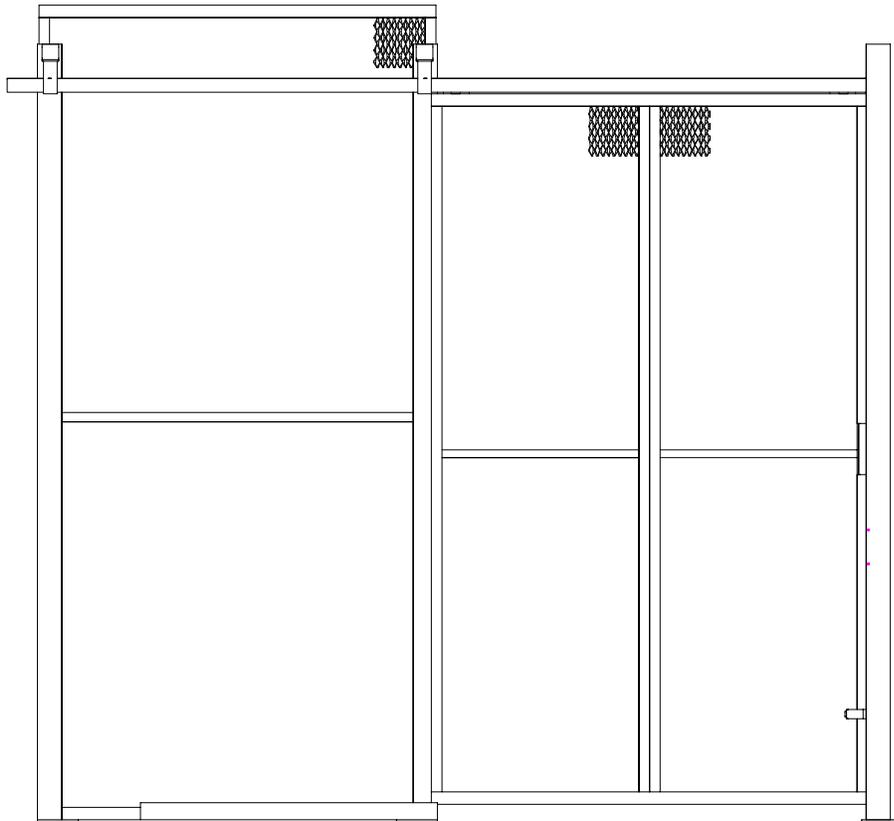


# SLIDING GATE INSTALLATION INSTRUCTIONS

January, 1998



**Autoquip** CORPORATION

THE HYDRAULIC LIFT PEOPLE

The gates you are about to install are made of durable, high quality expanded metal. They are fabricated from 13 gauge expanded metal and will provide sturdy and secure protection for the equipment. These gates and enclosures also conform to ANSI Standard B20.1b

**NOTE:**

Gates are identified as either lock left or lock right. That is, as you are standing outside the enclosure facing gate, a lock left gate will have the handle on the left, gate slides from the right to left to close. Lock right , as you are standing outside the enclosure facing gate, a lock right gate will have the handle on the right , gate slides from the left to right to close.

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## **ITEMS TO BE SUPPLIED BY INSTALLER:**

- (12 per gate) 3/8" x 3 1/2" (min.) ANCHOR BOLTS**
- (20 per level ) 3/8" x 3 1/2" (min.) ANCHOR BOLTS, AMOUNT WILL DEPEND ON ARRANGEMENT.**
- MISCELLANEOUS SUPPORT BRACING (ANGLE OR CHANNEL) AS REQUIRED.**

## TOOL REQUIREMENTS

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Safety Glasses	Hard Hat (if job requires)
5/16" Hex head driver bit for TEK screws	
Allen wrenches to 3/8"	Hammer
"C" Clamps	Hammer Drill & Bits
Carpenter Square	4' Level
Chalk line	25' Tape Measure
4" Angle grinder	Slip joint pliers
Drift punches	Open End wrench set to 3/4"
Drill Bits to 3/8"	Screw Driver set (flat and phillips)
Electric drill	Socket set, 1/4" & 3/8" drives
Hack Saw (or Port a Band)	Taps & tap wrench to 3/8"
Extension cords	Welding Equipment

There are some other items you might want to consider that will help you with the installation. These are:

Cables/Chain with 1000 Lb lifting capacity

Chain fall or Come-a-long

Fork Lift

Sledge Hammer

Before you begin the installation look at the skid that the gates and enclosures arrived on. Check for any damage. When you check for damage compare the parts to the General Arrangement drawing to make sure that everything is there that you need. If something is missing please contact Freightlift America!

Installation of a Horizontal gate is made easier by first assembling the gate on the floor and then raising the assembly into position. When there is not enough room you will have to use the following instructions as a guide to assemble in the upright position.

## SINGLE PANEL INSTALLATION

1. The first thing to do is locate the gate posts. Position these on the floor in front of the lift. Make sure that the post are in the correct position. The post with the Interlock mounting block bracket is the end that the gate locks on. The opposite end post and the middle post are orientated as show below. ( Figure 1 )

**Note:** The lock side has an Interlock mounting block bracket for the interlock.

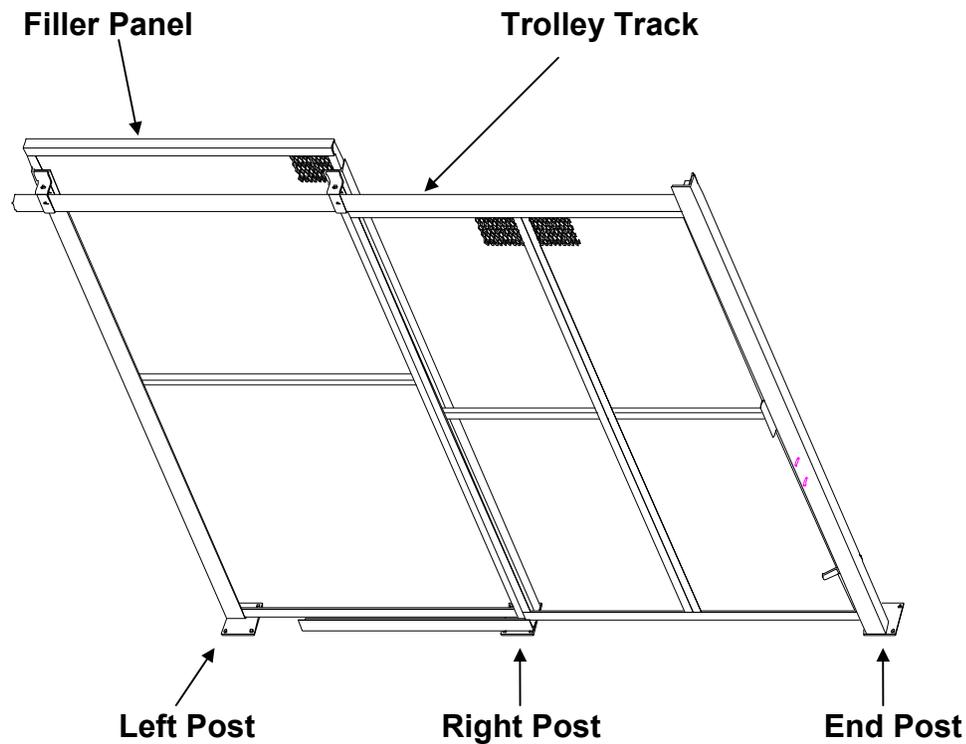
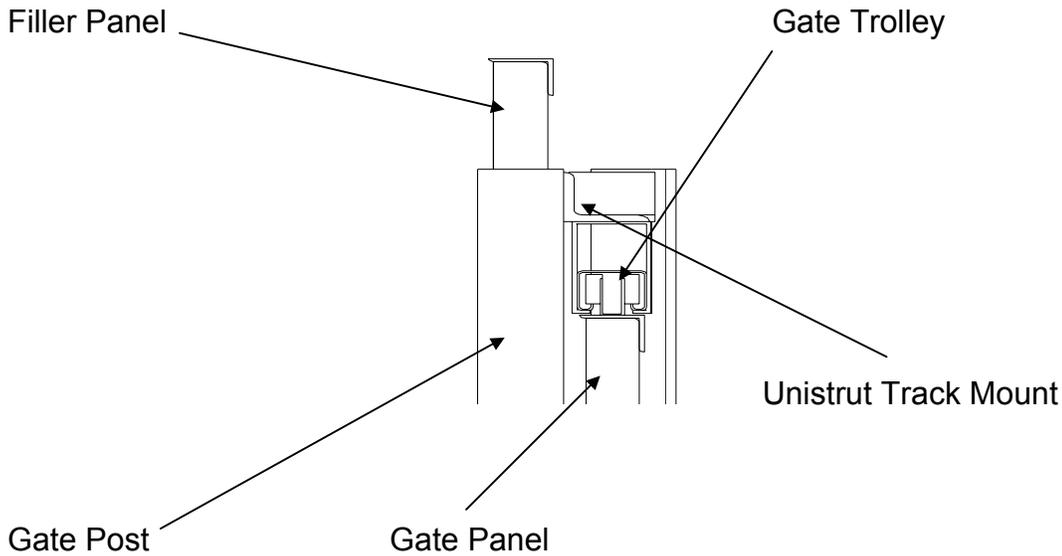


Figure 1

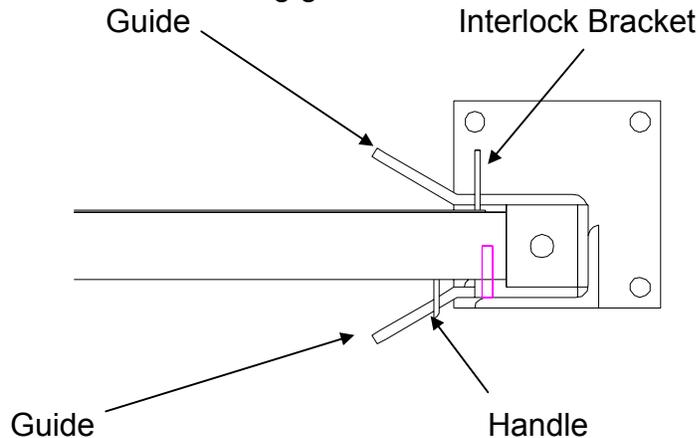
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2. Bolt the trolley channel header to the (3) gate posts with the hardware provided.



3. If not already attached, bolt the (2) trolleys to the top of the panel using the 1/4" eye bolt and hex nuts supplied. You will use three hex nuts on the eye bolt. One is installed on the eye bolt first, then the eye bolt is installed through the trolley and panel. Then two nuts will be installed on the eye bolt, this will allow you to adjust the gate panel up and down to level the gate panel.

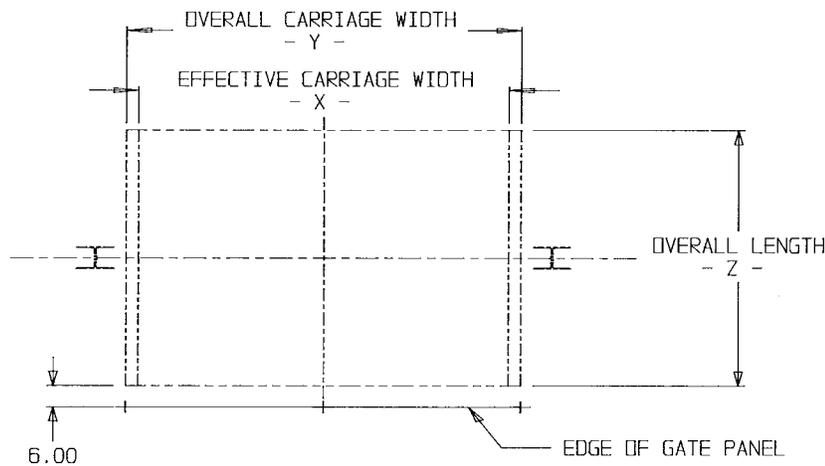
4. Slide the gate panel into the trolley channel, and slide the panel to the closed position. With the gate panel in the closed position, you will need to install a TEK screw at the end of the unistrut to prevent the panel from sliding out of the track. The Interlock Bracket on the gate panel will serve as the gate stop when finished installing gate.



5. Locate and mark the center of the Gate panel. ( Note: The center of the gate is offset from the carriage 3" to 5" for the guides, offset at the end post side.)

6. Locate and mark the center of the lift platform, and using a carpenters square mark a chalk line on the floor to be used to center the gate with the lift. (See figure 2)

## Slide Gate Installation (Cont.)



**Figure 2**

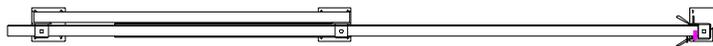
7. The preferred location of the gate is (6) inches maximum from the face of the carriage. This distance may vary from 4 to 6 inches.

8. When the gate position is determined, snap a chalk line parallel with the front edge of the platform at the required distance.

**NOTE: Floor openings and enclosure layouts may effect actual gate location. Refer to the general arrangement drawing and double check actual site conditions.**

9. Carefully raise the gate assembly. The trolley channel and gate panel are to be on the outside (away from lift). Align the center of the Sliding gate panel with the carriage centerline, and parallel with the carriage.

### PLATFORM SIDE



10. With 3/8" anchor bolts at least 3" long, anchor each post.

**Hint: Make sure that the hole depth is at least equal to the length of the anchor. You may also want to use only two anchors per post until the remainder of the installation is complete.**

11. Using a plumb line or 4' level plumb and plumb each post.

### Slide Gate Installation (Cont.)

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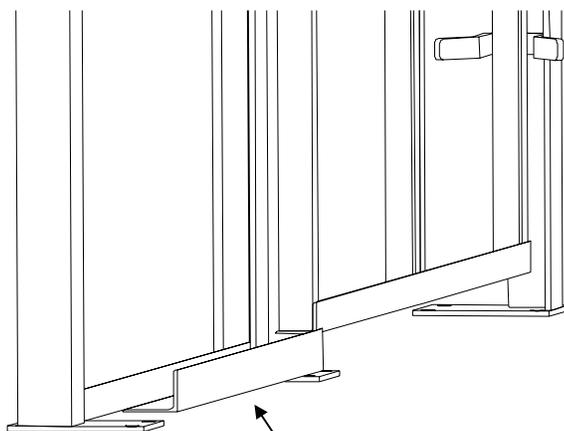
**12.** When each post is plumb, determine the distance between the gate and the “I” beams of the lift. Cut (2) support braces and weld in place. (1-1/2 x 1-1/2 x 1/8 angle or equivalent material.)



**CAUTION!!!**

**MAKE SURE THAT FINAL BRACING DOES NOT INTERFERE WITH THE LIFT PLATFORM OR ANY OF IT'S MOVABLE COMPONENTS.**

**13.** Check for the proper gate operation by opening and closing the gate. When it operates smoothly tighten all the bolts. You will also need to weld the bottom gate track angle to the middle post.



Bottom Track Angle Welded to Middle Post

**14.** Install the required interlock according to the instructions.

**15.** Install the Warning Decals on the gate panel and post. (See PAGE 7 for location.)

This decal should be installed on the Gate Post, Same side as the Push- Button Station

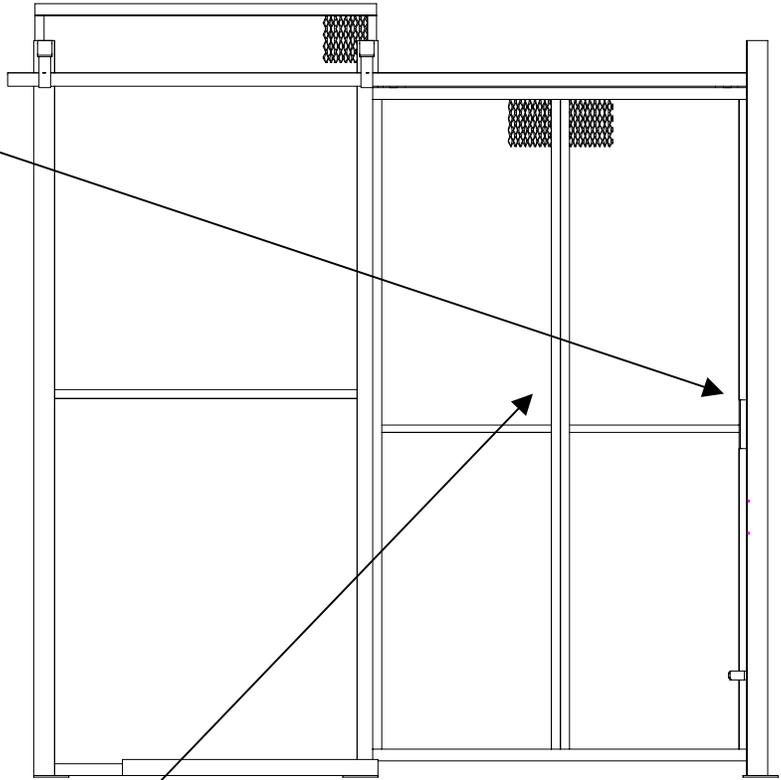
**⚠ DANGER**

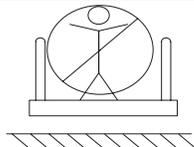
This door must be closed and locked unless carrier is present.

Door interlock must be operational. It prevents door from being opened when carrier is not present.

Door restricts personnel from falling into opening or being struck by moving parts resulting in serious injury or death.

364-0568-0



<p><b>⚠ DANGER</b></p> <p>This door must be closed and locked unless carrier is present.</p> <p>Door interlock must be operational. It prevents door from being opened when carrier is not present.</p> <p>Door restricts personnel from falling into opening or being struck by moving parts resulting in serious injury or death.</p> <p>364-0568-0</p>	<p><b>⚠ WARNING</b></p> <p>Only trained persons shall be permitted to operate or maintain this equipment.</p> <p>Improper operation or maintenance may cause serious injury or death. Review operations manual before use.</p> <p>364-0567-0</p>	<p><b>⚠ WARNING</b></p> <p></p> <p>Do not ride on this equipment. Personnel safeguards are not provided and serious injury or death could result.</p> <p>364-0569-0</p>
<p><b>NO RIDERS</b></p> <p>364-2010-0</p>		

# ENCLOSURE INSTALLATION

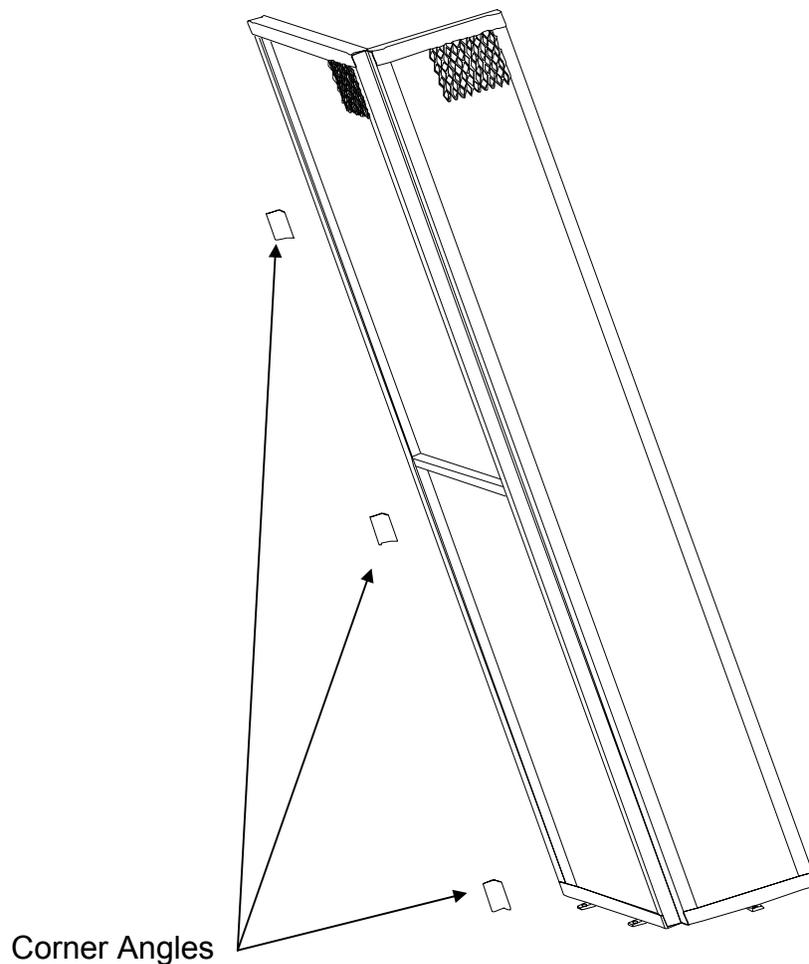
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To install enclosure panels you must look at the plan views on the Lift approval drawing to see the basic layout of the panels. Compare the enclosure panel length measurement to the drawing. If the Lift approval drawing calls for full height enclosures they will be labeled for each level. You can follow these drawings for assembly of the full height enclosures.

The easiest way to assemble the enclosure panels is to start at one side of the gate and work your way around the lift. **NOTE:** If space allows, you can assemble each side, then stand the completed side up.

**NOTE:** The enclosure panels that attach to the floor will have “feet” for lagging them to the floor. For ease of installation do not lag the enclosures until you have assembled all of the enclosures.

1. Find the first panel that goes on the right side of the gate. This will most likely be a filler panel. Use TEK screws to attach panel to the gate post angle clips.
2. The next panel will connect to the first panel. In most cases, this will be a corner. Use (3) 3” long corner angles and TEK screws, to attach panels at corner. (See figure 7)

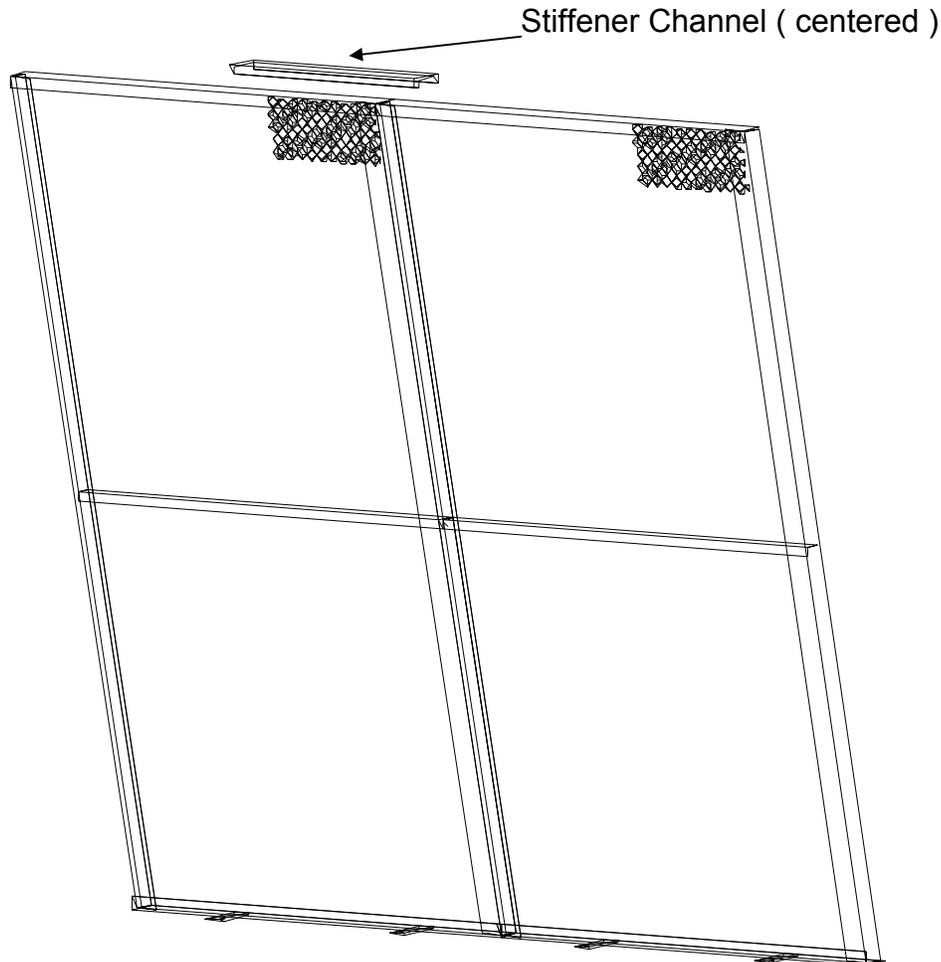


**FIGURE 7**

## ENCLOSURE INSTALLATION (Cont.)

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3. On the sides, the panels will butt together and attach through the enclosure angles, using TEK screws.
4. Continue around lift until you have completed the enclosures. NOTE: If space allows, you can assemble each side, then stand the completed side up.
5. Across the top of the enclosure panel, mount the 12" long stiffener channel supplied, and attach using TEK screws. (See figure 8)



**FIGURE 8**

6. The next step is to brace the enclosure back to the lift. **THIS BRACING IS SUPPLIED BY THE INSTALLER.** When installing bracing, make sure that it does not interfere with any moving components of the Lift or gates.
7. Lag all the mounting feet, on the enclosures, to the floor.
8. You can now mount the interlocks according to the instructions.

There are two kinds of interlocks that can be used on sliding gates depending on application and/or local codes. Determine which style you have before proceeding.

## SOLENOID INTERLOCK



**WARNING!!!**

**GATES MUST NOT OPEN WHEN THE LIFT IS IN OPERATION OR WHEN THE PLATFORM IS NOT PRESENT.**

**SHOULD THIS CONDITION EXIST, THE INTERLOCK IS NOT FUNCTIONING PROPERLY DUE TO INCORRECT INSTALLATION OR DAMAGE. THIS CONDITION MUST BE CORRECTED IMMEDIATELY. FAILURE TO CORRECT THIS CONDITION MAY RESULT IN SERIOUS INJURY OR DEATH.**



**CAUTION!!!**

**ALL CONNECTIONS MUST BE MADE BY A QUALIFIED ELECTRICIAN, AND OPERATION MUST BE VERIFIED.**

The solenoid interlock can be used on single panel slide gates. Installation of the interlock and the gate status switch are to be accomplished after the gate has been erected and secured in position. The following instructions are for both left and right hand lock single panel gates.

**All solenoid interlocks must be fail secure, that is, in the event of a power failure, the gate must remain locked until power is restored and the lift platform is at the same level as the gate.**

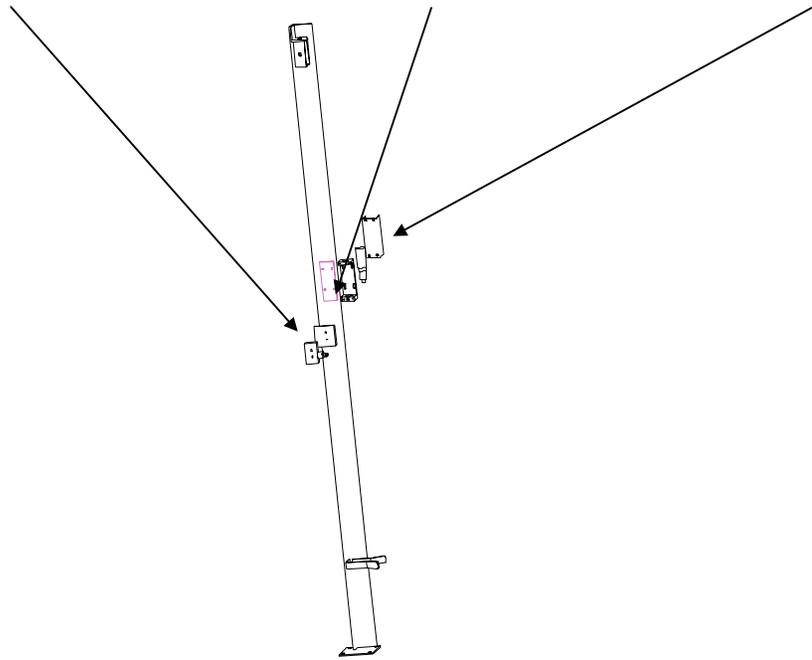
1. After checking the gate for proper operation, install the interlock with it's mounting bracket to the mounting plate, Located on the right or left gate post depending on the lock side.( See layout drawings next page.)

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Status Switch

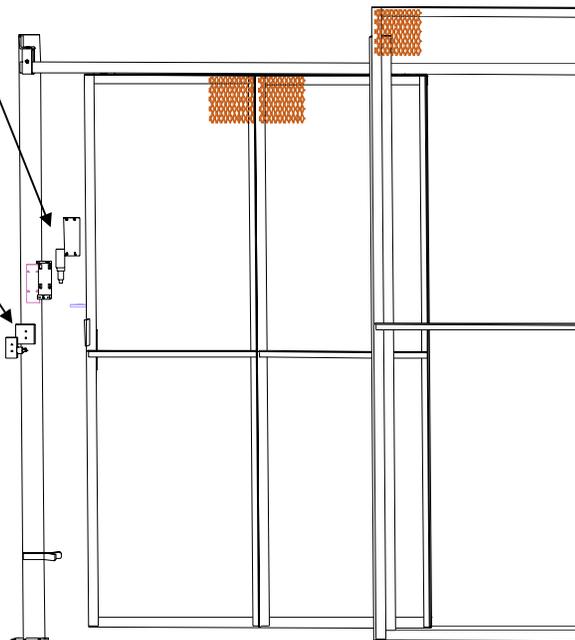
Mounting Bracket & Solenoid

Solenoid Cover



Status Switch

Interlock Mounting Bracket, Solenoid and Cover



## INTERLOCK INSTALLATION ( CONT. )

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2. Make sure that the solenoid is secure in the set collar, being seated fully against the shoulder of the bracket.

**DO NOT OVERTIGHTEN  
(OVERTIGHTENING SET SCREW WILL INHIBIT BOLT OPERATION)**

3. All gates will require the installation of a gate status switch. The purpose of this switch is to “prove” that the gate is closed and in a position to accept the interlock bolt in the striker.
4. Single panel gates require a single switch located on the gate post.
5. Adjust the interlock and the strike so that the interlock bolt is fully seated in the strike

**NOTE: The locking bolt has a throw of 1/2”. Make sure that it is fully engaged after adjustment.**

6. Install the cover plate to the mounting plate with 10-32 x 1/4 THS which are supplied.
7. Adjust the gate status limit switch(s) so that the lift will not operate if the gate is opened more than 1”.

**INTERLOCK INSTALLATION (Cont.)**

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## Wiring Information for Solenoid



### **WARNING!!!**

**GATES MUST NOT OPEN WHEN THE LIFT IS IN OPERATION OR WHEN THE PLATFORM IS NOT PRESENT.**

**SHOULD THIS CONDITION EXIST, THE INTERLOCK IS NOT FUNCTIONING PROPERLY DUE TO INCORRECT INSTALLATION OR DAMAGE. THIS CONDITION MUST BE CORRECTED IMMEDIATELY. FAILURE TO CORRECT THIS CONDITION MAY RESULT IN SERIOUS INJURY OR DEATH.**

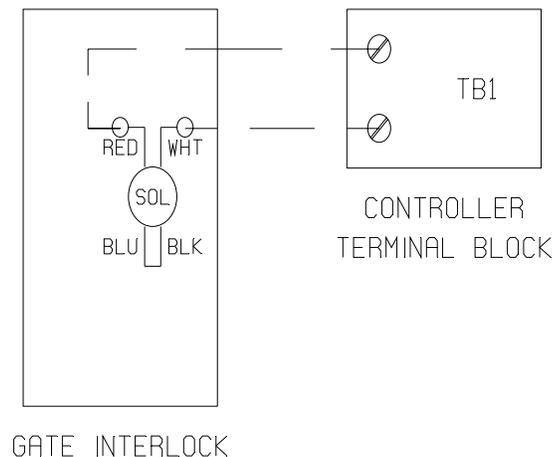


### **CAUTION!!!**

**ALL CONNECTIONS MUST BE MADE BY A QUALIFIED ELECTRICIAN, AND OPERATION MUST BE VERIFIED.**

- 8.** The solenoid requires **24 VOLT DC** power. Application of other power sources **WILL RESULT IN SEVERE DAMAGE TO THE INTERLOCK**.
- 9.** The DC power is obtained through the use of a Rectifier which is supplied in the electrical control enclosure.
- 10.** The proper solenoid connections for 24 volt DC operation are to connect the **RED** and **WHITE** leads from the solenoid to the correct terminals in the electrical control enclosure.
- 11.** The **Black** and **Blue** leads of the solenoid **MUST** be wired together.

### **Wiring Diagram**



## G.A.L. INTERLOCK

The G.A.L. Type SM interlock is used on the Horizontal gate. Installation of the interlock is done after the gate has been erected and secured in position. The following instructions will apply to either left or right hand slide gates, and to either the lower or upper levels.

The G.A.L. interlock is a “self-contained” device with the gate status switch located within the interlock body. In operation, the striker which is mounted to the gate panel, is used to complete the electrical circuit when the gate is closed. The completion of this circuit allows the lift motor to run, and move the carriage away. When the platform has moved away, the actuating arm returns to it’s normal position and captures the strike to prevent the gate from being opened.



**WARNING!!!**

**GATES MUST NOT OPEN WHEN THE LIFT IS IN OPERATION OR WHEN THE PLATFORM IS NOT PRESENT.**

**SHOULD THIS CONDITION EXIST, THE INTERLOCK IS NOT FUNCTIONING PROPERLY DUE TO INCORRECT INSTALLATION OR DAMAGE. THIS CONDITION MUST BE CORRECTED IMMEDIATELY. FAILURE TO CORRECT THIS CONDITION MAY RESULT IN SERIOUS INJURY OR DEATH.**



**CAUTION!!!**

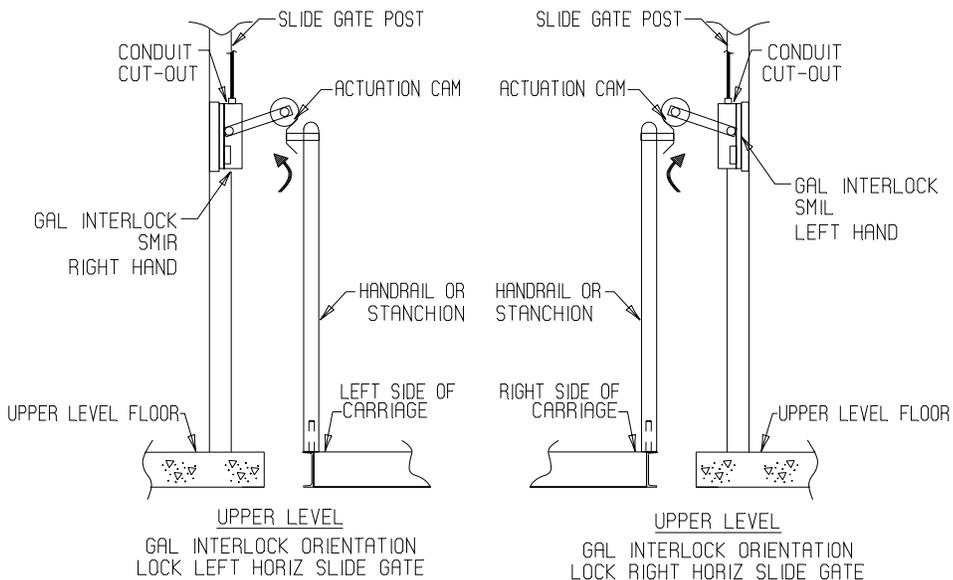
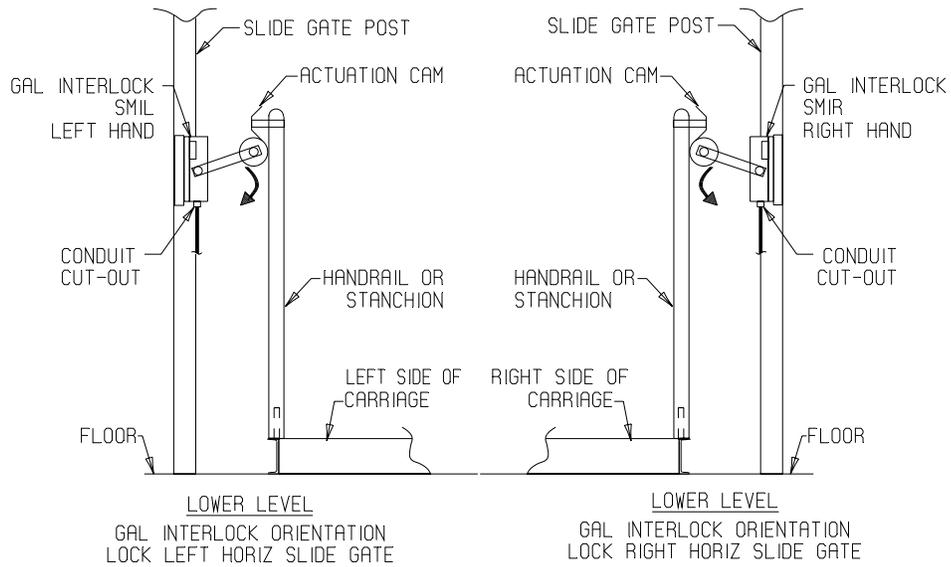
**ALL CONNECTIONS MUST BE MADE BY A QUALIFIED ELECTRICIAN, AND OPERATION MUST BE VERIFIED FOR PROPER OPERATION.**

1. Determine the correct interlock to be used on each gate. Gates are identified as either lock left or lock right. That is, as you are standing outside the enclosure facing gate, a lock left gate will have the handle on the left, gate slides from the right to left to close. Lock right, as you are standing outside the enclosure facing gate, a lock right gate will have the handle on the right, gate slides from the left to right to close.

**NOTE: The right and left hand designations are for the lower level only. On the upper level gates, the interlock is mounted upside down and used on the opposite side from their designations. ( See Orientation next page.)**

# INTERLOCK INSTALLATION (Cont.)

**NOTE:** The cam must rotate the actuator arm in the upward direction at the upper level, and rotate down on the lower level.



# INTERLOCK INSTALLATION (Cont.)

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2. With the hardware provided (packaged in the interlock housing), mount the interlock to the mounting pad welded to the gate post.
  3. Using the ¼"-20 unc hardware supplied, bolt the strike to the mounting pad on the gate panel.
  4. Adjust the actuator arm with the roller parallel to the floor and tighten the set screw and bolt.
  5. Latch the gate by rotating the actuator arm, closing the gate and releasing the actuator. The gate must now be locked.
  6. Clamp the actuating cam to the platform railing or other suitable member so that the actuator arm is rotated down when the platform is at the lower level.

**Verify operation to assure locking when the platform is moved away from this level, and that the lock releases when the platform is returned.**

7. Verify operation of the upper level gate.

**NOTE: The cam must rotate the actuator arm in the upward direction at the upper level, and rotate down on the lower level.**

8. When the cam location has been verified, weld it to the lift platform.

**NOTE: With the G.A.L. interlock you may need to extend the roller arm out to the strike. You may not be able to extend the strike out because of floor clearance. The only option is to extend the roller mount out to meet the strike. This can be done with a piece of ½" x 1" bar cut and drilled for the length needed.**

#### **G.A.L. Wiring information**

1. The contact block is wired in series between the terminals specified on the electrical schematic.



**CAUTION!!!**

**ALL CONNECTIONS MUST BE MADE BY A QUALIFIED ELECTRICIAN, AND OPERATION MUST BE VERIFIED FOR PROPER OPERATION.**

**OPTIONS**

## **Ramp Option**

1. When a ramp is used, the gate post will be longer to accept the ramp. This additional space is needed to clear the ramp.