



# TopDry Chute Controller

Installation Manual

PNEG-1894

Date: 03-30-15



PNEG-1894



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## 1. Safety

### Cautionary Symbols

Cautionary symbols appear in this manual and on product decals. The symbols alert the user of potential safety hazards, prohibited activities and mandatory actions. To help you recognize this information, we use the symbols that are defined below.



This symbol indicates an imminently hazardous situation which, if not avoided, **will result in serious injury or death.**



This symbol indicates a potentially hazardous situation which, if not avoided, **may result in serious injury or death.**



This symbol indicates a potentially hazardous situation which, if not avoided, **may result in minor or moderate injury.**



This symbol indicates a potentially hazardous situation which, if not avoided, **may result in property damage.**



This symbol indicates a general hazard.




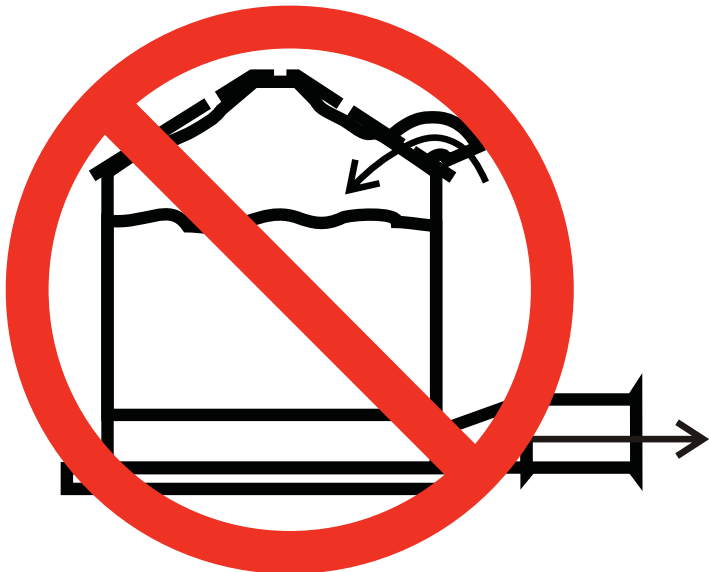
This symbol indicates a prohibited activity.



This symbol indicates a mandatory action.

## Roof Damage Warning and Disclaimer

The manufacturer does not warrant any roof damage caused by excessive vacuum or internal pressure from fans or other air moving systems. Adequate ventilation and/or “makeup air” devices should be provided for all powered air handling systems. The manufacturer does not recommend the use of downward flow systems (suction). Severe roof damage can result from any blockage of air passages. Running fans during high humidity/cold weather conditions can cause air exhaust or intake ports to freeze.

 <b>CAUTION</b>	
	
<p><b>Excessive vacuum (or pressure) may damage roof. Use positive aeration system. Make sure all roof vents are open and unobstructed. Start roof fans when supply fans are started. Do not operate when conditions exist that may cause roof vent icing.</b></p>	
GSI Group, Inc. 217-226-4421	DC-969

## 2. Decals

**ATTENTION:** The decal shown below should be present on the outside of the door cover of the 2 ring, 24" porthole door cover and the roof manway cover. If a decal has been damaged or is missing in any of these locations, contact the manufacturer for a free replacement decal.

### GSI Decals

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



# DANGER

 <p><b>Rotating fighting will kill or dismember.</b></p>	 <p><b>Flowing material will trap and suffocate.</b></p>	 <p><b>Crusted material will collapse and suffocate.</b></p>
-----------------------------------------------------------------------------------------------------------------------------------------------	-----------------------------------------------------------------------------------------------------------------------------------------------	-----------------------------------------------------------------------------------------------------------------------------------------------------

## Keep clear of all augers. DO NOT ENTER this bin!

**If you must enter the bin:**

1. Shut off and lock out all power.
2. Use a safety harness and safety line.
3. Station another person outside the bin.
4. Avoid the center of the bin.
5. Wear proper breathing equipment or respirator.

## Failure to heed these warnings will result in serious injury or death.

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**ATTENTION:** The decal shown below should be present on the outside of the door cover of the 2 ring, 24" porthole door cover and the roof manway cover. If a decal has been damaged or is missing in any of these locations, contact the manufacturer for a free replacement decal.

**GSI Decals**

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



# WARNING





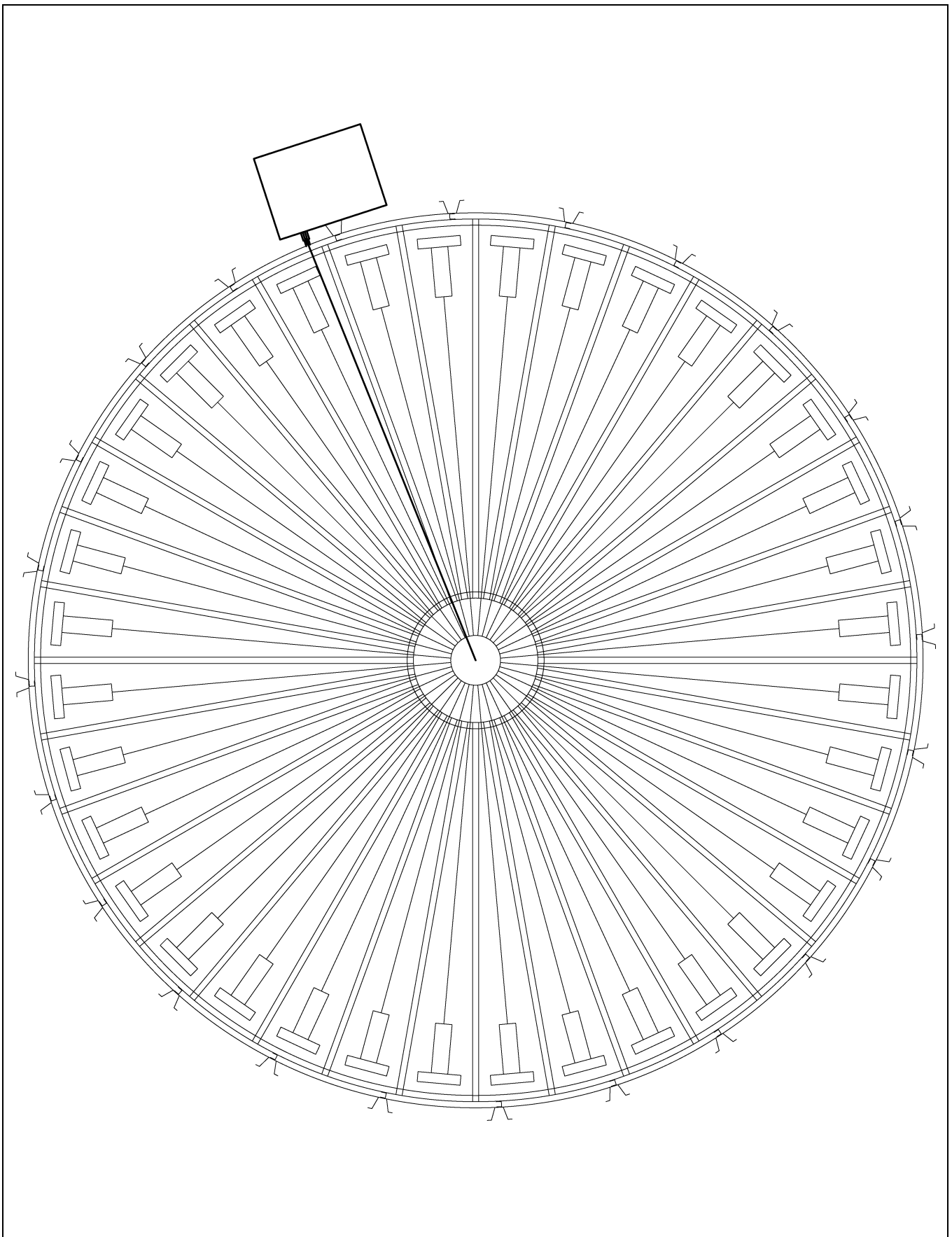
**UNLOADING INSTRUCTIONS:**

1. Use **CENTER FLOOR OUTLET ONLY** until **NO** grain remains above this outlet.
2. Side floor outlets to be used **ONLY** when above condition is satisfied.
3. Lock all side floor outlets to avoid accidental premature use.
4. See manufacturers instructions for proper use of factory supplied sidedraw (wall) discharge systems.

**Failure to heed these warnings  
could result in serious injury, death,  
structural damage or collapse of tank.**

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### 3. Controller Layout



**Figure 3A** Chute Pulley Cable Location



## Chute Controller Installation for TopDry System

The chute controller is mounted to the side of a TopDry bin and actuates the chutes that allow the grain to transfer from the drying floor to the bin floor.

**NOTE:** Before beginning the chute controller installation, make sure the pulley bracket is properly installed. The pulley bracket must be positioned above the chute controller location before installing the stiffener mounting plate.

### Locating the Chute Pulley Assembly

1. Position the pulley in the hole that is located 9-3/8" (23.8 cm) horizontally from the center of the stiffener. **NOTE:** When positioning the pulley, ensure the pulley cable does not interfere with the dump chutes. This can only be accomplished at every other stiffener. (See Figure 4A below and Figure 3A on Page 8.)

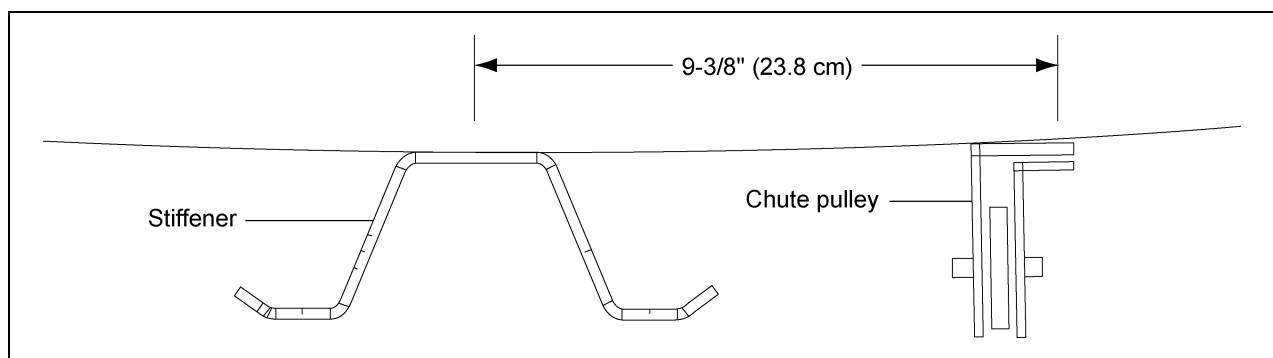


Figure 4A

Field drill five (5) 3/8" diameter holes as shown in Figure 4B. Attach the pulley assembly with 5/16" x 3/4" bolts with the neoprene on the inside of the bin. (See Figure 4B.)

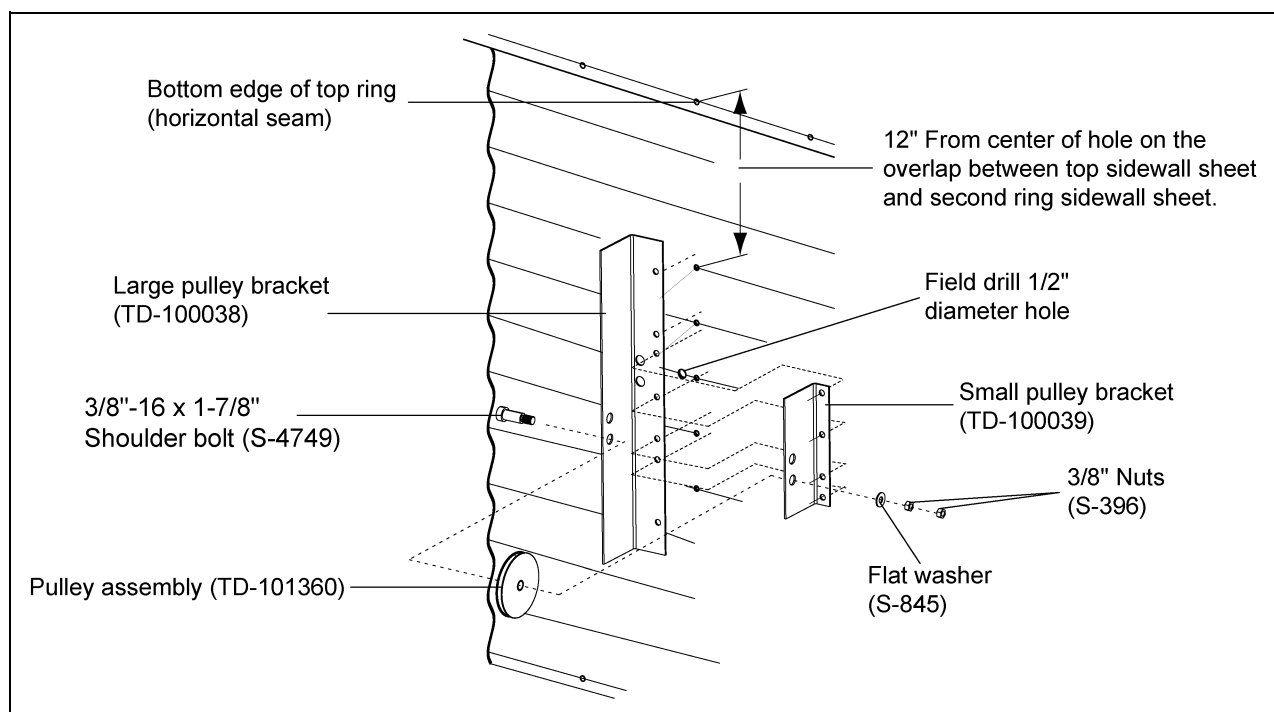
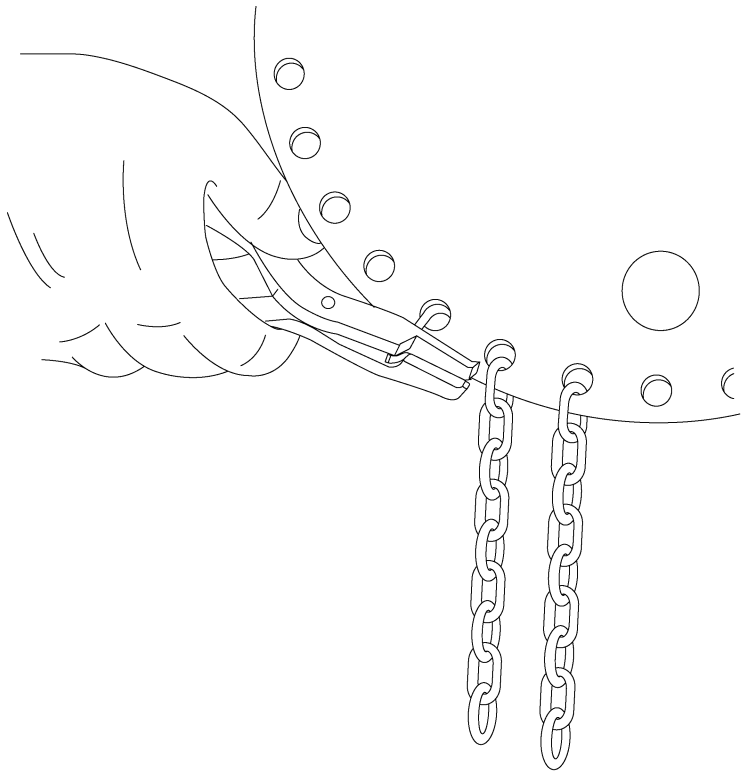


Figure 4B

# 4. Installation



Crimp "S" hooks after final chute adjustment.

Chain leading to outer chutes

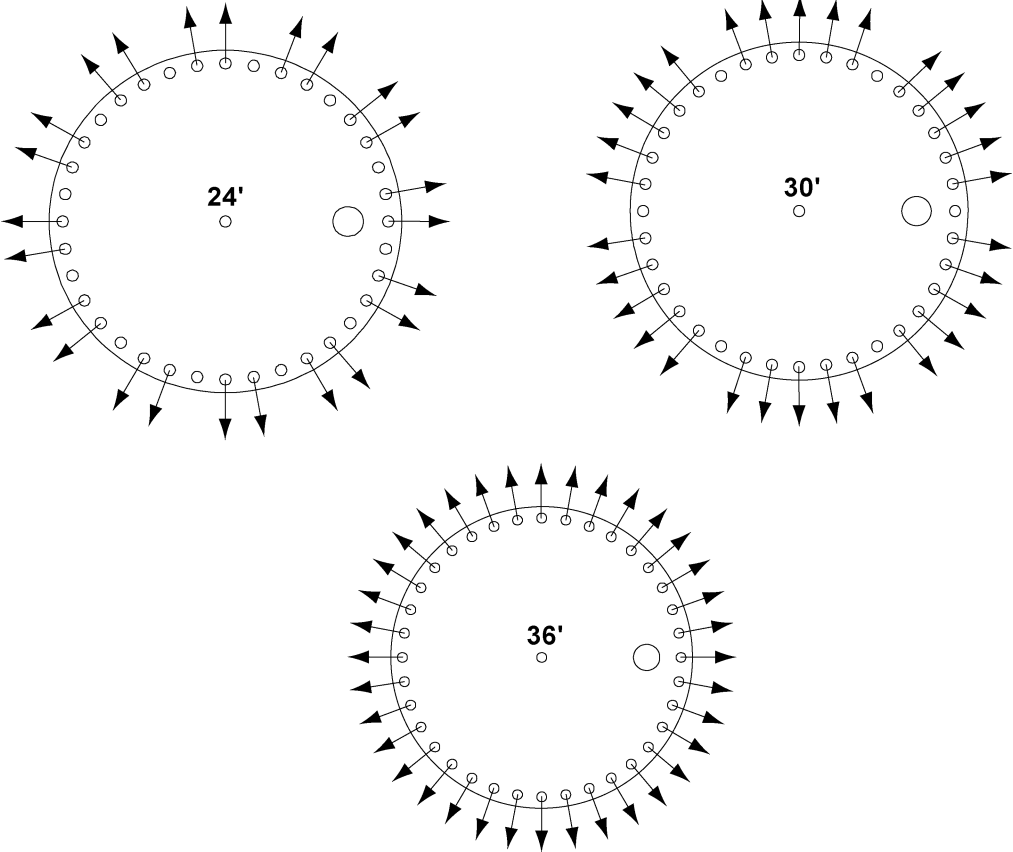


Figure 4C

## Attaching the Mounting Plate and Gussets to the Stiffener

1. Position the bottom edge of the stiffener mounting plate 13" from the bottom of the stiffener.
2. Field drill all six (6) holes in the stiffener using the mounting plate as a template for hole locations, making sure that the holes are drilled on the peaks of corrugation ridge.
3. Attach the stiffener mounting plate (A) using six (6) bolts (B) and nuts (C). (See Figure 4D.)

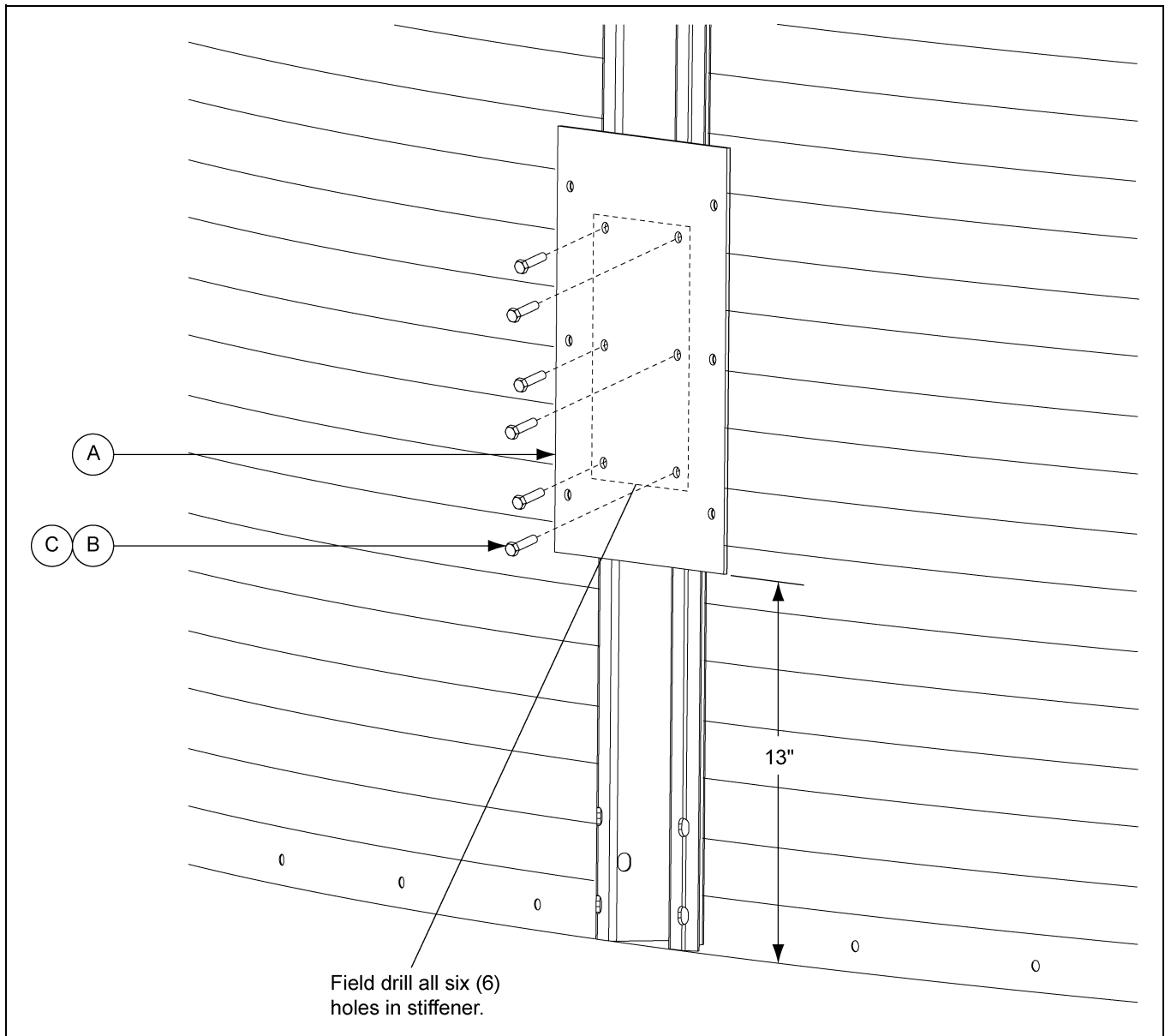


Figure 4D

Ref #	Part #	Description
A	TD-101327	Stiffener Mounting Plate
B	S-10275	Bolt, HHCS 3/8"-16 x 1-1/2" YDP Grade 8 or Grade 8.2
C	S-7383	Nylock Nut 3/8"-16 Zinc Grade 5

## 4. Installation

4. Attach the lower mounting gussets (D) to stiffener mounting plate (A) using three (3) flange bolts (E) and nuts (F) for each mounting gusset. (See Figure 4E.)

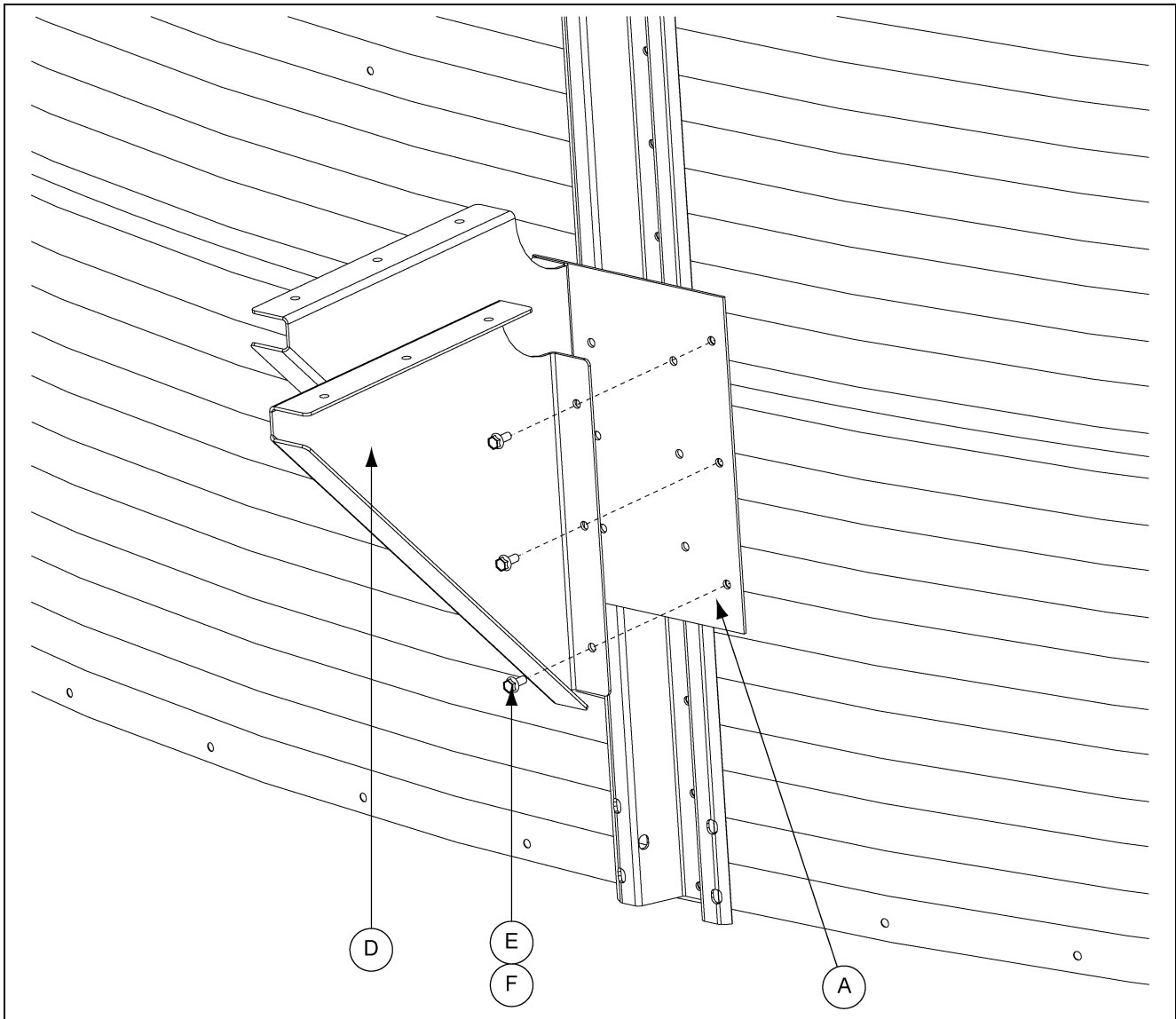


Figure 4E

Ref #	Part #	Description
A	TD-101327	Stiffener Mounting Plate
D	TD-101326	Lower Mounting Gussets
E	S-6606	Flange Bolt 5/16"-18 x 3/4" ZN Grade 5
F	S-3611	Flange Nut 5/16"-18 YDP Grade 2

## Assembling the Chain Guard

1. Position the chute controller assembly so that all sides are accessible. Remove the cover from the chute position controller enclosure.
2. Align the top and bottom tabs of the rear chain guard (B) with holes in the idler sprocket mounting brackets (C) and attach by inserting flange bolts (D) through the sides and tightening with flange nuts (E). (See Figure 4F.)
3. Feed chain (A) that is part of the chute position controller drive from the chute position controller around the small sprocket and out through the back panel and in between the idler sprocket mounting brackets (C). (See Figure 4F.)
4. Replace cover and secure for lifting. (See Figure 4F.)

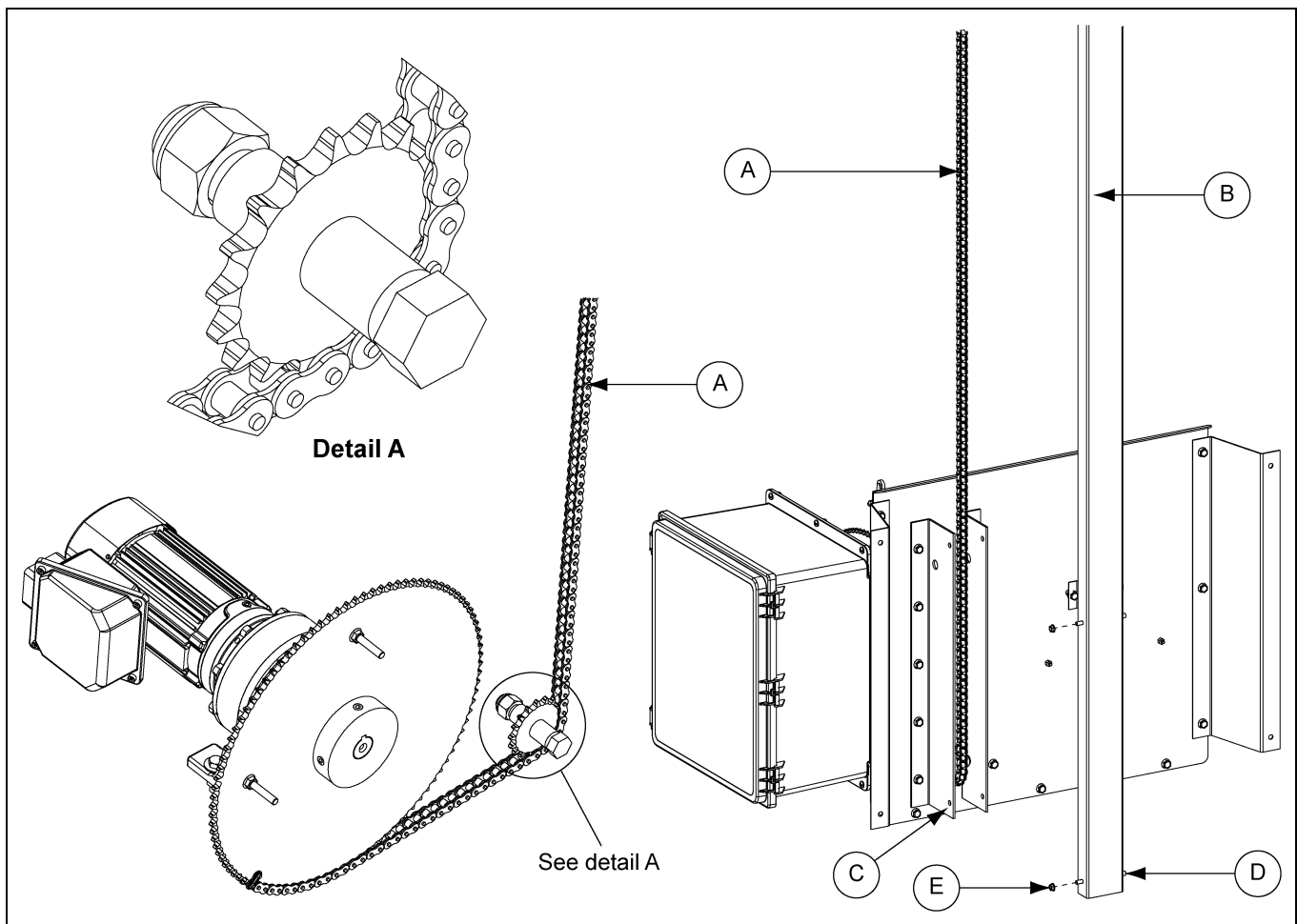


Figure 4F

Ref #	Part #	Description
A	TD-101357	#40 Roller Chain
B	TD-101336	Rear Chain Guard
C	TD-101332	Idler Sprocket Mounting Bracket
D	S-6606	Flange Bolt 5/16"-18 x 3/4" ZN Grade 5
E	S-3611	Flange Nut 5/16"-18 YDP Grade 2

## 4. Installation

### Installing the Housing Assembly



**Chute position controller enclosure weighs approximately 275 lbs. pounds. Failure to use proper equipment and personnel when lifting could cause bodily injury or damage to equipment.**

1. Lift the housing assembly onto the lower mounting gussets (A), aligning holes in the bottom of the chute position controller enclosure with the holes in the lower mounting gussets.
2. Remove cover to attach chute position controller enclosure to gussets with six (6) flange bolts (B) and flange nuts (C). (See Figure 4G.)
3. Field drill all four (4) holes in the bin sidewalls through the four (4) holes in the sidewall mounting brackets (D), making sure that the holes are drilled on the peaks of the corrugation ridges. Use bolts to attach housing to bin.

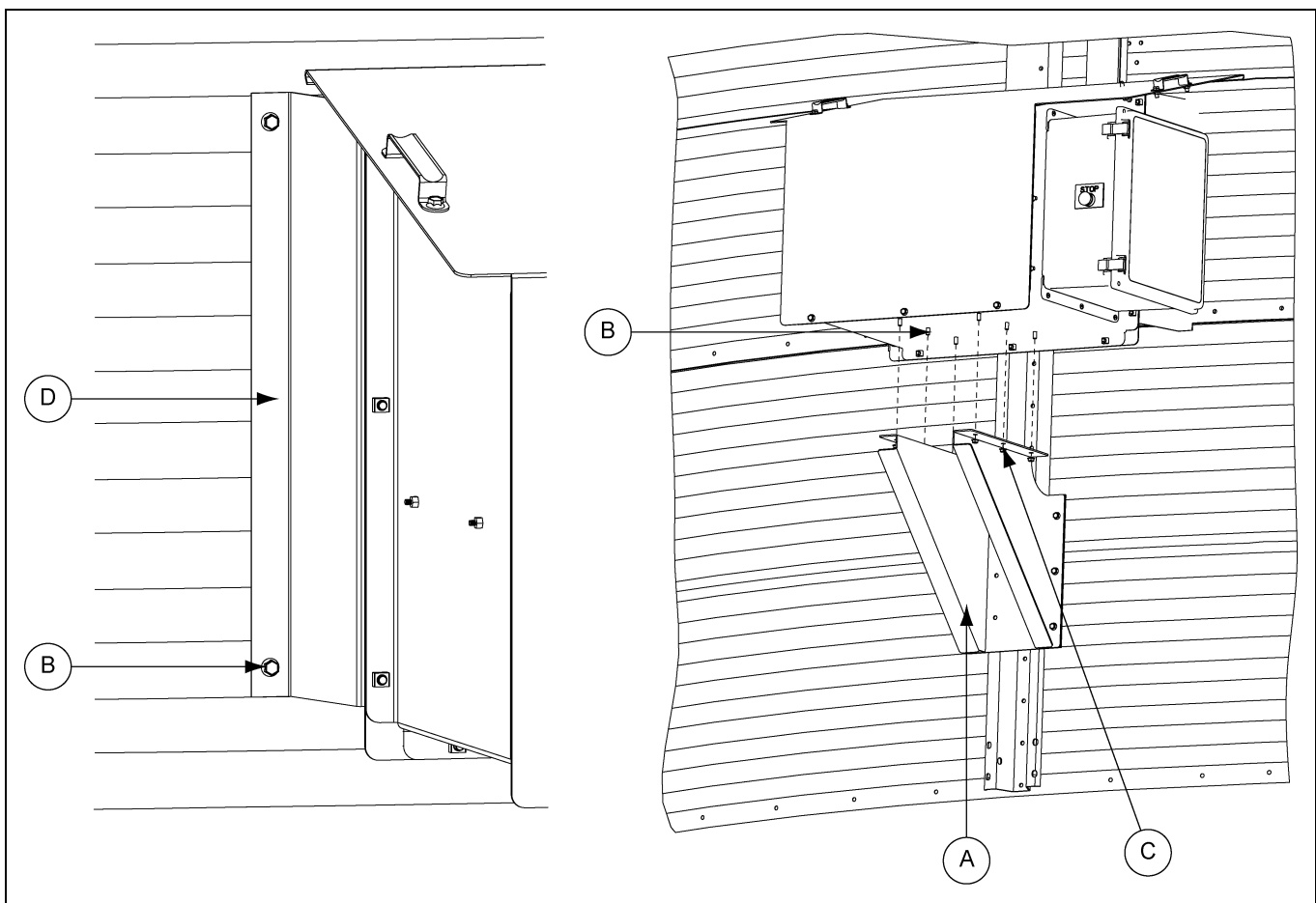


Figure 4G

Ref #	Part #	Description
A	TD-101326	Lower Mounting Gussets
B	S-6606	Flange Bolt 5/16"-18 x 3/4" ZN Grade 5
C	S-3611	Flange Nut 5/16"-18 YDP Grade 2
D	TD-101331	Sidewall Mounting Bracket

## Testing that the Sprocket Correctly Activates the Limit Switch



**Disconnect all power sources before attempting to connect wiring. All wiring should be done by a certified electrician. Follow all national and local electrical codes.**

1. Field drill two (2) holes in bottom of chute position controller electrical box (A) large enough to accommodate cables for power and Autoflow controls. Refer to wiring diagrams on [Pages 19 and 20](#) to feed conduit for wiring to the main power breaker and Autoflow controls. (See [Figure 4H](#).)
2. After wiring and before attaching the chain to the cable, test that the sprocket travels from the open limit switch position to the close limit switch position. To test sprocket travel:

**NOTE:** For system to function when testing travel with the cover removed, the tamper switch (B) must be depressed.

- a. Use tape to secure tamper switch in the depressed position.
- b. Ensure the sprocket (C) is in the open position when beginning testing. Use the manual dump chute switch located on the main control panel to move between the open and closed positions. Set the sprocket travel to the closed position on the Autoflow control and observe the bolts in the sprocket (C) travel from the open (clockwise) position to the closed (counterclockwise) position to the limit switch (D) as shown in [Figure 4H](#).

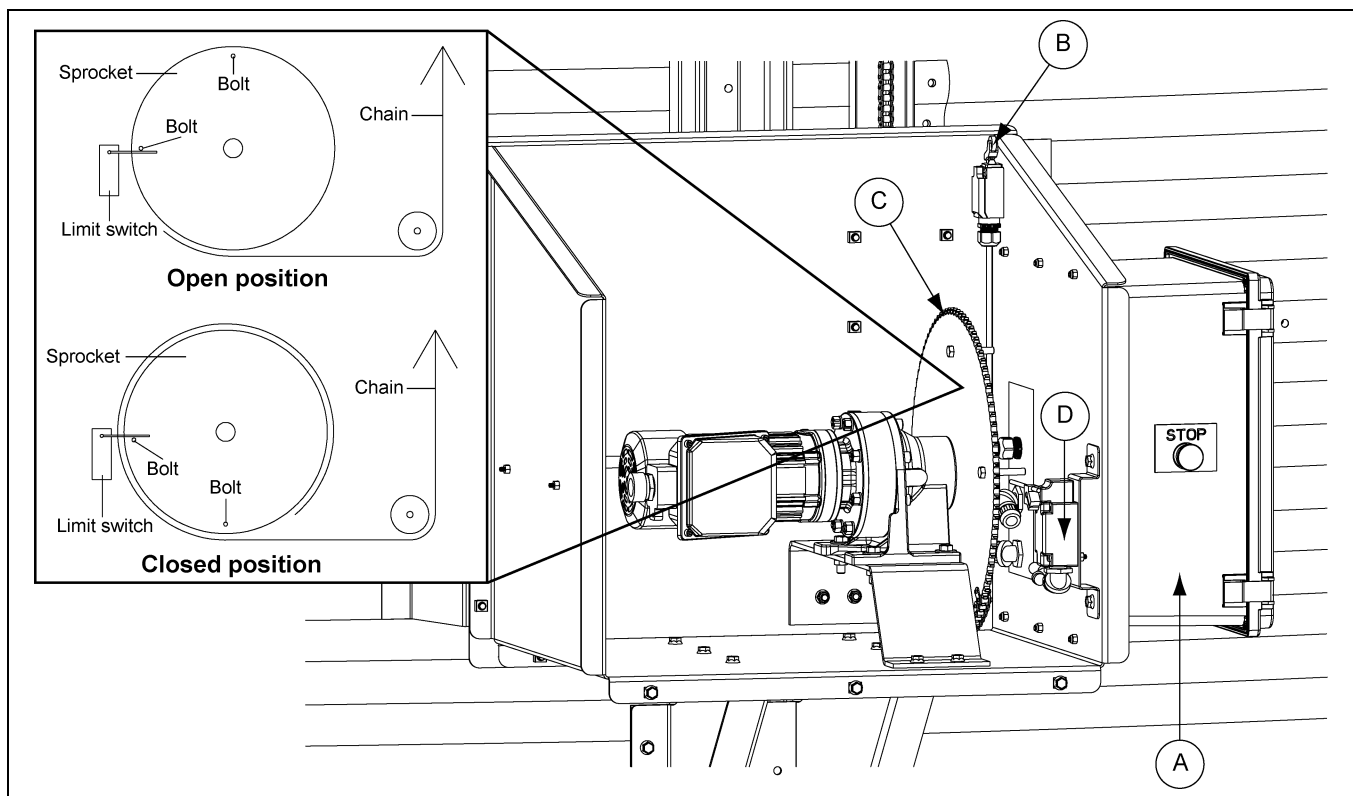


Figure 4H

Ref #	Part #	Description
A	TD-101349	Chute Position Controller Electrical Box
B	TD-101463	Tamper Switch
C	TD-101351	Sprocket
D	TD-101465	Limit Switch

## 4. Installation

### Connecting the Cable to the Turnbuckle

1. Run the cable from the inside of the bin through the sidewall sheet over the chute pulley on the bin eave and down to the chain turnbuckle from the controller. (See Figure 4I.)

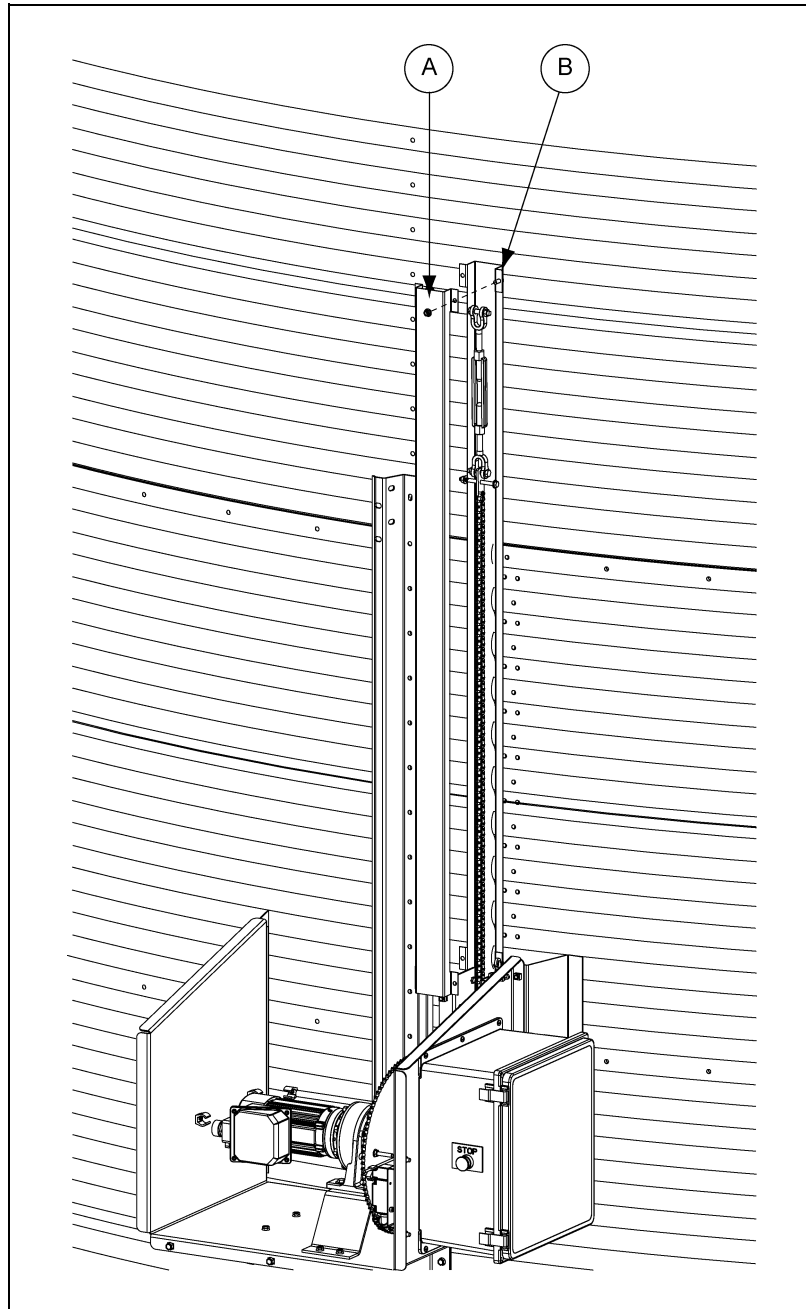


Figure 4I

Ref #	Part #	Description
A	TD-101335	Front Chain Guard
B	TD-101336	Rear Chain Guard



2. Set turnbuckle (D) to the halfway point to allow for adjustment in both directions. *(See Figure 4J.)*

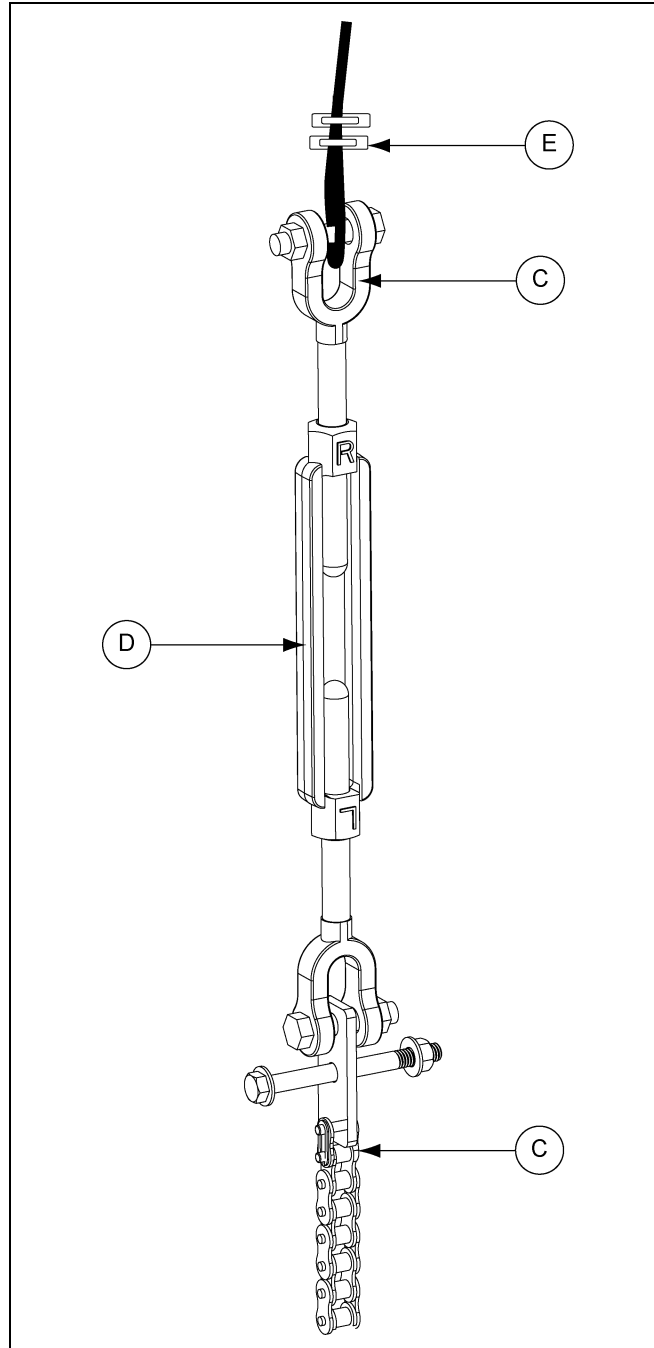


Figure 4J

Ref #	Description
C	Chain
D	Turnbuckle
E	Cable Clamps

3. Bolt the turnbuckle to the chain (C). *(See Figure 4J.)*

4. Attach the cable to the turnbuckle using cable clamps (E). *(See Figure 4J.)*

## 4. Installation

### Leveling the Dump Chutes

**NOTE:** When testing the chute positions, tamper switch must be depressed when the cover is removed before the system can function. Use tape to secure tamper switch in the depressed position.

1. The chain (C) is connected to a cable with a turnbuckle (D). The cable travels up the outside of the bin to the chute pulley on the bin eave and goes through the sidewall sheet into the bin to the center collar and down to the chain plate. (See Figure 4C on Page 10.) The plate is connected to the chutes via chains. The controller retracts the cable to close the chutes or extends the cable to open the chutes.
2. Dump chutes should be level in the closed position. Use the turnbuckle to adjust the chutes until they are level.
3. After adjustments are complete, verify the chutes fully open and close. Also, visually verify that the sprocket goes through a full open to close rotation by performing the limit switch test described in Step 2 on Page 15.
4. When all adjustments have been made, secure the front chain guard cover to the chute position controller mount.
5. Install the enclosure cover (A) and secure with flange bolts (B). (See Figure 4K.)

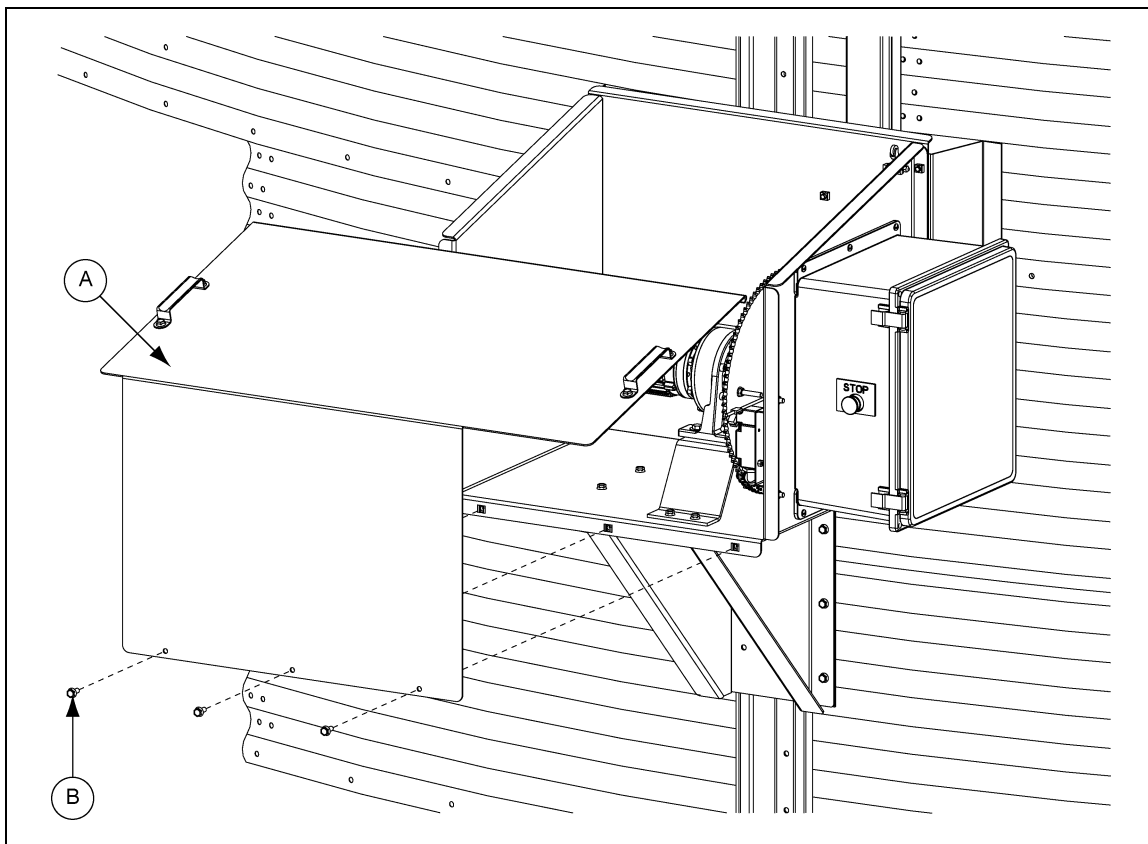
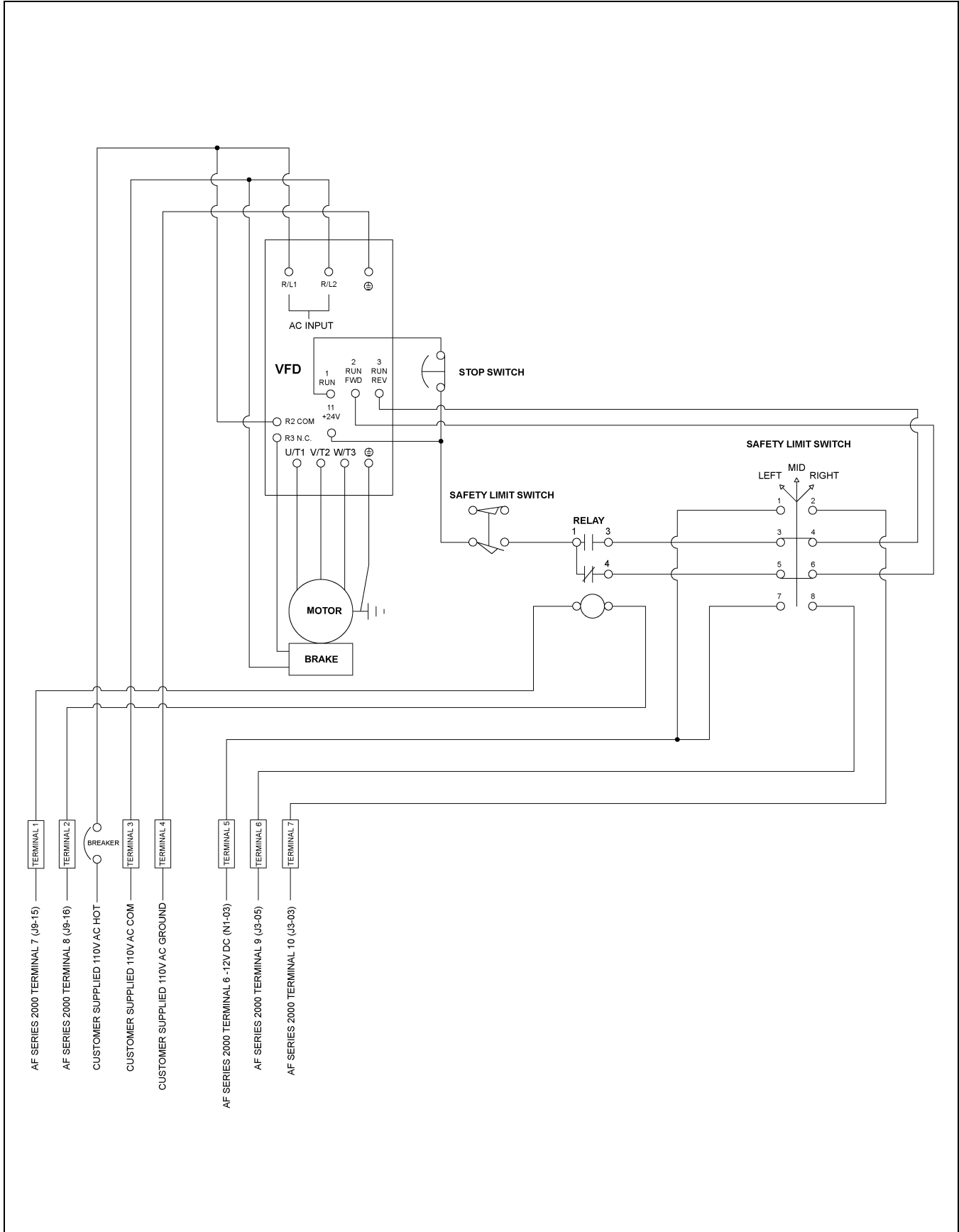


Figure 4K

Ref #	Part #	Description
A	TD-101330	Enclosure Cover
B	S-6606	Flange Bolt 5/16"-18 x 3/4" ZN Grade 5

# Actuator Wiring Schematic





## GSI Group, LLC Limited Warranty

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 after sale to the original end-user or if a foreign sale, 14 months from arrival at port of discharge, whichever is earlier. The end-user's sole remedy (and GSI's only obligation) is to repair or replace, at GSI's option and expense, products that in GSI's judgment, contain a material defect in materials or workmanship. Expenses incurred by or on behalf of the end-user without prior written authorization from the GSI Warranty Group shall be the sole responsibility of the end-user.

### Warranty Extensions:

The Limited Warranty period is extended for the following products:

	Product	Warranty Period	
<b>AP Fans and Flooring</b>	Performer Series Direct Drive Fan Motor	3 Years	* Warranty prorated from list price: 0 to 3 years - no cost to end-user 3 to 5 years - end-user pays 25% 5 to 7 years - end-user pays 50% 7 to 10 years - end-user pays 75%
	All Fiberglass Housings	Lifetime	
	All Fiberglass Propellers	Lifetime	
<b>AP and Cumberland</b>	Flex-Flo/Pan Feeding System Motors	2 Years	
<b>Cumberland Feeding/Watering Systems</b>	Feeder System Pan Assemblies	5 Years **	** Warranty prorated from list price: 0 to 3 years - no cost to end-user 3 to 5 years - end-user pays 50%
	Feed Tubes (1-3/4" and 2.00")	10 Years *	
	Centerless Augers	10 Years *	
	Watering Nipples	10 Years *	
<b>Grain Systems</b>	Grain Bin Structural Design	5 Years	
<b>Grain Systems Farm Fans Zimmerman</b>	Portable and Tower Dryers	2 Years	† Motors, burner components and moving parts not included. Portable dryer screens included. Tower dryer screens not included.
	Portable and Tower Dryer Frames and Internal Infrastructure †	5 Years	

GSI further warrants that the portable and tower dryer frame and basket, excluding all auger and auger drive components, shall be free from defects in materials for a period of time beginning on the twelfth (12<sup>th</sup>) month from the date of purchase and continuing until the sixtieth (60<sup>th</sup>) month from the date of purchase (extended warranty period). During the extended warranty period, GSI will replace the frame or basket components that prove to be defective under normal conditions of use without charge, excluding the labor, transportation, and/or shipping costs incurred in the performance of this extended warranty.

### Conditions and Limitations:

THERE ARE NO WARRANTIES THAT EXTEND BEYOND THE LIMITED WARRANTY DESCRIPTION SET FORTH ABOVE. SPECIFICALLY, GSI MAKES NO FURTHER WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING, WITHOUT LIMITATION, WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR USE IN CONNECTION WITH: (I) 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.

GSI shall not be liable for any direct, indirect, incidental or consequential damages, including, without limitation, loss of anticipated profits or benefits. The sole and exclusive remedy is set forth in the Limited Warranty, which shall not exceed the amount paid for the product purchased. 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.

GSI assumes no responsibility for claims resulting from construction defects or unauthorized modifications to products which it manufactured. Modifications to products not specifically delineated in the manual accompanying the equipment at initial sale will void the Limited Warranty.

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. This Limited Warranty extends solely to products manufactured by GSI.

Prior to installation, the end-user has the responsibility to comply with federal, state and local codes which apply to the location and installation of products manufactured or sold by GSI.

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.



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