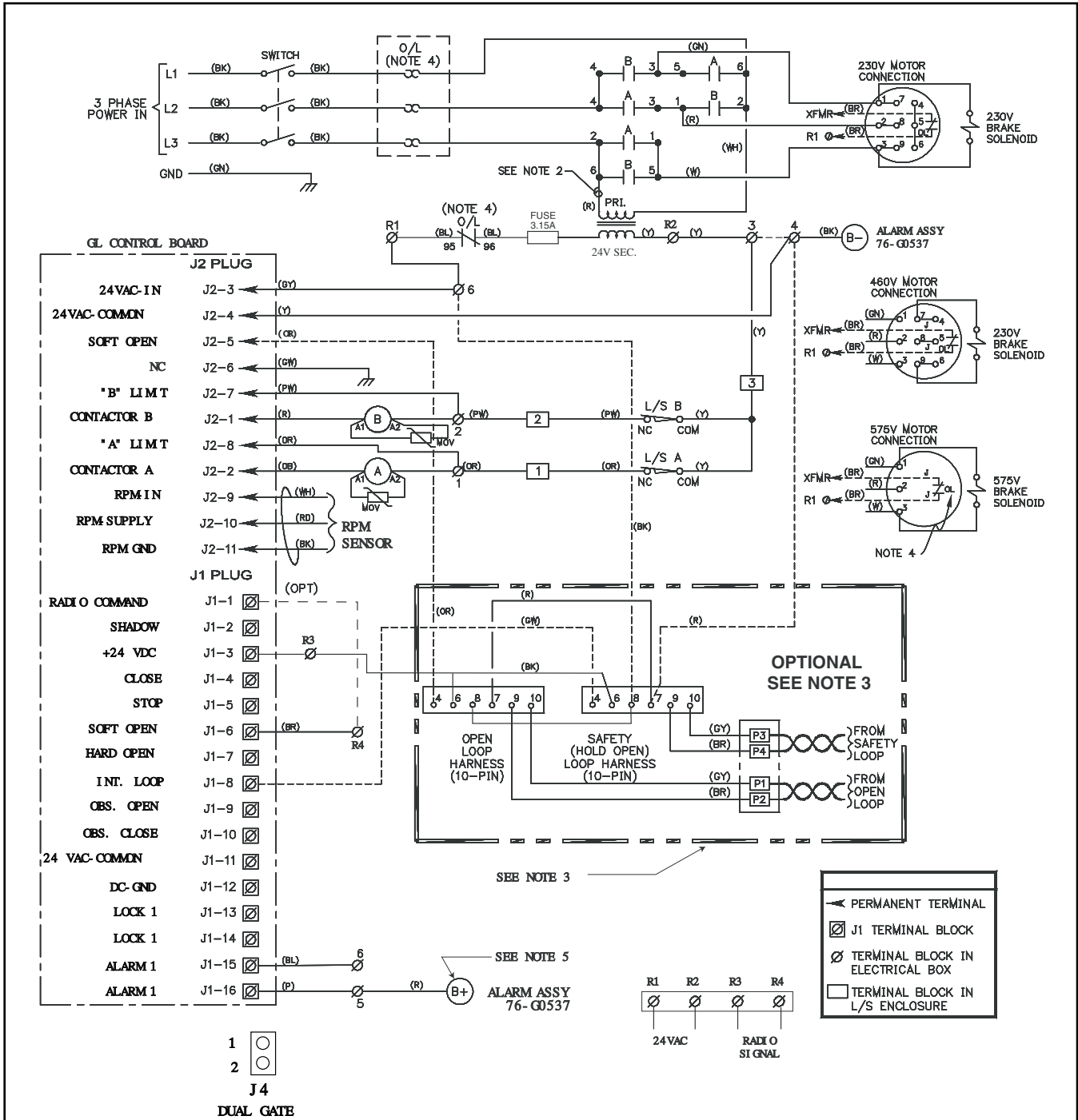
REV:

**D**



845 Larch Avenue, Elmhurst, IL 60125

# THREE PHASE WIRING DIAGRAM (SL590)



## NOTES:

- 1) TRANSFORMER PRIMARY VOLTAGE SAME AS OPERATOR LINE VOLTAGE 24V SECONDARY 60VA.
- 2) WIRE COLOR: 208V RED, 230V ORANGE, 460V VIOLET, 575V GRAY.
- 3) OPTIONAL WIRE HARNESS.
- 4) OVERLOAD PROTECTION EITHER IN MOTOR OR FROM AN EXTERNAL OVERLOAD.
- 5) (B+) AND (B-) ARE 100db SAFETY ALARMS.

## APPLICATIONS:

**CONTROL WIRING TYPE - GL**

## FIELD WIRING & ADJUSTMENTS

MODEL TYPES: SL590

HORSEPOWER: 1/2, 3/4, 1 & 1-1/2

VOLTAGE/PHASE: 208,230,460 & 575V - 3 PHASE ONLY

DRAWING NUMBER:

**G1982-3**

REV:

**D**

**CHAMBERLAIN**  
**LiftMaster**  
**PROFESSIONAL**

845 Larch Avenue, Elmhurst, IL 60125

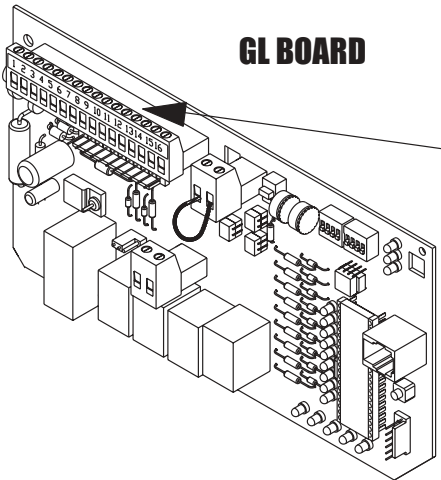








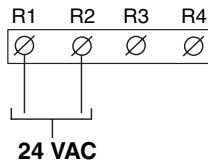
# CONTROL CONNECTION DIAGRAMS



## J1 TERMINAL BLOCK



**24VAC ACCESSORY POWER MAY BE FOUND ON THESE TERMINALS**

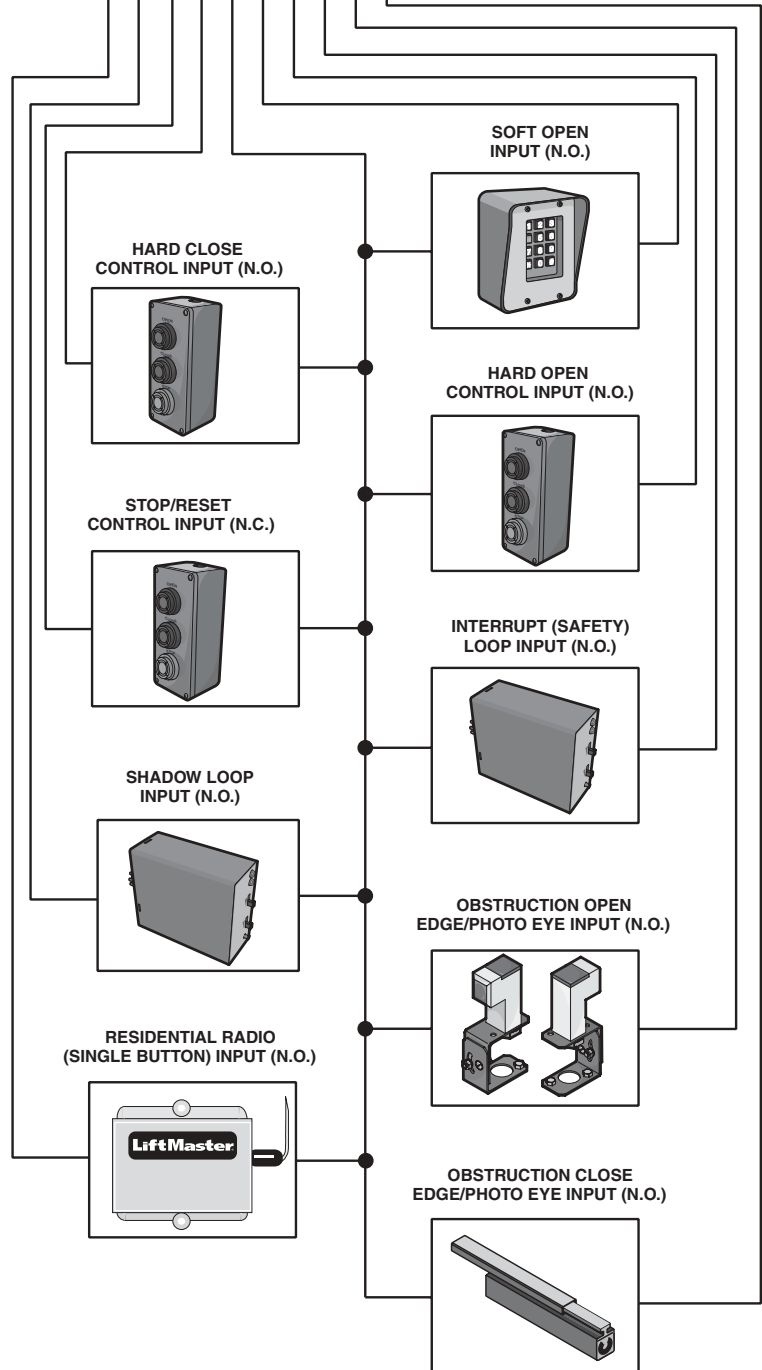


**NOTE:** SEE WIRING DIAGRAMS SHIPPED WITH KIT FOR ADDITIONAL INFORMATION. SEE OWNER'S MANUAL FOR WIRING DISTANCES AND WIRE GAUGE INFORMATION.

**WARNING:** All controls that are to be used to operate the gate system, **MUST** be installed where the user cannot come into contact with the gate while operating the controls. Also, always install the controls where the user has full view of gate operation.

\* All inputs are normally open and momentary, except the stop (N.C.). The following instructions are based upon UL325, and include recommendations for significant increase in safety.

\* We strongly recommend that you follow the UL guidelines presented throughout the manual. **Installation device instructions** – always follow the instructions provided by the manufacturer when installing and adjusting any control device. If these instructions are contrary to the advice given here, call for assistance.



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