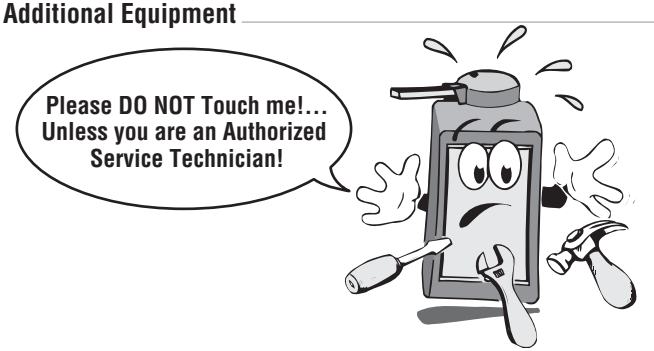
ELITE
ACCESS SYSTEMS INC
eliteaccess.com

Instruction Manual
ROBO SWING
Residential Gate Operator

Installation instructions and manual book for
architects, general contractors and dealers

Click on the desired topic in the “Bookmarks” column or “Table of Contents” to select page.

TABLE OF CONTENTS

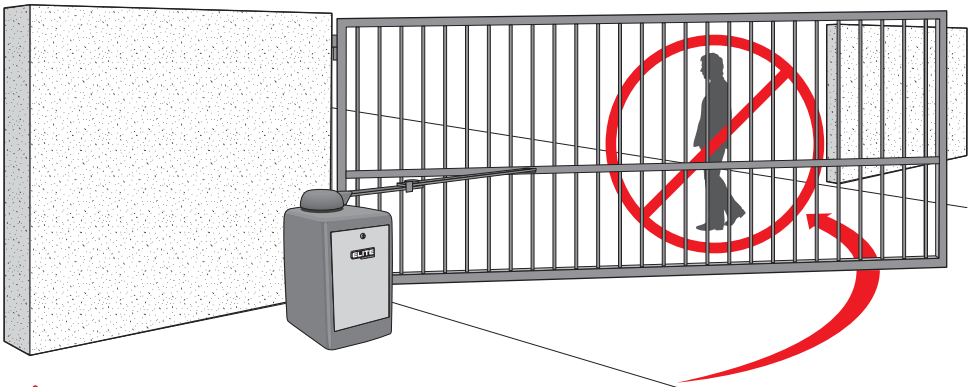


Release 7
7/02

SAFELY OPERATING GATE

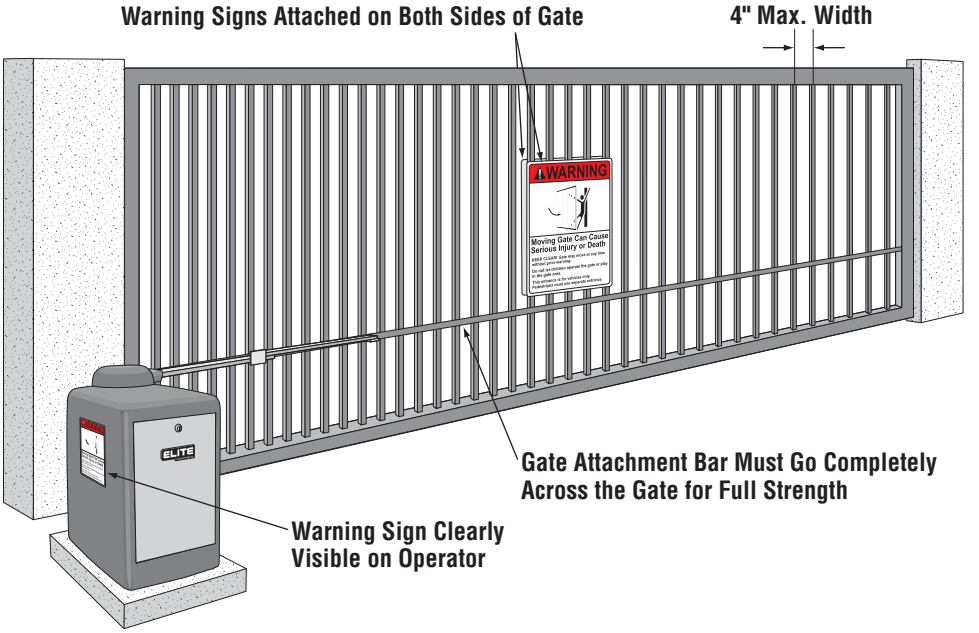
The Robo Swing is for Single Home Applications

DO NOT Use for Apartment or Condominium Applications.



Owners Must Never Let Pedestrians Cross the Path, Step or Hang on a Moving Gate!

Owners Must Never Mount Any Gate Operating Device Accessible Through the Gate!



Recommended Gate Setup Configuration

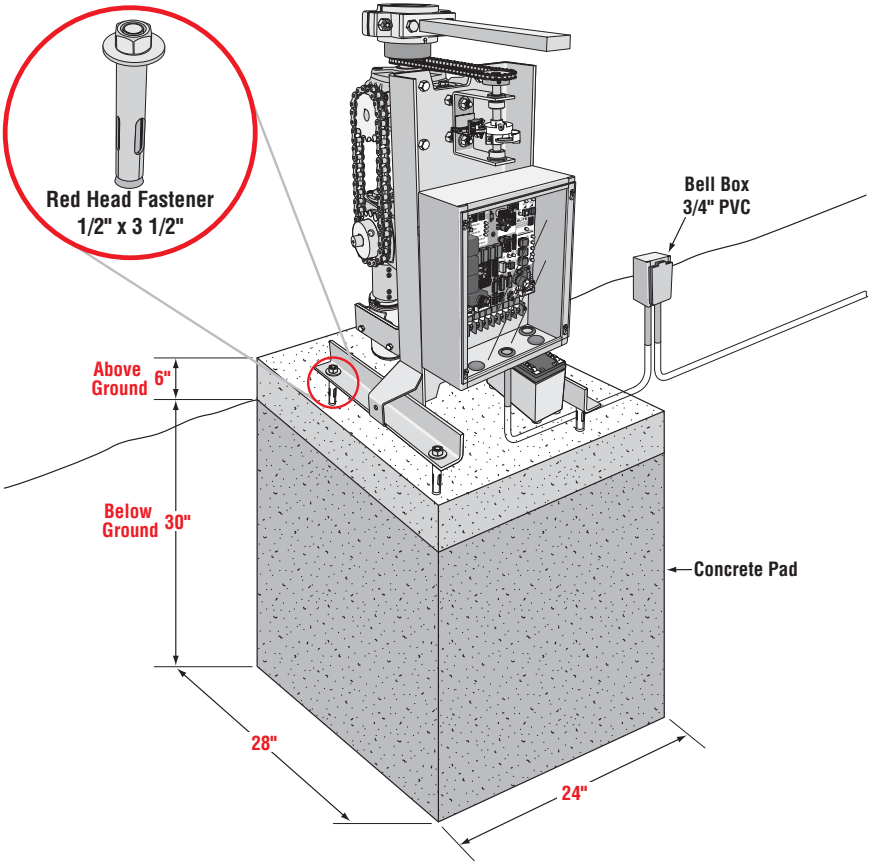
Robo Swing Specifications:

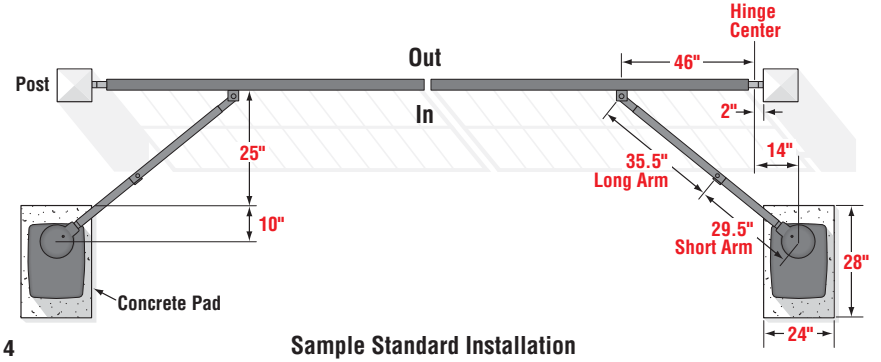
Gate Speed – 15 - 17 seconds per 90° cycle
Maximum Gate Length – 16 feet
Maximum Gate Weight – 400 pounds
Maximum Cycles – 250 cycles per day with Elite's Plug-In Transformer. (Gate size 16 ft x 6 ft)
– Solar power cycles per day varies, Contact Elite for more Information
– Battery back-up cycles (50 cycles total)
AC Power Supply – 18 VAC 2.0 Amp Plug-In Transformer (Elite Part # **A POW-1**)
AC Power Supply Wire – 14 gauge or greater landscape lighting cable rated for direct burial and 300 watts at maximum length of 1000 ft
DC Power Supply – Built-in, back-up for AC or Solar power failure only
Solar Power – Optional (Elite Part # **SOLAR 3**)

CAUTION

Be sure to read and follow all Elite's instructions before installing and operating any Elite product. Always disconnect the gate operator's power source before repairs are attempted. Elite Access Systems, Inc. is not responsible for improper installation or failure to comply with local building codes.

CONCRETE PAD AND GATE ATTACHMENT

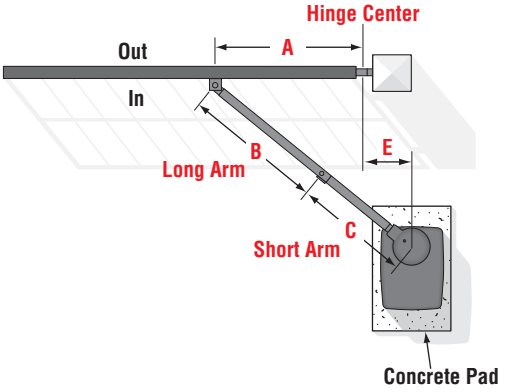


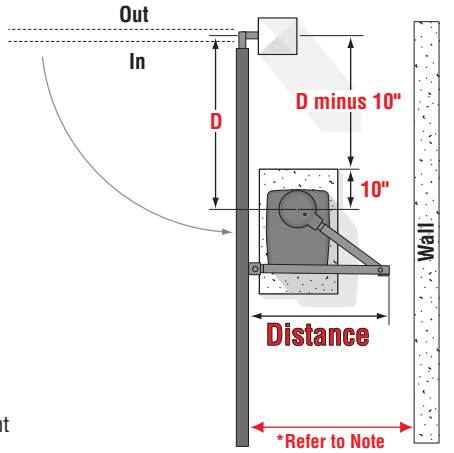


Sample Standard Installation

STANDARD INSTALLATION

Sample Standard Installation is Shown on Previous Page.





Dimension (**A**) thru (**E**) are from the center of one pivot point to the center of another pivot point.

Caution: If the gate is longer than 18 feet, follow **Chart A** : **A-2**.

Suggestion: The dimension between the gate and the concrete pad is always 10 inches less than the dimension D.

Example: D = 42", if the dimension between the gate and the concrete pad is 32".

Chart A

	A	B	C	D	E	Distance
1	46"	35.5"	29.5"	35"	11"	45"
2	46.75"	35.5"	33.5"	42"	11"	37"
3	46.75"	37"	31.5"	40"	11"	41"
4	47.25"	37.25"	30"	37"	11"	45"
5	47"	35"	29.5"	32"	11"	45"
6	42.5"	33"	26.5"	28.5"	11"	41"

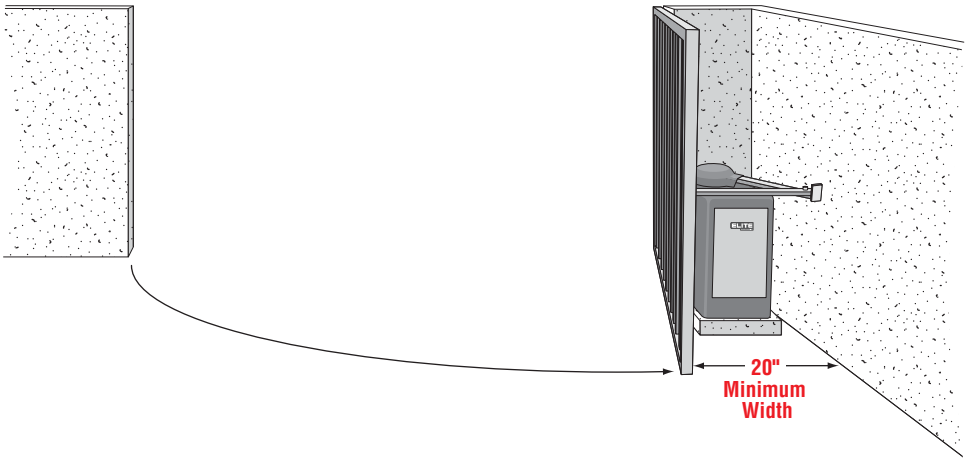
Chart B

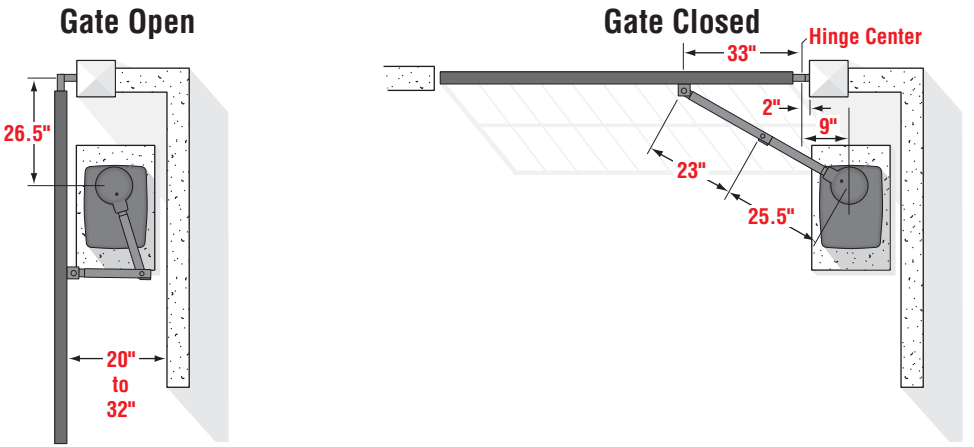
	A	B	C	D	E	Distance
1	34.5"	34.75"	29.5"	35"	14"	43"
2	44"	36.5"	32.5"	42"	14"	32"
3	44"	37"	30.5"	40"	14"	40"
4	45"	37"	30.5"	37"	14"	43"
5	44.75"	35.75"	29.5"	32"	14"	44"
6	41"	39"	27.5"	28.5"	14"	41"

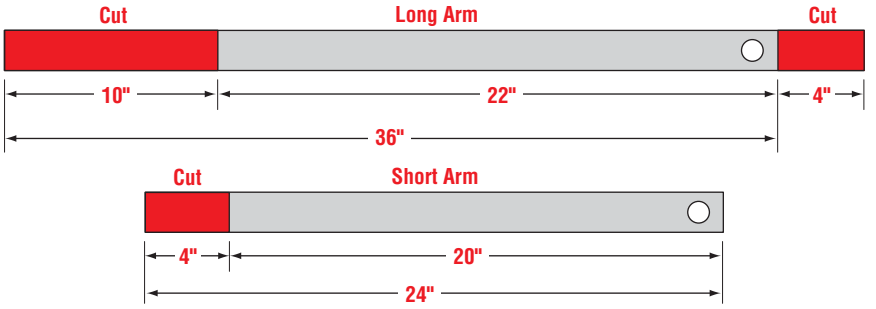
***Note - If this dimension is between 20 and 32 inches, compact installation is necessary. (Refer to Page 6)**

Compact Installation Only!

DO NOT Use These Measurements for a Standard Installation.



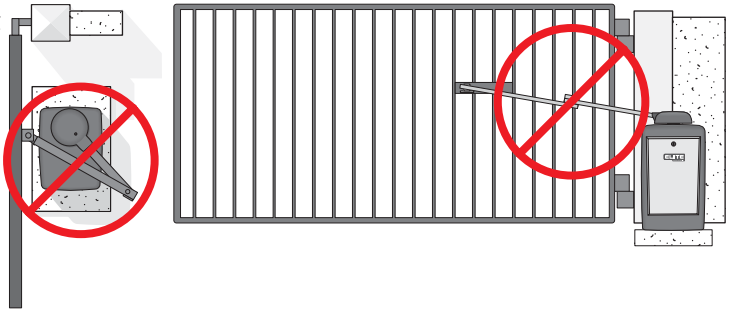




 Follow the exact measurements, then cut the standard arm to meet the shorter measurements.

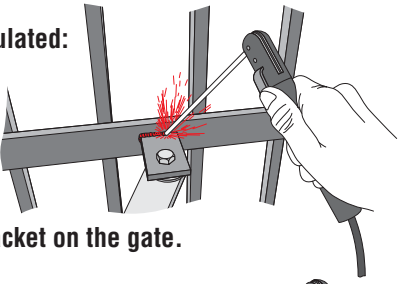
GATE ARM INSTALLATION

Incorrect Installation

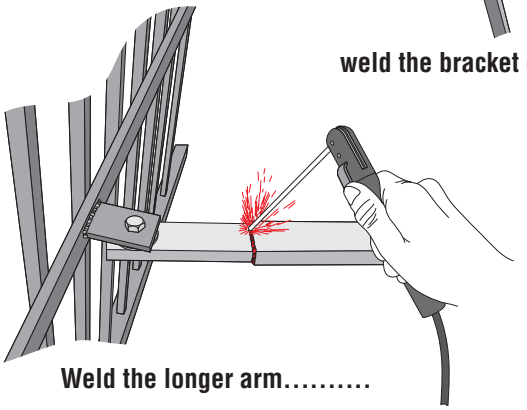


Correct Installation

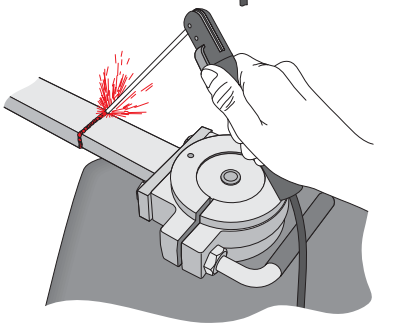
Once the gate arm measurements are calculated:



weld the bracket on the gate.



Weld the longer arm.....

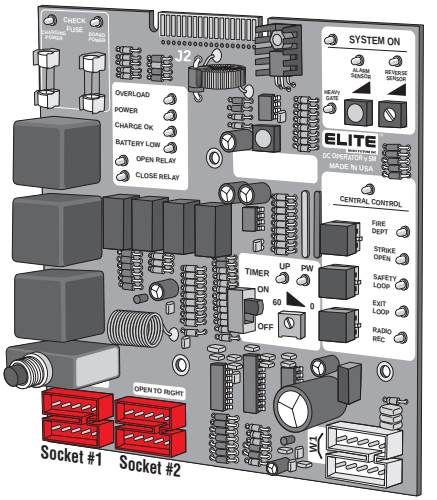


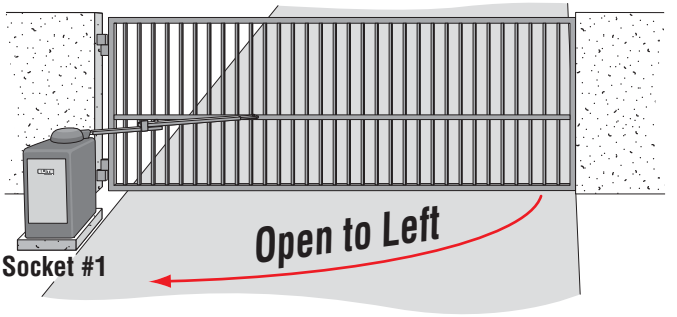
.....then weld the shorter arm.

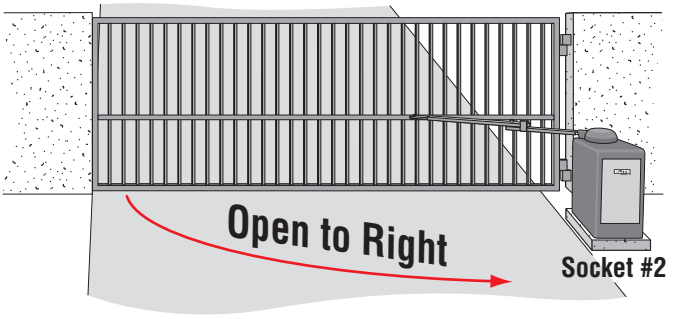
Weld Completely Around the Rectangular Tubes

GATE MOVEMENT DIRECTION

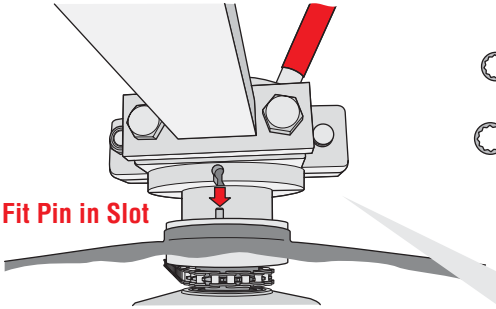
Plug in the limit/motor harness wires to the left socket (**#1**) if your gate, from the inside of the property, opens to the left and closes to the right. Plug into the right socket (**#2**) if the gate opens to the right and closes to the left from the inside of the property.

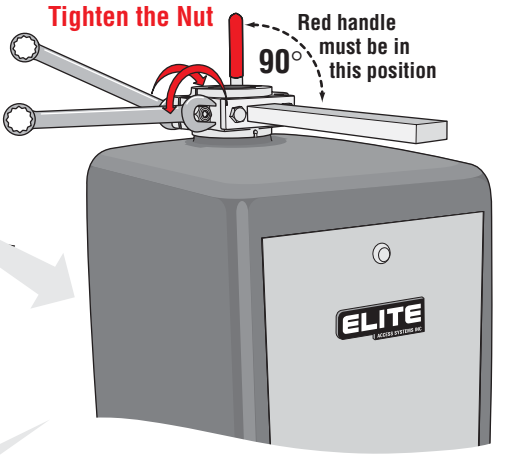


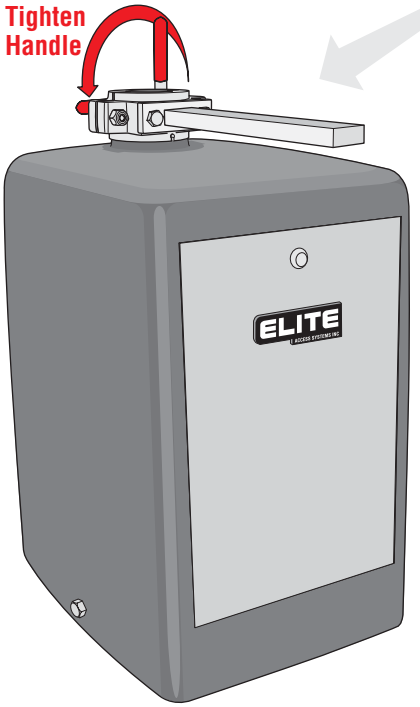




ADJUSTMENT OF OUTPUT SHAFT







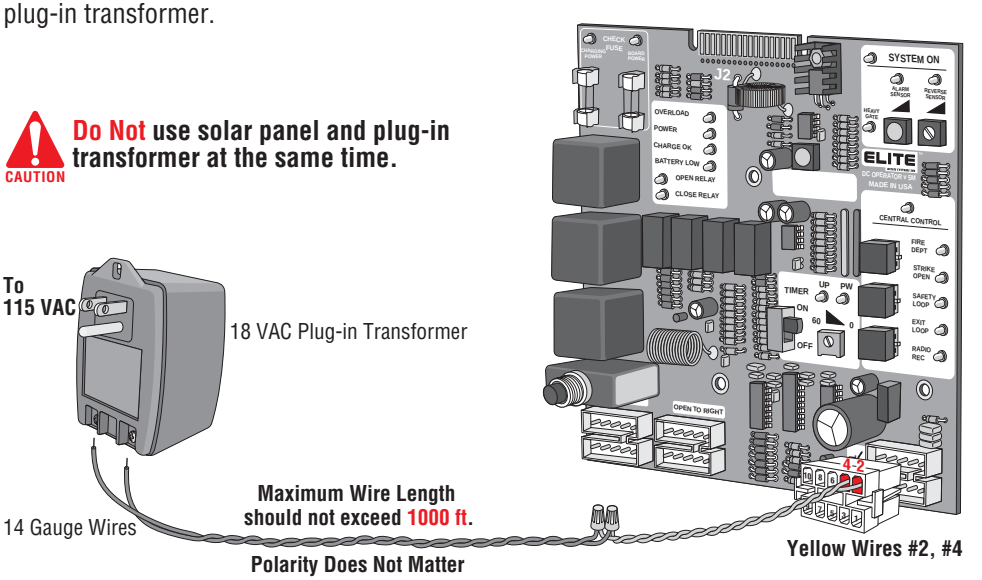
Pull the short arm away from the gate.
NO slippage should occur.
If it does, go back and tighten the nut more.

DC POWER SUPPLY CONNECTION

Use Elite's optional 18 VAC plug-in transformer (Elite Part # **A POW-1**). Hook up the transformer to 115 VAC. Use two, low voltage, 14 gauge / 300watt direct burial, landscape lighting cables. Hook these wires to the two yellow wires from the control board to the plug-in transformer.

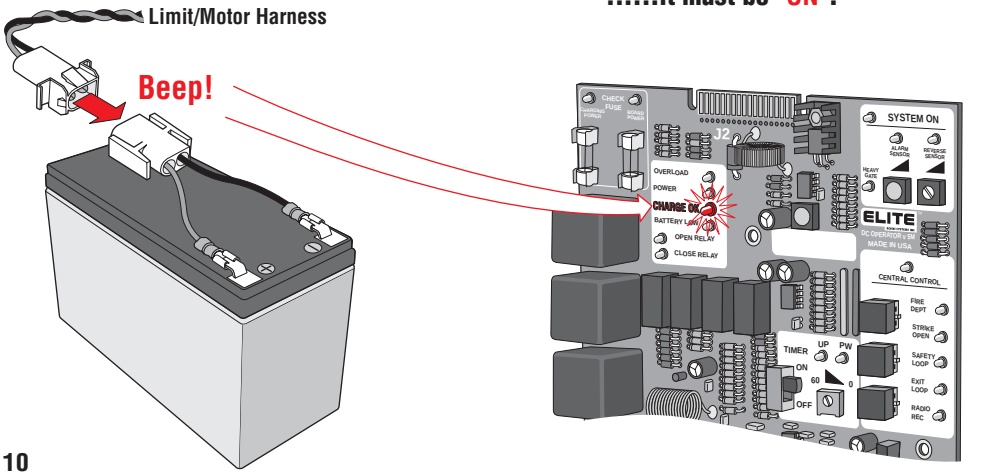
CAUTION

Do Not use solar panel and plug-in transformer at the same time.



After the plug-in transformer has been connected to the power source, connect the battery cable plug to the limit/motor harness plug. You will immediately hear a beep for a few seconds. After the beep, check the "**Charge OK**" LED.....

.....it must be "ON".

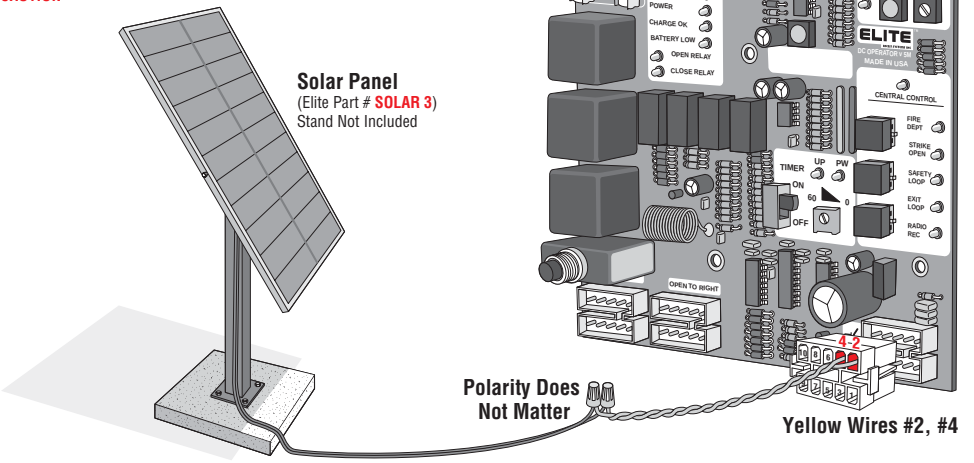


"OPTIONAL" SOLAR PANEL

If you use Elite's optional solar panel (Elite Part # **Solar 3**). Connect the two wires from the solar panel to the two yellow wires on the control board. Sunlight will energize the batteries through the solar panel. This solar panel will charge up to 2800 Mamp/Hr in optimum conditions & 500 Mamp/Hr in light overcast conditions. For detailed specifications consult the Solar 3 Installation sheet.

CAUTION

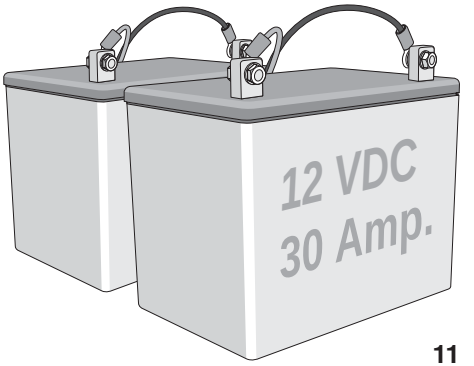
Do Not use solar panel and plug-in transformer at the same time.



Energizing Robo Swing with solar power only needs the radio receiver to operate the gate. The only recommended external devices other than radio receivers are dry-contact command devices which do not consume any current like key switches. **Using other devices that consume high current such as telephone access, magnetic locks or loop detectors will cause excess drainage of the battery and eventually completely drain the battery .**

CAUTION

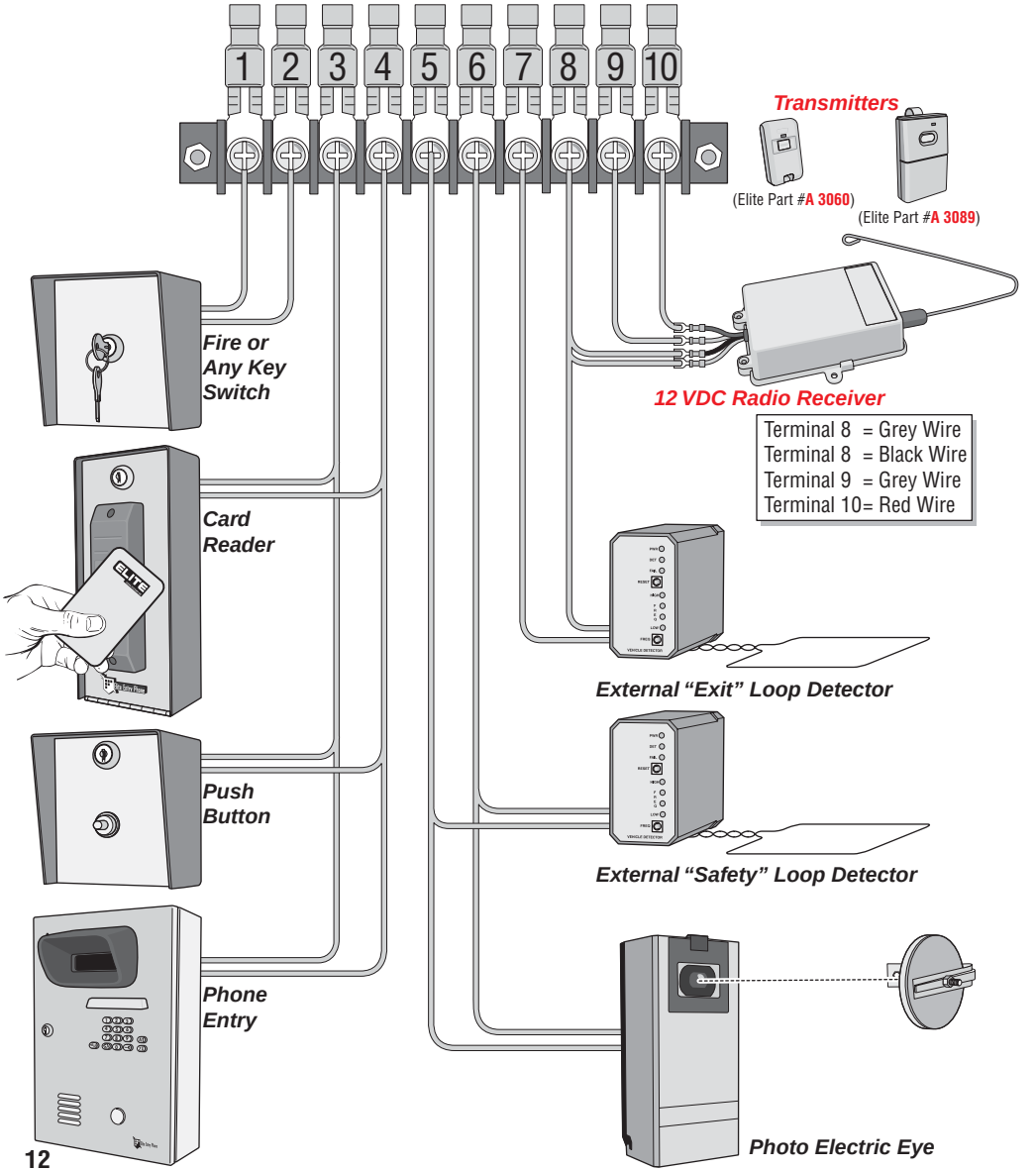
Elite recommends using 1 or 2 larger batteries (**12 VDC, 30 Amp**) (Elite Part # **A 12330** or **A 12330 PACK**) in Robo Swing when using the optional solar panel.



For More Details,
Contact your Local Dealer

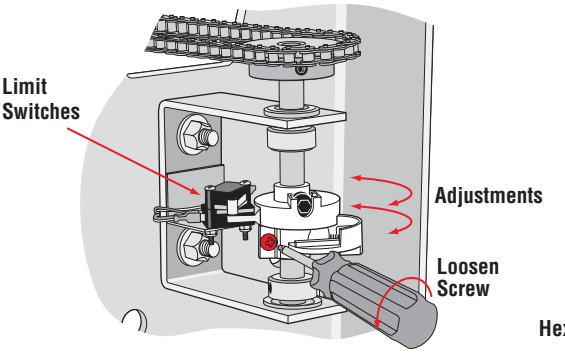
TERMINAL INPUT CONNECTIONS

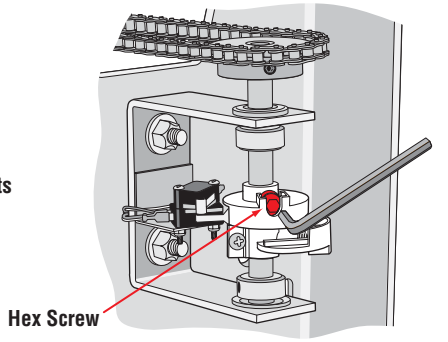
The radio receiver **must be 12 VDC only** (Elite Part # **A 1099-12V**). If you want to use safety, exit or center loops, you **must use 12 VDC loop detectors only** (Elite Part # **A 23**). The hook-ups for the radio receiver are as follows: Strike open wires go to **8** and **9** on terminal. Power supply goes to terminal 10 (**positive +**) and terminal 8 (**negative -**). Connections for other devices are shown below.



ADJUSTING GATE TRAVELING DISTANCE

Release the red handle and open the gate to a distance desired. Loosen the screw. Turn plastic part until the half moon shape hits the limit switch. For closing cycle, do the same with the other plastic part.

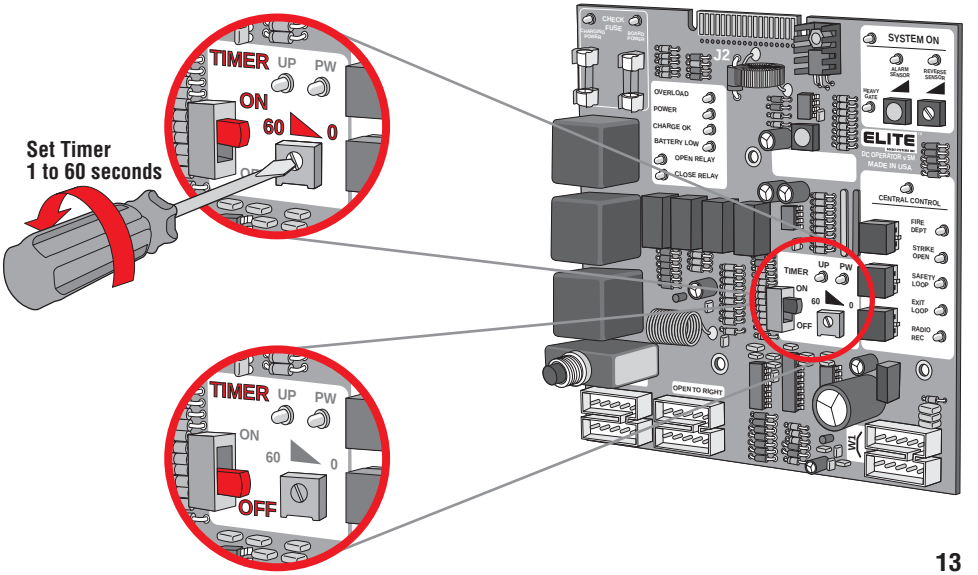




For a more precise adjustment, you may use the hex screw.

ADJUSTABLE TIMER

If you want to use the automatic close for the gate system the timer switch should be put in the "**ON**" position. If you want to use the push open or push close command, the timer should be switched to the "**OFF**" position.



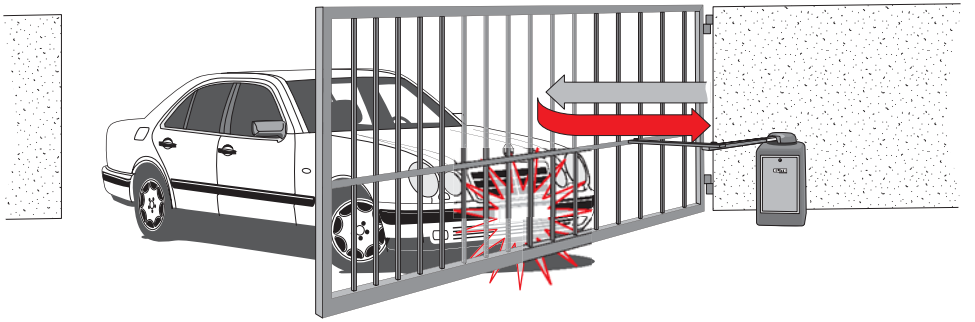
ADJUSTABLE REVERSING SENSOR

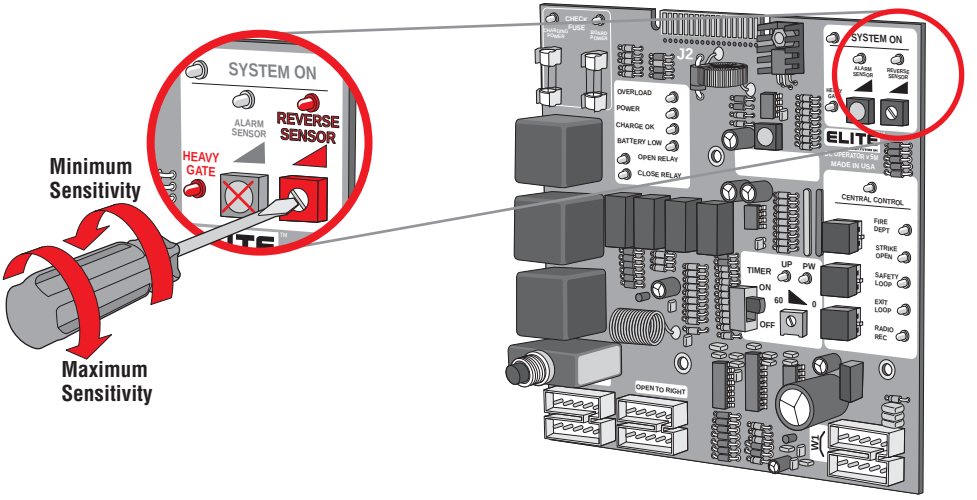
There is a blue pot with a white screw adjustment on the upper portion of the control board marked "**Reverse Sensor**". **Do Not Touch Alarm Sensor blue pot.**

The level of sensitivity has to do with the weight of the gate and the condition of installation.

Too sensitive = if the gate stops or reverses by itself.

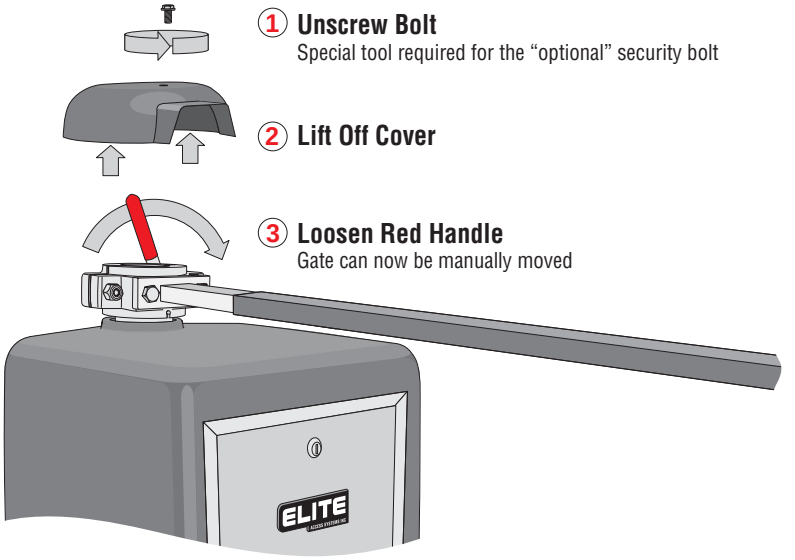
Not sensitive enough = if the gate hits an object and does not stop or reverse.



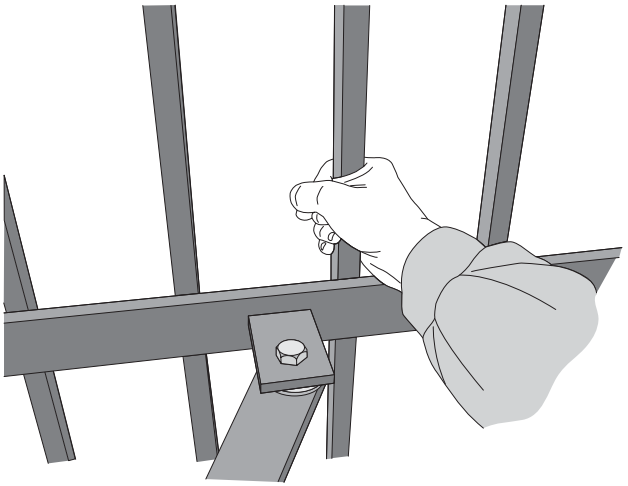


There is an LED "**Heavy Gate**" which will light up when the gate is heavier than normal for the operator. The operator will still function properly.

EMERGENCY RELEASE



Grab the Gate to Make Adjustments



Tighten the Red Handle, Replace the Cover and Bolt when Finished

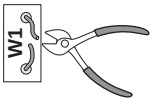
When the power is turned on again, the gate will readjust itself automatically.

"OPTIONAL" INPUT BOARD

The optional board allows extra control of the gate, is available only from Elite Access Systems. Installation is simple; just clip the optional board to the **J2** slot on the top of the control board. Below lists the function of each pin.

1 & **2** Open Switch

3 & **4** Stop Switch (Cut **W1** Jumper at Bottom of Board)



Use a Normally Closed Contact

5 & **6** Timer Close Output from Master to Slave

7 & **8** Timer Input from Slave to Master (Close Command)

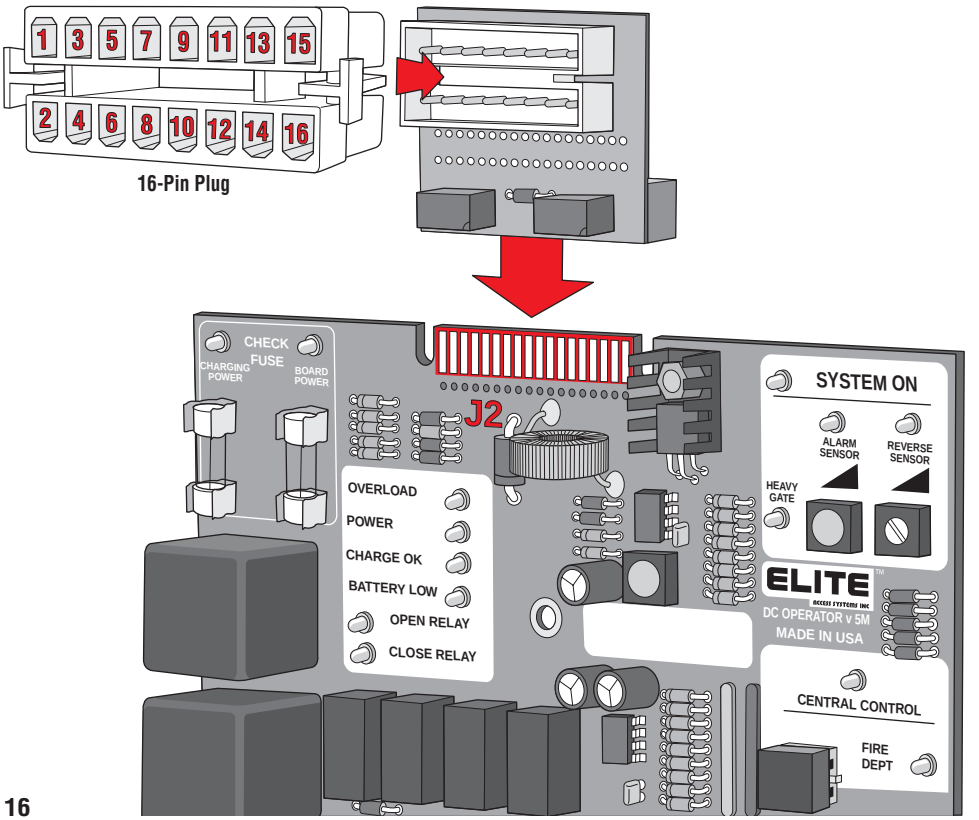
9 &**10** Vandalism Alarm Output (Not Burglar Alarm) - 12 VDC

11 & **4** Emergency Open (Direct Command from Battery to Motor)

12 & **7** Emergency Close (Direct Command from Battery to Motor)

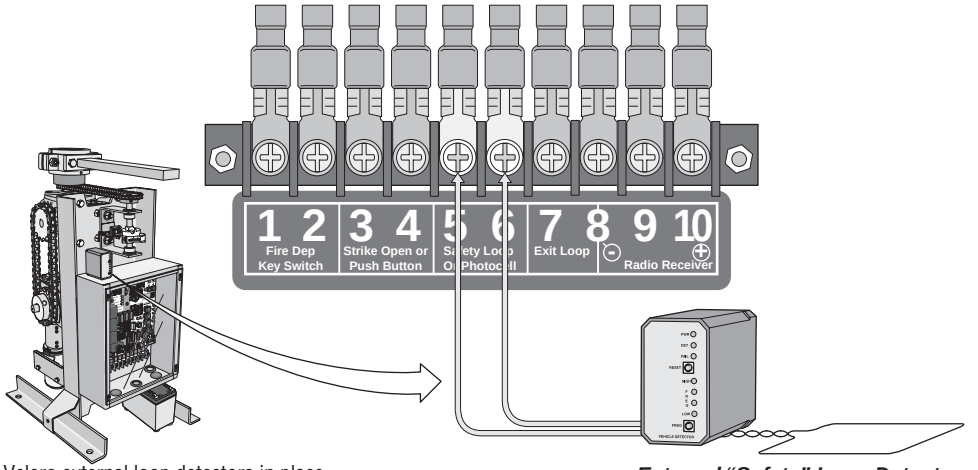
13 & **14** Magnetic Lock - Dry Contact Relay (Com NC)

15 & **16** Center Loop Option (For Swing Gate Operators Only)



"SAFETY LOOP" SYSTEM

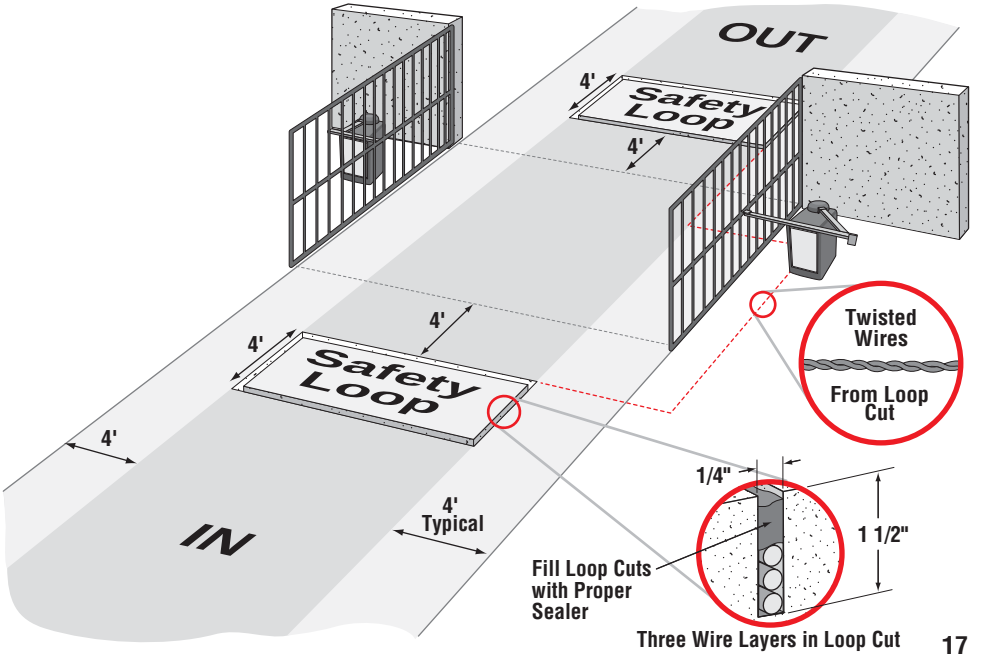
Allows gate to stay open when vehicles are obstructing path.



Velcro external loop detectors in place

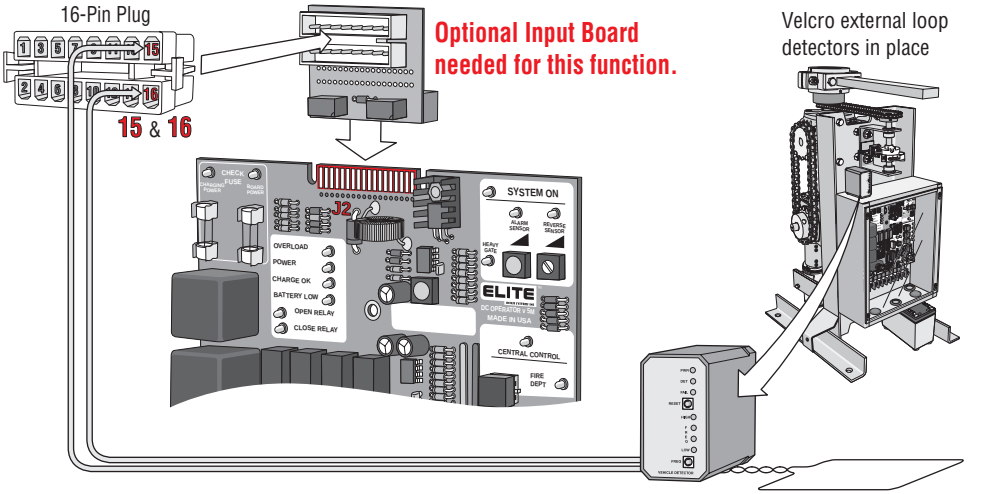
External "Safety" Loop Detector

Caution: Suggested for vehicles 14 feet or longer. If a vehicle is shorter, a center loop system is recommended and should be installed.



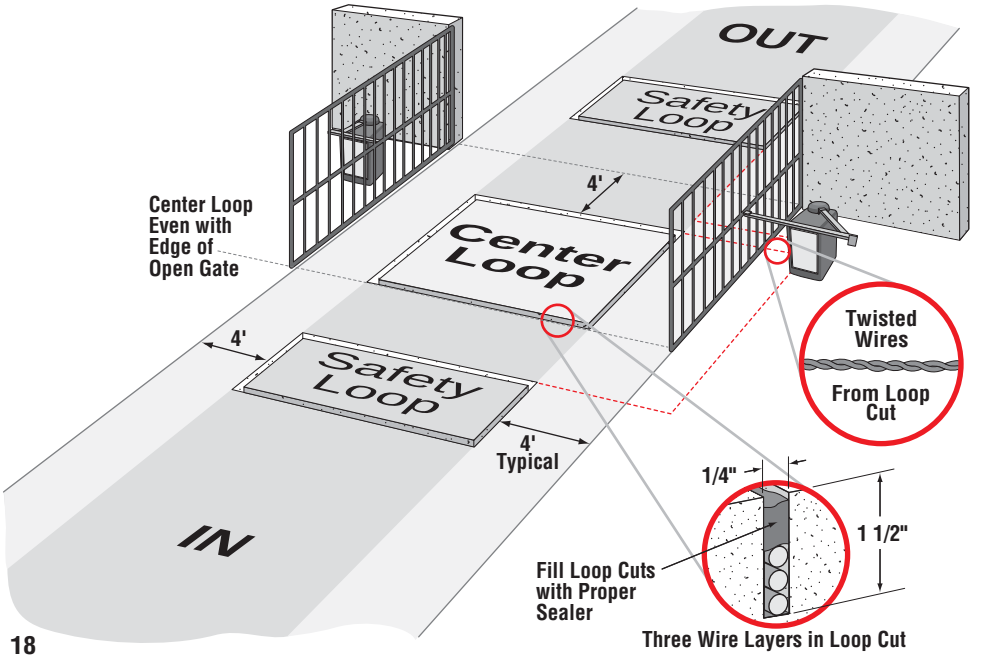
"CENTER LOOP" SYSTEM

Allows gate to stay open when vehicles are obstructing path.



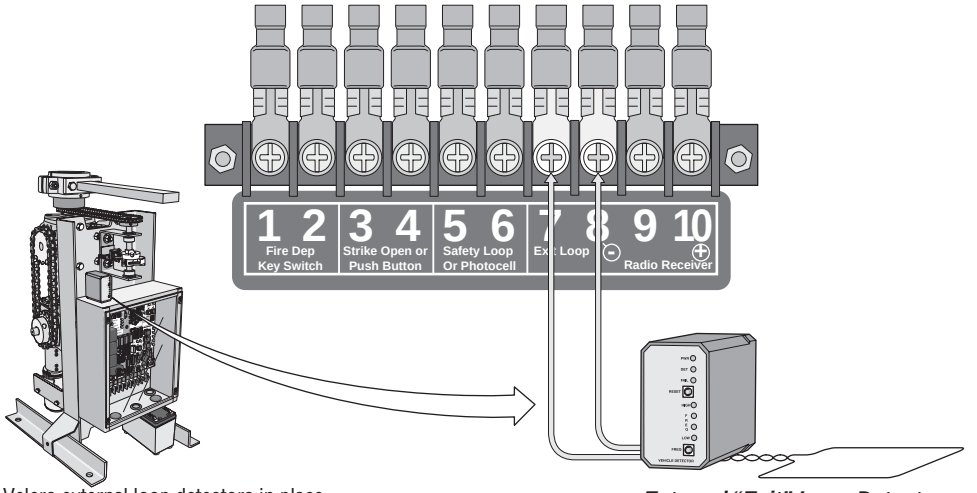
External "Center" Loop Detector

Caution: This option is for all vehicles including ones less than 14' long.
Center loop system requires two safety loops



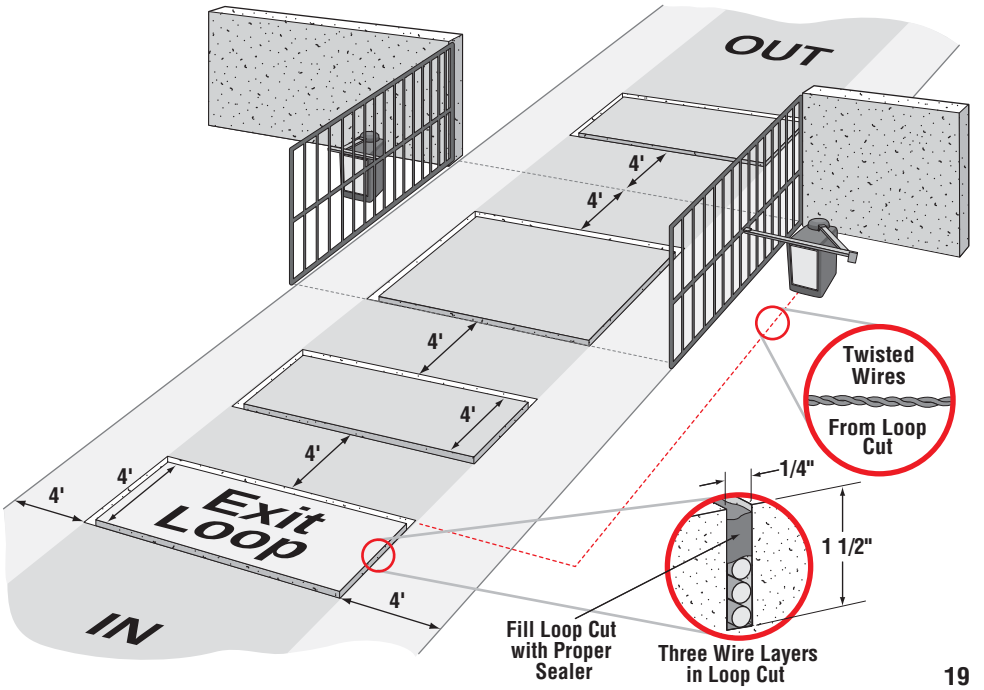
"EXIT LOOP" SYSTEM

Allows gate to automatically open for exiting vehicles.



Velcro external loop detectors in place

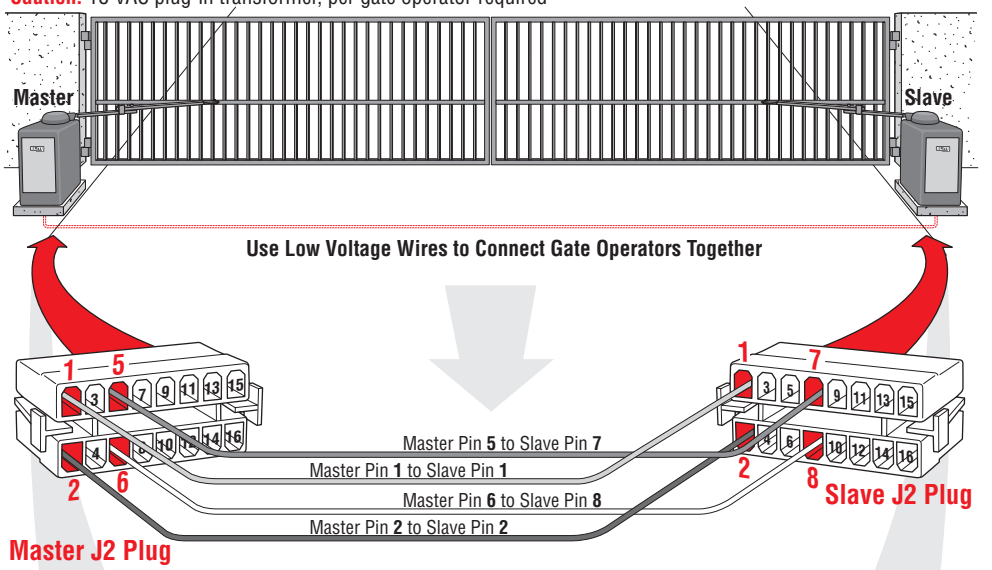
External "Exit" Loop Detector



MASTER AND SLAVE WITH TIMER

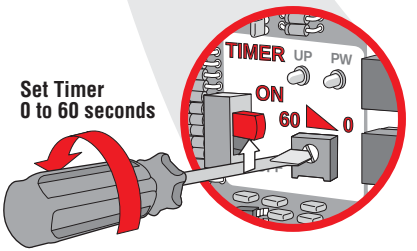
To use the master/slave option with Robo Swing, you must purchase the **Optional Input Board** (Elite Part # **Q203**) and connect it to the **J2** slot. (Refer to page 16)

Caution: 18 VAC plug-in transformer, per gate operator required

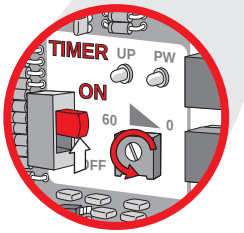


1. Make master/slave J2 plug connections as shown above
2. Turn timers on **BOTH** control boards to the "**ON**" position
3. Use **MASTER** timer **ONLY** for the auto close time adjustment (0 to 60 sec)
4. Turn the **SLAVE** timer adjustment all the way Counterclockwise

Master Timer "ON"



Slave Timer "ON"

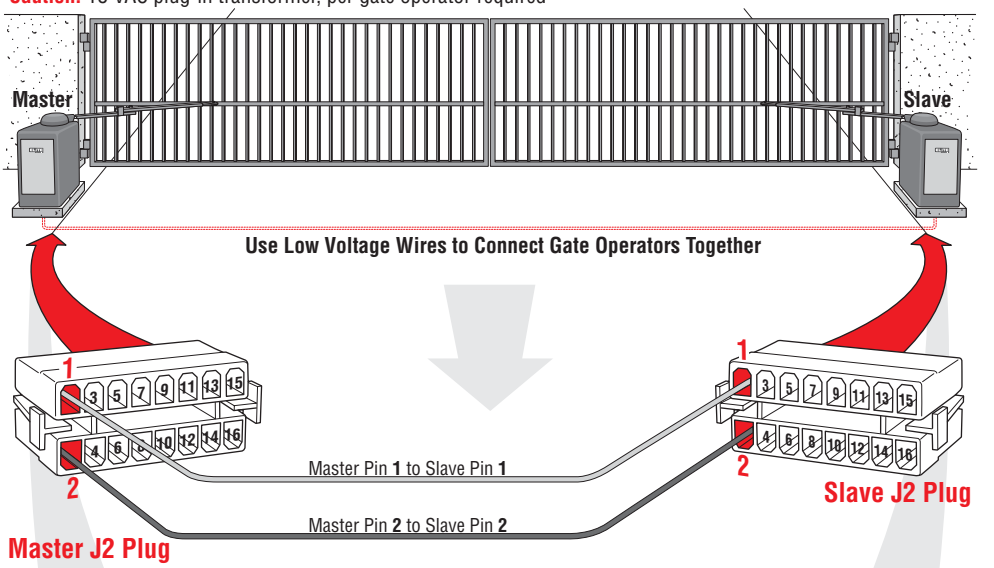


Maximum Counterclockwise Setting

MASTER AND SLAVE WITHOUT TIMER

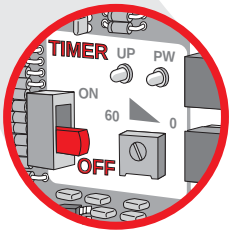
To use the master/slave option with Robo Swing, you must purchase the **Optional Input Board** (Elite Part # **Q203**) and connect it to the **J2** slot. (Refer to page 16)

Caution: 18 VAC plug-in transformer, per gate operator required

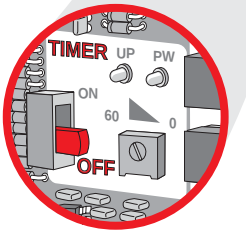


1. Make master/slave J2 plug connections as shown above
2. Turn timers on **BOTH** control boards to the "**OFF**" position

Master Timer "OFF"

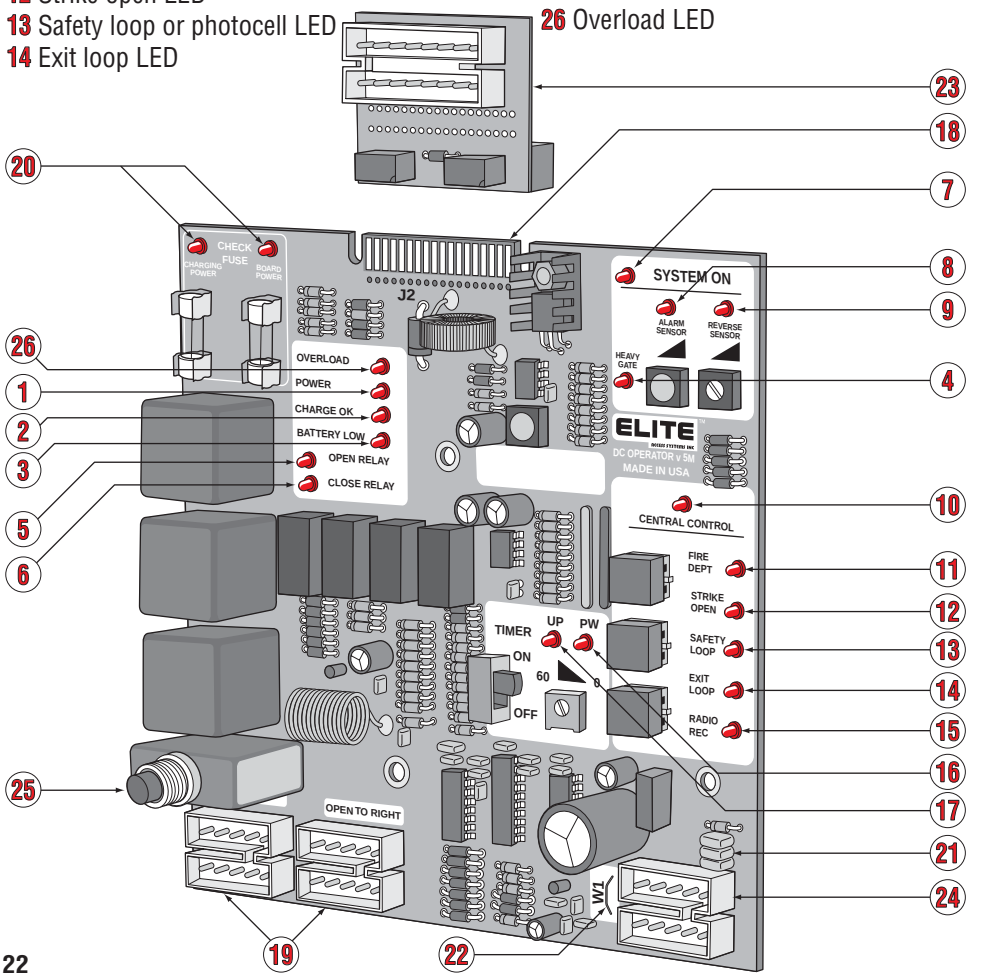


Slave Timer "OFF"



CONTROL BOARD FUNCTIONS

1 Power on LED
2 Charge on LED
3 Low battery indicator LED
4 Heavy gate indicator LED
5 Open Relay LED
6 Close Relay LED
7 System on, Reversing sensor and Alarm sensor
8 Alarm sensor LED
9 Reversing sensor LED (Rebounder)
10 Central control LED
11 Fire department or key switch LED
12 Strike open LED
13 Safety loop or photocell LED
14 Exit loop LED
15 Radio receiver LED
16 Timer power LED
17 Timer-Up indicator
18 J2 alternate optional output
19 Movement direction sockets
20 Replace fuse indicator
21 Spike suppressor
22 Jumper for stop button
23 Optional Input board
24 Plug in power - 18 VAC or solar panel and terminal block connector
25 Breaker reset
26 Overload LED



LED DESCRIPTION

LED Description	 *LED On*	 *LED Off*
① **Power** at all times when there is one or more power sources **ie:** Battery, 18 VAC or solar	Power source OK and board power fuse OK	**1**. No power source at all *If dimmed down* **1**. Bad board power fuse
② **Charger OK** on when there is any charging power **ie:** 18 VAC - solar	Transformer or solar OK and charging power fuse OK	**1**. No Transformer or Solar *If dimmed down* **1**. Bad charging power fuse
③ **Battery Low** normally off - it will indicate low battery	*Flashing LED - Battery is less than required limit needs to be recharged* **1**. Excess usage **2**. Bad charging system **3**. Under rate solar panel **4**. Bad battery **5**. Bad battery connection	Battery OK Battery voltage is over minimum required limit
④ **Heavy Gate** will work only when the gate is in motion	**1**. Gate is too heavy **2**. Bad wheels **3**. Bad rollers **4**. Chain is too tight **5**. Steep slope on open or close cycle **6**. Low battery	Gate weight and condition are OK
⑤ **Open Relay**	Open relay is energized	Open relay is not energized
⑥ **Close Relay**	Close relay is energized	Close relay is not energized
⑦ **System On** will work only when the gate is in motion	Detecting motor current	**1**. Motor stop **2**. No motor current detected
⑧ **Alarm Sensor** when LED goes on you will hear a beep sound for about 20 seconds	**1**. Hearing beep sound means overload **2**. Gate is too heavy **3**. Broken wheel **4**. Gate off track **5**. Unwanted object has physically stopped gate	System is OK

Note: *Circled red numbers indicates location on control board, identified on page 22.*

LED DESCRIPTION - CONTINUED

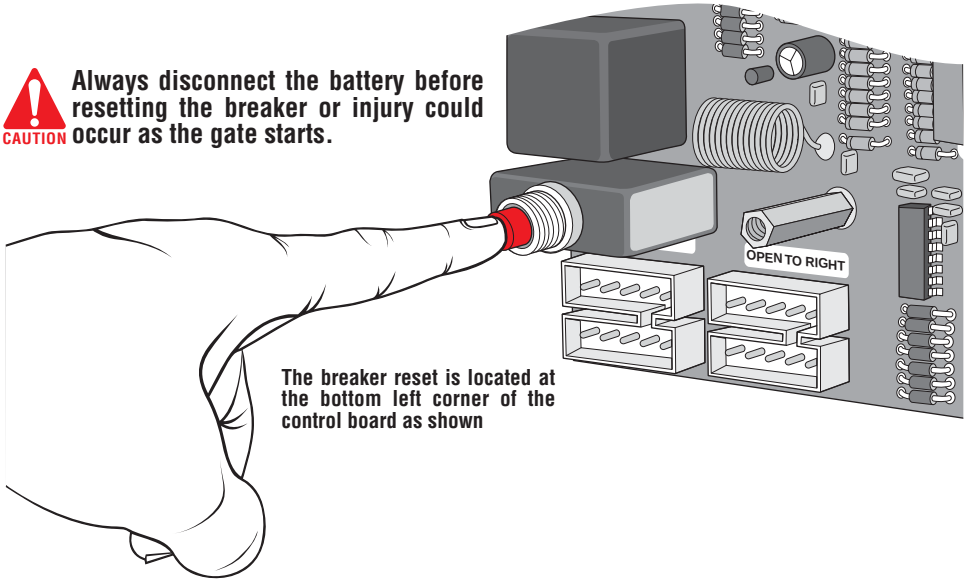
LED Description	 *LED On*	 *LED Off*
⑨ **Reversing Sensor**	Sensor is detecting obstruction	No obstruction is detected
⑩ **Central Control**	Acknowledgement of receiving open command from one of the terminals • **Fire Department** **1** & **2** • **Strike Open** **3** & **4** • **Safety Loop** **5** & **6** • **Exit Loop** **7** & **8** • **Radio Receiver** **8** & **9**	Not receiving any command
⑪ **Fire Dept**	Receiving signal at terminal block **1** & **2**	Not receiving signal at terminal block **1** & **2**
⑫ **Strike Open**	Receiving signal at terminal block **3** & **4**	Not receiving signal at terminal block **3** & **4**
⑬ **Safety Loop**	Receiving signal at terminal block **5** & **6**	Not receiving signal at terminal block **5** & **6**
⑭ **Exit Loop**	Receiving signal at terminal block **7** & **8**	Not receiving signal at terminal block **7** & **8**
⑮ **Radio Rec**	Receiving signal at terminal block **8** & **9**	Not receiving signal at terminal block **8** & **9**
⑯ **Timer PW**	Timer power is on	Timer is not on
⑰ **Timer UP**	Output signal to close relay	Not receiving signal to close relay

Note: *Circled red numbers indicates location on control board, identified on page 22.*

How to Reset the Breaker

If all electronic sensors fail or are not adjusted properly due to heavy gates, off-track gate, or obstructed gate path, the breaker will kick-out. Reset the breaker by pressing the reset button located on the bottom left corner of the control board.

CAUTION **Always disconnect the battery before resetting the breaker or injury could occur as the gate starts.**

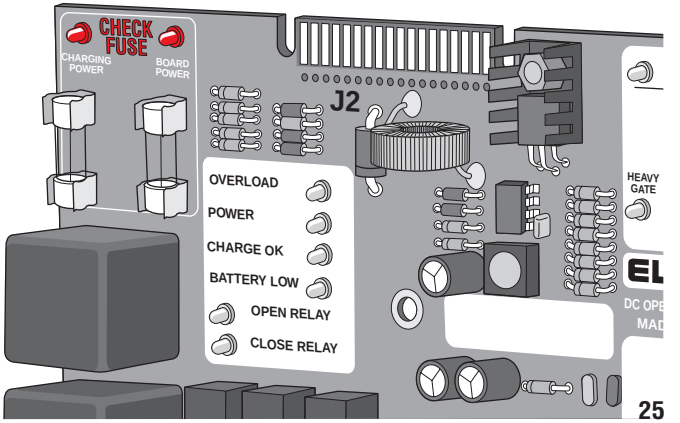


How to Check the Fuses

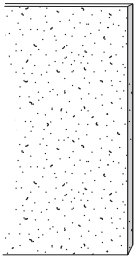
If the gate is not moving in any direction be sure to check all of the LED displays on the control board. If the board power or charging power LEDs are "**ON**", change the corresponding fuse on the top left corner of the board.

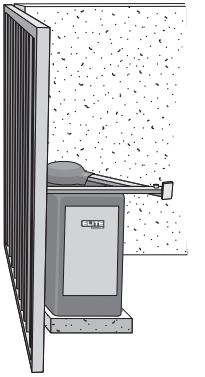
CAUTION **Replace fuse with 1.5A - 250V fuse**

Robo Fuse
(Elite Part # **Q162**)



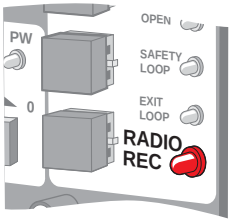
The Gate Will Not Close!



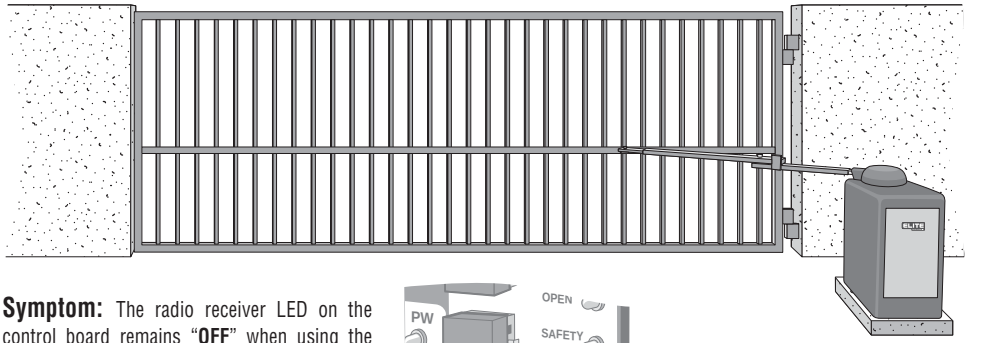


Symptom: The radio receiver LED on the control board remains "**ON**" when using the remote control.

Possible Solutions: Stuck remote control button. The radio receiver has malfunctioned in the "**ON**" position.

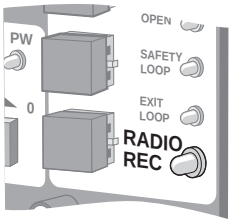


The Gate Will Not Open!



Symptom: The radio receiver LED on the control board remains "**OFF**" when using the remote control.

Possible Solutions: Dead battery in the remote control. Remote control code switches are different from radio receiver code switches. The radio receiver has malfunctioned in the "**OFF**" position.



For further information, contact your local dealer.

AUDIO ALARM

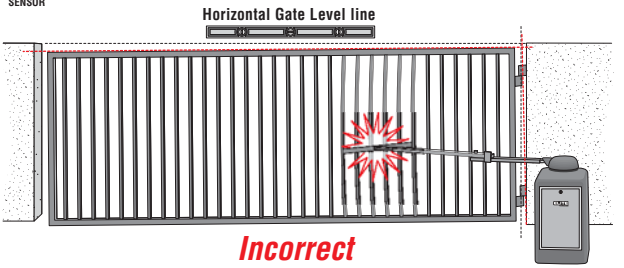
If you hear a "BEEP" sound.....

ALARM SENSOR

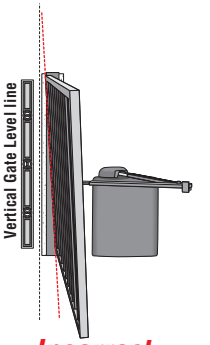
1. The gate is TOO heavy.

ALARM SENSOR

2. The operator arm or gate is incorrectly installed.



Incorrect



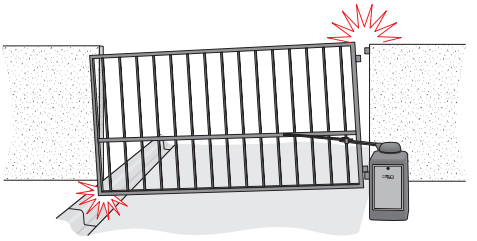
Incorrect

ALARM SENSOR

3. A foreign object is on the gate frame while the gate is moving.

ALARM SENSOR

4. The gate is moving and a car pushes the gate.



ALARM SENSOR

5. Gate hinges are too tight or broken and the gate is not moving freely.

ALARM SENSOR

6. The gate hits the driveway, curb or other, and gets stuck or bent in an awkward position.

PARTS LIST

Robo Swing Conversion Kit

Q205
- Q206 - Control Board
- Q214 - Limit/Motor Harness
- Q218 - Terminal Harness
- Battery Harness

Limit Switch Assembly

Q165
- Q051 - Collar 1/2 In.
- Q052 - Gate Adjustment (Plastic Part)
- Q053 - Ball Bearing
- Q054 - Gate Adjustment Shaft
- Q055 - Limit Switch Holder
- Q056 - Sprocket Gate Adjustment

Arm Package

Q104
- Q038 - Short Arm
- Q040 - Long Arm
- Q041 - Adjustable Solid Metal

Cludge Assembly

Q061
- Q060 - Arm Release Handle
- Q061 - Output Shaft Kludge (T)

Note:
☐ Multiple Parts "Q" Number

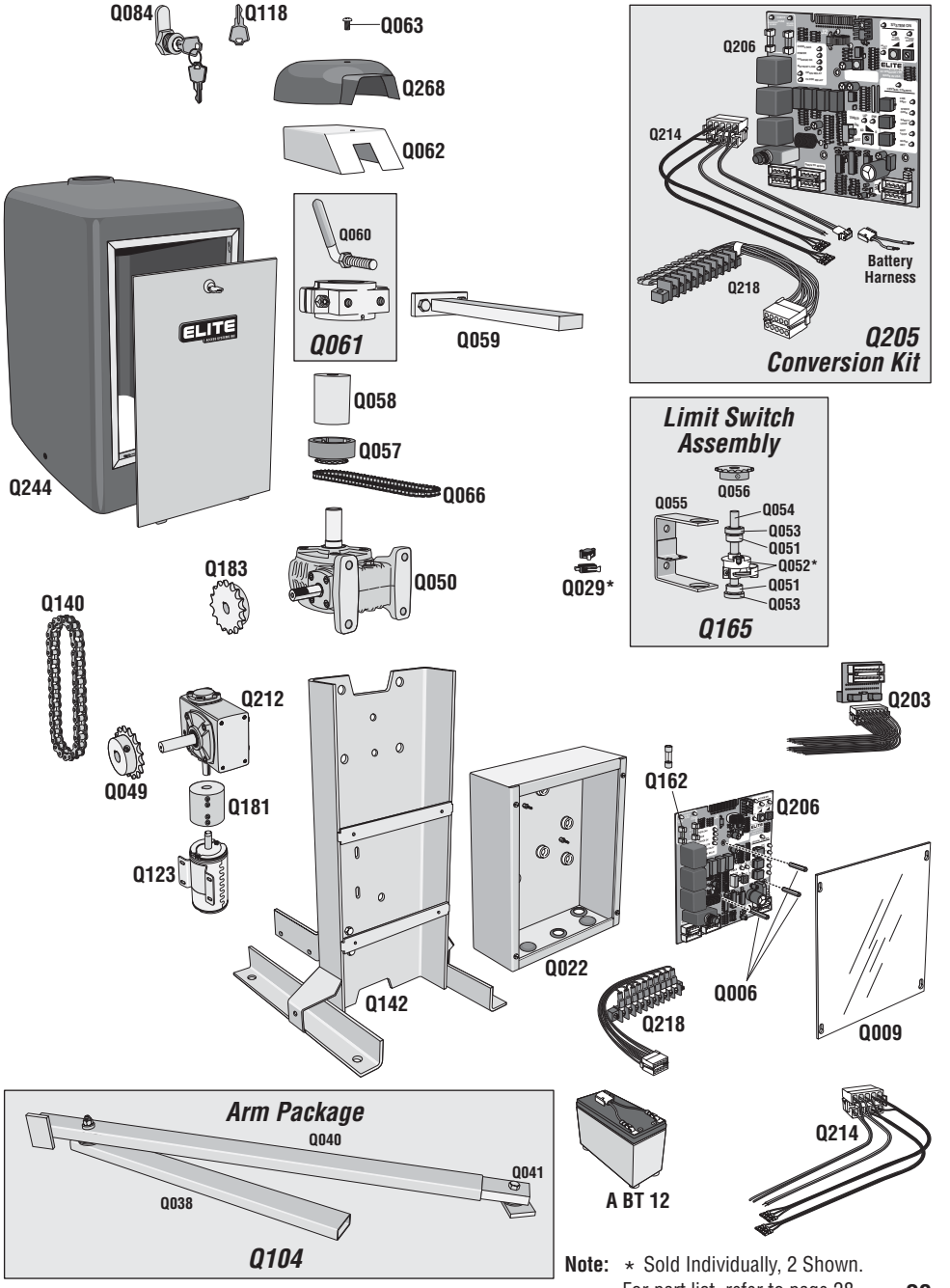
A BT 12 - 12 VDC, 7 amp. Battery
Q006 - PC Board Nuts (1 Set)
Q009 - Electronic Access Panel
Q022 - Electronic Box
Q029 - Limit Switch
Q049 - Sprocket (B50-16)
Q050 - Gear Reducer (Size 60)
Q057 - Output Shaft Sprocket
Q058 - Output Shaft 2 1/2"
Q059 - Output Arm (Solid)
Q062 - Stainless Steel Kludge Cover
Q063 - Security Bolt
Q066 - Chain #25
Q084 - Emergency Key Release
Q118 - Key for Access Door
Q123 - Motor - DC - 12V
Q140 - Chain #50
Q142 - Chassis
Q162 - Fuse
Q181 - Coupling 2 1/2"
Q183 - Sprocket 50B16 5/8" Bore
Q203 - Option Board with Harness
Q206 - Electronic Control Board
Q212 - Gear Reducer 40 - 30:1
Q214 - Limit/Motor Harness
Q218 - Terminal Harness
Q244 - Cover, Polyethylene Plastic
Q268 - Plastic Cludge Cover

MAINTENANCE

1. The gate area should be kept clean to insure proper operation.
2. Make sure the hinges are working smoothly and lubricated properly.
3. Make sure gate arm is greased properly.
4. Keep the cover clean.
5. Check gate reversing sensor.
6. Check for proper synthetic oil level in the upper gear box.
7. For parts, refer to Robo Swing parts page and this page.

If you need further assistance, please call your local service company.

ROBO SWING PARTS

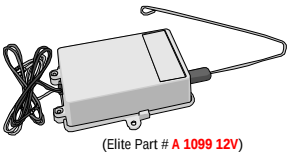


Note: * Sold Individually, 2 Shown.

For part list, refer to page 28.

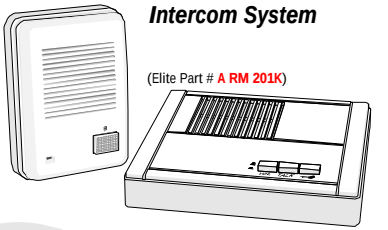
ELITE ROBO SWING ACCESSORIES

12V DC Radio Receiver



(Elite Part # **A 1099 12V**)

Intercom System



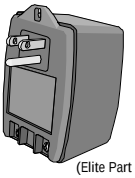
(Elite Part # **A RM 201K**)

Transmitters

(Elite Part # **A 3060**)

(Elite Part # **A 3089**)

18 VAC Plug-in Transformer

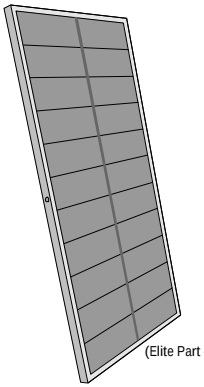


(Elite Part # **A POW 1**)

Wireless Programmable Digital Keyless Entry System

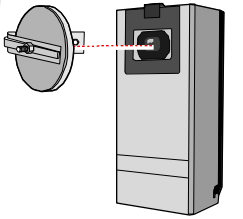
(Elite Part # **A 4200**)

Solar Panel



(Elite Part # **SOLAR 3**)

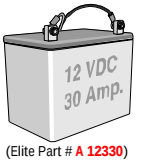
12V Photo Electric Eye



(Elite Part # **A OMRON 12V**)

12V DC 30 Amp Batteries

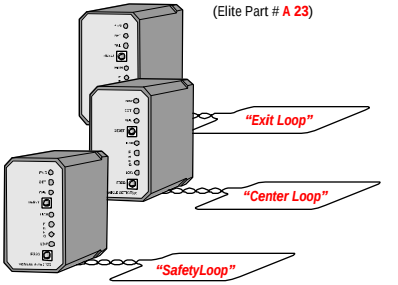
(Elite Part # **A 12330 PACK**)



(Elite Part # **A 12330**)

12V DC External Loop Detectors

(Elite Part # **A 23**)



FEATURES AND SPECIFICATIONS

We suggest the following items manufactured by Elite Access Systems for better and safer operations.