



TopDry Chute Controller

Installation Manual

PNEG-1894

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PNEG-1894

All information, illustrations, photos, and specifications in this manual are based on the latest information available at the time of publication. The right is reserved to make changes at any time without notice.

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Safety Guidelines for Bins

Safety guidelines must be followed at all times. This manual is written to help you understand safe operating procedures and problems that can be encountered by the operator and other personnel when using this equipment. Save these safety guidelines for future reference.

As owner or operator, you are responsible for understanding the requirements, hazards, and precautions that exist and to inform others as required. Unqualified persons must stay out of the work area at all times.

Alterations must not be made to the equipment. Alterations can produce dangerous situations resulting in **SERIOUS INJURY** or **DEATH**.

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

When necessary, you must consider the installation location relative to electrical, fuel and water utilities.

Personnel operating or working around equipment must read this manual. This manual must be delivered with equipment to its owner. Failure to read this manual and its safety instructions is a misuse of the equipment.

This product is intended for the use of grain storage only. Any other use is a misuse of the product.

Sidewall bundles or sheets must be stored in a safe manner. The safest method of storing sidewall bundles is by laying them horizontally with the arch of the sheet upward, like a dome. Sidewall sheets stored on edge must be secured so that they cannot fall over and cause injury. Use care when handling and moving sidewall bundles.



This product has sharp edges, which may cause serious injury. To avoid injury, handle sharp edges with caution and always use proper protective clothing and equipment.

ST-0035

Cautionary Symbols Definitions

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.**



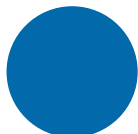
This symbol is used to address practices not related to personal injury.



This symbol indicates a general hazard.



This symbol indicates a prohibited activity.



This symbol indicates a mandatory action.

ST-0005

Safety Cautions

Use Personal Protective Equipment

- Use appropriate personal protective equipment:

Eye Protection



Respiratory Protection



Foot Protection



Hearing Protection



Head Protection



Fall Protection



Hand Protection



- Wear clothing appropriate to the job.
- Remove all jewelry.
- Tie long hair up and back.

ST-0004-1

Follow Safety Instructions

- **Warning:** If the information in the manual is not followed exactly, a fire or explosion may result, causing property damage, personal injury or loss of life.
- 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.
- If you do not understand any part of this manual or need assistance, contact your dealer.



ST-0025-1

Maintain Equipment and Work Area

- Understand service procedures before doing work.
- Keep area clean and dry.
- Do not service equipment while it is operating. Disconnect and lock-out power and fuel supply before entering equipment or before performing maintenance.
- Keep your equipment in proper working condition. Replace worn or broken parts immediately.
- Depressurize the fuel train before disassembling for service.
- Allow the fan to run for 20 minutes with the burner off to purge products of combustion and to cool the components before entering.
- Ensure grain chutes are empty by performing a manual dump before entering the bin.
- Check regularly for any developing gas plumbing leaks. Do not operate the dryer if any gas leak is detected. Shut down and repair before further operation.
- Before attempting to remove and reinstall the fan blade, contact GSI for the recommended procedure.



ST-0031-1

For Your Safety

- If you smell gas:
 - Do not try to light any appliance.
 - Extinguish any open flames.
 - Do not touch any electrical switch.
 - Immediately call your gas supplier. Follow the gas supplier's instructions.
 - If you cannot reach your gas supplier, call the fire department.
- The use and storage of gasoline and other flammable vapors and liquids in open containers in the vicinity of this appliance is hazardous.
- Improper installation, adjustment, alteration, service or maintenance can cause property damage, injury or death. Read the installation, operating and maintenance instructions thoroughly before installing or servicing this equipment. Installation and service must be performed by a qualified installer, service agency or the gas supplier.



ST-0024-1

1. Safety

Install and Operate Electrical Equipment Properly

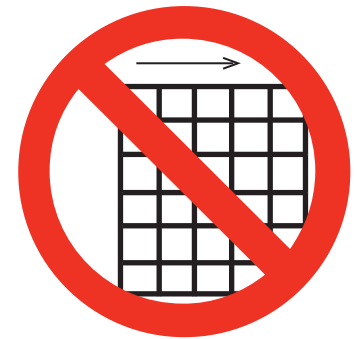
- Electrical controls should be installed by a qualified electrician and must meet the standards set by the National Electric Code, Canadian Electrical Code and all local and state codes.
- Disconnect and lock out all power sources before installing wires and cables or servicing equipment.



ST-0027-1

Handle and Use Equipment Properly

- Equipment is intended for the use of grain drying only. Any other use is a misuse of this equipment.
- The operating instructions in this manual pertain to the common cereal grains as indicated. When drying any other grain, contact GSI for additional recommendations.
- On LP fired units, set pressure regulator to avoid excessive gas pressure applied to the burner during ignition and operation. Do not exceed maximum recommended drying temperatures.
- Equipment has sharp edges that may cause serious injury. To avoid injury, handle sharp edges with caution and use proper protective clothing and equipment at all times.
- All guards must be in place before and during operation. Images of guards removed in this manual are for illustration purposes only.
- Use caution when working around high-speed fans, gas burners, augers and auxiliary conveyors which can start automatically.
- Keep hands, feet, and clothing away from moving parts.
- Do not bypass any safety device or interlock.
- Do not enter the dryer or bin while it is operating.
- Do not operate in an area where combustible material will be drawn into the dryer.



ST-0029-1

Exercise Caution When Drying Flammable Grains

- Be aware that some grains are highly flammable including but not limited to rapeseed, canola, linseed, sunflower and milo.
- All grain and seed must be whole (minimal cracking or crushing), clean and dust free before drying.
- Avoid dust and chaff from being drawn into the fan and heater.
- To reduce risk of fire, keep the fan, heater, drying plenum and ducts clean at all times.
- In the event of a fire (or suspected fire):
 1. Shut down the entire dryer.
 2. Turn off the fuel at the tank or supply valve.
 3. Shut off and lock electrical power.
 4. Evacuate the area.
 5. Call the fire department.



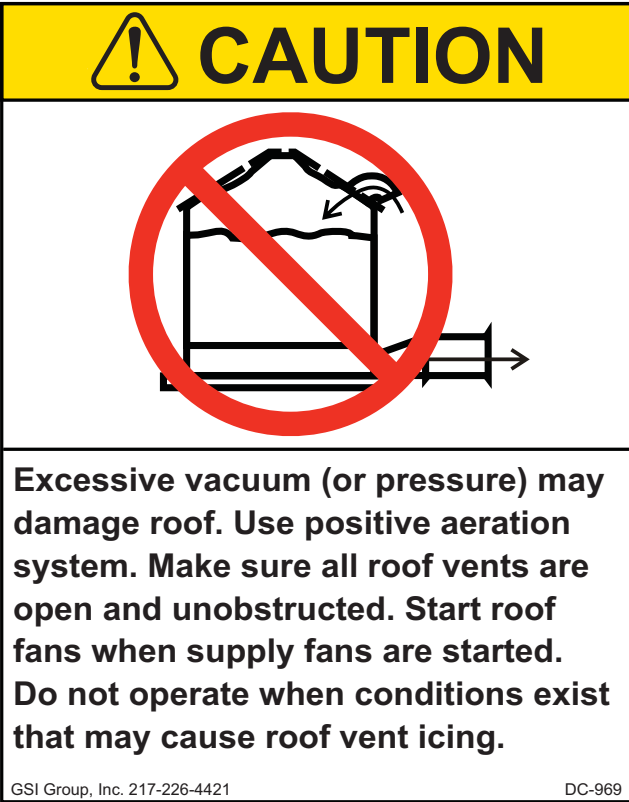
ST-0032-1

The safety decals on your equipment are safety indicators which must be carefully read and understood by all personnel involved in the installation, operation, service and maintenance of the equipment.



To replace a damaged or missing decal, contact us to receive a free replacement.

GSI Decals

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

Location	Decal #	Decals	Description
<p>Located next to aeration system.</p>	<p>DC-995</p>		<p>Caution Vacuum Pressure</p>

2. Decals

Location	Decal #	Decals	Description
On bin door covers	DC-GBC-1A		Danger Keep Clear of Augers
On bin door covers	DC-GBC-2A		Warning Unload Instructions

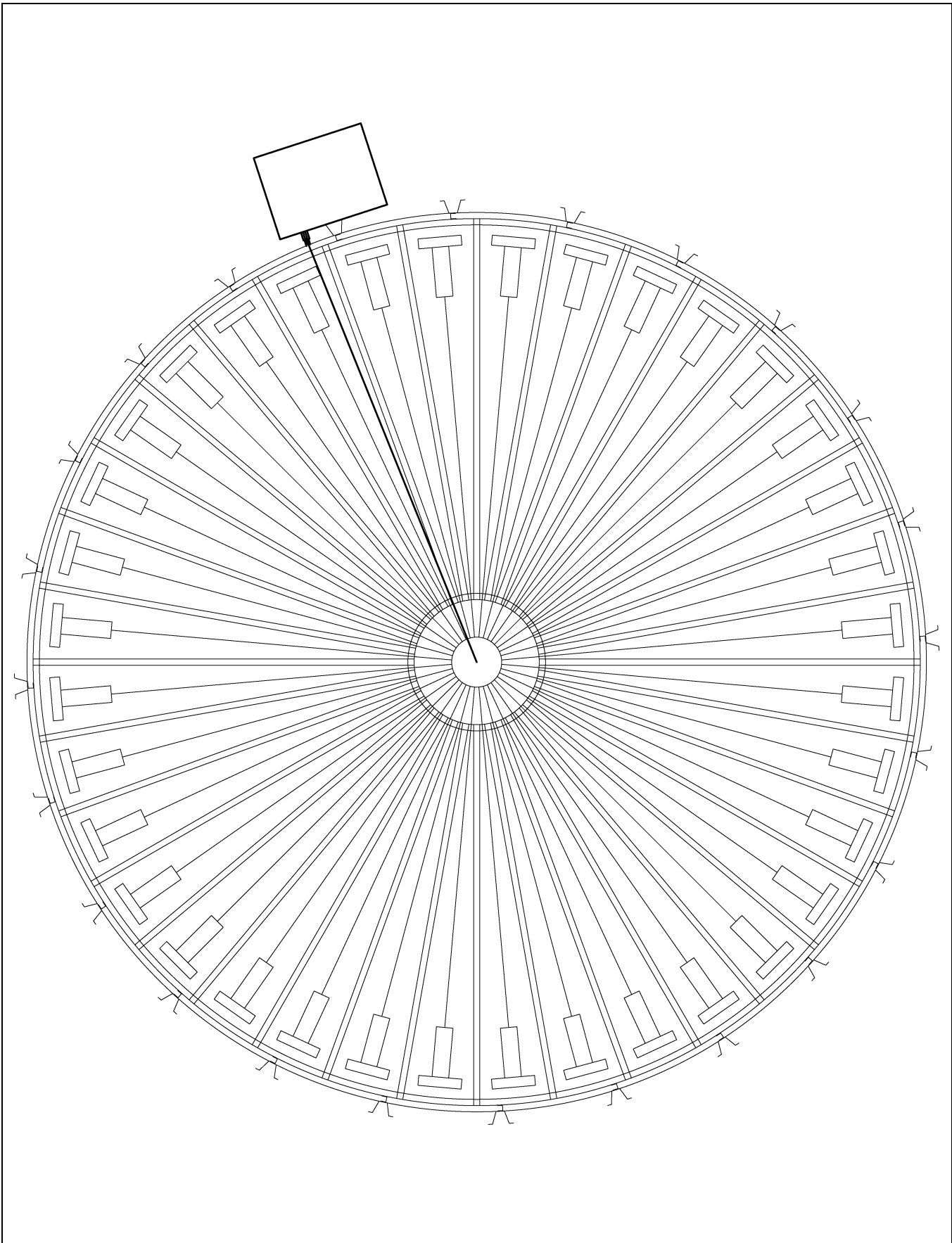


Figure 3A Chute Pulley Cable Location

4. Installation

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 13.)

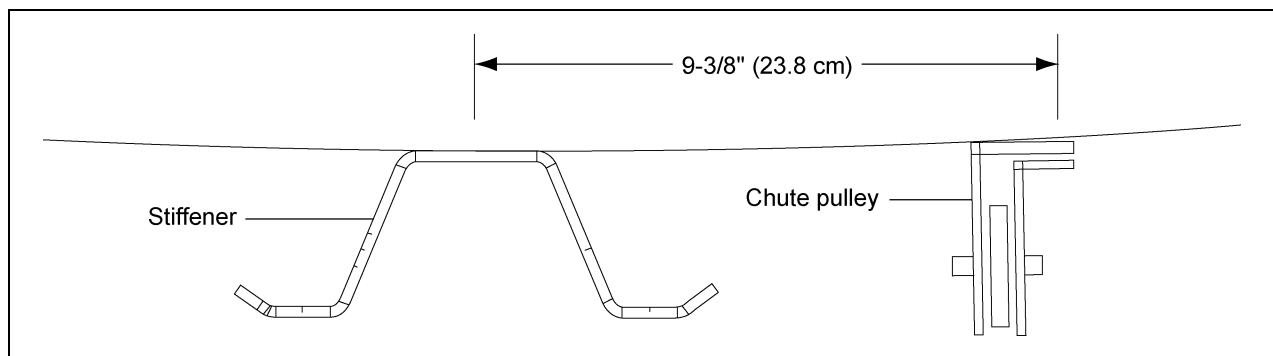


Figure 4A

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.)

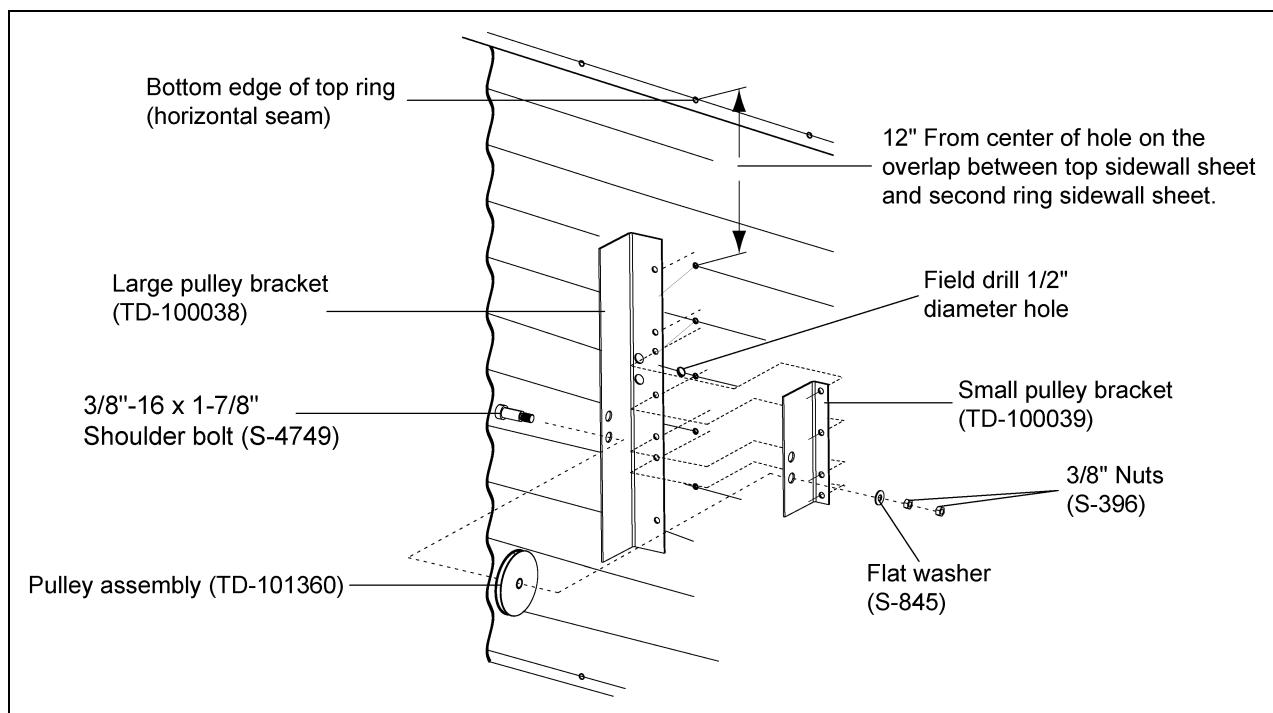


Figure 4B

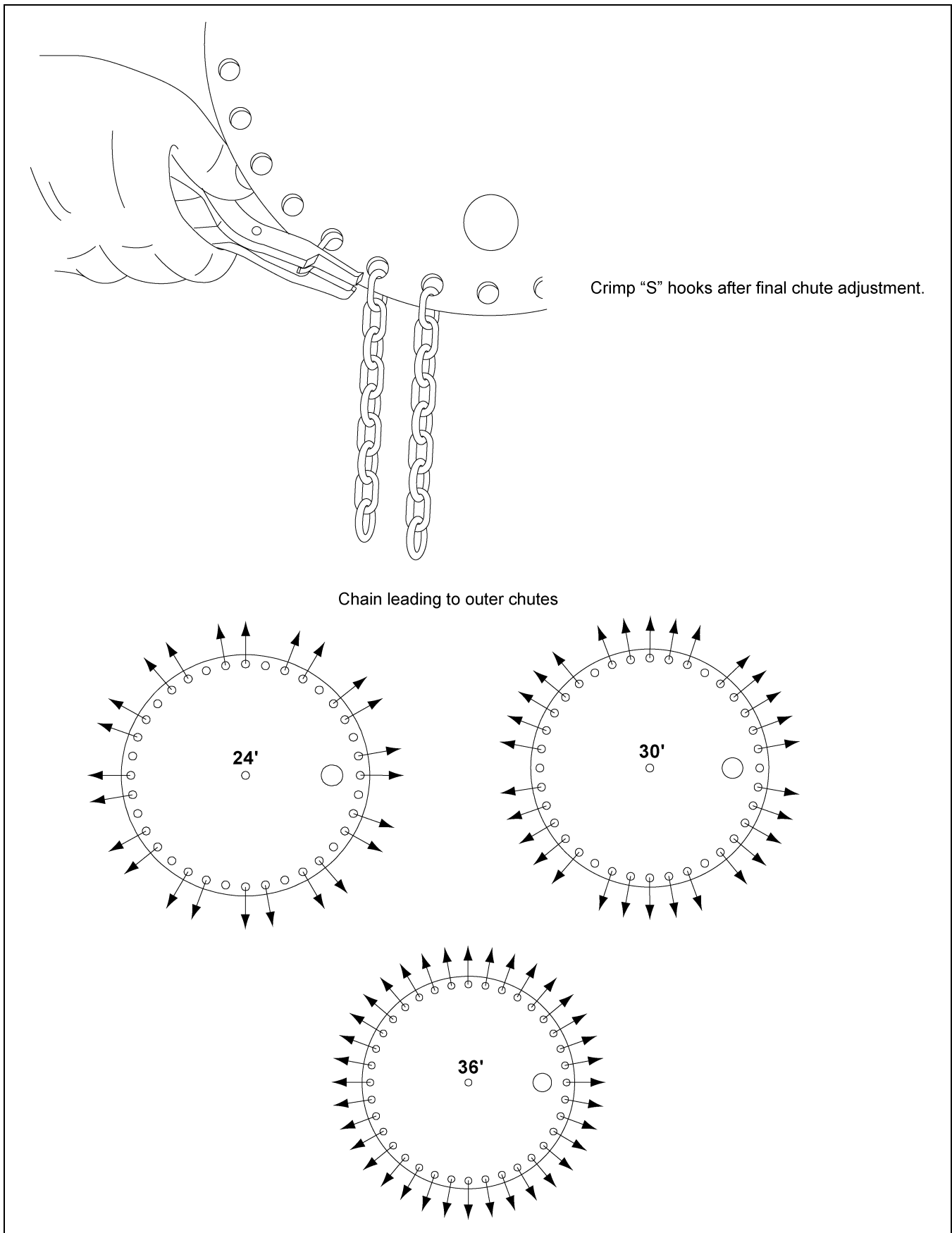


Figure 4C

4. Installation

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.)

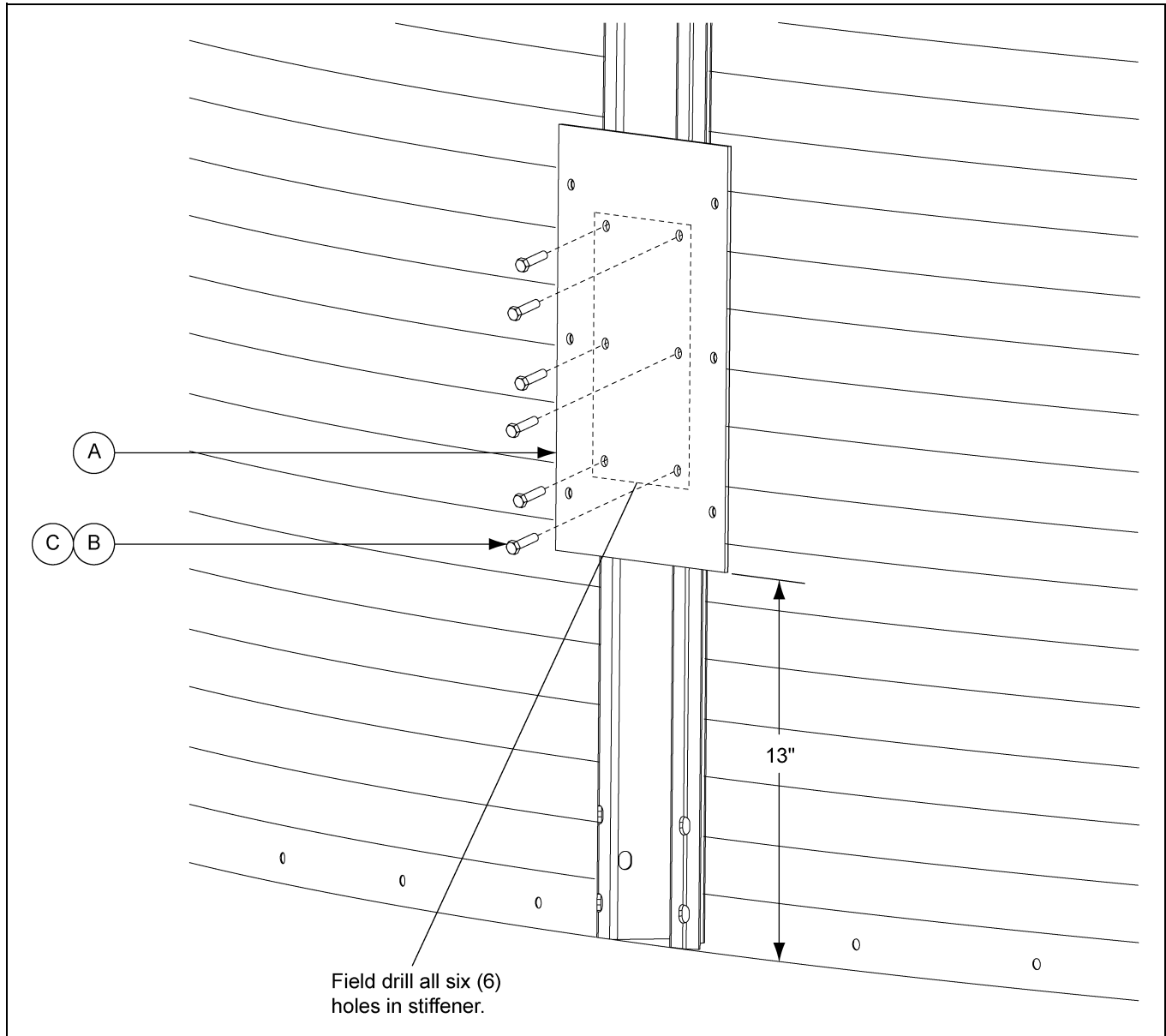


Figure 4D

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. 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.)

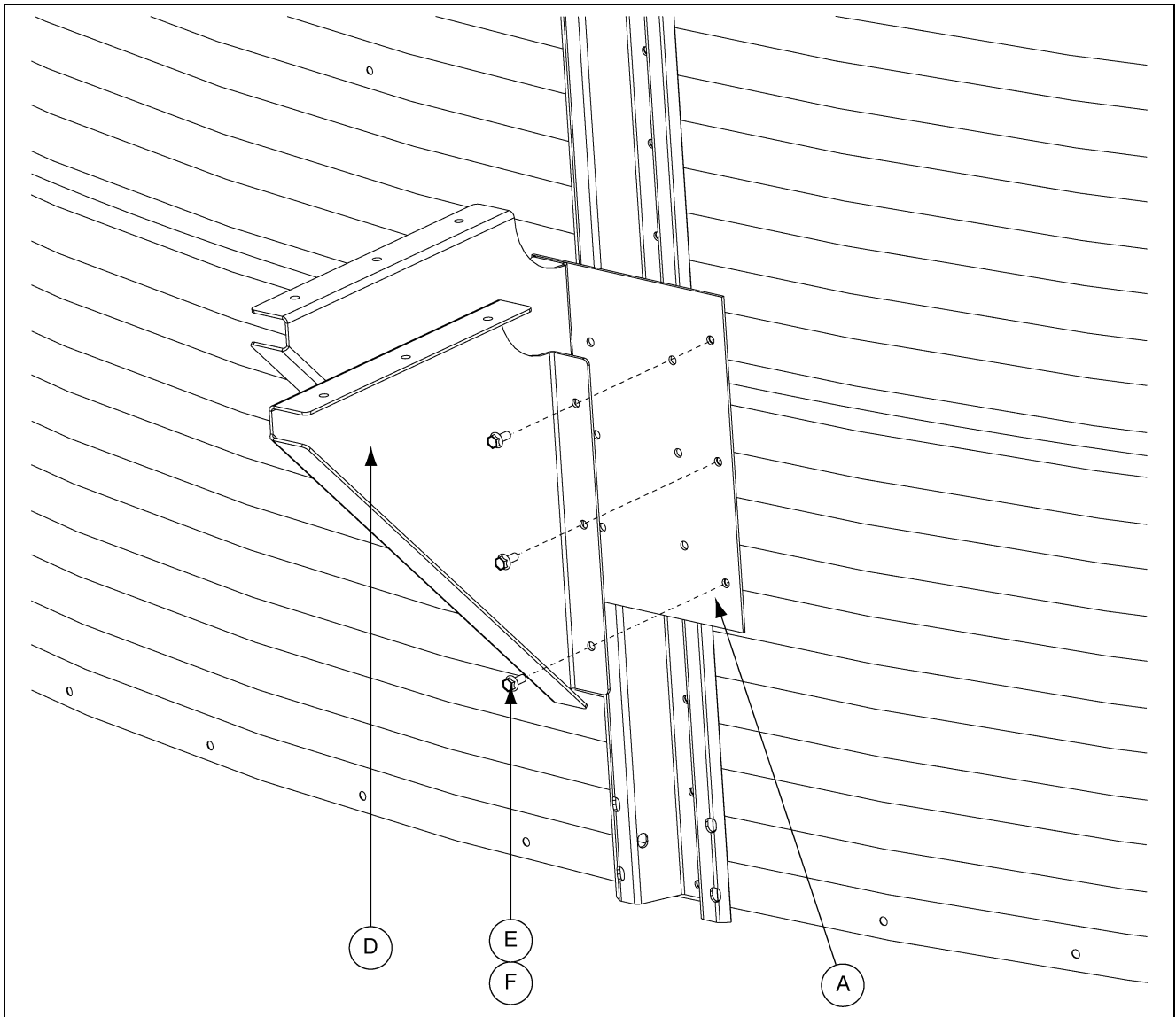


Figure 4E

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

4. Installation

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.)

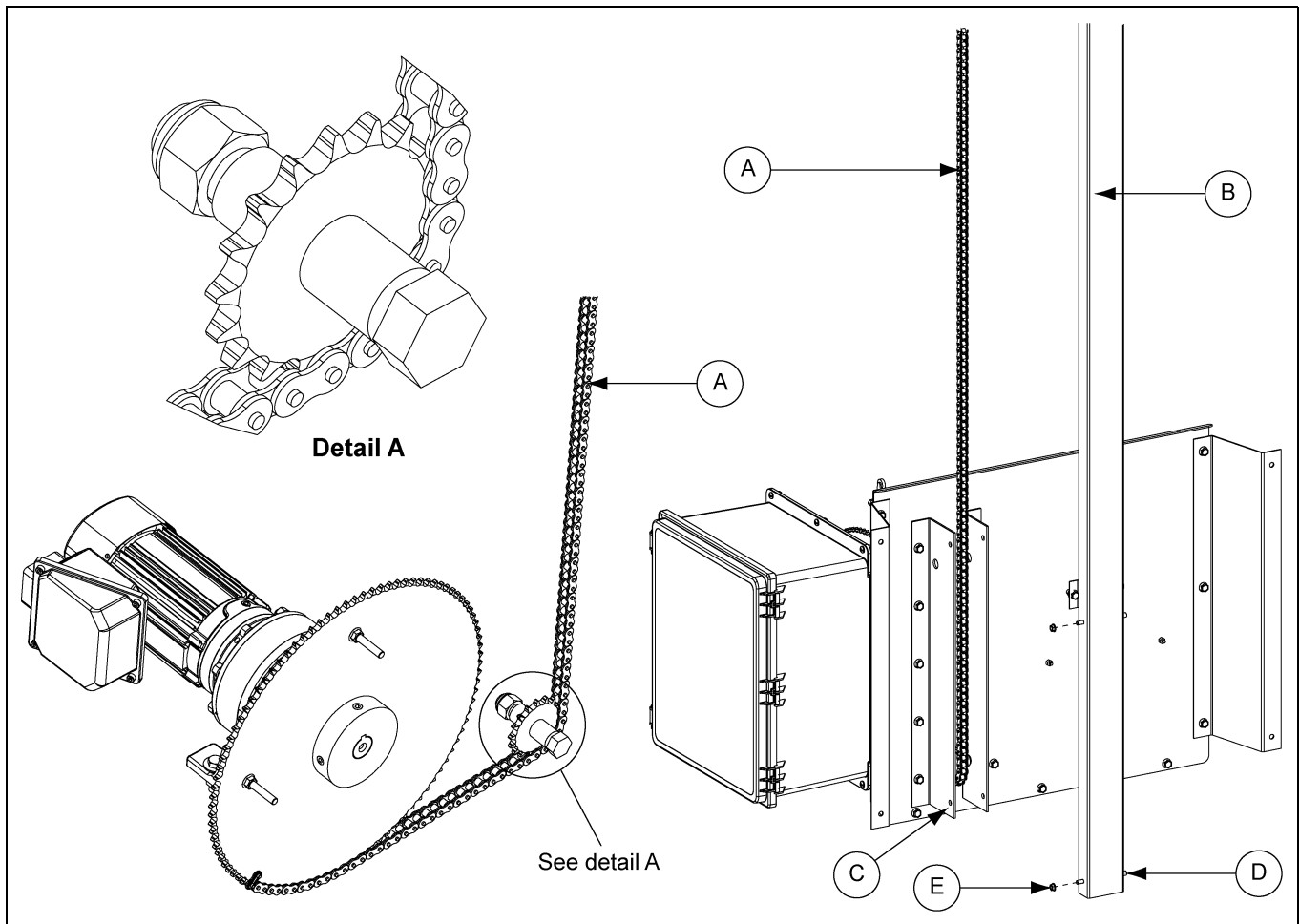


Figure 4F

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

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.

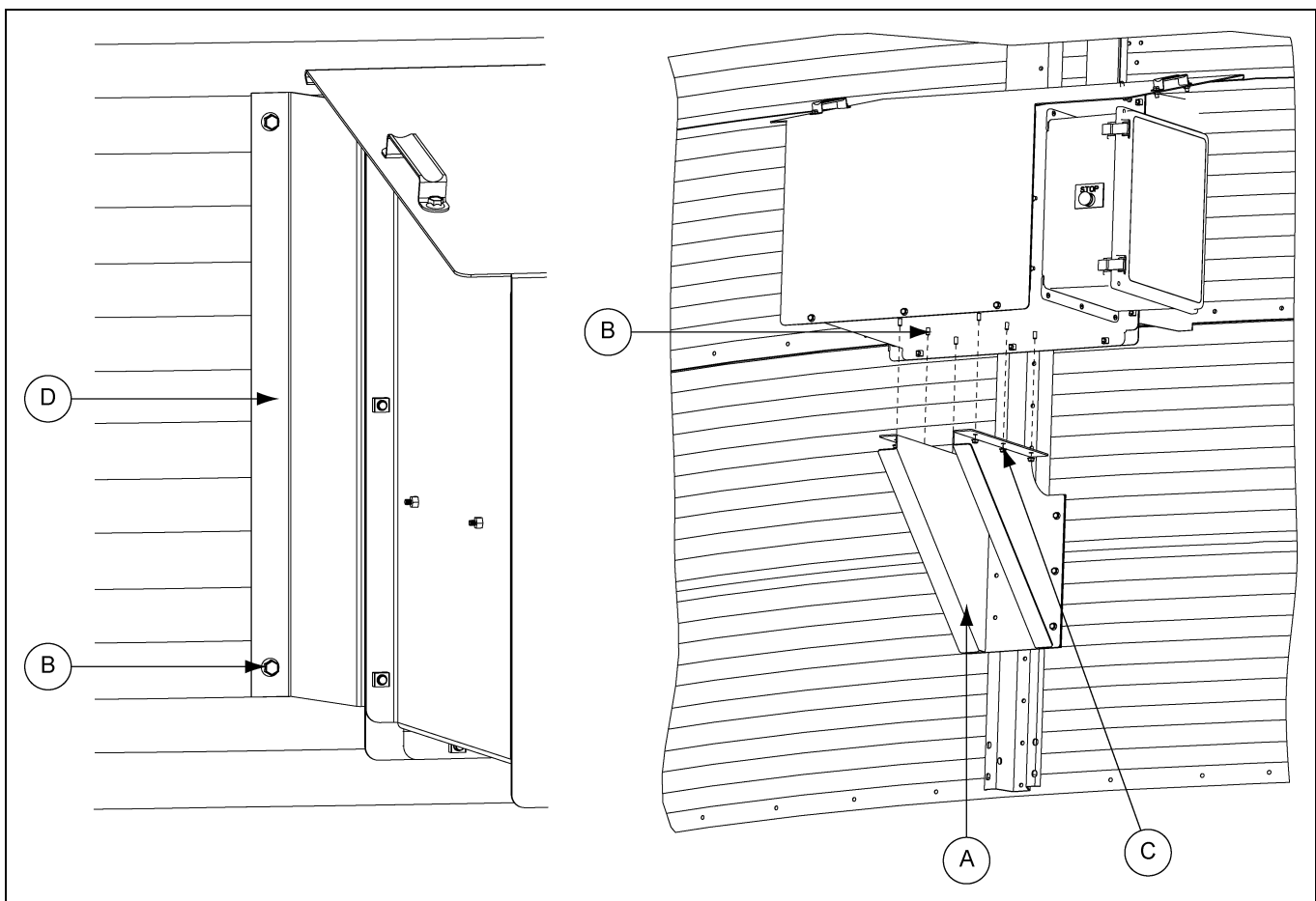


Figure 4G

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

4. Installation

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 24 and 25](#) 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](#).

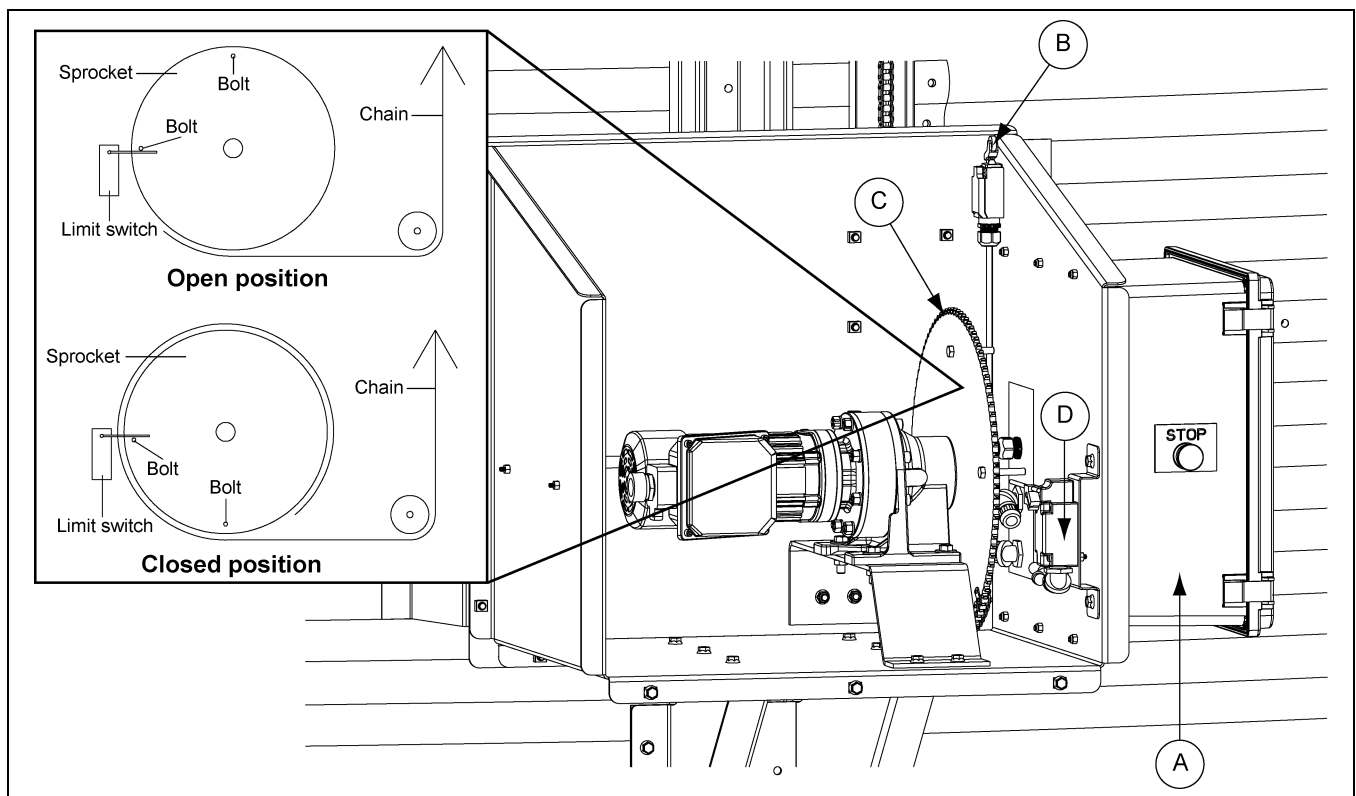


Figure 4H

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

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.)

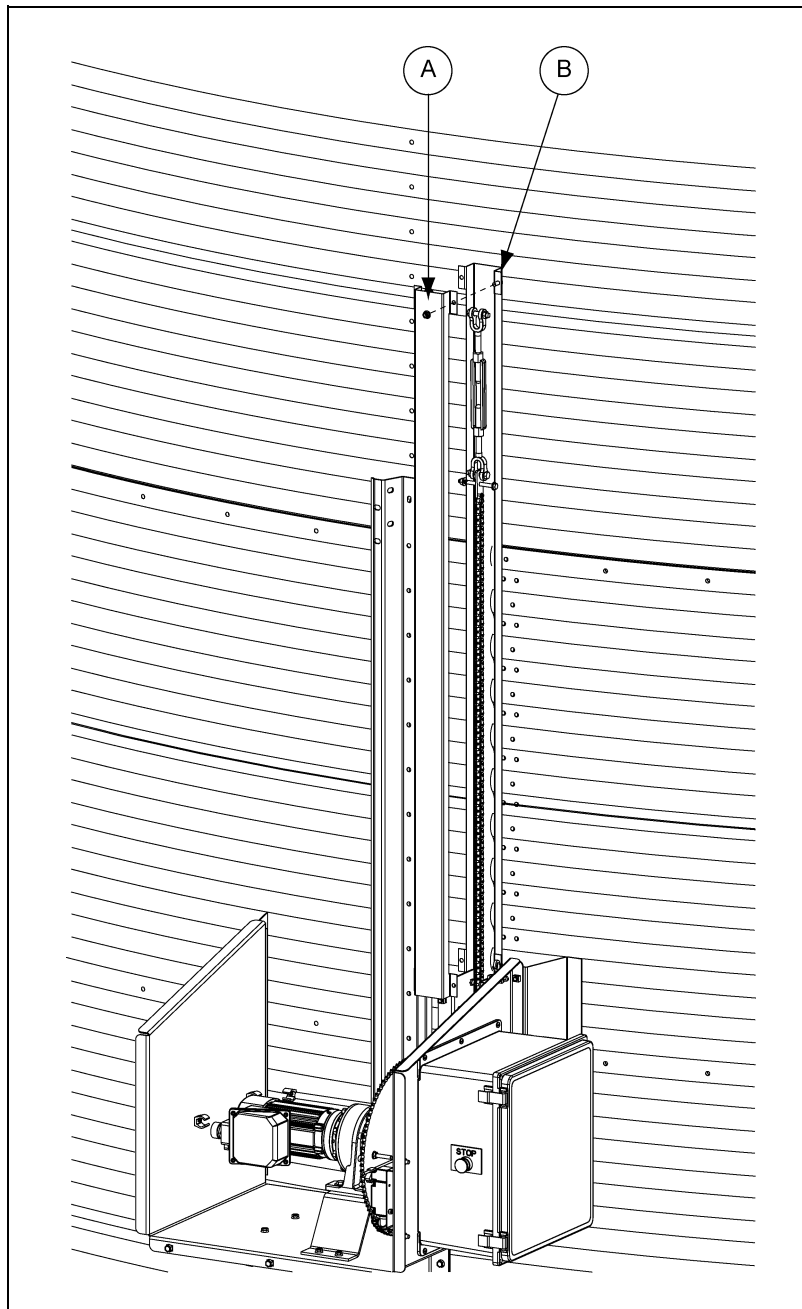


Figure 4I

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

4. Installation

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

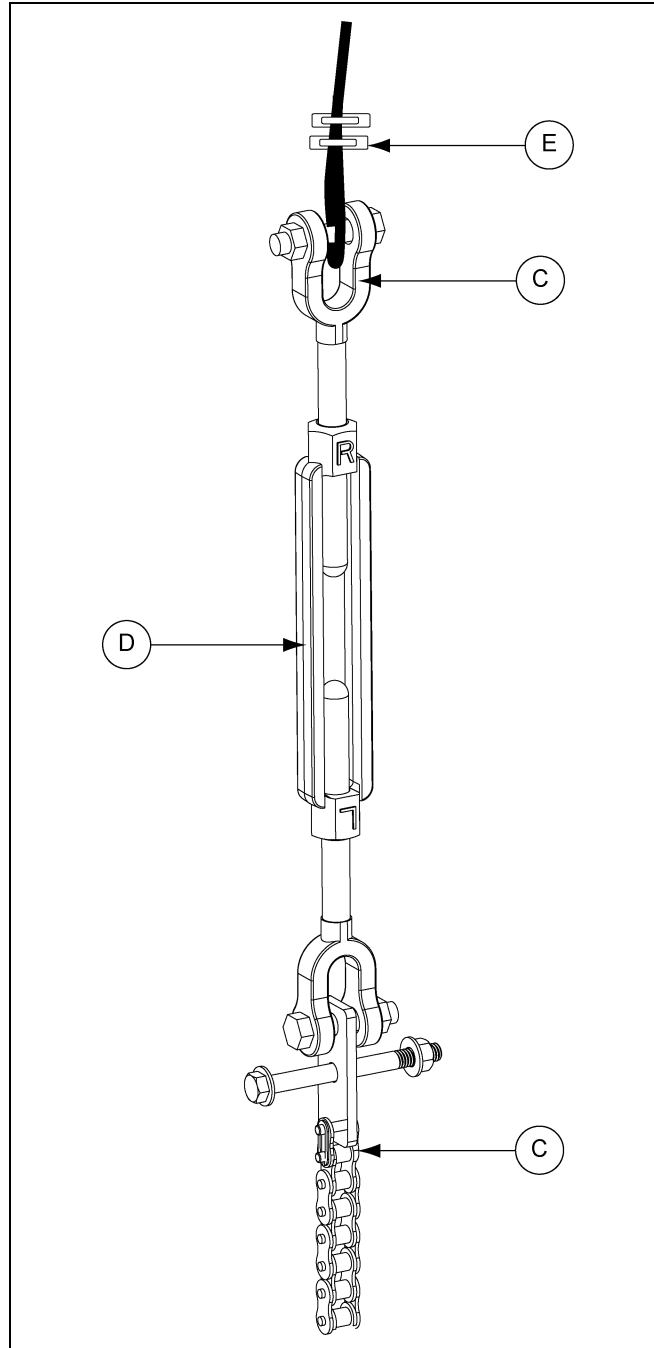


Figure 4J

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.)*

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 15.](#)) 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 20.](#)
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.](#))

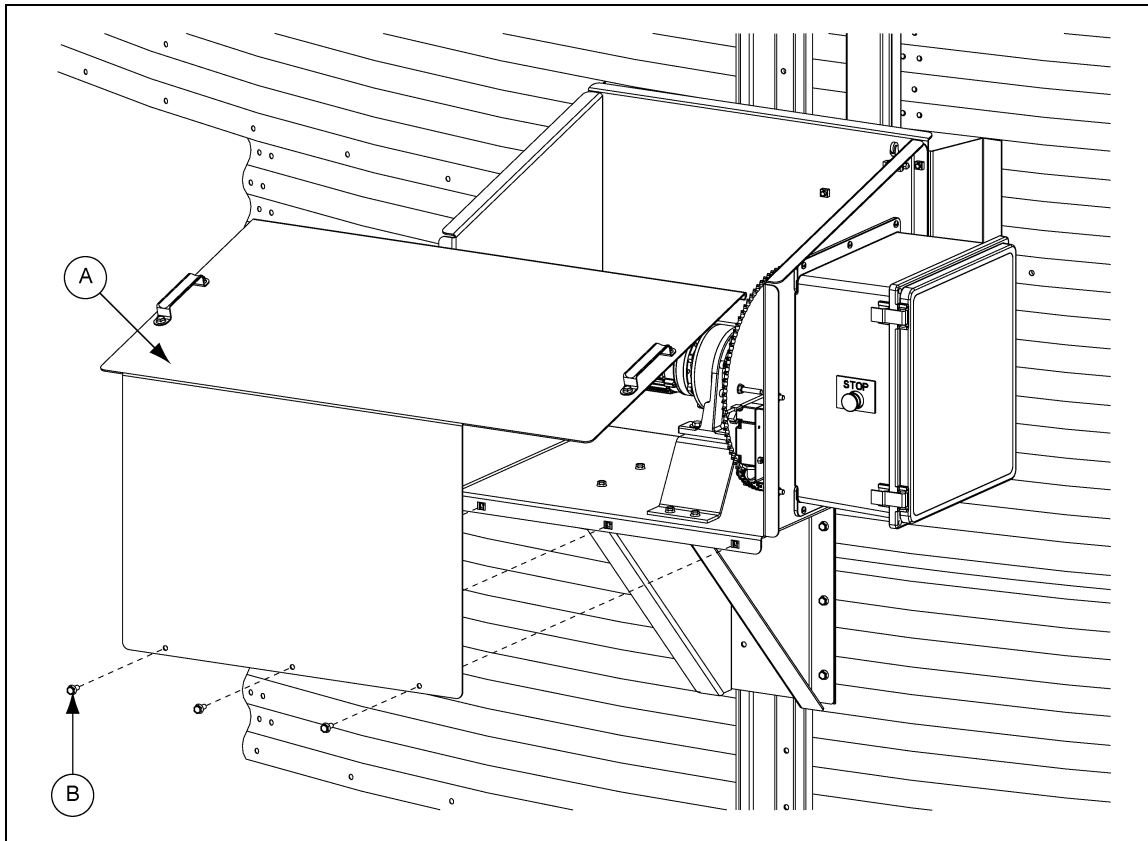
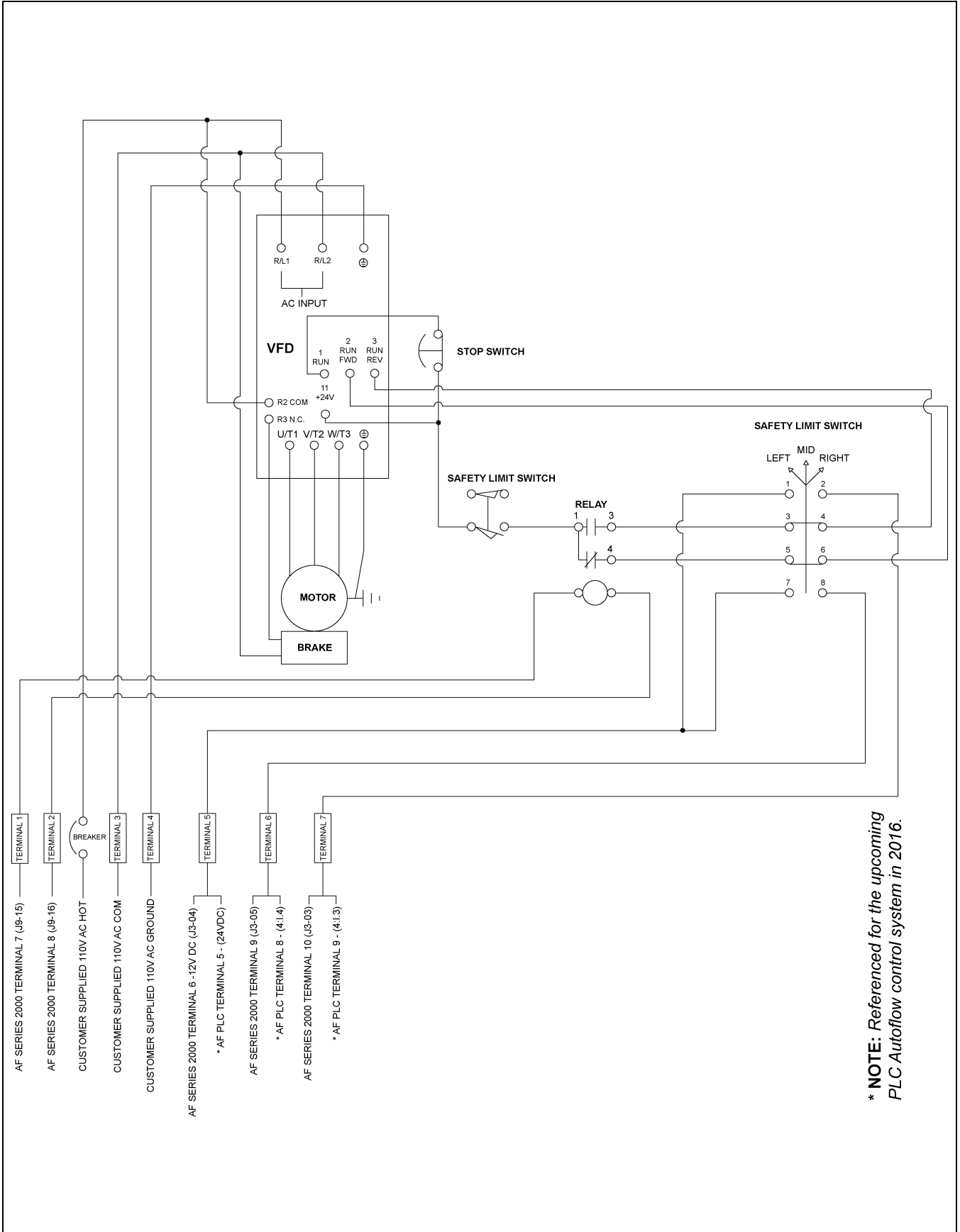


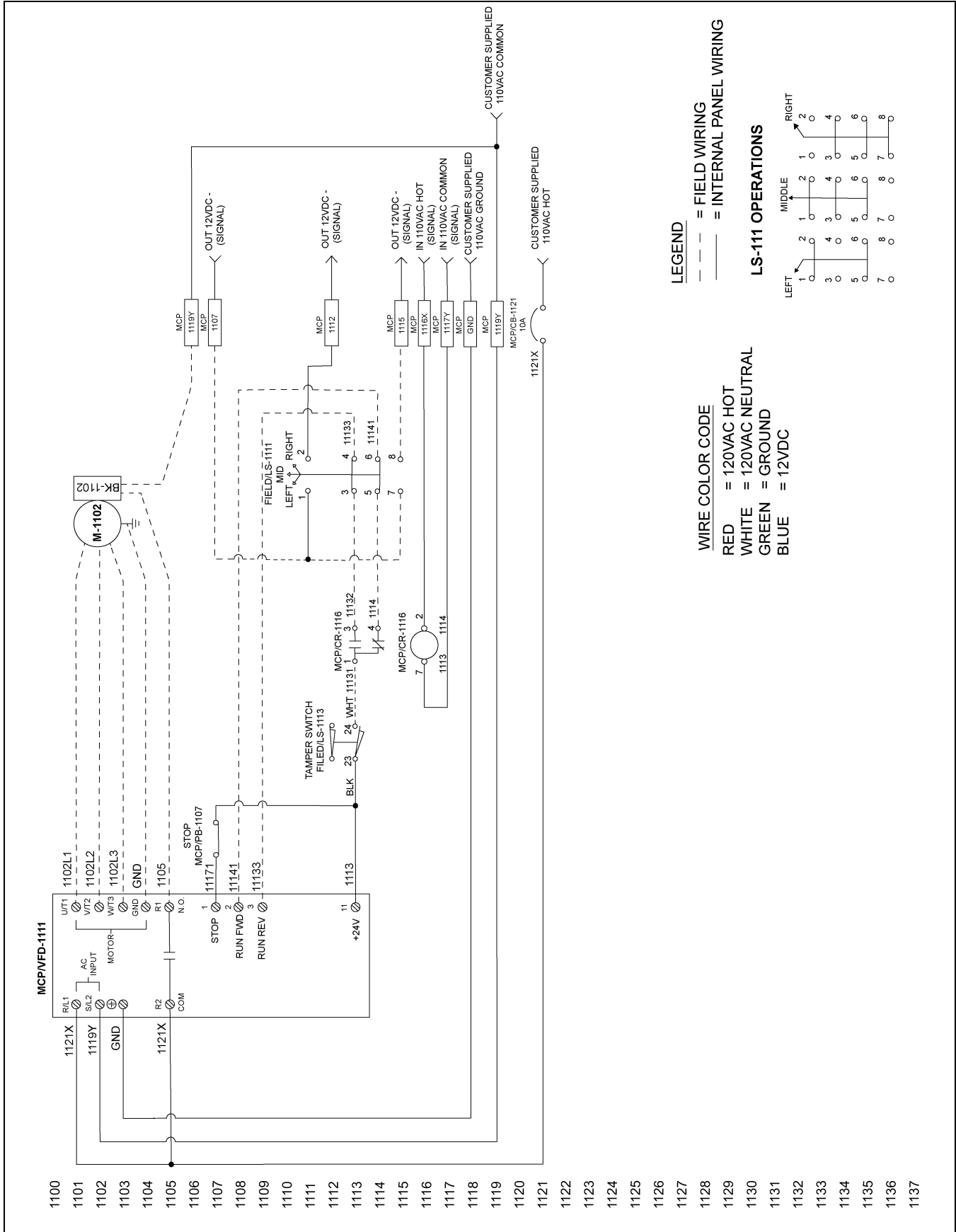
Figure 4K

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



TopDry Chute Control Panel Wiring Schematic



NOTES

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	
AP Fans and Flooring	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	
AP and Cumberland	Flex-Flo/Pan Feeding System Motors	2 Years	
Cumberland Feeding/Watering Systems	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 *	
Grain Systems	Grain Bin Structural Design	5 Years	
Grain Systems Farm Fans Zimmerman	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 (12th) month from the date of purchase and continuing until the sixtieth (60th) 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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