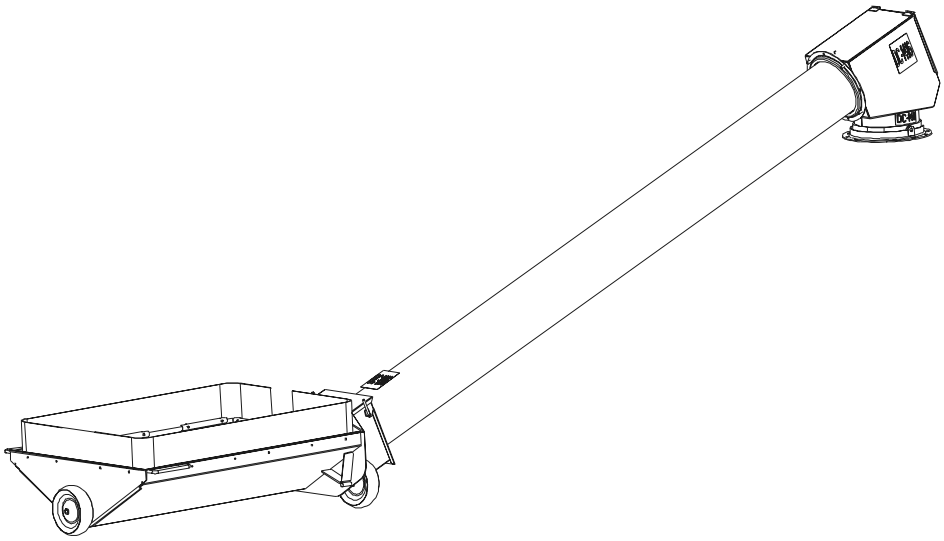


8", 10", & 12" BE-SAW Unload Auger

Assembly & Operation Manual

PNEG-1391

Date: 5-5-06

a division of

THE GSI GROUP

PNEG-1391

Model Number of My BE-SAW:

_____

Date Delivered:

_____

Date Installed:

_____

NOTE

The manufacturer reserves the right to improve its 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.

TABLE OF CONTENTS

INTRODUCTION

GENERAL OVERVIEW

The Bucket Elevator Swing Away Auger (BE-SAW) is pimarily used for unloading grain trucks/wagons. The BE-SAW hopper is placed under the unload chute and augers the grain to a new location.

The manufacturer reserves the right to improve its 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.

The BE-SAW Augers have been designed and manufactured to give years of dependable service. The care and maintenance of this equipment will effect 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 your dealer or the manufacturer.

CAPACITY

A. The capacities of augers or screw conveyers varies greatly under varying conditions. The following factors play a role in the performance of the auger:
   - Speed
   - Angle of operation
   - Moisture content
   - Amounts of foreign matter
   - Methods of feeding
   - Different materials

B. An auger operating at a 25° incline might experience 20% less capacity than an auger operating horizontally. Twenty-five percent (25%) moisture could cut capacity by as much as 40% under some conditions.

GENERAL INFORMATION

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

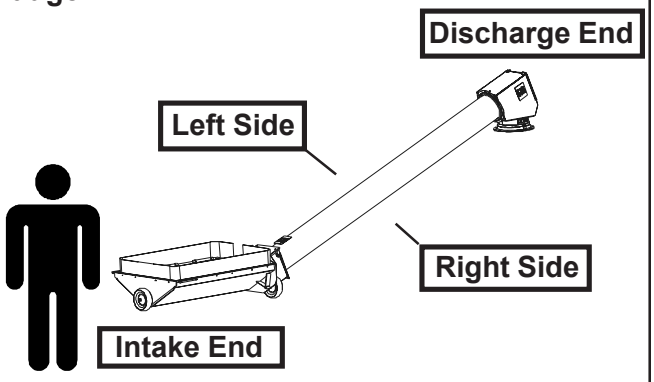
INSPECT the shipment immediately upon arrival. The Customer is responsible for ensuring that all quantities are correct. Report any damage or shortages by recording a detailed description on the Bill of Lading to justify the Customer's claim from the Transport Firm.

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

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

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

For the purpose of this manual, if you stand at the intake end of the auger looking towards the discharge end, your left is the left side of the auger; your right is the right side of the auger.



BE-SAW Numbering System

SA	XX	X	XX	XX	X
Product Line	Diameter of Screw	Hopper Profile	Nominal Length of Tube	Capacity of BESAW	Hopper Flight Thickness
	Choice	**Choice**	**Choice**	**Choice**	**Choice**
	08 = 8" Screw	**S = Std Profile**	**10 = 115.875"** **12 = 144" lg**	**15 = 1500 BPH** **20 = 2000 BPH** **25 = 2500 BPH** **30 = 3000 BPH**	**A = Standard** **B = 1/4" Thick**
	10 = 10" Screw	**S = Std Profile**	**10 = 120" lg** **13 = 153" lg** **14 = 160" lg**	**40 = 4000 BPH** **50 = 5000 BPH** **56 = 5600 BPH**	**A = Standard** **B = 1/4" Thick**
		L = Low-Profile	**10 = 115.125"** **13 = 148.125"**		
	12 = 12" Screw	**S = Std Profile**	**13 = 13' 3"** **15 = 15' 3"**	**70 = 7000 BPH** **80 = 8000 BPH**	**A = Standard** **B = 1/4" Thick**
		L = Low-Profile	**12 = 12' 8"** **14 = 14' 8"**	**70 = 7000 BPH** **80 = 8000 BPH**	**A = Standard** **B = 1/4" Thick**

SAFETY GUIDELINES

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

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

⚠ DANGER **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 to.

SAFETY INSTRUCTIONS

GSI's principle concern is your safety and the safety of others associated with grain handling equipment. We want to keep you as a customer. This manual is to help you understand safe operating procedures and some problems which may be encountered by the operator and other personnel.

As owner and/or operator, it is your responsibility to know what requirements, hazards and precautions exist, and to inform all personnel associated with the equipment. Avoid any alterations to the equipment. Such alterations may produce a very dangerous situation, where SERIOUS INJURY or DEATH may occur.

This equipment shall be installed in accordance with the current installation codes and applicable regulations which should be carefully followed in all cases. Authorities having jurisdiction should be consulted before installations are made.

OPERATE UNLOAD EQUIPMENT PROPERLY

Operate Unload Equipment Safely

Make sure ALL equipment is locked in position before operating.

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

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

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

NEVER work alone.

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

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

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

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

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

NEVER drive, stand or walk under the equipment.

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

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

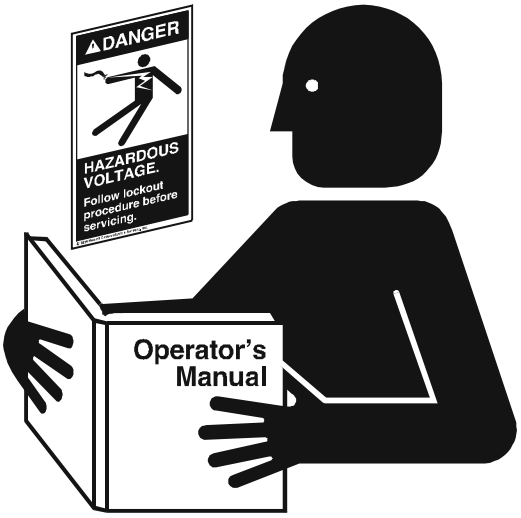
FOLLOW SAFETY INSTRUCTIONS

Carefully read all safety messages in this manual and on your machine safety signs. Keep signs in good condition. Replace missing or damaged safety signs. Be sure new equipment components and repair parts include the current safety signs. Replacement safety signs are available from the manufacturer.

Learn how to operate the machine and how to use controls properly. Do not let anyone operate without instruction.

Keep your machinery in proper working condition. Unauthorized modifications to the machine may impair the function and/or safety and affect machine life.

If you do not understand any part of this manual and need assistance, contact your dealer.



STAY CLEAR OF ROTATING PARTS

Entanglement in rotating augers will cause serious injury or death.

Keep all shields and covers in place at all times.

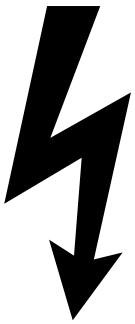
Wear close fitting clothing. Stop and lock out power source before making adjustments, cleaning, or maintaining equipment.

OPERATE MOTOR PROPERLY

Do not operate electric motor equipped units until motors are properly grounded.

Disconnect power on electrical driven units before resetting motor overloads.

Do not repetitively stop and start the drive in order to free a plugged condition. Jogging the drive in this type of condition can damage the equipment and/or motor components.



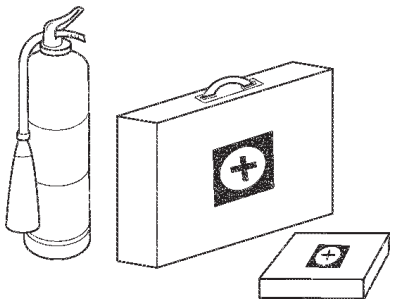
Electric Shock Hazard.

PREPARE FOR EMERGENCIES

Be prepared if fire starts.

Keep a first aid kit and fire extinguisher handy.

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



WEAR PROTECTIVE CLOTHING

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

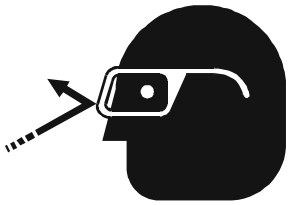
Safety glasses should be worn at all times to protect eyes from debris.

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

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

Wear hard hat and steel toe boots to help protect your head and toes from falling debris.

Eye Protection



Gloves

Steel Toe Boots

Respirator

Hard Hat

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:

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

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

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

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

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

Date	Employer's Signature	Employee's Signature

SAFETY 1st

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

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

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

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

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

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

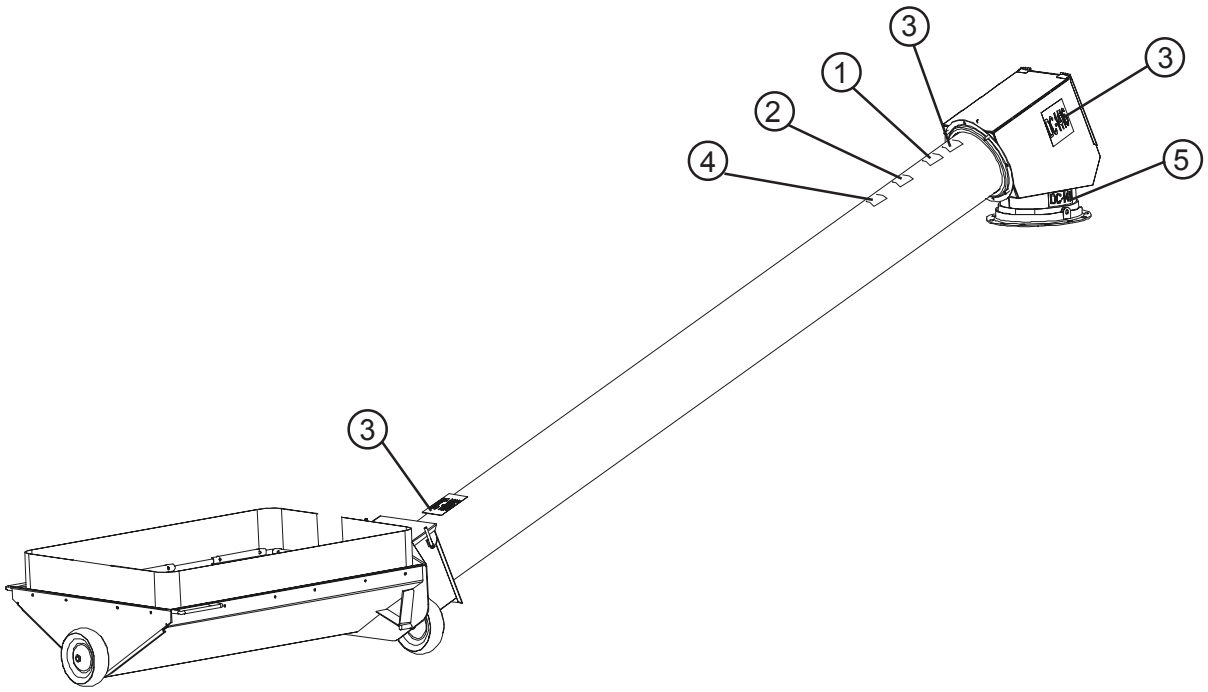
The GSI Group
PO Box 20
1004 E. Illinois Street
Assumption, IL 62510
Ph: 217-226-4421

Safety Decals

The Safety Decals listed below are included with the auger. The following page shows the locations of the decals on the auger. The following pages show a sample of each decal. Inspect all decals and replace any that are illegible, worn, or missing. Contact your dealer or the factory to order replacement decals.

Safety Decals

Ref. #	Part #	Qty.	Description	Size
1	DC-1446	1	**Caution—General Statements 1-12** (On Main Auger Housing)	8-1/4" x 4-1/8"
2	DC-1412	1	**Danger—Electrocution** (On Main Auger Housing)	8" x 3-3/8"
3	DC-1416	1	**Danger—Rotating Auger** (On Intake End of Tube Near Hopper, On Side of Spout Head, On Underside of Inlet Hopper, On Side of Inlet Hopper, On Inlet Hopper Clean-Out Door)	4-1/2" x 5-1/2"
4	DC-1418	1	**Safety First**—(On Main Auger Housing)	4-7/8" x 3-1/2"
5	DC-1411	1	**Danger—Shear Point** (On Front of Inlet Hopper)	4-1/2" x 2-1/16"



Safety Decals

NOTE

Decals are not shown actual size.

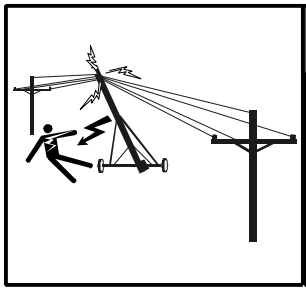
①

NOTICE

1. READ AND UNDERSTAND THE INSTALLATION & OPERATION MANUAL AND ALL SAFETY INSTRUCTIONS BEFORE OPERATING EQUIPMENT.
2. DO NOT OPERATE WHILE UNDER THE INFLUENCE OF DRUGS OR ALCOHOL.
3. DO NOT OPERATE UNLESS ALL SAFETY EQUIPMENT, SWITCHES, GUARDS AND SHIELDS ARE SECURELY IN PLACE AND OPERATIONAL.
4. BE SURE EVERYONE IS CLEAR OF THE EQUIPMENT BEFORE ATTEMPTING TO OPERATE OR MOVING THE MACHINE.
5. ALLOW ONLY TRAINED PERSONNEL IN the OPERATING AREA.
6. KEEP HANDS, FEET, HAIR AND CLOTHING AWAY FROM MOVING PARTS.
7. DISCONNECT AND LOCKOUT POWER BEFORE ADJUSTING OR SERVICING.
8. ELECTRICAL WIRING OR SERVICE WORK MUST BE PERFORMED BY A QUALIFIED ELECTRICIAN. IT MUST MEET ALL STATE AND LOCAL ELECTRICAL CODES.
9. EMPTY AUGER AND LOWER TO TRANSPORT POSITION BEFORE TRANSPORTING.
10. MAKE CERTAIN ALL ELECTRIC MOTORS ARE GROUNDED.
11. NEVER MOVE MACHINE MANUALLY. ALWAYS USE A TOWING VEHICLE.
12. KEEP CHILDREN AWAY FROM WORK AREA AT ALL TIMES.

DC-1446

②



⚠ DANGER

ELECTROCUTION!!

STAY CLEAR OF POWER LINES!

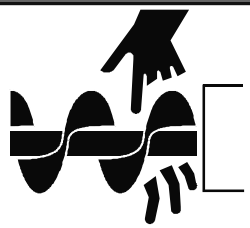
- THIS EQUIPMENT IS NOT INSULATED FROM ELECTRIC SHOCK.
- KEEP EQUIPMENT AWAY FROM POWER LINES.
- ELECTROCUTION CAN OCCUR WITH OR WITHOUT DIRECT CONTACT.

FAILURE TO HEED WILL RESULT IN SERIOUS INJURY OR DEATH!

DC-1412

③

⚠ DANGER



ROTATING AUGER!

- DISCONNECT AND LOCKOUT POWER BEFORE SERVICING, ADJUSTING OR CLEANING.
- KEEP HANDS, FEET, HAIR AND LOOSE CLOTHING AWAY FROM ROTATING AUGER AND MOVING PARTS AT ALL TIMES.
- NEVER REMOVE OR MODIFY GUARDS OR SHIELDS.

FAILURE TO HEED WILL RESULT IN SERIOUS INJURY OR DEATH!

DC-1416

④

GRAIN KING

SAFETY 1st

ORDER SAFETY COMPONENTS FREE OF CHARGE!

• GUARDS • SHIELDS

• SAFETY DECALS • OWNER/OPERATOR MANUALS

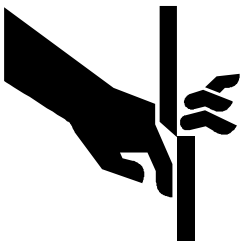
CONTACT GRAIN KING

(217) 226-4421

At Grain King, safety is NO ACCIDENT!

DC-1418

⑤



⚠ DANGER

SHEAR POINT

KEEP FINGERS, HANDS, HAIR AND LOOSE CLOTHING AWAY FROM MOVING PARTS.

FAILURE TO HEED WILL RESULT IN SERIOUS INJURY OR DEATH!

DC-1411

8" & 10" Standard Profile Hopper Assembly

1. ASSEMBLE HOPPER 8" & 10" AND INCLINE TUBE (See Figure 1-B)

A. Apply grease to the wheel shafts of the hopper.

B. Attach the hopper wheels to the wheel shafts using three (3) 5/8" flat washers and one (1) 3/16" x 1-1/2" cotter pin for each wheel. Note: One (1) to two (2) washers should be used as spacers between the hopper and the wheel. Use one (1) washer between the wheel and the cotter pin.

C. Use the following hardware to bolt the incline tail stub into the incline flight: (See Figure 1-A)
- Four (4) rubber sleeves
- Two (2) hex head (Grade 5) cap screws: For **8" models**, use 3/8" x 3" long cap screws. For **10" models**, use 7/16" x 3-1/2" long cap screws.
- Four (4) flat washers

NOTE

IMPORTANT: When tightening nylon locknuts, make sure they are firmly secured against the rubber sleeves, but not so tight that they lay against the flight tube. Leave a gap of approximately 1/16".

D. Attach the u-joint to the incline tail stub using one (1) hex head cap screw and nylon locknut. For **8" models**, use a 5/16" x 2-1/2" long (Grade 5) hex head cap screw. For **10" models**, use a 3/8" x 3" long (Grade 5) hex head cap screw.

Flight Connections

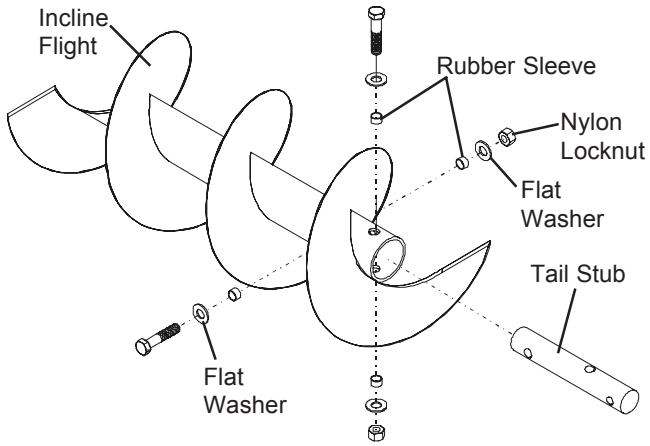


FIGURE 1-A

E. Attach the u-joint to the bearing stub in the hopper using one (1) hex head cap screw and nylon locknut. For **8" models**, use a 5/16" x 2-1/2" long (Grade 5) hex head cap screw. For **10" models**, use a 3/8" x 3" long (Grade 5) hex head cap screw.

Note: Loosen the hanger bearing hardware for later adjustment.

8" & 10" Standard Profile Hopper Assembly

1. ASSEMBLE 8" & 10" HOPPER AND INCLINE TUBE (CONT.)

F. Attach the lower end of the incline tube to the front of the flexible swing-out hopper using the following hardware:
- Two (2) 1/2" x 1-1/4" long (Grade 5) hex head cap screws
- Four (4) Flat washers
- Nylon locknuts

G. Install the bolt heads onto the inside but **DO NOT** tighten completely because the coupler box must be allowed to pivot.

H. Center hanger bearing on bearing shaft between hopper flight and u-joint, then tighten.

I. Fasten the hinged cover to the front of the flexible swing-out hopper using two (2) 5/16" x 3/4" long (Grade 5) hex head cap screws, flat washers, and nylon locknuts.

J. Install the cover strap over the lid onto the 3/8" stub, which is welded to the box on the lower end of the incline tube. Use 3/8" nylon locknuts to hold the straps on the stud.

NOTE

IMPORTANT: DO NOT tighten the locknuts down. The hinged cover must be able to slide under the strap when the incline tube is tilted at different angles.

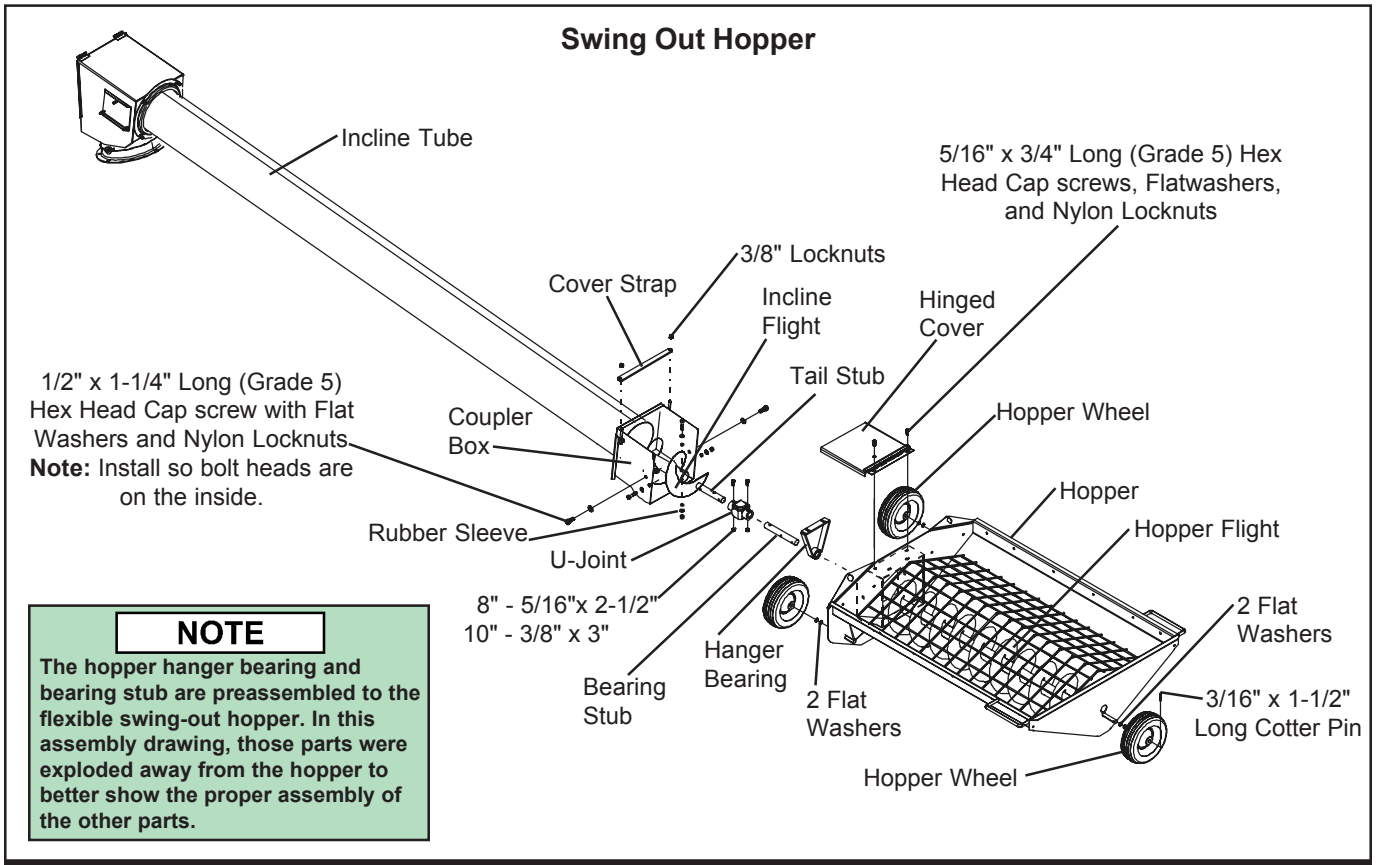


FIGURE 1-B

12" Standard Profile Hopper Assembly

The hopper hanger bearing and bearing stub are pre-assembled on the swing-away hopper. Therefore, in the drawings, those parts were exploded away from the hopper to better show the proper assembly of the other components.

2. ASSEMBLE 12" HOPPER AND INCLINE TUBE ASSEMBLY

A. Attach the rubber hopper wheel to the back of the swing-away hopper using two (2) 5/8" flat washers and 3/16" x 2" cotter pins. (See Fig. 2-B)

B. Fasten two (2) hopper caster wheels to front of hopper using (4) 3/8" x 1-1/4" long (grade 5) hex head capscrews and nylon locknuts for each wheel.

C. Remove the incline flight from the incline tube.

D. Attach lower end of the incline tube to the front of the swing-away hopper. Use two (2) 5/8" x 1-1/4" long (grade 5) hex head capscrews, flat washers, and locknuts.

E. Connect incline tail stub into the incline flight using four (4) rubber sleeves, two (2) 1/2" x 3-3/4" long (grade 5) hex head capscrews, flat washers, and nylon locknuts. (See Fig. 2-A)

Tighten locknuts so the flat washers are firmly against the rubber sleeves. DO NOT tighten so tight that the flat washers are against the flight tube. Leave about 1/16" gap.

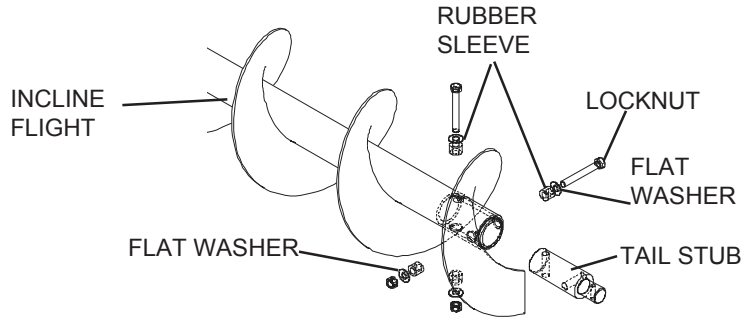


FIG. 2-A

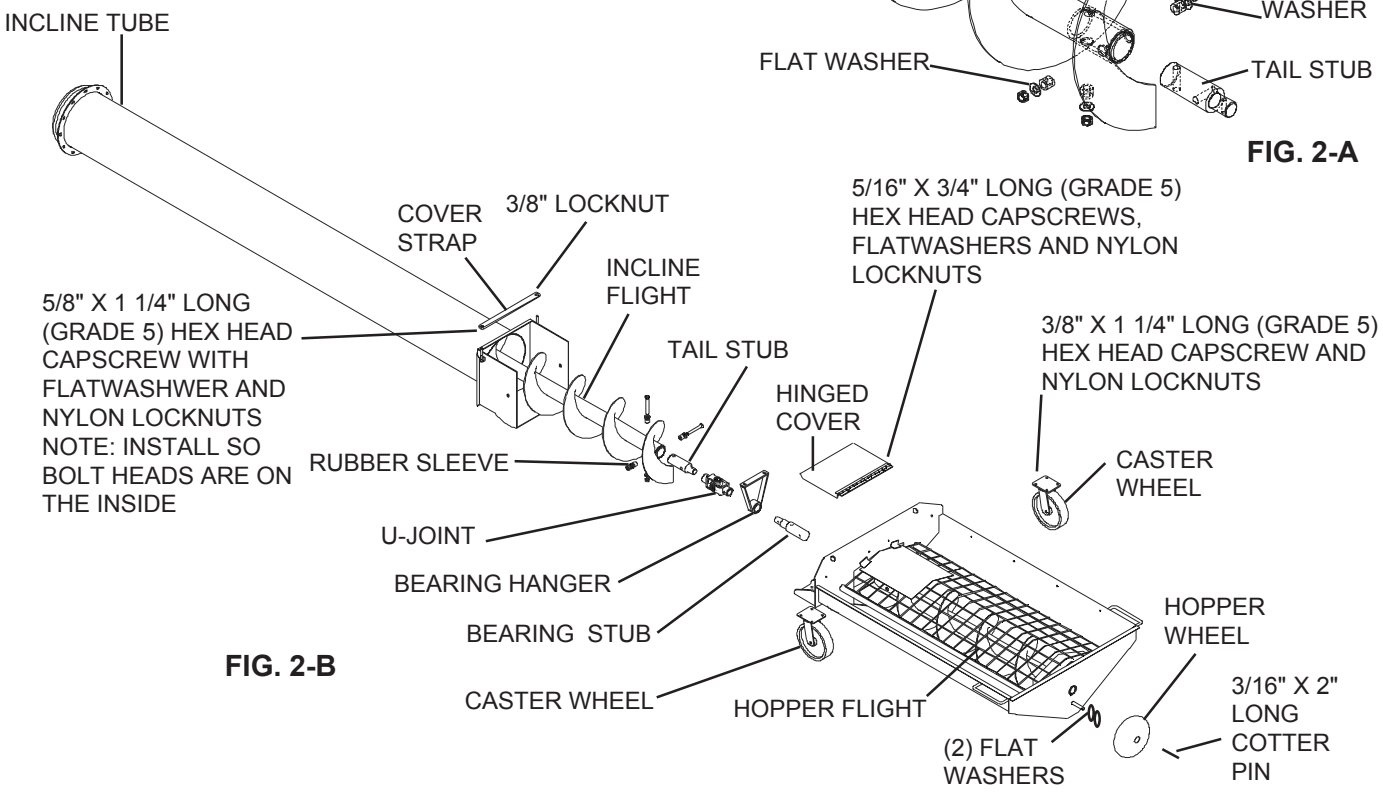


FIG. 2-B

12" Standard Profile Hopper Assembly

2. ASSEMBLE 12” HOPPER AND IN- LINE TUEBE ASSEMBLY (CONT.)

F. Using a 3/8" x 3" long (grade 5) hex head capscrew and nylon locknut, attach the u-joint to the incline tail stub.

G. Slide the lower end of the inclined flighting *(the end with the u-joint fastened)* down into the upper end of the incline tubing. Slide the flighting down until the u-joint is near the swing-away hopper bearing stub.

H. Connect the u-joint on the flighting to the bearing stub in the swing-away hopper using a 3/8" x 3" long (grade 5) hex head capscrew and nylon locknut.

I. Bolt hinged cover to the front of the swing-away hopper using two (2) 5/16" x 3/4" long (grade 5) hex head capscrews, flat washers, and nylon locknuts.

DO NOT tighten the nuts down. The hinged cover MUST be able to slide under the strap when the incline tube is tilted at different angles.

J. Install cover strap over lid onto the 3/8" stub that is welded to the box on the lower end of the incline tube. Use the 3/8" nylon locknuts to hold the straps onto the stub.

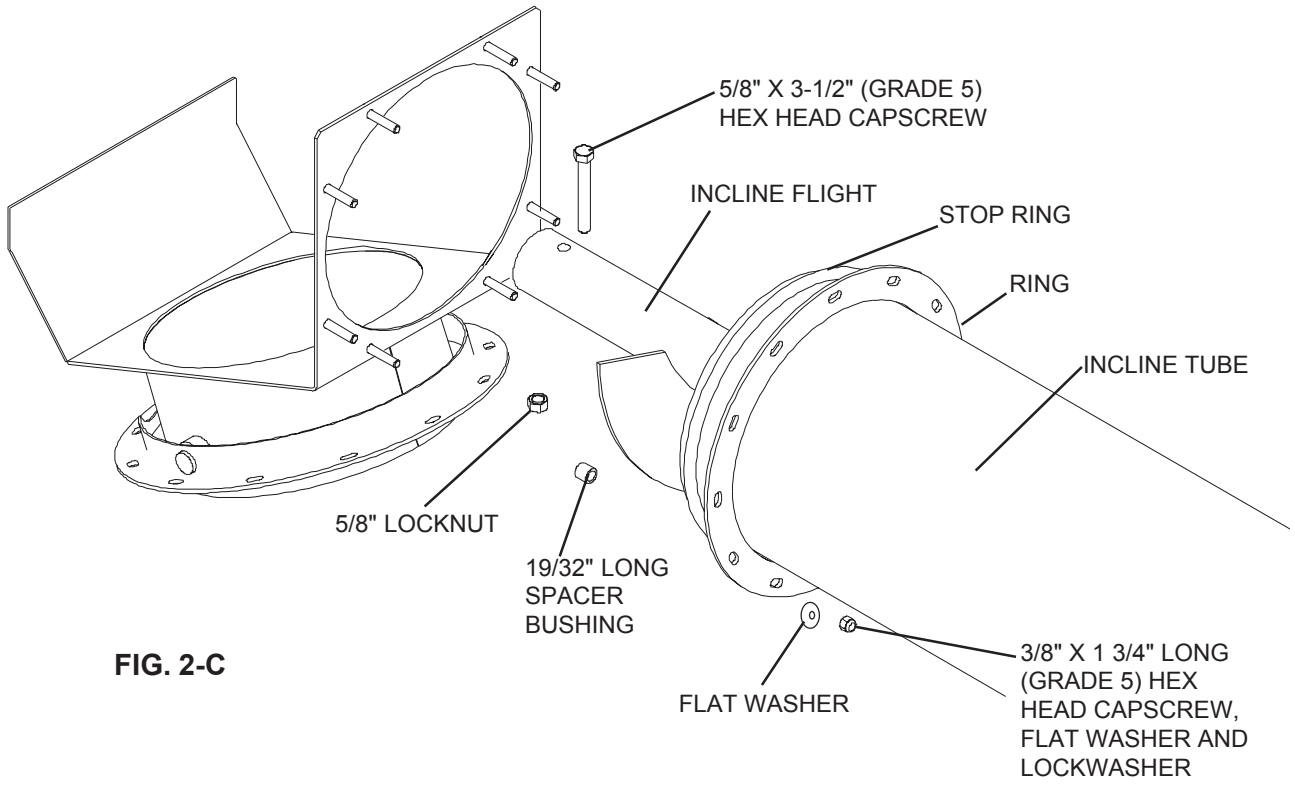


FIG. 2-C

12" Standard Profile Hopper Assembly

2. ASSEMBLE 12" HOPPER AND IN-LINE TUBE ASSEMBLY (CONT.)

L. Slide head end of the incline flight onto the spout studs. Secure the incline flight in place by using a 5/8" x 3-1/2" long (grade 5) hex head capscrew with a locknut. (See Fig. 2-C on page 17.)

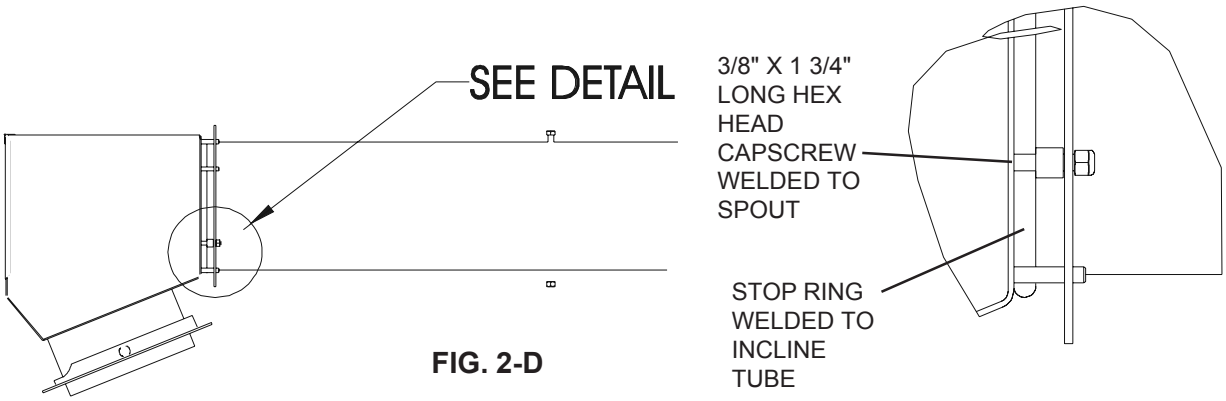


FIG. 2-D

M. Slide incline tube onto the back of the downspout, lining up the holes on the incline ring with the bolts welded onto the down spout. Fasten using eight (8) 19/32" long spacer bushings, eight (8) 3/8" x 1-3/4" long hexhead capscrews, eight (8) flat washers, and eight (8) 3/8" nylon locknuts.

Be sure to install the spacer bushings between the back of the spout and the ring. After the 3/8" nylon locknuts are tightened, the spout <u>MUST BE ABLE TO SWIVEL</u> on the incline tube.

3. ASSEMBLE 8", 10", & 12" HOPPER RUBBER BELTING ASSEMBLY

A. Place the rubber belting into the inside of the swing-away hopper.

B. Loosely attach the rubber belting using ten (10) attachment clips and two (2) 1/4” x 1” long hex head cap screws and nylon locknuts for each clip. The points of the clips should point up and the bolt heads should be inside the hopper. Use the bolt holes positioned around the upper edge of the hopper as a guide.

C. Position the belting inside the clips with the belting edge resting on the bolts. As shown on the diagram on the previous page, the belting should not cover the output end of the hopper. Keep the belting end within one (1) inch of the clip end.

D. Position the belting evenly around the hopper and through the corners.

E. Tighten the bolts and nuts so that the clip points draw into the belting and the smooth edge of the clips is in contact with the belting.

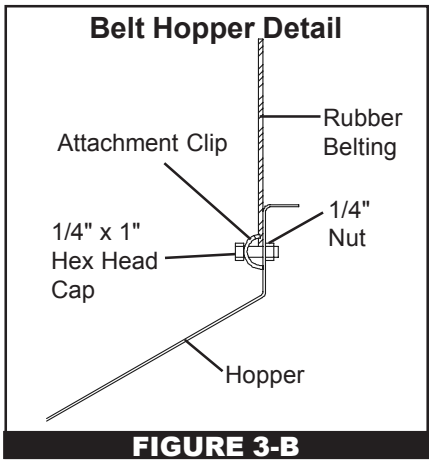


FIGURE 3-B

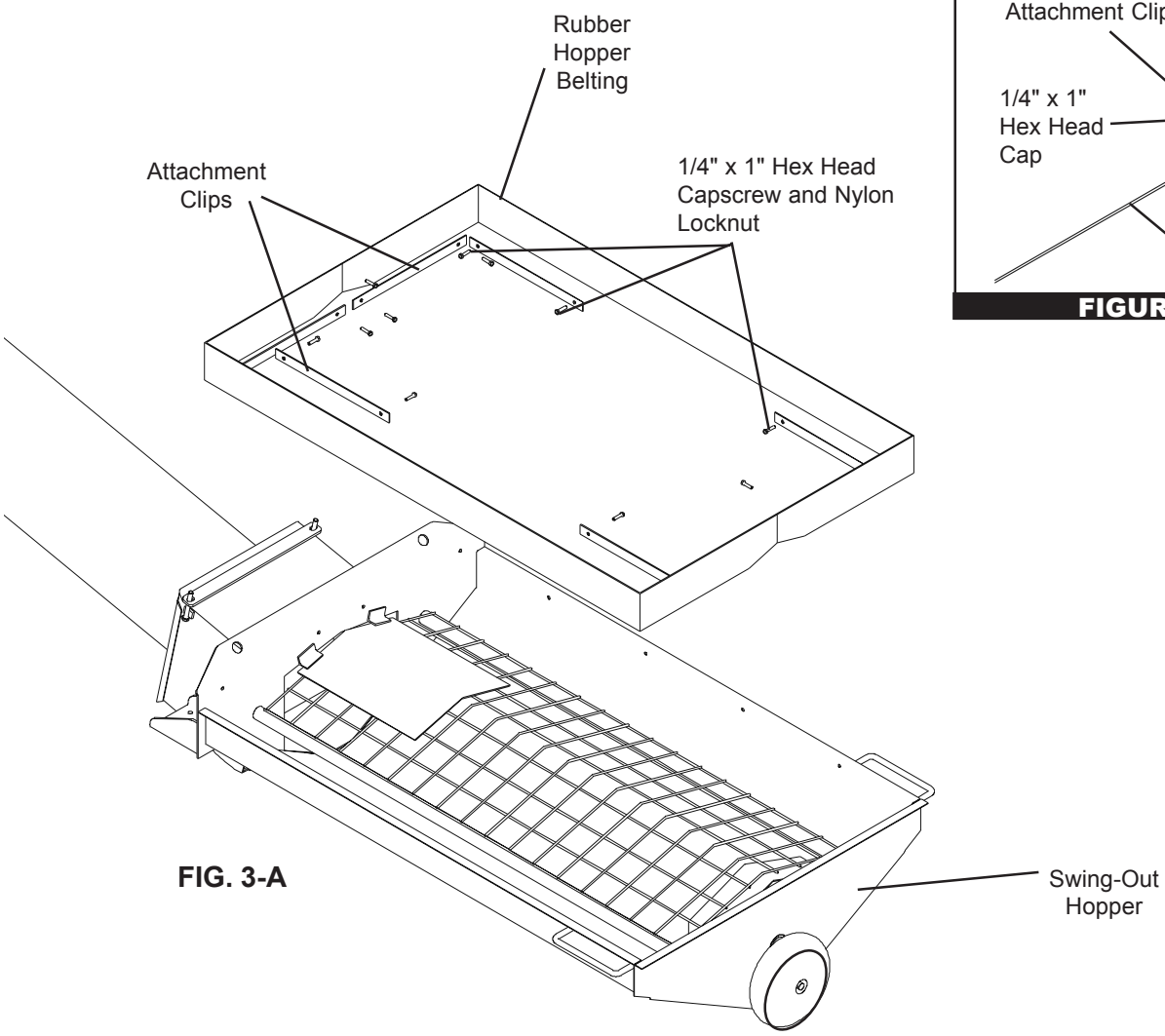


FIG. 3-A

4. OPTIONAL 10" & 12" LOW PROFILE HOPPER ASSEMBLY INSTRUCTIONS (See Figure 4-A)

A. Install the hopper wheels to the hopper using four (4) 5/8" x 9-3/4" long clevis pins, four (4) wheel spacer bushings and four (4) 1-1/4" cotter pins. Install the hopper wheels so the front wheels are tilted in towards the incline tube and the rear wheels are tilted away from the hopper chain guard. Basically, you want to tilt your wheels so they follow the arc made when you move the hopper. (See detail 4-B)

NOTE **There are two installation heights for the hopper wheels. For the shortest hopper profile, use the upper set of holes. Also use the holes to angel the wheels by using opposite holes.**

B. Fasten the U- Joint to the incline tail stub using one 3/8" x 3" long (grade 5) HHCS and stover nut.

C. Connect the U-Joint to the power shaft in the swing-out hopper using one (1) 3/8" x 3" long (grade 5) HHCS and stover nut.

D. Fasten the lower end of the incline tube to the front of the swing away hopper. Use two 1/2" x 1-1/2" long (grade 5) HHCS, flat washers, and nylon locknuts.

NOTE **Install bolt heads to the inside and DO NOT tighten completely. The coupler box must be able to pivot.**

E. Bolt hopper lid to the front of the swing out hopper using three (3) 5/16" x 3/4" long (grade 5) HHCS flat washers, and nylon locknuts.

F. Install lid strap onto 3/8" stubs welded onto lower end of incline tube. Hold the straps on the stud with 3/8" nylon locknuts.

NOTE **Do NOT tighten the nuts down. The lid straps must be allowed to slide when the incline tube is tilted at different angles.**

G. **Low Profile Swing-Out Hopper Rubber Belting Assembly (See Figure 4-A)**

1. Install the rubber belting into the inside of the swing out hopper. Use ten (10) long and four (4) short attachment clips to install the belting. Two (2) 1/4" x 1" long hex head capscrews and nylon locknuts are used for each clip. Loosely attach each clip with grip teeth of clips up and with bolt heads inside the hopper. Use bolt holes positioned around upper edge of hopper.

2. Set the belting inside the clips with the belting edge resting on the bolts. (See Figure 4-C) The belting does not go completely across the output end of the hopper. The belting is notched to accommodate the center guard support at the rear of the hopper. Begin installing the belting at this point and work each way toward the hopper discharge. Keep the belting end within one inch of the clip end. Position the belting evenly around the hopper and through the corners.

3. Tighten the bolts and nuts to where the clip points draw into the belting and the smooth edge of the clips is in contact with the belting.

Belt Hopper Detail

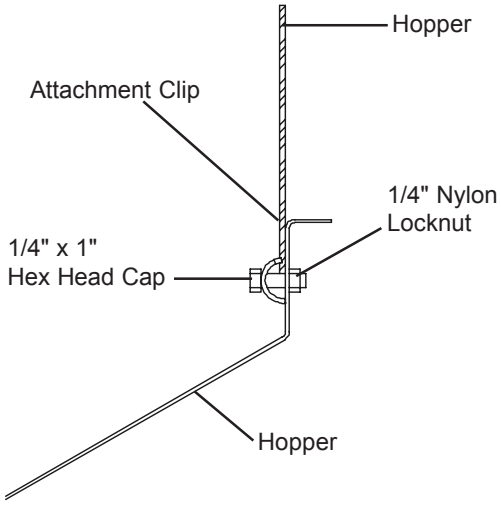


FIGURE 4-C

Low Profile Hopper - 10" & 12" Only

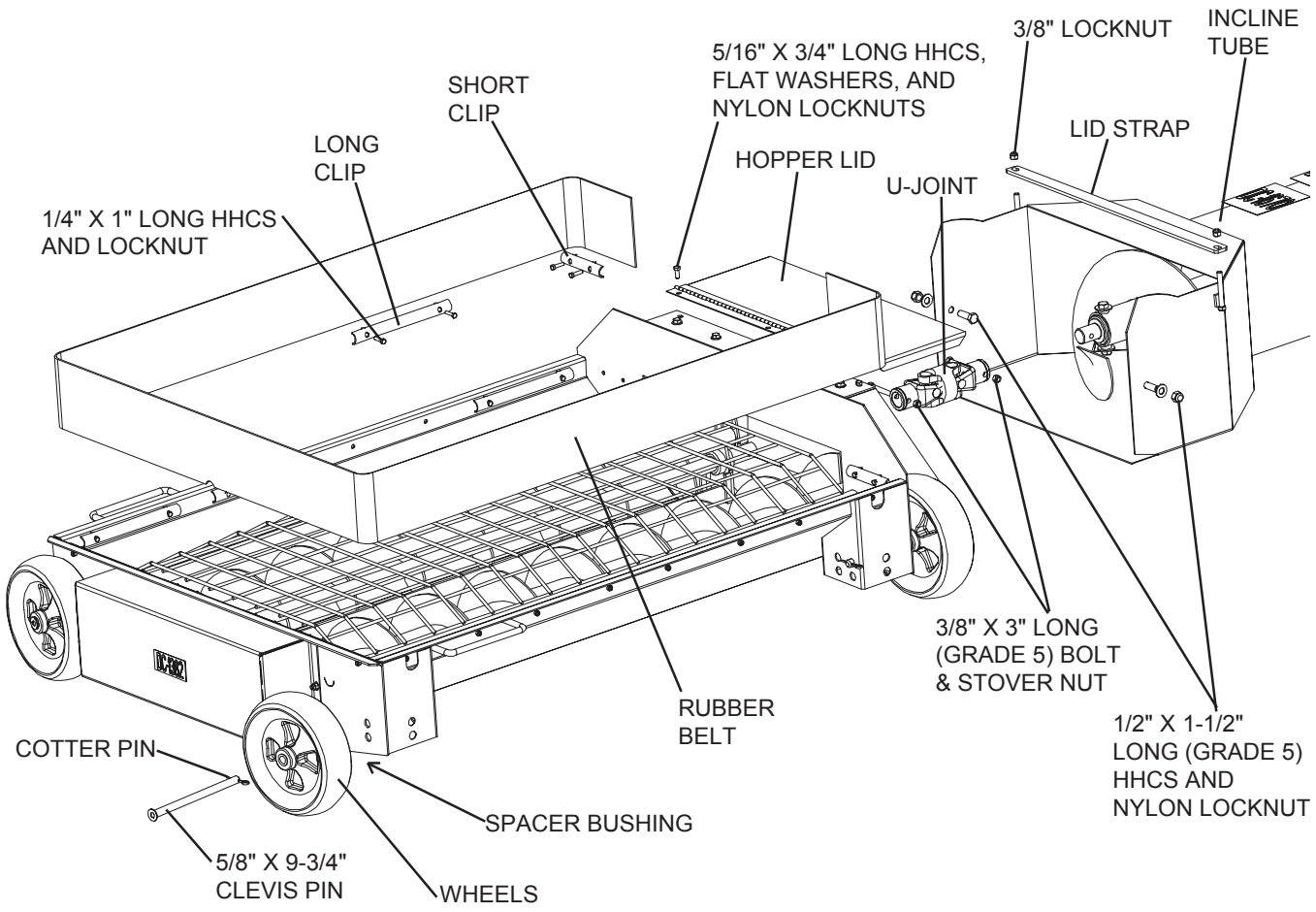


FIGURE 4-A

Angle Hopper Wheels

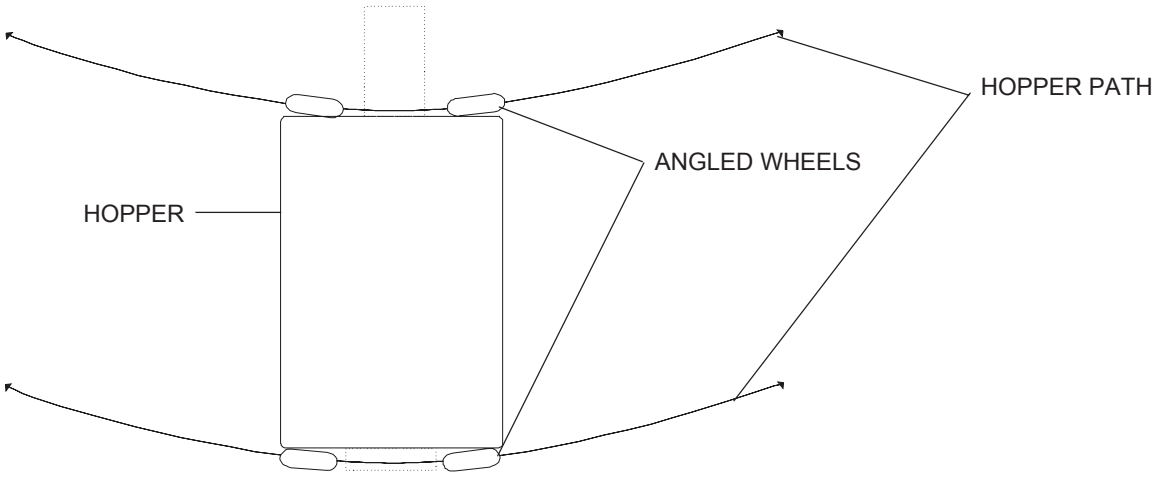


FIGURE 4-B

5. ASSEMBLE 8", 10", OR 12" INCLINE TUBE TO BUCKET ELEVATOR BOOT (See Figure 5)

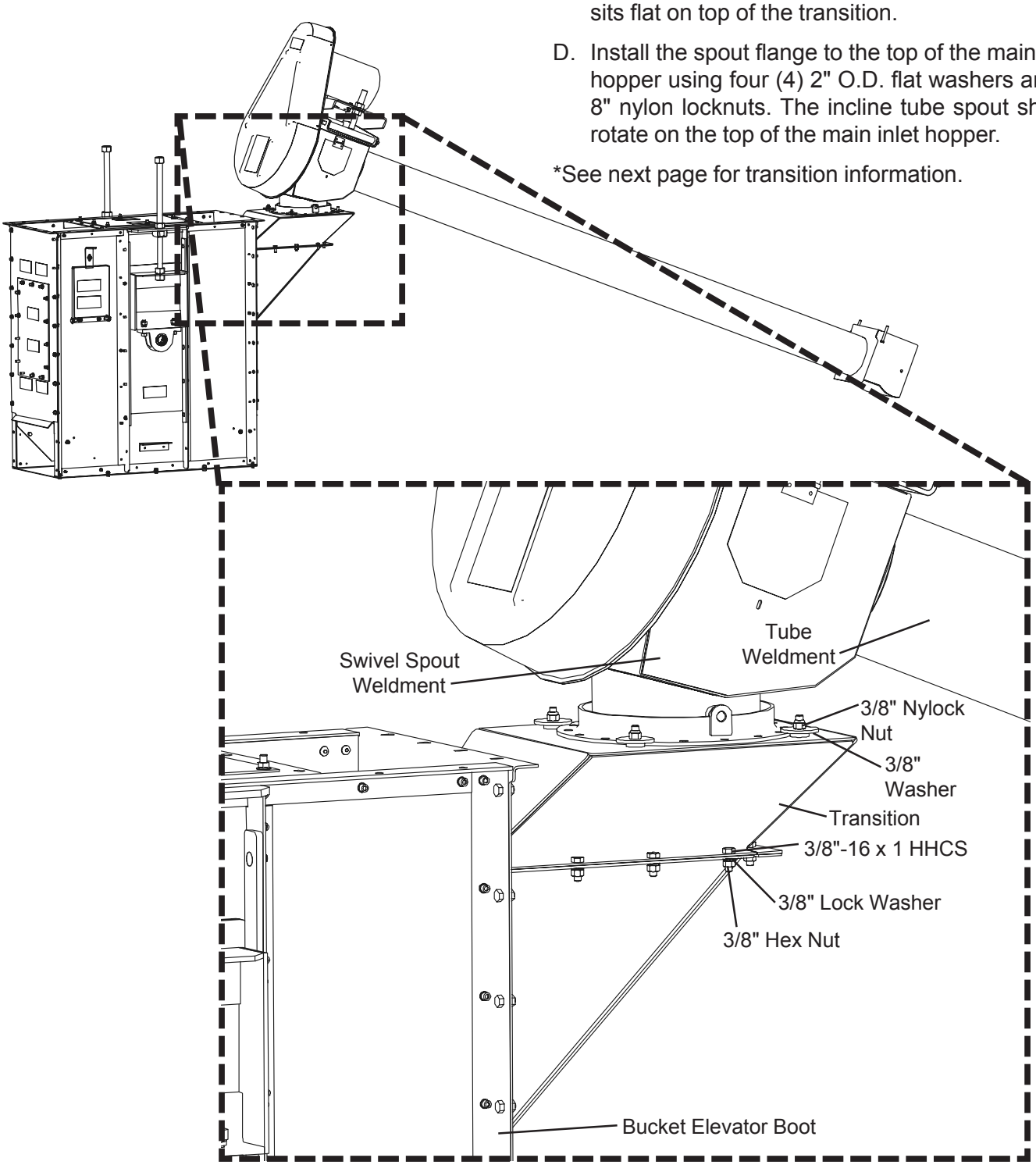
A. Attach Transition* to B.E. Boot using 3/8"-16 x 1" HHCS bolts, 3/8" lock washers, & 3/8"-16 Hex nuts.

B. Use a sling to lift the downspout end of the incline tube assembly and position it directly over the transition opening.

C. Completely lower the tube until the spout flange sits flat on top of the transition.

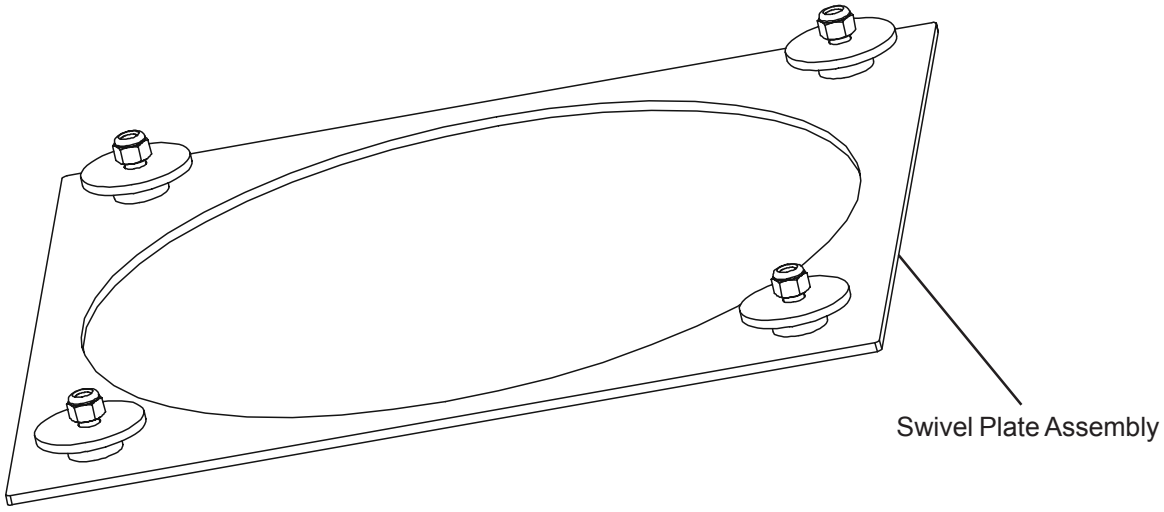
D. Install the spout flange to the top of the main inlet hopper using four (4) 2" O.D. flat washers and 3/8" nylon locknuts. The incline tube spout should rotate on the top of the main inlet hopper.

*See next page for transition information.

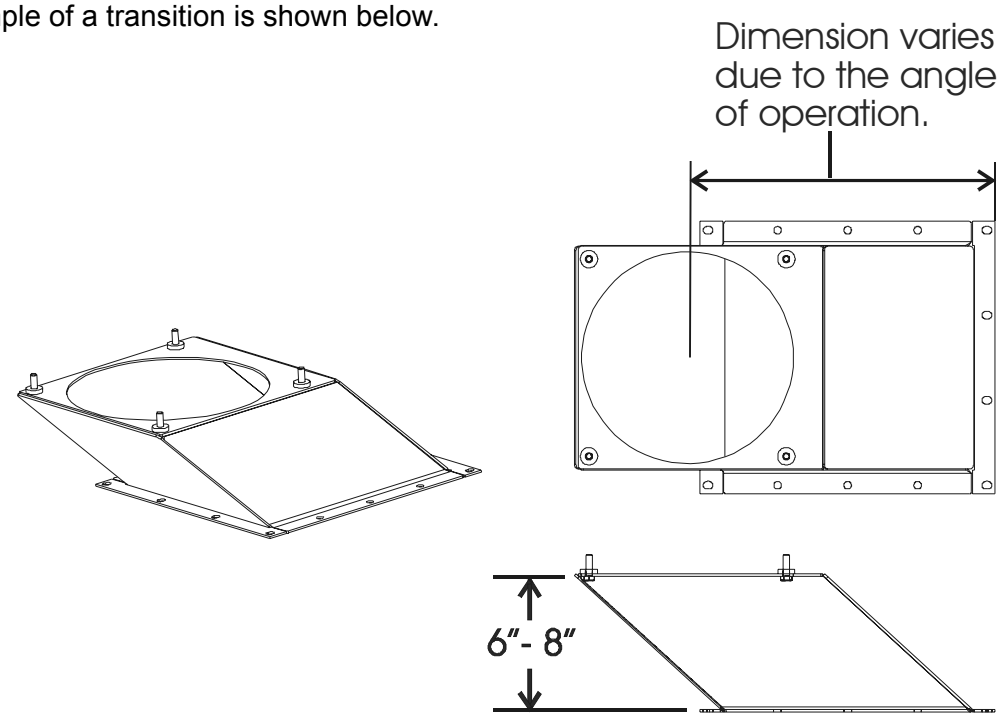


BE-SAW Transition

The GSI BESAW was designed to mate with GSI bucket elevators from 16" to 42" in size and capacities from 1500 to 8000 BPH. Due to the large quantity of boot hoppers available for these bucket elevators, it would be impossible for GSI to offer a transition assembly that would fit all the possible combinations of BESAWs and bucket elevators. Since the BESAW requires special mounting components to swivel, after April 1, 2006 each BESAW shipped from our facilities will include a BESAW Swivel Plate Assembly. The swivel assembly is made up of a square plate with the attachment bolts welded to it. It already has the appropriate sized hole bored in it to allow the flow of material. The swivel hardware is also included.



When fabricating the mounting transition, the top of this plate should be from 6" to 8" above the mounting flange of the bucket elevator boot hopper. The center of the large hole should be a sufficient distance away from the bucket elevator trunk to allow the BESAW chain guard to clear and the BESAW to swivel. An example of a transition is shown below.



1. DESIGNATE WORK AREA

A. Before starting the auger, establish the designated work areas. Figure 6 below shows where boundaries should be established.

B. Mark off the designated work areas using colored nylon or plastic rope as portable barriers.

RULES FOR SAFE WORK AREA
Under no circumstances should persons not involved in the operation of the auger be allowed to trespass into the designated work area. It is the duty of ALL operators to ensure that children and/or other persons stay out of the work areas. Should anyone not involved in the operation trespass into the work area or into a hazard area, the operator should immediately shutdown the auger.
It is the responsibility of ALL operators to ensure that the work area has secure footing, and is clean and free of debris and tools that might cause accidental tripping or falling. The operator is also responsible for keeping the work area clean and orderly during operation of the auger.

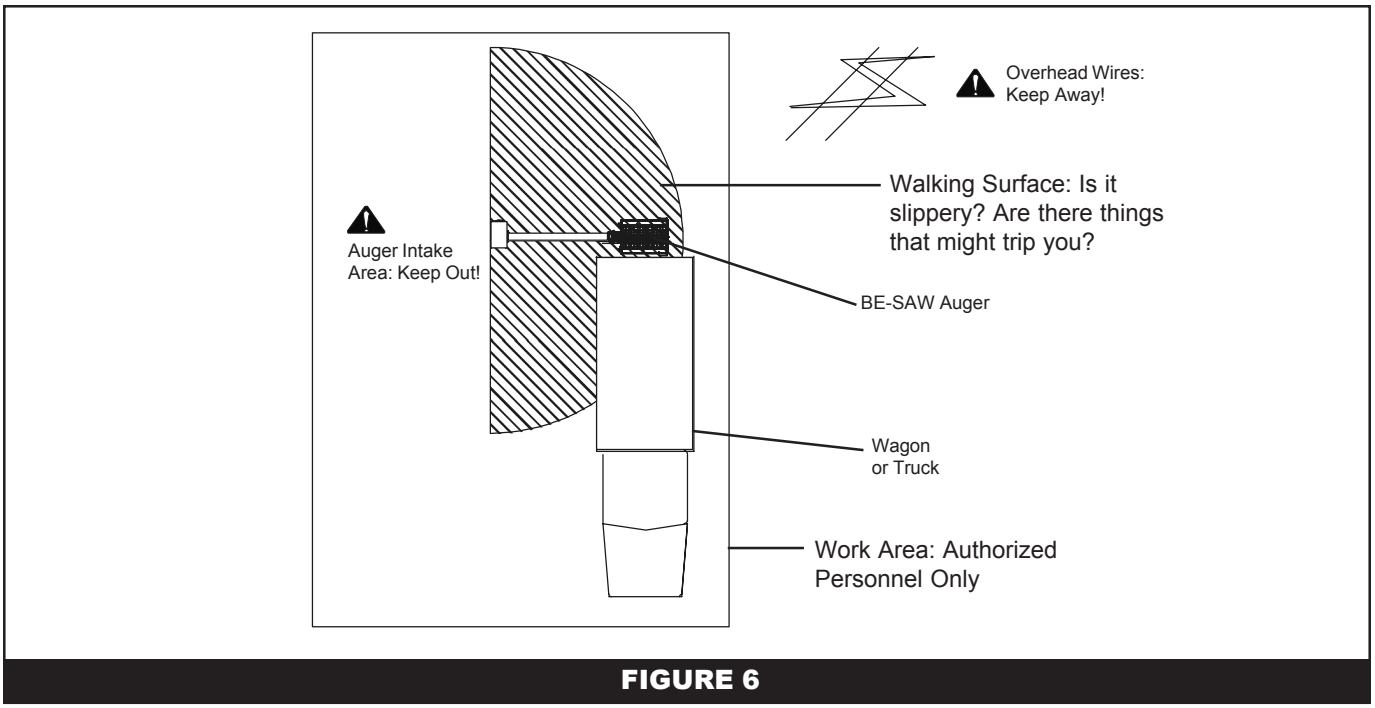


FIGURE 6

2. INSPECT THE AUGER

A. After your new auger is delivered and assembly is complete, and before each use, you must inspect the auger.

B. Be sure that ALL guards listed in the assembly instructions are in place, secured, and functional.

C. Check ALL safety decals. Replace any that are worn, missing, or illegible. A list of decals found on the auger is included in the front of this manual. You may obtain decals from your dealer or order direct from the factory.

D. Ensure that ALL fasteners are tight.

E. Ensure that the inspection covers are in place.

1. OPERATION RECOMMENDATIONS

A. One person must be in a position to monitor the operation of the auger at ALL times. That person should visually inspect the auger before and during operation and be alert to any unusual vibrations, noises, and the loosening of any fasteners.

B. For smoother start-ups, keep the auger from operating totally filled. This will also help ensure efficient operation.

C. To avoid excessive wear, do not operate the auger empty for any length of time.

D. You must “break-in" a screw conveyor when it is new and at the beginning of each season. Refer to Step 2 for instructions.

Be certain to close ALL the clean-out doors in the main auger head before operating the auger.
The operator should not add power before viewing the entire work area and checking that ALL personnel are clear of the designated work areas.
The operator should be alert to any unusual vibrations or noises that might indicate a need for service or repair during the initial start-up and break-in period.
The operator should regulate the grain flow into the auger by controlling the amount of grain fed to the hopper.
Be certain that ALL safety shields and devices remain in place during operation.
Ensure that hands, feet, and clothing are kept away from moving parts.
Lockout the power source whenever the equipment must be serviced or adjusted.

2. START-UP AND BREAK-IN

A. Any auger that is new or has set idle for a season needs to go through a “break-in" period.

B. Run the auger at partial capacity until several hundred bushels of grain have been augered and the flighting assembly and tube are polished.

Do not stop or start the auger under load because the auger has a tendency to “freeze up," especially if the flight and tube have not become well polished.

1. NORMAL SHUTDOWN

A. Make sure that the hopper and auger are empty before shutting down the unit.

B. Before the operator leaves the work area, the power source should be locked out, as described on below.

WARNING: Precaution should be made to prevent anyone from operating the auger when the operator is absent from the work area. The operator must stop the auger and turn off the power source any time he/she must leave the work area, or service/adjust the auger.

2. INTERMITTENT OPERATION SHUTDOWN

A. During intermittent operations such as batch drying, give careful consideration to the size of auger to use. Using a larger diameter auger and reducing its load level is far better than subjecting a smaller diameter auger to high loads. An auger that is kept from absolute filling will start-up easier and convey more efficiently.

IMPORTANT: Do not stop and restart the auger when it is fully loaded. This may damage the auger.

3. EMERGENCY SHUTDOWN

A. If you have to immediately shutdown the auger under load, **be sure to disconnect and lockout the power source**.

B. Remove as much grain from the hoppers and auger that you can before restarting.

C. **Never** attempt to restart the auger when it is full.

D. When as much grain as possible has been cleared from the hoppers and the auger, reconnect the power source and clear the remaining grain gradually.

IMPORTANT: Starting the auger under load may result in damage to the auger. Such damage is considered abuse of the equipment.

4. LOCKOUT

A. To lockout the auger, stop the auger and turn off the power supply.

B. The operator should lockout the SAW auger in the following situations:
- Anytime the operator leaves the work area, such as after shutdown.
- Anytime the operator services or adjusts the auger.

1. LUBRICATION GUIDELINES

A. Check and service the auger frequently to ensure economical and efficient operation of your auger. Maintaining regular and correct lubrication is key to proper maintenance. Infrequent or incorrect lubrication can result in reduced efficiency, excessive wear, and needless downtime.

NEVER perform maintenance on the auger unless all safety shields and devices are in place. Replace any that are damaged or lost. Do not clean, adjust, or lubricate any part of a machine that is in operation.

B. Refer to the drawing below to identify the parts that need lubrication and the lubrication frequency.

Lubrication Locations

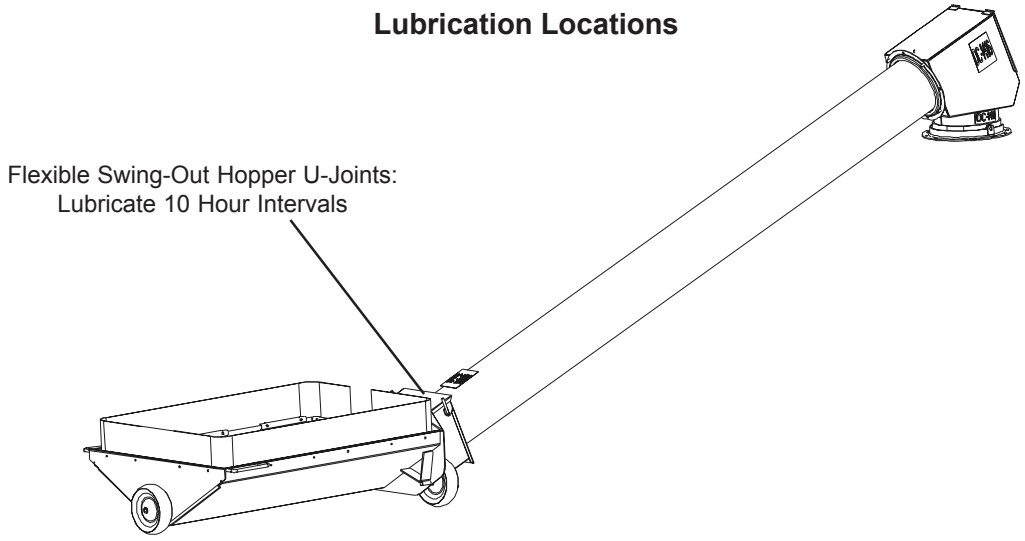


FIGURE 7

2. FLEXIBLE SWING-OUT HOPPER FLIGHT U-JOINT LUBRICATION

A. A u-joint connects the hopper and the inclined flight at the hopper elbow. Lubricate the flight u-joint at approximately ten (10) hour intervals using SAE multipurpose type grease.

B. To lubricate the u-joint, first remove the cover strap.

C. Raise the hinged cover.

D. Lubricate the grease zerk if necessary.

E. Close the cover and replace the cover strap before operating the unit.

WARNING: The hinge cover must be closed and the strap properly installed before operating the unit.

Swing Out Hopper U-Joint Lubrication

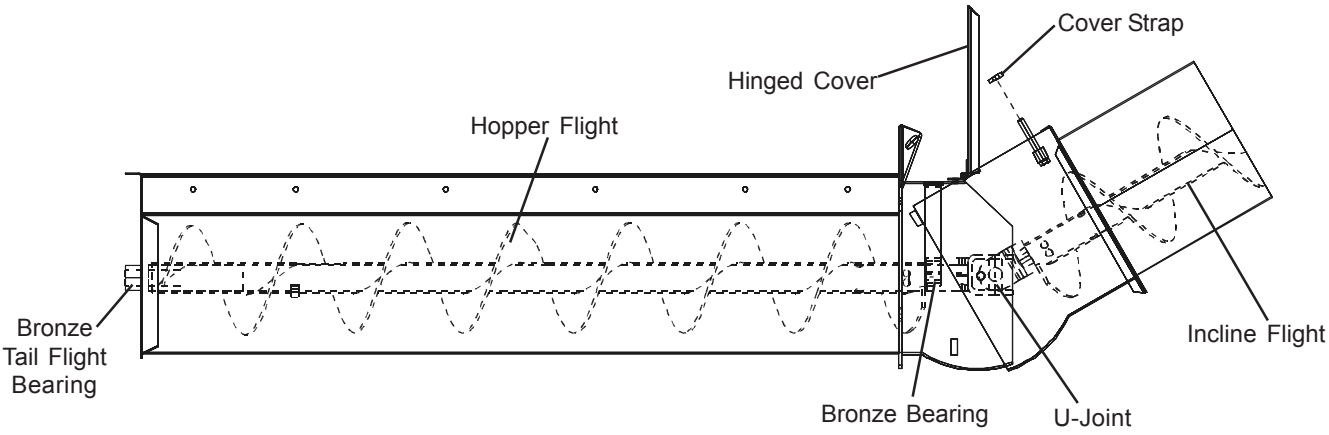


FIGURE 8

3. MAIN AUGER HEAD BEARING MAINTENANCE

A. The main auger head bearing is a self-aligning, sealed ball bearing. It requires lubrication daily during operation.

B. Although no adjustment needs to be made to the bearing, ensure that it is firmly fastened.

C. Be certain that the setscrews in the lock collar are tight against the shaft, securing the lock collar firmly to the shaft.

4. BRONZE FLIGHT BEARINGS MAINTENANCE

A. Bronze with graphite flight bearings support the swing-away hopper flight. The bearings require no lubrication.

B. If the bronze bearing spins inside the retainer, replace it with a new one.

C. Remove the old bronze bearing and press in the new one.

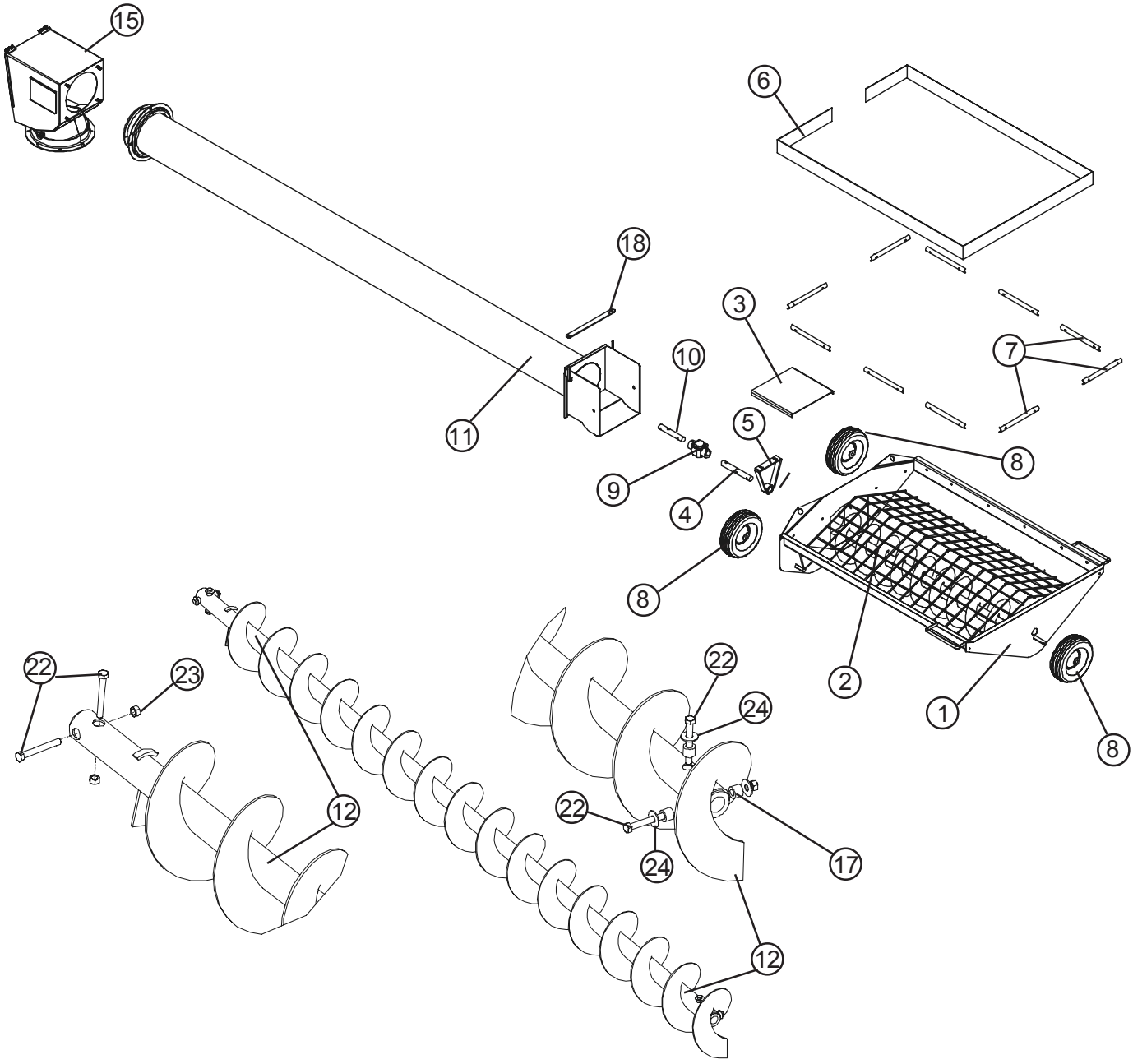
Problem	Possible Cause	Solution
1. THE AUGER IS VIBRATING.	A. Damage can occur to the auger flighting, causing noise. Damage usually is caused from foreign material being run through the auger.	A1. It may be necessary to remove the flighting for inspection.
2. CAPACITY IS TOO LOW.	A. There may not be enough grain reaching the auger.	A1. Make sure the intake has not bridged over, restricting flow. The flighting at the intake should be covered with grain for maximum capacity.
	B. The auger is moving too slowly.	B1. Check the auger speed. Low capacity will result from speeds slower than recommended.
3. THE AUGER PLUGS.	A. The auger may be "jamming" because too much grain is reaching the auger.	A1. Decrease the amount of grain the auger is gathering.
	B. The grain may be wet.	B1. If wet grain or other hard-to-move material is being augered, reduce the amount of grain being fed into the swing-away hopper.
	C. The auger may be jammed with foreign material.	C1. Remove any foreign material in the auger.
	D. The discharge end may be plugged.	D1. Unplug any plugs at the discharge end of the auger.
4. DRIVELINE SHEAR BOLT SHEARS FREQUENTLY.	A. Grain may be flowing too quickly into the ground hopper.	A1. Reduce the flow rate of grain into the ground hopper.
	B. The discharge of grain from the main auger may be restricted.	B1. Inspect auger intake and discharge areas for damage.

8" & 10" BE-SAW HOPPER COMPONENTS

8" & 10" SWING A WAY HOPPER COMPONENTS

Ref #	Part #	Description
1	GK1490	Flexible Swing Away Hopper Weldment for 8"
	GK1491	Flexible Swing Away Hopper Weldment for 10"
2	GK6484	Hopper Flight Weldment with Tail Stub for 8" (3/16" Flighting)
	GK6485	Hopper Flight Weldment with Tail Stub for 8" (1/4" Flighting)
	GK6487	Hopper Flight Weldment with Tail Stub for 10" (3/16" Flighting)
	GK6488	Hopper Flight Weldment with Tail Stub for 10" (1/4" Flighting)
3	GK1360	Lid with Hinge for 8"
	GK1361	Lid with Hinge for 10"
4	GK1560	Bearing Stub for 8" (1" x 7 1/4" Long)
	GK1487	Bearing Stub for 10" (1 1/4" x 8" Long)
5	GK1357	Bearing Hanger Weldment with Bearing for 8" (1" Bore)
	GK1359	Bearing Hanger Weldment with Bearing for 10" (1 1/4" Bore)
6	GK1362	Rubber Mat
7	GK1482	Rubber Mat Strap
8	GK1526	Hopper Wheel
9	GK1266	U-Joint for 8" (1" Bore x 5" Long)
	GK1483	U-Joint for 10" (1 1/4" Bore x 5" Long)
10	GK1559	Incline Flight Tail Stub for 8" (1" x 6" Long)
	GK1484	Incline Flight Tail Stub for 10" (1 1/4" x 5 3/4" Long)
11	GC10634	Tube - 08" x 116" Std Incline Tube Assembly
11	GK6968	Tube - 08" x 144" Std Incline Tube Assembly
11	GC10685	Tube - 10" x 120" Std Incline Tube Assembly
11	GC10445	Tube - 10" x 160" Std Incline Tube Assembly
12	GK6980	Screw - 08" x 7" Pitch x 9' 8"
12	GK6981	Screw - 08" x 7" Pitch x 12' 0"
12	GK6950	Screw - 10" x 9" Pitch x 10' 0"
12	GK6952	Screw - 10" x 9" Pitch x 13' 4"
15	GC10324	Swivel Spout Weldment for 8"
	GC10385	Swivel Spout Weldment for 10"
17	GK1534	Rubber Sleeve for 8"
	GK1535	Rubber Sleeve for 10"
18	GK2265	Cover Strap for 8"
	GK1358	Cover Strap for 10"
19	GK1550	Incline Flight to Tail Stub-Stub Bolt Kit for 8"
	GK1536	Incline Flight to Tail Stub-Stub Bolt Kit for 10"

8" & 10" BE-SAW HOPPER COMPONENTS

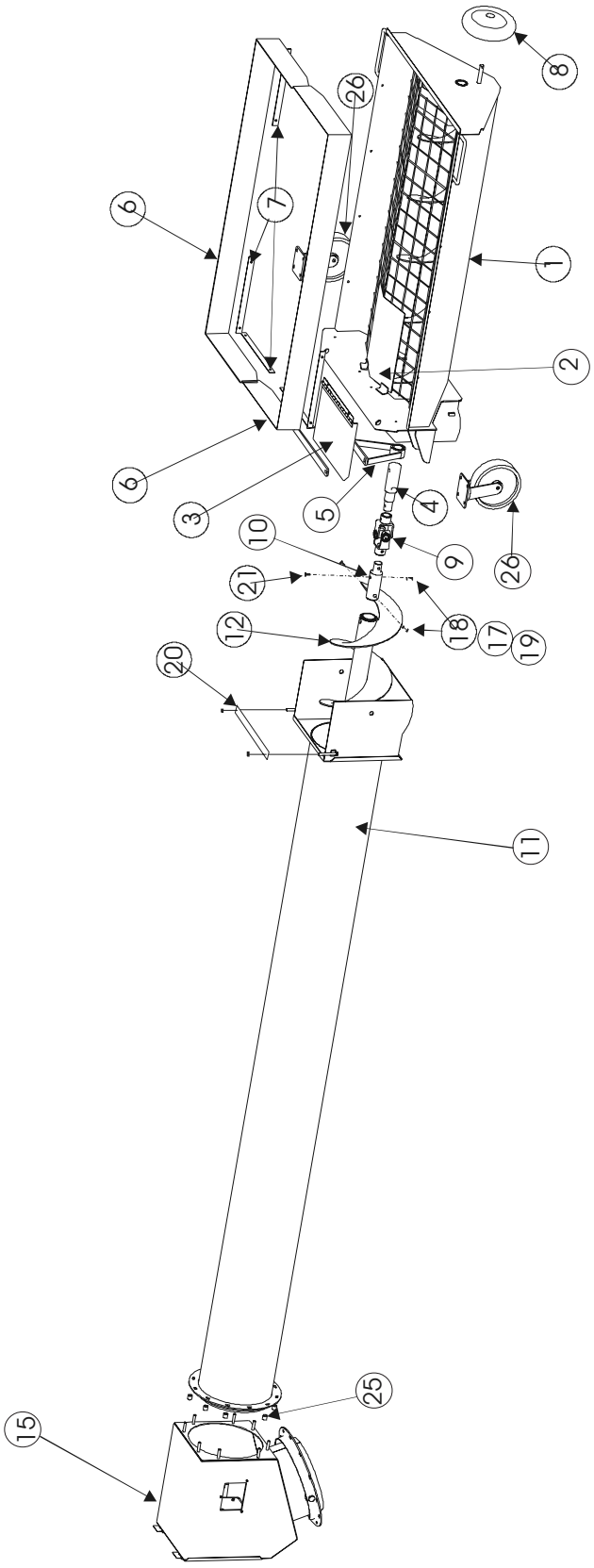


Connecting Components 8" Standard Flight Mounted on 1.90" O.D. Tubing 10" Standard and Heavy Flighting Mounted on 2 3/8" O.D. Tubing			
Ref. #	8" Part #	10" Part #	Description
22	S-8316	--	Connecting Bolt 7/16"-14 x 3" HHCS Zinc YDP Gr 8 (8" Upper)
	S-7249	--	Connecting Bolt 3/8"-16 x 3 " HHCS Zinc YDP Gr 5 (8" Lower)
	--	S-8314	Connecting Bolt 1/2"-13 x 3-1/2 " HHCS Zinc Gr 8 (10" Upper)
	--	S-9185	Connecting Bolt 7/16"-14 x 3-1/2 " HHCS Zinc YDP Gr 8 (10" Lower)
23	S-8317	S-8317	7/16"-14 ZN GrC Stover Type Locknut (10" Upper) & (8" Upper)
	--	S-8315	1/2"-13 ZN GrC Stover Type Locknut (10" Upper)
	S-7383	--	3/8"-16 ZN Locknut (8" Lower)
24	S-248	--	3/8" Flat Washer - USS Zinc GR2 (8" Lower)
	--	S-8320	7/16" Flat Washer - USS Zinc (10" Lower)

12" BE-SAW HOPPER COMPONENTS

12" SWING A WAY HOPPER COMPONENTS		
Ref No.	**Part No.**	**Description**
1	GK4255	Hopper
2	GK4256	Hopper Flight Weldment 3/16
	GK4257	Hopper Flight Weldment 1/4"
3	GK4144	Lid w/Hinge
4	GK4254	Bearing Hanger Stub
5	GK4253	Bearing Hanger
N/S	GK1303	Bronze Bushing 1.875" O.D. x 11/2" I.D. (in bearing hanger)
6	GK4289	Rubber Mat
7	GK4258	Rubber Mat Strap
8	GK1526	Rubber Wheel w/Steel Pin
9	GK1291	U-Joint (1 1/4" bore x 7") (12N)
10	GK4102	Shaft: Incline Flight Stub
11		Incline Tube Weldment
	GC10574	Standard Tube 13' 3" Nominal
	GC10577	Standard Tube 15' 3" Nominal
12		Incline Flight
	GK7007	w/7ga Flighting X 15' Nominal
	GK7008	w/7ga Flighting X 17' Nominal
15	GC10503	12" Swivel Spout Weldment
17	S-7509	Washer, Flat 1/2"
18	GK1535	Rubber Sleeve
19	S-8315	Nut, Lock 1/2-13
20	GK3833	Lid Cover Strap
21	S-8400	Bolt HHCS 1/2" - 13 x 3 3-4" Long Zinc Coated Grade 5
24	S-8251	Nut, Lock 3/8-16
25	GK4292	Spacer Bushing for Swivel Spout to Incline Tube
26	GK4147	Wheel: 8" Caster

12" BE-SAW HOPPER COMPONENTS

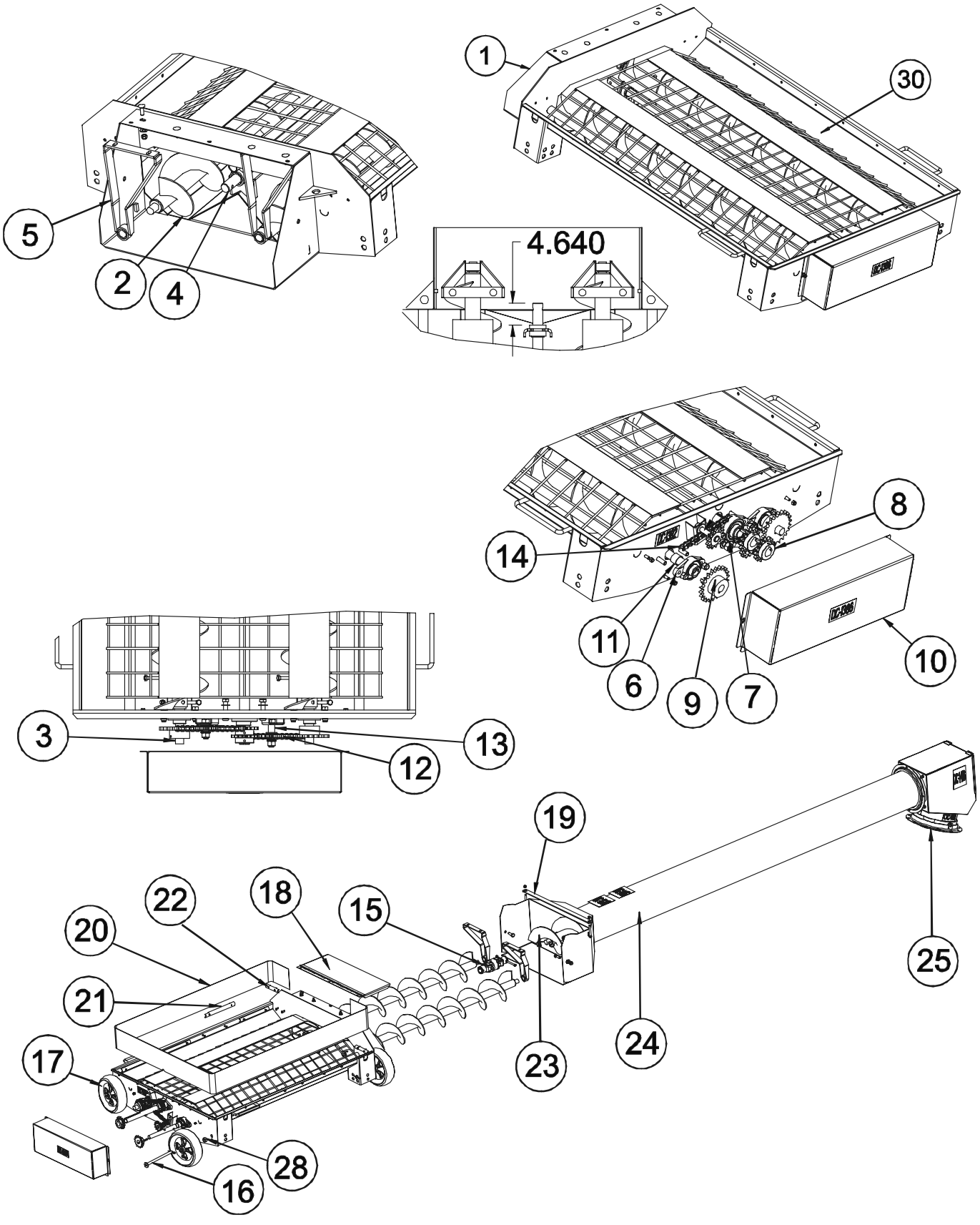


Swing-Out Hopper Illustration

10" LOW-PROFILE HOPPER COMPONENTS

10" Low Profile Hopper Component		
Ref. #	**Part #**	**Description**
1	GK5813	Swing Away Hopper with Bushing
2	GK5811	Flight 7" O.D. x 7 Ga.
	GK5825	Flight 7" O.D. x 1/4".
3	GK5820	1" x 9" Intake Shaft
4	GK6954	1.25" x 60-15/16" Drive Shaft
5	GK5810	Hanger Bearing
6	GK1049	2 Hole Flange Bearing w/ 1" Bore & Lock Collar
7	GK1330	2 Hole Flange Bearing w/ 1.25" Bore & Lock Collar
8	GK1021	15 Tooth Sprocket 1.25" Bore
9	GK1110	22 Tooth Sprocket 1.00" Bore # 50 w/ Keyway
10	GK5821	Chain Guard
11	GK5900	Spacer Bushing 1.25" x .083" x .875"
12	GK1701	13 Tooth Idler Sprocket #50 x 5/8" Bore
14	GK6393	# 50 Roller Chain
13	GK5965	Spacer Bushing .843" x .109" x 1.00"
15	GK1483	U-Joint for 10" (1.25" bore x 5" long)
16	GK5857	Clevis Pin 5/8" x 9-3/4"
17	GK5817	Wheel 10" Dia. X 3.25" Wide
18	GK5815	Hopper Lid Weldment
19	GK5814	Lid Strap
20	GK5822	.125" x 6" x 161" Rubber Mat
21	GK1482	9.875" Rubber Mat Strap
22	GK5824	4.875" Rubber Mat Strap
23	GK6858	Screw - 10" X 9" Pitch x 10'-1 15/16"
24	GC10691	Tube - 10" x 120" Lo-Pro Incline Tube Assy
23	GK6959	Screw - 10" X 9" Pitch x 12'-10 15/16"
24	GC10437	Tube - 10" x 153" Lo-Pro Incline Tube Assy
25	GC10386	10" Swivel Spout Assembly
28	GK6394	Wheel Spacer Bushing

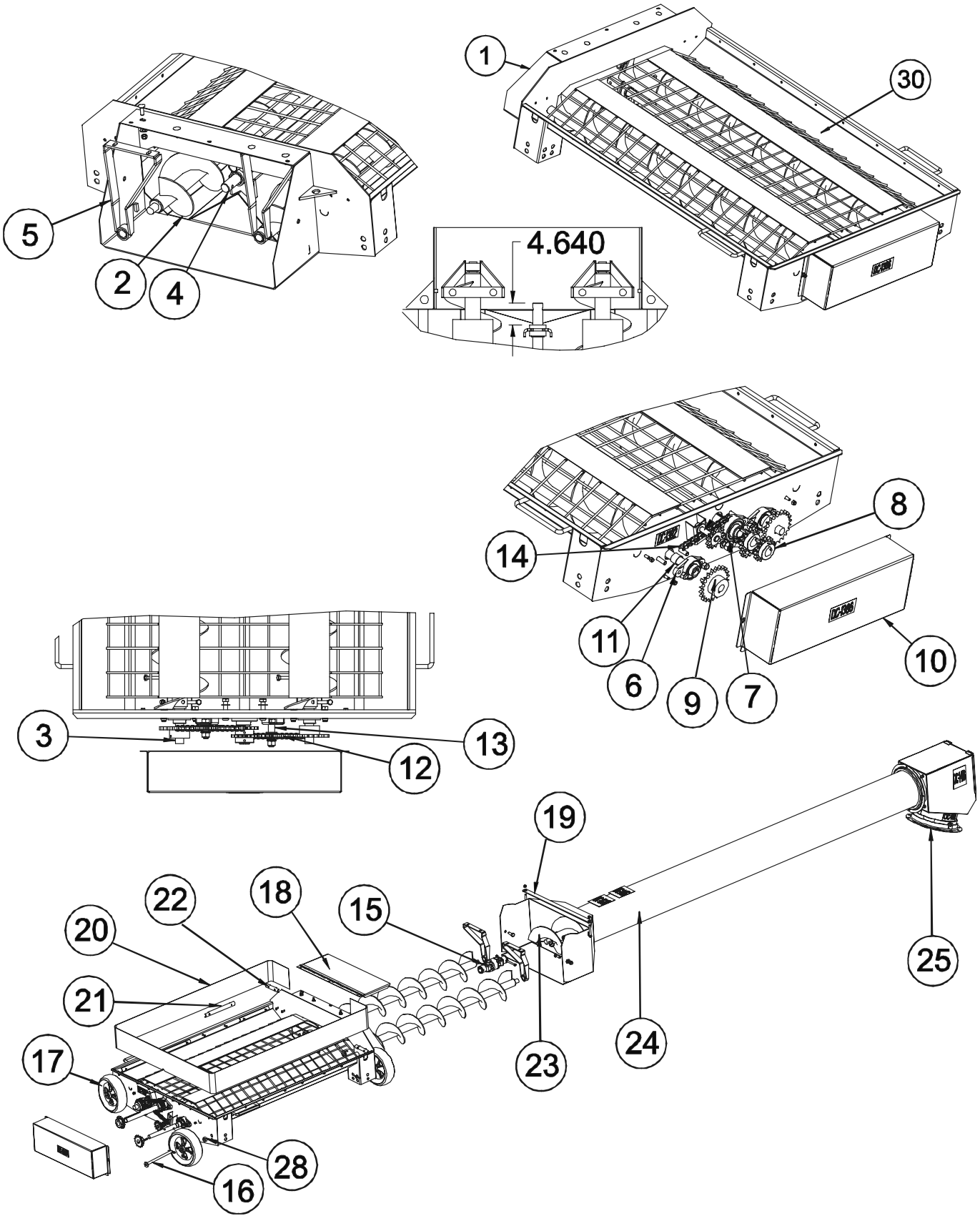
10" LOW-PROFILE HOPPER COMPONENTS



12" LOW-PROFILE HOPPER COMPONENTS

12" LOW PROFILE SWING A WAY HOPPER		
Ref #	**Part #**	**Description**
1	GK5813	Swing Away Hopper w/Bushing
2	GK5811	Flight 7" O.D. x 7 ga
	GK5825	Flight 7" O.D. x 1/4"
3	GK5820	1" x 9" Intake Shaft
4	GK5812	1.25" x 57" Drive Shaft
5	GK5810	Hanger Bearing
6	GK1049	2 Hole Flange Bearing w/1" Bore & Lock Collar
7	GK1330	2 Hole Flange Bearing w/1.25" Bore & Lock Collar
8	GK1021	15 Tooth Sprocket 1.25" Bore
9	GK1014	15 Tooth Sprocket 1.00" Bore
10	GK5821	12" Chain Guard
11	GK5900	Spacer Bushing 1.25" x .083" x .875"
12	GK5823	#50 Roller Chain
13	GK1701	13 Tooth Idler Sprocket #50 x 5/8" Bearing
14	GK5965	Spacer Bushing .843" x .109" x 1.00"
15	GK5819	CV Joint 1.25" x 8.875"
16	GK5857	Clevis Pin 5/8" x 9 3/4"
17	GK5817	Wheel 10" Dia x 3.25" Wide
18	GK5815	Hopper Lid Weldment
19	GK5814	Lid Strap
20	GK5822	.125" x 6" x 161" Rubber Mat
21	GK1482	9.875" Rubber Mat Strap
22	GK5824	4.875" Rubber May Strap
23	GK7007	12" Incline Flight Assembly 7 Ga. X 15' Nominal
	GK7008	12" Incline Flight Assembly 7 Ga. X 17' Nominal
24	GC10580	12" Incline Tube Assembly 12' 8" Nominal
	GC10583	12" Incline Tube Assembly 14' 8" Nominal
25	GC10503	12" Swivel Spout Assembly
28	GK6394	Wheel Spacer Bushing

12" LOW-PROFILE HOPPER COMPONENTS



8" BE-SAW DRIVE COMPONENTS

Drive Components for BESAW

8" Auger

460 V & 220 V 60 Hz Operation

Capacity	Item #	Qty	Description	Specification	Part No.
	1	1	Motor - 182T	3hp/460V/3PH 60HZ	300-3
	OR	1	Motor - 184T	3hp/220V/1PH 60HZ	300-1
	2	4	Bolt-Hex Hd	3/8"-16 x 1 1/2"	S-7515
	3	4	Washer-Lock	3/8" Split	S-1054
	4	4	Nut-Hex	3/8-16	S-456
	8	1	Key	1/4" sq x 3"	S-8276
1450 BPH	5	1	Sheave-Drv	2gr B 3.0"OD x 1 1/8"	PT0563
	6	1	Sheave-Drvn	2gr B 18.4"OD x sk	GK2567
	7	1	Bushing	SK-1 1/4"	GC07674
	N/S	2	Belt	BX65	MHC00743
1800 BPH	5	1	Sheave-Drv	2gr B 3.0"OD x 1 1/8"	PT0563
	6	1	Sheave-Drvn	2gr B 15"OD x 1.25"	GK1869
	7		Not Used		
	N/S	2	Belt	BX58	PT1179
2200 BPH	5	1	Sheave-Drv	2gr B 3.0"OD x 1 1/8"	PT0563
	6	1	Sheave-Drvn	2gr B 12"OD x 1 1/4"	GK1335
	7		Not Used		
	N/S	2	Belt	BX52	020-1034-6
2900 BPH	5	1	Sheave-Drv	2gr B 4"OD x 1 1/8"	4018-2
	6	1	Sheave-Drvn	2gr B 12"OD x 1 1/4"	GK1335
	7		Not Used		
	N/S	2	Belt	BX54	MHC00949

380V 50 Hz Operation

Capacity	Item #	Qty	Description	Specification	Part No.
	1	1	Motor - 182T	3hp/380V/3PH 50HZ	300-3-50
	2	4	Bolt-Hex Hd	3/8"-16 x 1 1/2"	S-7515
	3	4	Washer-Lock	3/8" Split	S-1054
	4	4	Nut-Hex	3/8-16	S-456
	8	1	Key	1/4" sq x 3"	S-8276
1450 BPH	5	1	Sheave-Drv	2 GR A3.0B3.4-1210	MHC00760
				Bushing 1210 - 1 1/8	MHC00144
	6	1	Sheave-Drvn	2gr B 18.4"OD x sk	GK2567
	7	1	Bushing	SK-1 1/4"	GC07674
	N/S	2	Belt	BX65	MHC00743
1800 BPH	5	1	Sheave-Drv	2 GR A3.0B3.4-1210	MHC00760
				Bushing 1210 - 1 1/8	MHC00144
	6	1	Sheave-Drvn	2gr B 15"OD x 1.25"	GK1869
	7		Not Used		
	N/S	2	Belt	BX58	PT1179
2200 BPH	5	1	Sheave-Drv	2 GR A3.0B3.4-1210	MHC00760
				Bushing 1210 - 1 1/8	MHC00144
	6	1	Sheave-Drvn	2gr B 12"OD x 1 1/4"	GK1335
	7		Not Used		
	N/S	2	Belt	BX52	020-1034-6
2900 BPH	5	1	Sheave-Drv	2 GR A4.0B4.4-1610	MHC01118
				Bushing 1610 - 1 1/8	MHC00035
	6	1	Sheave-Drvn	2gr B 12"OD x 1 1/4"	GK1335
	7		Not Used		
	N/S	2	Belt	BX54	MHC00949

10" BE-SAW DRIVE COMPONENTS

Drive Components for BESAW

10" Auger

460 V & 220 V 60 Hz Operation

Capacity	Item #	Qty	Description	Specification	Part No.
	1	1	Motor - 184T	5hp/460V/3PH 60HZ	500-3
	OR	1	Motor - 184T	5hp/220V/1PH 60HZ	500-1
	2	4	Bolt-Hex Hd	3/8"-16 x 1 1/2"	S-7515
	3	4	Washer-Lock	3/8" Split	S-1054
	4	4	Nut-Hex	3/8-16	S-456
	8	1	Key	3/8" sq x 3"	S-9181
4000 BPH	5	1	Sheave-Drv	2gr B 3.5"OD x 1 1/8"	PT0567
	6	1	Sheave-Drvn	2gr B 18.4"OD x sk	GK2567
	7	1	Bushing	SK-1 1/2"	GK4248
	N/S	2	Belt	BX66	MHC00616
4600 BPH	5	1	Sheave-Drv	2gr B 4"OD x 1 1/8"	4018-2
	6	1	Sheave-Drvn	2gr B 18.4"OD x sk	GK2567
	7	1	Bushing	SK-1 1/2"	GK4248
	N/S	2	Belt	BX66	MHC00616
5600 BPH	5	1	Sheave-Drv	2gr B 4"OD x 1 1/8"	4018-2
	6	1	Sheave-Drvn	2gr B 15"OD x 1 1/2"	GK2567
	7		Not Used		
	N/S	2	Belt	BX60	MHC00028

380 V 50 Hz Operation

Capacity	Item #	Qty	Description	Specification	Part No.
	1	1	Motor - 184T	5hp/380V/3PH 50HZ	500.3-50
	2	4	Bolt-Hex Hd	3/8"-16 x 1 1/2"	S-7515
	3	4	Washer-Lock	3/8" Split	S-1054
	4	4	Nut-Hex	3/8-16	S-456
	8	1	Key	3/8" sq x 3"	S-9181
4000 BPH	5	1	Sheave-Drv	2 GR A3.4B3.8-1610	MHC00499
				Bushing 1610 - 1 1/8	MHC00035
	6	1	Sheave-Drvn	2gr B 18.4"OD x sk	GK2567
	7	1	Bushing	SK-1 1/2"	GK4248
	N/S	2	Belt	BX66	MHC00616
4600 BPH	5	1	Sheave-Drv	2 GR A4.0B4.4-1610	MHC01118
				Bushing 1610 - 1 1/8	MHC00035
	6	1	Sheave-Drvn	2gr B 18.4"OD x sk	GK2567
	7	1	Bushing	SK-1 1/2"	GK4248
	N/S	2	Belt	BX66	MHC00616
5600 BPH	5	1	Sheave-Drv	2 GR A4.0B4.4-1610	MHC01118
				Bushing 1610 - 1 1/8	MHC00035
	6	1	Sheave-Drvn	2gr B 15"OD x 1 1/2"	GK2567
	7		Not Used		
	N/S	2	Belt	BX60	MHC00028

12" BE-SAW DRIVE COMPONENTS

Drive Components for BESAW
12" Auger

460V 3PH 60Hz Operation

Capacity	Item #	Qty	Description	Specification	Part No.
	1	1	Motor - 213T	7 1/2hp/460V/3PH 60HZ	712-3
	2	4	Bolt-Hex Hd	3/8"-16 x 1 1/2"	S-7515
	3	4	Washer-Lock	3/8" Split	S-1054
	4	4	Nut-Hex	3/8-16	S-456
	8	1	Key	3/8" sq x 3"	S-9181
7000 BPH	5	1	Sheave-Drv	3gr B 3.5"OD x 1 3/8" ID	PT0588
	6	1	Sheave-Drvn	3gr B 18.4"OD x SK	GK2570
	7	1	Bushing	SK-1 1/2"	GK4248
	N/S	3	Belt	BX73	017-1498-9
8000 BPH	5	1	Sheave-Drv	3gr A3.4B3.8 SH	GK6994
		1	Bushing	SH 1 3/8"	GC07383
	6	1	Sheave-Drvn	3gr B 18.4"OD x SK	GK2570
	7	1	Bushing	SK-1 1/2"	GK4248
	N/S	3	Belt	BX73	017-1498-9

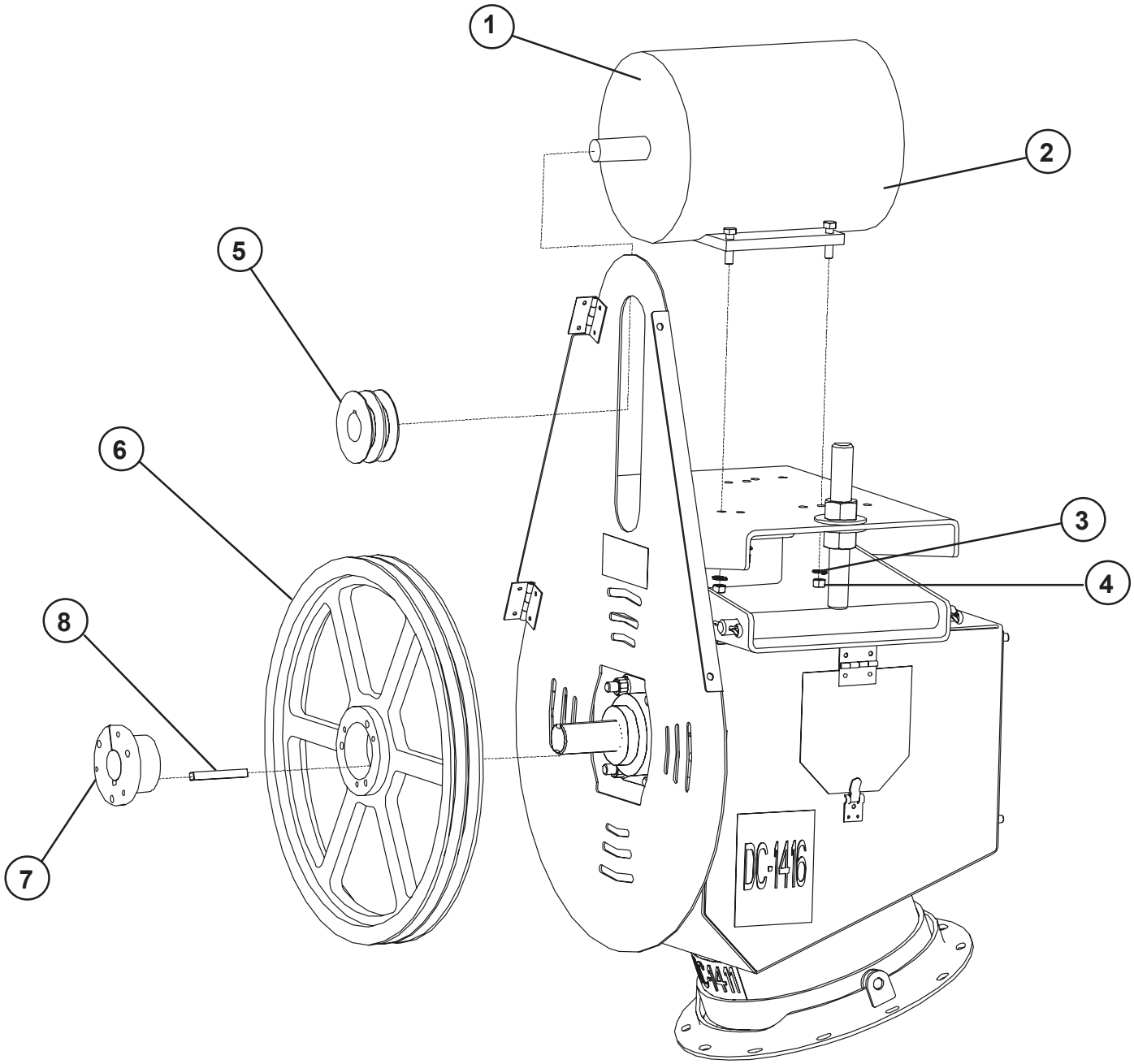
220V 1 PH 60 Hz Operation

Capacity	Item #	Qty	Description	Specification	Part No.
	1	1	Motor - 215	7 1/2hp/460V/3PH 60HZ	712-3
	2	4	Bolt-Hex Hd	3/8"-16 x 1 1/2"	S-7515
	3	4	Washer-Lock	3/8" Split	S-1054
	4	4	Nut-Hex	3/8-16	S-456
	8	1	Key	3/8" sq x 3"	S-9181
7000 BPH	5	1	Sheave-Drv	3 GR 3.5"O.D. X 1 1/8" ID	PT0587
	6	1	Sheave-Drvn	3gr B 18.4"OD x SK	GK2570
	7	1	Bushing	SK-1 1/2"	GK4248
	N/S	3	Belt	BX73	017-1498-9
8000 BPH	5	1	Sheave-Drv	3 GR A3.4B3.8 - SH	GK6994
		1	Bushing	Bushing SH x 1 1/8" Bore	MHC00649
	6	1	Sheave-Drvn	3gr B 18.4"OD x SK	GK2570
	7	1	Bushing	SK-1 1/2"	GK4248
	N/S	3	Belt	BX73	017-1498-9

380V 3PH 50Hz Operation

Capacity	Item #	Qty	Description	Specification	Part No.
	1	1	Motor - 213T	7 1/2hp/380V/3PH 50HZ	712-3-50
	2	4	Bolt-Hex Hd	3/8"-16 x 1 1/2"	S-7515
	3	4	Washer-Lock	3/8" Split	S-1054
	4	4	Nut-Hex	3/8-16	S-456
	8	1	Key	3/8" sq x 3"	S-9181
7000 BPH	5	1	Sheave-Drv	3 GR A3.6B4.0-1610	MHC00778
		1	Bushing	Bushing 1610 - 1 3/8	CE-00594
	6	1	Sheave-Drvn	3gr B 18.4"OD x SK	GK2570
	7	1	Bushing	SK-1 1/2"	GK4248
	N/S	3	Belt	BX73	017-1498-9
8000 BPH	5	1	Sheave-Drv	3 GR A4.2B4.6-1610	GC10714
				Bushing 1610 - 1 3/8	CE-00594
	6	1	Sheave-Drvn	3gr B 18.4"OD x SK	GK2570
	7	1	Bushing	SK-1 1/2"	GK4248
	N/S	3	Belt	BX73	017-1498-9

8", 10", & 12" BE-SAW DRIVE COMPONENTS



8" & 10" SWIVEL SPOUT COMPONENTS

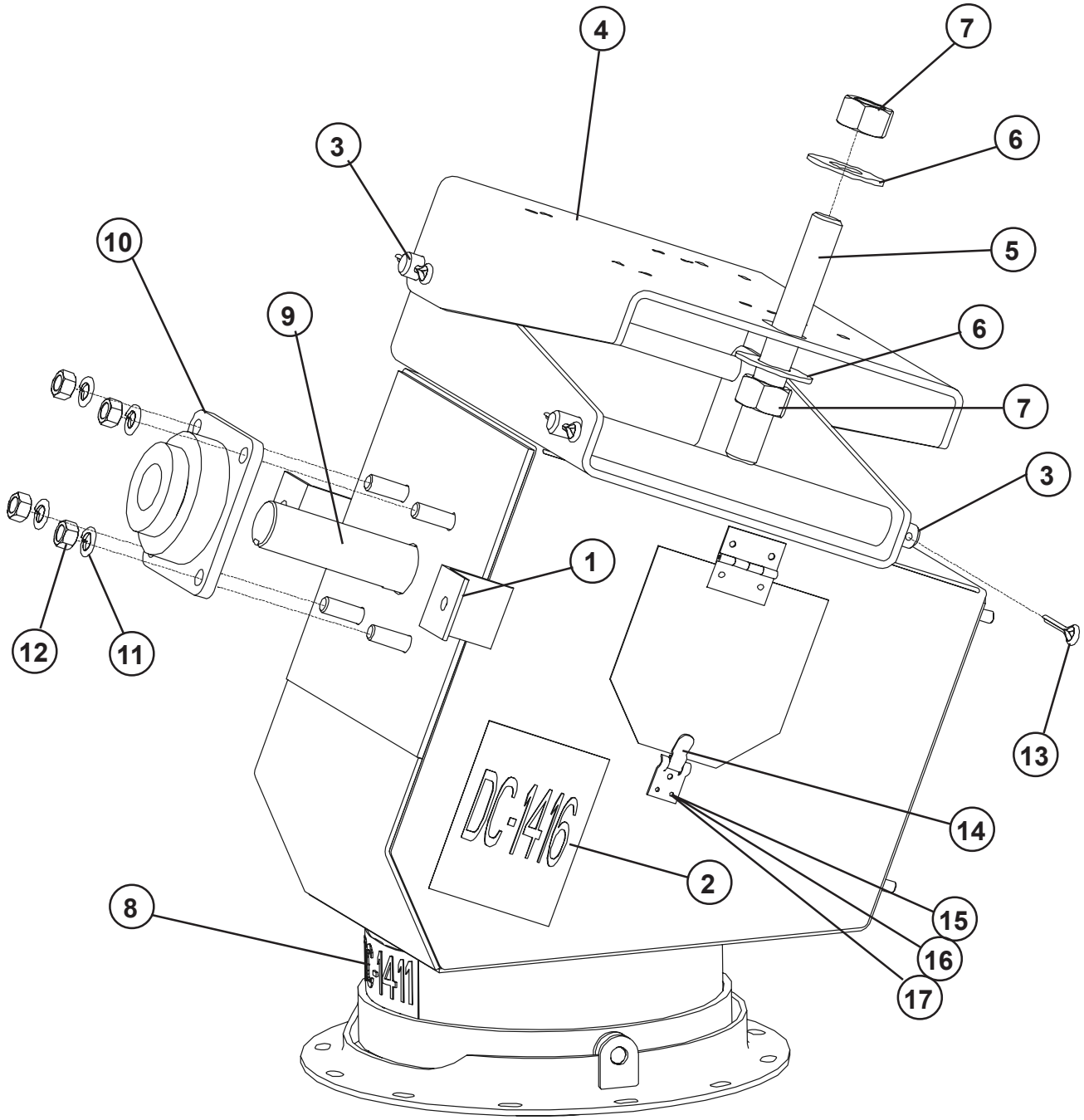
8" Swivel Spout Assembly

Ref #	Part #	Qty.	Description
1	GC10324	1	Swivel Spout Weldment
2	DC-1416	2	Danger Rotating Auger Decal
3	GC10340	2	Swivel Pin for Motor Mount 8 & 10"
4	GC10325	1	Motor Mount Plate
5	GC10338	1	Hinged Motor Mount Swing Adjuster
6	S-7835	2	Washer Flat 1" USS Zinc
7	S-240	2	Nut, Hex 1"-8 Zinc Grade 5
8	DC-1411	1	Decal - Shear Point
9	GK1017	1	Four Bolt Flange Bearing 1 1/4" w/Lock collar
10	GK1331	1	Shaft: Drive 1 1/4" x 10 1/2" Long
11	S-236	4	Lock Washer 1/2"
12	S-3729	4	Hex Nut 1/2"-13 Plated Grade 5
13	S-8312	4	Cotter Pin 3/16" dia x 1 1/2" Long
14	GK1571	1	Snap Fastener
15	S-8325	1	Screw MS #8 x 1/2 RHP ZN
16	S-6551	1	Washer Lock Split #8 Med ZN
17	S-6525	1	Nut Hex #8-32 ZN

10" Swivel Spout Assembly

Ref #	Part #	Qty.	Description
1	GC10385	1	Swivel Spout Weldment
2	DC-1416	2	Danger Rotating Auger Decal
3	GC10340	2	Swivel Pin for Motor Mount 8 & 10"
4	GC10325	1	Motor Mount Plate
5	GC10338	1	Hinged Motor Mount Swing Adjuster
6	S-7835	2	Washer Flat 1" USS Zinc
7	S-240	2	Nut, Hex 1"-8 Zinc Grade 5
8	DC-1411	1	Decal - Shear Point
9	GK1343	1	Four Bolt Flange Bearing 1 1/2" w/Lock collar
10	GK1289	1	Shaft: Drive 1 1/2" x 11 1/2" Long
11	S-236	4	Lock Washer 1/2"
12	S-3729	4	Hex Nut 1/2"-13 Plated Grade 5
13	S-8312	4	Cotter Pin 3/16" dia x 1 1/2" Long
14	GK1571	1	Snap Fastener
15	S-8325	1	Screw MS #8 x 1/2 RHP ZN
16	S-6551	1	Washer Lock Split #8 Med ZN
17	S-6525	1	Nut Hex #8-32 ZN

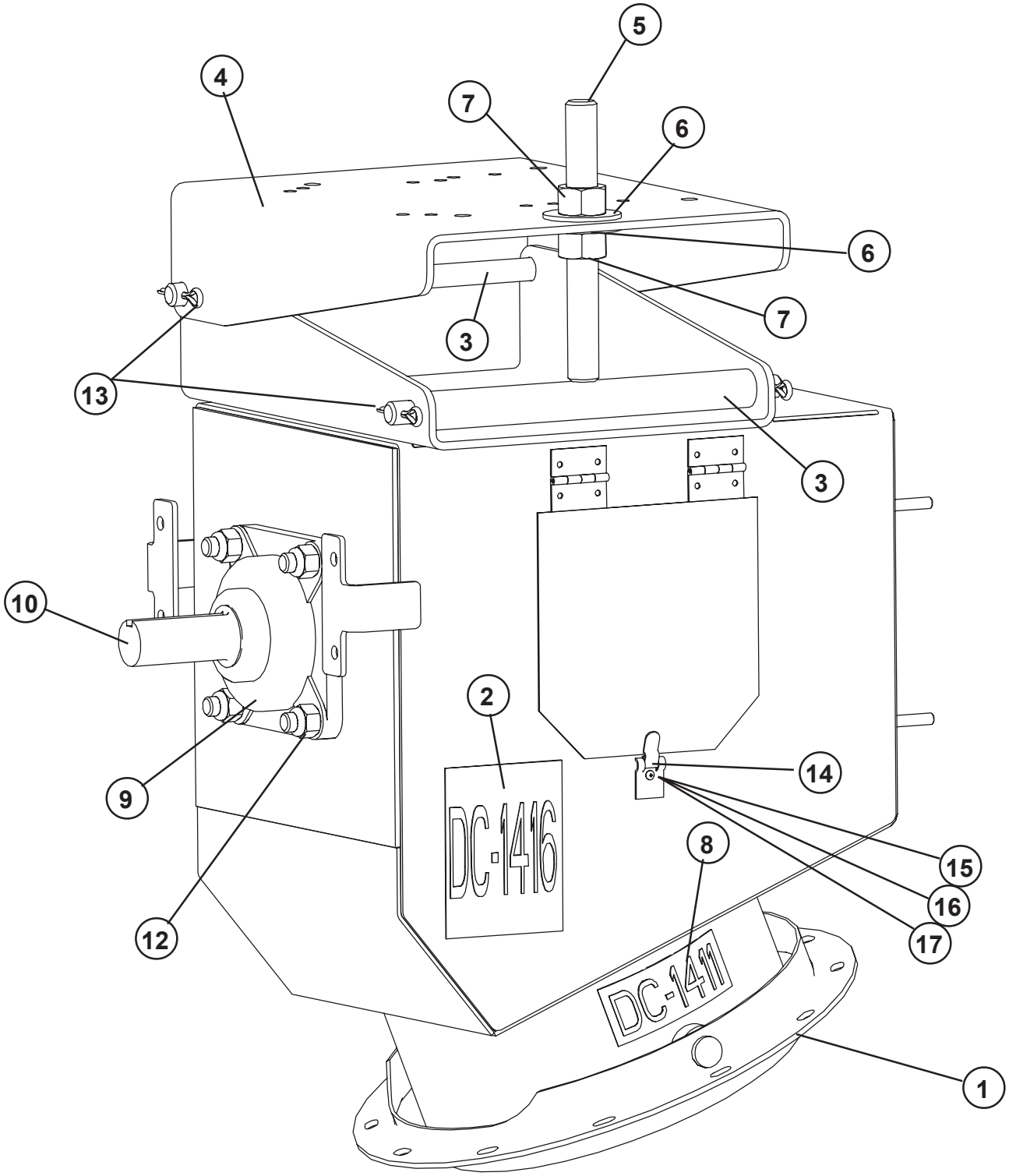
8" & 10" SWIVEL SPOUT COMPONENTS



12" SWIVEL SPOUT COMPONENTS

12" Swivel Spout Assembly			
Ref #	**Part #**	**Qty.**	**Description**
1	GC10502	1	Swivel Spout Weldment
2	DC-1416	2	Danger Rotating Auger Decal
3	GC10509	2	Swivel Pin for Motor Mount 12"
4	GC10504	1	Motor Mount Plate
5	GC10508	1	Hinged Motor Mount Swing Adjuster
6	S-7835	2	Washer Flat 1" USS Zinc
7	S-240	2	Nut, Hex 1"-8 Zinc Grade 5
8	DC-1411	2	Decal - Shear Point
9	GK2004	1	Four Bolt Flange Bearing 2" w/Lock collar
10	GK2006	1	Shaft: Drive 2" to 1 1/2" x 12" Long
N/S	GC10419	1	Belt Guard (Not Shown)
12	S-8349	4	Hex Nut 5/8-11 Plated Grade 5
13	S-8312	4	Cotter Pin 3/16" dia x 1 1/2" Long
14	GK1571	1	Snap Fastener
15	S-8325	1	Screw MS #8 x 1/2 RHP ZN
16	S-6551	1	Washer Lock Split #8 Med ZN
17	S-6525	1	Nut Hex #8-32 ZN

12" SWIVEL SPOUT COMPONENTS



BESAW SWIVEL ATTACHMENT PARTS

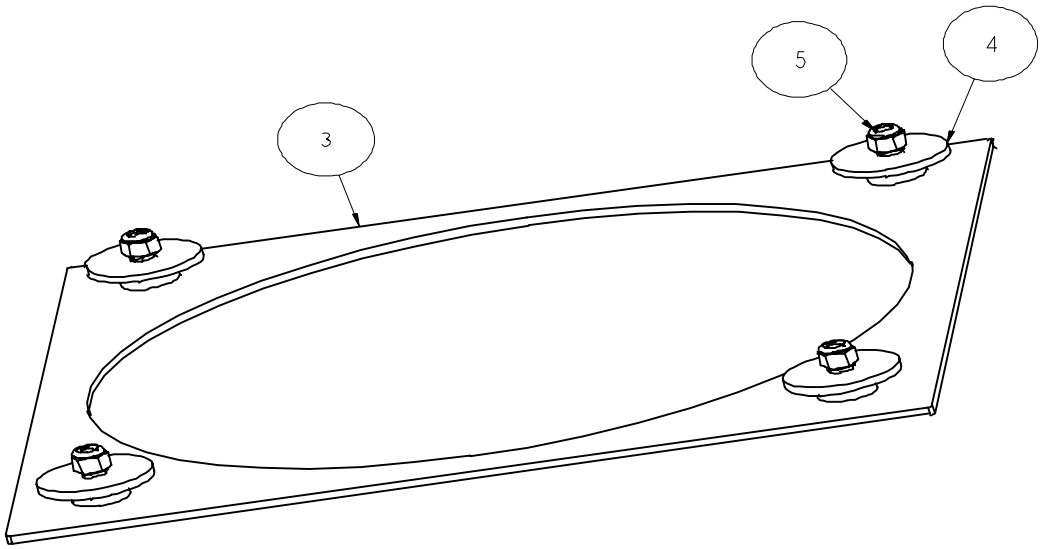
A swivel plate assembly is supplied with each BESAW

The swivel plate is used as the top plate of the customer supplied transition assembly

8" BESAW			
Ref	Part #	Qty.	Description
1	GC11649	1	Swvl Plt. Asy W/Bolt Kit
2	GC11646	1	Bolt Kit
3	GC11650	1	Swvl Plt Weldment
4	GK1532	4	3/8" Washer for Swivel
5	S-7383	4	3/8-16 Nylock Nut

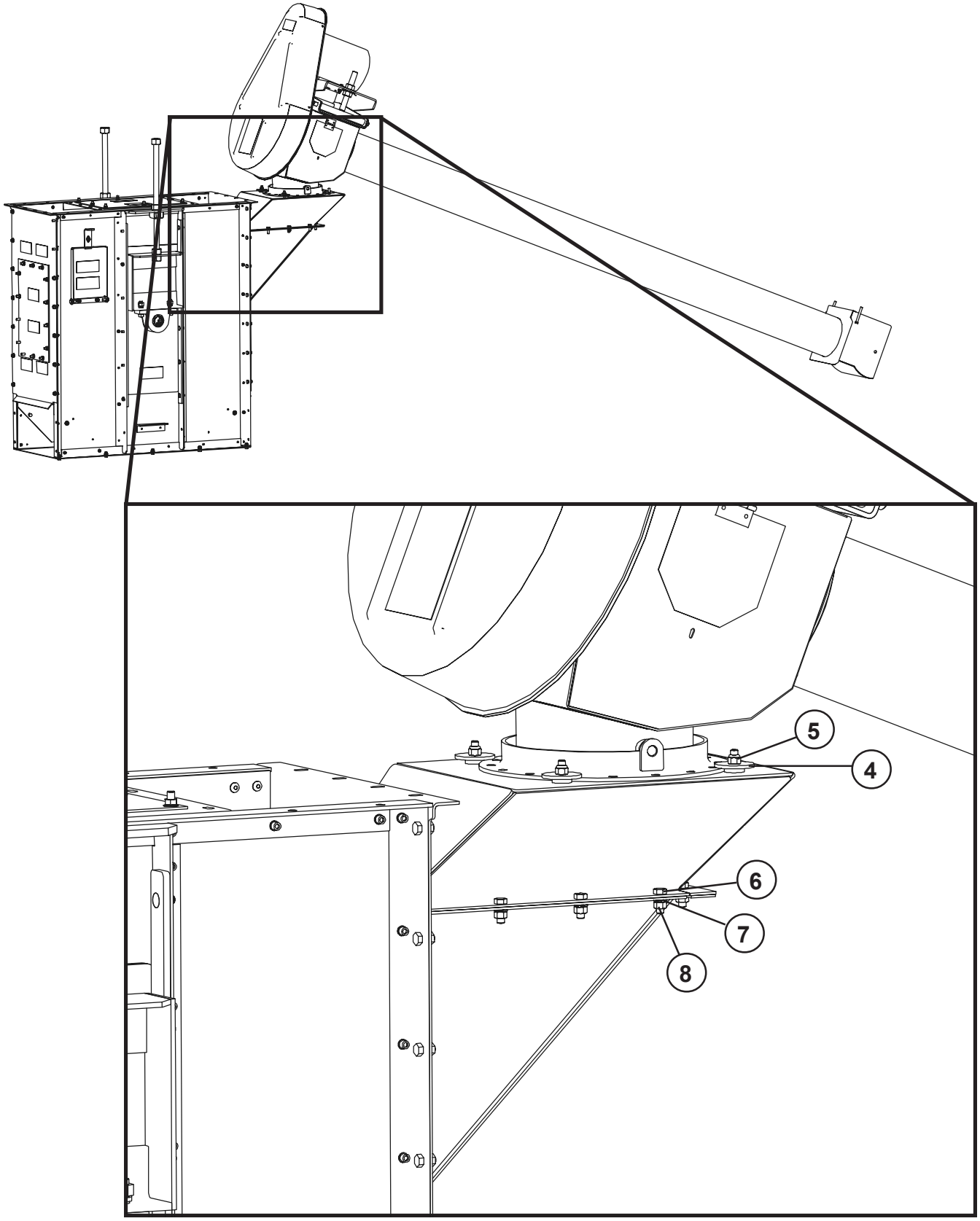
10" BESAW			
Ref	Part #	Qty.	Description
1	GC11645	1	Swvl Plt. Asy W/Bolt Kit
2	GC11646	1	Bolt Kit
3	GC11647	1	Swvl Plt Weldment
4	GK1532	4	3/8" Washer for Swivel
5	S-7383	4	3/8-16 Nylock Nut

12" BESAW			
Ref	Part #	Qty.	Description
1	GC11652	1	Swvl Plt. Asy W/Bolt Kit
2	GC11646	1	Bolt Kit
3	GC11653	1	Swvl Plt Weldment
4	GK1532	4	3/8" Washer for Swivel
5	S-7383	4	3/8-16 Nylock Nut



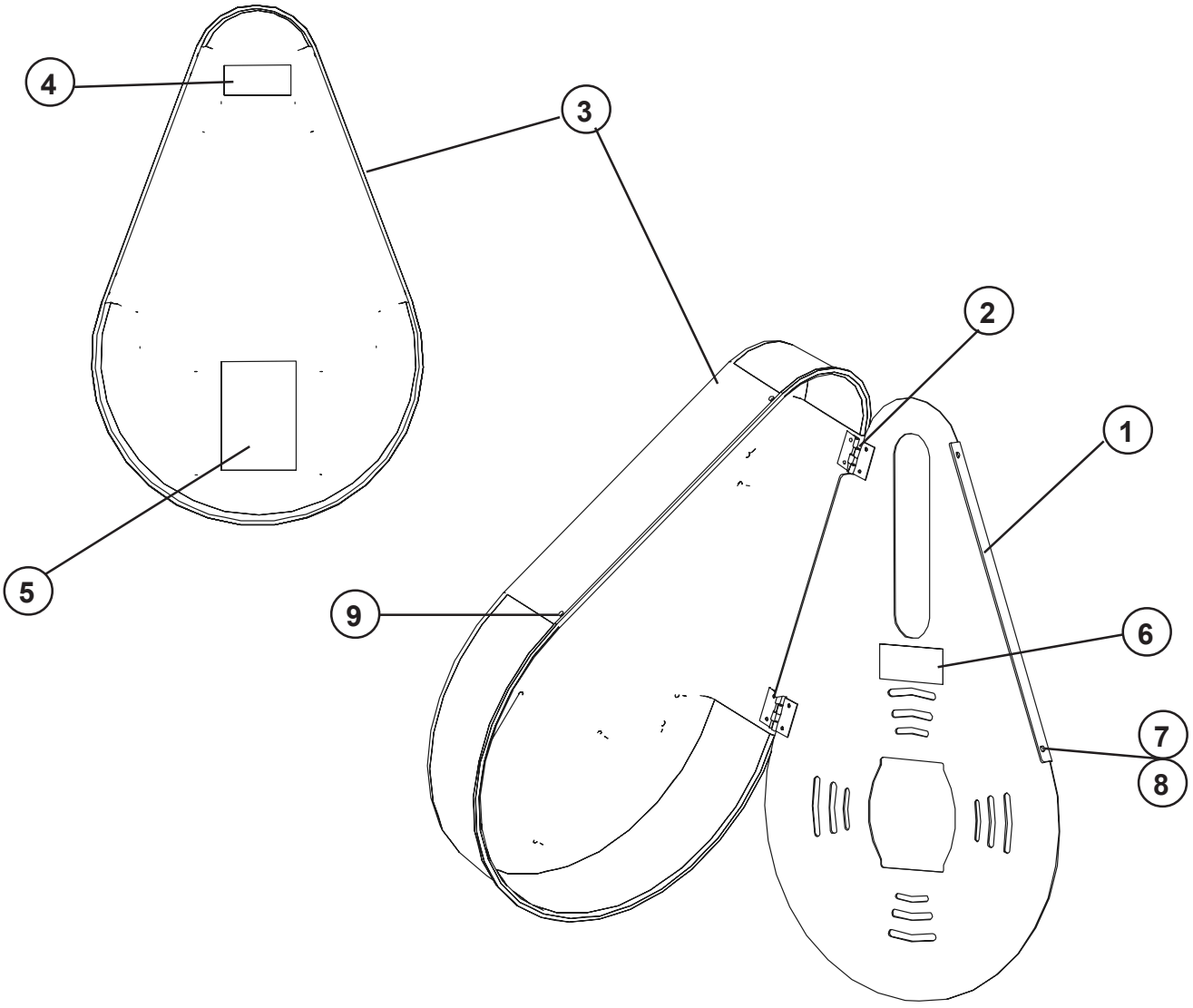
Use the following hardware to attach the customer supplied transition to GSI bucket elevators	6	S-7520	3/8"-16 x 1" HHCS
	7	S-1054	3/8" Lock Washer
	8	S-456	3/8"-16 Hex Nut

TRANSITION TO BUCKET ELEVATOR



10" BELT GUARD COMPONENTS

10" Belt Guard Parts			
Ref. #	**Part #**	**Qty.**	**Description**
1	GC08972	1	Belt Guard Back Plate - 18" Sheave
2	GC04677	2	Hinge: .125" x 2" x .063" x 2" Bk
3	GC08983	1	Plastic 18" Guard
4	DC-995	1	Decal - Warning Shear Point
5	DC-1379	1	Decal Notice
6	DC-994	1	Danger Shear Point
7	99-0026	2	Clip 1/4"-20 Tinnerman Nut
8	S-6674	2	Screw 1/4"-20 x 1/2" THS
9	S-7060	8	Rivet 3/16" x 1/2" (#64)



HARDWARE LOCATION CHARTS

HARDWARE LOCATION CHARTS

		8" Std Profile BESAW	
		SAW BOP: 08" STD HPR	**GC10480**
		SAW, BOLT KIT: 08" STD HPR	**GC10481**
GSI P/N	**Qty**	**Description**	**Where Used**
PB-005	1	Bag Plastic 5" x 7" x 3 Mil.	
S-7383	4	3/8-16 Nylock Nut	Tube Ring to Head Assy
S-8317	2	Nut Stover 7/16-14 Zn Gr C	Flight to Head Shaft
S-8316	2	Bolt HHCS 7/16 - 14 x 3 Zn GR8	Flight to Head Shaft
GK1534	4	Bushing:Rubber 11/16x3/8x5/8"L	Flight to Tail Shaft
S-7383	2	Nut Nylock 3/8-16 Zn Gr 5	Flight to Tail Shaft
S-248	4	Washer Flat 3/8 USS Zn	Flight to Tail Shaft
S-7249	2	Bolt HHCS 3/8-16 x 3 Zn GR5	Flight to Tail Shaft
GK1559	1	Tail Shaft	Flight to Tail Shaft
GK1526	3	Wheels	Wheels to Hopper
S-858	9	Washer Flat 5/8"	Wheels to Hopper
S-8312	3	Cotter Pin 3/16" x 1 1/2" lg	Wheels to Hopper
GK1266	1	U-Joint	U-Joint to tail Shaft
S-7076	2	Bolt HHCS 5/16"-18 x 2 1/2" GR 5	U-Joint to tail Shaft
S-7382	2	Nut Nylock 5/16-18	U-Joint to tail Shaft
S-7534	2	Bolt HHCS 1/2" x 1 1/4"	Screw Tube to Hopper
S-2121	4	Washers Flat 1/2"	Screw Tube to Hopper
S-8260	2	Nut Nylock 1/2"-13	Screw Tube to Hopper
GK1360	1	Hinged Cover	Hinged Cover to Hopper
S-4275	2	Bolt HHCS 5/16-18 x 3/4"	Hinged Cover to Hopper
S-845	2	Washer Flat 5/16	Hinged Cover to Hopper
S-7382	2	Nut Nylock 5/16-18	Hinged Cover to Hopper
GK2265	1	Cover Strap	Cover Strap to Tube
S-7383	2	Nut Nylock 3/8"-16	Cover Strap to Tube
GK1362	1	Rubber Belting (151.5" LG)	Rubber Belting to Hopper
GK1482	10	Attachment Clips Long	Rubber Belting to Hopper
S-6998	20	Bolt HHCS 1/4" x 1"	Rubber Belting to Hopper
S-7025	20	Nut Nylock 1/4"	Rubber Belting to Hopper
GK1482	10	Attachment Clips Long	Rubber Belting to Hopper
S-6998	20	Bolt HHCS 1/4" x 1"	Rubber Belting to Hopper
S-7025	20	Nut Nylock 1/4"	Rubber Belting to Hopper

HARDWARE LOCATION CHARTS

		10" Std Profile BESAW	
		SAW BOP: 10" STD HPR	**GC10454**
		SAW, BOLT KIT: 10" STD HPR	**GC10452**
GSI P/N	**Qty**	**Description**	**Where Used**
PB-005	1	Bag Plastic 5" x 7" x 3 Mil.	
S-7383	4	3/8-16 Nylock Nut	Tube Ring to Head Assy
S-8315	2	Nut Stover 1/2"-13 Zn Gr C	Flight to Head Shaft
S-8314	2	Bolt HHCS 1/2"-13 x3-1/2 Zn GR8	Flight to Head Shaft
GK1535	4	Bushing:Rubber 7/8x1/2x5/8"L	Flight to Tail Shaft
S-8317	2	Nut Stover 7/16-14 Zn Gr C	Flight to Tail Shaft
S-8320	4	Washer Flat 7/16 USS Zn	Flight to Tail Shaft
S-9185	2	Bolt HHCS 7/16-14x3-1/2 Zn GR8	Flight to Tail Shaft
GK1484	1	Tail Shaft	Flight to Tail Shaft
GK1526	3	Wheels	Wheels to Hopper
S-858	9	Washer Flat 5/8"	Wheels to Hopper
S-8312	3	Cotter Pin 3/16" x 1 1/2" lg	Wheels to Hopper
GK1483	1	U-Joint	U-Joint to tail Shaft
S-7249	2	Bolt HHCS 3/8" x 3" GR 5	U-Joint to tail Shaft
S-7383	2	Nut Nylock 3/8"	U-Joint to tail Shaft
S-7534	2	Bolt HHCS 1/2" x 1 1/4"	Screw Tube to Hopper
S-2121	4	Washers Flat 1/2"	Screw Tube to Hopper
S-8260	2	Nut Nylock 1/2"-13	Screw Tube to Hopper
GK1361	1	Hinged Cover	Hinged Cover to Hopper
S-4275	2	Bolt HHCS 5/16-18 x 3/4"	Hinged Cover to Hopper
S-845	2	Washer Flat 5/16	Hinged Cover to Hopper
S-7382	2	Nut Nylock 5/16-18	Hinged Cover to Hopper
GK1358	1	Cover Strap	Cover Strap to Tube
S-7383	2	Nut Nylock 3/8"-16	Cover Strap to Tube
GK1362	1	Rubber Belting (151.5" LG)	Rubber Belting to Hopper
GK1482	10	Attachment Clips Long	Rubber Belting to Hopper
S-6998	20	Bolt HHCS 1/4" x 1"	Rubber Belting to Hopper
S-7025	20	Nut Nylock 1/4"	Rubber Belting to Hopper

HARDWARE LOCATION CHARTS

		10" Low Profile BESAW	
		SAW BOP: 10" Lo Pro HPR	**GC10455**
		SAW, BOLT KIT: 10" Lo Pro HPR	**GC10453**
GSI P/N	**Qty**	**Description**	**Where Used**
PB-005	1	Bag Plastic 5" x 7" x 3 Mil.	
S-7383	4	3/8-16 Nylock Nut	Tube Ring to Head Assy
S-8315	2	Nut Stover 1/2"-13 Zn Gr C	Flight to Head Shaft
S-8314	2	Bolt HHCS 1/2"-13 x 3-1/2 Zn GR8	Flight to Head Shaft
GK1535	4	Bushing:Rubber 7/8x1/2x5/8"L	Flight to Tail Shaft
S-8317	2	Nut Stover 7/16-14 Zn Gr C	Flight to Tail Shaft
S-8320	4	Washer Flat 7/16 USS Zn	Flight to Tail Shaft
S-9185	2	Bolt HHCS 7/16-14x3-1/2 Zn GR8	Flight to Tail Shaft
GK1484	1	Tail Shaft	Flight to Tail Shaft
GK5817	4	Wheels	Wheels to Hopper
GK5857	4	Pin 5/8" x 9 3/4" lg W/.125 Hole	Wheels to Hopper
S-7241	4	Cotter Pin 1/8 " x 1 1/4" lg	Wheels to Hopper
GK6394	4	Bushing:Whl Spcr;1.06x.125x.50	Wheels to Hopper
GK5819	1	U-Joint	U-Joint to tail Shaft
S-7249	2	Bolt HHCS 3/8"-16 x 3" GR 5	U-Joint to tail Shaft
S-8251	2	Nut Stover 3/8"-16	U-Joint to tail Shaft
S-8760	2	Bolt HHCS 1/2"-13 x 1 1/2"	Screw Tube to Hopper
S-2120	4	Washers Flat 1/2" SAE	Screw Tube to Hopper
S-8260	2	Nut Nylock 1/2"-13	Screw Tube to Hopper
GK5815	1	Hinged Cover	Hinged Cover to Hopper
S-8072	3	Bolt HHCS 5/16-18 x 3/4"	Hinged Cover to Hopper
S-1937	3	Washer Flat 5/16	Hinged Cover to Hopper
S-7382	3	Nut Nylock 5/16-18	Hinged Cover to Hopper
GK5814	1	Cover Strap	Cover Strap to Tube
S-7383	2	Nut Nylock 3/8"-16	Cover Strap to Tube
GK5822	1	Rubber Belting (EA 161" lg)	Rubber Belting to Hopper
GK1482	10	Attachment Clips Long	Rubber Belting to Hopper
GK5824	4	Attachment Clips Short	Rubber Belting to Hopper
S-6998	28	Bolt HHCS 1/4" x 1"	Rubber Belting to Hopper
S-7025	28	Nut Nylock 1/4"	Rubber Belting to Hopper

HARDWARE LOCATION CHARTS

		12" Low Profile BESAW	
		SAW BOP: 12" LOPRO HPR	**GC10587**
		SAW, BOLT KIT: 12" LOPRO HPR	**GC10588**
GSI P/N	**Qty**	**Description**	**Where Used**
GK5817	4	Wheels	Wheels to Hopper
GK5857	4	Pin 5/8" x 9 3/4" lg W/.125 Hole	Wheels to Hopper
S-7241	4	Cotter Pin 1/8 " x 1 1/4" lg	Wheels to Hopper
GK6394	4	Bushing:Whl Spcr;1.06x.125x.50	Wheels to Hopper
GK5822	1	Rubber Belting (EA 161" lg)	Rubber Belting to Hopper
GK1482	10	Attachment Clips Long	Rubber Belting to Hopper
GK5824	4	Attachment Clips Short	Rubber Belting to Hopper
S-6998	28	Bolt HHCS 1/4" x 1"	Rubber Belting to Hopper
S-7025	28	Nut Nylock 1/4"	Rubber Belting to Hopper
GK5815	1	Hinged Cover	Hinged Cover to Hopper
S-8072	3	Bolt HHCS 5/16-18 x 3/4"	Hinged Cover to Hopper
S-1937	3	Washer Flat 5/16	Hinged Cover to Hopper
S-7382	3	Nut Nylock 5/16-18	Hinged Cover to Hopper
GK5814	1	Cover Strap	Cover Strap to Tube
S-7383	2	Nut Nylock 3/8"-16	Cover Strap to Tube
S-8760	2	Bolt HHCS 1/2"-13 x 1 1/2"	Screw Tube to Hopper
S-2120	4	Washers Flat 1/2" SAE	Screw Tube to Hopper
S-8260	2	Nut Nylock 1/2"-13	Screw Tube to Hopper
GK5819	1	U-Joint	U-Joint to tail Shaft
S-7249	2	Bolt HHCS 3/8"-16 x 3" GR 5	U-Joint to tail Shaft
S-8251	2	Nut Stover 3/8"-16	U-Joint to tail Shaft
GK1535	4	Bushing:Rubber 7/8x1/2x5/8"L	Flight to Tail Shaft
S-8315	2	Nut Stover 1/2-13 Zn Gr C	Flight to Tail Shaft
S-2121	4	Washer Flat 1/2"	Flight to Tail Shaft
S-8400	2	Bolt HHCS 1/2-13 X 3-3/4 Zn GR5	Flight to Tail Shaft
GK4102	1	Tail Shaft	Flight to Tail Shaft
S-8606	2	Nut Stover 5/8"- 11 Zn Gr C	Flight to Head Shaft
S-7011	2	Bolt HHCS 5/8"- 11 x 3-1/2 Zn GR8	Flight to Head Shaft
GK4292	8	Spacer Bushing	Tube Ring to Head Assy
S-7409	8	Washer Flat 3/8"	Tube Ring to Head Assy
S-7383	8	3/8-16 Nylock Nut	Tube Ring to Head Assy
PB-008	1	Bag Plastic 7" x 8" x 3 Mil.	

HARDWARE LOCATION CHARTS

		12" Low Profile BESAW	
		SAW BOP: 12" LOPRO HPR	**GC10587**
		SAW, BOLT KIT: 12" LOPRO HPR	**GC10588**
GSI P/N	**Qty**	**Description**	**Where Used**
GK5817	4	Wheels	Wheels to Hopper
GK5857	4	Pin 5/8" x 9 3/4" lg W/.125 Hole	Wheels to Hopper
S-7241	4	Cotter Pin 1/8 " x 1 1/4" lg	Wheels to Hopper
GK6394	4	Bushing:Whl Spcr;1.06x.125x.50	Wheels to Hopper
GK5822	1	Rubber Belting (EA 161" lg)	Rubber Belting to Hopper
GK1482	10	Attachment Clips Long	Rubber Belting to Hopper
GK5824	4	Attachment Clips Short	Rubber Belting to Hopper
S-6998	28	Bolt HHCS 1/4" x 1"	Rubber Belting to Hopper
S-7025	28	Nut Nylock 1/4"	Rubber Belting to Hopper
GK5815	1	Hinged Cover	Hinged Cover to Hopper
S-8072	3	Bolt HHCS 5/16-18 x 3/4"	Hinged Cover to Hopper
S-1937	3	Washer Flat 5/16	Hinged Cover to Hopper
S-7382	3	Nut Nylock 5/16-18	Hinged Cover to Hopper
GK5814	1	Cover Strap	Cover Strap to Tube
S-7383	2	Nut Nylock 3/8"-16	Cover Strap to Tube
S-8760	2	Bolt HHCS 1/2"-13 x 1 1/2"	Screw Tube to Hopper
S-2120	4	Washers Flat 1/2" SAE	Screw Tube to Hopper
S-8260	2	Nut Nylock 1/2"-13	Screw Tube to Hopper
GK5819	1	U-Joint	U-Joint to tail Shaft
S-7249	2	Bolt HHCS 3/8"-16 x 3" GR 5	U-Joint to tail Shaft
S-8251	2	Nut Stover 3/8"-16	U-Joint to tail Shaft
GK1535	4	Bushing:Rubber 7/8x1/2x5/8"L	Flight to Tail Shaft
S-8315	2	Nut Stover 1/2-13 Zn Gr C	Flight to Tail Shaft
S-2121	4	Washer Flat 1/2"	Flight to Tail Shaft
S-8400	2	Bolt HHCS 1/2-13 X 3-3/4 Zn GR5	Flight to Tail Shaft
GK4102	1	Tail Shaft	Flight to Tail Shaft
S-8606	2	Nut Stover 5/8"- 11 Zn Gr C	Flight to Head Shaft
S-7011	2	Bolt HHCS 5/8"- 11 x 3-1/2 Zn GR8	Flight to Head Shaft
GK4292	8	Spacer Bushing	Tube Ring to Head Assy
S-7409	8	Washer Flat 3/8"	Tube Ring to Head Assy
S-7383	8	3/8-16 Nylock Nut	Tube Ring to Head Assy
PB-008	1	Bag Plastic 7" x 8" x 3 Mil.	

WARRANTY

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

EXCEPT FOR THE ABOVE EXPRESS LIMITED WARRANTIES, THE COMPANY MAKES NO WARRANTY OF ANY KIND, EXPRESSED OR IMPLIED, INCLUDING, WITHOUT LIMITATION, WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR USE IN CONNECTION WITH (i) PRODUCT MANUFACTURED OR SOLD BY THE COMPANY OR (ii) ANY ADVICE, INSTRUCTION, RECOMMENDATION OR SUGGESTION PROVIDED BY AN AGENT, REPRESENTATIVE OR EMPLOYEE OF THE COMPANY REGARDING OR RELATED TO THE CONFIGURATION, INSTALLATION, LAYOUT, SUITABILITY FOR A PARTICULAR PURPOSE, OR DESIGN OF SUCH PRODUCT OR PRODUCTS.

IN NO EVENT SHALL THE COMPANY BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, OR CONSEQUENTIAL DAMAGES, INCLUDING, WITHOUT LIMITATION, LOSS OF ANTICIPATED PROFITS OR BENEFITS. PURCHASER'S SOLE AND EXCLUSIVE REMEDY SHALL BE LIMITED TO THAT STATED ABOVE, WHICH SHALL NOT EXCEED THE AMOUNT PAID FOR THE PRODUCT PURCHASED. THIS WARRANTY IS NOT TRANSFERABLE AND APPLIES ONLY TO THE ORIGINAL PURCHASER. WE SHALL HAVE NO OBLIGATION OR RESPONSIBILITY FOR ANY REPRESENTATIVE OR WARRANTIES MADE BY OR ON BEHALF OF ANY DEALER, AGENT OR DISTRIBUTOR OF THE COMPANY.

THE COMPANY ASSUMES NO RESPONSIBILITY FOR FIELD MODIFICATIONS. MODIFICATIONS TO THE PRODUCT NOT SPECIFICALLY COVERED BY THE CONTENTS OF THIS MANUAL WILL NULLIFY ANY PRODUCT WARRANTY THAT MIGHT HAVE BEEN OTHERWISE AVAILABLE. THE USE OF OUR EQUIPMENT TO HANDLE MATERIALS OTHER THAN FREE FLOWING, NONABRASIVE AND DRY MATERIALS, AS INTENDED, WILL RESULT IN THE VOIDING OF THIS LIMITED WARRANTY.

THE FOREGOING WARRANTY SHALL NOT COVER PRODUCTS OR PARTS WHICH HAVE BEEN DAMAGED BY NEGLIGENT USE, MISUSE, ALTERATION, OR ACCIDENT. ANY NEGLIGENT USE, MISUSE, ALTERATION, OR DAMAGE DUE TO ACCIDENT, AS DETERMINED BY A COMPANY REPRESENTATIVE, MAY VOID THE WARRANTY. THIS WARRANTY COVERS ONLY PRODUCTS MANUFACTURED BY THE COMPANY. THIS WARRANTY IS EXCLUSIVE AND IN LIEU OF ALL OTHER WARRANTIES EXPRESS OR IMPLIED. WE RESERVES THE RIGHT TO MAKE DESIGN OR SPECIFICATION CHANGES AT ANY TIME, BEARING NO RESPONSIBILITY TO MAKE SIMILAR DESIGN OR SPECIFICATION CHANGES ON PREVIOUSLY SOLD MERCHANDISE.

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

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 installation occurs.

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