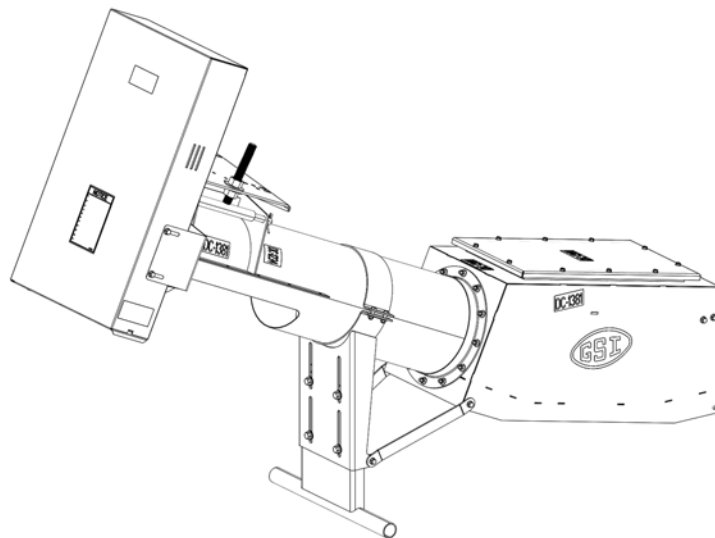




# Improved Wear Heavy Duty Drive Unit for 25° Bin Unloader

**Models:**  
8"-10" AND 10"-12"

Assembly and Operation Manual

**PNEG-2266**

**Version 1.0**

**Date: 05-06-19**



PNEG-2266

**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.**

---

# Contents

|                  |                                                                      |           |
|------------------|----------------------------------------------------------------------|-----------|
| <b>Chapter 1</b> | <b>Safety Precautions .....</b>                                      | <b>5</b>  |
|                  | Safety Guidelines .....                                              | 5         |
|                  | Cautionary Symbol Definitions.....                                   | 6         |
|                  | Safety Cautions.....                                                 | 7         |
|                  | Safety Decals .....                                                  | 10        |
|                  | Safety Sign-off Sheet.....                                           | 12        |
| <b>Chapter 2</b> | <b>Assembly .....</b>                                                | <b>13</b> |
|                  | Assembling the Stand Weldments .....                                 | 14        |
|                  | Attaching the Stand Weldments and the Stand Straps to the Tube ..... | 15        |
|                  | Attaching the Flights .....                                          | 16        |
|                  | Installing the Motor Mount Adjustment Rod .....                      | 17        |
|                  | Installing the Motor Mount Plate .....                               | 18        |
|                  | Installing the Belt Guard Mounting Brackets .....                    | 19        |
|                  | Installing the Pulley .....                                          | 20        |
|                  | Installing the Motor (Not Provided).....                             | 21        |
|                  | Installing the Belts .....                                           | 21        |
|                  | Installing the Belt Guard.....                                       | 22        |
| <b>Chapter 3</b> | <b>Electric Drive Motors .....</b>                                   | <b>23</b> |
| <b>Chapter 4</b> | <b>Start-Up.....</b>                                                 | <b>25</b> |
|                  | Perform Pre-Start Checks .....                                       | 25        |
|                  | Start the Auger.....                                                 | 26        |
| <b>Chapter 5</b> | <b>Operation .....</b>                                               | <b>27</b> |
| <b>Chapter 6</b> | <b>Shut Down.....</b>                                                | <b>29</b> |
|                  | Normal Shut Down .....                                               | 29        |
|                  | Emergency Shut Down .....                                            | 29        |
|                  | Storage Preparation .....                                            | 29        |
| <b>Chapter 7</b> | <b>Maintenance.....</b>                                              | <b>31</b> |
| <b>Chapter 8</b> | <b>Troubleshooting.....</b>                                          | <b>33</b> |
| <b>Chapter 9</b> | <b>Parts List.....</b>                                               | <b>35</b> |
|                  | 8" to 10" 25° Improved Wear Bin Unloader Parts.....                  | 36        |
|                  | 10" to 12" 25° Improved Wear Bin Unloader Parts.....                 | 38        |
|                  | <b>Limited Warranty — N.A. Grain Products .....</b>                  | <b>41</b> |

# NOTES

# 1 Safety Precautions

## Topics Covered in this Chapter

- Safety Guidelines
- Cautionary Symbol Definitions
- Safety Cautions
- Safety Decals
- Safety Sign-off Sheet

## 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. Read and save these instructions.

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-0001-4

### Cautionary Symbol 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.

**Table 1-1** *Description of the different cautionary symbols*

| Symbol                                                                              | Description                                                                                                                   |
|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------|
|    | This symbol indicates an imminently hazardous situation which, if not avoided, <b>will result in serious injury or death.</b> |
|    | This symbol indicates a potentially hazardous situation which, if not avoided, <b>can result in serious injury or death.</b>  |
|    | This symbol indicates a potentially hazardous situation which, if not avoided, <b>can result in minor or moderate injury.</b> |
|    | 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

## Chapter 1: Safety Precautions

### 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 applicable local codes (National Electrical Code for the US, Canadian Electric Code, or EN60204 along with applicable European Directives for Europe). Make 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-0009-3

### 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 can 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 guards and covers in place at all times.
- Lock-out power source before making adjustments, cleaning, or maintaining equipment.



ST-0008-2

**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 Decals

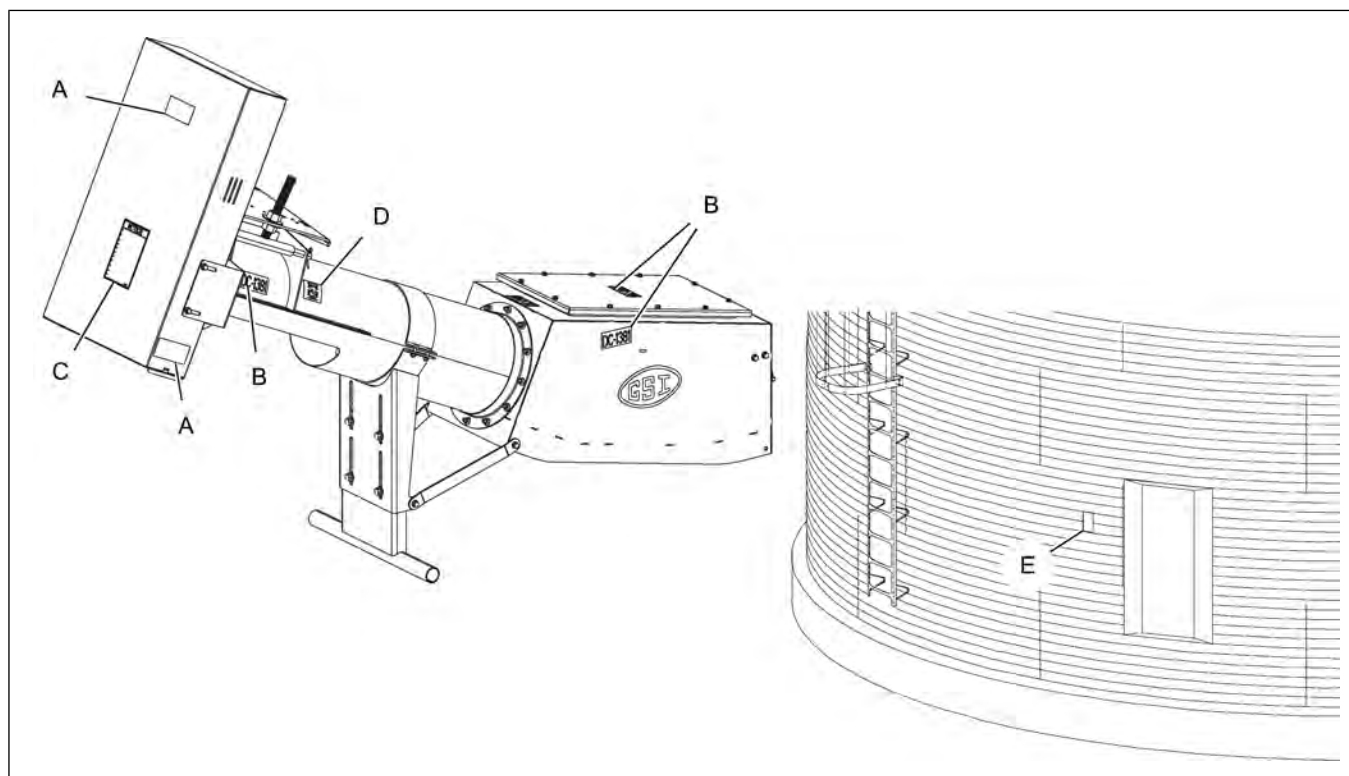
Check components shown below to ensure that the safety decals are in place and in good condition. If a decal cannot be easily read for any reason or has been painted over, replace it immediately. Contact your dealer or the manufacturer to order a replacement decal free of charge.

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

#### GSI Decals

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

**Figure 1-1** Decal locations



| Ref # | Location                              | Decal No. | Decal                                                                                                                                                                                                                                                                                                                                                           | Description               |
|-------|---------------------------------------|-----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|
| A     | Front and side of belt guard assembly | DC-994    |  <div> <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>DC-994</p> </div>                                                                      | Decal, Danger Shear Point |
| B     | Discharge tube and Unloader assembly  | DC-1381   |  <div> <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>DC-1381</p> </div> | Decal, Auger Danger       |

| Ref # | Location                     | Decal No. | Decal                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Description            |
|-------|------------------------------|-----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|
| C     | Front of belt guard assembly | DC-1379   |  <p><b>NOTICE</b></p> <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>GSI Group Inc. 217-226-4421 DC-1379</p> | Decal, Notice          |
| D     | Discharge Tube               | DC-1234   |  <p><b>NOTICE</b></p> <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>GSI Group 217-226-4421 DC-1234</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Decal, Caution         |
| E     | Bin sidewall                 | DC-1395   |  <p><b>! DANGER</b></p> <p><b>ROTATING FLIGHTING</b></p> <p>This bin is equipped with grain augers which can kill or dismember.</p> <p>Keep clear of all augers and never enter this bin unless all power is disconnected and locked out.</p> <p><b>FAILURE TO DO SO WILL RESULT IN SERIOUS INJURY OR DEATH.</b></p> <p>GSI Group Inc. 217-226-4421 DC-1395</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Decal, Rotating Flight |

## Safety Sign-off Sheet

Below is a sign-off sheet that can be used to verify that all personnel have read and understood the safety instructions. This sign-off sheet is provided for your convenience and personal record keeping.

[illegible]

ST-0007

# 2 Assembly

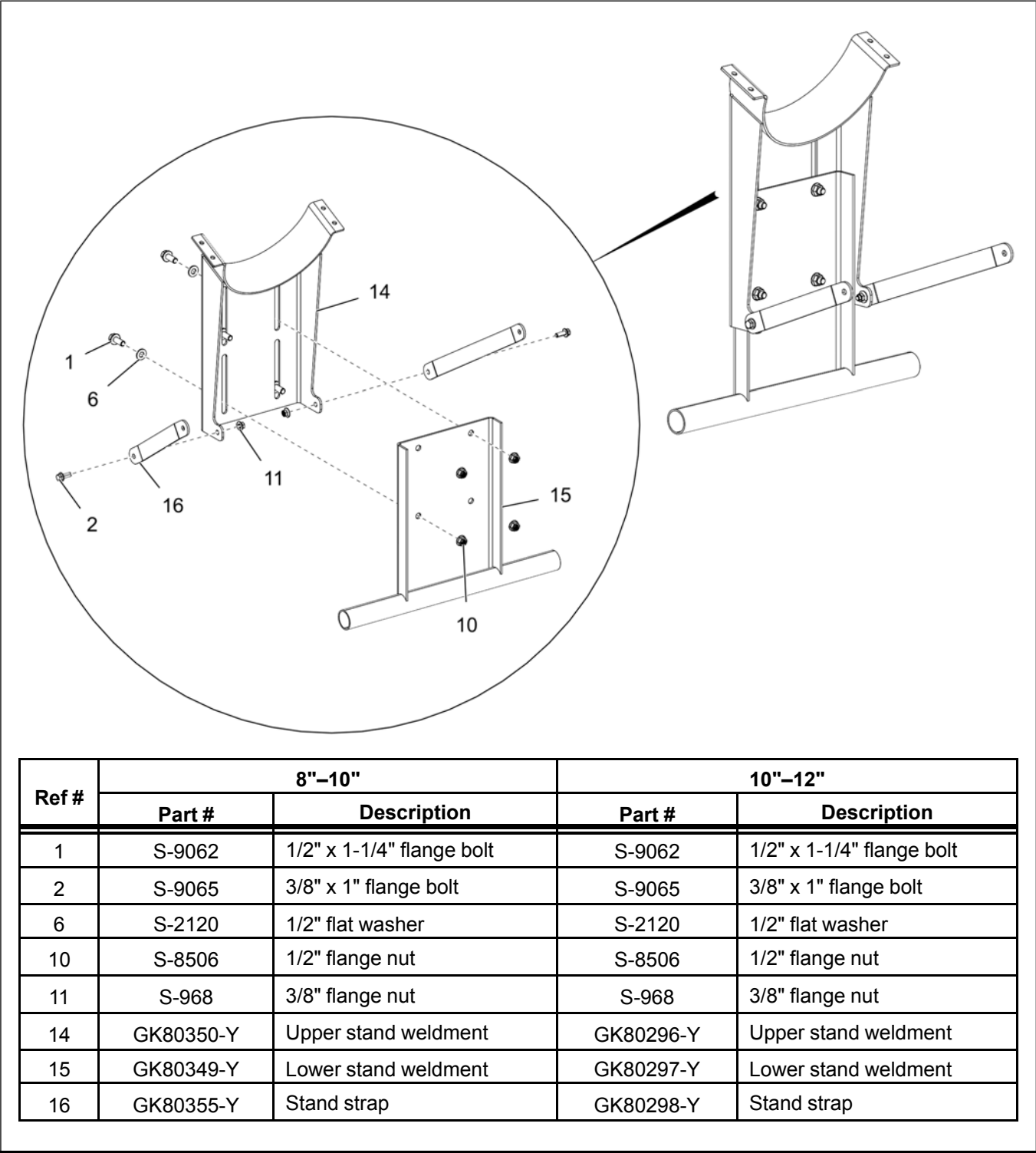
## Topics Covered in this Chapter

- Assembling the Stand Weldments
- Attaching the Stand Weldments and the Stand Straps to the Tube
- Attaching the Flights
- Installing the Motor Mount Adjustment Rod
- Installing the Motor Mount Plate
- Installing the Belt Guard Mounting Brackets
- Installing the Pulley
- Installing the Motor (Not Provided)
- Installing the Belts
- Installing the Belt Guard

Assembling the Stand Weldments

- 1. Assemble the lower stand weldment (15) to the upper stand weldment (14) using 1/2" x 1-1/4" flange bolts (1), 1/2" flat washers (6) and 1/2" flange nuts (10).
- 2. Attach the stand straps (16) to the upper stand weldment (14) using 3/8" x 1" flange bolts (2) and 3/8" flange nuts (11).

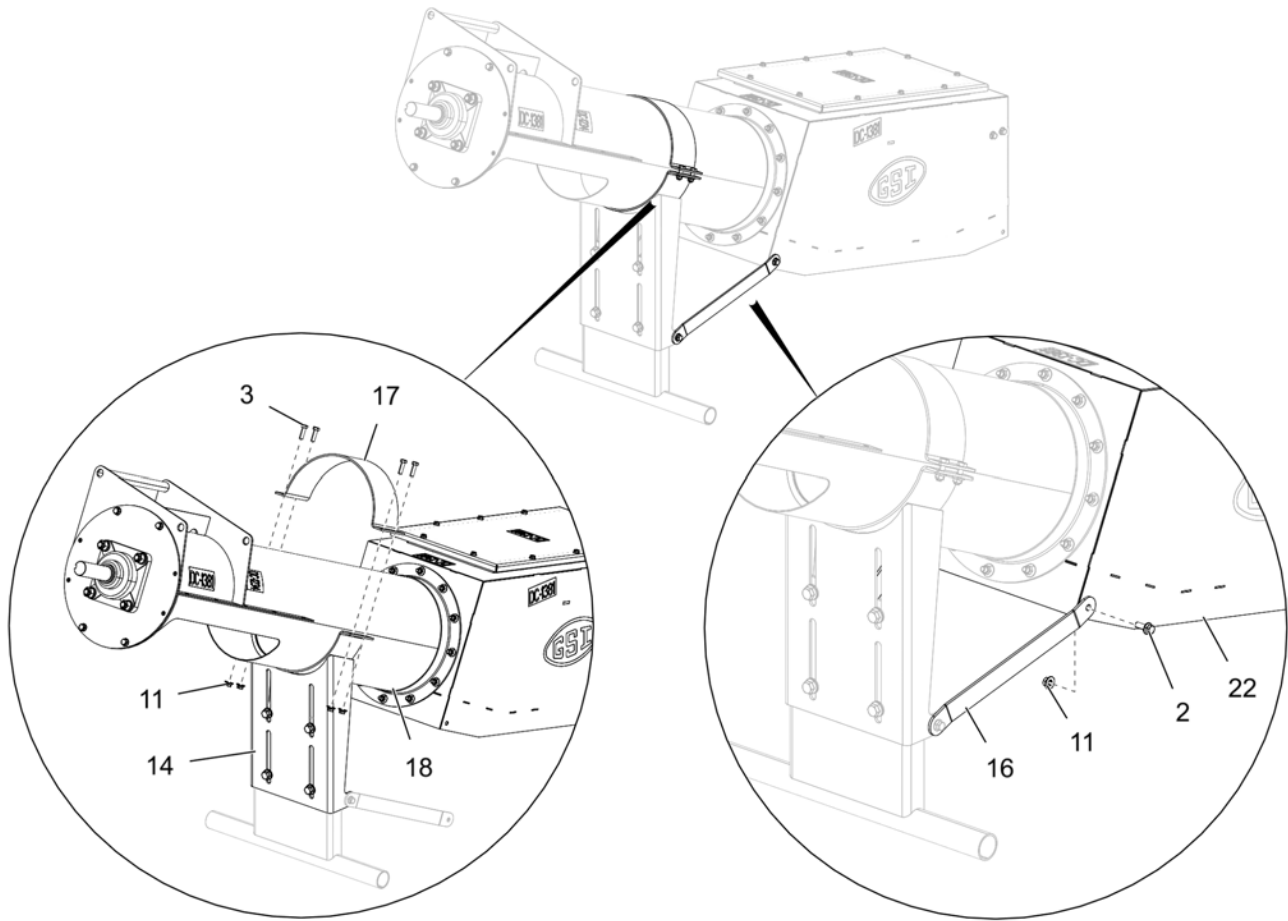
Figure 2-1 Assembling the stand weldments and stand strap



## Attaching the Stand Weldments and the Stand Straps to the Tube

1. Place the upper stand weldment (14) and half band (17) around the discharge tube (18) and secure together using 3/8" flange bolts (3) and 3/8" flange nuts (11).
2. Connect the stand strap (16) installed with the upper stand weldment (14) to the unloader assembly (22) using 3/8" x 1" flange bolts (2) and 3/8" flange nuts (11).

**Figure 2-2** Attaching the stand weldments and the stand straps

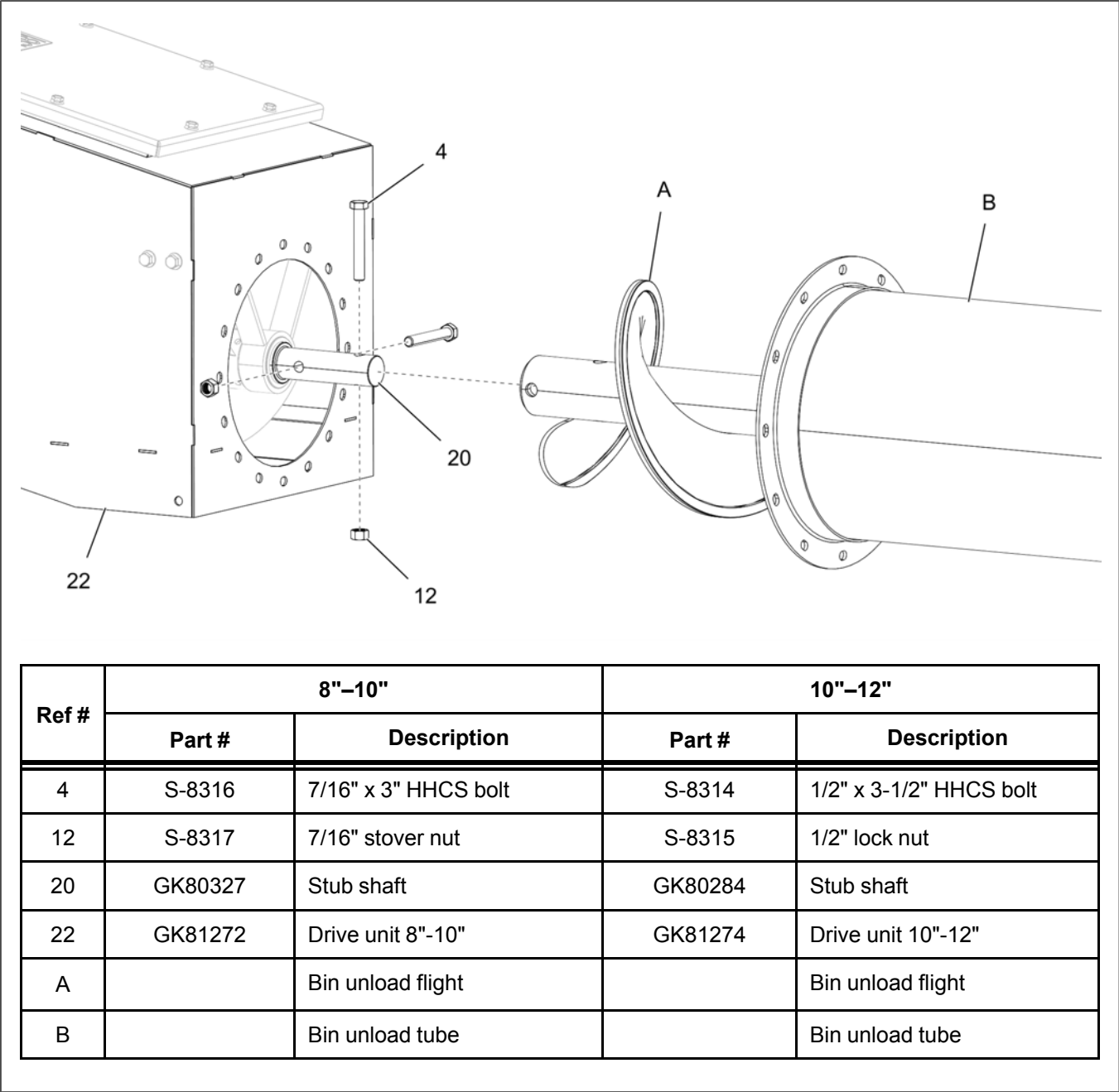


| Ref # | 8"-10"    |                           | 10"-12"   |                           |
|-------|-----------|---------------------------|-----------|---------------------------|
|       | Part #    | Description               | Part #    | Description               |
| 2     | S-9065    | 3/8" x 1" flange bolt     | S-9065    | 3/8" x 1" flange bolt     |
| 3     | S-2086    | 3/8" x 1-1/2" flange bolt | S-2071    | 3/8" x 1-1/4" flange bolt |
| 11    | S-968     | 3/8" flange nut           | S-968     | 3/8" flange nut           |
| 14    | GK80350-Y | Upper stand weldment      | GK80296-Y | Upper stand weldment      |
| 16    | GK80355-Y | Stand strap               | GK80298-Y | Stand strap               |
| 17    | GK5117-Y  | Half Band 10" x 4"        | GC08690-Y | Half band 12" x 4"        |
| 18    | GK6998-18 | Discharge tube 10"        | GK6999-18 | Discharge tube 12"        |
| 22    | GK81272   | Drive unit 8"-10"         | GK81274   | Drive unit 10"-12"        |

Attaching the Flights

- 1. Pull the bin unload flight (A) out of the bin unload tube (B) approximately by 1'.
- 2. Remove the bolts (4) and nuts (12) from the stub shaft (20) connected to the bearing.
- 3. Position the 25° unloader assembly (22) in-line with bin unload tube (B).
- 4. Align the holes of the bin unload flight (A) with the holes in the stub shaft (20) and slide the bin unload flight (A) onto the stub shaft (20).
- 5. With holes properly aligned, secure the bin unload flight (A) to the stub shaft (20) using bolts (4) and nuts (12) that were removed in step 2.

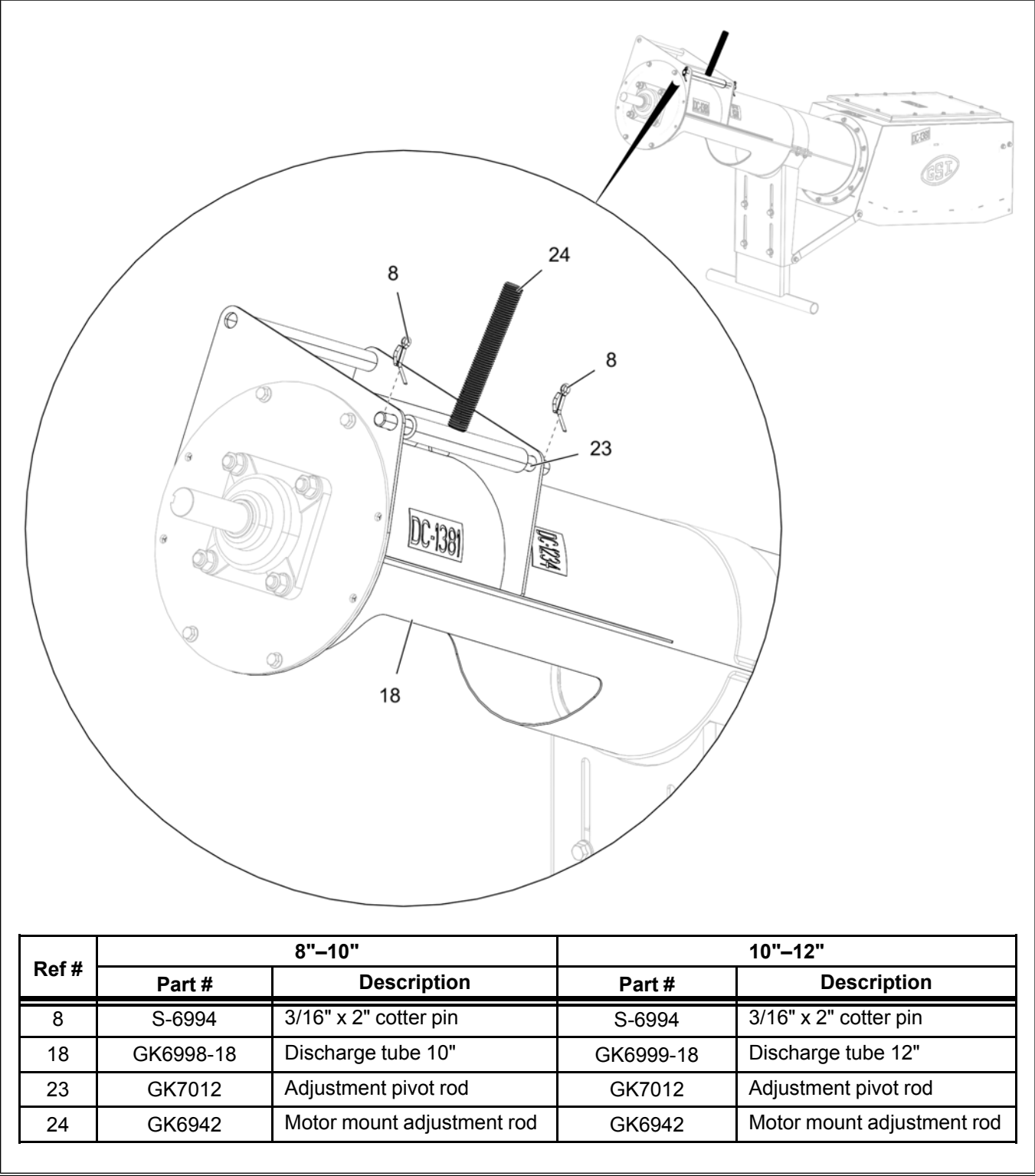
Figure 2-3 Attaching the flights



## Installing the Motor Mount Adjustment Rod

1. Place the motor mount adjustment rod (24) between the welded plates of the discharge tube (18).
2. Insert the adjustment pivot rod (23) through the welded plates and motor mount adjustment rod (24). Secure the adjustment pivot rod (23) using two 3/16" x 2" cotter pins (8).

Figure 2-4 Installing the motor mount adjustment rod



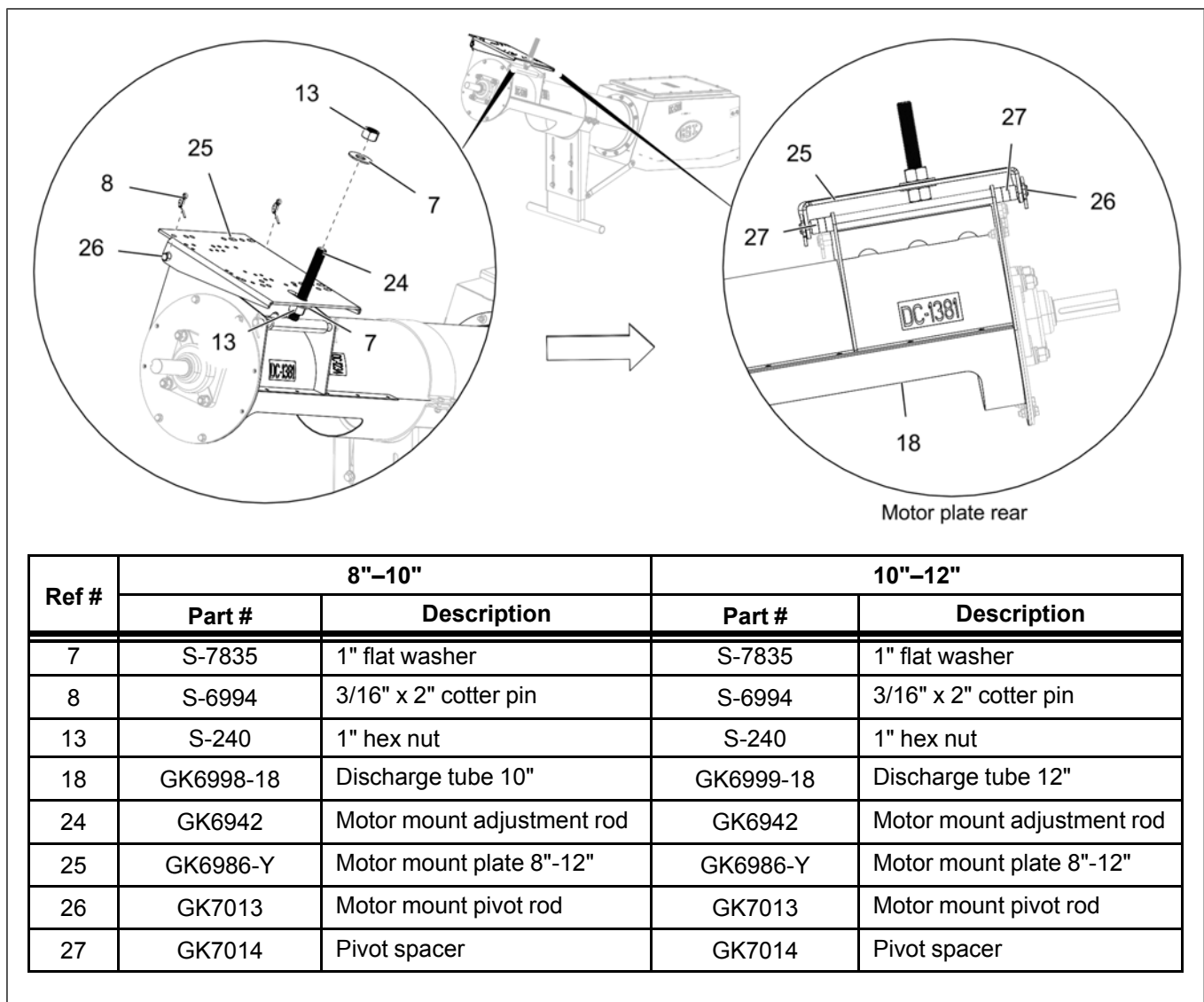
### Installing the Motor Mount Plate

1. Install one 1" hex nut (13) and one 1" flat washer (7) approximately 3/4" of the way down the threaded stud of the motor mount adjustment rod (24).
2. Once the 1" hex nut (13) and 1" flat washer (7) are installed, slip the motor mount plate (25) over the motor mount adjustment rod (24) and align the pivot holes of the motor mount plate (25) with the welded pivot tube.
3. Insert the motor mount pivot rod (26) through the motor mount plate (25) and pivot tube welded with the discharge tube (18).
4. Add spacers (27) to both sides of the motor mount pivot rod (26) between the inner face of the motor mount plate (25) and welded plates of the discharge tube (18).

**NOTE:** The number of spacers (27) will vary depending on the size of the unloader.

5. Secure the motor mount plate (25) to the motor mount adjustment rod (24) using 1" flat washer (7) and 1" hex nut (13). Also, secure the motor mount pivot rod (26) with two 3/16" x 2" cotter pins (8).

**Figure 2-5** Installing the motor mount plate

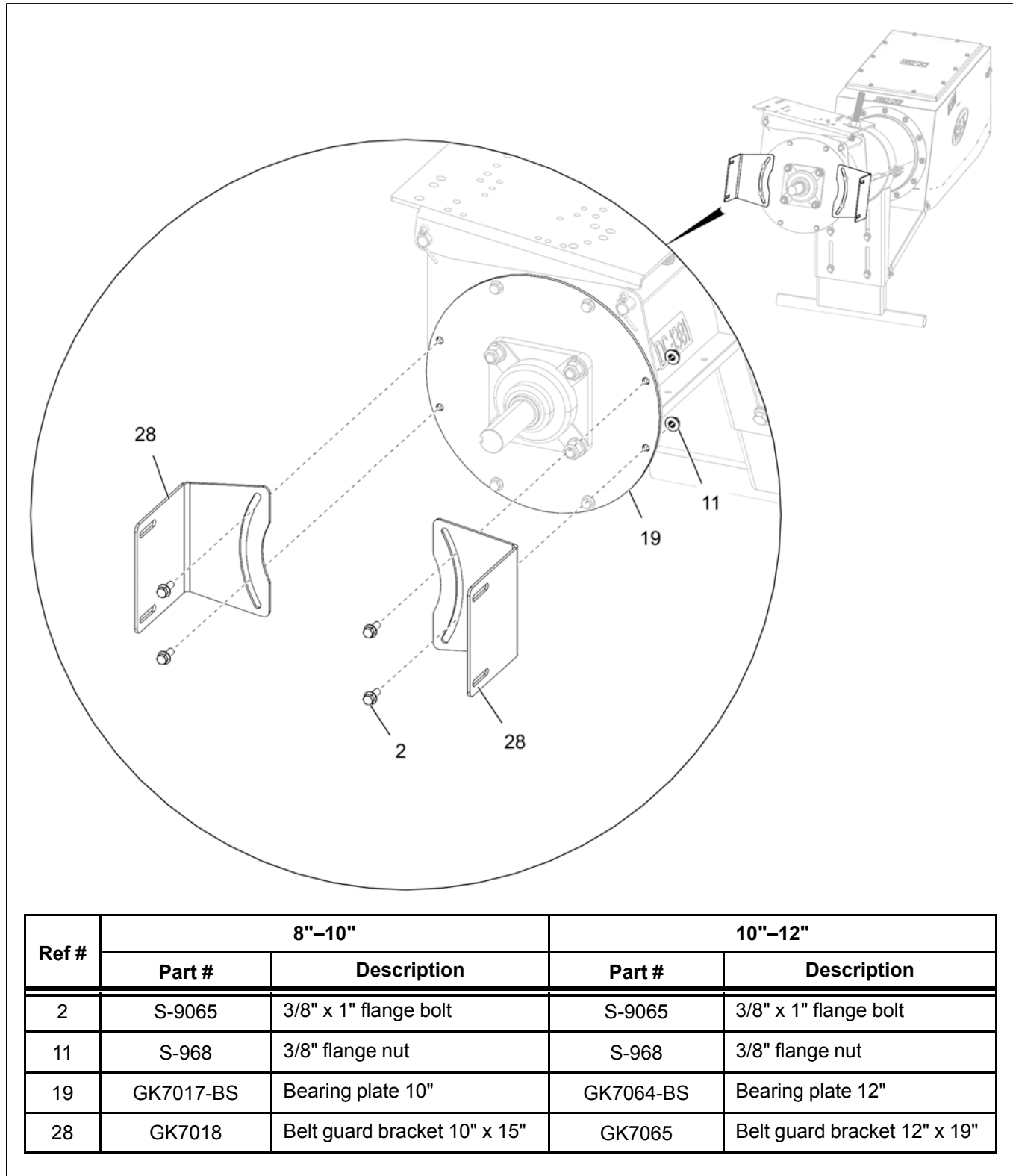


## Installing the Belt Guard Mounting Brackets

Align the slots of the belt guard mounting brackets (28) with the holes in the bearing plate (19) and secure using 3/8" x 1" flange bolts (2) and 3/8" flange nuts (11).

**NOTE:** Do not tighten the bolts (2). The belt guard mounting brackets (28) will need to be rotated to align the slot in the belt guard with the shafts on the motor and flight.

**Figure 2-6** Installing the belt guard brackets



### Installing the Pulley

1. For a 10" drive unit: Slide the pulley (29) along with the key (9) onto the drive shaft (21) with the set screw holes of the pulley (29) facing away from the bearing plate.

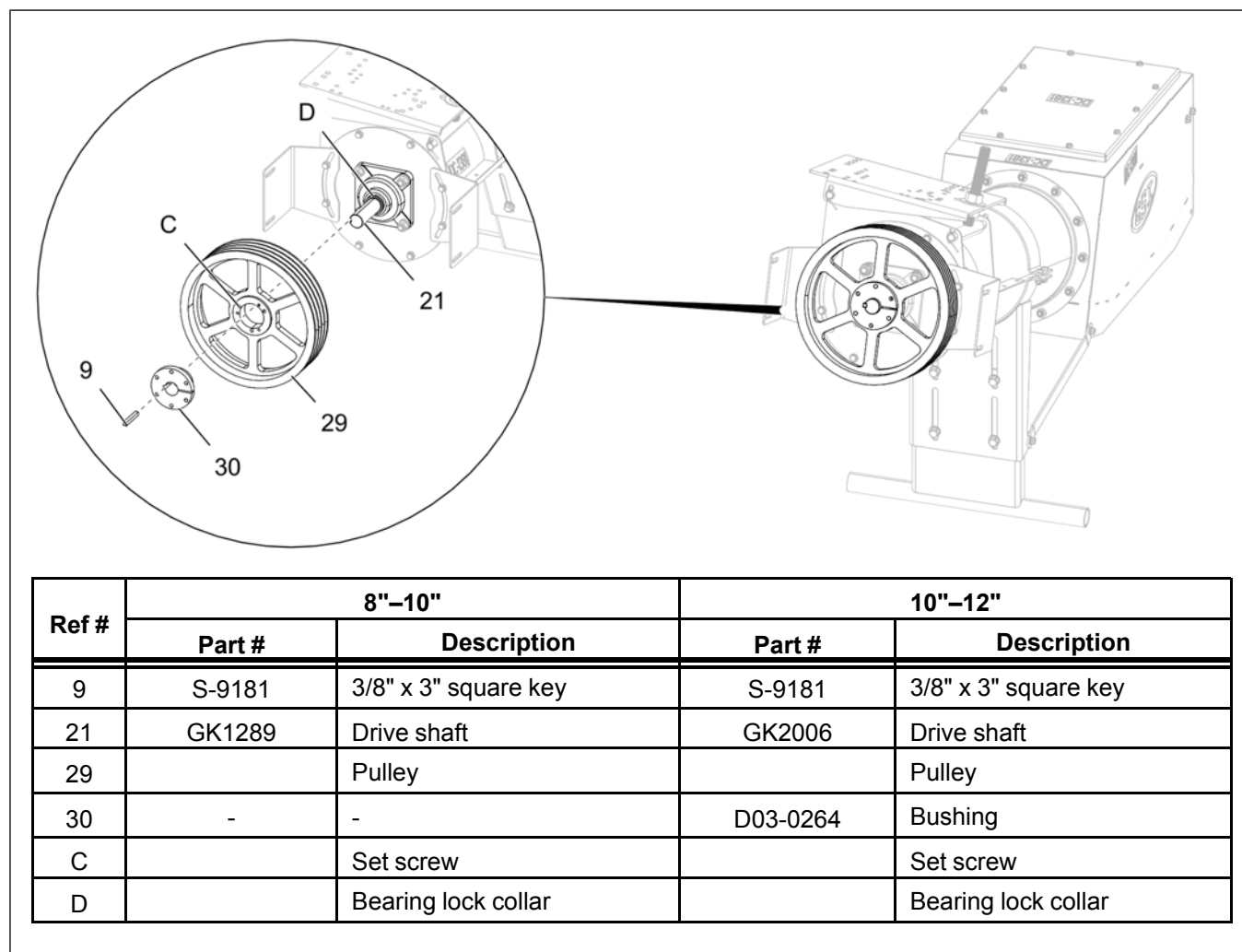
**NOTE:** Slide the pulley (29) as close as possible to the bearing lock collar (D), but without touching it.

2. For a 12" drive unit: Slide the pulley (29) and the bushing (30) along with the key (9) onto the drive shaft (21) with the set screw side of the pulley (29) facing away from the bearing plate.

**NOTE:** Slide the pulley (29) as close as possible to the bearing lock collar (D), but without touching it.

3. Secure the pulley (29) to the drive shaft (21) by tightening the set screw (C).

**Figure 2-7** Installing the pulley and bushing



4. Use a punch and hammer to drive the lock collar (D) clockwise or in the same direction as the shaft rotation (clockwise rotation). Once the lock collar is set in place, tighten the set screws of the lock collar (D).

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

## Installing the Motor (Not Provided)

1. Install the motor to the motor mount plate (25) using the appropriate bolts, washers and nuts.
2. Install the motor pulley onto the motor shaft and make sure it is aligned with the flight pulley (29).

**NOTE:** It may be necessary to move the spacers (27) for aligning the motor pulley with the unload pulley (29).

Figure 2-8 Installing the motor

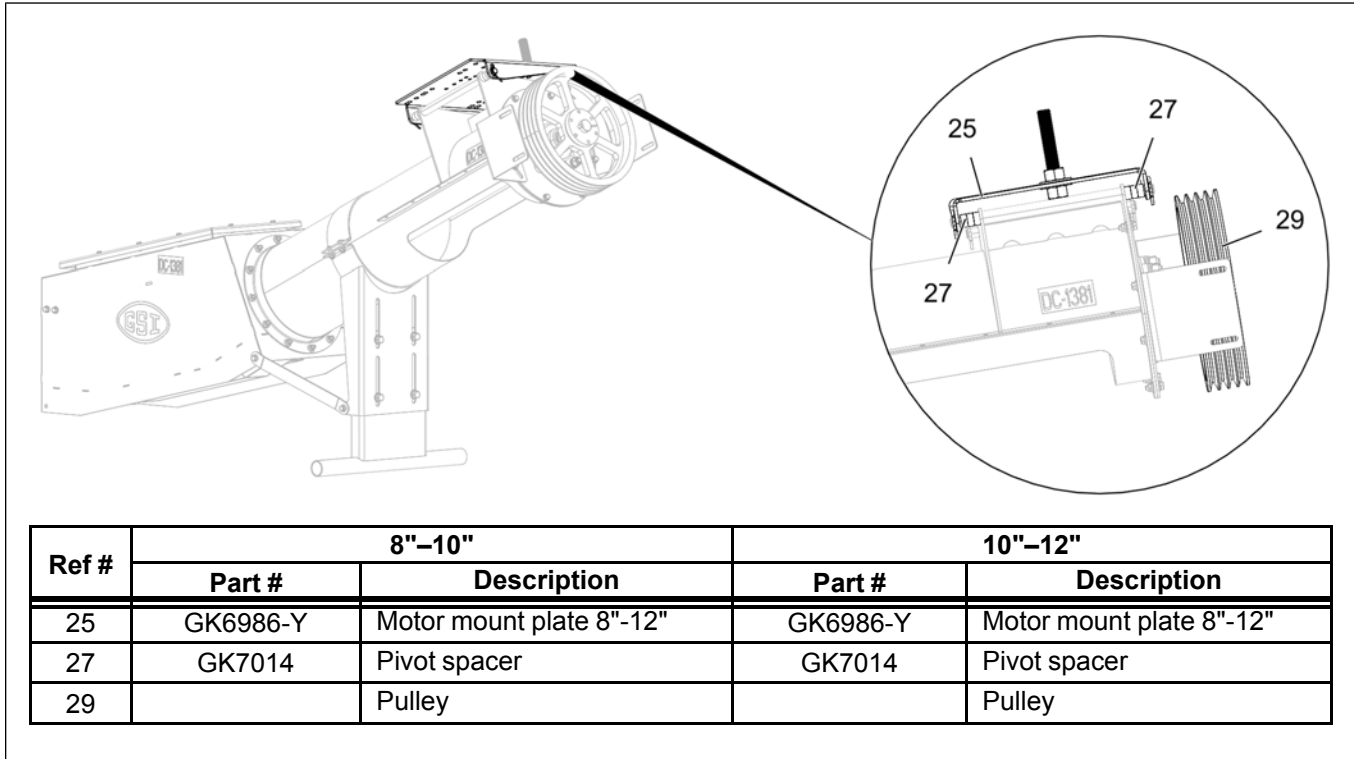


Table 2-1 Motor bolt chart

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

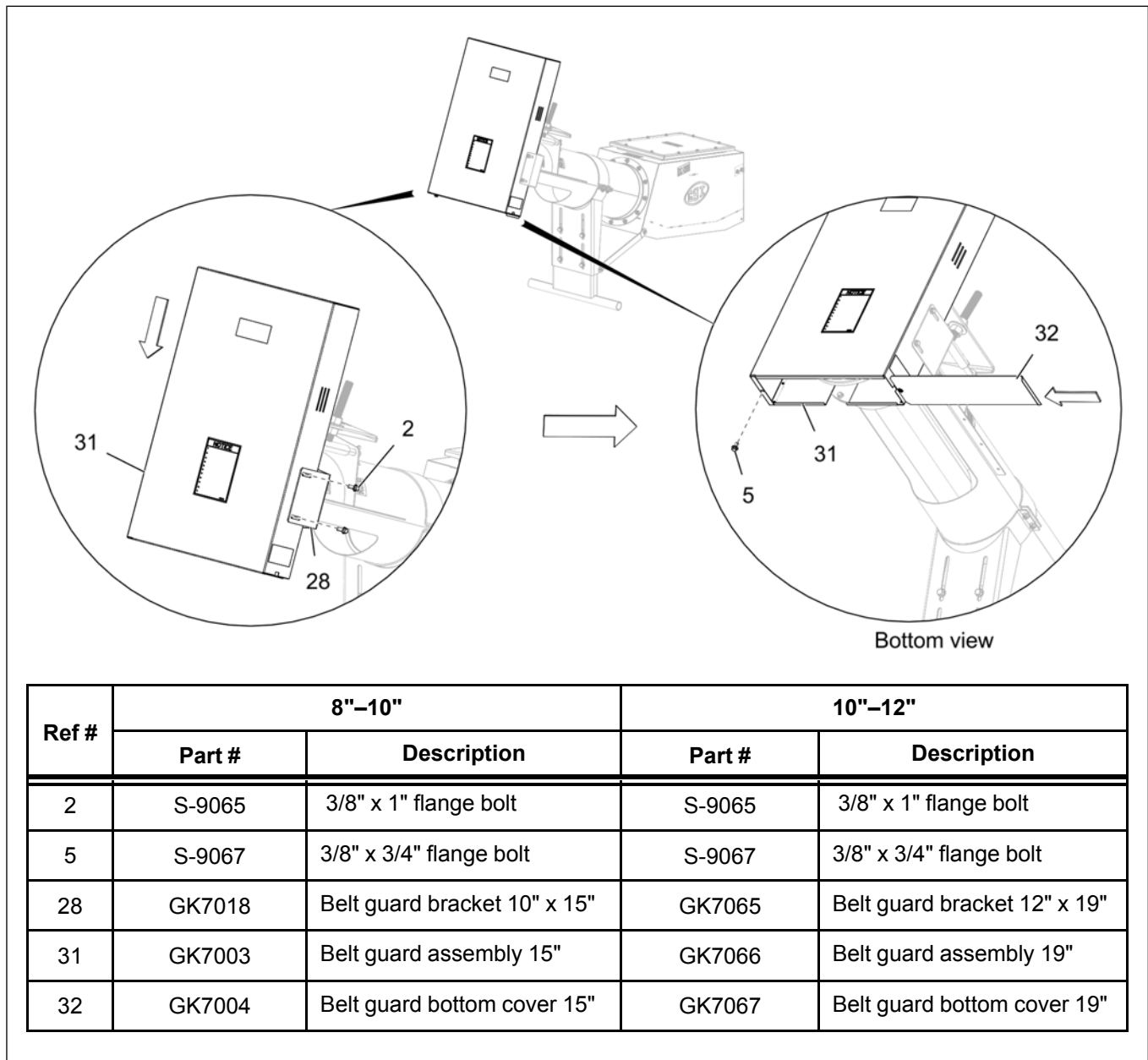
## Installing the Belts

1. Place the belts on the pulleys.
2. Adjust the 1" nut (13) below the motor mount plate (25), thereby raising the motor mount plate (25) and putting tension on the belts. Refer to [Installing the Motor Mount Plate, page 18](#).
3. After achieving the desired tension, secure the motor mount plate (25) in position by tightening the 1" nut (13) on top of the motor mount plate (25).

### Installing the Belt Guard

1. After the belts are properly tensioned, remove the bottom belt guard cover (32) and slip the belt guard assembly (31) down, over the motor shaft.
2. Install the belt guard assembly (31) to the belt guard mounting brackets (28) using 3/8" x 1" flange bolts (2). Do not tighten the belt guard mounting brackets (28) to the bearing plate.
3. Align the slot of the belt guard assembly (31) with the motor shaft and flight drive shaft, making sure that the belt guard assembly DOES NOT contact with either the pulleys or the shafts and tighten the belt guard mounting brackets (28) to the bearing plate.
4. Once the brackets are tightened, slide the bottom belt guard cover (32) back into the belt guard assembly (31) and install using 3/8" x 3/4" flange bolt (5).

**Figure 2-9** *Installing the belt guard*



# 3 Electric Drive Motors



**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 flighting to be used in the unloading tube is necessary to determine how much horsepower is required for the job.
2. Use the chart below to determine the size of motor required. Use a larger motor when encountering high moisture or when high capacity is required.

| 25° Horse-power | Grain Bin Diameter |     |     |     |     |       |       |       |       |       |
|-----------------|--------------------|-----|-----|-----|-----|-------|-------|-------|-------|-------|
|                 | 15'                | 18' | 21' | 24' | 27' | 30'   | 33'   | 36'   | 42'   | 48'   |
| 8"-10"          | 3                  | 3   | 5   | 5   | 5   | 7-1/2 | 7-1/2 | 7-1/2 | 7-1/2 | 7-1/2 |
| 10"-12"         | -                  | -   | -   | 5   | 5   | 7-1/2 | 7-1/2 | 7-1/2 | 10    | 10    |

**NOTE:** For high capacity or high moisture, use one size larger motor.

**LONGER BELT NOTE:** Longer belts may be required when using larger framed motors due to high capacity or high moisture applications.

3. The following horsepower recommendations are for augering relatively dry grain. Use an electric motor of the proper size that operates at 1750 RPM. Motor pulleys are not furnished with the auger.
4. A magnetic starter should be used for the operator's protection and for the protection of the motor. This helps to protect the operator against accidental re-start 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.**

# NOTES

# 4 Start-Up

## Topics Covered in this Chapter

- Perform Pre-Start Checks
- Start the Auger

## 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 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 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 to run it at 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.***

# 5 Operation

**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. For example, 25% moisture may cut capacity by as much as 40% under some conditions.*

1. Make certain there are at least two 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 re-started under full load, it may result in damage to the auger. Using a larger diameter auger and reducing its load level is generally preferable to subjecting a smaller diameter auger to big loads. If an auger is kept from absolute filling, it will make start-up easier and it will convey more efficiently.

# NOTES

# 6 Shut Down

## Topics Covered in this Chapter

- Normal Shut Down
- Emergency Shut Down
- Storage Preparation

## 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 re-start the auger when it is under load.
3. Close the bin well control gates.
4. Re-connect 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.

# NOTES

# 7 Maintenance



*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. Check the internal bearing bracket, bearing and universal joint to make sure they are in good working condition.
10. Grease bearing at least two times each season.

# NOTES

# 8 Troubleshooting

| Problem         | Possible Cause                                                                                                                                                                                                                                                                                       | Solution                                                                                                                                                                  |
|-----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Auger vibration | <ol style="list-style-type: none"> <li>1. Drive belt may be overtightened, putting head stub and flight in a bind.</li> <li>2. Damage can occur to the auger flighting, thus causing noise.</li> <li>3. Damage usually is caused from foreign material having been run through the auger.</li> </ol> | <ol style="list-style-type: none"> <li>1. It may be necessary to remove the flighting for inspection.</li> <li>2. Adjust the drive belt to the proper tension.</li> </ol> |
| 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 lightweight 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 augured, 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.                                                            |

# NOTES

# 9 Parts List

## Topics Covered in this Chapter

- 8" to 10" 25° Improved Wear Bin Unloader Parts
- 10" to 12" 25° Improved Wear Bin Unloader Parts

8" to 10" 25° Improved Wear Bin Unloader Parts

Figure 9-1 8" to 10" 25° improved wear bin unloader parts

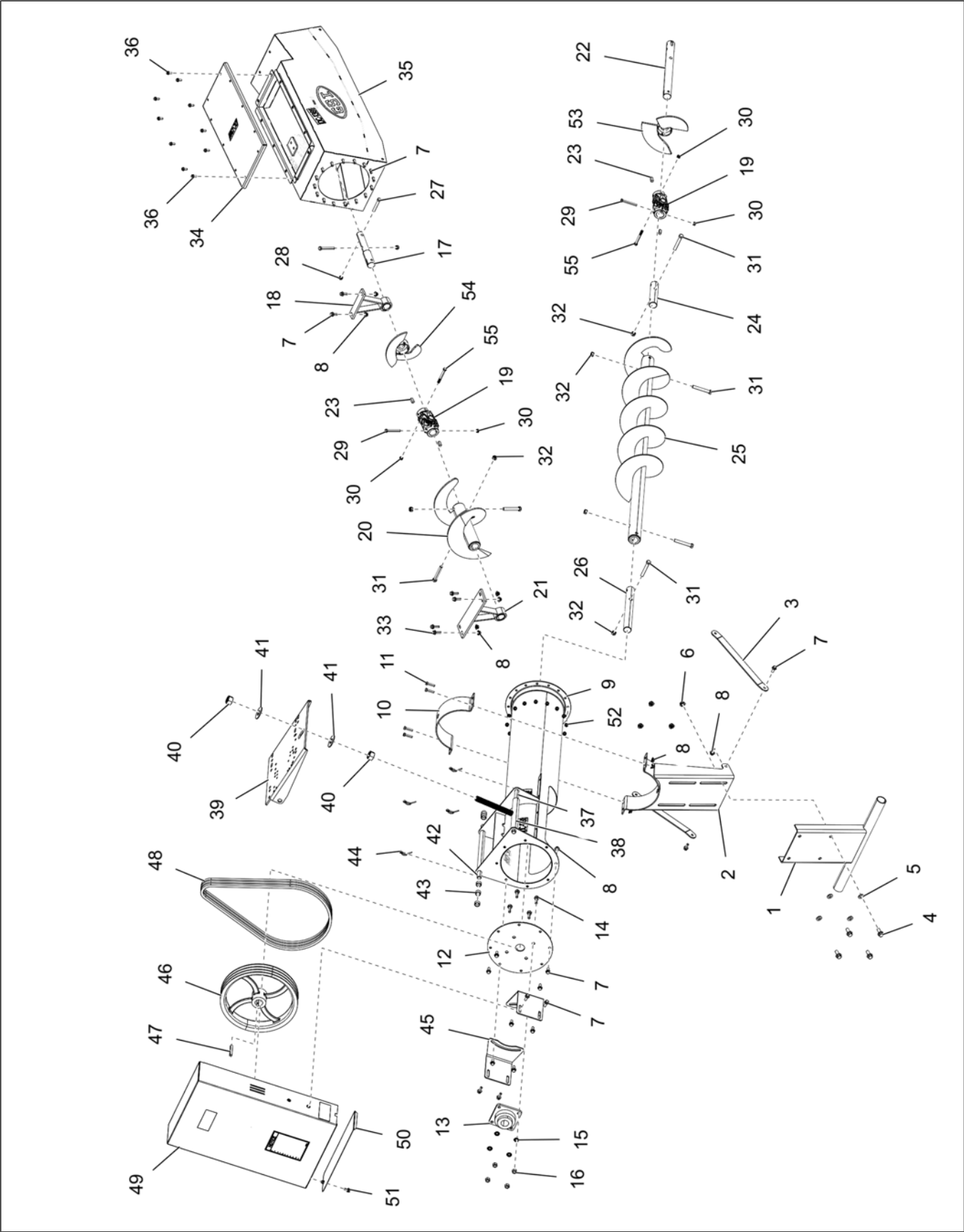
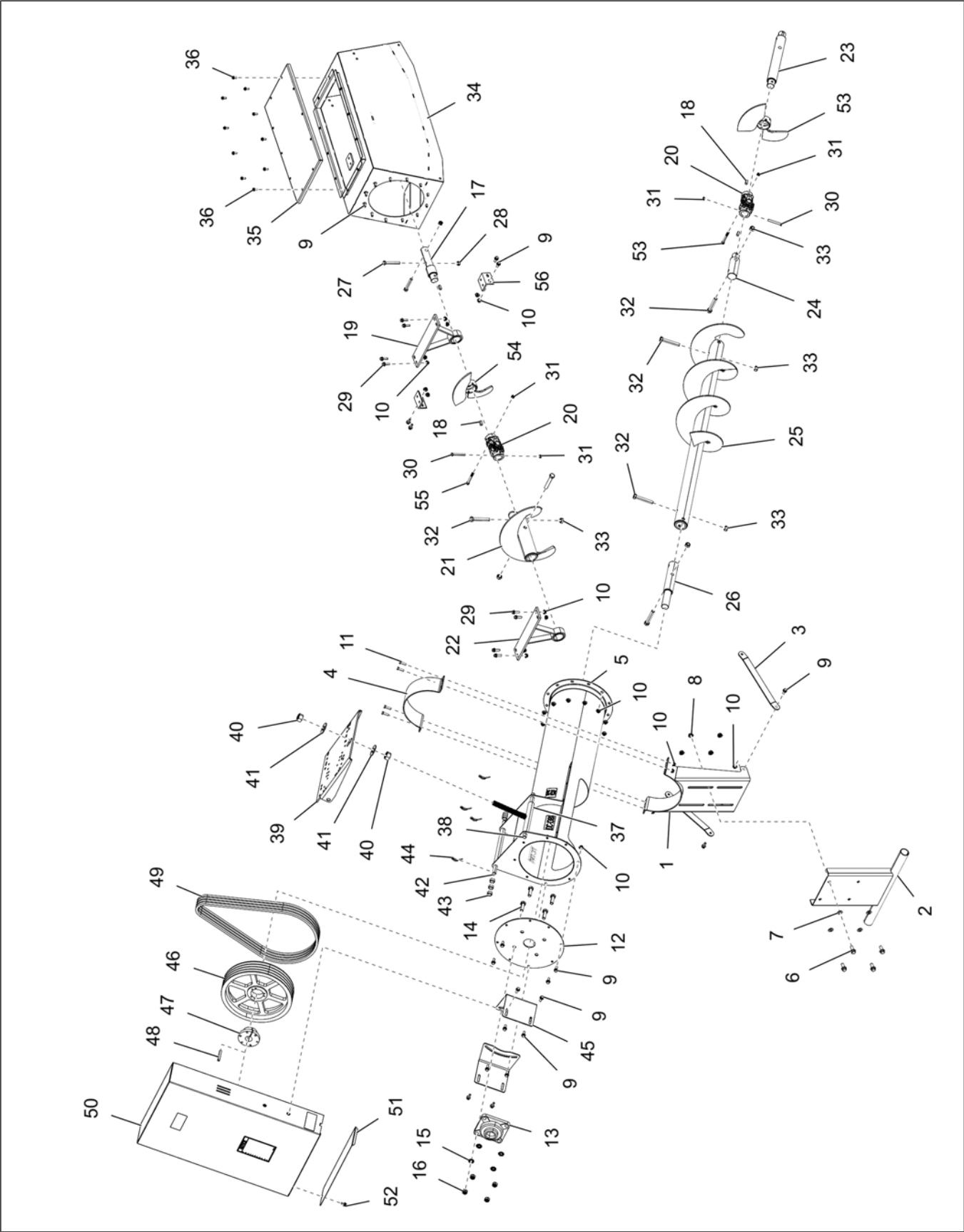


Table 9-1 8" to 10" 25° improved wear bin unloader parts list

| Ref # | Part #    | Description                                                   | Ref # | Part #    | Description                                                    |
|-------|-----------|---------------------------------------------------------------|-------|-----------|----------------------------------------------------------------|
| 1     | GK80349-Y | Drive Unit: HD 8"-10" 25° Stand Lower Weldment                | 30    | S-8251    | Nut, Stover 3/8"-16 ZN Grade C                                 |
| 2     | GK80350-Y | Drive Unit: HD 8"-10" 25° Stand Upper Weldment                | 31    | S-8314    | Bolt, HHCS 1/2"-13 x 3-1/2" YDP Grade 8                        |
| 3     | GK80355-Y | Drive Unit: Common 10"-12" 25° Stand Strap                    | 32    | S-8315    | Nut, Lock 1/2"-13 ZN Grade C Prevailing Torque                 |
| 4     | S-9062    | Bolt, Flange 1/2"-13 x 1-1/4" ZN Grade 5                      | 33    | S-9066    | Bolt, Flange 3/8"-16 x 1-1/4" ZN Grade 5                       |
| 5     | S-2120    | Washer, Flat 1/2" SAE ZN                                      | 34    | GK80334   | Drive Unit: HD 8"-10" 25° Box Cover Assembly                   |
| 6     | S-8506    | Nut, Flange 1/2"-13 ZN                                        | 35    | GK81272   | Drive Unit: HD 8"-10" 25° Box Assembly                         |
| 7     | S-9065    | Bolt, Flange 3/8"-16 x 1" ZN Grade 5                          | 36    | S-6606    | Bolt, Flange 5/16"-18 x 3/4" ZN Clear Grade 5                  |
| 8     | S-968     | Nut, Flange 3/8"-16 ZN Grade 5 Wide Flange                    | 37    | GK7012    | Motor Mount: Adjustment Pivot Rod 8"                           |
| 9     | GK6998-18 | Tube: 10" Horizontal Assembly                                 | 38    | GK6942    | Motor Mount: Adjustment Rod Weldment 8"                        |
| 10    | GK5117-Y  | Band: Half 10" x 4" 7 Gauge Ochre                             | 39    | GK6986-Y  | Motor Plate: 8"-12"                                            |
| 11    | S-2086    | Bolt, HHCS 3/8"-16 x 1-1/2" ZN Grade 8                        | 40    | S-240     | Nut, Hex 1"-8 ZN Grade 5                                       |
| 12    | GK7017-BS | Bearing Plate: 10" Horizontal - Bin Silver                    | 41    | S-7835    | Washer, Flat 1" ID USS Washer, Low Carbon                      |
| 13    | GK1343    | Bearing, Light Duty 1.50" Bore with Locking Collar            | 42    | GK7013    | Motor Mount: Plate Pivot Rod 8"                                |
| 14    | S-8760    | Bolt, HHTB 1/2"-13 x 1-1/2" ZN Grade 5                        | 43    | GK7014    | Drive Unit: Pivot Spacer Tube                                  |
| 15    | S-236     | Washer, Lock Split, 1/2" Reg Zinc Plated                      | 44    | S-6994    | Pin, Cotter 3/16" x 2" ZN Grade 2                              |
| 16    | S-3729    | Nut, Hex 1/2"-13 YDP Grade 5                                  | 45    | GK7018    | Belt Guard: 10" x 15" Mount Bracket                            |
| 17    | GK80327   | Drive Unit: HD 8"-10" 25° Lower Shaft                         | 46    | GK1304    | Sheave, 3 Groove, B Belt, 1.5" B, 15" O.D.                     |
| 18    | GK81187   | Drive Unit: HD 8"-10" 25° Lower Bearing Hanger Assembly       |       | GK1345    | Sheave, 2 Groove, B Belt, 1.5" B, 15" O.D.                     |
| 19    | GK80285   | U-Joint, 12E 1.5" Bore 5.75" Long                             | 47    | S-9181    | Key, Square 3/8" x 3"                                          |
| 20    | GK81202   | Drive Unit: HD 8"-10" 25° Lower Flight Weldment Improved Wear | 48    | MHC01253  | Belt, V B x 62                                                 |
| 21    | GK81193   | Drive Unit: HD 8"-10" 25° Bearing Hanger Assembly             |       | MHC00028  | Belt, V B x 60                                                 |
| 22    | GK80326   | Drive Unit: HD 8"-10" 25° Lower Flight Shaft                  |       | GK1346    | Belt, V B57                                                    |
| 23    | GC03540   | Key, 3/8" x 3/8" x 1"                                         | 49    | GK7003    | Belt Guard: 15" Top Assembly                                   |
| 24    | GK80325   | Drive Unit: HD 8"-10" 25° Upper Flight Shaft                  | 50    | GK7004    | Belt Guard: 15" Bottom Assembly                                |
| 25    | GK81201   | Drive Unit: HD 8"-10" 25° Upper Flight Weldment Improved Wear | 51    | S-9067    | Bolt, Flange 3/8"-16 x 3/4" ZN Grade 5                         |
| 26    | GK1289    | Shaft: Drive 1.50" OD x 12.5"                                 | 52    | S-7383    | Nut, Nylock 3/8" ZN Clear Grade 5                              |
| 27    | S-8316    | Bolt, HHCS 7/16"-14 x 3" ZN YDP Grade 8                       | 53    | GK81180-Y | Drive Unit: HD 8"-10" 25° Upper U-Joint Collar Flight Weldment |
| 28    | S-8317    | Nut, Stover 7/16"-14 ZN Grade C                               | 54    | GK81188-Y | Drive Unit: HD 8"-10" 25° Lower U-Joint Collar Flight Weldment |
| 29    | S-8677    | Bolt, HHCS 3/8"-16 x 3" YDP Grade 8                           | 55    | S-10712   | Bolt, HHCS 3/8"-16 x 3-1/2" YDP Grade 8                        |

10" to 12" 25° Improved Wear Bin Unloader Parts

Figure 9-2 10" to 12" 25° improved wear bin unloader parts



**Table 9-2 10" to 12" 25° improved wear bin unloader parts list**

| Ref # | Part #    | Description                                                        | Ref # | Part #    | Description                                                     |
|-------|-----------|--------------------------------------------------------------------|-------|-----------|-----------------------------------------------------------------|
| 1     | GK80296-Y | Drive Unit: Common 10"-12" 25° Stand Upper Weldment                | 31    | S-8251    | Nut, Stover 3/8"-16 ZN Grade C                                  |
| 2     | GK80297-Y | Drive Unit: Common 10"-12" 25° Stand Lower Weldment                | 32    | S-7893    | Bolt, HHCS 5/8"-11 x 4" YDP Grade 8                             |
| 3     | GK80298-Y | Drive Unit: Common 10"-12" 25° Stand Strap                         | 33    | S-8606    | Nut, Stover 5/8"-11 ZN Grade C                                  |
| 4     | GC08690-Y | Band: Half 12" x 4" 7 Gauge                                        | 34    | GK81274   | Drive Unit: Common 10"-12" 25° Box Weldment                     |
| 5     | GK6999-18 | Tube: 12" Horizontal Assembly                                      | 35    | GK80308   | Drive Unit: Common 10"-12" 25° Box Cover Assembly               |
| 6     | S-9062    | Bolt, Flange 1/2"-13 x 1-1/4" ZN Grade 5                           | 36    | S-6606    | Bolt, Flange 5/16"-18 x 3/4" ZN Clear Grade 5                   |
| 7     | S-2120    | Washer, Flat 1/2" SAE ZN                                           | 37    | GK6942    | Motor Mount: Adjustment Rod Weldment 8"                         |
| 8     | S-8506    | Nut, Flange 1/2"-13 ZN                                             | 38    | GK7012    | Motor Mount: Adjustment Pivot Rod 8"                            |
| 9     | S-9065    | Bolt, Flange 3/8"-16 x 1" ZN Grade 5                               | 39    | GK6986-Y  | Motor Plate: 8"-12"                                             |
| 10    | S-968     | Nut, Flange 3/8"-16 ZN Grade 5 Wide Flange                         | 40    | S-240     | Nut, Hex 1"-8 ZN Grade 5                                        |
| 11    | S-2071    | Bolt, HHCS 3/8"-16 x 1-1/4" ZN Grade 5                             | 41    | S-7835    | Washer, Flat 1" ID USS Washer, Low Carbon                       |
| 12    | GK7064-BS | Bearing Plate: 12" Horizontal - Bin Silver                         | 42    | GK7013    | Motor Mount: Plate Pivot Rod 8"                                 |
| 13    | GK2004    | Bearing, Light Duty 2.00" Bore with Locking Collar 4 Hole Flange   | 43    | GK7014    | Drive Unit: Pivot Spacer Tube                                   |
| 14    | S-8399    | Bolt, HHTB 5/8"-11 x 2" ZN Grade 5                                 | 44    | S-6994    | Pin, Cotter 3/16" x 2" ZN Grade 2                               |
| 15    | S-3208    | Washer, Lock Split 5/8" Med ZN                                     | 45    | GK7065    | Belt Guard: 12" x 19" Mount Bracket                             |
| 16    | S-4110    | Nut, Hex 5/8"-11 YDP Grade 5                                       | 46    | GK3541    | Sheave, 4 Groove, A15.0-B 15.4 -SF, 15.75" O.D.                 |
| 17    | GK80284   | Drive Unit: Common 10"-12" 25° Lower Shaft                         |       | GK1304    | Sheave, 3 Groove, B Belt, 1.5" B, 15" O.D.                      |
| 18    | GC03540   | Key, 3/8" x 3/8" x 1"                                              |       | GK1345    | Sheave, 2 Groove, B Belt, 1.5" B, 15" O.D.                      |
| 19    | GK81198   | Drive Unit: HD 10"-12" 25° Bearing Hanger Assembly                 | 47    | D03-0264  | Bushing, SF 1-1/2"                                              |
| 20    | GK80285   | U-Joint, 12E 1.5" Bore 5.75" Long                                  | 48    | S-9181    | Key, Square 3/8" x 3"                                           |
| 21    | GK81223   | Drive Unit: Common 10"-12" 25° Lower Flight Weldment Improved Wear | 49    | MHC00126  | Belt, V B x 64                                                  |
| 22    | GK81197   | Drive Unit: HD 10"-12" 25° Upper Bearing Hanger Assembly           |       | MHC01253  | Belt, V B x 62                                                  |
| 23    | GK80279   | Drive Unit: Common 10"-12" 25° Lower Flight Shaft                  | 50    | GK7066    | Belt Guard: 19" Top Assembly                                    |
| 24    | GK80291   | Drive Unit: Common 10"-12" 25° Upper Flight Shaft                  | 51    | GK7067    | Belt Guard: 19" Bottom Assembly                                 |
| 25    | GK81224   | Flight, 25° DU Improved Wear, Weldment 11" x 0.250" x 55.75"       | 52    | S-9067    | Bolt, Flange 3/8"-16 x 3/4" ZN Grade 5                          |
| 26    | GK2006    | Shaft: Drive 2" OD x 12" 25°                                       | 53    | GK81195-Y | Drive Unit: HD 10"-12" 25° Upper U-Joint Flight Collar Weldment |
| 27    | S-8314    | Bolt, HHCS 1/2"-13 x 3-1/2" YDP Grade 8                            | 54    | GK81194-Y | Drive Unit: HD 10"-12" 25° Lower U-Joint Flight Collar Weldment |
| 28    | S-8315    | Nut, Lock 1/2"-13 ZN Grade C Prevailing Torque                     | 55    | S-10712   | Bolt, HHCS 3/8"-16 x 3-1/2" YDP Grade 8                         |
| 29    | S-9066    | Bolt, Flange 3/8"-16 x 1-1/4" ZN Grade 5                           | 56    | GC21052-Y | Drive Unit: HD 25° Hanger Bearing Side Support                  |
| 30    | S-8677    | Bolt, HHCS 3/8"-16 x 3" YDP Grade 8                                |       |           |                                                                 |

# NOTES

## 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         |
|                   | ▪ Roof, doors, platforms and walk arounds<br>▪ Flooring (when installed using GSI specified floor support system for that floor)<br>▪ Hopper tanks |                 |
| Conditioning      | Dryer Structural Design – (Tower, Portable and TopDry)<br>▪ Includes (frame, portable dryer screens, ladders, access doors and platforms)          | 5 Years         |
|                   | All other Dryer parts including:<br>▪ Electrical (controls, sensors, switches & internal wiring)                                                   | 2 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 19 October 2018)

**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.**



1004 E. Illinois St.  
Assumption, IL 62510-0020  
Phone: 1-217-226-4421  
Fax: 1-217-226-4420  
[www.gsiag.com](http://www.gsiag.com)



GSI is a worldwide brand of AGCO Corporation.