

# In-Line Mount and Cross-Cut Mount Flush Style Intermediate Discharge Gates

Installation Manual

PNEG-1732

Date: **12-21-20**

GSI GROUP



PNEG-1732



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## Contents

<b>Chapter 1 Safety</b> .....	<b>4</b>
Safety Guidelines .....	4
Safety Instructions .....	5
<b>Chapter 2 Decals</b> .....	<b>7</b>
<b>Chapter 3 Installation</b> .....	<b>8</b>
Overall Flush Gate Dimensions .....	8
Cut Trough Bottom for Gate Placement .....	9
Manual Gate Installation .....	10
Motor Driven Gate Installation .....	11
Cross-Cut Discharge Gate Limit Switch Installation .....	12
In-Line Discharge Gate Limit Switch Installation .....	14
Install Gate to Trough Bottom .....	16
Flipping the Shaft to Change Gate Drive Side .....	17
<b>Chapter 4 Wiring Diagram</b> .....	<b>18</b>
Typical Wiring Diagram .....	18
<b>Chapter 5 Warranty</b> .....	<b>19</b>

### Safety Guidelines

This manual contains information that is important for you, the owner/operator, to know and understand. This information relates to protecting **personal safety** and **preventing equipment problems**. It is the responsibility of the owner/operator to inform anyone operating or working in the area of this equipment of these safety guidelines. To help you recognize this information, we use the symbols that are defined below. Please read the manual and pay attention to these sections. Failure to read this manual and its safety instructions is a misuse of the equipment and may lead to serious injury or death.



**This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.**



**DANGER** indicates a hazardous situation which, if not avoided, will result in death or serious injury.



**WARNING** indicates a hazardous situation which, if not avoided, could result in death or serious injury.



**CAUTION**, used with the safety alert symbol, indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.



**NOTICE** is used to address practices not related to personal injury.

## Safety Instructions

Our foremost concern is your safety and the safety of others associated with this equipment. We want to keep you as a customer. This manual is to help you understand safe operating procedures and some problems which may be encountered by the operator and other personnel.

As owner and/or operator, it is your responsibility to know what requirements, hazards and precautions exist, and to inform all personnel associated with the equipment or in the area. Safety precautions may be required from the personnel. Avoid any alterations to the equipment. Such alterations may produce a very dangerous situation where **SERIOUS INJURY** or **DEATH** may occur.

This equipment shall be installed in accordance with the current installation codes and applicable regulations which should be carefully followed in all cases. Authorities having jurisdiction should be consulted before installations are made.

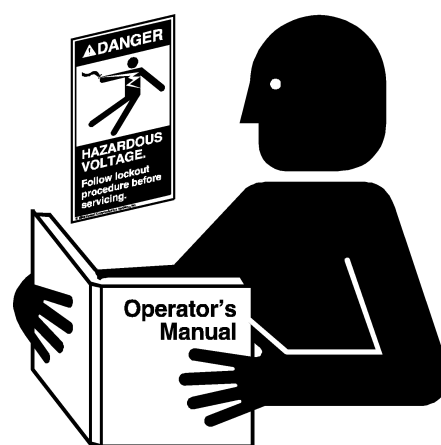
### Follow Safety Instructions

Carefully read all safety messages in this manual and safety signs on your machine. Keep signs in good condition. Replace missing or damaged safety signs. Be sure new equipment components and repair parts include the current safety signs. Replacement safety signs are available from the manufacturer.

Learn how to operate the machine and how to use controls properly. Do not let anyone operate without instruction.

Keep your machinery in proper working condition. Unauthorized modifications to the machine may impair the function and/or safety and affect machine life.

If you do not understand any part of this manual or need assistance, contact your dealer.



**Read and Understand Manual**

## 1. Safety

### Operate Motor Properly

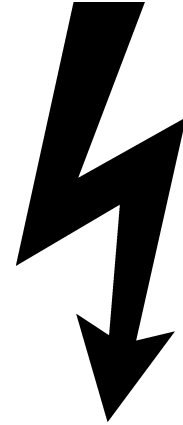
To avoid serious injury or death, stay away from unit and make sure everyone is clear of the equipment before starting or operating the unit.

All electrical connections should be made in accordance with the National Electric Code. Be sure equipment and bins are properly grounded.

Do not operate electric motor equipped units until motors are properly grounded.

Disconnect power on electrical driven units before resetting motor overloads.

Do not repetitively stop and start the drive in order to free a plugged condition. Jogging the drive in this manner can damage the equipment and/or drive components.

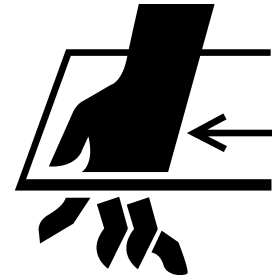


**Electric Shock Hazard**

### Stay Clear of Moving Parts

Keep arms and hands away from slide gate opening. Slide gate can crush and dismember. Motor may start at any time.

Always stop and lock out power source before making adjustments, cleaning, or maintaining equipment.

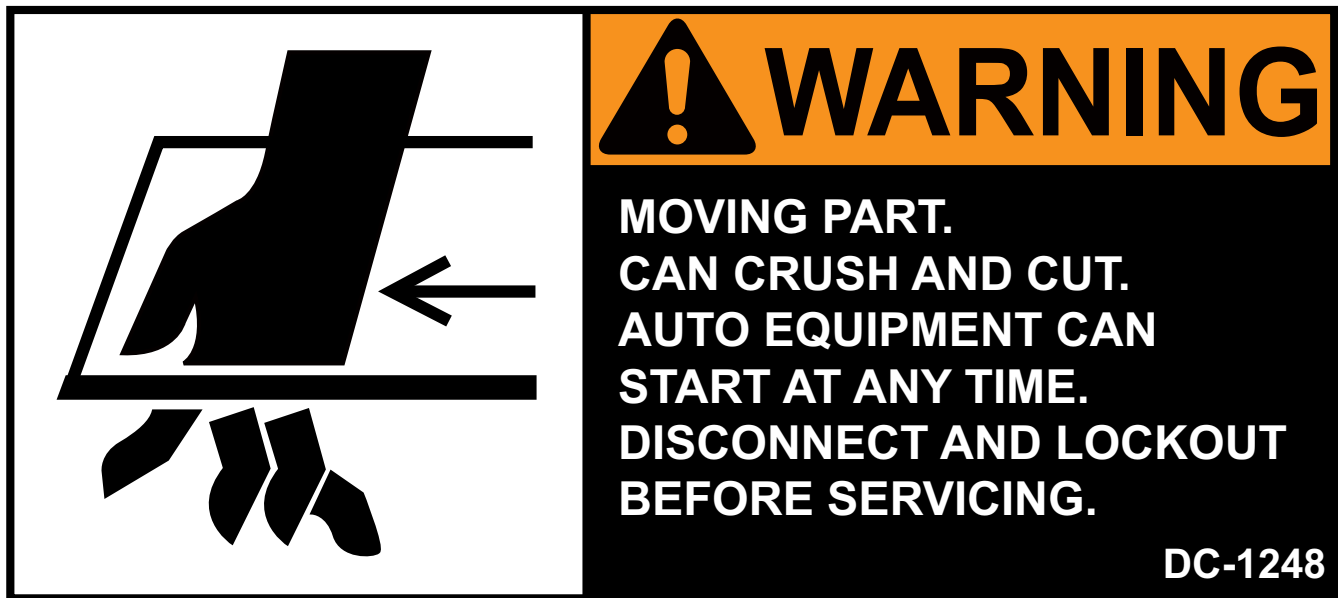


**Slide Hazard**

Please remember, safety decals provide important safety information for people working near equipment that is in operation. If a safety sign cannot be easily read for any reason or has been painted over, replace it immediately. Additional safety signs may be obtained from your dealer, distributor or ordered from the factory free of charge.

**Contact:**

The GSI Group  
1004 E. Illinois St.  
Assumption, IL. 62510  
Phone: 1-217-226-4421



**DC-1248**  
(Not to scale.)

### 3. Installation

## Overall Flush Gate Dimensions

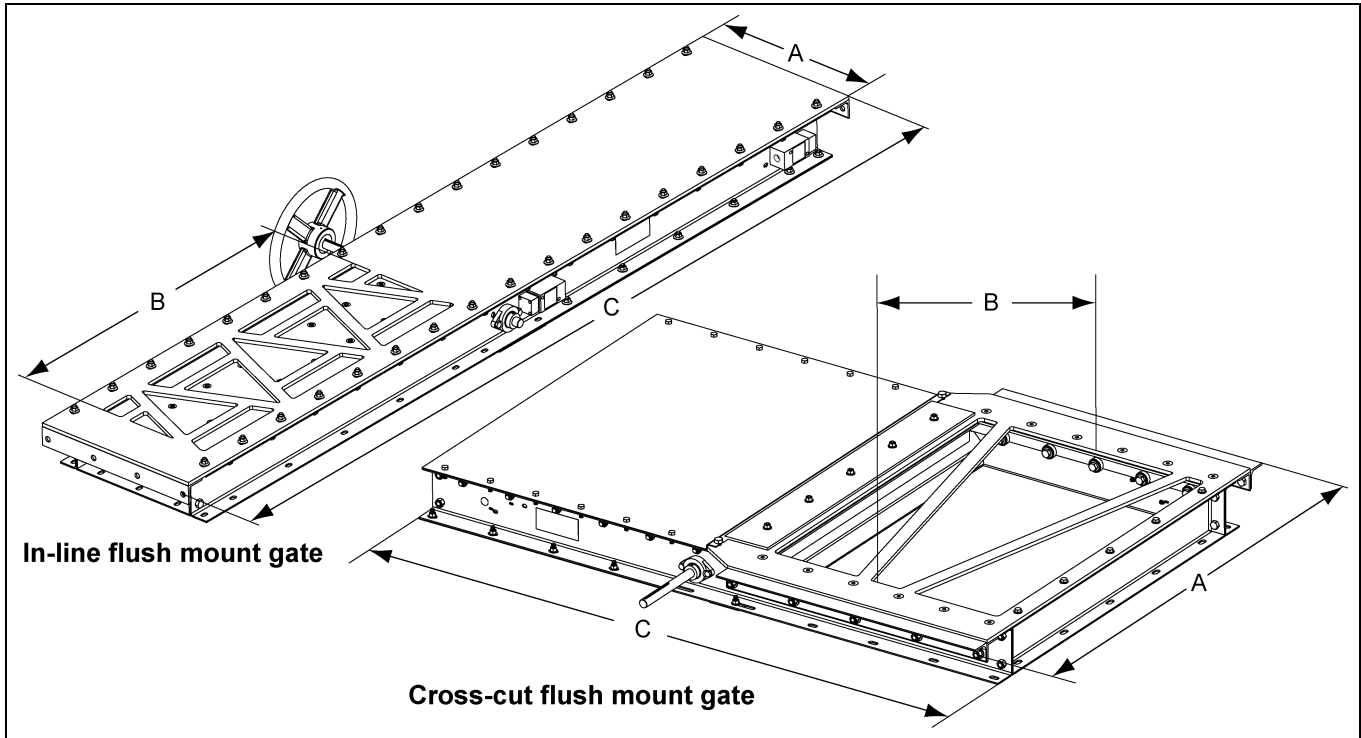


Figure 3A Overall Flush Gate Dimensions

Overall Flush Gate Dimensions

Gate Size (Conveyor Width)		A	B	C
09	In-Line	15"	36"	95"
	Cross-Cut	45.813"	35-3/4"	40-1/4"
12	In-Line	16"	36"	95"
	Cross-Cut	45.813"	35-3/4"	44-1/4"
14	In-Line	18"	36"	95"
	Cross-Cut	45.813"	35-3/4"	48-1/4"
16	In-Line	20"	36"	95"
	Cross-Cut	45.813"	35-3/4"	52-1/4"
20	In-Line	24"	36"	95"
	Cross-Cut	45.813"	35-3/4"	60-1/4"
21	In-Line	25"	36"	95"
	Cross-Cut	45.813"	35-3/4"	62-1/4"
26	In-Line	30"	36"	95"
	Cross-Cut	45.813"	35-3/4"	72-1/4"
32	In-Line	36"	36"	95"
	Cross-Cut	45.813"	35-3/4"	84-1/4"



## Cut Trough Bottom for Gate Placement

1. Start by locating the center of the proposed discharge location. Dimension "A" shown *in Figure 3B*.
2. If holes cannot be aligned, new holes must be drilled in the trough side bottom flanges.
3. Dimension "B" would be 95" for in-line gates or 45.813" for cross-cut gates.
4. Center this dimension "B" around the point found with the "A" dimension and cut the bottom as straight as possible on either side of the center.
5. Weld the extra angle iron flanges provided with the gate to each trough bottom cut, as shown in *Figure 3B*, so that the gate can be bolted to each side. Stitch weld edges 2" long with 1-1/2" spacing.
6. Remove burrs on the inside edge of the trough bottom.
7. Apply paint to welds on outside of trough.

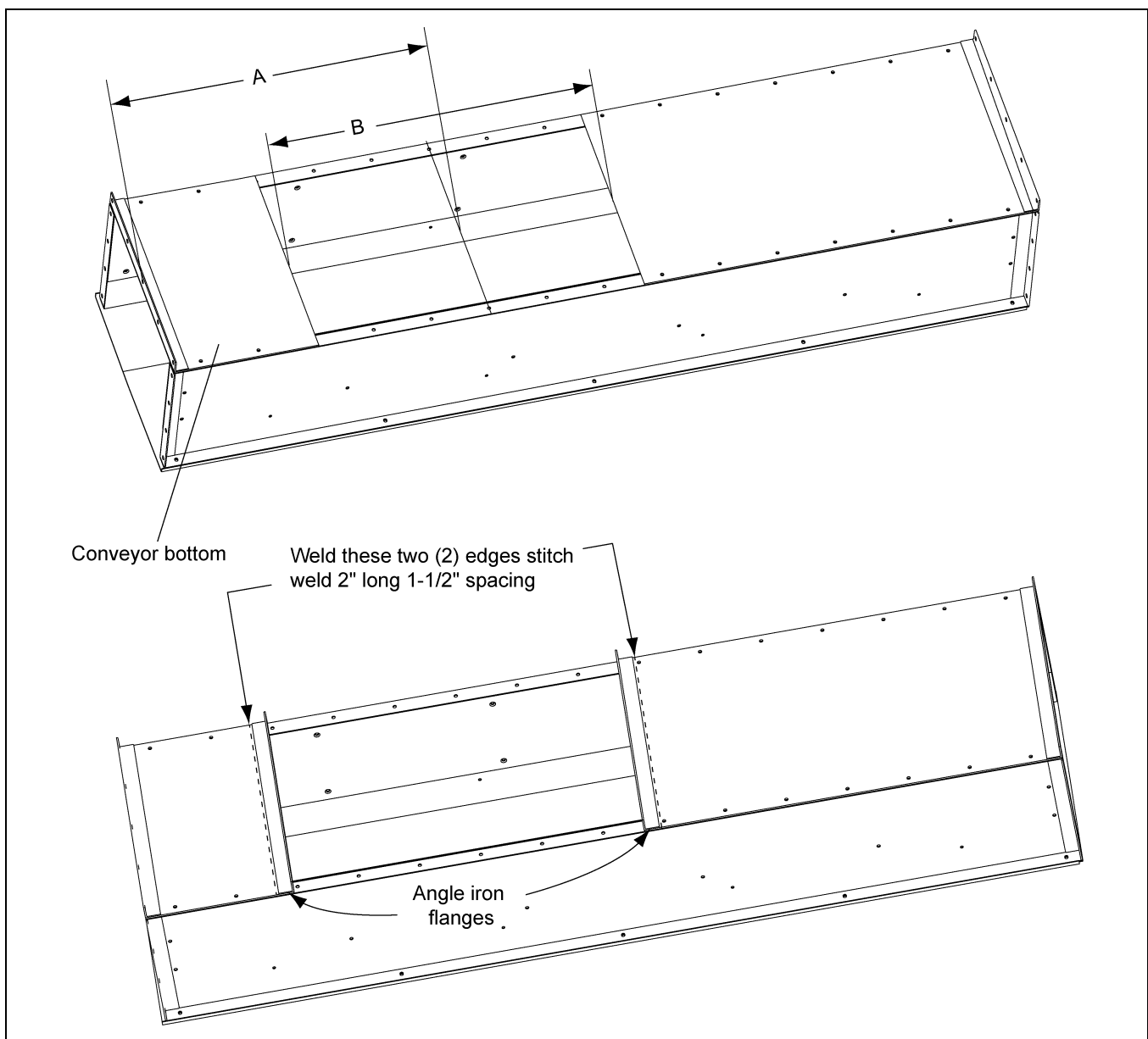


Figure 3B

### 3. Installation

## Manual Gate Installation

### Manually Operated Gate

1. Install the specified wheel to the shaft by aligning the key and key way, then tighten the set screw. This gate can be operated by a chain, cable or hand wheel. (See [Figure 3C.](#))
2. All flush mount style gates have a double gear rack for slide actuation.
3. The slide plate rides on 1-3/8" double shielded radial bearings, as well as being guided and sealed by UHMW strips for smooth operation.

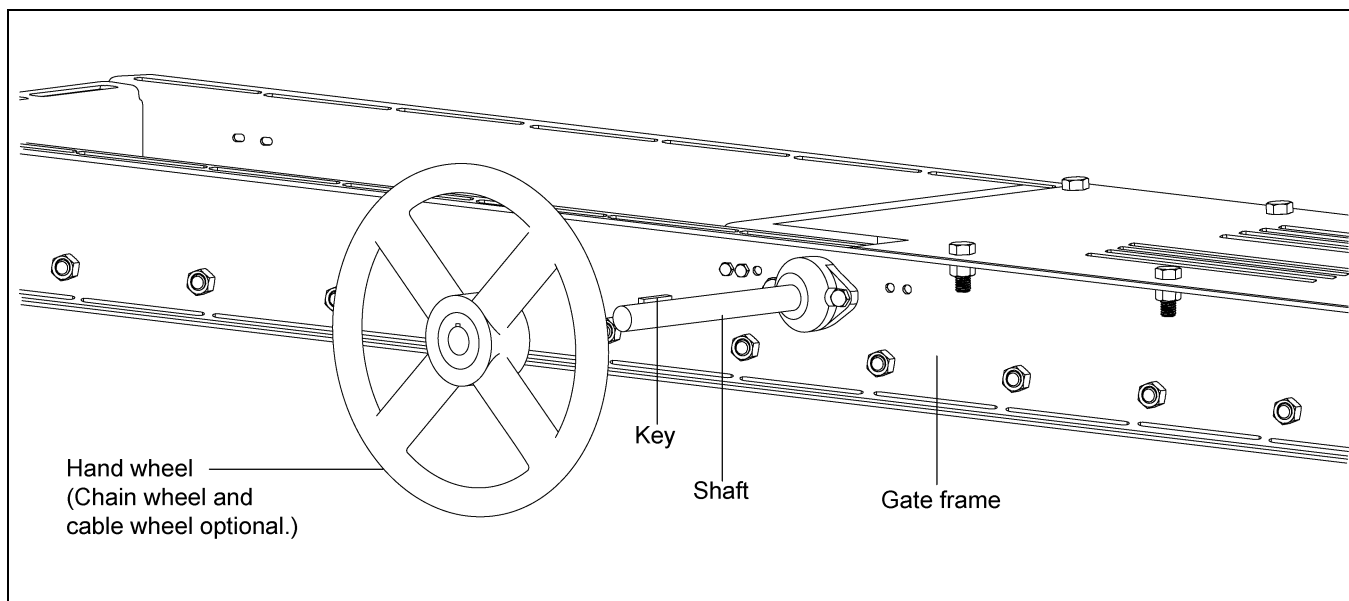


Figure 3C

## Motor Driven Gate Installation

### Install Motor Bracket

1. Install the motor bracket to the gate. Then attach the motor to the bracket as shown *in Figure 3D*, using the provided hardware.

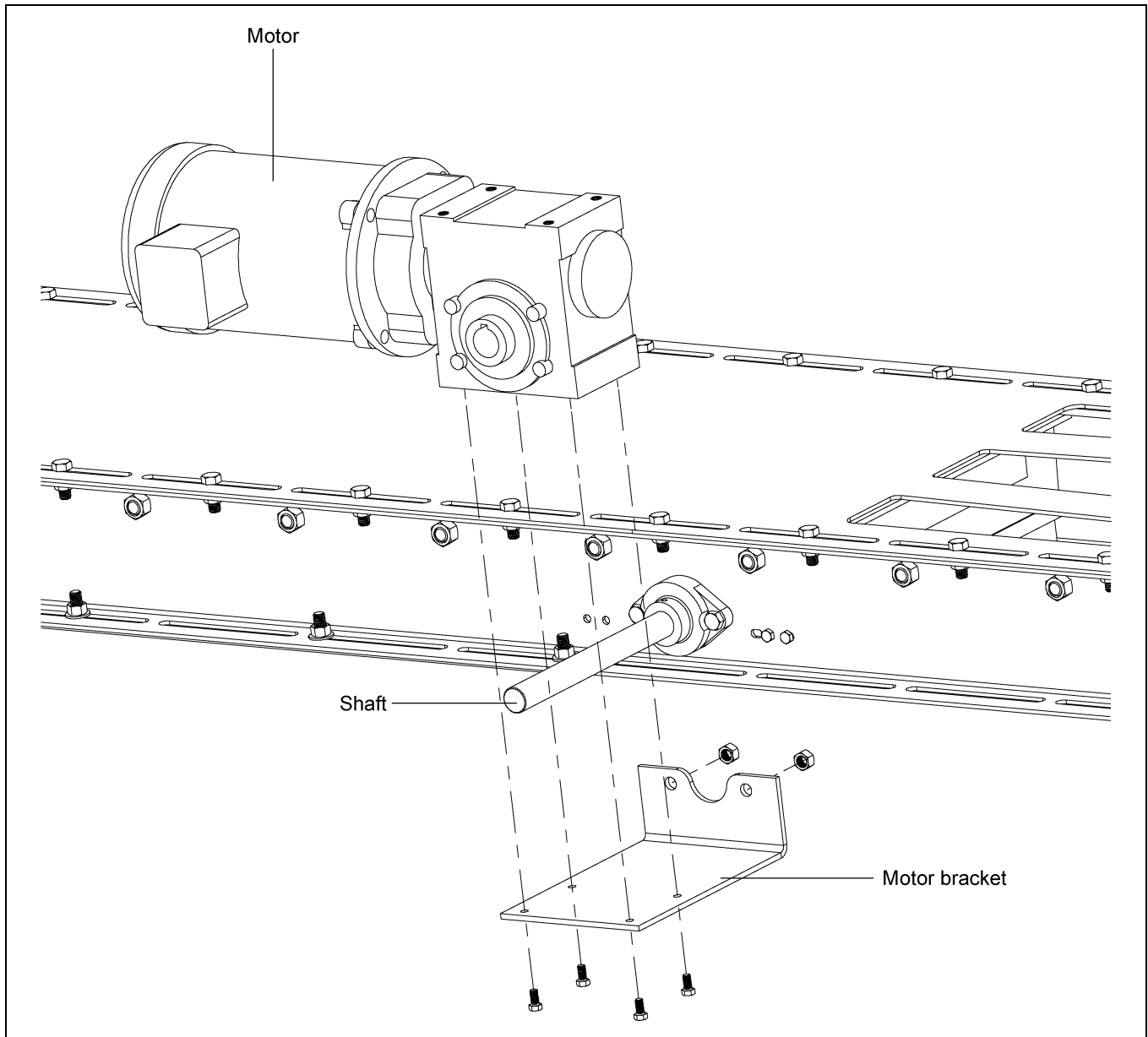


Figure 3D

### 3. Installation

## Cross-Cut Discharge Gate Limit Switch Installation

1. Cross-cut switches are installed on opposite corners outside of gate frame. (See Figure 3E.)

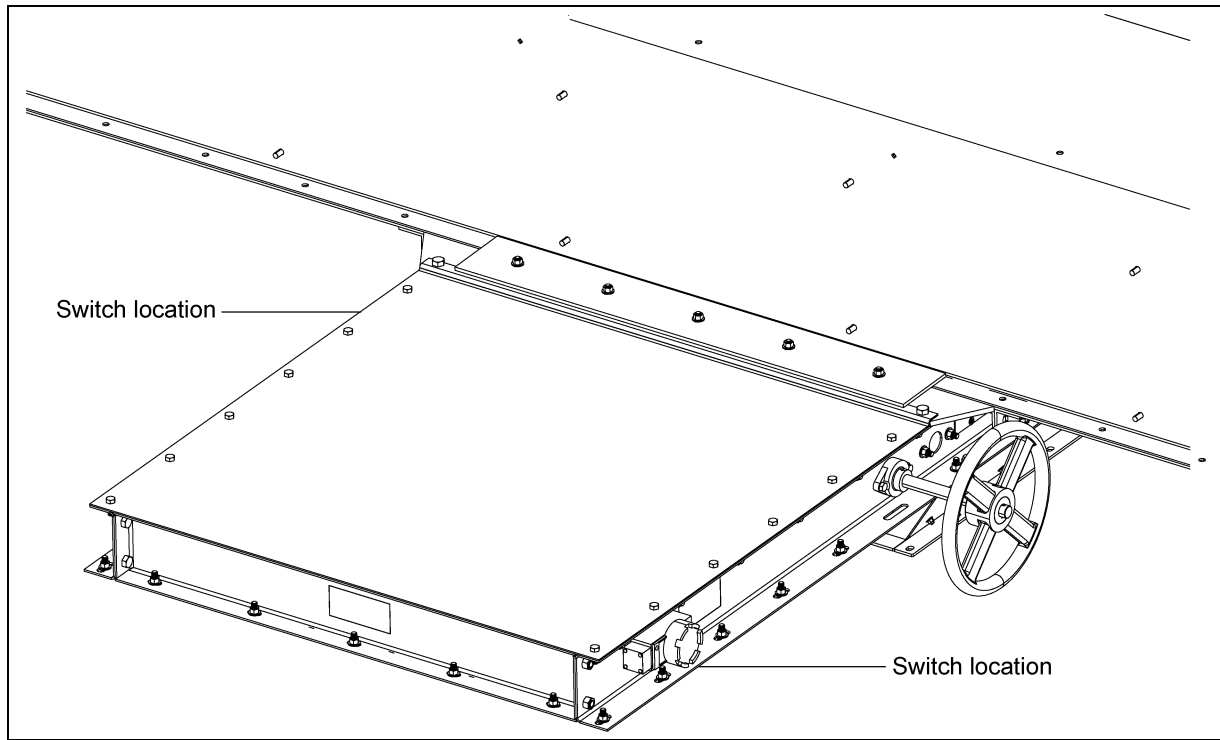


Figure 3E

2. Install limit switch to the outside of the gate frame. Knock out the hole where indicated to install switch through gate frame. (See Figure 3F.)

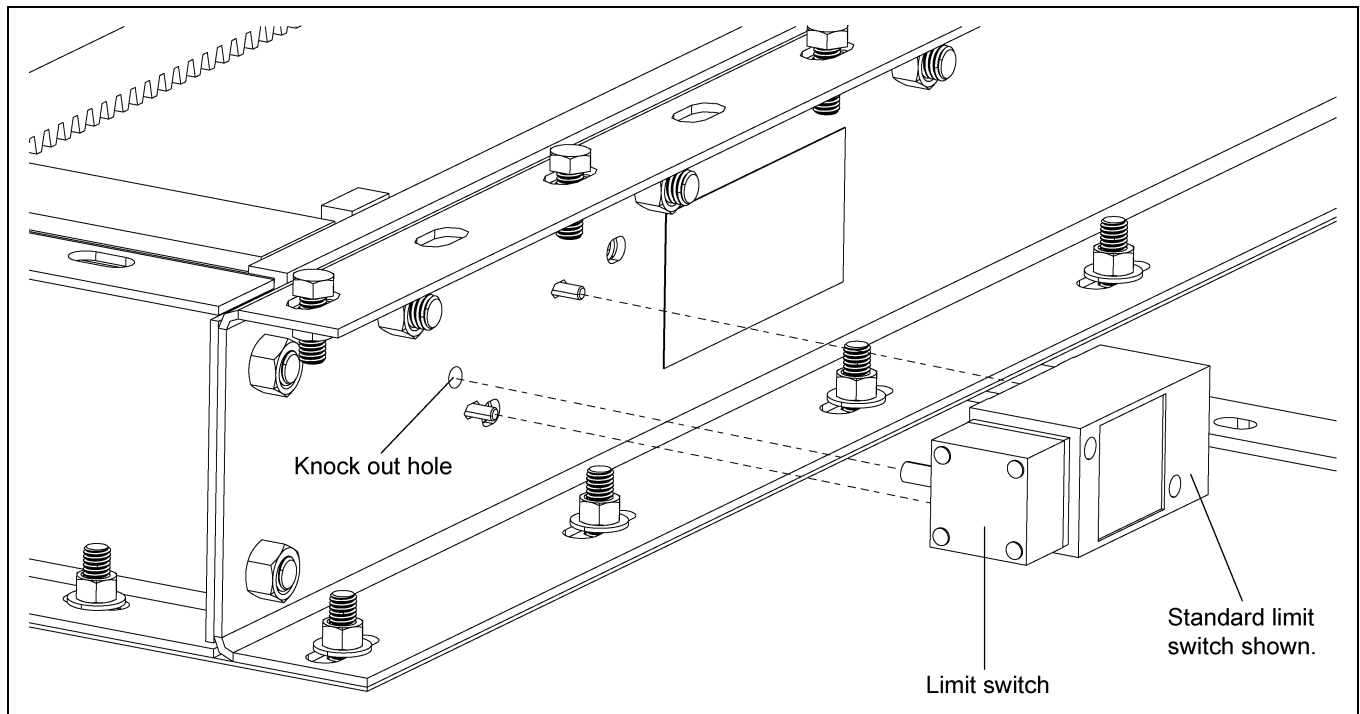


Figure 3F

3. Install switch levers vertically. When the switch target on gate pushes a switch 15° in either direction, the motor will stop. (See Figure 3G and Figure 3H.)

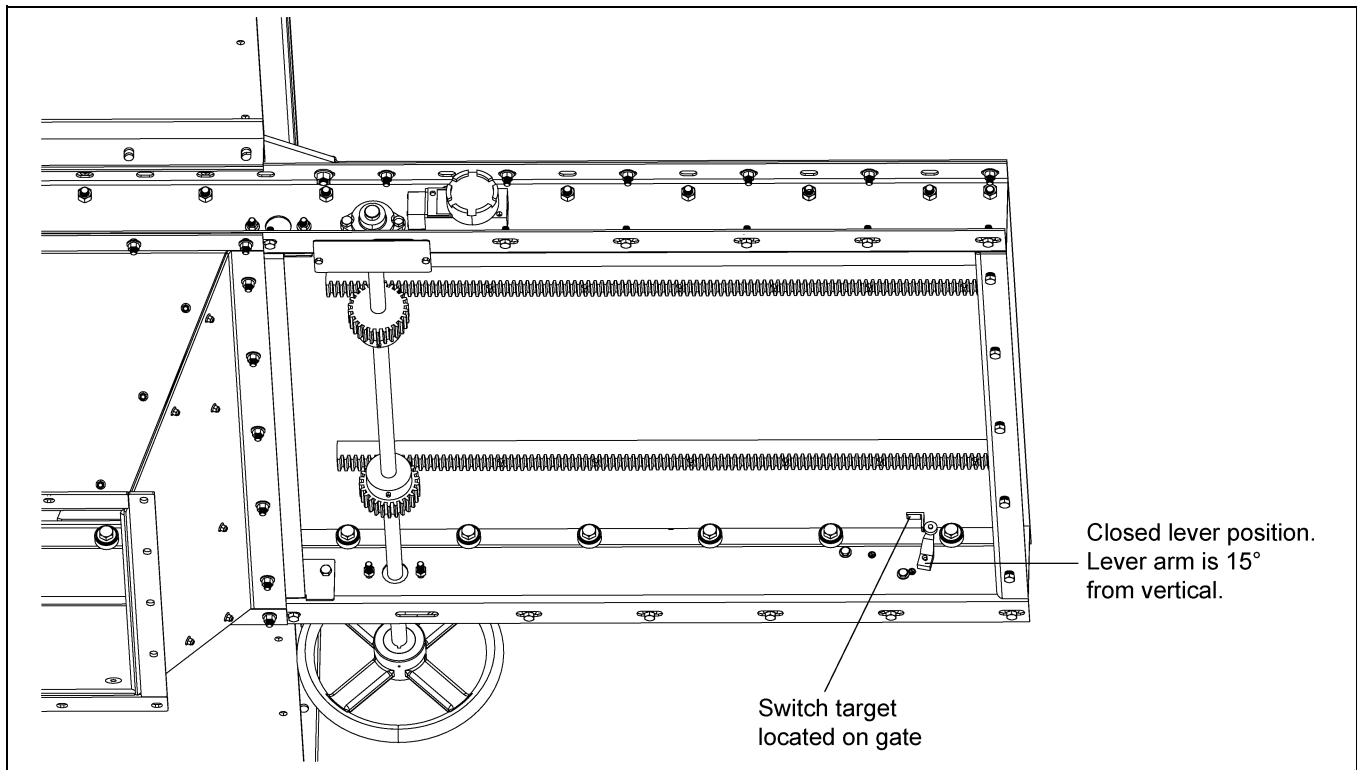


Figure 3G

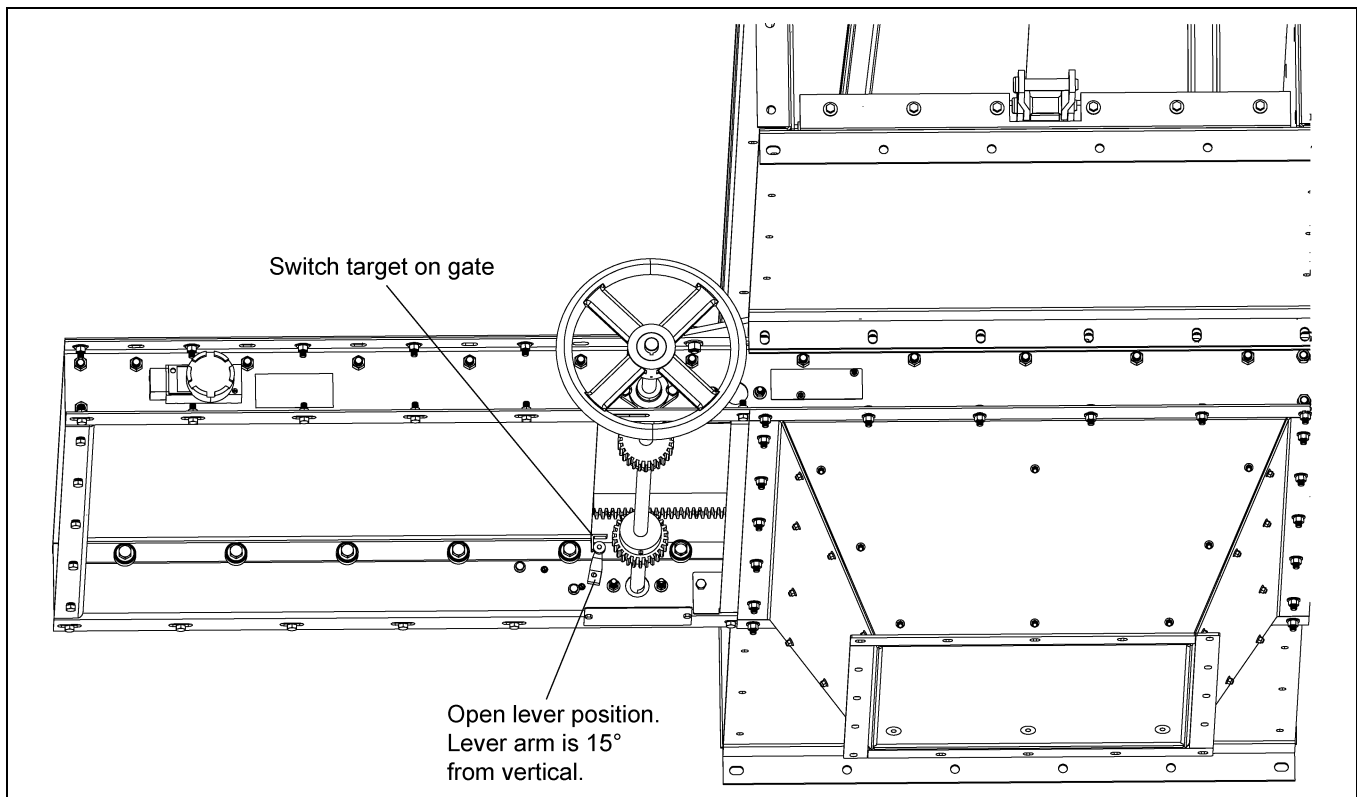


Figure 3H

### 3. Installation

## In-Line Discharge Gate Limit Switch Installation

1. In-line switches are installed on outside of gate frame on the same side. (See Figure 3I.)

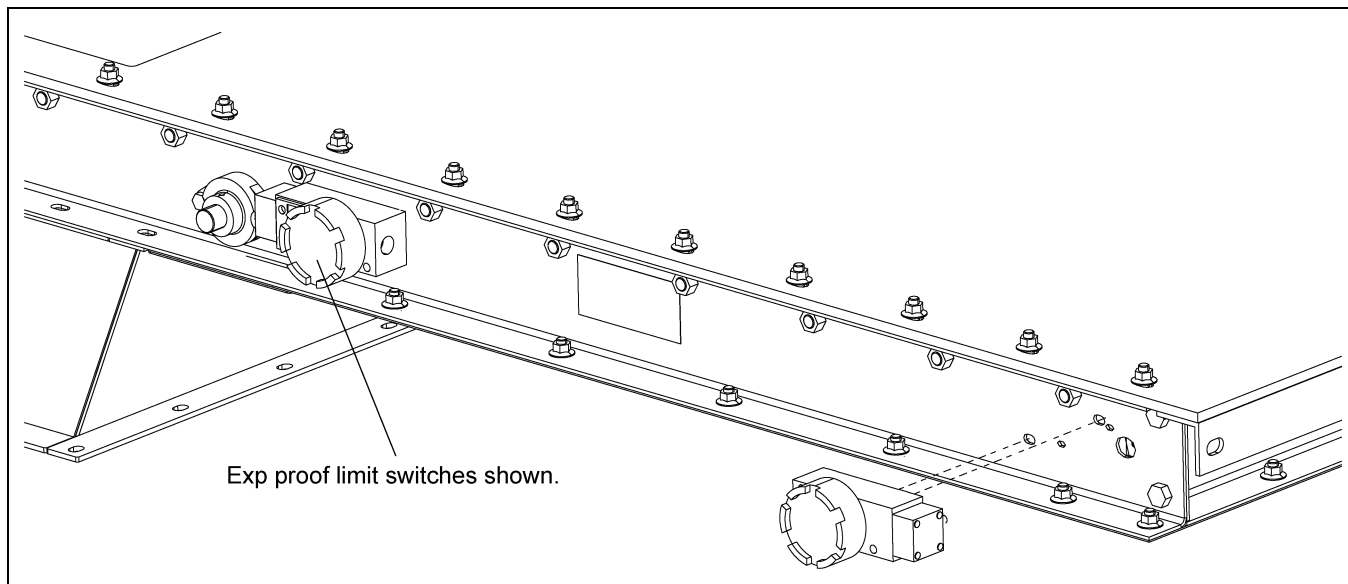


Figure 3I

2. Switch levers should be installed at a 15° angle, when a lever is activated to a vertical position by a switch target, the motor will stop. (See Figure 3J below and Figure 3K on Page 15.)

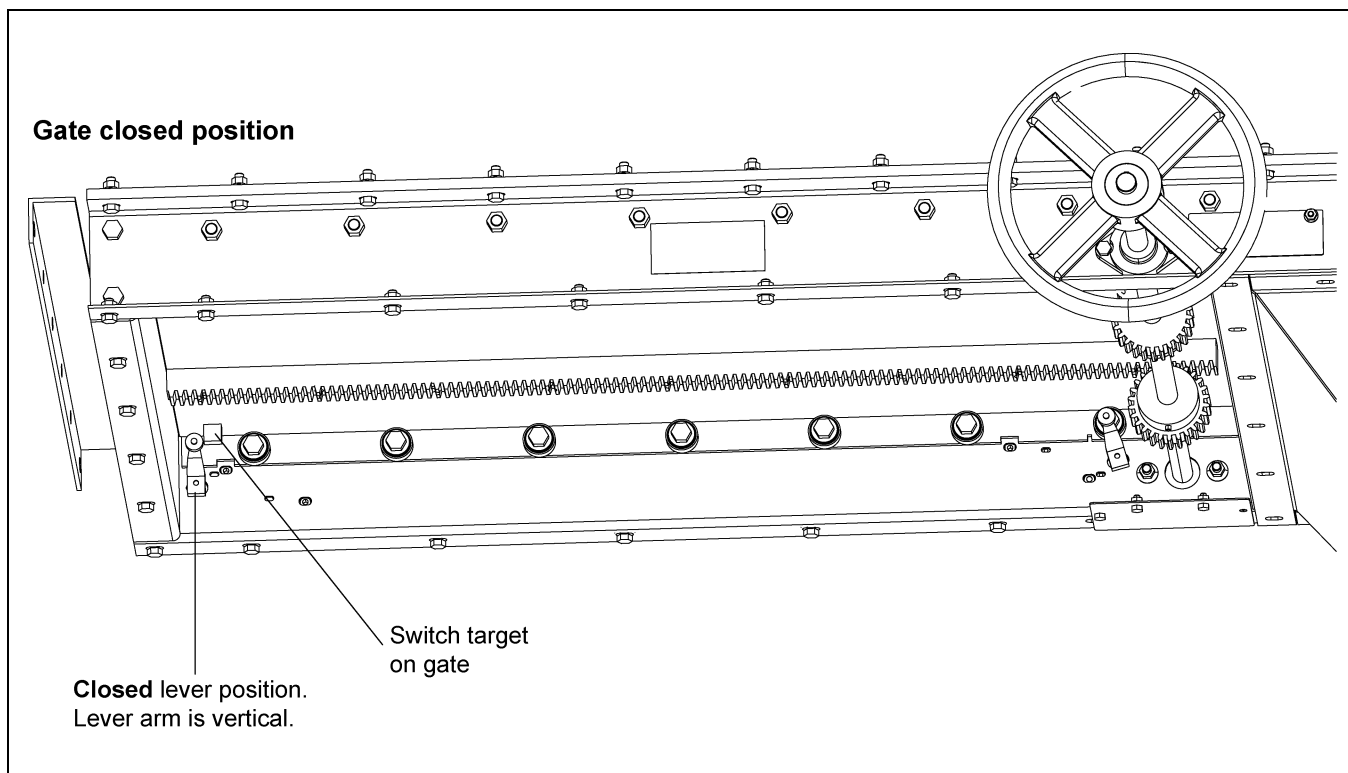


Figure 3J

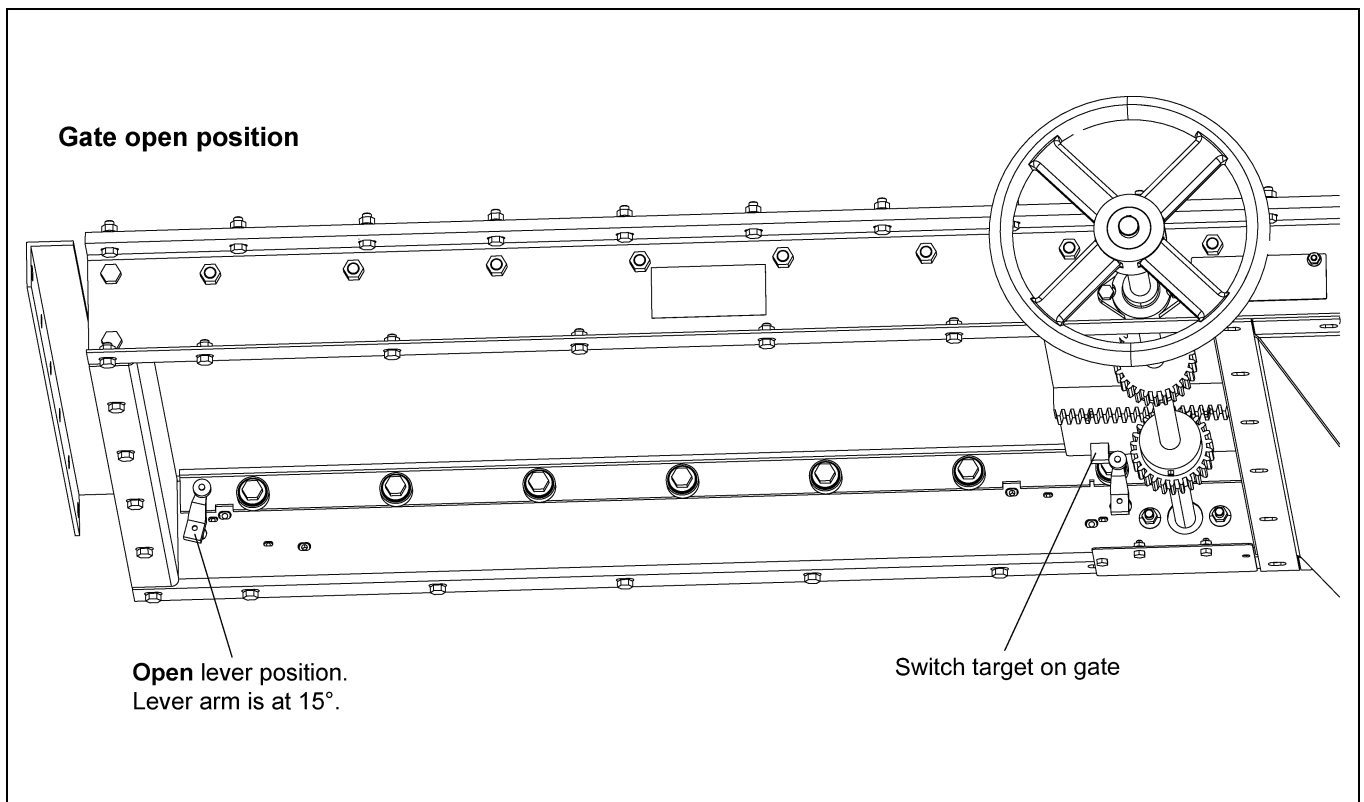


Figure 3K

### 3. Installation

## Install Gate to Trough Bottom

1. Attach the gate to the connection flanges and trough bottom using supplied hardware.
2. Seal all connections with a silicon based caulk to make weather-resistant.
3. It may be necessary to drill holes in the trough side flange. *(See Figure 3L.)*
4. There are no carry-over bars to adjust, the carry-over feature is built into the gate.
5. On 12" tall and 14" tall conveyors, there will be some overhang (1/2") of the gate frame past the edge of the trough bottom.

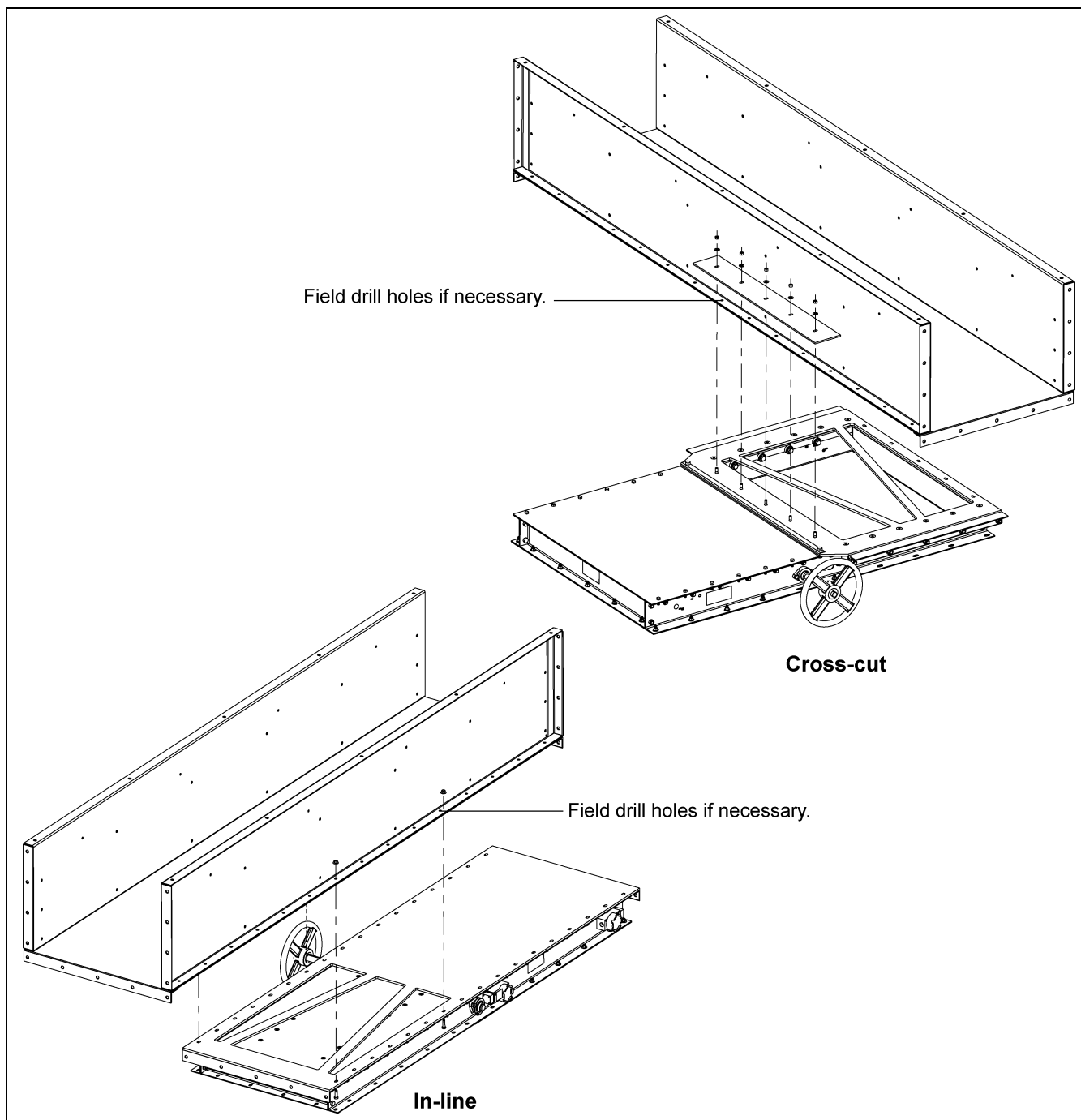


Figure 3L



## Flipping the Shaft to Change Gate Drive Side

1. Loosen set screws for shaft on both bearings. *(See Figure 3M.)*
2. Remove bearing on the long side of the shaft.
3. Flip shaft and re-install bearing.
4. Tighten set screws on shaft.
5. On guard move filler plate to opposite side if applicable.
6. If gate will be electronically operated, install motor mount on appropriate side for gearbox and motor.

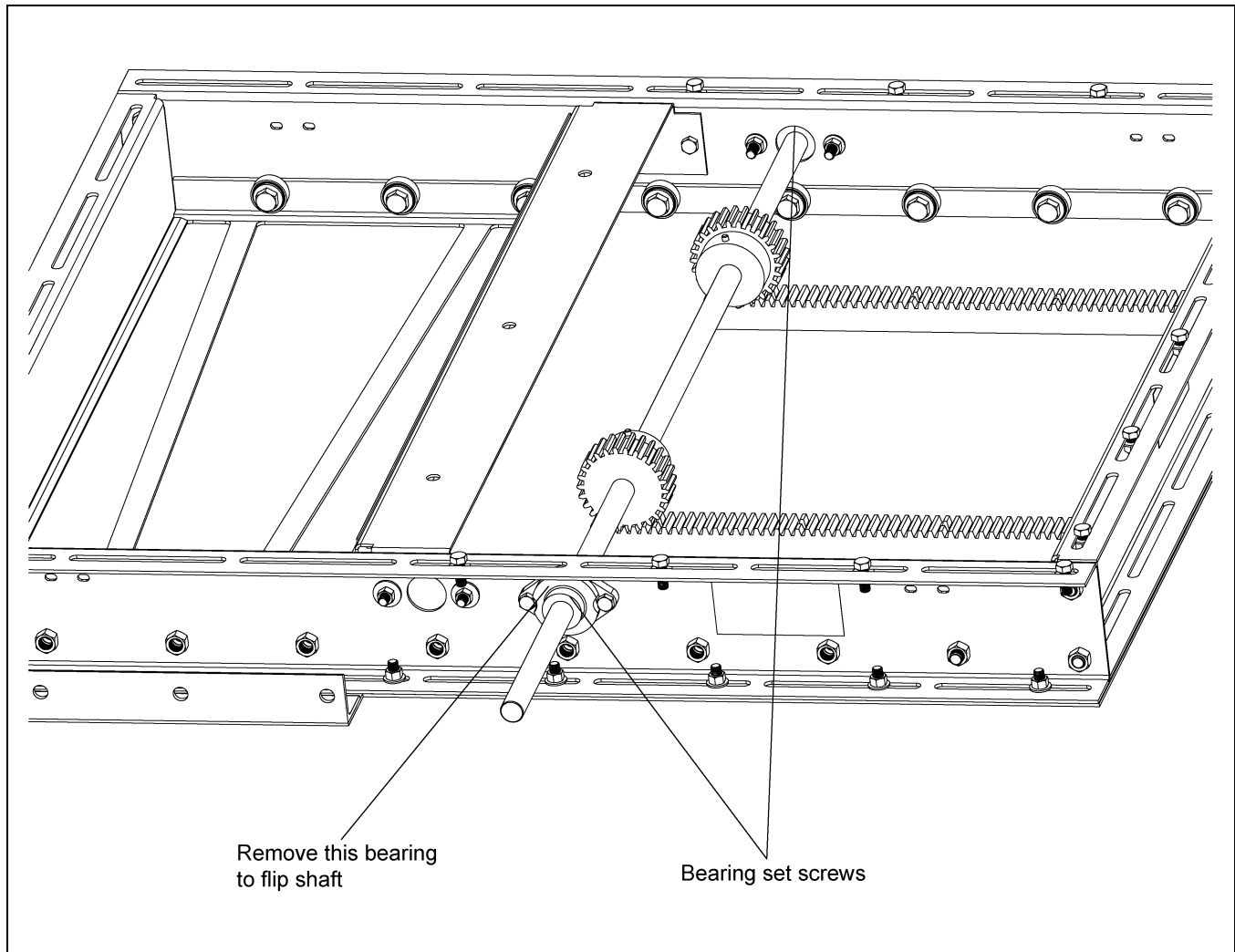
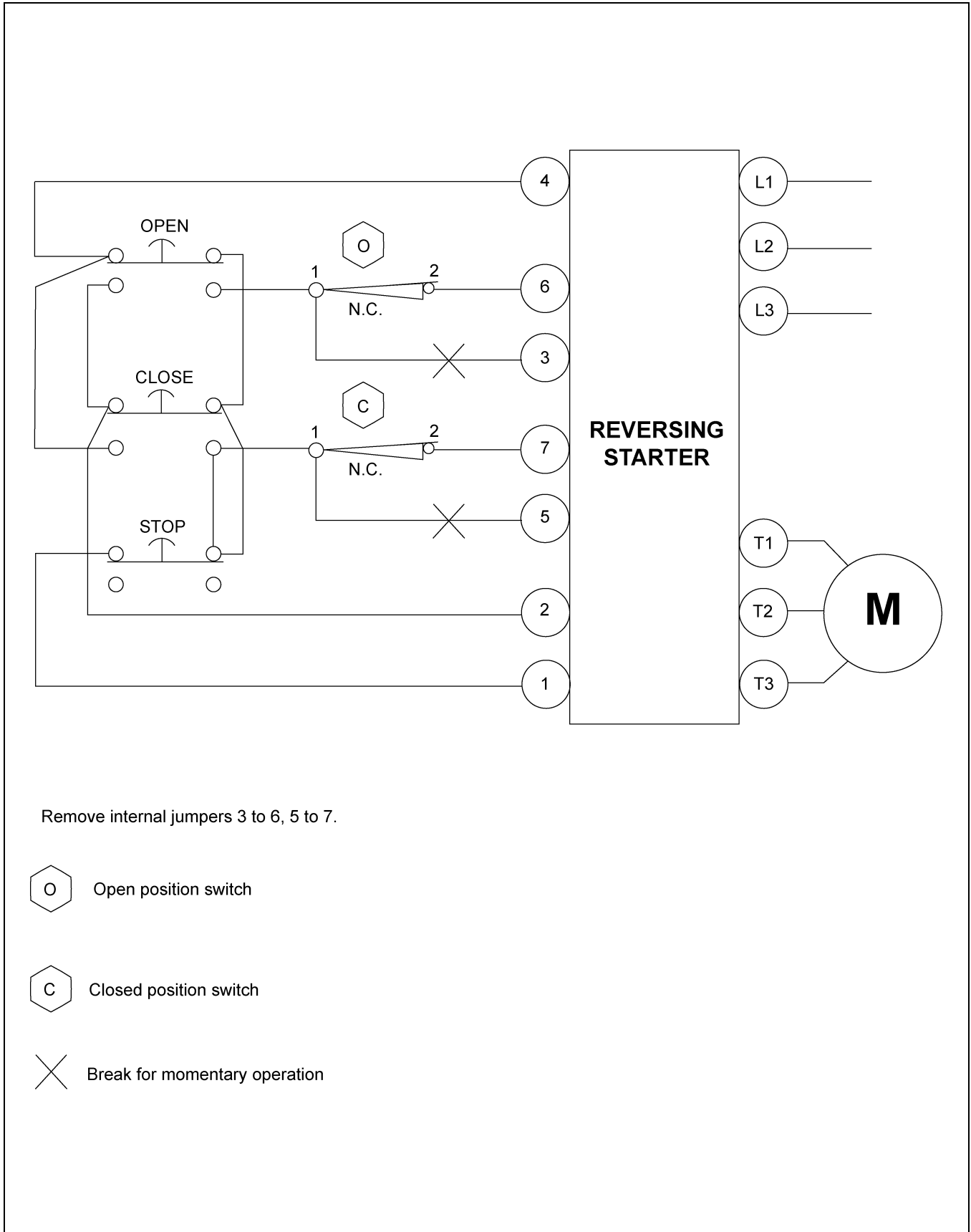


Figure 3M

## 4. Wiring Diagram

### Typical Wiring Diagram



## Limited Warranty — N.A. Grain Products

The GSI Group, LLC. ("GSI") warrants products which it manufactures, to be free of defects in materials and workmanship under normal usage and conditions for a period of 12 months from the date of shipment (or, if shipped by vessel, 14 months from the date of arrival at the port of discharge). If, in GSI's sole judgment, a product is found to have a defect in materials and/or workmanship, GSI will, at its own option and expense, repair or replace the product or refund the purchase price. This Limited Warranty is subject to extension and other terms as set forth below.

**Warranty Enhancements:** The warranty period for the following products is enhanced as shown below and is in lieu of (and not in addition to) the above stated warranty period. (Warranty Period is from date of shipment.)

	Product	Warranty Period
<b>Storage</b>	Grain Bin Structural Design • Sidewall, roof, doors, platforms and walkarounds • Flooring (when installed using GSI specified floor support system for that floor) • Hopper tanks (BFT, GHT, NCHT, and FCHT)	5 Years
<b>Conditioning</b>	Dryer Structural Design – (Tower, Portable and TopDry) • Includes (frame, portable dryer screens, ladders, access doors and platforms)	5 Years
	All other Dryer parts including: • Electrical (controls, sensors, switches and internal wiring)	2 Years
	All Non-PTO Driven Centrifugal and Axial Fans	3 Years
	Bullseye Controllers	2 Years
<b>Material Handling</b>	Bucket Elevators Structural Design	5 Years
	Towers Structural Design	5 Years
	Catwalks Structural Design	5 Years
	Accessories (stairs, ladders and platforms) Structural Design	5 Years

### Conditions and Limitations:

THERE ARE NO WARRANTIES THAT EXTEND BEYOND THE LIMITED WARRANTY DESCRIPTION SET FORTH HEREIN; SPECIFICALLY, GSI DISCLAIMS ANY AND ALL OTHER WARRANTIES OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING, WITHOUT LIMITATION, WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR USE IN CONNECTION WITH: (I) ANY PRODUCT MANUFACTURED OR SOLD BY GSI, OR (II) ANY ADVICE, INSTRUCTION, RECOMMENDATION OR SUGGESTION PROVIDED BY AN AGENT, REPRESENTATIVE OR EMPLOYEE OF GSI REGARDING OR RELATED TO THE CONFIGURATION, INSTALLATION, LAYOUT, SUITABILITY FOR A PARTICULAR PURPOSE, OR DESIGN OF SUCH PRODUCTS.

The sole and exclusive remedy for any claimant is set forth in this Limited Warranty and shall not exceed the amount paid for the product purchased. This Warranty only covers the value of the warranted parts and equipment, and does not cover labor charges for removing or installing defective parts, shipping charges with respect to such parts, any applicable sales or other taxes, or any other charges or expenses not specified in this Warranty. GSI shall not be liable for any other direct, indirect, incidental or consequential damages, including, without limitation, loss of anticipated profits or benefits. Expenses incurred by or on behalf of a claimant without prior written authorization from the GSI warranty department shall not be reimbursed. This warranty is not transferable and applies only to the original end-user. GSI shall have no obligation or responsibility for any representations or warranties made by or on behalf of any dealer, agent or distributor. Prior to installation, the end-user bears all responsibility to comply with federal, state and local codes which apply to the location and installation of the products.

This Limited Warranty extends solely to products sold by GSI and does not cover any parts, components or materials used in conjunction with the product, that are not sold by GSI. GSI assumes no responsibility for claims resulting from construction defects, unauthorized modifications, corrosion or other cosmetic issues caused by storage, application or environmental conditions. Modifications to products not specifically delineated in the manual accompanying the product at initial sale will void all warranties. This Limited Warranty shall not extend to products or parts which have been damaged by negligent use, misuse, alteration, accident or which have been improperly/inadequately maintained.

#### Notice Procedure:

In order to make a valid warranty claim a written notice of the claim must be submitted, using the RMA form, within 60 days of discovery of a warrantable nonconformance. The RMA form is found on the OneGSI portal.

#### Service Parts:

GSI warrants, subject to all other conditions described in this Warranty, Service Parts which it manufactures for a period of 12 months from the date of purchase unless specified in Enhancements above.

This equipment shall be installed in accordance with the current installation codes and applicable regulations which should be carefully followed in all cases. Authorities having jurisdiction should be consulted before installations are made.

G S I G R O U P



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