

Swing Gate Installation Manual Eagle-200 Series Eagle-100 Series

# Eagle Access Control Systems, Inc.

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Operator installation and instructions for the Eagle-200 and Eagle-100 Series.





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### **UL Listings**

#### **Gate Operators Installation Instructions**

- 1) Install the gate operator only when:
  - The operator is appropriate for the construction and the usage Class of the gate.
  - All openings of a horizontal slide gate are guarded or screened from the bottom of the
    gate to a minimum of 4 feet (1.2 m) above the ground to prevent a 2 ¼ inch (57.15 mm)
    diameter sphere from passing through the openings anywhere in the gate, and
    in that portion of the adjacent fence that the gate covers the open position.
  - All exposed pinch points are eliminated or guarded.
  - · Guarding is supplied for exposed rollers.
- The operator is intended for installation only on gates used for vehicles. Pedestrians must be supplied with a separate access opening.
- The gate must be installed in a location so that enough clearance is supplied between the gate and adjacent structures when opening and closing to reduce the risk of entrapment. Swinging gates shall not open into public access areas.
- 4) The gate must be properly installed and work freely in both directions prior to the installation of the gate operator.
- Controls must be far enough from the gate so that the user is prevented from coming in contact with the gate while operating the controls. Controls intended to be used to reset an operator after two sequential activations of the entrapment protection device(s) must be located in the line of sight of the outdoor gate or easily accessible controls shall have a security feature to prevent unauthorized use.
- 6) All warning signs and placards must be installed where visible in the area of the gate.
- 7) For a gate operator utilizing a non-contact sensor such as a photo beam:
  - See instructions on the placement of non-contact sensor for each type of application.
  - Care shall be given 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.
- 8) Gate operators utilizing a contact sensor such as an edge sensor:
  - One or more contact sensors shall be located at the leading edge, trailing edge, and post mounted both inside and outside of a vehicular horizontal sliding gate.
  - One or more contact sensors shall be located at the bottom edge of a vehicular lift gate.
  - One or more contact sensors shall be located at the pinch point of a vehicular vertical pivot gate.
  - A hardwire contact sensor shall be located and its wiring arranged so that the communication between the sensor and the gate operator is not subject to mechanical damage.
  - A wireless contact sensor such as one that transmits radio frequency (RF) signals
    to the gate operator for entrapment protection functions shall be located where the
    transmission of the signals are not obstructed or impeded by building structure,
    natural landscaping, or similar obstruction. A wireless contact sensor shall function
    under the intended end use conditions.

#### **UL Listings**

#### Esential SetyPocedres

WARNING - TO REDUCE THE RISK OF INJURY OR DEATH - READ AND FOLLOW ALL INSTRUCTIONS:

- Never let children operate or play with gate controls. Keep the remote control away from children.
- Always keep people and objects away from gate while the gate is in operation. NO ONE SHOULD CROSS THE PATH OF A MOVING GATE.
- 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.
- Use the emergency release only when the gate is not moving. Make sure the power for the gate operator is off.
- KEEP GATES PROPERLY MAINTAINED. Read and follow the manual. Have a qualified service person make repairs to the gate or gate hardware.
- The entrance is for vehicles only. Pedestrians must use separate entrance.
  - BE SURE TO CONTINUE TO KNOW & PRACTICE THESE INSTRUCTIONS •

#### **UL Listings**

\*Mcular briental slidgate operator (or system)
- A vehicular gate operator (or system)
that controls a gate which slides in a horizontal
direction that is intended for use for vehicular
entrance or exit to a drive, parking lot, or the like.

**Gate** - A moving barrier such as a swinging, sliding, raising, lowering, rolling, or like barrier that is a stand-alone passage barrier or is that portion of a wall or fence system that controls entrance and/or egress by persons or vehicles and completes the perimeter of a defined area.

#### Esidntial vicular gate operator - ass I

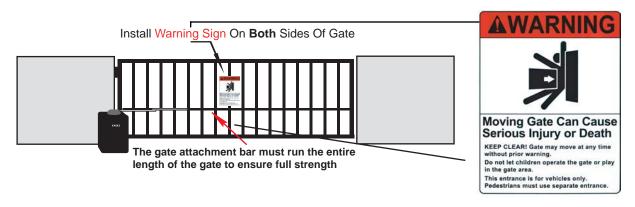
A vehicular gate operator (or system) intended for use in a home of one to four single family dwellings, or a garage or parking area associated therewith.

**Gercial /General access whoular gate operator -Gass II** - A vehicular gate operator
(or system) intended for use in a commercial
location or building such as a multi-family
housing unit (five or more single family units),
hotel, garages, retail store, or other buildings
servicing the general public.

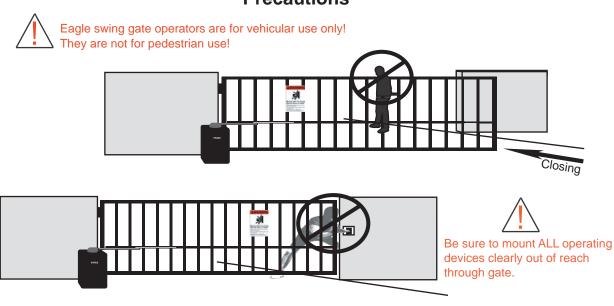
Opercial /General access vicular gate operator -Qass III - A vehicular gate operator (or system) intended for use in an industrial location, loading dock area, or other location not intended to service the general public.

**Cercial /General access vicular gate operator -Cass IV** - A vehicular gate operator
(or system) intended for use in a guarded
industrial location or buildings such as airport
security area or other restricted access
locations not servicing the general public, in
which unauthorized access is prevented via
supervision by security personnel.

### **Installing the Warning Sign**



#### **Precautions**



Regarding Ornamental Grill Styled Gates: Injuries may be avoided if a mesh or screen is installed on the gate. Injuries resulting from hands and feet becoming stuck in gate or children riding the gate while in movement, can be greatly reduced if this "screen" or "mesh" is applied to gate as a safety precaution.





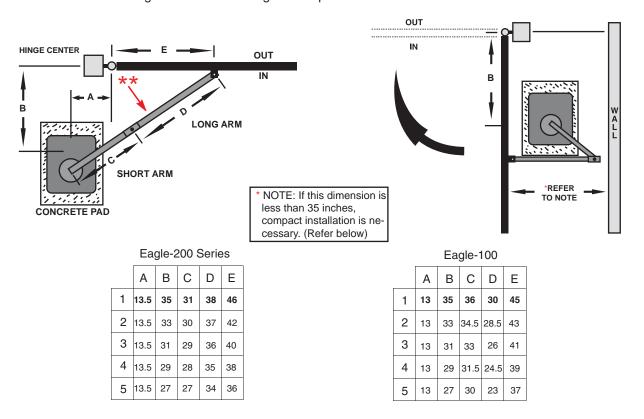
CAUTION! Be sure to read and follow all the Eagle Access Control Systems, Inc. and UL instructions before installing and operating any Eagle Access Control Systems, Inc. products. Eagle Access Control Systems, Inc. is not responsible for any improper installation procedures caused by failure to comply with local building codes.

#### **Methods of Installation**



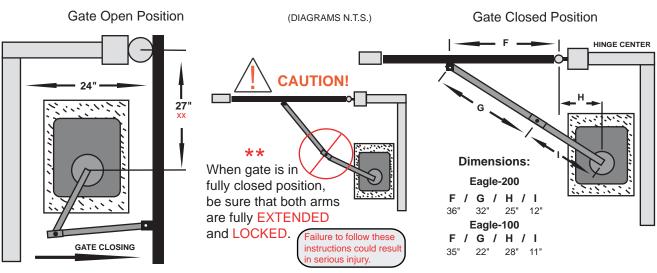
An experienced installer should perform the installation of all operators. Improper installation may result in property damage, severe injury, or death. Read entire manual before proceeding with the installation.

Installation for the Eagle-200 Series & Eagle-100 operators:



### **Compact Installation**

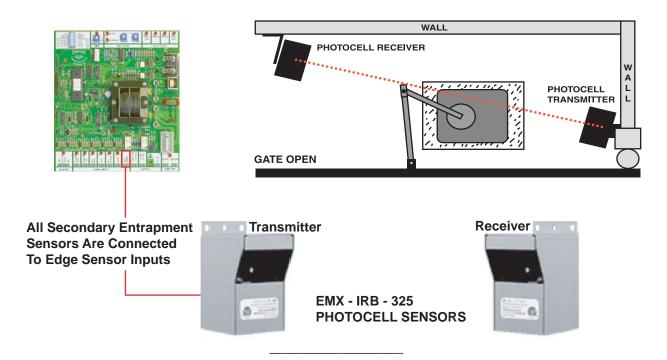
The following dimensions are for COMPACT INSTALLATIONS only!



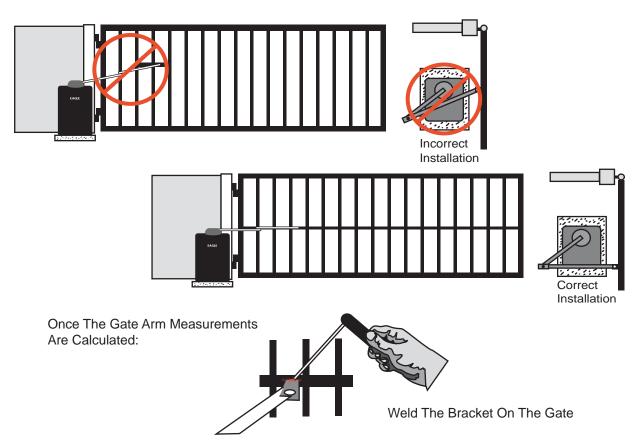
xx - Change dimension to 26" for the Eagle-100

### **Mounting The Secondary Entrapment**

Note: Eagle Access Controls, Inc. recommends the installation of a reflective photocell sensor.



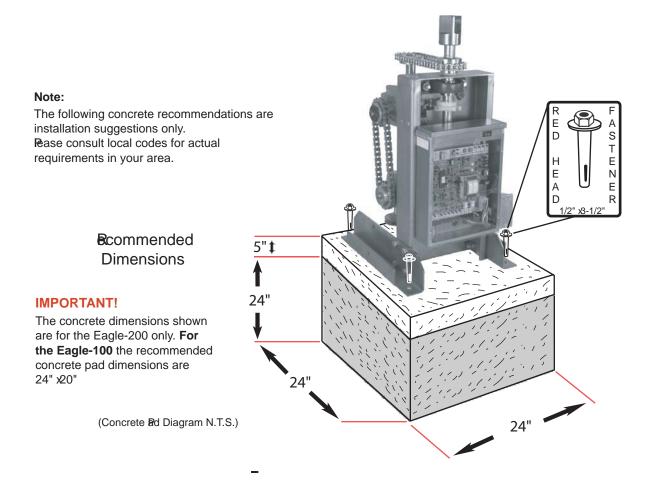
### **Welding The Gate Arm**



### **Mounting Operator(s) To A Concrete Pad**



B sure that the operator is installed in a level position and is properly secured. Improper installation could result in property damage, injury, or death.

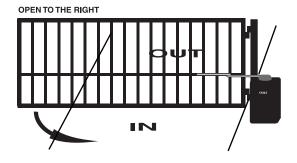


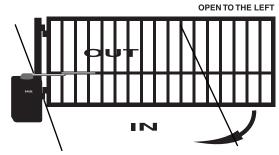
### **Selecting Opening Direction of Gate**



To select the opening direction of the gate, use the Feature Selector (as shown). Let switch to the "open left" position for left opening. Let switch to the "open right" position for right opening.







### **Connecting The Power**



Be sure that the circuit breaker for the line input power is turned off before connecting the input power to the unit.

Connect 120 VAC, 15A, 60HZ, line input power to the wires provided in the power switch junction box located near the bottom of the operator.

**Warning:** Eagle Access Control Systems, Inc. is not responsible for researching and complying with local building codes. Be sure to check these codes before installation.



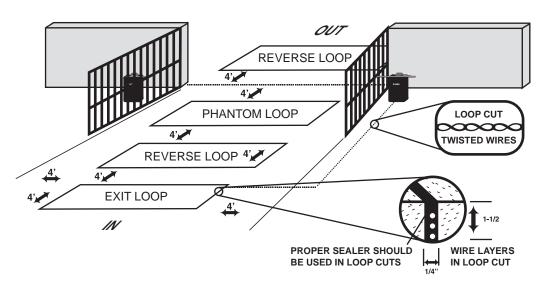
- Black 120 VAC / Line Input Power
- White Neutral Input
- Green Ground Input (from an approved grounding method)

| 14 AWG  | 12 AWG  | 10 AWG  | 8 AWG    | 4 AWG    |
|---------|---------|---------|----------|----------|
| 250 ft. | 400 ft. | 650 ft. | 1000 ft. | 2000 ft. |

### Reverse / Exit Loop Installation

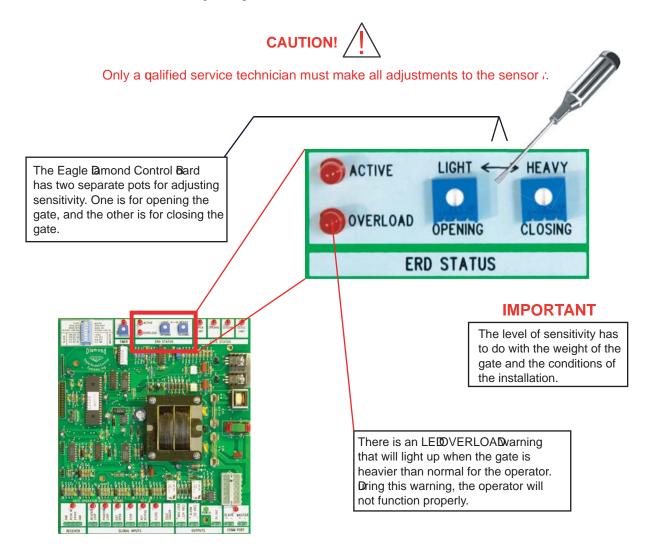
The Purpose for a reversing loop is to prevent the gate from closing on a vehicle while it is exiting or stopped in the middle of the gate area. The purpose of the exit loop is to automatically open the gate when a vehicle approaches to exit.

### **Exit Loop Operation**



Wires must be wrapped inside the groove three times. Once you have completed the process, fill up the grooves with a proper seal.

### Two Way Adjustable Reverse Sensor / ERD



### When Adjusting Sensors Remember...

Too Sensitive if the gates stops or reverses by itself

bit Sensitive enough ≠ if the gate strikes an object and does not stop or reverse



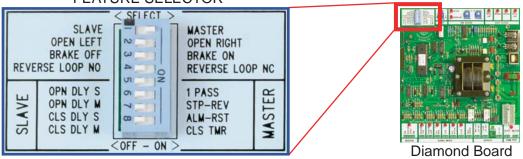
ig cate operators, Lagre Lee Correct

#### The Feature Selector

The selector uses an eight-station switch system that allows selection of the standard features and customized installation settings. The switch description is as follows:

Note: The power should always be turned off when designating feature selector switches





Switch 1: Slave/Master - Sets the operator to work as Master or Slave.

Switch 2: Gate Opening - Designates left or right opening.

Switch 3: Motor Brake - If the "on" position is selected, the gate will stop instantly when on the limit switches. This is useful on uphill / downhill applications and on all Fail-Safe operators.

Switch 4: Reverse Loop - Sets the reverse loop to be normally open or to normally close. It is useful in Fail-Safe applications.

Switch 5: One Pass (On/Off) - This tailgating feature works with the reverse loop to allow only one car to pass. After the car passes, the gate closes instantly. If a second car approaches the gate stops. The operator resumes closing after the car leaves.

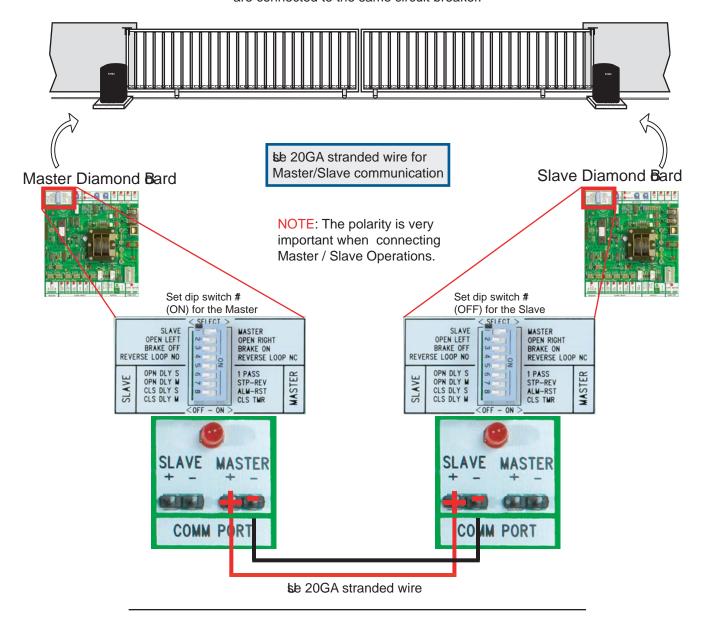
Switch 6: Stop-Reverse (On/Off) - This radio feature allows the transmitter to work as a three-button station and is useful for a partial opening. If selected, the first command will open the gate, the second will stop the gate, and the third will close the gate.

Switch 7: Alarm Reset (On/Off) - If the "on" position is selected, after the five minutes "shut down" time period the operator will reset and any input will be accepted. Normally, the power must be turned off to reset.

Switch 8: Close Timer (On/Off) - Sets the Close Timer to the "on" or "off" position.

### **Master and Slave Operation**

Important: B sure that the 120MC power (for the Master and the Slave) are connected to the same circuit breaker.

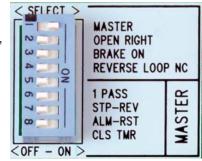


### Master Control Options

ste the feature selector to choose available features by designating the various switches (1 through 8).

Gate opening direction, motor brake, reverse loop, one pass, stop reverse, alarm reset, and close timer.

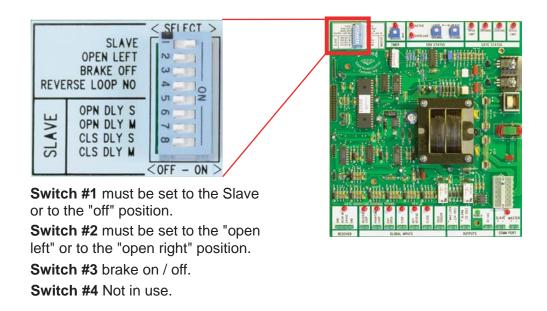
Rease refer to pages 10 & 11 for more information on individual switch functions.



NOTE: Rease remember the Eagle Diamond Control Bard allows you to connect accessories to the Master or Slave operators.

These accessories include: &verse bop, Pantom bop, Eit bop, 3 Bitton Station, My Switch bck BixFire Dept. BixEdge Sensors, Telephone System...Etc.

### **Slave Control Options**



### **Selecting The Delay Functions**

The Eagle "Diamond" Control board was uniquely designed to allow the slave control to communicate to the master board all of the "Open-Delay" and "Close Delay" functions.

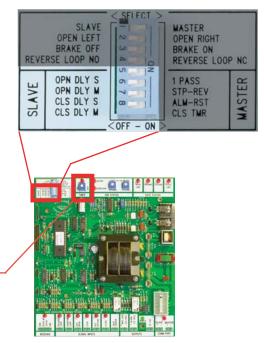
If no delay functions are needed, switches 5 through 8 must be in the off position.

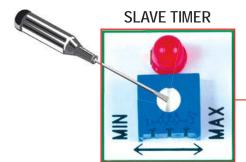
#### Setting The Open Delay Function

Switches 5 & 6: Open Delay Slave (On/Off) - Selecting the switch to the "on" position delays the Slave (Sw. 5) or Master (Sw. 6) operator by 1 1/2 seconds on the open cycle. This is useful with magnetic lock applications.

#### Setting The Close Delay Function

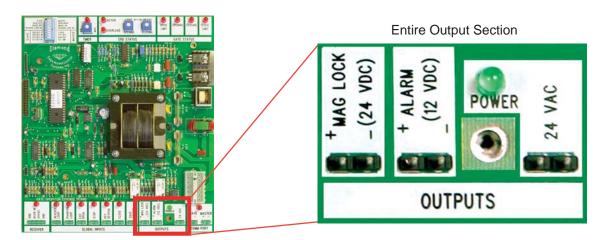
Switches 7 & 8: Close Delay Master (On/Off) - Selecting the switch to the "on" position delays the Slave (Sw. 7) or Master (Sw. 8) operator by 1 - 6 seconds on the close cycle (adjustable by the Slave Timer shown below).





**Diamond Control Board** 

### **Describing The Output Connections**

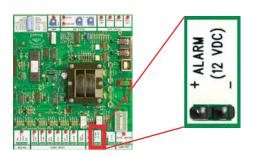


### MAG Lock Solenoid Connections (24 VD)

The Eagle Lamond Control Bard provides a 24VD and relay output for MAG Locks or Solenoids.



### Alarm (12 VD)

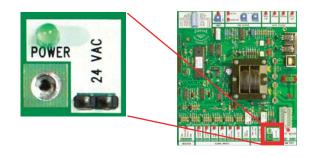


Safety Alarm: If the gate hits an obstruction twice while closing or opening, the system will shut down for 5minutes. On the 12mond 12m

Selecting the off"position will reqire a manual reset"of the board if the previous happens. However, by selecting the "On" position, the system will automatically reset itself.

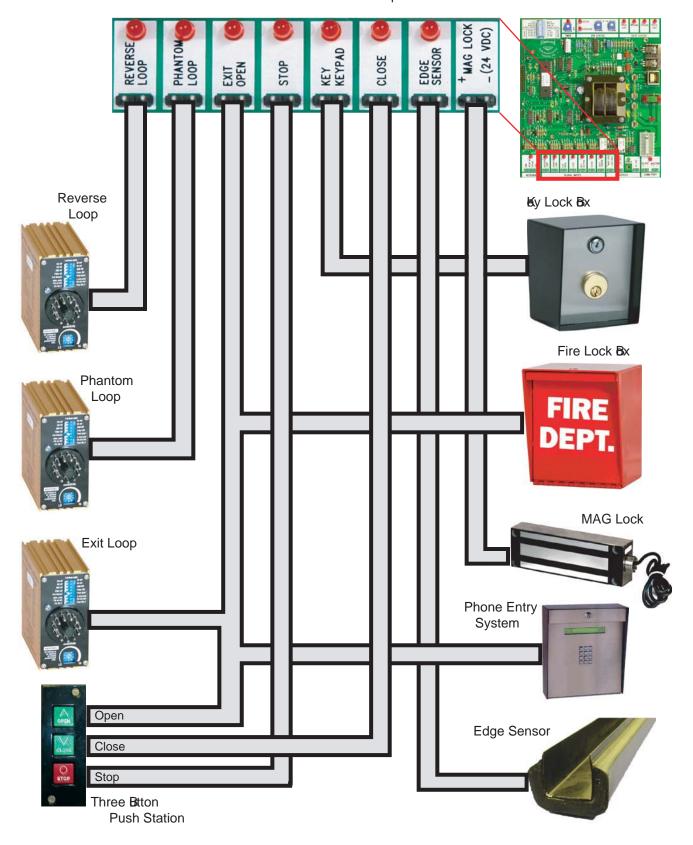
### Power (24 VAC)

The Eagle Damond Control Bard provides 24 VAC Power, which can be used for loop detectors and receivers.

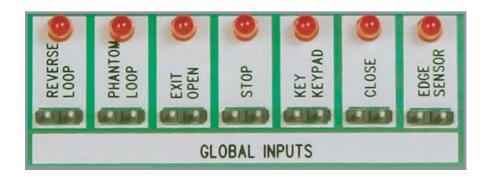


### **Connecting The Accessories**

With the exeption of the MAG Lock, all of these accessories can be installed on the Master or Slave operator.



#### **Description of Inputs**





#### **Reverse Loop - Momentary or Continuous Signal**

This input is active only when the gate is closing or when its fully open. If this input is active, the close timer is disabled. All vehicle detectors and photo-eyes should be connected here. Multiple devices may be connected in parallel.



#### **Phantom Loop - Momentary or Continuous Signal**

This input is active only when the gate is at rest in the fully open position. The input has no effect on the gate when fully closed or while closing or opening. Continuous activation will prevent the gate from moving in the close direction. When the input is removed normal operation is resumed. This input is intended for a vehicle loop detector to sense a vehicle in the gate path. Multiple devices may be connected in parallel.



#### Exit Open / Loop - Momentary or Continuous Input

Once activated the gate will fully open. Activation while the gate is closing will cause the gate to reopen. Continuous activation while the gate is open will disable the timer to close function from automatically closing the gate.



#### **Stop - Momentary or Continuous Signal**

This function overrides all other signals. Once activated, the gate will immediately stop and await a new command. If the stop input is continuously activated, the gate will not move.



#### Key / Keypad

#### **Timer On - Momentary or Continuous Input**

Once activated the gate will fully open. Activation while the gate is closing will cause the gate to reopen. Continuous activation while the gate is open will disable the timer to close function from automatically closing the gate.



#### Key / Keypad (Continued)

#### **Timer Off - Momentary Input**

This function must be released and reentered to be recognized. This input is to be used for COMMANDPEN / COMMANDLOSE applications. The first signal will cause the gate to begin opening. The second signal will close the gate only when the gate is in the fully open position.



#### **Close - Momentary or Continuous Signal**

Once activated the gate will fully close. Activation while the gate is opening has no effect.



#### **Edge Sensor - Momentary or Continuous Signal**

This signal is active when the gate is opening and/or closing.

#### If activated when the gate is opening:

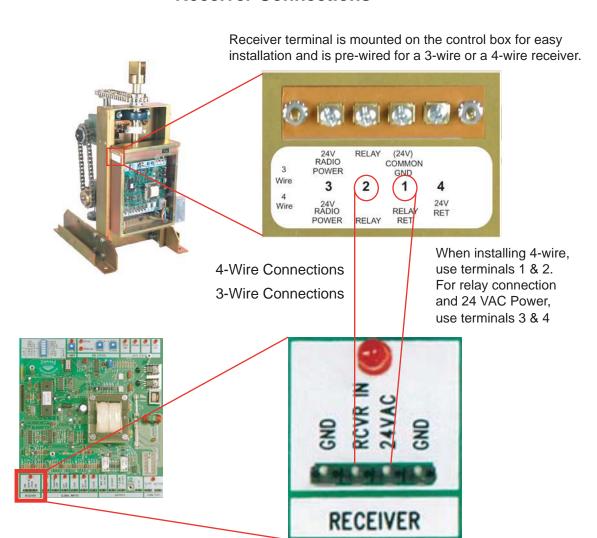
The gate will stop, pause and reverse in the close direction for 1 1/2 seconds and stop. Continuous activation will prevent the gate from moving in the opening direction. If the second activation occurs before the limit switch is activated, the gate will stop and reverse direction for 1 1/2 seconds and stop, thus activating the alarm mode. At this point the operator must be manually reset (ONDFF) before normal operation can resume.

#### If activated when the gate is closing:

The gate will stop, pause and fully reopen. Dring this mode the timer to close, reverse loop, exit loop and phantom loop are disabled. The My / Mypad and Receiver will cause the gate to close if a second activation occurs before the limit switch is activated. The gate will then stop and reverse direction for 1 1/2 seconds, stop again, thus activating the alarm mode. At this point the operator must be manually reset (ONDFF) before normal operation can resume.

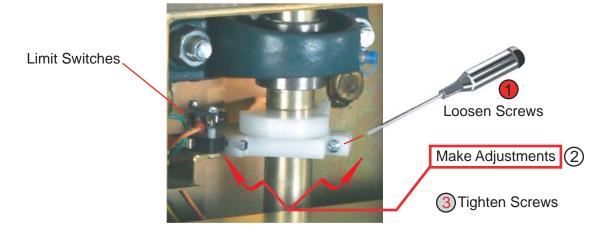
Multiple devices may be connected in parallel to the Edge Sensor Input.

#### **Receiver Connections**



### **Gate Travel Distance / Setting The Limit Switches**

The limit switches must be set so that the gate stops at the proper position. Follow these instructions to appropriately set the limit switches.



## **Emergency Release**



To release operator, simply unscrew bolt, remove the top cap, and lift the arm.

EAGLE-200

EAGUE

EAGLE-100

#### **Emerson Motor**

### **Resetting The Motor**

Leeson Motor



On all Eagle Access motors, a red reset button is available for resetting the motor. If operator ceases to function:

TURN THE POWER TO THE OPERATOR OFF AND ALLOW FOR THE MOTOR TO COOL DOWN...

then simply locate the reset button and press.



### **Adjusting the Operator's Clutch**

Depending on the weight of the gate clutch slippage may occur.

Typical Clutch slippage is about 1/4 turn. If it does not slip, readjust the Clutch accordingly.

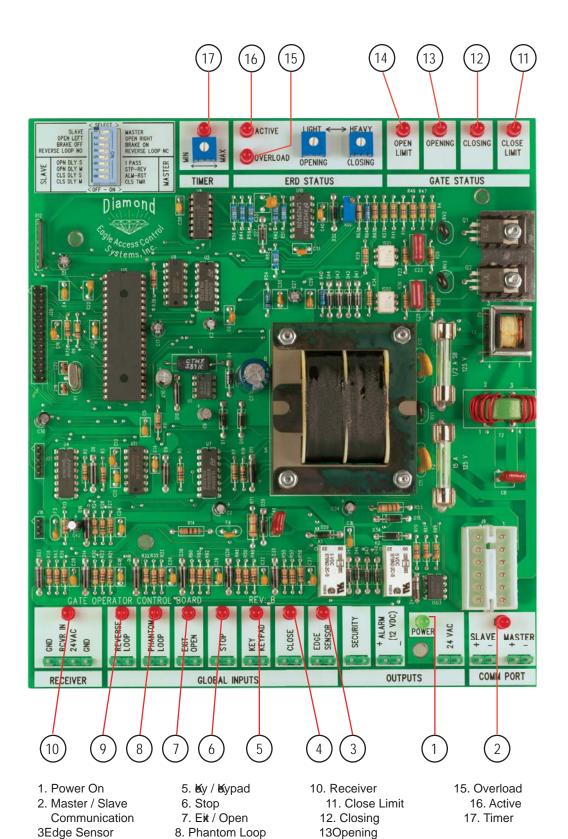
Use an appropriate wrench to adjust the clutch

Eagle-200

Eagle-100

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#### **Control Board LED Indicators**



9Reverse Loop

14. Open Limit

4. Close

### **Troubleshooting**

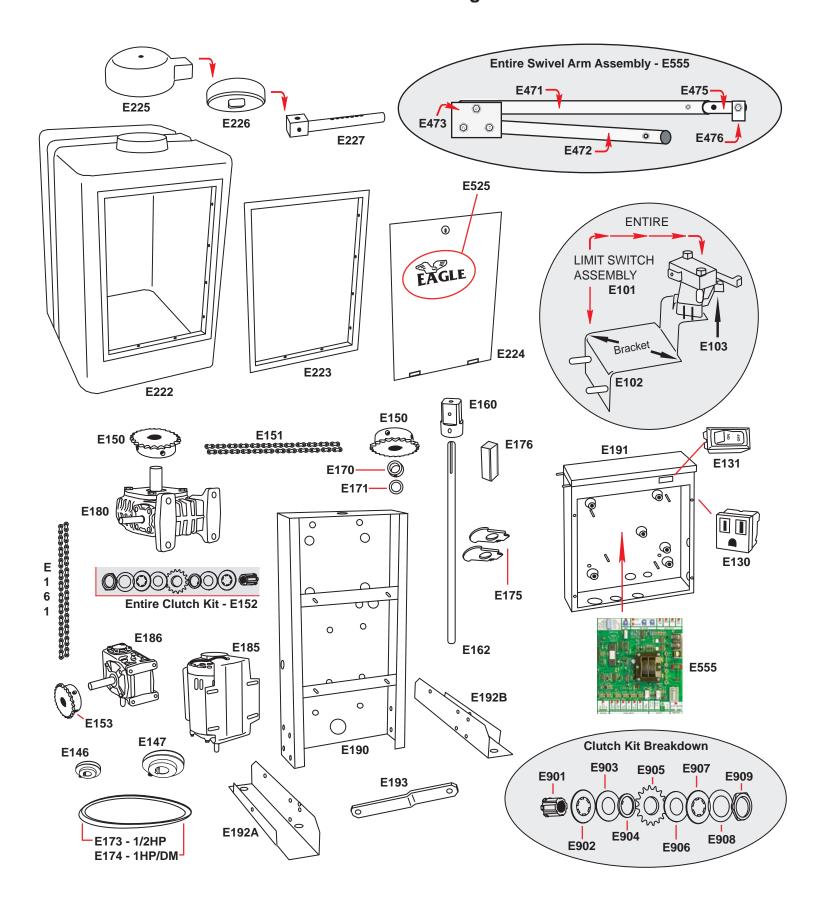
| SYMPTOMS   | PROBABLE CAUSES  | REMEDY   |
|--|--|--|
| Gate stops and reverses direction in mid travel and the OVERLOAD LED remains ON. | <ul><li>(A) Gate operator is not plumb and level.</li><li>(B) ERD current sense may be set to sensitive.</li><li>(C) Gate encountered an obstruction while in travel.</li></ul>  | <ul><li>(A) Remount operator or chain brackets.</li><li>(B) Turn the ERD sensor slightly in the clockwise direction.</li><li>(C) Check and remove all obstructions.</li></ul>  |
| Gate will not CLOSE.   | <ul> <li>(A) The Radio Receiver's LED remains on.</li> <li>(B) One or more of the global input LED(S) remain active.</li> <li>(C) Gate has reopened because it encountered an obstruction while closing.</li> <li>(D) The Loop Detector LED is on.</li> <li>(E) Switch #8 is not functioning.</li> </ul> | <ul> <li>(A) Remote or receiver has malfunctioned in the "on" position.</li> <li>(B) Check any Global Inputs for a possible short circuit.</li> <li>(C) Only key/keypad and receiver will resume normal operation.</li> <li>(D) Reset Loop Detector, verify correct wiring, set to a different frequency and/or change the sensitivity of the Loop Detector.</li> <li>(E) Be sure that the "Close Timer" (switch #8) is set to the "on" position.</li> </ul> |
| Gate will not OPEN.  | <ul> <li>(A) Motor overload.</li> <li>(B) Radio Receiver is not "on" when the remote control is activated.</li> <li>(C) The green LED is "off."</li> <li>(D) Fuse blown.</li> </ul>  | <ul> <li>(A) Reset thermal breaker on motor. (See page 18)</li> <li>(B) The receiver in the gate operator has malfunctioned in the "off" position.</li> <li>(C) Turn "on" the power switch and/or reset the main circuit breaker.</li> <li>(D) Check and/or replace with a proper fuse.</li> </ul>   |

#### COMMON OVERSIGHTS TO BE AWARE OF:

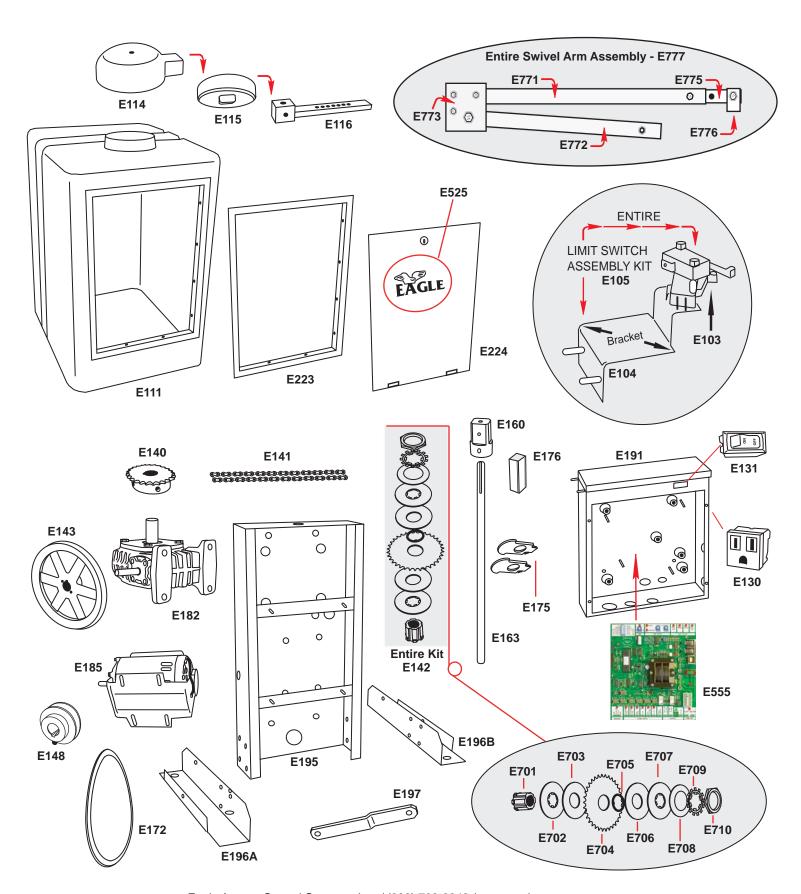
- (A) Switch #1 must be set to the "Master On" position, unless the operator is being used as a "Slave unit.
- (B) Safety Loop Detectors must be connected to the Reverse Loop input. (See pages 15 & 16)
- (C) If the "Timer to Close" function is desired, switch #8 must be set to the "on" position.
- (D) It is Ok to call the Eagle Access Customer Service Department with any questions...we are here to serve YOU!

1-800-708-8848

### Parts Breakdown / Eagle-200



### Parts Breakdown / Eagle-100



### **Operator Parts List**

#### Eagle-200 Swing Operator **Eagle-100 Swing Operator E222 - Operator Cover** E111 - Operator Cover **E223 - Operator Cover Door Frame E223 - Operator Cover Door Frame E224 - Operator Cover Door E224 - Operator Cover Door** E225 - Release Cover E114 - Release Cover E226 - Release Cover Cap E115 - Release Cover Cap E227 - Main Swing Arm E116 - Main Swing Arm E101 - Limit Switch (LS) Assembly (Complete) E105 - Limit Switch (LS) Assembly (Complete) E102 - Limit Switch Bracket E104 - Limit Switch Bracket E103 - Limit Switches E103 - Limit Switches E191 - Control Board Box E191 - Control Board Box **E555 - Diamond Control Board E555 - Diamond Control Board** E130 - Electrical Outlet E130 - Electrical Outlet E131 - Power Switch E131 - Power Switch E190 - Eagle-200 Chassis E195 - Eagle-200 Chassis Left and Right E192A - Right Chassis Leg 1 Left and Right E196A - Right Chassis Leg **Determined By Facing** Determined By Facing E192B - Left Chassis Leg E196B - Left Chassis Leg Out From the Operator Out From the Operator. E193 - Leg Bracket E197 - Leg Bracket E185 - 1/2 HP Motor E185 - 1/2 HP Motor E180 - Primary Gear Reducer (PGR) E148 - 2" Motor Pulley E186 - Secondary Gear Reducer (SGR) E182 - Gear Reducer (GR) E150 - (PGR) Sprocket E140 - (GR) Sprocket E153 - (SGR) Sprocket E143 - (GR) Pulley E152 - Clutch Kit (CK) Complete E142 - Clutch Kit (CK) Complete E901 - Main Bushing E701 - Main Bushing E902 - Metal Disk E702 - Metal Disk E903 - Fiber Disk (Clutch) E703 - Fiber Disk (Clutch) E904 - Spacer E704 - Sprocket E905 - Sprocket E705 - Spacer E906 - Fiber Disk (Clutch) E706 - Fiber Disk (Clutch) E907 - Metal Disk E707 - Metal Disk E908 - Spring Washer E708 - Spring Washer E909 - Nut E709 - Locking Washer E710 - Nut E146 - (SGR) Pulley E147 - Motor Pulley E141 - Drive Chain E173 - 1/2HP V-Belt E172 - 1/2HP V-Belt E174 - 1HP/DM V-Belt E160 - Arm Hub E161 - Drive Chain (Side) E163 - Shaft E151 - Drive Chain (Top) E175 - Limit Switch Activators E160 - Arm Hub E176 - Shaft Key E162 - Shaft E525 - Plastic Eagle Logo E170 - Sprocket Collar E777 - Swivel Arm Assembly (SAA) Complete E171 - Collar Washer **E175 - Limit Switch Activators** E771 - Large Arm E176 - Shaft Key E772 - Small Arm E525 - Plastic Eagle Logo **E773 - Arm Attachment Plate** E555 - Swivel Arm Assembly (SAA) Complete E775 - Extension Arm E776 - Weld Plate E471 - Large Arm E472 - Small Arm If you are uncertain of a specific part E473 - Arm Attachment Plate E475 - Extension Arm you need, please call us at the number E476 - Weld Plate below for assistance.

# Eagle Access Control Systems, Inc.

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