

# 6", 8", 10" and 12" Horizontal Drive Units

Assembly and Operation Manual

PNEG-1429

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PNEG-1429

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**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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## 1. Introduction

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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. The customer should report and note any damage or shortage on the bill of lading to justify their claim to the transport company.

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

This warranty provides you the assurance that the company will back its products when defects appear within the warranty period. In some circumstances, the company also provides field improvements, often without charge to the customer, even if the product is out of warranty. Should the equipment be abused, or modified to change its performance beyond the factory specifications, the warranty will become void and field improvements may be denied.

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## **Safety Guidelines**

Safety guidelines are general-to-specific safety rules that 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 must 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.

**ST-0001-3**

### 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, **can result in serious injury or death.**



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



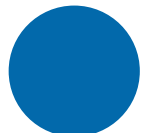
This symbol is used to address practices not related to personal injury.



This symbol indicates a general hazard.



This symbol indicates a prohibited activity.



This symbol indicates a mandatory action.

ST-0005-2

## 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

- 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-0002-1

## 2. Safety

### Maintain Equipment and Work Area

- Understand service procedures before doing work. Keep area clean and dry.
- Never service equipment while it is operating. Keep hands, feet, and clothing away from moving parts
- Keep your equipment in proper working condition. Replace worn or broken parts immediately.



ST-0003-1

### Operate Motor Properly

- All electrical connections must be made in accordance with the National Electric Code (US) or Canadian Electrical Code (CEC). Be sure equipment and bins are properly grounded.
- Lock-out power 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 drive components.



ST-0009-2

### Rotating Auger Hazard

- Keep clear of rotating augers and moving parts.
- Do not remove or modify guards or covers.
- Lock-out power source before making adjustments, cleaning, or maintaining equipment.
- Failure to follow these precautions will result in serious injury or death.



ST-0037-1

### Stay Clear of Hoisted Equipment

- Always use proper lifting or hoisting equipment when assembling or disassembling equipment.
- Do not walk or stand under hoisted equipment.
- Always use sturdy and stable supports when needed for installation. Not following these safety precautions creates the risk of falling equipment, which could crush personnel and cause serious injury or death.



ST-0047-1



### Stay Clear of Rotating Parts

- Do not enter the bin while the equipment is in operation.
- Entanglement in rotating augers will cause serious injury or death.
- Keep all shields and covers in place at all times.
- Lock-out power source before making adjustments, cleaning, or maintaining equipment.



ST-0008-1

### Use Unload Equipment Properly

- Do not operate this equipment alone. Make sure someone nearby is aware of the proper shut down sequence in the event of an emergency.
- Do not allow any person intoxicated or under the influence of drugs to operate this equipment. All operators must be adequately rested and prepared to perform all functions of operating the equipment.
- Do not start equipment until all persons are clear of the work area and safety guards are in place.
- Do not allow anyone inside a bin, truck, or wagon which is being unloaded by an auger. Flowing grain can trap and suffocate in seconds.
- Use ample overhead lighting after sunset to light the work area.
- Always use caution to not hit the auger when positioning the load.
- Do not leave equipment operating while unattended.
- Be aware of pinch points, which can trap or catch objects and cause injury.
- Be sure all equipment is locked in position before operating.
- Always lock out all power sources to the equipment when unloading is finished.





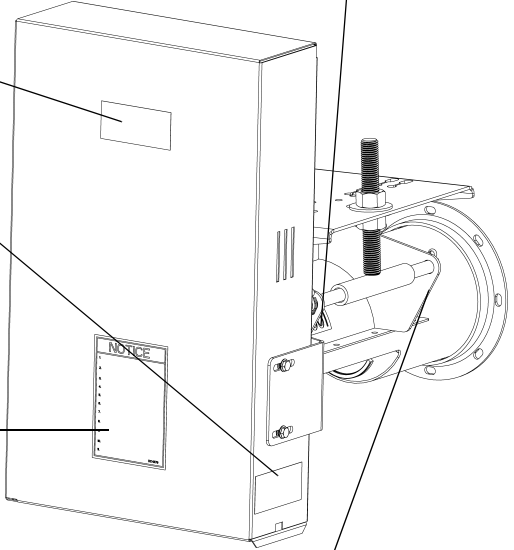
ST-0051-1



Check components shown below to ensure 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:**

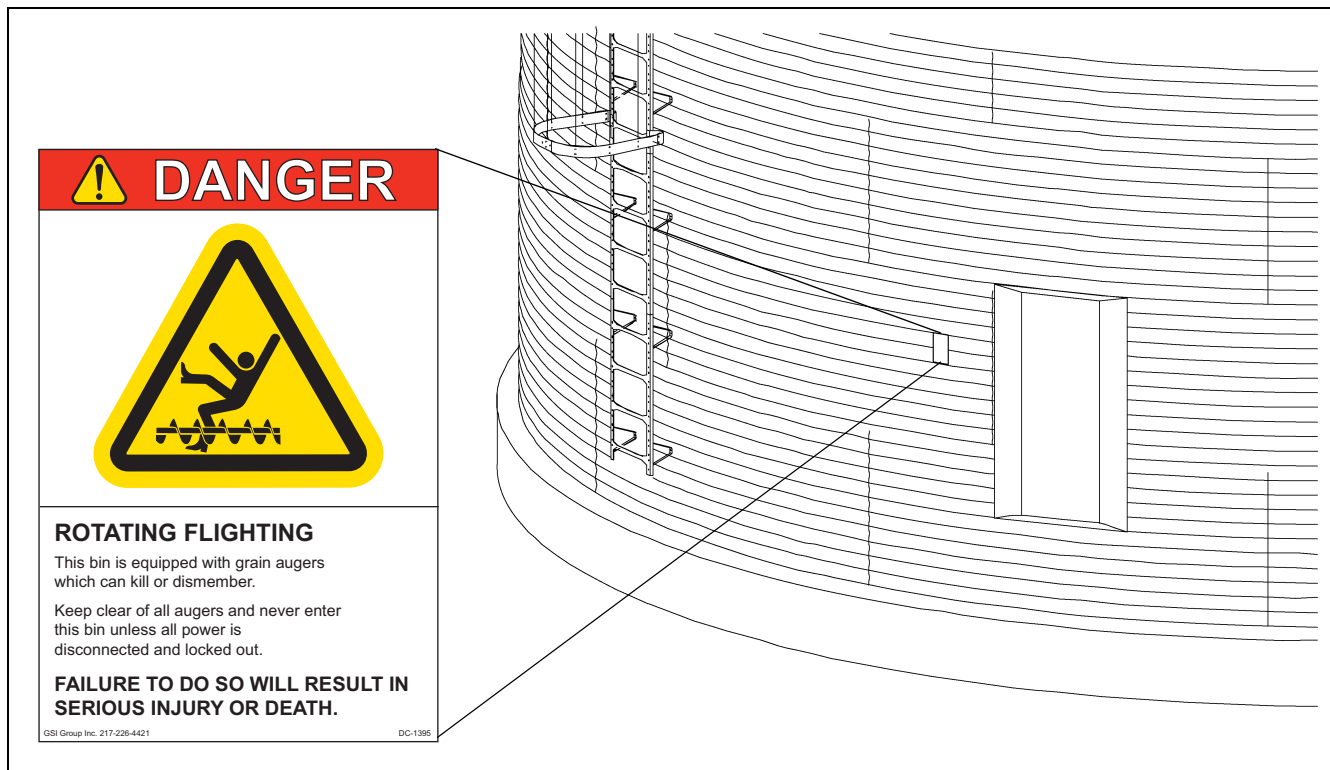
The GSI Group  
 1004 E. Illinois St.  
 Assumption, IL. 62510  
 Phone: 217-226-4421

 <p><small>GSI Group Inc. 217-226-4421</small></p>	<p><b>! DANGER</b></p> <p><b>SHEAR POINT</b></p> <p>Keep hands clear of moving parts. Do not operate with guard removed. Disconnect and lockout power before servicing.</p> <p><small>DC-994</small></p>	 <p><small>GSI Group 217-226-4421</small></p>	<p><b>! DANGER</b></p> <p><b>SHEAR POINT</b></p> <p>Keep clear of rotating auger and moving parts. Do not remove or modify guards. Disconnect and lock out power before servicing. Failure to do so will result in serious INJURY or DEATH.</p> <p><small>DC-1381</small></p>
<h1>NOTICE</h1>			
<ol style="list-style-type: none"> <li>1. Read and understand the operator's manual and all safety instructions.</li> <li>2. Do not operate while under the influence of drugs or alcohol.</li> <li>3. Do not operate unless all safety equipment, switches, guards, and shields are securely in place and operational.</li> <li>4. Allow only trained authorized personnel in the operating area.</li> <li>5. Any electrical wiring or service work must be performed by a qualified electrician. It must meet all state and local electrical codes.</li> <li>6. Do not allow children in the area of operation.</li> <li>7. Keep hands, feet, &amp; clothing away from moving parts.</li> <li>8. Disconnect and lockout power before making any adjustments or performing any service work.</li> <li>9. Disconnect power prior to resetting any motor overload.</li> <li>10. Make certain all electric motors are grounded.</li> <li>11. Replace all worn or damaged labels immediately.</li> </ol> <p><small>GSI Group Inc. 217-226-4421</small></p> <p><small>DC-1379</small></p>		<h1>NOTICE</h1> <p>FAILURE TO PROPERLY SELECT, INSTALL OR MAINTAIN AN AUGER, ITS DRIVE OR OTHER COMPONENTS CAN RESULT IN DANGEROUS OPERATION.</p> <p>THIS EQUIPMENT IF IMPROPERLY SELECTED, INSTALLED OR MAINTAINED MAY FAIL AND COULD RESULT IN SERIOUS INJURY OR PROPERTY DAMAGE.</p> <p>CHECK PRODUCT LITERATURE AND EQUIPMENT MANUFACTURER'S LITERATURE OR CALL THE FACTORY FOR FURTHER INFORMATION.</p> <p><small>GSI Group 217-226-4421</small></p> <p><small>DC-1234</small></p>	
<p><b>DC-994</b></p>		<p><b>DC-1381</b></p>	
<p><b>DC-1379</b></p>		<p><b>DC-1234</b></p>	

### 3. Safety Decals

- A. 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.
- B. If the safety sign location suggested is not in full view because of equipment modifications, other equipment in the area or any reason, then locate the safety sign in a more suitable location.
- C. Be certain the surface is clean, dry and free of dirt and oil. Peel paper backing from decals and stick into place. The adhesive backing will bond on contact.

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



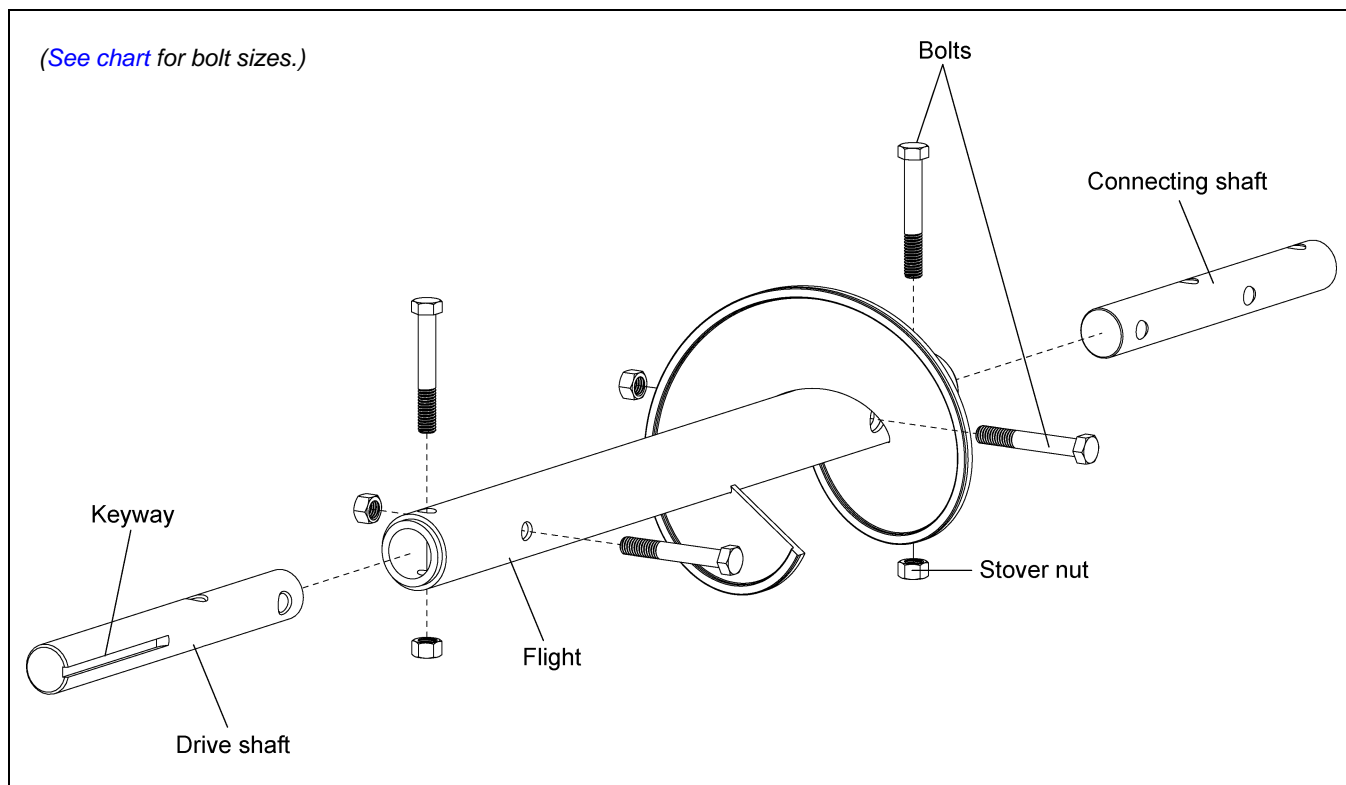
**NOTE:** *If the Safety Sign cannot be easily read for any reason or has been painted over, replace it immediately. Additional Safety Signs may be obtained free of charge from your dealer, distributor or ordered from the factory.*

Order SAFETY SIGN NO. DC-1395

## Assembling the Discharge Flight

1. Insert the connecting shaft into the end closest to the flight ribbon.
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 and Figure 4A.)*

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



**Figure 4A**

## 4. Assembly and Installation

### 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. Align the drive unit discharge flight to the unload flight, making sure that the Dura-Edge® on both are as continuous as possible, the angle between both faces being less than 90° wherever possible, but not greater than 180°, and without overlapping.

**NOTE:** *Overlapping the flights, or having an angle between the ribbon faces be greater than 180°, will result in reduced unload capacity.*

3. With holes aligned, secure with grade 8 bolts and stover nuts.

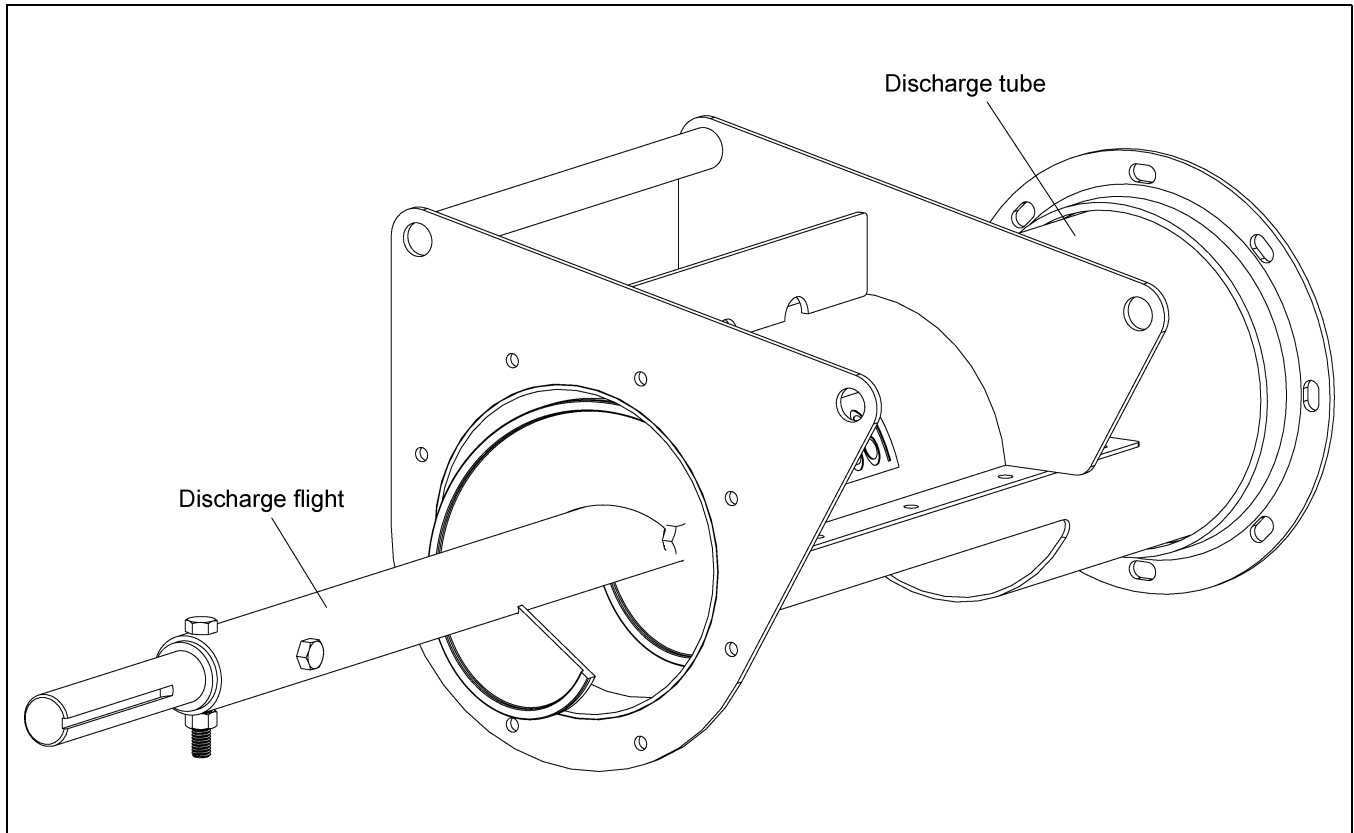


Figure 4B

## 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 and Figure 4C.)*

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

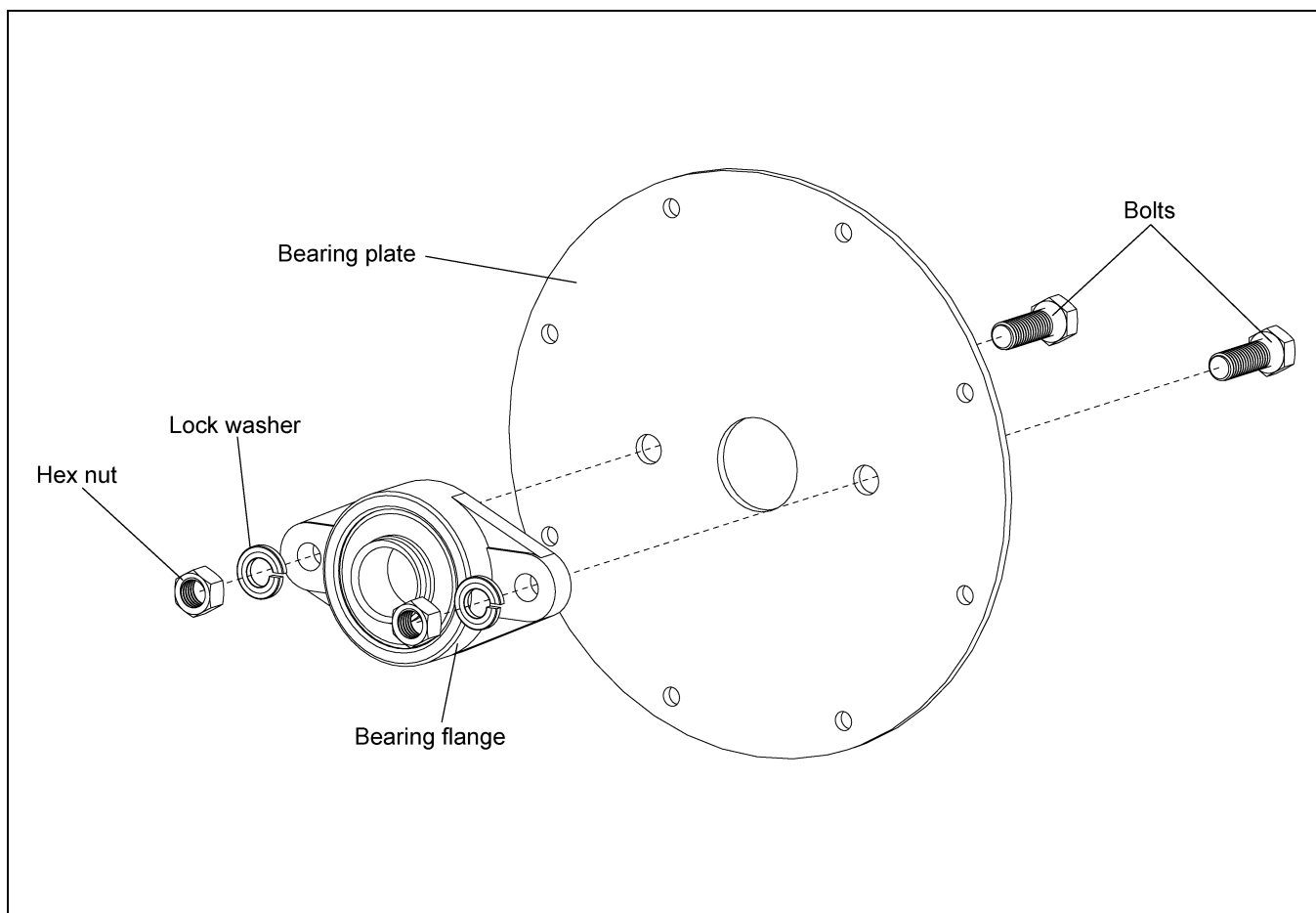


Figure 4C

## 4. Assembly and Installation

### Installing Bearing Plate onto Discharge 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 serrated flange nuts. (See Chart below.)

Bearing Plate Bolts	
6" and 8"	5/16"-18 x 1" Hex Bolt
10" and 12"	3/8"-16 x 1" 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" and 12" systems, use the four (4) 3/8"-16 x 1" bolts in this step. The longer bolts will be used to attach the belt guard mounting brackets in a future step.

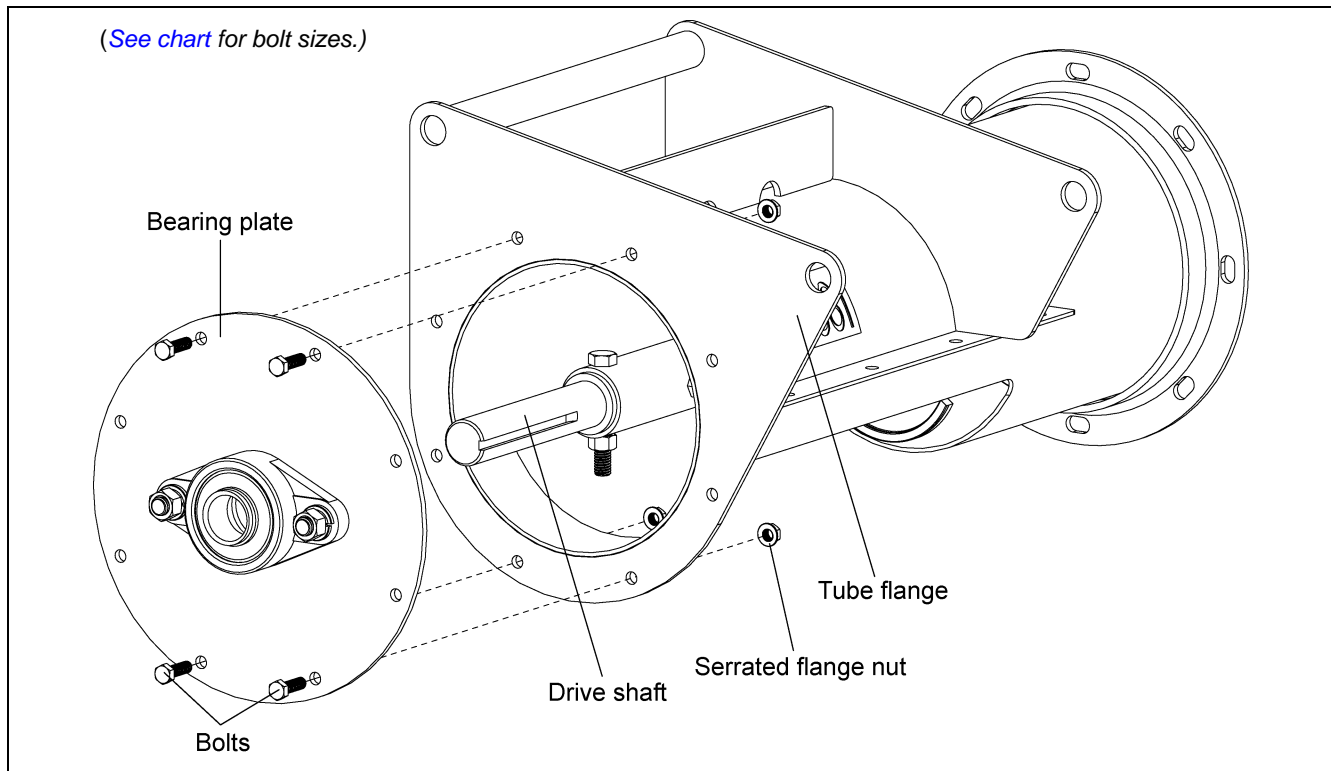


Figure 4D



## 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 back and head plates and motor mount adjuster. Secure in place with two (2) 3/16" x 2" cotter pins. (See Figure 4E.)

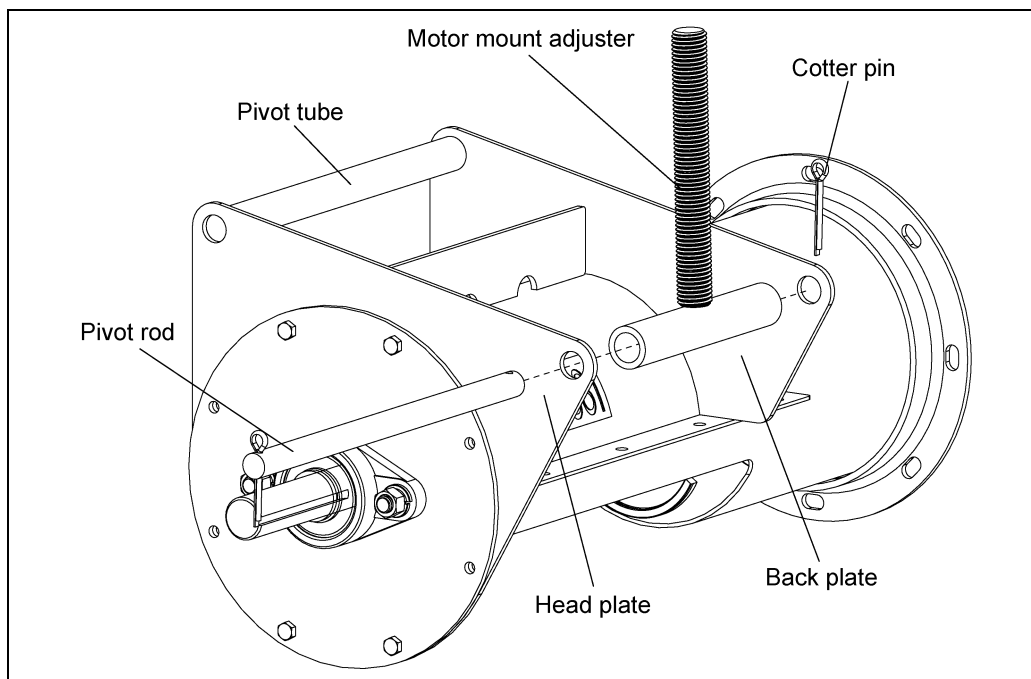


Figure 4E

3. With the cotter pins in the pivot rod, bend one tab of the cotter pin back so that it touches the pivot rod. Bend the other tab of the cotter pin away from the first tab. (See Figure 4F.)

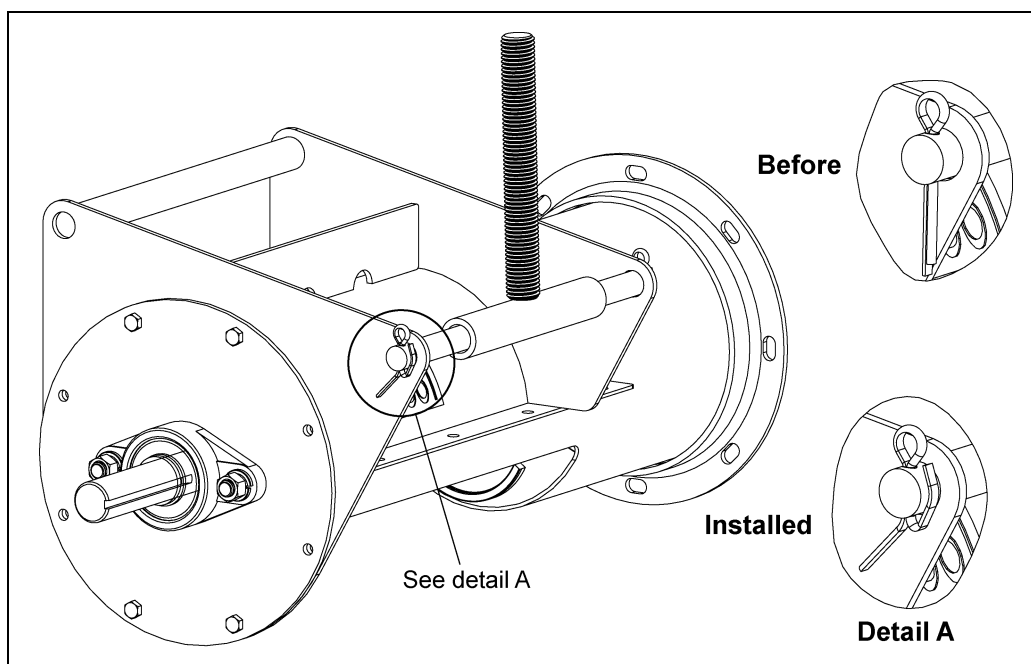


Figure 4F

## 4. Assembly and Installation

### Installing the Motor Mount Plate

1. Secure one (1) of the motor mount adjustment nuts and one (1) of 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 4G.)*
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 4H on Page 19.)*
5. Secure the motor mount pivot rod in place with two (2) 3/16" x 2" cotter pins. With the cotter pins in the pivot rod, bend one tab of the cotter pin back so that it touches the pivot rod. Bend the other tab of the cotter pin away from the first tab.
6. Loosely install the upper motor mount adjustment washer and nut onto the threaded rod, over the motor mount plate.

**NOTE:** *The number of spacers will vary between each size of drive unit.*

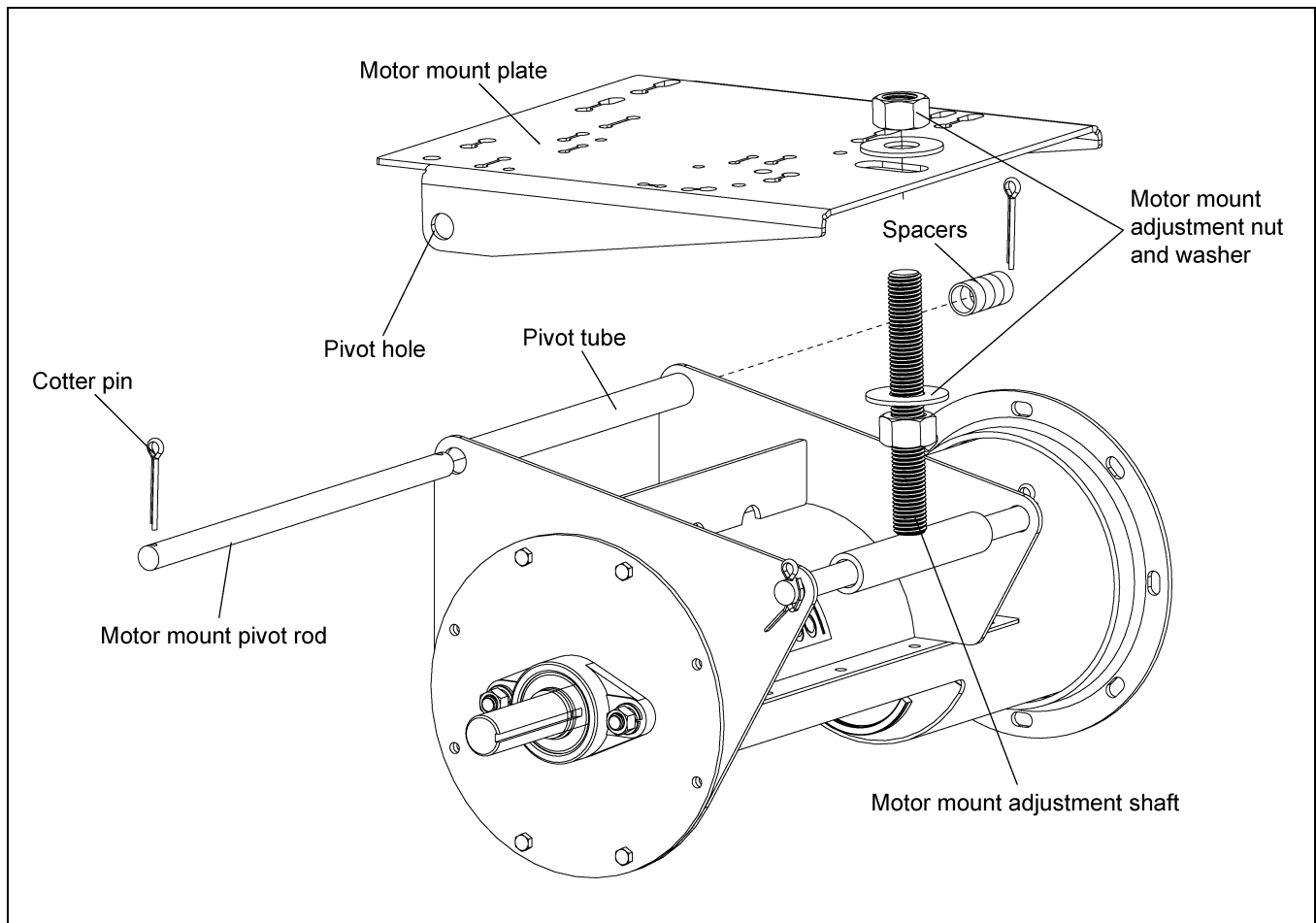


Figure 4G

## Installing the Motor Mount Plate (Continued)

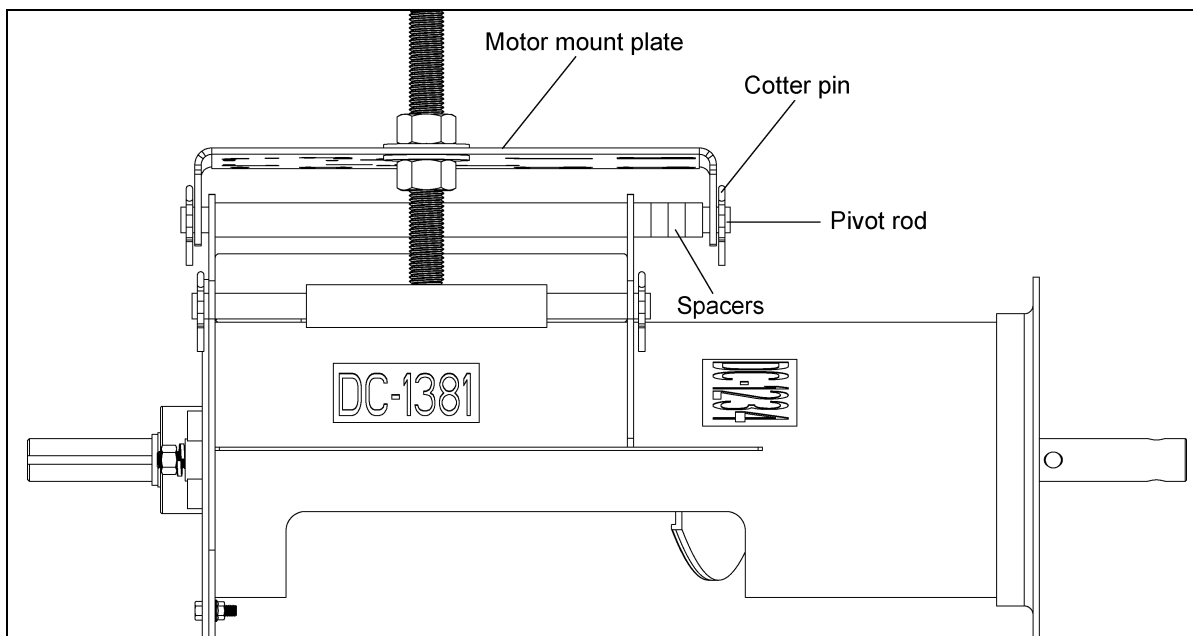


Figure 4H

## 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 serrated flange nuts. (*See Chart below and Figure 4I.*)

**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" and 8"	5/16"-18 x 1" Hex Bolt
10" and 12"	3/8"-16 x 1-1/4" Hex Bolt

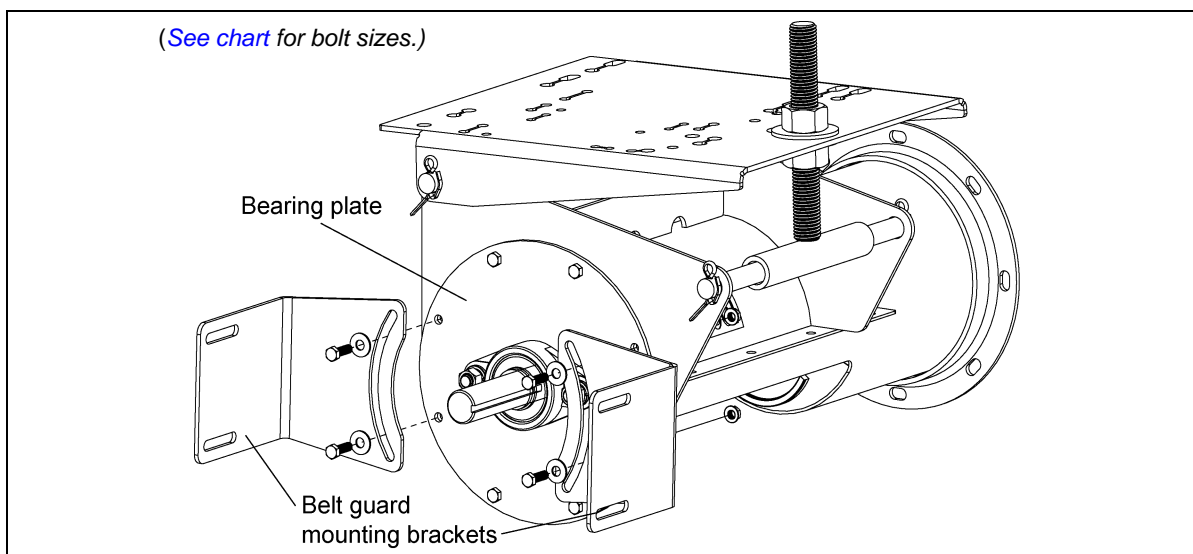


Figure 4I

## 4. Assembly and Installation

### 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 4J.](#))

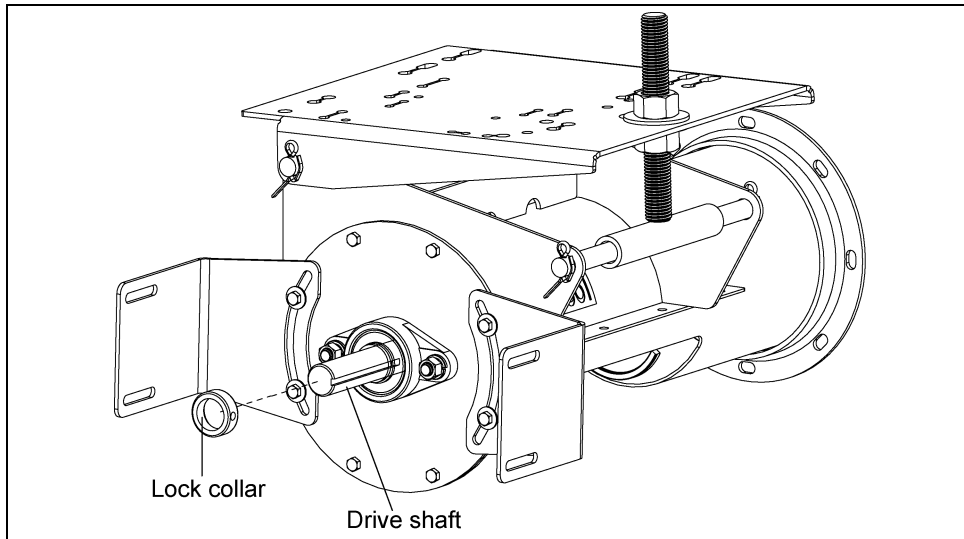


Figure 4J

### 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 set screw 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 set screw with a hex head wrench to secure it to the drive shaft. (See [Figure 4K.](#))

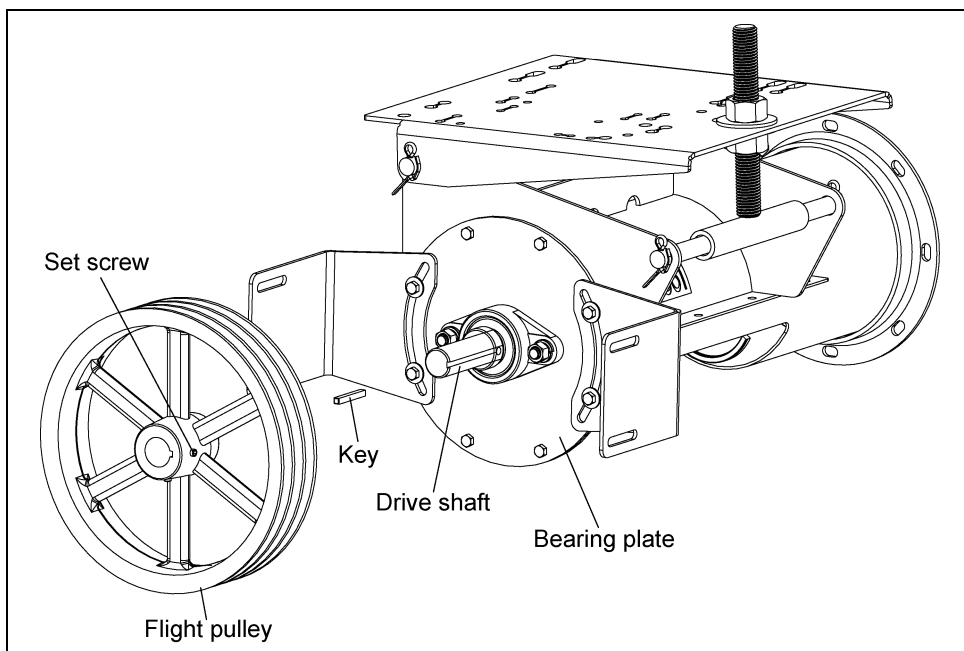


Figure 4K

## Tightening the Lock Collar

- 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 set screw.

**NOTE:** If the lock collar is not turned far enough, the set screw will not lock it into place.

## Installing the Motor (Not Provided)

- Attach the motor to the motor mount plate using appropriate bolts, lock washers and hex nuts. *(See Chart below.)*
- 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 4L.)*

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

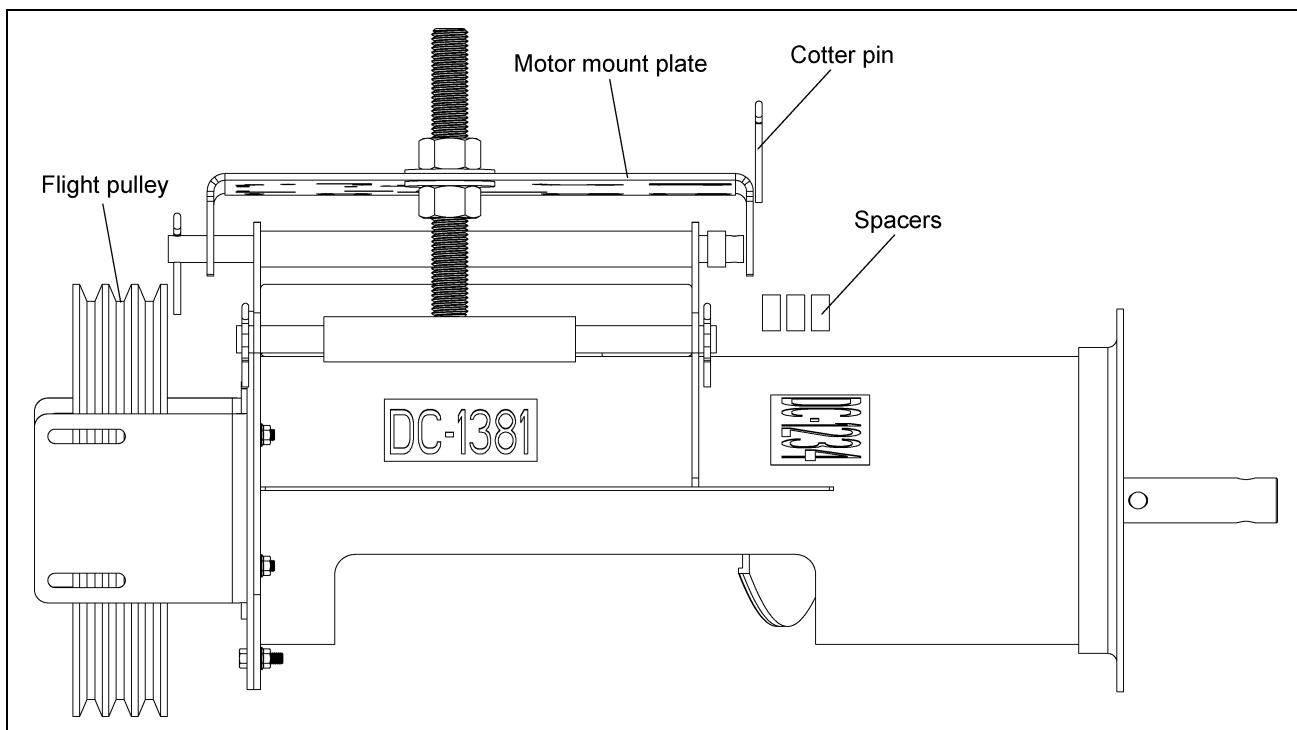


Figure 4L

## 4. Assembly and Installation

### Installing the Belts

1. Place the belts onto the pulleys.
2. 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.

### 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 4M.)
4. Once the brackets are tightened slide the bottom cover back into place and secure with supplied bolt.

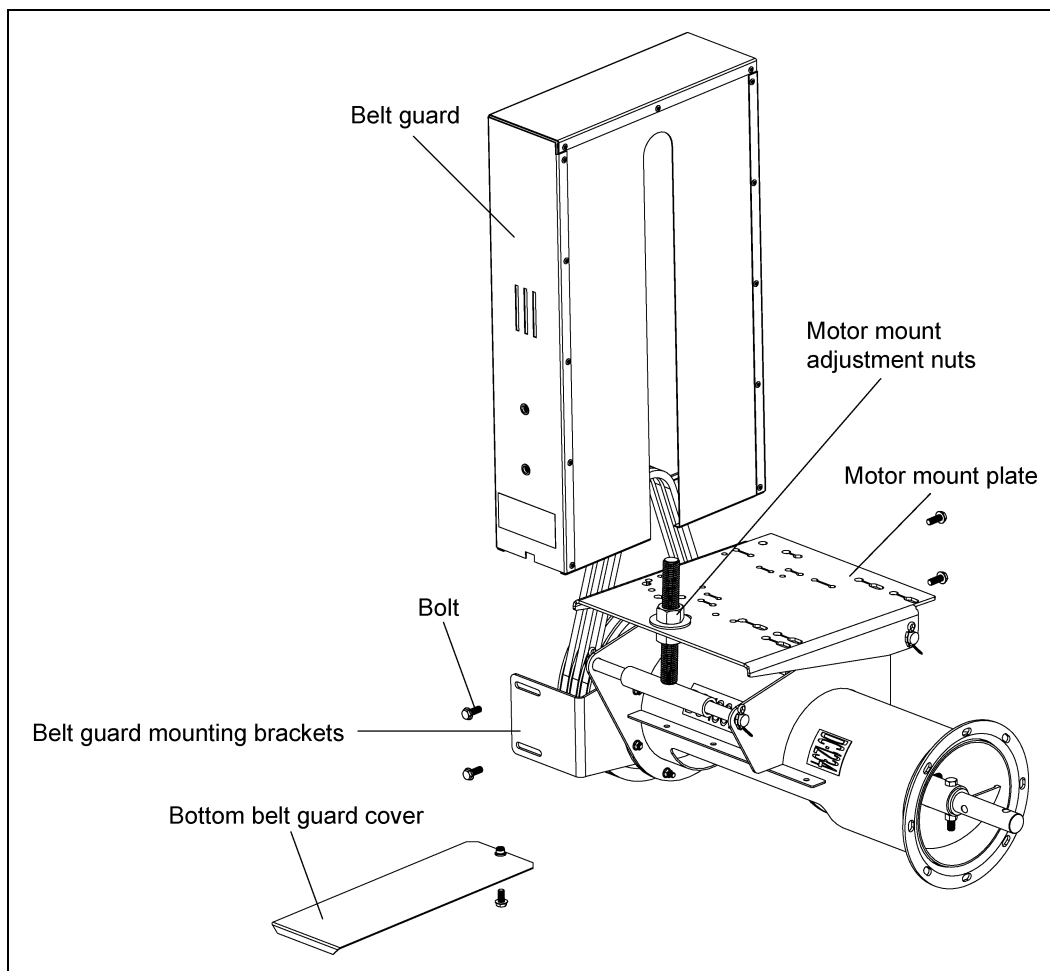


Figure 4M



**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.
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.



**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.



**Disconnect and lock out power before resetting motor overloads. Make certain electric motors are grounded.**

**Drive Unit Details**

Unload Size	Duty	HP (Frame) Range	Motor Sheave O.D.	Auger Sheave O.D.	RPM			Belt Size	Belt Quantity	Belt Type
					Recommended	Max	Min			
6"	Farm	3/4 (56) - 2 (184/143T)	3.5"	12"	510	700	450	46	1	B
		3 (182T) - 5 (184T)						48	2	
8"	Farm	1-1/2 (56/56H/145T) - 2 (184/143T)	3.0"	12"	438	600	425	50	1	B
		3 (182T) - 5 (184T)							2	
		7-1/2 (213T)							3	
	Commercial	4 (182T) - 5 (184T)	3.5"	15"	408	500	325	57	2	B
7-1/2 (213T) - 10 (215T)	3									
10"	Farm and Commercial	3 (182T) - 5 (184T)	3.0"	15"	350	480	285	57	2	B
		7-1/2 (213T) - 10 (215T)							3	
		15 (254T)	3.75"		438	600	425	60	3	BX
		20 (256T)							4	
12"	Commercial	7-1/2 (213T)	4.0"	18.4"	380	520	285	70	2	BX
		10 (215T)							3	
		15 (254T) - 20 (256T)							4	

## 5. Electric Drive Motors

### 6" Farm Horizontal Drive Unit and 6" Standard Farm Unload

Bin Diameter	Flight Length	HP Required
14'-16'	9'-9"	3/4
17'-19'	11'-9"	1
20'-22'	12'-9"	
23'-25'	14'-3"	
26'-28'	15'-9"	1-1/2
29'-31'	17'-3"	2
32'-34'	19'-3"	
35'-37'	20'-3"	

### 6" Farm Horizontal Drive Unit and 6" Farm DGD Unload

Bin Diameter	HP Required
15	3
18	
21	
24	
27	5
30	
33	
36	

### 8" Farm Horizontal Drive Unit and 8" Standard Farm Unload

Bin Diameter	Flight Length	HP Required
14'-16'	9'-10"	1-1/2
17'-19'	11'-10"	2
20'-22'	12'-10"	
23'-25'	14'-4"	3
26'-28'	15'-10"	
29'-31'	17'-4"	5
32'-34'	19'-4"	
35'-37'	20'-4"	
42'	23'-10"	
48'	26'-10"	



**8" Farm Horizontal Drive Unit and 8" Farm DGD Unload**

Bin diameter	HP Required
15	3
18	
21	5
24	
27	
30	
33	
36	7-1/2
39	
42	
48	

**8" Commercial Horizontal Drive Unit and 8" Standard Commercial Unload**

Bin Diameter	Flight Length	HP Required
24'	14'-6"	3
27'	16'-0"	
30'	17'-6"	5
33'-34'	19'-6"	
36'	20'-6"	
37'-39'	22'-0"	
40'	23'-0"	
42'	24'-0"	
48'-49'	27'-0"	
54'-55'	30'-0"	
60'	33'-0"	
63'	34'-6"	
68'-69'	37'-6"	7-1/2
72'	39'-0"	
75'	40'-6"	
78'	42'-6"	10
80'	44'-6"	
82'	45'-6"	
90'	49'-6"	
92'	50'-6"	

## 5. Electric Drive Motors

### 10" Farm Horizontal Drive Unit and 10" Standard Farm Unload

Bin Diameter	Flight Length	HP Required
23'-25'	14'-6"	5
26'-28'	16'-0"	
29'-31'	17'-6"	
32'-34'	19'-6"	
35'-37'	20'-6"	7-1/2
42'	24'-0"	
48'	27'-0"	

### 10" Farm Horizontal Drive Unit and 10" Farm DGD Unload

Bin Diameter	HP Required
24	7-1/2
27	
30	
33	
36	10
39	
42	
48	

### 10" Commercial Horizontal Drive Unit and 10" Standard Commercial Unload

Bin Diameter	Flight Length	HP Required
24'	14'-6"	5
27'	16'-0"	
30'	17'-6"	
33'-34'	19'-0"	
36'	20'-6"	7-1/2
37'-39'	22'-0"	
40'	23'-0"	
42'	24'-0"	
48'-49'	27'-0"	
54'-55'	30'-0"	10
60'	33'-0"	
63'	34'-6"	
68'-69'	37'-6"	
72'	39'-0"	
75'	40'-6"	15
78'	42'-6"	
80'	44'-6"	
82'	45'-6"	
90'	49'-6"	
92'	50'-6"	

10" Commercial Horizontal Drive Unit and 10" Commercial DGD Unload

Bin Diameter	HP Required
36	15
42	
48	
54	
60	
72	20
75	
78	

12" Commercial Horizontal Drive Unit and 12" Standard Commercial Unload

Bin Diameter	Flight Length	HP Required
24'	14'-6"	7-1/2
27'	16'-0"	
30'	17'-6"	
33'-34'	19'-6"	
36'	20'-6"	
37'-39'	22'-0"	
40'	23'-0"	10
42'	24'-0"	
48'-49'	28'-0"	
54'-55'	30'-0"	
60'	33'-0"	15
63'	34'-6"	
68'-69'	37'-6"	
72'	39'-0"	
75'	40'-6"	
78'	42'-6"	
80'	44'-6"	
82'	45'-6"	
90'	49'-6"	20
92'	50'-6"	
105'	57'-0"	
113'	61'-0"	
120'	64'-6"	

### Perform Pre-Start Checks



***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 shut down 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.



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



***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.***

## Start the Auger

1. Start the auger.



***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.



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



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

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



***Be aware of any unusual vibration or noises during the initial start-up and “break-in” period. If anything unusual is detected, immediately shut down the auger, and disconnect and lock out the power supply before servicing.***

### 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. 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.



***Be alert for any unusual vibrations, noises and the loosening of any fasteners. If anything unusual is detected, immediately shut down the auger, disconnect and lock out 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 start-up easier and will convey more efficiently.

## Normal Shut Down

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

## Emergency Shut Down

1. Know how to shut down 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.



***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.***

## Storage Preparation

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

### Maintain the Auger



***ALWAYS shut down 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.



1. **6" Farm Duty Horizontal Drive Unit Parts** ([See Pages 34 and 35.](#))
2. **8" Farm Duty Horizontal Drive Unit Parts** ([See Pages 36 and 37.](#))
3. **8" Commercial Duty Horizontal Drive Unit Parts** ([See Pages 38 and 39.](#))
4. **10" Farm and Commercial Duty Horizontal Drive Unit Parts** ([See Pages 40 and 41.](#))
5. **12" Commercial Duty Horizontal Drive Unit Parts** ([See Pages 42 and 43.](#))

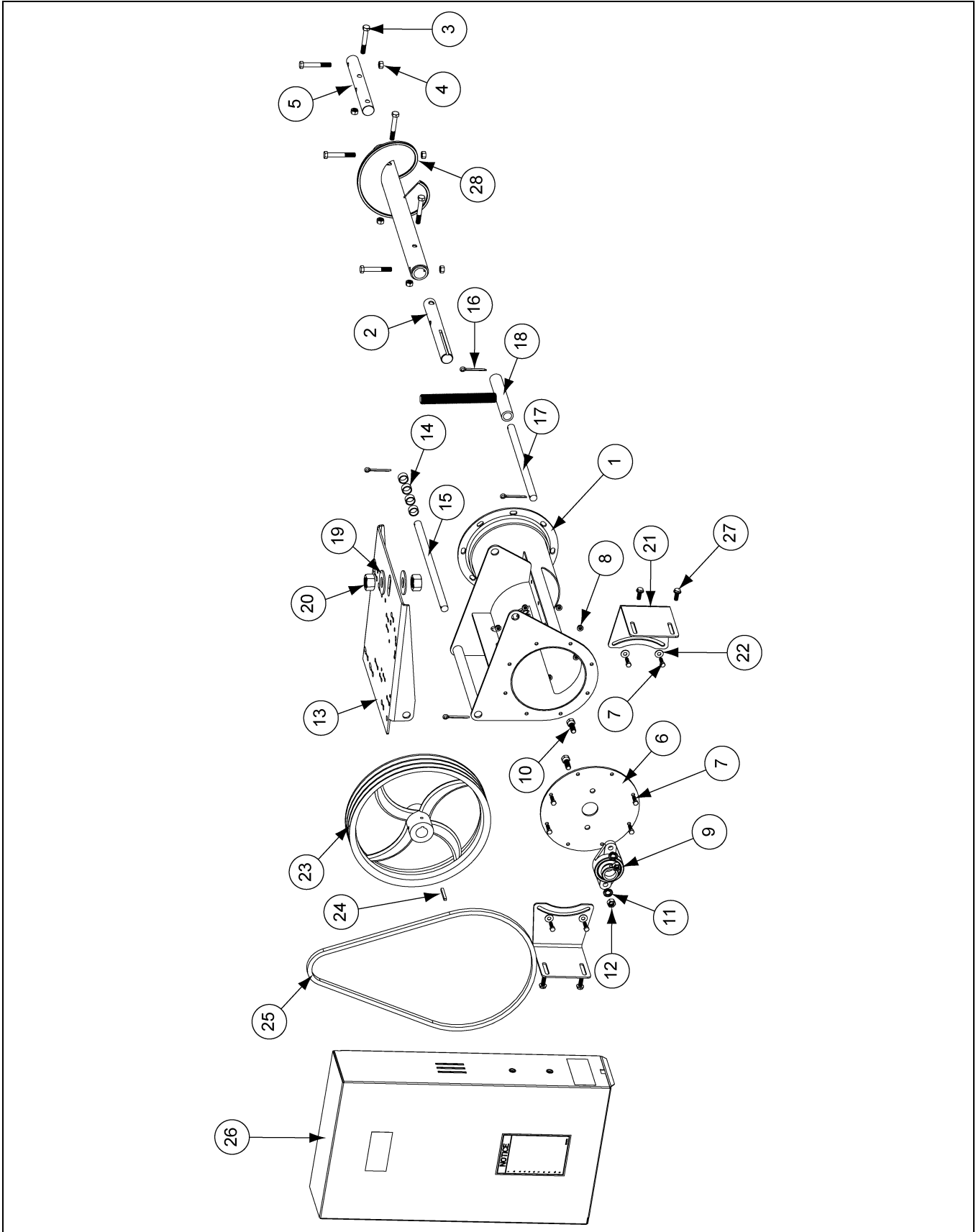
# 6" Farm Duty Horizontal Drive Unit Parts



## 6" Farm Duty Horizontal Drive Unit Parts List

Ref #	Part #	Description
1	GK6996	6" Discharge Tube
2	GK1351	Connecting Shaft - 1" O.D. x 9.59"
3	S-7687	Flight Attachment Bolt - Bolt HHCS 3/8"-16 x 2" Zinc Grade 8
4	S-8251	Flight Attachment Nut - Stover Nut 3/8"-16 Zinc Grade C
5	GK2025	Drive Shaft - 1" O.D. x 10"
6	GK7052-Y	Motor Mount Plate
7	GK7058	Motor Mount Plate Pivot Rod
8	S-6994	Cotter Pin 3/16" x 2" Zinc Grade 2
9	GK7060	Motor Mount Adjuster
10	S-866	Motor Mount Adjuster Washer - Flat Washer 3/4" Zinc Grade 2
11	S-234	Motor Mount Adjuster Nut - Hex Nut 3/4"-10 Zinc Grade 5
12	GK7061-BS	Bearing Plate - Bin Silver
13	S-7837	Bearing Bolt - Bolt HHCS 7/16"-14 x 1-1/2" Zinc Grade 5
14	GK1049	Bearing, 1" Bore, 2-Hole Flange w/ Locking Collar
15	S-7014	Bearing Lock Washer - Split Lock Washer 7/16" Zinc
16	S-7332	Bearing Nut - Hex Nut 7/16"-14 YDP Grade 5
17	S-1196	Bolt, HHCS 5/16"-18 x 1" Zinc Grade 5
18	S-3611	Serrated Flange Nut 5/16"-18 YDP Grade 2
19	GK7062	Belt Guard Mounting Bracket
20	S-845	Belt Guard Bracket Washer - Flat Washer 5/16" YDP Grade 2
21	S-4513	Key, 1/4" Square x 2"
22	GK1309	Sheave, 12" O.D., 1" I.D., 1 Groove
22	GK1321	Sheave, 12" O.D., 1" I.D., 2 Groove
23	GK1308	V-Belt B46
23	GK1323	V-Belt B48
24	GK7005	Belt Guard - 12" and 15"
25	S-9065	Belt Guard Bolt - Bolt Flange 3/8"-16 x 1" Zinc Grade 5
26	GK1865	5" Discharge Flight

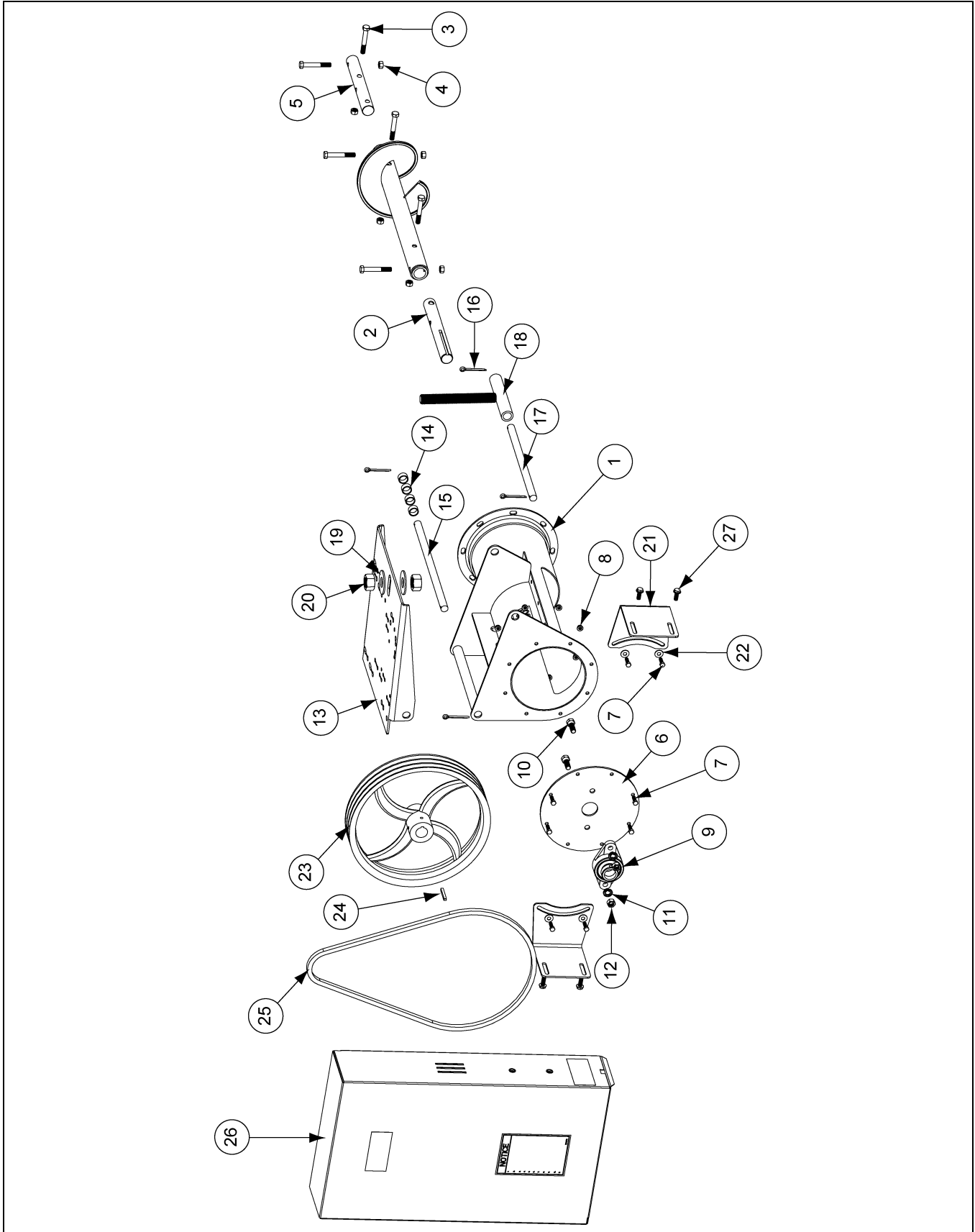
# 8" Farm Duty Horizontal Drive Unit Parts



## 8" Farm Duty Horizontal Drive Unit Parts List

Ref #	Part #	Description
1	GK6997	8" Discharge Tube
2	GK1331	Drive Shaft - 1-1/4" O.D. x 10-1/2"
3	S-8316	Flight Attachment Bolt - Bolt HHCS 7/16"-14 x 3" Zinc YDP Grade 8
4	S-8317	Flight Attachment Nut - Stover Nut 7/16"-14 Zinc Grade C
5	GK1328	Connecting Shaft - 1-1/4" O.D. x 9-1/2"
6	GK6987-BS	Bearing Plate - Bin Silver
7	S-1196	Bolt, HHCS 5/16"-18 x 1" Zinc Grade 5
8	S-3611	Serrated Flange Nut 5/16"-18 YDP Grade 2
9	GK1330	Bearing, 1-1/4" Bore, 2-Hole Flange w/ Locking Collar
10	S-8760	Bearing Bolt - Bolt HHCS 1/2"-13 x 1-1/2" Zinc Grade 5
11	S-236	Bearing Lock Washer - Split Lock Washer 1/2" Zinc
12	S-3729	Bearing Nut - Hex Nut 1/2"-13 YDP Grade 5
13	GK6986-Y	Motor Mount Plate
14	GK7014	Pivot Spacer Tube
15	GK7013	Motor Mount Pivot Rod
16	S-6994	Cotter Pin 3/16" x 2" Zinc Grade 2
17	GK7012	Motor Mount Adjuster Pivot Rod
18	GK6942	Motor Mount Adjuster
19	S-7835	Motor Mount Adjuster Washer - Flat Washer 1" I.D. x 2" O.D. Zinc
20	S-240	Motor Mount Adjuster Nut - Hex Nut 1"-8 Zinc Grade 5
21	GK7006	Belt Guard Mounting Bracket
22	S-845	Belt Guard Mounting Bracket Washer - Flat Washer 5/16" YDP Grade 2
23	GK1869	Sheave, 15" O.D., 1-1/4" I.D., 2 Groove
23	GK2234	Sheave, 15" O.D., 1-1/4" I.D., 3 Groove
24	S-4513	Key, 1/4" Square x 2"
25	GK1952	V-Belt B50
26	GK7005	Belt Guard - 12" and 15"
27	S-9065	Belt Guard Bolt - Bolt Flange 3/8"-16 x 1" Zinc Grade 5
28	GK1325	7" Discharge Flight

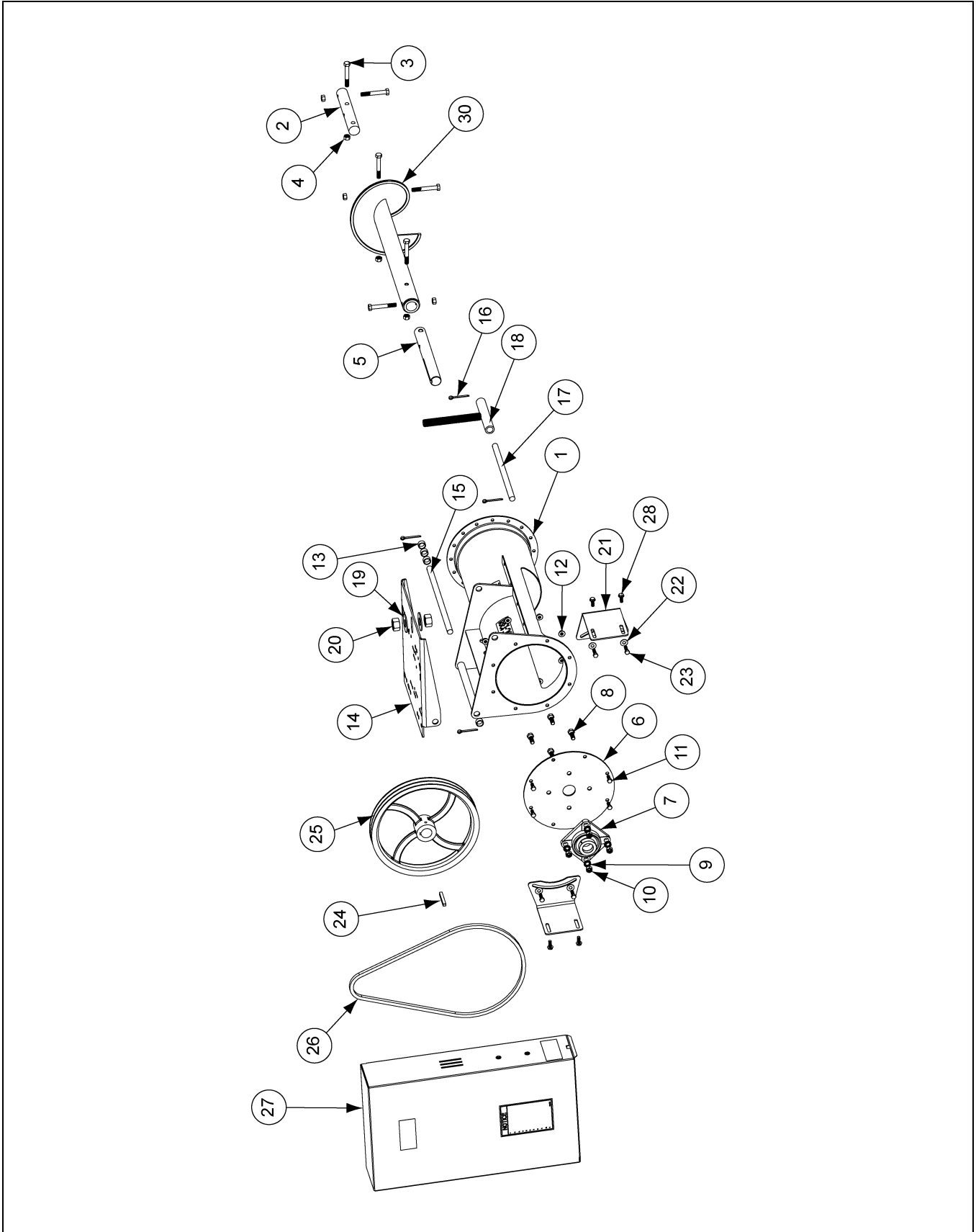
# 8" Commercial Duty Horizontal Drive Unit Parts



## 8" Commercial Duty Horizontal Drive Unit Parts List

Ref #	Part #	Description
1	GK6997	8" Discharge Tube
2	GK1331	Drive Shaft - 1-1/4" O.D. x 10-1/2"
3	S-8316	Flight Attachment Bolt - Bolt HHCS 7/16"-14 x 3" Zinc YDP Grade 8
4	S-8317	Flight Attachment Nut - Stover Nut 7/16"-14 Zinc Grade C
5	GK1328	Connecting Shaft - 1-1/4" O.D. x 9-1/2"
6	GK6987-BS	Bearing Plate - Bin Silver
7	S-1196	Bolt, HHCS 5/16"-18 x 1" Zinc Grade 5
8	S-3611	Serrated Flange Nut 5/16"-18 YDP Grade 2
9	GK1330	Bearing, 1-1/2" Bore, 2-Hole Flange w/ Locking Collar
10	S-8760	Bearing Bolt - Bolt HHCS 1/2"-13 x 1-1/2" Zinc Grade 5
11	S-236	Bearing Lock Washer - Split Lock Washer 1/2" Zinc
12	S-3729	Bearing Nut - Hex Nut 1/2"-13 YDP Grade 5
13	GK6986-Y	Motor Mount Plate
14	GK7014	Pivot Spacer Tube
15	GK7013	Motor Mount Pivot Rod
16	S-6994	Cotter Pin 3/16" x 2" Zinc Grade 2
17	GK7012	Motor Mount Adjuster Pivot Rod
18	GK6942	Motor Mount Adjuster
19	S-7835	Motor Mount Adjuster Washer - Flat Washer 1" I.D. x 2" O.D. Zinc
20	S-240	Motor Mount Adjuster Nut - Hex Nut 1"-8 Zinc Grade 5
21	GK7006	Belt Guard Mounting Bracket
22	S-845	Belt Guard Mounting Bracket Washer - Flat Washer 5/16" YDP Grade 2
23	GK1869	Sheave, 15" O.D., 1-1/4" I.D., 2 Groove
23	GK2234	Sheave, 15" O.D., 1-1/4" I.D., 3 Groove
24	S-4513	Key, 1/4" Square x 2"
25	GK1346	V-Belt B57
26	GK7005	Belt Guard - 12" and 15"
27	S-9065	Belt Guard Bolt - Bolt Flange 3/8"-16 x 1" Zinc Grade 5
28	GK1325	7" Discharge Flight

# 10" Farm and Commercial Duty Horizontal Drive Unit Parts

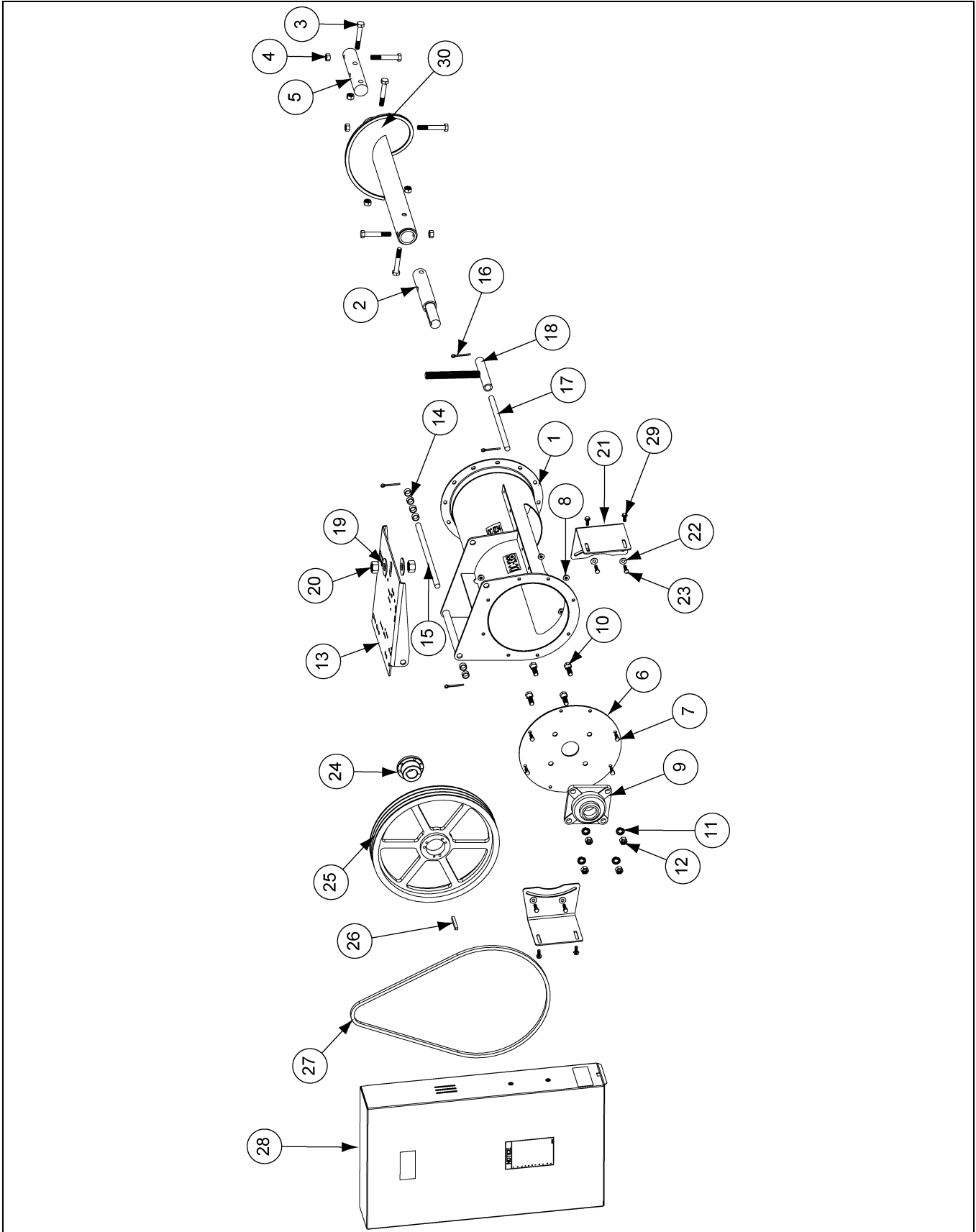




## 10" Farm and Commercial Duty Horizontal Drive Unit Parts List

Ref #	Part #	Description
1	GK6998	10" Discharge Tube
2	GK1339	Connecting Shaft - 1-1/2" O.D. x 9-1/2"
3	S-8314	Flight Attachment Bolt - Bolt HHCS 1/2"-13 x 3-1/2" YDP Grade 8
4	S-8315	Flight Attachment Nut - Stover Nut 1/2"-13 Zinc Grade C
5	GK1289	Drive Shaft - 1-1/2" O.D. x 12-1/2"
6	GK7017-BS	Bearing Plate - Bin Silver
7	GK1343	Bearing, 1-1/2" Bore, 4-Hole Flange w/ Locking Collar
8	S-8760	Bearing Bolt - Bolt HHCS 1/2"-13 x 1-1/2" Zinc Grade 5
9	S-236	Bearing Lock Washer - Split Lock Washer 1/2" Zinc
10	S-3729	Bearing Nut - Hex Nut 1/2"-13 YDP Grade 5
11	S-7469	Bearing Plate Bolt - Bolt HHCS 3/8"-16 x 1" Zinc Grade 5
12	S-968	Serrated Flange Nut 3/8"-16 Zinc Grade 5
13	GK7014	Pivot Spacer Tube
14	GK6986-Y	Motor Mount Plate
15	GK7013	Motor Mount Pivot Rod
16	S-6994	Cotter Pin 3/16" x 2" Zinc Grade 2
17	GK7012	Motor Mount Adjuster Pivot Rod
18	GK6942	Motor Mount Adjuster
19	S-7835	Motor Mount Adjuster Washer - Flat Washer 1" O.D. x 2" O.D. Zinc
20	S-240	Motor Mount Adjuster Nut - Hex Nut 1"-8 Zinc Grade 5
21	GK7018	Belt Guard Mounting Bracket
22	S-248	Belt Guard Mounting Bracket Washer - Flat Washer 3/8", 7/16" I.D. x 1" O.D. YDP
23	S-2071	Belt Guard Mounting Bracket Bolt - Bolt HHCS 3/8"-16 x 1-1/4" Zinc Grade 5
24	S-9181	Key, 3/8" Square x 3"
25	GK1345	Sheave, 15" O.D., 1.5" I.D., 2 Groove
25	GK1304	Sheave, 15" O.D., 1.5" I.D., 3 Groove
25	GK3541 + D03-0264	Sheave, 15" O.D. SF Bushing I.D. 4 Groove + SF Bushing, 1.5" I.D.
26	GK1346	V-Belt B57
26	MHC00028	V-Belt BX60
27	GK7005	Belt Guard - 12" and 15"
28	S-9065	Belt Guard Bolt - Bolt Flange 3/18"-16 x 1" Zinc Grade 5
29	GK1991	9" Discharge Flight

# 12" Commercial Duty Horizontal Drive Unit Parts



## 12" Commercial Duty Horizontal Drive Unit Parts List

Ref #	Part #	Description
1	GK6999	12" Discharge Tube
2	GK2006	Drive Shaft - 2" O.D. x 13"
3	S-7893	Flight Attachment Bolt - Bolt HHCS 5/8"-11 x 4" YDP Grade 8
4	S-8606	Flight Attachment Nut - Stover Nut 5/8"-11 Zinc Grade C
5	GK2319	Connecting Shaft - 2" O.D. x 9-1/2"
6	GK7064-BS	Bearing Plate - Bin Silver
7	S-7469	Bearing Plate Bolt - Bolt HHCS 3/8"-16 x 1" Zinc Grade 5
8	S-968	Serrated Flange Nut 3/8"-16 Zinc Grade 5
9	GK2004	Bearing, 2" Bore, 4-Hole Flange w/ Locking Collar
10	S-8399	Bearing Bolt - Bolt HHTB 5/8"-11 x 2" Zinc Grade 5
11	S-3208	Bearing Lock Washer - Split Lock Washer 5/8" Zinc
12	S-4110	Bearing Nut - Hex Nut 5/8"-11 Zinc Grade 5
13	GK6986-Y	Motor Mount Plate
14	GK7014	Pivot Spacer Tube
15	GK7013	Motor Mount Pivot Rod
16	S-6994	Cotter Pin 3/16" x 2" Zinc Grade 2
17	GK7012	Motor Mount Adjuster Pivot Rod
18	GK6942	Motor Mount Adjuster
19	S-7835	Motor Mount Adjuster Washer - Flat Washer 1" O.D. x 2" O.D. Zinc
20	S-240	Motor Mount Adjuster Nut - Hex Nut 1"-8 Zinc Grade 5
21	GK7065	Belt Guard Mounting Bracket
22	S-248	Belt Guard Mounting Bracket Washer - Flat Washer 3/8", 7/16" I.D. x 1" O.D. YDP
23	S-2071	Belt Guard Mounting Bracket Bolt - Bolt HHCS 3/8"-16 x 1-1/4" Zinc Grade 5
24	GK4248	SK Bushing, 1-1/2" Bore
24	NRD-00027	TL Bushing 2517, 1-1/2" Bore
25	GK2567	Sheave, 18.4" O.D., SK Bushing, 2 Groove
25	GK2570	Sheave, 18.4" O.D., SK Bushing, 3 Groove
25	MHC00809	Sheave, 18.4" O.D., TL Bushing 2517, 4 Groove
26	S-9181	Key, 3/8" Square x 3"
27	MHC00486	V-Belt BX70
28	GK7068	Belt Guard - 18.4"
29	S-9065	Belt Guard Bolt - Bolt Flange 3/18"-16 x 1" Zinc Grade 5
30	GK7265	11" Discharge Flight

## 11. Troubleshooting Guide

### Troubleshooting Guide

Problem	Possible Cause	Solutions
<b>Auger vibration.</b>	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.	1. It may be necessary to remove the flighting for inspection.  2. Adjust the drive belt to the proper tension.
<b>Low capacity.</b>	1. The auger may not be getting enough grain.  2. The auger is moving too slowly.	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.  2. Check the auger speed. Speeds slower than the recommended speed will result in low capacity.
<b>Auger plugs.</b>	1. The auger may be getting too much grain, causing "jamming" inside the housing.  2. The motor may be too small or wired improperly.  3. The grain may be wet.  4. The auger may be jammed with foreign material.  5. The discharge end may be plugged.	1. Decrease the amount of grain the auger is gathering.  2. If the motor is a newer light-weight aluminum type, the next larger size should be considered.  3. If wet grain or other hard-to-move material is being augered, use a larger size motor than recommended for normal use.  4. Be sure there is no foreign material in the auger such as sacks, tarp corners, etc.  5. Make sure the discharge end of the auger is not plugged. A plug of the discharge end will cause an auger plug.

## 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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**GSI is a worldwide brand of AGCO Corporation.**