

**FULL HEIGHT  
MAXIMUM SECURITY GATE (MSG)  
MSG, MSG-1, MSGX, MSGX-PX, MSGX-E, & MSGX-S**



**INSTRUCTIONS AND MAINTENANCE GUIDE**

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**ALVARADO**

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## SAFETY SYMBOLS USED IN THIS MANUAL

The following symbols are used throughout the manual to highlight important information and potential risks when installing, servicing or using the gates covered in this manual.



### WARNING

This symbol is used in this manual to warn installers and operators of potential harm. Please read these instructions very carefully.



### CAUTION

This symbol is used in this manual to designate potential conditions that may pose a risk to pedestrians, personnel, property and equipment. Please read these instructions very carefully.



### NOTE

This symbol is used in this manual to designate useful information for the installer and operator. Please read these instructions.



### QUESTION?

For questions, please contact Alvarado at (909) 591 – 8431, Monday – Friday 6:30am to 4:30 PST. Please read this manual completely before installing or operating the Gate.

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## IMPORTANT SAFETY PRECAUTIONS

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Always follow the installation and operating precautions, including the following:

- Read this manual in its entirety before installing or operating the gate. If there are questions, you may contact Alvarado at (909) 591-8431, Monday through Friday, 6:30 AM to 4:30 PM PST.
- Use only skilled individuals to install and service the gate.
- The gate is not a toy. Do not allow children to play on or near the gate. Do not allow horseplay near the gate.
- Follow a proper maintenance schedule using skilled individuals.
- Do not operate the gate if it has been damaged in any manner. Have a damaged gate repaired or adjusted by a skilled service person before placing back in use.
- Do not modify or alter the gate.
- Use only Alvarado parts or recommended products when repairing or servicing the gate.
- In access control applications, train all personnel that will be using the gate in the proper method of operation. Ensure that new users are properly trained.

## SAVE THESE INSTRUCTIONS

## MSG MODELS

Alvarado Gates in this manual come in the following configurations. Please read each model description carefully to make sure you understand the functionality of the Gate you are installing.

- MSG**                    Entry Direction: Pull Handle  
Exit Direction: No hardware  
 Gate arm swings in one direction.
- MSG-1**                Entry Direction: Key Lock Control and Pull Handle  
Exit Direction: Mechanical Push Bar  
 Gate includes Infill Mesh to prevent reach through activation of the push bar. Gate arm swings in one direction. Gate also includes stop tab.
- MSGX**                 Entry Direction: Magnetic Lock (fail safe) and Pull Handle  
Exit Direction: No Hardware.  
 Gate arm swings in one direction.
- MSGX-PX**            Entry Direction: Magnetic Lock (fail safe) and Pull Handle  
Exit Direction: Microswitch Push Bar  
 Gate includes Infill Mesh to prevent reach through activation of the push bar. Gate arm swings in one direction.
- MSGX-E**             Entry Direction: Electric Strike Lock (fail lock), Key Lock Control and Pull Handle  
Exit Direction: Mechanical Push Bar  
 Gate includes Infill Mesh to prevent reach through activation of the push bar. Gate arm swings in one direction. Gate also includes stop tab.
- MSGX-S**             Entry Direction: Electric Strike Lock (fail lock) and Pull Handle  
Exit Direction: No Hardware  
 Gate arm swings in one direction. Gate also includes stop tab.

## CONFIGURATIONS DESCRIBED IN MANUAL

**Fail Safe** – Gate unlocks in the event of power loss. The gate will relock when power is supplied. All magnetic locks are Fail safe. Fail safe electric strike locks are available as an option.

**Fail Lock** – Gate remains locked when power is removed (or lost). The gate will unlock only when both power and an activation contact are supplied. All electric strike locks are fail lock unless otherwise specified. Magnetic locks are not available in fail lock mode.

**Activation** – Alvarado's gates require the use of a timed contact switch to lock and unlock. The gate lock will not re-engage until the switch is released and the gate door is closed.

**Mesh Infill** – The mesh infill is a diamond pattern steel mesh that is attached to the interior portion of the gate. The purpose of this mesh infill is to prevent persons from reaching through the gate. This component is available for all models.

**Microswitch Push Bar** – This is an electrically operated mechanical push bar. If there is a power loss the bar will default to the condition specified for the lock in use. NOT Available for MSG or MSG1.

**Mechanical Push Bar** – Mounted on the exit side, when the bar is pushed in the exit direction, the latching bolt is mechanically retracted allowing the user to exit through the gate. This allows emergency exiting at any time through the gate regardless of power conditions. This option is only available on the MSG-1, MSGX-E and the MSGX-S.

**Dead Bolt Lock** – Double cylinder – Key operation on both sides of lockset – A keyed lockset that is used to lock the gate in a closed position. A key is required to unlock the gate on either the entry or the exit side of the gate. This option is only available for the MSG model.

**CONFIGURATIONS DESCRIBED IN MANUAL** (continued)

**Dead Bolt Lock** – Single cylinder – Key operation one side, thumb turn knob one side – A keyed lockset that is used to lock the gate in a closed position. A key is required to unlock the gate on the entry side of the gate while a thumb turn knob is used on the exit side. This option also includes the Mesh infill for the gate. Option is only available for the MSG model.

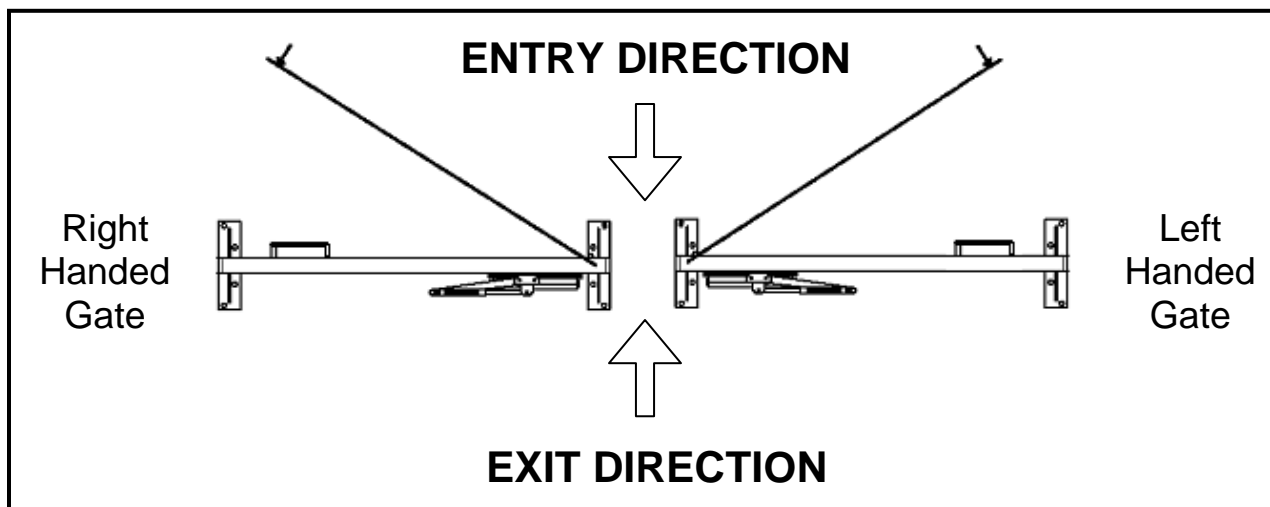
**Magnetic Lock** – Magnetic lock offers up to 1200 pounds of holding force. Power (low voltage 12VDC) is supplied to the lock to energize the magnetic feature. When the gate is closed, the latch plate (mounted to the gate) is held against the magnetic lock (mounted on the gate frame) when power is applied. The gate is unlocked by removing the power from the Magnetic lock and the patron may then pull the gate open in the entry direction or push the gate open in the exit direction. This is standard only on the MSGX and the MSGX-PX.

**Electric Strike Lock** – A lock where power (low voltage 12VDC) is supplied to the lock to release the mechanism to allow the gate to open. Power is then removed to allow the strike to be in the lock position. This lock is standard on the MSGX-E & MSGX-S.

**Universal Card Reader Mounting Plate** – Entry/exit direction(s) – Mounting plate attached to the latch post of the gate on either the entry or the exit side of the gate or both. The mounting plate is a universal style plate that an additional device specific plate may be added in order to fit the reader that is required. This option is available for the MSGX, MSGX-PX, MSGX-E and MSGX-S models.

**Push to Exit Remote Button Switch** – 3.15 inch square switch box assembly constructed of stainless steel with a DPDT (double pole double throw) push button switch. The switch is field wired into the strike or magnetic lock power cable to unlock the gate from a remote position such as a guard shack. This optional component is available for the MSGX, MSGX-PX, MSGX-E and MSGX-S models.

**Magnetic Sensor Switch** – A two piece switch magnet mounted on the gate and the latch post. It is used to monitor whether the gate is open or closed. The switch is a SPST(single pole single throw) contact supplied with two lead in wires for field connection. Option is available for all MSG models.



**Non-Electric**

**MSG**

Non-locking, self-closing gate with a stop tab. The gate door swings in one direction.

**MSG1**

Mechanical locking, self closing gate with push bar. This gate door swings in the out direction only.

**Electric**

**MSGX, MSGX-PX, MSGX-E, & MSGX-S**

Electric locking, self-closing gate. The gate door swings in one direction. This model incorporates either a magnetic or an electric strike lock.

## COMPONENTS INCLUDED WITH MSG MODELS

The following components are included in the packaging of ALL MSG Models:

- |                                                                                                                                         |                                                                                                                                                                                                                                                       |
|-----------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ol style="list-style-type: none"> <li>1. Gate in frame</li> <li>2. This Manual</li> <li>3. Power Supply (For Select models)</li> </ol> | <ol style="list-style-type: none"> <li>4. Anchor Package           <ul style="list-style-type: none"> <li>Qty 8 each – 3/8 anchors (2" length)</li> <li>Qty 8 each – 3/8 -16 x 2½" HHCS</li> <li>Qty 8 each – 3/8 flat washers</li> </ul> </li> </ol> |
|-----------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

**SLAB REQUIREMENTS**  
**MINIMUM THICKNESS: 4" LEVEL SOLID CONCRETE**  
**DO NOT INSTALL ON ASPHALT**

### OVERVIEW OF INSTALLATION STEPS:

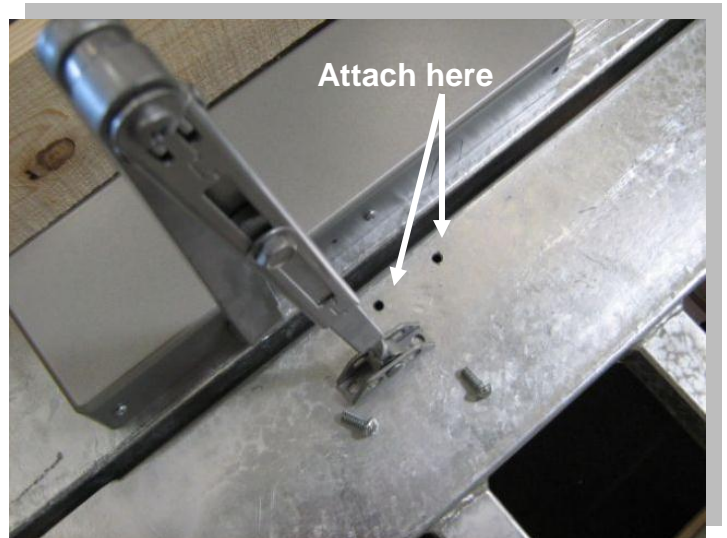
- A. Determine gate locations taking into account power and activation wiring (if applicable)
- B. Anchor gate and attach closing arm hinge
- C. Connect Activation Wiring (if applicable)
- D. Connect Power (if applicable)

### TOOLS REQUIRED:

- Heavy Duty Drill or Roto Hammer
- 5/8" Concrete Drill Bit
- Torque Wrench
- Shop Vac
- Tape Measure
- Chalk Line
- Safety Glasses

## INSTALLATION INSTRUCTIONS

1. The hydraulic arm is detached from the gate to allow ease of shipping. Before removing from shipping crate reattach hydraulic arm hinge to gate using (2) 1/4" machine screws supplied shown in Figure 1.
2. Determine the location where the gate will be installed taking into consideration the minimum width opening required (See the gate plan and elevation view detailed drawings shown on page 9 for the minimum installation requirements). Once the installation location has been determined, snap a chalk line on the floor to mark the centerline of the gate. The chalked centerline should be at least 6" longer than the overall width of the gate.



**Figure 1** Hydraulic Closing Arm being placed into position.

## INSTALLATION INSTRUCTIONS (continued)



CAUTION

Care must be exercised when moving the gate. The gate weights approximately 300lbs for a 36" and 400lbs for a 48" Gate. Until the gate is securely fastened to the concrete foundation, secure the gate/frame assembly to prevent the unit from falling.

- Set the gate on the chalk line, facing in the correct direction of operation.



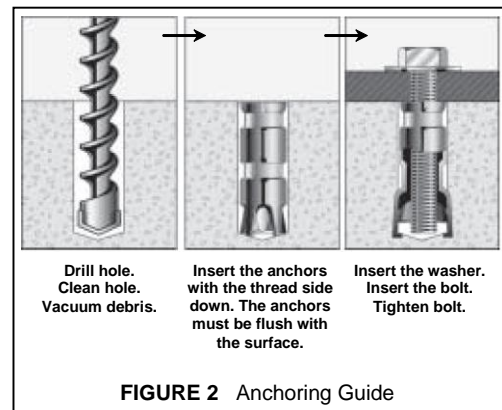
NOTE

The gate should swing in the exit direction. Refer to page 6 if there is uncertainty of orientation.

- Mark the center locations of the four anchor holes in each of the frame's base plates. Move the gate to the side and drill a 5/8" diameter hole at the center of each marked location. Drill each hole 3" deep. For terrazzo, ceramic tile, or brick veneer installations, add the thickness of the finished floor material to the anchor hole depth.

- Vacuum out the holes thoroughly. If the holes are not clean, the anchors will not tighten.

- Insert one anchor into each drilled hole. Ensure that the anchors are flush with the concrete floor or finished surface and the threads are down as shown in Figure 2.



- Place the gate back over the anchor holes. Anchor each side with four (4) each 3/8 - 16 x 2 1/2" HHCS bolts and flat washers. Make sure that the bolts are snug to keep gate secure.
- Verify that the gate is level in all directions. Adjust and shim as required.
- Tighten all of the anchoring bolts (8 total) to 25 ft-lbs. Verify that the gate is level.



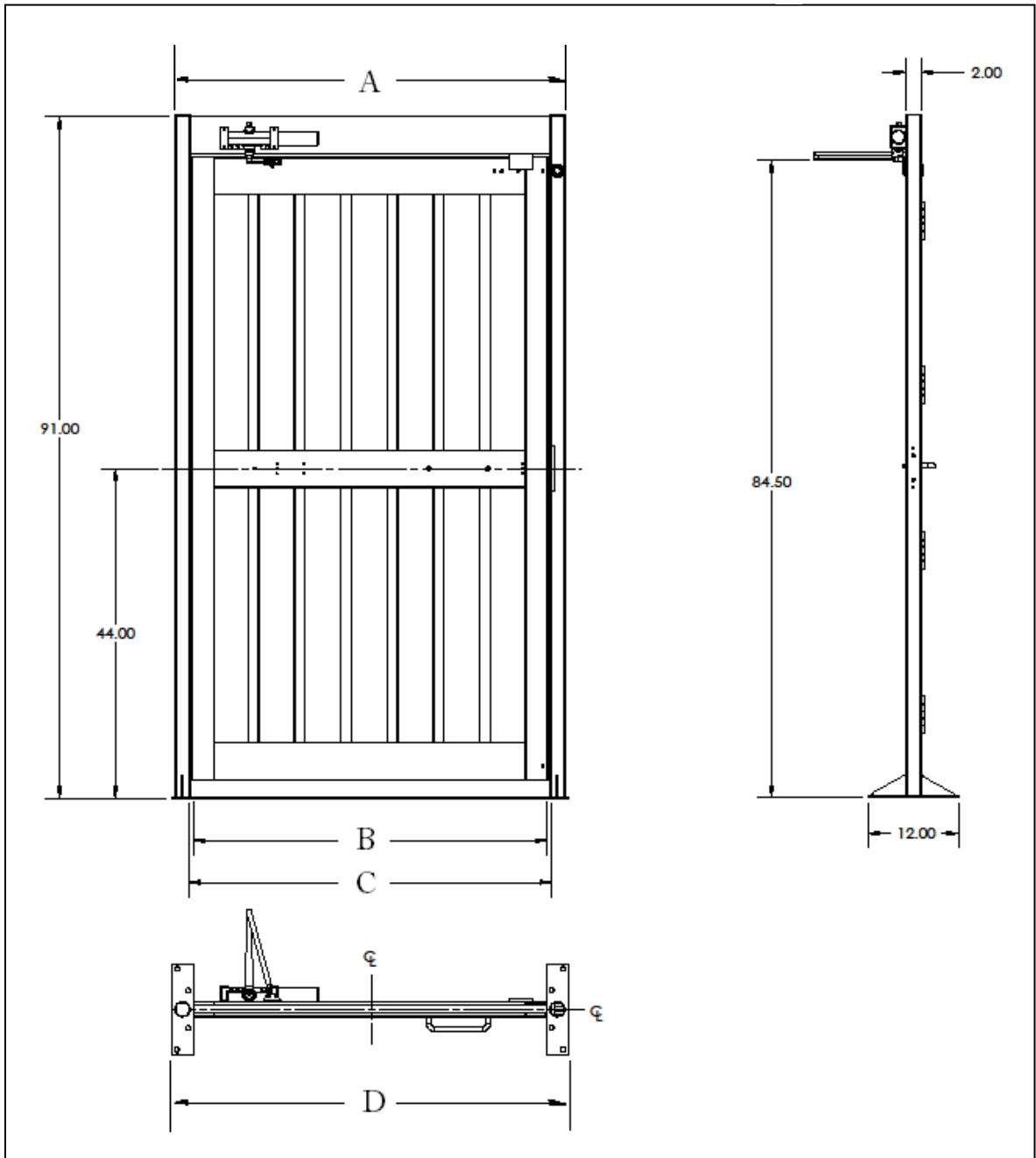
NOTE

It is recommended to brace top of the gate with supplemental products or with existing structure to offer extra rigidity and support.



### MSG DRAWINGS PLAN, ELEVATION, AND SIDE VIEW

Drawings below are of the MSG model and most parts or options are not shown in these diagrams because only the dimensions are relevant to all models.



	A	B	C	D
	Frame Width	Gate Width	Inside to Inside	Outside to Outside
<b>36" MSG</b>	41.25"	35.50"	36.25"	41.75"
<b>48" MSG</b>	53.25"	47.50"	48.25"	53.75"

\*All MSG models come in either 36" or 48", refer to table above for dimensions necessary for installation.

## MAGNETIC OR ELECTRIC STRIKE LOCK INSTALLATION INSTRUCTIONS (MSGX, MSGX-PX, MSGX-E, & MSGX-S models only)

**PARTS REQUIRED:**

- 18 AWG Cable
- Crimp Connectors
- Dry Contact Switch
- 1/2" NPT Threaded Conduit
- Power Supply (see page 11)

**TOOLS REQUIRED:**

Wire Crimper

**WARNING**

Only skilled electricians should connect power.

- If an electric strike lock is used, 2 white wires for the lock will be coming out of the wire access hole. Either side of the access hole can be plugged if necessary. A 1/2" pipe thread hole plug is supplied. Refer to Figure 3 for access hole location.



**Figure 3** The wire access hole as indicated by the arrow. Left hand orientation from push bar shown.

**NOTE**

Cable lengths should not exceed 50 feet.

- If a magnetic lock is used, the lock and wires are located on the Gate Frame towards the top of the Gate Door. Shown to the left in Figure 4.



**Figure 4** Magnetic Lock box shown from left hand orientation from push bar.



## MAGNETIC OR ELECTRIC STRIKE LOCK INSTALLATION INSTRUCTIONS (continued)



**Make sure that primary power to the unit is off before any wire connections are made.**

**WARNING**

1. Pull 18 gauge AWG cable through the conduit (if used) from the power supply and switch location to the wire access hole located at the top corner of the Gate door on the push side of the Gate Frame post. Refer to Figure 3.
2. Identify the wiring diagram appropriate for your locking device on pages 12 and 13.
3. At the gate, connect the POSITIVE (+) RED wire coming out of the lock device to the common terminal of the device providing the sustained activation signal (access switch, push button, etc.). Connect the NEGATIVE (-) BLACK wire coming out of the lock device to the NEGATIVE (-) BLACK power supply lead wire.
4. Connect the POSITIVE (+) BLACK/WHITE DASHED STRIPE wire coming out of the power supply to the appropriate terminal of the device providing the sustained activation signal (access switch, push button, etc.).
5. Plug the power supply into an appropriate power source. For both fail lock and fail safe units the gate should lock when power is applied. Press and hold the gate activation button. If the gate is functioning correctly, the lock will release and the gate will unlock.

### WIRING SPECIFICATIONS

#### **MAGNETIC LOCK (STANDARD)**

<b>Part #:</b>	10-3130	<b>WIRE LEAD</b>	<b>DESCRIPTION</b>
<b>Voltage:</b>	+12 VDC	RED	+12 VDC Input
<b>Current:</b>	0.25 A	BLACK	Ground
<b>Switch Contact:</b>	NORMALLY CLOSED		
<b>Holding force:</b>	1200 lbs		

#### **ELECTRIC STRIKE LOCK**

<b>Part #:</b>	10-3111	<b>WIRE LEAD</b>	<b>DESCRIPTION</b>
<b>Voltage:</b>	+12 VDC	RED	+12 VDC Input
<b>Current:</b>	0.25 A	BLACK	Ground
<b>Switch Contacts:</b>	NORMALLY OPEN/CLOSED*		

\*Normally opened refers to Fail Lock and normally closed refers to Fail Safe.

#### **Power Supply Specifications**

Part #10-3016

INPUT: 120VAC, 60 Hz, 17 W

OUTPUT: +12 VDC, 1.0A

Part #10-5077

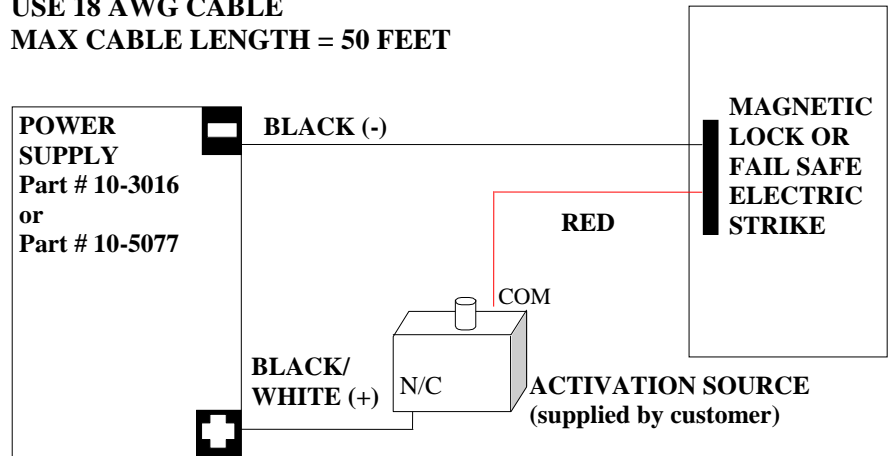
INPUT: 220VAC, 50Hz, 20 W

OUTPUT: +12VDC 1.25A

**WIRING INSTRUCTIONS**  
**MAGNETIC OR ELECTRIC STRIKE LOCK**  
 (MSGX/MSGX-PX/MSGX-E/MSGX-S Models Only)

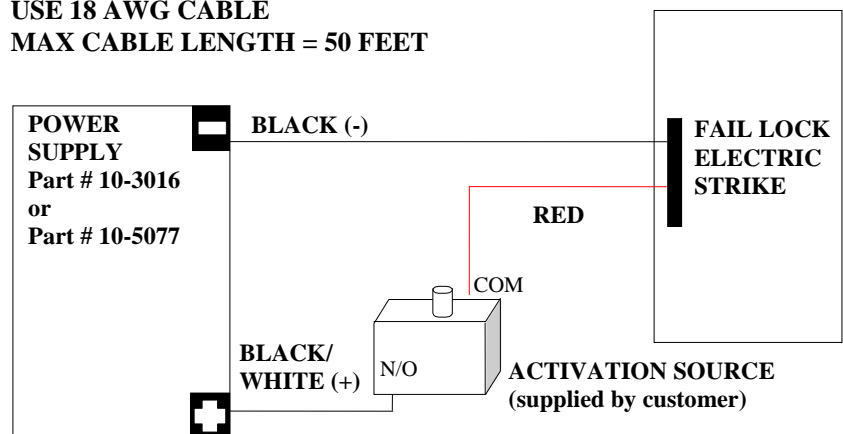
**MAGNETIC OR FAIL SAFE ELECTRIC STRIKE WIRING DIAGRAM**

USE 18 AWG CABLE  
 MAX CABLE LENGTH = 50 FEET



**FAIL LOCK ELECTRIC STRIKE WIRING DIAGRAM**

USE 18 AWG CABLE  
 MAX CABLE LENGTH = 50 FEET



## MIRCROSWITCH PUSH BAR WIRING INSTRUCTIONS (MSGX-PX/MSGX-E Models Only)

### INSTRUCTIONS



Make sure that primary power to the unit is off before any wire connections are made.

1. The push bar is connected in series with the gate activation switch. To enable this, connect the RED wire from the push bar to the POSITIVE (+) conduit lead wire on the power supply side of the conduit. Connect the WHITE wire from the push bar to the POSITIVE (+) RED lock wire. The RED and WHITE wires from the push bar as well as RED lock wire can be found coming out of the wire access hole located at the top of the gate frame.

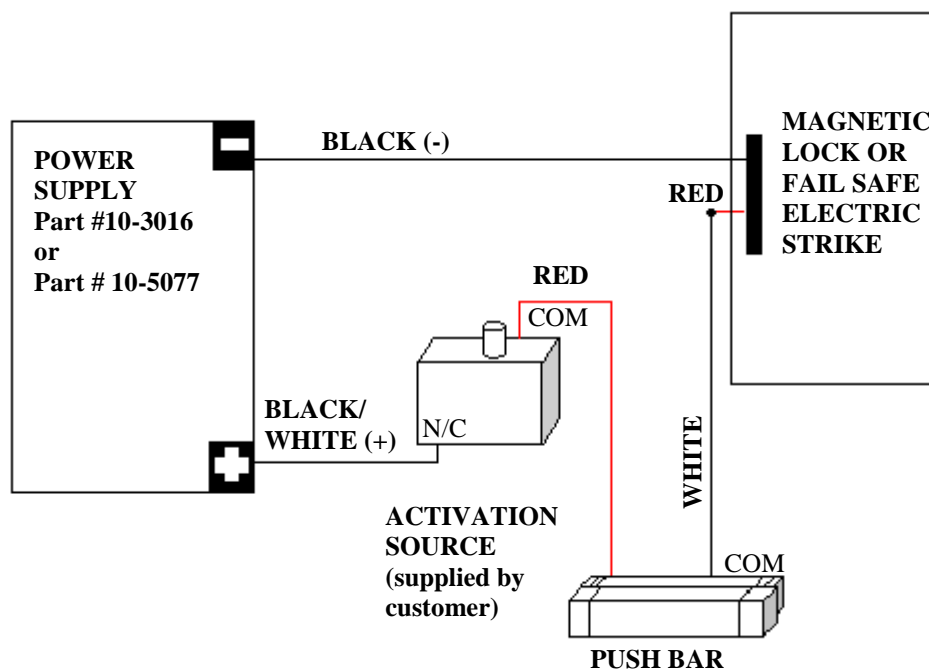


Refer to Figure 3 on page 10 for access hole location.

#### NOTE

2. Plug the power supply back into the appropriate VAC power source. If the push bar is functioning correctly the gate should open when the bar is pressed.

### MAGNETIC OR FAIL SAFE ELECTRIC STRIKE WIRING DIAGRAM WITH PUSH BAR



\*Microswitch Push bar can also be used for multiple applications, reference below to determine wire configuration.

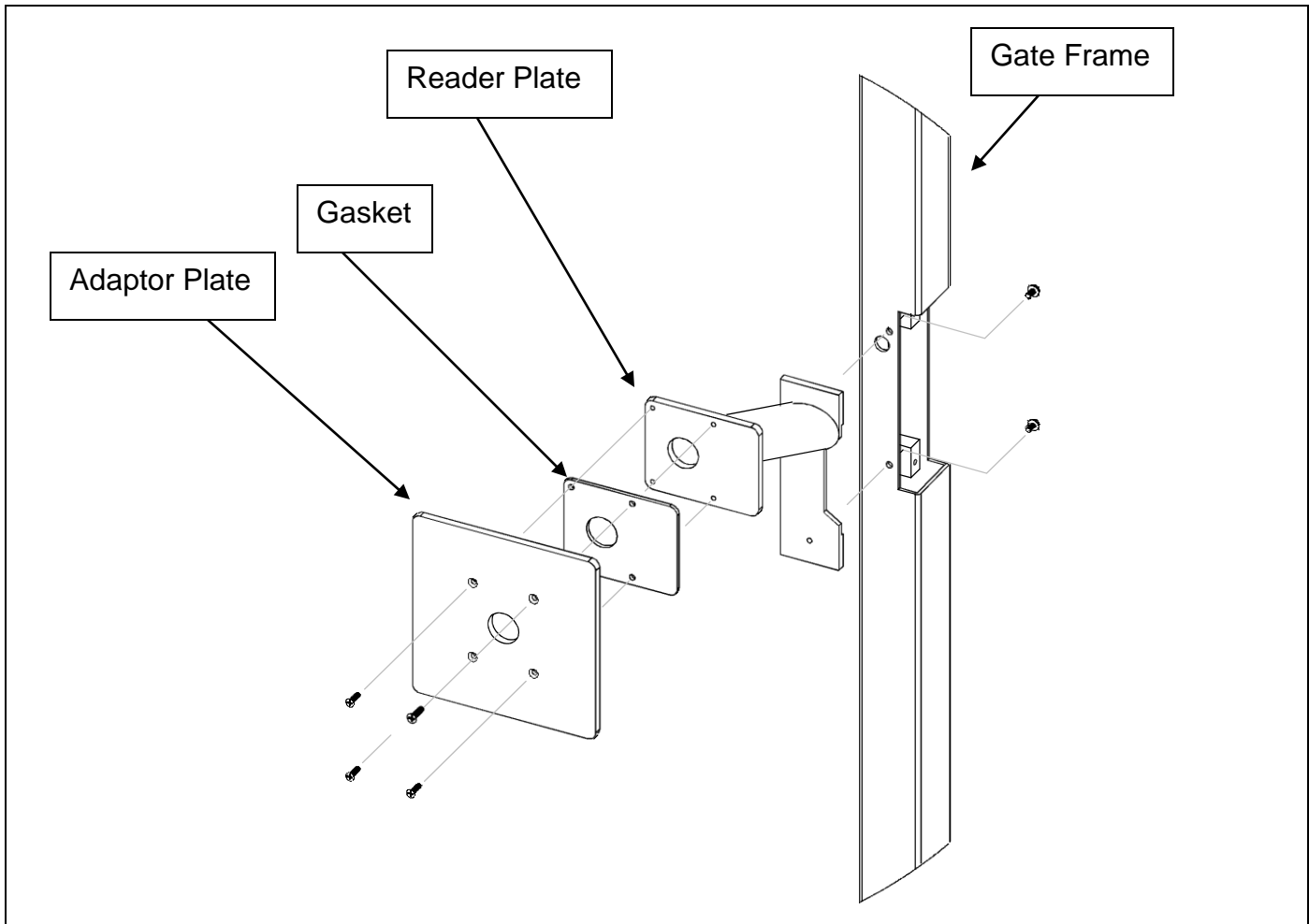
#### Switch 1

White – Common (COM.)  
Black – Normally Open (NO)  
Red – Normally Closed (NC)

#### Switch 2

Green – Common (COM.)  
Blue – Normally Open (NO)  
Yellow – Normally Closed (NC)

## CARD READER ADAPTER AND ASSEMBLY

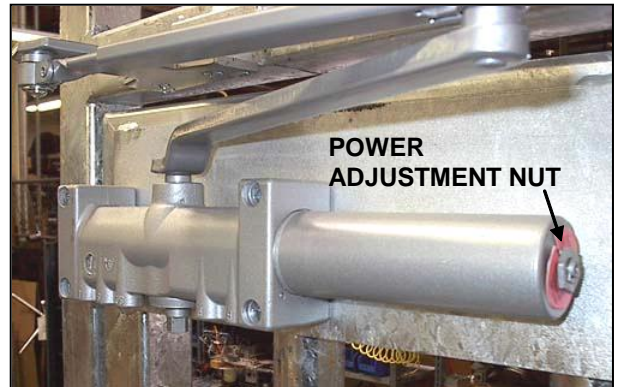


### Card Reader Attachment Overview

- The reader plate is already attached to the gate frame once the product arrives. The receiver portion of the assembly is attached to the Gate frame by (2) two screws from inside the Gate Frame. The other hardware attached to the Gate frame will be a lock mechanism. This mechanism will need to be removed to access the reader plate screws. The rest of the hardware, adaptor plate, gasket, and mounting screws (4), are supplied detached from the reader plate.
- To attach card reader, drill or drill tap holes on the adaptor plate. Feed wires through adapter plate, gasket and reader plate into the gate frame vertical tube. The adaptor plate and card reader are attached with (4) four screws through the gasket and then onto the reader plate.
- Connect the card reader and test for proper functionality as per manufacturers documentation.

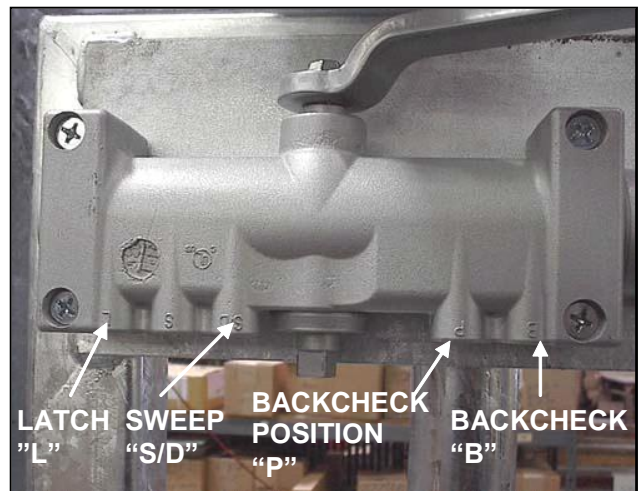
## HYDRAULIC CLOSING ARM ADJUSTMENT INSTRUCTIONS

1. Unscrew the two screws on the top of the plastic cover and remove the cover to gain access to the hydraulic closing arm.
2. The following adjustments can be made:
  - **Power Adjustment Nut** – Adjusts the closing power of the mechanism using an 11/16” wrench or socket. To increase power, turn the power adjustment nut clockwise for a maximum of 15 turns. To decrease power, turn counterclockwise. Closing arm is shipped with a setting at 7 turns as default. The adjustment nut is located at the end tip of the closing arm.



**Figure 5** The power adjustment nut is located on the end of the hydraulic closing arm.

- **Latch Adjustment Valve** – Adjusts the speed at which the door closes within the last 10 degrees of closing using a 1/8” hex key. Turn clockwise for slower speeds and counterclockwise for faster speeds. The valve is located on the side of the closing arm and is labeled with the letter “L”.
- **Sweep Adjustment Valve** – Adjusts the speed at which the door closes prior to the last 10 degrees of closing using a 1/8” hex key. Turn clockwise for slower speeds and counterclockwise for faster speeds. The valve is located on the side of the closing arm and is labeled with “S/D”.



**Figure 6** The adjustment valves are located on the side of the hydraulic closing arm.

- **Backcheck Position Adjustment Valve** – Adjusts the door angle where backcheck cushioning starts with a 1/8” hex key and is shipped with the valve normally closed. Turn counterclockwise to increase the angle. The valve is located on the side of the closing arm and is labeled with the letter “P”.
  - **Backcheck Adjustment Valve** – Adjusts the hydraulic resistance to door opening with a 1/8” hex key. Turn clockwise to increase the resistance and counterclockwise to decrease the resistance. **Never close the valve completely – it is not to provide a positive stop.** The valve is located on the side of the closing arm and is labeled with the letter “B”.
3. Replace and screw in the hydraulic closing arm cover. Test the gate door for the desired adjustments.



## MAINTENANCE

The frequency of interior maintenance will depend on how often the gate is used, the type of personnel using the gate and the environment. Installed gate should be inspected once during the first 30 days after installation. Thereafter, follow the maintenance instructions below. This schedule is based on what we would call a typical installation – which is a temperate climate where weekly use is up to 300 activations. If use exceeds this threshold, personnel are abusive to the gate or the gates are installed in harsh outdoor environments (such as coastal areas, chemical or refinery plants, very hot or cold locations, or extremely dusty environments), consider increasing the frequency of maintenance to a level suitable for your application.

### Operational Care:

**General** – Check gate levelness and the tension of the anchors. Tighten to approximately 25 ft-lbs. Clean away accumulated dust and dirt.

**Wiring** – Inspect all wires and contacts for any signs of wear, abrasions, or exposure to any metal parts that may lead to a short.

**Hinges** – Lubricate the door hinge points with 3-in-1 oil and verify that the gate door moves and self closes freely.

**Closure** – Lubricate the closure hinge points with 3-in-1 oil and verify that the gate door moves and self closes freely.

### A Few Words about Finishes:

The finish on your gate will look better if it is maintained. The frequency of maintenance depends on three factors: (1) the installation location; (2) environmental factors; and (3) the customer's interest in how the gate looks. We suggest cleaning the exterior of the gate every three months.

### Hot Dipped Galvanized Finishes

A hot dipped galvanized finish is an industrial coating designed to provide corrosion protection. Aesthetic considerations are secondary. Finish irregularities are a natural result of the hot dipped galvanizing process. The appearance of a hot dipped galvanized coating can vary depending on the size and shape of the coated object, as well as from piece to piece or section to section within the same piece. Various appearances for hot dipped galvanized steel (all acceptable under appropriate ASTM standards) include bright and shiny, spangled or mottled, matte gray, or a combination of various conditions. In most instances the appearance of hot dipped galvanized material has no effect on the primary purpose of the finish (corrosion protection) and over time and exposure to the environment, all galvanized finishes will take on a uniform matte gray appearance.

Periodic cleaning of galvanized finishes is recommended. To clean galvanized finishes use a neutral (non-alkaline) detergent, such as a car shampoo, clean warm water and soft brush. Abrasive cleaners, steel wool and chemical cleaning products should not be used. Rinse the surface after cleaning.

Damaged galvanized areas can be treated or touched up with zinc-rich paint. Use an organic cold galvanizing compound following the manufacturer's instructions. An explanatory document describing the ASTM recommended repair process is available from the American Galvanizer Association website.



### **Stainless Steel Finishes**

Stainless steel is a corrosion resistant chromium/nickel alloy steel that is strong and durable. However, it is not rustproof, particularly in harsh environments. In addition to actual damage, stainless steel can appear to rust when contaminated through contact with carbon steel. This contact can come from tools, adjacent mild steel, fasteners, particulate or through contact with hard water (which can leave spotting and staining on stainless steel). The most common method of contamination in windy, dusty and/or industrial environments is from steel and mineral particles that “land” on the stainless material. Mild steel naturally adheres to a stainless steel surface (due to iron-to-iron affinity). Grained material and weld areas are common areas where foreign particles are trapped. In all these cases, it is generally the steel residue, not the stainless material itself, which rusts initially. Left untreated, however, damage to the stainless surface itself can occur.

Regular cleaning is the best way to maintain any stainless steel finish. The goal of a cleaning program should be to clean the surface, keeping the stainless steel's protective chromium oxide layer intact. The frequency of cleaning will depend on the environment.

Regular cleaning can be accomplished by rinsing the stainless steel surface with fresh water to wash away accumulated chemicals, materials and particulates. Wipe dry with a clean cloth. Especially try to clean equipment immediately after contact with chlorides (chlorine powder, salt melt, seawater, etc.).

For embedded deposits a neutral detergent, such as a car shampoo, clean warm water and a soft brush can be used. Rinse the surface after cleaning. Never use steel wool. MAAS also makes an excellent stainless steel cleaner in a spray form, MAAS Stainless Steel & Chrome Cleaner, available from the MAAS website ([www.maasinc.com](http://www.maasinc.com)). All the products listed below can also be used for general cleaning.

For stubborn stains, heavy spotting and rust, our #1 recommendation is MAAS Metal Polish (in the liquid form). This is hands down the best product we have used. Follow the manufacturer's directions but in brief: (1) wipe down excess dirt from the turnstile; (2) apply polish to the metal; (3) polish in the direction of the grain with a super fine (0000) or fine (000) synthetic steel wool (depending on the level of tarnish); (4) wipe clean; (5) repeat steps 2 - 4 until clean. MAAS Metal Polish (liquid) is available from the MAAS website ([www.maasinc.com](http://www.maasinc.com)). Synthetic steel wool can generally be found at home improvement centers or online at Amazon.com. Again, never use steel wool.

Another product that is good is a product called Hope's Perfect Sink ([www.hopecompany.com](http://www.hopecompany.com)). The Perfect Sink product can be purchased at Lowe's, OSH and Amazon.com. Follow the directions on the bottle.

Rusted surfaces and even damaged pitted surfaces can generally be cleaned with the MAAS product but highly damaged areas may require chemical passivation. To chemically passivate stainless steel, Alvarado recommends the use of a citric acid product, CitriSurf2310, available from Stellar Solutions ([www.citrisurf.com](http://www.citrisurf.com)). This product is formulated to clean and passivate stainless steel and can be used in the field. Follow the manufacturer's directions.

Even with periodic cleaning, it is possible that periodic chemical passivation will be required to maintain stainless steel in especially difficult environments.

### **Powder Coat Over Galvanized Finishes**

To clean the powder coat finish, use a neutral detergent, such as a car shampoo, and rinse with clean water. In the event that the powder coat finish is chipped, and bare metal is showing, seal the area as soon as possible. If the area is not sealed, the underlying metal will rust, which could eat away the powder coat and cause flaking. Touch up paint is available from Alvarado.

## TROUBLESHOOTING

### Items to check first:

- Always check the gate for levelness and proper anchor tension.
- Always check the wiring of the gate for any loose or bad connections. Be sure to use the wiring diagram that corresponds to the gate model installed. (MSGX/MSGX-PX/MSGX-E/MSGX-S Models Only)

<b>Symptom</b>	<b>Possible Cause</b>	<b>Solution</b>
<b>Gate does not relock</b>	The gate is not powered ( <b>Fail safe</b> units only)	<ul style="list-style-type: none"> <li>▪ Confirm that the power supply is plugged into the appropriate VAC power source.</li> <li>▪ Confirm that the transformer output is 12 VDC.</li> </ul>
	The gate is still receiving an activation signal from the gate activation switch	<ul style="list-style-type: none"> <li>▪ Ensure that the gate activation switch is properly connected to the gate activation leads.</li> </ul>
	The lock mechanism is misaligned	<ul style="list-style-type: none"> <li>▪ Verify that the gate door and frame installations are level.</li> <li>▪ Adjust and realign the lock plate on the gate door.</li> </ul>
	The lock surfaces are obstructed or damaged	<ul style="list-style-type: none"> <li>▪ Verify that the lock surfaces on the gate door and the frame are free of debris.</li> <li>▪ If the lock surfaces have been damaged, replace the damaged components.</li> </ul>
	The lock mechanism is defective	<ul style="list-style-type: none"> <li>▪ Test and replace the lock mechanism as necessary.</li> </ul>
	The gate activation switch is defective	<ul style="list-style-type: none"> <li>▪ Test and replace the gate activation switch as necessary.</li> </ul>
<b>Gate does not unlock</b>	The gate is not powered ( <b>Fail lock</b> units only)	<ul style="list-style-type: none"> <li>▪ Confirm that the power supply is plugged into the appropriate VAC power source.</li> <li>▪ Confirm that the transformer output is 12 VDC.</li> </ul>
	The gate is not receiving an activation signal from the gate activation switch	<ul style="list-style-type: none"> <li>▪ Ensure that the gate activation switch is properly connected to the gate activation leads.</li> </ul>
	The strike lock is sticking or binding in the locked position (Electric Strike models only)	<ul style="list-style-type: none"> <li>▪ Verify that the gate door and frame installations are level.</li> </ul>
	The lock surfaces are obstructed or damaged	<ul style="list-style-type: none"> <li>▪ Verify that the lock surfaces on the gate door and the frame are free of debris.</li> <li>▪ If the lock surfaces have been damaged, replace the damaged components.</li> </ul>
	The lock mechanism is defective	<ul style="list-style-type: none"> <li>▪ Test and replace the lock mechanism as necessary.</li> </ul>
	The gate activation switch is defective	<ul style="list-style-type: none"> <li>▪ Test and replace the gate activation switch as necessary.</li> </ul>

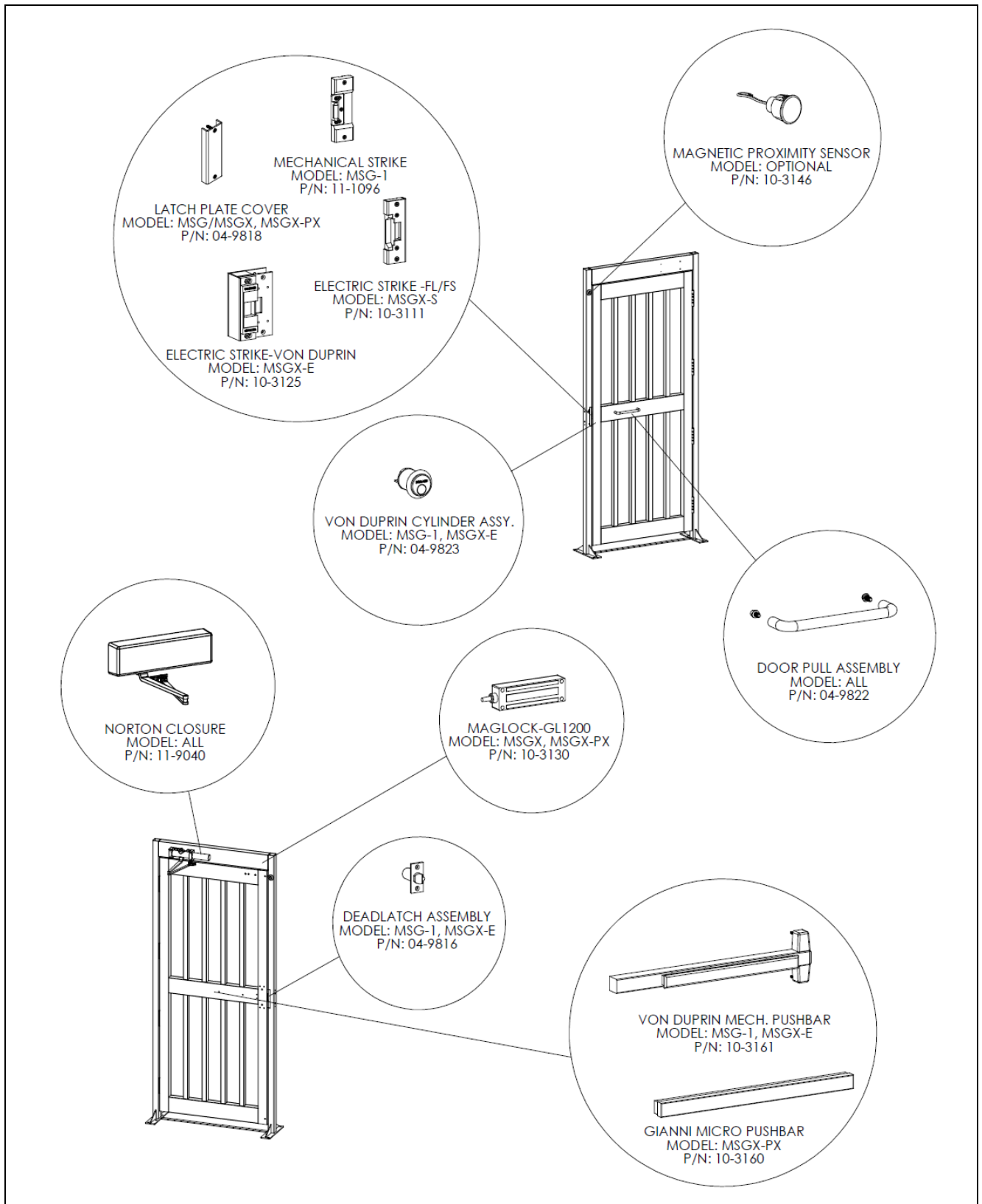
**TROUBLESHOOTING** (continued)

<b>Symptom</b>	<b>Possible Cause</b>	<b>Solution</b>
<b>The holding force of the lock mechanism is reduced (Magnetic lock models only)</b>	The gate is not powered	<ul style="list-style-type: none"> <li>▪ <i>Confirm that the power supply is plugged into the appropriate VAC power source.</i></li> <li>▪ <i>Confirm that the transformer output is 12 VDC.</i></li> </ul>
	The lock mechanism is misaligned	<ul style="list-style-type: none"> <li>▪ <i>Verify that the gate door and frame are level.</i></li> <li>▪ <i>Adjust and realign the lock plate on the end of the gate door.</i></li> </ul>
	The lock surfaces are obstructed or damaged	<ul style="list-style-type: none"> <li>▪ <i>Verify that the lock surfaces on the gate door and the frame are free of debris.</i></li> <li>▪ <i>If the lock surfaces have been damaged, replace the damaged components.</i></li> </ul>
	The lock mechanism is defective	<ul style="list-style-type: none"> <li>▪ <i>Test and replace the lock mechanism as necessary.</i></li> </ul>
<b>The Gate door does not self close and return to its center position</b>	The gate is not properly lubricated	<ul style="list-style-type: none"> <li>▪ <i>Clean and lubricate the hinge points as described in the Maintenance section of this document.</i></li> </ul>
	The hydraulic closing arm settings are set incorrectly	<ul style="list-style-type: none"> <li>▪ <i>Adjust the arm settings as described on Page 15 of this document.</i></li> </ul>
<b>The Gate door slams/closes too quickly</b>	The hydraulic closing arm settings are at a fast setting	<ul style="list-style-type: none"> <li>▪ <i>Adjust the arm settings as described on Page 15 of this document.</i></li> </ul>

## REPLACEMENT PARTS/SPARE PARTS KITS

### GATE ASSEMBLY / EXPLODED PARTS VIEW

\*Refer to diagram below to determine necessary replacement parts and part numbers (P/N)



PUD1201R3-2



MAXIMUM SECURITY GATES INSTALL MANUAL