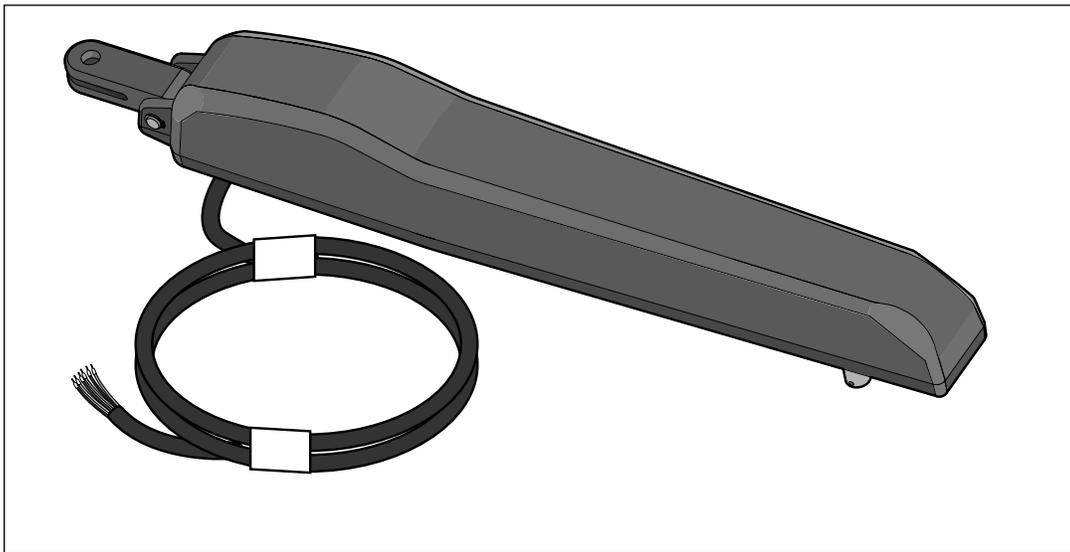


## MODEL LA100

### LIGHT-DUTY RESIDENTIAL DC ACTUATOR GATE OPERATOR

#### OWNER'S MANUAL



#### RESIDENTIAL USE ONLY

Please read this manual and the enclosed safety materials carefully!  
Periodic checks of the operator by a qualified technician are required to ensure safe operation.  
The model number label is located inside the control box of your operator.

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

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

Radio Receiver  
Built on Board



315 MHz



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## INTRODUCTION

### Safety Symbol and Signal Word Review

This gate operator has been designed and tested to offer safe service provided it is installed, operated, maintained and tested in strict accordance with the instructions and warnings contained in this manual.

 **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.

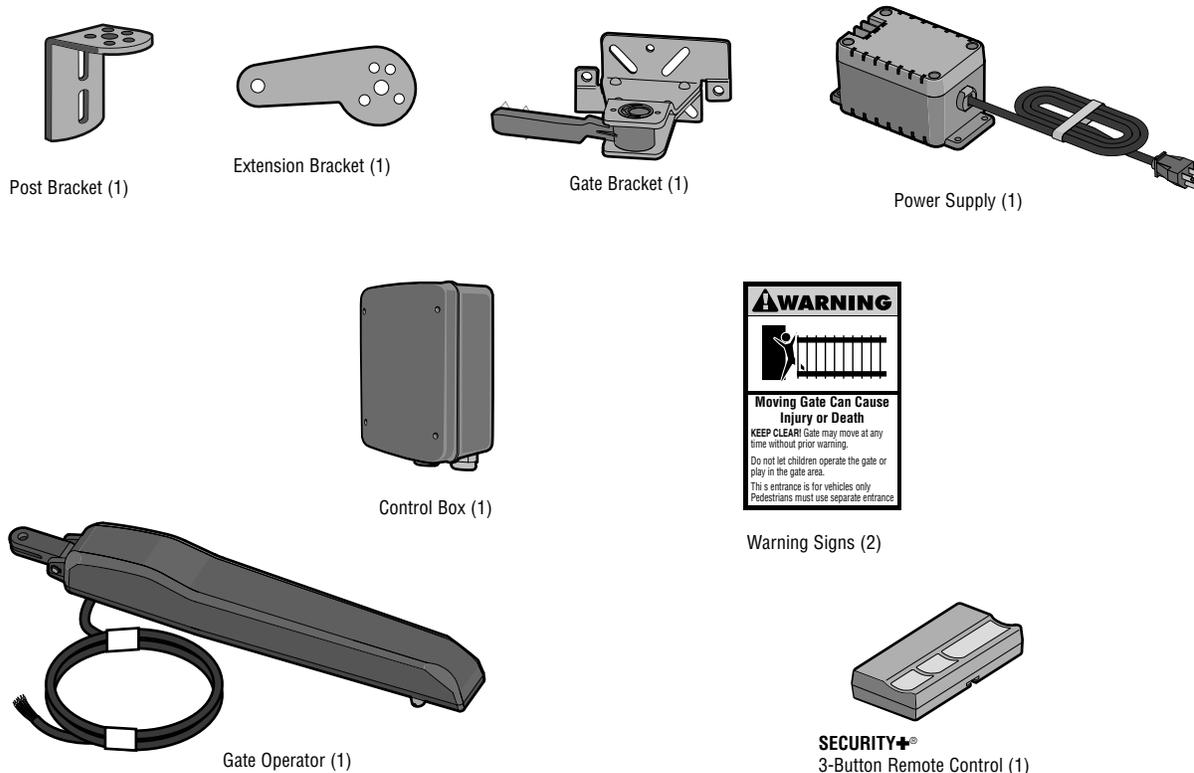
When you see this Signal Word on the following pages, it will alert you to the possibility of damage to your gate and/or the gate operator if you do not comply with the cautionary statements that accompany it. Read them carefully.

## Operator Specifications

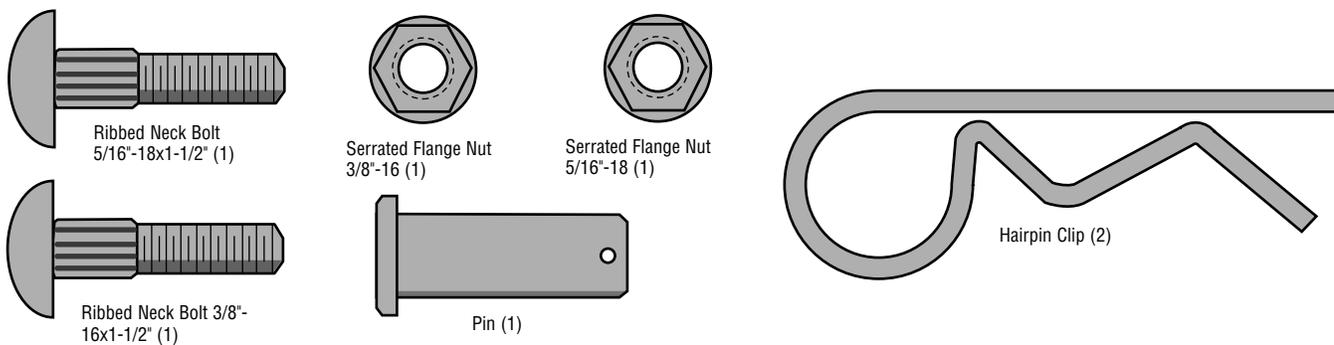
<b>Gate Classification:</b>	Class I	<b>Power Supply Voltage:</b>	24 Vac, 50VA
<b>Input Voltage:</b>	120 Vac	<b>Maximum Gate Weight:</b>	250 lbs. (113.4 kg)
<b>Maximum Current Consumption:</b>	2A	<b>Maximum Gate Length:</b>	12' (3.7 m) length
<b>Stand-by Power Consumption:</b>	10W	<b>Operating Cycles:</b>	20 per day
<b>Maximum Power Consumption:</b>	55W		

## Carton Inventory

This operator comes with the hardware to install on a gate that *pulls-to-open*.



## Hardware Inventory



## Additional Items For Purchase

The following items are **REQUIRED** to complete the installation:

### CONTROL BOX MOUNTING HARDWARE

- Mounting to Wood:  
Four #8 x 1-1/2" wood screws
- Mounting to Brick/Cement/Masonry:  
Four 1/4" masonry screws 1-3/4" long
- Mounting to Metal:  
Four #10-32 machine screws with washers and lock nuts

### GATE BRACKET MOUNTING HARDWARE

For 1 or 2 inch circular or square tubular constructed gates, use the following U-bolts with associated flat washers and hex nuts:

- 1" use 5/16-18 x 2-3/16" U-bolt (2)
- 2" use 5/16-18 x 3-3/16" U-bolt (2)

To secure the bracket to the gate, use the following hardware: 1/4-20 x 3" hex head bolt with associated flat washers, lock washers and hex nuts (2).

For gates with flat mounting surfaces and a maximum thickness 2", an alternate to using U-bolts would be: 5/16-18 x 3" hex head bolt with associated flat washers, lock washers and hex head nuts (4).

For chain link fences or other types with circular rails, it is best to attach a vertical support panel connecting the top rail to the bottom rail. The gate bracket can then be mounted to this vertical panel using the same bolts, washers and nuts as mentioned above.

### POST BRACKET MOUNTING HARDWARE

Two 3/8-16 x 6" carriage bolts with flat washers, lock washers and lock nuts.

### THE PROTECTOR SYSTEM® SAFETY SENSORS

Two pair of UL listed, outdoor, infrared safety sensors.

- LiftMaster Model 50-220

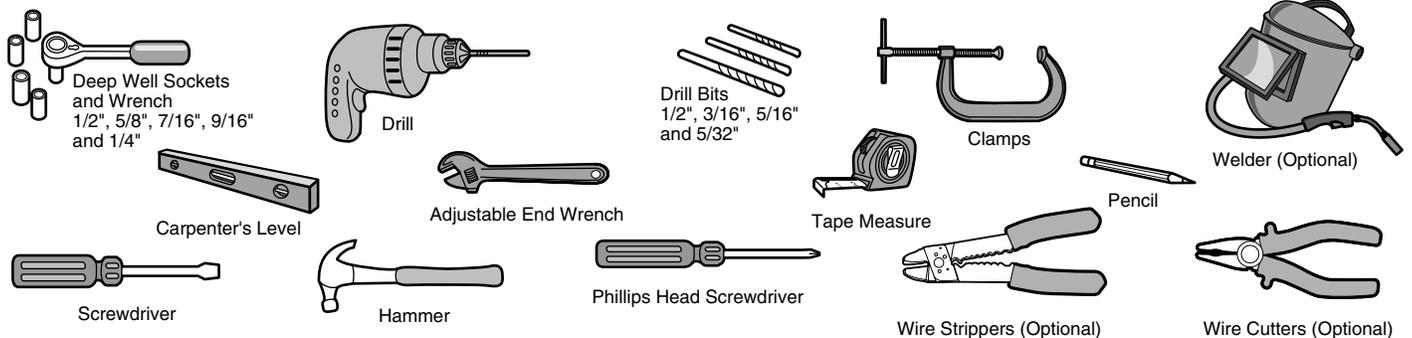
See page 25 for more information.

Distance from indoor AC Outlet to Control Box	Wire Gauge Needed
100 ft. (30.5 m) or less	16 gauge
100 - 150 ft. (30.5 - 45.7 m)	14 gauge*
150 - 250 ft. (45.7 - 76.2 m)	12 gauge*
250 ft. (76.2 m) and above	Not Recommended

\* UL Listed, Stranded, Direct Burial, UV Resistant Wire Installed per the National Electric Code, NEC.

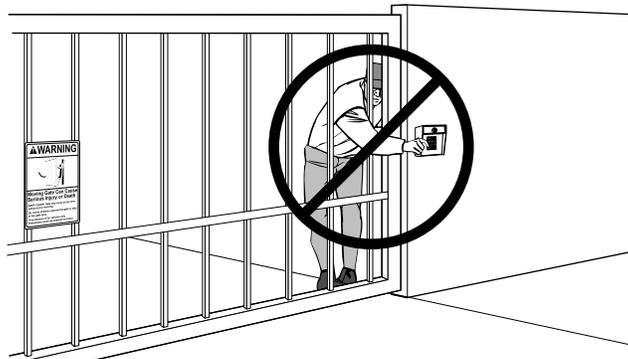
## Tools Needed

During assembly, installation and adjustment of the operator, instructions will call for tools as illustrated below.



## Safety Installation Information

1. READ and FOLLOW all instructions.
2. The gate operator is intended for use with Class I vehicular swing gates.  
Class I denotes 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.
3. 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 system design and installation must reduce public exposure to potential hazards. Install the gate operator only when the operator is appropriate for the construction of the gate and the usage class of the gate. All exposed pinch points must be eliminated or guarded.
4. A gate operator can create high levels of force during normal operation. Therefore, safety features must be incorporated into every installation. Specific safety features include:
  - Safety Sensors
5. The gate must be properly installed and work freely in both directions prior to the installation of the gate operator.
6. The gate must be installed in a location so that enough clearance is provided between the gate and adjacent structures when opening and closing to reduce the risk of entrapment. Swinging gates shall not open into public access areas.
7. The operator is intended for use only on gates used for vehicles. Pedestrians must be supplied with a separate access opening. The pedestrian access opening shall be designed to promote pedestrian usage. The pedestrian access shall be located such that persons will not come in contact with the moving vehicular gate during the entire travel of the gate.
8. Pedestrians should never cross the pathway of a moving gate. The gate operator is not acceptable for use on any pedestrian gate. Pedestrians must be supplied with a separate pedestrian access.
9. For an installation utilizing non-contact sensors, see page 26 on the placement of non-contact sensors for each type of application.
  - a. 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.
  - b. 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.
10. Never mount any device that operates the gate operator where the user can reach over, under, around or through the gate to operate the controls. Controls are to be placed at least 6' (1.8 m) from any part of the moving gate:
  - A hard wired control shall be located and its wiring arranged so that communication between the control and the gate operator is not subject to mechanical damage.
11. 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. Never allow anyone to hang on or ride the gate.

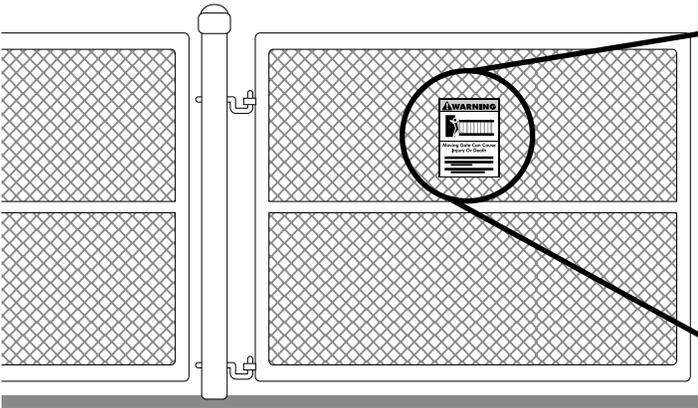


12. Each gate operator is provided with two safety warning placards. The placards are to be installed on the front and back of the gate where they are plainly visible. The placards may be mounted using sheet metal screws through the four holes provided on each placard.
- All warning signs and placards must be installed where visible in the area of the gate.

**⚠ WARNING**

To prevent **SERIOUS INJURY** or **DEATH** from a moving gate:

- Install warning signs on the front and back of the gate in **PLAIN VIEW**.
- Permanently secure each warning sign in a suitable manner using fastening holes.

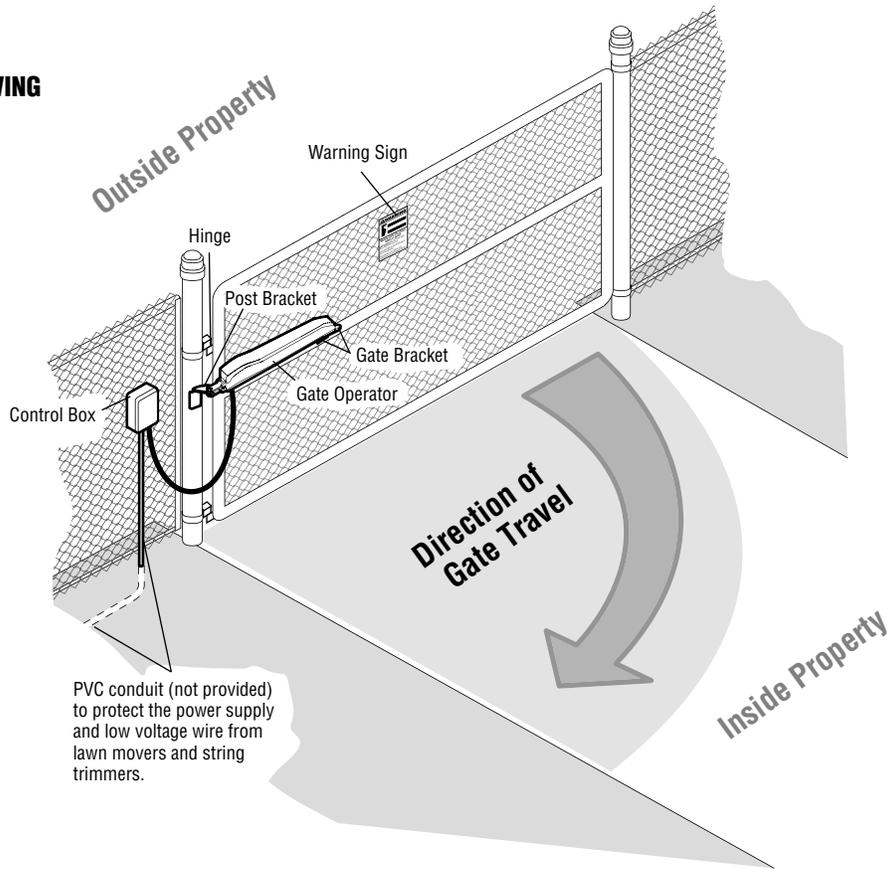


13. To **AVOID** damaging gas, power, or other underground utility lines, contact underground utility locating companies **BEFORE** digging.
14. **SAVE THE INSTRUCTIONS.**

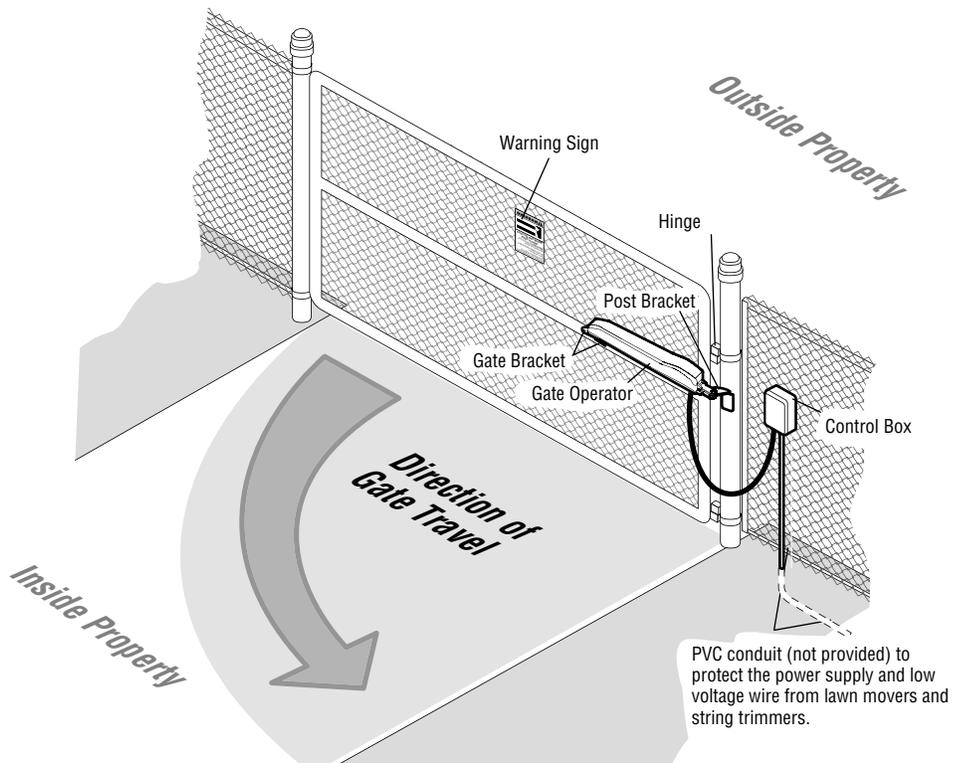
# PREPARATION AND OVERVIEW

## Gate Overview

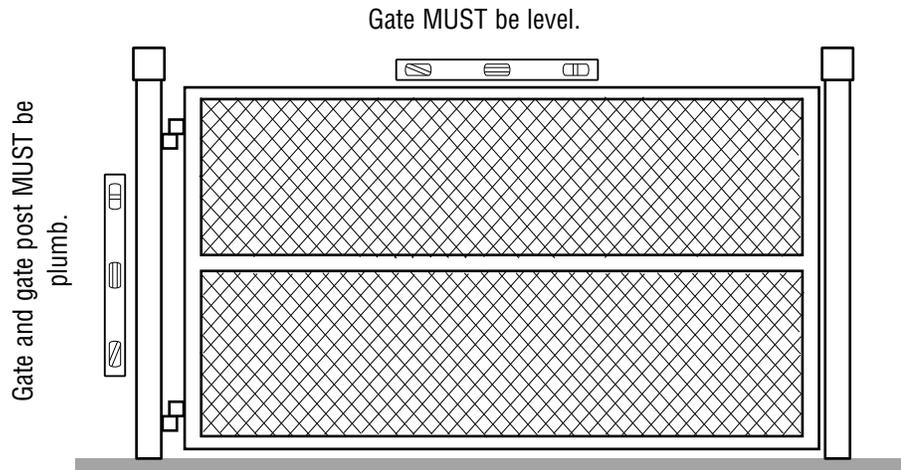
### LEFT HAND SWING



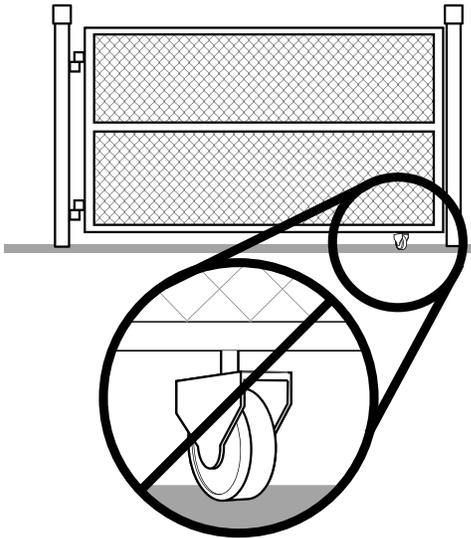
### RIGHT HAND SWING



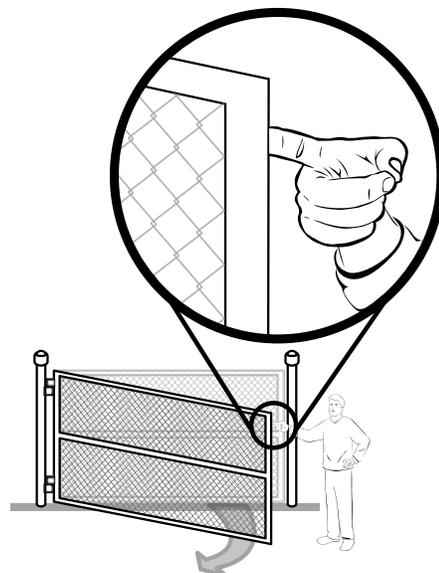
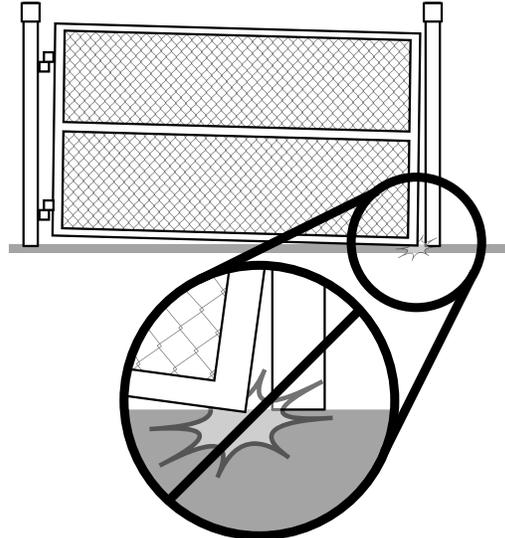
# Check Your Gate



Remove ANY/ALL wheels from the bottom of gate.



Gate MUST NOT hit or drag across ground.



## Mounting Options

Mounting locations vary depending on type and style of your gate.

### NOTES:

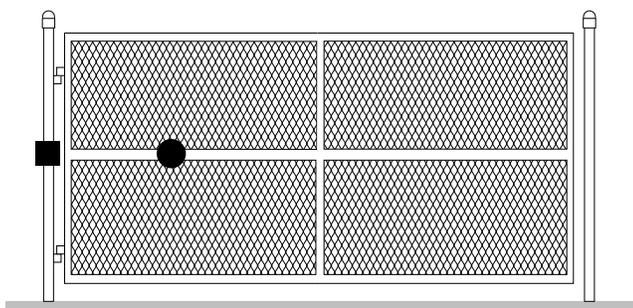
- The bottom of operator must be mounted at least 4" (10 cm) up from ground. Environmental conditions should be considered at this time.
- Not recommended for plastic or vinyl gates. Refer to gate manufacturer for recommendation and options.

### RECOMMENDED:

■ = Gate post bracket mounting locations

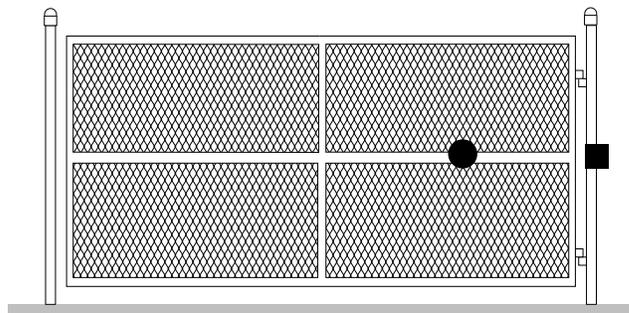
● = Gate bracket mount locations

#### LEFT-HAND HINGE MOUNTED

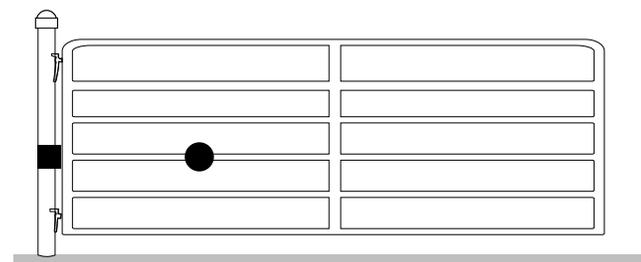


Typical Chain Link Gate

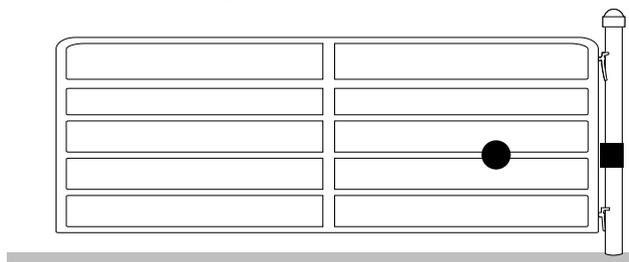
#### RIGHT-HAND HINGE MOUNTED



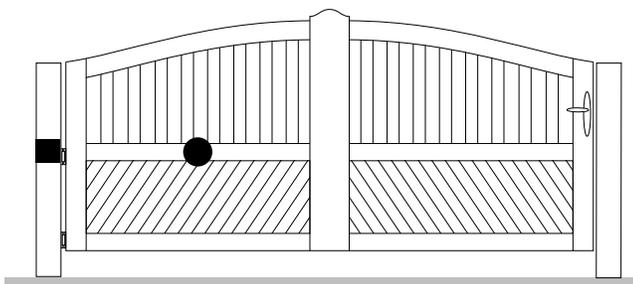
Typical Chain Link Gate



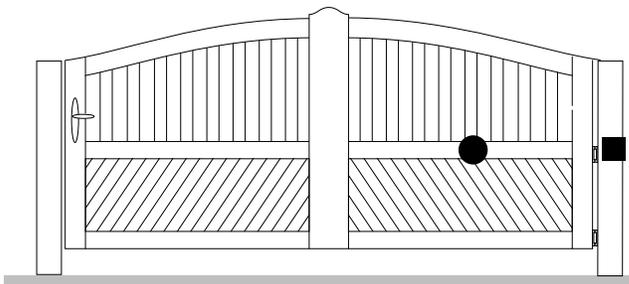
Typical Farm/Ranch Gate



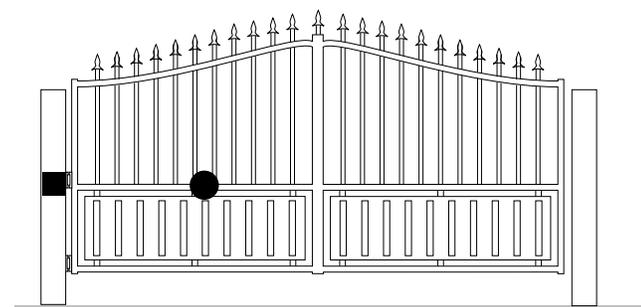
Typical Farm/Ranch Gate



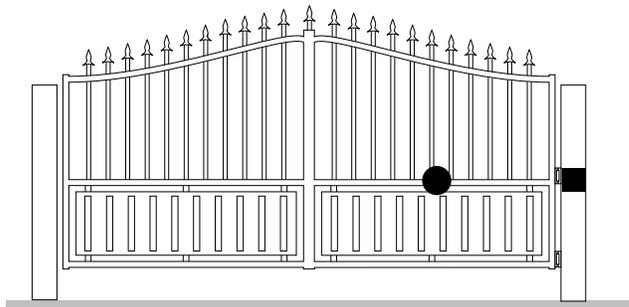
Typical Wood Gate



Typical Wood Gate



Typical Tubular Metal Gate



Typical Tubular Metal Gate

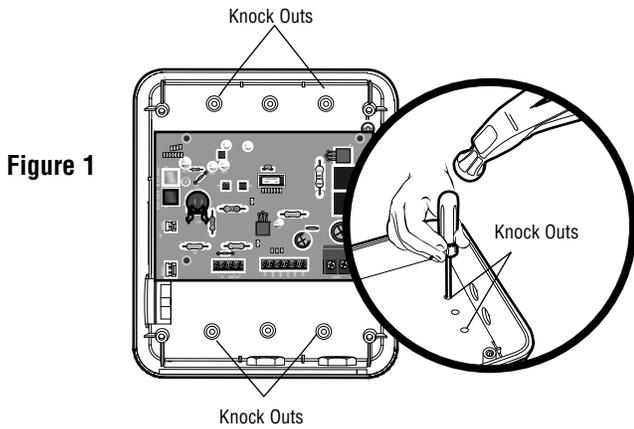
# INSTALLATION

## Mounting the Control Box and Power Supply

### 1 MOUNT CONTROL BOX

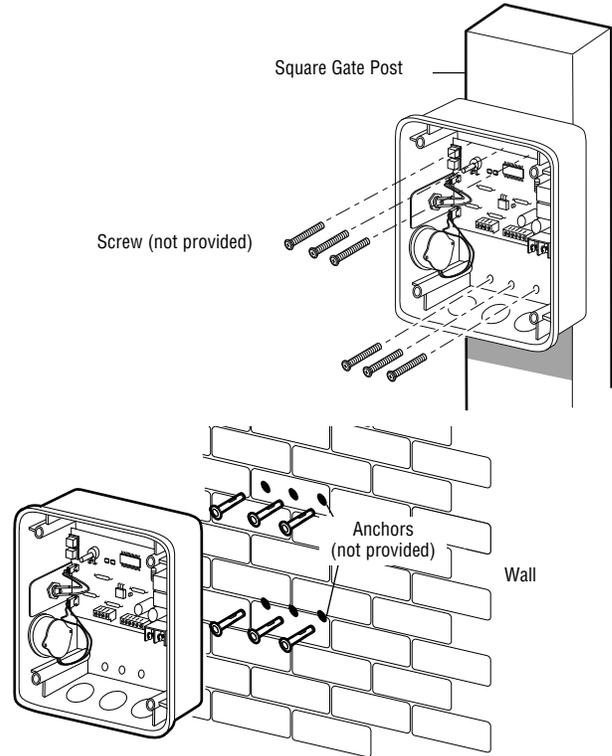
The recommended height for the control box is no less than 4' (1.2 m) above the ground and within 1' (.3 m) of the gate post. Do not mount control box more than 5' (1.5 m) from gate operator. PVC conduit (not provided) is recommended to be installed from the control box to the power supply location. Remove the cover screws (4) then set cover aside. Select mounting holes within the control box that is best suited for your application and knock out using a screw driver or punch. Attach the control box using the holes located within the control box and secure with appropriate hardware (Figure 1).

**NOTE:** Be sure to clean out any debris from the control box that may have accumulated.



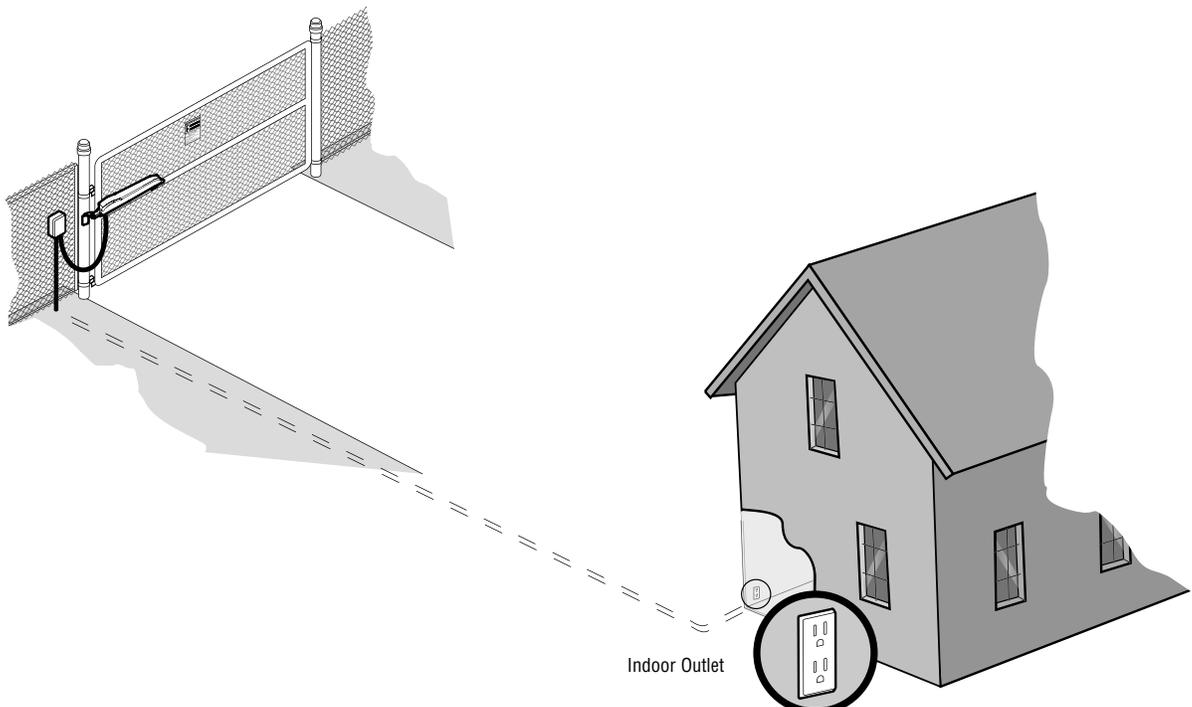
### **WARNING**

To reduce the risk of electric shock, this power supply equipment has a grounding type plug, that has a grounding pin. This plug will ONLY fit into a grounding type outlet. If the plug does NOT fit in the outlet, contact a qualified electrician to install the proper outlet. DO NOT change the plug in ANY way.  
Dry location use ONLY.



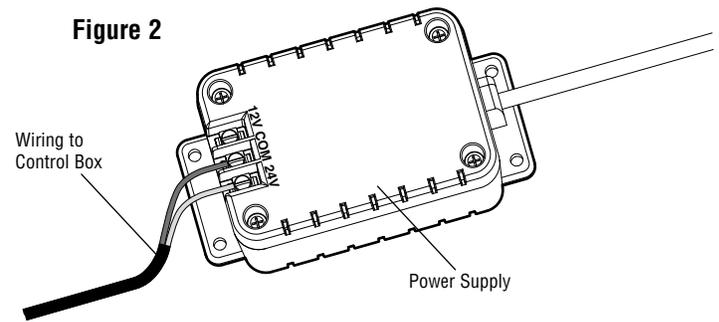
### 2 MOUNT POWER SUPPLY

The power supply provided must be located in a dry location that is protected from weather conditions, such as inside the house or garage. **NOTE:** Do not plug power supply in until instructed to do so.



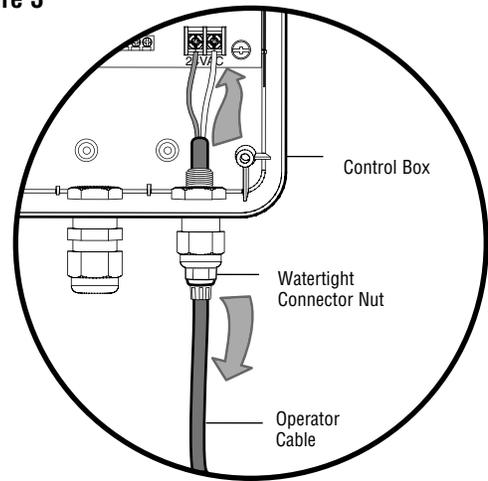
## MOUNT POWER SUPPLY (CONTINUED)

- Connect and firmly secure 2 conductor wires to the terminals marked **COM** and **24 Vac** on the power supply provided. Refer to 'Wire Table' for recommended wire size and distance from the power supply and the gate operator control box (Figure 2).
- Pull wire through one of the water tight connector nuts located on the bottom of the control box. Tighten nut firmly. Pull gently on the wire to confirm it is secure (Figure 3).
- Connect and firmly secure the wires from the power supply to the control board terminals marked **24 Vac** (Figure 3).



Distance from indoor AC Outlet to Control Box	Wire Gauge Needed
100 ft. (30.5 m) or less	16 gauge
100 - 150 ft. (30.5 - 45.7 m)	14 gauge*
150 - 250 ft. (45.7 - 76.2 m)	12 gauge*
250 ft. (76.2 m) and above	Not Recommended

**Figure 3**



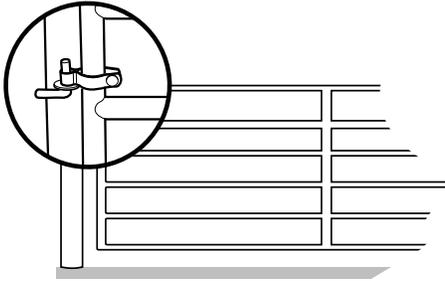
\* UL Listed, Stranded, Direct Burial, UV Resistant Wire Installed per the National Electric Code, NEC.

# 1 Attach Operator to Gate

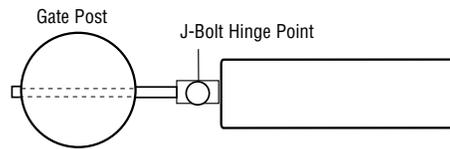
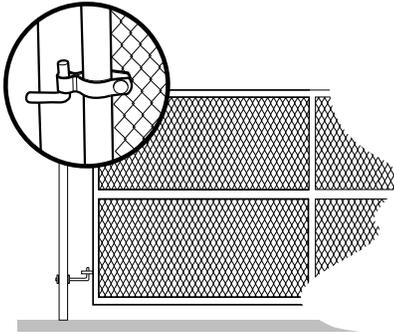
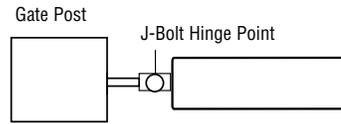
## IDENTIFY HINGE TYPE

The illustrations below show common gate hinges. There are many styles of hinges available.

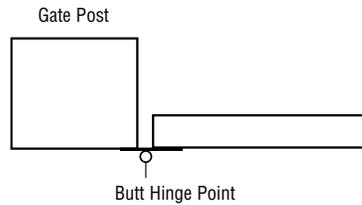
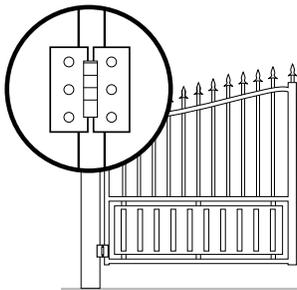
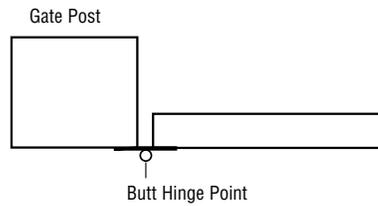
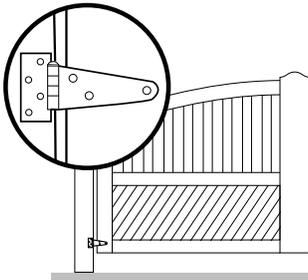
### J-BOLT HINGE



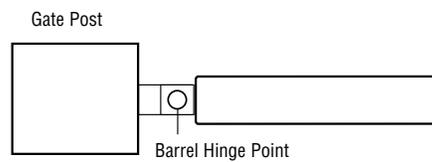
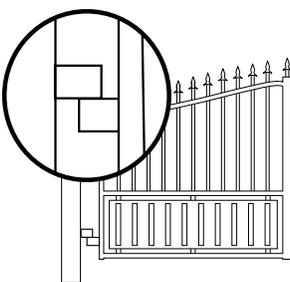
### TOP VIEW



### BUTT HINGE



### BARREL HINGE



## 2 MEASURING AND MARKING FOR THE GATE BRACKET

Before proceeding, begin with the gate in the fully closed position. There are two methods described to determine proper location of the post brackets:

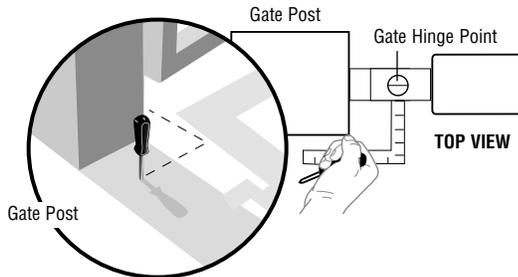
- Paper template (to be cut out) located on the back page of this manual.
- Tape measure.

Either method will work depending on preference. **NOTE:** Be sure gate is in closed position before proceeding.

### TEMPLATE METHOD

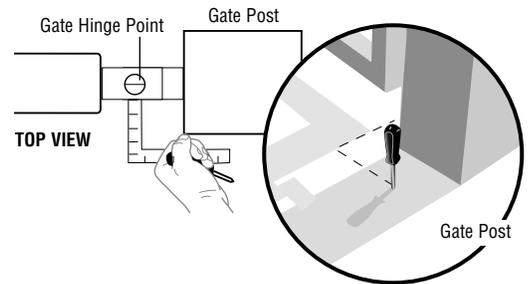
Place the template (provided on the back page) under the gate hinge point. Use a screwdriver or dowel rod to temporarily mark the location in front of the gate post.

#### LEFT SIDE BRACKET MOUNTING



Use a screwdriver or dowel rod to temporarily mark measurement.

#### RIGHT SIDE BRACKET MOUNTING

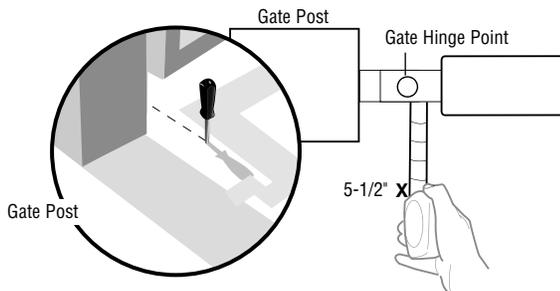


Use a screwdriver or dowel rod to temporarily mark measurement.

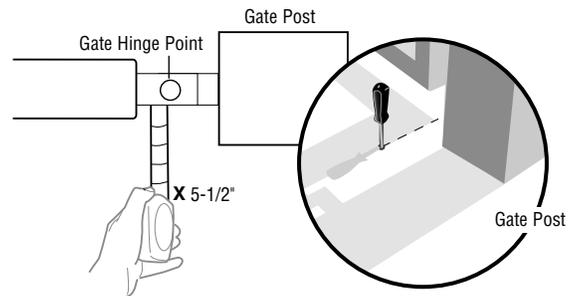
### TAPE MEASURE METHOD

Place the measuring tape under the gate hinge point and measure 5-1/2". Use a screwdriver or dowel rod to temporarily mark the location of the first measurement.

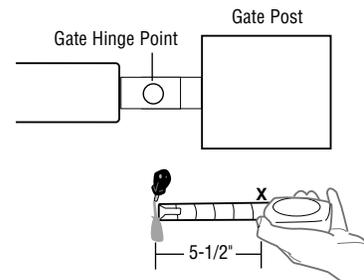
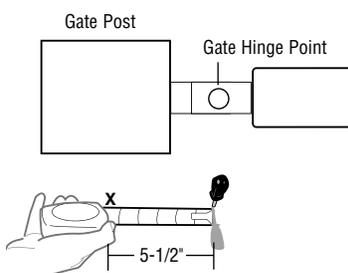
#### LEFT SIDE BRACKET MOUNTING



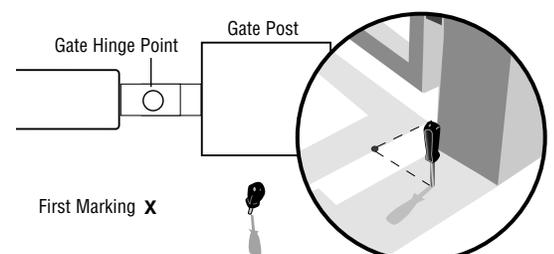
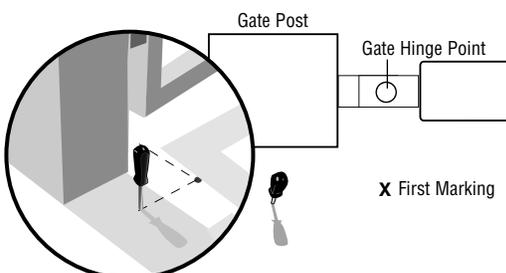
#### RIGHT SIDE BRACKET MOUNTING



Measure 5-1/2" from the previous mark.

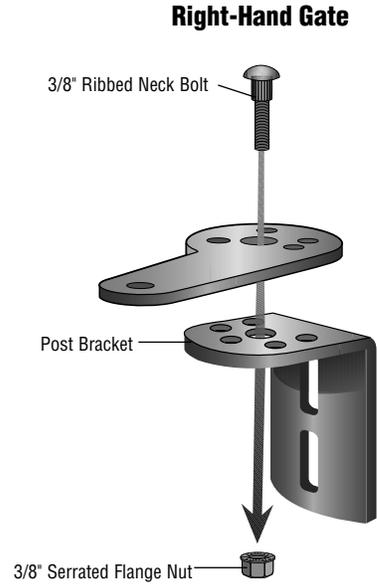
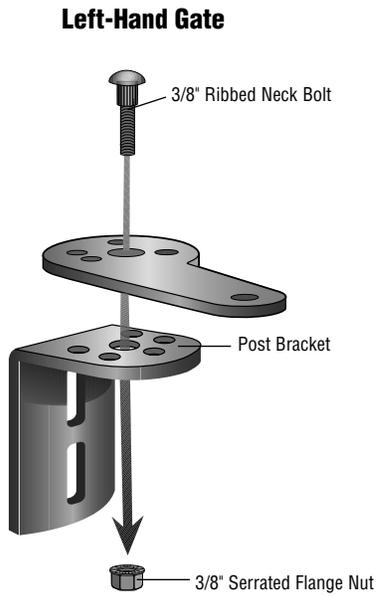


Use the screwdriver or dowel rod to mark the location of the second measurement.

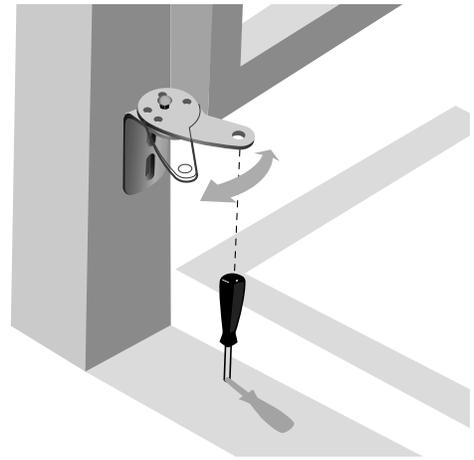
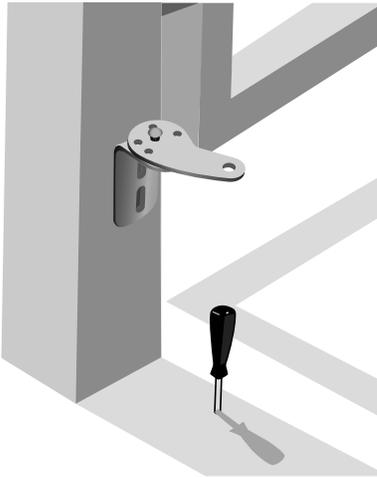


### 3 POSITION THE EXTENSION BRACKET TO POST BRACKET

Assemble post bracket by placing the extension bracket on top of post bracket. Insert bolt through brackets and loosely secure with 3/8" serrated flange nut. **DO NOT TIGHTEN AT THIS TIME.**



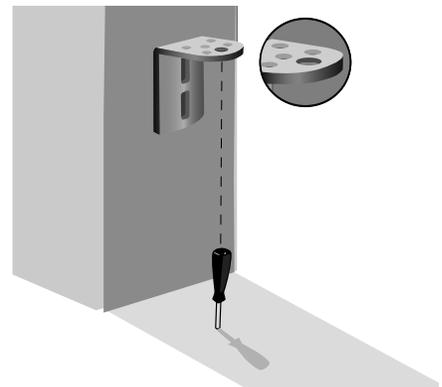
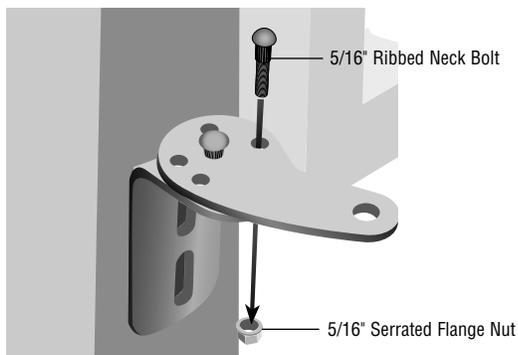
Hold post bracket in desired position. Align extension bracket to a position as **CLOSE AS POSSIBLE** above the marker.



Once the extension bracket is in the desired location, insert 5/16" ribbed neck bolt with the serrated flange nut. **DO NOT TIGHTEN AT THIS TIME.**

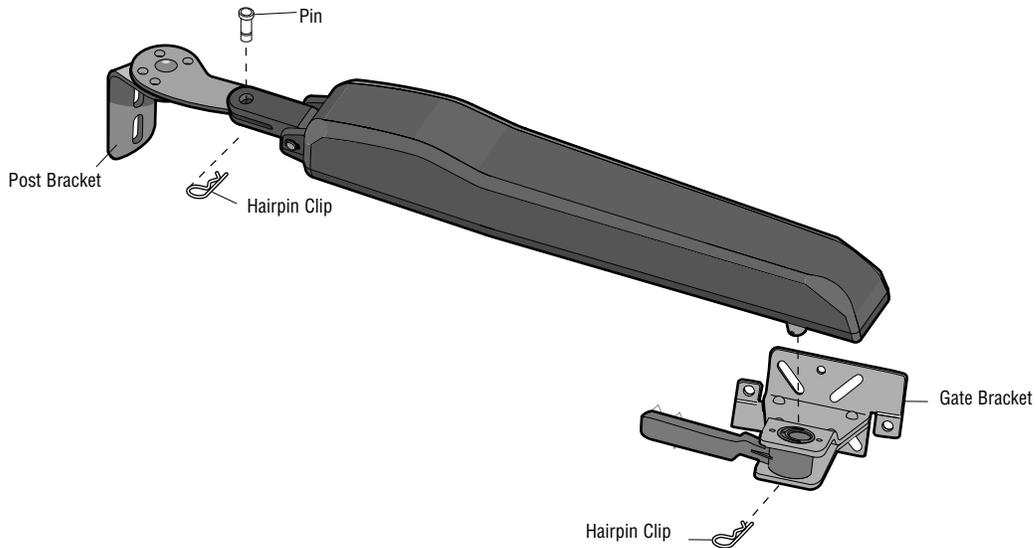
#### **FOR 6" AND LARGER POSTS**

An extension bracket is not necessary if the operator is being installed on a 6" (15 cm) or larger post.



## 4 ATTACH BRACKETS TO GATE OPERATOR

Attach post bracket and gate bracket to the gate operator using the pin and the hairpin clips as illustrated.

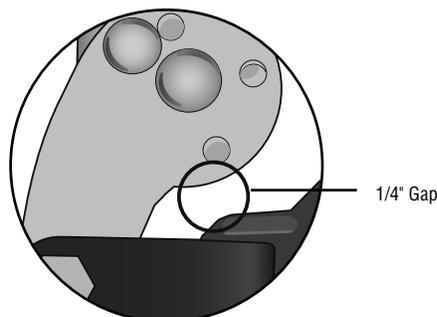
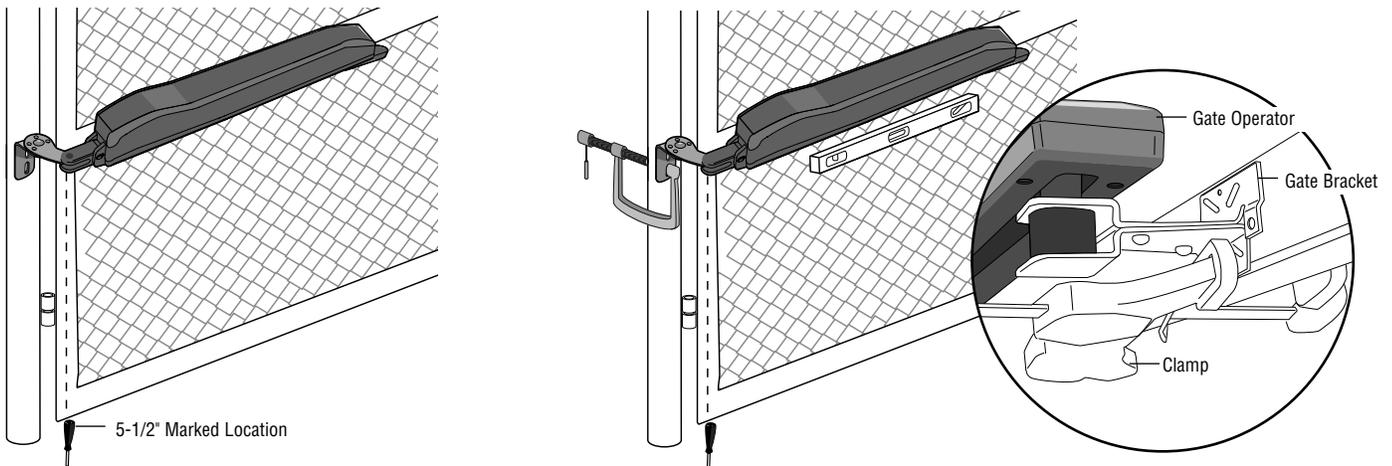


## 5 POSITION OPERATOR ON MOUNTING LOCATION

Before proceeding, begin with the gate in the fully closed position. The post bracket assembly can be mounted several places on the gate post. Refer to the illustrations on page 9 for the ideal mounting options.

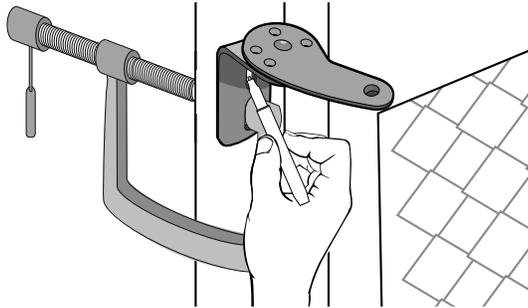
With gate in closed position, place operator against gate post at the desired vertical position.

- The bottom of the operator must be at least 4" (10 cm) off the ground.
- Temporarily secure the post bracket to the post and the gate bracket to the gate with the clamps.
- Ensure the operator is level by placing the level on the bottom of the operator.
- Ensure there is at least 1/4" space between the operator and the extension bracket. If needed the extension bracket can be adjusted to achieve this gap. The 5-1/2" x 5-1/2" marked location may not be exact in all installations.

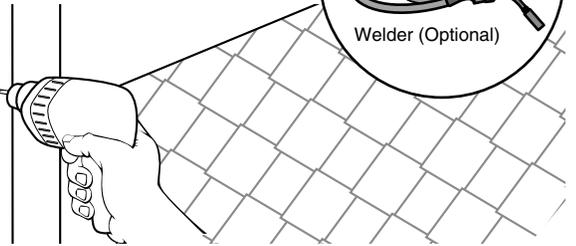


## 6 REMOVE THE OPERATOR AND MARK MOUNTING HOLES FOR DRILLING

Ensure gate operator is level by placing level under the gate operator. Remove gate operator from brackets by removing the hairpin clips. Mark holes to be drilled. For the post bracket, mark and drill holes in the middle of the slots to allow for minor adjustments if required. Remove brackets and drill holes.



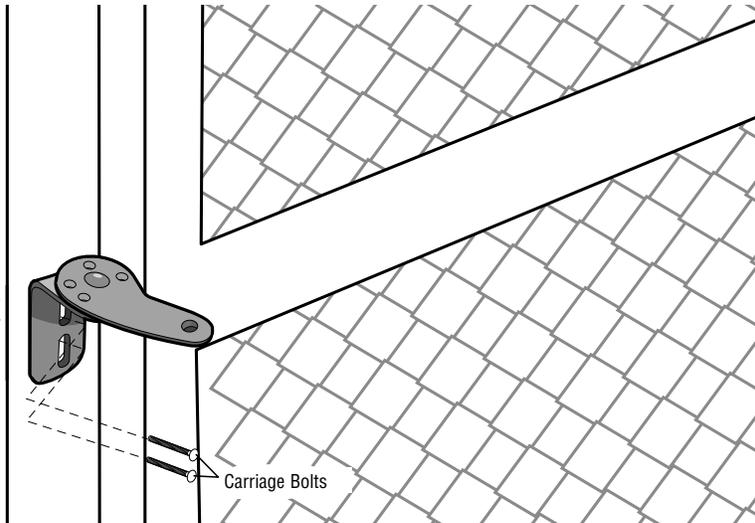
1/2" holes required for mounting hardware provided.



## 7 SECURE POST BRACKET TO GATE POST

**HARDWARE NOT PROVIDED**

Flat Washers  
Hex Nuts  
Lock Washers

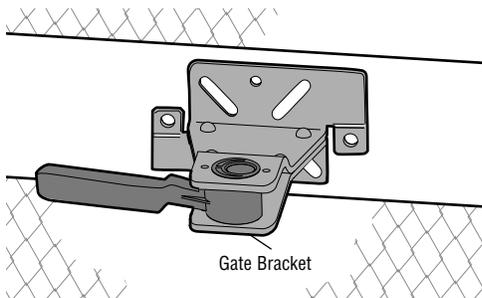


Carriage Bolts

## 8 SECURE GATE BRACKET TO GATE

Mount gate bracket with appropriate hardware (not provided). If your gate is constructed of round tubular framing, U-bolts can be used lieu of through bolt hardware.

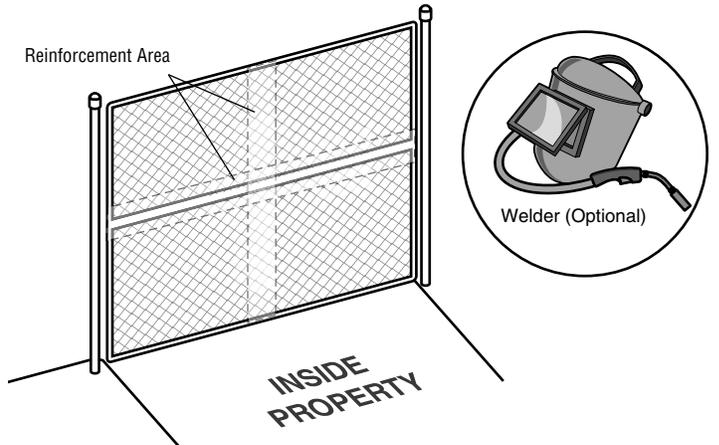
**NOTE:** The gate bracket can be secured to the gate using a welder.



Gate Bracket

**NOTE:** Release lever must point toward the hinge post.

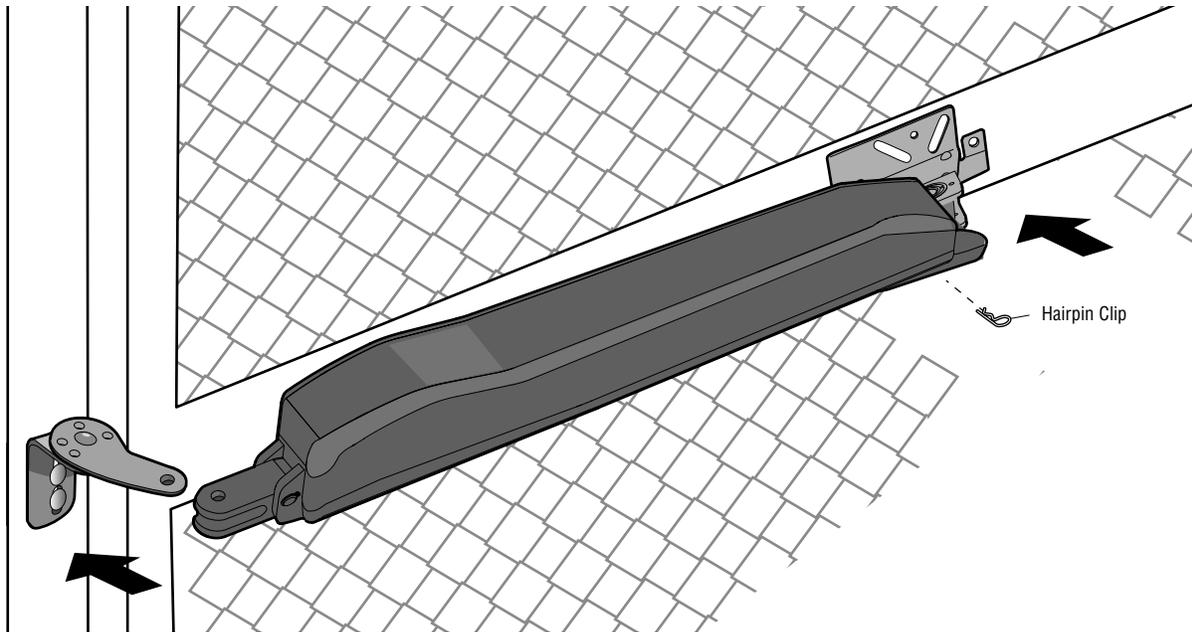
**NOTE:** Some installations may require reinforcement of existing gate structures for suitable support.



## 9 REINSTALL OPERATOR TO GATE

Reinstall operator to the post and gate brackets securing with the hairpin clips. Once you have verified that the operator is level and the 1/4" gap between the operator and the extension bracket has been maintained, tighten all of the post and gate bracket supporting hardware.

**IMPORTANT NOTE:** When tightening the ribbed neck bolts that hold the extension bracket to the post bracket, it is necessary to alternate between the bolts when tightening to ensure a correct alignment and to ease the drawing of the bolts through the brackets.



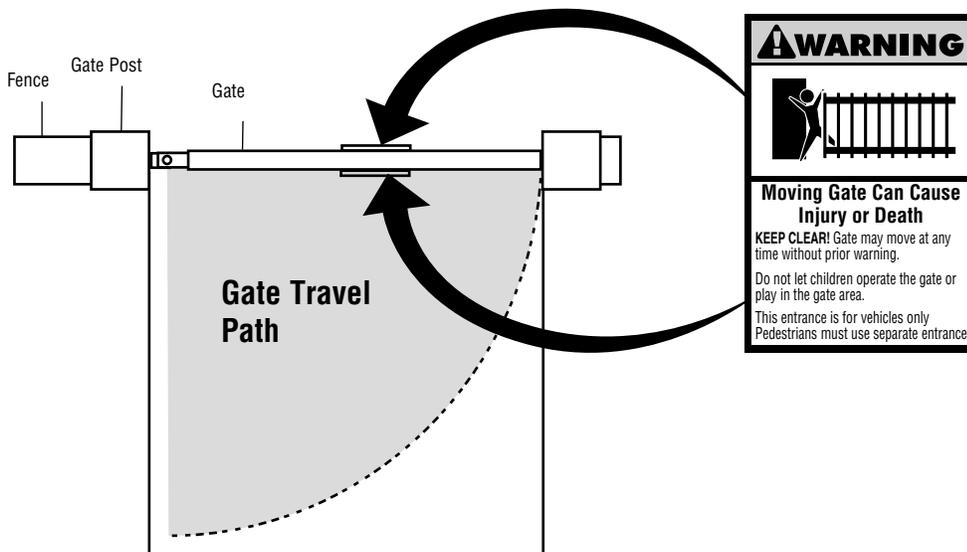
## 10 WARNING SIGN PLACEMENT

Warning placards **MUST** be installed on both sides of the gate and in plain view.

### **⚠ WARNING**

To prevent **SERIOUS INJURY** or **DEATH** from a moving gate:

- Install warning signs on the front and back of the gate in **PLAIN VIEW**.
- Permanently secure each warning sign in a suitable manner using fastening holes.



# WIRING

## **WARNING**

BEFORE installing power wiring or control stations be sure to follow ALL specifications and warnings described below.

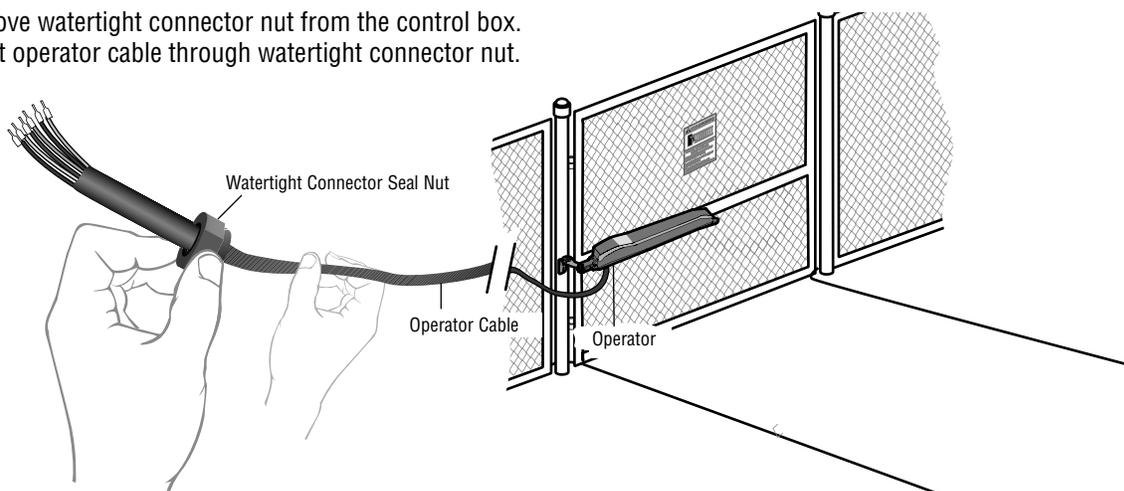
- Disconnect the power supply BEFORE proceeding. Operator MUST be properly grounded and connected in accordance with local electrical codes.
- ALL electrical connections MUST be made by a qualified individual.

- DO NOT install ANY wiring or attempt to run the operator without consulting the wiring diagram.
- ALL power wiring should be on a dedicated circuit and well protected. The location of the power disconnect should be visible and clearly labeled.
- ALL power and control wiring must be run in separate conduit.

## Connect Gate Operator to Control Box

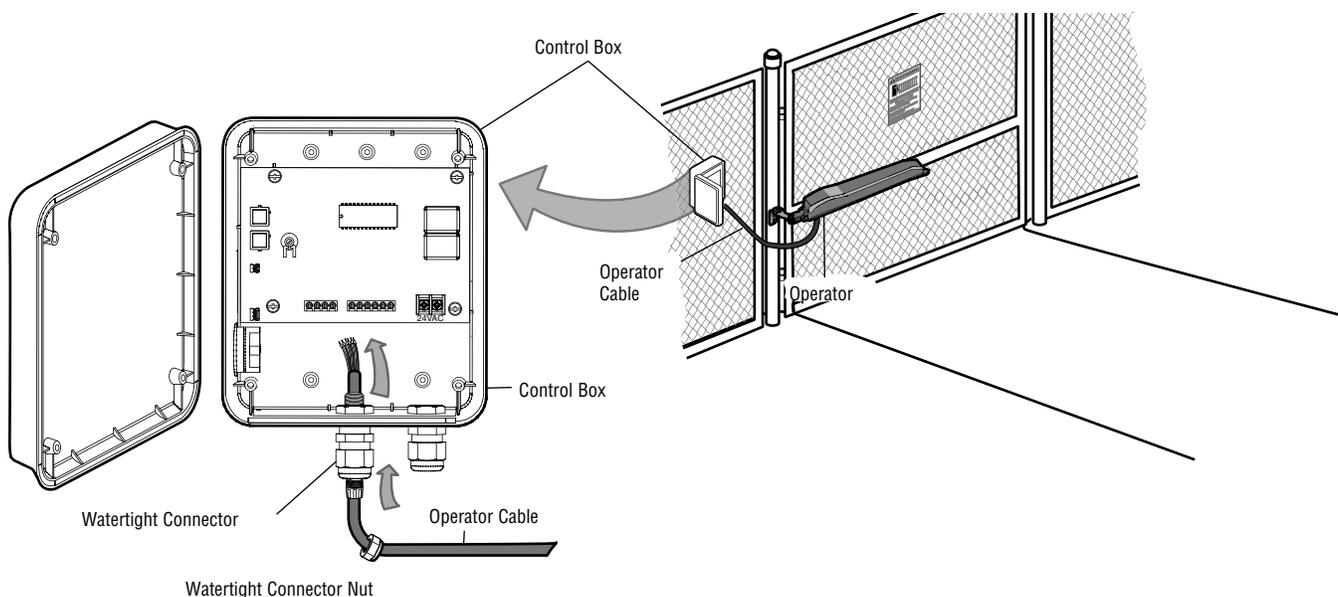
### 1 WATERTIGHT CONNECTOR NUT

Remove watertight connector nut from the control box. Insert operator cable through watertight connector nut.



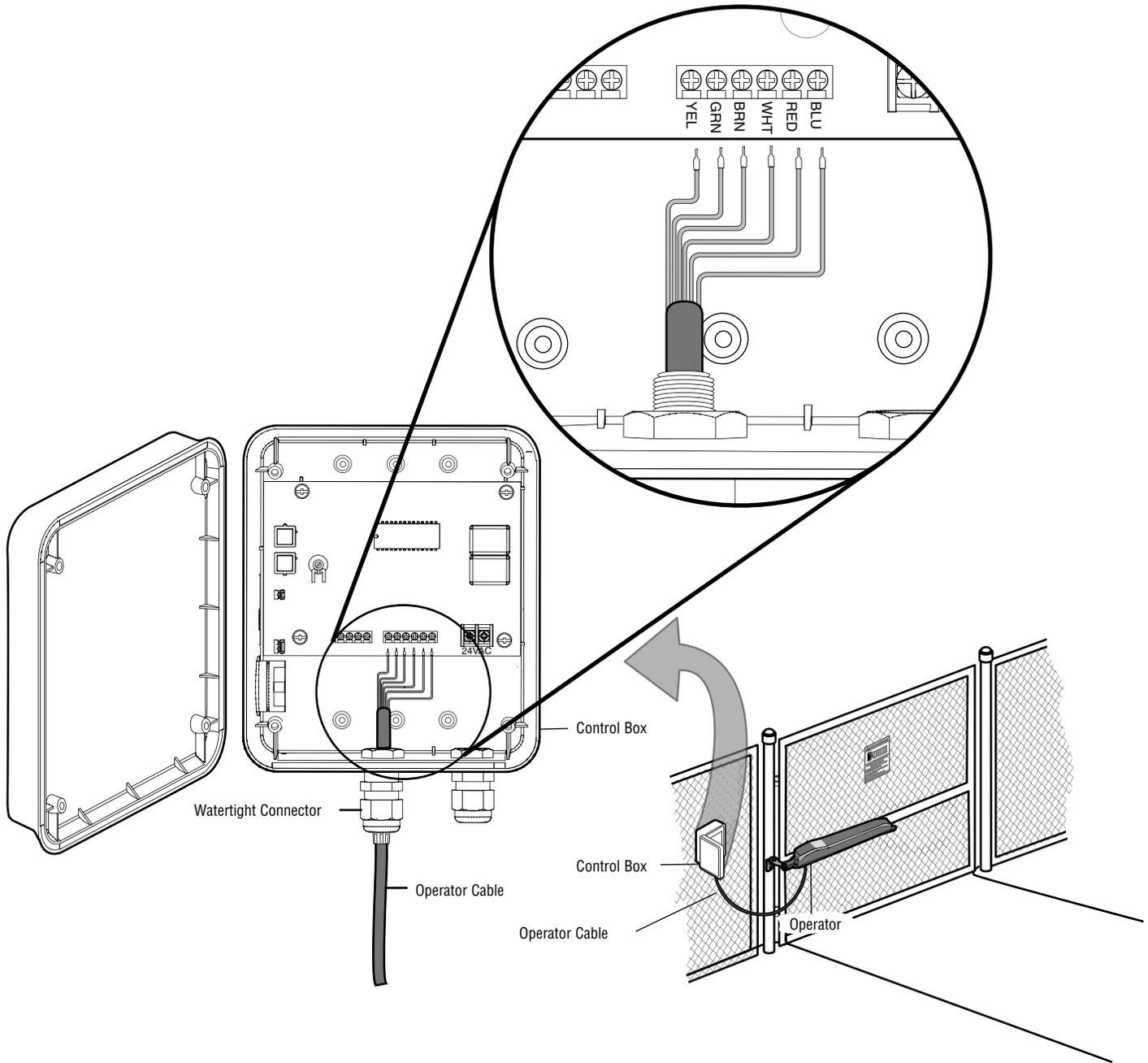
### 2 INSERT OPERATOR CABLE

Insert operator cable through watertight connector mounted in the bottom of the control box.



### 3 CONNECT OPERATOR TO CONTROL BOARD

Extend cable and wires to the terminal connector on control board and make connections as shown. Tighten watertight connector nut so that cable is firmly held. Tug on cable to ensure connector has been tightened enough. Ensure the motor cable wire colors are attached to the corresponding terminals on the control board.



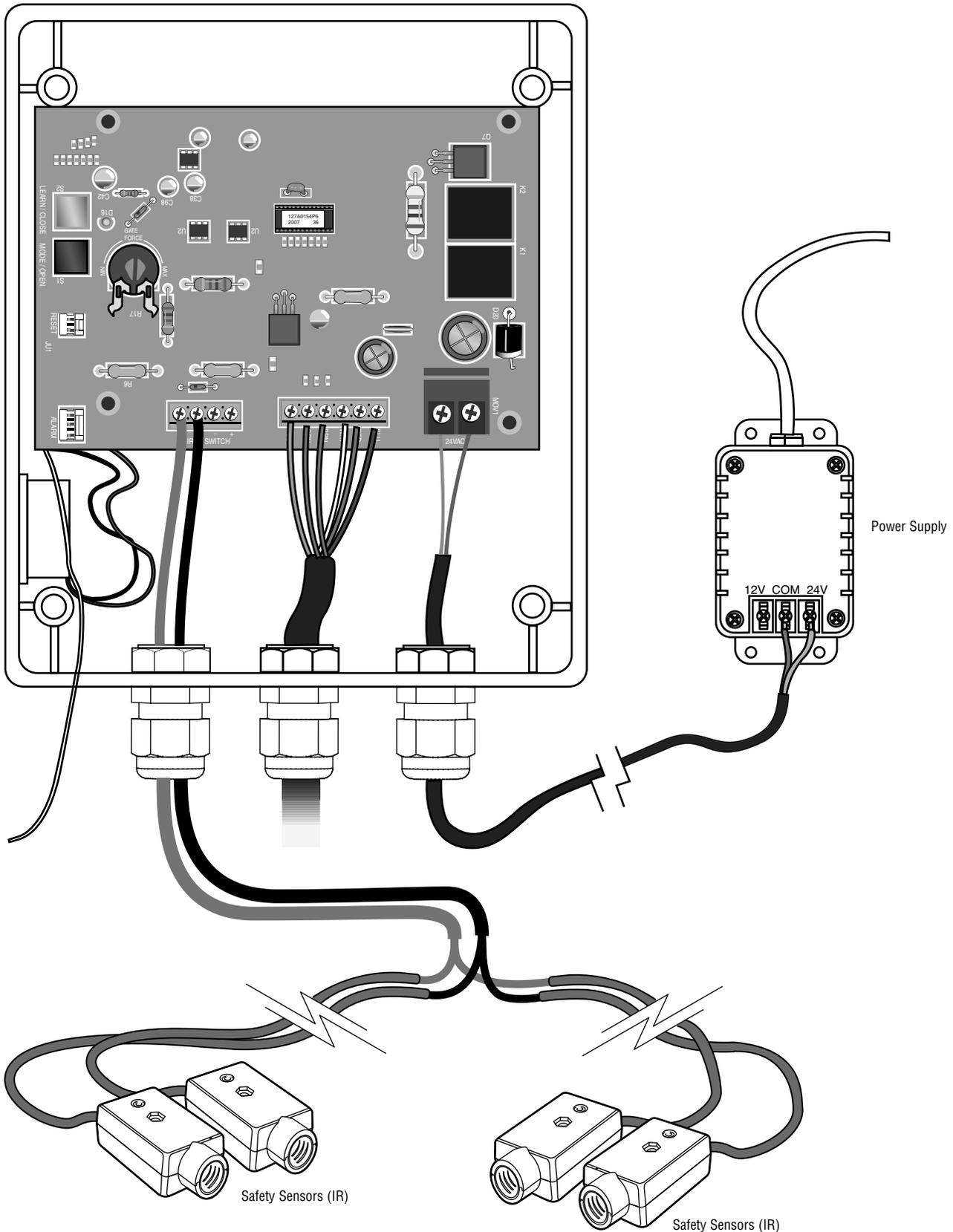
### 4 PLUG IN POWER SUPPLY

Plug power supply into an indoor outlet.

# Wiring Diagram

## **WARNING**

To protect against fire and electrocution:  
• DISCONNECT power BEFORE installing or servicing operator.



# PROGRAMMING

## Before You Begin

- The **BLACK** button is used for **LIMIT LEARN** and **TIMER-TO-CLOSE** settings.
- The **PURPLE** button is used for **RADIO LEARN** and **FORCE LEARN**.
- The large button on the 3-button remote control is pre-programmed to activate your gate operator. It is required to program your travel limits.
- The **YELLOW** LED provides learning mode feedback.

## PROGRAMMING GATE TRAVEL (LIMIT LEARN)

### 1 SETTING THE OPEN POSITION

- With the gate in the closed position, press and hold the **BLACK** button until the **YELLOW** LED begins to blink (approximately 7 seconds), then release.
- Push and hold the **BLACK** button until the gate reaches the desired **OPEN** position (not to exceed 100°). If required, push the **PURPLE** button to jog the gate back toward the **CLOSE** position.
- Once you have the gate in the desired **OPEN** position, press the large remote control button. This will set the **OPEN** position and immediately begins closing the gate.
- When the gate begins to close, press and release either the **BLACK** or **PURPLE** button. This will stop the gate.

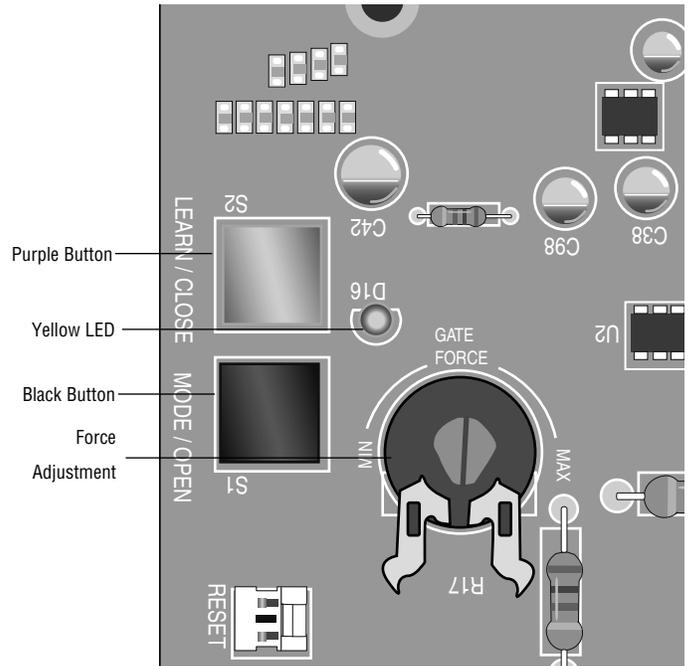
### 2 SETTING THE CLOSE POSITION

- Press and hold the **PURPLE** button until the gate reaches the desired closed position. If required, use the **BLACK** button to jog the gate back towards the **OPEN** position.
- Once the gate is in the desired closed position, press the large remote control button. This will set the **CLOSE** position and the gate will immediately begin to open.

Allow gate to open fully. The limits are now set. The **YELLOW** LED will be blinking. Continue with step 3.

### 3 LEARNING THE FORCE

Make certain that the gate path is free from any obstructions while learning the force. Use the programmed remote control and run the gate to the fully closed position. After reaching the fully closed position now run the gate to the fully open position. This will complete the force learn and the **YELLOW** LED will stop blinking and turn off.



## 4 GATE FORCE SENSITIVITY ADJUSTMENT

Do not use force adjustments to compensate for a binding or sticking gate. Excessive force will interfere with proper operation of the safety reverse system and may cause damage to the gate or operator.

The gate operator will automatically detect how much force is required to open and close the gate under normal conditions, however, the user must initialize the Gate Force Sensitivity. The Gate Force must be carefully adjusted to allow the gate to reverse when an obstruction is encountered. This adjustment determines how much force is allowed before the gate reverses after making contact with an obstruction. If the Gate Force is set too light, gate travel may be interrupted by nuisance reversals in either the open or close directions. Weather conditions can effect the gate movement, occasional adjustments may be necessary.

The Gate Force Sensitivity Adjustment control is located on the control board. Maximum force adjustment range is 260 degrees, about 3/4 of a turn. Do not force the control beyond that point. By turning the Gate Force control clockwise will decrease the amount of force and turning the control counter clockwise will increase the force.

## 5 TEST CLOSE FORCE

With the gate in the open position and the Gate Force control set to MIN, place the cardboard container the gate operator was shipped in against the close side latch post, such that the gate will hit the box when it closes. Press the remote control to close the gate. The gate should reverse when the gate hits the box and return to the full open position.

## 6 TEST OPEN FORCE

With the gate in the closed position and the Gate Force control set to MIN, place the cardboard container against an entrapment area on the open side. Press the remote control to open the gate. The gate should reverse when the gate hits the box and return to the closed position.

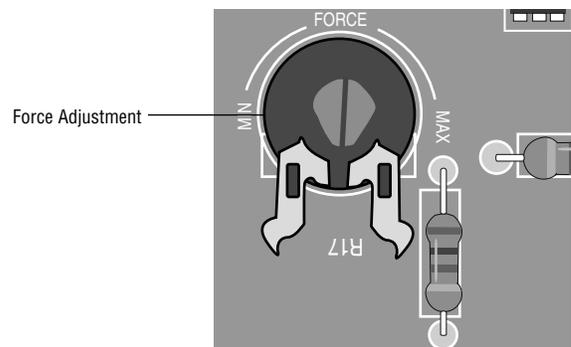
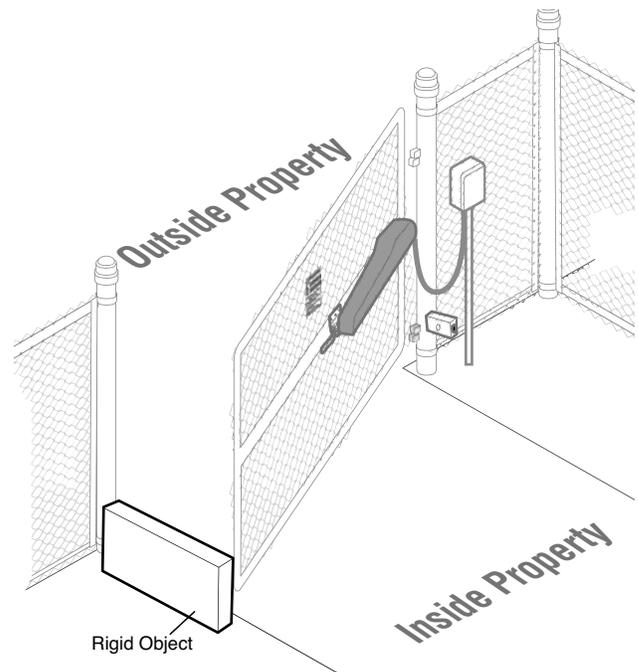
The Gate Force Sensitivity Adjustment control can be adjusted to help eliminate nuisance reversals, however, the gate should be tested as stated above after any adjustment of the Gate Force control. Make small adjustments until adequate force is obtained to minimize nuisance reversals while maintaining reversals off the box as described above.

Once the gate travel and learn limit have been programmed as described above, the gate is ready to be used. The gate can be controlled via wireless remote controls (see Accessories). To open the gate, the user must press and release the button on the remote control. The gate will begin opening and stop at the open position. To close the gate, the user must press and release the button on the remote control. The gate will begin closing and stop at the closed position. When the gate is traveling and another command is given from the remote control, the gate will stop. The next command given will make the gate travel in the opposite direction and stop at the corresponding open or closed position.

## ⚠ WARNING

Without a properly installed safety reversal system, persons (particularly small children) could be **SERIOUSLY INJURED** or **KILLED** by a closing gate.

- Too much force on gate will interfere with proper operation of safety reversal system.
- **NEVER** increase force beyond minimum amount required to close gate.
- **NEVER** use force adjustments to compensate for a binding or sticking gate.
- If one control (force or travel limits) is adjusted, the other control may also need adjustment.
- After **ANY** adjustments are made, the safety reversal system **MUST** be tested. Gate **MUST** reverse on contact with a rigid object.



## Adding Additional Wireless Control Devices

The gate controller has the ability to learn 9 (total) wireless control devices such as additional remote controls or keyless entry (see accessories):

### To add additional Remote Control:

1. Press and release the **PURPLE** button on the control board. The **YELLOW** LED will light continuously. The gate controller is now ready to learn a new remote control.
2. Press and hold the desired button on the additional remote control until the **YELLOW** LED on the control board goes out.

### To add Keyless Entry Control (not provided):

1. Press and release the **PURPLE** button on the control board. The **YELLOW** LED will light continuously. The gate controller is now ready to learn password.
2. Within 30 seconds enter a four digit personal identification number (PIN) then press the **ENTER** button for approximately 3 seconds and release. The **YELLOW** LED on the control board will go out.

*(Temporary PIN's are not available for use with this gate operator)*

**NOTE:** If no radio signal is detected within 30 seconds, the learn mode will exit automatically. To clear programmed remotes, press and hold the **PURPLE** button until the **YELLOW** LED goes out (about 6 seconds). This will clear **ALL** learned wireless control devices.

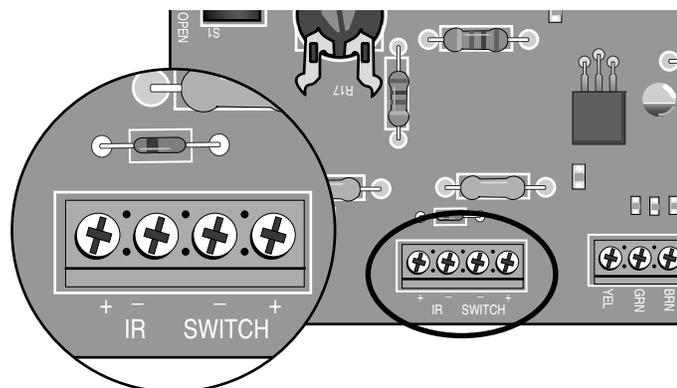
## Optional Control Connections

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.

### SINGLE BUTTON CONTROL

A wired control that functions identically to the wireless remote control can be connected to the **SWITCH +/-** inputs on the control board. Any switch with normally open contacts and a momentary input can be used. Be sure to unplug the Power Supply before making any electrical connections to the control board.



## Advanced Programming Features

### PROGRAMMING TIMER-TO-CLOSE (TTC)

Timer-to-Close is a user programmable option that will automatically close the gate after this feature has been programmed.

1. Begin with the gate in the fully closed position, press and hold the **BLACK** button for 2 seconds then release when the **YELLOW** LED turns on solid.
2. Press the **BLACK** button X amount of times to set the desired close delay:
  - 1 press = 15 seconds (LED will blink 1 time)
  - 2 press = 30 seconds (LED will blink 2 time)
  - 3 press = 45 seconds (LED will blink 3 time)
  - 4 press = 60 seconds (LED will blink 4 time)
  - 5 press = 75 seconds (LED will blink 5 time)
  - 6 press = 90 seconds (LED will blink 6 time)
  - 7 or 0 press = **TTC** off (LED will turn on solid and then go out after 10 seconds)
3. After programming the X amount of time desired, allow 10 seconds for **TTC** programming to exit. You will hear a single beep from the alarm that indicates programming has exited.

**NOTE:** If the gate is open and the power is interrupted, the **TTC** will be disabled. Upon another user command the Timer-to-Close will be reactivated.

### PARTY MODE

This feature allows the user to temporarily disable TTC. With the gate in the open position, simply press and release the **RESET** button located on the outside of the control box. The gate will remain open until a user command is given.

## Safety Sensor Connections

### THE PROTECTOR SYSTEM® SAFETY SENSORS (MODEL 50-220)

Safety Sensors are designed to detect an obstruction such as a car. This gate operator can have a maximum of two pairs of safety sensors installed. The sensors come with two feet of wire leads. Additional 16AWG wire will be required (not provided).

A typical installation should have safety sensors installed across the opening of the gate to detect the presence of a car and across the open side of the gate to keep the gate from entrapping an individual. The safety sensors are to be mounted no more than 2" (.6 m) above the ground. See page 25.

If the sensors are obstructed with the gate in any stopped position they will not allow the gate to open or close. While the gate is moving in the open or close direction and the safety sensors are obstructed, the gate will immediately stop and once the obstruction has been cleared, the next user run command will continue the gate in the same direction.

**NOTE:** If the **TIMER-TO-CLOSE (TTC)** option is enabled and an obstruction occurs while the gate is closing, the gate will stop and **TTC** will be temporarily disabled until the next user run command is given. If the gate is fully open and the sensors are obstructed, once the obstruction is no longer present, the **TTC** will be enabled and the gate will close after programmed time.

#### Connecting the safety sensors to the control box:

1. Disconnect the Power Supply.
2. Connect the **RED** sensor wires to the "**IR+**" terminal and the **BLACK** sensor wires to the "**IR-**" terminal.
3. Restore power by plugging in the Power Supply.

When connected properly and with the sensors aligned properly, both of the safety sensors' LEDs will be lit solid. If the LEDs are flashing, this indicates they are misaligned. If no LEDs are lit check the wiring for poor connections and/or wrong colored sensor wires connected to the wrong control board terminals.

Test the safety sensors. Start with the gate from any position, give a command to run and while the gate is moving simply obstruct the path of the sensors. The gate will stop.

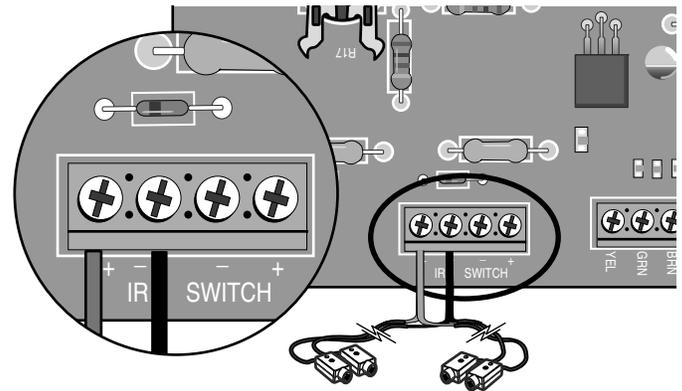
**NOTE:** The control board will automatically learn and monitor the safety sensor's confirming they have been connected and are functioning. If the sensors are removed the control board must be reset so that it is no longer monitoring sensors. To reset the control board:

- Remove Power Supply.
- Remove all Sensor wires from the control board.
- Restore power and wait 30 seconds.
- Press the **RESET BUTTON** located on the outside of the control box. The safety sensors are now removed from the system.

## ⚠ WARNING

Without a properly installed safety reversal system, persons (particularly small children) could be **SERIOUSLY INJURED** or **KILLED** by a closing gate.

- The gate must be installed in a location so that enough clearance is provided between the gate and adjacent structures when opening and closing to reduce the risk of entrapment.
- 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.
- 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.



## The Protector System®

### SAFETY SENSORS MODEL 50-220

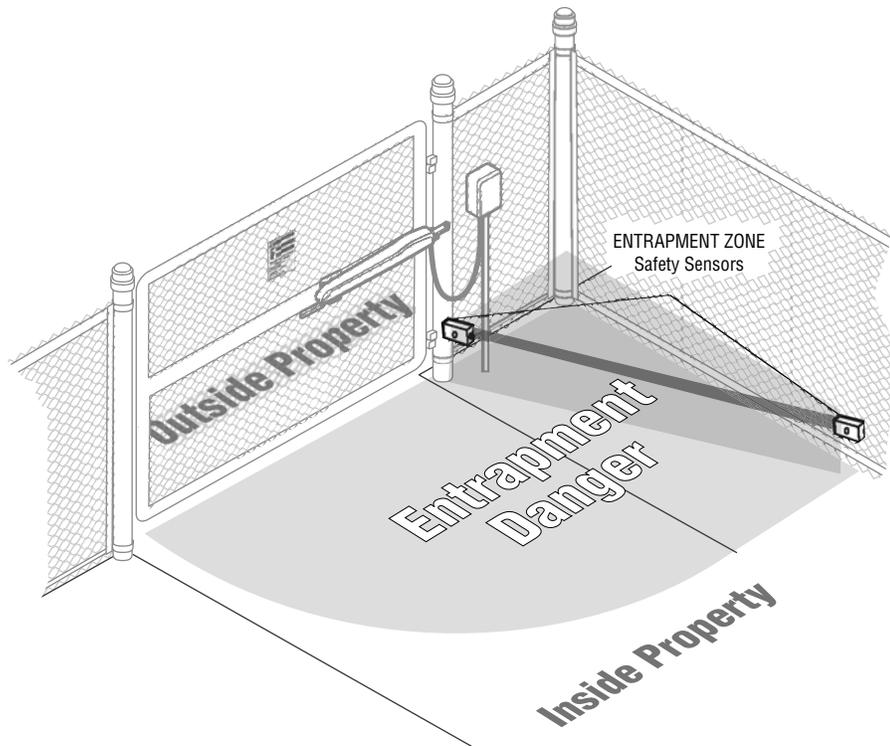
This is a required accessory for secondary entrapment protection (not provided). To order call: 1-800-528-2806 or visit our website [www.liftmaster.com](http://www.liftmaster.com).

When properly connected and aligned, the sensor will detect an obstacle in the path of its electronic beam and not allow the gate to move or stop the gate when moving.

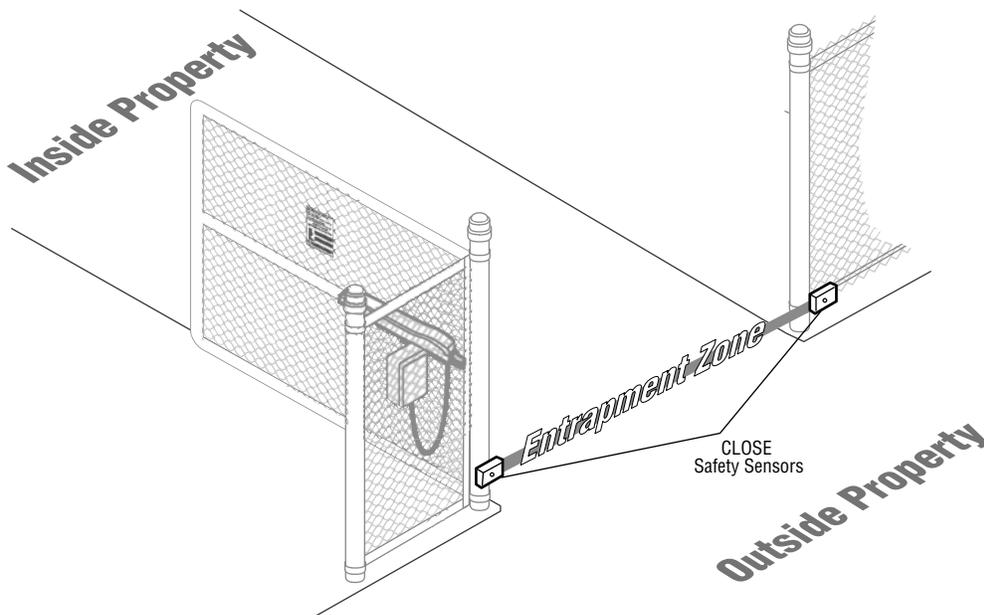
## Entrapment Zone Safety Sensor Placement

### ENTRAPMENT ZONE:

An area where an object could be caught or held in position that increases the risk of injury.



## CLOSE Safety Reversing Sensor Placement



# OPERATION AND MAINTENANCE

## IMPORTANT SAFETY INSTRUCTIONS

### **WARNING**

### To reduce the risk of **SEVERE INJURY** or **DEATH**:

1. READ AND FOLLOW ALL INSTRUCTIONS.
2. NEVER let children operate or play with gate controls. Keep the remote control away from children.
3. ALWAYS keep people and objects away from the gate. NO ONE SHOULD CROSS THE PATH OF THE MOVING GATE.
4. Test the gate operator monthly. The gate MUST reverse on contact with a rigid object or stop when an object activates the non-contact sensors. After adjusting the force or the limit of travel, retest the gate operator. Failure to adjust and retest the gate operator properly can increase the risk of INJURY or DEATH.
5. Use the emergency release ONLY when the gate is NOT moving.
6. KEEP GATES PROPERLY MAINTAINED. Read the owner's manual. Have a qualified service person make repairs to gate hardware.
7. The entrance is for vehicles ONLY. Pedestrians MUST use separate entrance.
8. Disconnect ALL power BEFORE performing ANY maintenance.
9. **SAVE THESE INSTRUCTIONS.**

## Operation

### REMOTE CONTROL

When the gate is in the closed position, activation of the remote control button will open the gate. During the open cycle, another activation of the remote control button will stop the gate and the next activation will close the gate.

When the gate is in the open position, activation of the remote control button will close the gate. During the close cycle, another activation of the remote control button will stop the gate and the next activation will open the gate.

### SINGLE BUTTON CONTROL

Operates the same as the remote control.

### SAFETY SENSORS

If the sensors are obstructed with the gate in any stopped position they will not allow the gate to open or close. While the gate is moving in the open or close direction and the safety sensors are obstructed, the gate will immediately stop and once the obstruction has been cleared, the next run command will continue the gate in the same direction.

**NOTE:** If the **TIMER-TO-CLOSE (TTC)** option is enabled and an obstruction occurs while the gate is closing, the gate will stop and the TTC will be temporarily disabled until the next run command is given. If the gate is fully open and the sensors are obstructed, once the obstruction is no longer present, the TTC will be enabled and the gate will close after programmed time.

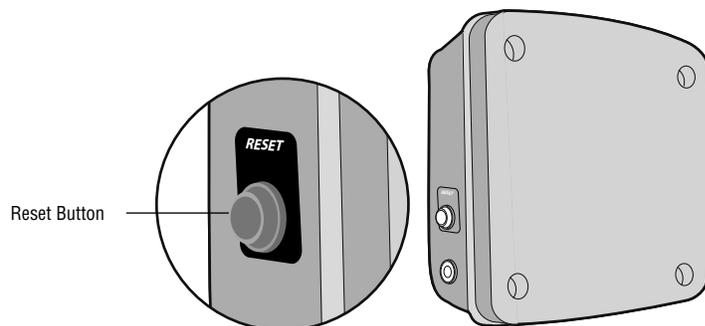
### PRIMARY ENTRAPMENT PROTECTION SYSTEM (OBSTRUCTION ENCOUNTERS)

The system has the ability to stop and reverse if the gate encounters an obstruction.

**(E1) Single Obstruction Encounter:** If the gate contacts an obstruction while closing or opening, the gate will automatically reverse direction and stop on the open or close limit setting.

**NOTE:** If the **TIMER-TO-CLOSE** feature is enabled, it will be temporarily disabled after an obstruction is encountered. It will take a user command to re-enable.

**(E2) Double Obstruction Encounter:** If the gate encounters two consecutive obstructions, the gate will stop and no longer respond to any commands. An alarm will sound continuously for 5 minutes, alerting the user of a possible problem. To resume normal operation, the user must remove the obstruction and then press the **RESET** button located on the control box.



## Manual Release

In case of a power failure, the operator can be disengaged from the gate. Follow the directions below to disconnect and reconnect the operator to the gate.

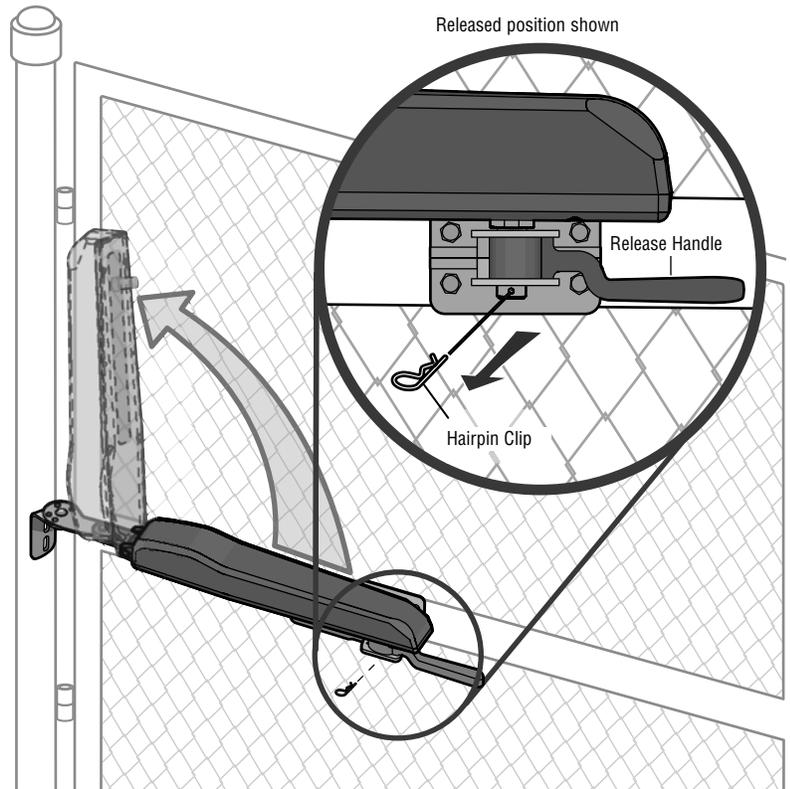
### RELEASE

1. Remove the hairpin clip. Turn release handle 180 degrees.
2. Swing operator up and away from gate and out of the way of gate travel.

If a mechanical gate lock is used, disengage or remove the lock.

### ENGAGE

1. Align the traveler on the operator with the hole in the gate bracket. Turn release handle back to locked position.
2. Insert pin and secure with hairpin clip.



## Maintenance

### CHECK AT LEAST ONCE EVERY

Description	Task	1 Month
Entrapment Protection Systems	Check for proper operation	●
Manual Disconnect	Check and operate	●
Gate	Inspect for wear or damage	●
Mounting Hardware	Check for tightness	●
Total Unit	Inspect for wear or damage	●

### NOTES:

1. Disconnect power before servicing.
2. Severe or high cycle usage will require more frequent maintenance checks.
3. Inspection and service should always be performed anytime a malfunction is observed or suspected.

# Troubleshooting

## HAVING A PROBLEM?

### SYMPTOM: OPERATOR WILL NOT RUN OR RESPOND TO ANY PROGRAMMING.

- Power supply not plugged into outlet or outlet without power. Check circuit breaker.
- Issue with wiring from power supply to the gate controller. Check connections at the power supply terminals and the control board. To verify if power supply is supplying appropriate power, check for 24 Vac at the terminals on the power supply marked **COM** and **24 Vac** with a volt meter. Also, check for 24Vac at the end of the two wires leading from the transformer to the control board to verify wires are good.

### SYMPTOM: OPERATOR WILL NOT RESPOND TO A REMOTE CONTROL.

- If the remote control battery is good, the **YELLOW** LED on the control board will blink rapidly when the remote control button is pressed. If not, replace battery.
- Remote control provided with operator is programmed from the factory. If the LED blinks rapidly when pushing on the remote control button and the operator does not respond, try reprogramming the remote control.

### SYMPTOM: RELAYS ON CONTROL BOARD 'CLICK' WHEN REMOTE CONTROL COMMAND IS GIVEN BUT THE OPERATOR DOES NOT MOVE.

- Motor cable wiring from the operator to the control board not connected correctly or loose. Check connections.

### SYMPTOM: GATE STOPS AND REVERSES.

- A fault has occurred. Check gate path for obstructions. Check operation of gate manually to verify smooth operation. Adjust force setting (see **PROGRAMMING FORCE LEARN**).

### SYMPTOM: GATE OPENS BUT WILL NOT CLOSE.

- Safety Sensors are blocked or misaligned.

### SYMPTOM: GATE DOES NOT CLOSE AUTOMATICALLY WITH TTC ENABLED.

- Operator has lost power.
- Gate opened by a forced reversal.
- Safety sensors are blocked or misaligned.
- Party mode has been enabled.

### SYMPTOM: ALARM IS SOUNDING CONTINUOUSLY.

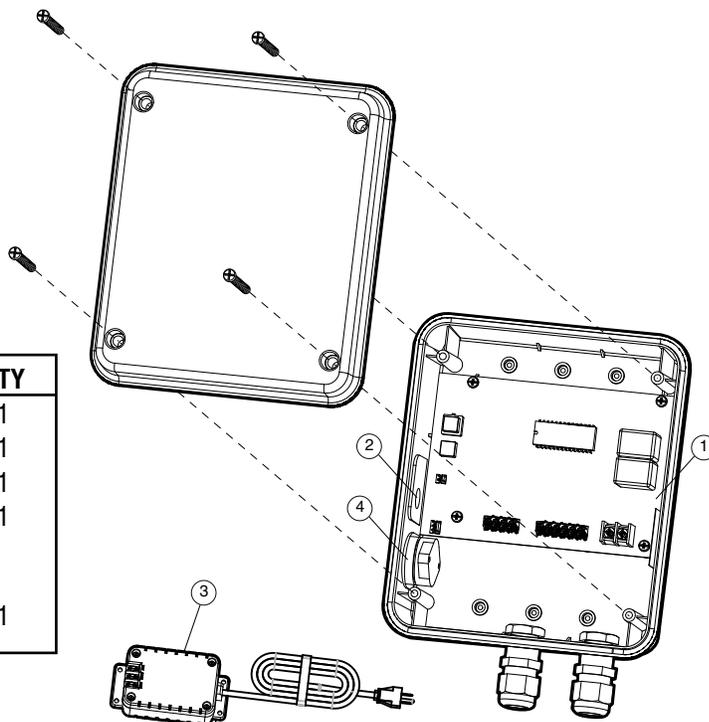
- This indicates that the gate has had two consecutive Gate Force obstructions and the control system requires to be reset for continued operation. Check to ensure the gate path is clear. To clear the alarm condition and restore normal operation, push and release the **RESET BUTTON** on the outside of the control box.

FAULT CODE	PROBLEM	CLEARED
<b>1 Blink</b>	Safety Sensors Disconnected. A loud beep will be heard when a run command is given.	Check all low voltage wiring from sensors for breakage or poor connections.
<b>2 Blinks</b>	Safety sensors connected wrong	Check for proper connections of (Red / +) and (Black / -) wires at the control board. Polarity must to be maintained.
<b>3 Blinks</b>	Single button input "SWITCH" is shorted.	Check for shorted wires or stuck button on switch accessory.
<b>4 Blinks</b>	Safety Sensors are misaligned or blocked. A loud beep will be heard when a run command is given.	Check sensors path for obstruction or misalignment. When sensors are properly aligned both indicator LED's on the sensors will be lit.
<b>7 Blinks</b>	Control board issue.	Replace control board.
<b>9 Blinks</b>	Gate operator position sensor error	Check gate operator cable connections at the control board.
<b>10 Blinks</b>	Control board issue.	Replace control board.
<b>11 Blinks</b>	Force reversal while closing. Maximum safe gate force was exceeded.	Check gate path for obstruction. Verify operator cable connections at the control board.
<b>12 Blinks</b>	Force reversal while closing. Normal gate force was exceeded.	Check for obstructions or excessive gate resistance. Relearn gate force (press <b>PURPLE BUTTON</b> 2 times then cycle gate).
<b>13 Blinks</b>	Force reversal while opening. Normal gate force was exceeded.	Power on reset
<b>15 Blinks</b>	Control board issue.	Replace control board.

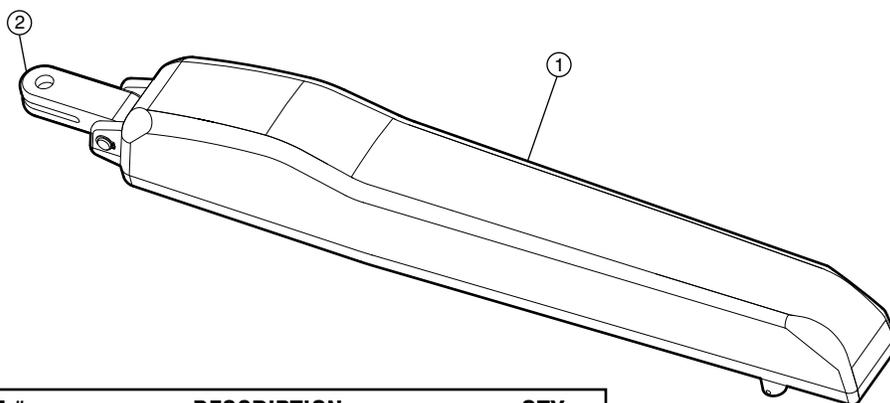
# REPAIR PARTS

## Control Box

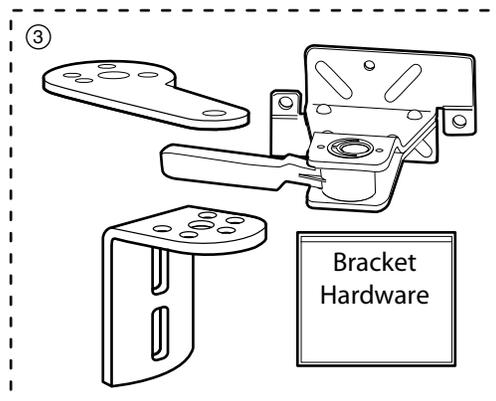
ITEM	PART #	DESCRIPTION	QTY
1	K1A6454-1CC	Control Board	1
2	K76-34003	Reset Switch	1
3	K74-34153-1	Power Supply	1
4	K76-34004	Alarm	1
	<b>Not Shown</b>		
	K74-34501	Complete Control Box Assembly	1



## Gate Operator



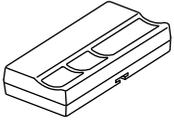
ITEM	PART #	DESCRIPTION	QTY
1	K-LA-8	Gate Operator	1
2	41ASWG-0014SA	Rear Connector	1
3	KSWG-0580SA	Hardware Kit	1
	<b>Includes:</b>		
		Gate Bracket, Post Bracket, Extension Bracket and Hardware Bag)	
	<b>Not Shown</b>		
	41ASWG-1085SA	Ribbed Neck Bolt	4
	01-34410	Owner's Manual	1



# ACCESSORIES

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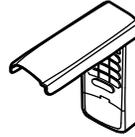
**373LM**



**3-Button SECURITY+® Remote Control:**

Includes visor clip.

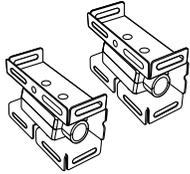
**377LM**



**SECURITY+® Keyless Entry:**

Enables homeowner to operate gate operator from outside by entering a four digit code on a specially designed keyboard.

**50-220**



**The Protector System® Safety Sensors:**

The safety reversing sensors, are intended for installation with the operators covered in this manual. To order call: 1-800-528-2806 or visit our website [www.liftmaster.com](http://www.liftmaster.com).

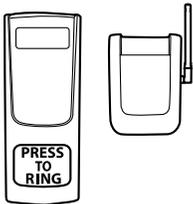
**370LM**



**3-Button Mini-Remote Control with SECURITY+®:**

With key ring and fastening strip.

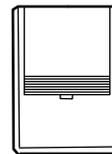
**WGB315**



**Wireless Gate Doorbell**

Provides easy access to guest by ringing base station in the house. Simple installation allows home owner to grant visitor access with a push of the remote control button.

**365LM**



**Universal Receiver**

Converts a 390 MHz Garage Door Opener to 315 MHz and thus the same remote for the gate operator will work on the garage door.

# WARRANTY POLICY

## LIFTMASTER® ONE YEAR LIMITED WARRANTY

The Chamberlain Group, Inc. warrants to the first retail purchaser of this product, for the structure in which this product is originally installed, that it is free from defect in materials and/or workmanship for a period of one year from the date of purchase. The proper operation of this product is dependent on your compliance with the instructions regarding installation, operation, maintenance and testing. Failure to comply strictly with those instructions will void this limited warranty in its entirety.

If, during the limited warranty period, this product appears to contain a defect covered by this limited warranty, call 1-800-528-2806, toll free, before dismantling this product. Then send this product, pre-paid and insured, to our service center for warranty repair. You will be advised of shipping instructions when you call. Please include a brief description of the problem and a dated proof-of-purchase receipt with any product returned for warranty repair. Products returned to Seller for warranty repair, 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 to you and returned pre-paid. Defective parts will be repaired or replaced with new or factory-rebuilt parts at Seller's sole option.

**ALL IMPLIED WARRANTIES FOR THE PRODUCT, INCLUDING BUT NOT LIMITED TO ANY IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, ARE LIMITED IN DURATION TO THE ONE YEAR LIMITED WARRANTY PERIOD SET FORTH ABOVE, AND NO IMPLIED WARRANTIES WILL EXIST OR APPLY AFTER SUCH PERIOD. Some States do not allow limitations on how long an implied warranty lasts, so the above limitation may not apply to you. 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, UNAUTHORIZED REPAIRS OR ANY ALTERATIONS TO THIS PRODUCT), LABOR CHARGES FOR REINSTALLING A REPAIRED OR REPLACED UNIT, OR REPLACEMENT OF BATTERIES.**

**THIS LIMITED WARRANTY DOES NOT COVER ANY PROBLEMS WITH, OR RELATING TO, THE GARAGE DOOR OR GARAGE DOOR HARDWARE, INCLUDING BUT NOT LIMITED TO THE DOOR SPRINGS, DOOR ROLLERS, DOOR ALIGNMENT OR HINGES. THIS LIMITED WARRANTY ALSO DOES NOT COVER ANY PROBLEMS CAUSED BY INTERFERENCE. ANY SERVICE CALL THAT DETERMINES THE PROBLEM HAS BEEN CAUSED BY ANY OF THESE ITEMS COULD RESULT IN A FEE TO YOU.**

**UNDER NO CIRCUMSTANCES SHALL SELLER BE LIABLE FOR CONSEQUENTIAL, INCIDENTAL OR SPECIAL DAMAGES ARISING IN CONNECTION WITH USE, 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

FOR INSTALLATION AND SERVICE INFORMATION,  
CALL OUR TOLL FREE NUMBER

**1-800-528-2806**

[www.liftmaster.com](http://www.liftmaster.com)

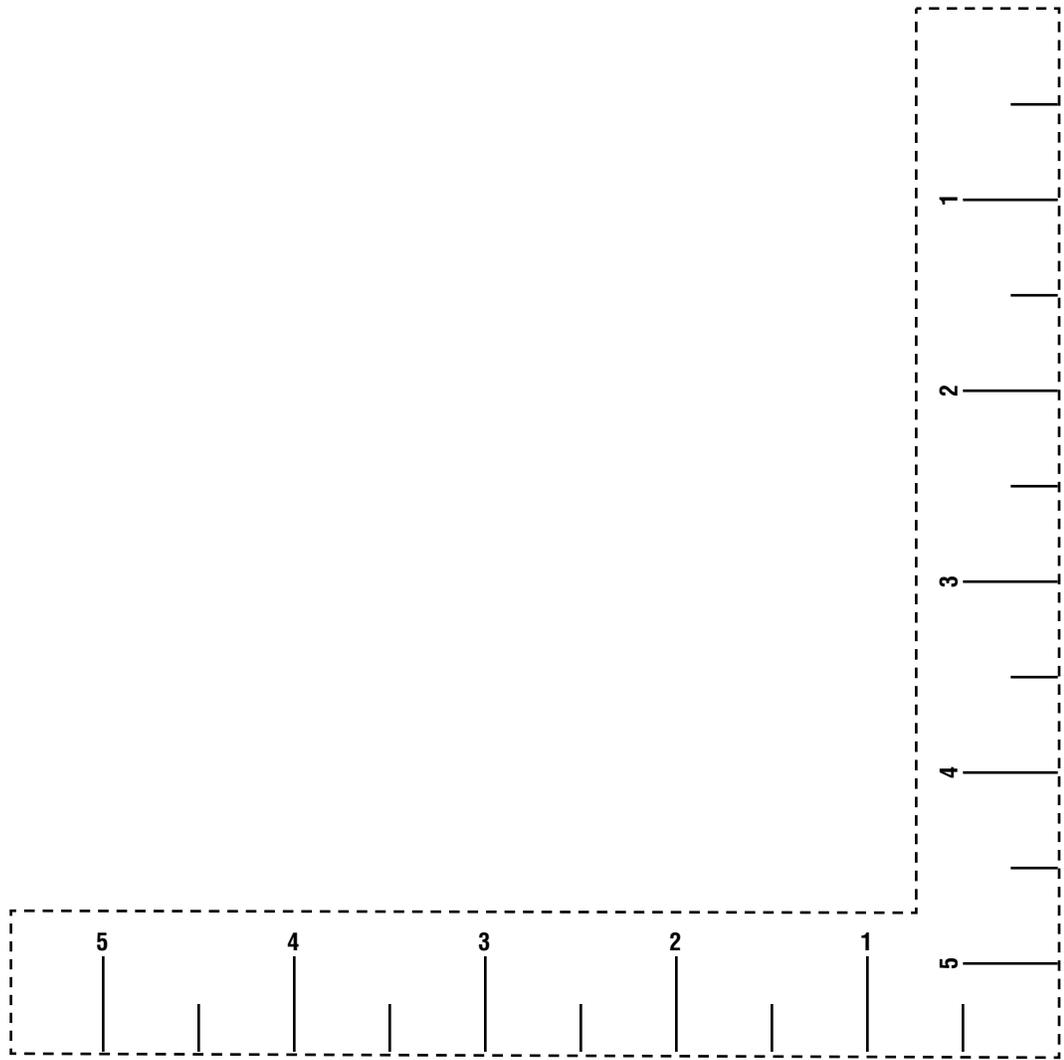
**WHEN ORDERING REPAIR PARTS  
PLEASE SUPPLY THE FOLLOWING INFORMATION:**

**PART NUMBER DESCRIPTION MODEL NUMBER**

ADDRESS ORDER TO:

THE CHAMBERLAIN GROUP, INC.  
Technical Support Group  
6050 S. Country Club Road  
Tucson, AZ 85706

# TEMPLATE FOR POST BRACKET MOUNTING



Shown actual size