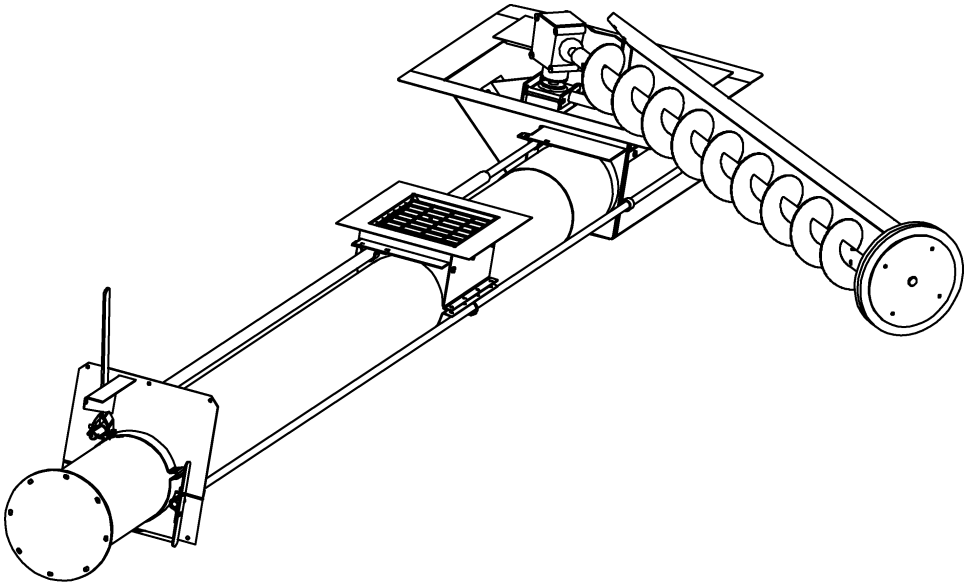


# Direct Gear Drive Bin Sweep Auger (with Roller Wells)

Assembly and Operation Manual

PNEG-1101

Date: 01-19-08

GSI GROUP

PNEG-1101

## General Information

A. We reserve the right to improve our product whenever possible and practical to do so. We reserve the right to change, improve, and modify products at any time without obligation to make changes, improvements, and modifications on equipment sold previously.

B. The Commercial Power Sweeps have been designed and manufactured to give years of dependable service. The care and maintenance of this machine will affect the satisfaction and service obtained. By observing the instructions and suggestions we have recommended, the owner should receive competent service for many years. If additional information or assistance should be required, please contact the factory or your local dealer.

C. **Receiving Merchandise and Filing Claims**

1. When receiving merchandise, it is important to check both the quantity of parts and their descriptions with the packing list enclosed within each package. All claims for freight damage or shortage must be made by the consignee within ten (10) days from the date of the occurrence of freight damage. The consignee should accept the shipment after noting the damage or loss.

**Personnel operating or working around this equipment should 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. Any misuse of the equipment may void the warranty.**

# Contents

GSI Safety 1st

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

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

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

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

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

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

GSI Group
PO Box 20
1004 E. Illinois St.
Assumption, IL 62510
Ph: 217-226-4421

## Safety Guidelines

This manual contains information that is important for you, the owner/operator, to know and understand. This information relates to protecting ***personal safety*** and ***preventing equipment problems.*** It is the responsibility of the owner/operator to inform anyone operating or working in the area of this equipment of these safety guidelines. To help you recognize this information, we use the symbols that are defined below. Please read the manual and pay attention to these sections. Failure to read this manual and its safety instructions is a misuse of the equipment and may lead to serious injury or death.

**This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.**

**DANGER**

**DANGER** indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.

**WARNING**

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

**CAUTION**

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

**CAUTION**

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

**NOTE**

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

## General Safety Guidelines

A. **DO NOT** make any alterations to the equipment. Such alterations may produce a very dangerous situation, where **SERIOUS INJURY** or **DEATH** may occur.

B. This equipment shall be installed in accordance with any regulations or installation codes that are required by law. Authorities having jurisdiction should be consulted before installations are made.

C. Untrained operators subject themselves and others to **SERIOUS INJURY** or **DEATH. NEVER** allow untrained personnel to operate this equipment.

D. Keep children and other unqualified personnel out of the working area at **ALL** times.

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

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

G. Keep hair, loose clothing, and shoestrings away from rotating and moving parts. **NEVER** wear loose fitting clothing when working around augers.

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

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

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

K. **NEVER** work alone.

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

M. Make sure **ALL** equipment is locked in position before operating.

N. Keep hands and feet away from the auger intake and other moving parts.

O. **NEVER** attempt to assist machinery operation or to remove trash from equipment while in operation.

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

Q. **ALWAYS** lock out **ALL** power to the equipment when finished unloading.

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

### Wear Protective Clothing

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

Remove all jewelry.

Long hair should be tied up and back.

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

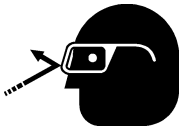
Wear gloves to protect your hands from sharp edges on plastic or steel parts.

Wear steel toe boots to help protect your feet from falling debris. Tuck in any loose or dangling shoe strings.

A respirator may be needed to prevent breathing potentially toxic fumes and dust.

Wear hard hat to help protect your head.

**Eye Protection**



**Gloves**

**Steel Toe Boots**

**Respirator**

**Hard Hat**

**Emergency Shut Down Sequence**

A. In an emergency, shut down the power source.

## Pinch Points

CAUTION

***A Pinch Point is any place on the equipment which can injure the operator.***

A. Components of this equipment have sharp edges which can scrape and/or cut an operator.

B. A moving auger can sever an operator's limbs or even kill him/her.

## Shields and Guards

A. **ALWAYS** keep **ALL** shields and guards in place during operation.

**We will replace any missing shields or guards free of charge.**
*Refer Page 4 for more information on our Safety First program.*

# Operator Qualifications

A. The User/Operator must be competent and experienced to operate auger equipment. Anyone who works with or around augers must have good common sense in order to be qualified. These persons must also know and meet all other qualifications, such as:

i. Any person who has not read and/or does not understand all operation and safety procedures is not qualified to operate any auger systems.

ii. Certain regulations apply to personnel operating power machinery. Personnel under the age of 18 years may not operate power machinery, including augers. It is your responsibility, as owner and/or supervisor, to know what these regulations are in your area or situation.

iii. Unqualified or incompetent persons are to remain out of the work area.

iv. O.S.H.A. (Occupational Safety and Health Administration) regulations state: “At the time of initial assignment and at least annually thereafter, the employer shall instruct every employee in the safe operation and servicing of all equipment with which the employee is, or will be involved”. (Federal Occupational Safety and Health Standards for Agriculture. Sub Part D, Section 19287.57 (a) (6)).

B. As a requirement of O.S.H.A., it is necessary for the employer to train the employee in the safe operating and safety procedures for this auger. The sign-off sheet is for your convenience and personal record keeping. All unqualified persons should always stay out of the work area. It is strongly recommended that another qualified person who knows the shut down procedure is in the area in the event of an emergency.

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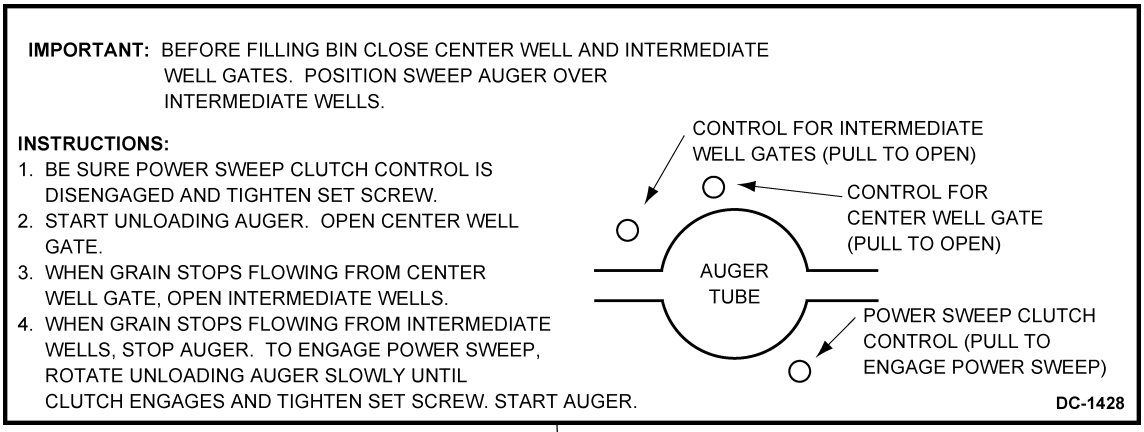
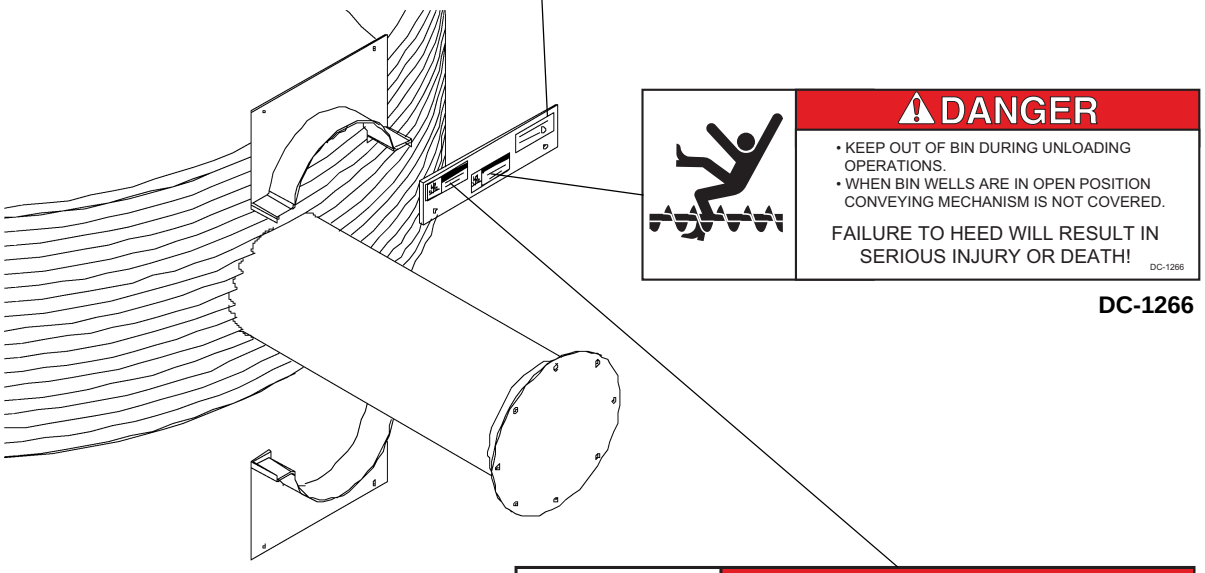
Check components shown below to ensure that the safety decals are in place and in good condition. If a decal cannot be easily read for any reason or has been painted over, replace it immediately. Contact your dealer or the manufacturer to order a replacement decal free of charge.

| Decal Part List | | |
|---|---|---|
| **Part #** | **Description** | **Size** |
| DC-1428 | **Important** - Power Sweep Position | 7-3/8" x 2-3/4" |
| DC-1266 | **Danger** - Bin Well | 7-1/2" x 2-1/2" |
| DC-1384 | **Danger** - Keep out of Bin | 6-1/4" x 1-1/4" |
| DC-1395 | **Danger** - Rotating Flight | 4-1/4" x 6-1/4" |




**DC-1428**




**DC-1266**

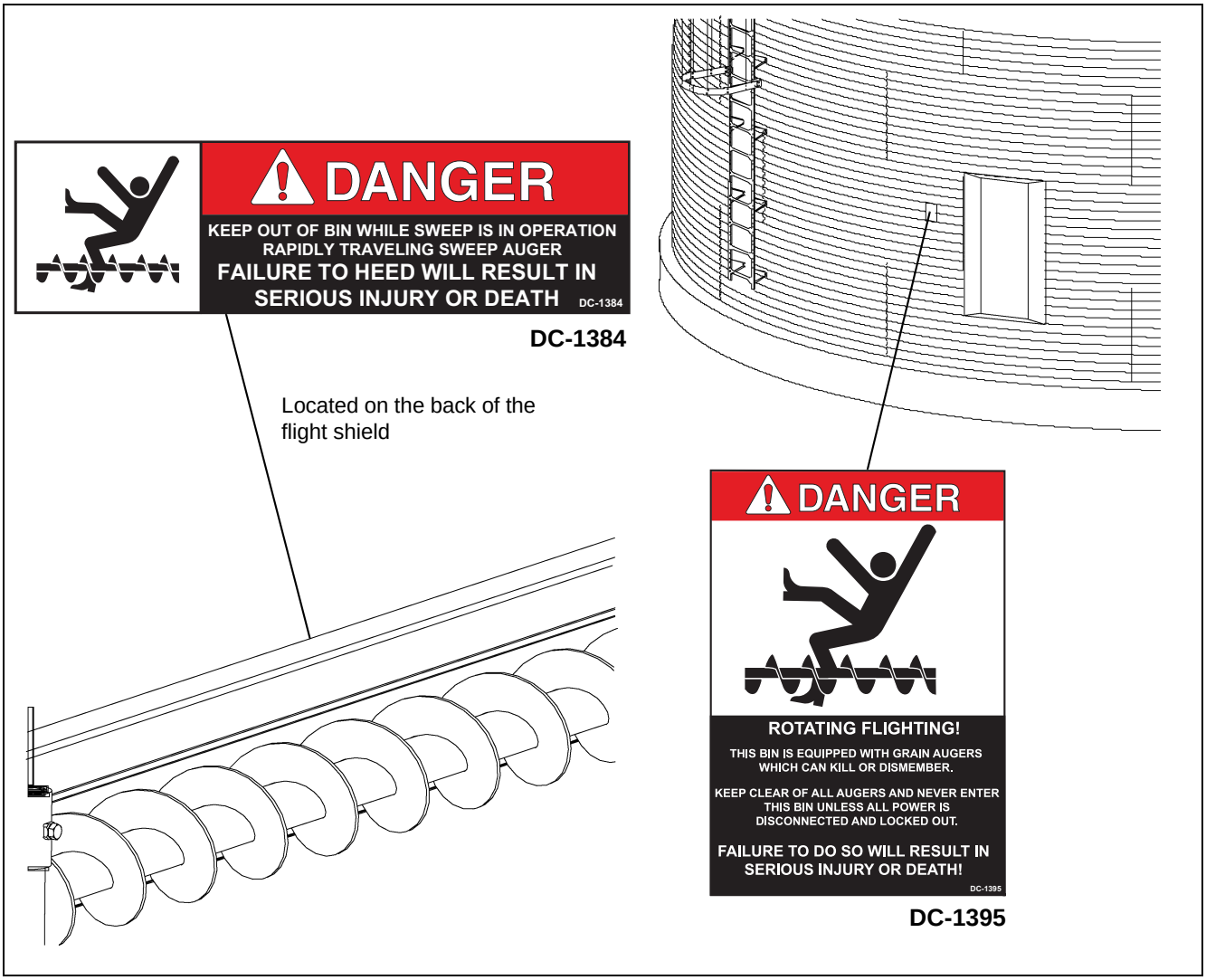

**DC-1384**

## 2. 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.

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.

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




**WARNING**

***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.***

# Power Sweeps in Bins with Concrete Floors

**NOTE:** *The Direct Gear Drive Bin Sweep Auger unit is not recommended to be set in concrete. If installing a unit flush with a concrete floor, the unit should be installed in a preformed trench. Use the diagram below (Figure 3A.)*

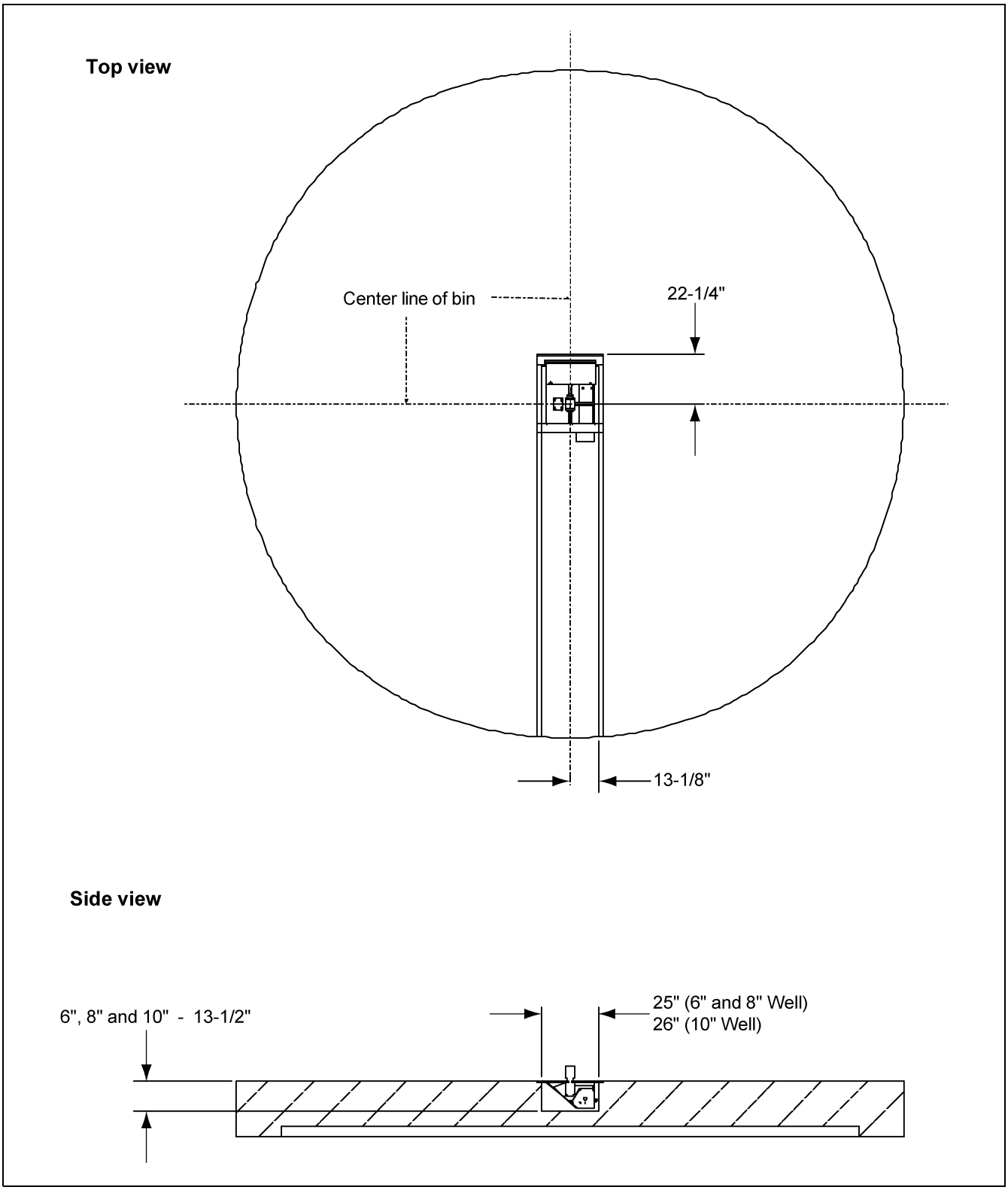



**Figure 3A** *Concrete Trench Layout for 6", 8" and 10" Power Sweeps*

# Power Sweeps in Bins with Raised Metal Floors

For bins with raised metal floors, openings in the floor must be cut for the center well and intermediate wells. Make sure the metal floor is high enough above the concrete base so there is space for the wells. To provide better access to components under the floor, consider assembling the bin floor as the power sweep is being installed.

1. Locate the center of the bin and make a cut-out in the bin floor for the center well. *See Figure 3B* for cut-out size and location of 6" and 8" wells. *See Figure 3C* for 10" wells. Locate the vertical shaft between the gear boxes in the center of the bin. Place suitable supports under the center well to hold it in position.

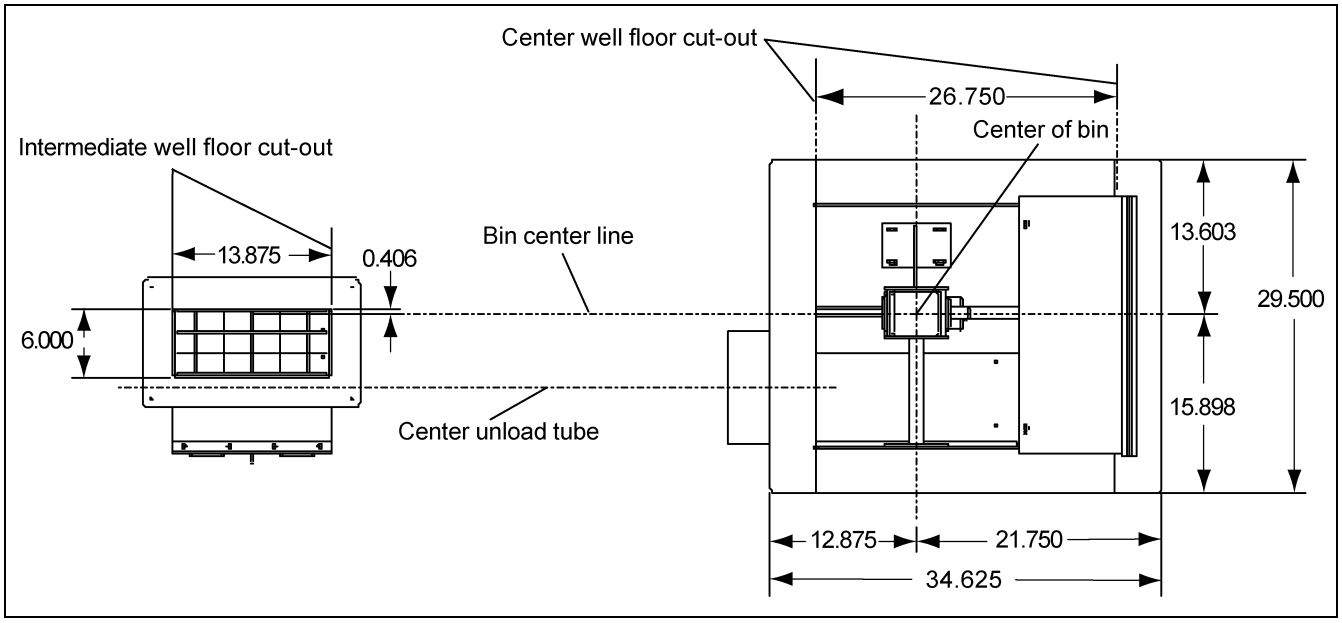



**Figure 3B** *6" and 8" (15.24 cm and 20.32 cm) Center and Intermediate Well(s) Bin Floor Cut-outs*

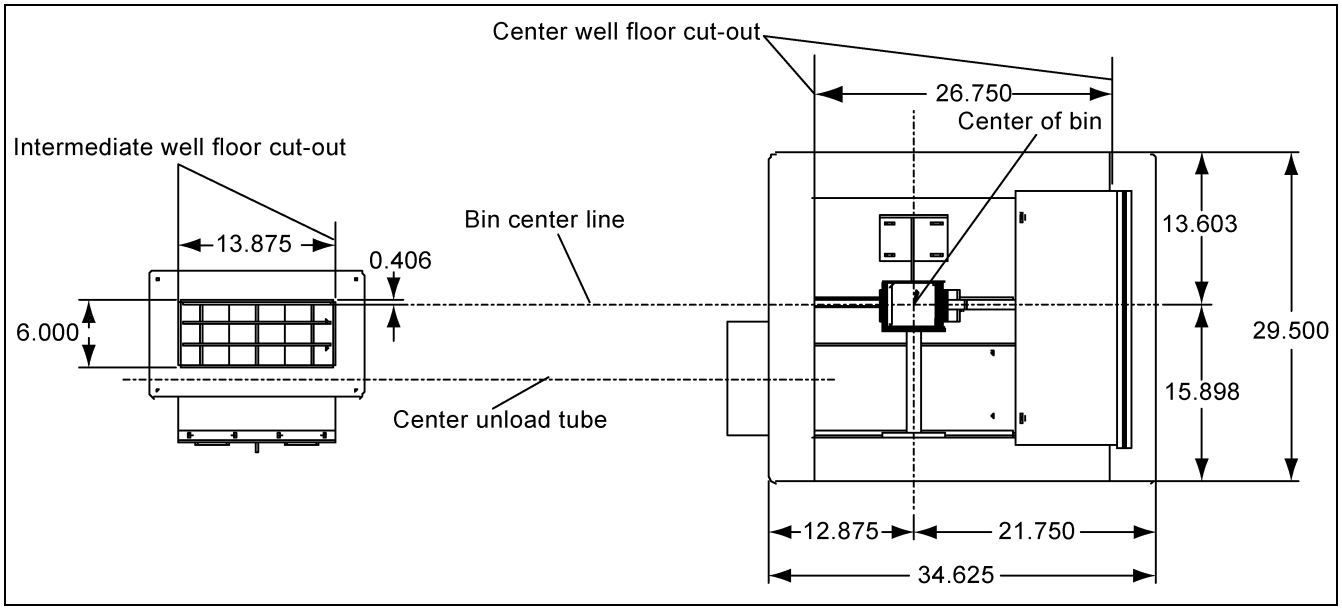



**Figure 3C** *10" (25.40 cm) Center and Intermediate Well(s) Bin Floor Cut-outs*

# Intermediate Well Installation

1. Cut openings in the bin floor for the intermediate wells. (*See Figure 3B* and *Figure 3C on Page 12*.) The number of wells depends on bin size. The distances between intermediate wells and the center well should be equal. (*See Figure 3C on Page 12* and *Chart below*.)

| Bin Size | Number of Intermediate Wells | Distance from Center of Bin to Wall (A) | Distance Between Wells (B) |
|---|---|---|---|
| 15' | 1 | 7' 5-1/2" | 45" |
| 18' | 1 | 8' 11-7/16" | 54" |
| 21' | 2 | 10' 5-5/16" | 42" |
| 24' | 2 | 11' 11-1/4" | 55-1/4" |
| 27' | 2 | 13' 5-3/16" | 61-3/4" |
| 30' | 2 | 14' 11" | 67-3/4" |
| 33' | 3 | 16' 4-5/16" | 56-13/16" |
| 36' | 3 | 17' 10-7/8" | 59-13/16" |
| 39' | 3 | 19' 4-3/4" | 64-5/16" |
| 42' | 4 | 20' 10-11/16" | 56-1/4" |
| 48' | 4 | 23' 10-1/2" | 63-29/64" |

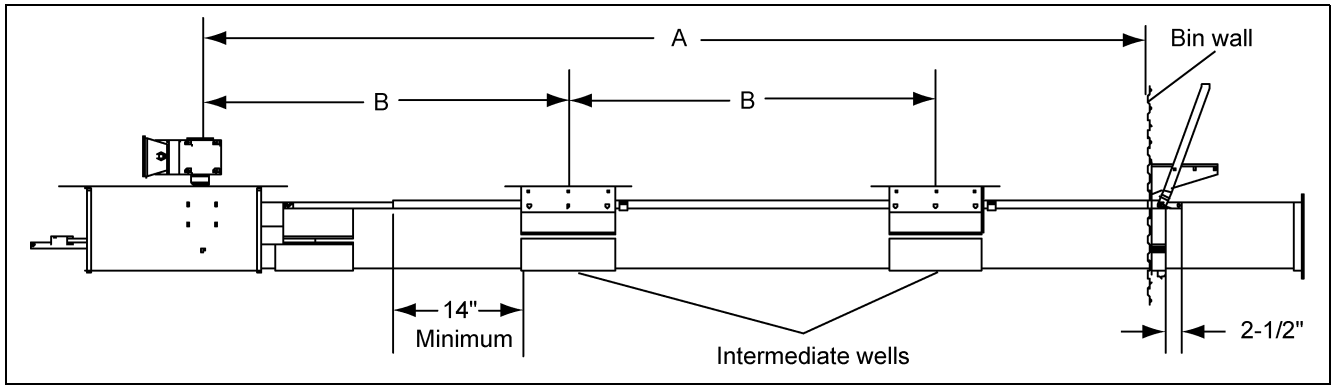



**Figure 3D**

# Unload Tube Installation

A. Cut an opening in the bin wall for the unloading tube. Locate the opening below the floor the same distance as the auger tube connection to the center well. Make sure the hole is in line with the tube on the center well. Use the *Chart below* to determine the size of hole to be cut in the bin wall. (*See Figure 3E*.)

| Tube Size | Hole Size in Side of Bin |
|---|---|
| 10" | 13" Hole |
| 8" | 10-1/2" Hole |
| 6" | 8-1/2" Hole |

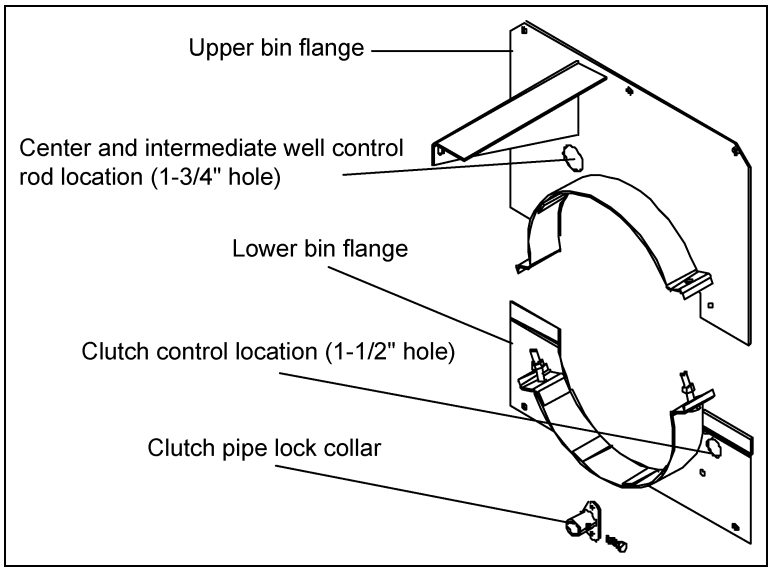



**Figure 3E**

B. From the inside of the bin, insert the angle ring end of the unload tube through the hole in the bin sidewall.

C. Place the connecting band onto the end of the unload tube closest to the center well.

D. Position the unload tube against the center well tube. (*See Figure 3F*.)

**Figure 3F**

**Figure 3G**

# Unload Tube Installation (Continued)

E. Slide the connecting band until it is positioned equally over both the unload tube and the center well tube. Make sure the connecting band will not interfere with the control rods.

F. Secure the connecting band with three (3) 5/16" x 1-1/2" bolts and lock nuts. (*See Figure 3G on Page 14*.)

G. Make sure all intermediate wells are on straight and secure. The intermediate well opening cut into the tube should extend at least 1/2" inside the well on all four (4) sides.

# Install Unload Tube Flight

A. Open the slide gate of the center well. Insert the unload flighting into the center well. (*See Figure 3H*.)


**Figure 3H**

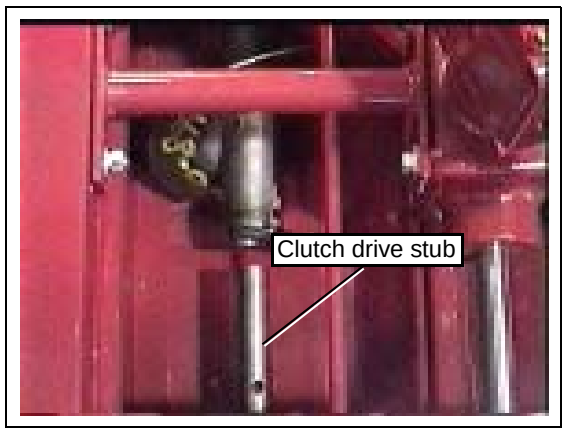



**Figure 3I**

B. Attach the unload flighting to the clutch drive stub using bolts (*see Chart below*) and lock nuts. (*See Figure 3I*.)

C. Tighten the bolts with a wrench.

| Tube Size | Bolt Size | Qty |
|---|---|---|
| 6" | 3/8" x 2-1/4" | 2 |
| 8" | 3/8" x 3" | 2 |
| 10" | 3/8" x 3" | 2 |

# Install Bin Flange

A. Attach the upper and lower bin flanges to the auger tube using 5/16" x 1-1/2" bolts and nuts. (*See Figure 3J*.)

B. Bolt the clutch lock collar to the lower bin flange half using two (2) 1/4" x 3/4" carriage bolts. Install the bolt heads on the back side of the lower bin flange half, so they will be next to the bin wall when the flange is attached to the bin.

C. Fasten the four (4) corners of the bin flange to the bin wall by first drilling holes for 5/16" x 1" bolts in the bin wall through existing holes in the flange. Attach the decal plate to the upper flange while attaching flange to bin. (*See Figure 3J*.)

D. Drill holes in the bin wall through the existing holes in the flange for the well control rods and clutch control rod. (*See Figure 3E on Page 14*.)

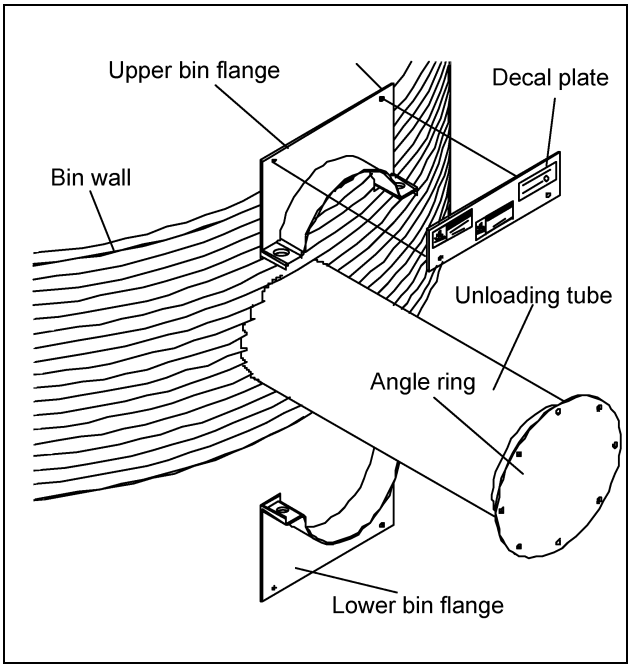



**Figure 3J**

# Intermediate Slide Gate Assembly

A. **Attach the intermediate bin well gate(s) to the 1-3/8" O.D. control pipe:**

1. Close the intermediate bin well gates.
2. Check length of control pipe by sliding it into place. One end should be centered between the center well and the first intermediate well. The other end should be lined up with the bin flange halfband.
3. Attach the dimple clamp through first set of holes on the slide gate by drilling a 3/8" diameter hole through one side of the 1-3/8" O.D. control pipe. The dimple of the control gate clamp will fit into this hole when clamped to the control gate. Determine the hole location by seeing where the dimple will hit the control pipe when it is bolted in place.
4. Fasten the control gate clamp to the control gate and control pipe. Secure in place by using two (2) 5/16" x 1" long (grade 5) hex head capscrews, flat washers, lock washers, and nuts. (*See Figure 3K*.)

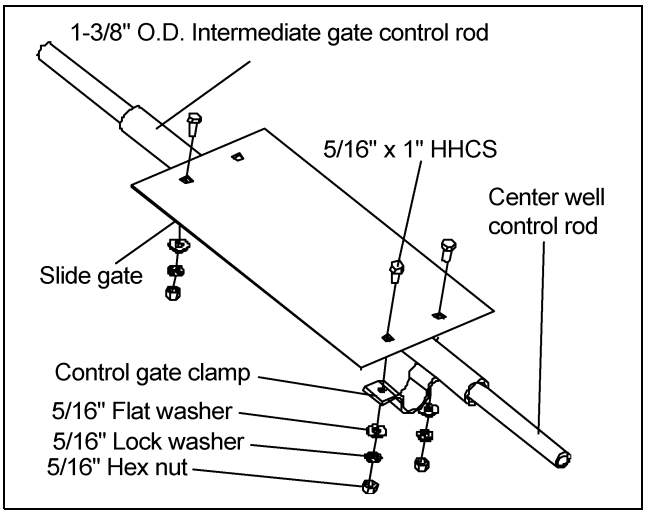



**Figure 3K** *Intermediate Well Gate*

# Intermediate Slide Gate Assembly (Continued)

5. Slide the gate open to attach the second dimple clamp to the second set of holes in the slide gate. Attach it the same as the first clamp as in *Steps 3* and *4* above.
6. Follow *Steps 3-5* for all intermediate wells. Make sure the gates are in the closed position before starting a new slide control gate.

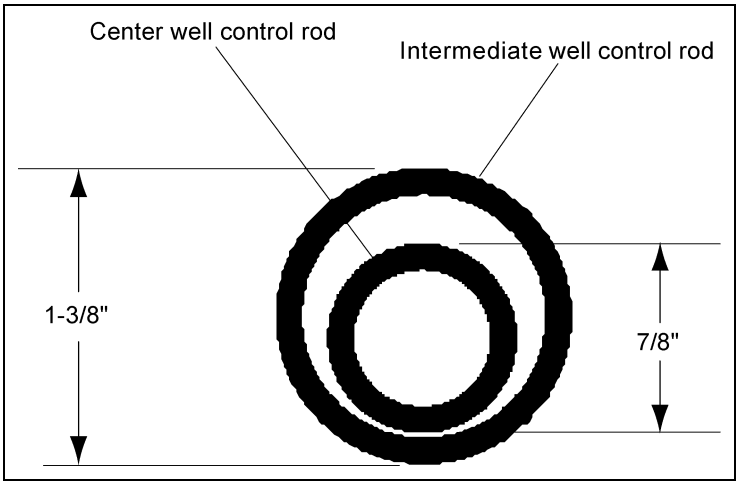



**Figure 3L** *Front View of Control Rods*

# Center Well Slide Gate Assembly

A. **Attach the center well gate to 7/8" O.D. control pipe for <u>6" and 8" Models</u>**

1. Close the center slide control gate.
2. Drill a 5/16" hole through both sides of the pipe, 5/8" from one of the ends. Insert this end through the intermediate control pipe.
3. Attach control gate to control rod with a 5/16" x 2" bolt, flat washer, lock washer, and hex nut. (*See Figure 3M*.)
4. When the control pipe is fastened to the control gate and the gate is closed, the center well control pipe should extend past the end of the intermediate well control pipe a minimum of 2-1/2".

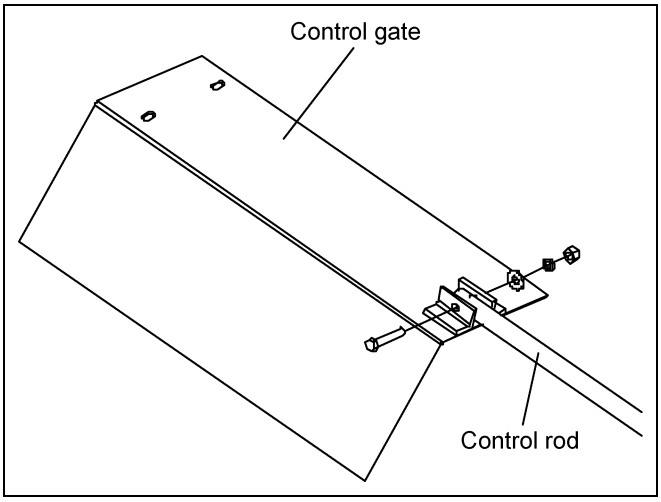



**Figure 3M** *6" and 8" Center Well Gate*

# Center Well Slide Gate Assembly (Continued)

B. **Attach the center well gate to 7/8" O.D. control pipe for <u>10" Models</u>**

1. Close the center slide control gate.
2. Drill a 5/16" hole through both sides of the pipe, 5/8" from one of the ends. Insert this end through the intermediate control pipe.
3. Attach control gate clamp to control pipe by sliding 5/16" x 1-3/4" long roll pin through clamp and control pipe.
4. Fasten clamp to bottom side of control gate by using two (2) 5/16" x 1-3/4" long (grade 5) carriage bolt, flat washers, lock washers and nuts. Install nuts so they secure the 5/16" x 1-3/4" long roll pin in place. (*See Figure 3N*.)
5. When the control rod is fastened to the control gate and the gate is closed, the center well control pipe should extend past the end of the intermediate well control pipe a minimum of 2-1/2". (*See Figure 3O*.)

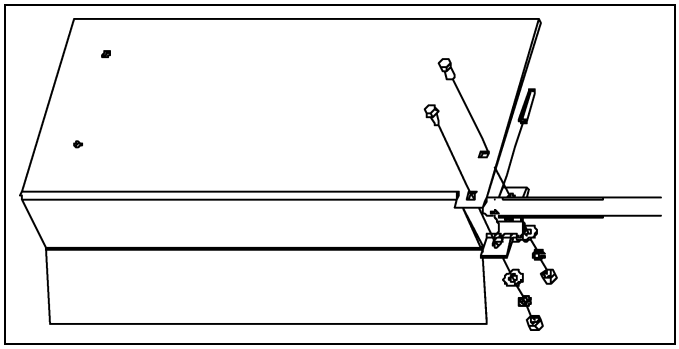


**Figure 3N** *10" Center Well Gate*

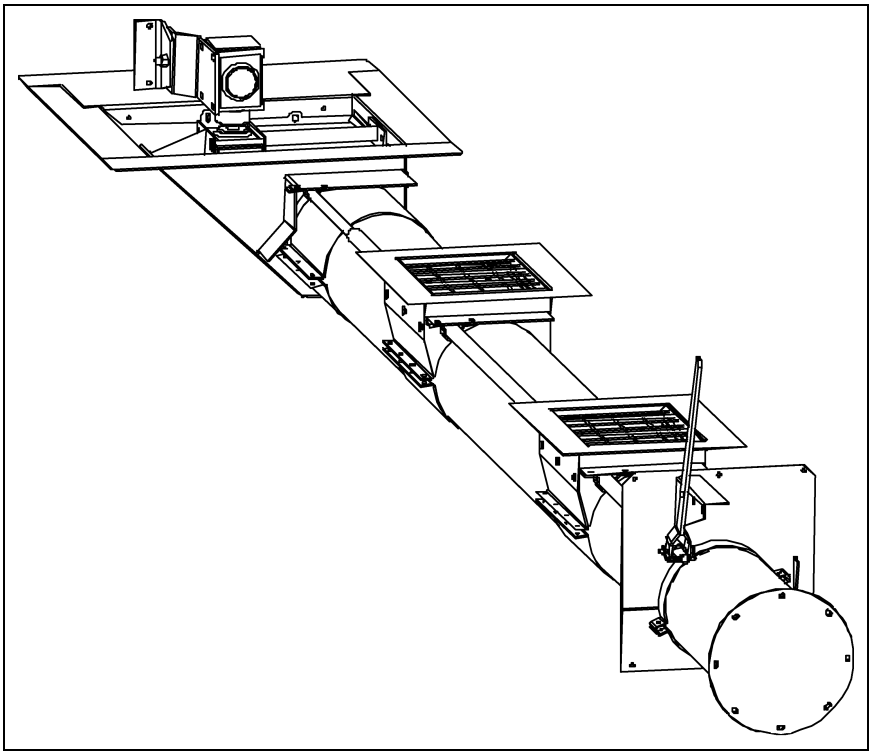


**Figure 3O**

# Control Lever Installation

A. Close all slide control gates and keep them closed.

B. Make sure the end of the intermediate control rod protrudes out from hole as far as the ring on the bin flange. Flange halfband. Cut-off any excess.

C. Make sure the center well control gate extends at least 2-1/2" past the end of the intermediate control rod. Cut-off any excess. (*See Figure 3Q on Page 20*.)

D. Measure 5/8" from the end of the intermediate well control rod and drill a 3/8" hole all the way through both control rods.

E. Measure 5/8" from the end of the center well control rod and drill a 3/8" hole through both sides of the pipe.

F. Attach the control lever by sliding the safety snap-on pin through the lever and both control rods as shown in *Figure 3P* and *Figure 3Q*.

G. Put the control lever in the first slot closest to the bin flange. This slot should be used to close the gates.

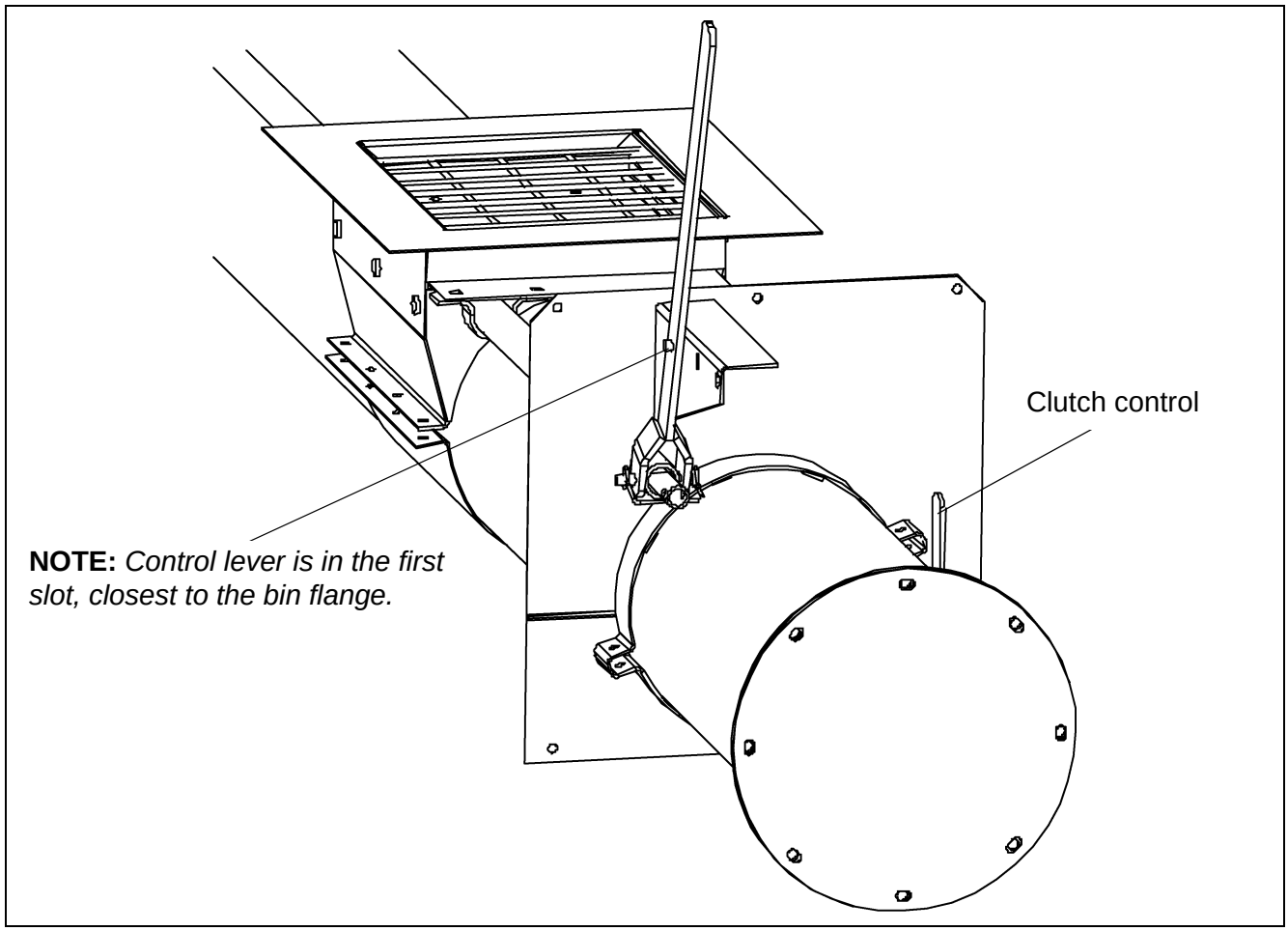



**Figure 3P**

# Control Lever Installation (Continued)

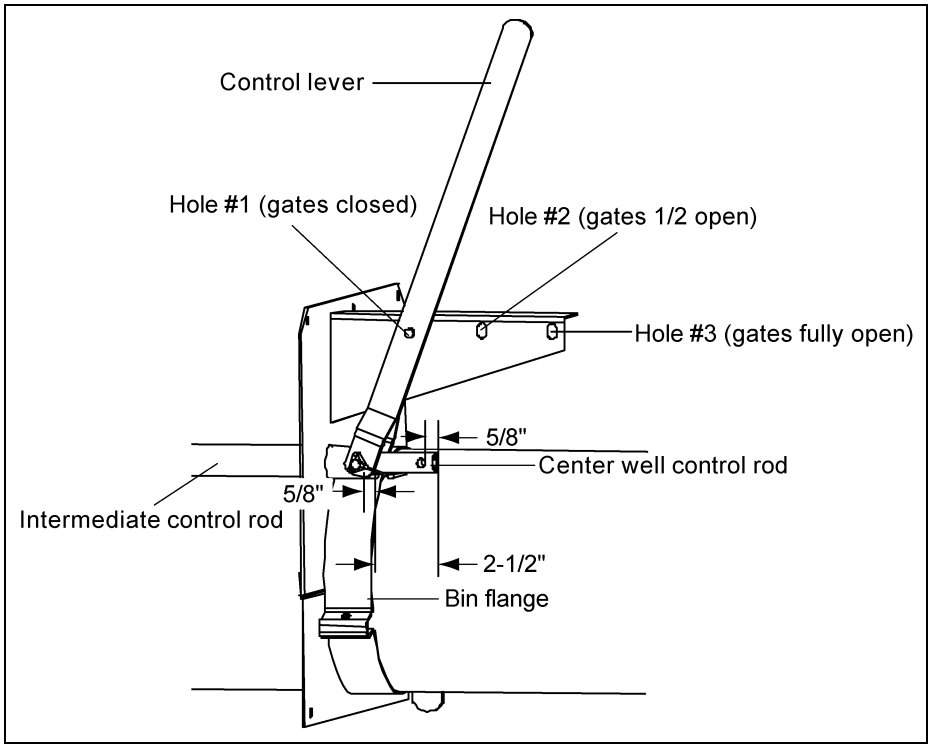



**Figure 3Q**

# Clutch Control Installation

A. Slide clutch control pipe through the bin flange and the support rings on the intermediate and center wells. Slide clutch control pipe into collar of the center well. (*See Figure 3R* and *Figure 3T*.)

B. Bolt clutch control pipe to collar of the center well using a 5/16" x 1-1/2" long bolt with a lock washer and non-lock nut.

C. Attach clamp to control pipe by sliding 5/16" x 1-3/4" long roll pin through clamp and control pipe. Fasten clamp handle by using two 5/16" x 3/4" carriage bolts, flat washers, lock washers and nuts. Install nuts so they secure the 5/16" x 1-3/4" long roll pin in place. (*See Figure 3S on Page 21*.)

D. Check operation of clutch by pulling the handle to engage the clutch and then pushing the handle to disengage. Control pipe should slide freely. Lock control pipe into disengaged position by tightening the bolt on the lock collar that is attached to the bin flange. (*See Figure 3E on Page 14*.)

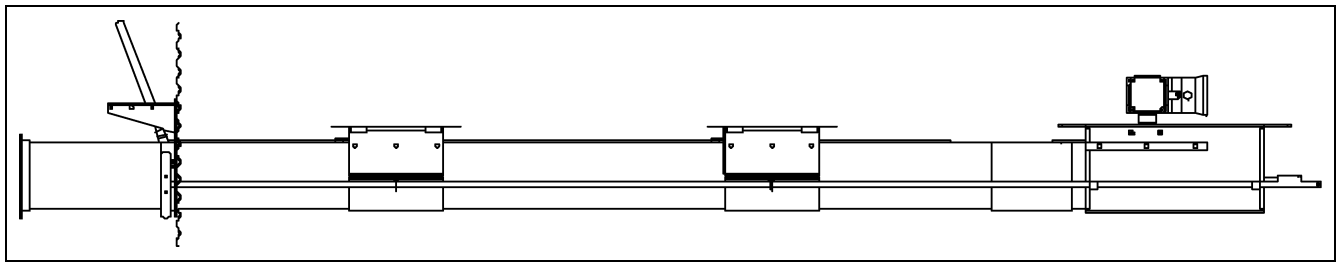


**Figure 3R**

# Clutch Control Installation (Continued)

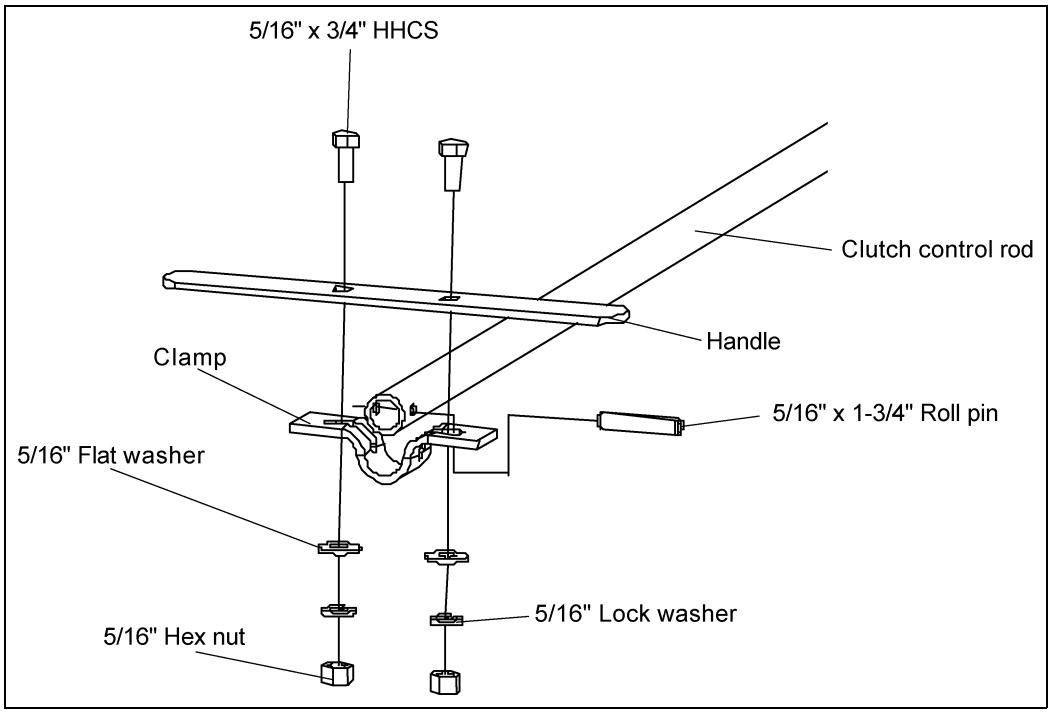



**Figure 3S**

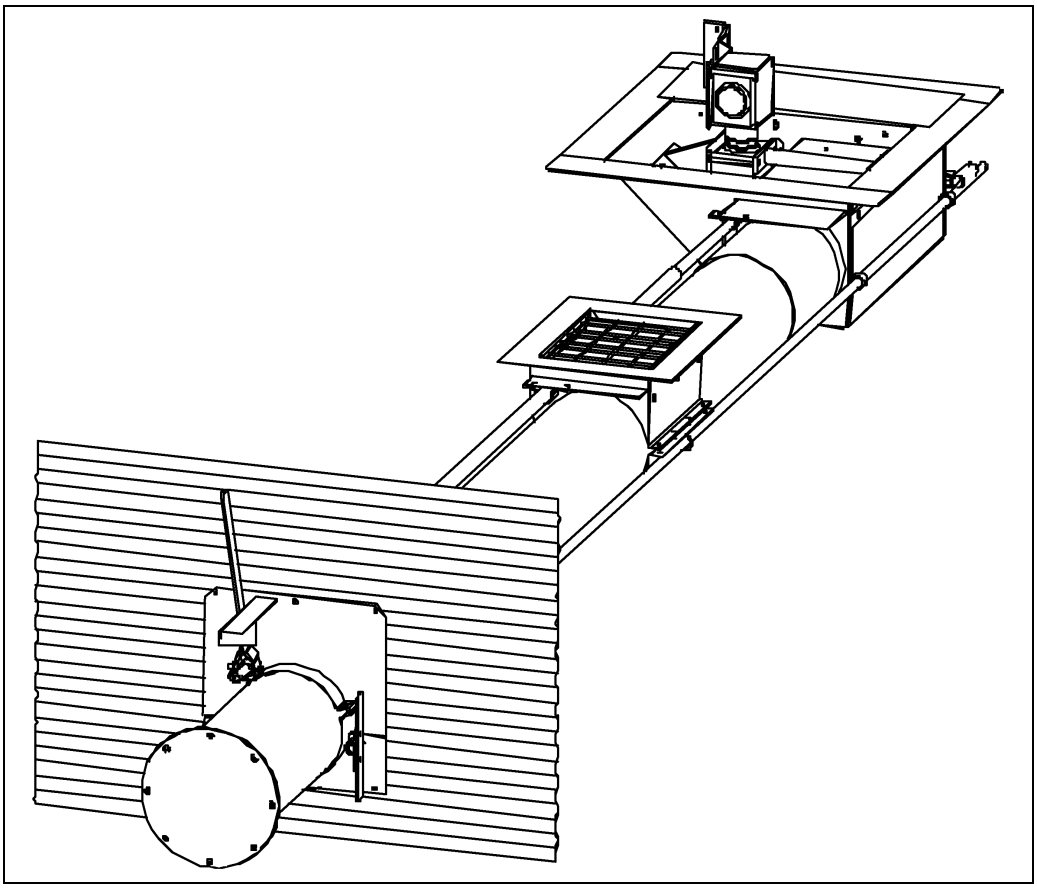


**Figure 3T**

# Install the Sweep Flighting

A. **Assemble the U-joint.**

1. Insert the stub into the U-joint.
2. Secure the U-joint stub using a 5/16" x 2" roll pin. Drive the pin in with a hammer. (*See Figure 3U*.)

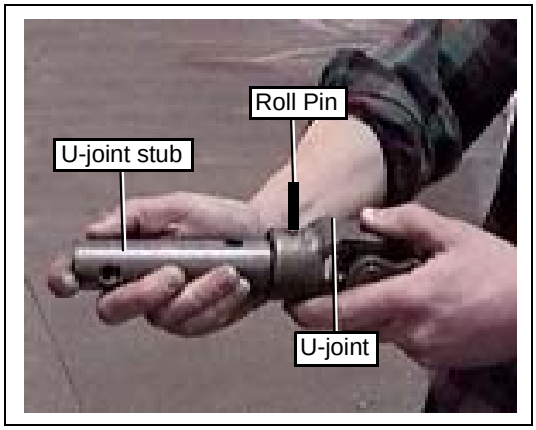



**Figure 3U**

B. **Attach the U-joint.**

1. Slide the U-joint onto the top gear box output shaft.
2. Secure the U-joint using a 5/16" x 2" roll pin. (*See Figure 3V* and *Figure 3W*.)

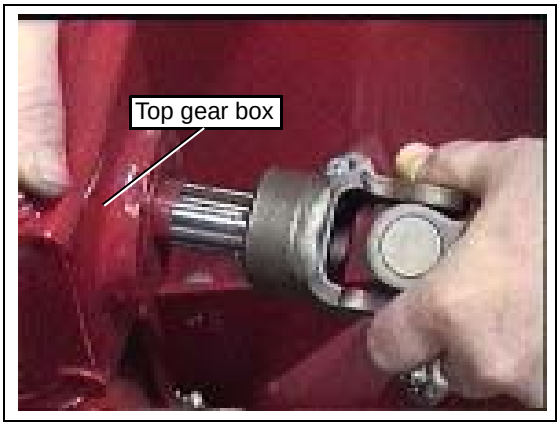



**Figure 3V**

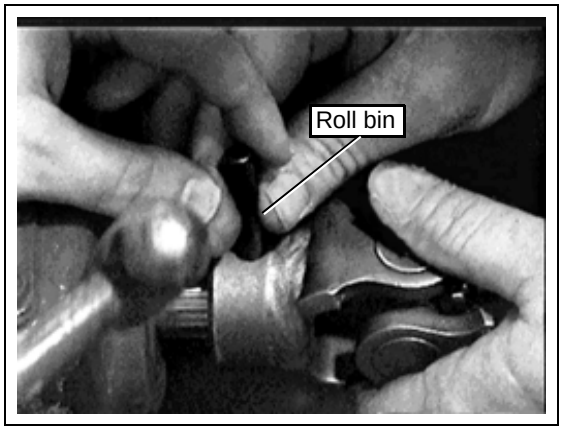



**Figure 3W**

# Install the Sweep Flighting (Continued)

C. **Install the Pivot Bracket.**

1. Attach the pivot bracket to the left side of the gear box using four (4) 3/8" x 1" bolts, flat washers, and lock washers. (*See Figure 3X* and *Figure 3Y*.)

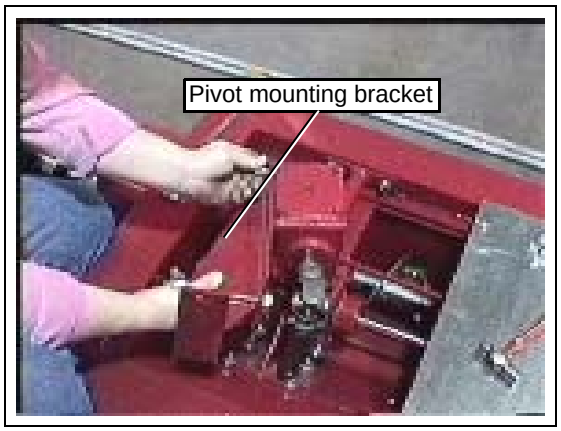



**Figure 3X**

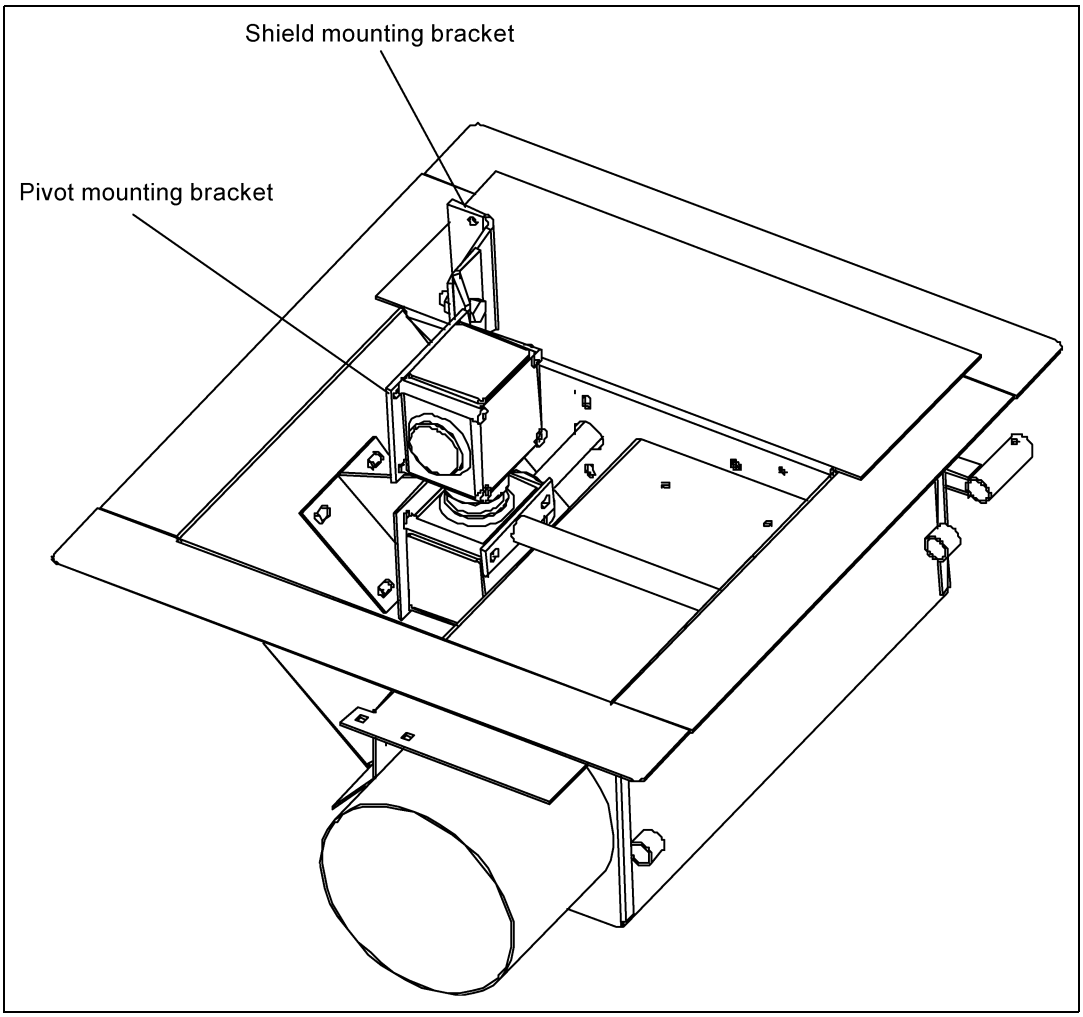



**Figure 3Y**

# Install the Sweep Flighting (Continued)

D. **Install the Flighting.**

1. Attach a flighting section to the U-joint stub located on the gear box. Secure it with bolts (*see Chart below*), lock washers and nuts.

| Tube Size | Bolt Size | Qty |
|---|---|---|
| 6" | 3/8" x 1-3/4" | 2 |
| 8" | 7/16" x 2-1/4" | 2 |
| 10" | 7/16" x 2-1/4" | 2 |

**NOTE:** *Use the Chart below to determine the number of flighting and shield sections needed for the length of sweep to be used.*

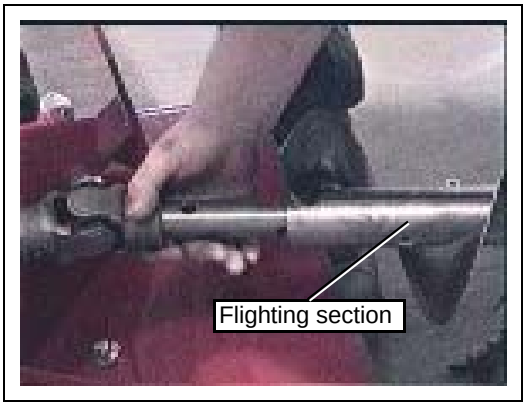



**Figure 3Z**

| Bin Size | # of Flighting and Shields Required | Lengths |
|---|---|---|
| 15' | 1 | 5' 6" |
| 18' | 1 | 7' 0" |
| 21' | 1 | 8' 6" |
| 24' | 1 | 4' 4" |
| | 1 | 5' 6" |
| 27' | 1 | 5' 6" |
| | 1 | 5' 10" |
| 30' | 1 | 5' 6" |
| | 1 | 7' 4" |
| 33' | 1 | 5' 10" |
| | 1 | 8' 6" |
| 36' | 1 | 7' 4" |
| | 1 | 8' 6" |
| 39' | 1 | 8' 6" |
| | 1 | 8' 10" |
| 42' | 1 | 4' 4" |
| | 1 | 7' 0" |
| | 1 | 7' 4" |
| 48' | 1 | 7' 0" |
| | 2 | 7' 4" |

# Install the Sweep Flighting (Continued)

E. **Install the Connecting Stub to Sweep Flight.**

1. Insert the connecting stub into the flighting. Secure it with bolts (*see Chart below*), lock washers and nuts. (*See Figure 3AA*.)

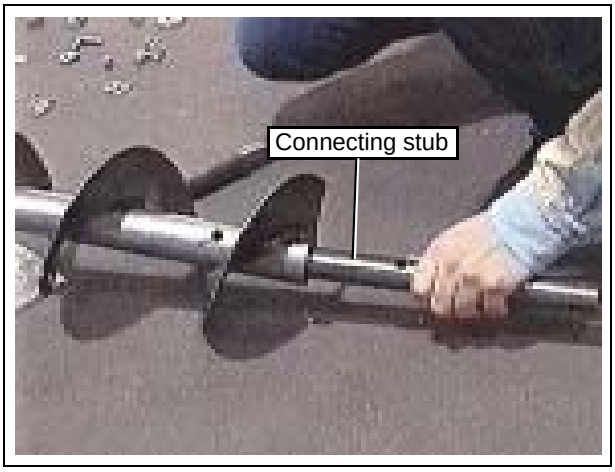



**Figure 3AA**

F. **Install the Bearing Bracket.**

| Tube Size | Bolt Size | Qty |
|---|---|---|
| 6" | 3/8" x 1-3/4" | 2 |
| 8" | 7/16" x 2-1/4" | 2 |
| 10" | 7/16" x 2-1/4" | 2 |

1. Place the hanger bearing bracket onto the connecting stub. (*See Figure 3AB*.)

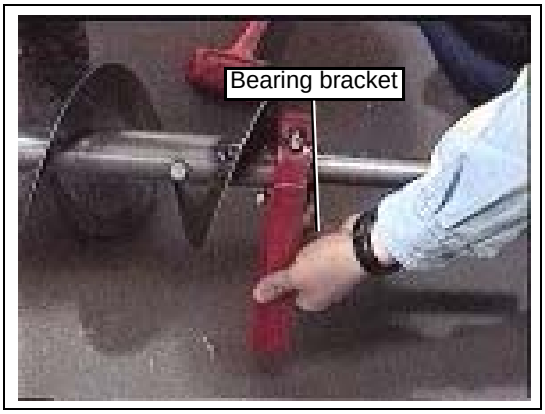



**Figure 3AB**

# Install the Sweep Flighting (Continued)

G. **Install the Sweep Flighting.**

1. Install the next section of flighting onto the connecting stub. Secure the flighting with bolts (*see Chart below*), and stover nuts.

| Tube Size | Bolt Size | Qty |
|---|---|---|
| 6" | 3/8" x 1-3/4" | 2 |
| 8" | 7/16" x 2-1/4" | 2 |
| 10" | 7/16" x 2-1/4" | 2 |

2. Repeat *Steps E* through *G* for all additional sections of flighting.


**Figure 3AC**

H. **Install the Flighting Shield.**

1. Install the first shield to the shield mounting bracket. Secure using two (2) 3/8" x 1-1/4" bolts, flat washers and nylon lock nuts. Make sure the nut is on the side of the slotted hole for adjustment. (*See Figure 3Y* and *See Figure 3AD*.)
2. Fasten the shield bracket to the pivot bracket on the gear box using one (1) 3/4" x 5-1/2" bolt, flat washer and lock nut.
3. Install the first and second section of flighting shield to the hanger bearing bracket (when applicable). Use two (2) 3/8" x 3" carriage bolts, lock washers and nuts to secure these together. (*See Figure 3AE*.)

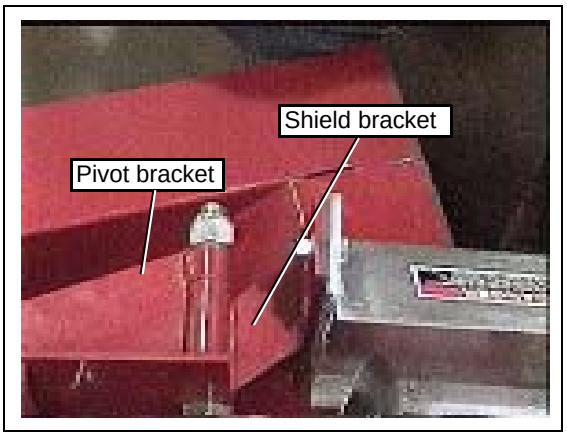



**Figure 3AD**

**Figure 3AE**

# Sweep Wheel Installation

A. Connect the reduction sweep wheel to the back shield using 3/8" x 1-3/4" HHCS bolt, 3/8" flat washer, and lock nuts. Orient the bushing with the bolt hole nearest the wheel. (*See Figure 3AF*.) Select one of the two holes in the flight and wheel shaft to line up with the holes in the bushing. Connect them all together using a 3/8" x 2-1/ 2" HHCS bolt with lock nut for 6" and a 3/8" x 3" HHCS bolt with lock nut for 8". Use spacers as necessary to connect the wheel angle bracket to the back shield.

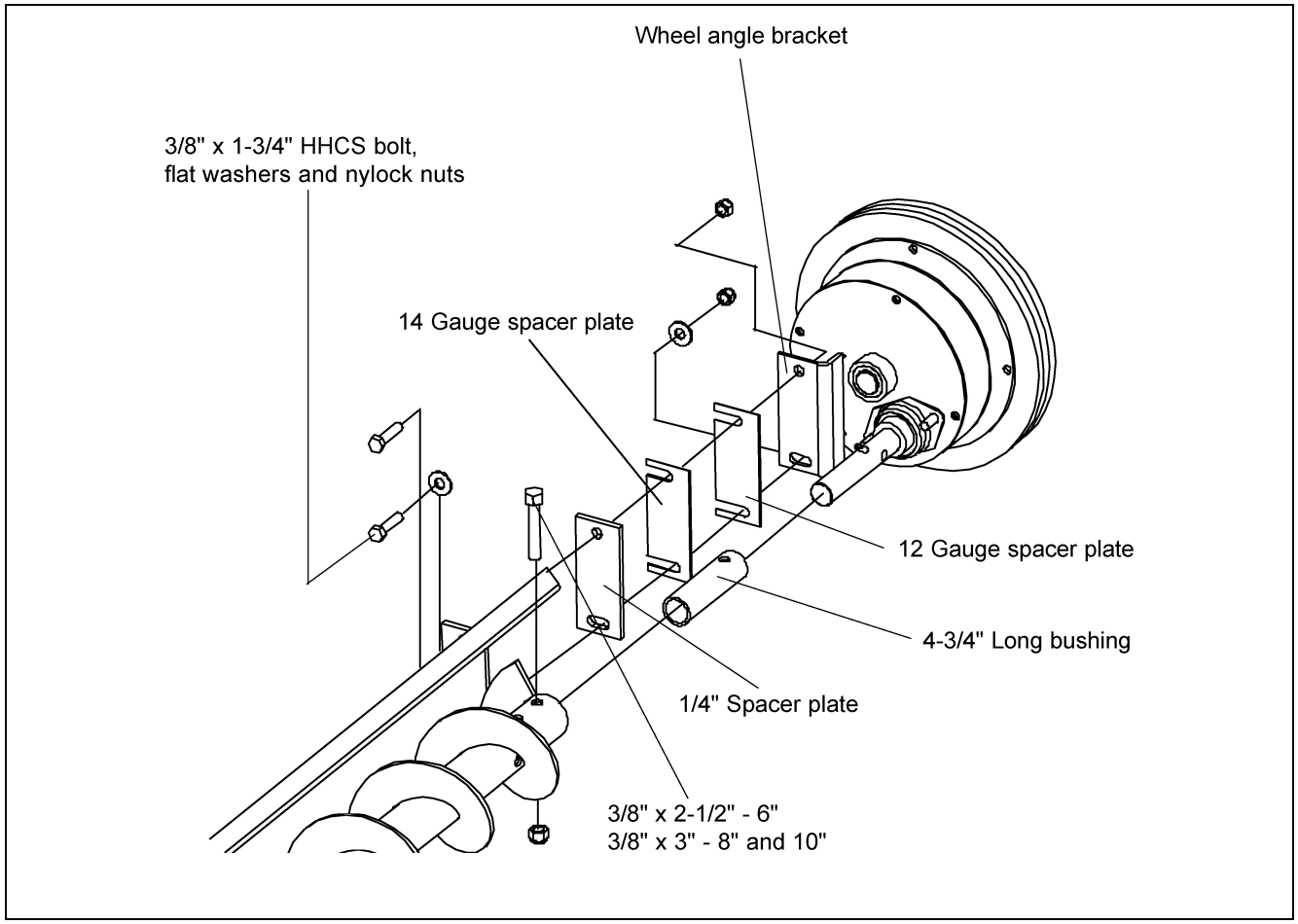



**Figure 3AF** *Reduction Wheel*

# Power Recommendations

A. The horsepower recommendations contained in this manual are for augering reasonably dry grain. High moisture grain, above 15%, will require greater power if maximum capacity is to be maintained. The maximum possible capacity will be less with high moisture grain that with dry grain. Use an electric motor of the correct size that operates at 1750 RPM. **DO NOT** use a motor size greater than what is shown for the largest bin size in your column.

B. Consideration should be given to the proper size auger for a batch drying or any intermittent type operations. Stopping and restarting augers under full load may damage the auger. It is better to use a larger diameter auger and reduce its load level than to use a small diameter auger to big loads. To make start-up easier and to convey more efficiently, keep the auger from absolute filling.

**NOTE:** *Auger capacity and performance fluctuates greatly under varying conditions such as moisture content, type of grain/commodity, amount of foreign matter and speed. Twenty-five percent (25%) moisture may cut capacity by as much as 40% under some conditions.*

**Horsepower Chart**

| Bin Diameter | Horizontal Head | | | 25 Degree Head | | | Vertical Head | | |
|---|---|---|---|---|---|---|---|---|---|
| | 6" | 8" | 10" | 6" | 8" | 10" | 6" | 8" | 10" |
| 15' | 3 | 3 | - | 3 | 5 | - | 5 | 5 | - |
| 18' | 3 | 3 | - | 3 | 5 | - | 5 | 5 | - |
| 21' | 3 | 5 | - | 5 | 5 | - | 5 | 7-1/2 | - |
| 24' | 3 | 5 | 7-1/2 | 5 | 5 | 10 | 5 | 7-1/2 | 10 |
| 27' | 5 | 5 | 7-1/2 | 5 | 5 | 10 | 5 | 7-1/2 | 10 |
| 30' | 5 | 5 | 7-1/2 | 5 | 7-1/2 | 10 | 7-1/2 | 7-1/2 | 15 |
| 33' | 5 | 5 | 7-1/2 | 5 | 7-1/2 | 10 | 7-1/2 | 7-1/2 | 15 |
| 36' | 5 | 5 | 10 | 5 | 7-1/2 | 10 | 7-1/2 | 7-1/2 | 15 |
| 39' | - | 7-1/2 | 10 | - | 10 | 15 | - | - | - |
| 42' | - | 7-1/2 | 10 | - | 10 | 15 | - | - | - |
| 48' | - | 7-1/2 | 10 | - | 10 | 15 | - | - | - |

## Power Recommendations (Continued)

DANGER

1. ***Electric motors and controls must be installed by a qualified electrician and must meet the standards set by the National Electrical Code and all local and state codes.***
2. ***A main power disconnect switch capable of being locked only in the OFF position shall be provided. This shall be locked whenever work is being done on the auger.***
3. ***A magnetic starter should be used to protect the motor when starting and stopping. It should stop the motor in case of power interruption, conductor fault, low voltage, circuit interruption or motor overload. The motor must be restarted manually. If a motor with a built-in thermal overload protection is used, use only one with a manual reset.***
4. ***The motor starting controls must be located outside the bin. Locate the motor starting controls outside the bin but near the bin door so the operator has full view of the operation inside the bin.***
5. ***Disconnect power before resetting motor overloads.***
6. ***Reset and motor starting controls must be located so that the operator has full view of the entire operation.***
7. ***Make certain electric motors are grounded.***
8. ***Shut OFF power to adjust, service or clean.***

## Before Filling the Bin

A. Close the center well and the intermediate well gates. Push the control pipes to close. (*See Figure 3O on Page 18*.)

B. Disengage the power sweep clutch control. Push to disengage.

C. Position the sweep auger alongside the intermediate wells.


**DO NOT** enter the grain bin unless all power driven equipment has been shut down and locked out. Never enter the grain bin unless monitored by another person.

**DO NOT** enter the bin if the grain has bridged or has flowed abnormally out of the bin as shown in *Figure 4A* and *Figure 4B*. Suffocation can occur if grain suddenly breaks loose, burying persons who are inside the bin.

## Before Filling the Bin (Continued)

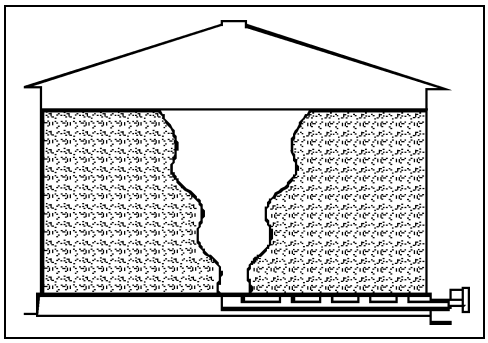


**Figure 4A**

Abnormal grain flow can easily fall and bury a person, suffocating them. **DO NOT** enter a bin with abnormal grain flow.

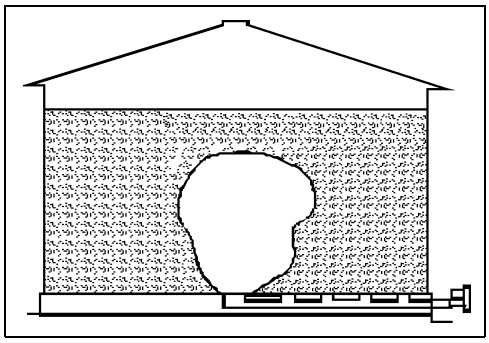


**Figure 4B**

Bridged grain can easily break loose and bury a person, suffocating them. **DO NOT** enter a bin with bridged grain.

## Perform Pre-Start Checks

DANGER

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

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

A. Make sure ALL belts are tensioned properly.

B. Make sure ALL shields are in place and that the belt(s) and pulley(s) are able to move freely.

CAUTION

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

C. Inspect the drive unit for any problems or potential problems.

D. 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.

E. Before starting the auger for the first time, make sure that all parts are assembled correctly according to the instructions in this manual.

WARNING

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

**CAUTION** ***DO NOT start/stop the auger while it is under load, this may cause the auger to "jam".***

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

**CAUTION** ***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. Visually inspect the auger periodically during operation.***

A. Start the unloading auger. The motor is located on the power head outside the bin on the unload tube. To determine the horsepower needed for the equipment, use the *Horsepower Chart on Page 28*.

B. The safety snap pin should be inserted through the center well control rod and the control lever. Make sure it has NOT been inserted through the intermediate control rod. (*See Figure 5C on Page 32*.)

C. Place control lever in the second slot and pull lever to open gradually until the desired flow is established. (*See Figure 5C*.) It should not be necessary to open the gate more than 3" to 6".

D. Always close center well gate and allow the unloader to clean-out before stopping the unloader.

E. When grain flow stops from the center well, close the center well gate. Insert the safety snap pin through the control lever and both the intermediate and center well control rods as shown in *Figure 5D*. The remaining grain in the bin should look similar to the pattern shown in *Figure 5A*.

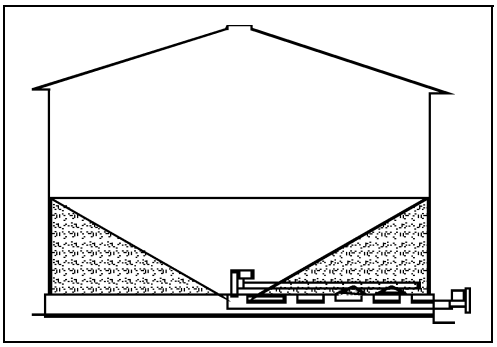


**Figure 5A**

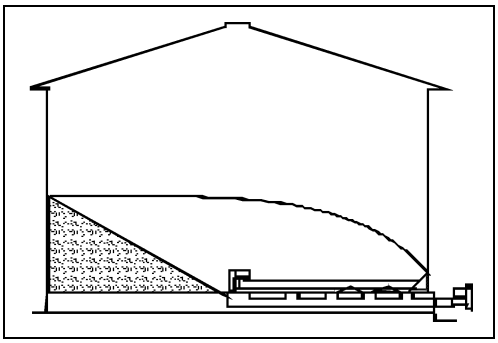


**Figure 5B**

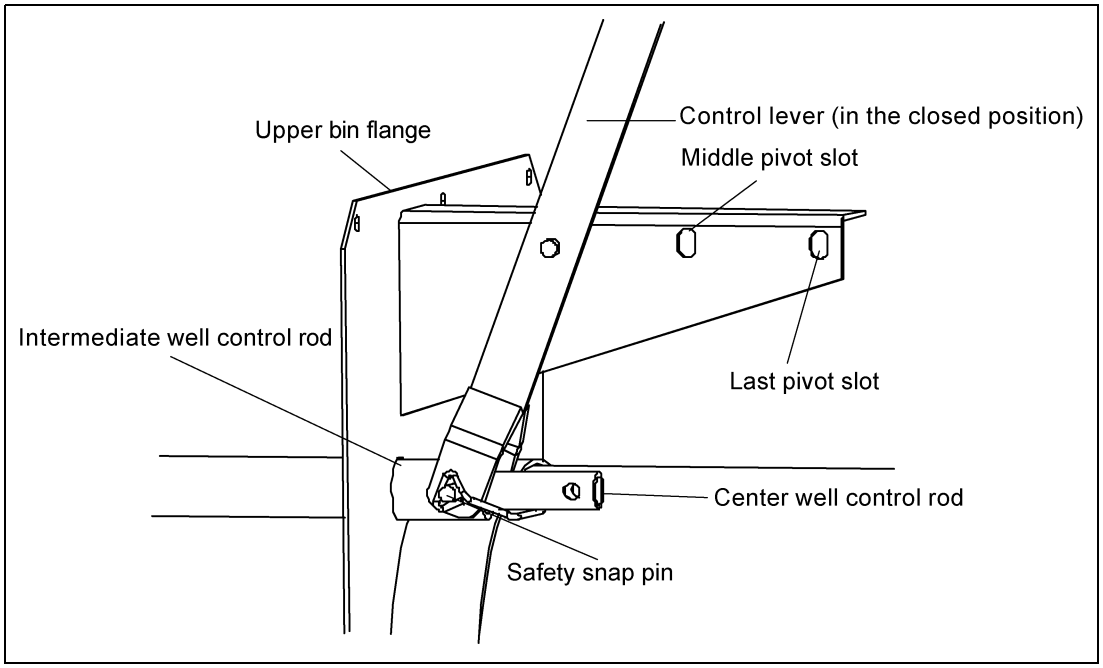



**Figure 5C**

F. Gradually open gates using the middle pivot slot until the desired flow of grain is reached. It should not be necessary to open the gates more than 2 to 4 inches. If gates need to be opened further, use the last slot for more leverage. (*See Figure 5C*.) The remaining grain in the bin should look similar to the pattern shown in *Figure 5B on Page 31*.

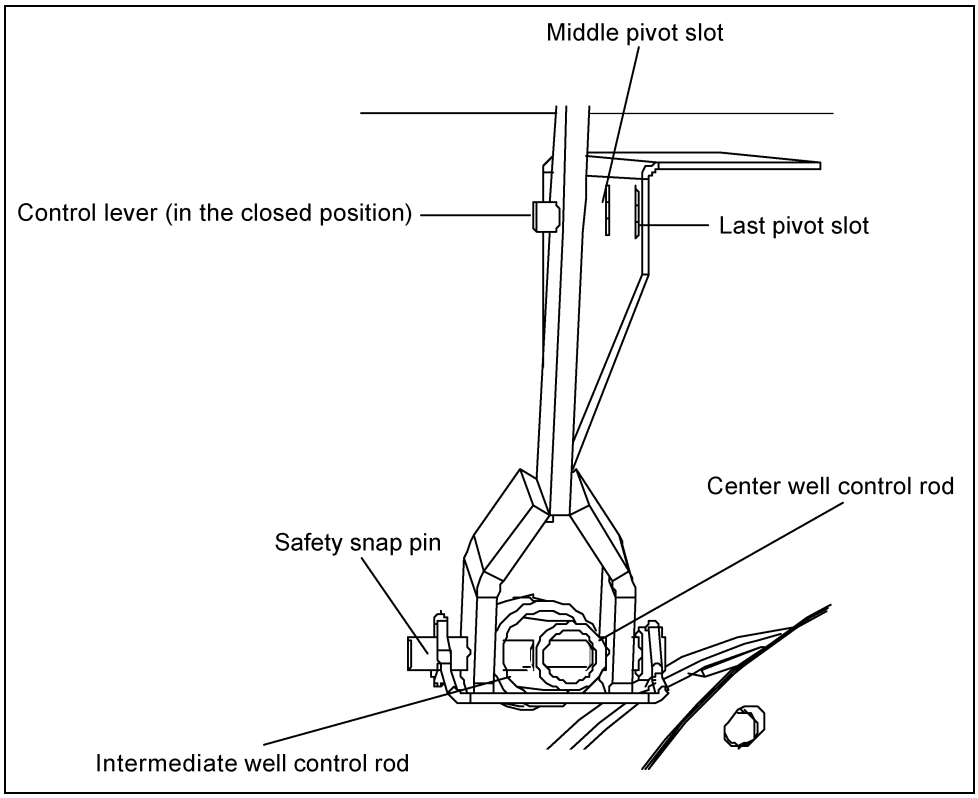



**Figure 5D**

# Engaging the Clutch for Bin Sweep

A. All power should be OFF and locked out before starting.

B. Open belt guard and rotate the large sheave while pulling on the clutch control. (Make sure the setscrew has been loosened.) The clutch control rod will move as the clutch engages. (*See Figure 5E*.)

C. Tighten setscrew to hold the clutch engaged. Close the belt guard.

**CAUTION** ***Center well slide gate must be fully open during sweep operation.***

D. Make sure all wells are fully open.

E. Restore power and start power sweep motor. The sweep auger will start along with the unloading auger. The sweep auger will remain on the floor and clear most grain in one pass. A second pass will clean-out additional grain before final clean-out.

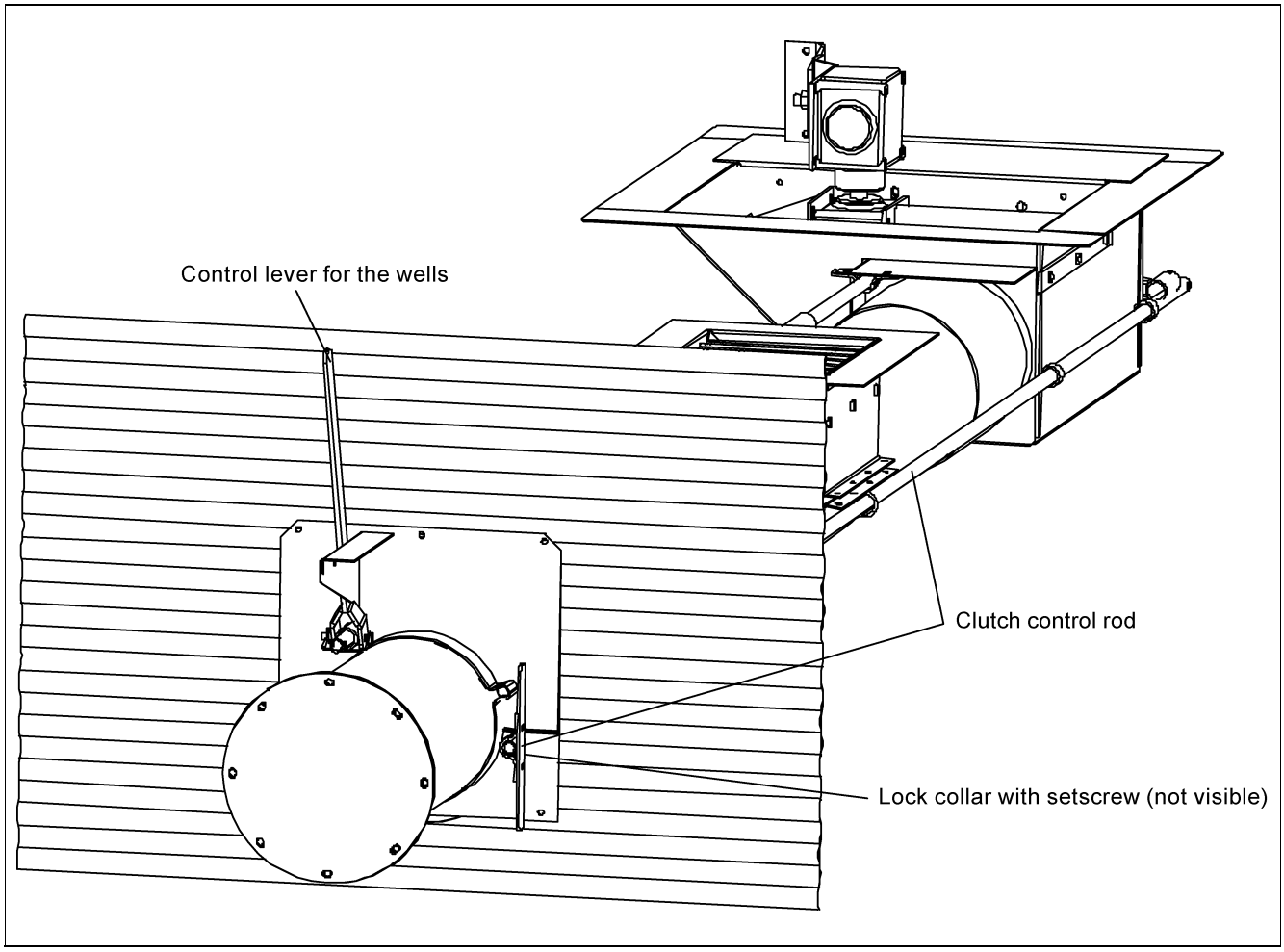



**Figure 5E**

# Final Clean-Out

The following procedure is recommended for cleaning the floor of the bin after the sweep auger has removed as much grain as possible.

> **DANGER** ***DO NOT enter a grain bin unless all power driven equipment has been shut down and locked out.***

1. Clean (scoop and sweep by hand) the outer area of the floor into a circular pile towards the center of the bin. (*See Figure 5F*.)
2. Get out of the bin.
3. Make sure everyone is outside the bin and clear of the equipment and start the under floor unloader and the sweep auger. In a short time, the circular pile towards the center of the bin will have been removed.
4. Stop the equipment and lock out power.
5. Be sure and lock out all power each time before entering the bin for additional cleaning. With each successive cleaning, the circular pile of remaining grain will diminish until it is eventually removed completely.
6. Repeat *Steps 1* through *4* until all grain has been removed from the bin.

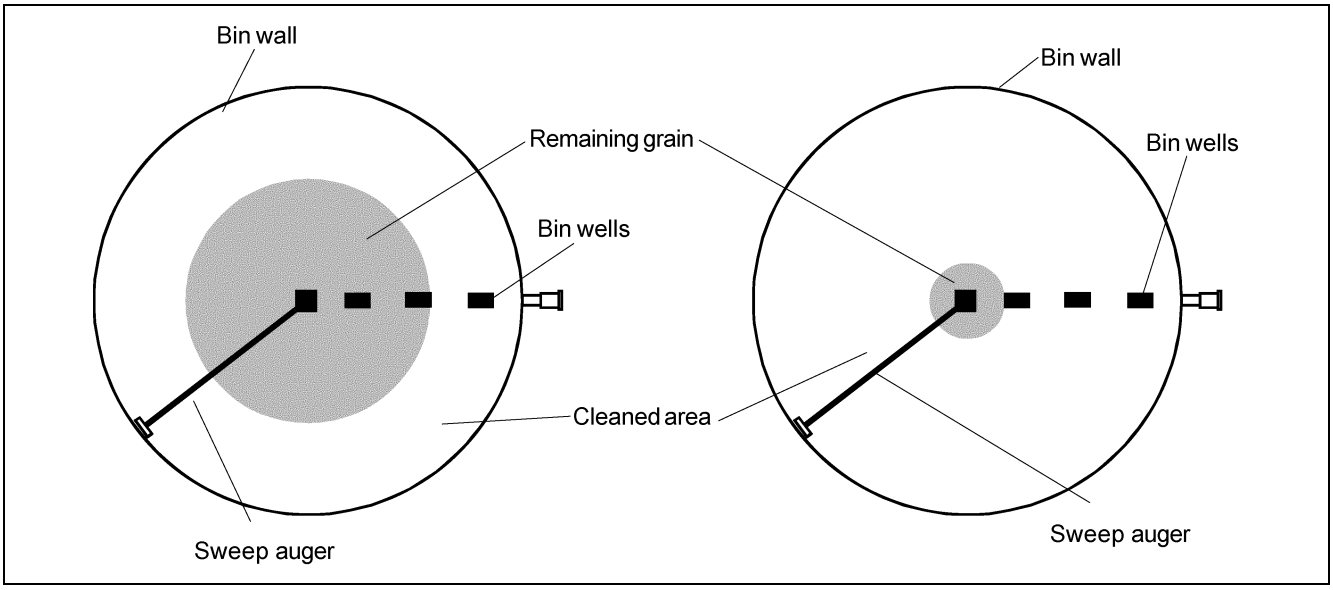



**Figure 5F** *Top View of Bin*

> **DANGER** ***Keep out of bin while sweep is in operation. The sweep auger moves rapidly around the bin when the bin is nearly empty.***

> **DANGER** ***Stay clear of the under floor unloader at the bin wells. The under floor unloader is exposed at these locations in the bin floor.***

**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.


***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.***

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.

**Storage Preparation.**

1. Close all wells to the discharge auger.
2. Position the direct gear drive sweep directly over the intermediate wells.

**NOTE:** *Make sure that the clutch control rods are disengaged.*

3. Be sure the unload tube is empty.
4. Shut down the auger.
5. Make sure all fasteners are tight.


***DO NOT enter the grain bin unless all power driven equipment has been shut down.***

# Maintain the Auger

DANGER

***Properly maintaining this equipment will help to ensure it continues to work properly. Failure to properly maintain this equipment may result in damage to the equipment or may cause SERIOUS INJURY or DEATH to the operator.***

***Failure to properly maintain this equipment may also be a misuse of the equipment. Any misuse of the equipment may void the warranty.***

A. The U-joint must be lubricated with SAE multipurpose grease every 10 operational hours, or after each use.

B. When it is time to re-lubricate the gear boxes, do so as follows:
**Upper:** Fill about half-full, or add approximately 14 fl. oz.
**Lower:** Fill about half-full, or add approximately 14 fl. oz.

C. Use caution when repairing or replacing equipment parts.

D. Make sure ALL decals are legible and tightly attached to the auger. If necessary, replace them **FREE OF CHARGE** by contacting the dealer or the manufacturer.

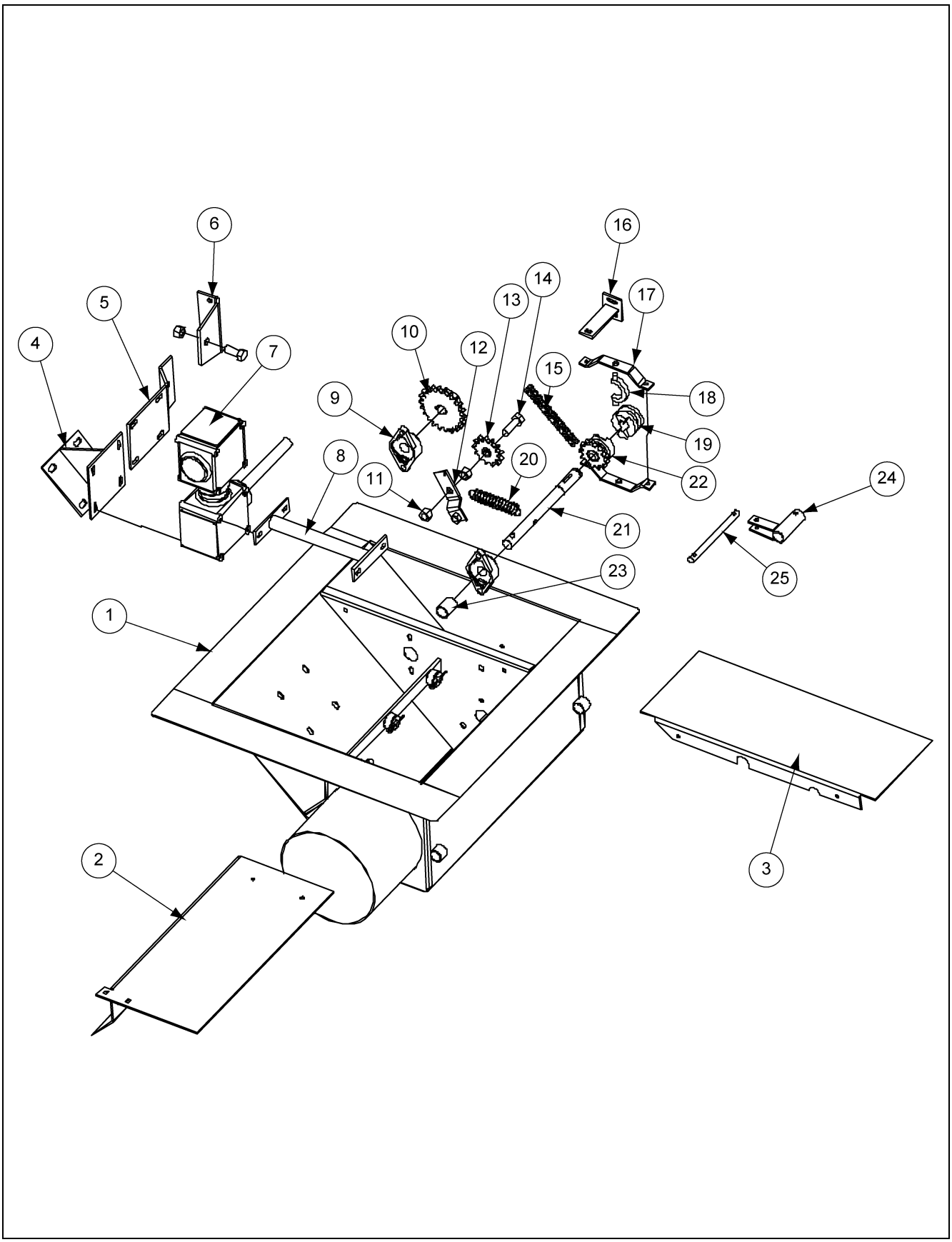
E. Mount controls for any electric motors at a safe distance from the machine and in a location accessible in case of an emergency.

F. Make sure ALL electrical wiring is not damaged and that it meets proper wiring codes.

G. Make sure ALL components are in good working condition before use.

| Problem | Possible cause | Solution |
|---|---|---|
| Vibration auger | The drive belt may be too tight, binding the head stub and flight. Damage can occur to the auger flighting, causing noise. Damage usually is caused from foreign material being run through the auger. | Adjust the drive belt to the proper tightness. |
| | | It may be necessary to remove the flighting for inspection. |
| Low capacity | There may not be enough grain reaching the auger. | Make sure the intake has not bridged over, restricting flow. The flighting at the intake should be covered with grain for maximum capacity. |
| | The auger is moving too slowly. | Check the auger speed. Low capacity will result from speeds slower than recommended. |
| Plugged auger | The auger may be “jamming” because too much grain is reaching the auger. | 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 may be desirable. |
| | 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. | Remove any foreign material in the auger. |
| | The discharge end may be plugged. | Unplug any plugs at the discharge end of the auger. |
| Sweep flight and shield do not move | Too much drag. | Check the clearance between the shield and the bin floor. Make sure there is room for the auger to move. Adjusting the shield may be necessary. |
| | Worn sweep wheel. | The sweep wheel wears down over time. Replace the wheel. |
| | Unconditioned grain. | Moisture and/or insects can cause the grain to harden or “cake-up”. Disconnect and lock out the power to the auger before going into the bin to correct this problem or to address any other problem. |

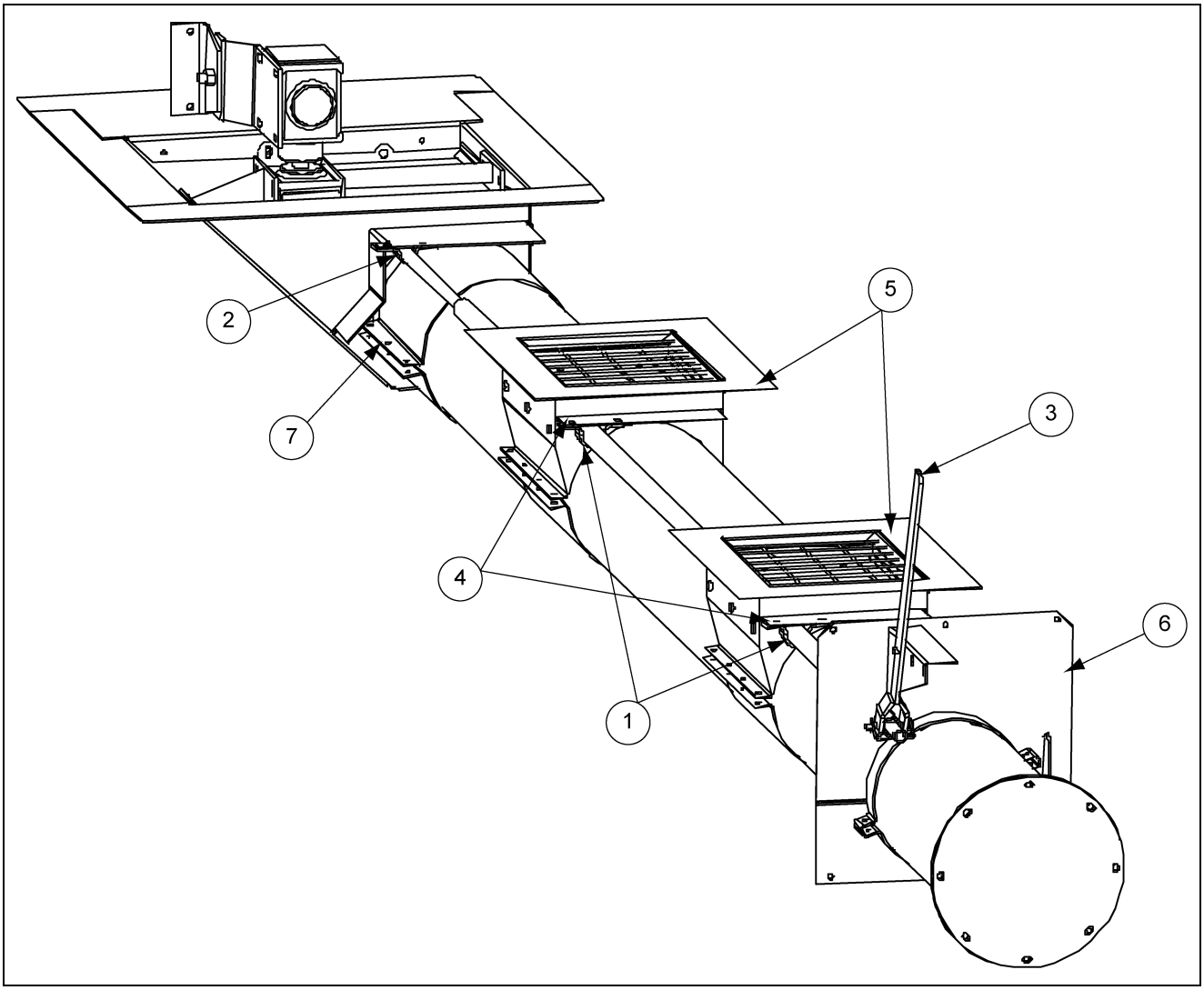
# Center Well Parts



## Center Well Parts List

| Ref # | Part # | Description |
|---|---|---|
| 1 | GK4440 | 10" Weldment |
| 1 | GK1692 | 8" Weldment |
| 1 | GK1634 | 6" Weldment |
| 2 | GC07898 | 10" Slide Gate |
| 2 | GK1687 | 6" and 8" Slide Gate |
| 3 | GK5009 | 10" Cover Plate |
| 3 | GK5215 | 6" and 8" Cover Plate |
| 4 | GK4429 | 10" Gear Box Mounting Bracket |
| 4 | GK1689 | 6" and 8" Gear Box Mounting Bracket |
| 5 | GK4460 | 8" and 10" Shield Bracket |
| 5 | GK4460 | 6" Shield Bracket |
| 6 | GK4461 | 8" and 10" Bracket Attachment Plate |
| 6 | GK4461 | 6" Bracket Attachment Plate |
| 7 | GK52081 | Gearbox w/Clockwise Rotation - 6", 8" and 10" |
| 8 | GK4430 | 10" Rod Bracket Assembly |
| 8 | GK1688 | 6" and 8" Rod Bracket Assembly |
| 9 | GK4410 | 2 Hole Bearing Flange |
| 10 | GK1110 | Sprocket #50 22T 1" Bore |
| 11 | S-6494 | 5/8"-11 Deformed Lock Nut Zinc Grade 5 |
| 12 | GK1702 | Center Well Pivot Bracket |
| 13 | GK1701 | Sprocket #50 13T 5/8" Bore |
| 14 | S-4329 | 5/8"-11 X 2" HHCS Bolt Zinc Grade 8 |
| 15 | GK1705 | #50 Roller Chain X 43p |
| 16 | GK1693 | Clutch Pivot Bracket |
| 17 | GK1697 | Clutch Yoke Bracket |
| 18 | GK1698 | Clutch Yoke |
| 19 | GK1696 | Clutch Yoke Driving JAW |
| 20 | GK1704 | Spring Return |
| 21 | GK1703 | Clutch Drive Stub |
| 22 | GK1699 | Clutch Yoke Driven JAW Assembly |
| 23 | GK1700 | Center Well Bearing Spacer |
| 24 | GK1695 | Clutch Control Rod |
| 25 | GK1923 | 10" Clutch Control Arm |
| 25 | GK1694 | 6" and 8" Clutch Control Arm |

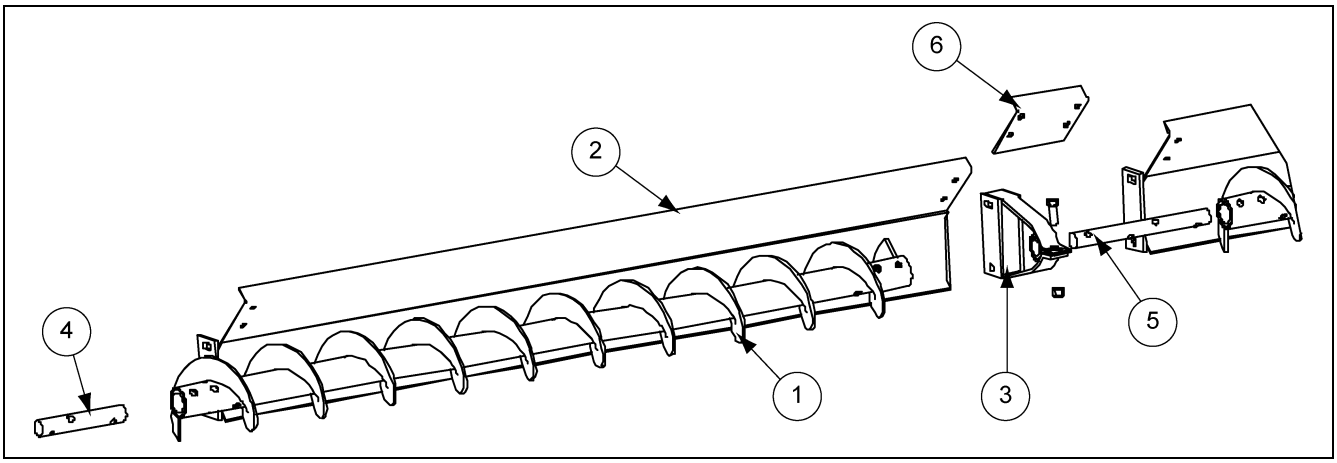
# Control Rod and Well Parts




## Control Rod and Well Parts List

| Ref # | Part # | Description |
|---|---|---|
| 1 | GC00174 | Control Gate Clamp w/Dimple |
| 2 | GK1726 | Center Well Gate Clamp |
| 3 | GC01192 | Control Pipe Gate Handle |
| 4 | GK5179 | 6" Intermediate Well Gates |
| 4 | GK5184 | 8" Intermediate Well Gates |
| 4 | GK4968 | 10" Intermediate Well Gates |
| 5 | GK5180 | 6" Intermediate Well Flange |
| 5 | GK5185 | 8" Intermediate Well Flange |
| 5 | GK4971 | 10" Intermediate Well Flange |
| 6 | GK5276 | 6" Bin Flange |
| 6 | GK5277 | 8" Bin Flange |
| 6 | GK5046 | 10" Bin Flange |
| 7 | GK1624 | 6" Connecting Band |
| 7 | GK1677 | 8" Connecting Band |
| 7 | GK1796 | 10" Connecting Band |

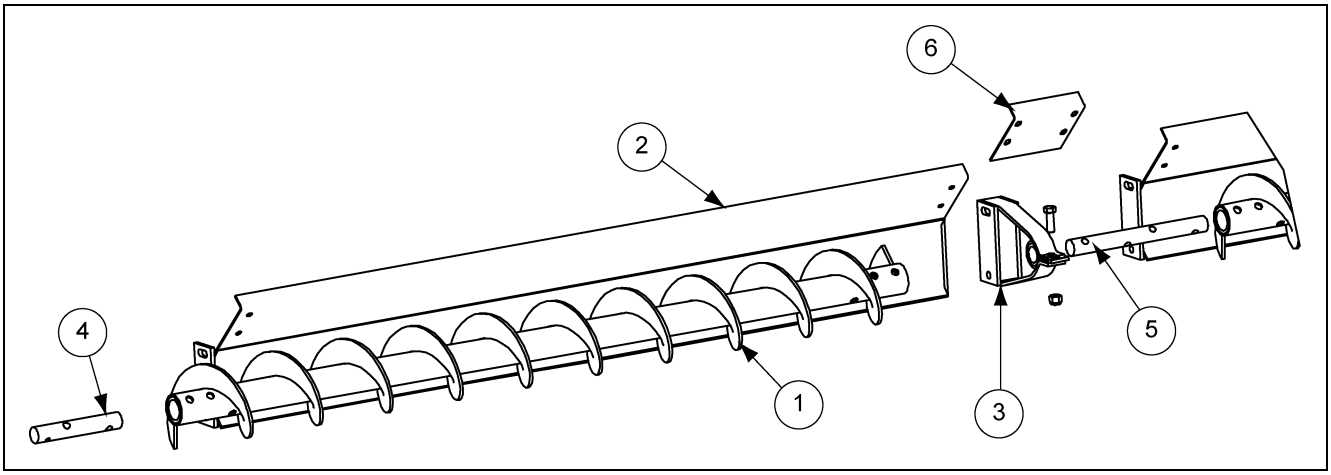
# 6" Flight and Shields




## 6" Flight and Shields Parts List

| Ref # | Bundle # | Part # | Description |
|---|---|---|---|
| | GK5680 | 6" x 5' 6" R.H. Bundle | |
| 1 | | GK5674 | 6" x 5' 6" Flight Weldment |
| 2 | | GK5687 | 6" x 5' 6" Shield Assembly |
| | GK5681 | 6" x 7' 0" R.H. Bundle | |
| 1 | | GK5675 | 6" x 7' 0" Flight Weldment |
| 2 | | GK5688 | 6" x 7' 0" Shield Assembly |
| | GK5682 | 6" x 8' 6" R.H. Bundle | |
| 1 | | GK5676 | 6" x 8' 6" Flight Weldment |
| 2 | | GK5689 | 6" x 8' 6" Shield Assembly |
| | GK5239 | 6" x 4' 4" R.H. Bundle | |
| 1 | | GK5363 | 6" x 4' 4" Flight Weldment |
| 2 | | GK5605 | 6" x 4' 4" Shield Assembly |
| | GK5240 | 6" x 5' 10" R.H. Bundle | |
| 1 | | GK2134 | 6" x 5' 10" Flight Weldment |
| 2 | | GK4537 | 6" x 5' 10" Shield Assembly |
| | GK5241 | 6" x 7' 4" R.H. Bundle | |
| 1 | | GK5364 | 6" x 7' 4" Flight Weldment |
| 2 | | GK5606 | 6" x 7' 4" Shield Assembly |
| | GK5242 | 6" x 8' 10" R.H. Bundle | |
| 1 | | GK4538 | 6" x 8' 10" Flight Weldment |
| 2 | | GK5366 | 6" x 8' 10" Shield Assembly |
| 3 | - | GK1623 | Hanger Bearing Bracket |
| 4 | | GK1622 | 6" Stub Connector |
| 5 | | GK1650 | 6" Connecting Stub |
| 6 | | GK4229 | Splicer Plate for Shield |

# 8" and 10" Flight and Shields




## 8" and 10" Flight and Shields Parts List

| Ref # | Bundle # | Part # | Description |
|---|---|---|---|
| | GK5243 | 8"/10" x 4' 4" R.H. Bundle | |
| 1 | | GK5367 | 8"/10" x 4' 4" Flight Weldment |
| 2 | | GK5757 | 8"/10" x 4' 4" Shield Assembly |
| | GK5683 | 8"/10" x 5' 6" R.H. Bundle | |
| 1 | | GK5677 | 8"/10" x 5' 6" Flight Weldment |
| 2 | | GK5690 | 8"/10" x 5' 6" Shield Weldment |
| | GK5244 | 8"/10" x 5' 10" R.H. Bundle | |
| 1 | | GK5368 | 8"/10" x 5' 10" Flight Weldment |
| 2 | | GK4740 | 8"/10" x 5' 10" Shield Assembly |
| | GK5245 | 8"/10" x 7' 4" R.H. Bundle | |
| 1 | | GK5369 | 8"/10" x 7' 4" Flight Weldment |
| 2 | | GK5756 | 8"/10" x 7' 4" Shield Assembly |
| | GK5685 | 8"/10" x 8' 6" R.H. Bundle | |
| 1 | | GK5679 | 8"/10" x 8' 6" Flight Weldment |
| 2 | | GK5692 | 8"/10" x 8' 6" Shield Assembly |
| | GK5246 | 8"/10" x 8' 10" R.H. Bundle | |
| 1 | | GK5370 | 8"/10" x 8' 10" Flight Weldment |
| 2 | | GK4745 | 8"/10" x 8' 10" Shield Assembly |
| | GK5684 | 8"/10" x 7' 0" R.H. Bundle | |
| 1 | | GK5538 | 8"/10" x 7' 0" Flight Weldment |
| 2 | | GK5691 | 8"/10" x 7' 0" Shield Assembly |
| 3 | - | GK1675 | Hanger Bearing Bracket |
| 4 | | GK1678 | 6" Stub Connector |
| 5 | | GK1736 | 6" Connecting Stub |
| 6 | | GK4229 | Splice Plate for Shield |

# Wells, Hardware and Control Rods

### Unload Tube w/Intermediate Well and End Cap

| Bin Size | 10" | 8" | 6" | Length of Tube | # of Int. Wells |
|---|---|---|---|---|---|
| 15' | | GK5228 | GK5220 | 8' | 1 Intermediate Well |
| 18' | | GK5229 | GK5221 | 10' | |
| 21' | | GK5230 | GK5222 | 11' | 2 Intermediate Wells |
| 24' | GK5000 | GK5231 | GK5223 | 12' 6" | |
| 27' | GK5001 | GK5232 | GK5224 | 14' | |
| 30' | GK5002 | GK5233 | GK5225 | 15' 6" | |
| 33' | GK5003 | GK5234 | GK5226 | 17' 6" | 3 Intermediate Wells |
| 36' | GK5004 | GK5235 | GK5226 | 18' 6" | |
| 39' | GK5005 | GK5236 | GK5227 | 20' | |
| 42' | GK5006 | GK5237 | | 22' | 4 Intermediate Wells |
| 48' | GK5007 | GK5238 | | 25' | |

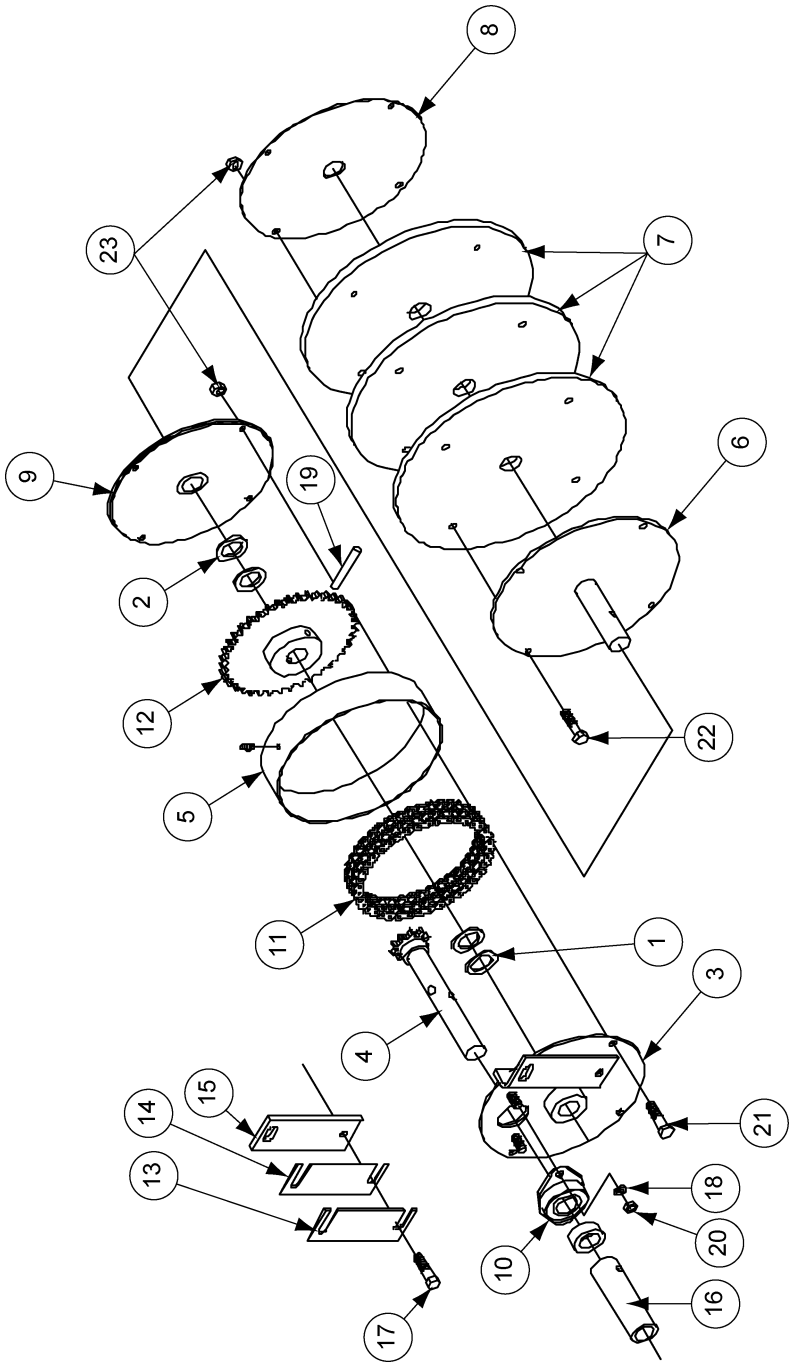
### Hardware Packages

| Part # | Description |
|---|---|
| GC08604 | NSB - BOP for 6", with 1 Intermediate Well (15' and 18' Bins) |
| GC08605 | NSB - BOP for 8", with 1 Intermediate Well (15' and 18' Bins) |
| GC09021 | NSB - BOP for 6", with 2 Intermediate Wells (21' Bins) |
| GC09022 | NSB - BOP for 8", with 2 Intermediate Wells (21' Bins) |
| GC08606 | NSB - BOP for 6", with 2 Intermediate Wells (24', 27' and 30' Bins) |
| GC08607 | NSB - BOP for 8", with 2 Intermediate Wells (24', 27' and 30' Bins) |
| GC08608 | NSB - BOP for 10", with 2 Intermediate Wells (24', 27' and 30' Bins) |
| GC08609 | NSB - BOP for 6", with 3 Intermediate Wells (33', 36' Bins) |
| GC08610 | NSB - BOP for 8", with 3 Intermediate Wells (33', 36' and 39' Bins) |
| GC08611 | NSB - BOP for 10", with 3 Intermediate Wells (33', 36' and 39' Bins) |
| GC08612 | NSB - BOP for 8", with 4 Intermediate Wells (42' and 48' Bins) |
| GC08613 | NSB - BOP for 10", with 4 Intermediate Wells (42' and 48' Bins) |

### Control Rod Bundles

| Part # | Description |
|---|---|
| GK5329 | NSB Control Rod for 14'-16' |
| GK5330 | NSB Control Rod for 17'-19' |
| GK5331 | NSB Control Rod for 20'-22' |
| GK5332 | NSB Control Rod for 23'-25' |
| GK5333 | NSB Control Rod for 26'-28' |
| GK5334 | NSB Control Rod for 29'-31' |
| GK5335 | NSB Control Rod for 33' |
| GK5336 | NSB Control Rod for 36' |
| GK5337 | NSB Control Rod for 39' |
| GK5338 | NSB Control Rod for 42' |
| GK5339 | NSB Control Rod for 48' |

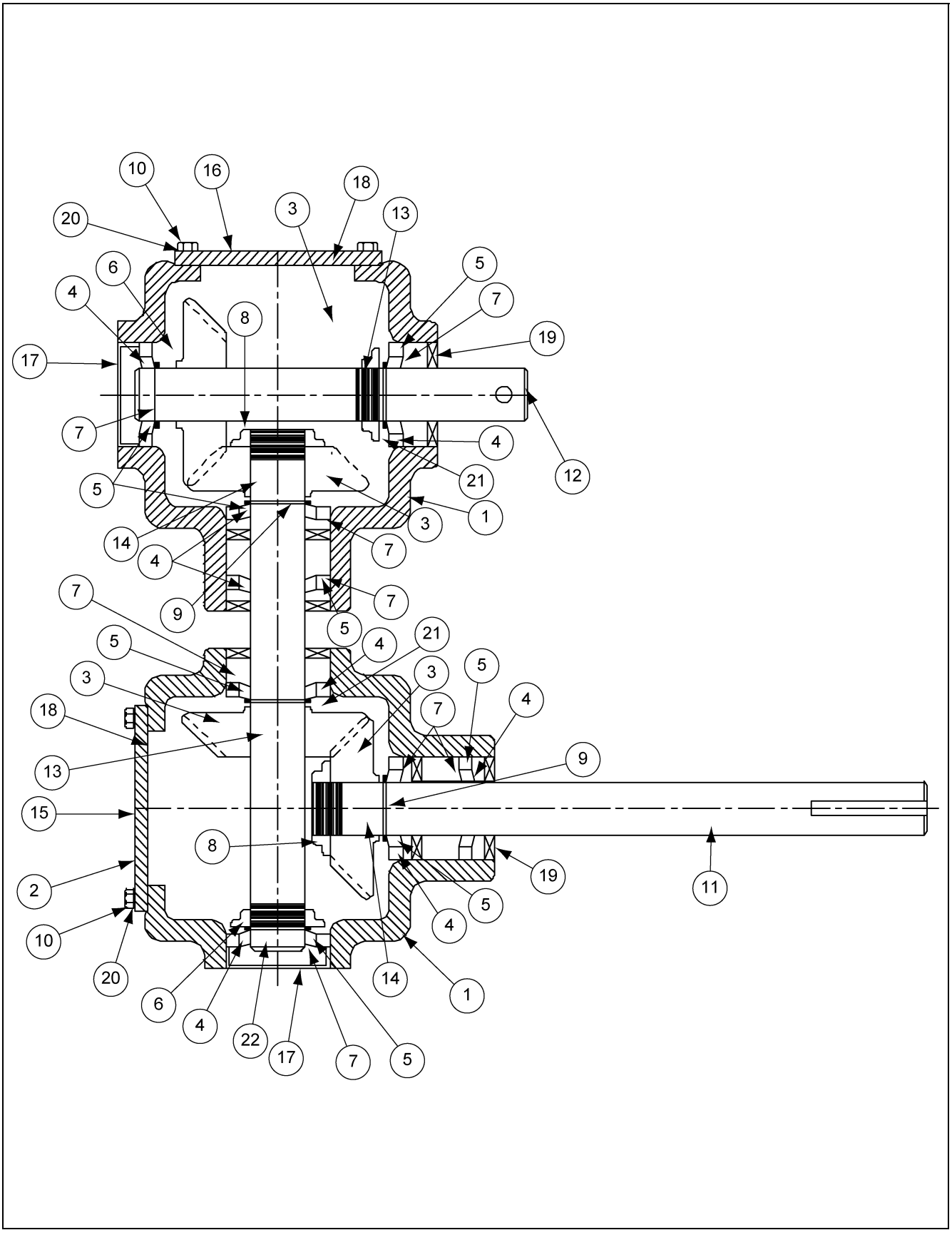
# Reduction Wheel



## Reduction Wheel Parts List

| Ref # | Part # | Description |
|---|---|---|
| 1 | GK4210 | 1" x 1-1/2" 14 Gauge Galvanized Flat Washer |
| 2 | GK4211 | 1" x 1-1/2" 10 Gauge Galvanized Flat Washer |
| 3 | GK4213 | Inner Drive Housing with Bushing - 6" |
| 3 | GK4228 | Inner Drive Housing with Bushing - 8" |
| 4 | GK4214 | Drive Shaft Weldment 10T #40 |
| 5 | GK4215 | Housing Ring with Zerk |
| 6 | GK4217 | Inner Wheel Weldment - 6" |
| 6 | GK4242 | Inner Wheel Weldment - 8" |
| 7 | GK4218 | Rubber Wheel Disk 11" O.D. - 6" |
| 7 | GK4241 | Rubber Wheel Disk 13" O.D. - 8" |
| 8 | GK4219 | Outer Wheel Disk - 6" |
| 8 | GK4240 | Outer Wheel Disk - 8" |
| 9 | GK4223 | Outer Drive Housing with Bushing |
| 10 | GK4232 | 1" Bearing with 2 Hole Flange |
| 11 | GK4233 | Chain Roller - #40 Double with Link |
| 12 | GK4234 | 40 Tooth Sprocket with Hub |
| 13 | GK4209 | 14 Gauge Spacer Plate - 6" |
| 13 | GK4226 | 14 Gauge Spacer Plate - 8" |
| 14 | GK4208 | 12 Gauge Spacer Plate - 6" |
| 14 | GK4225 | 12 Gauge Spacer Plate - 8" |
| 15 | GK4207 | 1/4" Spacer Plate - 6" |
| 15 | GK4224 | 1/4" Spacer Plate - 8" |
| 16 | GK4205 | 1" I.D. x 1-1/4" O.D. x 4-3/8" Long Bushing - 6" |
| 16 | GK4206 | 1" I.D. x 1-1/2" O.D. x 4-3/8" Long Bushing - 8" |
| 17 | GK3727 | 3/8"-16 x 1-3/4" Zinc Grade 8 HHCS Bolt |
| 18 | S-1054 | 3/8" Zinc Split Lock Washer |
| 19 | S-4383 | 5/16" x 2-1/4" Rolled Pin Spring |
| 20 | S-456 | 3/8" Zinc YDP Grade 5 Hex Nut |
| 21 | S-7076 | 5/16"-18 x 2-1/4" Zinc Grade 5 HHCS Bolt |
| 22 | S-7329 | 5/16"-18 x 2" Zinc Grade 2 HHCS Bolt |
| 23 | S-7382 | 5/16"-18 Zinc Grade 5 Nylock Nut |

# GK5208 - Gear Box Parts



## GK5208-Gear Box Parts List

| Ref # | Part # | Description |
|---|---|---|
| 1 | GK5442 | Housing |
| 2 | GK5443 | Cover w/Hole |
| 3 | GK5444 | Forged Bevel Gear Tooth |
| 4 | N/A | Bearing Cone |
| 5 | N/A | Bearing Cup |
| 6 | GK5447 | Stake Nut, 1-1/8"-18 Thread |
| 7 | GK5448 | Snap Ring |
| 8 | GK5449 | Stake Nut, 1"-18 Thread |
| 9 | GK5450 | Snap Ring |
| 10 | S-7406 | Bolt (5/16" x 3/4" HHCS Grade 5) |
| 11 | N/A | Input Shaft |
| 12 | N/A | Output Shaft |
| 13 | N/A | Woodruff Key |
| 14 | GK5454 | Square Key, 1/4" x 7/8" long |
| 15 | GK5455 | Level Plug |
| 16 | N/A | Cover |
| 17 | GK5456 | Cap |
| 18 | GK5457 | Gasket |
| 19 | GK5458 | Seal |
| 20 | S-1147 | 5/16" Lock washer |
| 21 | GK5460 | Washer, 1-1/2" O.D. x 1" I.D. x 10 Gauge |
| 22 | N/A | Vertical Shaft |

# NOTES

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

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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.

GSI GROUP

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