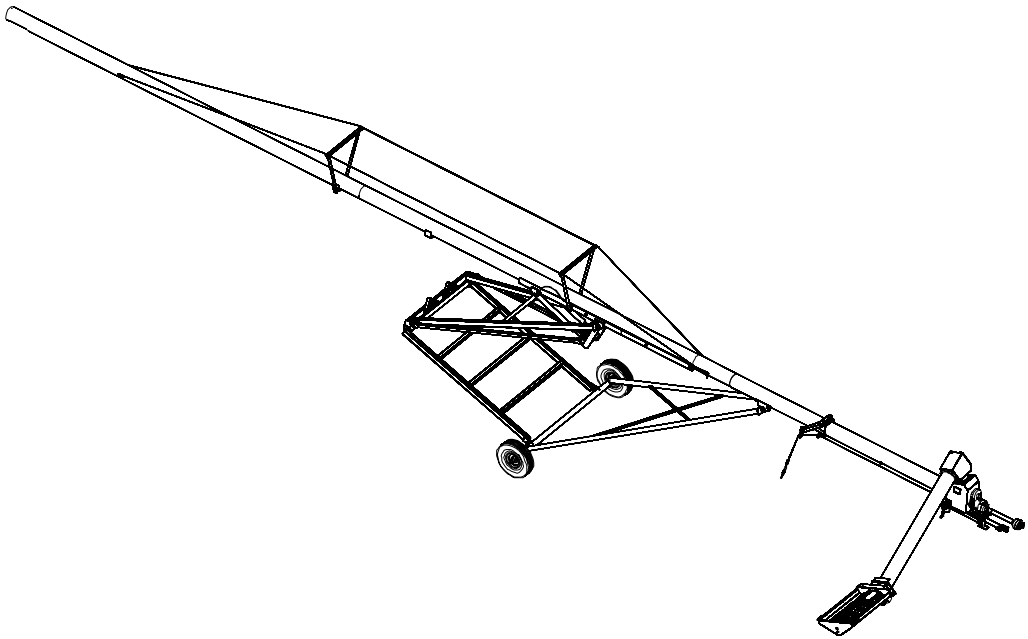


PNEG-1002

12" Direct Gear Drive SAW Transport Auger

Assembly & Operation Manual



**12" Direct Gear Drive
SAW Transport Auger**

**PNEG-1002
9-29-06**

Date: 9-29-06



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.

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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 the **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 a 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 at:

The GSI Group
PO Box 20
1004 E. Illinois Street
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 indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.



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



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



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



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

Safety Instructions

Our 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 or in the area. Safety precautions may be required from the personnel. 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.

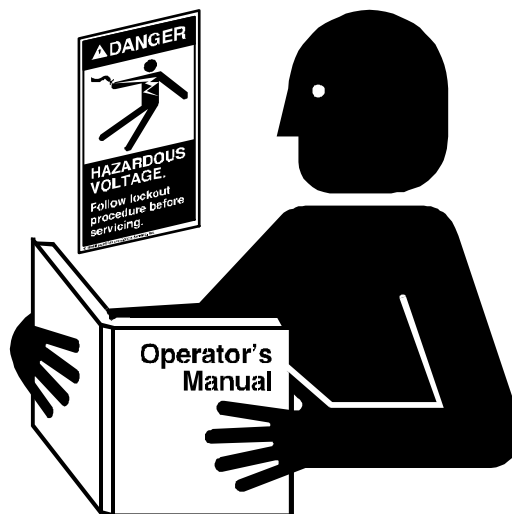
FOLLOW SAFETY INSTRUCTIONS

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

Learn how to operate the machine and how to use controls properly. Do not let anyone operate without instruction. Keep children and other unqualified personnel out of the working area at ALL times

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.



Read and Understand Manual.

OPERATE EQUIPMENT PROPERLY

- Untrained operators subject themselves and others to **SERIOUS INJURY** or **DEATH**. **NEVER** allow untrained personnel to operate this equipment.
- **NEVER** work alone.
- Keep children and other unqualified personnel out of the working area at **ALL** times. Refer to the **Startup** section of this manual for diagrams of the working area.
- Make sure **ALL** equipment is locked in position before operating.
- **NEVER** start equipment until **ALL** persons are clear of the work area.
- Always keep all shields and guards in place during operation.
- Keep hands and feet away from the auger intake and other moving parts.
- **NEVER** attempt to assist machinery operation or to remove trash from equipment while in operation.
- 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.
- Make sure someone is nearby who is aware of the proper shutdown sequence in the event of an accident or emergency.
- In the event of an accident or emergency, shut down the power source.
- **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 loading or unloading a bin.



**Operate
Equipment
Safely**

Safety

STAY CLEAR OF ROTATING PARTS

Entanglement in rotating augers or drive shafts 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.



Rotating Auger

KEEP HANDS AWAY FROM MOVING PARTS

DO NOT put hand or arm in hopper. Rotating auger can crush and dismember.

DO NOT put any kind of tool inside hopper to try and clear debris while the auger is running. Damage to the equipment will result.

ALWAYS turn off and lock out all power sources before servicing equipment.



Rotating Auger

STAY CLEAR OF HOISTED EQUIPMENT

Always use proper lifting/hoisting equipment when assembling or disassembling equipment.

Do not walk or stand under hoisted equipment.

Always use sturdy and stable supports when needed for installation.

Crush Hazard.



PRACTICE SAFE MAINTENANCE

Understand service procedures before doing work. Keep area clean and dry.

Never lubricate, service, or adjust machine while it is in operation. Keep hands, feet, and clothing from rotating parts.

Keep all parts in good condition and properly installed. Fix damage immediately. Replace worn or broken parts. Remove any build up grease, oil, or debris.



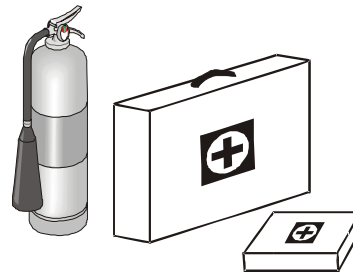
Maintain Equipment and Work Area.

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.



Keep Emergency Equipment Quickly Accessible.

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 if a hog house has poor ventilation. Waste fumes can be toxic.

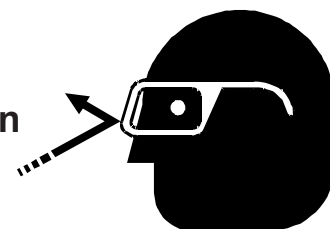
Wear hard hat and steel toe boots to help protect your head and toes from falling debris.

Remove all jewelry.

Tuck in any loose or dangling shoe strings.

Long hair should be tied up and back.

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 instructions 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 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. Sub part 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 people 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.

<i>Date</i>	<i>Employees Name (printed)</i>	<i>Employees Signature</i>
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SAFETY DECALS

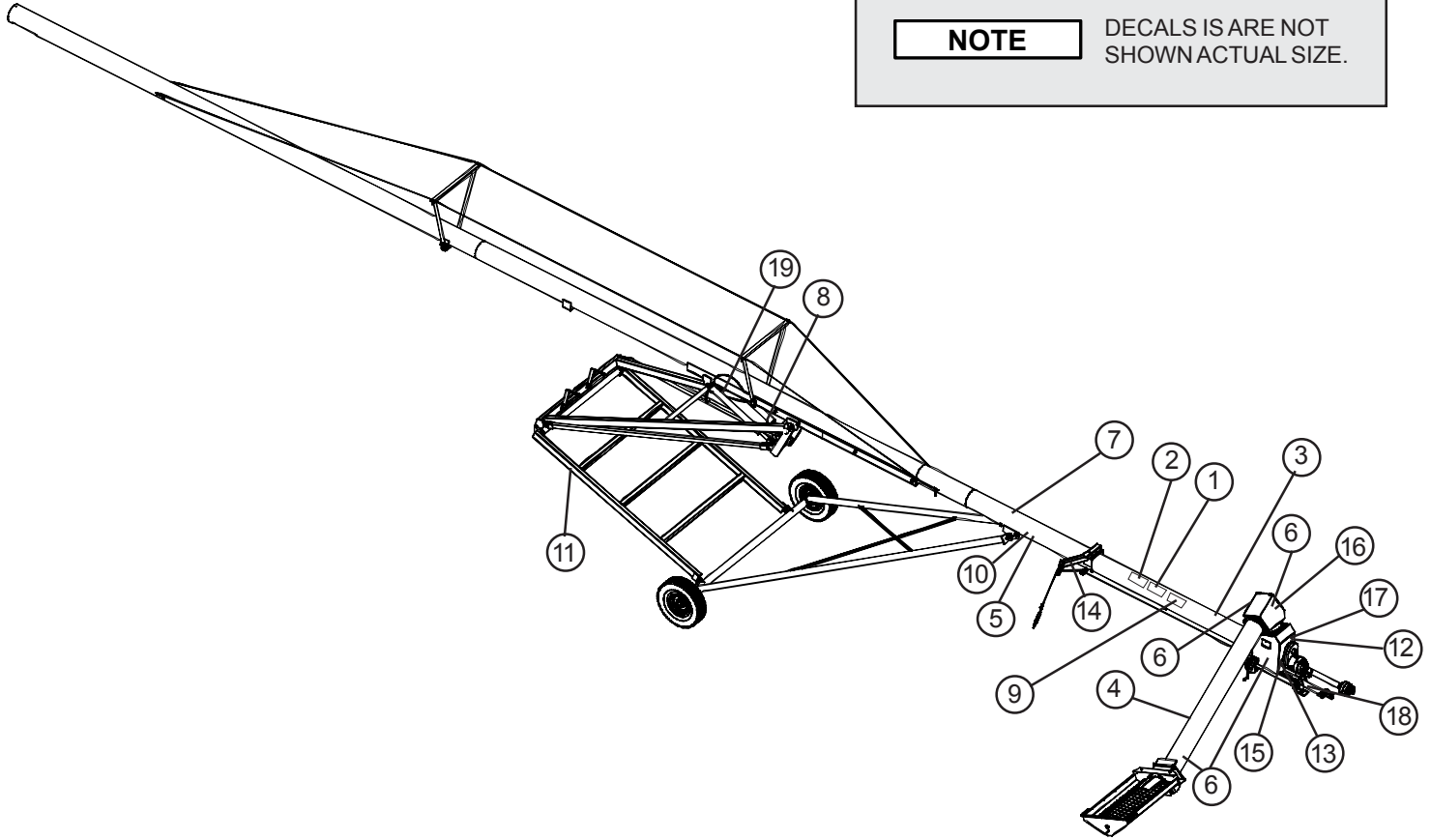
The Safety Decals listed below are included with the auger. On the following pages are samples of each decal and a diagram to show where each decal should be located.

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-1419	1	Warning—Hydraulic Fluid Leaking (On Main Auger Housing)	8" x 3-3/8"
4	DC-1421	1	Warning—Winch Handle (On Side of Inlet Hopper)	7" x 3"
5	DC-1409	1	Danger—Falling Auger (On Main Auger Housing)	4-1/2" x 6-1/2"
6	DC-1416	5	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"
7	DC-1410	1	Danger—Never Disassemble the Auger (On Main Auger Housing)	4-1/2" x 2-1/8"
8	DC-1408	2	Danger—Cylinder Guidelines (On Both Sides of Hydraulic Cylinder)	8" x 3-7/8"
9	DC-1418	1	Safety First —(On Main Auger Housing)	4-7/8" x 3-1/2"
10	DC-1445	1	Warning—Caution Transporting Auger (On Main Auger Housing)	6" x 3-1/2"
11	DC-1447	2	Warning—Pinch Points (On Both Sides of Undercarriage Frame)	7" x 3"
12	DC-1375	1	Danger—Rotating Driveline (On PTO Driveline Shield)	4-3/8" x 5-3/4"
13	DC-1425	1	Manual Inside —(On Operator Manual's Canister on Inlet Hopper)	7" x 1-1/4"
14	DC-1420	1	Important—Before Moving Auger (On Lift Arm)	5-3/8" x 2-1/8"
15	DC-1414	1	Notice—PTO Driveline Guidelines —(On Front of Inlet Hopper)	7" x 5-1/4"
16	DC-1411	1	Danger—Shear Point (On Front of Inlet Hopper)	4-1/2" x 2-1/16"
17	DC-1413	1	Grease Here —(On Front of Inlet Hopper)	2" x 1"
18	DC-1449	1	Warning - Hitch	4-1/2" x 2-1/16"
19	DC-1873	1	Caution - Crush Hazard	4" x 1-3/4"

SAFETY DECALS

NOTE DECALS IS ARE NOT SHOWN ACTUAL SIZE.



①

NOTICE
<ol style="list-style-type: none"> 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. <p style="text-align: right; font-size: small;">DC-1446</p>

②

	⚠ DANGER
	ELECTROCUTION!! STAY CLEAR OF POWER LINES!
	<ul style="list-style-type: none"> • 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

	⚠ WARNING
	HYDRAULIC FLUID LEAKING UNDER PRESSURE CAN PENETRATE SKIN. IF THIS HAPPENS, SEEK MEDICAL ATTENTION IMMEDIATELY. ALWAYS RELEASE PRESSURE FROM HYDRAULIC LINES BEFORE DISCONNECTING. ALWAYS INSPECT THE HYDRAULIC LINES BEFORE AND AFTER USING THIS EQUIPMENT AND PERFORM ANY NECESSARY MAINTENANCE ON THE HYDRAULIC SYSTEM BEFORE OPERATING.
	FAILURE TO HEED WILL RESULT IN SERIOUS INJURY OR DEATH!
	DC-1419

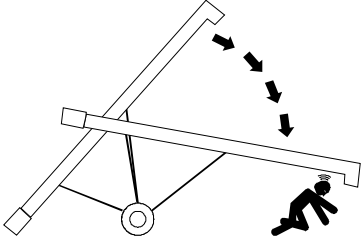
④

	⚠ WARNING
	WINCH HANDLE CAN MOVE WITHOUT WARNING CAUSING SEVERE INJURY.
	<ul style="list-style-type: none"> • NEVER RELEASE THE WINCH HANDLE UNTIL THE LOCK IS SECURELY IN PLACE. • NEVER RELEASE WINCH LOCK BEFORE MANUALLY SECURING WINCH HANDLE WHEN LOWERING HOPPER. • NEVER LEAVE HOPPER ON THE GROUND WHEN RAISING OR LOWERING THE AUGER. DOING SO COULD DAMAGE THE HOPPER WHEELS.
	DC-1421

SAFETY DECALS

⑤

! DANGER



FALLING AUGER CAN CRUSH OR KILL!

ALWAYS SECURE INTAKE END SO THAT THE AUGER CANNOT FALL.

EMPTY THE AUGER BEFORE ATTEMPTING TO TRANSPORT IT.

NEVER PUSH THE UNDERCARRIAGE. ALWAYS USE PROPER TRANSPORTING METHODS.

USE CAUTION WHEN LIFTING THE INTAKE END. NEVER LIFT HIGHER THAN THE VEHICLE TOW BAR. DO NOT RELEASE UNTIL AUGER IS SECURELY ATTACHED TO THE TOW BAR OR ON THE GROUND.

LOWER THE AUGER FOR TRANSPORTING IMMEDIATELY AFTER MOVING IT AWAY FROM THE GRAIN STORAGE BIN.

FAILURE TO HEED WILL RESULT IN SERIOUS INJURY OR DEATH!

DC-1409

⑥

! 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

⑦



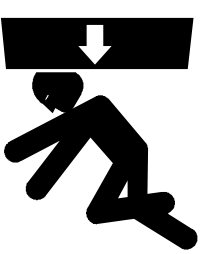
! DANGER

NEVER DISASSEMBLE THE AUGER WITHOUT SUPPORTING IT WITH AN OVERHEAD HOIST. LOOSE COMPONENTS MAY CAUSE THE AUGER TO COLLAPSE, IF NOT SUPPORTED.

FAILURE TO HEED WILL RESULT IN SERIOUS INJURY OR DEATH.

DC-1410

⑧



! DANGER

- PRIOR TO USING, ALWAYS CHECK THE CYLINDERS, LINE, HOSES AND VALVES FOR LEAKS, WEAR OR DAMAGE. REPLACE WORN OR DAMAGED PARTS IMMEDIATELY.
- THE AUGER WILL LOWER WITHOUT WARNING, IF ANY LOSS OF HYDRAULIC FLUID OCCURS.
- NEVER BLOCK CYLINDERS.
- FREQUENTLY INSPECT THIS HYDRAULIC SYSTEM AND PERFORM ANY NECESSARY MAINTENANCE.

FAILURE TO HEED WILL RESULT IN SERIOUS INJURY OR DEATH.

DC-1408

⑨

—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

⑩

NOTICE

USE CAUTION WHEN TRANSPORTING AUGER!
WIDTH EXCEEDS 8' 6".

TAKE PROPER PRECAUTIONS WHEN
TRAVELING ON PUBLIC ROADS.

USE CAUTION WHEN NEAR OTHER VEHICLES,
PEDESTRIANS, ANIMALS AND OBJECTS
ON THE ROAD.

DC-1445

SAFETY DECALS

11



⚠ WARNING

KEEP HANDS, FEET, HAIR AND LOOSE CLOTHING AWAY FROM MOVING PARTS AND PINCH POINTS WHEN RAISING AND LOWERING THE AUGER.

FAILURE TO HEED WILL RESULT IN SERIOUS INJURY OR DEATH!

DC-1447

12



⚠ DANGER

ROTATING DRIVELINE CAN CAUSE SEVERE INJURY OR DEATH!

- KEEP AWAY FROM ROTATING DRIVELINE.
- KEEP LOOSE CLOTHING AWAY FROM ROTATING DRIVELINE.
- KEEP ALL GUARDS IN PLACE.
- BE SURE DRIVELINE IS SECURELY CONNECTED TO THE AUGER AND TRACTOR.
- THE DRIVELINE GUARDS MUST BE FREE TO TURN ON THE DRIVELINE.

FAILURE TO HEED WILL RESULT IN SERIOUS INJURY OR DEATH!

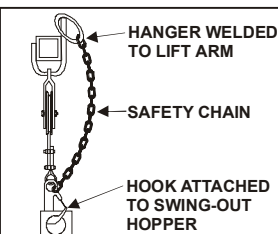
DC-1375

13

MANUAL INSIDE
MANUAL INSIDE
MANUAL INSIDE
MANUAL INSIDE

DC-1425

14



HANGER WELDED TO LIFT ARM

SAFETY CHAIN

HOOK ATTACHED TO SWING-OUT HOPPER

IMPORTANT!

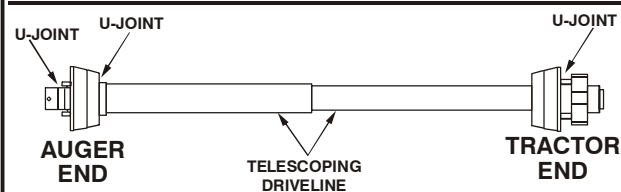
BEFORE MOVING AUGER, SAFETY CHAIN MUST BE HOOKED FROM SWING-OUT HOPPER OVER TRANSPORT HANGER.

DC-1420

15

NOTICE

- PLACE AUGER IN OPERATING POSITION BEFORE ATTACHING PTO DRIVELINE TO AGRICULTURAL TRACTOR ONLY.
- NEVER MOVE THE AUGER FROM OPERATING POSITION BEFORE DETACHING THE PTO DRIVELINE FROM THE TRACTOR PTO.
- MOVING the AUGER WITH THE PTO DRIVELINE ATTACHED TO THE TRACTOR WILL CAUSE DAMAGE TO THE PTO DRIVELINE.
- THIS IS CONSIDERED A MISUSE OF THE EQUIPMENT. ANY MISUSE OF THE EQUIPMENT MAY VOID THE WARRANTY.



U-JOINT U-JOINT U-JOINT

AUGER END TELESCOPING DRIVELINE TRACTOR END

DC-1414

16



⚠ 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

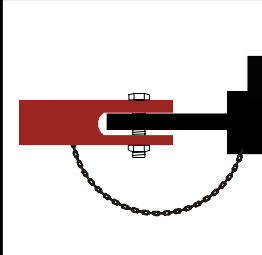
17

GREASE

HERE

DC-1413

18



⚠ WARNING

HITCH MAY COME LOOSE IF NOT SECURELY FASTENED. HITCH BOLT SHOULD NOT BE LESS THAN 3/4 INCH IN DIAMETER. DAMAGE TO PROPERTY MAY OCCUR.

DC-1449

19



⚠ CAUTION

CRUSH HAZARD

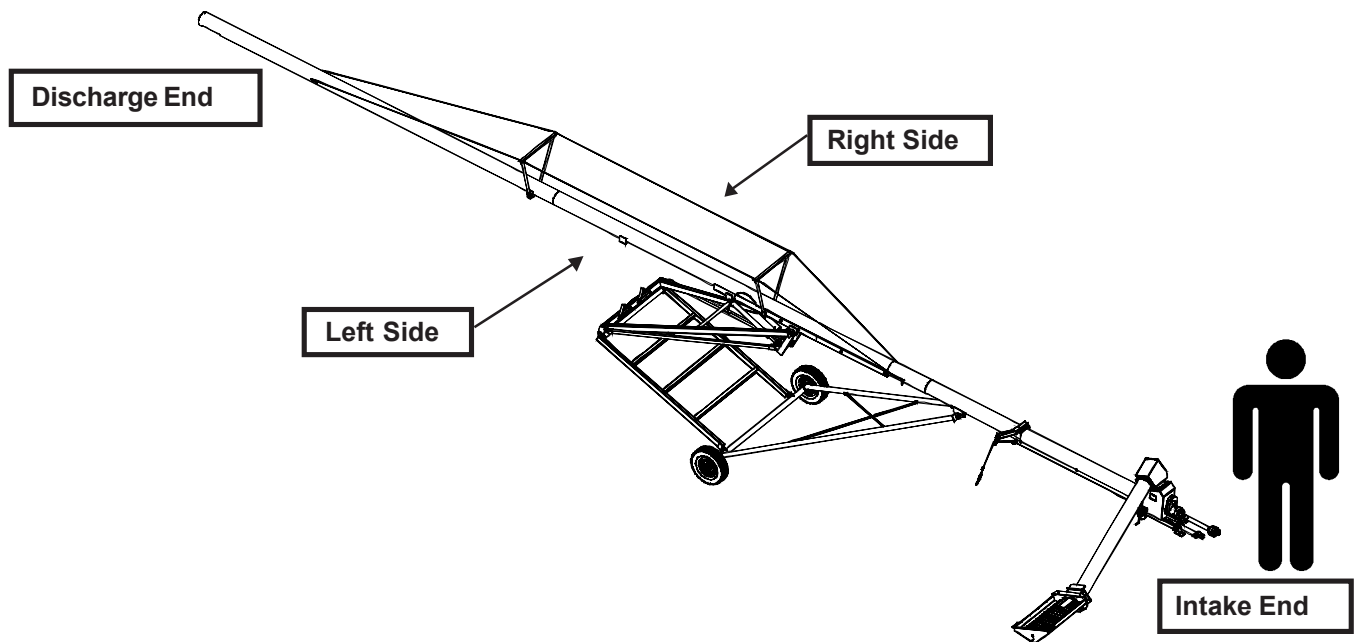
In-line restrictor valve must be installed prior to placing hydraulic cylinder into use.

See Assembly & Operation Manual.

Failure to heed may result in serious injury.

DC-1873

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



1. 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 Direct Gear Drive SAW Transport Augers 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. 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.

2. 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
 - Different materials
 - Methods of feeding
- B. An auger operating at a 45° 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.

Introduction

3. Tractor Requirements

- A. The SAW portable auger was designed for use with a tractor meeting the following requirements:
1. 540 RPM Power Take Off (PTO)
 2. Adjustable Drawbar
 3. One (1) hydraulic control circuit for lifting the main auger. Minimum pressure of 1800 to 2000 PSI.
 4. PTO horsepower (Approximate): 80 HP for 62', 90 HP for 72', 100 HP for 82'.

4. PTO Driveline

- A. The PTO driveline will be attached to the tractor during placement of the auger. Refer to the **Start-up** section of this manual for more information.
- B. The PTO driveline furnished with the auger is equipped with a “Spring-Lok” coupler at the tractor end. The coupler is spring loaded and will fit the standard 1-3/8" x 6" spline PTO output shaft from the tractor.
- C. The PTO driveline is equipped with a shear bolt at the tractor connection. The shear bolt protects the auger from damage if the auger becomes plugged or subjected to high loads.
- D. Do not exceed the maximum recommended operating length of the PTO driveline.

5. Hydraulic Components

- A. The hydraulic components received with your SAW Transport Auger were selected to deliver the most efficient and economical use.

NOTE

Any parts needing replacement should be replaced with parts of the same type and size. Immediately replace any hoses or fittings that develop leaks. For more information, refer to the *Maintenance* section of this manual.

CAUTION

Keep all hydraulic lines away from moving parts. Damaged lines can damage the auger and cause serious bodily injury to the operator. Escaping oil can penetrate skin.

- B. Your SAW Transport Auger comes with the following standard hydraulic equipment:
- Hydraulic cylinder
 - Shut-off valve
 - Fittings
 - Hydraulic line from the cylinder to the tractor

Excluded are the fittings necessary to attach the hose to the tractor and a 1/2" female pipe thread tractor fitting required to fit the shut-off valve.

- C. The hydraulic cylinder includes a restrictor that limits the speed of operation and a vent plug which is located in the rod end of the cylinder.

6. Hydraulic Shut-Off Valve

- A. The hydraulic shut-off valve is located at the end of the hydraulic hose that connects the tractor to the hydraulic line running to the lift cylinder.
- B. Be sure that the shut-off valve is fully open before you raise or lower the auger.
- C. Make sure that the valve is closed at all other times. This will prevent possible leak-down or inadvertent hydraulic operation.

WARNING

Never connect or disconnect hydraulic parts when there is pressure within the system. Hydraulic systems are highly pressurized. Hydraulic oil that escapes, even through invisible pinhole-sized leaks, can penetrate body tissues and cause **SERIOUS INJURY**.

Look for leaks using a piece of wood or cardboard. **NEVER** use your hands or other parts of your body.

When reassembling, be certain that all connections are tight. If you are injured by hydraulic oil escaping under pressure, see a doctor immediately. Serious infection or reaction may occur if medical attention is not received at once.

7. Main Auger Drive Information

- A. The auger must remain hitched to the tractor drawbar during operation.

CAUTION

The auger should not be operated with the hitch supported on the jack. Be sure to inspect your drive before adding power and know how to shutdown in case of emergency.

- B. During operation, ensure the tractor is in line with the auger.

CAUTION

Securely attach the swing-away hopper to the inlet hopper on the main auger before operation. A hopper that is not securely attached can swing out and cause injury.

WARNING

Stop the engine and lockout the power source whenever the equipment must be serviced or adjusted.

Do not use a PTO driveline without a rotating shield in good working order that can be turned freely on the shaft.

Be sure to securely attach the PTO driveline to the auger and the tractor.

Do not exceed the recommended distance from the end of the tractor PTO to the hitch pin.

NEVER start the tractor unless power to PTO is OFF.

Stay out of designated hazard areas of an operating PTO. Observe restricted work areas.

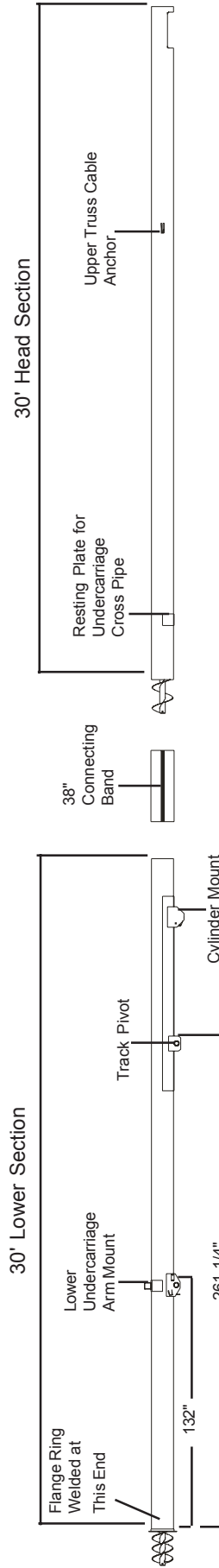
Do not operate unless **ALL** safety shields and devices are in place.

Be certain to close **ALL** the clean-out doors and inspection doors in the main auger hopper before operating the auger.

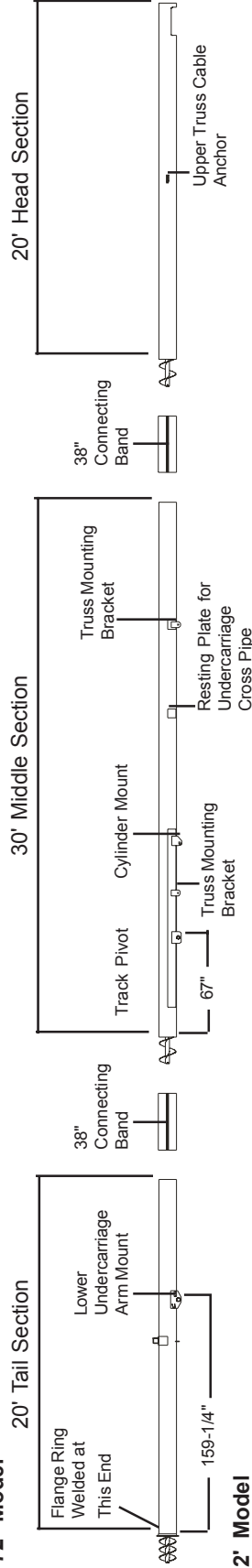
1. Layout Auger Housing

- Layout the auger housing on an open area of level ground that is accessible to a chain hoist or other lifting devices. The open area needs to be large enough to accommodate the auger being laid out at full length.
- Assembling the undercarriage will be easier if you place the tubes on stands or saw horses. Make sure the stands or saw horses are strong enough to support the weight of the auger tubes. We recommend 36" tall stands or saw horses. Assembly tables will be helpful as well.
- Separate and sort all hardware by size and place on the assembly table.
- Lay the sections of the tube assemblies in the approximate positions shown in the diagram below.

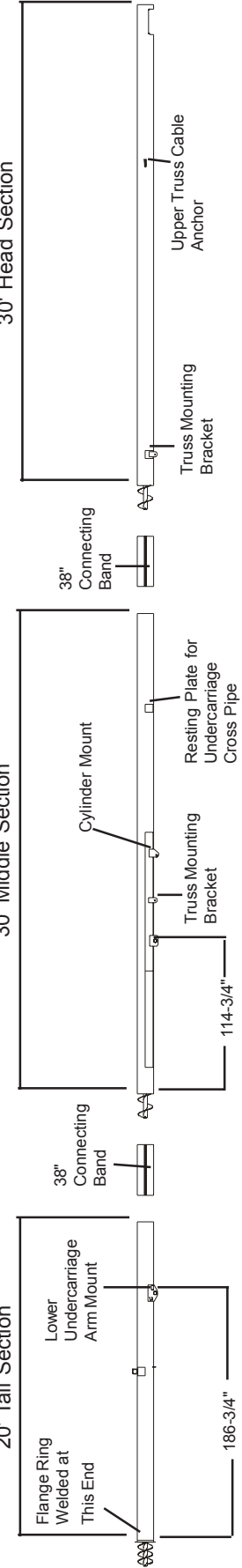
62' Model



72' Model



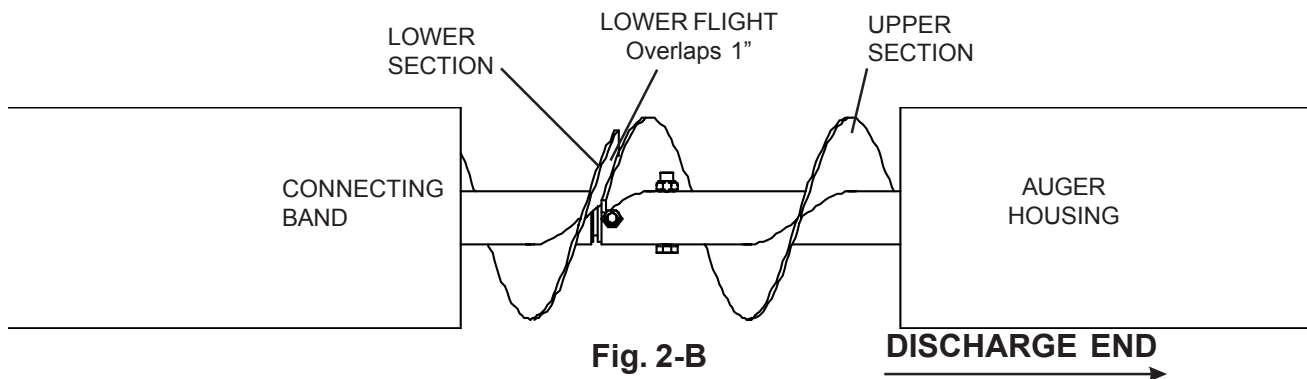
82' Model



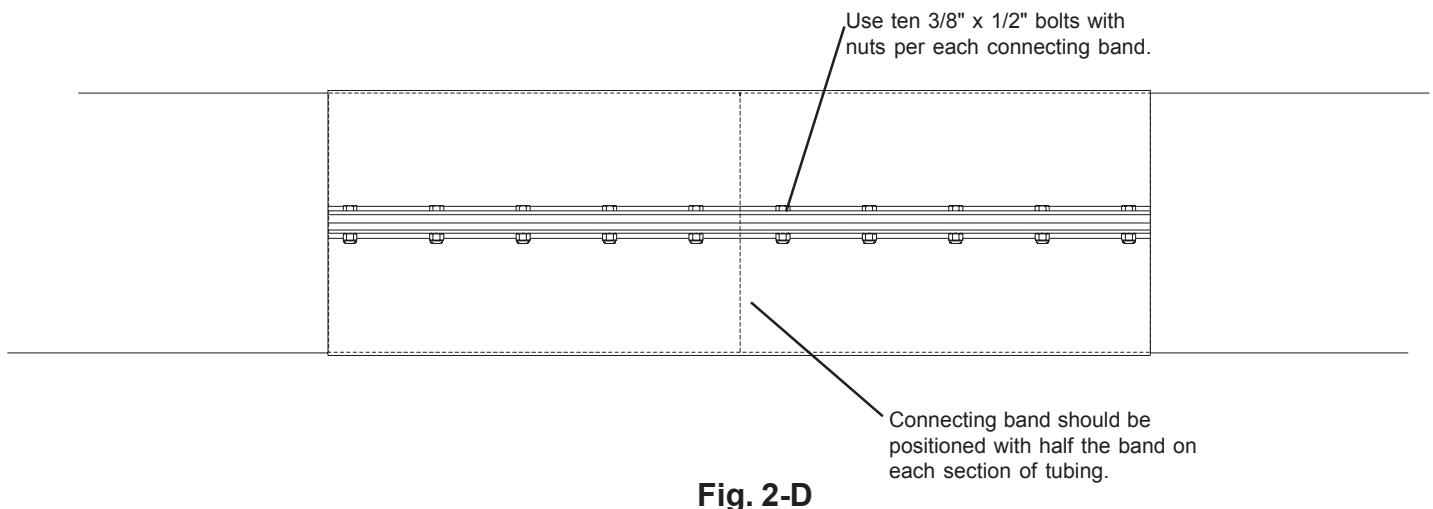
2. Flight and Auger Section Assembly

See page 10 for assembly of augers with **optional internal flight bearings**.

- A. Place the connecting band(s) onto the end of the auger housing tube(s) of the sections to be assembled.
- B. Bolt the sections of the upper auger flighting to the next flight section, using two (2) 5/8" x 4" long (Grade 8) hex head capscrews and stover type locknuts. The lower section of the flighting will overlap the upper section of the flighting approximately one inch on the side of the discharge end. For easier assembly, coat the connecting stubs with anti-sieze lubricant or grease.



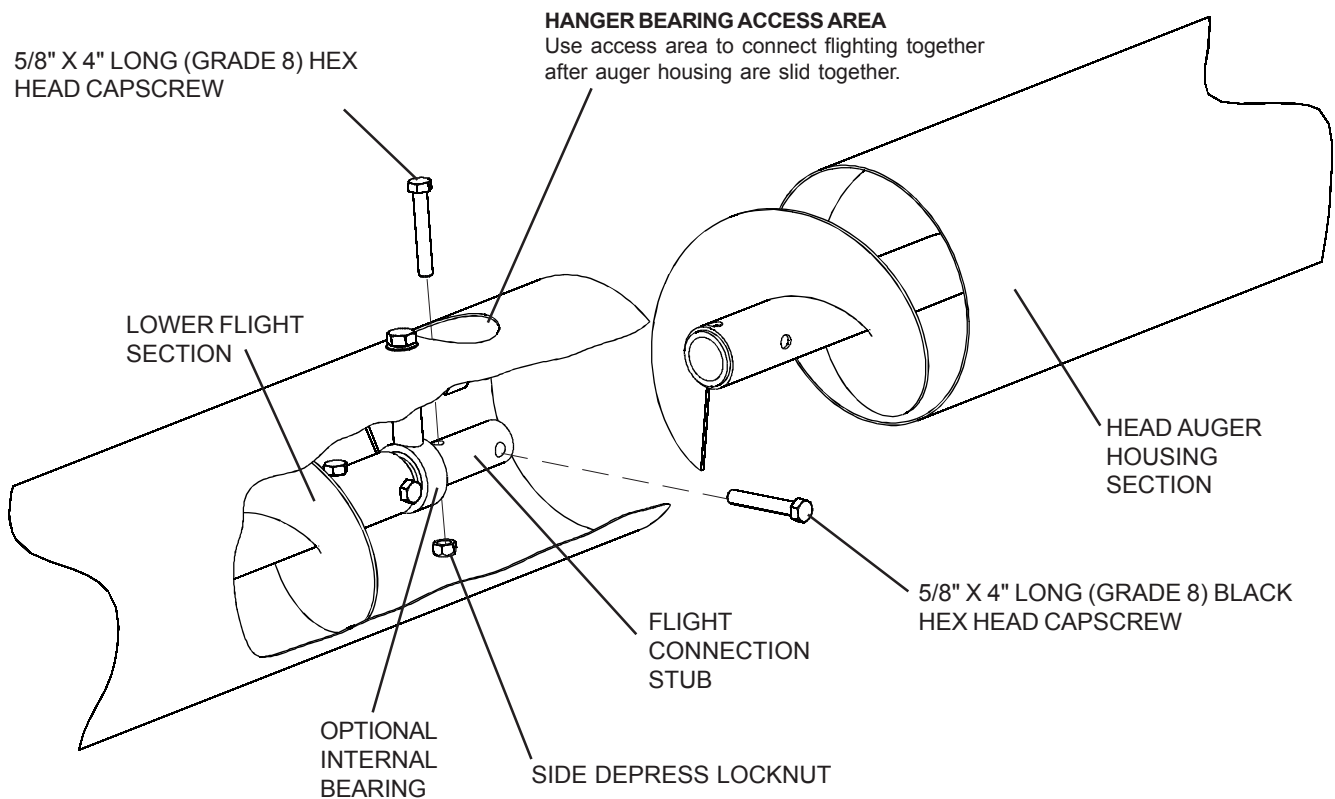
- C. On 72' and 82' models, bolt the middle and lower flight sections together in the same manner as the top section and middle section were bolted.
- D. Tightly slide together auger housing sections and place connecting band so it is half on the lower auger housing section and half on the upper auger housing section. Using ten (10) 3/8" x 1-1/2" long (grade 5) hex head capscrews and non-locknuts, securely tighten the connecting band around the auger housings tubes.



3. Auger Housing and Flight Section w/ Optional Internal Bearings Assembly

- A. Place connecting band(s) onto the upper end of the auger housing tube(s) of the sections to be assembled.
- B. Slide auger housing tube sections together until there is about 12" between the ends of the auger housing tubes.
- C. Rotate the connecting band so the flanges are pointing up. See Fig. 3-C.
- D. While continuing to slide the auger housing sections together, guide the flight connection stub on the lower flight section into the upper flight section. Use the inspection hole to gain access the connection stub. (See Fig. 3-E)
- E. Fasten the upper flight section to the lower flight connection stub using (2) 5/8" x 4" long (grade 8) black hex head capscrews and side depress locknuts.

Fig. 3-E



NOTE: The connecting band is not shown in the illustration so the fighting connection is visible.

3. Auger Housing and Flight Section w/ Optional Internal Bearings Assembly (cont.)

G. Rotate the connecting band so the seams are horizontal. (See Fig. 3-G)

NOTE The hole in the top of the connecting band is designed to fit over the internal bearing hanger bolt head.

H. Tighten the connecting band using (10) 3/8" x 1-1/2" long (grade 5) hex head capscrews and non-locknuts.

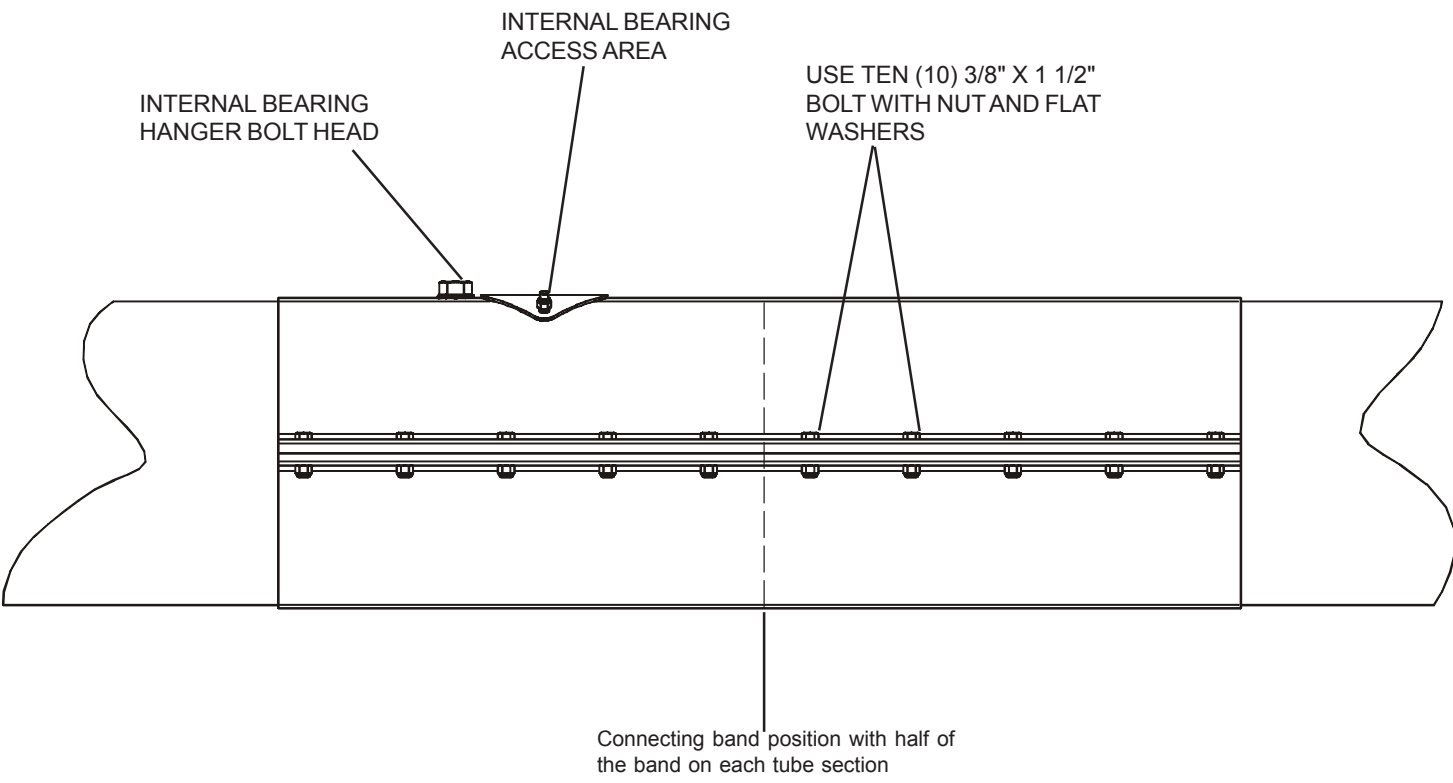
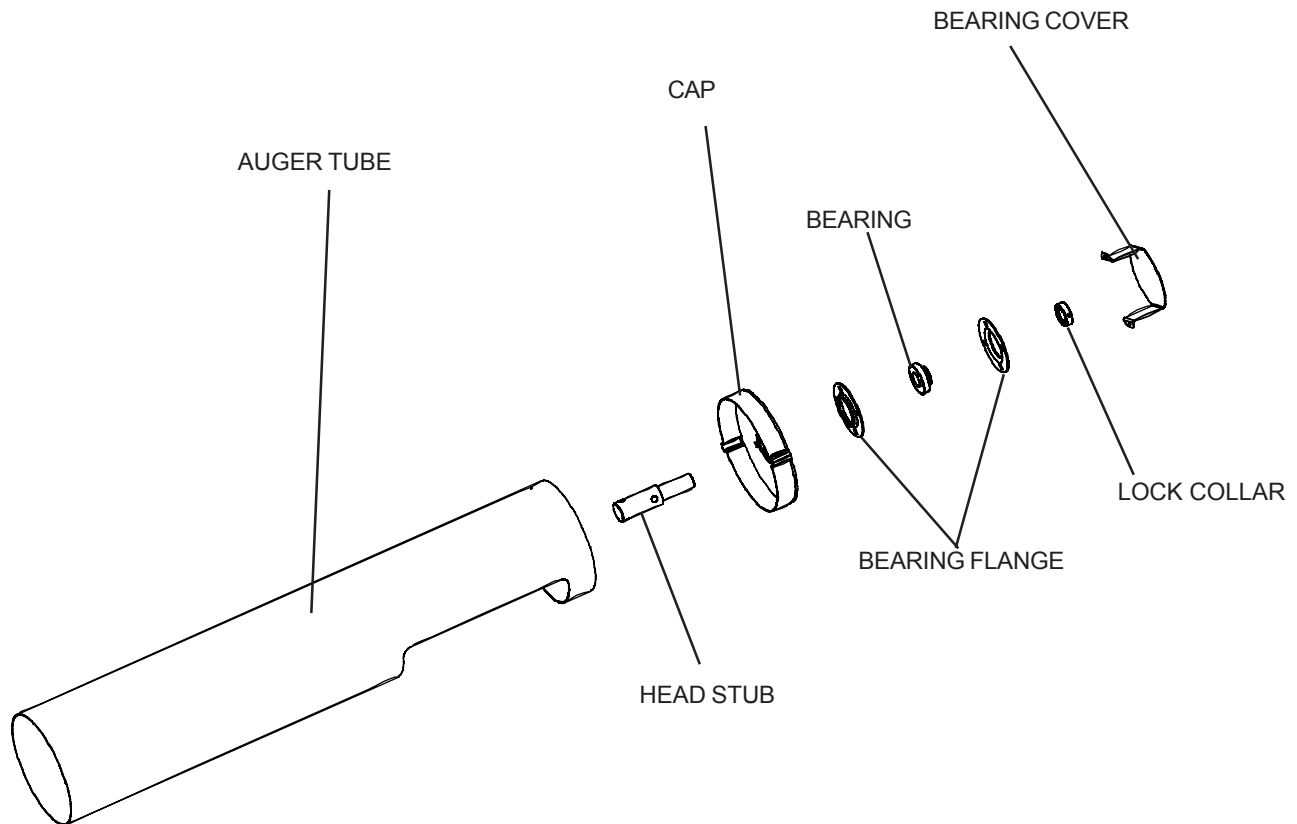


Fig. 3-G

4. Head Plate and Bearing Assembly

- A. Bolt the 4-hole flange bearing to the end cap using four (4) 1/2" x 1-1/2" carriage bolts and nylon locknuts. (See Fig.4)
- B. Bolt the head stub to the head flight using two (2) 5/8" x 4" grade 8 bolts with stover nuts.
- C. Slide the head plate with the bearing onto the head stub in the head flight, then onto the head auger housing fasten cap to housing using two (2) 5/16" x 1-1/2" HHCS & Nylon locknuts.
- D. Slide the locking collar over the shaft and lock on the bearing. Tighten the setscrew.

Fig. 4



5. Inlet Hopper Assembly

- A. Bolt the flight to the enclosed drive with two (2) 5/8" x 4" bolts and nuts. Connect the lower auger housing flange to the inlet hopper using twelve (12) 3/8" x 1" hex head capscrews and locknuts.
- B. The enclosed drive is shipped without oil, therefore **OIL MUST BE ADDED** during field assembly of the auger. Remove vented fill plug. Pour in **4 PINTS** of oil and replace vented fill plug. The oil level should be checked on a regular basis. Oil will dissipate under normal operating conditions.

CAUTION

DO NOT ADD MORE OIL THAN RECOMMENDED! OVERFILLING CAN DAMAGE THE SEALS OR BE FORCED OUT THROUGH THE VENTED PLUG.

We recommend the use of non-foaming, multipurpose gear oil, SAE 85W-90 weight for normal operating temperatures between 40°F and 120°F. In temperatures below 40°, use SAE 80 weight oil. For all operating temperatures below 40°F and up to 120°F, SAE 80W-90 weight oil may also may be used.

- C. Coat the enclosed drive flight stub with anti-siege lubricant or grease. Attach the drive flight stub to the lower auger flighting using two (2) 5/8" x 4" long (grade 8) hex head capscrews and side depress type locknuts.
- D. Using 1" x 18-3/4" long pin and two (2) collars securely fasten the hitch frame to inlet hopper. To hold the collars to the end of the pins, use the 3/8" x 2-1/2" long hex head capscrews and nylon locknuts.
- E. Attach the hitch clevis to the hitch frame using a 3/4" x 5" long (grade 5) hex head capscrews and nylon locknuts.
- F. Install the vented plug in the lower gearbox. The lower gearbox located inside the inlet hopper has been filled with oil at the factory. However, solid plugs are used to prevent oil from leaking during shipment. Remove the solid plug from the side of the upper round cap of the gearbox and install the vented plug included in the vent plug kit. It is recommended that the gearbox oil level be checked and verified.

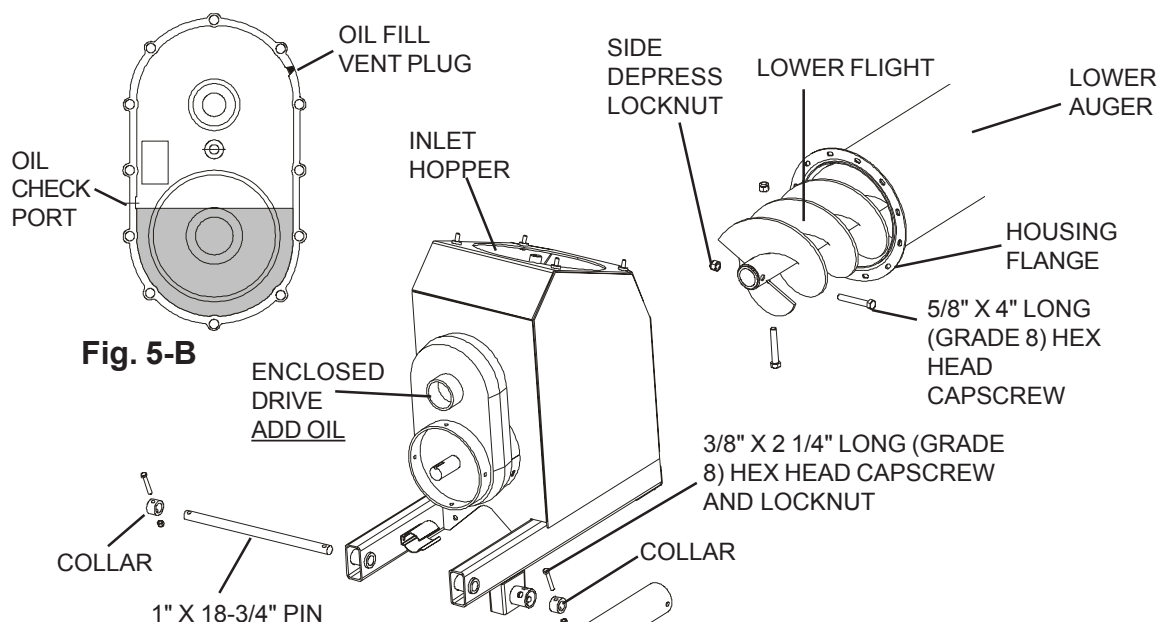


Fig. 5-B

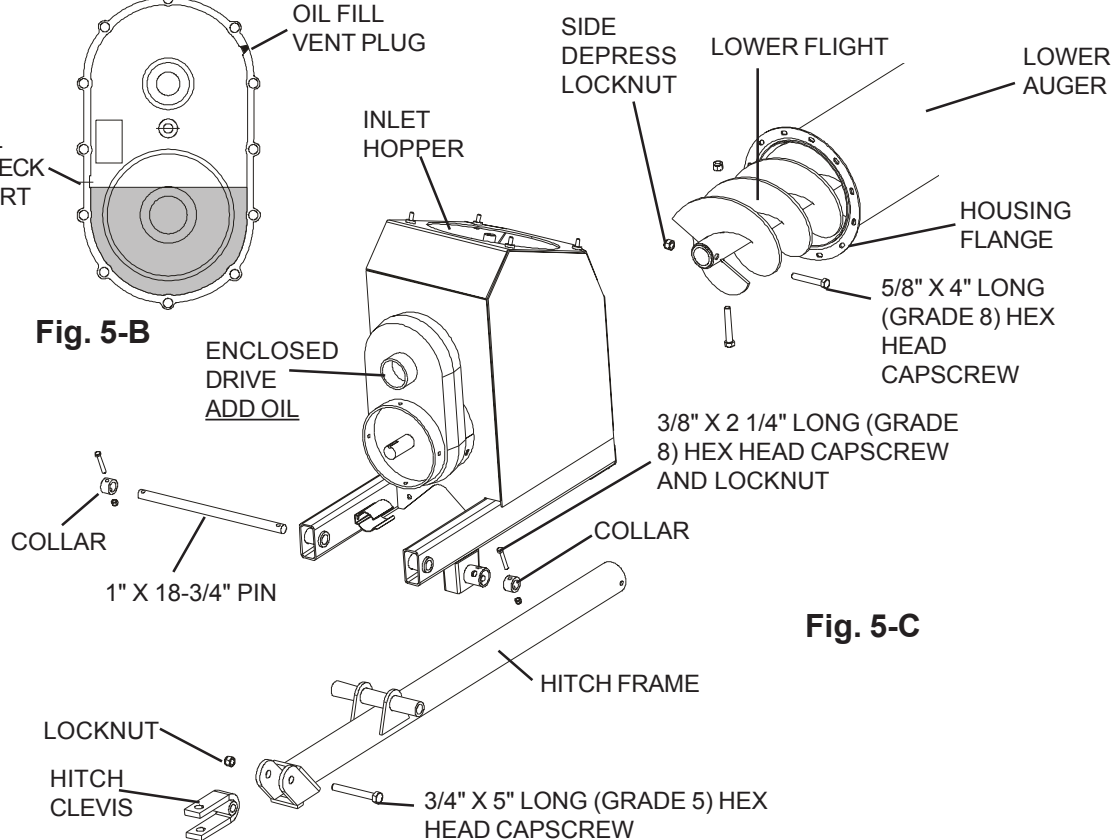


Fig. 5-C

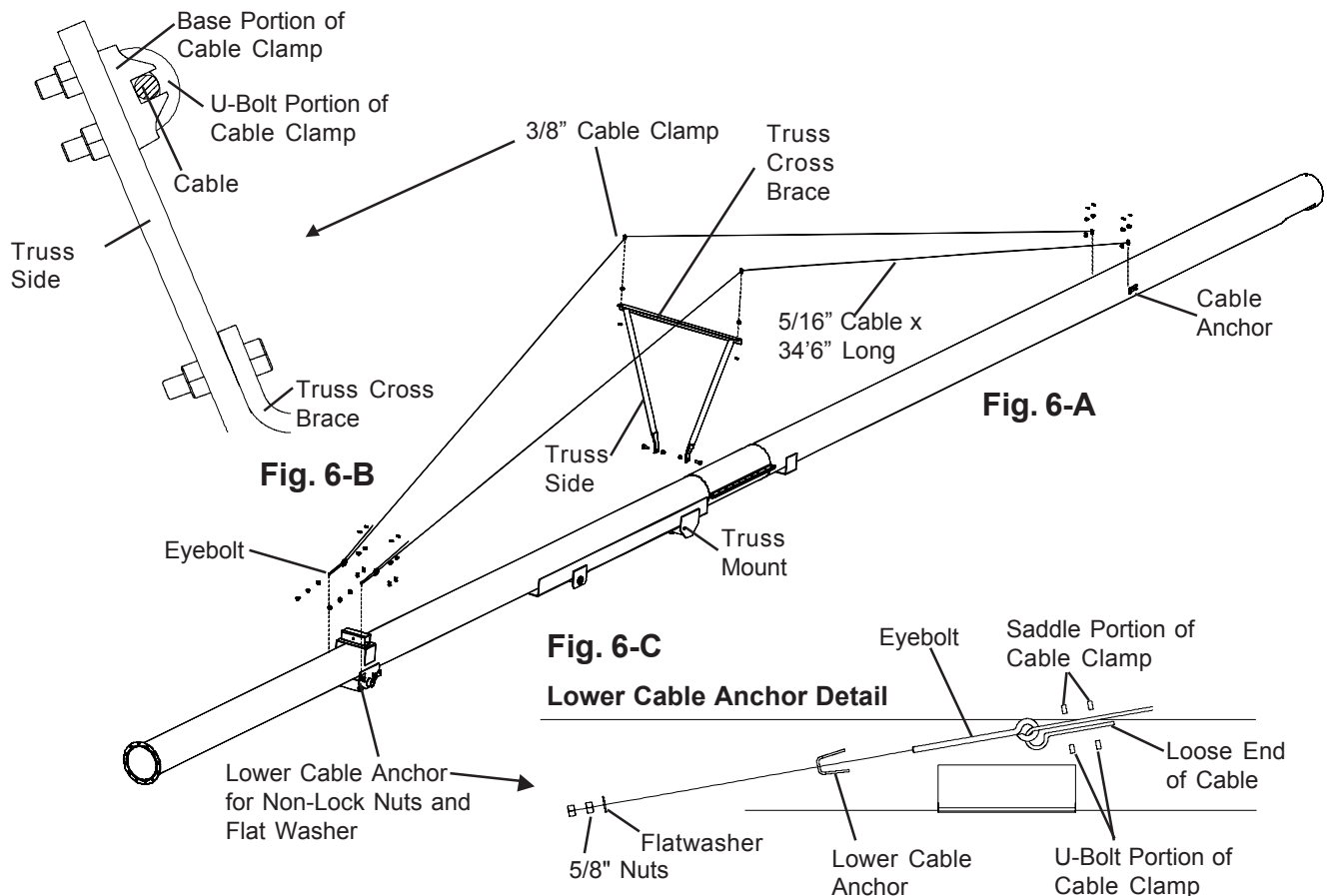
6. Top Truss Assembly for 62' Auger

- A. Bolt the center truss frame sides to truss mounting ears located on the auger using two (2) 5/8" x 1-1/2" long (grade 5) hex head capscrews and nylon locknuts. (See Fig. 6-A)
- B. Attach cables to upper cable anchors (located on the auger tube at discharge end) using two (2) cable clamps on each cable. (See Fig. 6-A)

NOTE**SECURE THE CLAMP U-BOLT AGAINST LOOSE END OF CABLE.**

- C. Run cables over the truss cross brace and down to the intake end of auger. Attach cables to the top of the truss cross brace using 3/8" cable clamps. **DO NOT** tighten 3/8" cable clamps at this time. (See Fig. 6-B.)
- D. Install eyebolts through lower cable anchors (located on the auger at intake end) using a flat washer and two (2) 5/8" nuts. (See Fig. 6-C.)
- E. Slide the cables through the eyebolts and using two (2) cable clamps for each cable, tightly secure the u-bolt portion of the cable clamp against the loose end of the cable. (See Fig. 6-C.)
- F. Tighten cables using the eyebolts to remove slack in cable. Tighten both cables to have the same amount of tension. The cables should be snug. **DO NOT over tighten!** Sight down the tube and make sure all tube sections are straight. Go back and tighten the 3/8" cable clamps on the truss cross brace. Minor adjustments can be made after the auger is set up on the undercarriage.

Truss Cable to Upper Truss Detail



7. Top Truss Assembly for 72' & 82' Auger

- A. Bolt the four (4) truss frame sides to the truss mounting ears located on the auger using two (2) 5/8" x 1-1/2" long (grade 5) hex head capscrews and nylon locknuts per each truss frame side. (See Fig. 7-A.)
- B. Attach cables to upper cable anchors (located on the auger tube at discharge end) using two (2) cable clamps on each cable.

NOTE

SECURE THE CLAMP U-BOLT AGAINST LOOSE END OF CABLE.

- C. Run cables over the truss cross braces and down to the intake end of auger. Attach cables to the top of the truss cross brace using (2) 3/8" cable clamps per each truss. **DO NOT** tighten 3/8" cable clamps at this time.
- D. Install eyebolts through lower cable anchors (located on the auger at intake end) using a flat washer and (2) 5/8" nuts. (See Fig. 7-C.)
- E. Slide the cables through the eyebolts and using two (2) cable clamps for each cable, tightly secure the u-bolt portion of the cable clamp against the loose end of the cable. (See Fig. 7-C.)
- F. Tighten cables using the eyebolts to remove slack in cable. Tighten both cables to have the same amount of tension. The cables should be snug. **DO NOT over tighten!** Sight down the tube and make sure all tube sections are straight. Go back and tighten the 3/8" cable clamps on the truss cross brace. Minor adjustments can be made after the auger is set up on the undercarriage.

Truss Detail

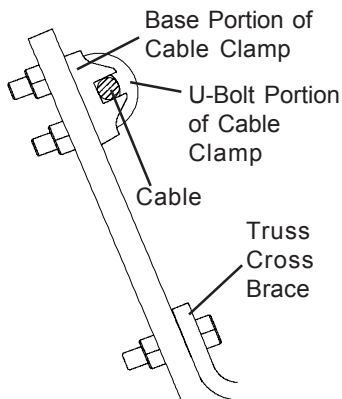


Fig. 7-B

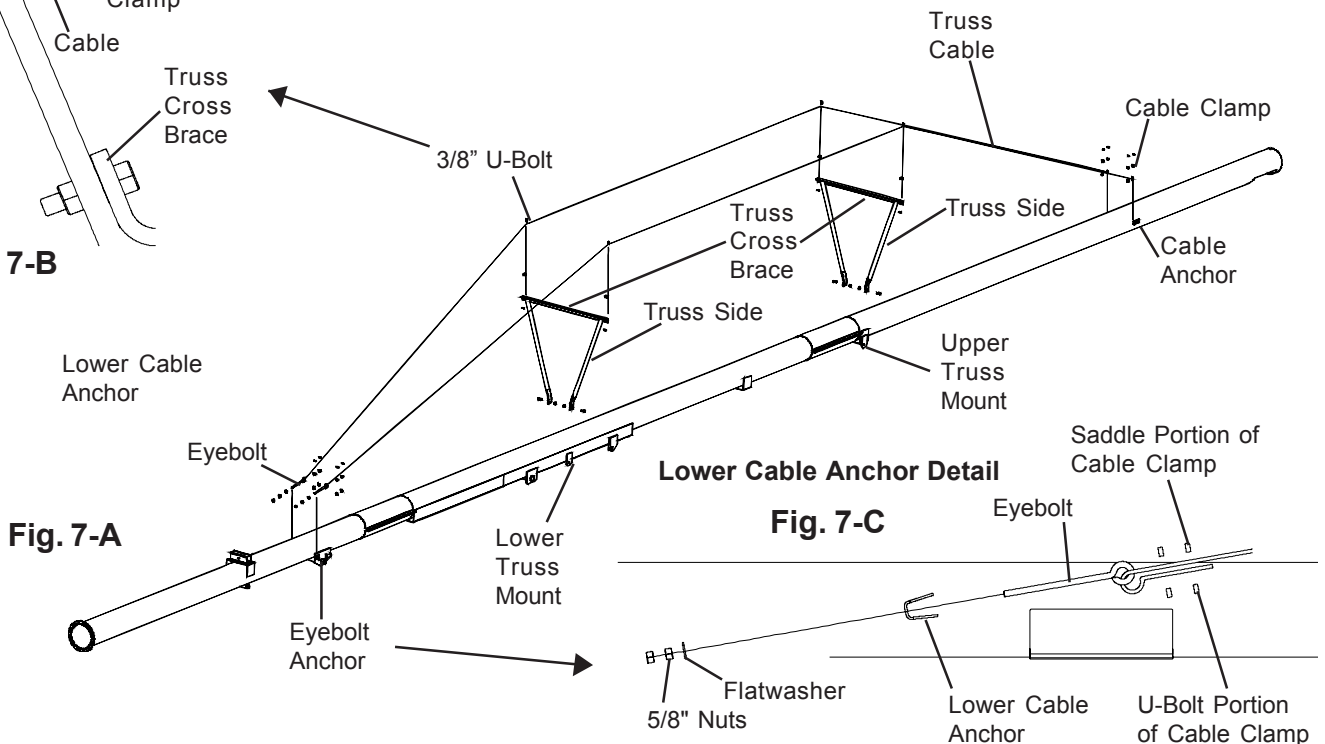


Fig. 7-A

Lower Cable Anchor Detail

Fig. 7-C

Assembly

8. Hubs and Spindle Assembly to Axle

- A. The hubs, bearings, seals, and spindles are pressure packed with grease at the factory when they are assembled.
- B. Slide the hub and spindle assembly into the undercarriage axle and secure with 1/2" dia. (Grade 5) hex head cap screw and nylon locknut. (See Fig. 8.) Mount the tire and rim to the hub with lug bolts.

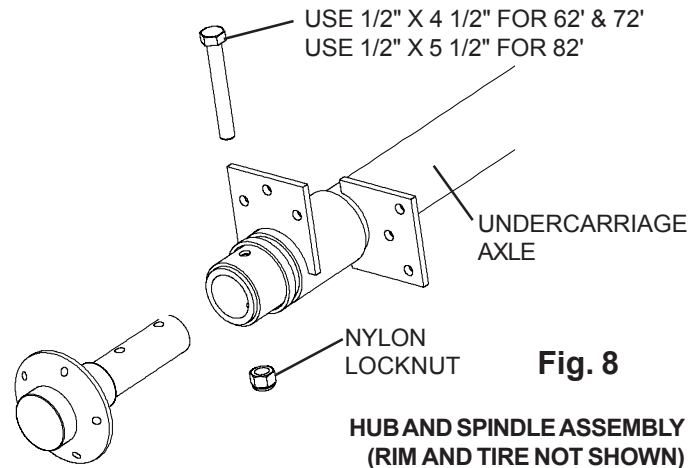


Fig. 8

**HUB AND SPINDLE ASSEMBLY
(RIM AND TIRE NOT SHOWN)**

9. Undercarriage to Auger Housing Assembly

See Fig. 9-E on page 18 for 62' models.
See Fig. 9-F on page 19 for 72' 82' models

- A. Attach the H-frame and upper frame to the track pivot that is welded to the auger housing, using 1-1/4" x 18" bolts and locknut.
- B. Attach the lower and upper frames using two (2) 1" dia. x 3-1/8" pins and 1/4" x 2" long cotter pins.
- C. Connect the lower frame and axle using three (3) 1/2" x 1-1/2" long (grade 5) hex head capscrews and nylon locknuts.
- D. Attach the H-frame tubes to the upper frame (located near the lower frame and upper frame connection).
On **62' Models** the H-frame tube is fastened on the outside of the upper frame mounting plate with a 1" x 2-1/2" long (grade 5) hex head cap screw and nylon locknut.

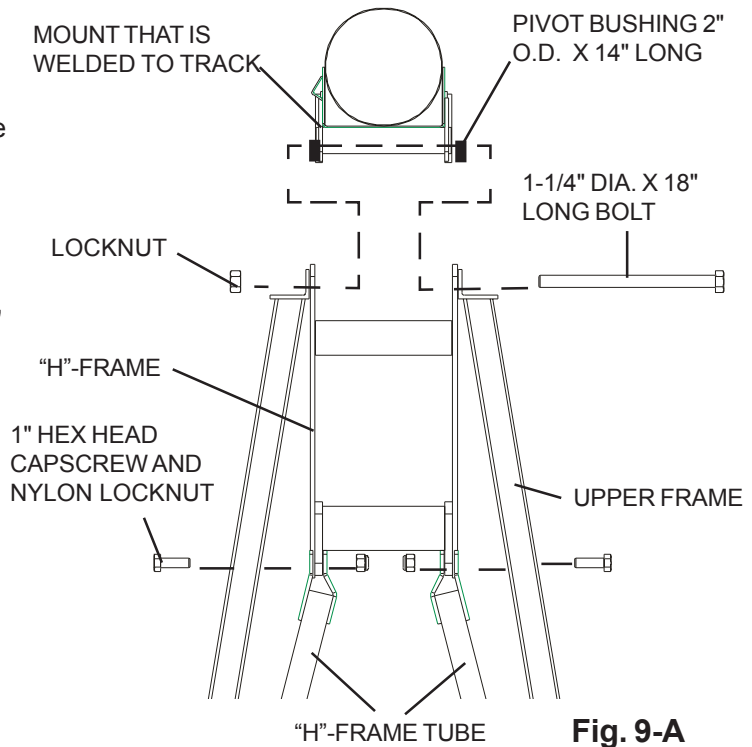


Fig. 9-A

On **72' & 82' Models** the H-frame tube is fastened on the outside of the upper frame mounting plate with a 1" x 3" long (grade 5) hex head cap screw and nylon locknut.

- E. Attach the other end of the H-frame tube to the H-frame using the lower hole in the H-frame plate.

On **62' Models** the H-frame tube is fastened on the outside of the H-frame with a 1" x 2-1/2" long (grade 5) hex head cap screw and nylon locknut.

On **72' & 82' Models** the H-frame tube is fastened on the outside of the H-frame with a 1" x 3" long (grade 5) hex head cap screw and nylon locknut.

- G. Fasten both tube guides to upper frame brackets using four (4) 1/2" x 1-1/2" long (grade 5) hex head capscrews and nylon locknuts per each guide. (See Fig 9-E & F Detail A.)
- F. Lay out the lower arm under the auger housing.

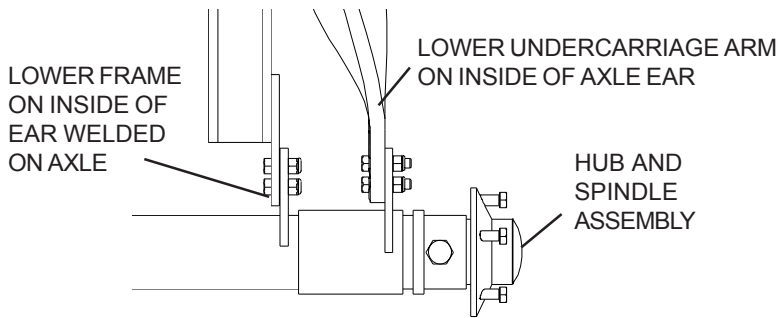
9. Undercarriage to Auger Housing Assembly (cont.)

H. Attach the lower arms to the axle ear brackets.

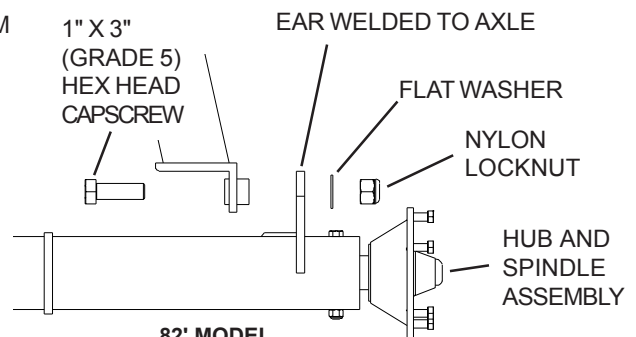
For **62' & 72' Models**, use three (3) 1/2" x 1-1/2" long (grade 5) hex head capscrews and nylon locknuts for each leg. (See Fig. 9-B)

For **82' Models**, use one (1) 1" x 3" long (grade 5) hex head capscrew, flat washer, and nylon locknut for each leg. (See Fig. 9-C)

NOTE The lower arm should be on the inside of the axle ear axle. (See Fig. 9-C)



**62' AND 72' MODEL
LOWER ARM TO AXLE DETAIL
Fig. 9-B**



**82' MODEL
LOWER ARM TO AXLE DETAIL
Fig. 9-C**

- I. **For 72' & 82' models only.** Connect angle crossbraces to ears on lower arms using four (4) 1/2" x 1-1/4" long HHCS (grade 5) and nylon locknuts. Bolt the middle of the angle crossbraces together using one (1) 1/2" x 1" long (grade 5) and nylon locknut. (*Do **Not** tighten hardware until later.*)
- J. Wrap a chain or heavy duty strap around the auger tube and the undercarriage frame. The chain or strap must be **VERY TIGHT** to keep the undercarriage frame from opening while the auger tube is lifted to attach the lower arm to the lower arm mount on the auger tube.

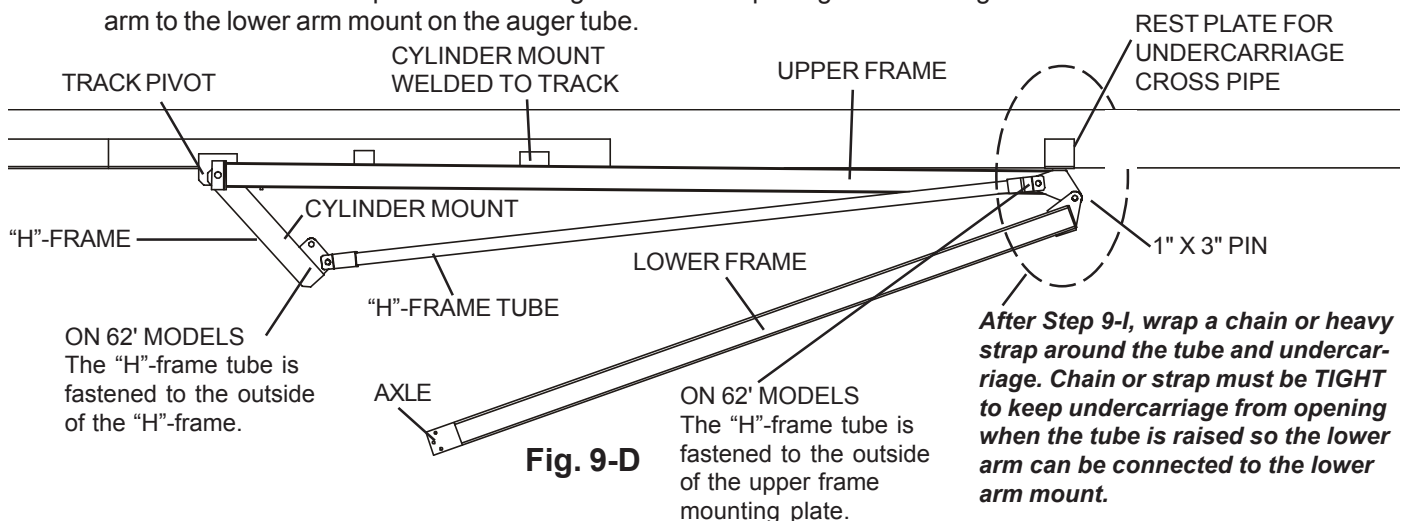
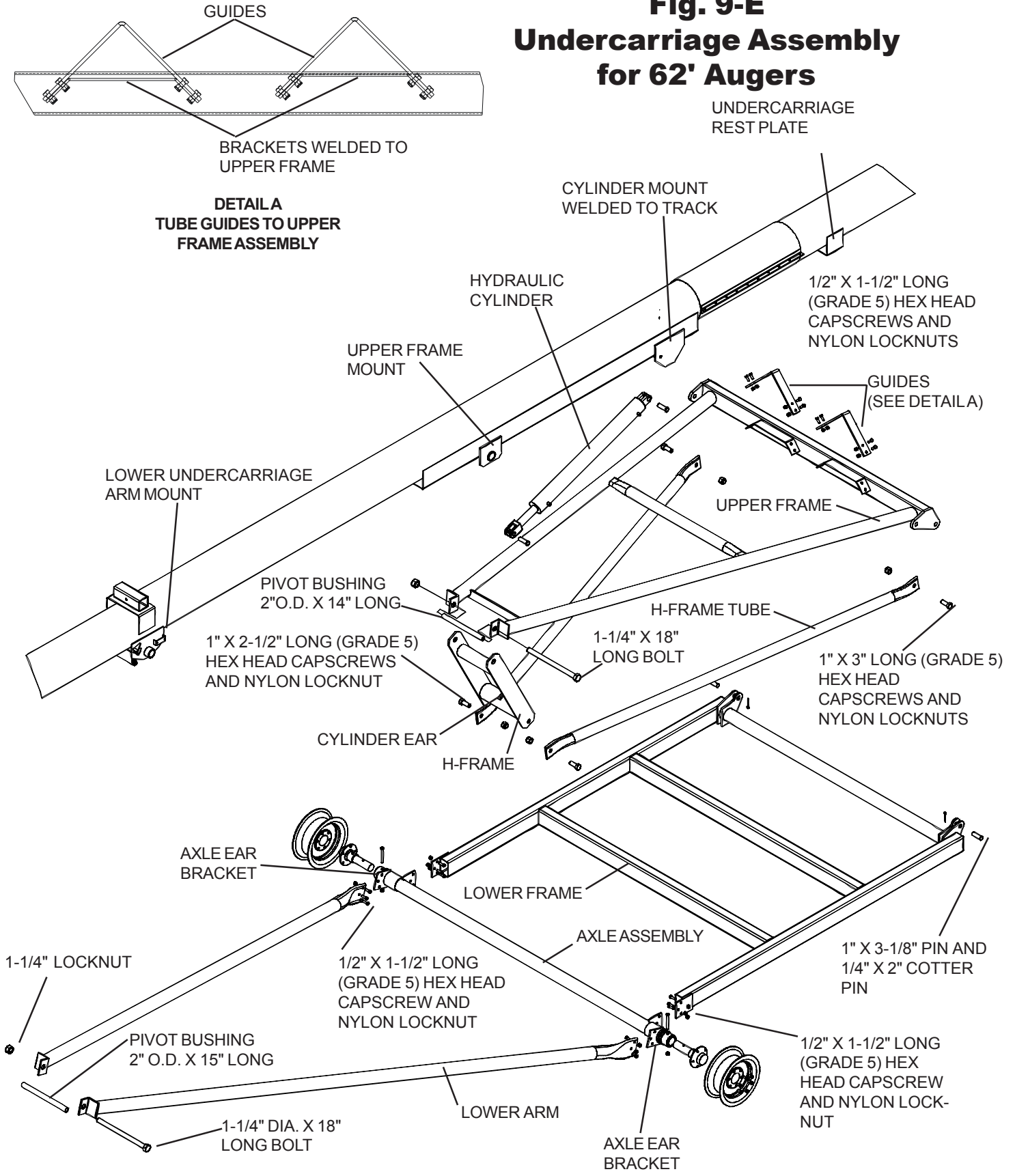


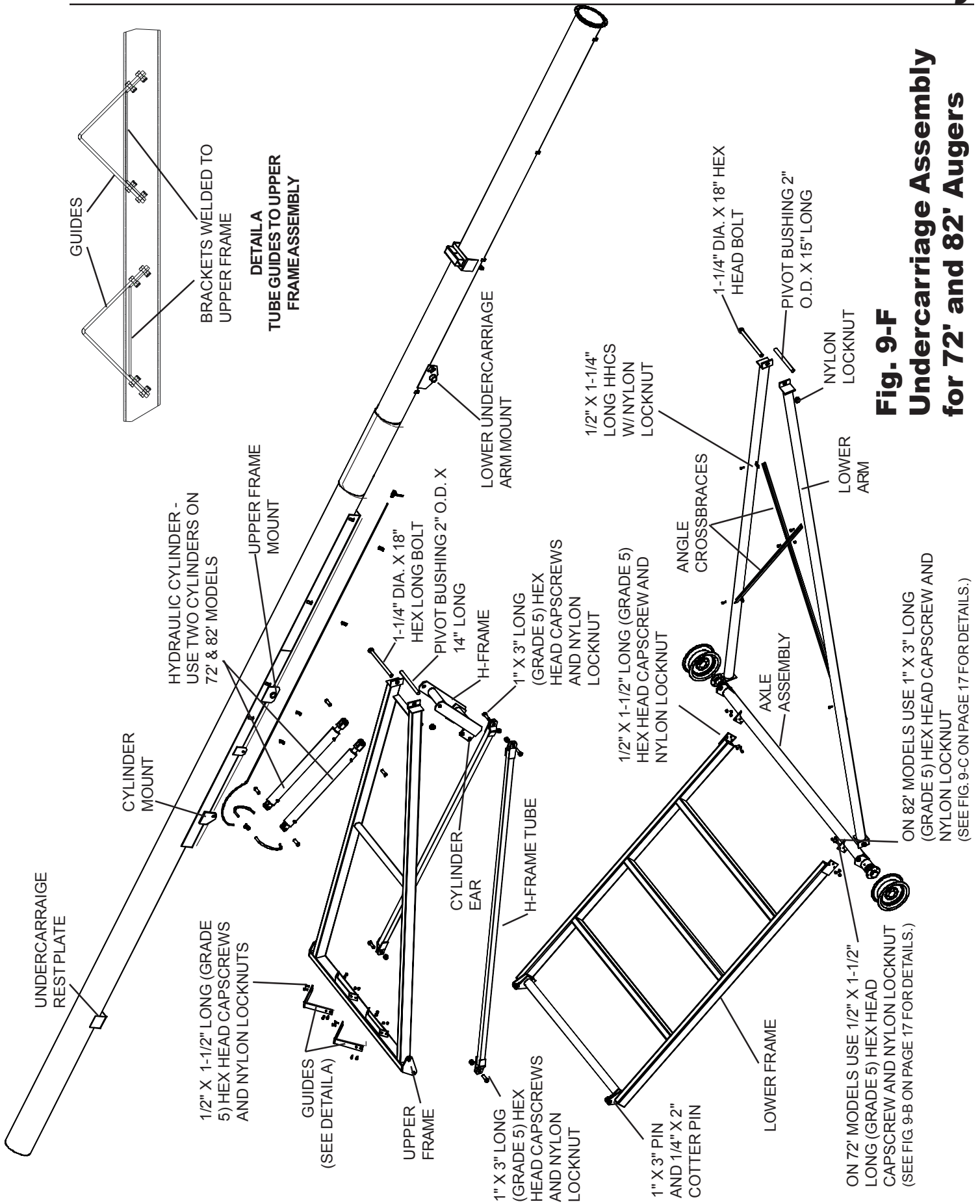
Fig. 9-D

- K. Raise the auger assembly with a chain hoist or other lifting device high enough to line up the lower arms with the lower arm mount.

WARNING Only lift from the center of the auger with a lifting device that is safe and suitable for this purpose. **DO NOT** lift the full weight of the auger from the extreme end.

Fig. 9-E
Undercarriage Assembly
for 62' Augers





Assembly

9. Undercarriage to Auger Housing Assembly (cont.)

- L. Attach the lower arms to the lower arm mount using a 1-1/4" dia. x 18" long bolt and 1-1/4" nylon locknut. (See Fig. 9-E& 9-F on page 18 and 19.)
- M. Double check all undercarriage bolts and fasteners to assure they are tight, secure, and assembled correctly. Lower auger and remove lifting device. On 72' & 82' models, go back and tighten all 1/2" hex head capscrews that fasten the angle crossbraces to the lower arms in step 9-I.

NOTE

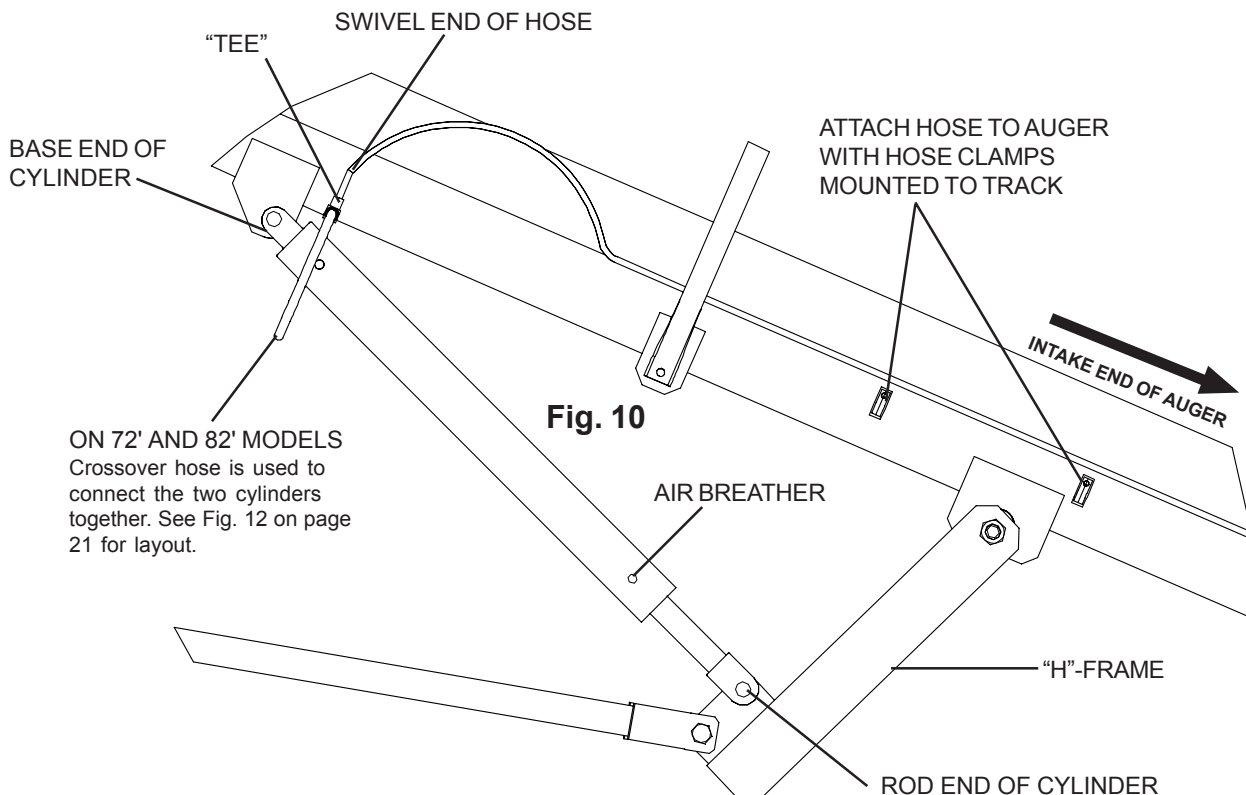
Remember to remove the chain or heavy duty strap that is holding the auger tube and undercarriage frame together.

10. Hydraulic Cylinder to Undercarriage Assembly

- A. Fasten the hydraulic cylinder or cylinders (62' models use one cylinder and 72' & 82' use two cylinders) to the H-frame. Use the mounting pin and keeper clip furnished in the box with the cylinder(s).
- B. The base end of the cylinder must be attached to the cylinder mount welded on the track. The rod end of the cylinder(s) should be fastened to the H-frame mount. The cylinder ports must be facing the left side of the auger when viewing the auger from the intake end.

CAUTION

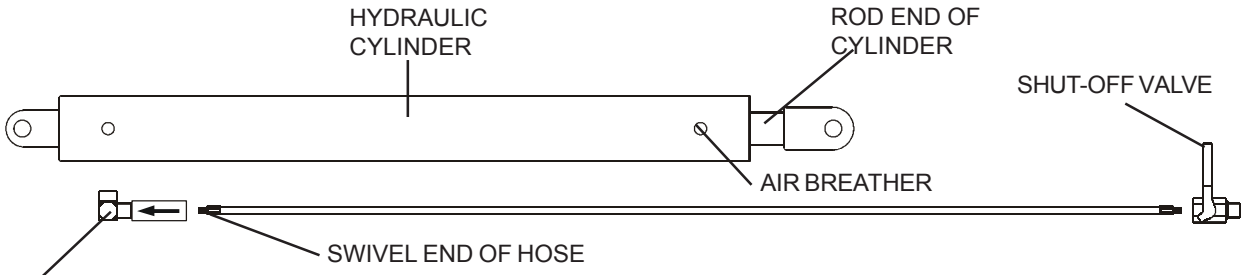
The cylinder(s) furnished with your auger use an in-line restrictor assembled to the port at the base end of the cylinder(s). This restrictor limits the speed that the auger can be lowered. Only use cylinder(s) provided with the auger. DO NOT use any cylinder(s) without the proper restrictor installed. The in-line restrictor must be installed as instructed on pages 31. The restrictor must be installed with the flow arrow pointing toward the cylinder port.



ON 72' AND 82' MODELS
Crossover hose is used to
connect the two cylinders
together. See Fig. 12 on page
21 for layout.

11. Hydraulic Hose and Fitting Installation for 62' Models

- A. Thread the in-line restrictor valve and elbow assembly into the upper cylinder port (at the base of the cylinder). The flow direction arrow on the restrictor must point towards the cylinder port. Tighten and leave the restrictor valve and elbow assembly parallel with the auger tube and pointed toward inlet air breather on the opposite end of the cylinder.
- B. Connect the swivel end of the hydraulic hose to the in-line restrictor and elbow assembly and tighten.



IN-LINE RESTRICTOR VALVE AND ELBOW ASSEMBLY (FLOW DIRECTION ARROW MUST BE TOWARD THE CYLINDER PORT!)

Fig. 11
MODEL 62'
HYDRAULIC HOSE LAYOUT

12. Hydraulic Hose and Fitting Installation for 72' & 82' Models

- A. Thread the in-line restrictor valve and elbow assembly into the upper cylinder port (at the base end of the cylinder). The flow direction arrow on the restrictor must point toward the cylinder port. Tighten and leave the restrictor and elbow assembly pointing down. Repeat this procedure on the opposite cylinder. (See Fig. 12.)
- B. Connect the two 18" Crossover Hydraulic hoses into the In-Line Restrictor Valve and Elbow Assemblies, one on the right cylinder and one on the left cylinder. (See Fig. 12.)

NOTE Both ends have a 1/2" male pipe fitting, but only one has a swivel end. Install the end that does not swivel into In-Line Restrictor Valve.

- C. Connect the swivel ends of the 18" Crossover Hydraulic hoses to the branch ends of the "tee" fitting. (See Fig. 12)
- D. On **72' Models** connect the swivel end of the 37'-6" long hose to the other end of the "tee" fitting. On **82' Models** connect the swivel end of the 41'-6" long hose to the other end of the "tee" fitting.

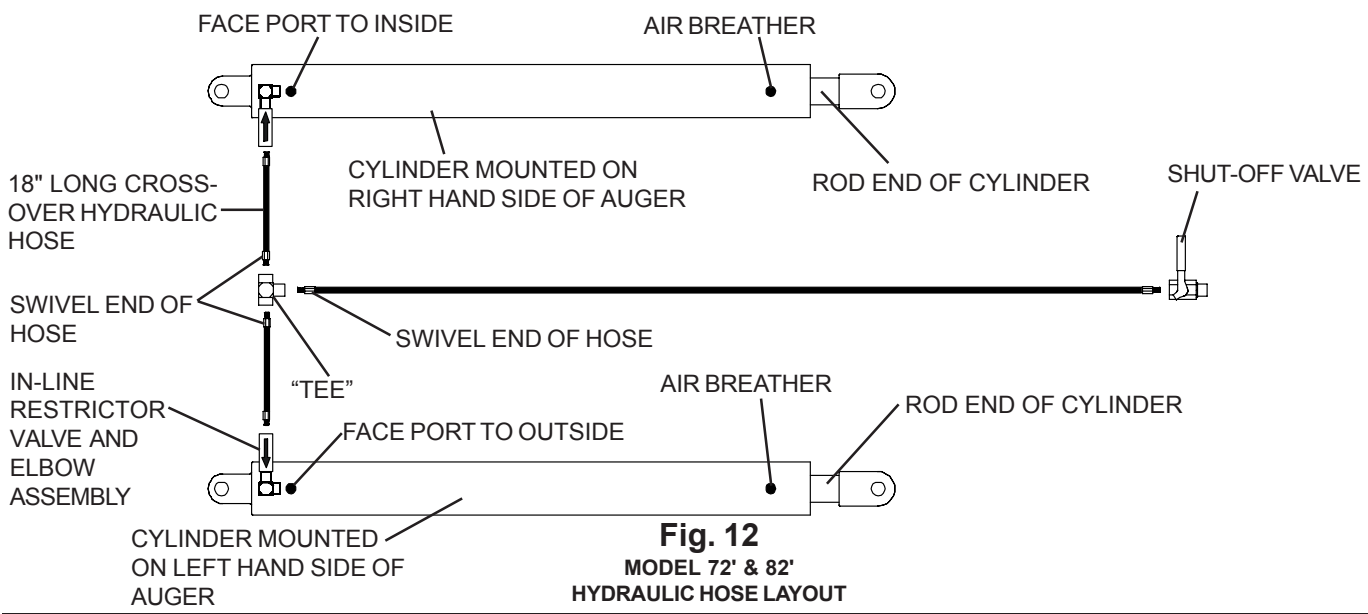


Fig. 12
MODEL 72' & 82'
HYDRAULIC HOSE LAYOUT

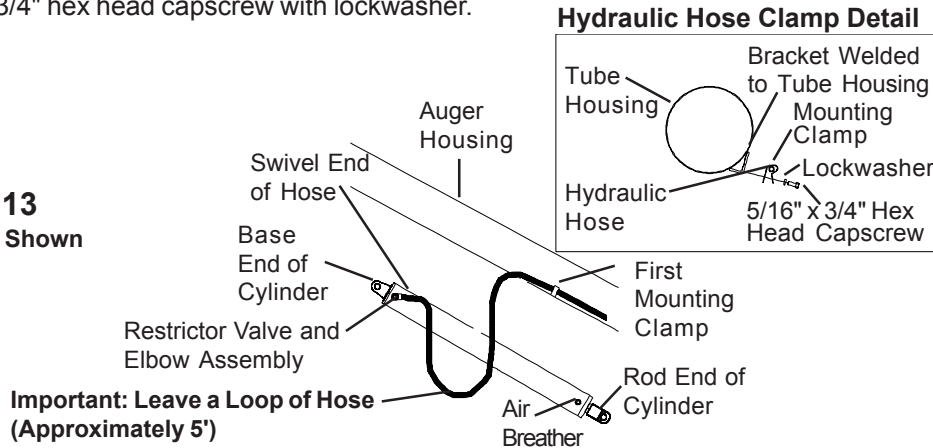
Assembly

13. Hydraulic Hose Clamp Instructions

CAUTION You must leave a loop of hose to account for the increased distance between the clamp and the cylinder port when the auger is raised. There must be a 5'-0" loop of hose between the first clamp and the cylinder port.

- A. Start at the cylinder end of the hose, attach the hydraulic hose to the tube housing by using the mounting clamp and 5/16" x 3/4" hex head capscrew with lockwasher.

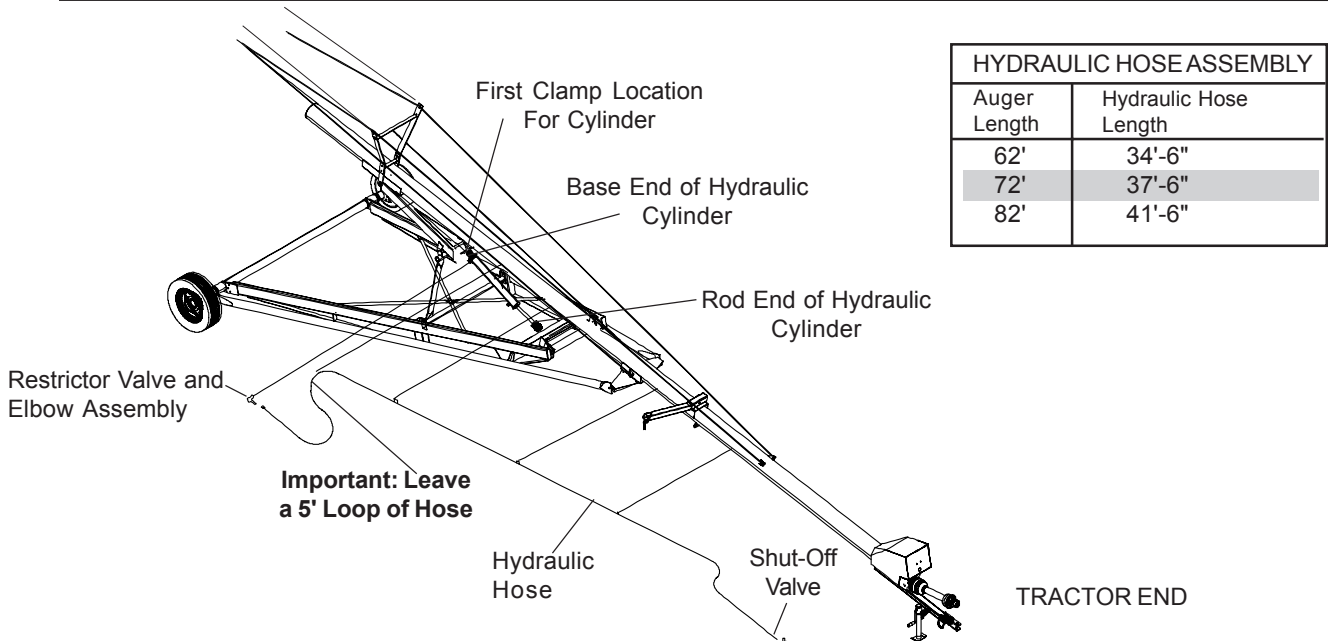
Fig. 13
62' Auger Shown



14. Hydraulic Shut-Off Valve Assembly

- A. Thread the shut-off valve onto the end of the hose. After it is threaded on, the arrow on the valve must point towards the auger and away from the tractor. The hose should be threaded into the female end of the valve.
- B. Double check all fittings and connections for a tight and secure fit.

CAUTION DO NOT connect or disconnect any hydraulic component when there is pressure within the system. Hydraulic systems are highly pressurized. Escaping hydraulic oil, even an invisible pinhole leak, can penetrate body tissues and cause serious injury. Use a piece of wood or cardboard when looking for leaks. Never use the hands or other parts of the body. When reassembling, make absolutely certain that all connections are tight. If injured by hydraulic oil escaping under pressure, seek medical attention immediately. Serious infection or reaction may occur if medical attention is not received at once.



15. Swing-Away hopper Lift Arm, Cable and Winch Assembly

NOTE The swing-away hopper can be stored on either side, right or left, of the main auger housing.

- A. Install the lift arm into the lift arm mount from the side you prefer. Securely attach the lift arm to the mounting tube using a 1/2" x 4-1/2" long (grade 5) hex head capscrew, lockwasher, and nut.
- B. Attach winch plate to inlet hopper using four (4) 3/8" x 1" long hex head capscrews and locknuts.
- C. Hook clevis plates through the hanger loop on underside of auger housing as shown in Fig 15 below. Assemble 5/8" long bushing and cable pulley between the clevis plates using 1/2" x 2" long (grade 5) hex head capscrew and nylon locknut. After tightening the locknut, check to see that the clevis plates are securely hooked on the hanger loop and can't come off.

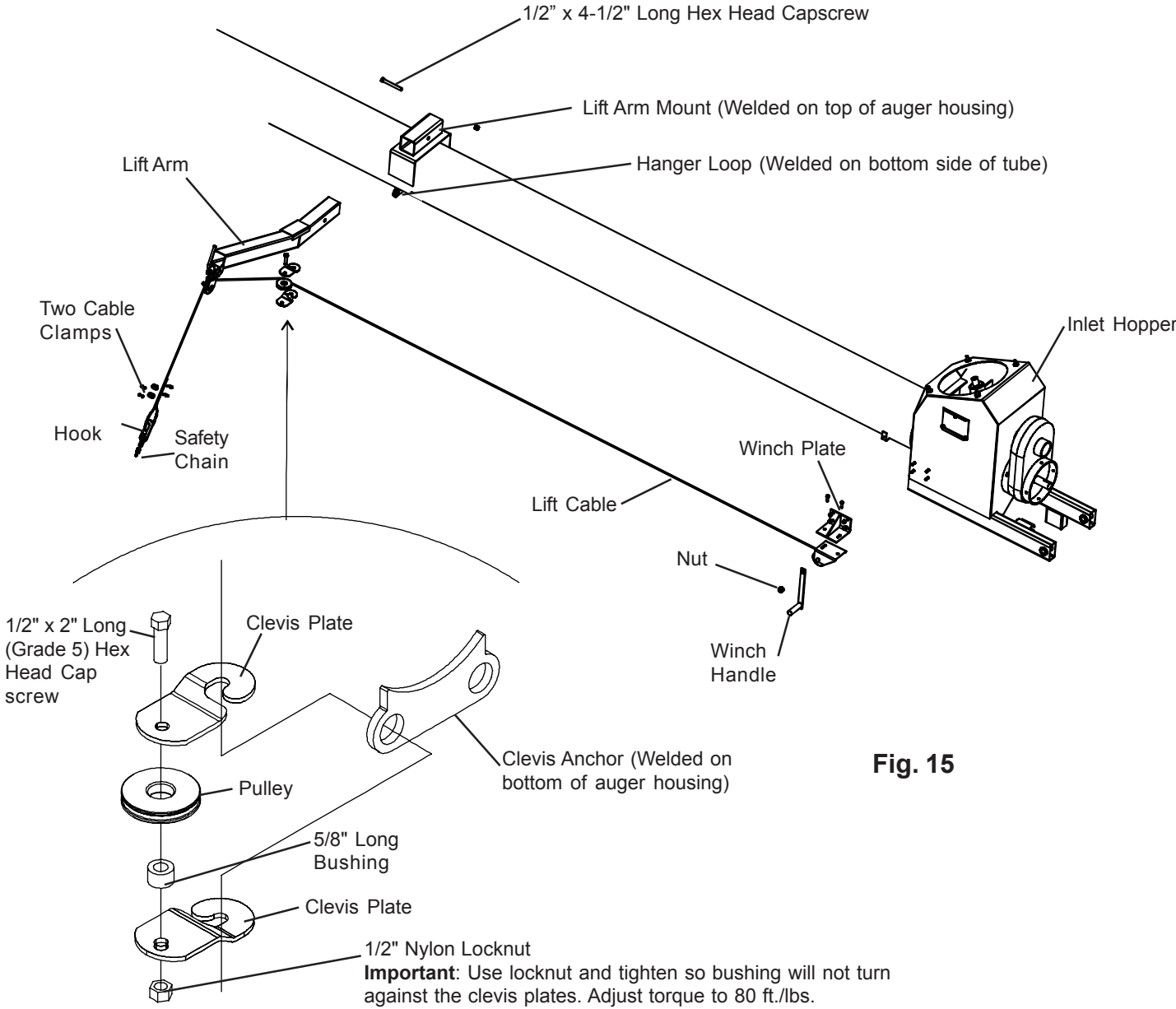


Fig. 15

Assembly

15. Swing-Away Hopper Lift Arm, Cable and Winch Assembly (cont.)

- D. Connect handle to winch by aligning the slot on the end of handle with the turndown portion of pinion shaft. Use hex head nut to secure handle to winch. For more winch information, follow the instructions and precautions listed in the material supplied with the winch from the manufacturer.
- E. Connect the 1/4" x 28' long lift cable to winch drum so cable will wrap **under** winch drum when turning handle in a clockwise direction. (See Fig. 15-E.)
- F. Working from inside of the drum to the outside, slide cable through one of the round holes in the side of the drum until the cable extends 1" past the two square holes.
- G. Clamp the cable to the outside of the winch drum with the cable keeper, using two (2) 3/16" x 3/4" carriage bolts. Bolt heads should be on the inside of the winch drum. (See Fig. 15-E.)

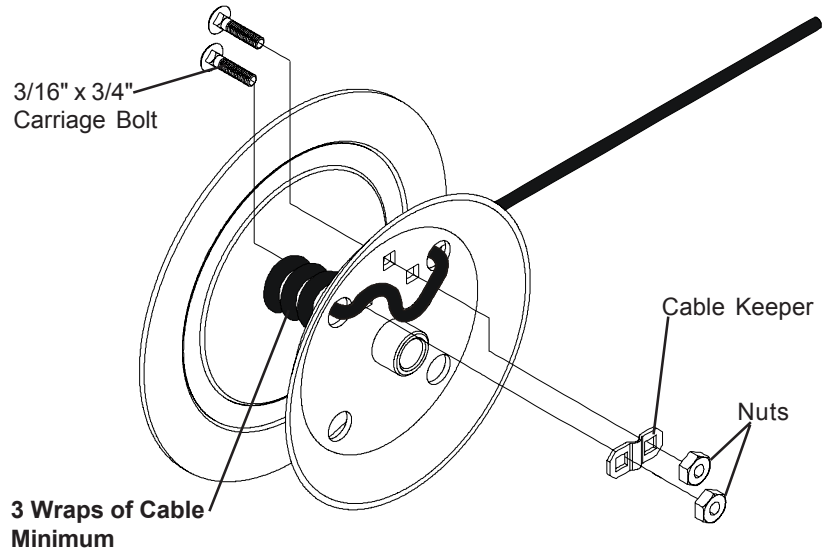


Fig. 15-E

WARNING

The cable keeper alone will not hold the weight of the auger. There should be enough cable so that when the swing-away hopper is all the way down, there are at least 3 turns of cable on the winch drum. Never let the cable all the way out. Always keep a minimum of 3 turns of cable on the winch drum. If there are NOT 3 turns of cable around the winch drum when the swing-away hopper is fully lowered, then the cable must be replaced with a longer cable.

- H. Mount the winch to the winch mount using two (2) 3/8" x 1" long bolts with flatwashers and nylon locknuts.
- I. Rig lift cable from winch through the pulley and clevis under the auger then through the pulley and clevis assembly at the end of the lift arm.
- J. Fasten cable hook to lift cable using two (2) 1/4" cable clamps. Secure the clamp u-bolt against the loose end of the cable.
- K. Attach safety chain to hook.

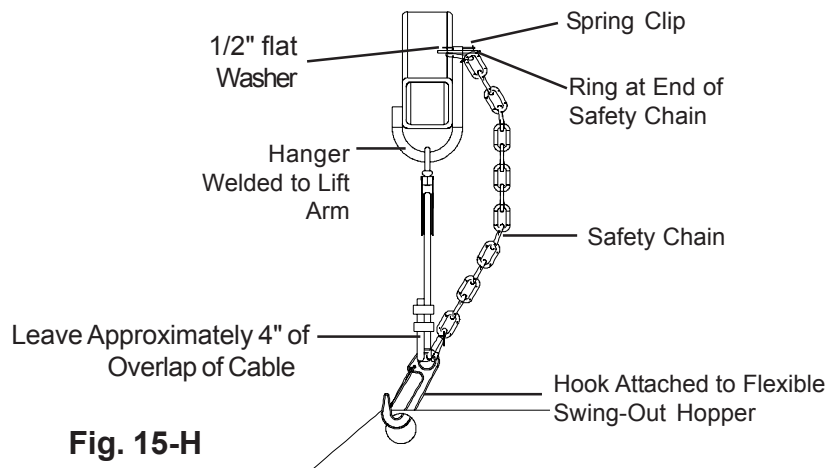


Fig. 15-H

WARNING

DO NOT attach the lift cable to the safety chain.

16. PTO Driveline, Shield, and Jack Assembly

A. Connect PTO driveline to the enclosed drive input shaft using 3/8" x 1-1/2" drive key.

NOTE For the setscrews in the PTO driveline yoke to be properly engaged on the enclosed drive input shaft, slide the PTO driveline on until the setscrews will sit on the flat portion of the enclosed drive input shaft. See fig. 17-B. DO NOT extend the enclosed drive input shaft beyond the inside of the yoke.

Fig. 16-A

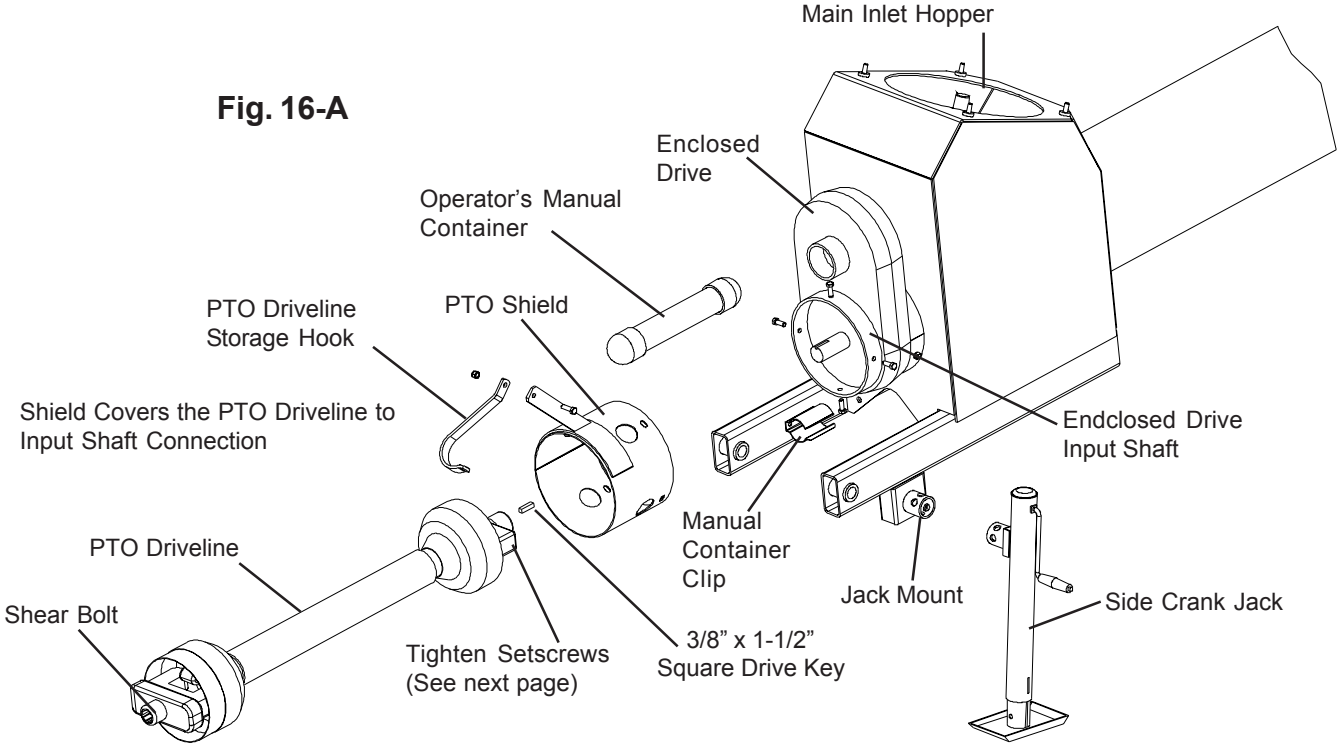
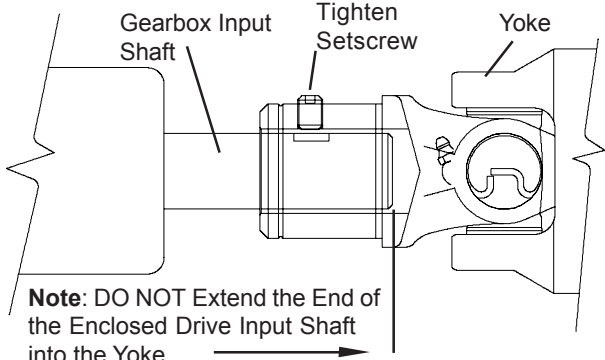


Fig. 16-B

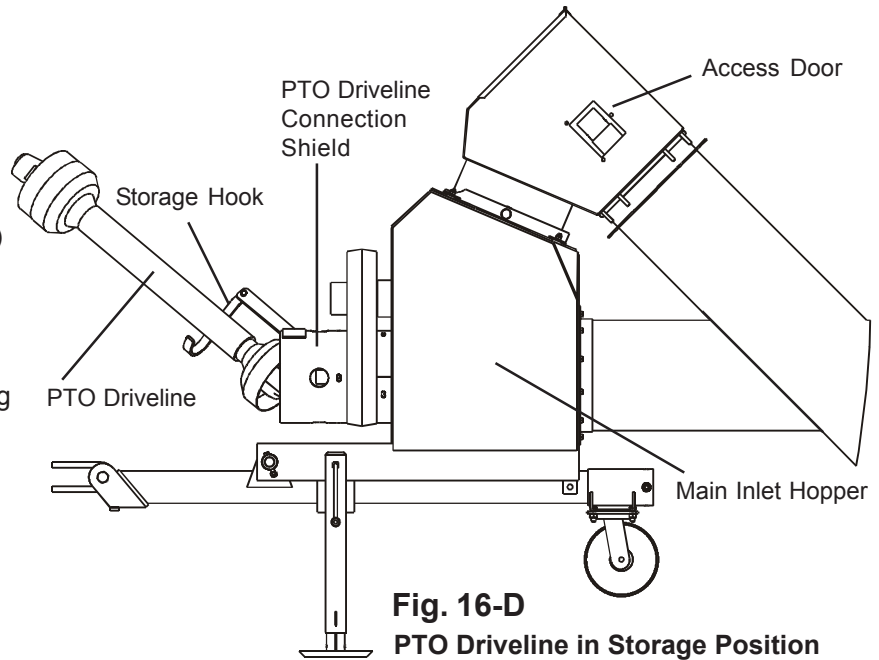


CAUTION The PTO driveline is equipped with a shear bolt at the tractor connection. The shear bolt protects the auger from damage if the auger becomes plugged or subjected to high loads. It is important to use the correct replacement bolt of the proper size and strength to ensure that the shear device will protect the auger and operator. Extra shear bolts are provided with the auger and are stored in the operators manual container located on the main auger undercarriage.

Assembly

16. PTO Driveline/Shield and Jack Assembly (cont.)

- B. Place shield over the PTO driveline. Bolt the shield to the mounting ring on the outside of the enclosed drive, using four (4) 3/8" x 1" long (grade 5) hex head capscrews and nylon locknuts.
- C. Attach the storage hook to the strap on the shield with a 3/8" x 1-1/4" long (grade 5) hex head capscrew and nylon locknut.
- D. Place PTO driveline into storage position. (See Fig. 16-D.)
- E. Attach jack to hitch tube.

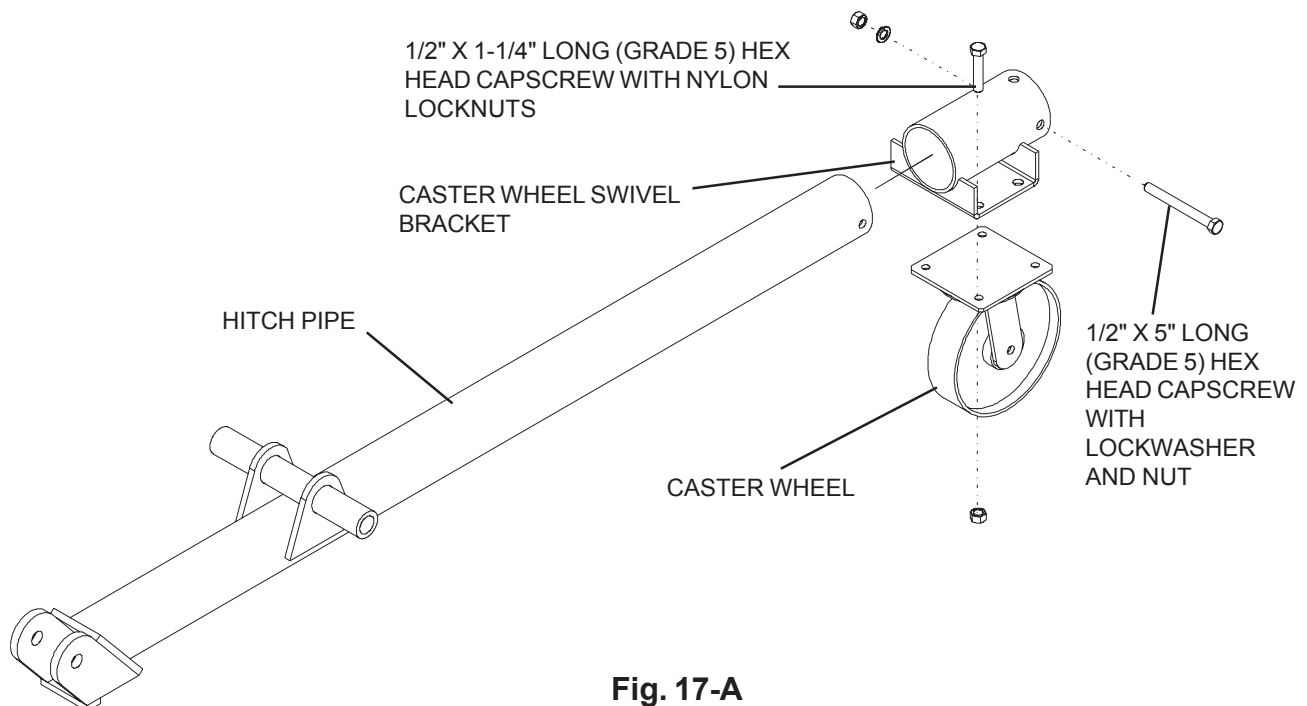


NOTE

The PTO Driveline should be placed in the storage position when not attached to a tractor. Tip the PTO driveline up and swing the support hook under the driveline shaft so it supports the weight of the driveline.

17. Caster Wheel Assembly

- A. Attach caster wheel to caster wheel swivel bracket using four (4) 1/2" x 1-1/4" long (grade 5) hex head capscrews and nylon locknuts.
- B. Place the caster wheel swivel bracket over the hitch pipe and bolt it in the down position using a 1/2" x 5" long (grade 5) hex head capscrew, lockwasher, and nut.

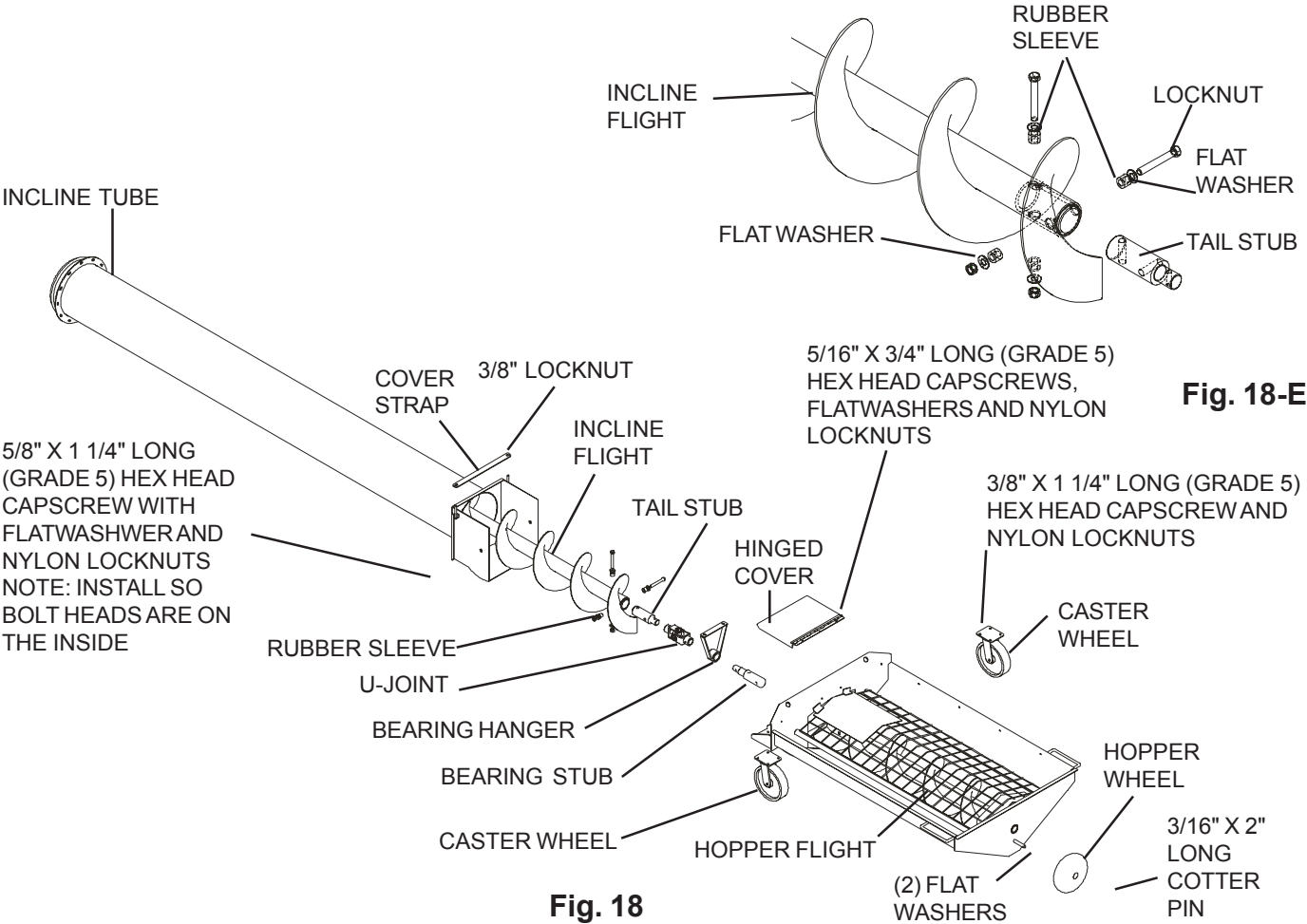


18. Swing-Away Hopper and Incline Tube Assembly

NOTE 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.

- 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. 18.)
- 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. 18-E.)

NOTE 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.



Assembly

18. Swing-Away Hopper and In-line Tube Assembly (cont.)

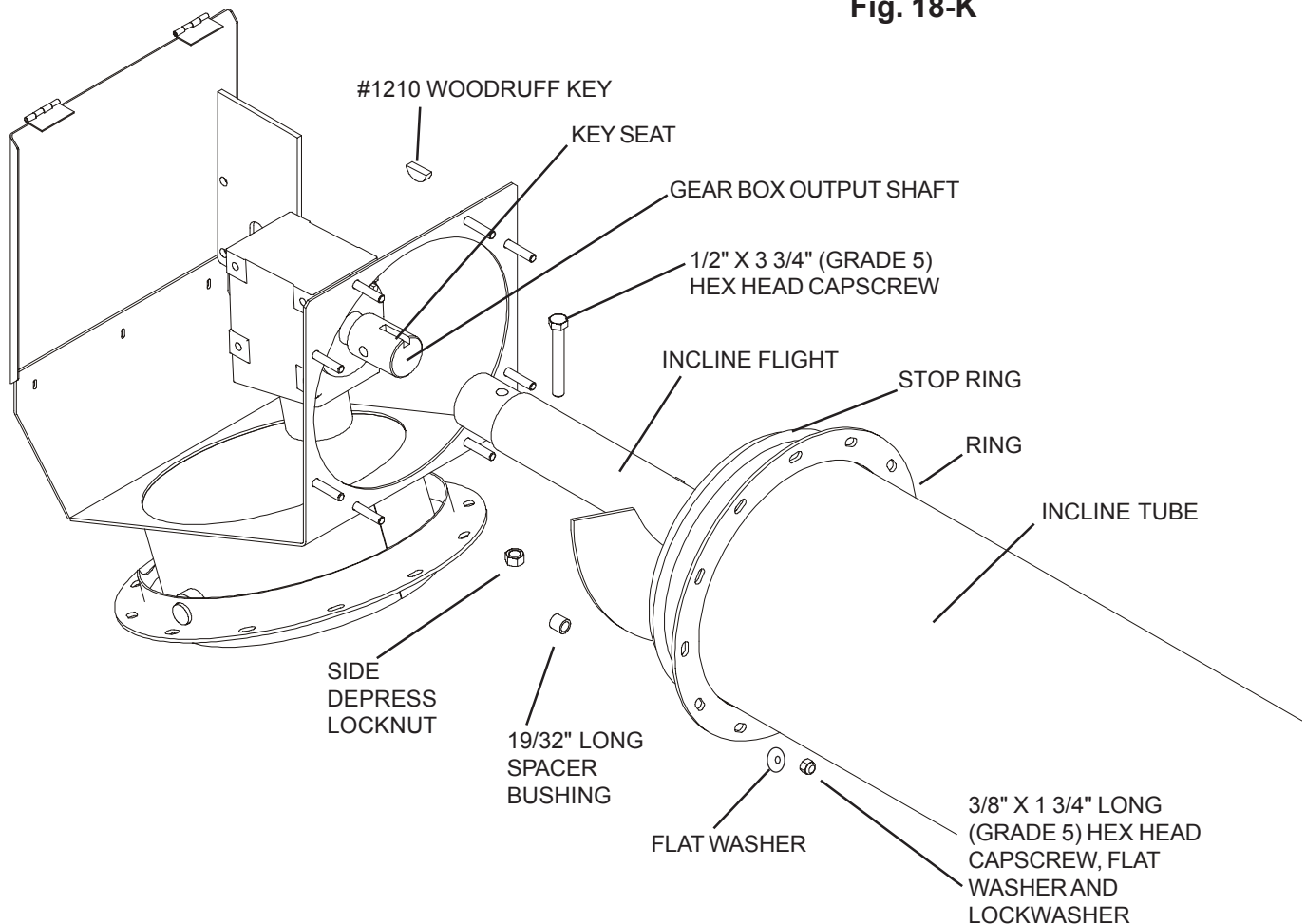
- F. Using a 3/8" x 3" long (grade 5) hex head capscrew and nylon locknut, attach the u-joint to the incline tail stub.
- G. Slide the lower end of the inclined flighting (*the end with the u-joint fastened*) down into the upper end of the incline tubing. Slide the flighting down until the u-joint is 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) 3/8" x 3/4" long (grade 5) hex head capscrews, flat washers, and nylon locknuts.

NOTE

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.
- K. Remove access door on the side of the spout. (Save the nuts. They will be used when door is put back on the spout later.)

Fig. 18-K



18. Swing-Away Hopper and In-line Tube Assembly (cont.)

- L. Slide head end of the incline flight onto the spout gearbox output shaft, lining up the key seat in the flight shaft with the woodruff key in the spout gearbox output shaft. Secure the incline flight in place by using a 1/2" x 3-3/4" long (grade 5) hex head capscrew with a side depress locknut. (See Fig. 18-K on page 28.)

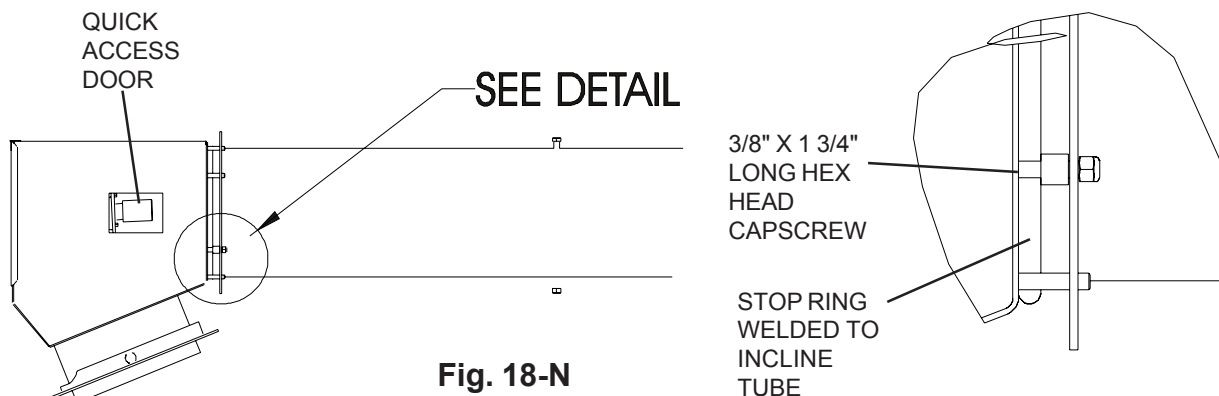


Fig. 18-N

- 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.

NOTE

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 **MUST BE ABLE TO SWIVEL** on the incline tube.

- N. Replace the spout access door removed in Step 18-K and secure in place with the (3) 5/16" nylon locknuts that were removed earlier.

19. Incline Tube to Main Inlet Hopper Assembly

- B. Lift the downspout end of the incline tube with a lifting device or sling and position it directly over the opening in the main inlet hopper.
- C. Carefully lower and align the u-joint with the splined gearbox shaft in the main inlet hopper. Use the quick access door or clean out door to gain access to the u-joint when lowering the incline tube. Completely lower until the spout flange sits flat on top of the main inlet hopper.
- D. Fasten spout flange to top of main inlet hopper by using four (4) 2" O.D. flat washers and locknuts.
- E. Install the vented plug in the upper gearbox. The upper gearbox located inside the incline spout has been filled with oil at the factory. However, solid plugs are used to prevent oil from leaking during shipment. Remove the solid plug from the top side of the gearbox and install the vented plug included in the vent plug kit. It is recommended that the gearbox oil level be checked and verified.

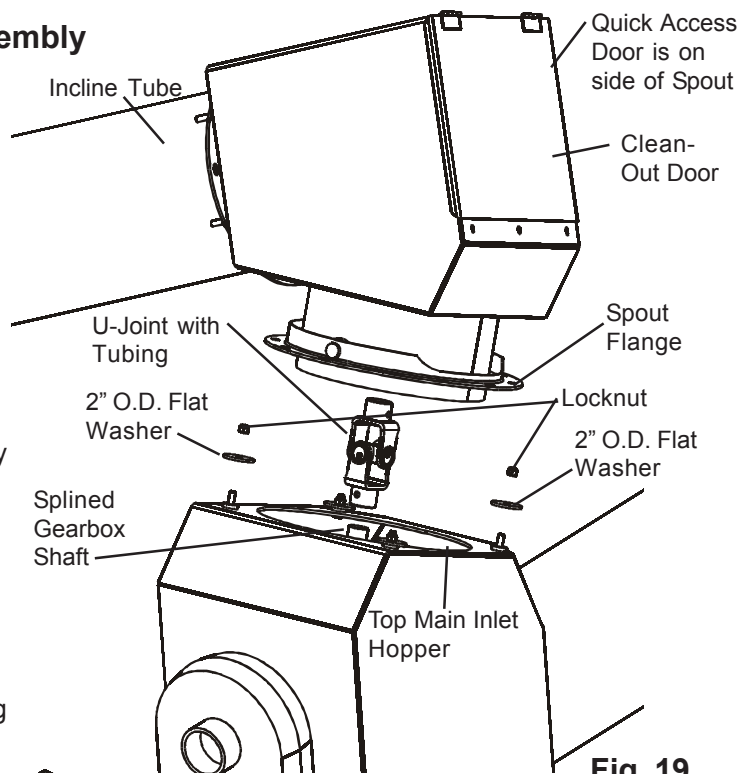


Fig. 19

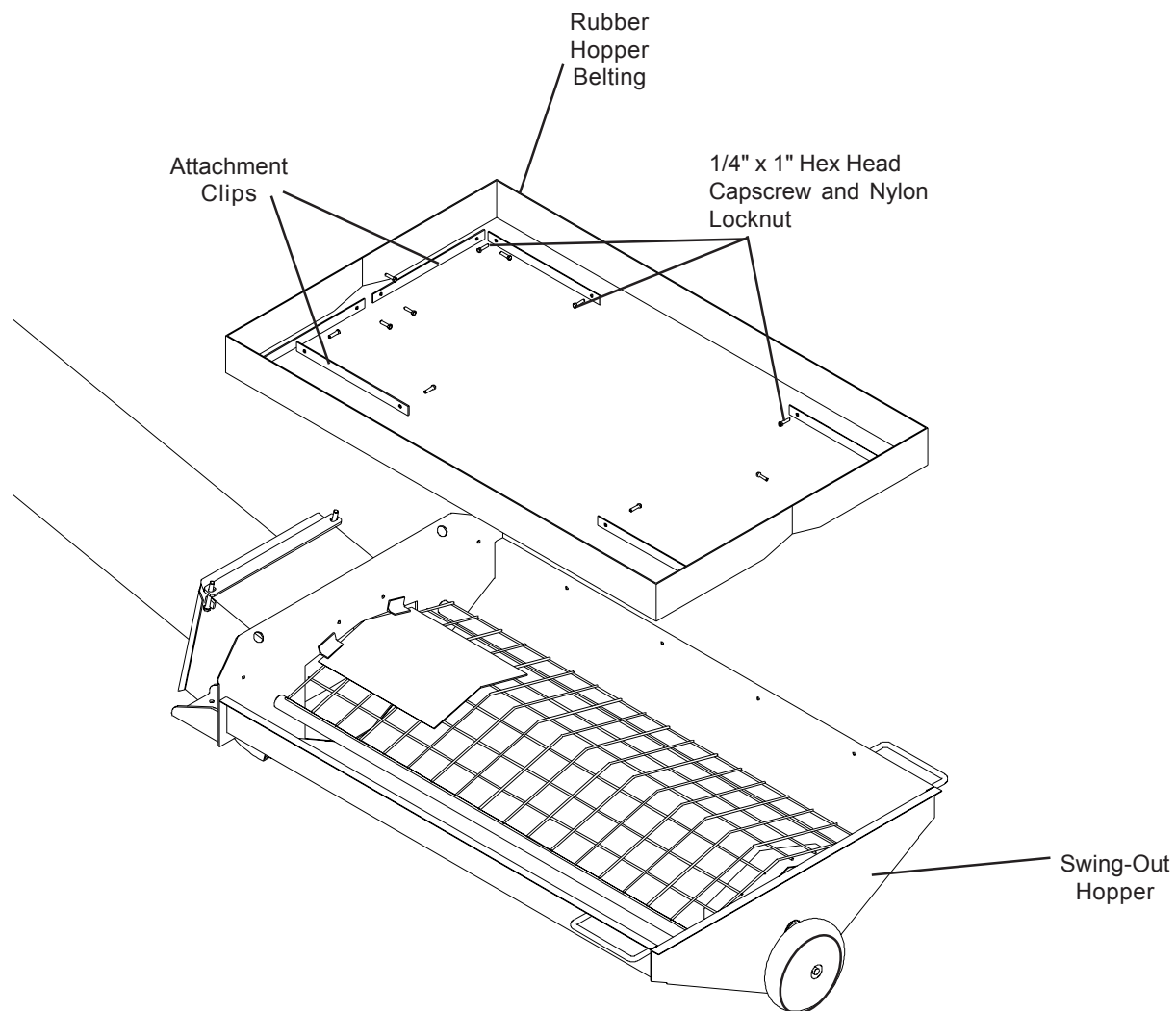
NOTE

IMPORTANT: The incline tube should rotate on top of the main inlet hopper.

Assembly

20. Swing-Away 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.



21. Optional Low Profile Hopper Assembly Instructions

1. Install the hopper wheels to the hopper using four (4) 5/8" x 9-3/4" long clevis pins 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 Fig 21-A)

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.

2. Fasten the CV- Joint to the incline tail stub using one 3/8" x 3" long (grade 5) HHCS and stover nut.
3. Connect the CV-Joint to the power shaft in the swing-out hopper using one(1) 3/8" x 3" long (grade 5) HHCS and stover nut.
4. 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.

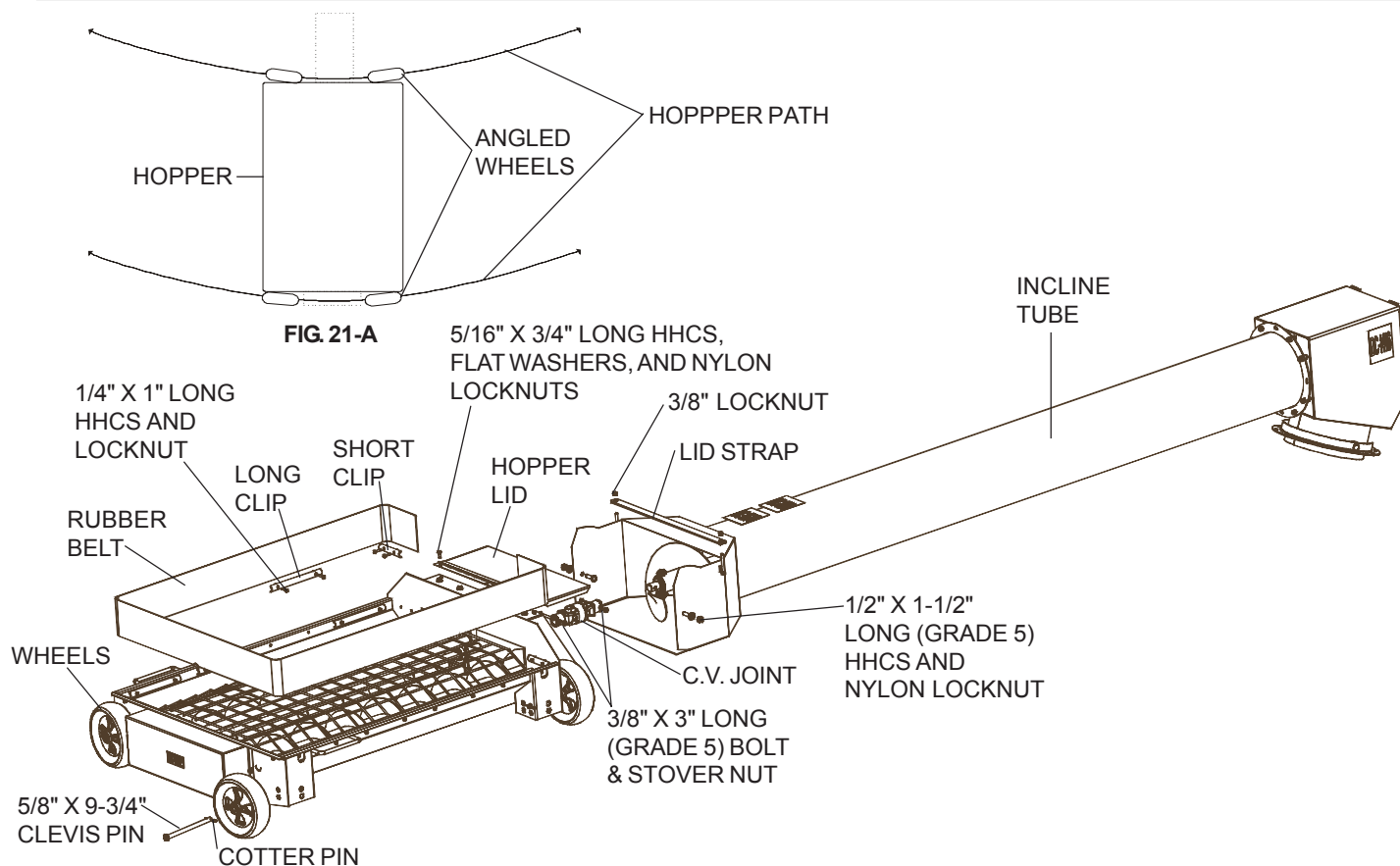
NOTE

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

5. 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.
6. 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 steps must be allowed to slide when the incline tube is tilted at different angles.



22. Low Profile Swing-Out Hopper Rubber Belting Assembly

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. 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.

23. Attach Operator's Manual

- A. Locate the operator's manual holder on the bottom side of the Inlet Hopper. (See Fig. 16-A on page 25.)
- B. Snap the operator's manual container into place.

24. Recheck Assembly Before Delivery and Use

- A. It is important to ensure the assembly of the SAW transport auger before using it for the first time. Make sure that all applicable assembly steps in this manual have been followed.

To the Dealer

All applicable assembly steps included in this manual must be followed for the assembly of the auger to be complete. Before delivering the auger to the owner, check the following:

1. Ensure that all safety shields and devices are installed properly.
2. Make sure that all safety decals are clean and readable. Replace any that are missing, damaged, or covered by paint. Refer to the first page of the Decal section for a list of the decals required for the auger and an illustration showing where the decals should be placed.
3. Ensure that all bolts and fasteners are tightened and secured properly.
4. Make sure that the Operator's Manual container (with Operator's Manual inside) is installed in its holder on the main auger inlet hopper. Refer to Fig. 16-A on page 25 for the location of the container.


Deliver this **Assembly and Operator's Manual** to the owner when you deliver the auger.

To the Owner

1. Read this manual. Check the assembly instructions to determine that the auger is assembled correctly.
2. Familiarize yourself with the safety decals on the auger. If you ever need to replace a safety decal, you can contact your dealer, distributor or the factory.
3. Check all safety shields and devices for proper installation, and make any necessary adjustments.
4. Check all the bolts and fasteners to ensure they are tight and secure.

1. Setup a Designated Work Area

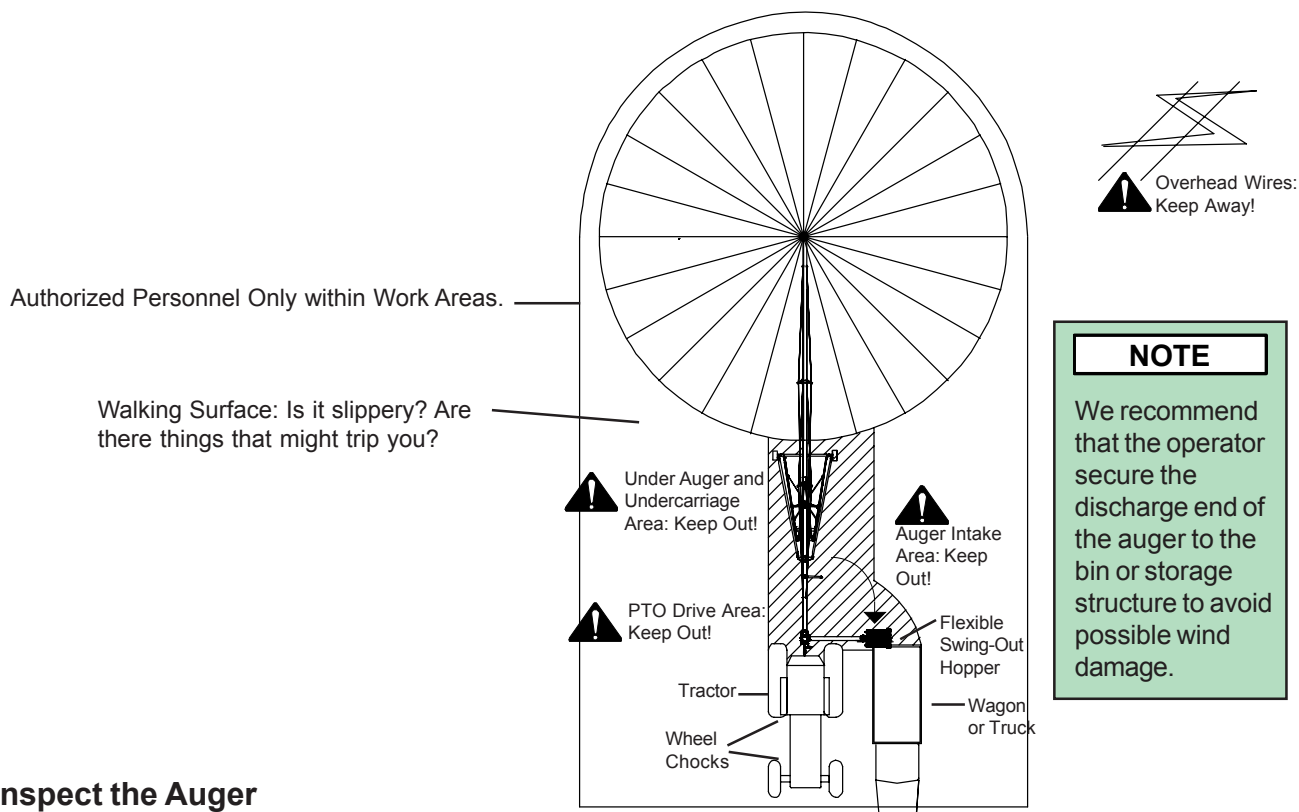
- A. Before starting the auger, setup the designated work areas. The diagram below shows where boundaries should be established.
- B. Mark off the designated work areas using colored nylon or plastic rope as portable barriers.



RULES FOR A SAFER 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.



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. Be sure that the shields on the PTO rotate easily.
- D. Check ALL safety decals. Replace any that are worn, missing, or illegible. A list of decals, found on the auger, are included in the front of this manual. You may obtain decals from your dealer or order them from the factory.
- E. Check the hopper winch and cable to ensure they are secure and operational.

Startup

2. Inspect the Auger (cont.)

- F. Ensure that ALL fasteners are tight.
- G. Check the hydraulic hose and fittings to ensure they are tight and are not leaking hydraulic oil.
- H. Check the oil level in ALL gearboxes. The **Maintenance** section of this manual gives oil level recommendations.
- I. Make sure that the clean out door is shut. It is located in the bottom of the inlet hopper.
- J. Ensure that the inspection covers are in place.

3. Adjust Tractor Drawbar

- A. Adjust the drawbar so there is 14" from the end of the tractor PTO output shaft to the center of the hitch pin. Refer to the drawing below.

CAUTION

If the distance from the end of the tractor PTO to the hitch pin is shorter than 14", the auger should NOT be raised. The PTO driveline may bottom out as it compresses, causing damage to the PTO driveline, auger hopper assembly, or tractor PTO.

IMPORTANT:

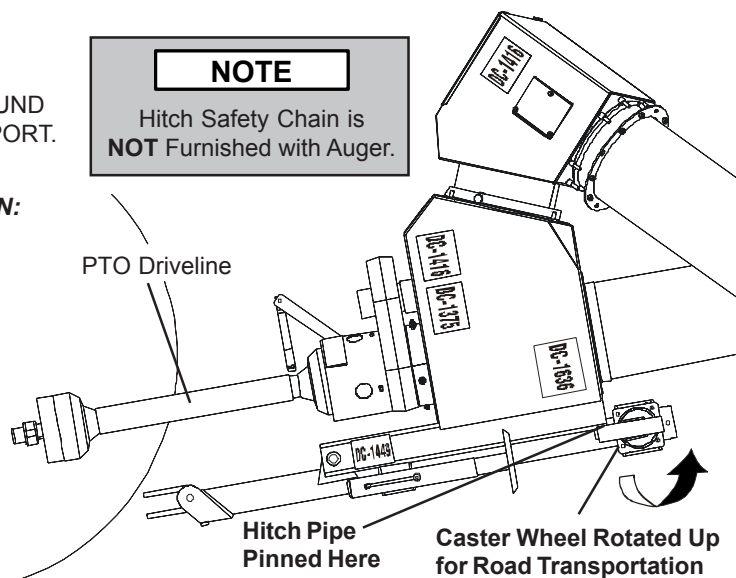
THE HITCH CASTER WHEEL MUST BE UP OFF THE GROUND IN ITS' PINNED CARRYING POSITION FOR ROAD TRANSPORT.

TO RAISE THE CASTER WHEEL TO CARRYING POSITION:

1. ATTACH THE HITCH TO THE TOWING VEHICLE.
2. USE THE JACK TO RAISE THE AUGER INTAKE UNTIL THE HITCH PIPE CAN BE PINNED INTO PLACE. THEN ROTATE THE CASTER WHEEL ON ITS' SUPPORT FOR ADDITIONAL GROUND CLEARANCE.
3. STOW THE JACK INTO TRANSPORT POSITION.

NOTE

Hitch Safety Chain is NOT Furnished with Auger.



THE HITCH CASTER WHEEL MUST BE ON THE GROUND DURING AUGER OPERATIONS. IT HELPS TO MAINTAIN THE PTO DRIVELINE WITH CV IN A HORIZONTAL POSITION. USE THE JACK TO RELEASE THE CASTER WHEEL FROM ITS' CARRYING POSITION.

Important: Tractor Master Shield Must Cover PTO Driveline To Tractor PTO Connection

Hitch Pin (Securely Attached to Drawbar, Secure in Place with Keeper Pin or Use Bolt with Two Nuts)

Swivel Spout

End of Tractor PTO Output Shaft

Hitch Pipe Released - (Pin Removed and Stored)

Caster Wheel on the Ground During Auger Operations

Fig. 3

4. Hitch the Auger to the Tractor

▲ DANGER Empty the machine before moving it to prevent upending.

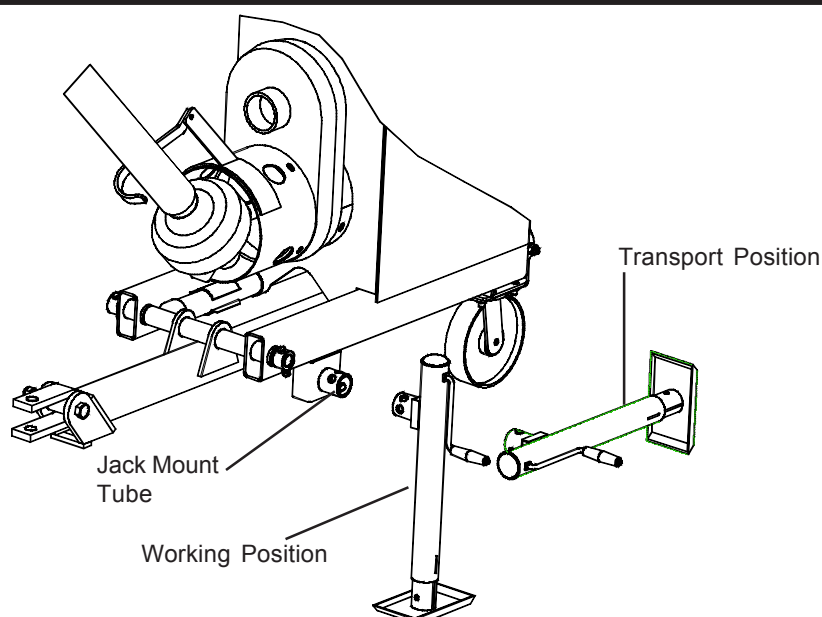
▲ WARNING NEVER stand between the tractor and the auger when hitching unless ALL controls are in neutral and the brakes are locked.

- A. Lift the auger intake with the jack to the height of the tractor drawbar. NEVER raise the intake end higher than necessary to attach to a towing vehicle because weight transfers rapidly to the discharge end when the intake is raised.
- B. Attach the hitch clevis to the tractor drawbar using either the hitch pin and keeper, or a bolt with two (2) nuts. Refer to the Fig 3 on page 33.
- C. Route the hitch safety chain through the loop anchor welded to the hitch tube, then fasten the chain to the tractor drawbar no more than 6" from the hitch pin.

▲ WARNING A hitch safety chain (auxiliary attachment system) is required on public roads to retain the connection between towing and towed machines in case the primary attachment system separates. This is not supplied with the auger.

- D. Connect the hydraulic hose to the tractor.
- E. Make sure the hydraulic shut-off valve is closed.
- F. Retract the jack and rotate it 90° into transport position.

CAUTION Before retracting or folding the jack, the hitch clevis should be secured to the drawbar to prevent the hitch from falling to the ground.

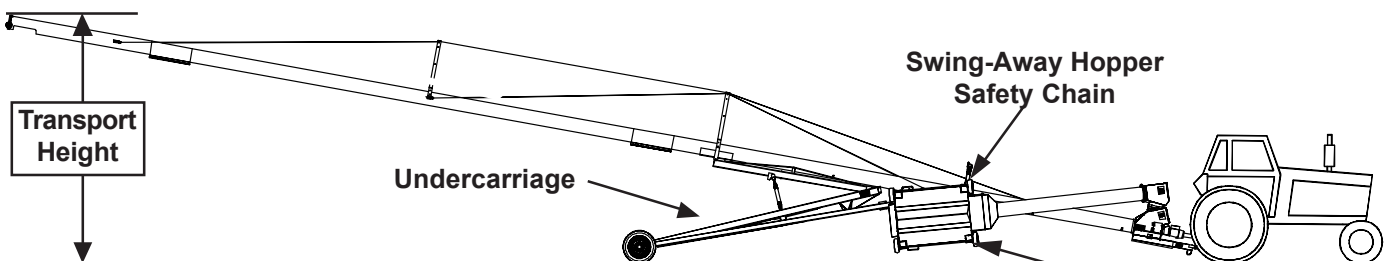
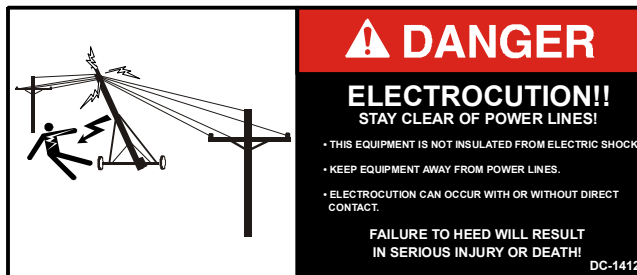


- G. **DO NOT** attach the PTO driveline to the tractor at this time. It will be attached during placement of the auger, as described on Page 36.

Startup

5. Transport the Auger

- A. Before moving your portable auger, carefully consider the route you will take prior to departure. The route considered should be clear of dangerous obstacles, such as electrical lines and overhead obstructions.
- B. If you have marked off the designated work area using colored nylon or plastic rope as portable barriers, be sure to allow room for the tractor and auger to pass through.
- C. Move the auger with a tractor to and from the work area. If you need to move the auger over greater distances, use a pickup truck or other suitable vehicle.
- D. Follow these recommendations when transporting the auger:
 1. Always transport the auger in the full-down position, as shown below. The swing-away hopper must be raised and set in the transport position. Make sure the ratchet on the winch is locked. This will prevent lowering of the hopper during transport.
 2. Make sure the hydraulic shut-off valve is closed.
 3. Make sure the hitch is secured to the tractor.
 4. Make sure the jack is stored in transport position or hitch adjustment position. **Be sure to fasten the auxilliary hitch safety chain.**
 5. Make sure the swing-away hopper safety chain is hooked over the hanger on the lift arm. (See **Raise the Swing-Away Hopper into Transport Position** on Page 43 for more information.)



Swing-Away Hopper in Towing Position

IMPORTANT: Transport heights are estimated based on the auger being attached to a towing vehicle with a drawbar height of 1'6".

Auger Size	12" x 62'	12" x 72'	12" x 82'
Transport Height	12'-3"	13'-3"	15'-0"

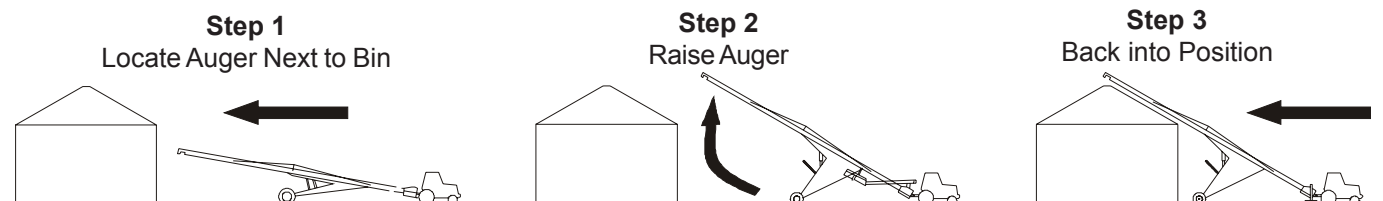
NOTE Be careful making turns and **AVOID SHARP TURNS**. It is possible for the swing-away hopper to hit the tractor wheels or fenders.

DANGER Watch for overhead obstructions and electrical wires. Failure to do so may result in electrocution. Before you begin transport, lower the auger well below the level of power lines. Maintain at least ten (10) feet of clearance. The chart above gives the recommended height of each portable auger in the lowered transport position. Refer to the chart to determine at what height you should transport your auger.

NEVER allow persons to stand under or ride on the auger during transport. Do not transport the auger at speeds in excess of 20 M.P.H. Comply with state and local regulations governing marking towing vehicles and maximum width. Observe safe driving and operation practices.

6. Placing the Auger in Work Area

- A. Placing the Auger—Use a towing vehicle to move the auger into its working position within the designated work area. Placing the auger consists of three (3) steps:
1. Locating the auger next to the bin.
 2. Raising the auger.
 3. Backing the auger into position.



Step 1. - Locate Auger

- A. Locate the discharge end of the auger as close as possible to the bin or other structure.
- B. When moving the auger toward the working position, leave adequate room so the swing-away hopper can be deployed. Also allow room for a convenient path for the loaded vehicle to reach the swing-away hopper.

⚠ DANGER

Make sure everyone is clear of the work area when moving the auger. To prevent the auger from tipping over while backing, avoid rolling over any obstructions. Also avoid moving the auger at right angles to a slope. If the auger is to rest on a slope, approach the bin uphill.

Be certain that the entire area above the auger and in the line of travel is clear of overhead obstructions and electrical wires. Failure to do so may result in electrocution. Maintain at least ten (10) feet of clearance.

Electrocution can occur without direct contact.

- C. Position the auger so the tractor and auger will be in a straight line during grain conveying operation.
1. Place the auger on a level surface. The wheels must be allowed to roll freely while the auger is being raised. Be sure there are no obstructions in the area.
 2. Open the hydraulic shut-off valve.
 3. Check the swing-away hopper to ensure it is in transport position.
 4. Attach the PTO driveline to the tractor by completing these steps:
 - a. Slide the driveline end onto the tractor PTO output shaft.
 - b. Compress the spring keeper on the PTO driveline and continue to slide it onto the tractor PTO output shaft until the keeper sets in the groove on the tractor PTO output shaft.
 - c. The spring keeper returns to its original position and the PTO driveline locks onto the tractor PTO output shaft.
- D. **DO NOT** engage the PTO when the swing-away hopper is in transport position.

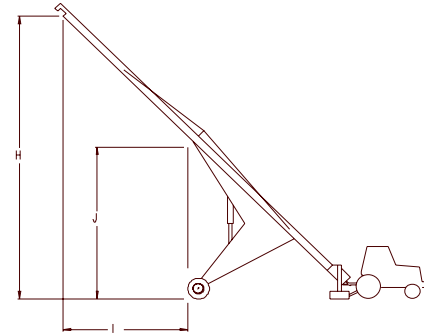
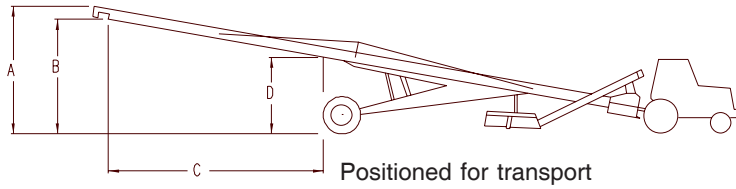
⚠ DANGER

Avoid making turns while moving the auger when the PTO driveline is attached to the tractor. Maneuvering with the PTO driveline attached results in driveline damage that is not covered by the warranty.

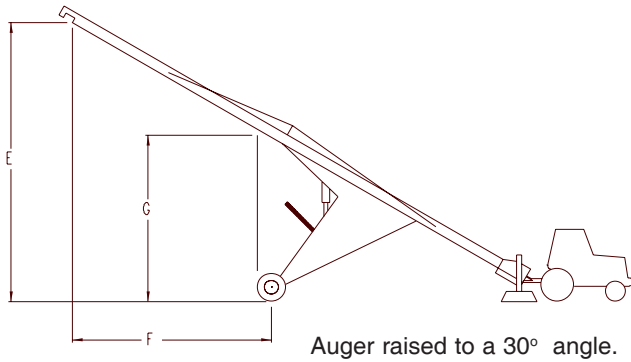
Make sure the tractor is exactly in line with the auger while the PTO is operating.

Startup

E. Operating Heights



Auger raised to maximum height.



Overall Tread Width

12"
62' - 10' 6"
72' - 10' 6"
82' - 11' 11"

	A	B	C	D	E	F	G	H	I	J
Auger Size	Overall Height During Transport	Discharge Height	Closest Point to Bin Transport Position	Free Clearance at Transport Position	Discharge Height at 30°	Closest Point to Bin at 30°	Free Clearance at 30°	Discharge Height Maximum Position	Closest Point to Bin Maximum Position	Free Clearance at Maximum Position
12" x	12' 6"	11' 0"	26' 5"	7' 0"	31' 4"	22' 2"	19' 4"	44' 0"	20' 0"	25' 4"
12" x	14' 4"	12' 6"	31' 0"	7' 7"	36' 4"	25' 3"	22' 0"	51' 0"	23' 4"	28' 6"
12" x	15' 0"	13' 6"	33' 9"	8' 5"	41' 6"	30' 9"	25' 5"	57' 0"	26' 4"	31' 4"

6. Placing the Auger in Work Area (cont.)

Step 2. - Raise Auger

- A. Raise the auger only high enough to allow minimum clearance above the bin.

Step 3. - Back Into Position

- A. Slowly back the auger with the tractor so that the discharge end of the auger is positioned over the bin or grain storage structure. **DO NOT** back the auger by hand.
- B. Lower the auger until the discharge spout or auger discharge is directly over the bin hole opening.

NOTE

If you discharge grain into a grain spreader, maintain at least twelve (12) inches of space between the auger discharge and the spreader. The discharge end will lower as the auger fills with grain during operation.

- C. Place the tractor in "Park," set the brake, and chock the wheels by placing a board or cement block in front and behind the wheels.
- D. Close the hydraulic shut-off valve to prevent the auger from inadvertently lowering or raising.
- F. **DO NOT** increase the height of the auger by placing the wheels on blocks, lumber, or by other means.

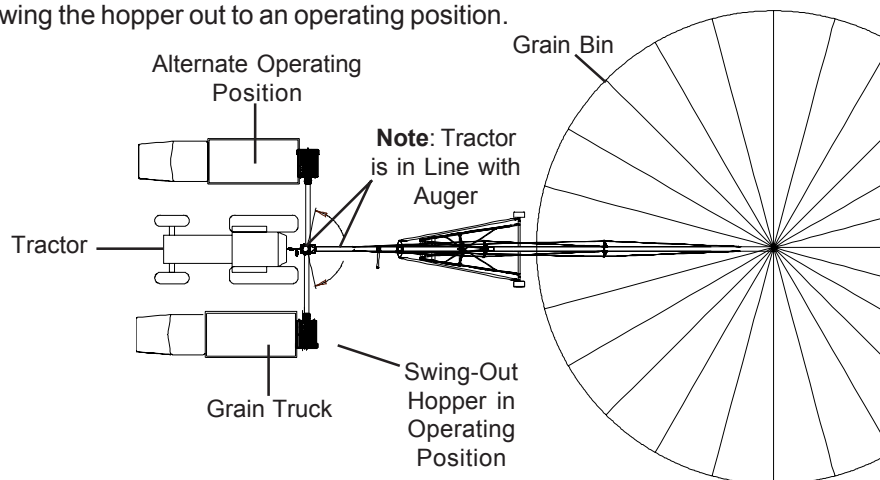
7. Deploy Swing-Away Hopper

- A. Firmly grasp the winch handle and release the ratchet lock on the winch. Slowly turn the handle counter-clockwise to lower the hopper.

CAUTION

Maintain control of the winch handle at ALL times. If the handle is released, the swing-away hopper will drop, possibly damaging the hopper. Be sure to ALWAYS reset the ratchet lock after letting out the cable.

- B. When the hopper reaches the ground, unhook the cable from the hopper. Hang the cable hook on a section of the auger housing to get it out of your way.
- C. Carefully swing the hopper out to an operating position.



NOTE

Do not engage the PTO unless the hopper is in operating position. Do not move the swing-away hopper while the auger is in operation.

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.
- E. Only use an Agricultural Tractor with 540 RPM Power Take-Off (PTO).
- F. To avoid damage and excessive wear of the 12" augers:
 - Do not operate the auger at speeds in excess of 540 RPM.
 - Do not operate the auger at speeds below 450 RPM.
- G. During operation, ensure the tractor is in line with the auger.

▲ DANGER

Be certain to close **ALL** the clean-out doors and inspection doors in the main auger hopper before operating the auger.

The operator should not turn on 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 main auger by controlling the amount of grain fed into the swing-away hopper. Avoid plugging the main auger by overfeeding 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.

Stop the engine and 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. Before you start the tractor, be sure the PTO driveline is securely attached to the auger and the tractor. Make sure the swing-away hopper is in working position.
- C. Be sure that power to the PTO is **OFF**.



Be certain that the shaft shield rotates freely on the shaft before engaging the PTO driveline.

- D. Turn on the tractor.
- E. Engage the PTO (by turning the switch to **ON**, engaging the lever, or whatever means necessary) at a slow RPM to minimize shock loads.
- F. Do not allow the auger flighting to “load up” at low speed. If this occurs, high torque must be used to turn the auger flighting, and this can damage the auger.
- G. Run the auger at partial capacity until several hundred bushels of grain have been augured 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.

- H. When the screw and tube are polished and smooth, slowly work up to the recommended speed and run the auger at full speed.



You will minimize shock loads by engaging the PTO at a slow RPM, then increasing the RPM to the recommended speed.

Shutdown

1. Normal Shutdown

- A. Make sure that the swing-away hopper and auger are empty before shutting down the unit.
- B. Slow down the RPM.
- C. Turn off the tractor.
- D. Before the operator leaves the work area, the power source should be locked out, as described 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 or adjust the auger.

2. Intermittent Operation Shutdown

CAUTION

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

- 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.

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. Use the clean-out door in the bottom of the main auger inlet hopper.
- C. **Never** attempt to restart the auger when it is full.

CAUTION

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

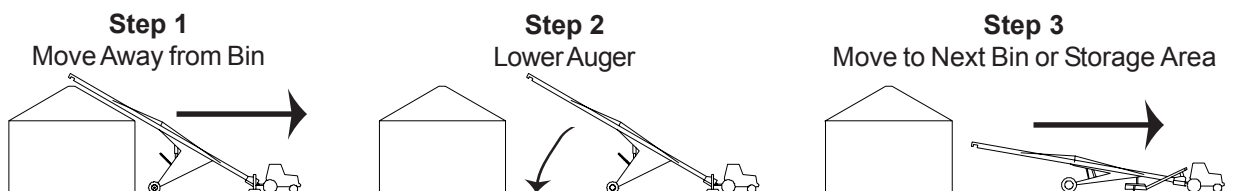
- D. When as much grain as possible has been cleared from the hoppers and the auger, reconnect the power source and clear the remaining grain gradually.

4. Lockout

- A. To lockout the auger, stop the auger and turn off the power supply.
- B. Remove the ignition key or coil wire from the power source. If this is not possible, remove the PTO driveline from the work area.
- C. 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.

5. Relocate the Auger

- A. After you complete conveying grain, you should move the auger away from the bin and lower it. The auger can then be moved to a different bin for more conveying or to be cleaned and stored.



- B. Relocating the auger consists of three (3) steps:
 1. Move the auger from bin or storage area.
 2. Lower the auger.
 3. Move the auger to next bin or storage area.

Move Auger Away from Bin

NOTE

On augers equipped with side drive kits, first hitch the tractor to the drawbar and connect the hydraulic lift hose to the tractor.

- A. Empty the auger and clean up the work area.
- B. Raise the swing-away hopper before lowering the main auger. (Refer to **Raising Swing-Away Hopper into Transport Position** on page 43 for more information.)
- C. Untie any anchors and remove all supports.
- D. Open the hydraulic shut-off valve.
- E. Remove the wheel chocks.
- F. Raise the auger so that the discharge spout is clear of the bin opening.
- G. Slowly move the auger away from the bin.

CAUTION

When moving the auger, do not make turns while the PTO driveline is attached to the tractor. Maneuvering with the PTO driveline attached will result in damage to the driveline that is not covered by the warranty.

Shutdown

Lower the Auger

- A. Lower the auger immediately after moving the auger away from the bin or storage structure.



You should lower the auger even if you are relocating it a short distance away, such as to another bin in the immediate area.

- B. Disconnect the PTO driveline and place it in storage position. Support the PTO driveline with a storage hook, as shown on page 44.

Move Auger to Next Bin or Storage Area

- A. Carefully move the auger to the next bin or storage area.
- B. It is recommended that the auger be stored in the full down position.
- C. Thoroughly inspect the auger as described in the *Inspect the Auger* section on page 32.

6. Unhitch the Auger

- A. Make sure the hydraulic shut-off valve is closed.
- B. Relieve the tractor of internal hydraulic pressure. (Refer to the tractor's operation manual for specific instructions.)
- C. Disconnect the hydraulic hose from the tractor.
- D. Chock the auger wheels to prevent the auger from rolling.
- E. Place the jack into the lifting position and remove the hitch weight from the tractor drawbar. Be certain the jack pin is properly set to prevent the jack from rotating on the mount.
- F. Remove the safety chain and hitch pin.
- G. Disconnect the tractor from the auger.
- H. Open the clean-out door in the bottom of the main inlet hopper to clean out excess grain and allow water to drain during storage.



NEVER raise the intake end of the auger higher than is necessary to attach to a towing vehicle. When the intake end is raised, weight rapidly transfers to the intake end.

Never stand between the tractor and the auger when hitching unless all controls are in neutral and the brakes are locked.

7. Raise Swing-Away Hopper into Transport Position

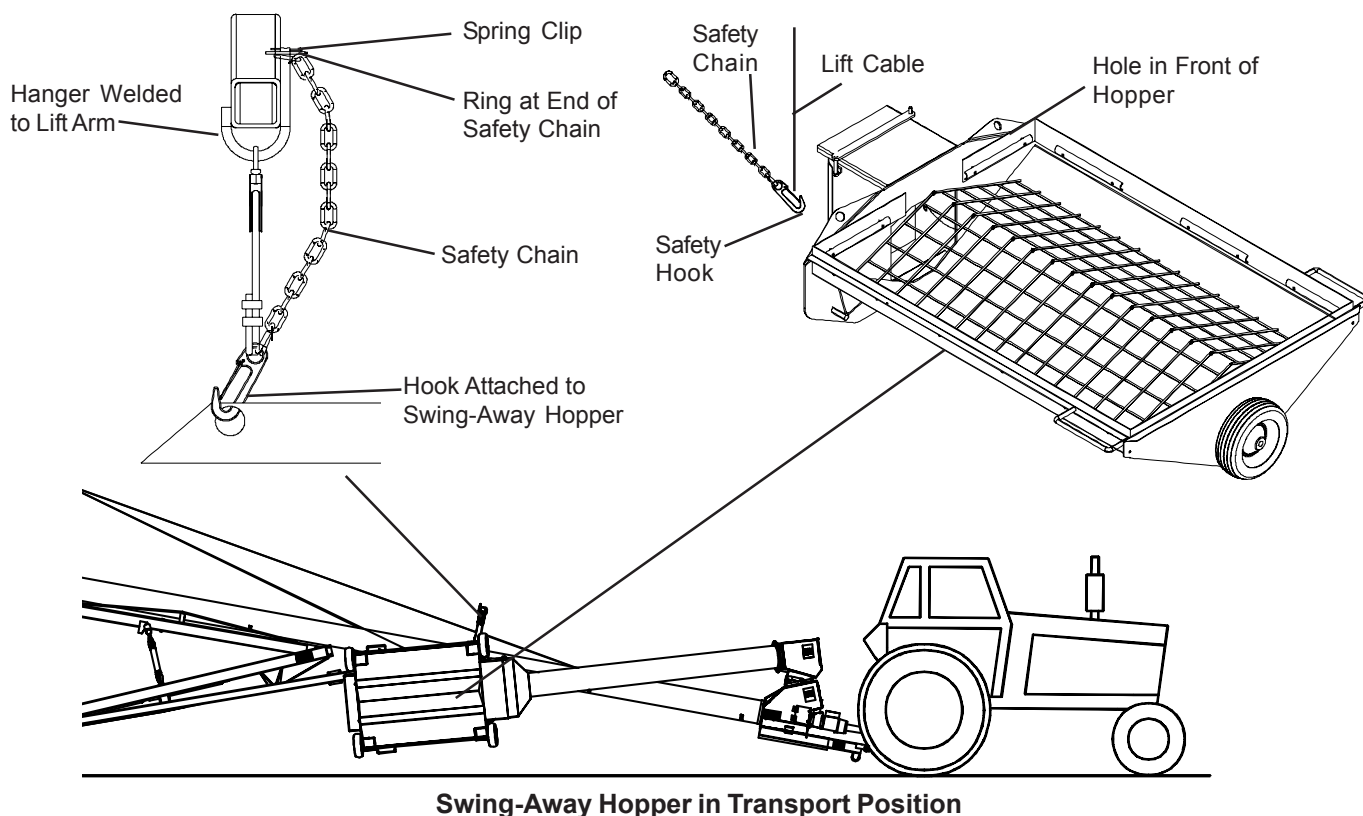
- A. Ensure that all grain has discharged from the auger.
- B. Disengage the PTO.
- C. Lockout the power sources.
- D. Swing the hopper to the side of the main auger.
- E. Release the ratchet lever on the winch and release enough cable to attach the cable hook to the front of the hopper.
- F. Attach the hook to a hole in the front plate of the hopper, as shown on the next page. Use the hole closest to the auger tube. This ensures that when the hopper is raised, it will rotate and face away from the auger.
- G. Engage the winch ratchet by flipping the winch ratchet lever into the down position. A clicking noise will sound as the handle is turned.
- H. Turn the winch handle clockwise to raise the hopper.
- I. Raise the hopper until the safety hook is within a few inches of the lift arm pulley.
- J. Place the safety chain ring over the hanger welded to the lift arm, and secure it with a spring clip.

NOTE

Pay attention to the cable as it winds into the winch drum. Make sure it winds on the drum evenly and does not build up on one side.

CAUTION

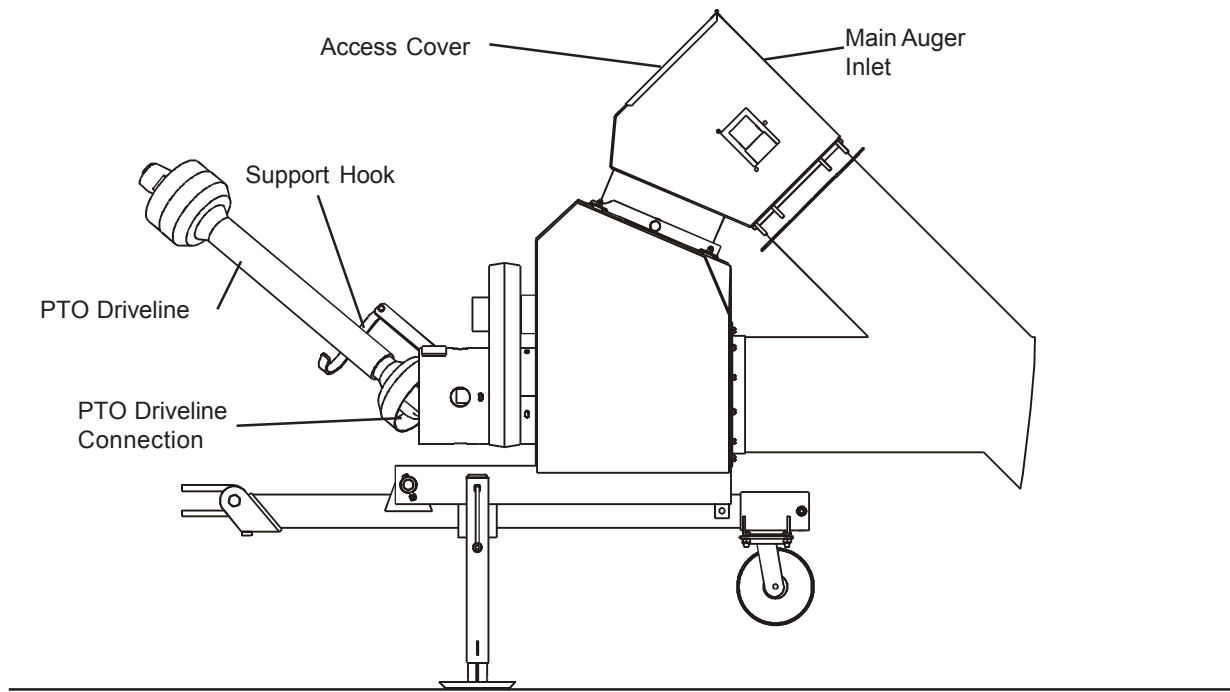
Be sure to keep your hands away from the winch drum while operating it.



Shutdown

8. Store PTO Driveline

- A. Place the PTO driveline in storage position when it is not attached to the tractor.
- B. Tilt the PTO driveline up and position the support hook under the driveline to support the weight of the driveline.



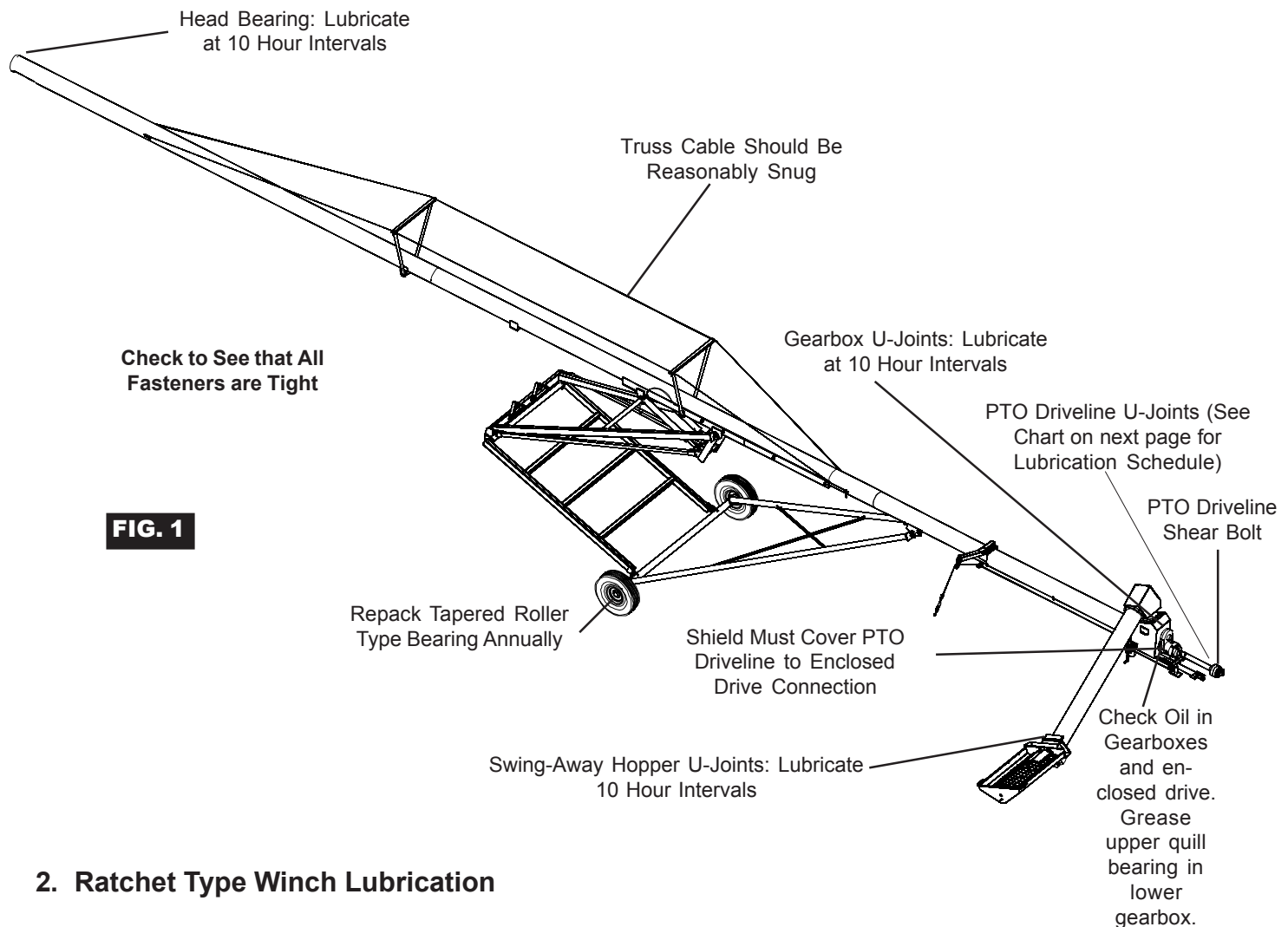
PTO Driveline in Storage Position

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

▲ DANGER

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 the auger while it is connected to a power source. Always disconnect all power sources prior to servicing the auger



2. Ratchet Type Winch Lubrication

- A. Use a ratchet type winch to lift the swing-away hopper into transport position.
- B. Ratchet type winches require the following maintenance:
 1. All gears must be covered by a film of grease at all times.
 2. The nut holding the handle assembly must be tight.
 3. The two (2) bushings found at the end of the drum shaft, the ratchet pawl, and the bushing at the ends of the pinion shaft should be wet with oil.
 4. The teeth of the ratchet lock should be sharp, and not worn, so that they can hold the load.

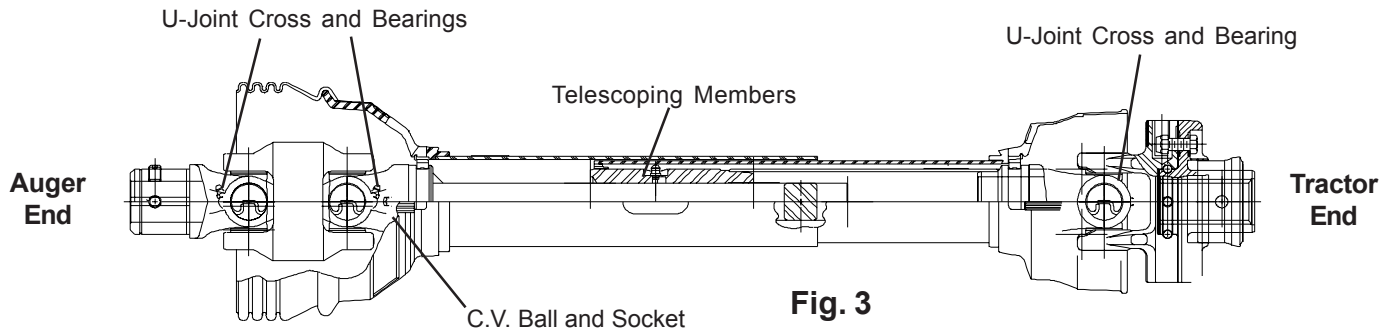


Fig. 3

Note: To lubricate the U-joint on the auger end, loosen the four (4) bolts holding the PTO driveline shield to the gearbox, then rotate the shield up.

3. PTO Driveline U-Joint Lubrication

- A. You must lubricate five (5) fittings on the PTO driveline. The drawing above identifies the location of the fittings.
- B. To lubricate the auger end of the PTO driveline, you need to rotate up the shaft shield. See Fig. 1 on page 45 for the location of the shield.

Constant Angle Lube Recommendations		
Interval	Location	Amount
4 hrs.	U-Joint Cross & Bearings	1 pump
8 hrs.	Telescoping Members	4-8 pumps
4 hrs.	C.V. Ball & Socket	1-2 pumps

- C. Apply the first lubrication after the initial start-up and after 16–24 hours of operation, then follow this schedule:
- D. Use a good quality grease. (Example: Shell super duty or equivalent)

4. PTO Driveline Replacement Parts

- A. To ensure optimal performance from your auger, any parts for replacement should be replaced with parts of the same type and size. Do not modify or alter any of the auger components, such as using a part that exceeds the maximum recommended operating length of PTO driveline.

CAUTION	PTO driveline replacement parts do not come lubricated. Lubricate them at the time of assembly.
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- B. When lubricating PTO driveline replacement parts, refer to the chart above to determine the amount of lubrication and the recommended intervals.

5. PTO Driveline Shear Bolt

- A. The PTO driveline shear bolt is located at the tractor connection. The shear bolt protects the auger from damage if the auger is subjected to high loads or becomes plugged.
- B. Use a replacement bolt of the proper size and strength to ensure that the shear device will protect the auger and operator. Refer to the chart below for the correct size and strength.

PTO Driveline Shear Bolt			
Auger Size	Shear Bolt Size	Shear Bolt Grade	Replacement Shear Bolt Part No.
62'	3/8" - 16 x 1" long	Grade 5	GK3099
72'-82'	3/8" - 16 x 1" long	Grade 8	GK4815

- C. Extra shear bolts are supplied with the auger. They are stored in the operator's manual container located on the main auger inlet hopper.

6. Gearbox and Enclosed Drive Lubrication

- A. The drawing below identifies the two (2) gearboxes that require lubrication, the incline tube gearbox (upper) and the inlet hopper gearbox (lower).

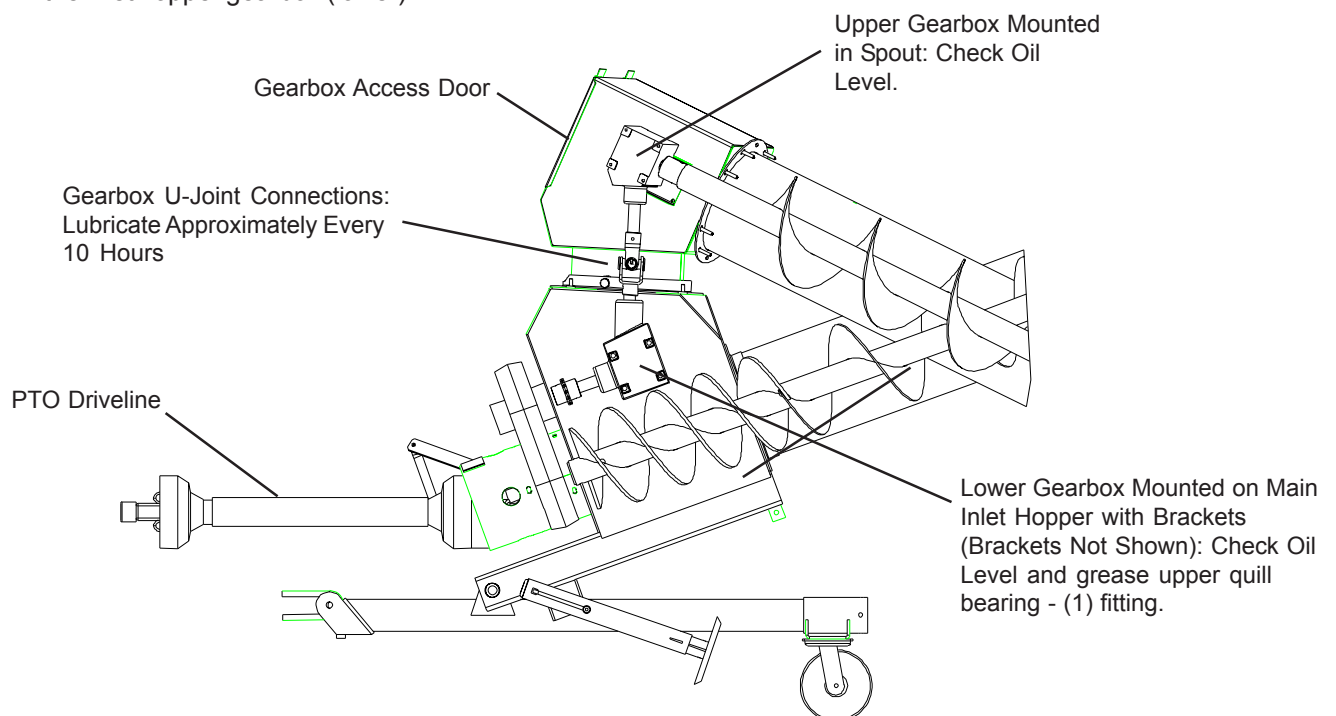


Fig. 6

NOTE The incline tube gearbox (upper gearbox) and the inlet hopper gearbox (lower gearbox) are connected by one u-joint.

CAUTION Oil dissipates under working conditions. Be sure to frequently check the oil in the gearboxes and maintain the proper level.

Maintenance

6. Gearboxes and Enclosed Drive Lubrication (cont.)

- B. The type of oil you should use for the gearboxes depends on operating temperatures:
- For normal operating temperatures between 40°—120°F, use non-foaming, multipurpose gear oil, SAE 85W-90 weight.
 - For temperatures below 40°F, use SAE 80 weight oil. For all operating temperatures from below 40°F - 120°F, SAE 80W-90 weight oil may also be used.

NOTE

Use commercial grade oil that is available for automotive differentials. If you are running the auger in severe applications, such as running the auger 24 hours a day, extra pressure additives may be of value.

- C. Lubricate the gearboxes and enclosed drive as needed as described below at 10 hour intervals:

Upper Gearbox

1. Lift the access door.
2. Remove the plug in the side of the gearbox.
3. Check to see if the oil is up to the plug level. If it is not, refill using the oil described in step 6-B.
4. Replace the plug.

Lower Gearbox

1. Remove the plug in the side of the gearbox.
2. Check to see if the oil is up to the plug level. If it is not, refill using the oil described in step 6-B.
3. Grease the upper quill bearing - (1) grease fitting - with synthetic lithium NLGI Grade 1-1/2 high temperature extreme pressure grease (mobilith SHC460 or equivalent) - 1 pump every 10 hours and 4 pumps when the gearbox oil is changed. Use manual grease gun. **DO NOT** use a power grease gun, it may damage the seals.

WARNING

Be sure to close the access doors after checking the oil level. **NEVER** operate the unit with the access doors open.

CAUTION

NEVER add more oil than is recommended in Step 6-C. Adding too much oil may damage the seals or force the oil out through the vented plug.

NOTE

Change the oil in the upper & lower gearboxes and the enclosed drive annually.

Enclosed Drive:

1. Remove the oil check plug in the side of the enclosed drive housing.
2. Check to see if the oil is up to the plug level. If it is not, remove the oil fill vented plug in the top corner of the housing and refill up the bottom of the check plug using the oil described in step 6-B.
3. Replace the plugs.

7. Gearbox U-Joint Lubrication

- A. Fig. 6 on page 59, identifies the gearbox u-joint that requires lubrication. Lubricate once every ten (10) hours using a SAE multipurpose type grease. Use a grease gun with a rubber hose tip.

Positioning the Auger and Hopper for Lubrication

Rotate the auger so the zerk is facing the access door opening or in an accessible position.

Although the zerk can be reached with the swing-away hopper in any position, we recommend positioning the hopper on the ground close to the tractor or front. This turns the open side of the u-joint with the zerk toward the open end door. If the hopper is hanging on the auger, you must access the zerk from the back where it is not visible and engage it by feel.

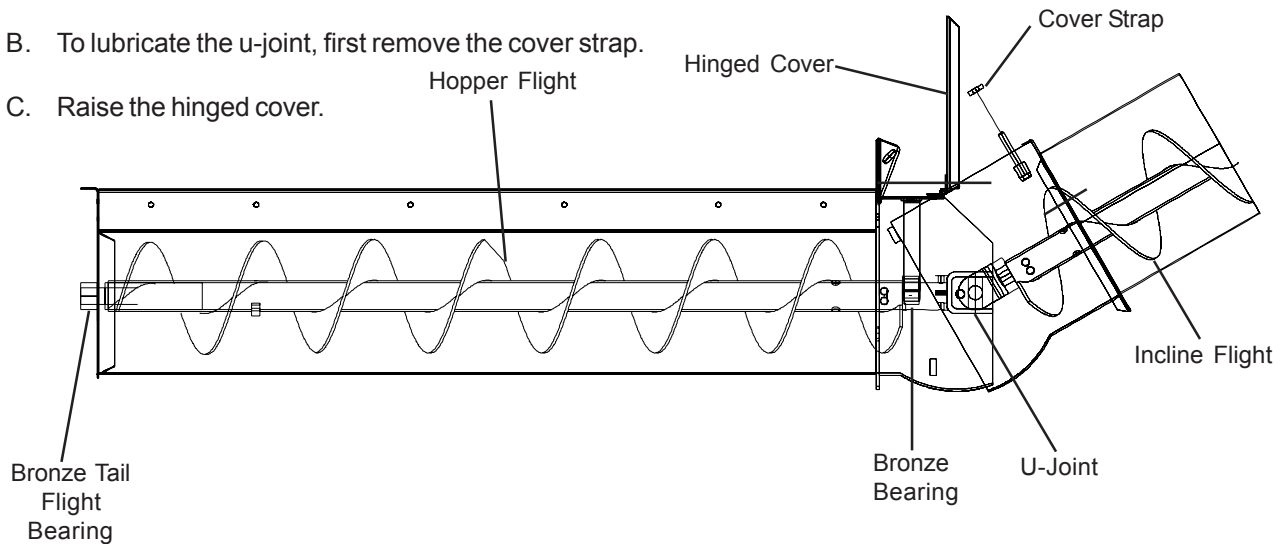
- B. Be sure to close all access doors when lubrication is complete.

8. 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.



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

9. Undercarriage Axle Spindle Bearings Lubrication

A. All 12" augers come with tapered roller type bearings.

B. Repack and adjust the bearings annually or as needed, depending on usage.

C. Be careful when dismantling the wheel bearing assemblies.

D. First remove the dust cap by forcing out the edges.

E. Remove the cotter pin, slotted nut, and flat washer.

F. Use care to remove the hub and bearings from the spindle.

G. Examine each part for wear or damage and replace with new ones as needed.

H. Use care to remove the hub and bearings from the spindle.

I. When reassembling the hub, repack both bearing cones with grease and fill the hub cavity 1/3 full.

J. Place the inner bearing assemblies into the hub.

K. Press the seal into the hub.

L. Reinstall the hub on the spindle, being careful to not damage the lip of the grease seal.

Maintenance

9. Undercarriage Axle Spindle Bearings Lubrication (cont.)

- M. Insert the outer bearing assembly into the hub.
- N. Replace the flat washer and slotted nut.
- O. Tighten the slotted nut to seal the bearings until the hub binds as you rotate the hub.
- P. Back off the slotted nut to the next slot and insert a new cotter pin. The cotter pin should measure 5/32" wide x 1-1/4" long.
- Q. Securely fasten the dust cap.

10. Hydraulic Cylinder Lubrication

- A. An air breather is housed in the rod end port of the hydraulic cylinder.
- B. Check to see if oil is leaking from the air breather. If so, the rod seals are damaged or leaking.
- C. Remove the old rod seals and replace with new ones.

11. Hydraulic Hose Lubrication

- A. Be certain that ALL the hydraulic fittings and hoses are tight and not leaking oil.
- B. Replace fittings that are leaking.
- C. Replace any hydraulic hose that may be cut or damaged.



NEVER connect or disconnect hydraulic parts when there is pressure within the system. Hydraulic systems are highly pressurized. Hydraulic oil that escapes, even through invisible pinhole-sized leaks, can penetrate body tissues and cause SERIOUS INJURY.

Look for leaks using a piece of wood or cardboard. NEVER use your hands or other parts of your body.

When reassembling, be certain that ALL connections are tight. If injured by hydraulic oil escaping under pressure, see a doctor immediately. Serious infection or reaction may occur if medical attention is not received at once.

12. 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.

13. 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.

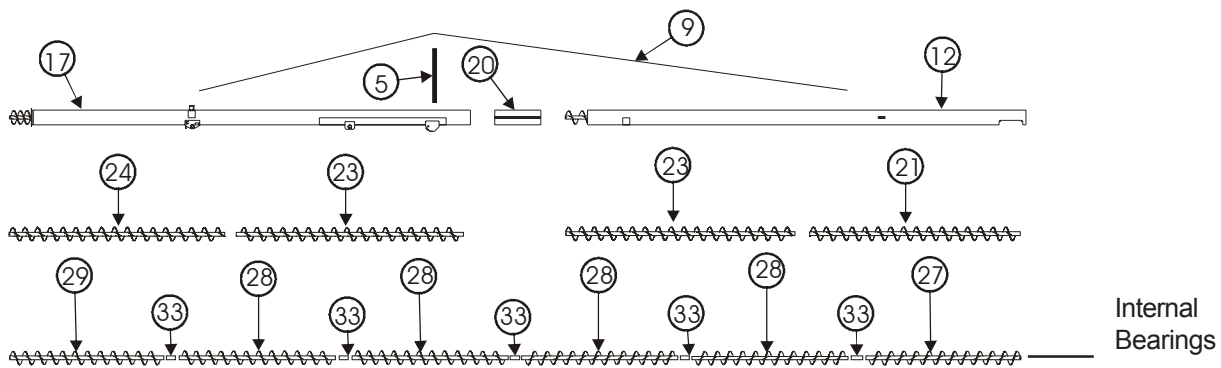
Troubleshooting

<i>Problem</i>	<i>Possible Cause</i>	<i>Solution</i>
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.

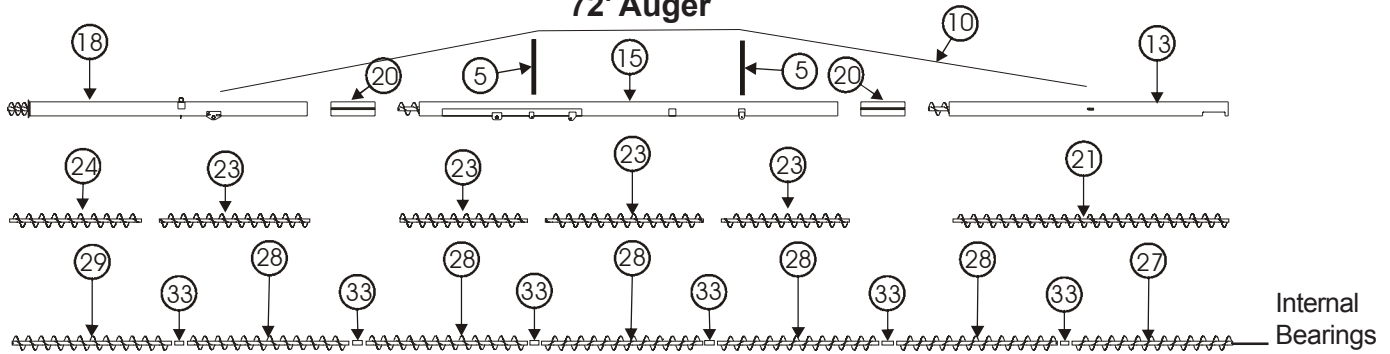
Problem	Possible Cause	Solution
4. The auger is lowering itself.	A. There may be a leak in the hydraulic fittings, hose or connections.	A1. Replace damaged hydraulic fittings, hoses, and connections.
	B. The hydraulic shut-off valve may be open.	B1. Close the hydraulic shut-off valve.
5. Auger will not raise or lower.	A1. Open the hydraulic shut-off valve.	A. The hydraulic shut-off valve may not be open.
	B. The hydraulic coupler may be incorrectly attached to the tractor.	B1. Make sure the hydraulic coupler is correctly mounted.
	C. The tractor reservoir may be low on oil or empty.	C1. Refill the reservoir with oil.
	D. The tractor pressure may be too low.	D1. Increase the tractor RPM.
6. 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.

Main Auger Components

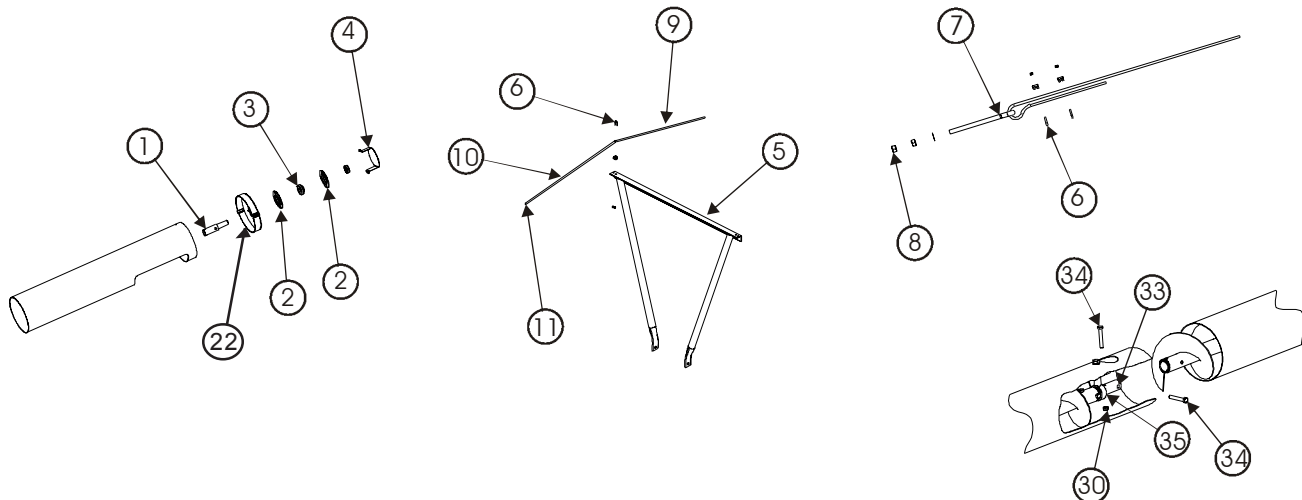
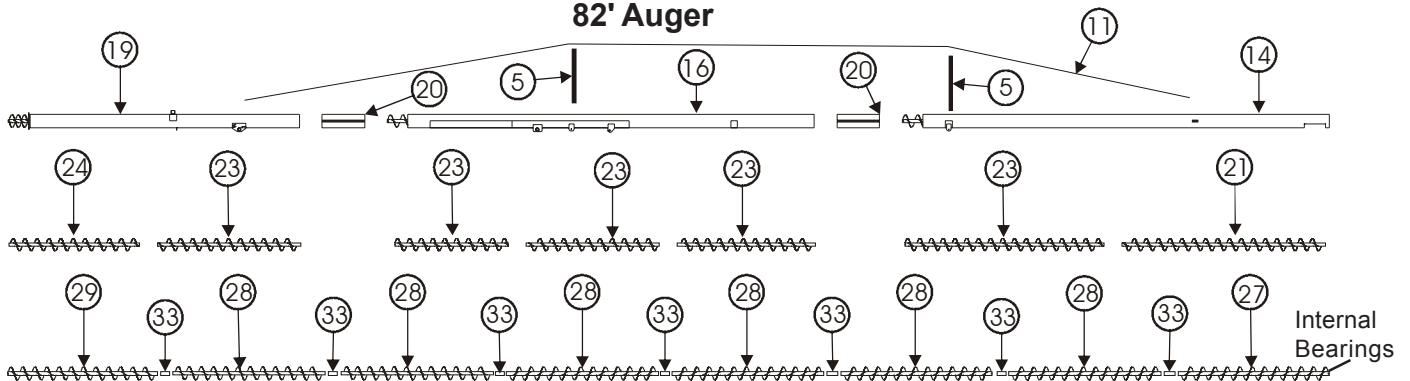
62' Auger



72' Auger



82' Auger



MAIN AUGER COMPONENTS

REF. NO.	PART NO.	DESCRIPTION
1	GK4098	Shaft: head stub 2" to 1-1/2" dia. x 8 3/8" Long
2	GK4095	Bearing Flange for 1-1/2" Bore
3	GK4094	Bearing with lock collar 1-1/2" Bore
4	GK4164	Bearing Cover
5	GK4287	Truss Frame
6	GK2759	3/8" Cable Clamp
7	GK3107	Bolt: 5/8" Eyebolt x 13" Long
8	S-4110	Nut Hex 5/8"-11 Zinc Coated Grade 5
9	GK4099	Cable: 3/8" x 42'
10	GK4100	Cable: 3/8" x 52'
11	GK4101	Cable: 3/8" x 57'-6"
22	GK4163	Blow Off Cap

HOUSINGS

REF. NO.	PART NO.	DESCRIPTION
Upper Section - Tube Housing		
12	GK4062	for 12" x 62' (30' Long)
13	GK4063	for 12" x 72' (20' Long)
14	GK4064	for 12" x 82' (30' Long)
Middle Section - Tube Housing		
15	GK4065	for 12" x 72' (30' Long)
16	GK4066	for 12" x 82' (30' Long)
Lower Section - Tube Housing		
17	GK4067	for 12" x 62' (30' Long)
18	GK4068	for 12" x 72' (20' Long)
19	GK4069	for 12" x 82' (20' Long)

HOUSINGS FOR INTERNAL BEARINGS

REF. NO.	PART NO.	DESCRIPTION
Upper Section - Tube Housing		
12	GK4070	for 12" x 62' (30' Long)
13	GK4071	for 12" x 72' (20' Long)
14	GK4072	for 12" x 82' (30' Long)
Middle Section - Tube Housing		
15	GK4073	for 12" x 72' (30' Long)
16	GK4074	for 12" x 82' (20' Long)
Lower Section - Tube Housing		
17	GK4075	for 12" x 62' (30' Long)
18	GK4076	for 12" x 72' (20' Long)
19	GK4077	for 12" x 82' (20' Long)
20	GK4437	12" x 38" Connecting Band

See Illustration on page 66.

FLIGHT SECTIONS		
REF. NO.	PART NO.	DESCRIPTION
Upper Section - <i>Flighting</i>		
21	GK4111	for 12 x 62', 72', & 82' (12" x 19'-11" -- 7 ga.)
	GK4115	for 12 x 62', 72', & 82' (12" x 19'-11" -- 1/4")
Middle Section - <i>Flighting</i>		
23	GK4112	for 12 x 62', 72', & 82' (12" x 10' -- 7 ga.)
	GK4116	for 12 x 62', 72', & 82' (12" x 10' -- 1/4")
Lower Section - <i>Flighting</i>		
24	GK4113	for 12 x 62', 72', & 82' (12" x 11'-9" -- 7 ga.)
	GK4117	for 12 x 62', 72', & 82' (12" x 19'-11" -- 1/4")

See Illustration on page 66.

FLIGHT SECTIONS FOR OPTIONAL INTERNAL BEARINGS

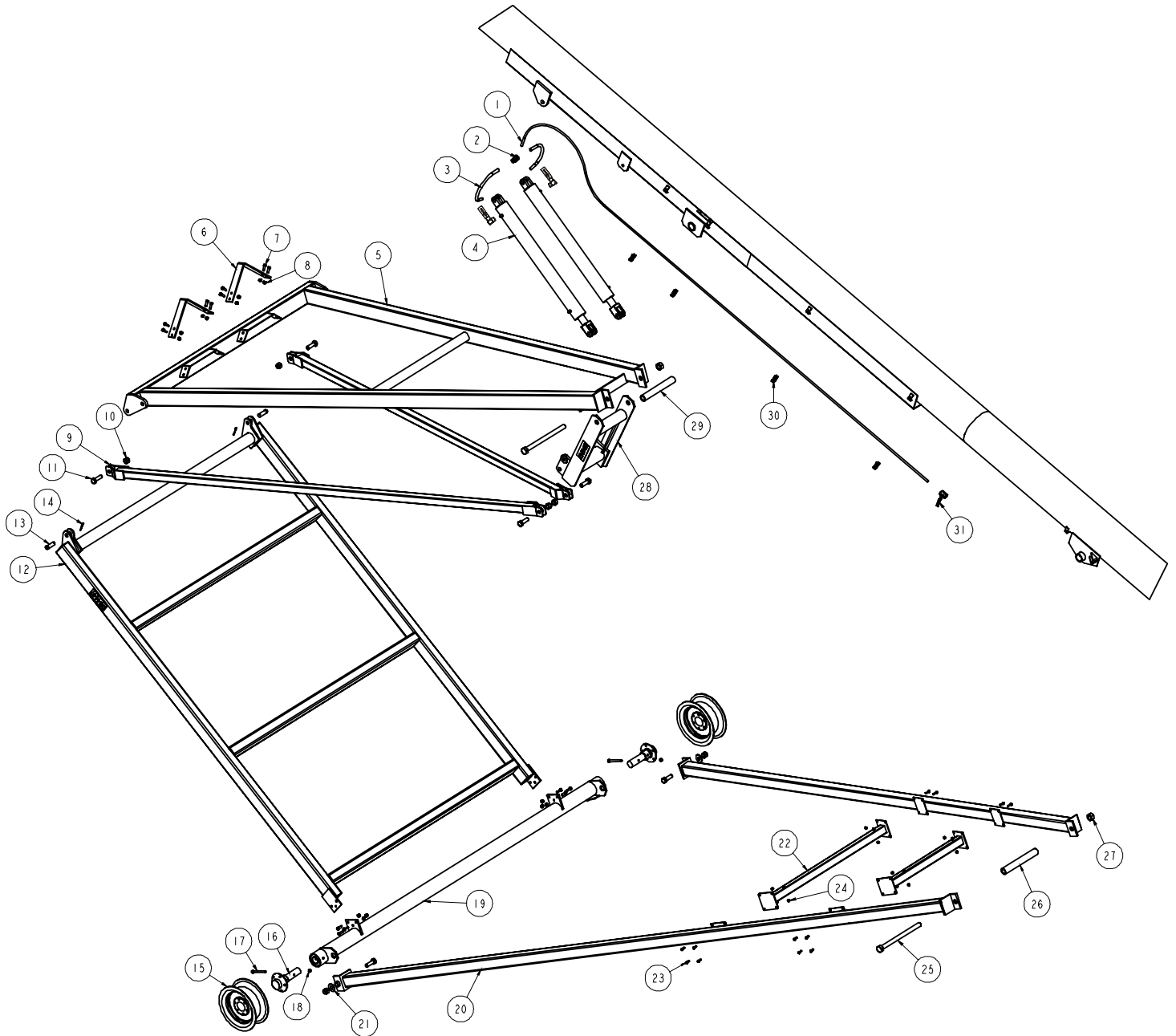
REF. NO.	PART NO.	DESCRIPTION
Upper Section - <i>Flighting</i>		
27	GK4478	for 12 x 62', 72', & 82' (10' - 10" --- 7ga.)
	GK4481	for 12 x 62', 72', & 82' (10' - 10" --- 1/4")
Middle Section - <i>Flighting</i>		
28	GK4479	for 12 x 62', 72', & 82' (9' - 9'-3/4" --- 7ga.)
	GK4482	for 12 x 62', 72', & 82' (9' - 9'-3/4" --- 1/4")
Lower Section - <i>Flighting</i>		
29	GK4480	for 12 x 62', 72', & 82' (10' - 7-9/16" --- 7ga.)
	GK4483	for 12 x 62', 72', & 82' (10' - 7-9/16" --- 1/4")
	GK4173	12" Pitch x 2.875" Shaft x .375" Thick x 2' Ribbon

FLIGHT ACCESSORIES

REF. NO.	PART NO.	DESCRIPTION
30	GK2003	Internal Bearing Hanger w/ Bronze Bushing
	GK2010	2" Bronze Bushing
33	GK2222	Stub Connector (2" x 11.5")
	GC03367	Bushing 2.55" O.D. x 2.022" I.D. x 4.5"
34	S-7893	Bolt HHCS 5/8"-11 x 4" Long Zinc Coated Grade 8
35	S-8606	Nut Stover 5/8"-11 Zinc Coated Grade C

See Illustration on page 66.

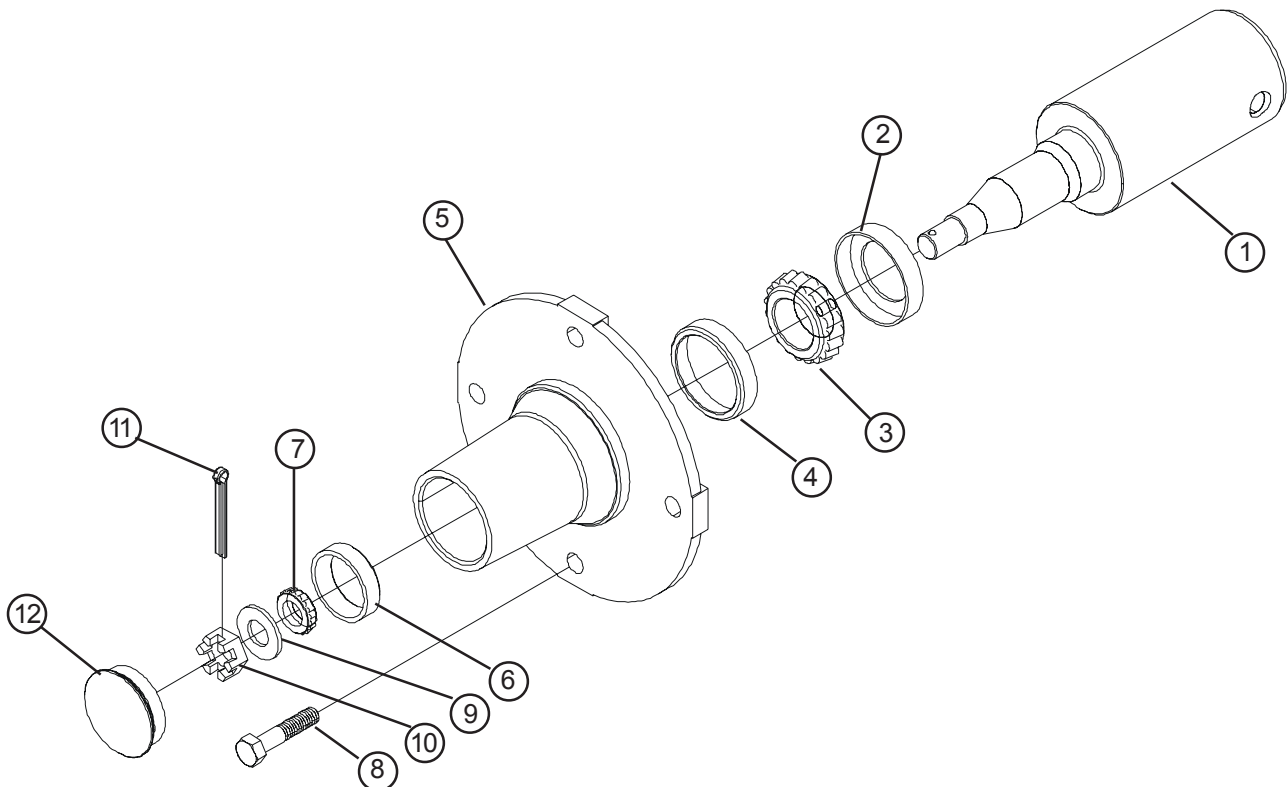
UNDERCARRIAGE COMPONENTS



UNDERCARRIAGE COMPONENTS							
Ref. #	Description	Part #	AUGER	Ref. #	Description	Part #	AUGER
1	Hydraulic Hose			16	Spindle & Hub Assembly		
	3/8" x 34' 6" Long	GK3520	62'		5 Bolt Spindle & Hub	GK1194	62' & 72'
	3/8" x 37' 6" Long	GK3679	72'		6 Bolt Spindle & Hub	GK4083	82'
2	Hydraulic Fitting			17	1/2" - 13 x 4-1/2" ZN Gr.5 Bolt	S-8232	62' & 72'
	90° Elbow 1/2" NPT	GK1336	62'		1/2" - 13 x 5-1/2" ZN Gr.5 Bolt	S-8376	82'
	Hydraulic T Fitting (3 Female)	GK4431	72' & 82'	18	1/2" - 13 Gr.5 Lock-Nut	S-8260	ALL
3	3/8" x 1' 6" Long Hydraulic Hose	GK4291	72' & 82'	19	Axle	GK4281	62' & 72'
4	4" Bore x 36" Stroke Hydraulic Cylinder (Includes GK7383 Restrictor Valve and Elbow Assembly)	GK7381	ALL	20	Lower Arm	GK4282	82'
						GK7330	62'
5	Upper Frame	GK7331	72'	21	1" ID Flat Washer	S-7835	82'
		GK7332	82'				
		GK4138	ALL				
6	Tube Guide	GK4138	ALL	22	Crossbrace Upper Crossbrace Lower Crossbrace	GK7354	62'
7	1/2" - 13 x 1-1/2" Gr.8 Bolt	S-3728	ALL			GK7308	72' & 82'
8	1/2" - 13 Gr.5 Lock-Nut	S-8260	ALL			GK7309	72' & 82'
9	H-Frame Tube	GK4278	62'	23	3/8" - 16 x 1-1/4" ZN Gr.5 Bolt	S-2071	ALL
		GK4279	72'	24	3/8" - 16 Gr.5 Lock-Nut	S-7383	ALL
		GK4280	82'	25	1-1/4" - 7 x 18" Bolt	S-9102	ALL
10	1" - 8 Gr.5 Lock-Nut	S-8418	ALL	26	2" OD x 15" Spacer Bushing	GK4340	ALL
11	1" - 8 x 3" Gr.5 Bolt	S-8609	ALL	27	1-1/4" - 7 Lock-Nut	S-8520	ALL
12	Lower Frame	GK7369	62'	28	H-Frame	GK4277	62'
		GK7370	72'			GK4125	72' & 82'
		GK7371	82'				
13	1" x 3" Clevis Pin	GK4405	ALL	29	2" OD x 14" Spacer Bushing	GK4339	ALL
14	3/16" x 2" Gr.2 Cotter Pin	S-6994	ALL	30	Hydraulic Hose Mounting Bracket	GK1315	ALL
15	Wheel Rim			31	Hydraulic Ball Valve 1/2" NPT	GK1533	ALL
		5 Bolt 15" Diameter	GK1177	62' & 72'			
	6 Bolt 15" Diameter	GK4252	82'				

SPINDLE AND HUB ASSEMBLY

REF. NO.	DESCRIPTION	5-Bolt	6-Bolt
		(2 3/8" O.D. x 14") For 12" x 62' & 72'	(2" O.D. x 10") For 12" x 82'
	Spindle & Hub Assembly	GK1194	GK4083
1	Spindle	GK1513	GK4151
2	Grease Seal	GK2425	GK4484
3	Inner Cone (Timken #)	GK2709 (LM48548)	GK4485 (LM501349)
4	Inner Cup (Timken #)	GK2710 (LM67010)	GK4486 (LM501310)
5	Hub	GK1548	GK4487
6	Outer Cup (Timken #)	GK2711 (LM67010)	GK2711 (LM67010)
7	Outer Cone (Timken #)	GK2700 (LM67048)	GK2700 (LM67048)
8	Lug Bolt	--	GK2708
	Lug Nut	GK2698	--
9	Washer	GK2433	GK4488
10	Castle Nut	GK2714	GK4489
11	Cotter Pin	GK2713 (5/32" x 1 3/4" L)	GK4490 (5/32" x 1 3/4" L)
12	Hub Cap	GK1558	GK4491



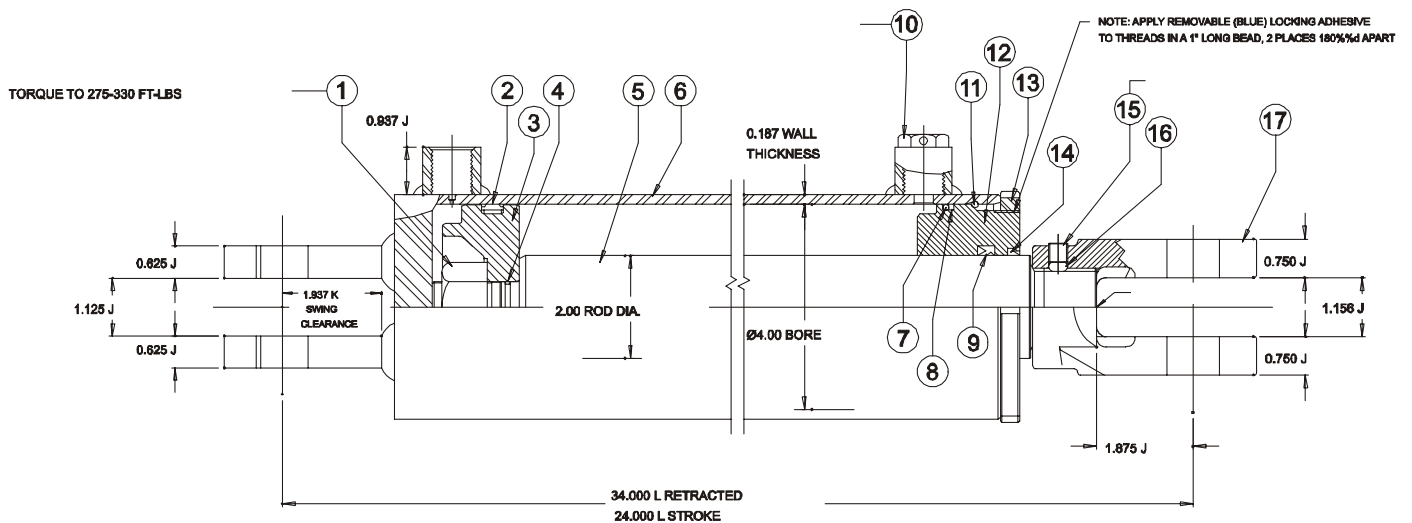
HYDRAULIC CYLINDER GK7381

Ref #	Complete No. GK7381 4" Bore x 36" Stroke	Description
N/S	GK1531	Clevis Pin & Clip
N/S	GK6217	Plug Steel Pipe, 1/2" HS **
N/S	GK6218	Cylinder **
N/S	GK3323	Seal Kit 4" Bore
1	GK6213	Nut Lock **
2	GK6356	O-Ring Seal*
3	GK6211	Piston Rod 4" O.D.**
4	GK6357	Small O-Ring*
5	GK6222	Piston Rod 2" DX*
6	GK6221	Cylinder 4" I.D.**
7	GK6355	Large O-Ring*
8	GK6358	Backup Washer*
9	GK6360	Backup Washer*
10	GK6216	Breather Plug 1/2" NPT
11	GK6214	Cylinder: Ret Ring Rod Int 4"***
12	GK6210	Cylinder Guide 4" I.D. x 2"***
13	GK6219	Spanner Nut 3/4" x 4-1/2" O.D. **
14	GK6359	Piston Rod Washer*
15	GK6220	Set Screw 3/8"-16 x 3/4" **
16	GK6212	Plug: Nylon**
17	GK6209	Clevis Rod 1-1/2"-12UNF**
N/S	GK7383	Restrictor Valve & Elbow Assy.

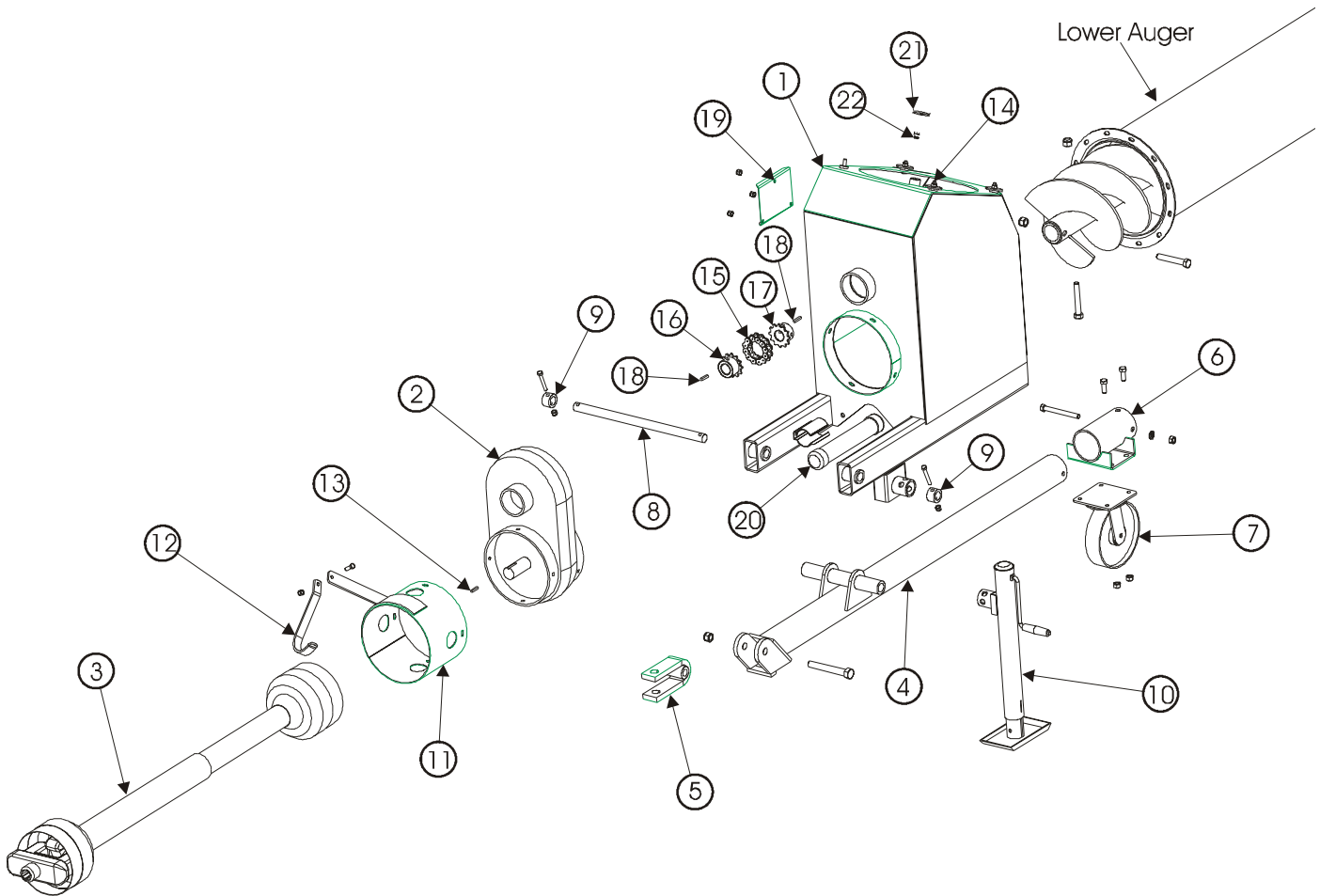
* Included in the Seal Kit 4" Bore

**Not available separately

N/S Not Shown



MAIN AUGER INLET HOPPER



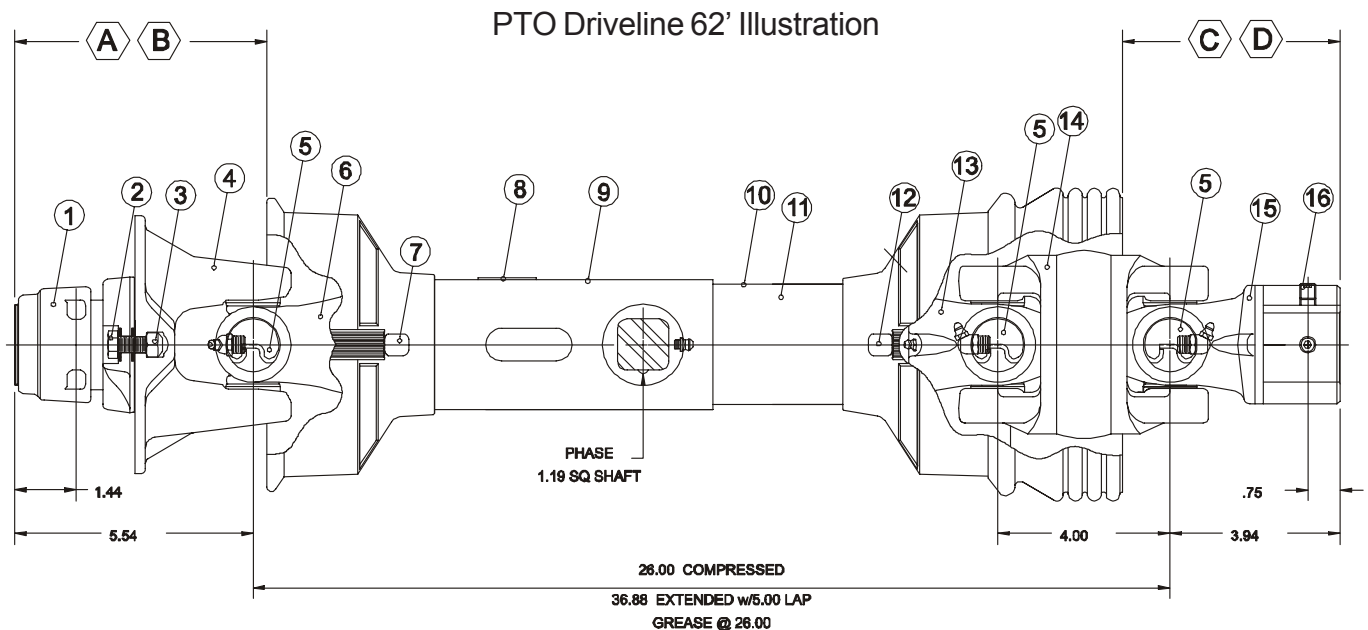
MAIN INLET HOPPER COMPONENTS		
Ref. #	Part #	Description
1	GK3715	Inlet Hopper
2	GK2507	12" Enclosed Drive 1.12 to 1 ratio
3	GK2491	PTO: 31.5"Long - 1.5"B; 35R 50°
	GK2492	PTO: 48"Long - 1.50"B; 55R 50°
4	GK3716	Hitch Pipe
5	GK3717	Clevis
6	GK3718	Hitch Dolley Wheel Bracket
7	GK3719	Dolley Caster Wheel
8	GK3720	Hitch Pivot Pin (1" x 18-3/4")
9	GK3721	Hitch Pin Collar
10	GK1379	Slide Crank Jack 2000#
11	GK3722	PTO Shield
12	GK1363	PTO Storage Hook
13	S-4516	3/8" x 3/8" x 1-1/2" Key
14	GK2497	68° Lower Gearbox
15	GK4376	#60 Chain 12 Pitch
16	GK3192	#60 Flex Coupler
17	GK3187	#60 Flex Coupler Half w/ Pinhole
18	S-8382	1/4" x 1/4" x 1-1/4" Key
19	GC04870	Access Door Plate
20	GK3723	Manual Container
21	GK1532	Washer (2" OD x 13/32" ID)
22	S-7383	3/8" - 16 Nylock Nut

Parts

GK2491 - PTO Driveline		
Ref. #	Part #	Description
A	GK6285	Joint & Shaft Half Assembly with Guard
C	GK3266	Joint & tube Half Assembly with Guard
1	GK4715	Safety Slide Lock Repair Kit
2	GK3099	3/8" - 16 X 1" Bolt Grade 8
3	GK6399	3/8" - 16 Locknut
4	GK2667	Ball Shear Assembly
5	GK2651	35E Cross & Bearing Kit
6	GK3264	Yoke & Shaft
7	GK2662	Nylon Repair Kit (Not Shown)
8	GK2658	Safety Sign
9	GK2687	Outer Guard
10	GK2682	Inner Guard
11	GK2659	Safety Sign (Not Shown)
12	GK6290	Nylon Repair Kit (Not Shown)
13	GK3263	Yoke, Tube, & Slip Sleeve
14	GK2670	50° CV Center Houseing
15	GK2669	Yoke
16	GK2655	Set Screw 3/8" - 16 x .38" Long Knurled Point

SPECIFICATIONS:

U-Joint Type: 35R
 Auger End 1-1/2" Bore with 3/8" Keyseat
 Tractor End 1-3/8 - 6B Spline
 Category 4 - 50° CV

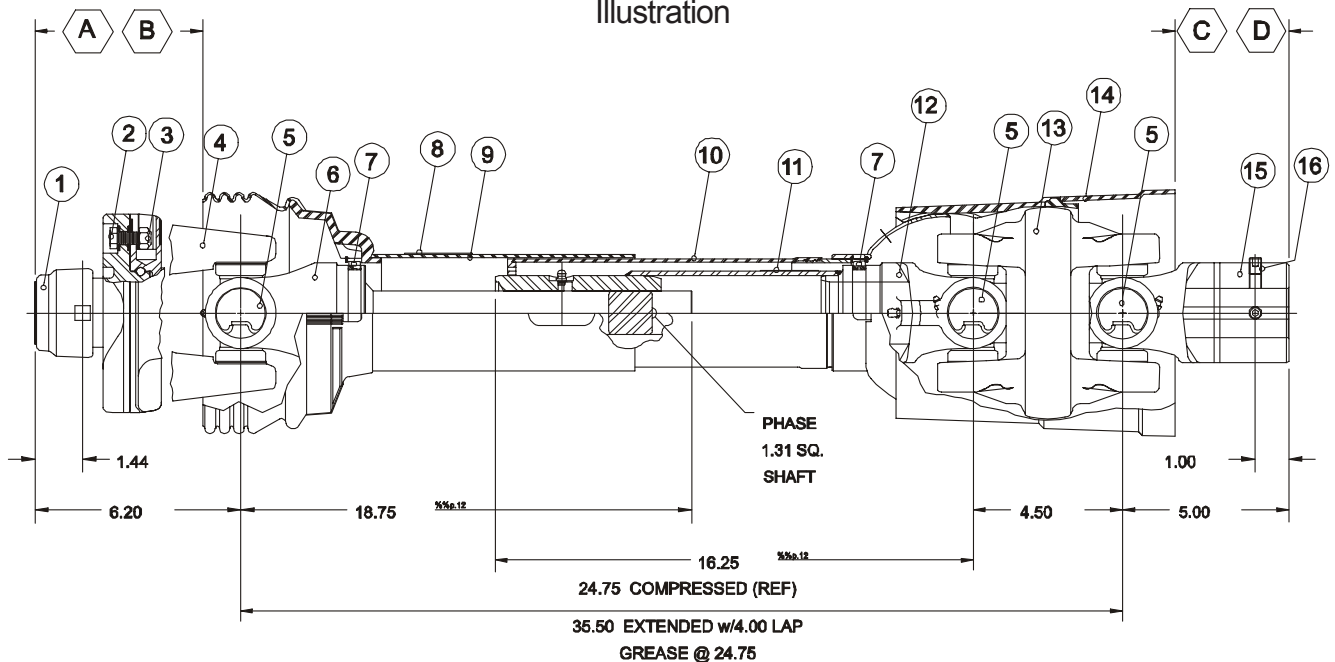


GK2492 - PTO Driveline		
Ref. #	Part #	Description
A	GK6280	Joint & Shaft Half Assembly with Guard
C	GK2679	Joint& Tube Half Assembly with Guard
1	GK4717	Safety Slide Lock Repair Kit
2	GK3099	3/8" - 16 X 1" Bolt Grade 8
3	GK6399	3/8" - 16 Locknut
4	GK2672	Ball Shear Assembly
5	GK2652	35E Cross & Bearing Kit
6	GK6295	Yoke & Shaft
7	GK6296	Nylon Repair Kit (Not Shown)
8	GK2658	Safety Sign
9	GK2688	Outer Guard
10	GK2683	Inner Guard
11	GK2659	Safety Sign (Not Shown)
12	GK6297	Yoke, Tube, & Slip Sleeve
13	GK2673	Cat 6 50° CV Center Housing
14	GK2671	CV Bell Extension
15	GK2674	Yoke
16	GK3289	Set Screw .375" - 16 UNC x .5" Long

SPECIFICATIONS:

U-Joint Type: 55R
 Auger End 1-1/2" Bore with 3/8" Keyseat
 Tractor End 1-3/8 - 6B Spline
 Category 6 - 50° CV

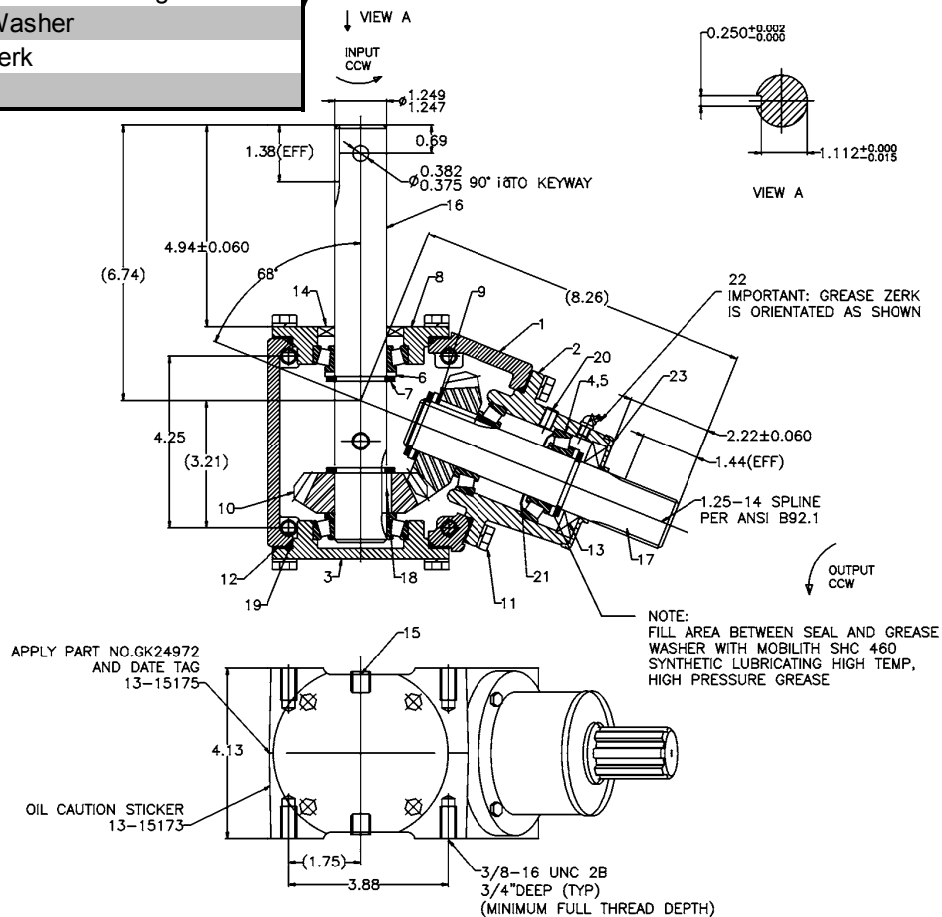
PTO Driveline 72' & 82'
 Illustration



Lower Gearbox Illustration

GK24972

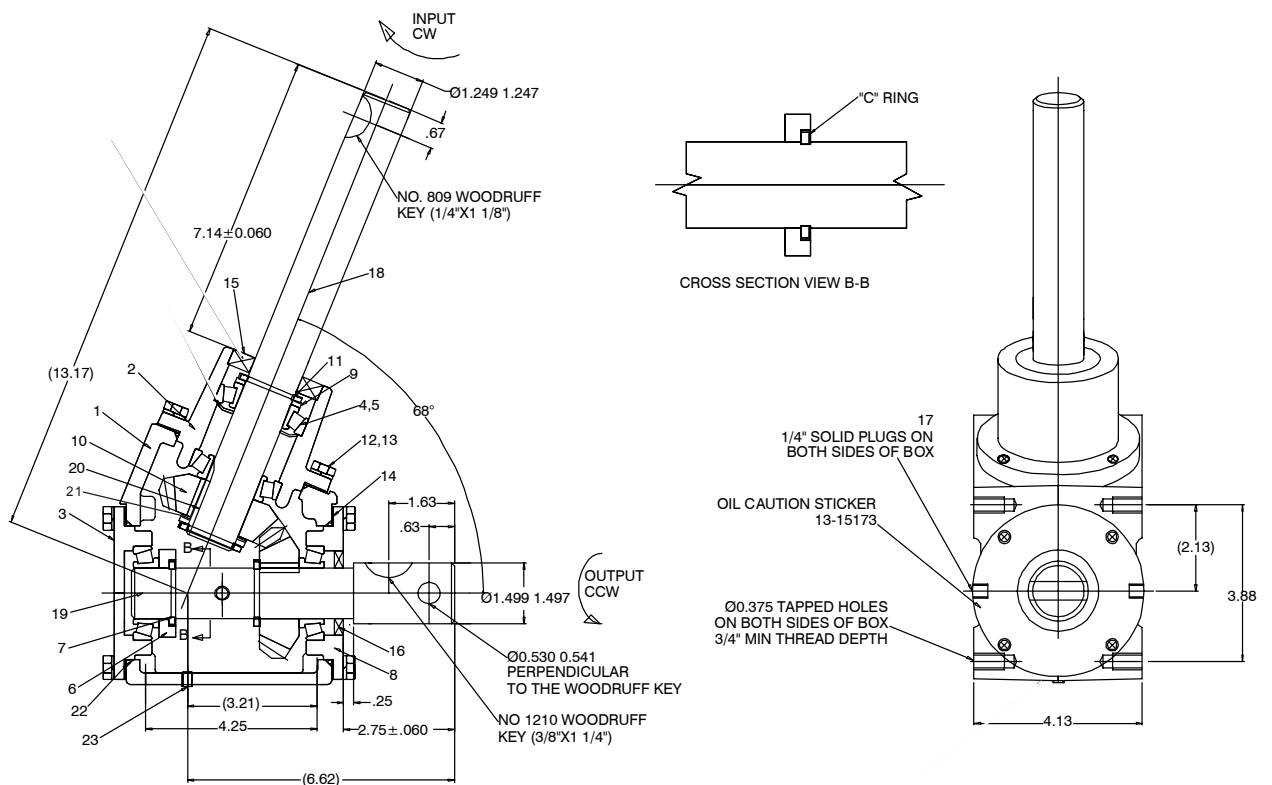
Lower Gearbox GK24972		
Ref. #	Part #	Description
1	GK6054	Gear Case
2	GK7549	Gearbox Quill
3	GK6127	End Cap
4	GK2700	1.25" Cone Bearing
5	GK2711	1.25" Bearing Cup
6	GK6057	Gearbox Spacer
7	GK6058	Snap Ring
8	GK6056	End Cap for Shaft
9	GK6059	.007" x 1.25" ID Shim
10	GK6060	68° Cut Gear
11	GK6038	5/16" x 3/4" Capscrew
12	GK6061	Shim Kit
13	GK3217	Seal 1.25" ID x 2.374" OD x .315"
14	GK3218	Seal 1.25" ID x 2.00" OD x .315"
15	GK5454	1/4" - 18 NPT Level Plug
16	GK7548	Input Shaft
17	GK7547	Output Shaft
18	GK5474	1/4" x 7/8" Key
19	GK7530	71mm x 1.8mm O-ring
20	GK2697	1/8" - 27 NPT Vent Plug
21	GK6401	Grease Washer
22	GK7368	Grease Zerk
23	GK7550	Shield



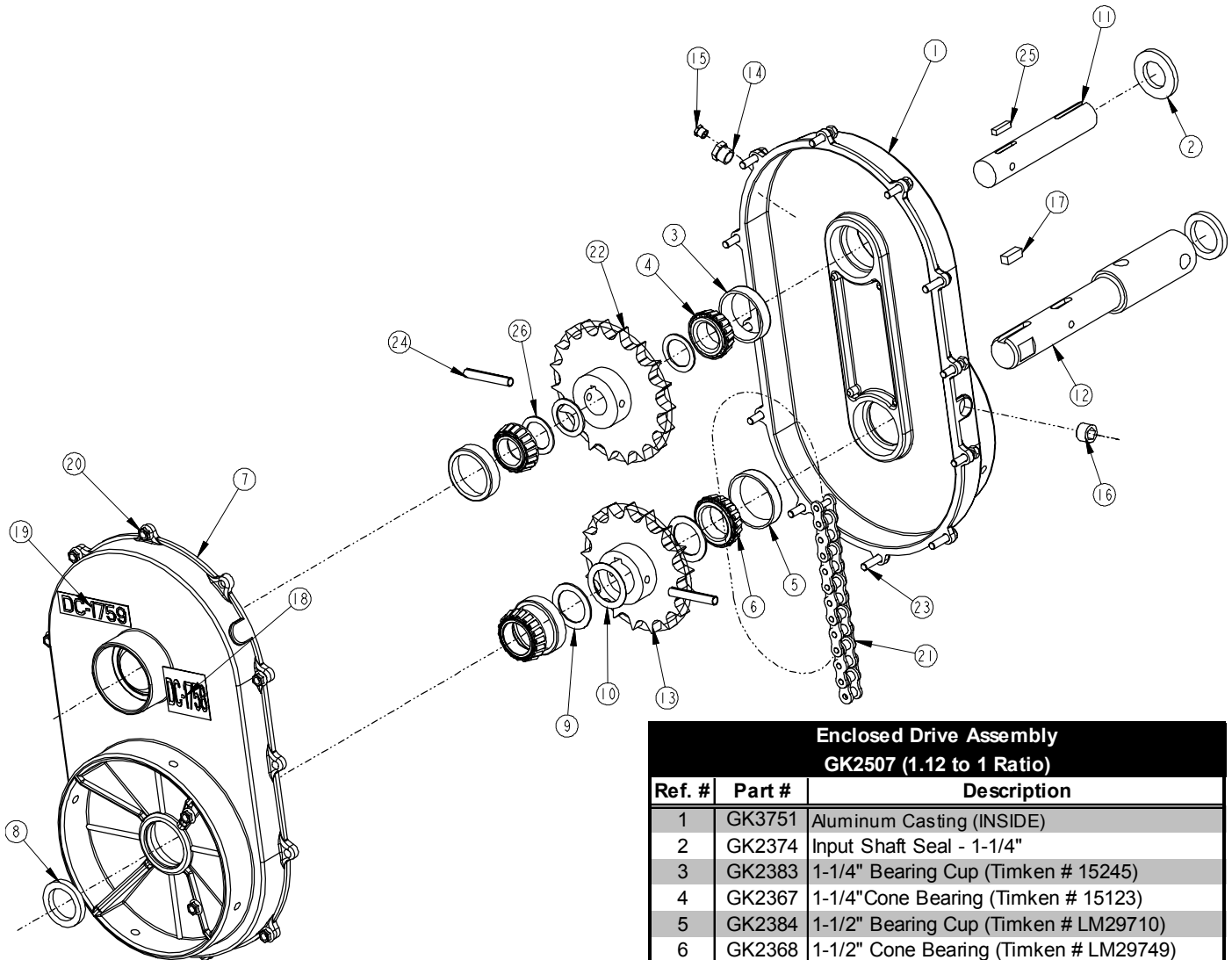
Upper Gearbox Illustration

GK24961

Lower Gearbox GK24961		
Ref. #	Part #	Description
1	GK7360	Gear Case
2	GK7367	Gearbox Quill
3	GK6127	End Cap
4	GK2700	1.25" Cone Bearing
5	GK2711	1.25" Bearing Cup
6	GK6066	C-ring Retainer
7	GK5476	C-ring
8	GK6056	End Cap for Shaft
9	GK6057	Gearbox Spacer
10	GK6060	68° Cut Gear
11	GK6058	Snap Ring
12	GK6039	5/16" Lockwasher
13	GK6038	5/16" x 3/4" Capscrew
14	GK6061	Shim Kit
15	GK3217	Seal 1.25" ID x 2.374" OD x .315"
16	GK3218	Seal 1.25" ID x 2.00" OD x .315"
17	GK5454	1/4" - 18 NPT Level Plug
18	GK7546	Input Shaft
19	GK7545	Output Shaft
20	GK5474	1/4" x 7/8" Key
21	GK6059	.007" x 1.25" ID Shim
22	GK7530	71mm x 1.8mm O-ring
23	GK2697	1/8" - 27 NPT Vent Plug



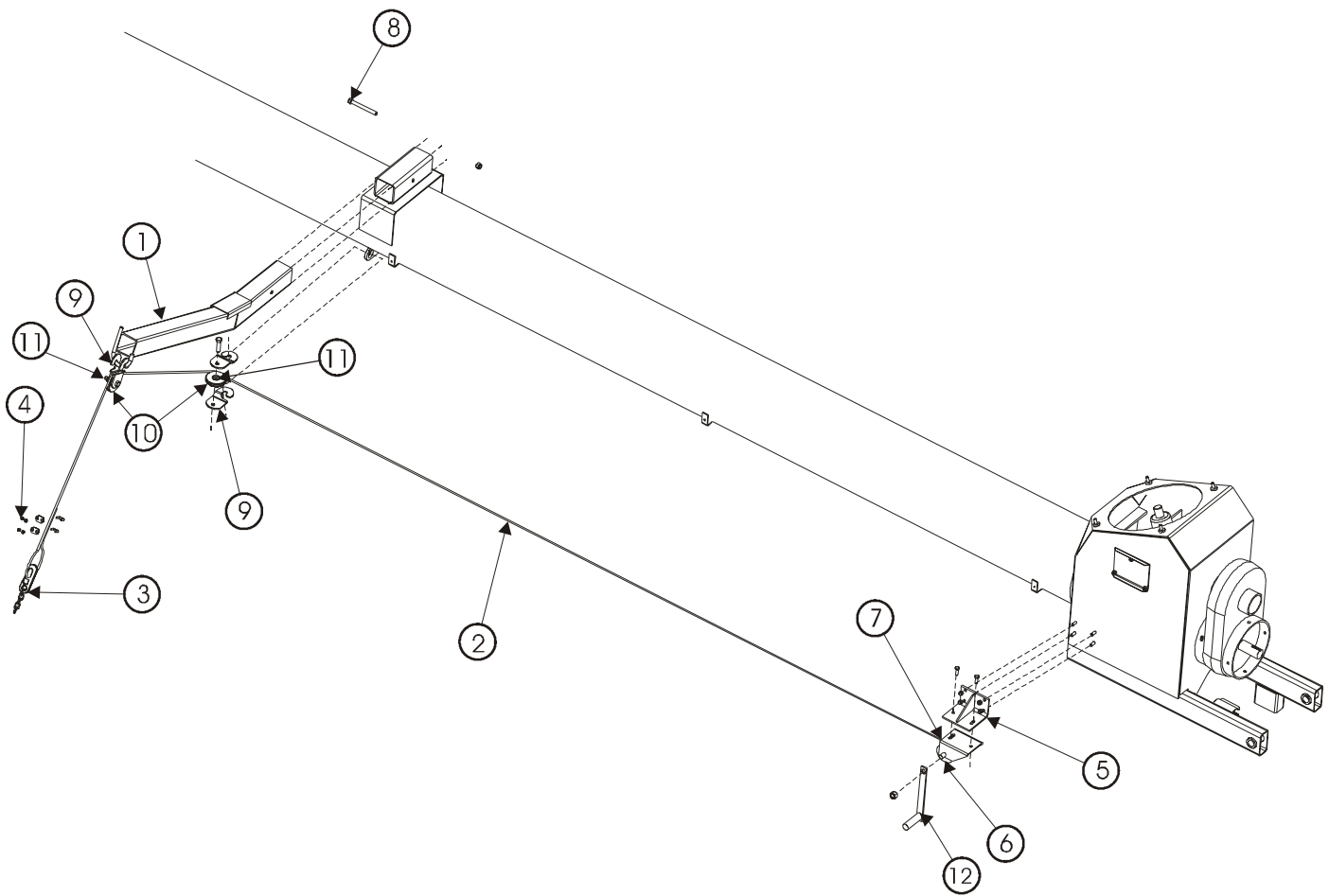
Enclosed Drive



Enclosed Drive Assembly GK2507 (1.12 to 1 Ratio)		
Ref. #	Part #	Description
1	GK3751	Aluminum Casting (INSIDE)
2	GK2374	Input Shaft Seal - 1-1/4"
3	GK2383	1-1/4" Bearing Cup (Timken # 15245)
4	GK2367	1-1/4" Cone Bearing (Timken # 15123)
5	GK2384	1-1/2" Bearing Cup (Timken # LM29710)
6	GK2368	1-1/2" Cone Bearing (Timken # LM29749)
7	GK6810	Aluminum Casting (OUTSIDE)
8	GK2373	Input Shaft Seal - 1-1/2"
9	GK6337	Shim .075" Thick
10	GK6781	Shim .031" Thick
11	GK4388	Shaft 1-1/4"
12	GK4530	Input Shaft 2"
13	GK4386	#80 Sprocket 17 Tooth 1-1/2" ID
14	GK5350	Pipe Bushing 1/8" x 3/8"
15	GK2697	Vent Plug 1/8" NPT 5 psi
16	GK2376	Drain Plug 3/8" - 18 NPT
17	GC03540	3/8" x 3/8" x 1" Key
18	DC-1758	Oil Level Decal 4 Pints
19	DC-1759	1.12 to 1.00 Ratio Decal
20	S-8675	5/16" - 18 Whiz Nut
21	GK4529	#80 36 Pitch Roller Chain
22	GK4531	#80 Sprocket 19 Tooth 1-1/4" ID
23	S-4276	5/16" - 18 x 1-1/4" Hex Bolt Gr. 5
24	S-7245	3/8" x 2-1/2" Rolled Pin
25	S-9168	1/4" x 1" Key
26	GK6336	Shim .075" Thick
N/S	GK7529	Gasket Replacement Kit (Blue RTV Silicone)

SWING-OUT HOPPER LIFT COMPONENTS

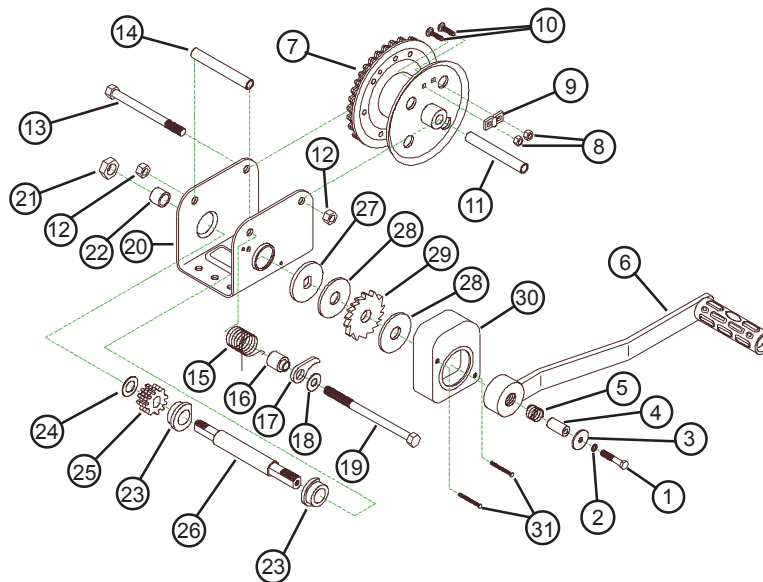
REF. NO.	PART NO.	DESCRIPTION
1	GK6362	Lift Arm Assembly w/ Pulley
2	GK1575	Hopper Lift Cable
3	GK6378	Hopper Hook w/ Chain
4	GK2761	1/4" Cable Clamp
5	GK6361	Winch Mounting Plate
6	GK3337	1000# Friction Disc w/ Handle
7	S-7635	Cable Winch Keeper Pkg.
8	S-8232	Bolt HHCS 1/2" - 13 x 4-1/2" Long Zinc Coated Grade 5
9	GK1545	Pulley Clevis Plate
10	Gk1543	Cable Pulley Wheel (3" O.D. - 1.03 I.D.)
11	GK1544	Pulley Bushing (1" O.D.)
12	GK1567	Winch Handle #1000-2500



Swing-Out Hopper Lift Illustration

Winch - Brake Type 1500# GK3337

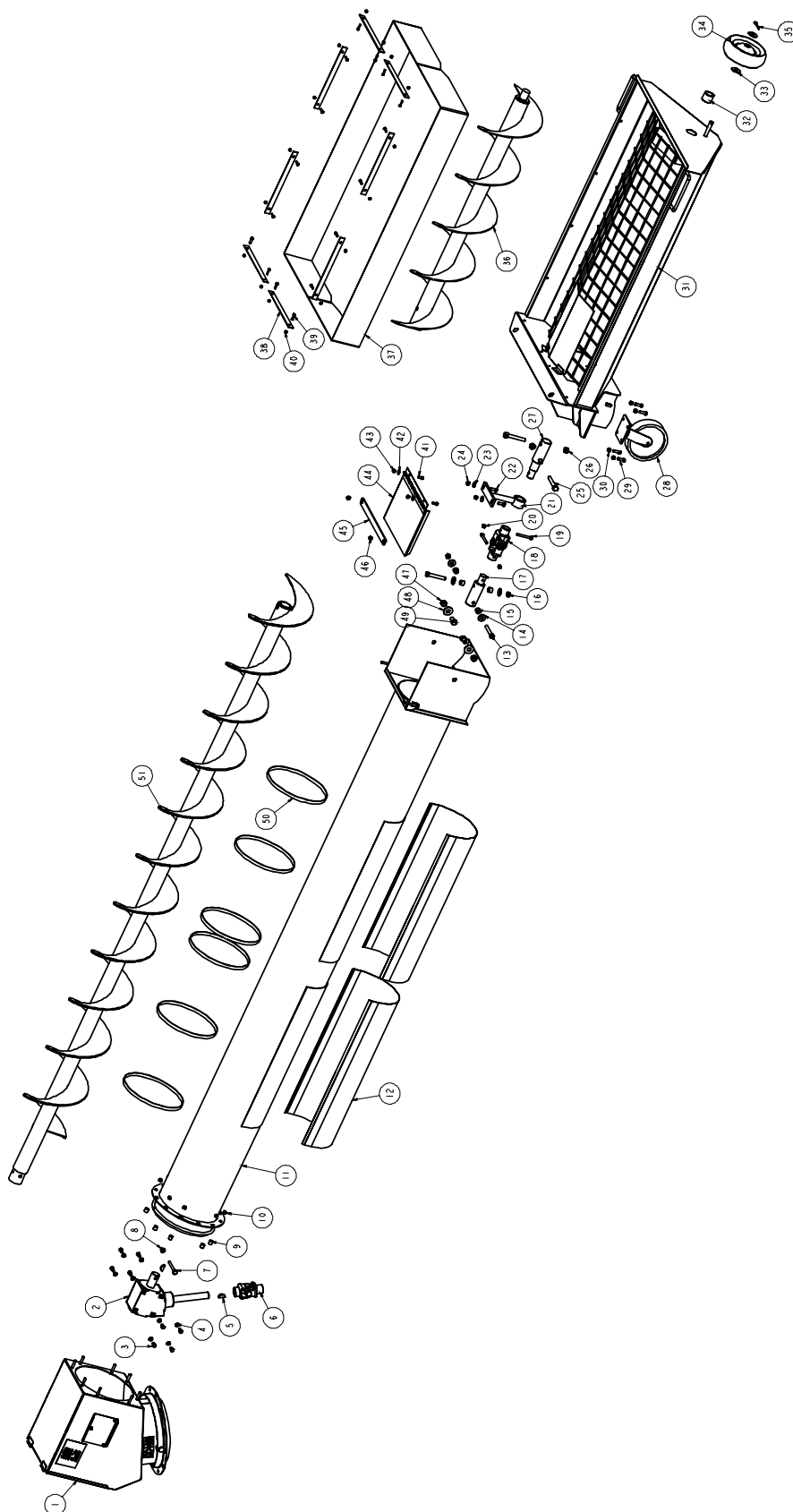
Ref. #	Description	Part #	Qty. Req.
1	1/4" - 20 x 1-1/2" Hex Screw		
2	1/4" Lockwasher		
3	1/4" Flatwasher	GK6256	1
4	Handle Retainer Spacer		
5	Spring		
6	Handle Retainer Spacer	GK1567	1
7	Reel Assembly	GK6259**	1
8	#10-24 Hex Nut		
9	Cable Keeper	S-7635	1
10	#10-24 x 5/8" Carriage Bolt		
11	Front Frame Spacer	GK6260**	1
12	3/8" Lockwasher	GK6241*	2
13	3/8" x 1/2" Reel Bolt	GK6261*	1
14	Back Frame Spacer	GK6262**	1
15	Pawl Spring	GK6239**	1
16	Pawl Spacer	GK6240**	1
17	Pawl	GK6241**	1
18	3/8" Flat Washer	GK6241*	1
19	3/8" x 5-1/2" Pawl Bolt	GK6263*	1
20	Frame	GK6264**	1
21	9/16" - 16 Locknut	GK6245*	1
22	Bearing	GK6246**	1
23	3/4" ID Bushing	GK6247**	2
24	9/16" Flat Washer	GK6248*	1
25	Pinion Gear	GK6249**	3
26	Pinion Shaft	GK6250**	1
27	Brake Backup Plate	GK6251**	1
28	Brake Pad	GK6252**	2
29	Ratchet	GK6253**	1
30	Cover	GK6254**	1
31	#10-32 x 1-1/5" Cover Screw	GK6255*	2



NOTE

* Indicates standard hardware items - purchase locally.
 ** These items are not available as separate parts because of the precision assembly required. If these parts require placement, a new winch must be purchased.

SWING-OUT HOPPER



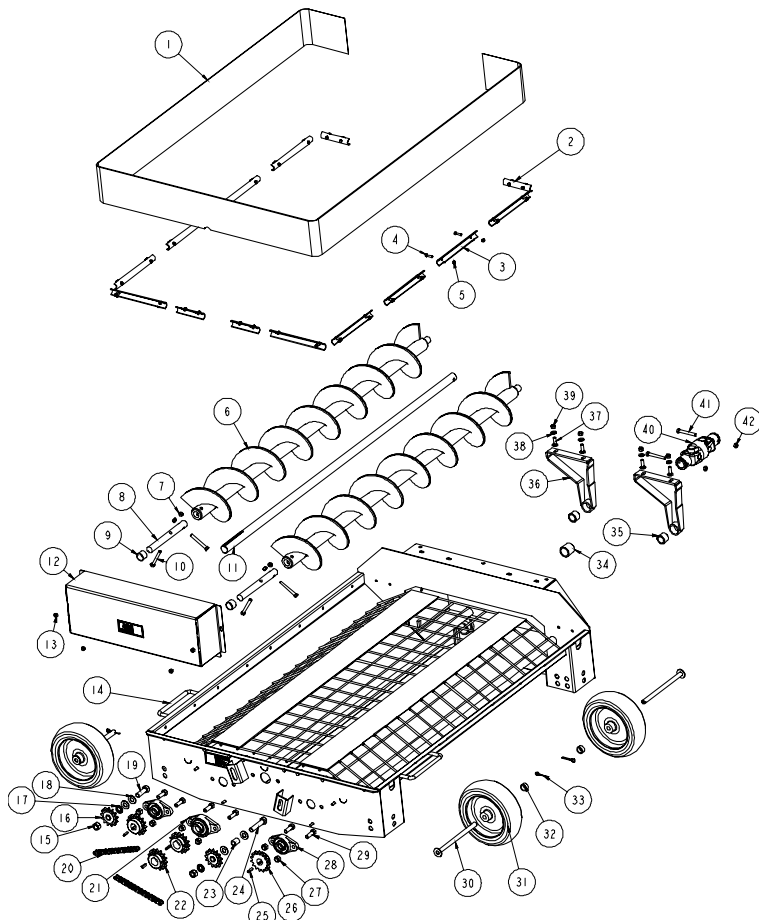
SWING-OUT HOPPER

Ref. #	Description	Part #
1	Swivel Spout	GK4271
2	68° Upper Gearbox	GK24961
3	3/8" - 16 x 3/4" HHCS Bolt Gr.5	S-7105
4	3/8" Lock Washer	S-1054
5	3/8" x 1-1/4" Woodruff Key	S-8611
6	U-Joint with Splined End	GK4161
7	1-2" - 13 3-3/4" HHCS Bolt Gr. 5	S-8400
8	1-2" - 13 Stover Nut	S-8315
9	Swivel Spout Spacer Bushing	GK4292
10	3/8" - 16 Stover Nut	S-8251
Incline Tube		
11	Standard Tube	GK4265
	Tube with Corn Screens	GK4266
12	12" Corn Screen Cover	GK4269
13	1-2" - 13 3-3/4" HHCS Bolt Gr. 5	S-8400
14		S-7509
15	7/8" x 1/2" x 5/8" long Rubber Bushing	GK1535
16	1-2" - 13 Stover Nut	S-8315
17	Incline Flight Stub Shaft	GK4102
18	U-Joint 1-1/4" Bore x 7"	GK1291
19	3/8" - 16 x 3" HHCS Bolt Gr.5	S-7249
20	3/8" - 16 Nylock Nut	S-7383
21	Hanger Bearing w/ Bronze Bushing	GK4253
22	3/8" - 16 x 1-1/4" Carriage Bolt Gr.5	S-8412
23	3/8" Flat Washer	S-248
24	3/8" - 16 Nylock Nut	S-7383
25	5/8" - 11 x 4" HHCS Bolt Gr.8	S-7893
26	5/8" - 11 Stover Nut	S-8606

Ref. #	Description	Part #
27	Hanger Bearing Stub Shaft	GK4254
28	8" Caster Wheel	GK4147
29	3/8" - 16 x 1-1/4" HHCS Bolt Gr.5	S-2071
30	3/8" - 16 Nylock Nut	S-7383
31	Standard Hopper w/ Bronze Bushing	GK4255
32	1.875" x 1.5" ID Bronze Bushing	GK1303
33	5/8" Flat Washer	S-858
34	Rubber Wheel	GK1526
35	3/16" x 1-1/2" Cotter Pin	S-8312
Hopper Flight (54.125" Long x 11" OD)		
36	3/16" Hopper Flight	GK4256
	1/4" Hopper Flight	GK4257
37	Rubber Mat	GK4289
38	Rubber Mat Clamp	GK4258
39	1/4" - 20 x 1" HHCS Bolt Gr.5	S-6998
40	1/4" - 20 Nylock Nut	S-7025
41	5/16" - 18 x 3/4" HHTB Bolt Gr.5	S-4275
42	5/16" Flat Washer	S-845
43	5/16" - 18 Nylock Nut	S-7382
44	Hopper Lid	GK4144
45	Hopper Lid Strap	GK3833
46	3/8" - 16 Nylock Nut	S-7383
47	5/8" - 11 Nylock Nut	S-8349
48	5/8" Flat Washer	S-858
49	5/8" - 11 x 1-1/4" HHCS Bolt Gr.5	S-8607
50	12" Corn Screen Cover Strap	GK4270
Incline Flight (136.25" Long x 11" OD)		
51	7ga. Incline Flight	GK4273
	1/4" Incline Flight	GK4274

LOW PROFILE HOPPER

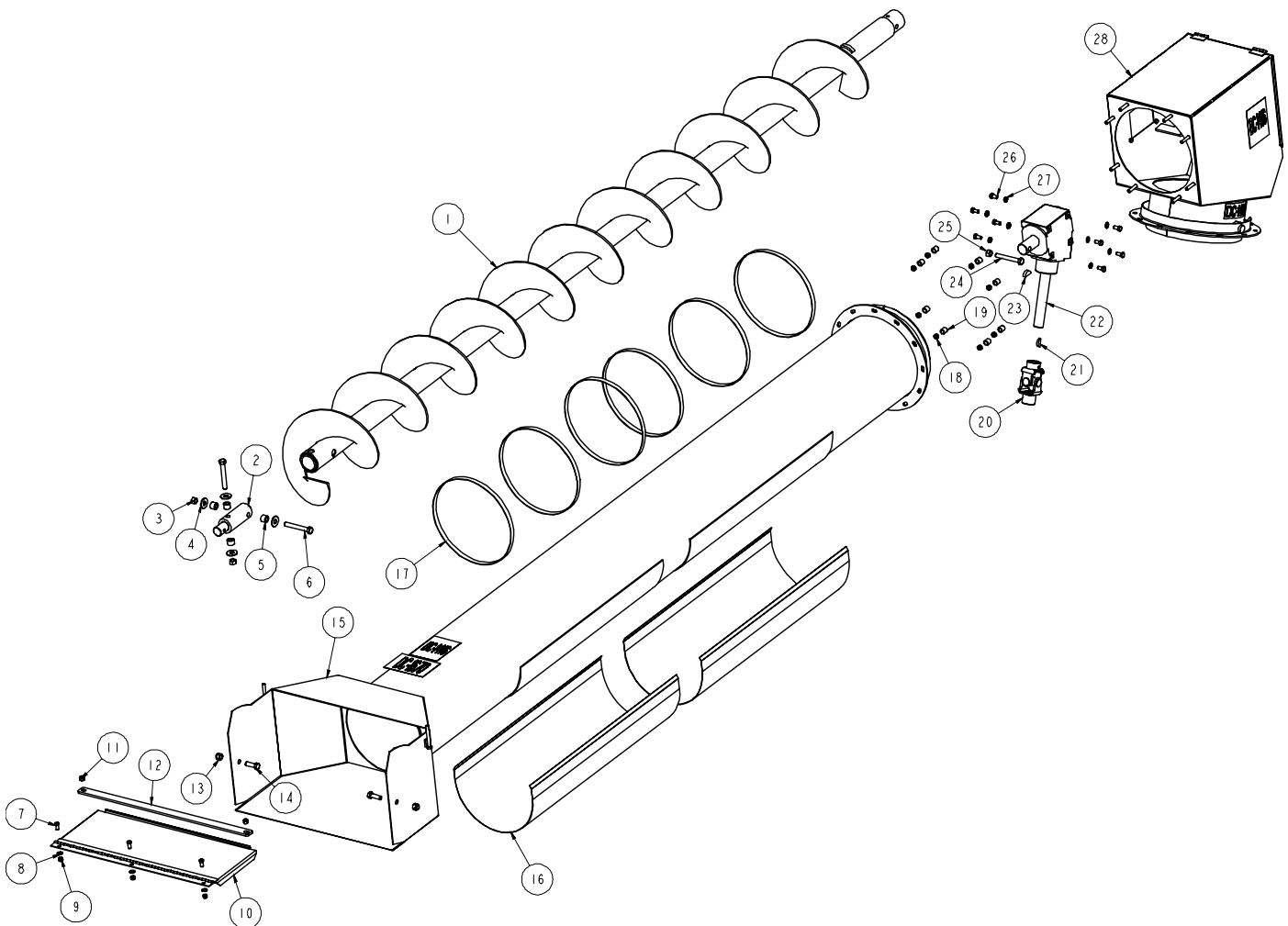
Ref. #	Description	Part #	Ref. #	Description	Part #
1	Rubber Mat .125" x 6" x 161"	GK5822	21	1.25" Bearing with 2 Hole Flange	GK1330
2	5" Mat Clamp	GK5824	22	#50 15 Tooth Sprocket	GK1021
3	10" Mat Clamp	GK1482	23	Spacer Bushing (.843" x .109" x 1")	GK5965
4	1/4" - 20 x 1" HHCS Bolt Gr.5	S-6998	24	5/8" - 11 x 3" HHCS Bolt Gr.8	S-7890
5	1/4" - 20 Nylock Nut	S-7025	25	1/4" x 1" Key	S-9168
6	Hopper Flight (59.625" Long x 8" OD)		26	#50 15 Tooth Sprocket w/ Keyway 1" Bore	GK1014
	3/16" Hopper Flight	GK5811	27	1/2" - 13 Nylock Nut	S-8260
	1/4" Hopper Flight	GK5825	28	1" Bearing with 2 Hole Flange	GK1049
7	3/8" - 16 Stove Nut	S-8251	29	1/2" - 13 x 1-1/2" HHCS Bolt Gr.2	S-7528
8	Intake Shaft (1" x 9")	GK5820	30	5/8" x 9-3/4" Axle Pin	GK5857
9	Spacer Bushing (1.25" x .083" x .875")	GK5900	31	Wheel	GK5817
10	3/8" - 16 x 3" HHCS Bolt Gr.8	S-8677	32	Wheel Spacer Bushing (1.06" x .125" x .5")	GK6394
11	Drive Shaft (1.25" x 59")	GK5812	33	1/8" x 1-1/4" Cotter Pin	S-7241
12	Chain Guard	GK5821	34	Bronze Bushing (1.63" OD x 1.25" ID x 1.5" L)	GK1192
13	5/16" - 18 Nylock Nut	S-7382	35	Bronze Bushing (1.377" OD x 1.013" ID x 1" L)	GK1070
14	Low Profile Hopper w/ Bushing	GK5813	36	Hanger Bearing w/ Bushing	GK5810
15	5/8" - 11 Hex Nut	S-7597	37	3/8" - 16 x 1-1/4" Carriage Bolt Gr.5	S-8412
16	#50 13T Sprocket 5/8" Bore	GK1701	38	3/8" Flat Washer	S-7409
17	5/8" Lock Washer	S-3208	39	3/8" - 16 Nylock Nut	S-7383
18	5/8" Flat Washer	S-7400	40	CV Joint 1.25" Bore x 8.875" Long	GK5819
19	5/8" - 11 x 2" HHCS Bolt Gr.5	S-8399	41	3/8" - 16 x 3" HHCS Bolt Gr.5	S-7249
20	#50 42 Pitch Roller Chain	GK5823	42	3/8" - 16 Stover Nut	S-8251



LOW PROFILE HOPPER

Ref. #	Description	Part #
	Incline Flight (136.25" Long x 11" OD)	
1	7ga. Incline Flight	GK4273
	1/4" Incline Flight	GK4274
2	Incline Stub Shaft	GK4102
3	1/2" - 13 Stover Nut	S-8315
4	1/2" Flat Washer	S-2121
5	Rubber Bushing (7/8" x 1/2" x 5/8")	GK1535
6	1/2" - 13 x 3-3/4" HHCS Bolt Gr.5	S-8400
7	5/16" - 18 x 3/4" HHCS Bolt Gr.2	S-8072
8	5/16" Flat Washer	S-1937
9	5/16" - 18 Nylock Nut	S-7382
10	Hopper Lid	GK5815
11	3/8" - 16 Nylock Nut	S-7383
12	Hopper Lid Strap	GK5814
13	1/2" - 13 Nylock Nut	S-8260
14	1/2" - 13 x 1" HHCS Bolt Gr.5	S-8760

Ref. #	Description	Part #
	Incline Tube	
15	Standard Tube	GK5827
	Tube w/ Corn Screens	GK5828
16	12" Corn Screen Cover	GK4269
17	Cover Band	GK4270
18	3/8" - 16 Stover Nut	S-8251
19	Swive Spout Bushing	GK4292
20	U-Joint with Splined End	GK4161
21	1/4" x 1-1/8" Woodruff Key	S-8240
22	68° Upper Gearbox	GK24961
23	3/8" x 1-1/4" Woodruff Key	S-8611
24	1-2" - 13 3-3/4" HHCS Bolt Gr. 5	S-8400
25	1-2" - 13 Stover Nut	S-8315
26	3/8" - 16 x 3/4" HHCS Bolt Gr.5	S-7105
27	3/8" Lock Washer	S-1054
28	Swivel Spout	GK4271



The GSI Group, Inc. Warranty

THE GSI GROUP, INC. ("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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THE FOREGOING WARRANTY SHALL NOT EXTEND TO PRODUCTS OR PARTS WHICH HAVE BEEN DAMAGED BY NEGLIGENT USE, MISUSE, ALTERATION OR ACCIDENT. THIS WARRANTY EXTENDS SOLELY TO ONLY PRODUCTS MANUFACTURED BY GSI. THIS WARRANTY IS EXCLUSIVE AND IN LIEU OF ALL OTHER WARRANTIES EXPRESS OR IMPLIED. GSI RESERVES THE RIGHT TO MAKE DESIGN OR SPECIFICATION CHANGES AT ANY TIME.

PRIOR TO INSTALLATION, PURCHASER HAS THE RESPONSIBILITY TO COMPLY WITH ALL FEDERAL, STATE AND LOCAL CODES WHICH MAY APPLY TO THE LOCATION AND INSTALLATION OF PRODUCTS MANUFACTURED OR SOLD BY GSI.

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



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