

6", 8", 10" and 12" Horizontal Bin Unloader

Assembly & Operation Manual

PNEG-1429

Date: 02-07-07

THE GSI GROUP



PNEG-1429

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1. INTRODUCTION

READ THIS MANUAL carefully to learn how to properly use and install equipment. Failure to do so could result in personal injury or equipment damage.

INSPECT the shipment immediately upon arrival. The Customer is responsible for ensuring that all quantities are correct. Report any damage or shortages by recording a detailed description on the Bill of Lading to justify the Customer's claim from the Transport Firm.

THIS MANUAL SHOULD BE CONSIDERED a permanent part of your equipment and should be easily accessible when needed.

WARRANTY is provided as part of the company's support program for customers who use and maintain their equipment as described in the manual. The warranty is explained on the warranty page located on the inside of the back cover.

This warranty provides you the assurance that the company will back its products where defects appear within the warranty period. Should the equipment be abused, or modified to change its performance beyond the factory specifications, the warranty will become void.

2. SAFETY

2.1 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 it's 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 an imminently hazardous situation which, if not avoided, will result in death or serious injury.



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



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



CAUTION used without the safety alert symbol indicates a potentially hazardous situation which, if not avoided, may result in property damage.



NOTE indicates information about the equipment that you should pay special attention to.

2.2 Safety Instructions

GSI's principle concern is your safety and the safety of others associated with grain handling 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.

Operate Unload Equipment Properly

Make sure ALL equipment is locked in position before operating.

NEVER start equipment until ALL persons are clear of the work area.

Be sure all operators are adequately rested and prepared to perform all functions of operating this equipment.

NEVER allow any person intoxicated or under the influence of alcohol or drugs to operate the equipment.

NEVER work alone.

Make sure someone is nearby who is aware of the proper shutdown sequence in the event of an accident or emergency.

ALWAYS think before acting. NEVER act impulsively around the equipment.

NEVER allow anyone inside a bin, truck or wagon which is being unloaded by an auger or conveyor. Flowing grain can trap and suffocate in seconds.

Use ample overhead lighting after sunset to light the work area.

Keep area around intake free of obstacles such as electrical cords, blocks, etc., that might trip workers.

NEVER drive, stand or walk under the equipment.

Use caution not to hit the auger when positioning the load.

ALWAYS lockout ALL power to the equipment when finished unloading a bin.



**Operate Unload
Equipment Safely**

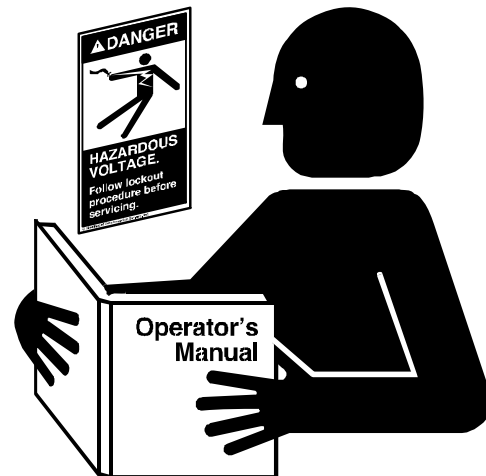
Follow Safety Instructions

Carefully read all safety messages in this manual and on your machine safety signs. 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 and need assistance, contact your dealer.



Read and Understand Manual

Install & Operate Electrical Equipment Properly

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

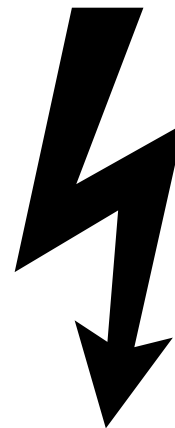
Electrical controls should be installed by a qualified electrician and must meet the standards set by the national electrical code and all local and state codes.

Disconnect and lock out all power sources before installing wires/cables or servicing equipment.

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 type of condition can damage the equipment.



Electric Shock Hazard

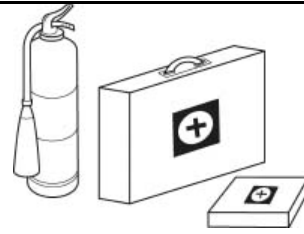
Safety

Prepare for Emergencies

Be prepared if fire starts.

Keep a first aid kit and fire extinguisher handy.

Keep emergency numbers for doctors, ambulance service, hospital, and fire department near your telephone.



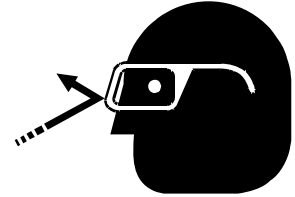
Keep Emergency Equipment Quickly Accessable.

Wear Protective Clothing

Wear close fitting clothing and safety equipment appropriate to the job.

Safety glasses should be worn at all times to protect eyes from debris.

Eye Protection



Wear gloves to protect your hands from sharp edges on plastic or steel parts.

Gloves



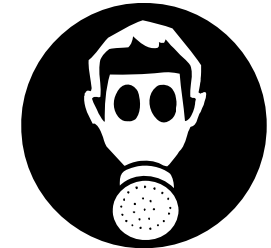
Wear steel toe boots to help protect your toes from falling debris.

Steel Toe Boots



A respirator may be needed if a hog house has poor ventilation. Waste fumes can be toxic.

Respirator



Remove all jewelry.

Tuck in any loose or dangling shoe strings.

Long hair should be tied up and back.

Wear hard hat to help protect your head.

Hard Hat



2.3 Operator Qualifications

1. The User/Operator must be competent and experienced to operate auger equipment. Anyone who works with or around augers must have good common sense in order to be qualified. These persons must also know and meet all other qualifications, such as:
 1. Any person who has not read and/or does not understand all operation and safety instructions is not qualified to operate any auger systems.
 2. Certain regulations apply to personnel operating power machinery. Personnel under the age of 18 years may not operate power machinery, including augers. It is your responsibility, as owner and/or supervisor, to know what these regulations are in your area or situation.
 3. Unqualified or incompetent persons are to remain out of work area.
 4. O.S.H.A. (Occupational Safety & Health Administration) regulations state: “At the time of initial assignment and at least annually thereafter, the employer shall instruct every employee in the safe operation and servicing of all equipment with which the employee is, or will be involved”. Federal Occupational Safety & Health Standards for Agriculture. Sub part D, Section 19287.57 (a) (6).

2. As a requirement of O.S.H.A., it is necessary for the employer to train the employee in the safe operating and safety procedures for this auger. We included this sign-off sheet for your convenience and personal record keeping. All unqualified people are to stay out of the work area at all times. It is strongly recommended that another qualified person who knows the shutdown procedure is in the area in the event of an emergency. A person who has not read this manual and understands all operating and safety instructions, is not qualified to operate the machine.

Date	Employees Name (Printed)	Employees Signature
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		

SAFETY 1st

***Replace missing guards and shields
FREE OF CHARGE!***

Our equipment is built to provide many years of dependable service to our customers through durable craftsmanship.

One of the most important aspects of our engineering is **SAFETY 1st** design throughout all product lines. Safety is NO ACCIDENT!

That is why we are implementing its **SAFETY 1st** program. Should you ever need guards, shields, safety decals, or owner/operator manuals, simply contact us, and we will supply you with them **FREE OF CHARGE!**

While it is our main goal to be the world leader in auger manufacturing, it is always our first priority to keep our customers safe.

If you need any of the above listed safety items or have safety questions, please contact:

<p>The GSI Group PO Box 20 1004 E. Illinois Street Assumption, IL 62510 Ph: 217-226-4421</p>
--

3. SAFETY DECALS

Check components shown below to insure that the safety decals are in place and in good condition. If a decal cannot be easily read for any reason or has been painted over, replace it immediately. Contact your dealer or the manufacturer to order a replacement decal free of charge.

Contact:

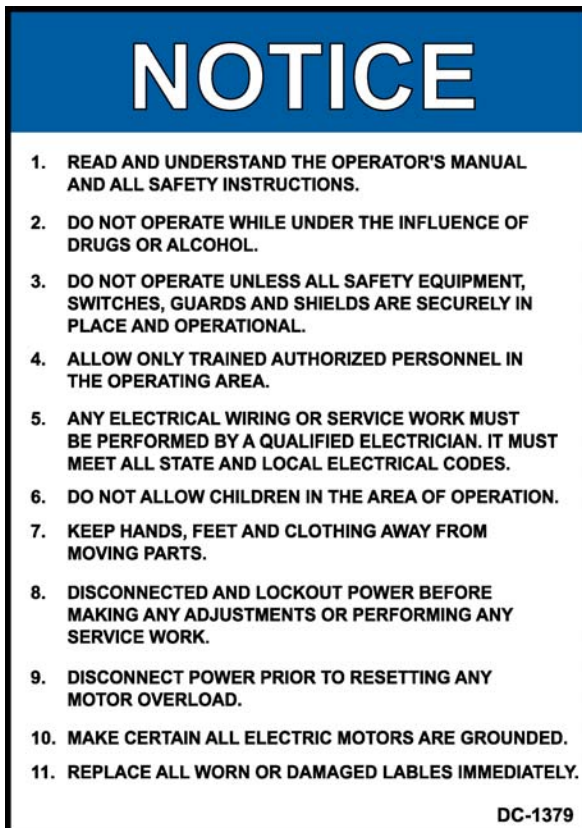
The GSI Group
 1004 E. Illinois Street
 Assumption, IL 62510
 Ph: 217-226-4421



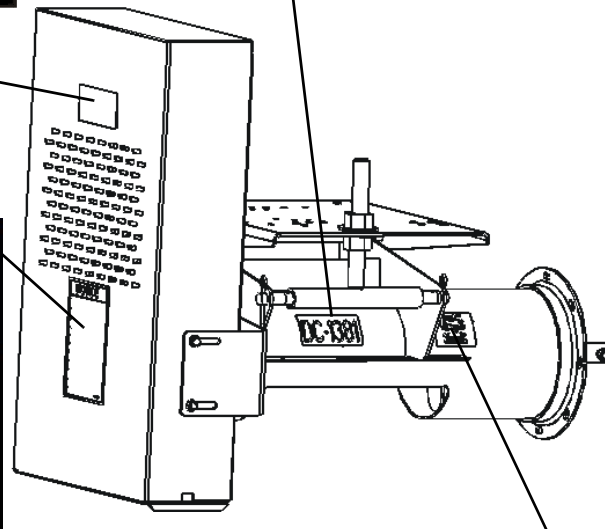
DC-994



DC-1381



DC-1379

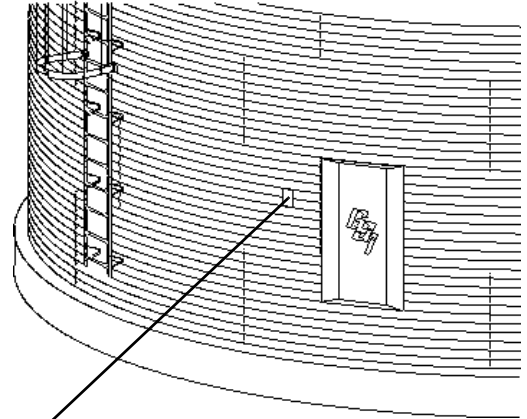


DC-1234

Safety Decals

Check components shown below to insure that the safety decals are in place and in good condition. If a decal cannot be easily read for any reason or has been painted over, replace it immediately. Contact your dealer or the manufacturer to order a replacement decal free of charge.

DANGER Sign No. DC-1395 was supplied with your bin unloading equipment. This safety sign should be applied to the side of the bin near the bin opening, so it will be viewed by people entering into the bin storage building. Do not cover any safety signs or any other signs that are already there.



DC-1395

⑥

Note: Please remember, safety signs provide important safety information for people working near bin unloading equipment that is in operation.

4. ASSEMBLY & INSTALLATION

4.1 Assembling the Discharge Flight

1. Insert the Connecting Shaft into the end closest to the flight.
2. Align the holes in the shaft, securing it with Grade 8 bolts and stover nuts.
(See Chart Below).
3. Insert the Drive Shaft into the opposite end of flight with keyway facing outward.
4. Align the holes in the shaft and secure with Grade 8 bolts and stover nuts.
(See Chart Below) (See Figure 4A).

Flight Hardware	
6"	3/8" x 2" - 16 Grade 8 Hex Bolts
8"	7/16" x 3" - 14 Grade 8 Hex Bolts
10"	1/2" x 3-1/2" - 13 Grade 8 Hex Bolts
12"	5/8" x 4" - 11 Grade 8 Hex Bolts

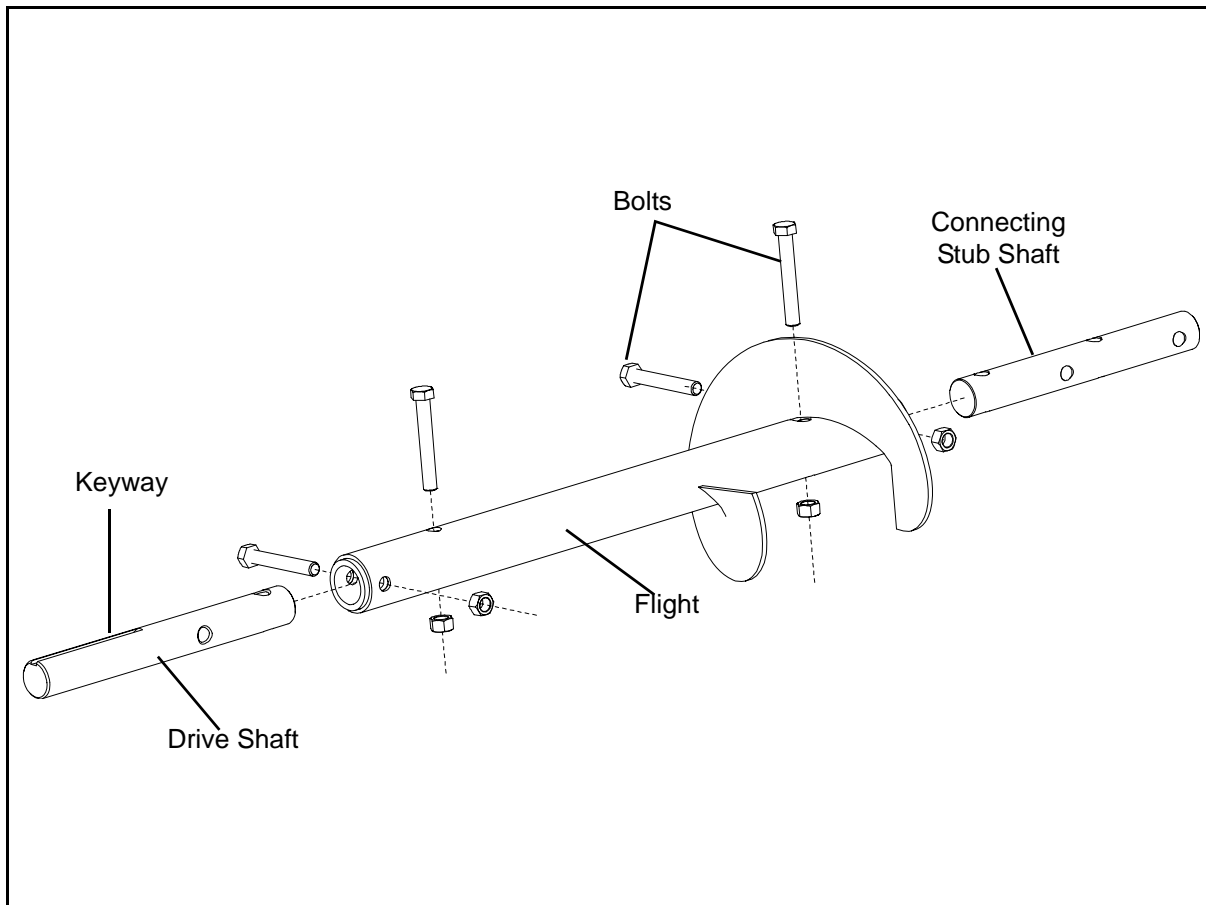


Figure 4A

Assembly & Installation

4.2 Inserting Discharge Flight

1. Once the Discharge Tube has been bolted to the unload tube, slide the Discharge Flight into the tube and align the connecting shaft holes with the holes on the unload flight. (See Figure 4B).
2. With holes aligned, secure with Grade 8 bolts and stover nuts.

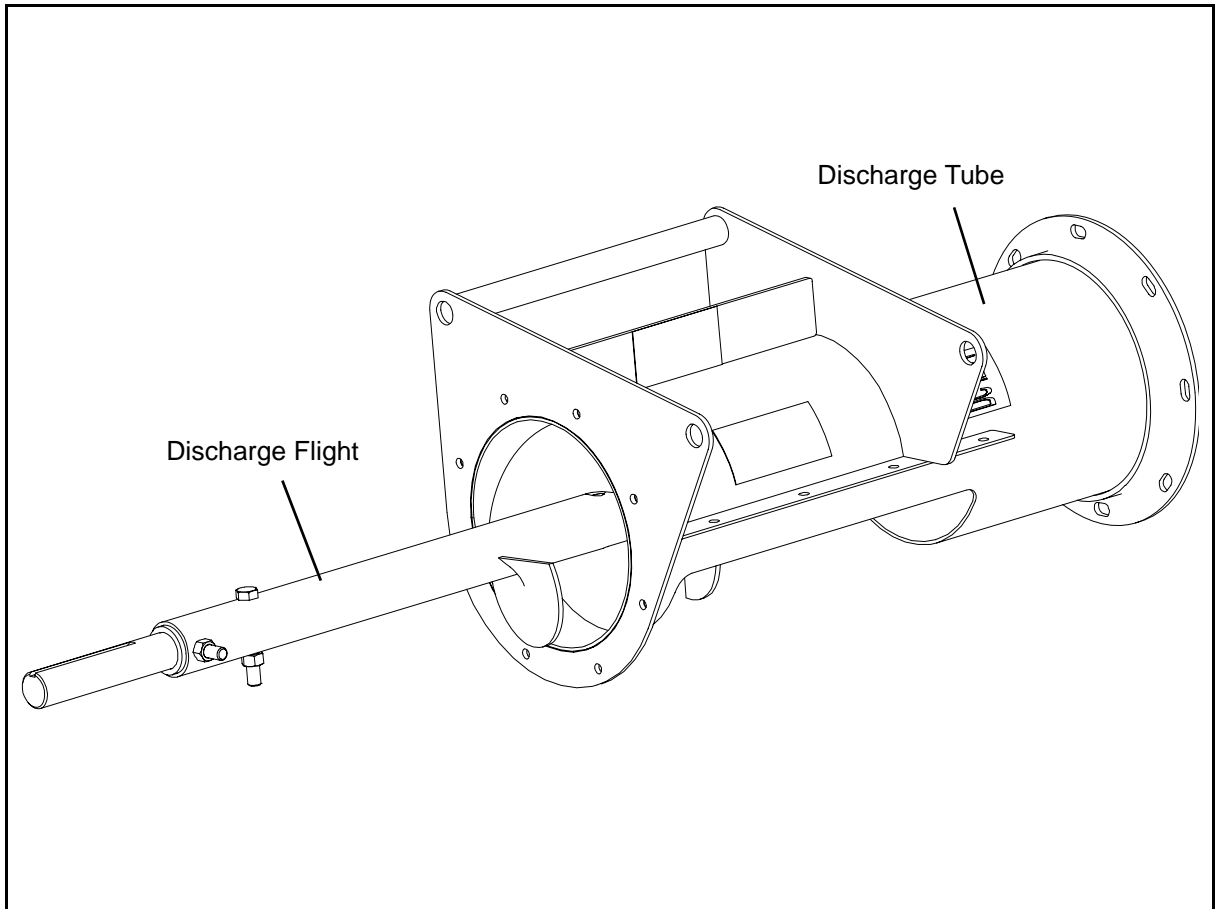


Figure 4B

4.3 Mounting Bearing to Bearing Plate

- 1. Align bolt holes on Bearing Flange with bolt holes on Bearing Plate.
- 2. Secure Bearing to Bearing plate using appropriate bolts, lock washers, and nuts.
(See Chart Below) (See Figure 4C).

Bearing Bolts	
6"	7/16" x 1-1/2" - 14 Hex Bolts
8" & 10"	1/2" x 1-1/2" - 13 Hex Bolts
12"	5/8" x 2" - 11 Hex Bolt

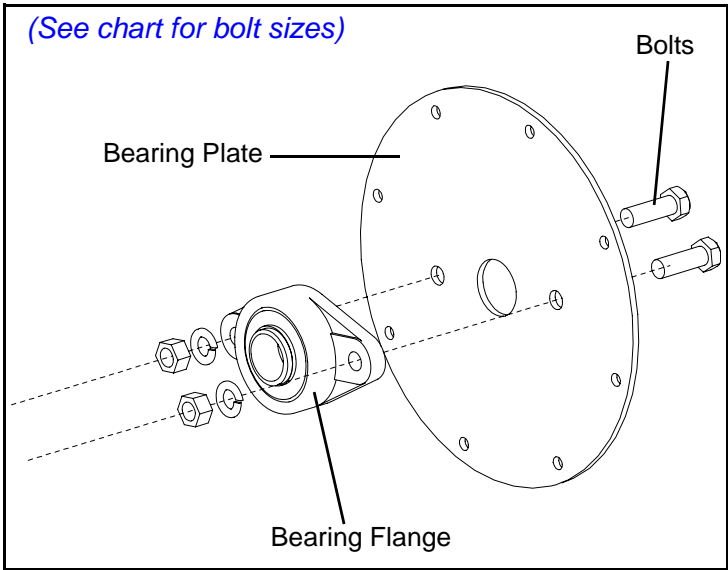


Figure 4C

Assembly & Installation

4.4 Installing Bearing Plate onto Tube

1. Align Bearing with Drive Shaft and slip Shaft through bearing.
2. Rotate Plate until bolt holes in tube flange and plate align. Secure with appropriate bolts, and Whiz nuts. *(See Chart Below).*

Bearing Plate Bolts	
6" & 8"	5/16" x 1" - 18 Hex Bolt
10" & 12"	3/8" x 1-1/4" - 16 Hex Bolt
10" & 12"	3/8" x 1" - 16 Hex Bolt

3. Only Secure with UPPER and LOWER four (4) bolts. *See Figure 4D* The other four (4) bolts will be installed later with the Belt Guard Mounting Brackets.

Note: *On the 10" & 12" systems use the four (4) 3/8" x 1" - 16 bolts in this step, the longer bolts will be used to attach the Belt Guard Mounting Brackets in a future step.*

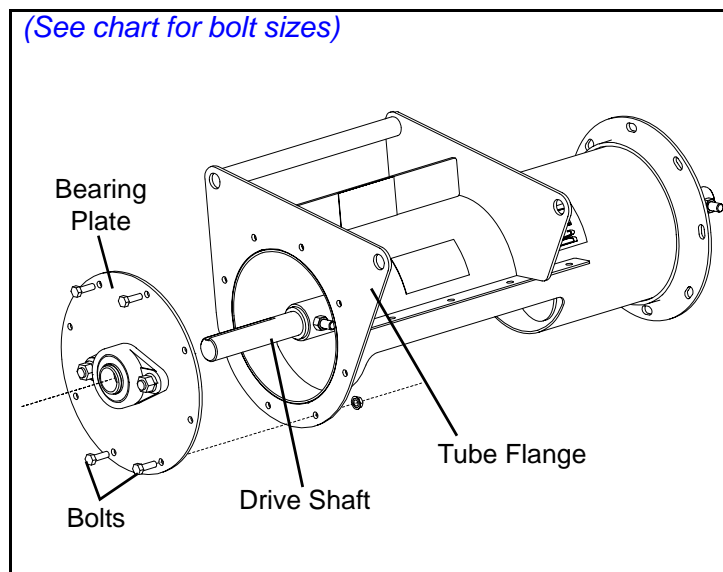


Figure 4D

4.5 Installing the Motor Mount Adjuster

1. Place Motor Mount Adjuster between the Back Plate and Head Plate on the Discharge Tube.
2. Insert Pivot Rod through the Tube plates and Motor Mount Adjuster. Secure in place with two (2) 3/16" x 2" cotter pins. (See Figure 4E).

Note: Bend all cotterpins to retain parts (See Figure 4E insert).

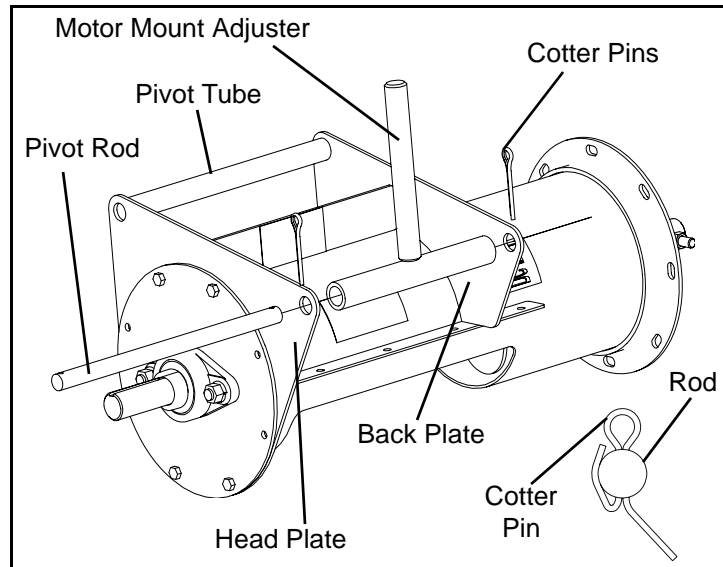


Figure 4E

Assembly & Installation

4.6 Installing the Motor Mount Plate

1. Secure one (1) of the motor mount adjustment nuts and one (1) the motor mount adjustment washers approximately 3/4 of the way down the motor mount adjuster's threaded shaft.
2. Once the nut and washer is secure, slip the Motor Mount Plate over the adjuster and align the pivot holes with the pivot tube. *(See Figure 4F).*
3. Slide the Motor Mount Pivot Rod through the pivot tube on the Discharge Tube.
4. When the pivot rod begins to extend through the pivot tube install the spacers, BETWEEN the Back Plate and the inner face of the Motor Mount Plate. *(See Figure 4G).*

Note: *The number of spacers will vary between each size of unloader.*

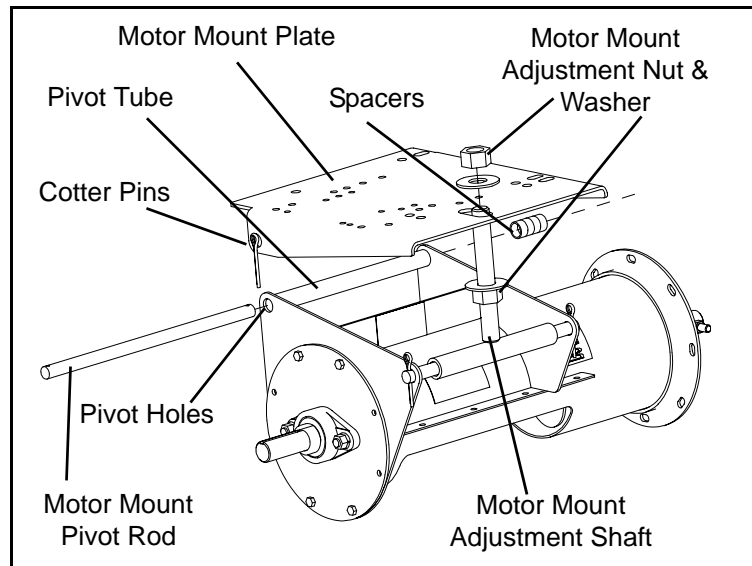


Figure 4F

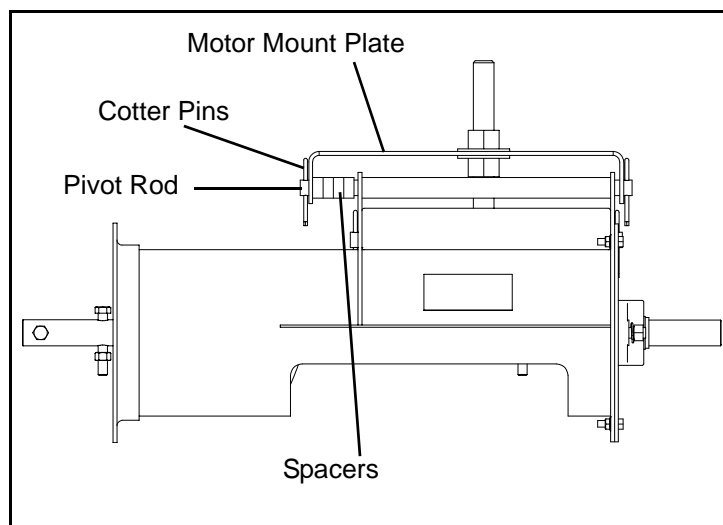


Figure 4G

4.7 Installing the Belt Guard Brackets

1. Align the holes on the Bearing Plate with the slots on the Belt Guard Mounting Brackets.
2. Secure the Brackets with proper bolts, flat washers, and Whiz nuts. *(See Chart Below)*
(See Figure 4H).

Note: *DO NOT tighten the bolts completely. The brackets will need to be rotated to align the slot in the Belt Guard with the shafts on the motor and flight.*

Bearing Plate Bolts	
6" & 8"	5/16" x 1" - 18 Hex Bolt
10" & 12"	3/8" x 1-1/4" - 16 Hex Bolt

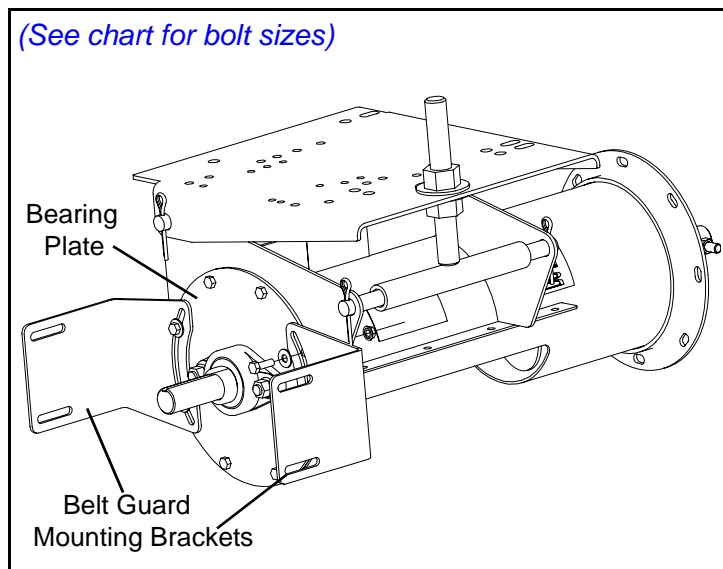


Figure 4H

Assembly & Installation

4.8 Installing the Lock Collar

1. Slide the Lock Collar over the Drive Shaft, positioning it against the bearing. Do not tighten the lock collar at this time as it will be tightened later in the assembly. (See [Figure 4I](#)).

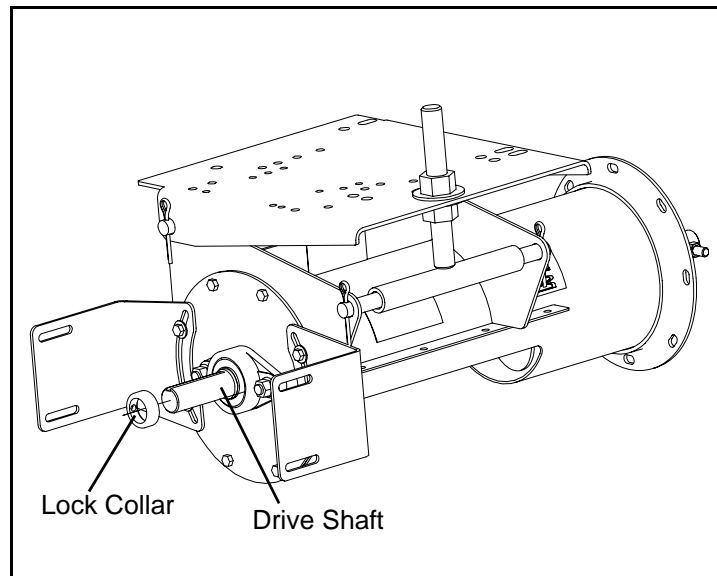


Figure 4I

4.9 Installing the Pulley

1. Place and position the key into the keyway located on the Drive Shaft.
2. Place the pulley onto the Drive Shaft with the Setscrew side of the pulley facing away from the Bearing Plate. Position the pulley so that it is as close to the lock collar as possible, but not touching it.
3. Once the pulley is appropriately positioned, tighten the Setscrew with a hex head wrench to secure it to the drive shaft. (See Figure 4J).

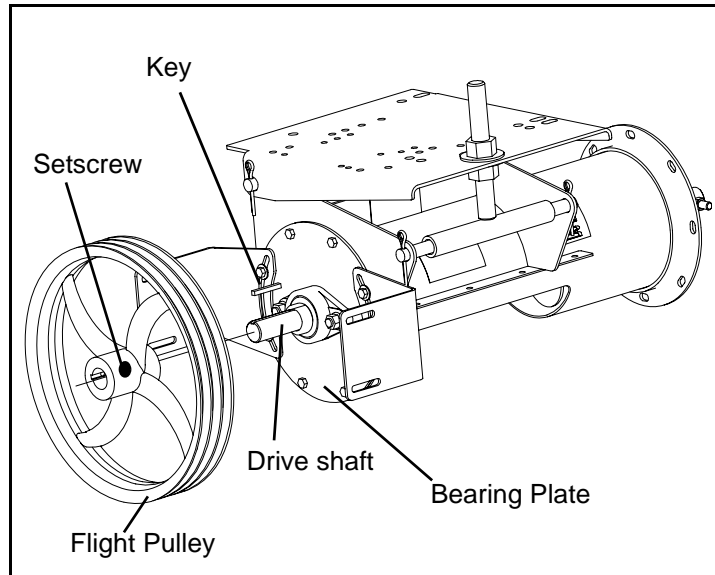


Figure 4J

4.10 Tightening the Lock Collar

1. Using a punch and hammer, drive the lock collar clockwise (the same direction as the shaft rotation). Once the lock collar is set in place, use a hex head wrench to tighten the lock collar by tightening the Setscrew.

Note: *If the lock collar is not turned far enough, the Setscrew will not lock it into place.*

Assembly & Installation

4.11 Installing the Motor (Not Provided)

1. Attach the Motor to the Motor Mount Plate using appropriate bolts, lock washers, and hex nuts. (See Chart Below).
2. Install pulley onto motor shaft making sure that it is aligned with the flight pulley. It may be necessary to move spacers to gain shaft alignment. (See Figure 4K).

Motor Bolt Chart		
Motor Size	Hex Bolt Size	Qty
56 143T 145T	5/16" x 1-1/4" - 18	4
182T 184T 213T 215T	3/8" x 1-1/4" - 16	4
254T 256T	1/2" x 1-3/4" - 13	4

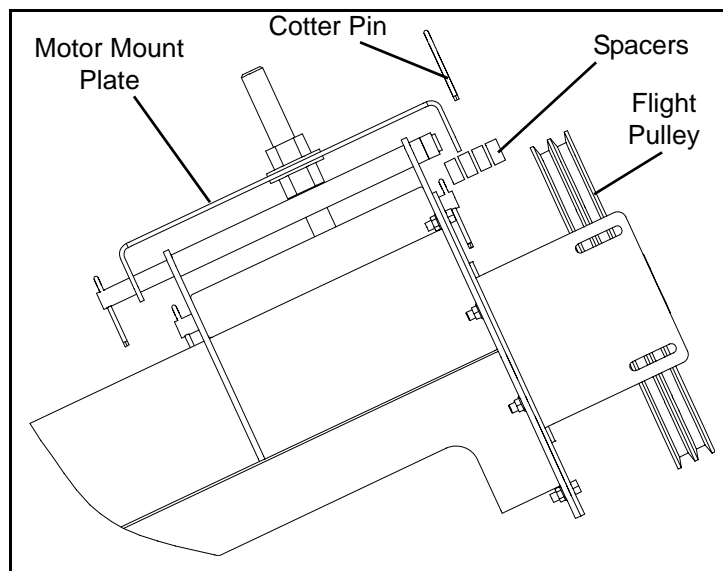


Figure 4K

4.12 Installing the Belts

1. Place the belts onto the pulleys.
2. First screw the lower Motor Mount Adjustment Nut upward, raising the Motor Mount Plate, putting tension on the belts.
3. Once the desired tension is reached tighten the Upper Motor Mount Adjustment Nut down onto the Motor Mount Plate locking it into place.

4.13 Installing the Belt Guard

1. With the belts properly tensioned remove the bottom Belt Guard cover and slip Belt Guard down over motor shaft.
2. Bolt the Belt Guard to the Belt Guard Mounting Brackets, the brackets should still be loose at this time.
3. Align the motor shaft and the Flight Drive Shaft in the Belt Guard's slot, making sure that the Belt Guard DOES NOT contact either pulley, and tighten down the Belt Guard Mounting Brackets to the Bearing Plate. (See Figure 4L).
4. Once the brackets are tightened slide the bottom cover back into place and secure with supplied bolt.

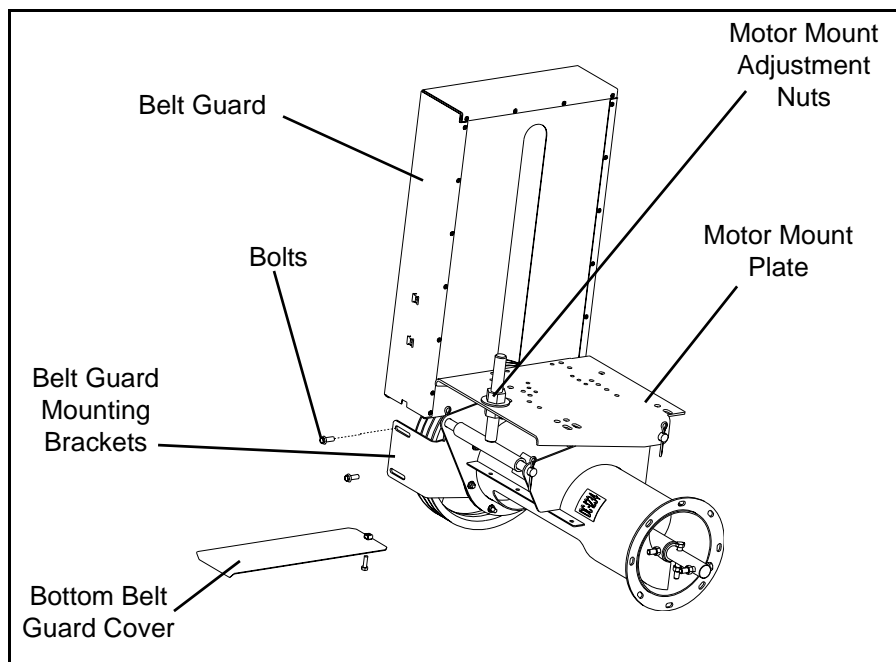


Figure 4L

5. ELECTRIC DRIVE MOTORS

⚠ WARNING ⚠

Electrical controls and wiring should be installed by a qualified electrician. The motor disconnect switches and conductor cables should comply with the National Electrical code and any local codes which apply. Reset and motor starting stations should be located so that the operator can see that all personnel are clear of the equipment.

1. Knowing the bin size and the length of horizontal flighting to be used in the unloading tube will be necessary to determine how much horsepower is required for the job.
2. Use the charts on the following page to determine the size of motor required. Use a larger motor when encountering high moisture or when high capacity is required.

6" Horizontal Bin Unload Auger			
Bin Dia.	Length	Used with Standard Bin well Horsepower	Used With DGD Sweep Units Horsepower
14' - 16' (4.27 m - 4.88 m)	8' 9" (2.44 m - 22.86 cm)	0.75	3.00
17' - 19' (5.18 m - 5.79 m)	10' 9" (3.05 m - 22.86 cm)	1.00	3.00
20' - 22' (6.10 m - 6.71 m)	11' 9" (3.35 m - 22.86 cm)	1.00	3.00
23' - 25' (7.01 m - 7.62 m)	13' 3" (3.96 m - 7.62 cm)	1.00	3.00
26' - 28' (7.92 m - 8.53 m)	14' 9" (4.27 m - 22.86 cm)	1.50	5.00
29' - 31' (8.84 m - 9.45 m)	16' 3" (4.88 m - 7.62 cm)	2.00	5.00
32' - 34' (9.75 m - 10.36 m)	18' 3" (5.49 m - 7.62 cm)	2.00	5.00
35' - 37' (10.67 m - 11.28 m)	19' 3" (5.79 m - 7.62 cm)	2.00	5.00

8" Horizontal Bin Unload Auger			
Bin Dia.	Length	Used with Standard Bin well Horsepower	Used With DGD Sweep Units Horsepower
14' - 16' (4.27 m - 4.88 m)	8' 10" (2.44 m - 25.40 cm)	1.50	3.00
17' - 19' (5.18 m - 5.79 m)	10' 10" (3.05 m - 25.40 cm)	2.00	3.00
20' - 22' (6.10 m - 6.71 m)	11' 10" (3.35 m - 25.40 cm)	2.00	5.00
23' - 25' (7.01 m - 7.62 m)	13' 4" (3.96 m - 10.16 cm)	3.00	5.00
26' - 28' (7.92 m - 8.53 m)	14' 10" (4.27 m - 25.40 cm)	3.00	5.00
29' - 31' (8.84 m - 9.45 m)	16' 4" (4.88 m - 10.16 cm)	5.00	5.00
32' - 34' (9.75 m - 10.36 m)	18' 4" (5.49 m - 10.16 cm)	5.00	5.00
35' - 37' (10.67 m - 11.28 m)	19' 4" (5.79 m - 10.16 cm)	5.00	7.50

10" Horizontal Bin Unload Auger			
Bin Dia.	Length	Used with Standard Bin well Horsepower	Used With DGD Sweep Units Horsepower
23' - 25' (7.01 m - 7.62 m)	13' 6" (3.96 m - 15.24 cm)	5.00	7.50
26' - 28' (7.92 m - 8.53 m)	15' (4.57 m)	5.00	7.50
29' - 31' (8.84 m - 9.45 m)	16' 6" (4.88 m - 15.24 cm)	5.00	7.50
32' - 34' (9.75 m - 10.36 m)	18' 6" (5.49 m - 15.24 cm)	5.00	7.50
35' - 37' (10.67 m - 11.28 m)	19' 6" (5.79 m - 15.24 cm)	7.50	10.00

Electric Drive Motors

12" Horizontal Bin Unload Auger		
Bin Dia.	Length	Used with Commercial Bin Well Horsepower
24' (7.01 m)	14' 6" (4.27 m - 15.24 cm)	7.50
27' (8.23 m)	16' 0" (4.88 m)	7.50
30' (9.14 m)	17' 6" (5.18 m - 15.24 cm)	7.50
33' - 34' (10.06 m - 10.36 m)	19' 6" (5.79 m - 15.24 cm)	7.50
36' (10.97 m)	20' 6" (6.10 m - 15.24 cm)	7.50
37' - 39' (11.28 m - 11.89 m)	22' 0" (6.71 m)	7.50
40' (12.19 m)	23' 0" (7.01 m)	10.00
42' (12.80 m)	24' 0" (7.32 m)	10.00
48' - 49' (14.63 m - 14.94 m)	28' 0" (8.53 m)	10.00
54' - 55' (16.46 m - 16.76 m)	30' 0" (9.14 m)	10.00
60' (18.29 m)	33' 0" (10.06 m)	15.00
63' (19.20 m)	34' 6" (10.36 m - 15.24 cm)	15.00
68' - 69' (20.73 m - 21.03 m)	37' 6" (11.28 m - 15.24 cm)	15.00
72' (21.95 m)	39' 0" (11.89 m)	15.00
75' (22.86 m)	40' 6" (12.19 m - 15.24 cm)	15.00
78' (23.77 m)	42' 6" (12.80 m - 15.24 cm)	15.00
80' (24.38 m)	44' 6" (13.41 m - 15.24 cm)	15.00
82' (25.00 m)	45' 6" (13.72 m - 15.24 cm)	15.00
90' (27.43 m)	49' 6" (14.94 m - 15.24 cm)	20.00
92' (28.04 m)	50' 6" (15.24 m - 15.24 cm)	20.00
105' (32.00 m)	57' 0" (17.37 m)	20.00
113' (34.44 m)	61' 0" (18.59 m)	20.00
120' (36.58 m)	64' 6" (19.51 m - 15.24 cm)	20.00

3. The following horsepower recommendations are for augering fairly dry grain. Use an electric motor of the proper size that operates at 1750 RPM. Motor pulleys are not furnished with the auger.

Model	Motor pulley Diameter	Drive Pulley Diameter	Recommended Auger Speed	Maximum Auger Speed	Minimum Auger Speed
6" Standard and Power Well Units	3.50	12.00	510 RPM	700 RPM	450 RPM
8" Standard Bin Unloader	3.00	12.00	438 RPM	600 RPM	425 RPM
8" Power Head for use with Power Well	3.50	12.00	408 RPM	500 RPM	325 RPM
10" Standard Bin Unloader & for use with Power well	3.00	15.00	350 RPM	480 RPM	285 RPM
12" Standard Bin Unloader	4.00	18.40	380 RPM	520 RPM	285 RPM

⚠️ WARNING ⚠️

1750 RPM electric motors and controls shall be installed by a qualified electrician, and must meet the standards set by the National Electrical Code and all local and state codes. Reset and motor starting controls shall be located where the operator has unrestricted access to the controls.

4. A magnetic starter should be used for the operator's protection and for the protection of the motor. This is to protect the operator against accidental restart caused by power interruption, conductor fault, low voltage, circuit interruption or motor overload. Therefore, the motor must be restarted manually. If using a motor with built-in thermal overload protection, make sure this type of motor has a manual reset.

⚠️ WARNING ⚠️

Disconnect and lockout power before resetting motor overloads. Make certain electric motors are grounded.

6. STARTUP

6.1 Perform Pre-start Checks

DANGER

Failure to perform any or all of these pre-start checks may cause damage to the equipment and/or cause **SERIOUS INJURY** or **DEATH** to those in the work area.

Failure to perform any or all of these pre-start checks may also be a misuse of the equipment. Any misuse of the equipment may void the warranty.

1. Make sure ALL belts are tensioned properly.
2. Make sure ALL shields are in place and that the belt(s) and pulley(s) are able to move freely.
3. Inspect the drive unit for any problems or potential problems.
4. Be aware of any emergency shutdown procedures. Two (2) people must always be in a position where the operation of the equipment can be monitored.
5. Before starting the auger for the first time, make sure that all parts are assembled correctly according to the instructions in this manual.

DANGER

ALWAYS keep ALL guards and shields in place, until all the power is disconnected and locked out.

WARNING

Make certain **ONLY** trained operators are in the work area before operating or moving the machine. Two (2) people must always be in a position where the operation of the equipment can be monitored.

6.2 Start the Auger

1. Start the auger.

CAUTION

DO NOT start or stop the auger while it is under load. Doing so may cause the auger to “jam.”

2. Run the auger through a “break-in” period, if it is being used for the first time or for the first time of the season.

3. Polish the flighting by running the auger at partial capacity until it is smooth, before attempting full capacity.

⚠ CAUTION ⚠

Failures may occur if the auger is run full before it has been “polished” during the “break-in” period.

⚠ CAUTION ⚠

NEVER operate the auger empty. Operating augers empty for any length of time will cause excessive wear.

NEVER operator the auger at speeds higher than recommended. Auger flight speed in excess of recommended speed causes excessive wear.

⚠ CAUTION ⚠

Be aware of any unusual vibration or noises during the initial startup and “break-in” period. If anything unusual is detected, immediately shutdown the auger, and disconnect and lockout the power supply before servicing.

7. OPERATION

7.1 Operate the Auger

Note: The auger capacity can fluctuate greatly under varying conditions. Moisture content, different commodities, amount of foreign matter and speeds all play a part in the performance of the auger. Twenty-five percent (25%) moisture may cut capacity by as much as (40%) under some conditions.

1. Make certain there are at least two (2) people in the work area to monitor operations at all times.
2. Visually inspect the auger periodically during operation.

WARNING

Be alert for any unusual vibrations, noises and the loosening of any fasteners. If anything unusual is detected, immediately shutdown the auger, disconnect and lockout the power source before servicing.

3. Consideration should be given to the proper size auger for a batch drying or any intermittent type operations. When augers are stopped and restarted under full load, it may result in damage to the auger. Using a larger diameter auger and reducing its load level will be far better than subjecting a smaller diameter auger to big loads. If an auger is kept from absolute filling, it will make startup easier and will convey more efficiently.

8. SHUTDOWN

8.1 Normal Shutdown

1. Before shutting down the unit, be sure the hoppers and augers are empty.
2. Disconnect and lockout the power source before leaving the work area.

8.2 Emergency Shutdown

1. Know how to shutdown the auger in case of an emergency.
2. Do not restart the auger while it is under load.
3. Close the bin well control gates.
4. Reconnect and unlock the power source.
5. Clear the auger gradually, until there is no grain and there are no obstructions.

CAUTION

NEVER start the equipment under load. Doing so may cause damage. This type of damage is considered a misuse of the equipment. Any misuse of the equipment may void the warranty.

8.3 Storage Preparation

1. Close all wells to the discharge auger.
2. Be sure the unload tube is empty.
3. Shutdown the auger.
4. Make sure all fasteners are tight.

9. MAINTENANCE

9.1 Maintain the Auger



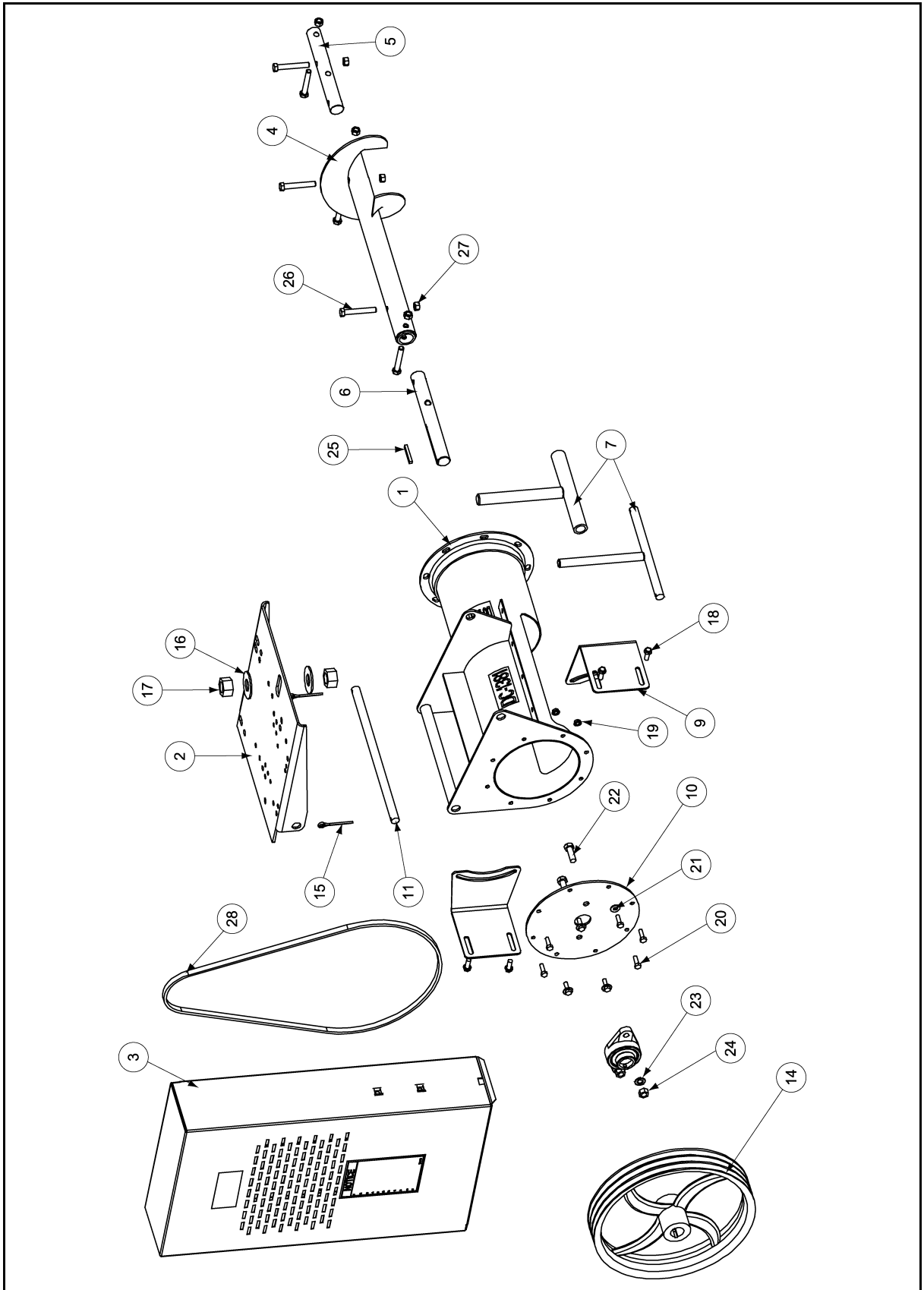
ALWAYS shutdown and disconnect the power supply before adjusting, servicing or cleaning the equipment.

1. Use caution when repairing or replacing equipment parts.
2. Make sure ALL decals are legible and tightly attached to the auger. If necessary, replace them **FREE OF CHARGE** by contacting your dealer or the manufacturer.
3. Ensure that ALL electric motors, etc., are operating at the proper speed.
4. Maintain proper adjustments on the belt(s).
5. Mount controls for any electric motors at a safe distance from the machine and in a location accessible in case of an emergency.
6. Make sure ALL electrical wiring is not damaged, and that it meets proper wiring codes.
7. Make sure ALL components are in good working condition before use.
8. Check the auger flighting to make sure it is in good working condition.
9. Grease bearing at least two (2) times each season.

10. PARTS LIST

1. 6" Horizontal Bin Unload Parts
2. 8" Horizontal Bin Unload Parts
3. 10" Horizontal Bin Unload Parts
4. 12" Horizontal Bin Unload Parts

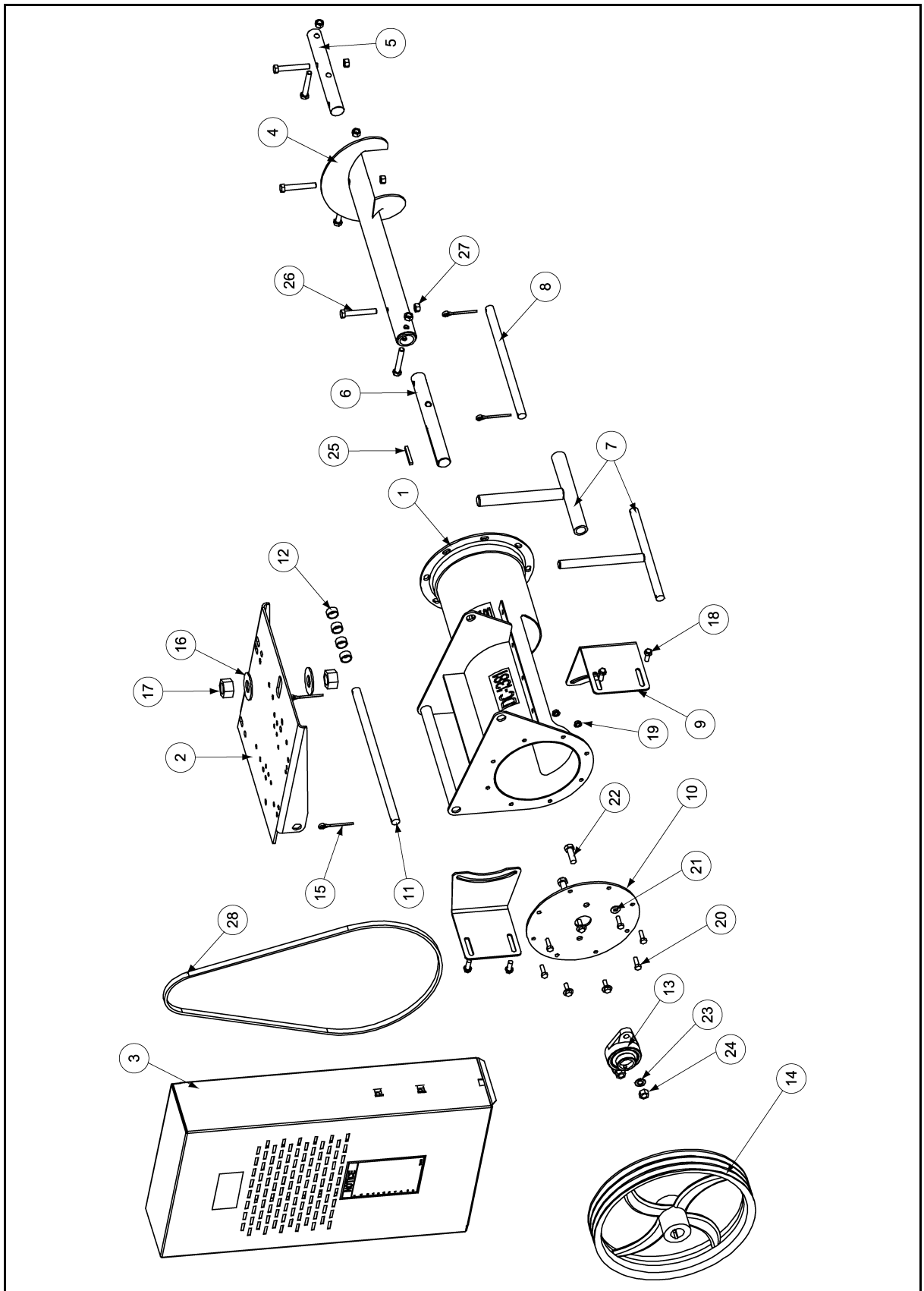
1. 6" Horizontal Bin Unload Parts



6" Horizontal Bin Unload Parts

Ref #	Part #	Description
1	GK6996	Tube Weldment
2	GK7052	Motor Mount Plate
3	GK7005	Belt Guard - For Use With 12" and 15" Sheaves
4	GK1865	Auger Assembly
5	GK1351	Connection Shaft - 1" x 9.59"
6	GK2025	Drive Shaft - 1" x 10"
7	GK7060	Motor Mount Adjustment Weldment
9	GK7062	Belt Guard Mounting Bracket
10	GK7061	Bearing Plate
11	GK7058	Motor Mount Pivot Rod
13	GK1049	Bearing with Flange - 1" Bore 2 Hole Flange Bearing
14	GK1309	Sheave - 12" x 1" Bore 1 Belt
	GK1321	Sheave - 12" x 1" Bore 2 Belt
15	S-6994	3/16" x 2" Cotter Pin
16	S-866	Motor Mount Adjustment Washer - 3/4" Flat Washer
17	S-234	Motor Mount Adjustment Nut - 3/4" - 10 Hex Nut
18	S-9065	3/8" x 1" - 16 Flange Bolt
19	S-3611	Bearing Plate Nut - 5/16" - 18 Whiz Nut
20	S-1196	Bearing Plate Bolts - 5/16" x 1" - 18 Hex Bolt
21	S-845	Belt Guard Bracket Washers - 5/16" Flat Washer
22	S-7837	Bearing Bolts - 7/16" x 1-1/2" - 14 Hex Bolts
23	S-7014	Bearing Lock Washer - 7/16" Lock Washer
24	S-7332	Bearing Nuts - 7/16" - 14 Hex Nut
25	S-4513	Key - 1/4" x 1/4" x 2" Key
26	S-7687	Flight Bolts - 3/8" x 2" - 16 Hex Bolt, Grade 8
27	S-8251	Flight Nuts - 3/8" - 16 Stove Nut
28	GK1308	B46 V-Belt
	GK1323	B48 V-Belt

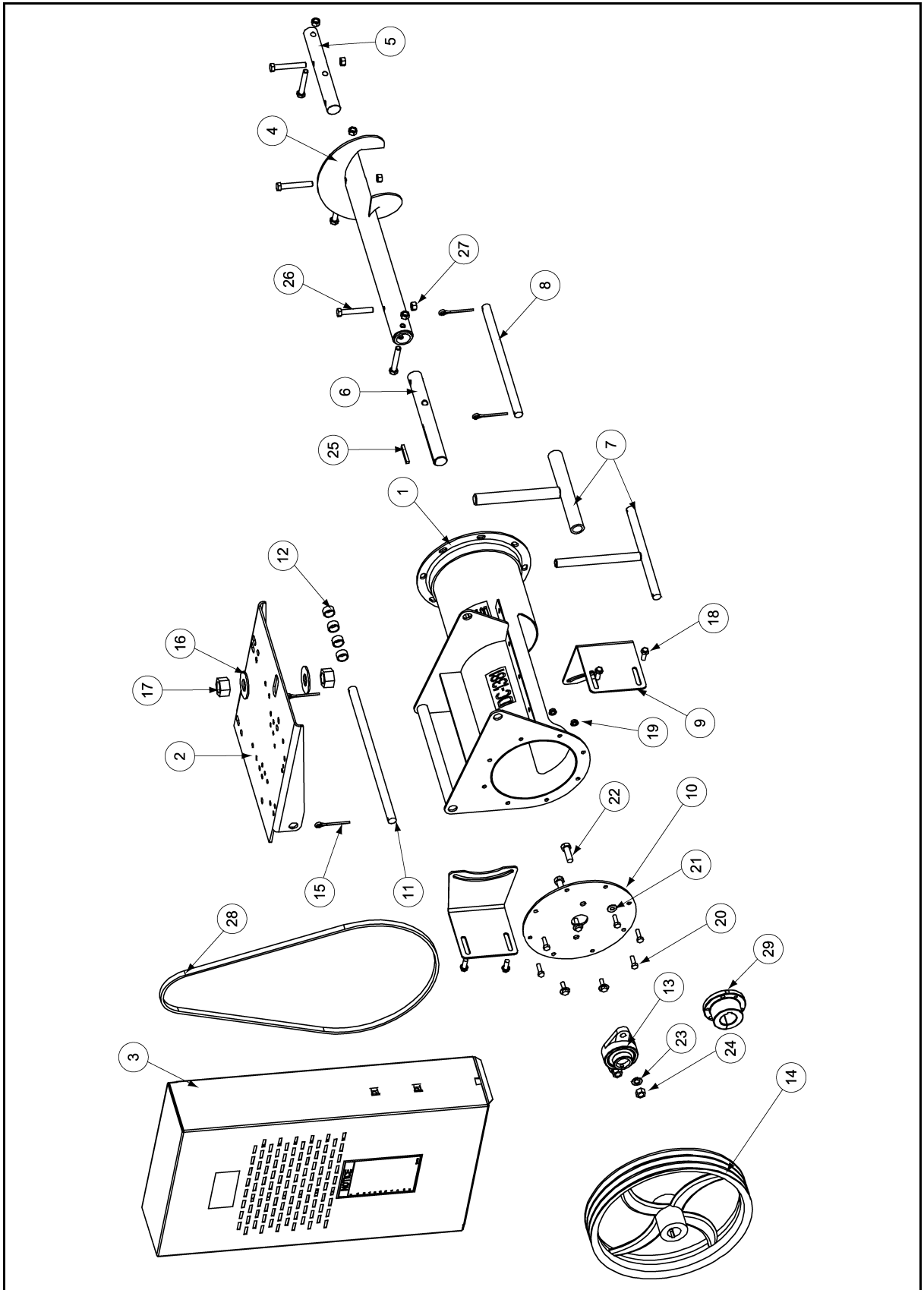
2. 8" Horizontal Bin Unload Parts



8" Horizontal Bin Unload Parts

Ref #	Part #	Description
1	GK6997	Tube Weldment
2	GK6986	Motor Mount Plate
3	GK7005	Belt Guard - For Use With 12" and 15" Sheaves
4	GK1325	Auger Assembly
5	GK1328	Connection Shaft - 1-1/4" x 9-1/2"
6	GK1331	Drive Shaft - 1-1/4" x 10-1/2"
7	GK6942	Motor Mount Adjustment Weldment
8	GK7012	Motor Mount Adjustment Pivot Rod
9	GK7006	Belt Guard Mounting Bracket
10	GK6987	Bearing Plate
11	GK7013	Motor Mount Pivot Rod
12	GK7014	Pivot Spacer Tube
13	GK1330	Bearing with Flange - 1-1/4" Bore 2 Hole Flange Bearing
14	GK1324	Sheave - 12" x 1-1/4" Bore 1 Belt
	GK1335	Sheave - 12" x 1-1/4" Bore 2 Belt
	GK2332	Sheave - 12" x 1-1/4" Bore 3 Belt
15	S-6994	3/16" x 2" Cotter Pin
16	S-7835	Motor Mount Adjustment Washer - 1" Flat Washer
17	S-240	Motor Mount Adjustment Nut - 1" - 8 Hex Nut
18	S-9065	3/8" x 1 - 16" Flange Bolt
19	S-3611	Bearing Plate Nut - 5/16" - 18 Whiz Nut
20	S-1196	Bearing Plate Bolts - 5/16" x 1" - 18 Hex Bolt
21	S-845	Belt Guard Bracket Washers - 5/16" Flat Washer
22	S-8760	Bearing Bolts - 1/2" x 1-1/2" - 13 Hex Bolts
23	S-236	Bearing Lock Washer - 1/2" Lock Washer
24	S-7510	Bearing Nuts - 1/2" - 13 Hex Nut
25	S-4513	KEY - 1/4" x 1/4" x 2" Key
26	S-8316	Flight Bolts - 7/16" x 3" - 14 Hex Bolt Grade 8
27	S-8317	Flight Nuts - 7/16" - 14 Stover Nut
28	GK1952	B50 V-Belt

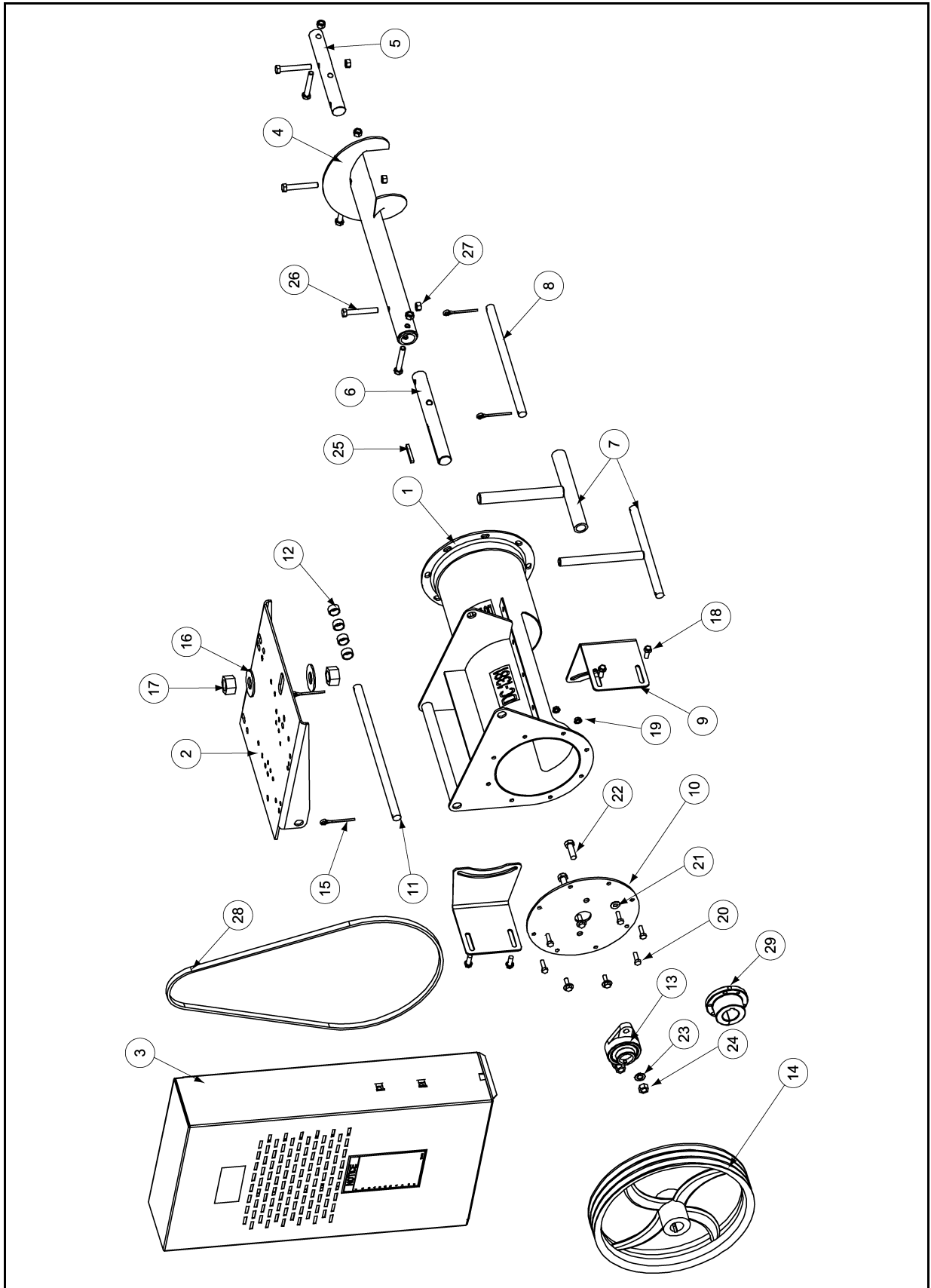
3. 10" Horizontal Bin Unload Parts



10" Horizontal Bin Unload Parts

Ref #	Part #	Description
1	GK6998	Tube Weldment
2	GK6986	Motor Mount Plate
3	GK7005	Belt Guard - For Use With 12" and 15" Sheaves
4	GK1991	Auger Assembly
5	GK1339	Connection Shaft - 1-1/2" x 9-1/2"
6	GK1289	Drive Shaft - 1-1/2" x 11-1/2"
7	GK6942	Motor Mount Adjustment Weldment
8	GK7012	Motor Mount Adjustment Pivot Rod
9	GK7018	Belt Guard Mounting Bracket
10	GK7017	Bearing Plate
11	GK7013	Motor Mount Pivot Rod
12	GK7014	Pivot Spacer Tube
13	GK1343	Bearing with Flange - 1-1/2" Bore 4 Hole Flange Bearing
14	GK1345	Sheave - 15" x 1-1/2" Bore 2 Belt
	GK1304	Sheave - 15" x 1-1/2" Bore 3 Belt
	GK3541	Sheave - 15" x 4" Belt SF
15	S-6994	3/16" x 2" Cotter Pin
16	S-7835	Motor Mount Adjustment Washer - 1" Flat Washer
17	S-240	Motor Mount Adjustment Nut - 1" - 8 Hex Nut
18	S-9065	3/8" x 1 - 16" Flange Bolt
19	S-968	Bearing Plate Nut - 3/8" - 16 Whiz Nut
20	S-2071	Bearing Plate Bolts - 3/8" x 1-1/4" - 16 Hex Bolt
	S-7469	Bearing Plate Bolts - 3/8" x 1" - 16 Hex Bolt
21	S-248	Belt Guard Bracket Washers - 3/8" Flat Washer
22	S-8760	Bearing Bolts - 1/2" x 1-1/2" - 13 Hex Bolts
23	S-236	Bearing Lock Washer - 1/2" Lock Washer
24	S-7510	Bearing Nuts - 1/2" - 13 Hex Nut
25	S-9181	KEY - 3/8" x 3/8" x 3" Key
26	S-8314	Flight Bolts - 1/2" x 3-1/2" - 13 Hex Bolt Grade 8
27	S-8315	Flight Nuts - 1/2" - 13 Stover Nut
28	GK1346	B57 V-Belt
29	B03-0264	Sheave Bushing 1-1/2" Bore SF

4. 12" Horizontal Bin Unload Parts



12" Horizontal Bin Unload Parts

Ref #	Part #	Description
1	GK6999	Tube Weldment
2	GK6986	Motor Mount Plate
3	GK7068	Belt Guard - For Use With 18.4" Sheaves
4	GK7265	Auger Assembly
5	GK2319	Connection Shaft - 2" x 9-1/2"
6	GK2006	Drive Shaft - 2" x 12"
7	GK6942	Motor Mount Adjustment Weldment
8	GK7012	Motor Mount Adjustment Pivot Rod
9	GK7065	Belt Guard Mounting Bracket
10	GK7064	Bearing Plate
11	GK7013	Motor Mount Pivot Rod
12	GK7014	Pivot Spacer Tube
13	GK2004	Bearing with Flange - 2" Bore 4 Hole Flange Bearing
14	GK2567	Sheave -18.4" 2 Belt SK
	GK2570	Sheave - 18.4" 3 Belt SK
15	S-6994	3/16" x 2" Cotter Pin
16	S-7835	Motor Mount Adjustment Washer - 1" Flat Washer
17	S-240	Motor Mount Adjustment Nut - 1" - 8 Hex Nut
18	S-9065	3/8" x 1 - 16" Flange Bolt
19	S-968	Bearing Plate Nut - 3/8" - 16 Whiz Nut
20	S-2071	Bearing Plate Bolts - 3/8" x 1-1/4" - 16 Hex Bolt
	S-7469	Bearing Plate Bolts - 3/8" x 1" - 16 Hex Bolt
21	S-248	Belt Guard Bracket Washers - 3/8" Flat Washer
22	S-8399	Bearing Bolts - 5/8" x 2" - 11 Hex Bolts
23	S-3208	Bearing Lock Washer - 5/8" Lock Washer
24	S-4110	Bearing Nuts - 5/8" - 11 Hex Nut
25	S-9181	KEY - 3/8" x 3/8" x 3" Key
26	S-7893	Flight Bolts - 5/8" x 7" - 11 Hex Bolt Grade 8
27	S-8606	Flight Nuts - 5/8" - 11 Stover Nut
28	MHC00486	BX 70 V-Belt
29	GK4248	Sheave Bushing 1-1/2" Bore SK

11. TROUBLESHOOTING

Problem	Possible Cause	Solution
<p>1. Auger vibration</p>	<p>1. Drive belt may be overtightened, putting head stub and flight in a bind. Damage can occur to the auger flighting, thus causing noise. Damage usually is caused from foreign material having been run through the auger.</p>	<p>1. It may be necessary to remove the flighting for inspection.</p> <p>2. Adjust the drive belt to the proper tension.</p>
<p>2. Low capacity</p>	<p>1. The auger may not be getting enough grain.</p> <p>2. The auger is moving too slowly.</p>	<p>1. Check that the intake has not bridged over, restricting flow. The exposed flighting at the auger intake should be covered with grain to achieve maximum capacity.</p> <p>2. Check the auger speed. Speeds slower than the recommended speed will result in low capacity.</p>
<p>3. Auger plugs</p>	<p>1. The auger may be getting too much grain, causing "jamming" inside the housing.</p> <p>2. The motor may be too small or wired improperly.</p> <p>3. The grain may be wet.</p> <p>4. The auger may be jammed with foreign material.</p> <p>5. The discharge end may be plugged.</p>	<p>1. Decrease the amount of grain the auger is gathering.</p> <p>2. If the motor is a newer light-weight aluminum type, the next larger size should be considered.</p> <p>3. If wet grain or other hard-to-move material is being augered, use a larger size motor than recommended for normal use.</p> <p>4. Be sure there is no foreign material in the auger such as sacks, tarp corners, etc.</p> <p>5. Make sure the discharge end of the auger is not plugged. A plug of the discharge end will cause an auger plug.</p>

12. Warranty

THE GSI GROUP, INC. (GSI) WARRANTS ALL PRODUCTS WHICH IT MANUFACTURES TO BE FREE OF DEFECTS IN MATERIAL AND WORKMANSHIP UNDER NORMAL USAGE AND CONDITIONS FOR A PERIOD OF 12 MONTHS AFTER RETAIL SALE TO THE ORIGINAL END USER. THE PURCHASER'S SOLE REMEDY AND GSI'S ONLY OBLIGATION SHALL BE TO REPAIR OR REPLACE, AT GSI'S OPTION AND EXPENSE, PRODUCTS THAT, IN GSI'S SOLE JUDGMENT, CONTAIN A MATERIAL DEFECT DUE TO MATERIALS OR WORKMANSHIP. ALL DELIVERY AND SHIPMENT CHARGES TO AND FROM GSI'S FACTORY WILL BE PURCHASER'S RESPONSIBILITY. EXPENSES INCURRED BY OR ON BEHALF OF THE PURCHASER WITHOUT PRIOR WRITTEN AUTHORIZATION FROM AN AUTHORIZED EMPLOYEE OF GSI SHALL BE THE SOLE RESPONSIBILITY OF THE PURCHASER.

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THE FOREGOING WARRANTY SHALL NOT EXTEND TO PRODUCTS OR PARTS WHICH HAVE BEEN DAMAGED BY NEGLIGENT USE, MISUSE, ALTERATION OR ACCIDENT. THIS WARRANTY EXTENDS SOLELY TO ONLY PRODUCTS MANUFACTURED BY GSI. THIS WARRANTY IS EXCLUSIVE AND IN LIEU OF ALL OTHER WARRANTIES EXPRESS OR IMPLIED. GSI RESERVES THE RIGHT TO MAKE DESIGN OR SPECIFICATION CHANGES AT ANY TIME.

PRIOR TO INSTALLATION, PURCHASER HAS THE RESPONSIBILITY TO COMPLY WITH ALL FEDERAL, STATE AND LOCAL CODES WHICH MAY 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 occurs.

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