

10" Commercial Vertical Replacement Drive Kit

Installation Manual

PNEG-1583

Version: 2.1

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PNEG-1583

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

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.

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

Safety Sign-Off Sheet

[illegible]

PNEG-1583 10" Commercial Vertical Replacement Drive Kit

3. Safety Decals

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.

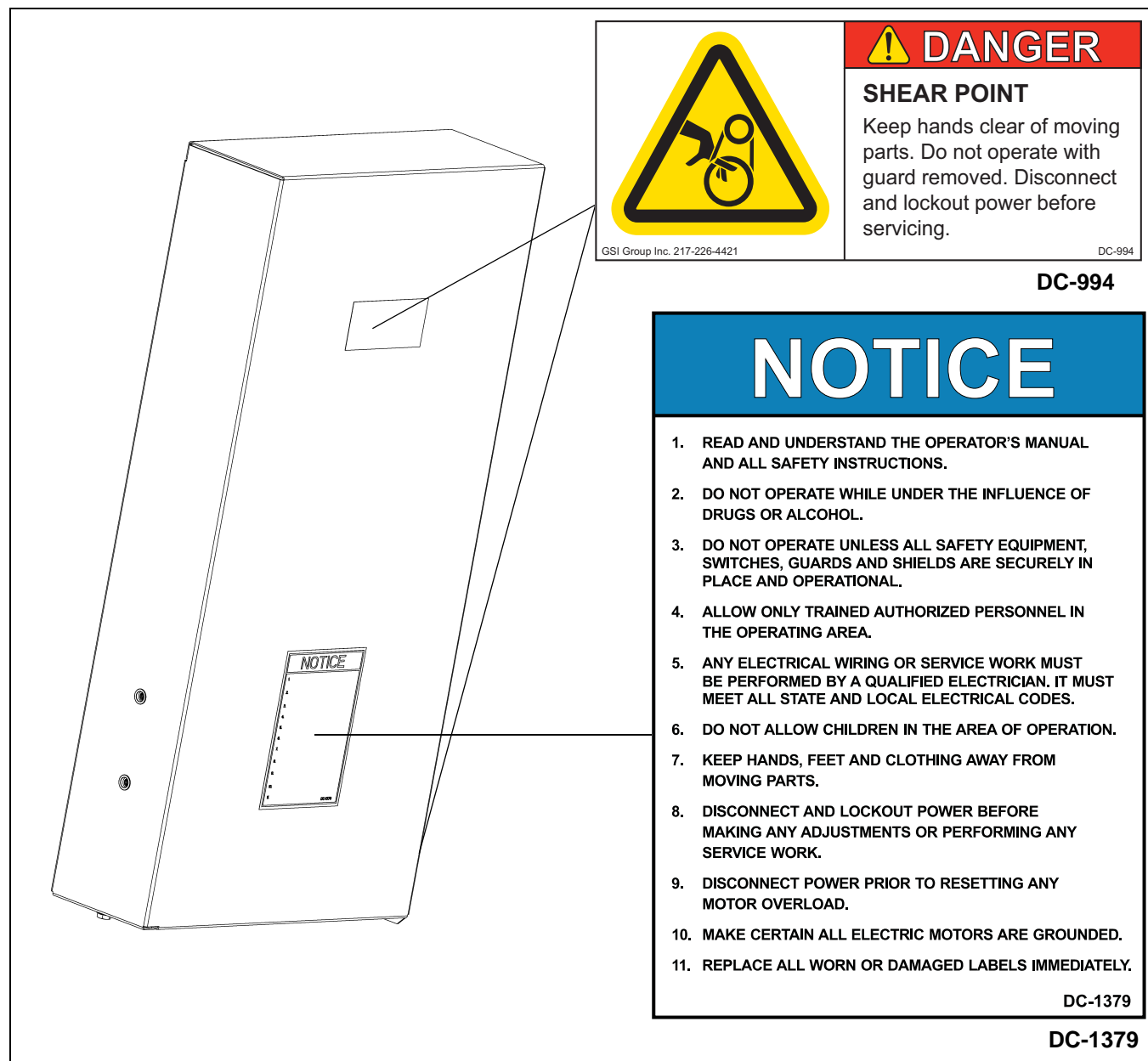
Contact:

GSI Decals

1004 E. Illinois St.

Assumption, IL. 62510

Phone: 217-226-4421



Decal List

Part #	Description	Size
DC-994	Danger - Shear Point	4-1/2" x 2"
DC-1379	Notice	5-1/8" x 7-3/8"

4. Installation

Prepare the Powerhead

1. Disconnect and lock out all power to the 10" commercial double drive vertical unload auger.



A main power disconnect switch capable of being locked only in the OFF position should be used. The switch should be locked out whenever work is being done on the powerhead.

2. After the power has been disconnected and locked out, remove the existing belt guard assembly on the horizontal drive.
 - a. Open the existing belt guard.
 - b. Relieve tension on the drive belts by adjusting the motor mount assembly.
 - c. Remove the drive belts.
 - d. Remove the motor pulley and drive sheave.
 - e. Unbolt and remove the existing belt guard assembly.
3. Remove the horizontal drive motor from the powerhead.
4. After the motor has been removed, loosen and remove the 3/4" hex nut underneath the motor mount sides, holding down the motor mount assembly. (See Figure 4A.)

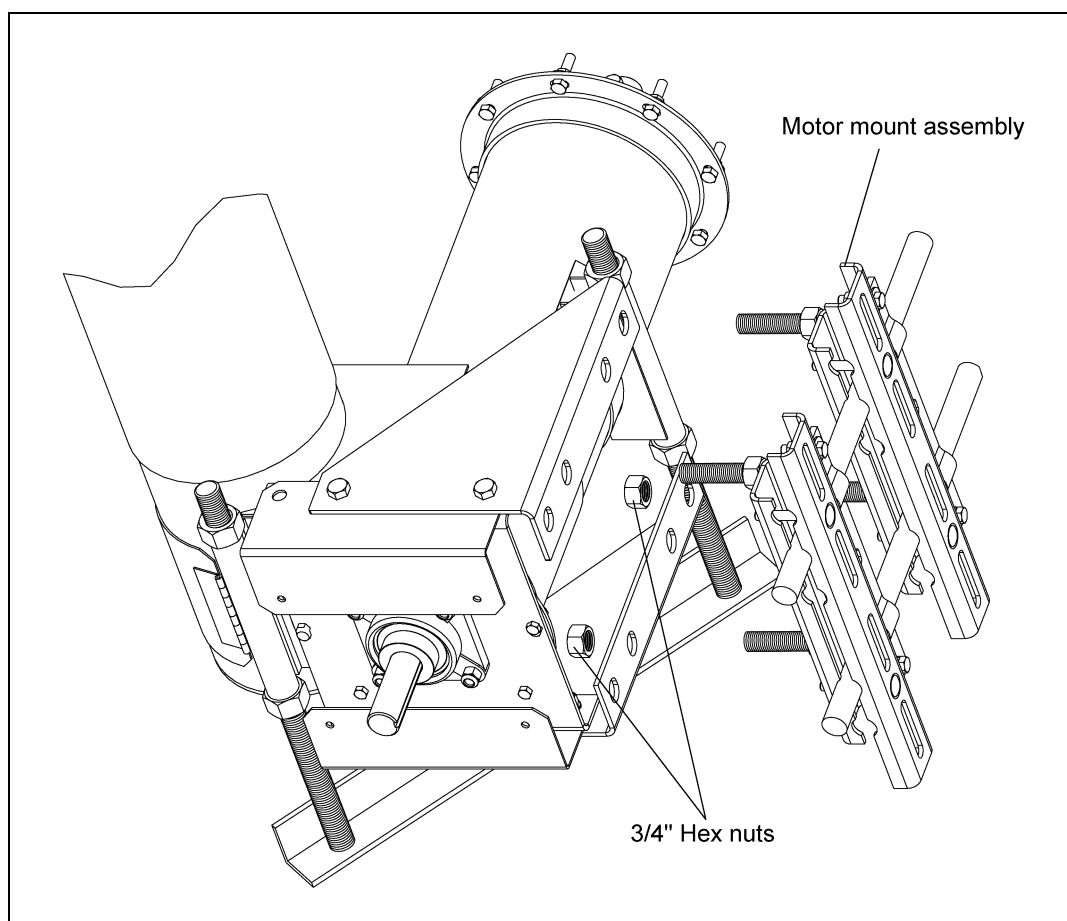


Figure 4A

5. Remove the motor mount assembly.
6. Unbolt the four (4) 1/2" x 1" hex bolts, lock washers and hex nuts and remove the existing belt guard brackets and motor mount sides. (See Figure 4B.)
7. Loosen and remove the lock collar on the 1-1/2" four (4) hole flange bearing. (See Figure 4C.)

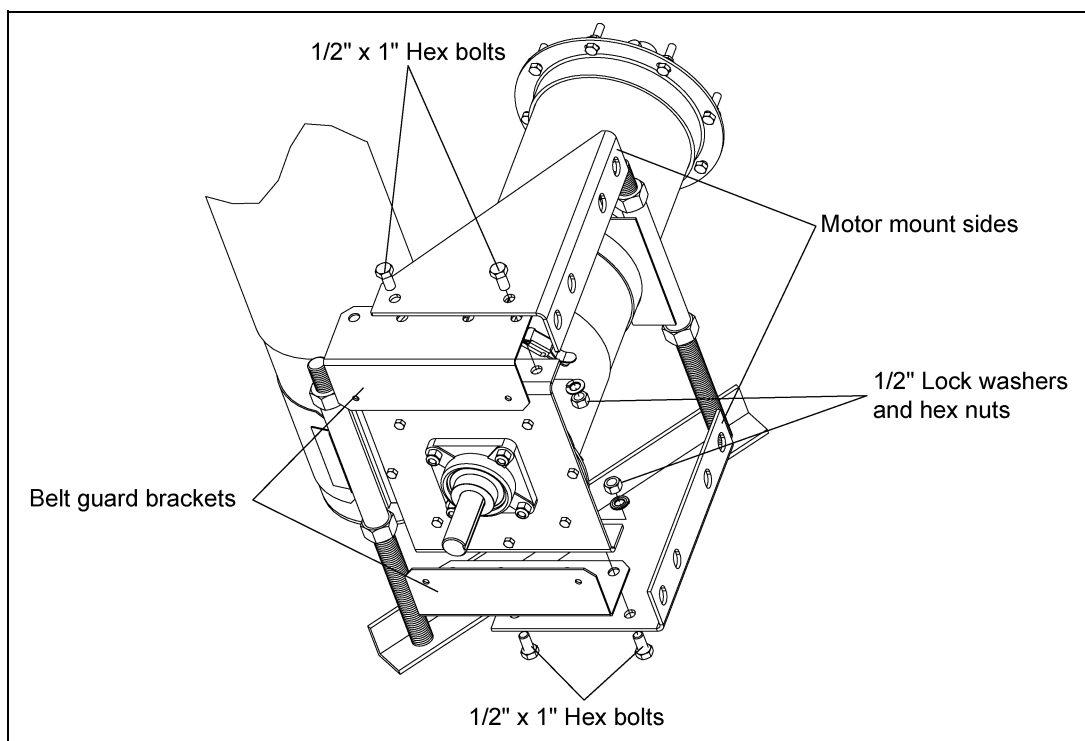


Figure 4B

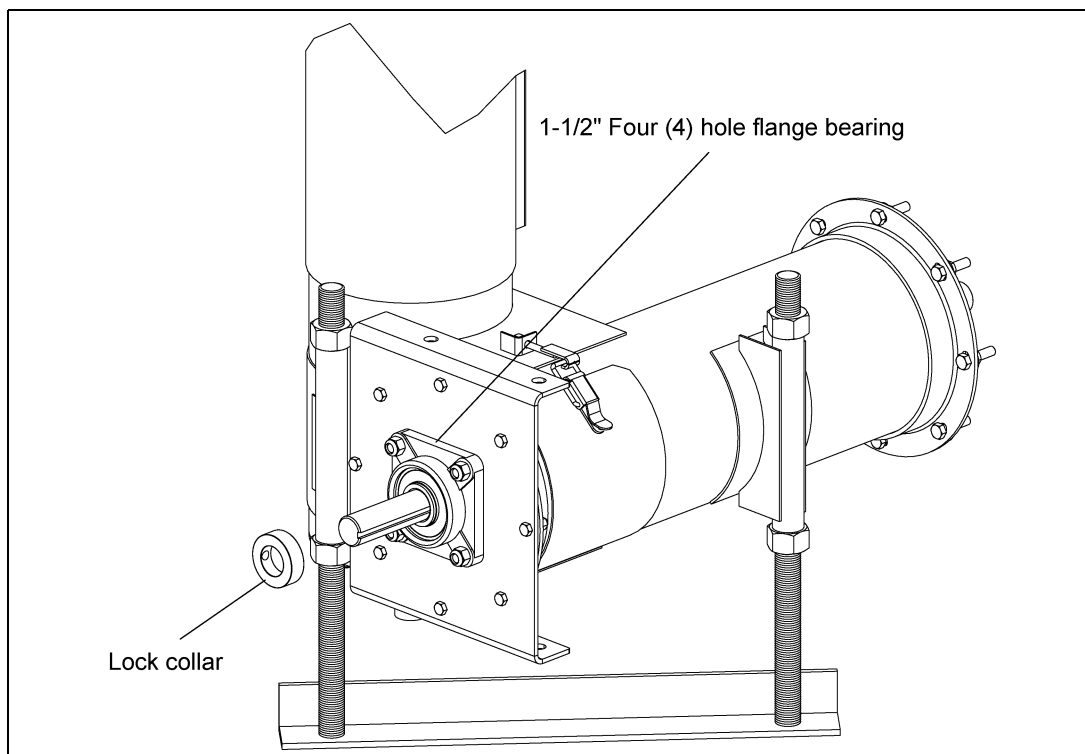


Figure 4C

4. Installation

8. Remove the horizontal head plate from the vertical auger by removing the eight (8) 3/8" x 1" hex bolts, flat washers, lock washers and hex nuts. (See Figure 4D.)
9. Unbolt and remove the 1-1/2" four (4) hole flange bearing. Where possible, this bearing will be reused with the new horizontal drive parts. (See Figure 4E.)

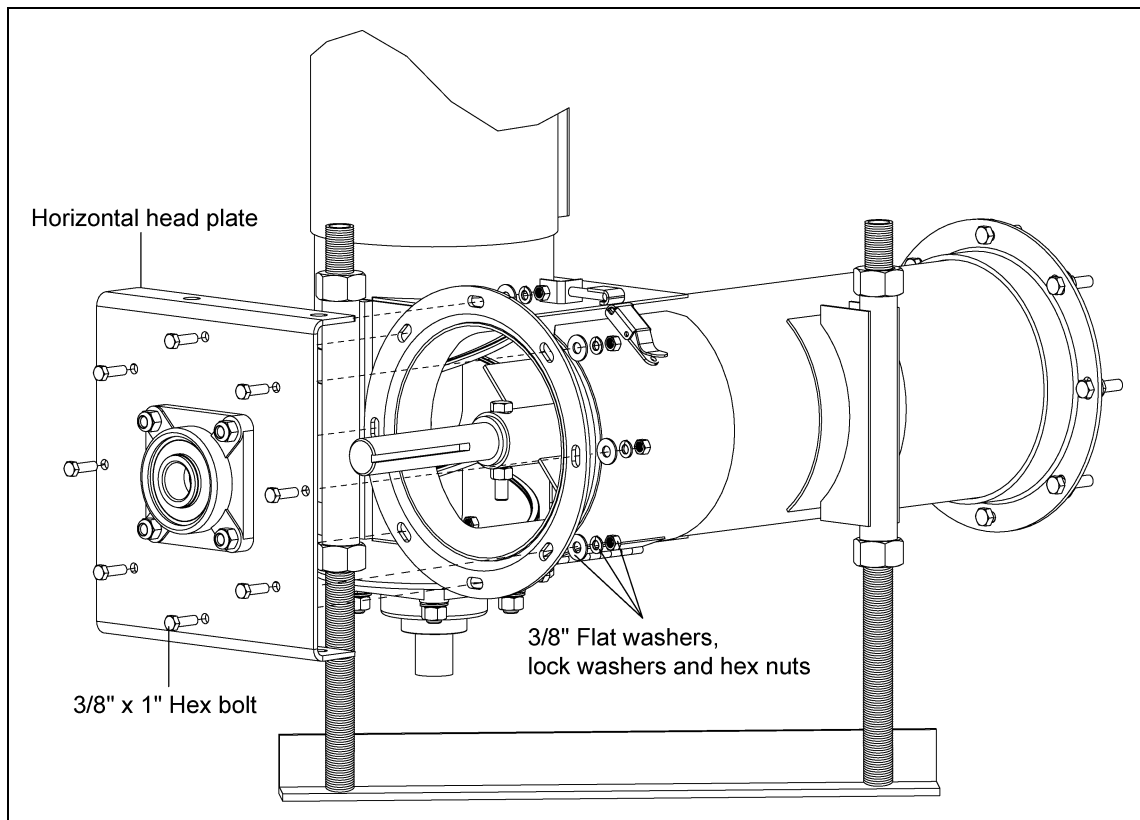


Figure 4D

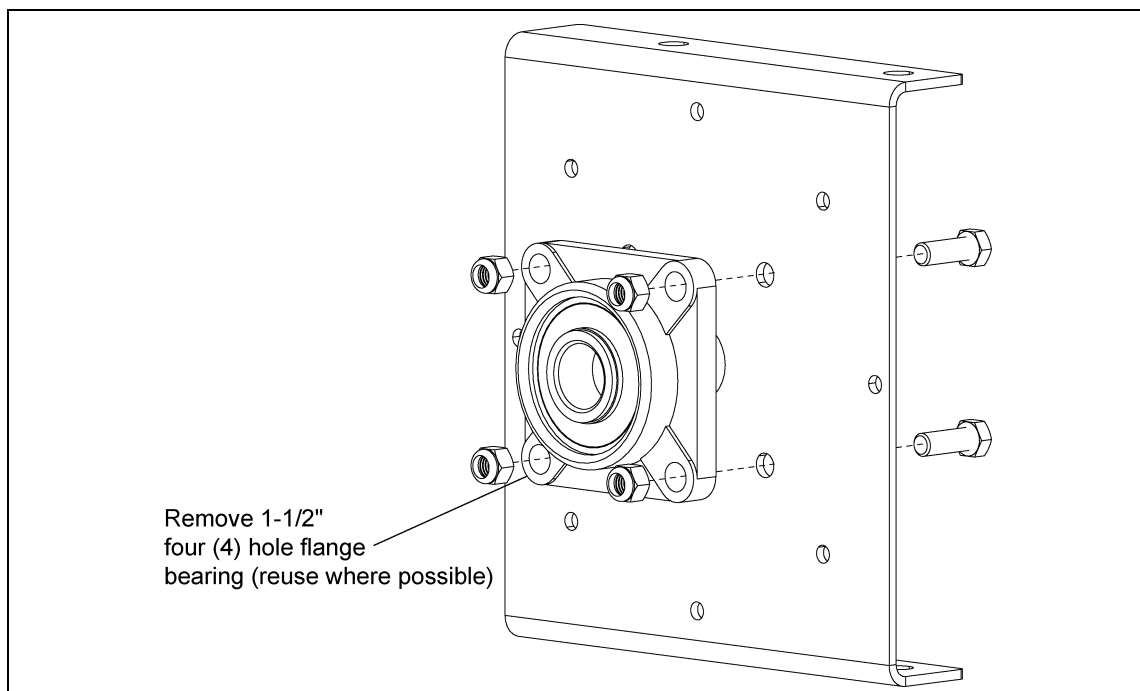


Figure 4E

Assemble the Motor Mount Plate to the New Head Plate

1. Position the motor mount plate over the new head plate so that the motor mount plate is almost flush with the new head plate. (See [Figure 4F.](#))
2. Bolt the motor mount plate to the head plate using four (4) 5/8" x 1-1/2" hex bolts and nylock nuts. (See [Figure 4G.](#))

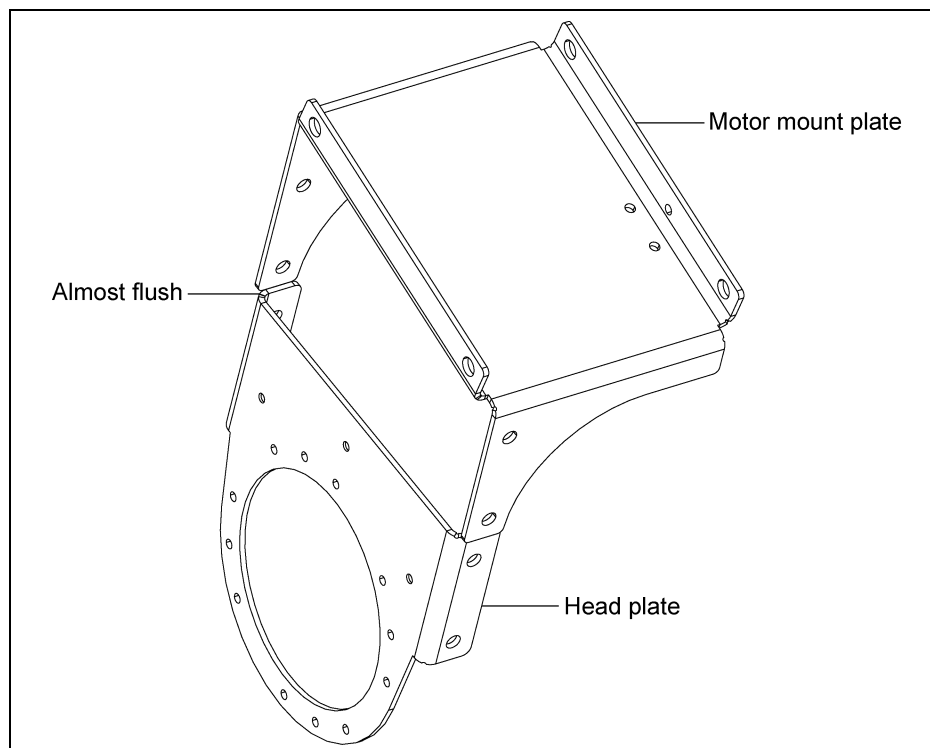


Figure 4F

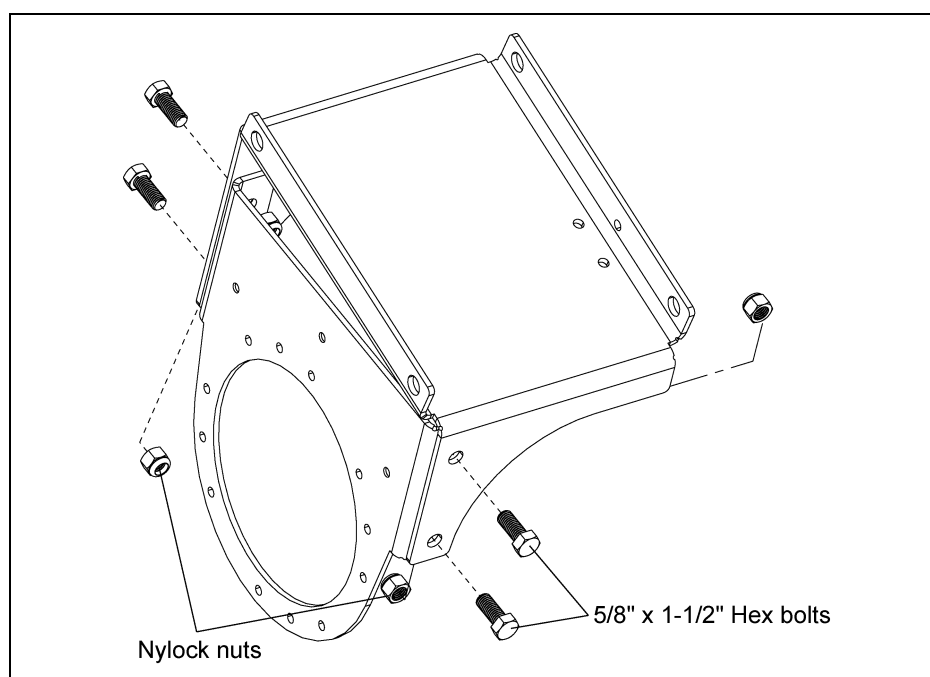


Figure 4G

Install the Head Plate Assembly to the Auger

1. Place the head plate assembly against the angle ring on the horizontal tube.
2. Rotate the head plate assembly so that the side of the motor mount plate is as close as possible to the vertical connecting band, while making sure that the mounting holes in the head plate still align with the mounting holes in the angle ring. (See Figure 4H.)
3. Bolt the head plate assembly to the angle ring on the horizontal tube using four (4) 3/8" x 1" hex bolts and serrated flange nuts. Use center hole in every three (3) hole group. (See Figure 4I.)

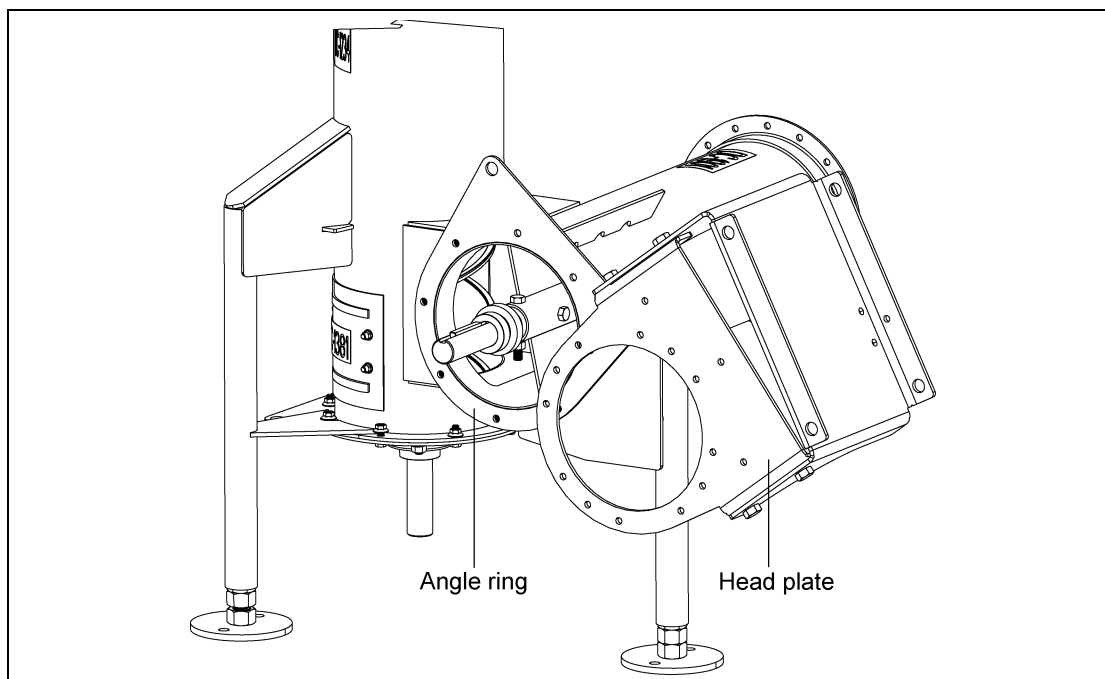


Figure 4H

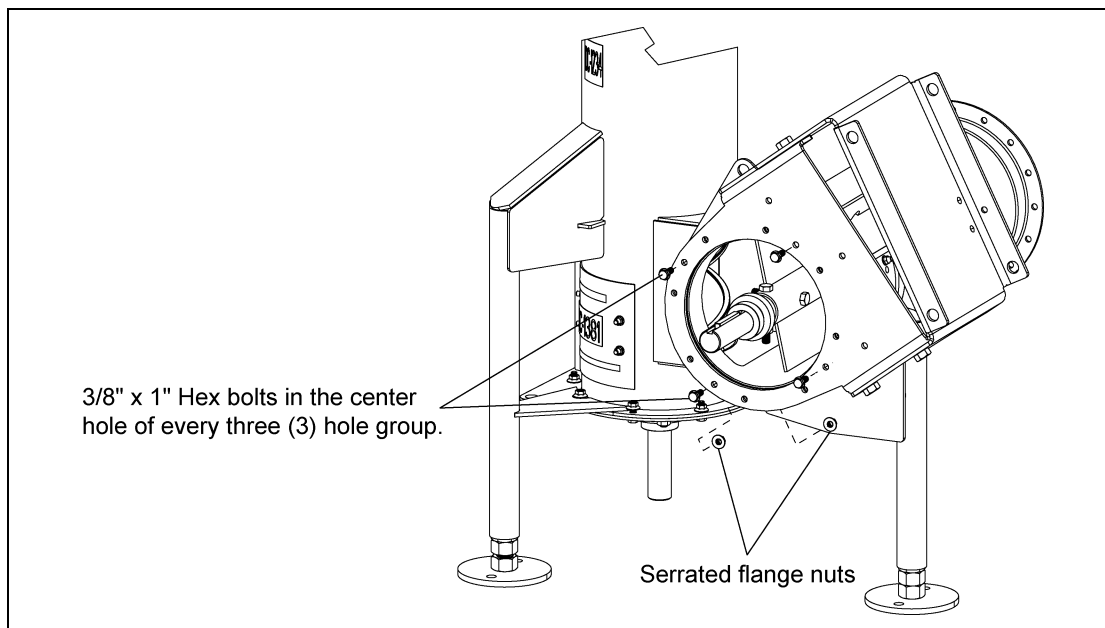


Figure 4I

Install Motor Mount Brace

1. Position brace under motor mount plate aligning the three (3) holes with the slots in the brace.
2. Secure brace to motor mount plate using three (3) 3/8" x 1-1/4" serrated flange bolts and nylock nuts. (See Figure 4J.)

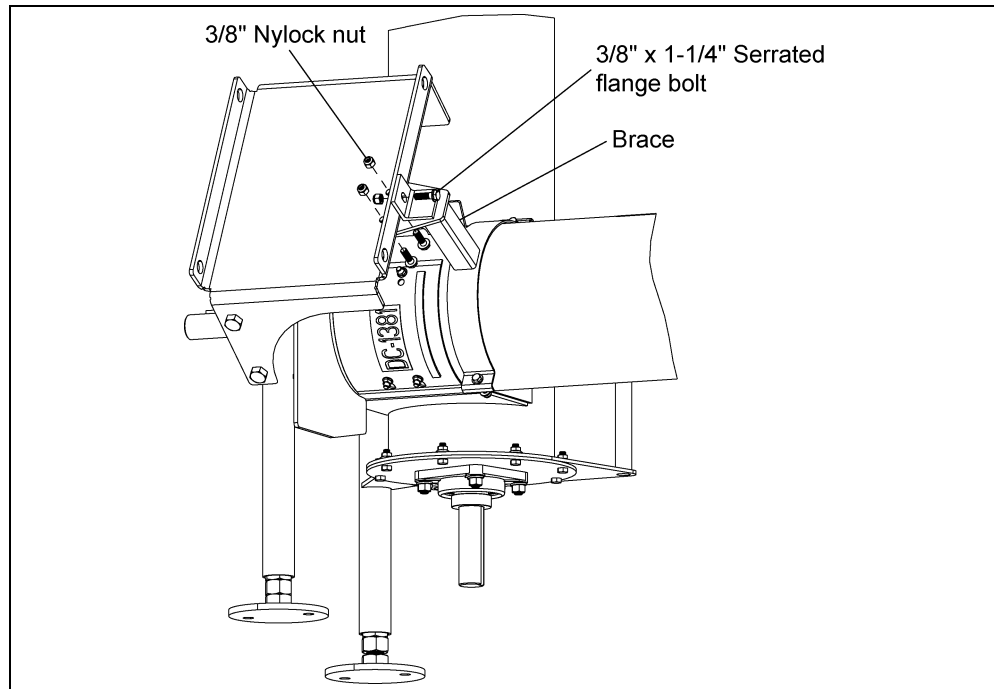


Figure 4J

3. Position 10" x 2" half band under tube and connect to brace using two (2) 5/16" x 1-3/4" hex bolts, four (4) 5/16" flat washers and two (2) 5/16" nylock nuts. (See Figure 4K.)

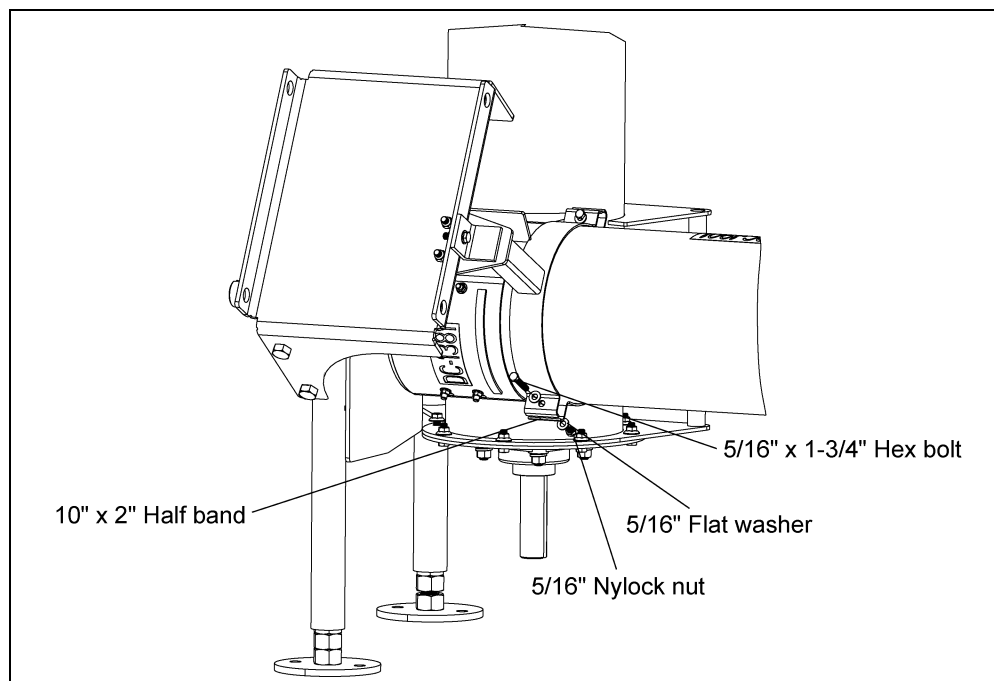


Figure 4K

Assemble the Bearing to the Bearing Plate

1. Bolt the previously removed 1-1/2" four (4) hole flange bearing to the bearing plate using four (4) 1/2" x 1-1/2" hex bolts, lock washers and hex nuts. (See Figure 4L.)

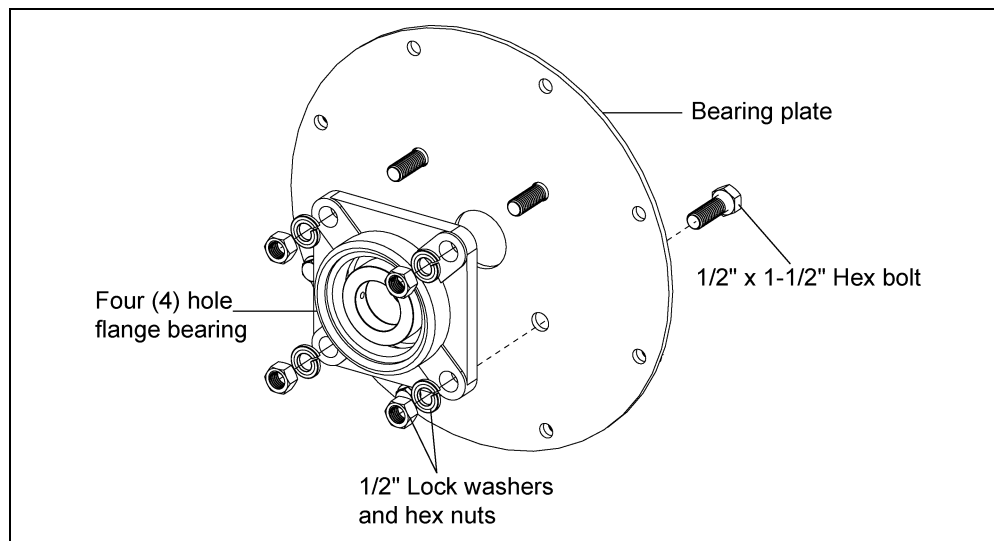


Figure 4L

Assemble the Bearing Plate Assembly to the Head Plate

1. Slide the bearing plate over the drive shaft and line up the bearing plate assembly in front of the head plate.
2. Bolt the bearing plate assembly to the head plate using four (4) 3/8" x 1" hex bolts and serrated flange nuts. (See Figure 4M.)

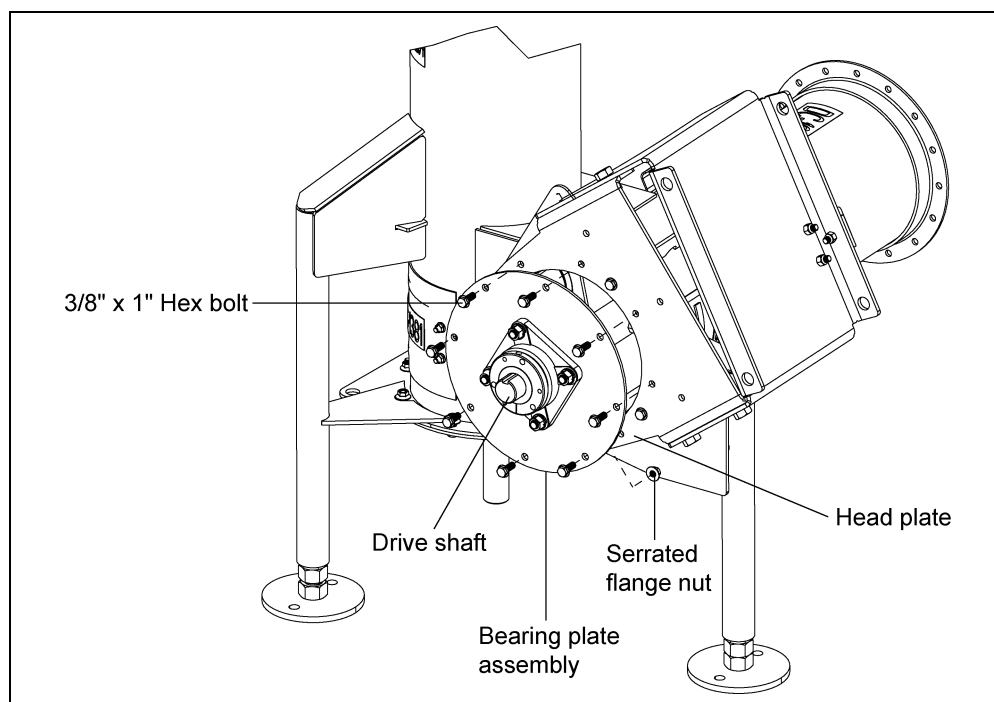


Figure 4M

3. Slide the bearing lock collar over the drive shaft up to the bearing. Using a hammer and punch, continue to drive it onto the bearing in the clockwise direction, the same direction of the auger flight rotation. *(See Figure 4N.)*
4. Tighten the set screw on the lock collar to the drive shaft.

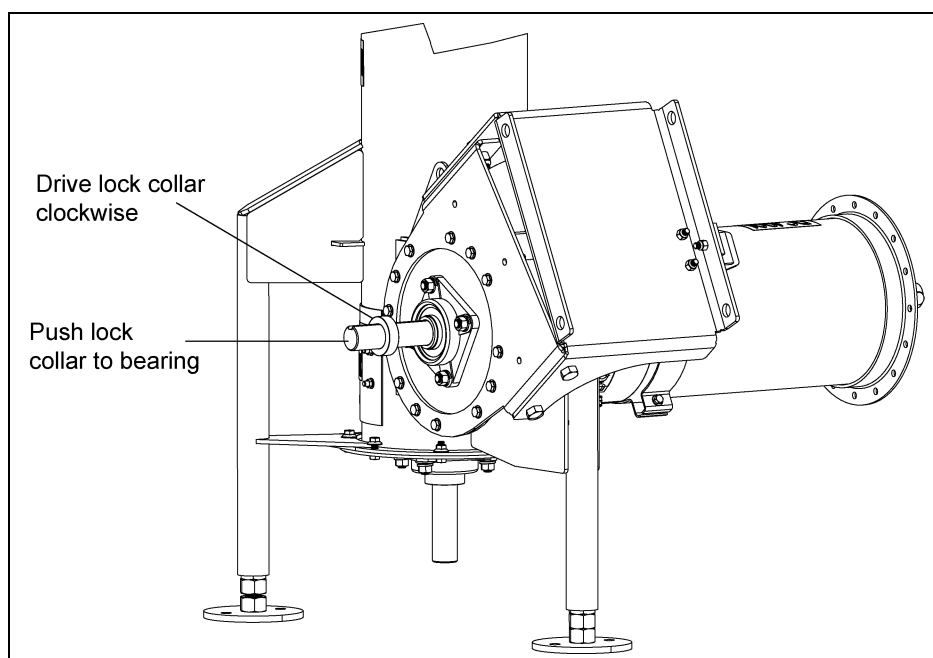


Figure 4N

Assemble Belt Guard Brackets to the Head Plate

1. Place the left and right hand belt guard brackets up to the head plate.
2. Loosely bolt the brackets to the head plate using three (3) 3/8" serrated flange nuts and flat washers. *(See Figure 4O.)*

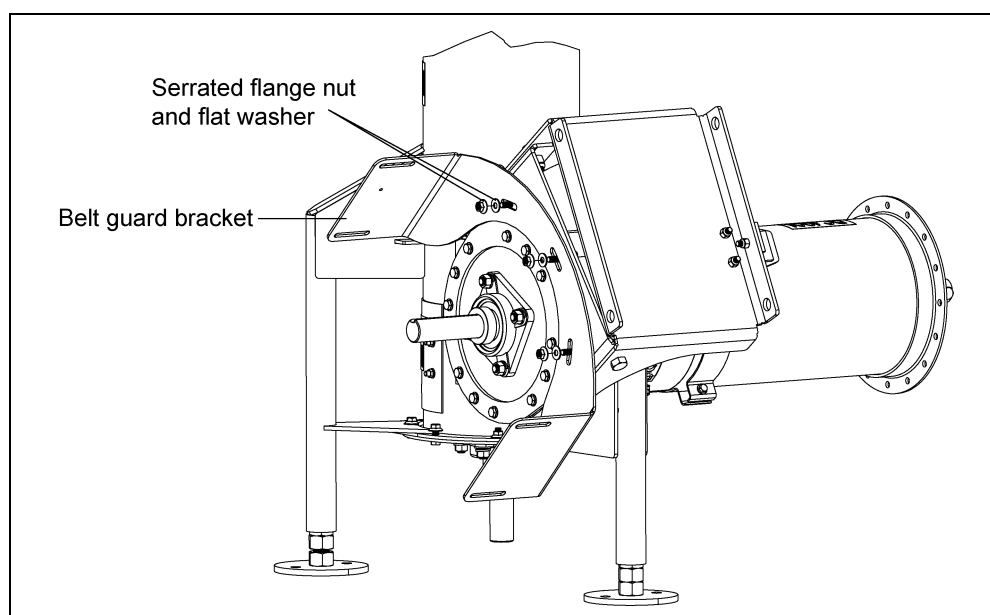


Figure 4O

4. Installation

Install the Motor Mount Adjuster

1. Place the motor mount adjuster between the bottom pivot holes on the motor mount plate.
(See Figure 4P.)
2. Insert the pivot rod through the front bottom pivot hole, the motor mount adjuster and the back bottom pivot hole. Secure the pivot rod in place with two (2) 3/16" x 2" cotter pins.
(See Figure 4P.)
3. With the cotter pins in the pivot rod, bend one tab of the cotter pin back so that it touches the pivot rod and bend the other tab of the cotter pin away from the first tab. (See Figure 4Q on Page 21.)

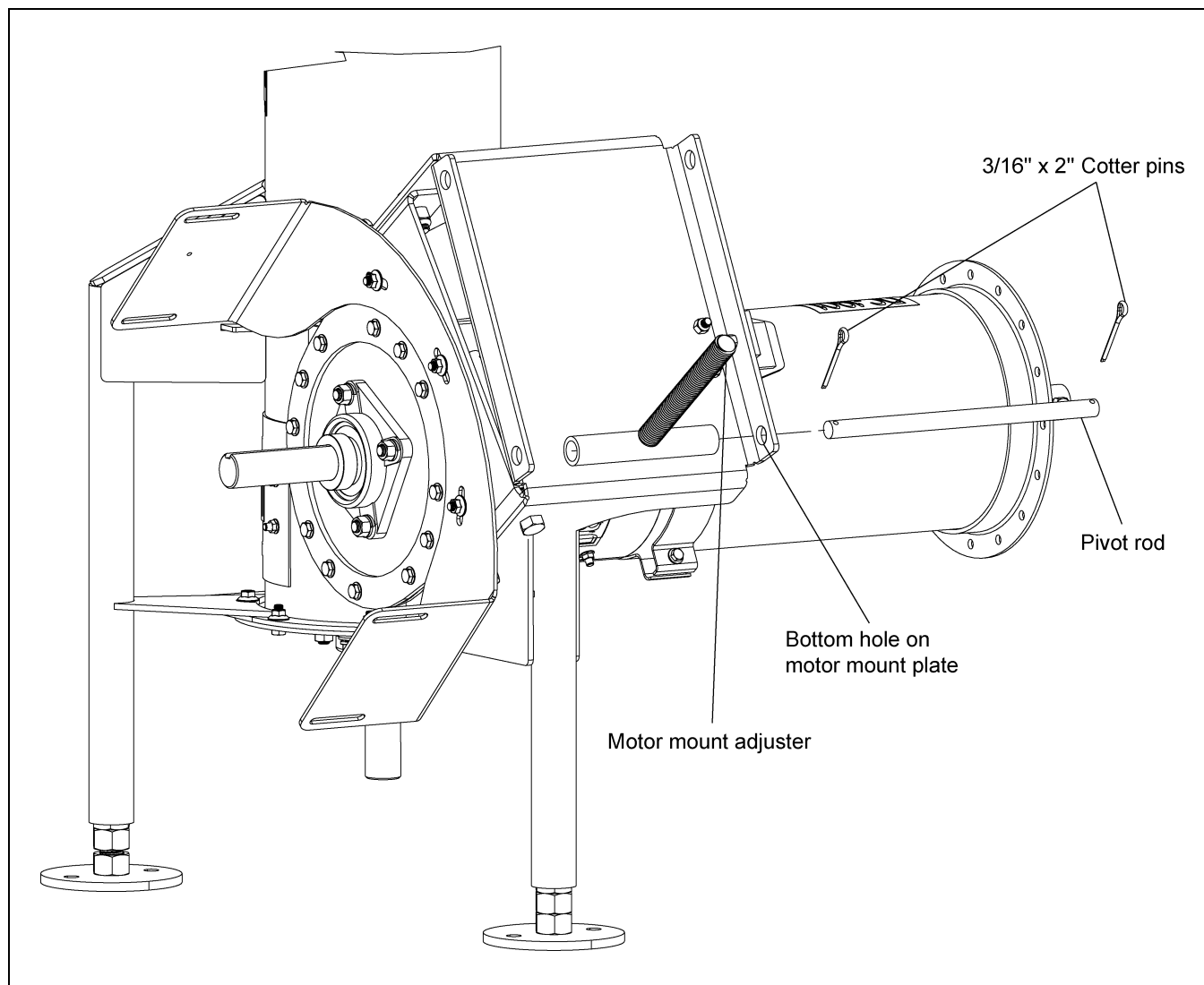


Figure 4P

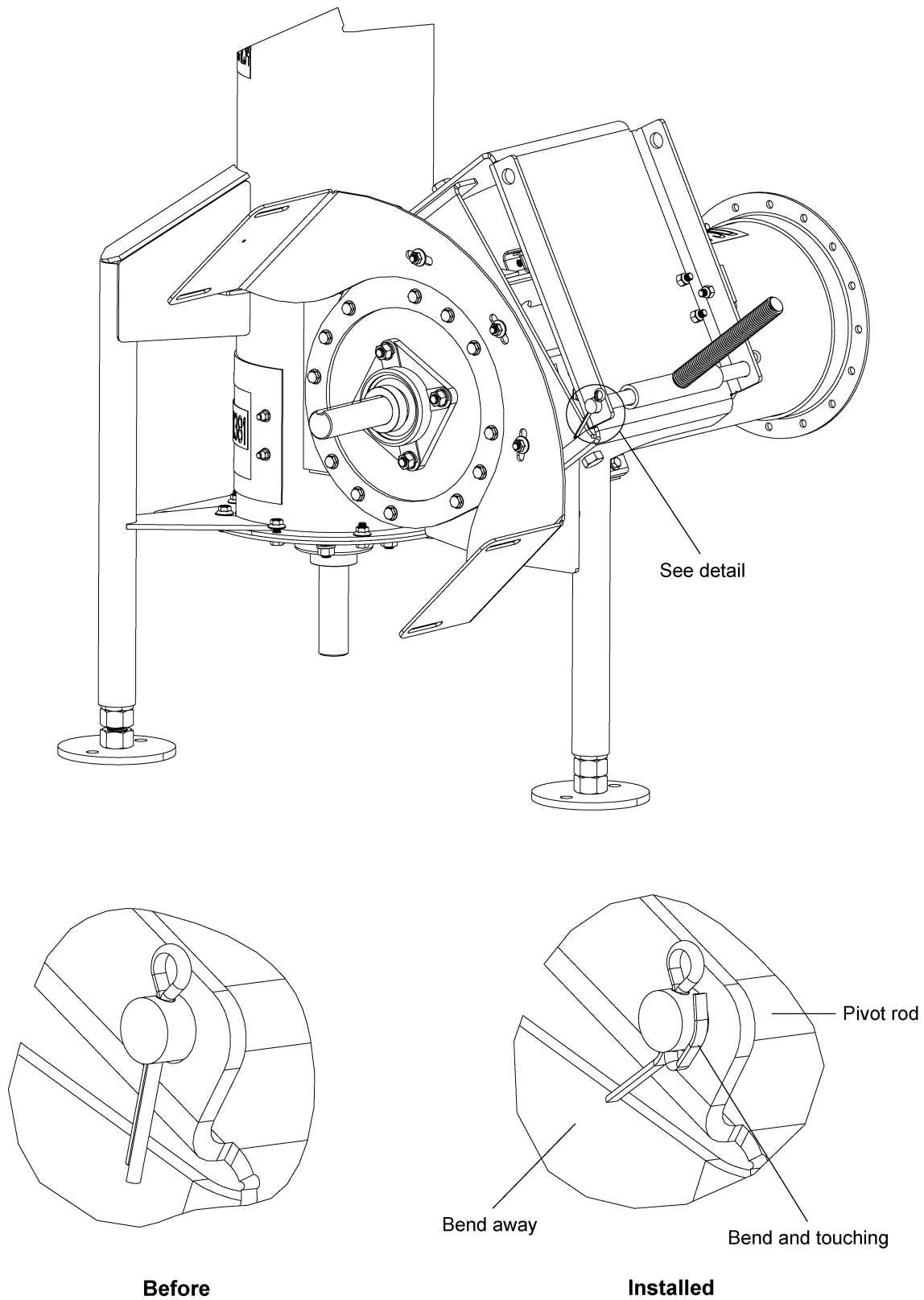


Figure 4Q

4. Installation

Install the Motor Plate

1. Thread one of the motor mount adjustment nuts and one motor mount adjustment washer approximately $\frac{3}{4}$ " of the way down the motor mount adjuster's threaded rod.
2. Once the nut and washer are in place, slip the motor plate over the adjuster and align its pivot holes with the top pivot holes on the motor mount plate. (See Figure 4R.)

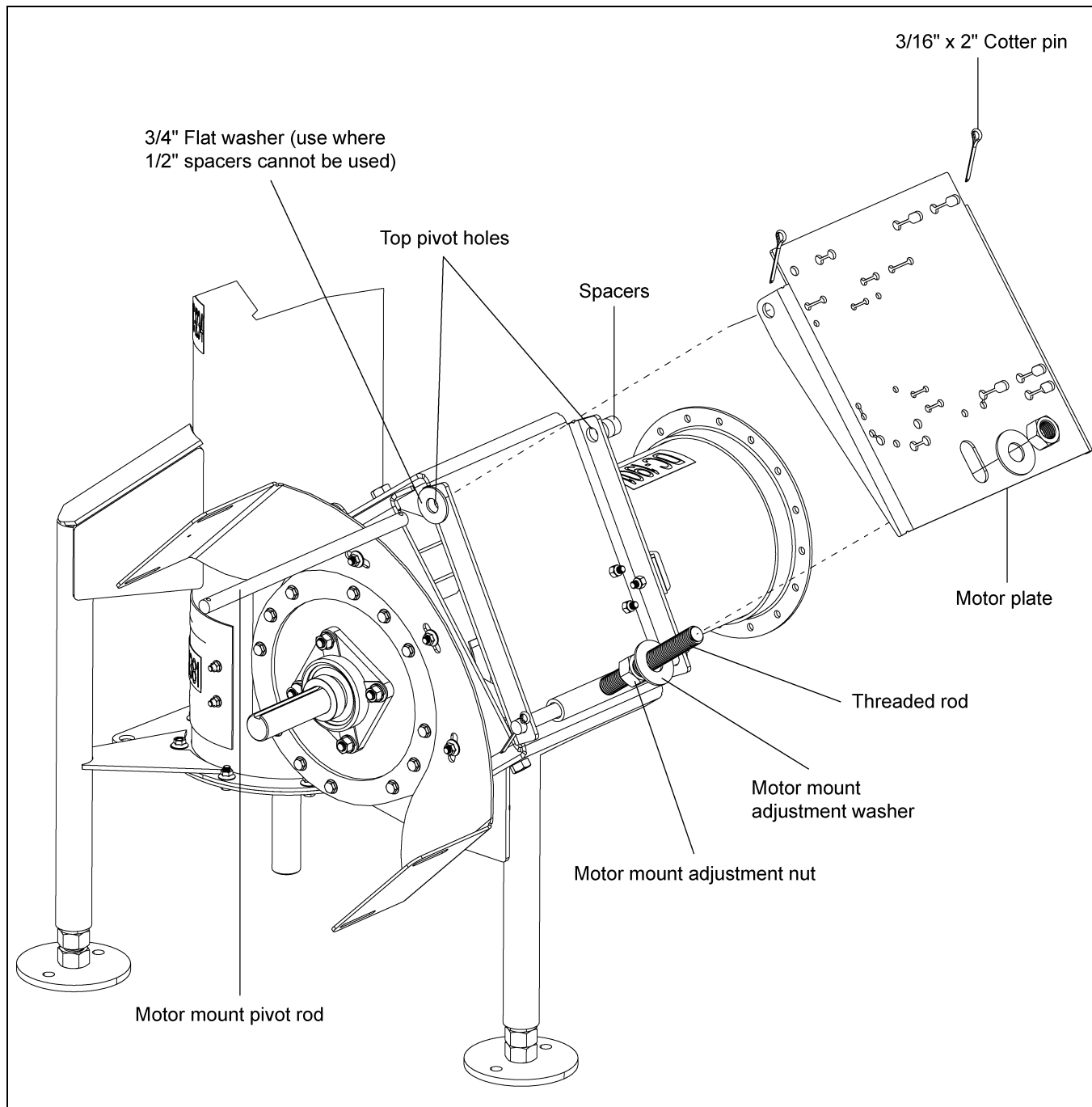


Figure 4R

3. Slide the motor mount pivot rod through the pivot holes on the motor plate and motor mount plate. Insert the $\frac{3}{4}$ " flat washer between the motor plate and the motor mount plate for the front pivot hole.

4. When the pivot rod begins to extend through the back pivot hole on the motor mount plate, install the spacers BETWEEN it and the inner face of the motor plate. (See Figure 4S.)

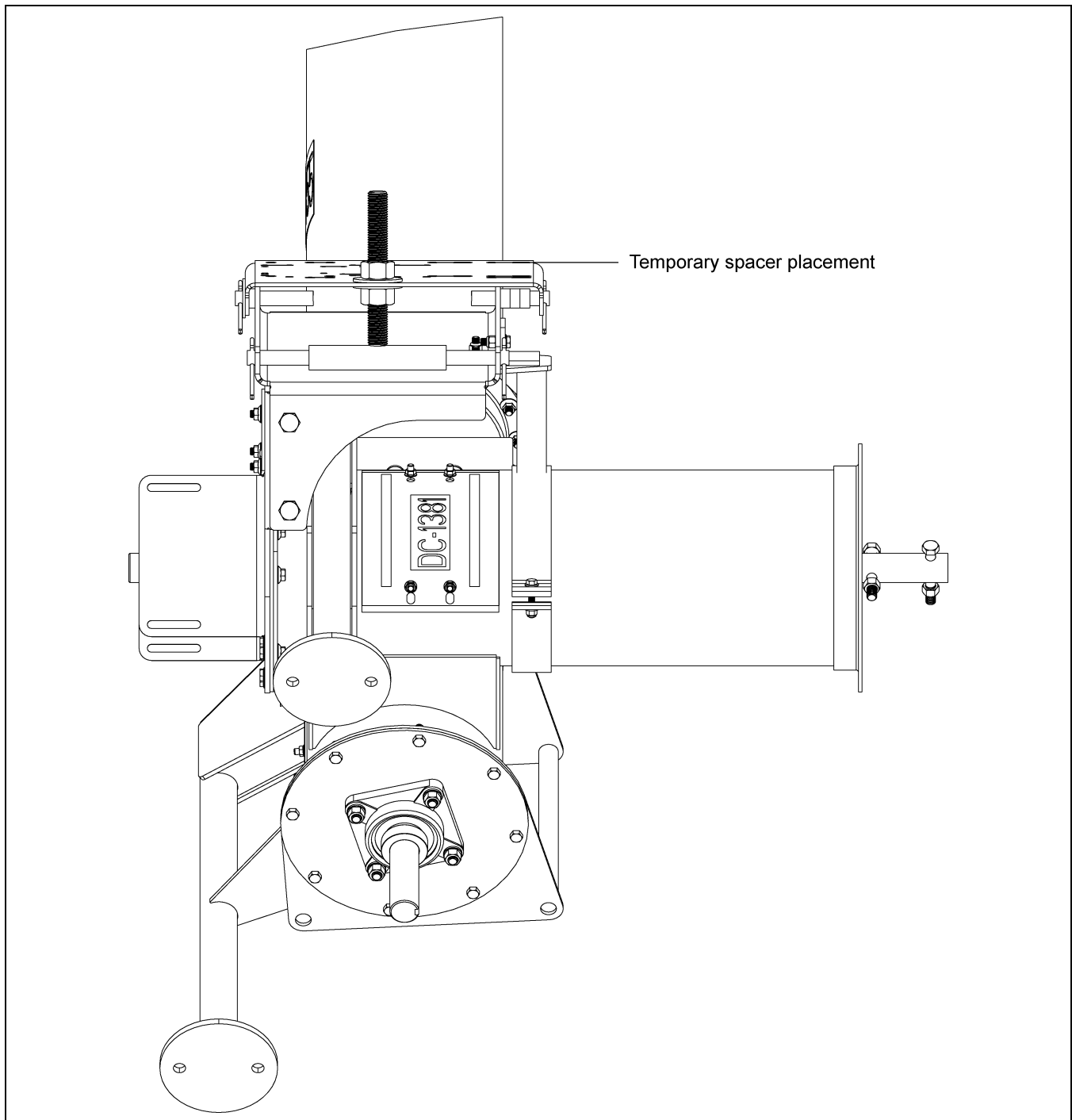


Figure 4S

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 and 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.

4. Installation

Install the Pulley

1. Place and position the key into the keyway located on the drive shaft.
2. If applicable, assemble the supplied sheave bushing to the flight pulley. Place the flight pulley onto the drive shaft with the set screw side of the flight pulley facing away from the bearing plate. Position the flight 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 4T.)*

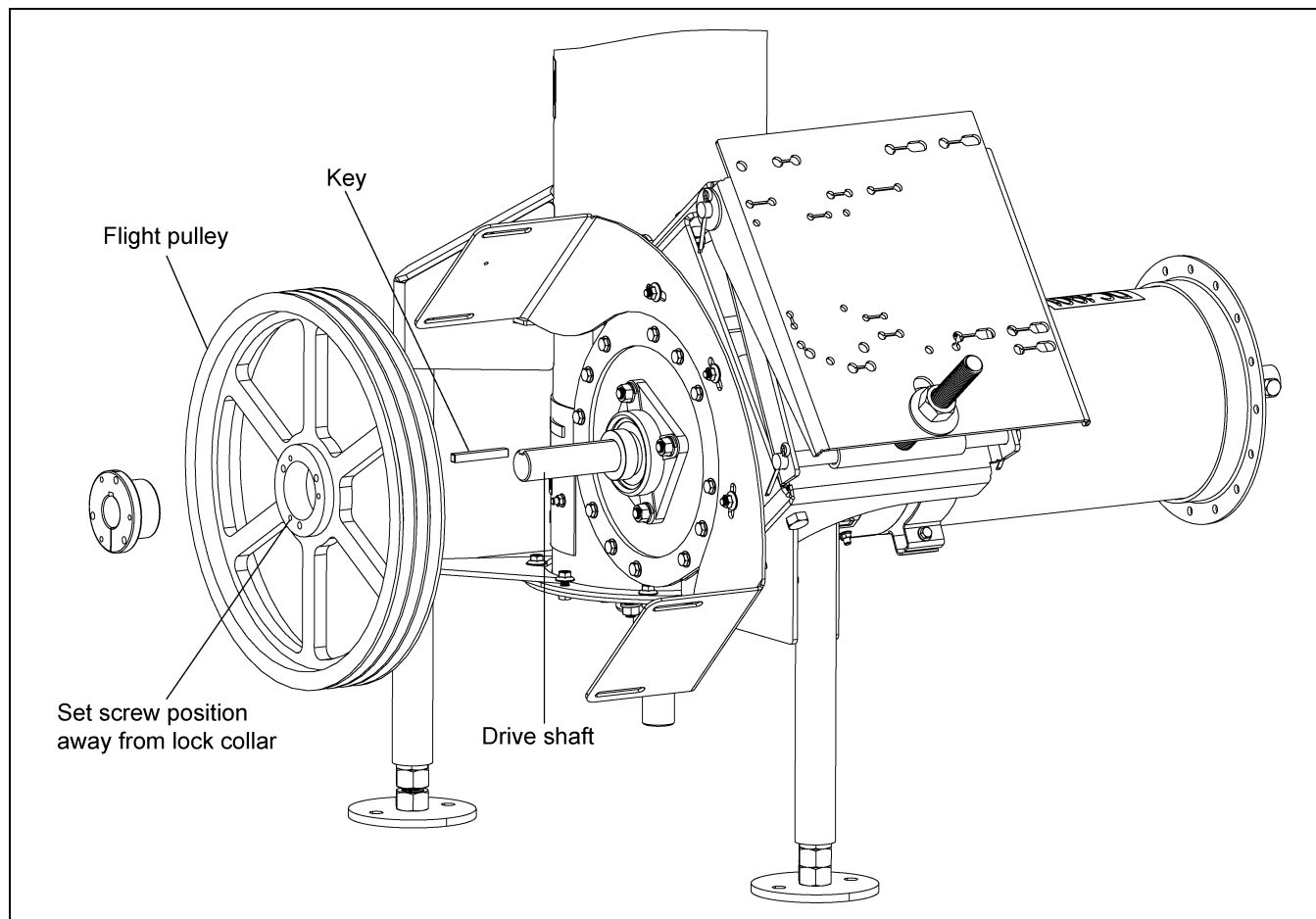


Figure 4T

Install the Motor (NOT PROVIDED)

1. Attach the motor to the motor mount plate using appropriate bolts, lock washers and hex nuts.
(See [Table below.](#))

Motor Bolt Selection

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

2. Install the drive 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. Use the 3/4" flat washer where the 1/2" spacers cannot be used. (See [Figure 4U on Page 26.](#))

4. Installation

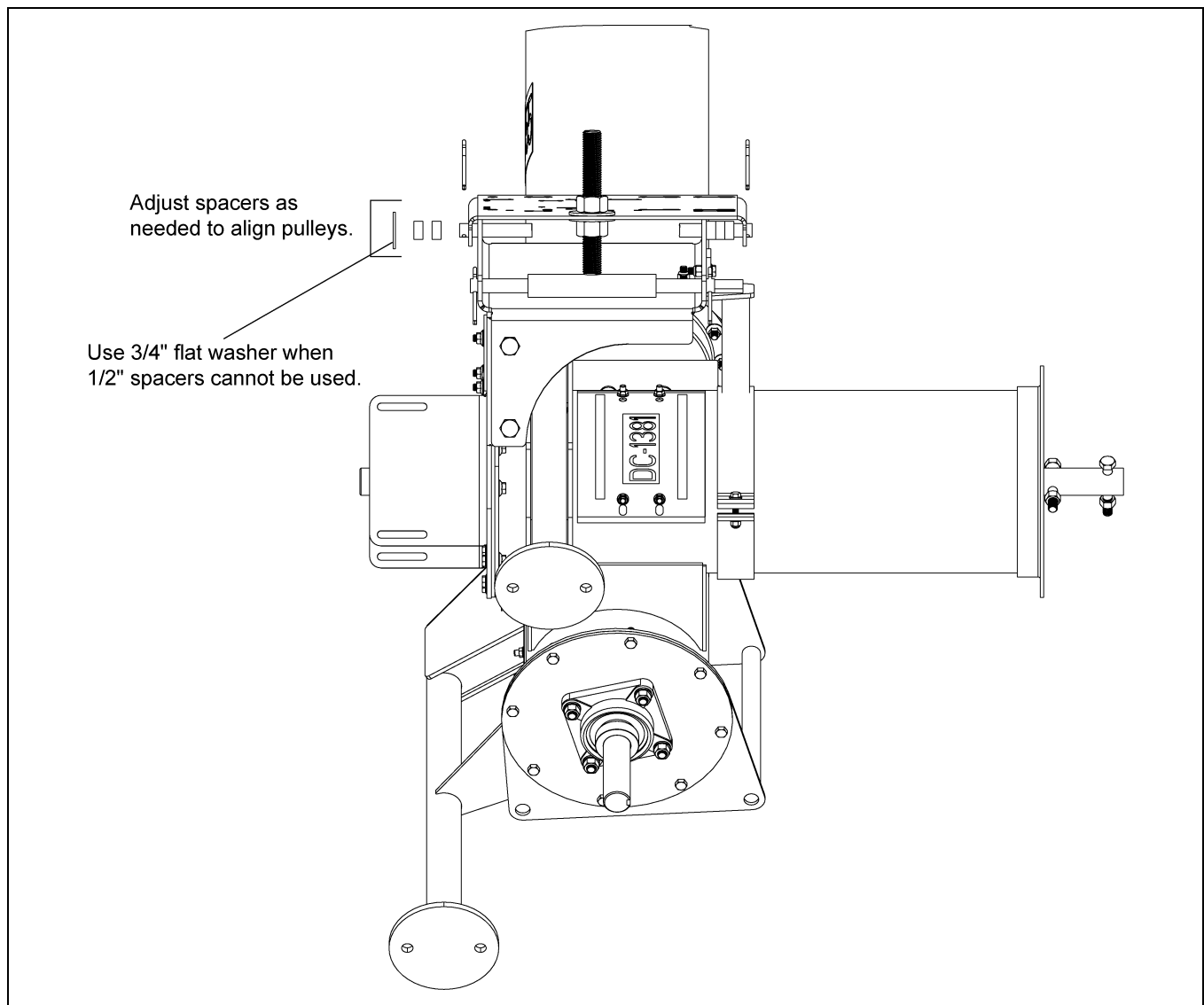


Figure 4U

Install the Belts

1. Place the belts onto the pulleys.
2. First, screw the lower motor mount adjustment nut upward, raising the motor mount plate and putting tension on the belts.
3. Once the desired tension is reached, tighten the upper motor mount adjustment nut down onto the motor plate locking it into place.

Install the Belt Guard

1. With the belts properly tensioned, remove the bottom belt guard cover.
2. Slip the belt guard down over the motor and drive sheaves, enclosing the drive belts.
3. Bolt the belt guard loosely to the belt guard brackets with four (4) 3/8" x 1" flange bolts.
4. Center the belt guard slot with the motor shaft and the auger drive shaft. Make sure the belt guard DOES NOT contact the pulleys, belts or bearing and tighten the belt guard to the belt guard mounting bracket(s).
5. Once the belt guard is secured, slide the bottom belt guard cover back into place and secure it with the 3/8" x 1" flange bolt previously removed. (See Figure 4V.)

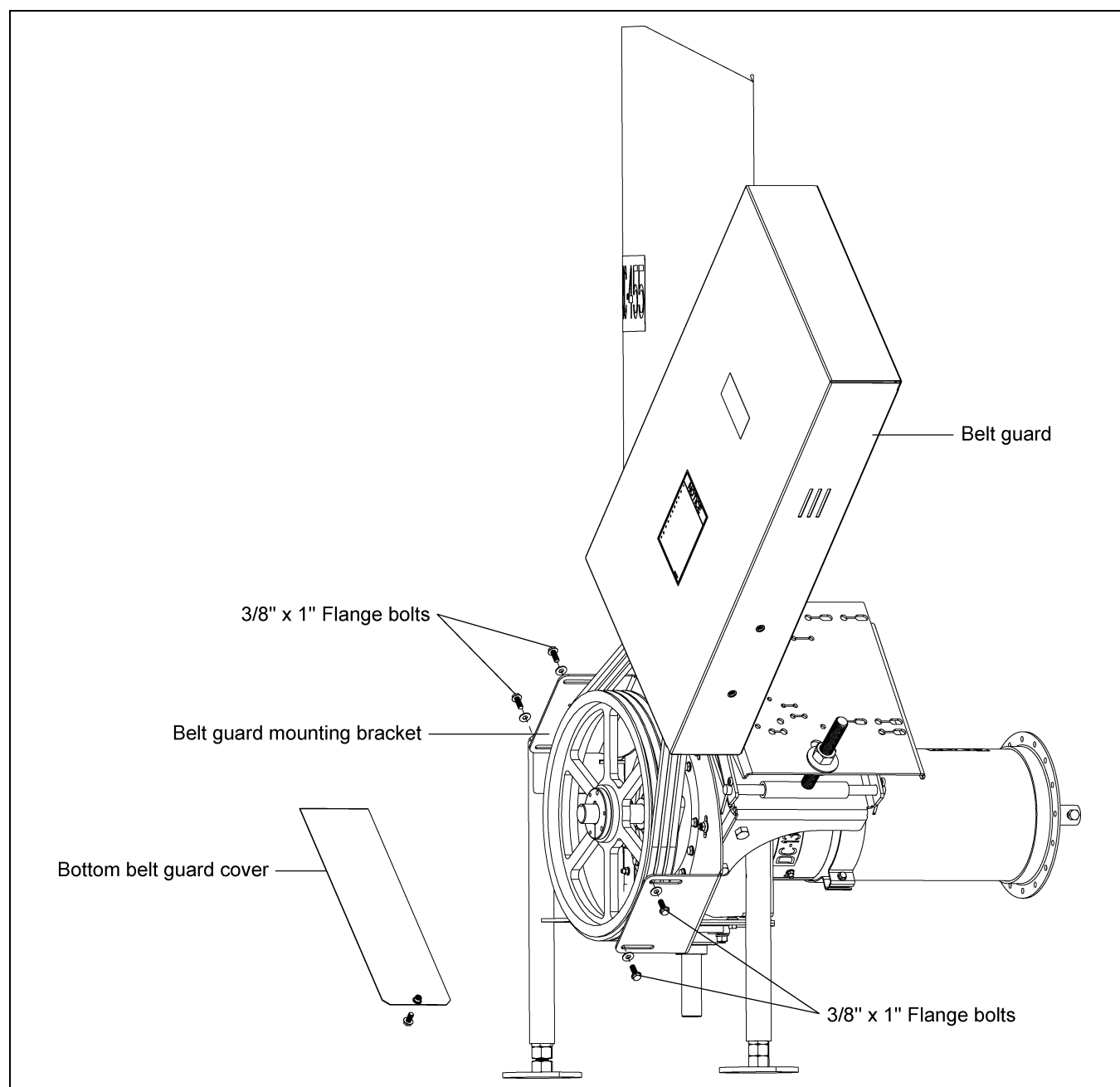
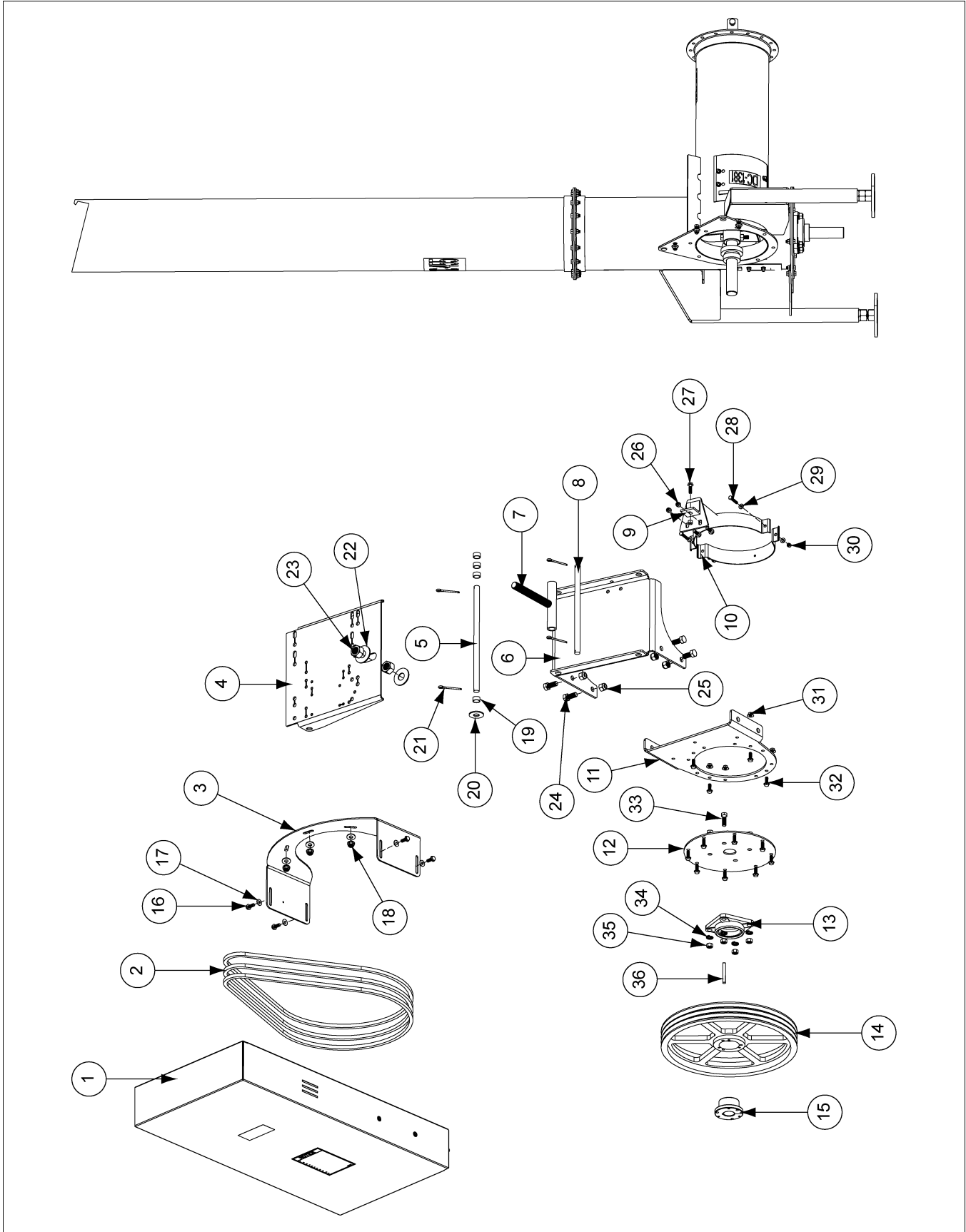


Figure 4V

Double Drive Vertical Retro Belt Guard Kit



Double Drive Vertical Retro Belt Guard Kit Parts List

Ref #	Part #	Description
1	GK7851	Double Drive Vertical 10" Retro Belt Guard
2	MHC00894	V-Belt BX78
3	GK7855	Double Drive Vertical 10" Retro Belt Guard Bracket
4	GK6986-Y	Motor Plate
5	GK7013	Motor Mount Pivot Rod
6	GK7853-BS	Double Drive Vertical 10" Retro Motor Mount - Bin Silver
7	GK6942	Motor Mount Adjustment Weldment
8	GK7012	Motor Mount Adjustment Pivot Rod
9	GK7911-BS	Double Drive Vertical 10" Retro Brace - Bin Silver
10	GK1057	Half Band 10" x 2" 12 Gauge Galvanized
11	GK7852-BS	Double Drive Vertical 10" Retro Head Plate - Bin Silver
12	GK7854-BS	Double Drive Vertical 10" Retro Bearing Plate - Bin Silver
13	GK1343	1-1/2" 4 Hole Flange Bearing w/ Lock Collar
14	GK2570	18.4" 3 Belt Sheave
14	GK2567	18.4" 2 Belt Sheave
15	GK4248	1-1/2" Bore SK Bushing
16	S-9065	3/8"-16 x 1" Serrated Flange Bolt Zinc Grade 5
17	S-845	5/16" Flat Washer Yellow Dip Grade 2
18	S-968	3/8"-16 Serrated Flange Nut Zinc Grade 5
19	GK7014	Pivot Spacer Tube
20	S-866	3/4" Flat Washer Zinc Grade 2
21	S-6994	3/16" x 2" Cotter Pin
22	S-7835	1" Flat Washer Zinc
23	S-240	1"-8 Hex Nut Zinc Grade 5
24	S-4109	5/8"-11 x 1-1/2" Hex Head Tap Bolt Yellow Dip Grade 8
25	S-8349	5/8"-11 Nylock Nut Zinc Grade 2
26	S-7383	3/8"-16 Nylock Nut Zinc Grade 5
27	S-9066	3/8"-16 x 1-1/4" Serrated Flange Bolt Zinc Grade 5
28	S-7149	5/16"-18 x 1-3/4" Hex Head Cap Screw Zinc Grade 5
29	S-1937	5/16" Flat Washer Zinc Grade 2
30	S-7382	5/16"-18 Nylock Nut Zinc Grade 5
31	S-968	3/8"-16 Serrated Flange Nut Zinc Grade 5
32	S-7927	3/8"-16 x 1" Serrated Flange Bolt Yellow Dip Grade 8
33	S-8760	1/2"-16 x 1-1/2" Hex Head Cap Screw Zinc Grade 5
34	S-236	1/2" Lock Washer Zinc
35	S-7510	1/2"-13 Hex Nut Zinc Grade 2
36	S-9181	3/8" x 3" Square Key

6. Troubleshooting

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

Limited Warranty — N.A. Grain Products

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

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

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

Conditions and Limitations:

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

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

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

Notice Procedure:

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

Service Parts:

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

(Limited Warranty - N.A. Grain Products_ revised 01 October 2020)

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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