

Farm King

OPERATOR AND PARTS MANUAL

Backsaver Auger

Model 12112 and 12122

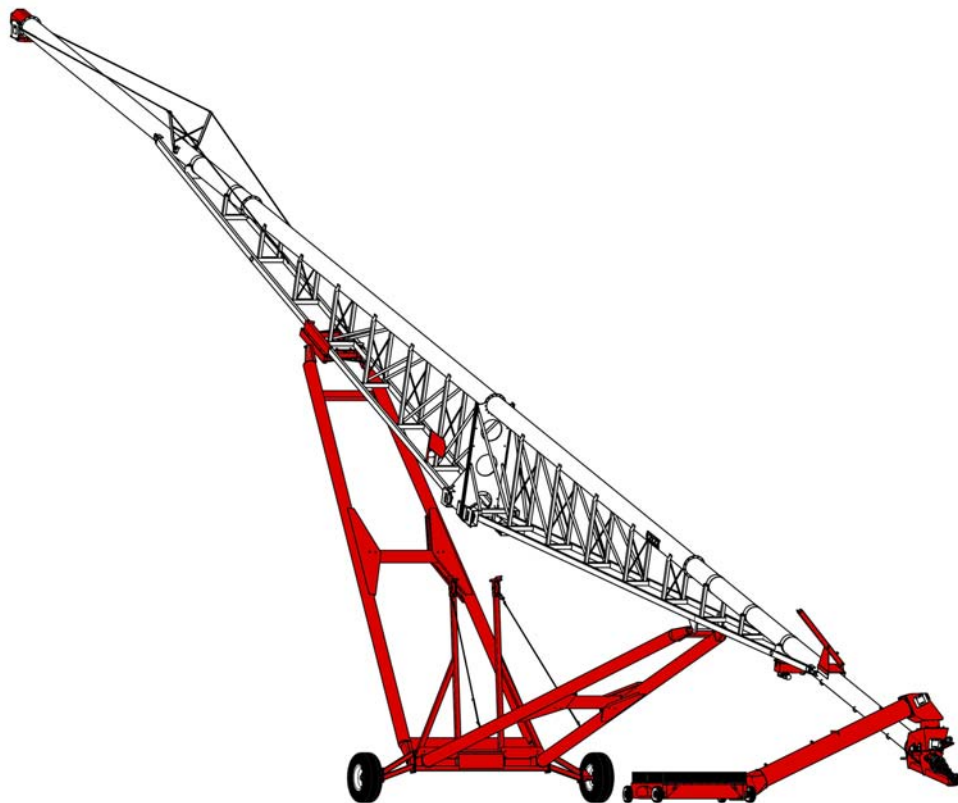


TABLE OF CONTENTS

Manufacturer's Statement: For technical reasons, Buhler Industries Inc. reserves the right to modify machinery design and specifications provided herein without any preliminary notice. Information provided herein is of descriptive nature. Performance quality may depend on soil fertility, applied agricultural techniques, weather conditions and other factors.

INTRODUCTION	7
SAFETY	11
ASSEMBLY	29
OPERATION	71
MAINTENANCE	101
PARTS IDENTIFICATION	115
SPECIFICATIONS	141
WARRANTY	149
ALPHABETICAL INDEX	153

Farm King



WARRANTY REGISTRATION FORM

This form must be filled out by the dealer and signed by both the dealer and the customer at the time of delivery.

Customer Name:

Dealer Name:

Customer Address:

Dealer Address:

City:

Prov / State:

City:

Prov / State:

Postal / Zip Code:

Phone:

Postal / Zip Code:

Phone:

Backsaver Auger Model:

Serial Number:

Delivery Date:

I have thoroughly instructed the buyer on the above described equipment which review included the Operator And Parts Manual content, equipment care, adjustments, safe operation and applicable warranty policy.

Dealer Inspection Report

☐	Bearings Turn Freely
☐	Winch Cable Tension Checked
☐	Check Oil Level In Auger Drive Gear Box
☐	Pulleys Aligned
☐	Fasteners Tight
☐	Lubricate Machine
☐	Check Tire Pressure
☐	Hopper Raises And Lowers Freely

Safety

☐	Safety Chain On Hitch (if equipped)
☐	All Decals Installed
☐	Guards And Shields Installed And Secure
☐	Review Operating And Safety Instructions
☐	Check For Hydraulic Leaks

Date:

Dealer Rep. Signature:

The above equipment and Operator And Parts Manual have been received by me and I have been thoroughly instructed as to care, adjustments, safe operation and applicable warranty policy.

Date:

Customer / Owner's Signature:

Remove this Warranty Registration Form from the Operator And Parts Manual. Make two copies of the form. Send original Warranty Registration Form to Farm King. Give one copy to the customer and the dealer will keep one copy.

Farm King



INTRODUCTION

This Operator And Parts Manual was written to give the owner / operator instructions on the safe operation, maintenance and part identification of the Farm King equipment. READ AND UNDERSTAND THIS OPERATOR AND PARTS MANUAL BEFORE OPERATING YOUR FARM KING EQUIPMENT. If you have any questions, see your Farm King dealer. This manual may illustrate options and accessories not installed on your Farm King equipment.

OWNER'S INFORMATION	9
Serial Number Location	9
Manual Storage	9
EQUIPMENT IDENTIFICATION	10
Component Location	10

Farm King



OWNER'S INFORMATION

Thank you for your decision to purchase a Farm King 12112 / 12122 Backsaver Auger. To ensure maximum performance of your equipment, it is mandatory that you thoroughly study the Operator And Parts Manual and follow the recommendations. Proper operation and maintenance are essential to maximize equipment life and prevent personal injury.

Operate and maintain this equipment in a safe manner and in accordance with all applicable local, state, and federal codes, regulations and / or laws. Follow all on-product labeling and instructions.

Make sure that all personnel have read this Operator And Parts Manual and thoroughly understand safe and correct operating, installation and maintenance procedures.

Farm King is continually working to improve its products. Farm King reserves the right to make any improvements or changes as deemed practical and possible without incurring any responsibility or obligation to make any changes or additions to equipment sold previously.

Although great care has been taken to ensure the accuracy of this publication, Farm King, makes no warranty or guarantee of any kind, written or expressed, implied or otherwise with regard to the information contained within this manual. Farm King assumes no responsibility for any errors that may appear in this manual and shall not be liable under any circumstances for incidental, consequential or punitive damages in connection with, or arising from the use of this manual.

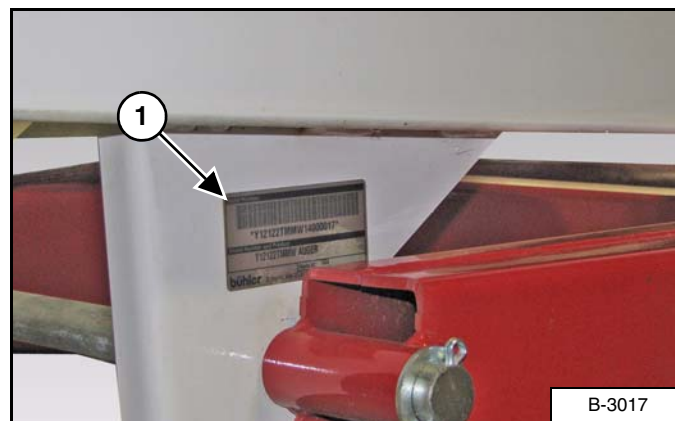
Keep this manual available for frequent reference. All new operators or owners must review the manual before using the equipment and annually thereafter. Contact your Farm King Dealer if you need assistance, information, or additional copies of the manual. Visit our website at www.farm-king.com for a complete list of dealers in your area.

The directions left, right, front and rear, as mentioned throughout this manual, are as viewed from the intake end of the equipment.

Serial Number Location

Please enter the model and serial number in the space provided for easy reference.

Figure 1



Model Number: _____

Serial Number: _____

The serial number plate (Item 1) **[Figure 1]** is located on the second upright support on the lower truss support.

Always use your serial number when requesting information or when ordering parts.

Manual Storage

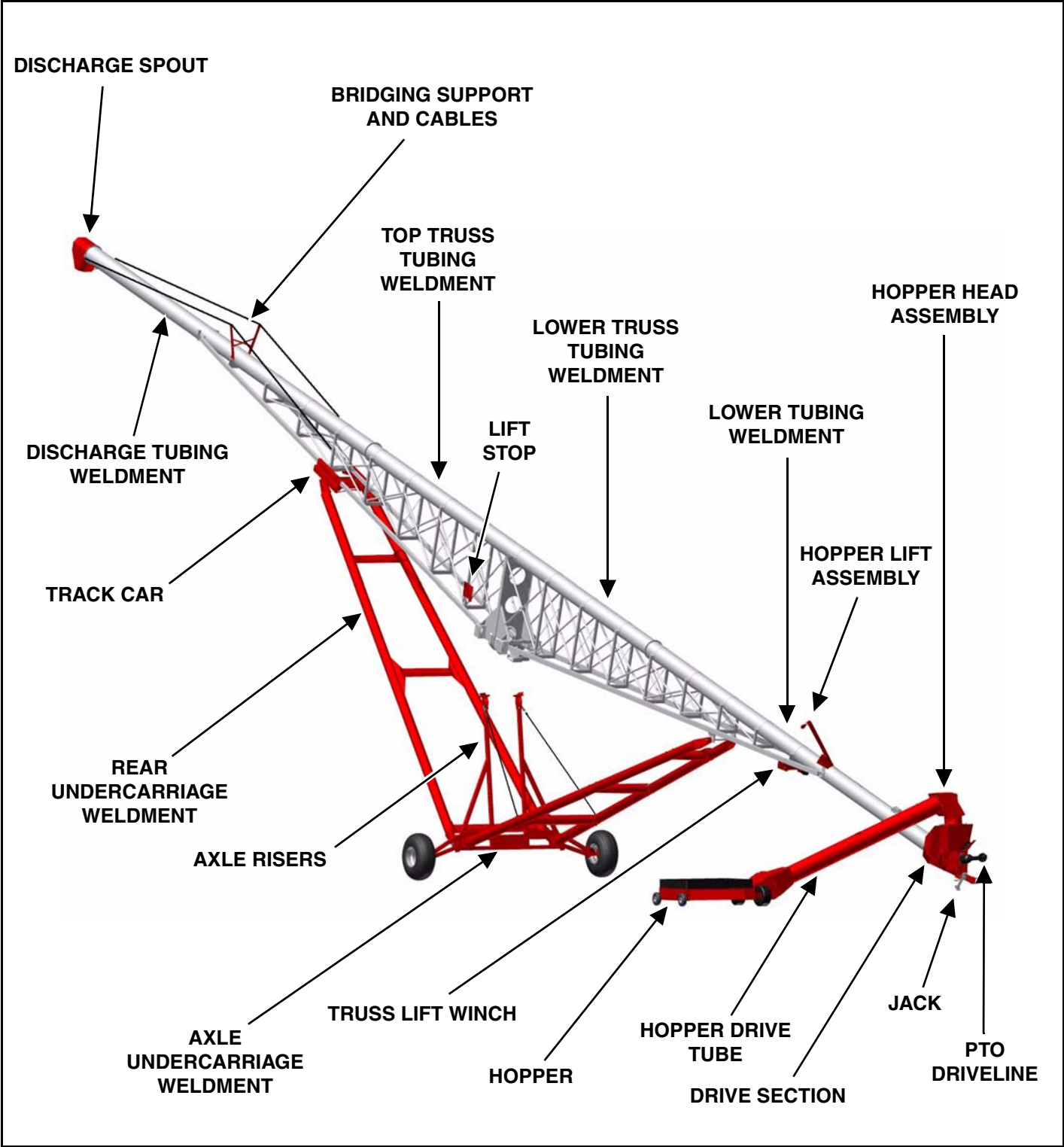
Figure 2



The Operator And Parts Manual and other documents can be stored in the canister (Item 1) **[Figure 2]** located on the PTO hanger.

EQUIPMENT IDENTIFICATION

Component Location



SAFETY

SAFETY INSTRUCTIONS	13
Safe Operation Is The Operator's Responsibility	13
Safe Operation Needs A Qualified Operator	13
Use Safety Rules	14
Transport Safety	14
Safety Rules For Power Take-Off (PTO) Driven Equipment	15
Machine Requirements And Capabilities	15
FIRE PREVENTION	16
Maintenance	16
Operation	16
Electrical	16
Hydraulic System	16
Welding And Grinding	17
Fire Extinguishers	17
OPERATING SAFETY ZONE	18
Safety Zone Identification	18
SAFETY SIGNS (DECALS)	19
EQUIPMENT DECALS AND SIGNS	26
SAFETY SIGN-OFF FORM	28

Farm King



SAFETY INSTRUCTIONS

Safe Operation Is The Operator's Responsibility

	Safety Alert Symbol
This symbol with a warning statement means: "Warning, be alert! Your safety is involved!" Carefully read the message that follows.	



The signal word **CAUTION** on the machine and in the manuals indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury. It may also be used to alert against unsafe practices.



The signal word **DANGER** on the machine and in the manuals indicates a hazardous situation which, if not avoided, will result in death or serious injury.



The signal word **WARNING** on the machine and in the manuals indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.



This notice identifies procedures which must be followed to avoid damage to the machine.

Safe Operation Needs A Qualified Operator



Operators must have instructions before operating the machine. Untrained operators can cause injury or death.

For an operator to be qualified, he or she must not use drugs or alcoholic drinks which impair alertness or coordination while working. An operator who is taking prescription drugs must get medical advice to determine if he or she can safely operate a machine and the equipment.

A Qualified Operator Must Do The Following:

Understand the Written Instructions, Rules and Regulations

- The written instructions from Farm King include the Warranty Registration, Dealer Inspection Report, Operator And Parts Manual and machine signs (decals).
- Check the rules and regulations at your location. The rules may include an employer's work safety requirements. Regulations may apply to local driving requirements or use of a Slow Moving Vehicle (SMV) emblem. Regulations may identify a hazard such as a utility line.

Have Training with Actual Operation

- Operator training must consist of a demonstration and verbal instruction. This training is given by the machine owner prior to operation.
- The new operator must start in an area without bystanders and use all the controls until he or she can operate the machine safely under all conditions of the work area.

Know the Work Conditions

- Clear working area of all bystanders, especially small children and all obstacles that might be hooked or snagged, causing injury or damage.
- Know the location of any overhead power lines.
- Wear tight fitting clothing. Always wear safety glasses when doing maintenance or service.

SAFETY INSTRUCTIONS (CONT'D)**Use Safety Rules**

- Read and follow instructions in this manual and the tractor's Operators Manual before operating.
- Under no circumstances should young children be allowed to work with this equipment.
- This equipment is dangerous to children and persons unfamiliar with its operation.
- If the elderly are assisting with work, their physical limitations need to be recognized and accommodated.
- Stay clear of overhead power lines when raising or lowering the auger. Electrocutation can occur without direct contact.
- Check for overhead and / or underground lines before operating equipment (if applicable).
- In addition to the design and configuration of equipment, hazard control and accident prevention are dependent upon the awareness, concern, prudence and proper training of personnel involved in the operation, transport, maintenance and storage of equipment.
- Check that the equipment is securely fastened to the tractor / towing vehicle.
- Make sure all the machine controls are in the NEUTRAL position before starting the machine.
- Operate the equipment only from the operator's position.
- Operate the equipment according to the Operator And Parts Manual.
- When learning to operate the equipment, do it at a slow rate in an area clear of bystanders, especially small children.
- DO NOT permit personnel to be in the work area when operating the equipment.
- The equipment must be used ONLY on approved tractors / transport vehicles.
- DO NOT modify the equipment in any way. Unauthorized modification may impair the function and / or safety and could affect the life of the equipment.
- DO NOT make any adjustments or repairs on the equipment while the machine is running.
- Keep shields and guards in place. Replace if damaged.

Transport Safety

- Do not exceed 20 mph (32 kph). Reduce speed on rough roads and surfaces.
- Comply with state and local laws governing highway safety and movement of machinery on public roads.
- The use of flashing amber lights is acceptable in most localities. However, some localities prohibit their use. Local laws should be checked for all highway lighting and marking requirements.
- Always install transport locks, pins or brackets before transporting.
- Always yield to oncoming traffic in all situations and move to the side of the road so any following traffic may pass.
- Always enter curves or drive up or down hills at a low speed and at a gradual steering angle.
- Never allow riders on either tractor or equipment.
- Keep tractor / towing vehicle in a lower gear at all times when traveling down steep grades.
- Maintain proper brake settings at all times (if equipped).
- Stay away from overhead power lines when auger is raised. Electrocutation can occur without direct contact.

Safety Rules For Power Take-Off (PTO) Driven Equipment

- Keep PTO shields and all guards in place. Replace damaged or missing shields and guards before operating.
- Follow warnings and instructions on machine signs (decals). Replace damaged or missing decals.
- Do not wear loose or bulky clothing around the PTO or other moving parts.
- Keep bystanders away from PTO driven equipment, and never allow children near machines.
- Read and understand the manuals for the PTO driven equipment and be aware of safe operating procedures and hazards that may not be readily apparent.
- Always walk around equipment to avoid coming near a turning PTO driveline. Stepping over, leaning across or crawling under a turning PTO driveline can cause entanglement.
- Position the machine and equipment hitch correctly to prevent driveline stress and separation.
- Use caution when turning. Turning too sharp can cause driveline damage.
- Use caution when raising PTO driven attachment. Excessive driveline angle can cause driveline damage. Use stops if needed.

Machine Requirements And Capabilities

- Stop the machine and engage the parking brake. Install blocks in front of and behind the rear tires of the machine. Install blocks underneath and support the equipment securely before working under raised equipment.
- Keep bystanders clear of moving parts and the work area. Keep children away.
- Use increased caution on slopes and near banks and ditches to prevent overturn.
- Make certain that the Slow Moving Vehicle (SMV) emblem is installed so that it is visible and legible. When transporting the equipment, use the flashing warning lights (if equipped) and follow all local regulations.
- Operate this equipment with a machine equipped with an approved Roll-Over Protective Structure (ROPS). Always wear seat belt when the ROPS is up. Serious injury or death could result from falling off the machine.
- Before leaving the operator's position:
 1. Always park on a flat level surface.
 2. Place all controls in neutral.
 3. Engage the parking brake.
 4. Stop engine.
 5. Wait for all moving parts to stop.
- Carry passengers only in designated seating areas. Never allow riders on the machine or equipment. Falling off can result in serious injury or death.
- Start the equipment only when properly seated in the operator's seat. Starting a machine in gear can result in serious injury or death.
- Operate the machine and equipment from the operator's position only.
- The parking brake must be engaged before leaving the operator's seat. Rollaway can occur because the transmission may not prevent machine movement.

FIRE PREVENTION



Maintenance

The machine and some equipment have components that are at high temperatures under normal operating conditions. The primary source of high temperatures is the gearboxes. The electrical system, if damaged or incorrectly maintained, can be a source of arcs or sparks.

Flammable debris (leaves, straw, etc.) must be removed regularly. If flammable debris is allowed to accumulate, it can cause a fire hazard. Clean often to avoid this accumulation. Flammable debris in the engine compartment is a potential fire hazard.

Operation

The Farm King machine must be in good operating condition before use.

Check all of the items listed on the service schedule under the 8 hour column. (See "SERVICE SCHEDULE" on page 104.)

Do not use the machine where exhaust, arcs, sparks or hot components can contact flammable material, explosive dust or gases.

Electrical



Check all electrical wiring and connections for damage. Keep the battery terminals clean and tight. Repair or replace any damaged part or wires that are loose or frayed.

Battery gas can explode and cause serious injury. Do not jump start or charge a frozen or damaged battery. Keep any open flames or sparks away from batteries. Do not smoke in battery charging area.

Hydraulic System

Check hydraulic tubes, hoses and fittings for damage and leakage. Never use open flame or bare skin to check for leaks. Hydraulic tubes and hoses must be properly routed and have adequate support and secure clamps. Tighten or replace any parts that show leakage.

Always clean fluid spills. Do not use gasoline or diesel fuel for cleaning parts. Use commercial nonflammable solvents.

FIRE PREVENTION (CONT'D)**Welding And Grinding**

Always clean the machine and equipment, disconnect the battery, and disconnect the wiring from the machine controls before welding. Cover rubber hoses, battery and all other flammable parts. Keep a fire extinguisher near the machine when welding.

Have good ventilation when grinding or welding painted parts. Wear dust mask when grinding painted parts. Toxic dust or gas can be produced.

Dust generated from repairing nonmetallic parts such as hoods, fenders or covers can be flammable or explosive. Repair such components in a well ventilated area away from open flames or sparks.

Fire Extinguishers

Know where fire extinguishers and first aid kits are located and how to use them. Inspect the fire extinguisher and service the fire extinguisher regularly. Obey the recommendations on the instructions plate.

OPERATING SAFETY ZONE

Safety Zone Identification

⚠ WARNING

AVOID INJURY OR DEATH

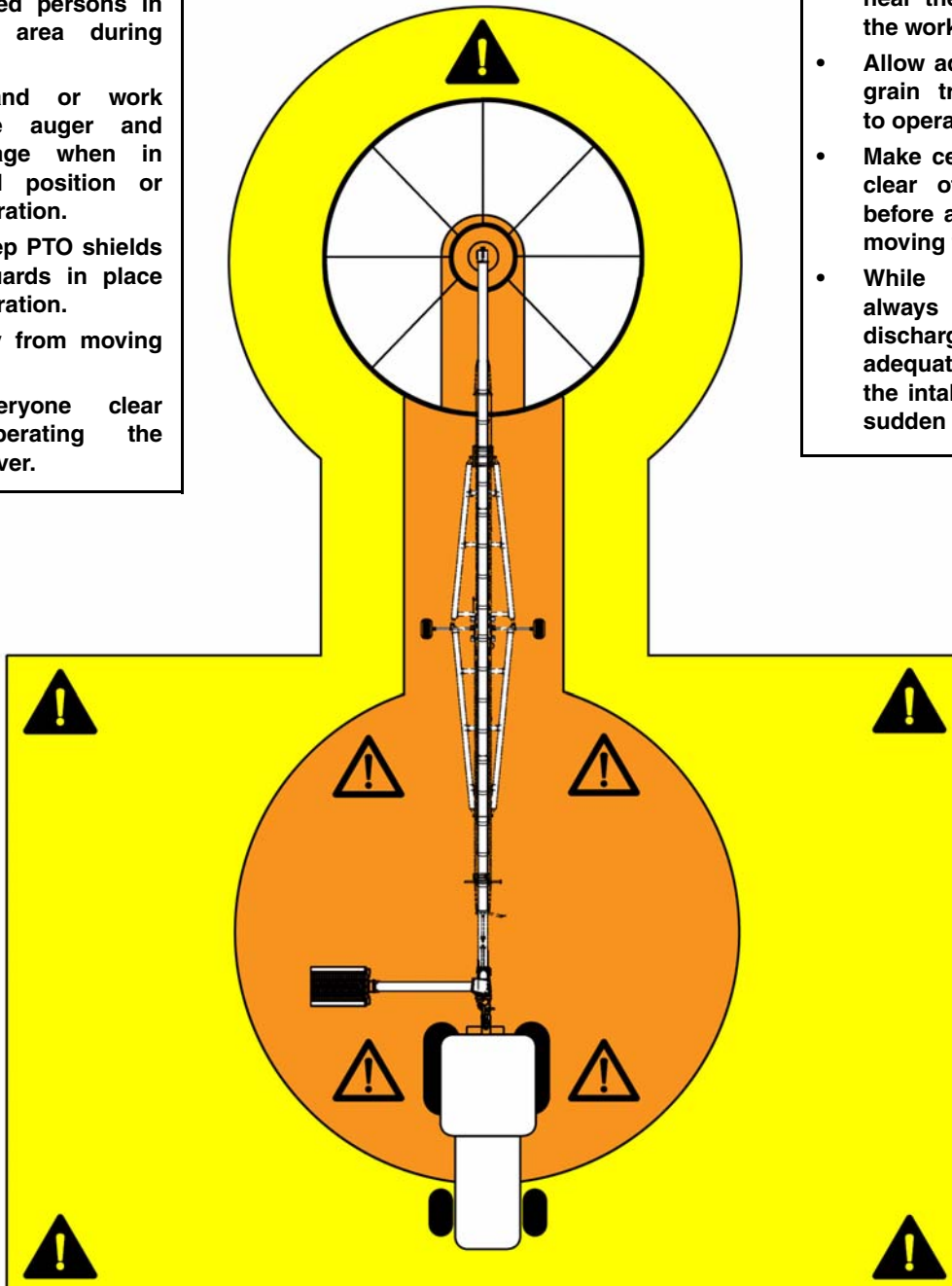
- Do not allow small children, bystanders or unauthorized persons in the work area during operation.
- Never stand or work under the auger and undercarriage when in the raised position or during operation.
- Always keep PTO shields and all guards in place during operation.
- Keep away from moving parts.
- Keep everyone clear when operating the hopper mover.

⚠ DANGER

ELECTROCUTION HAZARD
Keep away from power lines, electrocution can occur without direct contact.

⚠ CAUTION

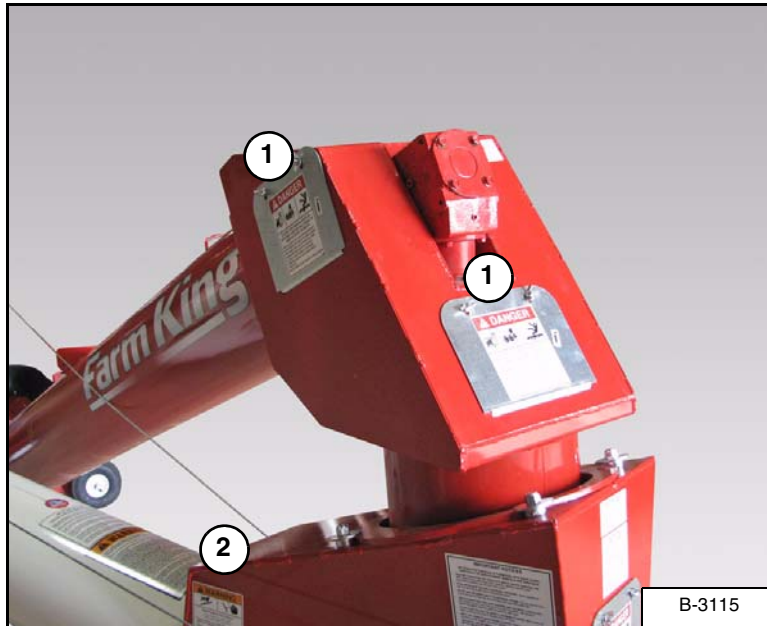
- Owners and operators should allow only authorized personnel and grain transport vehicles near the auger or inside the work area.
- Allow adequate space for grain transport vehicles to operate safely.
- Make certain everyone is clear of the equipment before applying power or moving the machine.
- While in operation, always support the discharge end or provide adequate anchorage of the intake end to prevent sudden tipping.



SAFETY SIGNS (DECALS)

Follow the instructions on all the Signs (Decals) that are on the equipment. Replace any damaged signs (decals) and be sure they are in the correct locations. Equipment signs are available from your Farm King equipment dealer.

Intake Elbow / Drive Section (Right Side)



①



p/n SZ06136

②



p/n SZ06049

SAFETY SIGNS (DECALS) (CONT'D)

Intake Elbow / Drive Section (Left Side)



2



p/n SZ06136



p/n SZ06135

SAFETY SIGNS (DECALS) (CONT'D)

Intake Auger



1



p/n SZ06023

Auger Hitch



1



p/n SZ06527

SAFETY SIGNS (DECALS) (CONT'D)

Intake Auger



2



p/n SZ06136

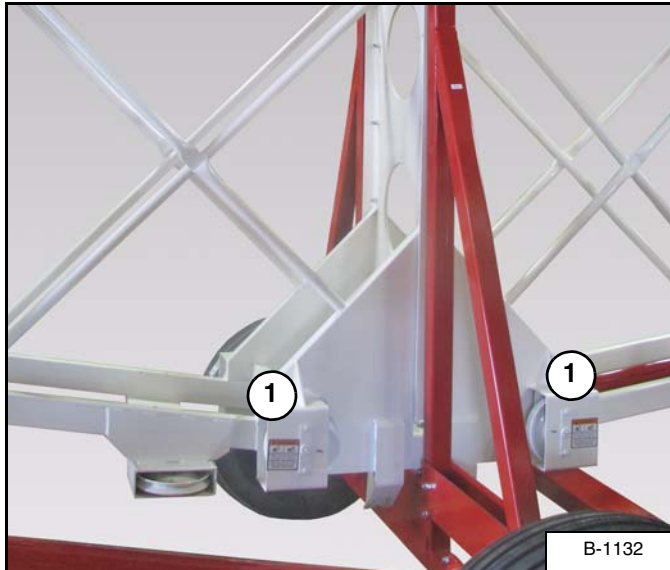
1



p/n SZ06011

SAFETY SIGNS (DECALS) (CONT'D)

Upper / Lower Trusses

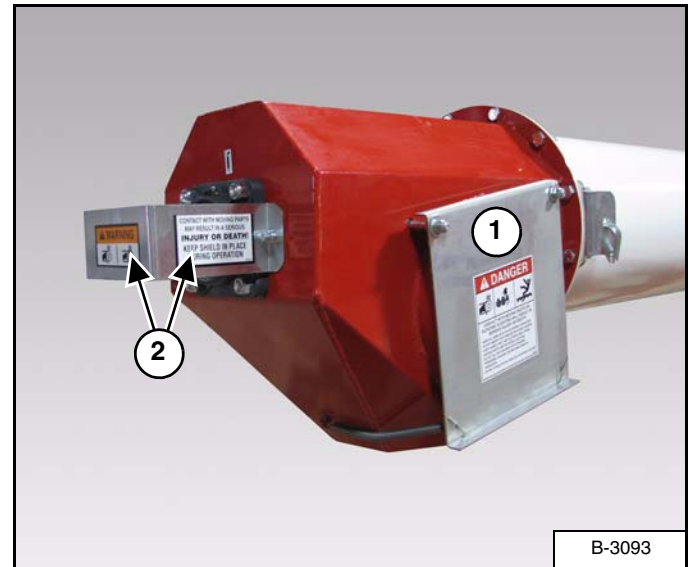


1



p/n SZ06023

Drop Spout



1



p/n SZ06136

2



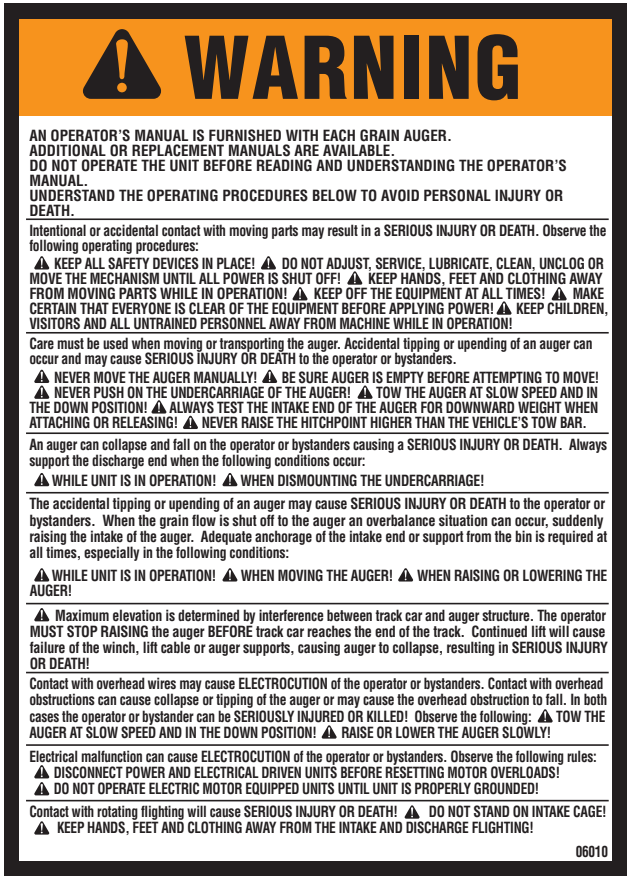
p/n SZ06023

SAFETY SIGNS (DECALS) (CONT'D)

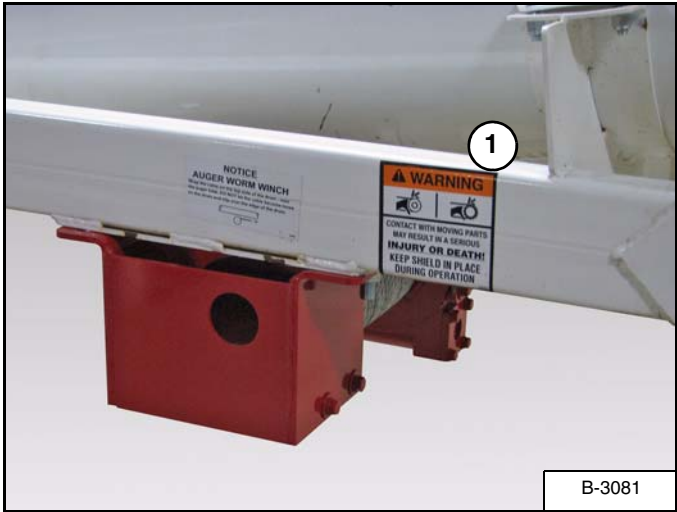
Upper Undercarriage Arms



1



Lower Truss / Winch



1



SAFETY SIGNS (DECALS) (CONT'D)

Lower Tube



1



WARNING

AN OPERATOR'S MANUAL IS FURNISHED WITH EACH GRAIN AUGER. ADDITIONAL OR REPLACEMENT MANUALS ARE AVAILABLE. DO NOT OPERATE THE UNIT BEFORE READING AND UNDERSTANDING THE OPERATOR'S MANUAL. UNDERSTAND THE OPERATING PROCEDURES BELOW TO AVOID PERSONAL INJURY OR DEATH.

Intentional or accidental contact with moving parts may result in a SERIOUS INJURY OR DEATH. Observe the following operating procedures:

⚠ KEEP ALL SAFETY DEVICES IN PLACE! ⚠ DO NOT ADJUST, SERVICE, LUBRICATE, CLEAN, UNCLOG OR MOVE THE MECHANISM UNTIL ALL POWER IS SHUT OFF! ⚠ KEEP HANDS, FEET AND CLOTHING AWAY FROM MOVING PARTS WHILE IN OPERATION! ⚠ KEEP OFF THE EQUIPMENT AT ALL TIMES! ⚠ MAKE CERTAIN THAT EVERYONE IS CLEAR OF THE EQUIPMENT BEFORE APPLYING POWER! ⚠ KEEP CHILDREN, VISITORS AND ALL UNTRAINED PERSONNEL AWAY FROM MACHINE WHILE IN OPERATION!

Care must be used when moving or transporting the auger. Accidental tipping or upending of an auger can occur and may cause SERIOUS INJURY OR DEATH to the operator or bystanders.

⚠ NEVER MOVE THE AUGER MANUALLY! ⚠ BE SURE AUGER IS EMPTY BEFORE ATTEMPTING TO MOVE! ⚠ NEVER PUSH ON THE UNDERCARRIAGE OF THE AUGER! ⚠ TOW THE AUGER AT SLOW SPEED AND IN THE DOWN POSITION! ⚠ ALWAYS TEST THE INTAKE END OF THE AUGER FOR DOWNWARD WEIGHT WHEN ATTACHING OR RELEASING! ⚠ NEVER RAISE THE HITCHPOINT HIGHER THAN THE VEHICLE'S TOW BAR.

An auger can collapse and fall on the operator or bystanders causing a SERIOUS INJURY OR DEATH. Always support the discharge end when the following conditions occur:

⚠ WHILE UNIT IS IN OPERATION! ⚠ WHEN DISMOUNTING THE UNDERCARRIAGE!

The accidental tipping or upending of an auger may cause SERIOUS INJURY OR DEATH to the operator or bystanders. When the grain flow is shut off to the auger an overbalance situation can occur, suddenly raising the intake of the auger. Adequate anchorage of the intake end or support from the bin is required at all times, especially in the following conditions:

⚠ WHILE UNIT IS IN OPERATION! ⚠ WHEN MOVING THE AUGER! ⚠ WHEN RAISING OR LOWERING THE AUGER!

⚠ Maximum elevation is determined by interference between track car and auger structure. The operator MUST STOP RAISING the auger BEFORE track car reaches the end of the track. Continued lift will cause failure of the winch, lift cable or auger supports, causing auger to collapse, resulting in SERIOUS INJURY OR DEATH!

Contact with overhead wires may cause ELECTROCUTION of the operator or bystanders. Contact with overhead obstructions can cause collapse or tipping of the auger or may cause the overhead obstruction to fall. In both cases the operator or bystander can be SERIOUSLY INJURED OR KILLED! Observe the following: ⚠ TOW THE AUGER AT SLOW SPEED AND IN THE DOWN POSITION! ⚠ RAISE OR LOWER THE AUGER SLOWLY!

Electrical malfunction can cause ELECTROCUTION of the operator or bystanders. Observe the following rules: ⚠ DISCONNECT POWER AND ELECTRICAL DRIVEN UNITS BEFORE RESETTNG MOTOR OVERLOADS!

⚠ DO NOT OPERATE ELECTRIC MOTOR EQUIPPED UNITS UNTIL UNIT IS PROPERLY GROUNDED!

Contact with rotating flighting will cause SERIOUS INJURY OR DEATH! ⚠ DO NOT STAND ON INTAKE CAGE! ⚠ KEEP HANDS, FEET AND CLOTHING AWAY FROM THE INTAKE AND DISCHARGE FLIGHTING!

06010

p/n SZ06010

EQUIPMENT DECALS AND SIGNS

NOTE: All safety related decals are shown in the Safety Signs Section. (See “SAFETY SIGNS (DECALS)” on page 19.)

Check and replace any worn, torn, hard to read or missing decals on your equipment.

Part Number SZ000118 (White Augers)
Part Number SZ000117 (Red Augers)

12112

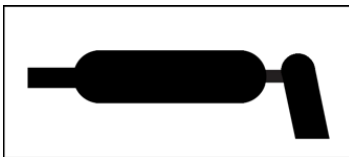
Part Number SZ000111 (White Augers)
Part Number SZ000114 (Red Augers)

12122

Part Number SZ000110 (White Augers)
Part Number SZ000113 (Red Augers)

Farm King

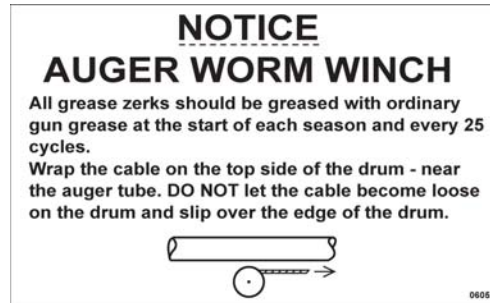
Part Number SZ06057



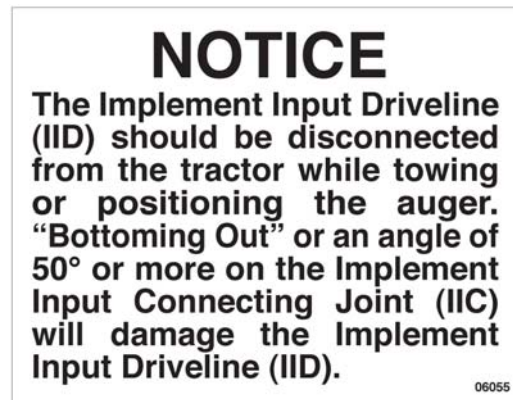
Part Number SZ06017



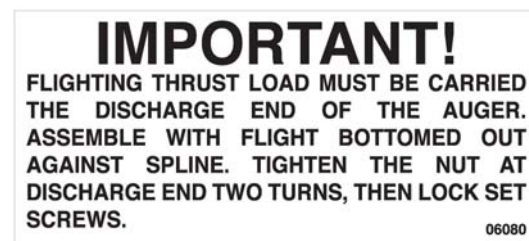
Part Number SZ06052



Part Number SZ06055



Part Number SZ06080

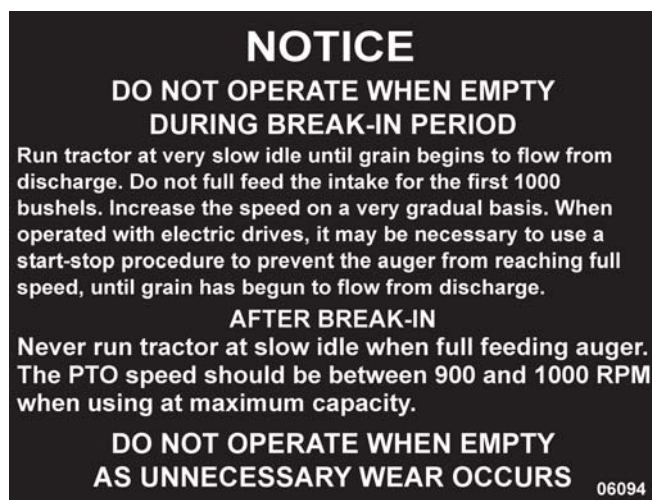


Part Number SZ06137



EQUIPMENT DECALS AND SIGNS (CONT'D)

Part Number SZ06094



Part Number SZ06101



Part Number SZ06001



Part Number 108143 Black Feterl



SAFETY SIGN-OFF FORM



Instructions are necessary before operating or servicing equipment. Read and understand the Operator And Parts Manual and safety signs (decals) on equipment. Follow warnings and instructions in the manuals when making repairs, adjustments or servicing. Check for correct function after adjustments, repairs or service. Untrained operators and failure to follow instructions can cause injury or death.

Farm King follows the general Safety Standards specified by the American Society of Agricultural and Biological Engineers (ASABE) and the Occupational Safety and Health Administration (OSHA). Anyone who will be operating and / or maintaining the Backsaver Auger must read and clearly understand ALL Safety, Operating and Maintenance information presented in this manual.

Annually review this information before the season start-up and make these periodic reviews of SAFETY and OPERATION a standard practice for all of your equipment. An untrained operator is unqualified to operate this machine.

The following sign-off sheet is provided for your record and to show that all personnel who will be working with the equipment have read and understand the information in this Operator and Parts Manual and have been instructed in the operation of the equipment.

SIGN-OFF SHEET		
Date	Employee's Signature	Employer's Signature

ASSEMBLY

GENERAL ASSEMBLY INFORMATION	31
Component Unloading And Identification	31
BASE GROUP	32
Undercarriage Assembly	32
Tube Assembly	36
Installing The Track Car	54
Installing The Axle Risers	55
Installing The STOP LIFT Sign	55
Track Car / Winch Cable Routing	56
Winch Assembly And Installation	57
Hopper Assembly And Installation	60
HYDRAULIC ASSEMBLY	65
Winch Fitting And Hose Installation	65
WINCH CABLE INSTALLATION	66
Cable Routing and Installation	66
Top Tube Support Cable Installation (12122 Model Only)	68

Farm King



GENERAL ASSEMBLY INFORMATION

Component Unloading And Identification



ELECTROCUTION HAZARD

To prevent serious injury or death from electrocution:

- Be aware of overhead power lines.
- Keep away from power lines when unloading and assembling the auger.
- Electrocution can occur without direct contact.



- DO NOT permit bystanders to be in the work area when unloading and assembling the auger components.
- DO NOT work under suspended parts.
- Keep away from moving parts.
- Always use lifting devices / vehicles, chains or straps of adequate size and strength when unloading and assembling the auger components.

Unload the crate(s) and components in flat level area of adequate size to assemble the 12112 / 12122 Backsaver Auger.



Unload crate(s) and auger components carefully, not to cause damage to any of the components.

NOTE: If any components are damaged, missing or replacement parts are required, contact your Farm King Dealer.

Assemble the 12112 / 12122 Backsaver Auger in the following order:

1. Undercarriage (See "Undercarriage Assembly" on page 32.)

Using the packing list, locate and place all undercarriage components and hardware in one area. Count the individual components and verify that you have received the correct number of components to fully assemble the undercarriage.

2. Tube (See "Tube Assembly" on page 36.)

Using the packing list, locate and place all tube components and hardware in one area. Count the individual components and verify that you have received the correct number of components to fully assemble the tube.

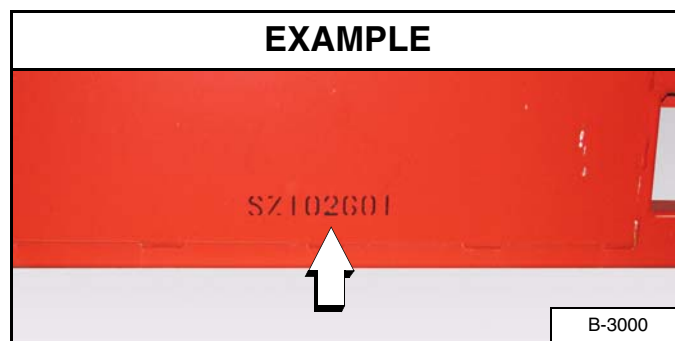
3. Hopper Drive Tube (See "Hopper Assembly And Installation" on page 60.)

Using the packing list, locate and place all intake auger components and hardware in one area. Count the individual components and verify that you have received the correct number of components to fully assemble the intake auger.

4. Hydraulic (See "HYDRAULIC ASSEMBLY" on page 65.)

Using the packing list, locate and place all hydraulic components in one area. Count the individual components and verify that you have received the correct number of components to fully assemble the hydraulics.

Figure 3



Larger components are marked for identification [Figure 3].

BASE GROUP

Undercarriage Assembly

Assemble the undercarriage on flat level surface.

WARNING



- DO NOT permit bystanders to be in the work area when unloading and assembling the auger components.
- DO NOT work under suspended parts.
- Keep away from moving parts.
- Always use lifting devices / vehicles, chains or straps of adequate size and strength when unloading and assembling the auger components.

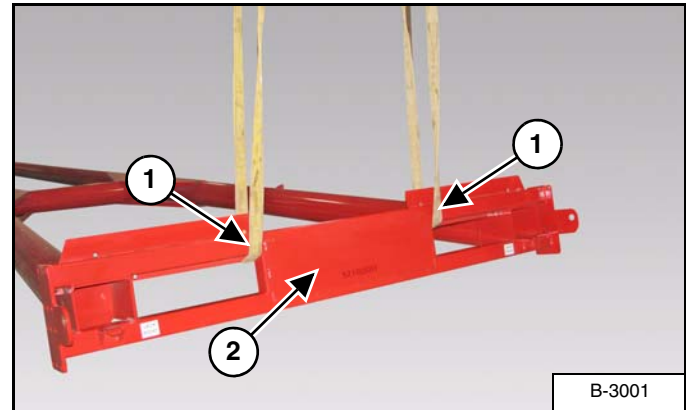
WARNING



AVOID INJURY OR DEATH

Keep fingers and hands out of pinch points when assembling the equipment.

Figure 4

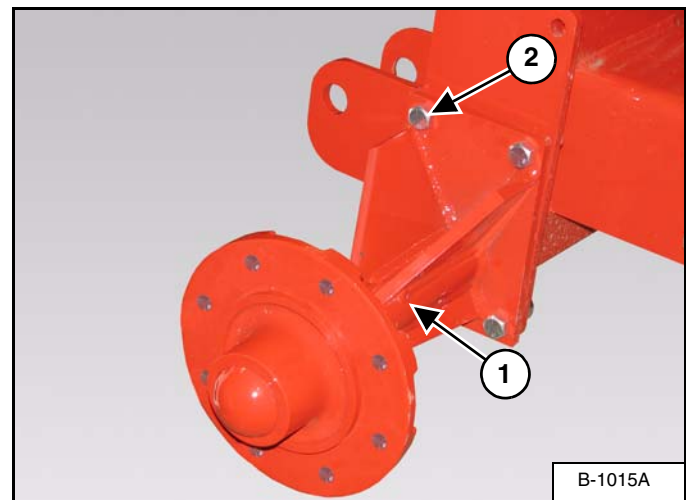


Install straps (Item 1) around the axle weldment (Item 2) [Figure 4].

Connect the strap to an approved lifting device.

Raise and move the axle weldment to the assembly area.

Figure 5

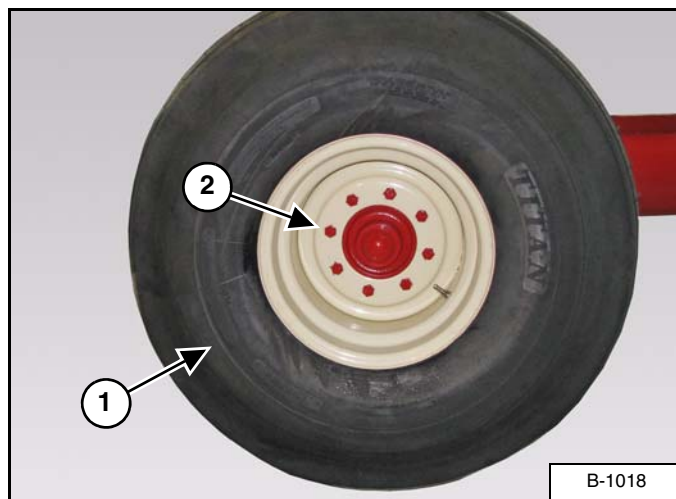


Align and install the eight bolt spindle & hub assembly (Item 1) [Figure 5] onto the axle weldment.

Install five 5/8" x 2" bolts (Item 2) [Figure 5] through the eight bolt spindle & hub assembly and axle weldment mounting plate. Install one 5/8" lock nut on each bolt. Tighten the bolts and nuts.

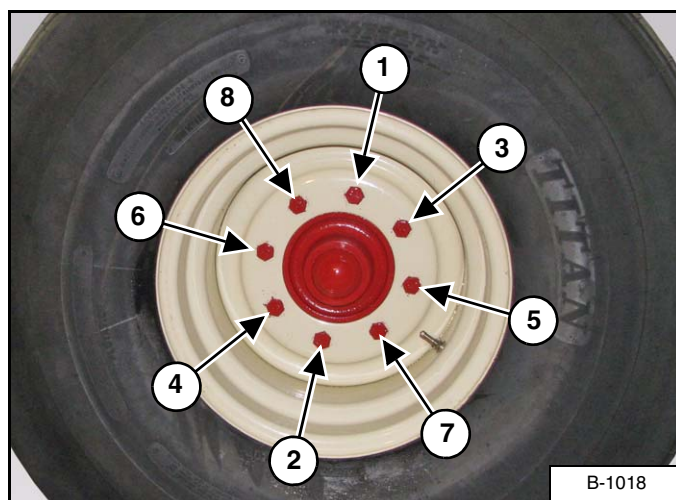
Repeat for opposite eight bolt spindle & hub assembly.

Figure 6



Install the tire / wheel (Item 1) with the valve stem facing out (both sides). Install the eight wheel bolts (Item 2) (both sides) **[Figure 6]**.

Figure 7



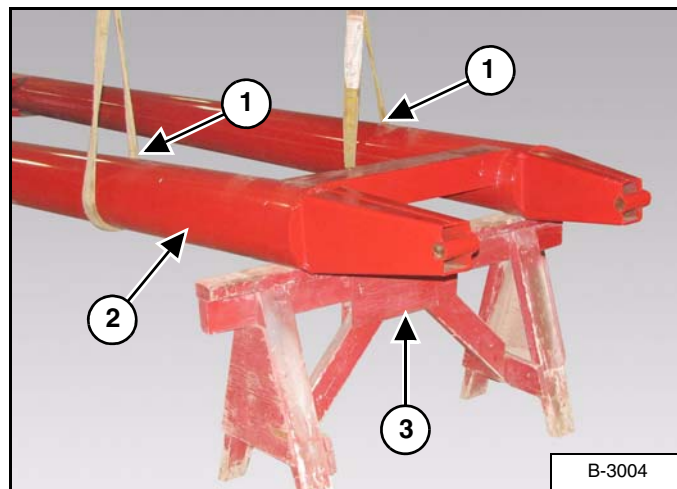
Tighten wheel nuts in a criss-cross pattern **[Figure 7]**. Tighten wheel nuts to 110 - 125 lb ft (149 - 169 N•m) of torque.

Lower the axle weldment and tires to the ground. Remove the straps and lifting device.

Check tire pressure.

NOTE: Recommended tire pressure is 45 - 50 PSI (310 - 345 kpa). Maximum tire pressure of 60 PSI (415 kpa).

Figure 8

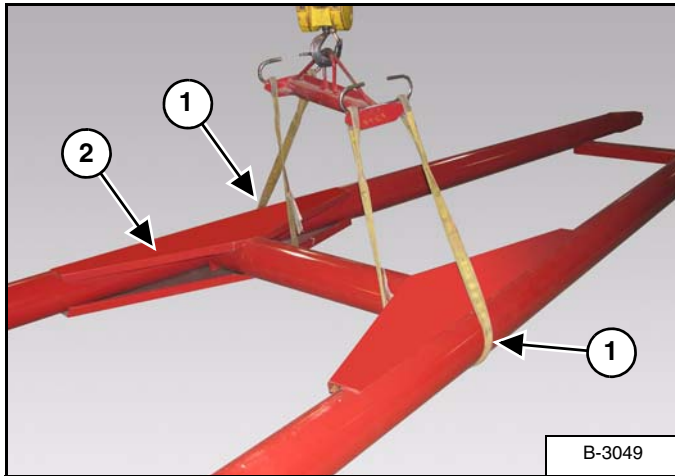


Install straps (Item 1) around the axle weldment (Item 2) **[Figure 8]**. Connect straps to an approved lifting device.

Raise axle weldment. Place a support stand (Item 3) **[Figure 8]** under the axle weldment.

Lower the axle weldment onto the support stand.

Figure 9

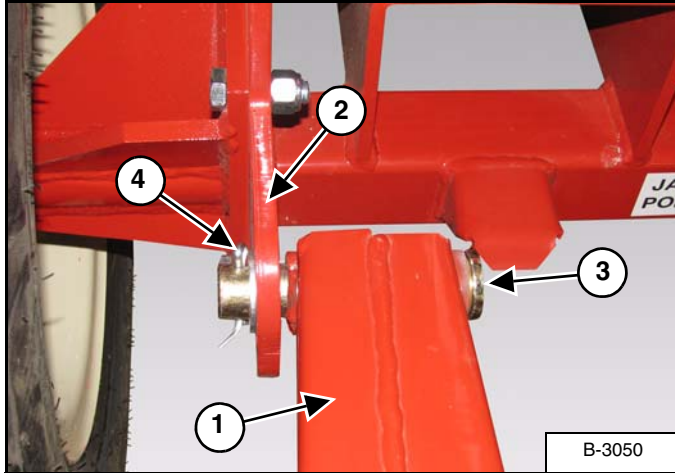


Install a strap (Item 1) around the rear undercarriage weldment (Item 2) **[Figure 9]**.

Connect the strap to an approved lifting device.

Raise and move the rear undercarriage weldment to the assembly area.

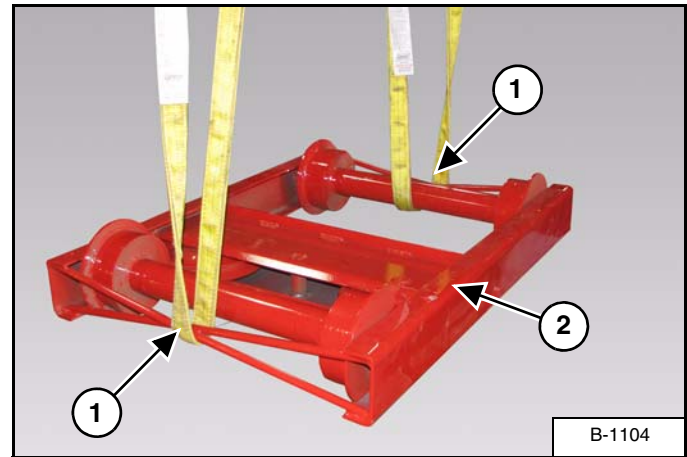
Figure 10



Align the rear undercarriage (Item 1) with the axle mounting brackets (Item 2) **[Figure 10]** (both sides).

Install one 1-1/4" x 5-7/8" pin (Item 3) through the rear undercarriage arm(s) and axle mounting brackets. Install one flat washer and cotter pin (Item 4) **[Figure 10]** onto the pin to secure the rear undercarriage to the axle.

Figure 11

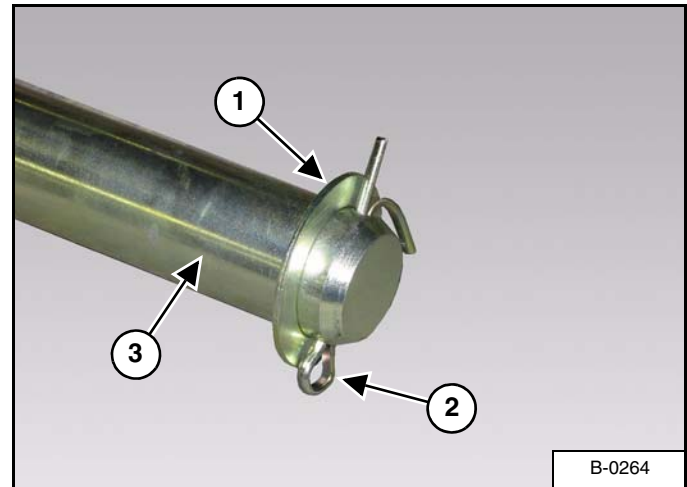


Install straps (Item 1) around the track car (Item 2) **[Figure 11]**.

Connect the strap to an approved lifting device.

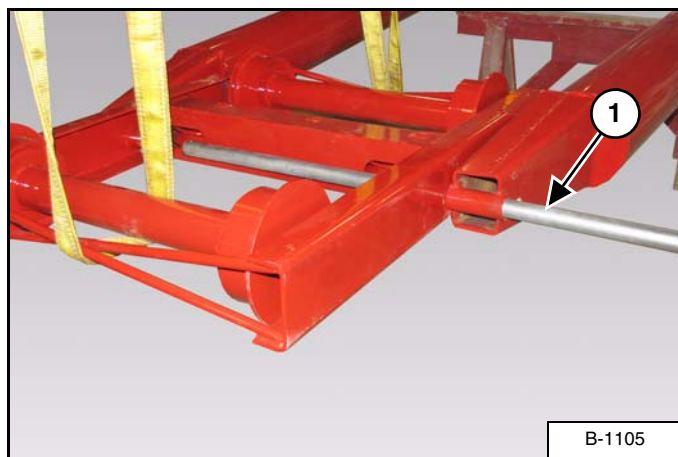
Raise and move the track car to the assembly area.

Figure 12



Install one 1-1/4" - 10 ga. machine bushing (Item 1) and one 1/4" x 2" cotter pin (Item 2) onto the 1-1/4" x 40-1/4" pin (Item 3) **[Figure 12]**.

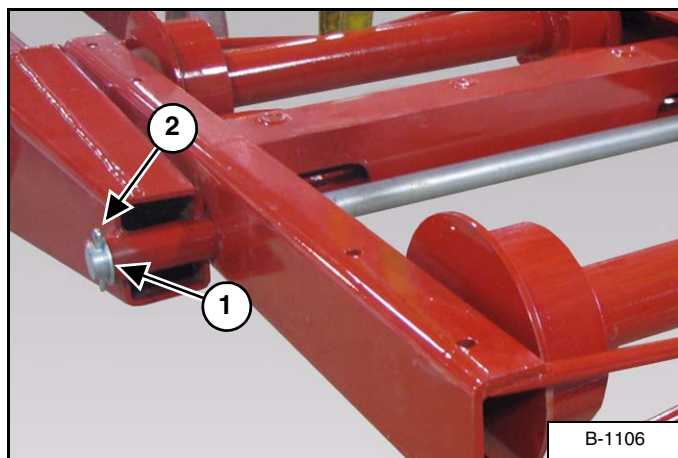
Figure 13



Align the track car with the back end (away from the axle) of the rear undercarriage weldment as shown **[Figure 13]**.

Install the 1-1/4" x 40-1/4" pin (Item 1) **[Figure 13]** through the LH mount of the rear undercarriage weldment, track car and RH mount of the rear undercarriage weldment.

Figure 14



Install one 1-1/4" - 10 ga. machine bushing (Item 1) and 1/4" x 2" cotter pin (Item 2) **[Figure 14]** onto the 1-1/4" x 40-1/4" pin.

BASE GROUP (CONT'D)

Tube Assembly

Assemble the tube on a flat level surface.

⚠ WARNING



- **DO NOT** permit bystanders to be in the work area when unloading and assembling the auger components.
- **DO NOT** work under suspended parts.
- **Keep away from moving parts.**
- **Always use lifting devices / vehicles, chains or straps of adequate size and strength when unloading and assembling the auger components.**

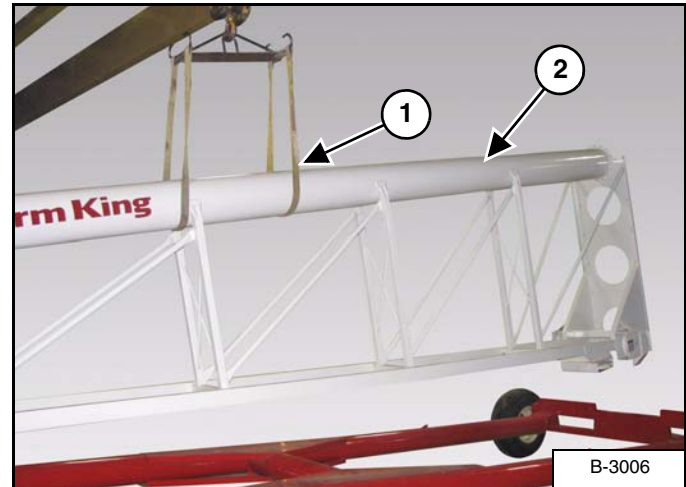
⚠ WARNING



AVOID INJURY OR DEATH

Keep fingers and hands out of pinch points when assembling the equipment.

Figure 15

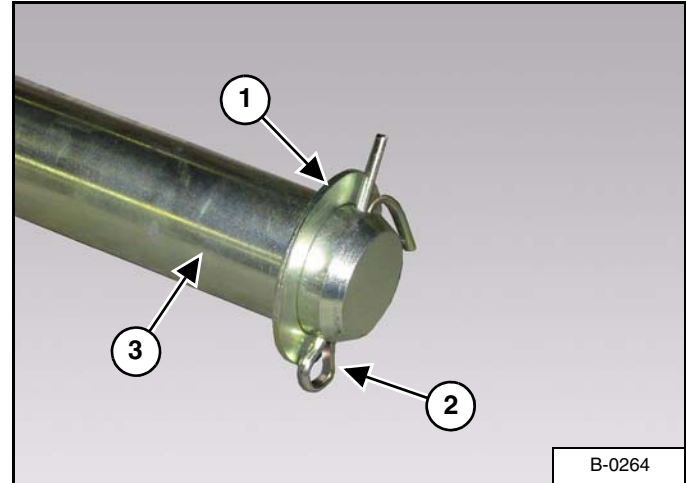


Install a strap (Item 1) through the bracing of the lower truss tube weldment (Item 2) [Figure 15].

Connect the strap to an approved lifting device.

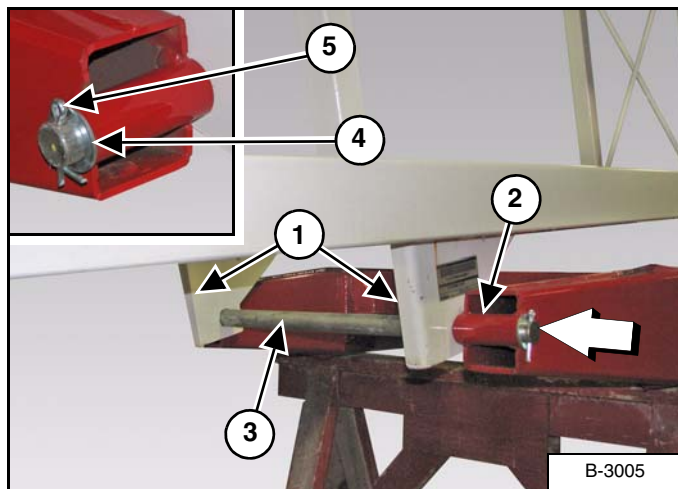
Raise and move the lower truss tube weldment to the assembly area.

Figure 16



Install one 1-1/4" - 10 ga. machine bushing (Item 1) and one 1/4" x 2" cotter pin (Item 2) onto the 1-1/4" x 29-5/8" hinge pin (Item 3) [Figure 16].

Figure 17



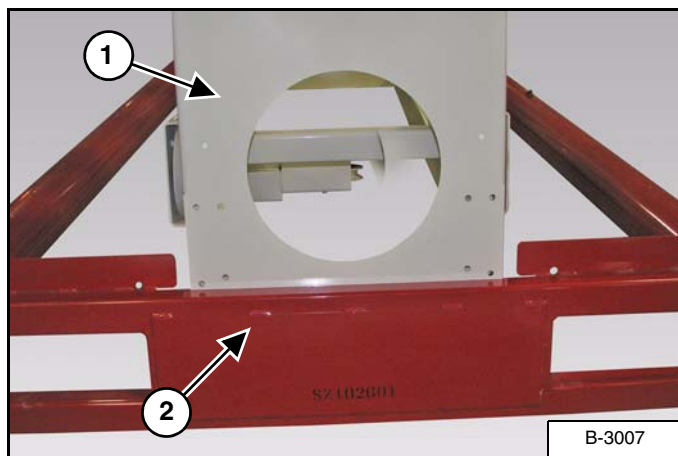
Align the lower truss tube weldment hinge pin mounts (Item 1) with the hinge pin mounts (Item 2) **[Figure 17]** (both sides) on the undercarriage axle weldment.

Place the lower truss tube weldment hinge pin mounts inside the undercarriage axle weldment hinge pin mounts **[Figure 17]**.

Install the 1-1/4" x 29-5/8" hinge pin (Item 3) **[Figure 17]** through the RH undercarriage axle weldment hinge pin mount, lower truss tube weldment hinge pin mounts and LH undercarriage axle weldment hinge pin mount.

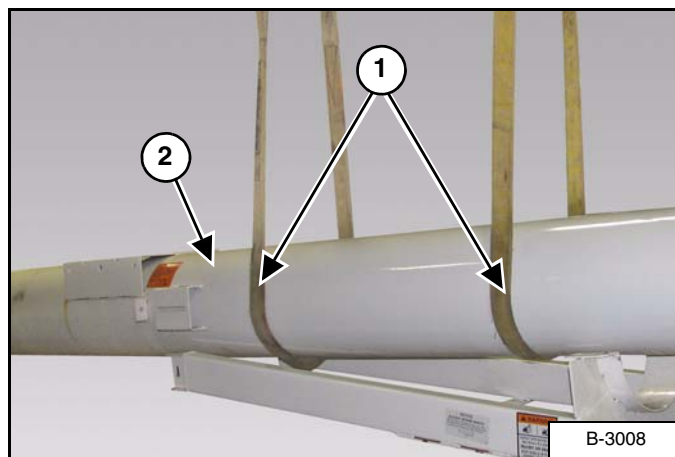
Install one 1-1/4" - 10 ga. machine bushing (Item 4) and one 1/4" x 2" cotter pin (Item 5) **[Figure 17]** to secure the lower truss tube weldment and undercarriage axle weldment together.

Figure 18



Lower and center the lower truss tube weldment (Item 1) onto the axle (Item 2) **[Figure 18]**. Remove the strap.

Figure 19

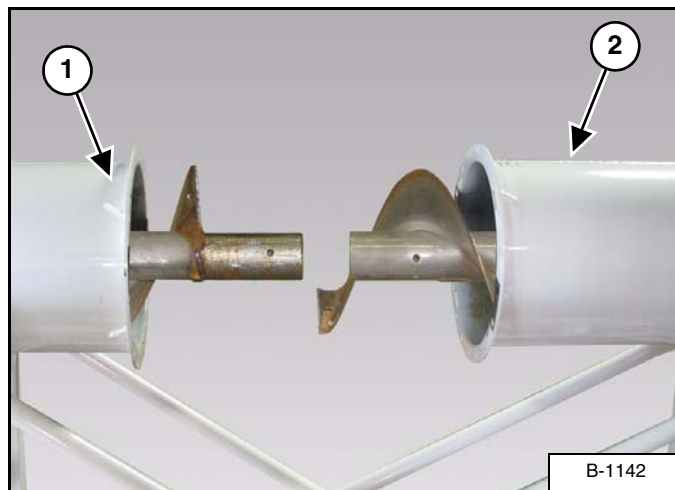


Install a strap (Item 1) around the lower tube weldment (Item 2) **[Figure 19]**.

Connect the strap to an approved lifting device.

Raise and move the lower tube weldment to the assembly area.

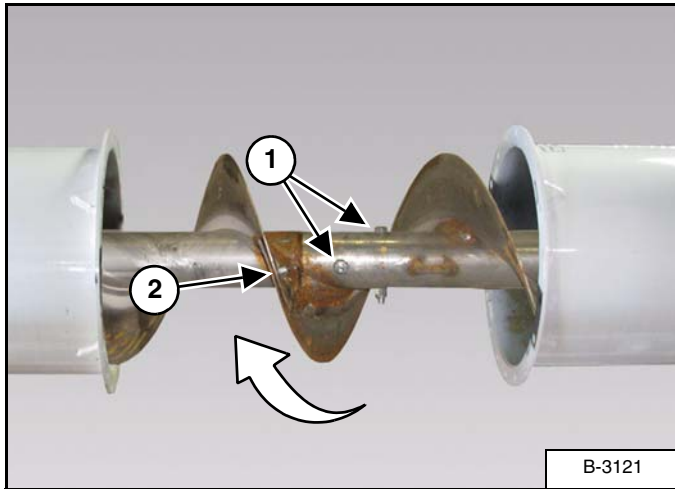
Figure 20



Place the lower tube weldment assembly (Item 1) on the lower truss tube weldment (Item 2) **[Figure 20]**. Allow adequate space for connecting the two sections of flighting together.

Slide flighting out of the two tube sections **[Figure 20]**.

Figure 21



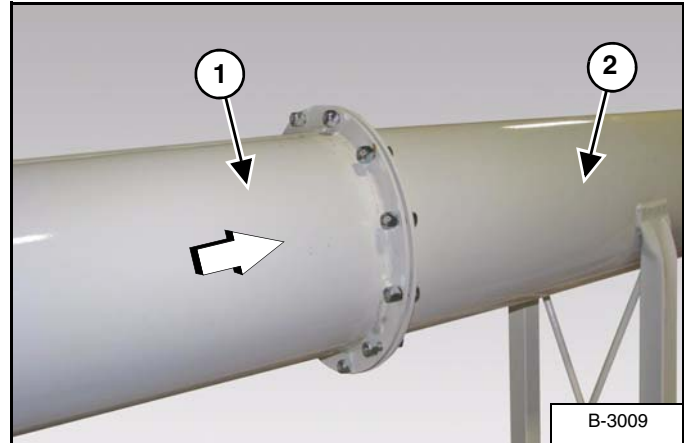
Align the flighting shaft connecting holes (Item 1) [Figure 21] and slide the flighting sections together.

Rotate the flighting sections to align the mounting holes.

Install two 1/2"-20 UNF x 3-1/2" bolts through the flighting shaft connecting holes (Item 1) [Figure 21]. Install 1/2" lock nuts on the bolts and tighten.

Then install one 3/8" x 7/8" bolt through the flighting (Item 2) [Figure 21]. Install a 3/8" lock nut on the bolt and tighten.

Figure 22



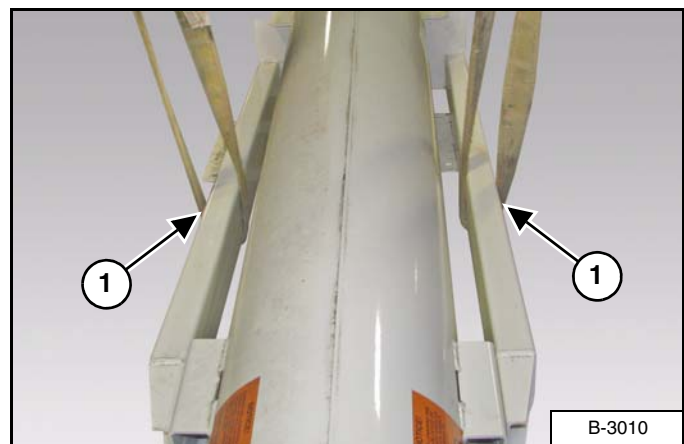
Slide the lower tube weldment (Item 1) against the lower truss tube weldment (Item 2) [Figure 22]. Align the holes in the two flanges and install twelve 1/2" x 1-1/2" bolts and lock nuts.

NOTE: Do not fully tighten bolts the first time. Fully tightening the bolts on one side will pull the auger tubes out of alignment.

Starting at the top, work around flange ring tightening each bolt a minimum of two times to gradually pull the two tube flanges together. Tighten the bolts until the two flanges have made full contact.

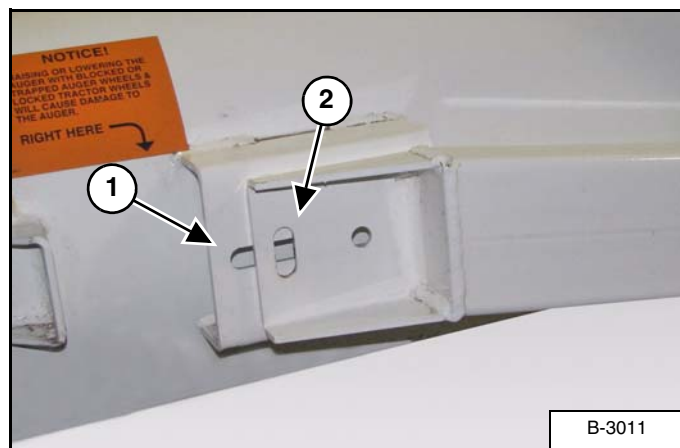
Remove straps from the lower tube assembly.

Figure 23



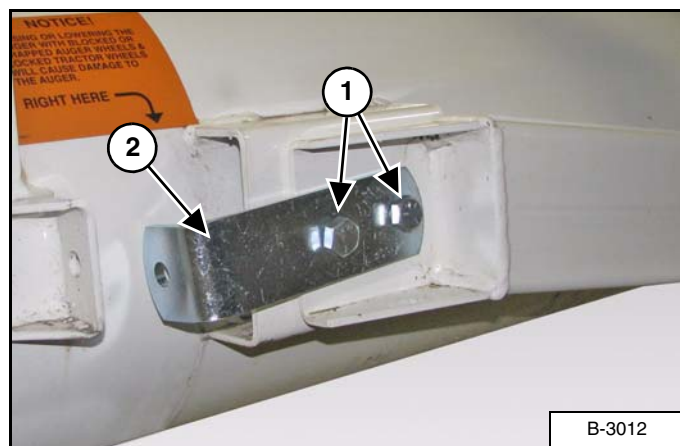
Install lifting straps (Item 1) [Figure 23] around the outer arms of the lower truss tube weldment.

Figure 24



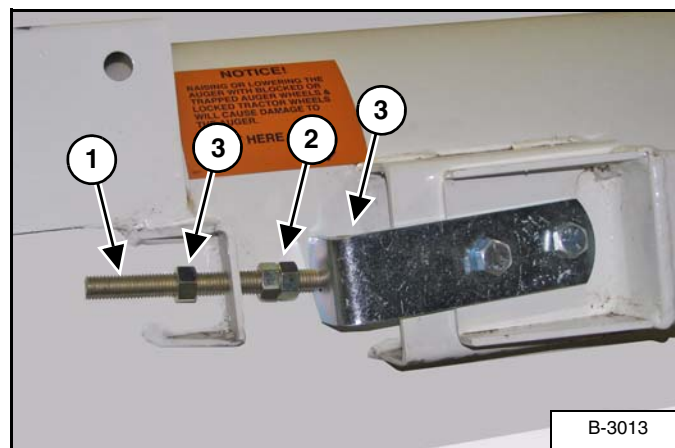
Raise the lower truss tube weldment and align the mounting holes of the lower tube weldment (Item 1) and lower truss arms (Item 2) [Figure 24].

Figure 25



Install two 1/2" x 1-1/2" bolts (Item 1) through the tube adjustment bracket (Item 2) [Figure 25], slotted hole of the lower truss tube weldment and lower tube weldment mount. Install one 1/2" flat washer and 1/2" lock nut onto the bolts (both sides).

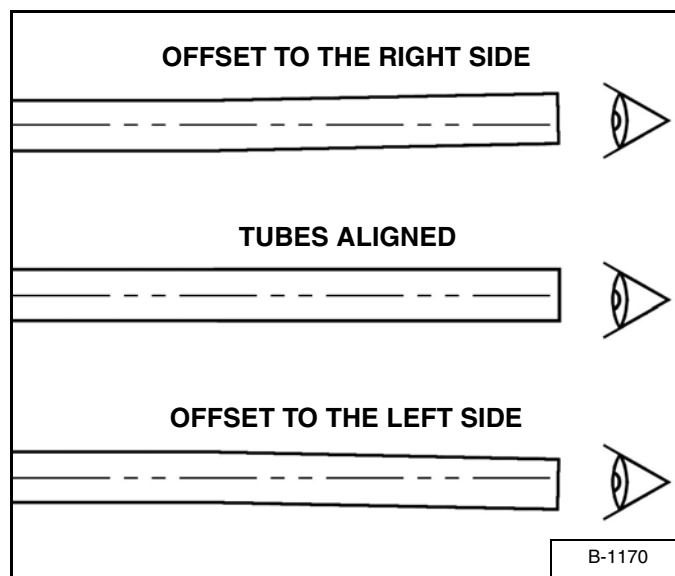
Figure 26



Locate two 1/2" x 6-1/2" threaded rods (Item 1). Thread two 1/2" nuts (Item 2) [Figure 26] approximately half way onto each threaded rod.

Install the threaded rods through the two tube adjustment brackets. Install one 1/2" nut (Item 3) [Figure 26] onto each end of the threaded rod.

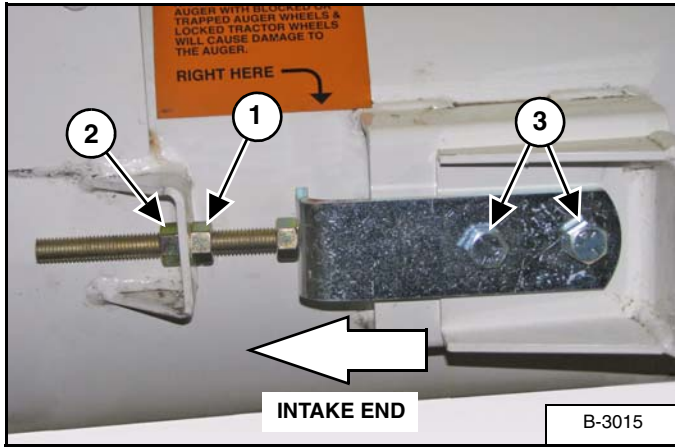
Figure 27



Sight down the top of the tube (from the intake end) to verify that the lower tube weldment is in line with the lower truss tube weldment [Figure 27].

Adjusting Lower Tube Weldment To The Right

Figure 28



If the lower tube weldment is offset to the right, verify that the front nut on the right side is loosened far enough away from the mounting bracket to allow the lower tube weldment to be adjusted to the right.

Loosen the nut (Item 1) [Figure 28].

Tighten the nut (Item 2) [Figure 28] in small adjustments moving the lower tube weldment to the right.

NOTE: Visually inspect the tubes for alignment after each small adjustment.

Continue to tighten the nut (Item 2) [Figure 28] until the lower tube weldment is in line with the lower truss tube weldment.

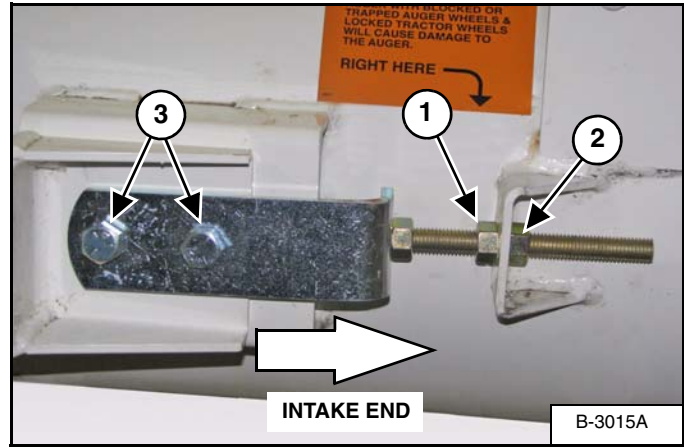
Tighten the nut (Item 1) [Figure 28] against the mounting bracket to maintain lower tube weldment alignment.

Tighten two nuts on the left side against the mounting bracket to maintain lower tube weldment alignment.

Tighten the two 1/2" bolts (Item 3) [Figure 28] and lock nuts to secure the tube adjustment bracket, lower tube weldment and lower truss mount to maintain lower tube weldment alignment (both sides).

Adjusting Lower Tube Weldment To The Left

Figure 29



If the lower tube weldment is offset to the left, verify that the front nut on the left side is loosened far enough away from the mounting bracket to allow the lower tube weldment to be adjusted to the left.

Loosen the nut (Item 1) [Figure 29].

Tighten the nut (Item 2) [Figure 29] in small adjustments moving the lower tube weldment to the left.

NOTE: Visually inspect the tubes for alignment after each small adjustment.

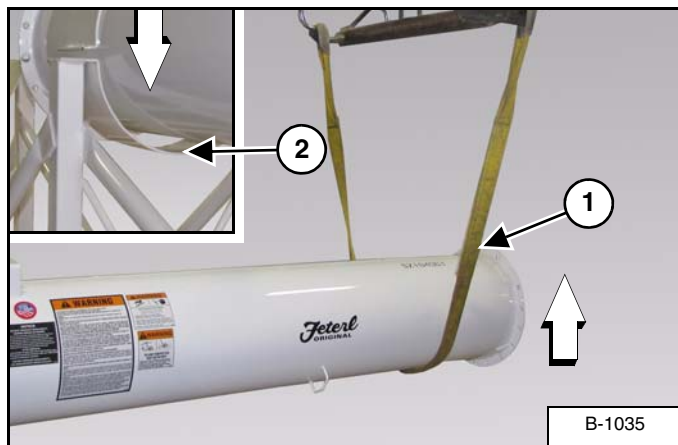
Continue to tighten the nut (Item 2) [Figure 29] until the lower tube weldment is in line with the lower truss tube weldment.

Tighten the nut (Item 1) [Figure 29] against the mounting bracket to maintain lower tube weldment alignment.

Tighten two nuts on the right side against the mounting bracket to maintain lower tube weldment alignment.

Tighten the two 1/2" bolts (Item 3) [Figure 29] and lock nuts to secure the tube adjustment bracket, lower tube weldment and lower truss weldment mount to maintain lower tube weldment alignment (both sides).

Figure 30

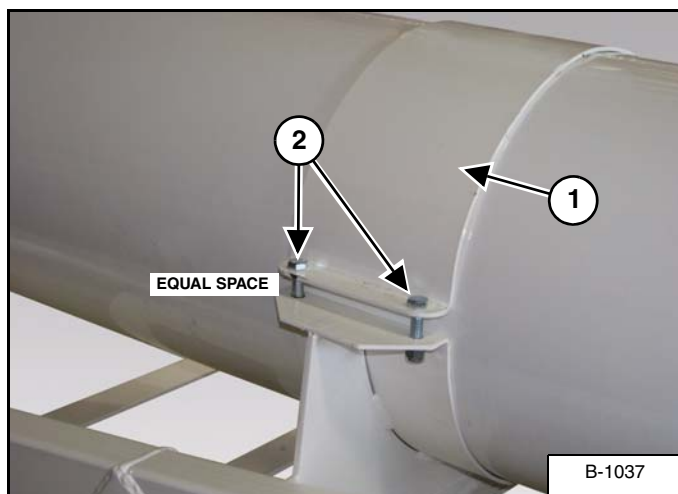


Install a strap (Item 1) [Figure 30] towards the end of the lower tube weldment.

Connect the strap to an approved lifting device.

Raise the lower tube weldment until the bottom side of the tube contacts the cradles (Item 2) [Figure 30] of the lower truss tube weldment.

Figure 31



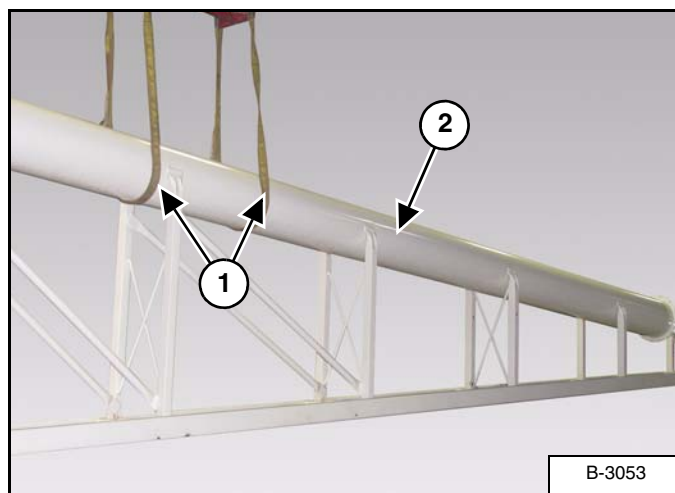
Align and install one 2-bolt half clamp (Item 1) [Figure 31] over the lower tube weldment (all locations on lower tube weldment). Align the bolt holes and maintain equal space between the two mounts.

Install two 3/8" x 1-1/2" bolts (Item 2) [Figure 31] down through the 2-bolt half clamp and lower truss tube weldment cradle (both sides). Install one 3/8" lock nut onto each bolt (both sides). Repeat procedure for each 2-bolt half clamp on the lower truss tube weldment.

! IMPORTANT

When tightening the half clamp bolts and nuts, verify the lower tube remains level as each 2-bolt half clamp is tightened, and verify the lower tube remains level until the last 2-bolt half clamp on the lower tube has been tightened.

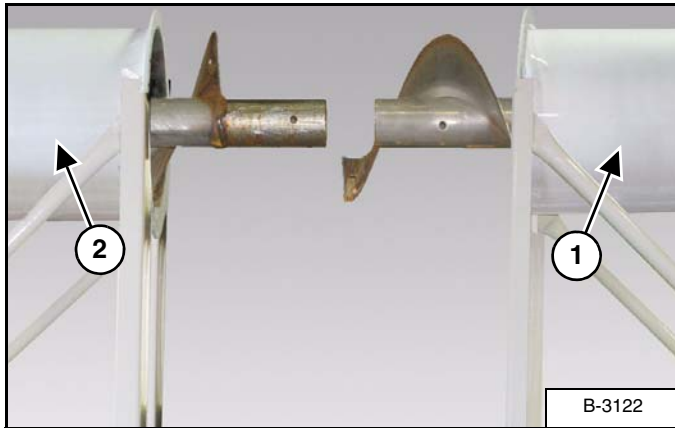
Figure 32



Install a strap (Item 1) through the bracing of the top truss tube weldment (Item 2) [Figure 32]. Connect the strap to an approved lifting device.

Raise and move the top truss tube weldment to the assembly area.

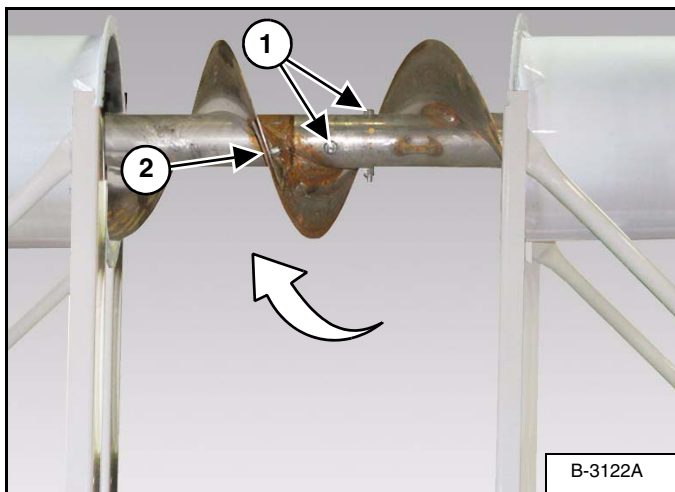
Figure 33



Move the top truss tube weldment (Item 1) towards the lower truss tube weldment (Item 2) **[Figure 33]** and align the tubes. Allow adequate space for connecting the two sections of flighting together.

Slide flighting out of the two tube sections **[Figure 33]**.

Figure 34



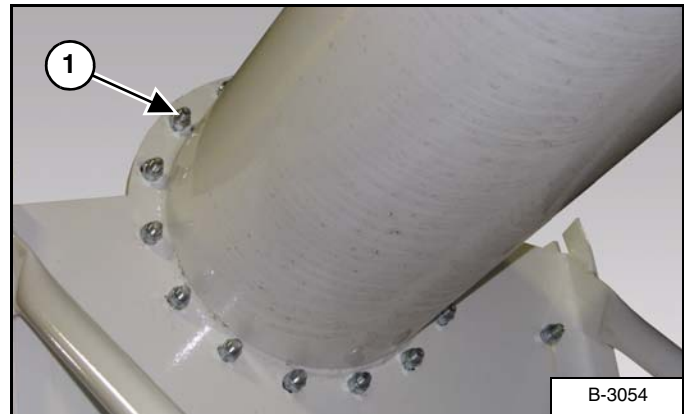
Align the flighting shaft connecting holes (Item 1) **[Figure 34]** and slide the flighting sections together.

Rotate the flighting sections to align the mounting holes in the flighting (Item 2) **[Figure 34]**.

Install two 1/2"-20 UNF x 3-1/2" bolts through the flighting shaft connecting holes (Item 1) **[Figure 34]**. Install 1/2" lock nuts on the bolts and tighten.

Then install one 3/8" x 7/8" bolt through the flighting (Item 2) **[Figure 34]**. Install a 3/8" lock nut on the bolt and tighten.

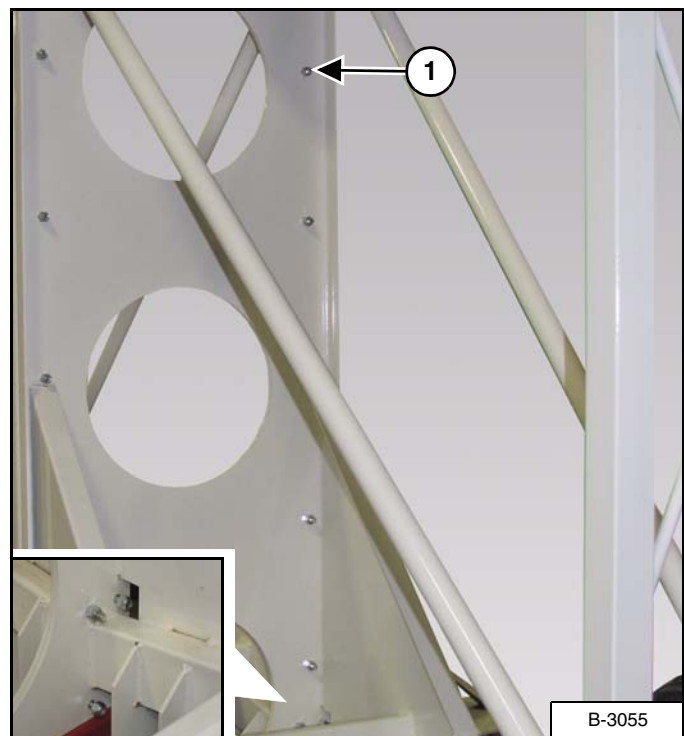
Figure 35



Position the top truss tube weldment against the lower truss tube weldment. Using a punch, align the holes in the lower and top truss tube weldments.

Install 1/2" x 1-1/2" bolts (Item 1) **[Figure 35]** through the two truss weldments (around tube flanges). Install one 1/2" lock nut on each bolt.

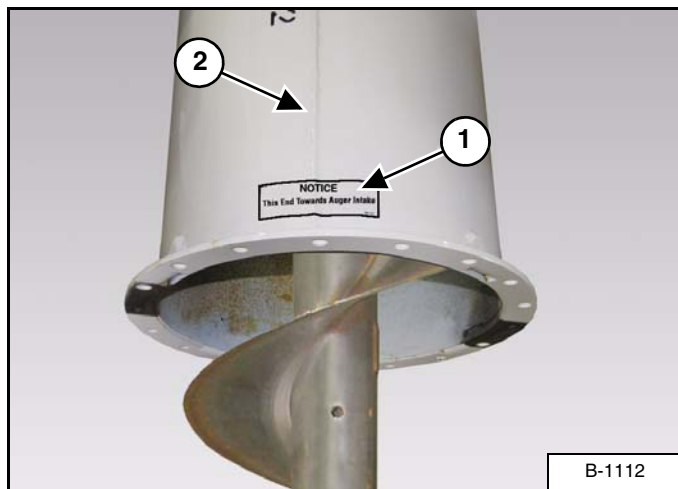
Figure 36



Install 1/2" x 1-1/2" bolts (Item 1) **[Figure 36]** through the two truss weldments (down both sides). Install one 1/2" lock nut on each bolt.

Align the truss weldments and tighten all the bolts and lock nuts.

Figure 37



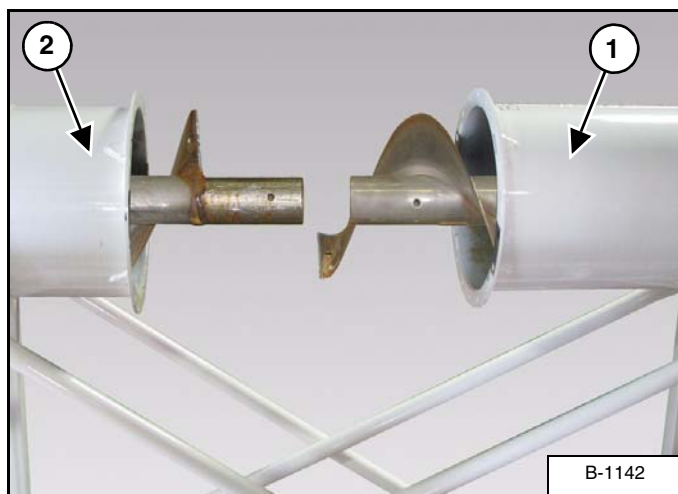
Install a strap around the discharge tube weldment.

Connect the strap to an approved lifting device.

Raise and move the discharge tube weldment to the assembly area.

Verify that the NOTICE decal (Item 1) end of the discharge tube weldment is towards the intake end of the auger and the tube seam (Item 2) [Figure 37] is facing up.

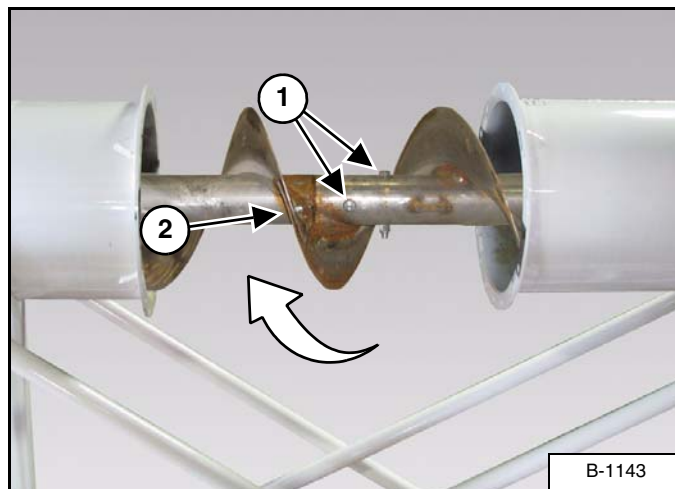
Figure 38



Place the discharge tube weldment (Item 1) on the top truss tube weldment towards the top truss tube weldment (Item 2) [Figure 38]. Allow adequate space for connecting the two sections of flighting together.

Slide flighting out of the top truss tube weldment and discharge tube weldment [Figure 38].

Figure 39



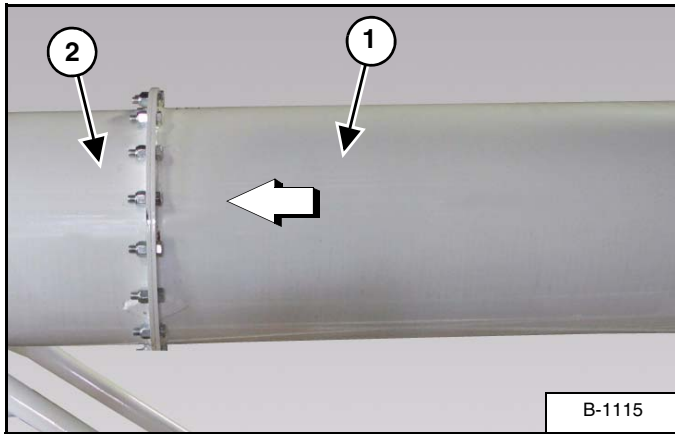
Align the flighting shaft connecting holes (Item 1) [Figure 39] and slide the flighting sections together.

Rotate the flighting sections to align the mounting holes.

Install two 1/2"-20 UNF x 3-1/2" bolts through the flighting shaft connecting holes (Item 1) [Figure 39]. Install 1/2" lock nuts on the bolts and tighten.

Then install one 3/8" x 7/8" bolt through the flighting (Item 2) [Figure 39]. Install a 3/8" lock nut on the bolt and tighten.

Figure 40

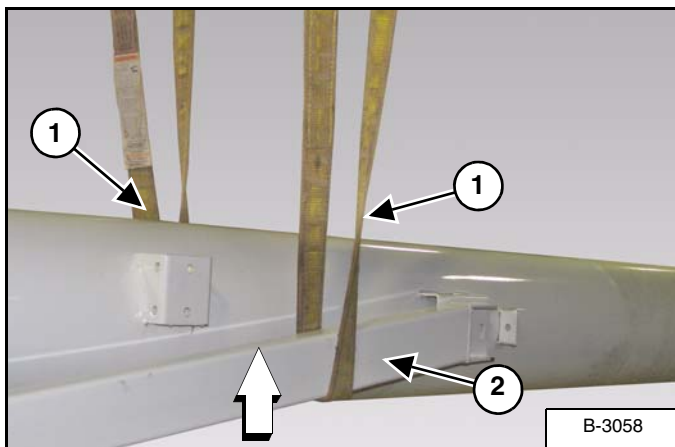


Slide the discharge tube weldment (Item 1) against the top truss tube weldment (Item 2) [Figure 40]. Align the holes in the two flanges and install twelve 1/2" x 1-1/2" bolts and lock nuts.

NOTE: Do not fully tighten bolts the first time. Fully tightening the bolts on one side will pull the auger tubes out of alignment.

Starting at the top, work around flange ring tightening each bolt a minimum of two times to gradually pull the two tube flanges together. Tighten the bolts until the two flanges have made full contact.

Figure 41



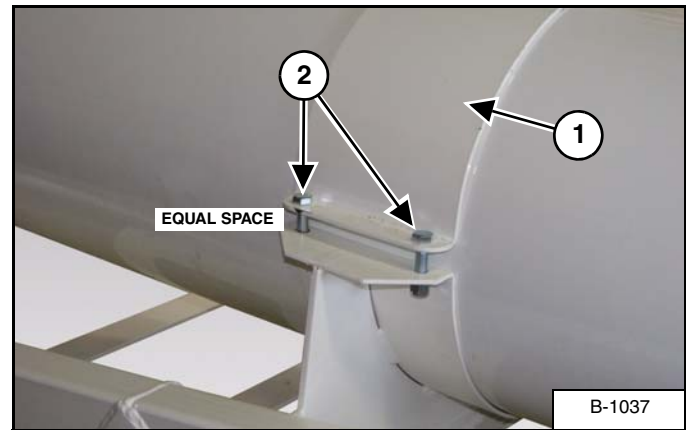
Install straps (Item 1) around the top truss tube weldment (Item 2) [Figure 41].

Connect the strap to an approved lifting device.

Raise the top truss tube weldment until the bottom of the discharge tube weldment makes contact with the top truss tube weldment cradles.

NOTE: Do not attempt to pull the center tube down into the upper truss tube cradles.

Figure 42

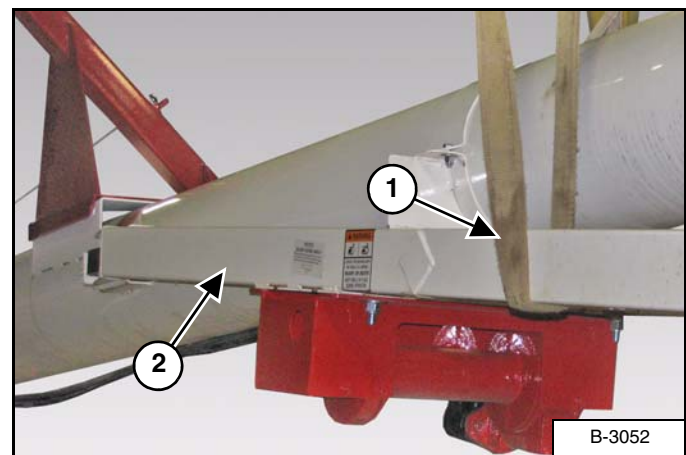


Align and install one 2-bolt half clamp (Item 1) [Figure 42] over the discharge tube weldment (all locations). Align the bolt holes and maintain equal space between the two mounts.

Install two 3/8" x 1-1/2" bolts (Item 2) [Figure 42] down through the 2-bolt half clamp and top truss tube cradle (both sides). Install one 3/8" lock nut onto each bolt (both sides). Repeat procedure for each 2-bolt half clamp on the discharge tube weldment.

Slowly tighten the 3/8" x 1-1/2" bolts (Item 2) [Figure 42] and 3/8" lock nuts evenly on each side of the 2-bolt half clamp. Tighten remaining 2-bolt half clamp bolts and nuts.

Figure 43

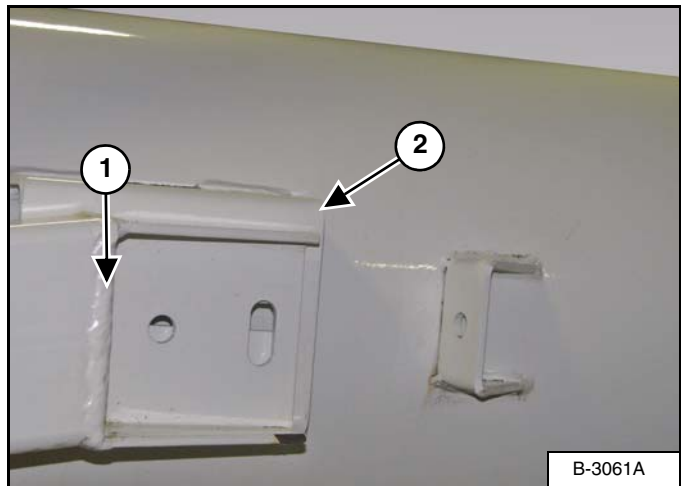


Install straps (Item 1) to the lower truss tube weldment (Item 2) [Figure 43] just forward of the last 2-bolt half clamp on the lower truss tube weldment.

Connect the straps to an approved lifting device.

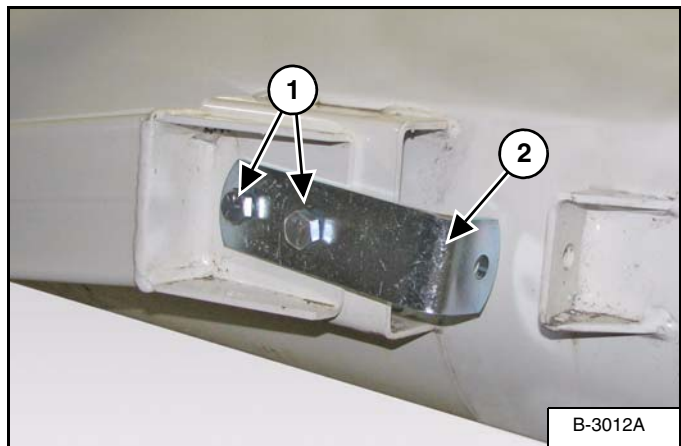
Raise the lower truss tube weldment (intake end) to lower the discharge tube weldment to the desired assembly height.

Figure 44



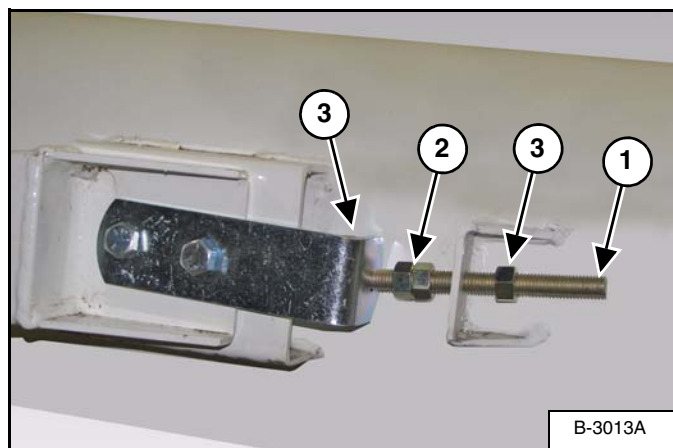
Align the top truss tube weldment mounts (Item 1) with the discharge tube weldment mount (Item 2) [Figure 44] (both sides).

Figure 45



Install two 1/2" x 1-1/2" bolts (Item 1) [Figure 45] through the tube adjustment bracket (Item 2), slotted hole of the top truss tube weldment and discharge tube weldment. Install one 1/2" flat washer and 1/2" lock nut onto the bolts (both sides).

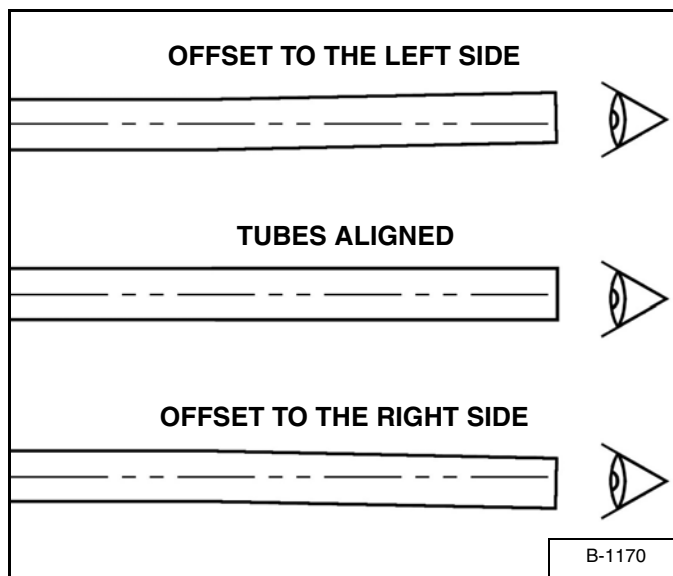
Figure 46



Locate two 1/2" x 6-1/2" threaded rods (Item 1). Thread two 1/2" nuts (Item 2) [Figure 46] approximately half way onto each threaded rod.

Install the threaded rods through the two tube adjustment brackets (both sides). Install one 1/2" nut (Item 3) [Figure 46] onto each end of the threaded rod.

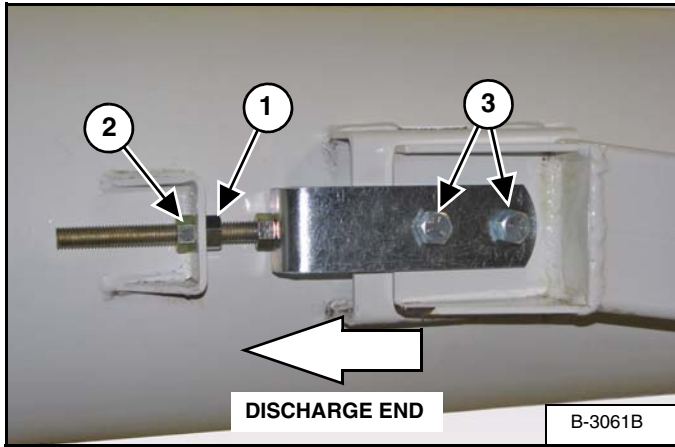
Figure 47



Sight down the top of the discharge tube weldment (from the discharge end) to verify that the discharge tube weldment is in line with the top truss tube weldment [Figure 47].

Adjusting Discharge Tube Weldment To The Left

Figure 48



If the discharge tube weldment is offset to the left, verify that the front nut on the right side is loosened far enough away from the mounting bracket to allow the discharge tube weldment to be adjusted to the left.

Loosen the nut (Item 1) [Figure 48].

Tighten the nut (Item 2) [Figure 48] in small adjustments moving the discharge tube weldment to the left.

NOTE: Visually inspect the tubes for alignment after each small adjustment.

Continue to tighten the nut (Item 2) [Figure 48] until the discharge tube weldment is in line with the top truss tube weldment.

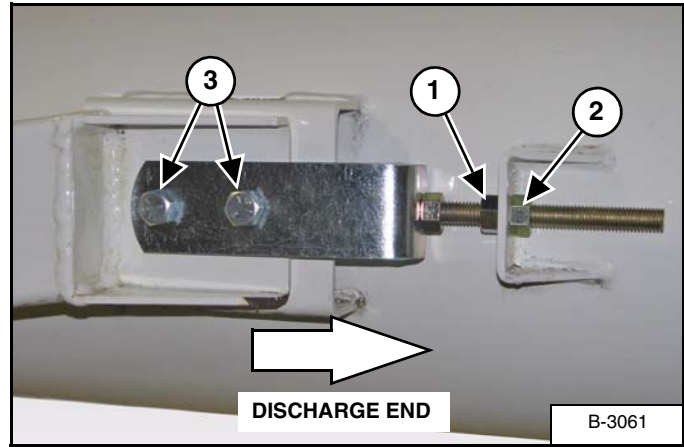
Tighten the nut (Item 1) [Figure 48] against the mounting bracket to maintain discharge tube weldment alignment.

Tighten two nuts on the right side against the mounting bracket to maintain discharge tube weldment alignment.

Tighten the two 1/2" bolts (Item 3) [Figure 48] and lock nuts to secure the tube adjustment bracket, discharge tube weldment and top truss tube weldment mount to maintain discharge tube weldment alignment (both sides).

Adjusting Discharge Tube Weldment To The Right

Figure 49



If the discharge tube weldment is offset to the right, verify that the front nut on the left side is loosened far enough away from the mounting bracket to allow the discharge tube weldment to be adjusted to the right.

Loosen the nut (Item 1) [Figure 49].

Tighten the nut (Item 2) [Figure 49] in small adjustments moving the discharge tube weldment to the right.

NOTE: Visually inspect the tubes for alignment after each small adjustment.

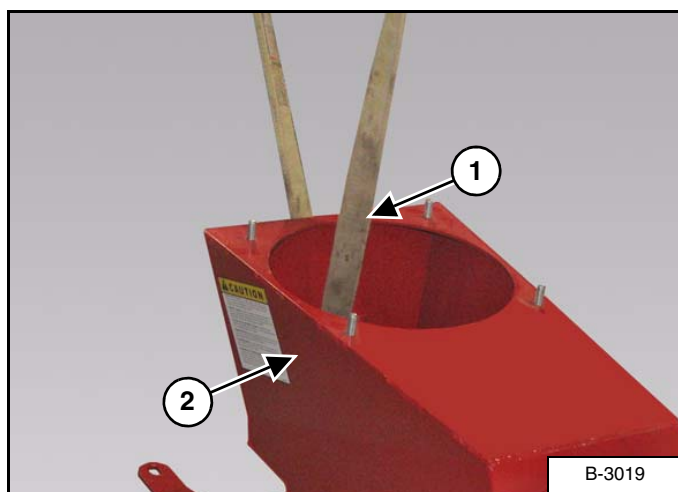
Continue to tighten the nut (Item 2) [Figure 49] until the discharge tube weldment is in line with the top truss tube weldment.

Tighten the nut (Item 1) [Figure 49] against the mounting bracket to maintain discharge tube weldment alignment.

Tighten two nuts on the left side against the mounting bracket to maintain discharge tube weldment alignment.

Tighten the two 1/2" bolts (Item 3) [Figure 49] and lock nuts to secure the tube adjustment bracket, discharge tube weldment and top truss tube weldment mount to maintain discharge tube weldment alignment (both sides).

Figure 50

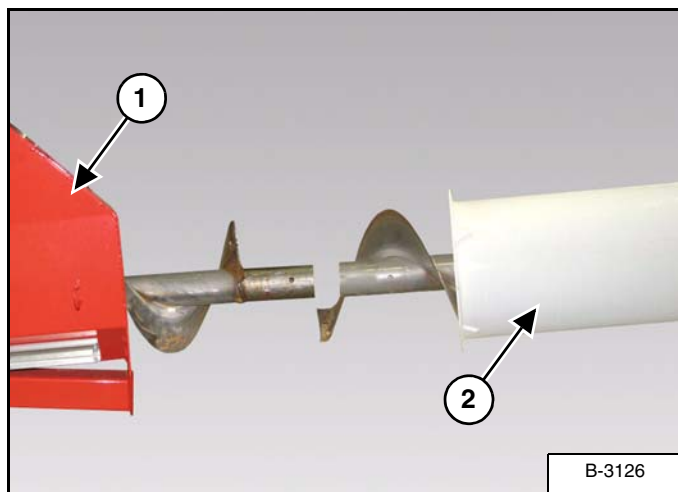


Install straps (Item 1) through the drive section (Item 2) **[Figure 50]** as shown.

Connect the straps to an approved lifting device.

Raise and move the drive section to the assembly area.

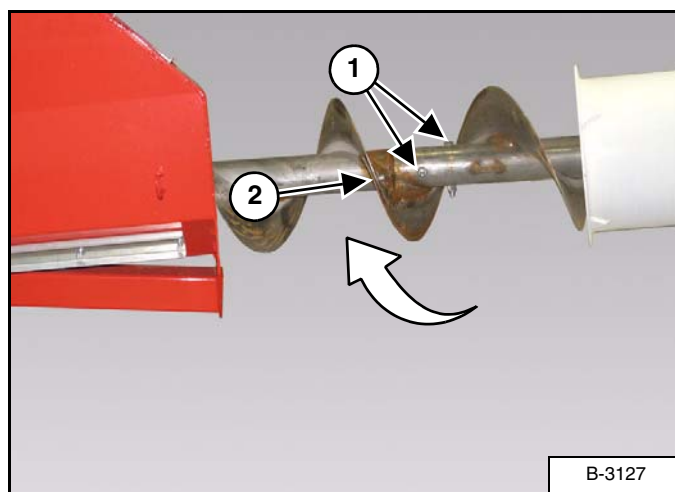
Figure 51



Align the drive section (Item 1) with the lower tube (Item 2) **[Figure 51]**.

Slide flying out of the drive section & tube sections to allow adequate space for connecting the drive section & tube sections of flying together **[Figure 51]**.

Figure 52



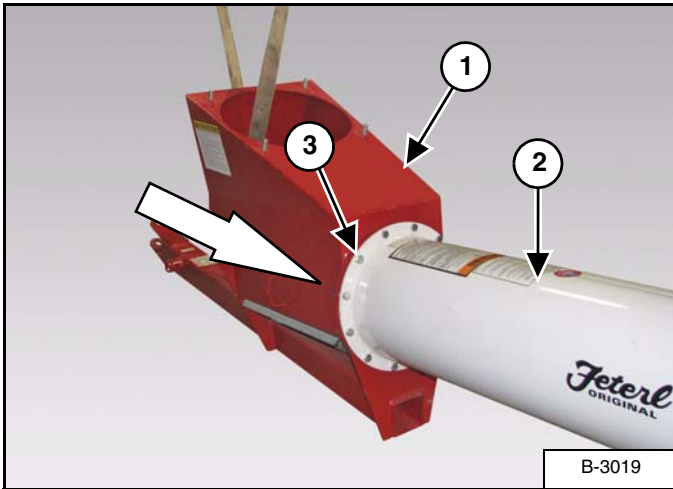
Align the flying shaft connecting holes (Item 1) **[Figure 52]** and slide the flying sections together.

Rotate the flying sections to align the mounting holes.

Install two 1/2"-20 UNF x 3-1/2" bolts through the flying shaft connecting holes (Item 1) **[Figure 52]**. Install 1/2" lock nuts on the bolts and tighten.

Install one 3/8" x 7/8" bolt through the flying (Item 2) **[Figure 52]**. Install a 3/8" lock nut on the bolt and tighten.

Figure 53



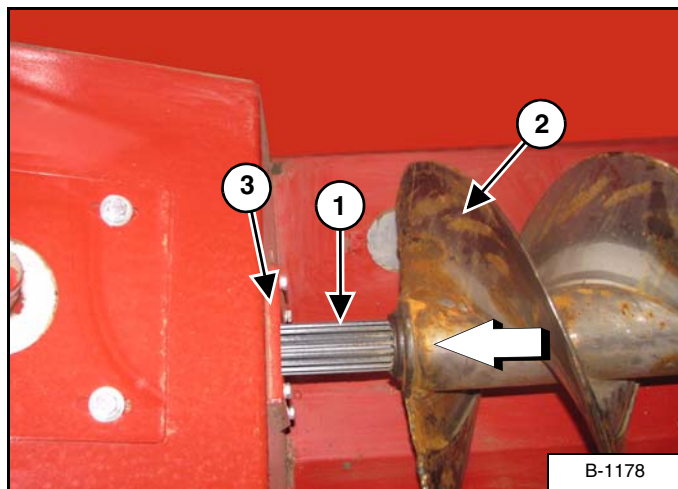
Move the drive section (Item 1) towards the lower tube (Item 2) **[Figure 53]**.

Align and install 1/2" - 1-1/2" bolts (Item 3) **[Figure 53]** through the drive section and lower tube flange (from the inside of the drive section) open holes.

Install 1/2" lock nuts onto the 1/2" studs and 1/2" x 1-1/2" bolts.

Starting at the top, work around flange ring tightening each bolt a minimum of two times to gradually pull the drive section and lower tube flanges together. Tighten the bolts until the two flanges have made full contact with each other.

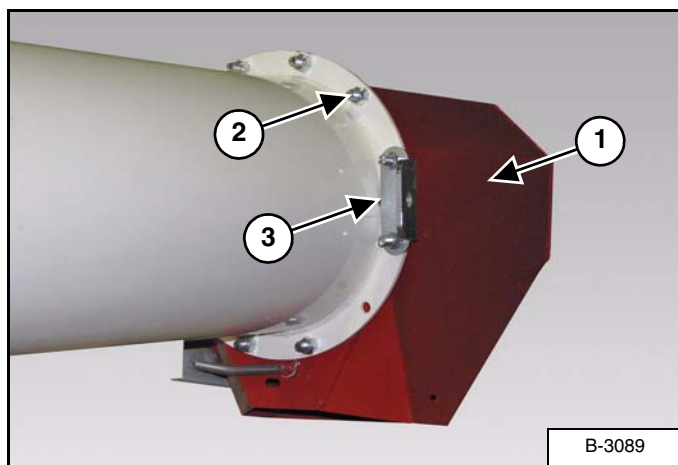
Figure 54



Apply an anti-seize lubricant to the lower drive shaft (Item 1) [Figure 54].

Push the flighting (Item 2) (from discharge end) onto the lower drive shaft until there is approximately 1/4" - 3/8" gap between the flighting and bearing mount (Item 3) [Figure 54].

Figure 55



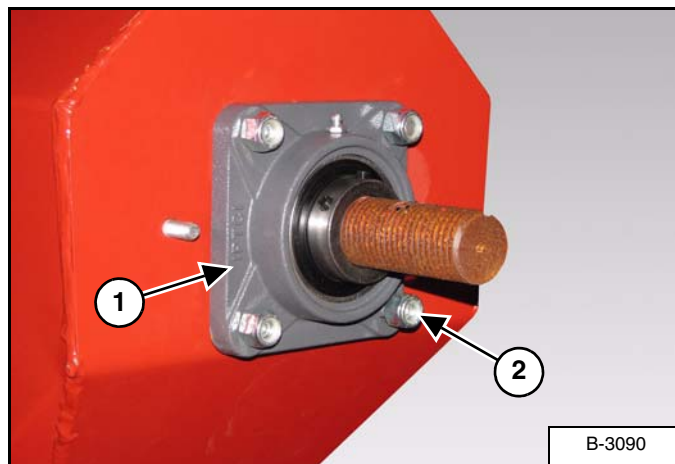
Install the drop spout (Item 1) [Figure 55] over the flighting shaft.

Install ten 1/2" x 1-1/2" bolts (Item 2) [Figure 55] through the drop spout and discharge tube flange.

Model 12122 Only - Install the two anchor rings (Item 3) [Figure 55] on the back side of the discharge tube flange (both sides).

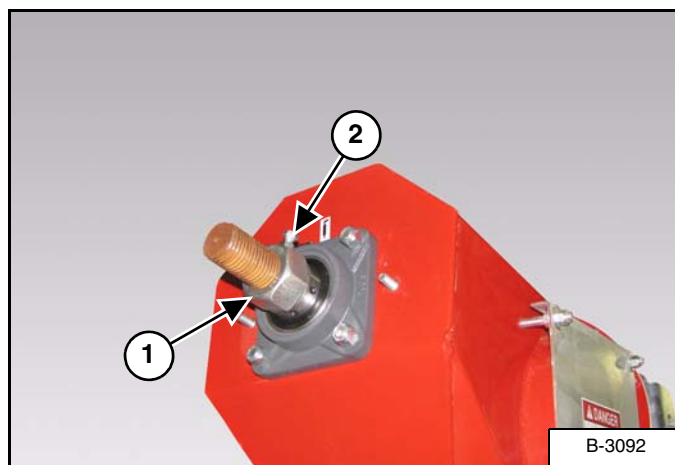
Install 1/2" lock nuts on the bolts and tighten.

Figure 56



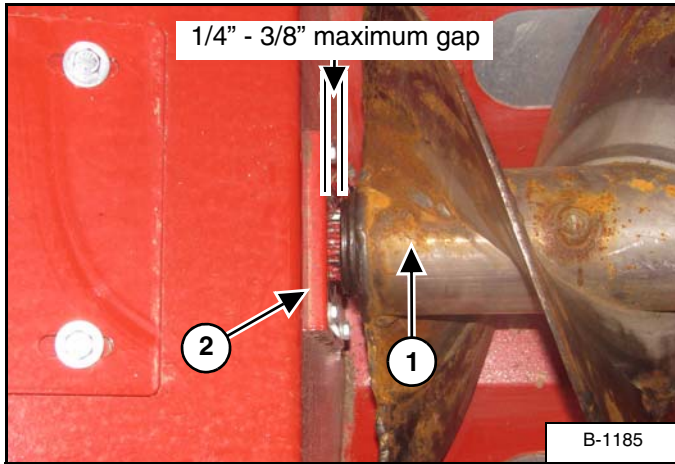
Install the bearing flange (Item 1) onto the four 5/8" studs. Install four 5/8" lock nuts (Item 2) [Figure 56] on the studs and tighten.

Figure 57



Thread the 2" nut (Item 1) onto the flighting shaft until it contacts the bearing collar. Turn 2" nut until the set screw (Item 2) [Figure 57] lines up with the keyway in the flighting shaft. Tighten the 2" nut one additional turn until it lines up with the keyway in the flighting shaft.

Figure 58



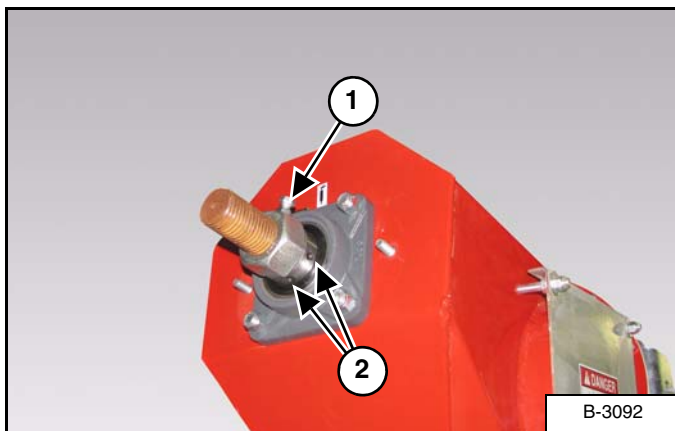
Check the gap between the flighting and bearing mount.

NOTE: The gap must be between 1/4" - 3/8" maximum.

! IMPORTANT

Do not allow the flighting to bottom out on the spline shaft at the intake end after adjustment. The thrust load must be carried at the discharge end of the auger.

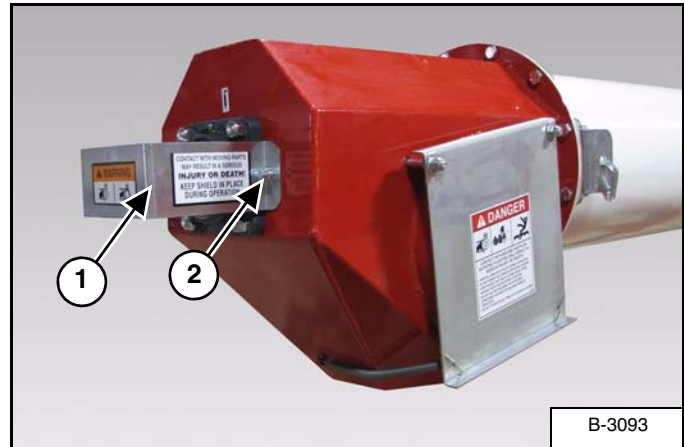
Figure 59



When the correct gap between the flighting and bearing mount is achieved, tighten the set screw (Item 1) [Figure 59] into the keyway in the flighting shaft.

Tighten the two set screws (Item 2) [Figure 59] on the bearing collar.

Figure 60



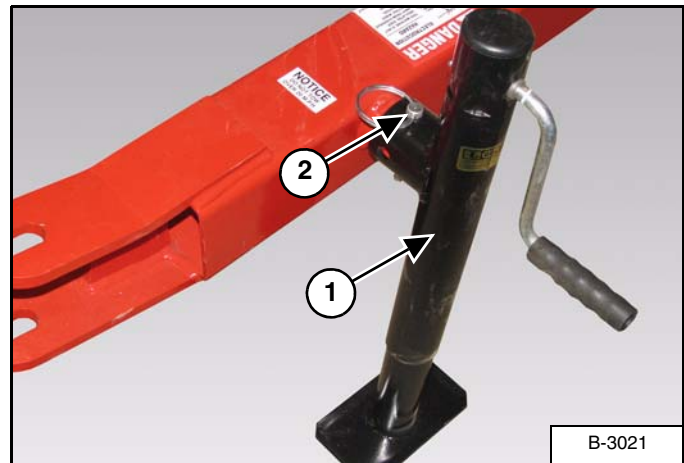
Install the bearing shield (Item 1), then install one 3/8" lock nut (Item 2) [Figure 60] onto each 3/8" stud and tighten.

Apply grease to the bearing until grease shows.

! IMPORTANT

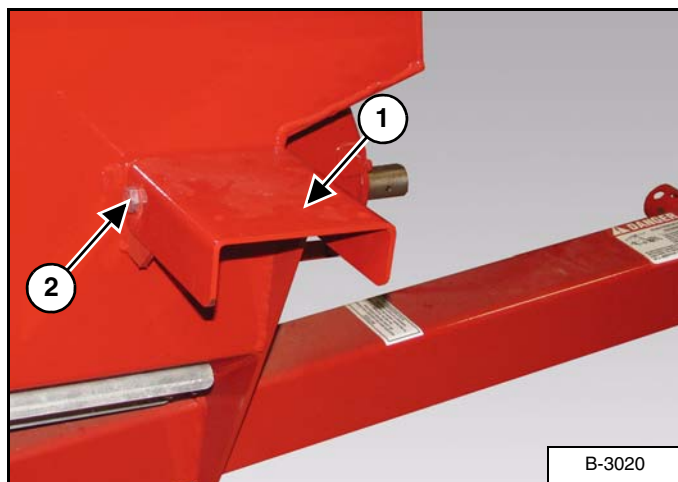
Make sure gearbox case is approximately filled 1" from top with 80W-90 synthetic oil.

Figure 61



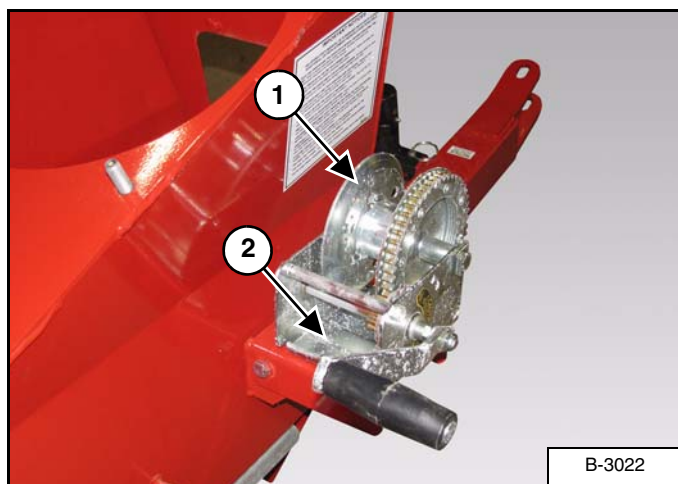
Align and install the jack (Item 1) onto the hitch. Install the retaining pin (Item 2) [Figure 61] through the jack and hitch mounting bracket.

Figure 62



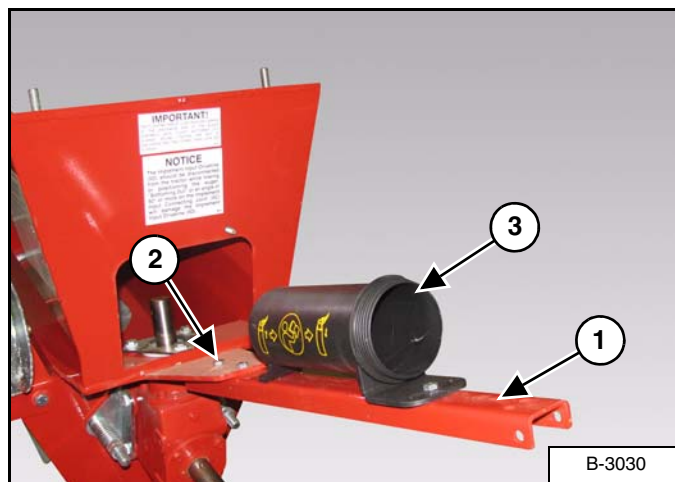
Install the hopper winch plate (Item 1) using two 1/2" x 1" bolts (Item 2) [Figure 62] and 1/2" lock nuts.

Figure 63



Install the hopper winch (Item 1) onto the hopper winch plate using three 3/8" x 1" bolts (Item 2) [Figure 63] and 3/8" lock nuts.

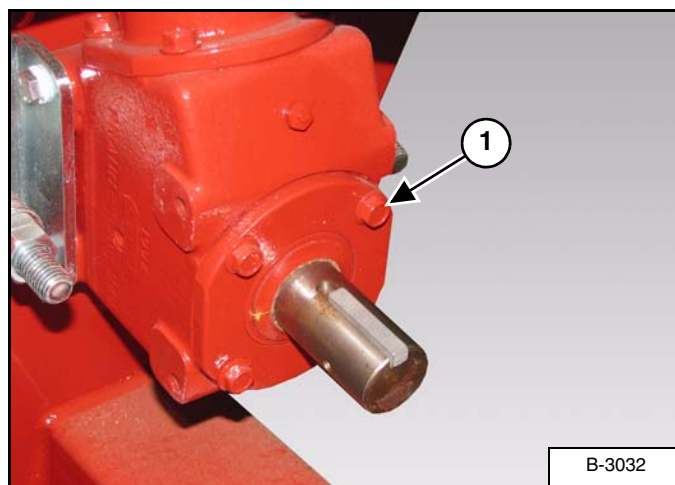
Figure 64



Install the PTO hanger (Item 1) onto the drive section (Item 2) [Figure 64] using two 3/8" x 1" bolts and 3/8" lock nuts. Tighten bolts and lock nuts.

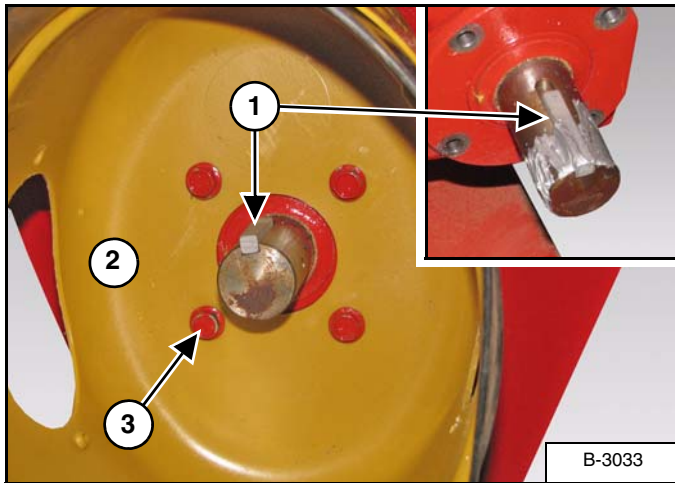
Install the operator and parts manual container (Item 3) onto the PTO hanger (Item 1) [Figure 64] using two 5/16" x 1" bolts and 5/16" lock nuts. Tighten bolts and lock nuts. Install parts manual container cover.

Figure 65



Remove the four bolts (Item 1) [Figure 65].

Figure 66

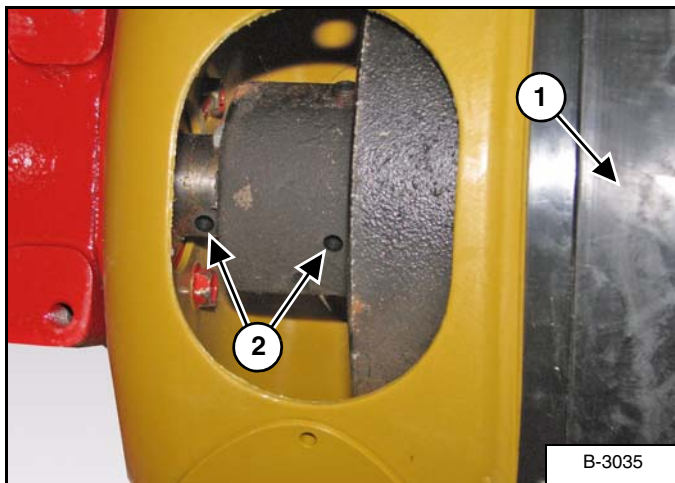


Install the 5/16" x 1-3/4" key (Item 1) [Figure 66] onto the gearbox shaft (PTO drive).

NOTE: Apply an anti-seize lubricant onto the gearbox shaft before installing the PTO driveline.

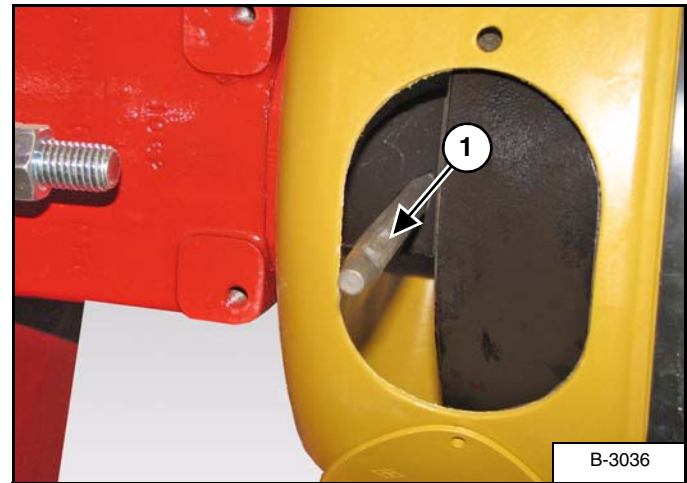
Install the Yellow poly implement shield (Item 2). Align the shield with the four holes of the gearbox and re-install the four bolts (Item 3) [Figure 66] removed earlier.

Figure 67



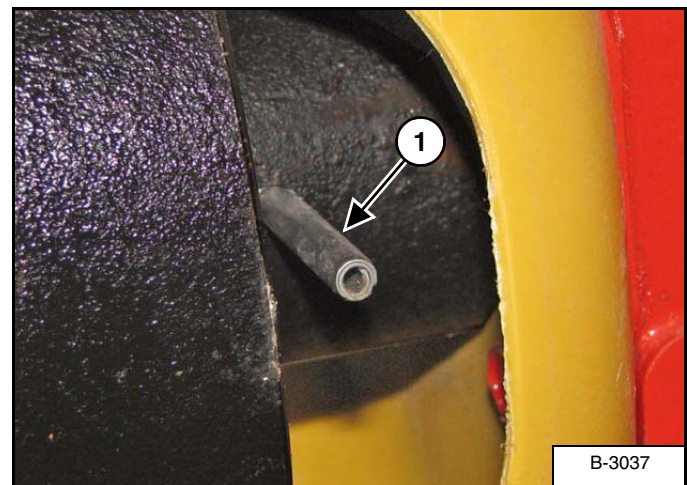
Install the PTO driveline (Item 1) onto the gearbox shaft. Align the mounting holes (Item 2) [Figure 67].

Figure 68



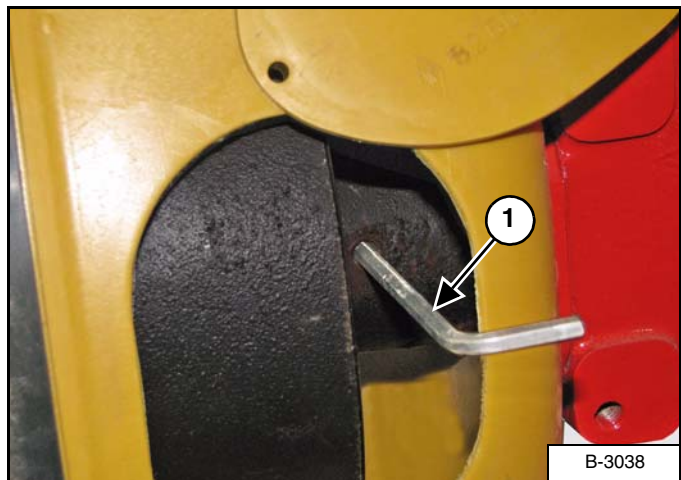
Using a punch (Item 1) [Figure 68], align the two mounting holes.

Figure 69



Install the 1/4" x 2-1/4" roll pin (Item 1) [Figure 69] through the PTO driveline and gearbox shaft (opposite side from punch).

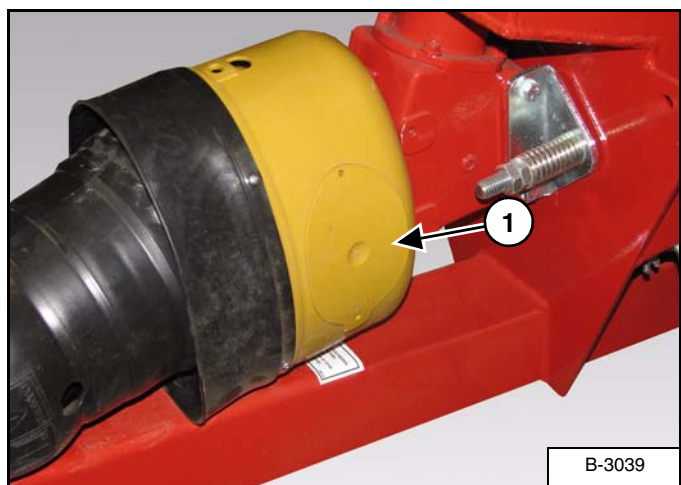
Figure 70



Rotate the PTO driveline 90°.

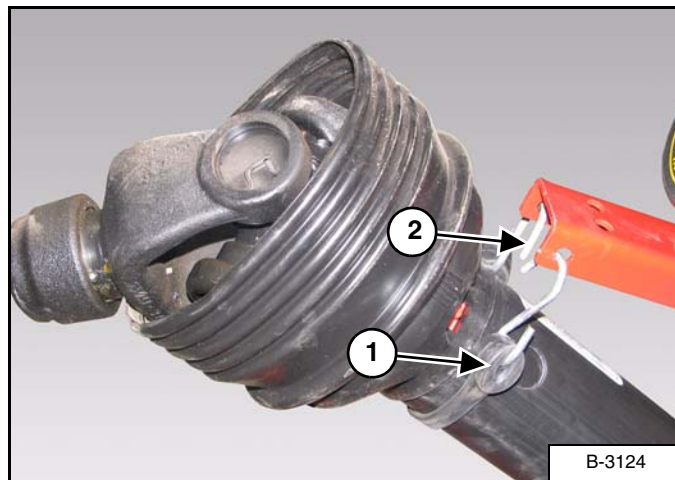
Using a hex wrench (Item 1) **[Figure 70]**, tighten the set screw against the shaft key to secure the PTO driveline to the gearbox shaft.

Figure 71



Close and secure the cover (Item 1) **[Figure 71]** (both sides) of the Yellow poly implement shield.

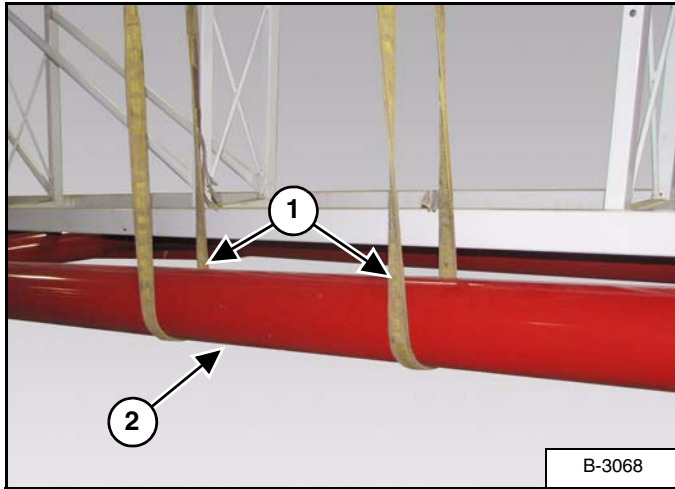
Figure 72



Rotate the PTO driveline up. Install the rubber strap (Item 1) around the PTO driveline and hook to the PTO hanger (Item 2) **[Figure 72]**.

Installing The Track Car

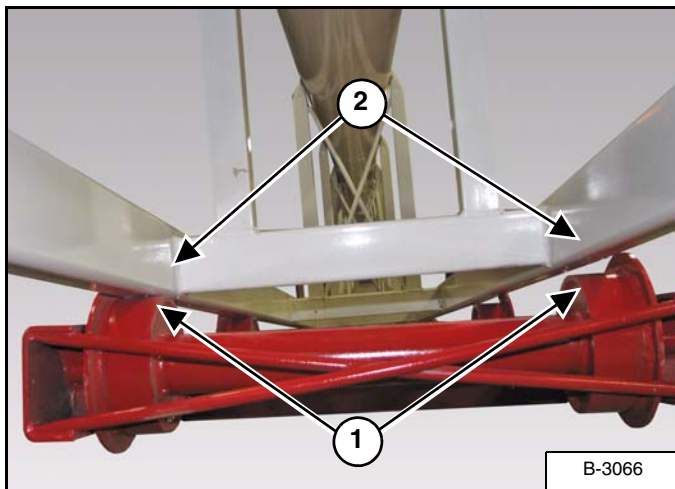
Figure 73



Install straps (Item 1) around one of the upper undercarriage arms (Item 2) **[Figure 73]**.

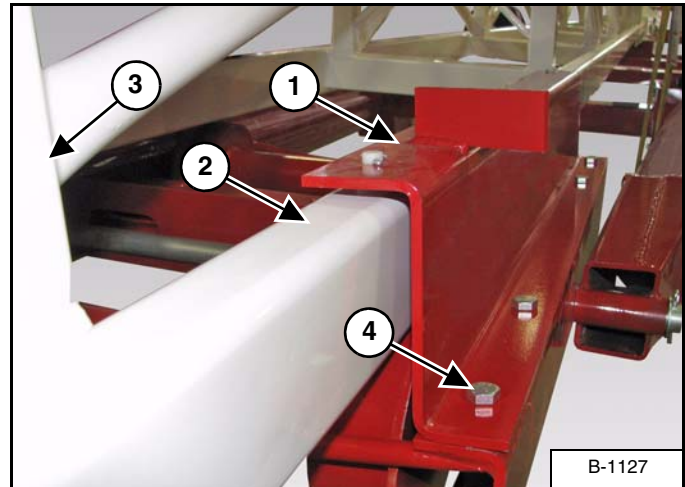
Connect the straps to an approved lifting device.

Figure 74



Raise the upper undercarriage assembly until the track car guide wheels (Item 1) contact the bottom frame (Item 2) **[Figure 74]** of the upper truss.

Figure 75



Place one track car guide (Item 1) on the frame of top truss tube weldment (Item 2) just forward of the last first vertical support (Item 3) **[Figure 75]** (discharge end).

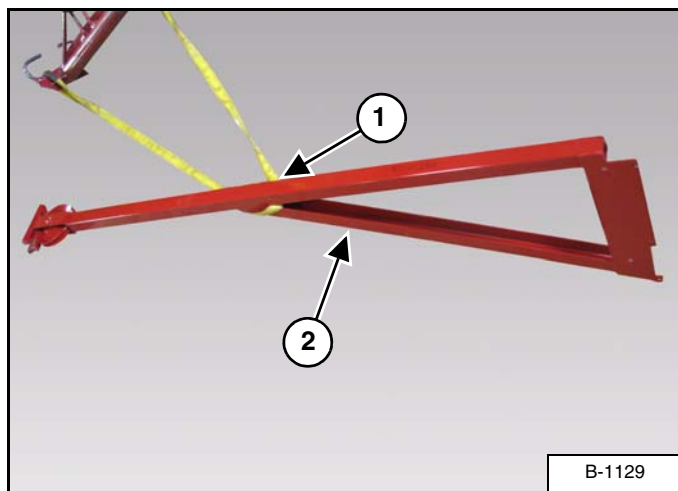
Align and install four 1/2" x 1-1/2" bolts (Item 4) **[Figure 75]** down through the track car guide and track car frame. Install one 1/2" lock nut on each bolt and tighten.

Repeat procedure for remaining track car guide.

Remove straps.

Installing The Axle Risers

Figure 76

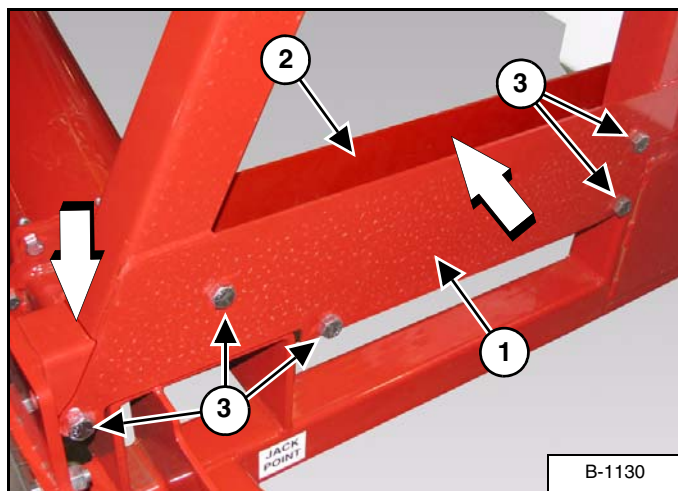


Install a strap (Item 1) through the axle riser (Item 2) [Figure 76] as shown.

Connect the strap to an approved lifting device.

Raise and move the axle riser to the assembly area.

Figure 77



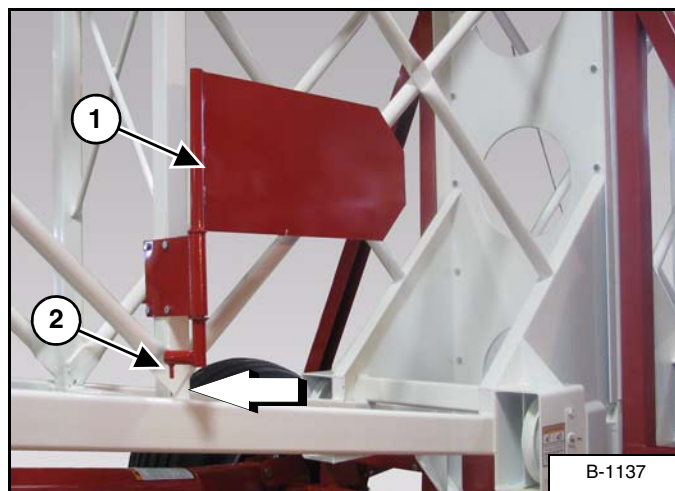
Position the axle riser (Item 1) at the back of the axle. Move the axle riser back (towards the intake end) against the mounting plate (Item 2) [Figure 77] on the axle. Then lower the axle riser down onto the axle.

Install five 5/8"-11UNC x 4-1/2" bolts (Item 3) [Figure 77] through the axle riser and mounting plate on the axle. Install 5/8" lock nuts on the bolts and tighten.

Repeat the procedure for the remaining axle riser.

Installing The STOP LIFT Sign

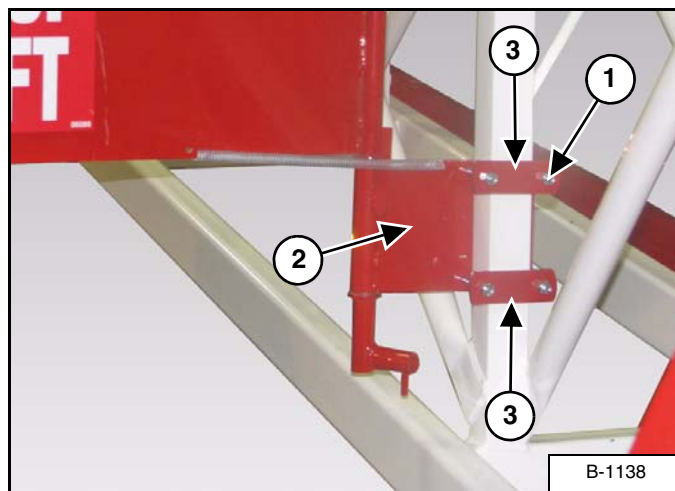
Figure 78



Position the STOP LIFT sign (Item 1) [Figure 78] and mounting bracket on the first vertical support on the left side of the top truss tube weldment.

When installing the STOP LIFT sign, verify that the trip lever (Item 2) [Figure 78] is approximately 1-1/2" above the frame of top truss tube weldment.

Figure 79

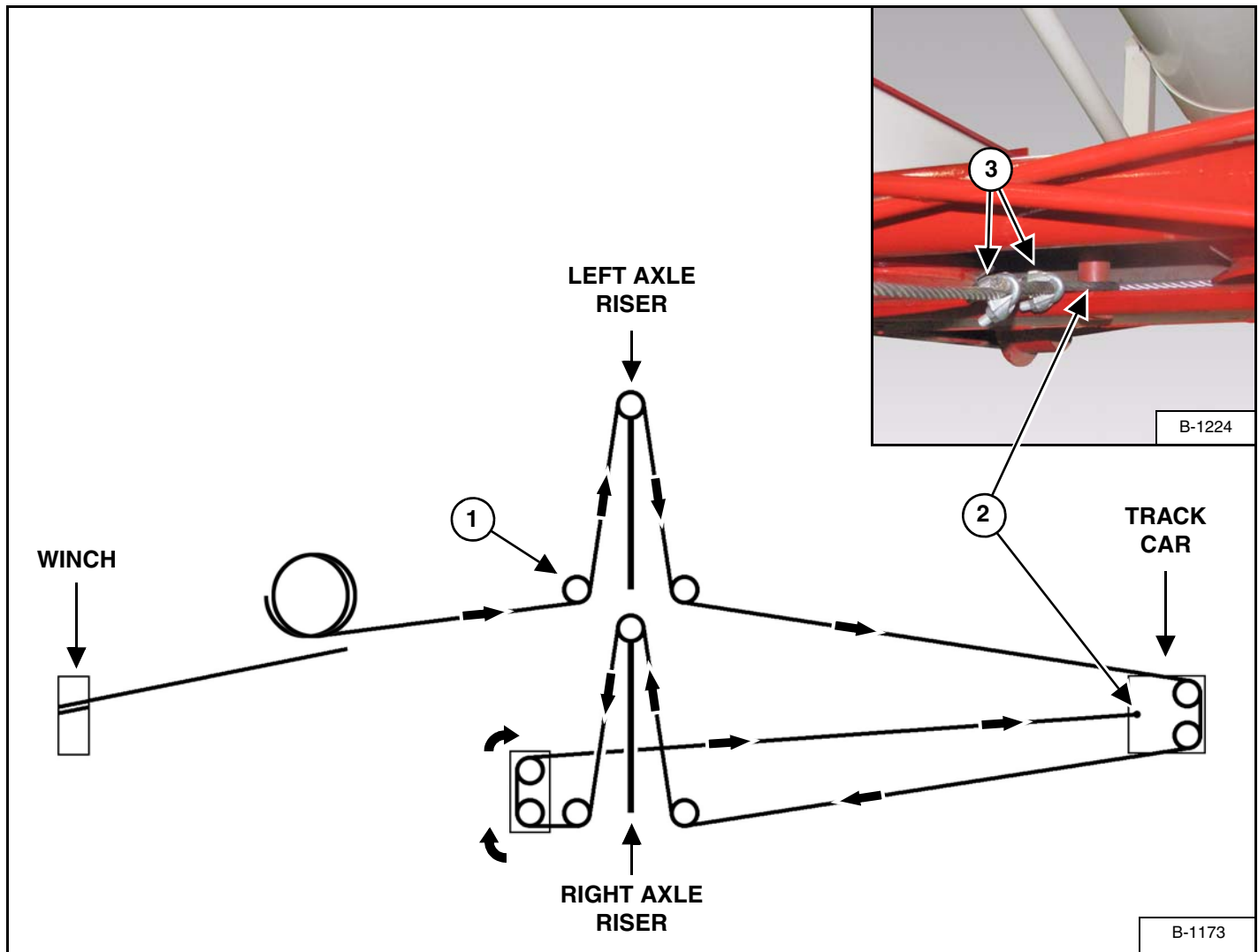


With the trip lever approximately 1-1/2" above the frame of top truss tube weldment, install four 3/8" x 3" bolts (Item 1) through the mounting bracket (Item 2) and the two flat straps (Item 3) [Figure 79]. Install four 3/8" lock nuts on the bolts and tighten.

NOTE: Maintain approximately 1-1/2" between trip lever and frame of top truss tube weldment.

Track Car / Winch Cable Routing

Figure 80



Thread the cable under the sheave (Item 1) **[Figure 80]** on the left side of the lower truss, up over the top sheave on the left axle riser, then to the bottom of the sheave on the upper truss and route towards the track car.

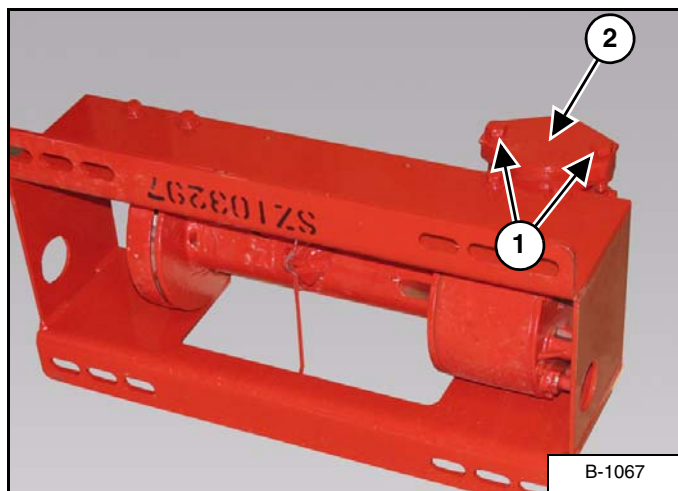
With the cable routed around the track car sheaves, route the cable along the right side to the bottom of the sheave on the upper truss, up over the top sheave on the right axle riser, then to the bottom of the sheave on the lower truss.

Next, thread the cable around the two horizontal sheaves just ahead of the axle and right axle riser, then back to the vertical pin (Item 2) **[Figure 80]** on the rear of the track car.

Anchor the cable around the vertical pin (Item 2) on the track car with two 3/8" cable clamps (Item 3) **[Figure 80]** and one 3/8" thimble.

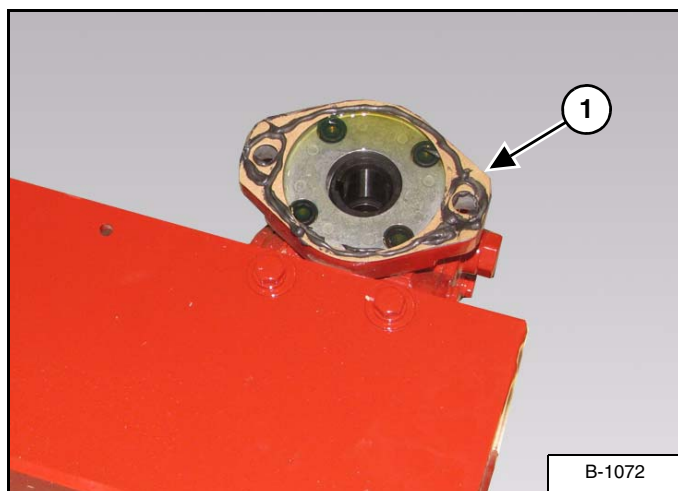
Winch Assembly And Installation

Figure 81



Remove the two 1/2" x 2" bolts (Item 1) and cover (Item 2) [Figure 81] from the winch assembly. Retain bolts for securing the hydraulic motor.

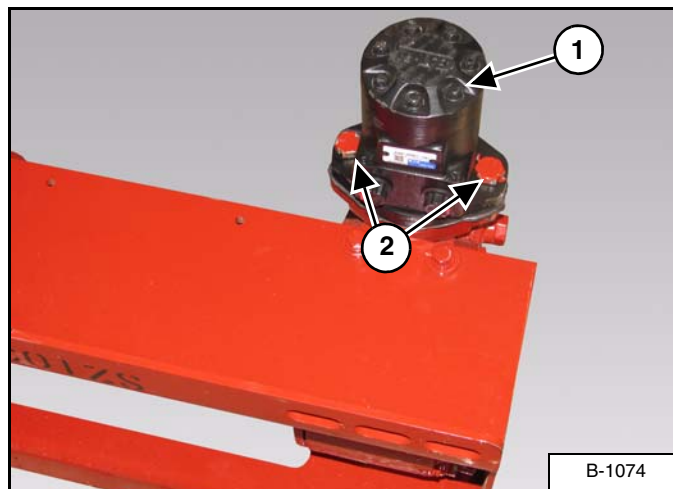
Figure 82



Install gasket (Item 1) [Figure 82] onto the hydraulic motor mounting flange.

Apply a high performance silicone gasket sealant (such as Loctite® 598) to the gasket.

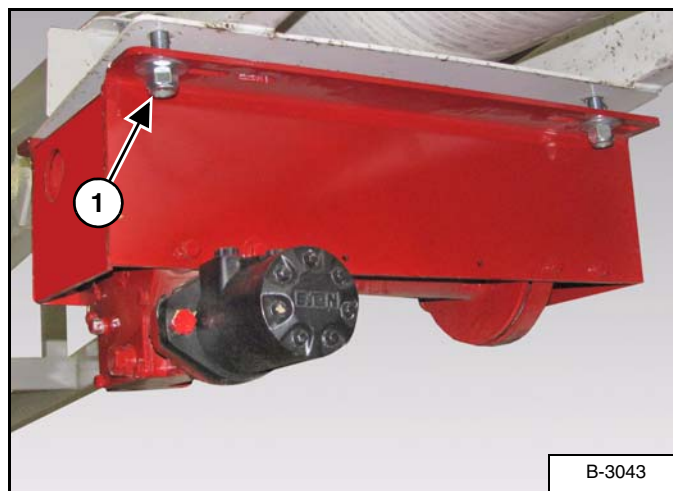
Figure 83



Align the hydraulic motor (Item 1) [Figure 83] as shown and install onto the gasket.

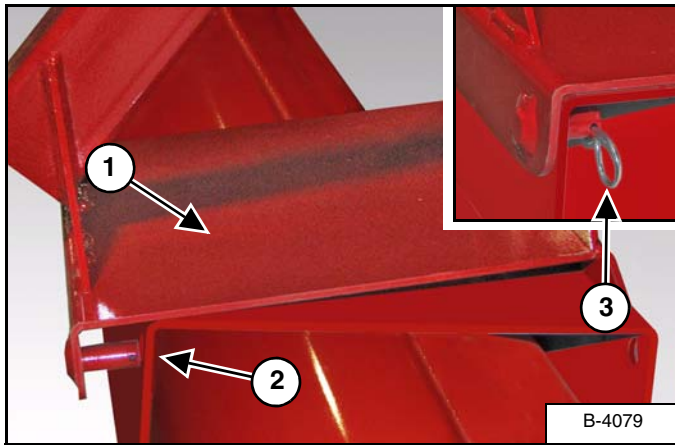
Install the two 1/2" x 2" bolts (Item 2) [Figure 83] (removed from the winch assembly) through the hydraulic motor and into the winch assembly. Tighten the bolts to securely fasten the hydraulic motor to the winch assembly.

Figure 84



Install four 5/8" x 2" bolts down through the lower truss mounting plate and winch assembly. Install four 5/8" lock nuts (Item 1) [Figure 84] onto the bolts and tighten.

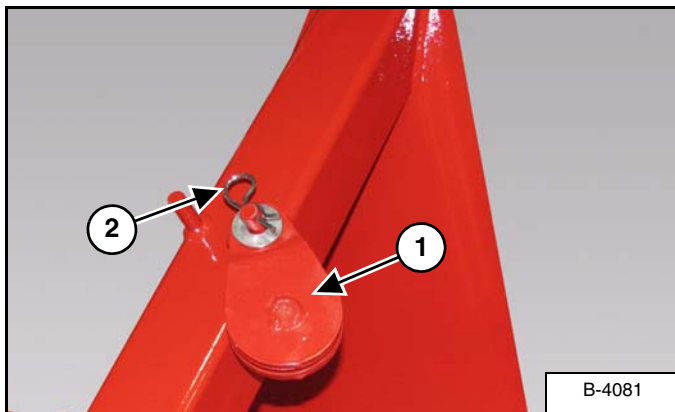
Figure 85



Install the hopper lift (Item 1) onto the mounting plate on the lower tube. Align pegs (Item 2) [Figure 85] with holes in the mounting plate. Slide peg(s) into holes and lower the hopper lift down flat onto the mounting plate.

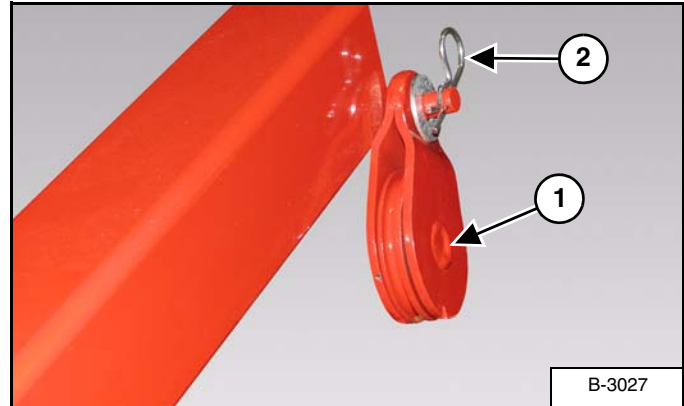
Install one hair pin (Item 3) [Figure 85] through the two pegs.

Figure 86



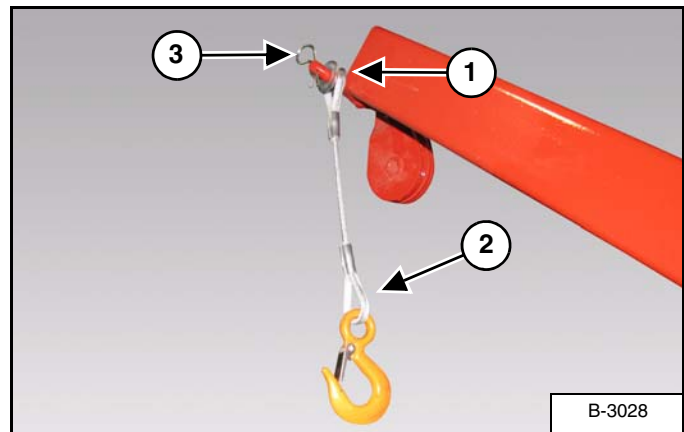
Install one sheave weldment (Item 1) onto the hopper lift. Install one 1/2" flat washer and one 1/8" hair pin (Item 2) [Figure 86] to secure the sheave to the hopper lift.

Figure 87



Install the second sheave weldment (Item 1) onto the hopper lift. Install one 1/2" flat washer and one 1/8" hair pin (Item 2) [Figure 87] to secure the sheave to the hopper lift.

Figure 88



Install one 1/2" flat washer (Item 1) onto the hopper lift. Install the hopper safety cable / hook (Item 2), then install one 1/2" flat washer and one 1/8" hair pin (Item 3) [Figure 88] to secure the hopper safety cable / hook to the hopper lift.

CAUTION

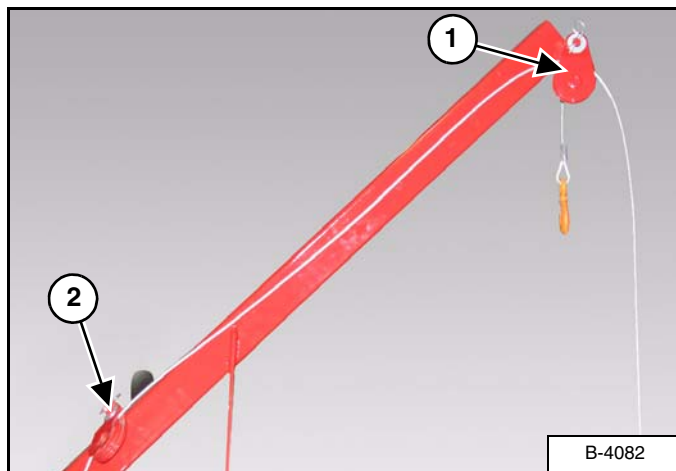


CUT HAZARD

To prevent injury to fingers and hands:

- Always wear heavy leather gloves when handling a wire rope.
- Never let wire rope slip through your hands.

Figure 89

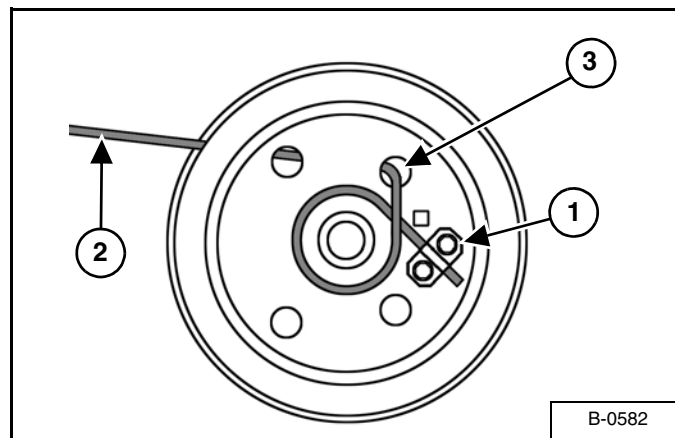


Thread the 3/8" cable through the upper pulley (Item 1) and around the lower pulley (Item 2) [Figure 89]. Route the cable to the hopper winch.

IMPORTANT

Do not remove the drum to install the cable.

Figure 90



Install the cable clamp (Item 1) [Figure 90] using the two bolts provided with winch. Leave bolts loose.

Route the cable over the top of the hand winch drum.

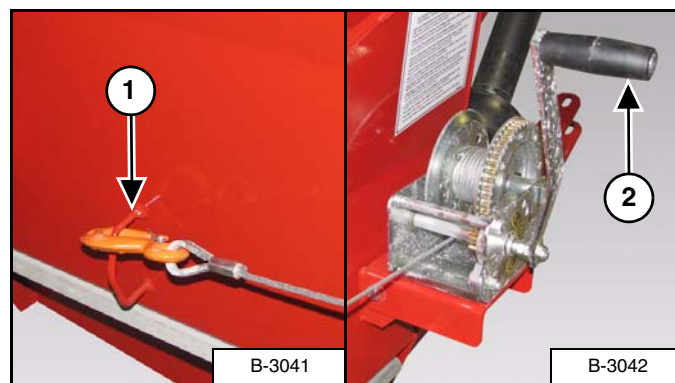
Install the cable (Item 2) from the inside of the drum through one of the dimpled holes (Item 3) [Figure 90] in the outer plate.

Loop the cable around the drum bearing. Feed the cable between the loop and outer plate, then through the cable clamp.

Leave approximately 1" of cable extending past the clamp. Tighten and torque the clamp bolts to approximately 2 ft.-lb. (3 N•m).

Turn handle to wrap cable around drum.

Figure 91

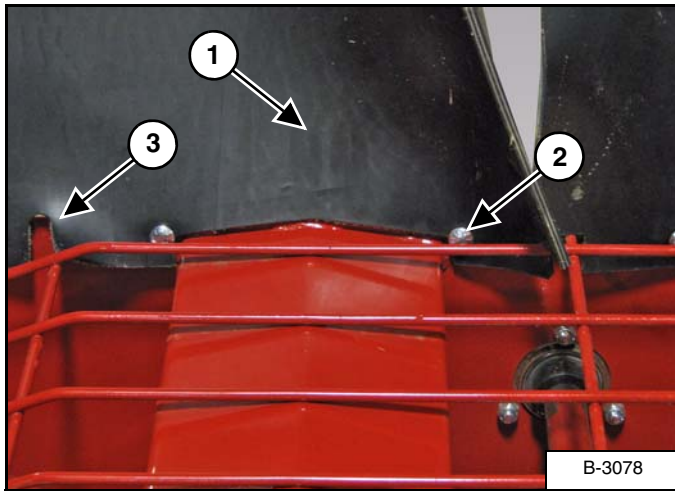


Attach the hopper winch cable to the bracket (Item 1) on the right side of the drive section. Using the handle (Item 2) [Figure 91], wind the cable onto the drum of the winch.

NOTE: This is for storing cable until hopper is installed.

Hopper Assembly And Installation

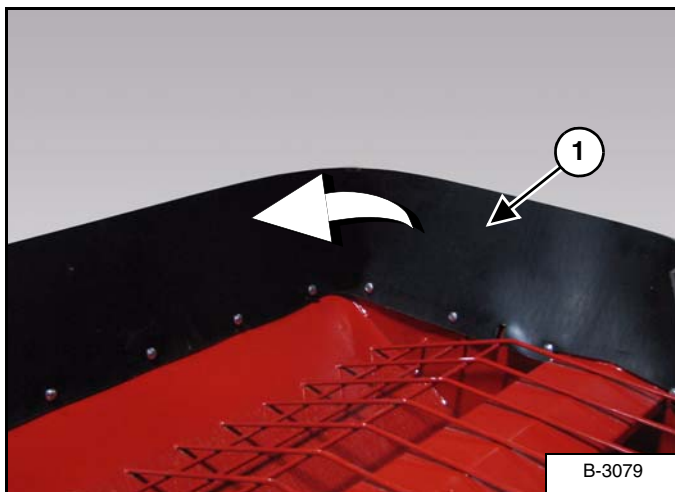
Figure 92



Align the flex extension (rubber flap) (Item 1) holes with the holes in the hopper sides. Install one 1/4" x 3/4" carriage bolt (Item 2) [Figure 92] through flex extension and hopper side. Install one 1/4" lock washer and 1/4" nut on the carriage bolt.

NOTE: Slot(s) (Item 3) [Figure 92] in the flex extension (rubber flap) can be enlarged for installation (if required).

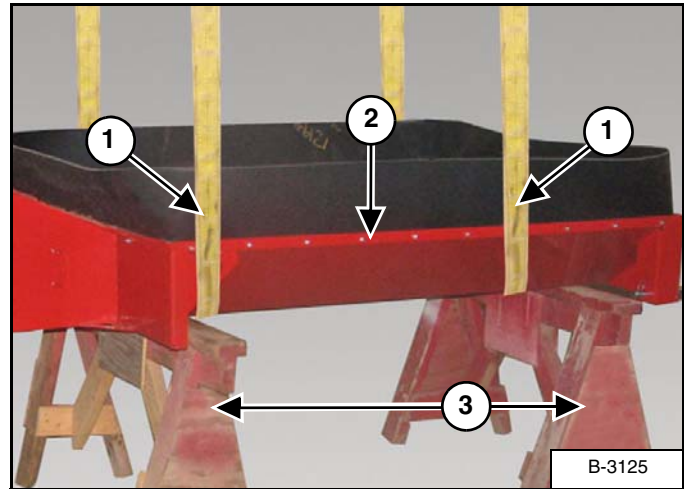
Figure 93



Continue installing 1/4" carriage bolts, 1/4" lock washers and 1/4" nuts around the bottom of the flex extension (rubber flap) (Item 1) [Figure 93].

Tighten all carriage bolts and lock nuts.

Figure 94



Install two straps (Item 1) around the hopper (Item 2) [Figure 94].

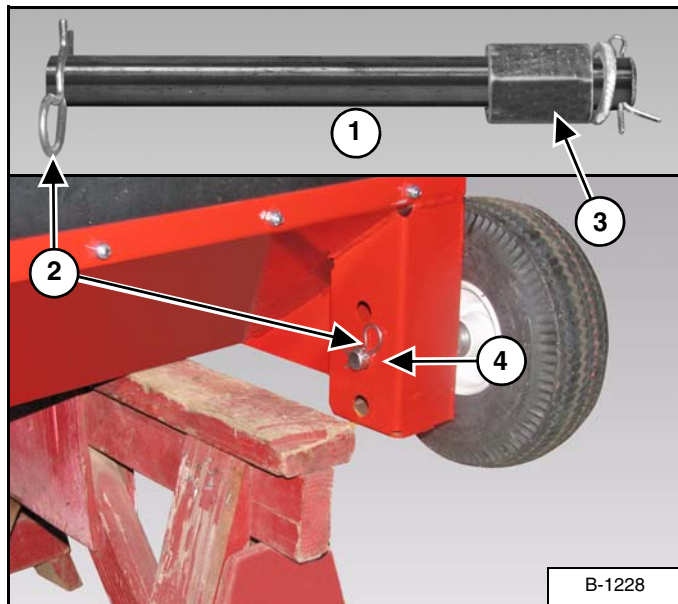
Connect the straps to an approved lifting device.

Raise the hopper and move to the assembly area.

Place support stands (Item 3) [Figure 94] under the hopper.

Lower the hopper onto the support stands.

Figure 95



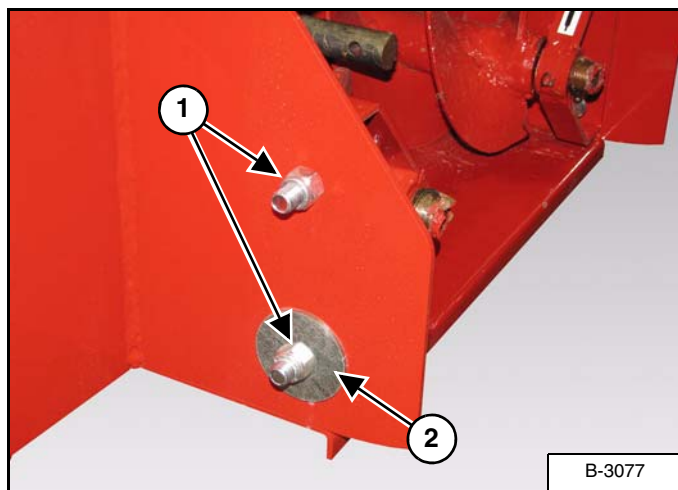
Locate four axle pins (Item 1) **[Figure 95]**.

Remove the retaining clip (Item 2) and slide the bushing (Item 3) **[Figure 95]** off the pin(s).

Install the axle pin through wheel, slide the bushing back onto the axle pin.

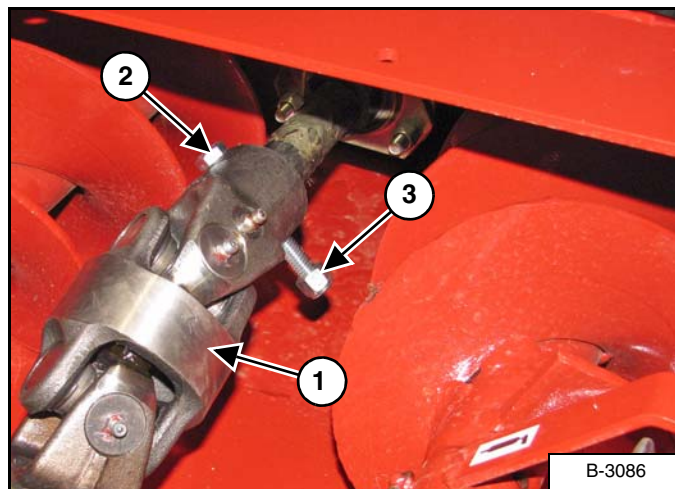
Install the axle pin through the center (Item 4) **[Figure 95]** (or desired) hole in the hopper frame. Install retaining clip (all tires).

Figure 96



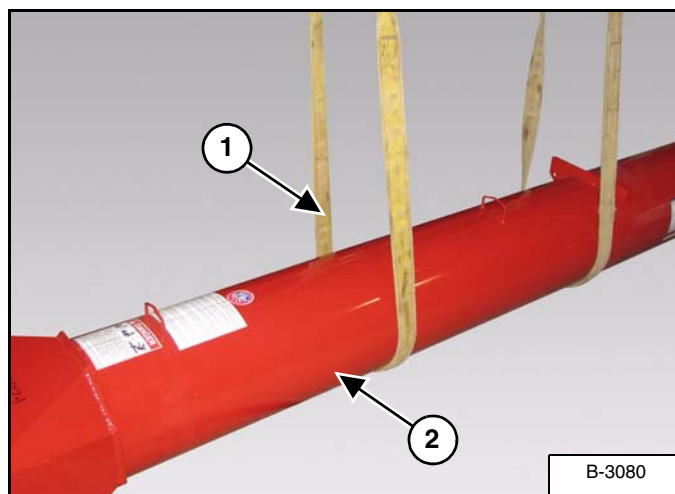
Remove the two nuts (Item 1) and washer (Item 2) **[Figure 96]** (both sides). Pull bolts in to allow the intake auger to slide over the hopper.

Figure 97



Install the CV joint (Item 1) on the drive shaft (center) of the hopper. Install a 3/8" x 3" bolt (Item 2) through the CV joint and drive shaft. Install a 3/8" lock nut (Item 3) **[Figure 97]** on the bolt and tighten the nut against the CV joint.

Figure 98

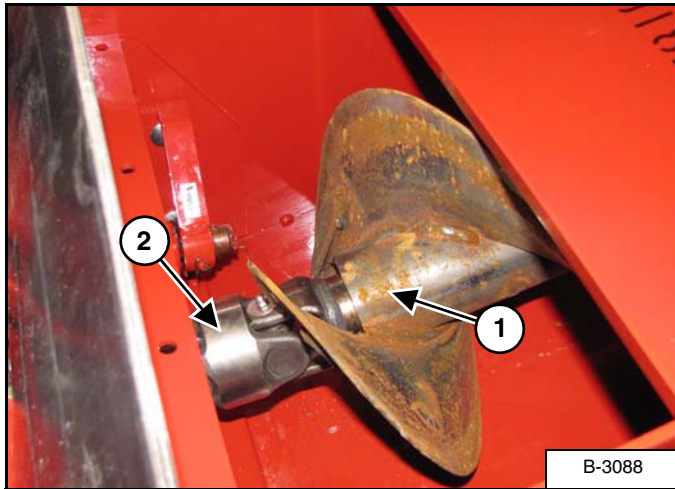


Install straps (Item 1) around the hopper drive tube (Item 2) **[Figure 98]**.

Connect the straps to an approved lifting device.

Raise the hopper drive tube and move into position in front of the hopper.

Figure 99



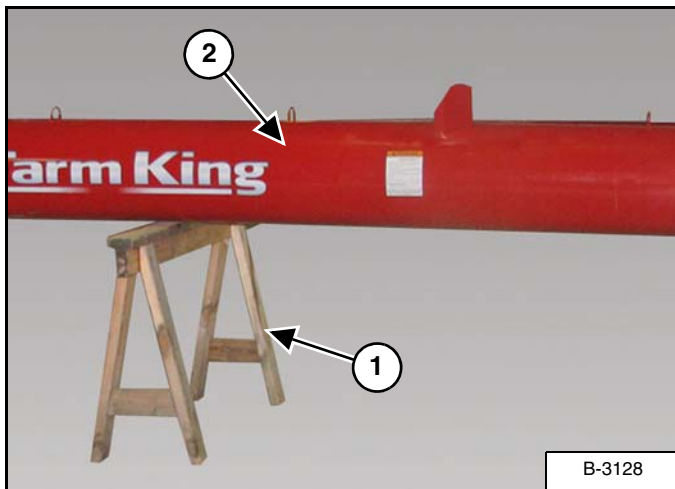
Align the hopper drive tube flighting (Item 1) with the CV joint (Item 2) [Figure 99], move hopper drive tube towards hopper until the flighting fully engages the CV joint.

Install two straps around the hopper.

Connect the straps to an approved lifting device.

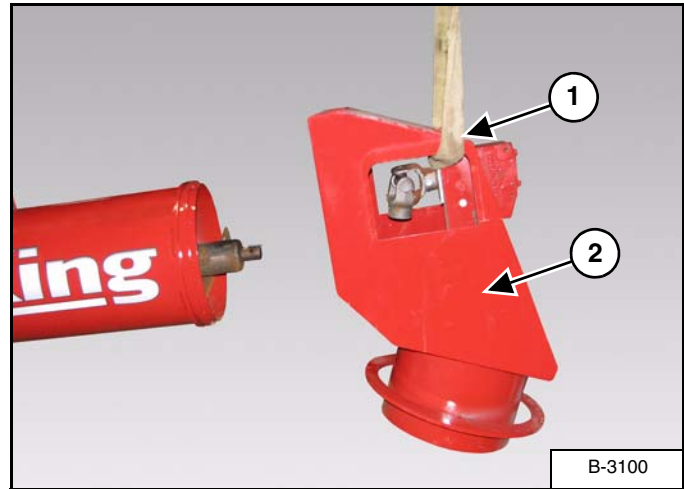
Raise the hopper and move to the assembly area.

Figure 100



Place a support stand (Item 1) under the hopper drive tube (Item 2) [Figure 100]. Lower the hopper drive tube onto the support stand.

Figure 101

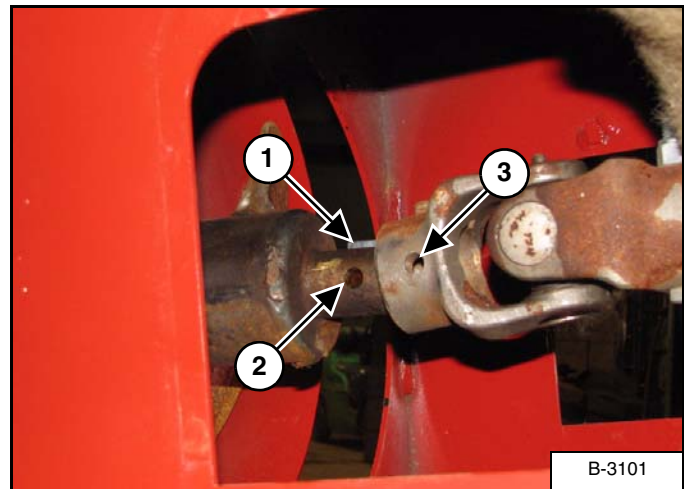


Install a strap (Item 1) onto the hopper head (Item 2) [Figure 101].

Connect the straps to an approved lifting device.

Raise the hopper head and move to the end of the hopper drive tube.

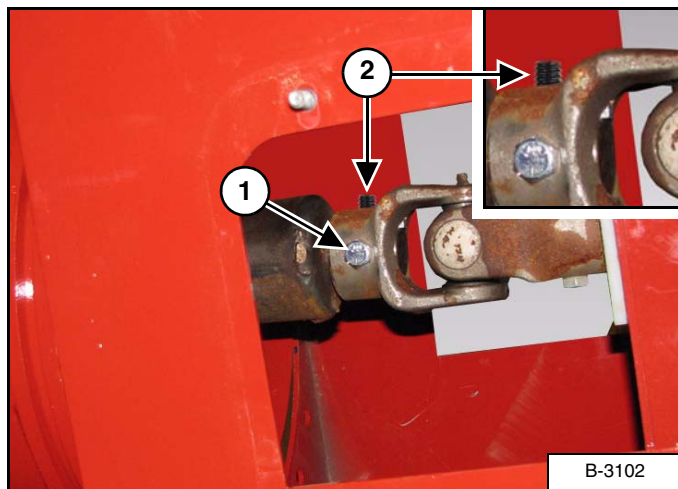
Figure 102



Install a 1/4" x 1.19" key (Item 1) [Figure 102].

Align the mounting holes of the upper hopper drive tube flighting shaft (Item 2) and hopper head u-joint (Item 3) [Figure 102].

Figure 103

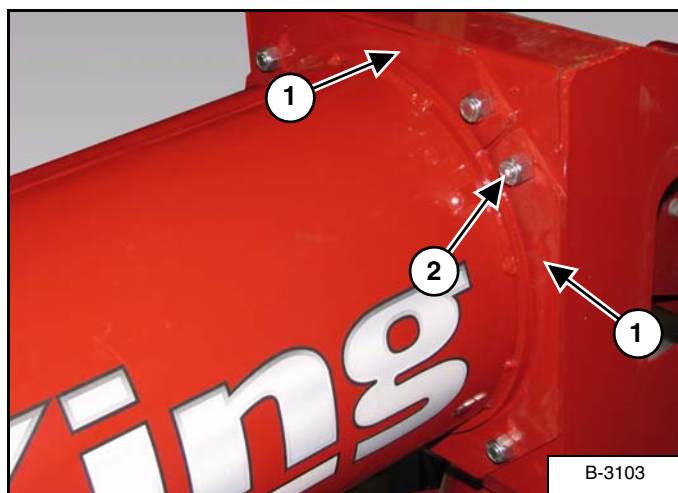


Move the hopper head towards the hopper drive tube until the flighting shaft fully engages the u-joint.

Install one 3/8" x 3" bolt (Item 1) [Figure 103] through the u-joint and flighting shaft. Install one 3/8" lock nut onto the bolt and tighten against the u-joint.

Tighten setscrew (Item 2) [Figure 103] against key.

Figure 104

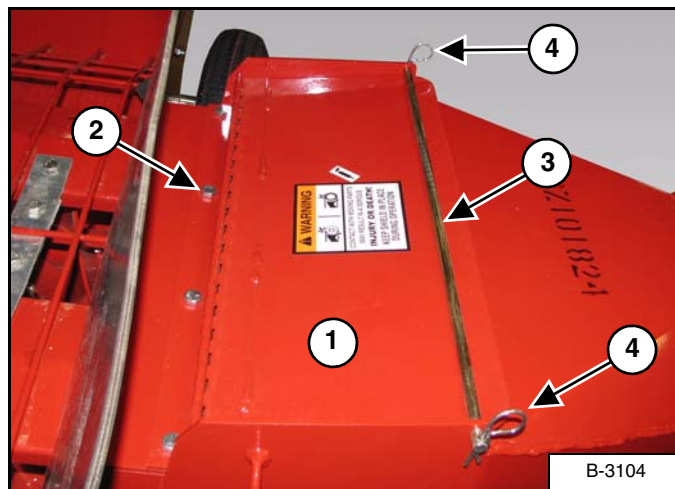


Move the hopper head onto the hopper drive tube.

Install the two swivel plates (Item 1) into the groove around the hopper drive tube. Align mounting holes. Install six 1/2" x 1" bolts through the hopper head (from inside out) and swivel plates. Install one 1/2" lock nut (Item 2) [Figure 104] onto each bolt and tighten.

NOTE: The hopper head should rotate freely on the hopper drive tube.

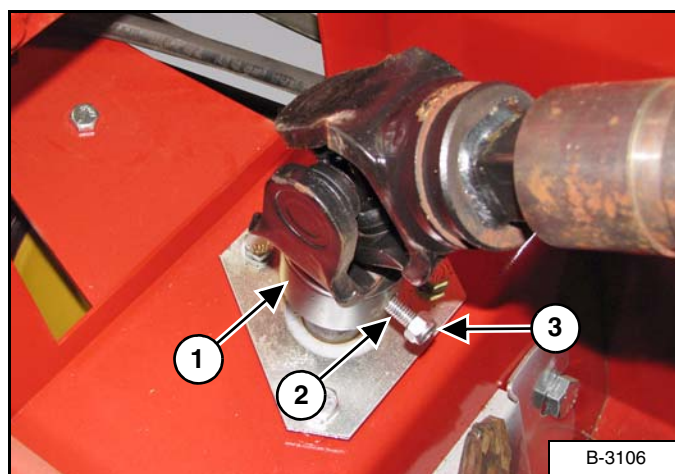
Figure 105



Install the hopper access door (Item 1) onto the hopper. Align mounting holes and install four 3/8" x 1" bolts (Item 2) [Figure 105] and tighten to secure the hopper access door to the hopper.

Install the pivot pin (Item 3), then install one 3/8" flat washer and hair pin (Item 4) [Figure 105] on each end of the pivot pin.

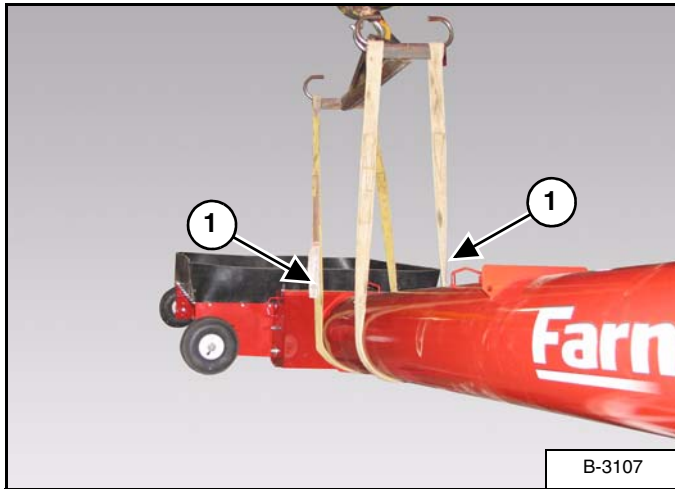
Figure 106



Install the internal power shaft lower u-joint (Item 1) [Figure 106] onto the top shaft of the lower gearbox in the drive section.

Align mounting holes of top shaft of the lower gearbox and internal power shaft u-joint. Install one 5/16" x 3" bolt (Item 2) through the u-joint and lower gearbox shaft. Install one 5/16" lock nut (Item 3) [Figure 106] onto the bolt and tighten against the u-joint.

Figure 107

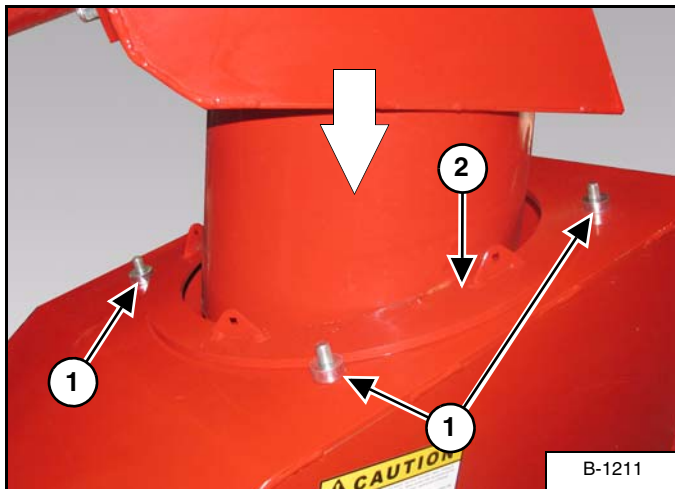


Install two straps (Item 1) [Figure 107] around the hopper drive tube.

Connect the straps to an approved lifting device.

Raise the hopper drive tube assembly and move to the assembly area.

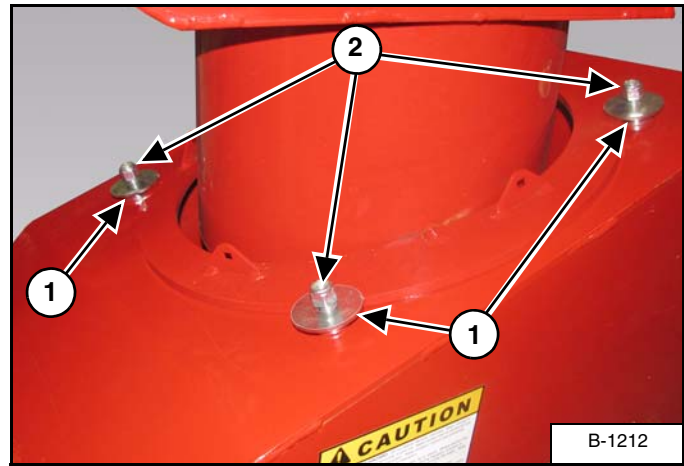
Figure 108



Install bushings (Item 1) [Figure 108] on the four studs on the top of the drive section.

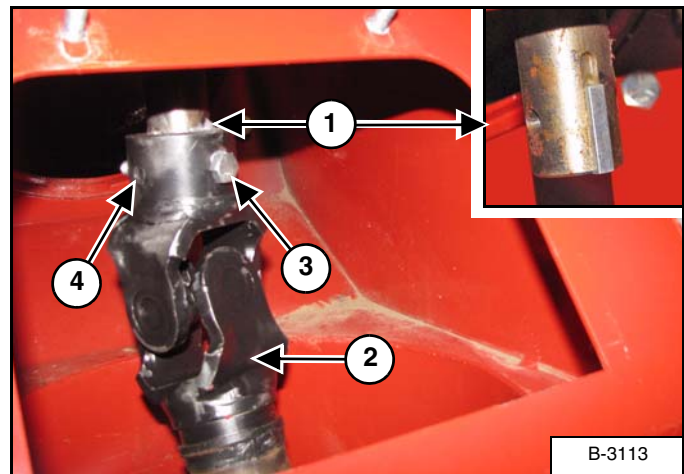
Lower the hopper head until the flange (Item 2) [Figure 108] is inside the bushings and resting on top of the drive section.

Figure 109



Install four retaining washers (Item 1) onto the four studs and over the hopper head flange. Install four 1/2" lock nuts (Item 2) [Figure 109]. Tighten the lock nuts until they contact the retaining washers.

Figure 110



Install the key (Item 1) [Figure 110] onto the bottom shaft of the upper gearbox.

Install the internal power shaft upper u-joint (Item 2) [Figure 110] onto the top shaft of the lower gearbox in the drive section.

Align mounting holes of top shaft of the lower gearbox and internal power shaft u-joint. Install one 3/8" x 3" bolt (Item 3) [Figure 110] through the u-joint and lower gearbox shaft. Install one 3/8" lock nut onto the bolt and tighten against the u-joint.

Tighten set screw (Item 4) [Figure 110] against the key.

Install and secure all shields on the drive section.

HYDRAULIC ASSEMBLY

Winch Fitting And Hose Installation

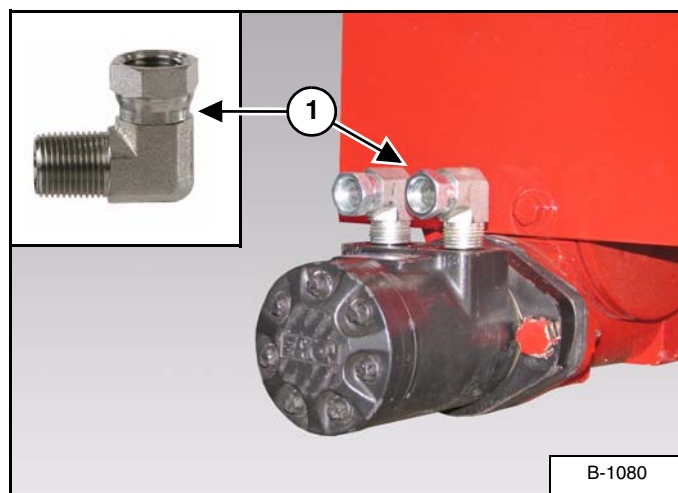
! IMPORTANT

When installing and servicing hydraulic systems, clean the work area before assembly or disassembly and keep all parts clean. Always use caps and plugs on hoses, hydraulic tubes and ports to keep dirt out. Dirt can quickly damage the system.

! IMPORTANT

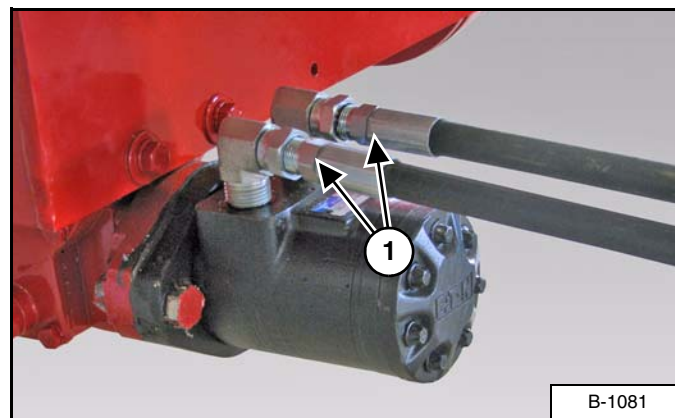
Contain and dispose of any oil leakage in an environmentally safe manner. Some regulations require that certain spills and leaks on the ground must be cleaned in a specific manner. See local, state and federal regulations for the correct disposal.

Figure 111



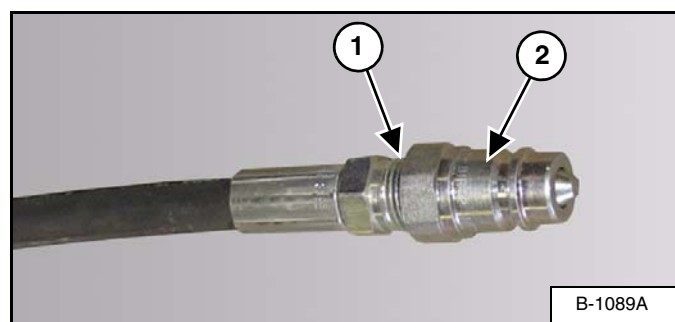
Locate two MNPT x FJIC 90° elbow fittings (Item 1) [Figure 111] and install into the hydraulic motor on the winch assembly with the fittings facing the intake end of the auger.

Figure 112



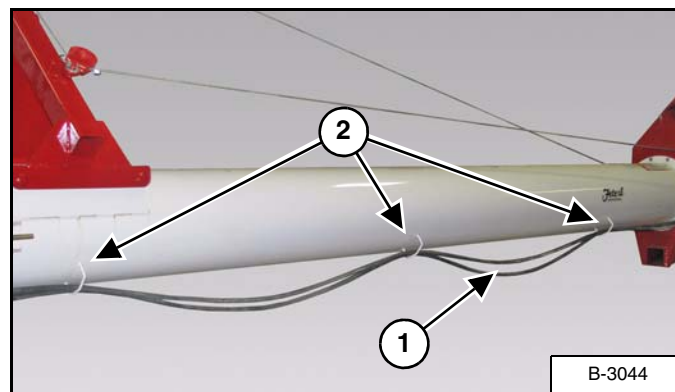
Locate and install the two hydraulic hoses (Item 1) [Figure 112] into the two fittings on the hydraulic motor.

Figure 113



Apply thread sealant to the threads (Item 1) of the hydraulic hose fitting, then install and tighten the male quick coupler fitting (Item 2) [Figure 113] on each set of hydraulic hoses (winch, hopper lift cylinder and hopper hydraulic wheel motors).

Figure 114

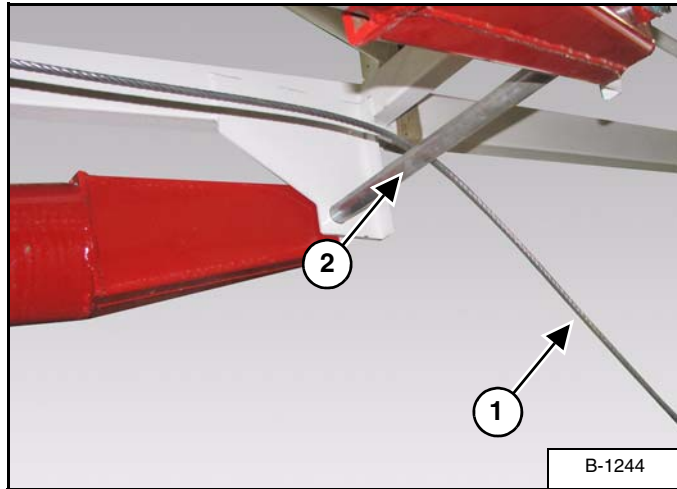


Route the hydraulic hoses (Item 1) through the brackets (Item 2) [Figure 114] towards the auger hitch.

WINCH CABLE INSTALLATION

Cable Routing and Installation

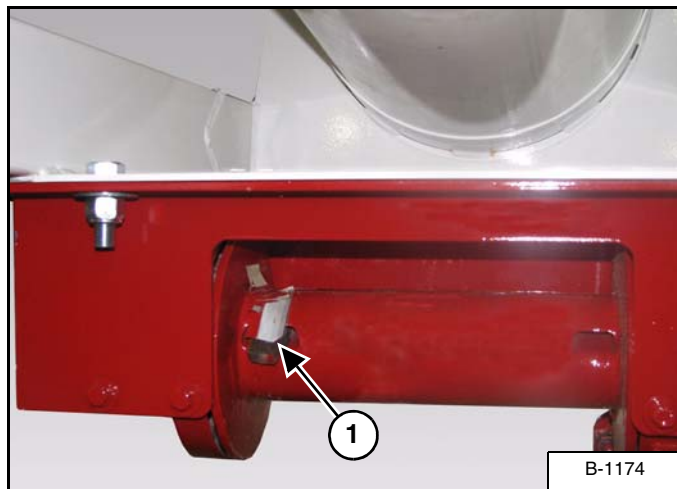
Figure 115



NOTE: Route the cable over the Red components and under the White components.

Route the cable (Item 1) over the lower truss hinge pin (Item 2) [Figure 115], then to the winch.

Figure 116



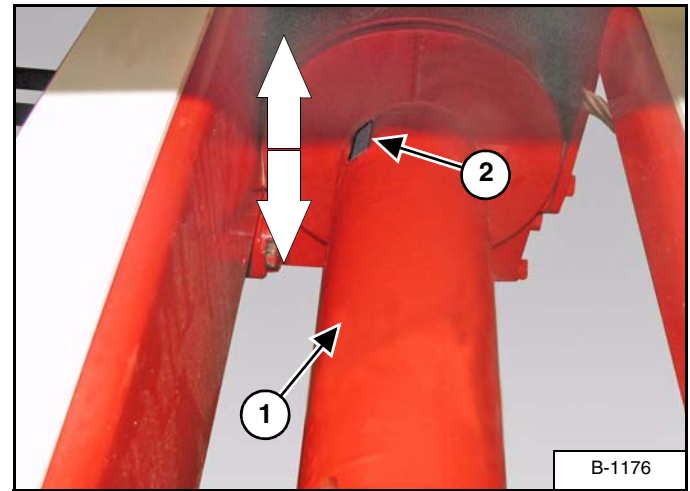
Remove the wedge (Item 1) [Figure 116].

Connect the winch hydraulic hoses to the tractor. (See "Connecting / Disconnecting Hydraulic Lines" on page 82.)

Enter the tractor and start the engine. (See "Entering And Leaving The Operator's Position" on page 76.)

Engage the hydraulic circuit for the winch. Run the tractor engine at low idle.

Figure 117

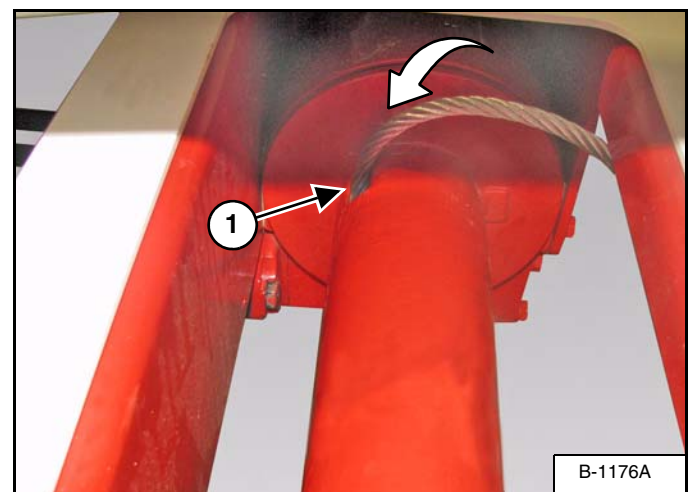


Using the tractor's auxiliary control, rotate the winch drum (Item 1) until the cable slot (Item 2) [Figure 117] is vertical and facing the intake end of the auger.

Disengage the tractor hydraulics.

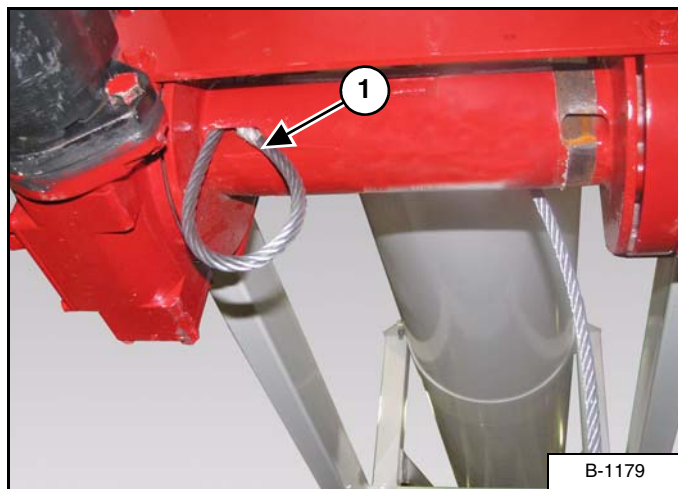
Leave the operator's position. (See "Entering And Leaving The Operator's Position" on page 76.)

Figure 118



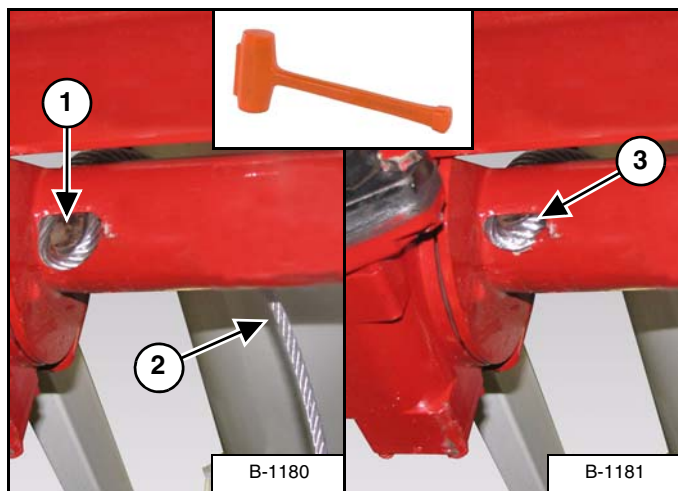
Feed the cable over the top of the winch drum and down through the cable slots (Item 1) [Figure 118].

Figure 119



Loop the tail end (Item 1) [Figure 119] of the cable and feed back into the slot on the winch drum.

Figure 120



Install the wedge (Item 1) [Figure 120] inside the loop.

Pull back on the cable (Item 2) until the loop and wedge are inside the lower slot (Item 3) [Figure 120] on the winch drum.

NOTE: A rubber mallet / dead blow hammer may be used to help seat the wedge & cable into the slot.

! IMPORTANT

Spooling the cable onto the winch drum will require three people.

- One person to operate the tractor controls.
- One person to guide the cable.
- One person to direct the tractor operator.

! WARNING



ENTANGLEMENT HAZARD

To prevent injury to fingers and hands:

- Keep hands clear of winch during operation.

! CAUTION



CUT HAZARD

To prevent injury to fingers and hands:

- Always wear heavy leather gloves when handling a wire rope and operating the winch.
- Never let wire rope slip through your hands.

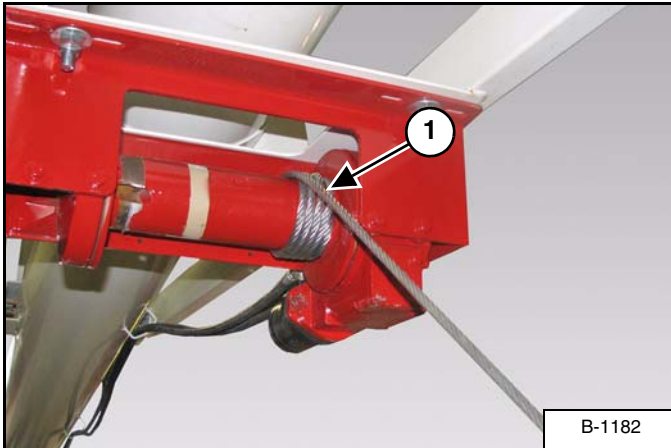
Enter the tractor and start the engine. (See "Entering And Leaving The Operator's Position" on page 76.)

Engage the hydraulic circuit for the winch. Run the tractor engine at low idle.

! IMPORTANT

Keep hands a minimum of 3 feet from the winch while spooling cable.

Figure 121



Wearing heavy leather gloves, pull back on the cable (Item 1) [Figure 121], keeping tension on the cable. Using a hand over hand method, guide the cable onto the winch drum.

Using the tractor's auxiliary control, rotate the winch drum counterclockwise (towards the intake end of the auger) wrapping the cable around the winch drum [Figure 121].

! IMPORTANT

The person directing the tractor operator must remain in clear sight of the tractor operator and cable handler at all times during cable spooling. The person directing must be able to signal the tractor operator to shut the tractor down in case of an emergency.

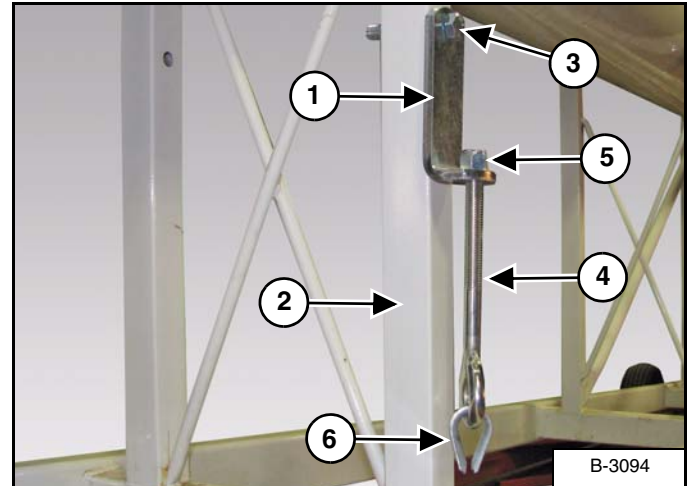
Continue to wrap the cable onto the winch drum until the slack has been removed from the cable.

Disengage the tractor hydraulics.

Leave the operator's position. (See "Entering And Leaving The Operator's Position" on page 76.)

Top Tube Support Cable Installation (12122 Model Only)

Figure 122



Install one eyebolt anchor bar (Item 1) on the first vertical support (from discharge end) on the upper truss with cross bracing (Item 2) [Figure 122] (both sides).

Install one 5/8"-11 UNC x 3-1/2" bolt (Item 3) [Figure 122] through the eyebolt anchor bar and vertical support. Install one 5/8" lock nut onto the bolt. Do not tighten at this time.

Install one 5/8"-11 UNC x 6-1/2" eyebolt (Item 4) into the eyebolt anchor bar. Install one 5/8" lock nut (Item 5) [Figure 122] onto the eyebolt.

Install one 3/8" cable thimble (Item 6) [Figure 122] onto the eyebolt.

! CAUTION

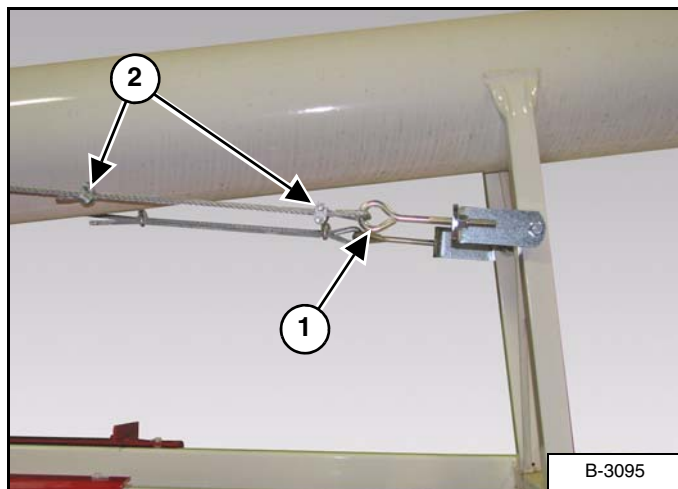


CUT HAZARD

To prevent injury to fingers and hands:

- Always wear heavy leather gloves when handling a wire rope.
- Never let wire rope slip through your hands.

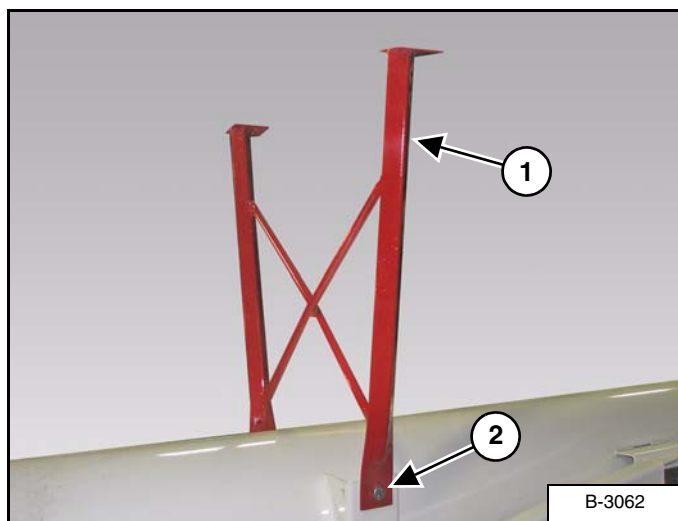
Figure 123



Feed the 3/8" cable through the eyebolt (Item 1) and around the thimble (both sides).

Install two 3/8" cable clamps (Item 2) [Figure 123] on the cable (both sides). Tighten the cable clamp closest to the thimble first, then the tighten the second clamp.

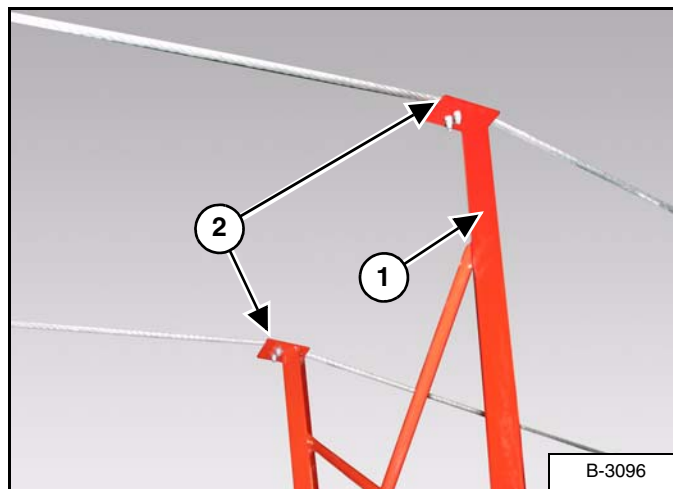
Figure 124



Align and install the upper tension cable truss (Item 1) [Figure 124] over the top tube (upper tube cradle on top tube). Align the bolt holes and maintain equal space between the two mounts.

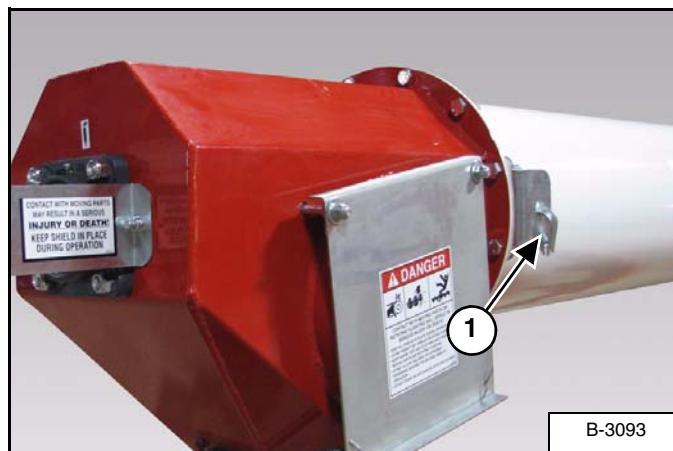
Install two 1/2" x 1" bolts (Item 2) [Figure 124] down through the bridging yoke and upper truss tube cradle (both sides). Install one 1/2" lock nut onto each bolt (both sides). Tighten bolts and lock nuts.

Figure 125



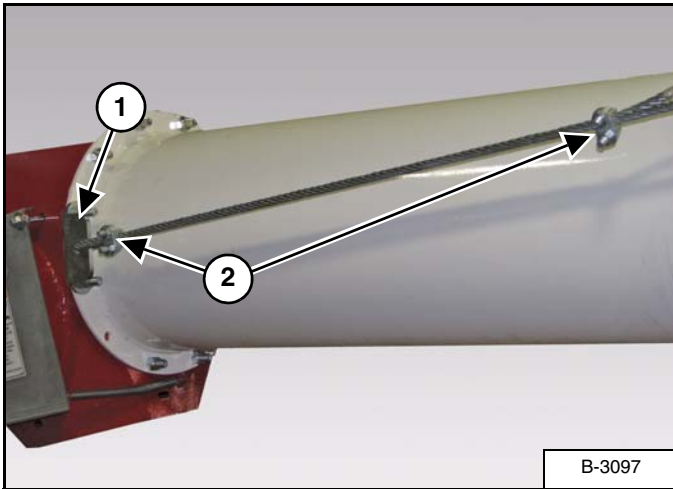
Route the cables over the upper tension cable truss (Item 1) and install a cable clamp (Item 2) [Figure 125] on the cable(s) and fasten the cable clamps to the bridging yoke. Do not fully tighten clamps at this time.

Figure 126



Install one cable thimble (Item 1) [Figure 126] onto the anchor rings (both sides)

Figure 127

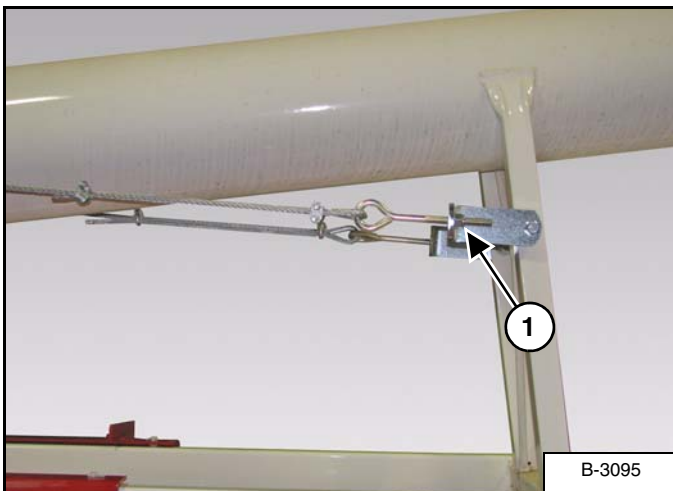


Feed the 3/8" cable through the bracket (Item 1) **[Figure 127]**, around the thimble (both sides).

Pull the cable as tight as possible by hand.

Install two cable clamps (Item 2) **[Figure 127]** on the cable (both sides). Tighten the cable clamp closest to the thimble first, then tighten the second clamp.

Figure 128



Tighten the nut (Item 1) **[Figure 128]** until there is approximately 2-1/2" of thread showing on the eyebolt (both sides).

OPERATION

GENERAL INFORMATION	73
Pre - Operation Checklist	73
Break - In Checklist	74
Tractor Requirements	75
Entering And Leaving The Operator's Position	76
INITIAL SET-UP	76
Connecting The Backsaver Auger To The Tractor	76
Connecting The PTO Driveline	77
Disconnecting The PTO Driveline	78
PTO Driveline	79
Connecting / Disconnecting Hydraulic Lines	82
Axle Extension Installation	83
Lowering And Raising The Hopper	85
Hydraulic Hopper Mover Operation	87
Raising The Auger	88
Auger Placement	90
Lowering The Auger	92
LOADING GRAIN INTO THE HOPPER	93
Unloading Belly Dump Units	93
Unloading Rear And Side Dump Units	95
TRANSPORTING	97
Requirements	97
Transporting Guidelines	97
Transporting Procedure	98

Farm King



GENERAL INFORMATION

Pre - Operation Checklist

Before operating the Backsaver Auger for the first time and each time thereafter, check the following items:

WARNING



AVOID INJURY OR DEATH

- Disengage the PTO, engage the machine's parking brake, stop the engine and make sure all rotating components are completely stopped before connecting, disconnecting, adjusting or cleaning any PTO driven equipment.
- Always keep PTO shields and all guards in place when using PTO driven equipment.
- Disengage PTO for road travel.
- Keep hands, feet and clothing away.

WARNING

AVOID INJURY OR DEATH

Wear safety glasses to prevent eye injury when any of the following conditions exist:

- When fluids are under pressure.
- Flying debris or loose material is present.
- Engine is running.
- Tools are being used.

1. Lubricate the equipment per the schedule outline in the Maintenance Section. (See "SERVICE SCHEDULE" on page 104.)
2. Check the Backsaver Auger's hitch for damaged, loose or missing parts. Repair as needed before operation.
3. Check tire pressure. Inflate per manufacturer's specification.

4. Check wheel bolts for tightness. Torque as required. (See "Wheel Bolt Torque" on page 110.)
5. Check the augers. Remove any material build-up or debris that has become entangled.
6. Check that all bearings turn freely. Replace as required.
7. Make sure that all guards and shields are in place, secured and functioning as designed.

WARNING



Leaking fluids under pressure can enter the skin and cause serious injury or death. Immediate medical attention is required. Wear goggles. Use cardboard to check for leaks.

8. Check condition of all hydraulic components for leaks. Repair as required.

NOTE: Do not operate with hydraulic leaks.

9. Check gearbox oil level. Fill as required. (See "LUBRICATION" on page 105.)
10. Verify that the tractor's drawbar is adjusted correctly for use with the auger. (See "Drawbar Adjustment" on page 75.)
11. Check that the PTO driveline telescope easily and turn freely.
12. Make sure the PTO ends are securely attached to the auger and the tractor.

Break - In Checklist

NOTE: The Backsaver Auger must have a break-in period with different operating conditions than for normal use.

The tube and flighting must get a polished surface through use. Once the new auger has polished it will run smooth at recommended speed.

NOTE: Never operate an empty auger for over one minute, as the flighting and housing will experience excessive wear.

During the break-in-period:

1. Run the tractor at slow idle until grain begins to flow from the discharge. For the first 500 bushels, operate at the slow speed and restrict the flow of grain at the intake.
2. Gradually increase the speed until operating at full PTO speed.

NOTE: Do not run empty during break-in period.

Check the following mechanical items after 1 hour of operation and again after 10 hours of operation:

1. Check the auger hitch for damaged, loose or missing parts. Repair as needed before operation.
2. Check for loose fasteners and hardware. Tighten as required.
3. Make sure that all guards and shields are in place, secured and functioning as designed
4. Check that the PTO driveline telescopes easily and turns freely.
5. Check condition of all hydraulic components for leaks. Tighten fittings to correct leaks or replace components. Do not operate with hydraulic leaks.
6. Check tire pressure. Inflate per manufacturer's specification.
7. Check gearbox oil level. Fill as required. (See "LUBRICATION" on page 105.)
8. Check the augers. Remove any debris.

WARNING



AVOID INJURY OR DEATH

- Disengage the PTO, engage the machine's parking brake, stop the engine and make sure all rotating components are completely stopped before connecting, disconnecting, adjusting or cleaning any PTO driven equipment.
- Always keep PTO shields and all guards in place when using PTO driven equipment.
- Disengage PTO for road travel.
- Keep hands, feet and clothing away.

Tractor Requirements



- Do NOT exceed 540 RPM PTO.
- Keep PTO shields and all guards in place.
- Keep away from moving parts.
- Keep bystanders away.

Figure 129

AUGER MODEL	MINIMUM PTO HP (with 540 RPM PTO)	HYD PSI FOR LIFT (approximate)
12112	110 hp	1500 psi
12122	120 hp	1500 psi

The chart [Figure 129] lists the minimum tractor PTO hp (with 540 rpm PTO) and approximate hydraulic pressure for lift.

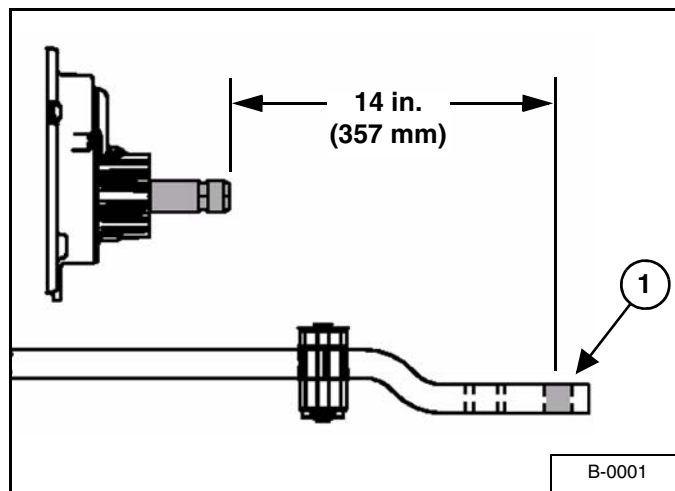
The 12" Backsaver Auger will require a tractor, three auxiliary hydraulic functions, Category IV rated drawbar.

The tractor must be equipped with a 6 - spline, 1-3/8 inch PTO shaft when used with the 12" Backsaver Auger.

The tractor / tow vehicle towing capacity must be to transport the specified auger model.

Drawbar Adjustment

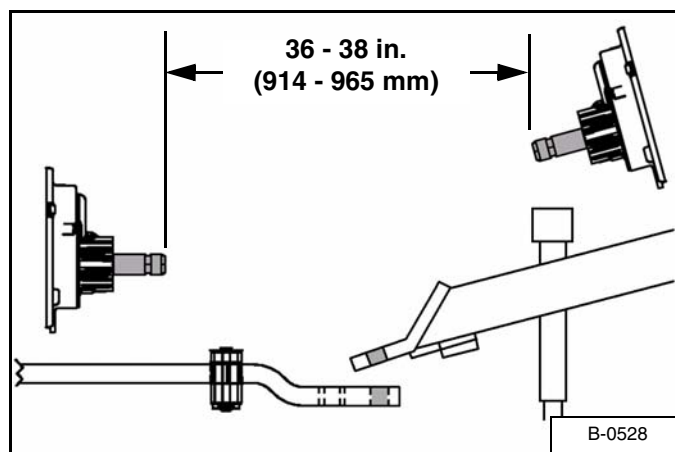
Figure 130



Adjust the tractor's drawbar in / out, until the center of the hitch pin hole (Item 1) [Figure 130] is 14 inches (357 mm) from the end of the tractor's PTO shaft. See your tractor's owner's manual for correct adjustment procedures.

NOTE: A tractor hitch of less than 16" minimum will result in PTO bottoming out, when operating auger at maximum height.

Figure 131

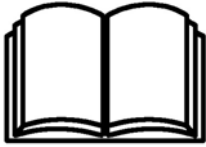


The distance between the tractor and the auger PTO shaft should be between 36 - 38 in. (914 - 965 mm) with the tractor and auger on level ground and the auger in full down position. This distance is obtained by either adjusting the tractor hitch, the auger hitch or both [Figure 131].

For checking PTO driveline see "PTO Driveline" on page 79.

Entering And Leaving The Operator's Position

IMPORTANT



Follow the instructions in your tractor's operation manual for the correct procedure.

Entering The Operator's Position

Move to the operator's position, start the engine and release the parking brake.

Leaving The Operator's Position

WARNING

AVOID INJURY OR DEATH

Before you leave the operator's position:

- Always park on a flat level surface.
- Place all controls in **NEUTRAL**.
- Engage the park brake.
- Stop the engine and remove the key.
- Wait for all moving parts to stop.

Park the tractor / equipment on a flat level surface.

Place all controls in neutral, engage the park brake, stop the engine and wait for all moving parts to stop. Leave the operator's position.

INITIAL SET-UP

Connecting The Backsaver Auger To The Tractor

Always inspect the tractor's drawbar and Backsaver Auger hitch before connecting. See the tractor's owner's manual.

Verify that the tractor's drawbar is adjusted correctly for use with the Backsaver Auger. (See "Drawbar Adjustment" on page 75.)

Enter the operator's position. (See "Entering The Operator's Position" on page 76.)

Move the tractor into position in front of the Backsaver Auger.

WARNING



AVOID INJURY OR DEATH

Before moving the tractor, look in all directions and make sure no bystanders, especially small children are in the work area. Do not allow anyone between the tractor and the equipment when backing up to the equipment for connecting.

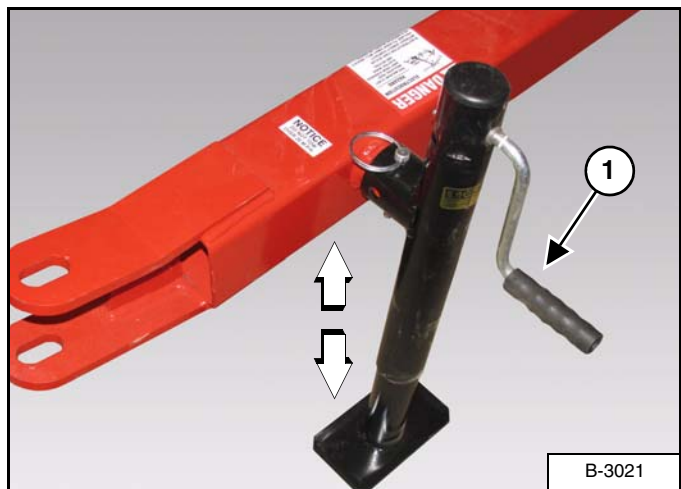
Move the tractor backwards, aligning the drawbar with the Backsaver Auger hitch.

NOTE: The jack may need to be lowered or raised for proper alignment of the drawbar and hitch.

If the Backsaver Auger hitch needs to be adjusted, stop the tractor when drawbar is just in front of the Backsaver Auger hitch.

Leave the operator's position. (See "Leaving The Operator's Position" on page 76.)

Figure 132



Turn the handle (Item 1) **[Figure 132]** clockwise to raise the hitch or counterclockwise to lower the hitch.

Lower or raise the Backsaver Auger hitch until aligned with the tractor's drawbar.

Move to the operator's seat, start the engine and release the parking brake.

Move the tractor backwards, aligning the drawbar hitch pin hole with the Backsaver Auger hitch pin hole(s).

Stop the tractor and leave operator's position.

WARNING

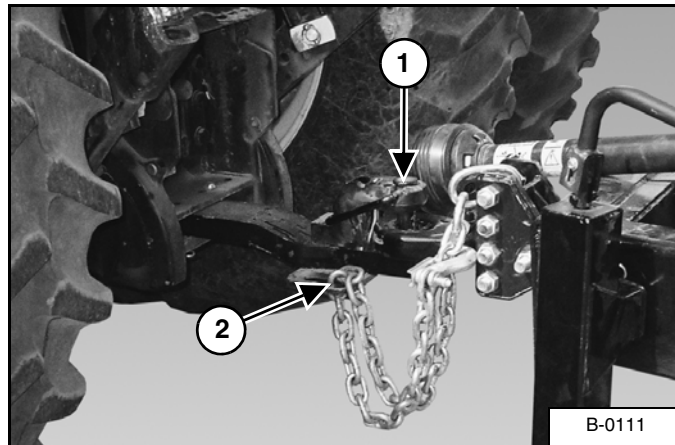


AVOID INJURY OR DEATH

Keep fingers and hands out of pinch points when connecting and disconnecting equipment.

NOTE: Always use a hitch pin of adequate size and strength and a retaining pin with a locking device.

Figure 133



Install the hitch pin (Item 1) **[Figure 133]** and retaining pin to securely fasten the Backsaver Auger hitch to the tractor drawbar.

Attach the safety chain (Item 2) **[Figure 133]** around the drawbar.

Connecting The PTO Driveline

WARNING

AVOID INJURY OR DEATH

Warnings on the machine and in the manuals are for your safety. Failure to obey warnings can cause serious injury or death.

NOTE: Clean and grease tractor's PTO shaft and PTO driveline coupling each time driveline is connected.

Stop the engine and leave the operator's position. (See "Leaving The Operator's Position" on page 76.)

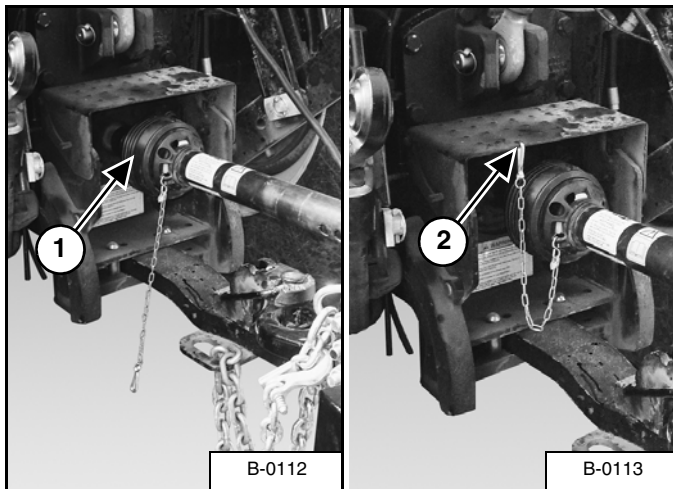
! IMPORTANT

Improper hitch installation can cause PTO driveline damage.

- Do not modify the hitch or use an unapproved hitch.
- Make sure the PTO driveline is of adequate length and that u-joints are in the correct phase.

Remove the PTO driveline from the storage position (if applicable).

Figure 134



Retract the collar and slide the PTO driveline (Item 1) onto the tractor PTO shaft until it locks onto the shaft. Push and pull on the PTO driveline to verify it is securely attached to the PTO shaft. Install PTO driveline safety chain (Item 2) [Figure 134].

NOTE: The PTO driveline must have a means to retain it to the PTO shaft on the tractor.

Disconnecting The PTO Driveline

Park the tractor / equipment on a flat level surface.

Stop the engine and leave the operator's position. (See "Leaving The Operator's Position" on page 76.)

Remove PTO driveline safety chain (Item 2) [Figure 134], retract the collar and remove the PTO driveline (Item 1) from the tractor PTO shaft.

! WARNING



- Do NOT exceed 540 RPM PTO.
- Keep PTO shields and all guards in place.
- Keep away from moving parts.
- Keep bystanders away.

PTO Driveline

PTO Driveline Length Check

NOTE: Due to variations in distances between tractor PTO shafts and implement input shafts, drivelines may need to be shortened or a longer shaft may be required. When fitting the implement to the tractor, the PTO driveline, with telescoping sections, must be inspected. When the sections are at the most compressed operating position, the sections must not “bottom out”. At its shortest length, there must be at least 2 in. (50,8 mm) of clearance between each section end and opposite section end at the most compressed operating position. When the sections are at the most extended position, there must be sufficient engagement between the sections. At its farthest operating extension, a minimum section engagement of 33% of shaft length must be maintained.



WARNING

AVOID INJURY OR DEATH

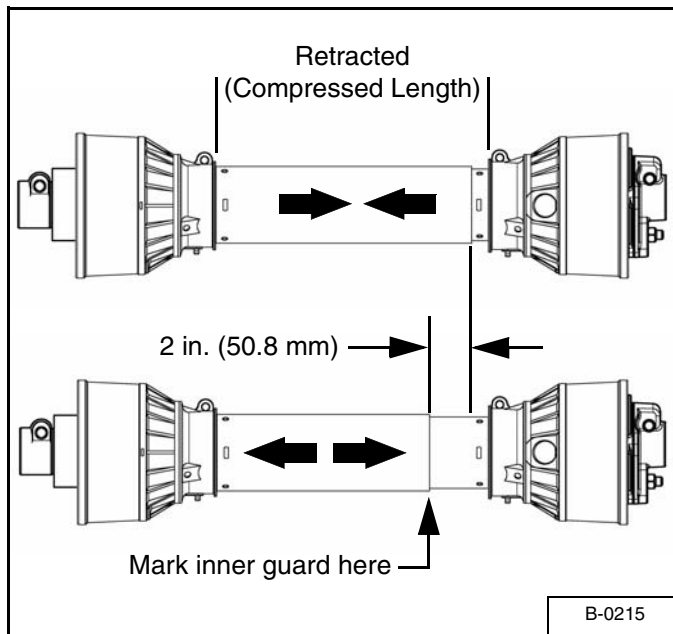
- Do NOT exceed the rated implement PTO speed.
- Stay clear of rotating driveline.
- Keep bystanders away.
- Keep hands, feet, clothing and long hair away.
- Keep PTO shields and all guards in place.
- Disengage PTO, move the tractor controls to the Neutral position, stop the engine and make sure all rotating components are stopped before leaving the operator's position.
- Do NOT service the tractor or implement with the PTO engaged.
- Do NOT service the implement in a raised position unless properly blocked and with all rotating components stopped.
- Disengage PTO for road travel.

PTO Driveline Bottoming Out Check

Stop the engine and leave the operator's position. (See “Leaving The Operator's Position” on page 76.)

Make sure the PTO driveline and all rotating components have come to a complete stop before leaving the operator's position (if applicable).

Figure 135



1. Disconnect the PTO driveline from the tractor and slide the PTO driveline together until fully retracted (compressed).
2. Measure the retracted (compressed) length of PTO driveline [Figure 135].
3. Extend the PTO driveline 2 in. (50,8 mm) from the retracted length and place a mark on the inner guard at the end of the outer guard [Figure 135].
4. Reattach the PTO driveline to the tractor PTO shaft.
5. Enter the operator's position. (See “Entering The Operator's Position” on page 76.) Start the engine.
6. With the rear PTO DISENGAGED, raise and lower the implement and watch the PTO driveline extend and retract.
7. If the outer PTO driveline guard slides in (retracts) over the mark at any point of travel, the PTO driveline needs to be shortened.

Reducing The PTO Driveline Length

Stop the engine and leave the operator's position. (See "Leaving The Operator's Position" on page 76.)

Make sure the PTO driveline and all rotating components have come to a complete stop before leaving the operator's position.



AVOID INJURY OR DEATH

- **Do NOT** exceed the rated implement PTO speed.
- **Stay clear** of rotating driveline.
- **Keep bystanders away.**
- **Keep hands, feet, clothing and long hair away.**
- **Keep PTO shields and all guards in place.**
- **Disengage PTO, move the tractor controls to the Neutral position, stop the engine and make sure all rotating components are stopped before leaving the operator's position.**
- **Do NOT** service the tractor or implement with the PTO engaged.
- **Do NOT** service the implement in a raised position unless properly blocked and with all rotating components stopped.
- **Disengage PTO for road travel.**

Remove the PTO driveline from the tractor and place in storage position (if equipped).

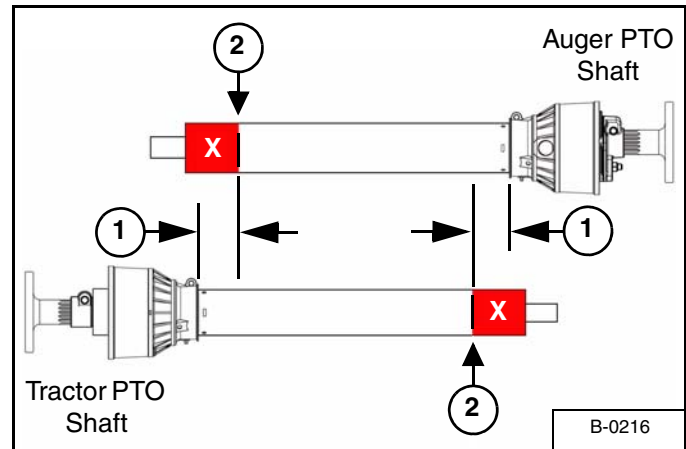
Enter the operator's position. (See "Entering The Operator's Position" on page 76.) Start the engine.

Raise or lower the auger to get the shortest distance between the tractor PTO shaft and auger gearbox PTO shaft.

Stop the engine and leave the operator's position. (See "Leaving The Operator's Position" on page 76.)

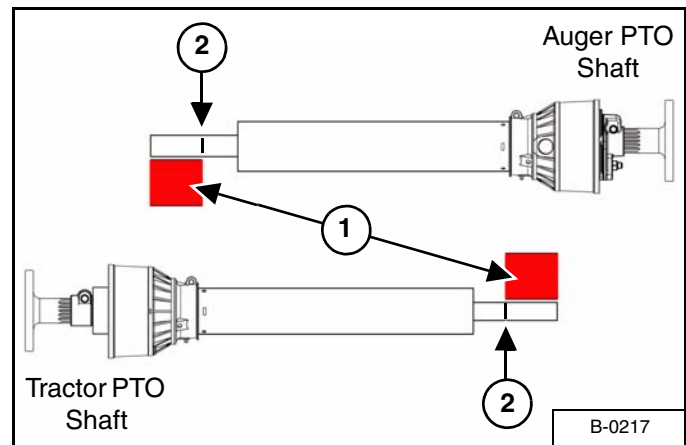
Pull the PTO driveline apart and reinstall each individual section; one half to the tractor PTO shaft and one half to the implement gearbox PTO shaft.

Figure 136



1. Hold PTO driveline sections parallel to one another and measure back 2 in. (50,8 mm) (Item 1) from the yoke of each section and place mark on opposite section. Cut the plastic shield at this length (Item 2) [Figure 136].

Figure 137



2. Using the plastic guard lengths that were cut off in [Figure 136], align the cut off lengths (Item 1) with the end of the inner & outer shafts. Place a mark (Item 2) [Figure 137] on the inner & outer shafts and cut the inner & outer shafts off at this length.
3. Round off all sharp edges and debur.
4. Thoroughly grease and install the PTO driveline halves together.
5. Recheck for proper operation.

PTO Driveline Engagement Check

Stop the engine and leave the operator's position. (See "Leaving The Operator's Position" on page 76.)

Make sure the PTO driveline and all rotating components have come to a complete stop before exiting the tractor.



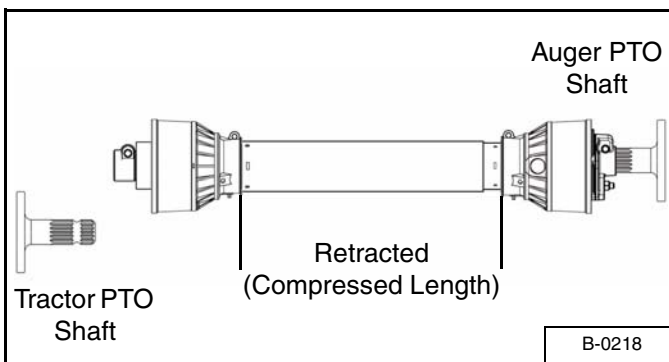
WARNING

AVOID INJURY OR DEATH

- Do NOT exceed the rated implement PTO speed.
- Stay clear of rotating driveline.
- Keep bystanders away.
- Keep hands, feet, clothing and long hair away.
- Keep PTO shields and all guards in place.
- Disengage PTO, move the tractor controls to the Neutral position, stop the engine and make sure all rotating components are stopped before leaving the operator's position.
- Do NOT service the tractor or implement with the PTO engaged.
- Do NOT service the implement in a raised position unless properly blocked and with all rotating components stopped.
- Disengage PTO for road travel.

1. Disconnect the PTO driveline from the tractor and fully slide the driveline sections together (retracted).

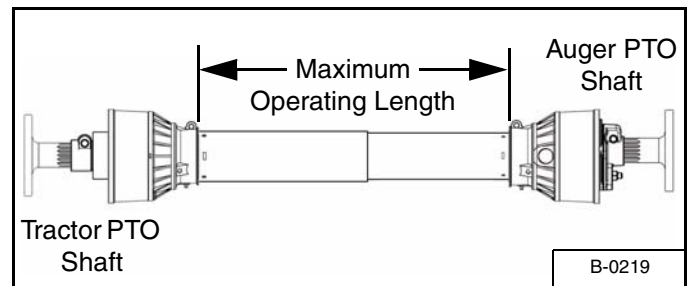
Figure 138



2. Measure the retracted (compressed) length of the PTO driveline between the bases of the plastic guards [Figure 138].

3. Multiply the retracted driveline length by 1.667 to determine the PTO driveline Maximum Operating Length. (i.e.: 25.5 in. (647,7 mm) x 1.667= 42.5 in. (1079,7 mm) Maximum Operating Length).
4. Attach the PTO driveline to the tractor PTO output shaft.
5. Enter the operator's position. (See "Entering The Operator's Position" on page 76.)
6. With the PTO driveline attached, position the auger to where the telescoping PTO driveline is at its maximum operating extension.
7. Stop the engine and leave the operator's position. (See "Leaving The Operator's Position" on page 76.) Make sure the PTO driveline and all rotating components have come to a complete stop before leaving the operator's position.

Figure 139



8. Measure the length of the PTO driveline between the bases of the plastic shields [Figure 139] to determine the maximum operating length.

A. If the measured maximum operating length is less than the Maximum Operating Length calculation (from Step 3), the PTO driveline has adequate engagement

B. If the measured maximum operating length is equal to or more than the Maximum Operating Length calculation (from Step 3), the PTO driveline does not have adequate engagement and should be replaced with a longer driveline. See your Farm King dealer for available PTO drivelines.

Connecting / Disconnecting Hydraulic Lines

WARNING



HIGH PRESSURE FLUID HAZARD

To prevent serious injury or death from high pressure fluid:

- Relieve pressure on system before repairing or adjusting.
- Wear proper hand and eye protection when searching for leaks. Use wood or cardboard instead of hands.
- Keep all components in good repair.

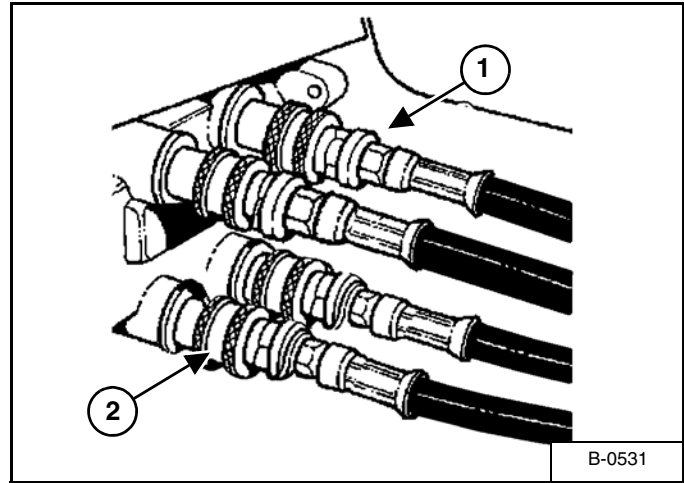
IMPORTANT

- Contain and dispose of any oil leakage in an environmentally safe manner.
- Thoroughly clean the quick couplers before making connections. Dirt can quickly damage the system.

NOTE: Make sure the quick couplers are fully engaged. If the quick couplers do not fully engage, check to see that the couplers are the same size and type.

To Connect:

Figure 140



Pull back on the collar of the female coupler, push couplers together, release the collar when the couplers are fully engaged and locked **[Figure 140]**.

1. First Circuit: Auger lift winch.
2. Second Circuit: Hydraulic hopper mover (if equipped).

To Disconnect:

WARNING

AVOID BURNS

Hydraulic fluid, tubes, fittings and quick couplers can get hot when running equipment. Be careful when connecting and disconnecting quick couplers.

Pull back on the collar and pull the male coupler out to disconnect.

Lower jack until weight of equipment is resting on tractor drawbar. Pull lock pin on jack and remove. Mount jack to storage bracket and secure with lock pin.

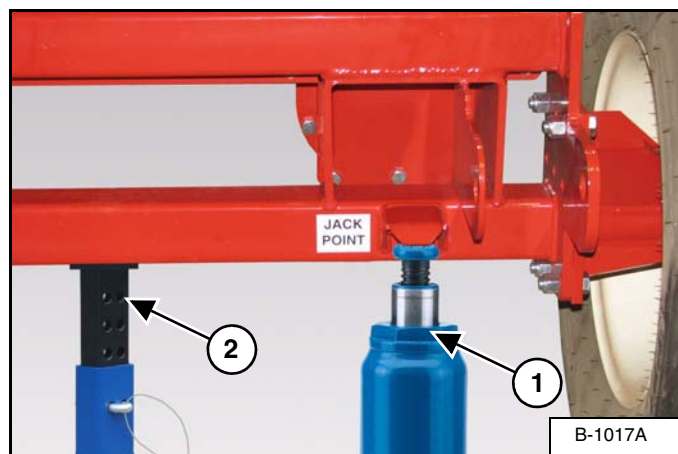
Axle Extension Installation



CRUSHING HAZARD

- Park the equipment on a solid level surface before raising any part of the equipment.
- Always support the load after raised.
- Do not work under a load supported by a jack or blocked parts.

Figure 141



Place a 5 Ton jack (Item 1) [Figure 141] under the axle.

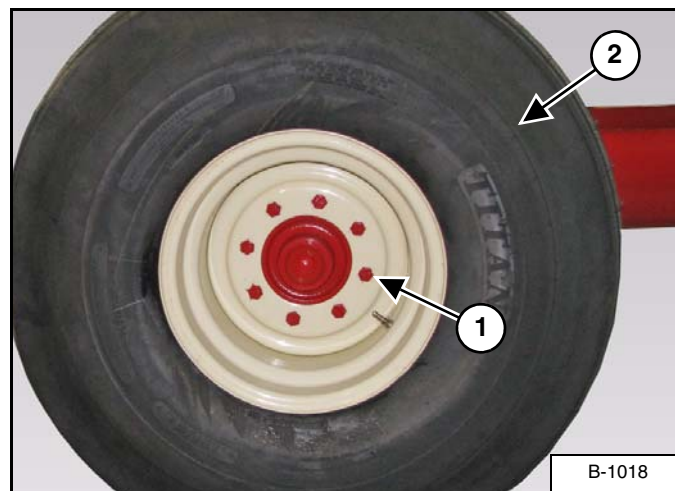


The base of the jack and jack stand should be fully supported and on solid level surface. When working on soft surfaces, put a sturdy metal plate under the base of the jack for stability.

Raise the jack / axle until the tire is off the ground.

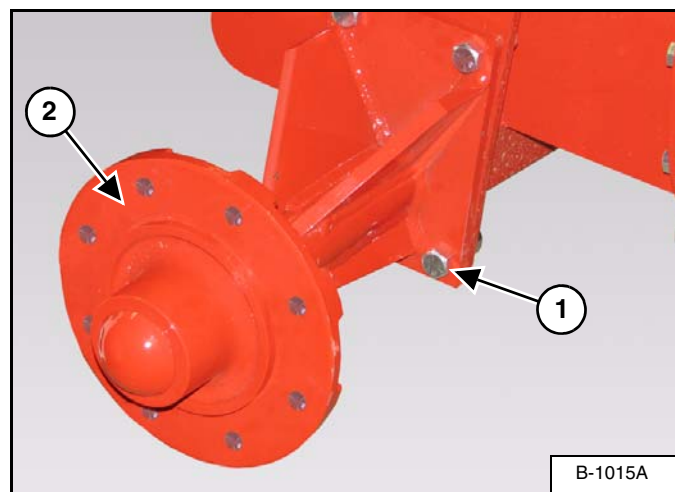
Place a jack stand (Item 2) [Figure 141] under the axle in the raised position (tire off the ground).

Figure 142



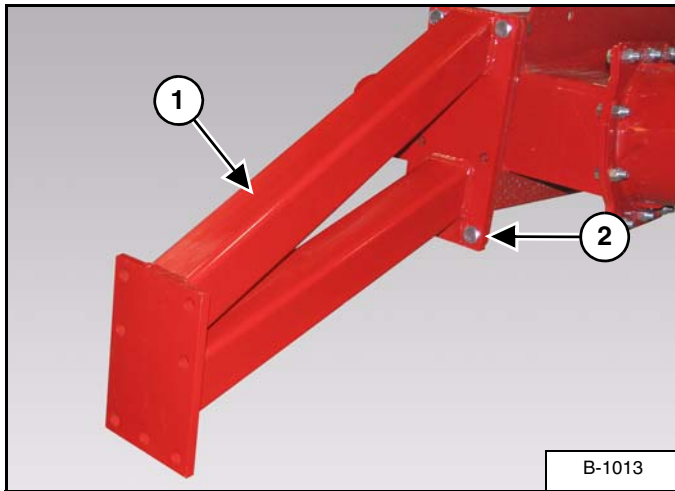
Remove the wheel bolts (Item 1) and remove the tire (Item 2) [Figure 142].

Figure 143



Remove the five 5/8" x 2" bolts (Item 1) and 5/8" lock nuts. Remove the hub assembly (Item 2) [Figure 143].

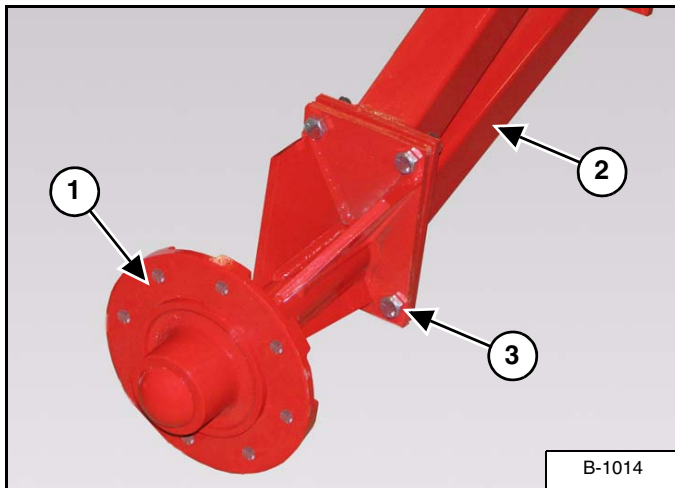
Figure 144



Align the axle extension (Item 1) with the axle mounting plate. Install five 5/8" x 2" bolts (Item 2) **[Figure 144]** (three bolts on the bottom / two on top) through the axle extension and axle mounting plate.

Install one 5/8" lock nut onto each 5/8" x 2" bolt. Tighten the bolts and nuts.

Figure 145

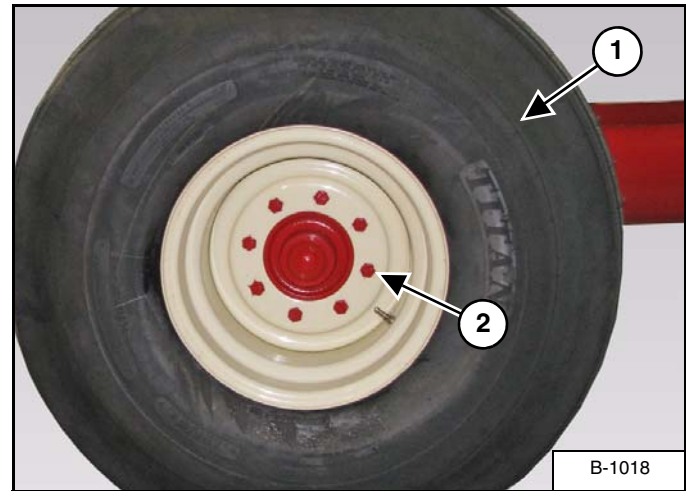


Align the hub assembly (Item 1) with the axle extension (Item 2) **[Figure 145]**.

Install five 5/8" x 2" bolts (Item 3) **[Figure 145]** (three bolts on the bottom / two on top) through the hub assembly.

Install one 5/8" lock nut onto each 5/8" x 2" bolt. Tighten the bolts and nuts.

Figure 146



Align and install the tire (Item 1). Install the eight wheel bolts (Item 2) **[Figure 146]**.

Tighten wheel bolts to 110 - 125 lb ft (149 - 169 N•m) of torque in a criss-cross pattern **[Figure 146]**.

NOTE: Recommended tire pressure is 45 - 50 PSI (310 - 345 kpa). Maximum tire pressure of 60 PSI (415 kpa).

Remove the jack and jack stand.

Repeat the procedure for the opposite axle extension.

Lowering And Raising The Hopper

WARNING



ENTANGLEMENT HAZARD

To prevent injury to fingers and hands:

- Keep hands clear of winch during operation.

CAUTION



CUT HAZARD

To prevent injury to fingers and hands:

- Always wear heavy leather gloves when handling a wire rope and operating the winch.
- Never guide the cable with your hands.
- Never let wire rope slip through your hands.

CAUTION

- Frayed, kinked or damaged wire rope must be replaced immediately.
- Always stand clear of wire rope and hopper during operation.
- Always stand clear and keep others away during operation.
- Never touch wire rope or hook while in tension or under load.
- Never touch wire rope or hook during winching operation.

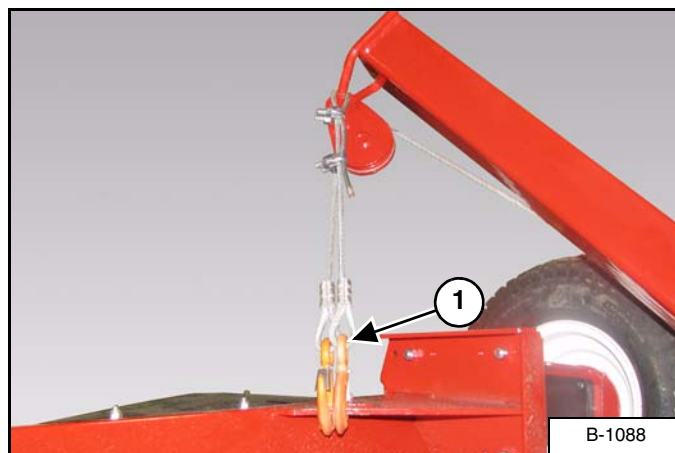
IMPORTANT

Always maintain a minimum of three wraps of cable on the drum of the winch.

Park the tractor / equipment on a flat level surface.

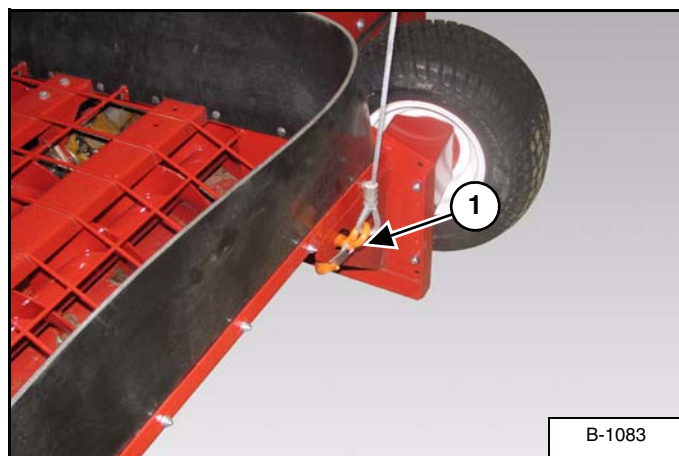
Stop the engine and leave the operator's position. (See "Leaving The Operator's Position" on page 76.)

Figure 147



Using the hand winch, raise the hopper to release tension on the safety chain hook (Item 1) [Figure 147]. Remove the safety chain hook.

Using the hand winch, lower the hopper to the ground.

Figure 148


Remove the hopper lift cable hook (Item 1) **[Figure 148]** from the hopper.

Hydraulic Hopper Mover Operation

CAUTION

Never operate the hydraulic hopper mover or hydraulic hopper lift when the PTO is engaged.

CAUTION

The hopper powered wheels are not designed to push grain, rocks, dirt etc. when in use. Always keep the area that the hopper moves over clear of all obstructions.

Lower the hopper. (See “Lowering And Raising The Hopper” on page 85.)

Enter the tractor and start the engine.

Engage the hydraulic circuit for the hopper mover control valve. Run the tractor engine at low idle.

Leave the operator’s position. (See “Entering And Leaving The Operator’s Position” on page 76.)

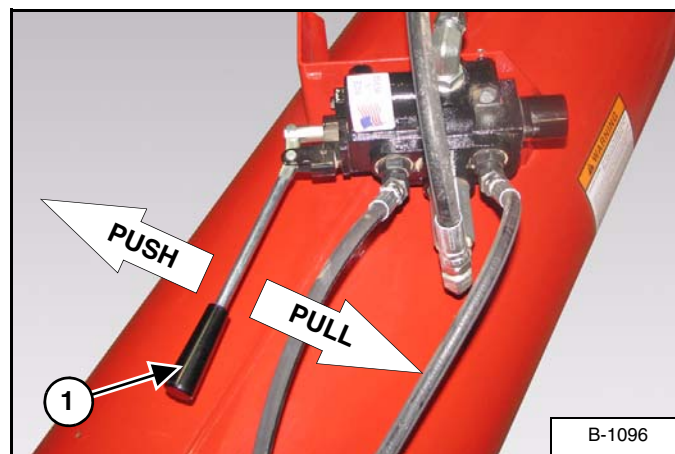
WARNING



AVOID INJURY OR DEATH

Before moving the hydraulic hopper, look in all directions and make sure no bystanders, especially small children are in the swing area of the hopper.

Figure 149



Pull / push the lever (Item 1) [Figure 149] to move the hopper to the desired location.

Move the hopper to the desired location. (See “Unloading Belly Dump Units” on page 93.) or (See “Unloading Rear And Side Dump Units” on page 95.) for additional information.

Raising The Auger



DANGER

ELECTROCUTION HAZARD

To prevent serious injury or death from electrocution:

- Be aware of overhead power lines.
- Keep away from power lines when transporting or raising auger.
- Electrocution can occur without direct contact.



DANGER

AVOID PERSONAL INJURY AND / OR EQUIPMENT DAMAGE

Always disconnect the winch hydraulic lines from the tractor after raising or lowering the auger. Accidental movement of the tractor hydraulic control valve may cause personal injury and / or equipment damage.



CAUTION

- Do not operate the unit before reading and understanding the Operator's Manual.
- Keep all safety devices in place.
- Keep off the equipment at all times.
- Keep hands, feet and clothing away from moving parts while in operation.
- Make certain everyone is clear of the equipment before applying power or moving the machine.
- Do not adjust, service, lubricate, clean, unclog or move the mechanism until all power is shut off.
- While in operation, always support the discharge end or provide adequate anchorage of the intake end to prevent sudden tipping.
- Disconnect power of electrical driven units before resetting motor over loads.
- To avoid tipping, make sure auger is empty before attempting to move.
- Keep wheels of undercarriage level and on firm ground.
- Lower unit to the recommended transport position before transporting.



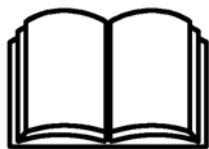
IMPORTANT

- Do not raise the main auger higher than 35° before lowering the intake auger or interference between the intake auger and the intake box will occur.
- Never attempt to raise or lower the auger during operation.
- Verify wheels are free to move.

! IMPORTANT

- Some types of fertilizer may cause accelerated wear and corrosion as well as added stress on lift components due to additional load.
- Use of fertilizer can affect warranty.

! IMPORTANT



Follow the instructions in your tractor's operation manual for the correct operating instructions.

! CAUTION

Disconnect The IID (PTO) from the tractor. Failure to follow this step EVERY time BEFORE maneuvering OR changing the auger elevation may cause damage to the tractor and / or auger IID.

Disconnect the PTO driveline from the tractor. (See "Connecting The PTO Driveline" on page 77.)

Enter the tractor, start the engine and release the parking brake.

Move the auger and tractor to the work area and park the auger and tractor on solid level surface.

Engage the tractor's parking brake, stop the engine and exit the tractor.

Install the axle extensions (if required). (See "Axle Extension Installation" on page 83.)

Enter the tractor, start the engine and release the parking brake.

With the axle extensions installed and main auger in the fully down position, move the auger towards the bin or barn. Position the auger as close as possible to the bin or barn with the tractor as close to in-line with the auger as possible.

! CAUTION

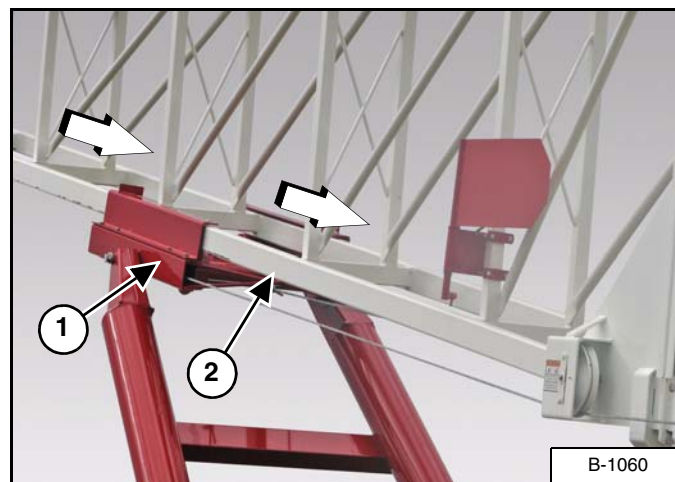
Keep wheels of undercarriage level and on firm ground. Raise the auger to the desired height and back the auger into position. Do not support the auger on the bin. As the auger becomes full, the weight may cause damage to the underside of the auger or to the bin.

! CAUTION

Do not place blocks under the wheels to increase the elevation of auger.

Stop the tractor and engage the parking brake. Engage the tractor's hydraulics. Run the tractor engine at low idle.

Figure 150



Using the tractor controls, slowly raise the main auger. The track car (Item 1) will move down the upper truss support (Item 2) [Figure 150] raising the auger.

⚠ WARNING

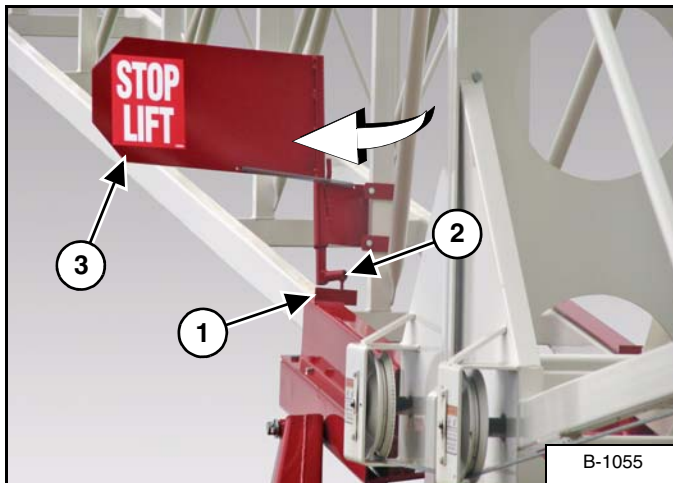


AVOID STRUCTURAL DAMAGE

Do not raise the auger beyond the point at which the STOP LIFT sign has been opened.

- Cable may break causing the auger to fall.
- Severe structural damage may occur.
- Operator must remain in the tractor's operating position while raising the auger.

Figure 151



When raising the auger to the desired height, if the tab (Item 1) on the top of the track car engages the trip lever (Item 2) and opens the STOP LIFT sign (Item 3) [Figure 151], STOP RAISING THE AUGER IMMEDIATELY.

Auger Placement

⚠ DANGER

ELECTROCUTION HAZARD

To prevent serious injury or death from electrocution:

- Be aware of overhead power lines.
- Keep away from power lines when transporting or raising auger.
- Electrocution can occur without direct contact.

⚠ CAUTION

- Do not operate the unit before reading and understanding the Operator's Manual.
- Keep all safety devices in place.
- Keep off the equipment at all times.
- Keep hands, feet and clothing away from moving parts while in operation.
- Make certain everyone is clear of the equipment before applying power or moving the machine.
- Do not adjust, service, lubricate, clean, unclog or move the mechanism until all power is shut off.
- While in operation, always support the discharge end or provide adequate anchorage of the intake end to prevent sudden tipping.
- Disconnect power of electrical driven units before resetting motor over loads.
- To avoid tipping, make sure auger is empty before attempting to move.
- Keep wheels of undercarriage level and on firm ground.
- Lower unit to the recommended transport position before transporting.

CAUTION

Disconnect The IID (PTO) from the tractor. Failure to follow this step EVERY time BEFORE maneuvering OR changing the auger elevation may cause damage to the tractor and / or auger IID.

Disconnect the PTO driveline from the tractor. (See “Connecting The PTO Driveline” on page 77.)

Enter the tractor, start the engine and release the parking brake.

Move the auger and tractor to the work area and park the auger and tractor on solid level surface.

Engage the tractor's parking brake, stop the engine and exit the tractor.

Install the axle extensions (if required). (See “Axle Extension Installation” on page 83.)

Enter the tractor, start the engine and release the parking brake.

With the axle extensions installed and main auger in the fully down position, move the auger towards the bin or barn. Position the auger as close as possible to the bin or barn with the tractor as close to in-line with the auger as possible.

CAUTION

Keep wheels of undercarriage level and on firm ground. Raise the auger to the desired height and back the auger into position. Do not support the auger on the bin. As the auger becomes full, the weight may cause damage to the underside of the auger or to the bin.

CAUTION

Verify that the auger wheels are free to move. Because of the scissors action of the auger undercarriage assembly, damage will occur to the auger if the wheels are not free to move.

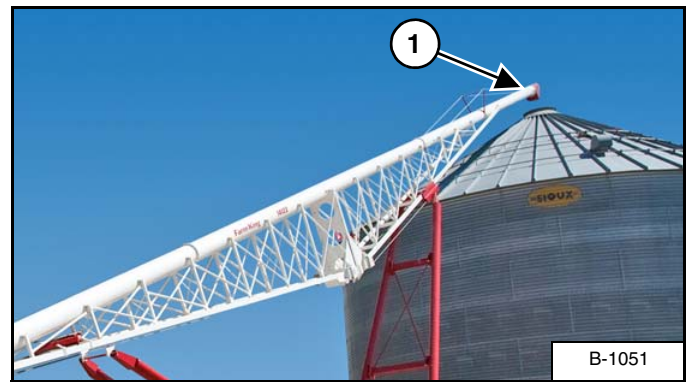
CAUTION

Do not place blocks under the wheels to increase the elevation of auger.

Stop the tractor and engage the parking brake. Engage the tractor's hydraulics. Run the tractor engine at low idle.

Raise the auger. (See “Raising The Auger” on page 88.)

Figure 152



Back the auger into position above the bin until the downspout (Item 1) [Figure 152] is centered on / over the opening on the bin. Lower the auger to the desired height above the bin.

Disengage the tractor hydraulics.

Engage the tractor's parking brake, stop the engine and exit the tractor. (See “Entering And Leaving The Operator's Position” on page 76.)

IMPORTANT

Disconnect the main auger winch hoses from the tractor to prevent accidental raising or lowering of the auger.

Disconnect the main auger winch hoses from the tractor.

Connect the PTO driveline. (See “Connecting The PTO Driveline” on page 77.)

Lower the hopper. (See “Lowering And Raising The Hopper” on page 85.)

Lowering The Auger



DANGER

ELECTROCUTION HAZARD

To prevent serious injury or death from electrocution:

- Be aware of overhead power lines.
- Keep away from power lines when transporting or lowering the auger.
- Electrocution can occur without direct contact.



DANGER

AVOID PERSONAL INJURY AND / OR EQUIPMENT DAMAGE

Always disconnect the winch hydraulic lines from the tractor after raising or lowering the auger. Accidental movement of the tractor hydraulic control valve may cause personal injury and / or equipment damage.



CAUTION

Disconnect The IID (PTO) from the tractor. Failure to follow this step EVERY time BEFORE maneuvering OR changing the auger elevation may cause damage to the tractor and / or auger IID.



CAUTION

- Do not operate the unit before reading and understanding the Operator's Manual.
- Keep all safety devices in place.
- Keep off the equipment at all times.
- Keep hands, feet and clothing away from moving parts while in operation.
- Make certain everyone is clear of the equipment before applying power or moving the machine.
- Do not adjust, service, lubricate, clean, unclog or move the mechanism until all power is shut off.
- While in operation, always support the discharge end or provide adequate anchorage of the intake end to prevent sudden tipping.
- Disconnect power of electrical driven units before resetting motor over loads.
- To avoid tipping, make sure auger is empty before attempting to move.
- Keep wheels of undercarriage level and on firm ground.
- Lower unit to the recommended transport position before transporting.

Disconnect the PTO driveline from the tractor. (See "Connecting The PTO Driveline" on page 77.)

Connect hydraulic hoses. (See "Connecting / Disconnecting Hydraulic Lines" on page 82.)

Raise the hopper. (See "Lowering And Raising The Hopper" on page 85.)

Enter the tractor, start the engine and release the parking brake.

Engage the tractor hydraulics.

NOTE: Verify that the discharge spout will clear the top of the bin (raise auger if needed).

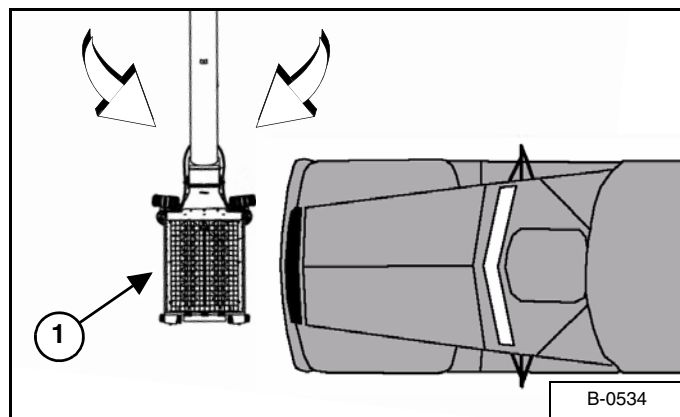
Move the auger and tractor away from the bin until there is adequate space to fully lower the auger.

Engage the tractor's parking brake, stop the engine and exit the tractor.

LOADING GRAIN INTO THE HOPPER

Unloading Belly Dump Units

Figure 153



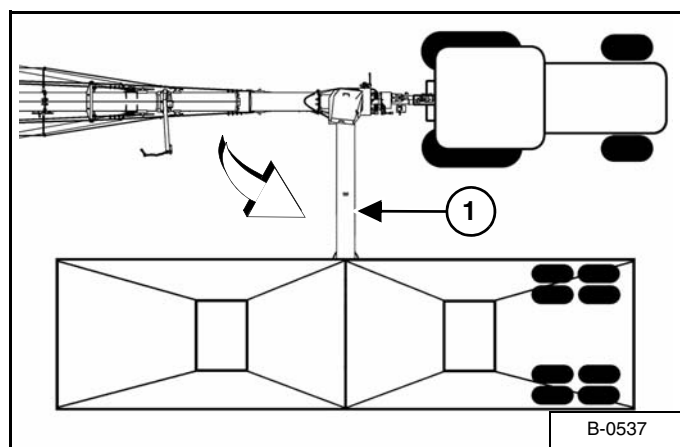
Move the hopper (Item 1) [Figure 153] out, at a 90° angle from the auger.

Move the belly dump unit into position, centered on the hopper [Figure 153].

Mark the path of the belly dump unit for future units to unload and maintain the proper distance from the auger to allow adequate space for the hopper to be moved in and out without interference.

Move the hopper mover lever left or right to move the hopper in towards the auger, away from vehicle traffic.

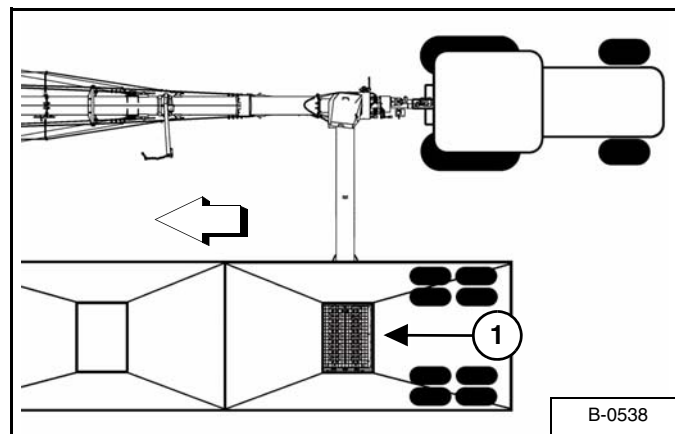
Figure 154



Move the belly dump unit straight forward until centered on the intake auger pivot. Stop the belly dump unit.

Move the hopper (Item 1) [Figure 154] under the belly dump unit.

Figure 155



Move the belly dump unit forward until the rear compartment is directly over the hopper (Item 1) [Figure 155].

WARNING



- **Do NOT exceed 540 RPM PTO.**
- **Keep PTO shields and all guards in place.**
- **Keep away from moving parts.**
- **Keep bystanders away.**

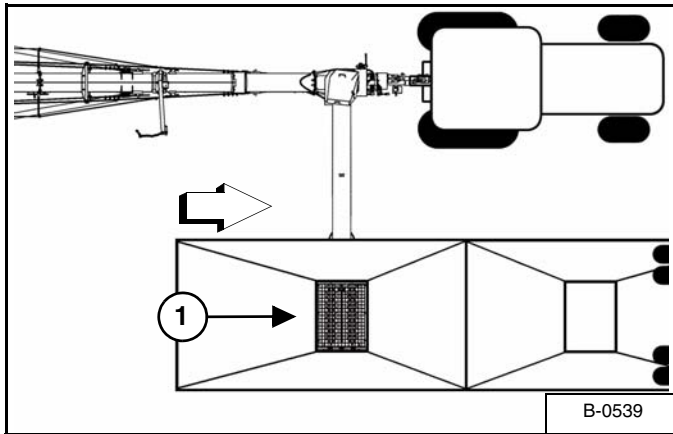
With tractor running at a low idle, engage the tractor PTO slowly to start the auger. Increase engine RPM (do not exceed 540 RPM PTO speed).

Slowly open the rear compartment gate.

Adjust gate until the hopper augers and intake auger can move grain to the main auger without overflowing the hopper.

When the rear compartment is empty, close the gate, disengage the PTO and lower engine RPM speed.

Figure 156



Move the belly dump unit back until the front compartment is directly over the hopper (Item 1) **[Figure 156]**.

WARNING



- **Do NOT exceed 540 RPM PTO.**
- **Keep PTO shields and all guards in place.**
- **Keep away from moving parts.**
- **Keep bystanders away.**

With tractor running at a low idle, engage the tractor PTO slowly to start the auger. Increase engine RPM (do not exceed 540 RPM PTO speed).

Slowly open the front compartment gate.

Adjust gate until the hopper augers and intake auger can move grain to the main auger without overflowing the hopper.

When the front compartment is empty, close the gate, disengage the PTO and lower engine RPM speed.

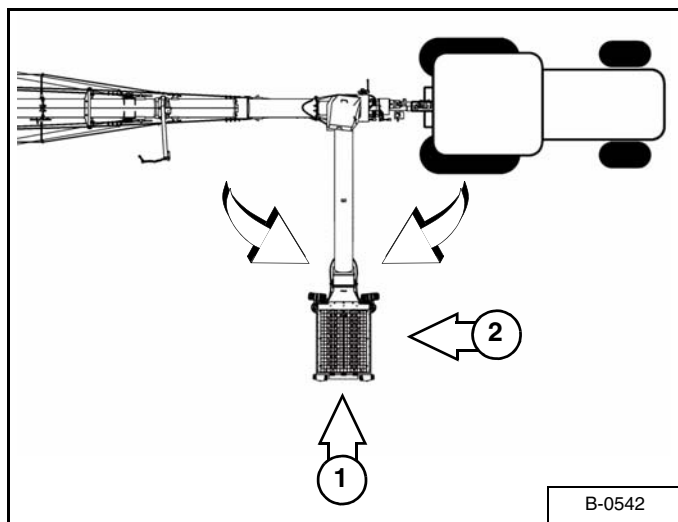
Move the hopper in the desired position away from vehicle traffic.

Disengage the tractor hydraulics and exit the tractor.

Unloading Rear And Side Dump Units

Rear Dump Units

Figure 157



Move the hopper out at a 90° angle from the auger [Figure 157].

Move the rear dump unit into the unloading position at the end of the hopper (Item 1) or on the tractor side of the hopper (Item 2) [Figure 157].

Position the gate of the rear dump unit over the hopper (as close to the center of the hopper as possible).

Stop the rear dump unit and engage the parking brake (if equipped).

WARNING



- Do NOT exceed 540 RPM PTO.
- Keep PTO shields and all guards in place.
- Keep away from moving parts.
- Keep bystanders away.

With tractor running at a low idle, engage the tractor PTO slowly to start the auger. Increase engine RPM (do not exceed 540 RPM PTO speed).

Slowly open the gate on the rear dump unit.

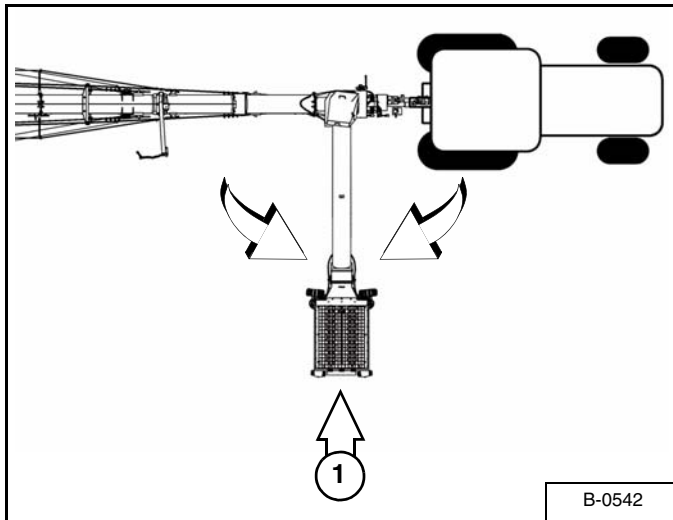
Adjust gate until the hopper augers and intake auger can move grain to the main auger without overflowing the hopper.

When the unit is empty, close the gate, disengage the PTO and lower engine RPM speed.

Disengage the tractor hydraulics and exit the tractor.

Side Dump Units

Figure 158



Move the hopper out at a 90° angle from the auger [Figure 158].

Move the side dump unit into the unloading position at the end of the hopper (Item 1) [Figure 158].

Position the gate of the side dump unit over the hopper (as close to the center of the hopper as possible).

Stop the side dump unit and engage the parking brake (if equipped).

WARNING



- Do NOT exceed 540 RPM PTO.
- Keep PTO shields and all guards in place.
- Keep away from moving parts.
- Keep bystanders away.

With tractor running at a low idle, engage the tractor PTO slowly to start the auger. Increase engine RPM (do not exceed 540 RPM PTO speed).

Slowly open the gate on the side dump unit.

Adjust gate until the hopper augers and intake auger can move grain to the main auger without overflowing the hopper.

When the unit is empty, close the gate, disengage the PTO and lower engine RPM speed.

Disengage the tractor hydraulics and exit the tractor.

TRANSPORTING

Requirements



ELECTROCUTION HAZARD

To prevent serious injury or death from electrocution:

- Be aware of overhead power lines.
- Keep away from power lines when transporting or raising auger.
- Electrocution can occur without direct contact.



Use of an unapproved hitch or tractor / tow vehicle can result in loss of control, leading to serious injury or death.

Tractor / tow vehicle and hitch must have the rated capacity to tow equipment.



- Do not operate the unit before reading and understanding the Operator's Manual.
- Make certain everyone is clear of the equipment before applying power or moving the machine.
- To avoid tipping, make sure auger is empty before attempting to move.
- Keep wheels of undercarriage level and on firm ground.
- Lower unit to the recommended transport position before transporting.
- Disconnect PTO driveline from the tractor before moving or transporting.



Never exceed 20 mph (32 kph).



Do not move or transport the auger unless the hopper and intake auger are in the raised / transport position and securely fastened before transporting.

Comply with federal, state, local and provincial laws regarding the transport of farm equipment on public roadways.

Verify that the tractor / tow vehicle are approved for transporting the equipment and that the equipment is securely attached to the tractor / tow vehicle.

Verify safety chain is installed and properly connected before transporting equipment.

Verify that the SMV (Slow Moving Vehicle) emblem, all lights and reflectors are clean and visible.

Always attach a red flag to the end of the auger when transporting on roads.

Disconnect the PTO driveline from the tractor before transporting.

Transporting Guidelines

The ratio of the tractor / tow vehicle weight to the loaded equipment weight plays an important role in defining acceptable travel speed.

TRAVEL SPEED - Acceptable travel speed.

WEIGHT RATIO - Weight of fully equipped or loaded implement(s) relative to weight of tractor / tow vehicle.

TRAVEL SPEED	WEIGHT RATIO
Up to 20 mph (32 kph)	1 to 1 (or less)
Up to 10 mph (16 kph)	2 to 1 (or less)
DO NOT TOW	More than 2 to 1

Transporting Procedure

Remove all supports on the discharge end and anchoring from the intake end (if required).

Disconnect the PTO driveline from the tractor. (See "Connecting The PTO Driveline" on page 77.)

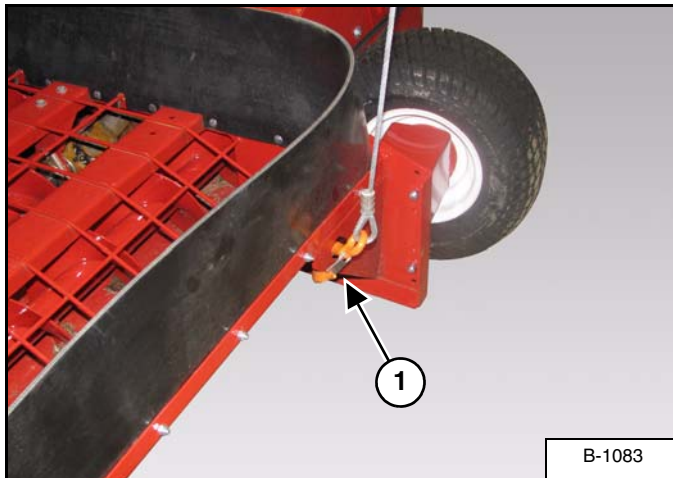
Lower the auger. (See "Lowering The Auger" on page 92.)

Raise the hopper. (See "Lowering And Raising The Hopper" on page 85.)

Enter the tractor, start the engine and engage the tractor's hydraulics.

Engage the hydraulic circuit for the hopper / winch control valve on the intake box. Run the tractor engine at low idle.

Figure 159



Install the boom cable (Item 1) [Figure 159] onto the hopper.

Figure 160



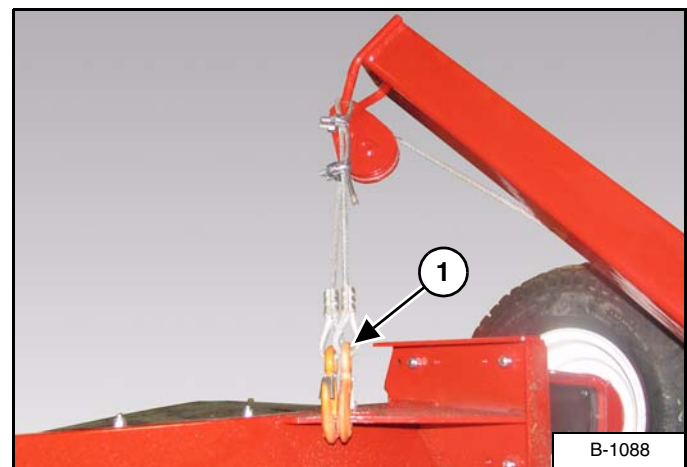
Using the hand winch, slowly raise the hopper into the transport position [Figure 160].

Raise the hopper until the safety chain hook can be installed.

WARNING

The weight of the hopper and intake auger assembly must be supported by the transport cable, whenever the auger is moved.

Figure 161



Install the safety chain hook (Item 1) [Figure 161] onto the hopper.

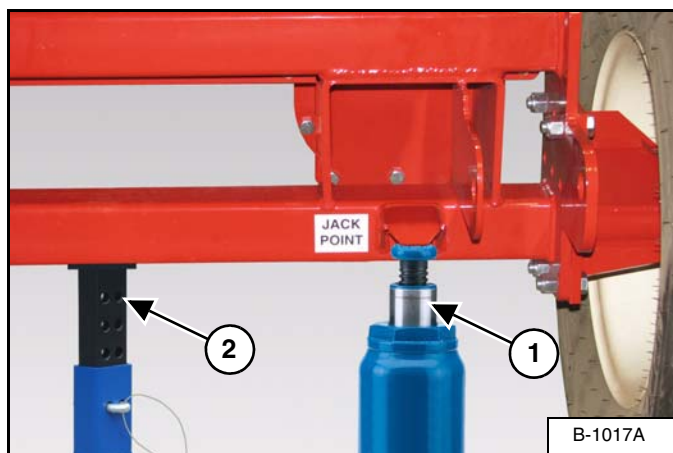
Lower the hopper until the safety chain hook is supporting the weight of the hopper and intake auger.



CRUSHING HAZARD

- Park the equipment on a solid level surface before raising any part of the equipment.
- Always support the load after raised.
- Do not work under a load supported by a jack or blocked parts.

Figure 162



Place a 5 Ton jack (Item 1) [Figure 162] under the axle.

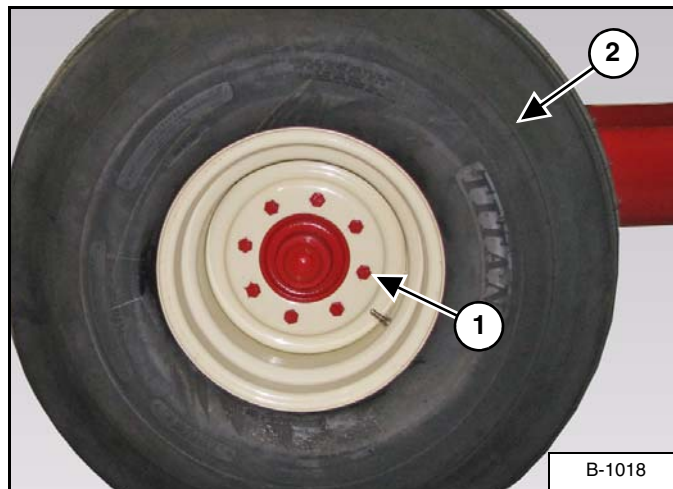


The base of the jack and jack stand should be fully supported and on solid level surface. When working on soft surfaces, put a sturdy metal plate under the base of the jack for stability.

Raise the jack / axle until the tire is off the ground.

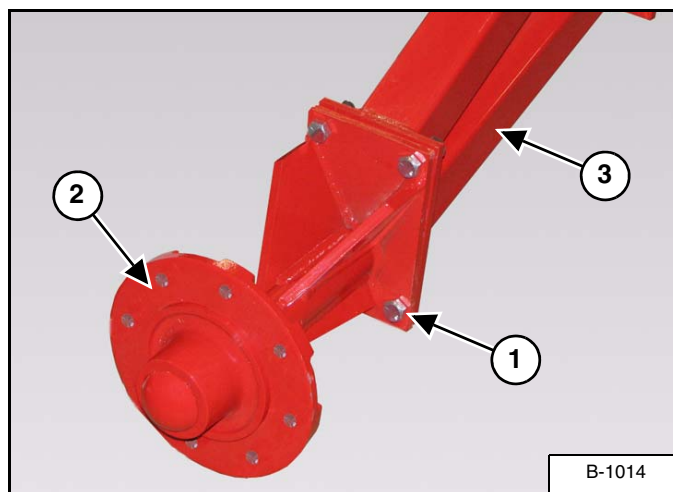
Place a jack stand (Item 2) [Figure 162] under the axle in the raised position (tire off the ground).

Figure 163



Remove the eight wheel bolts (Item 1) and remove tire (Item 2) [Figure 163].

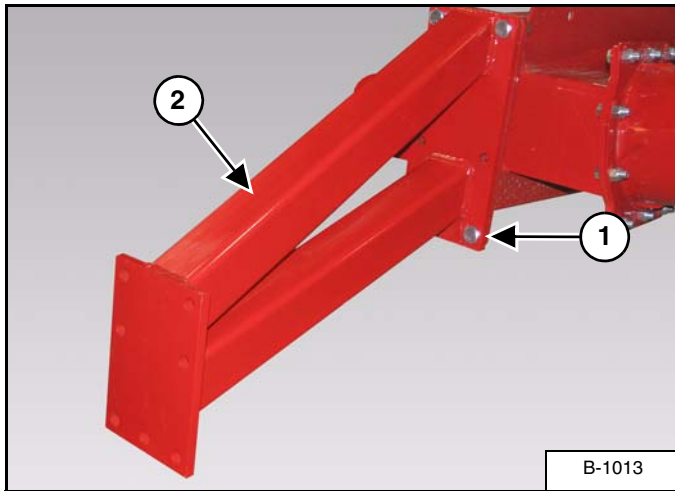
Figure 164



Remove five 5/8" x 2" bolts (Item 1) [Figure 164] (three bolts on the bottom / two on top).

Remove the hub assembly (Item 2) from the axle extension (Item 3) [Figure 164].

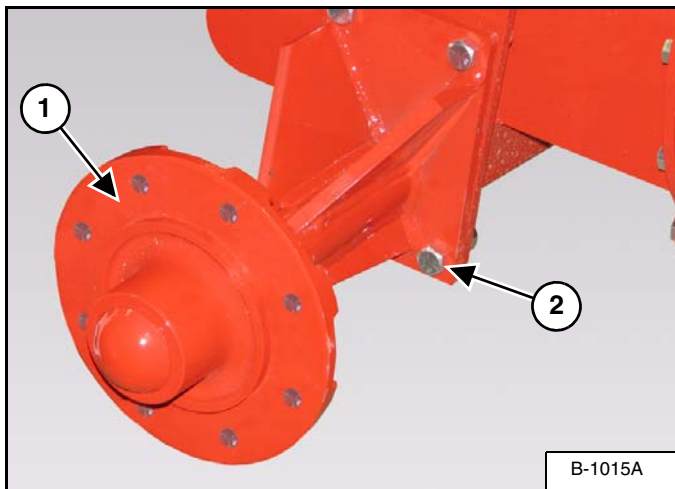
Figure 165



Remove the five 5/8" x 2" bolts (Item 1) [Figure 165] (three bolts on the bottom / two on top).

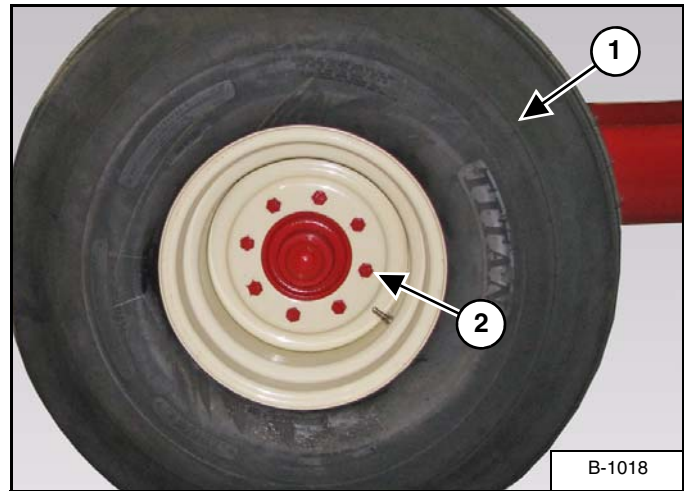
Remove the axle extension (Item 2) [Figure 165].

Figure 166



Install the hub assembly (Item 1) onto the axle. Install the five 5/8" x 2" bolts (Item 2) [Figure 166] and 5/8" lock nuts (three bolts on the bottom / two on top).

Figure 167



Align and install the tire (Item 1). Install the eight wheel bolts (Item 2) [Figure 167].

Tighten wheel bolts to 110 - 125 lb ft (149 - 169 N•m) of torque in a criss-cross pattern [Figure 167].

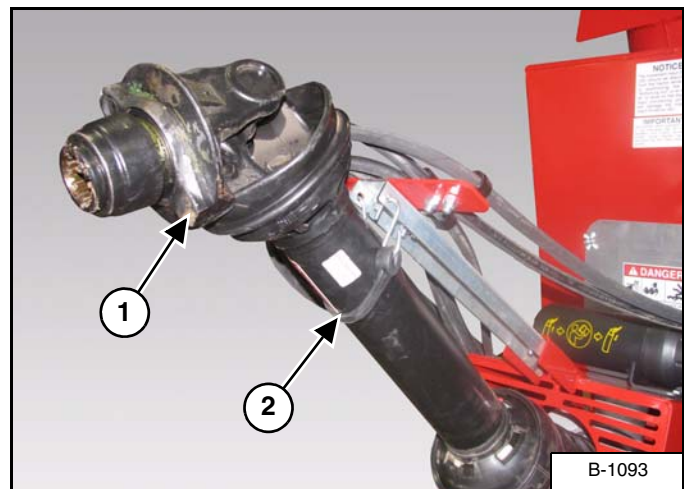
NOTE: Recommended tire pressure is 45 - 50 PSI (310 - 345 kpa). Maximum tire pressure of 60 PSI (415 kpa).

Remove the jack and jack stand.

Repeat the procedure for the opposite axle extension.

Disconnect all hydraulic lines from the tractor. (See "To Disconnect:" on page 82.)

Figure 168



Verify the PTO driveline (Item 1) is secured in the transport position with the rubber strap (Item 2) [Figure 168].

MAINTENANCE

TRUBLESHOOTING	103
Chart	103
SERVICE SCHEDULE	104
Maintenance Intervals	104
LUBRICATION	105
Recommendations	105
Locations	105
668 Upper Gearbox	109
968 Lower Gearbox	109
Cleaning And Inspection	109
AXLE	110
Wheel Bolt Torque	110
Tire / Wheel Replacement	110
MAIN AUGER SHEAR BOLT	111
Replacement	111
SAFETY SIGN (DECAL) INSTALLATION	112
Procedure	112
STORAGE AND RETURN TO SERVICE	113
Storage	113
Return To Service	113

Farm King



TROUBLESHOOTING

Chart



Instructions are necessary before operating or servicing equipment. Read and understand the Operator And Parts Manual and safety signs (decals) on equipment. Follow warnings and instructions in the manuals when making repairs, adjustments or servicing. Check for correct function after adjustments, repairs or service. Untrained operators and failure to follow instructions can cause injury or death.

NOTE: If a problem is encountered that is difficult to solve, even after having read through this troubleshooting section, please call your local distributor, dealer or factory. Before you call, please have this Operator And Parts Manual and the serial number of your machine at hand.

PROBLEM	CAUSE	CORRECTION
Excessive auger vibration.	Improper break-in of the auger.	Inspect flighting and / or tube. Replace flighting and / or tube if damaged.
	Running auger empty.	Inspect flighting and / or tube. Replace flighting and / or tube if damaged.
	Bent auger flighting.	Remove the flighting from the tube and inspect for straightness. Straighten the flighting and re-install.
	Improper PTO speed.	Operate the auger at 540 RPM PTO speed. Adjust speed as required.
Excessive shear bolt failure.	Starting or stopping the auger at maximum PTO speed.	Start and stop the auger at reduced PTO speed (approximately 270 RPM).
	Reduced PTO speed when full feeding the intake hopper.	Increase the PTO speed or reduce feed rate.
	Overloading the intake hopper.	Avoid overloading and force-feeding of the hopper.
	Starting the auger under load.	Empty auger completely before stopping.
	Wet grain.	Reduce the rate of flow into the intake hopper.
Plugging the auger.	Reduced PTO speed when full feeding the intake hopper.	Avoid overloading and force-feeding of the hopper.
	Overloading the intake hopper.	Avoid overloading and force-feeding of the hopper.
	Foreign objects in the auger.	Remove foreign objects from flighting and tube.
	Wet grain.	Reduce the rate of flow into the intake hopper.
	Snow or ice in grain.	Reduce the rate of flow into the intake hopper.

SERVICE SCHEDULE

Maintenance Intervals

Maintenance work must be done at regular intervals. Failure to do so will result in excessive wear and early failures. The service schedule is a guide for correct maintenance of the Backsaver Auger.



WARNING

Instructions are necessary before operating or servicing equipment. Read and understand the Operator and Parts Manual and safety signs (decals) on equipment. Follow warnings and instructions in the manuals when making repairs, adjustments or servicing. Check for correct function after adjustments, repairs or service. Untrained operators and failure to follow instructions can cause injury or death.

#	DESCRIPTION	SERVICE PROCEDURES						
		Check	Clean	Lube	Change	Adjust	Drain	Locations
Daily Maintenance (or every 6 - 8 hours)								
1	Hopper Hanger Bearings			•				
2	Drop Spout Hanger Bearing			•				
3	Hopper Flight U-Joints			•				
4	Hopper Telescoping Power Driveline			•				
5	Auger Main PTO Driveline			•				
Weekly (or every 50 hours)								
6	Track Car Sheaves			•				
7	Hopper Upper Gear Box			•				
8	Lower Auger Gear Box			•				
Annually (or every 500 hours)								
9	Hopper Upper Gear Box				•			
10	Lower Auger Gear Box				•			
11	Hopper Chain Case			•				

LUBRICATION

Recommendations

Always use a good quality multi-purpose / lithium base grease when lubricating the equipment.

! IMPORTANT

Do not over-grease bearings. Greasing too often can damage seals and lead to premature bearing failure.

- Always use a hand-held grease gun.
- Clean fitting before greasing, to avoid injecting dirt and grit.
- Replace and repair broken fittings immediately.
- If fittings will not take grease, remove and clean thoroughly. Replace fitting if necessary.

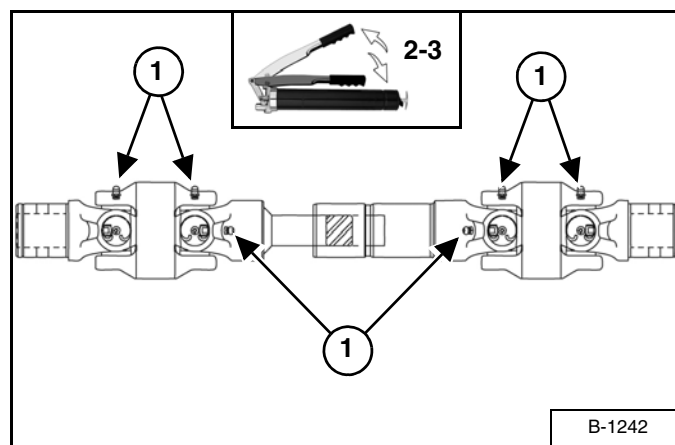
Locations

! IMPORTANT

Fluid such as engine oil, hydraulic fluid, coolants, grease, etc. must be disposed of in an environmentally safe manner. Some regulations require that certain spills and leaks on the ground must be cleaned in a specific manner. See local, state and federal regulations for the correct disposal.

Lubricate the following grease locations EVERY 8 HOURS:

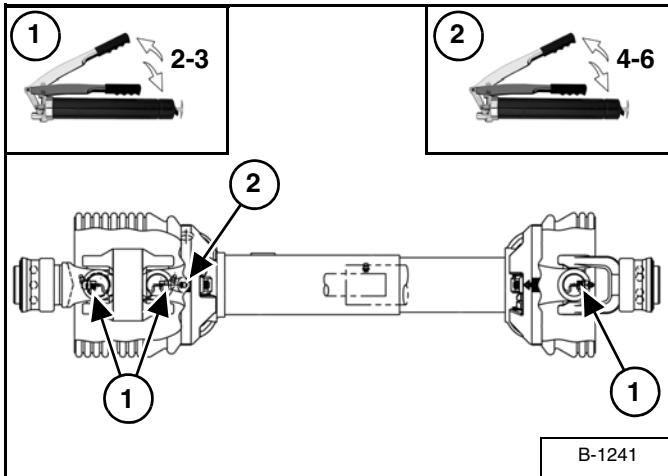
Figure 169



Apply two - three pumps of grease to the hopper telescoping power driveline (Item 1) [Figure 169].

NOTE: The auger PTO driveline is equipped with extended life bearings. Do not over-grease.

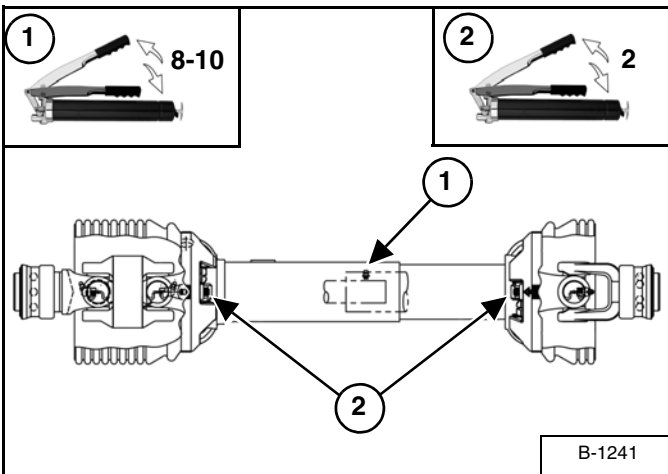
Figure 170



Apply two - three pumps of grease to the cross and bearings (Item 1) [Figure 170] on the auger PTO driveline.

Apply four - six pumps of grease to the C.V. ball and socket (Item 2) [Figure 170] on the auger PTO driveline.

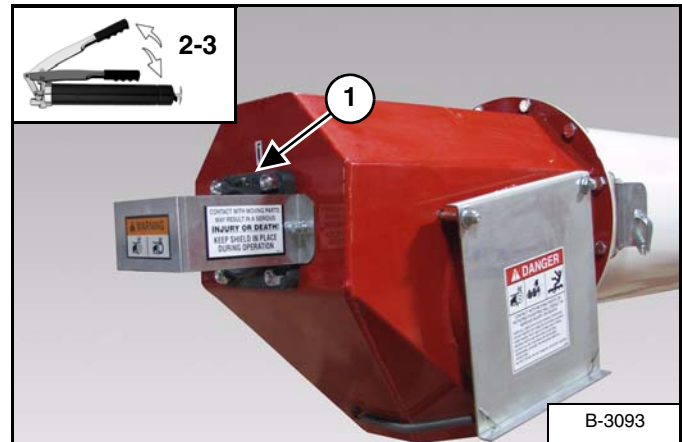
Figure 171



Apply eight - ten pumps of grease to the telescoping members (Item 1) [Figure 171] on the PTO driveline.

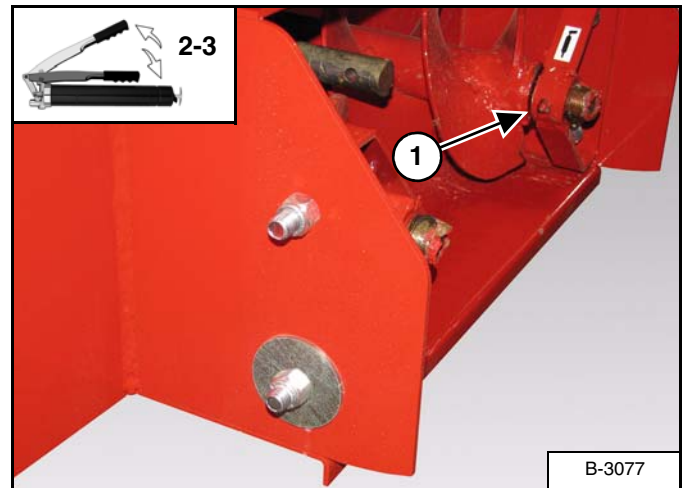
Apply two pumps of grease to the non-rotating guard bushings (Item 2) [Figure 171] on the PTO driveline.

Figure 172



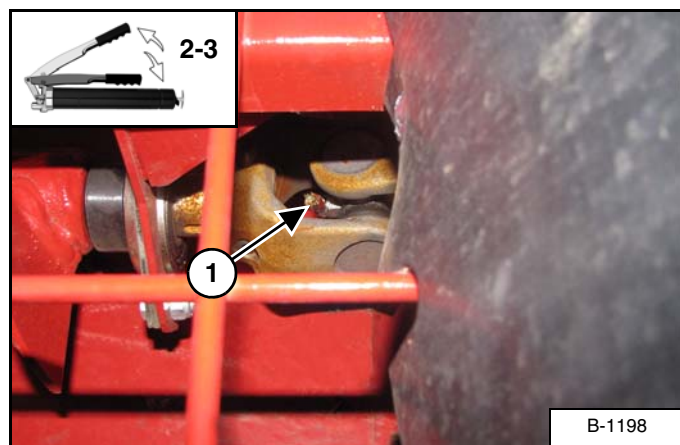
Apply two - three pumps of grease to the drop spout hanger bearing (Item 1) [Figure 172].

Figure 173



Apply two - three pumps of grease to the hopper hanger bearings (Item 1) [Figure 173] (both sides).

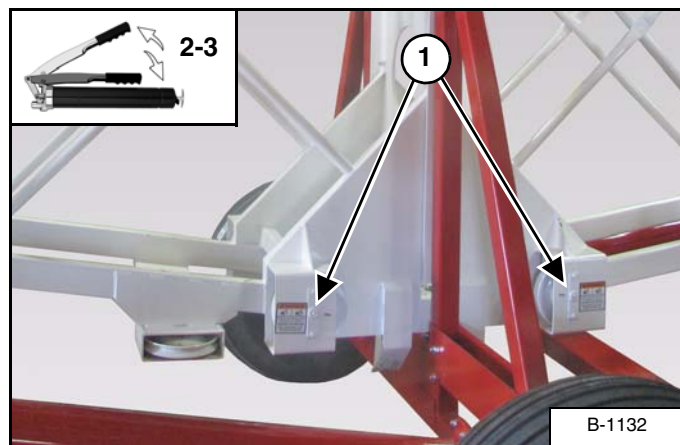
Figure 174



Apply two - three pumps of grease to the hopper flight u-joints (Item 1) **[Figure 174]**.

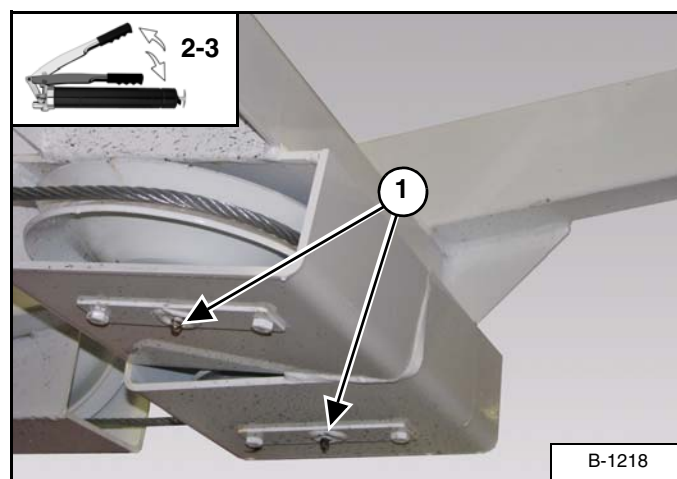
Lubricate the following grease locations EVERY 50 HOURS:

Figure 175



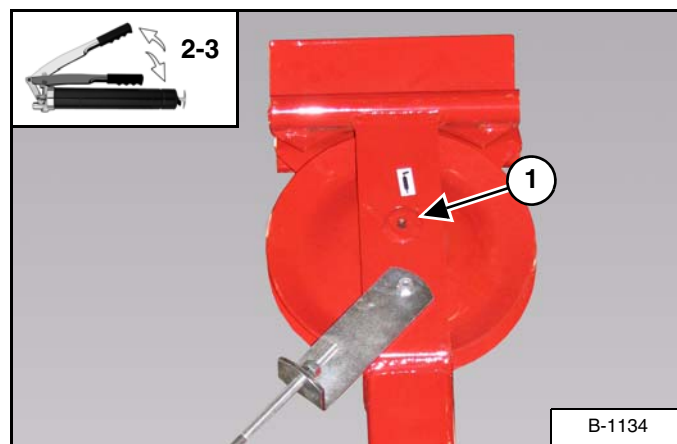
Apply two - three pumps of grease to the vertical sheaves (Item 1) **[Figure 175]** on the trusses (both sides).

Figure 176



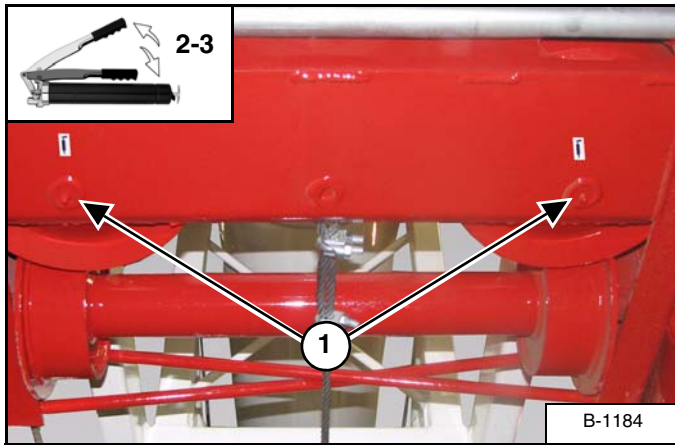
Apply two - three pumps of grease to the horizontal sheaves (Item 1) **[Figure 176]**.

Figure 177



Apply two - three pumps of grease to the top sheave (Item 1) **[Figure 177]** on the axle riser (both sides).

Figure 178



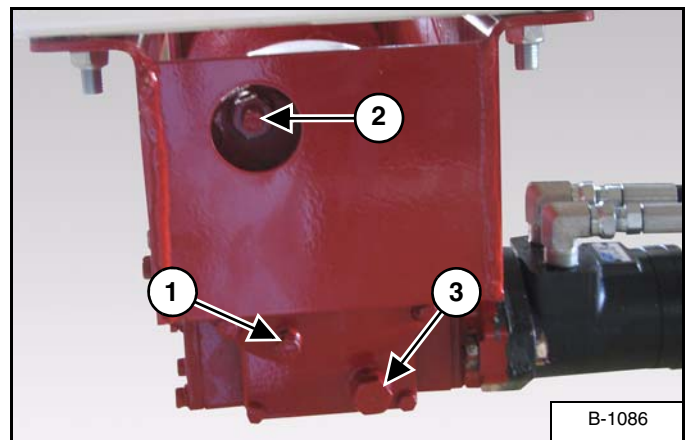
Apply two - three pumps of grease to the sheaves (Item 1) [Figure 178] on the track car.

Figure 179



Apply two - three pumps of grease to the hopper chain case (Item 1) [Figure 179].

Figure 180



Check the winch gearbox oil level every 50 hours or weekly.

NOTE: Oil should be changed after the first 24 hours of operating time. Then the oil should be changed every 100 hours of operating time, or every six months, whichever comes first.

Remove the level plug (Item 1) [Figure 180] from the gearbox. Oil level should be at the bottom of the plug hole.

If the oil level is low, Remove the vent / fill plug (Item 2) [Figure 180] and add SAE 80W-90 gear oil until the oil is at the bottom of the hole.

Changing Gear Oil

Remove the drain plug (Item 3) [Figure 180] and drain gear oil in a collection container.

When gear oil is drained completely, install and tighten the drain plug.

Remove the level plug (Item 1) [Figure 180].

Remove the vent / fill plug (Item 2) [Figure 180] and siphon all the gear oil from the gearbox.

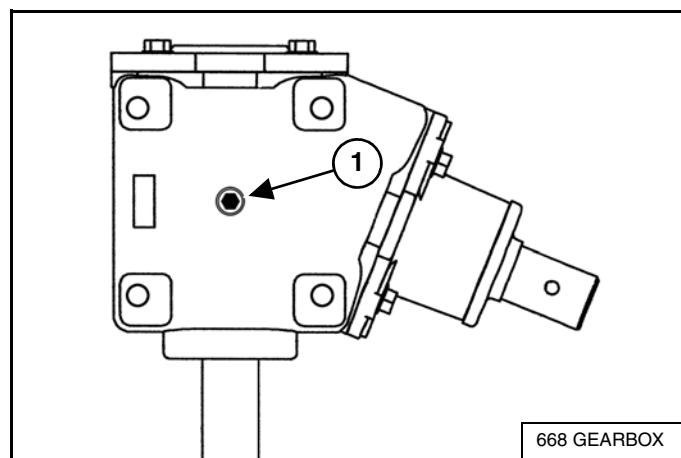
Fill with SAE 80W-90 gear oil (8 oz. capacity) to the bottom of the level plug hole. Install vent / fill plug and level plug.

! IMPORTANT

The oil capacity is 1/2 pint (8 oz.) to the bottom of the level plug opening; however, with heavy use, up to 2 pints should be used to cool and lubricate the winch properly.

668 Upper Gearbox

Figure 181



Check the gearbox oil level every 50 hours or weekly.

Remove the fill / drain plug (Item 1) **[Figure 181]** from the gearbox. Oil level should be at the bottom of the plug hole.

If the oil level is low, add SAE 80W-90 gear oil until the oil is at the bottom of the hole.

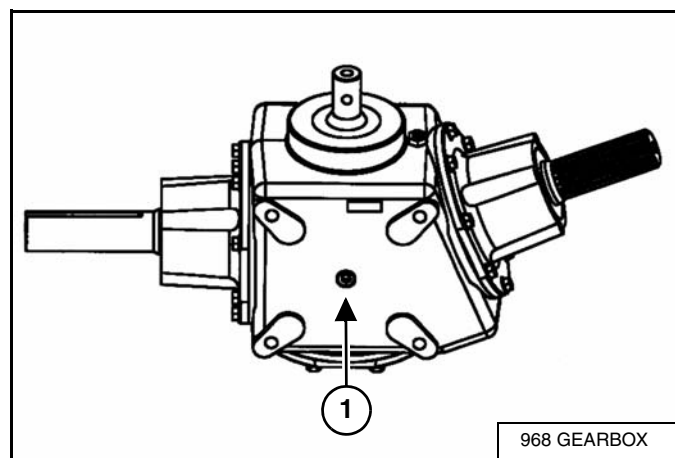
Changing Gear Oil

Remove the fill / drain plug (Item 1) **[Figure 181]** and siphon all the gear oil from the gearbox.

Fill with SAE 90 gear oil (18 oz. capacity) to the bottom of the plug hole. Install fill / side plug.

968 Lower Gearbox

Figure 182



Check the gearbox oil level every 50 hours or weekly.

Remove the fill / drain plug (Item 1) **[Figure 182]** from the gearbox. Oil level should be at the bottom of the plug hole.

If the oil level is low, add SAE 80W-90 synthetic gear oil until the oil is at the bottom of the hole.

Changing Gear Oil

Remove the fill / drain plug (Item 1) **[Figure 182]** and siphon all the gear oil from the gearbox.

Fill with SAE 80W-90 synthetic gear oil (192 oz. capacity) to the bottom of the plug hole. Install fill / side plug.

Cleaning And Inspection

NOTE: Inspect the driveline components, replace all damaged or worn components.

Use solvent to clean the shaft and tube. Use compressed air to dry and remove excess solvent from the parts.

Apply a light coat of grease to the shaft and the tube end.

Use solvent to clean the slide collars, yokes, crosses and bearings. Use compressed air to dry the parts.

Apply a light coat of grease to the inside of the slide collars.

AXLE

Wheel Bolt Torque

Check the torque on wheel bolts daily. Tighten bolts to 110 - 125 lb. / ft. (149 - 169 N•m) torque.

Tire / Wheel Replacement

Empty the Backsaver Auger (if required).



WARNING

AVOID INJURY OR DEATH

Before you leave the operator's position:

- Always park on a flat level surface.
- Place all controls in **NEUTRAL**.
- Engage the park brake.
- Stop the engine and remove the key.
- Wait for all moving parts to stop.

Park the tractor / equipment on a flat level surface.

Place all controls in neutral, engage the park brake, stop the engine and wait for all moving parts to stop. Leave the operator's position.



WARNING

AVOID INJURY OR DEATH

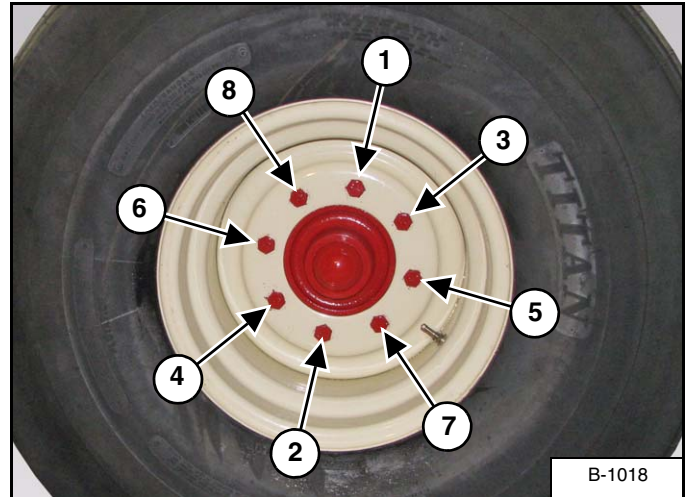
- The parking brake must be engaged before leaving the operator's position. Rollaway can occur because the transmission may not prevent machine movement.
- Always chock tires before performing any maintenance or service.

Place chock blocks behind and in front of the auger tire(s).

Place a jack under the axle frame on the side the wheel is to be replaced. Raise the jack until the wheel is slightly off the ground.

NOTE: Place blocks under the frame to help secure the auger when wheel is raised off the ground.

Figure 183



Tighten wheel bolts in a criss-cross pattern [Figure 183]. Tighten wheel bolts to 110 - 125 lb ft (149 - 169 N•m) of torque.

Lower the axle and tires to the ground. Remove the lifting device.

Check tire pressure.

NOTE: Recommended tire pressure is 45 - 50 PSI (310 - 345 kpa). Maximum tire pressure of 60 PSI (415 kpa).

MAIN AUGER SHEAR BOLT

Replacement

NOTE: 12" Backsaver Augers use a 5/16" x 3" grade 5 shear bolt, located on the top shaft of the lower gearbox and lower internal power shaft u-joint.

! IMPORTANT

Replace shear bolt only with specified size and grade (5/16" x 3" grade 5). Replacing with a higher grade bolt may result in damage to the drive components.

Enter the operator's position and turn tractor engine off. (See "Entering The Operator's Position" on page 76.)

! WARNING

AVOID INJURY OR DEATH

Before you leave the operator's position:

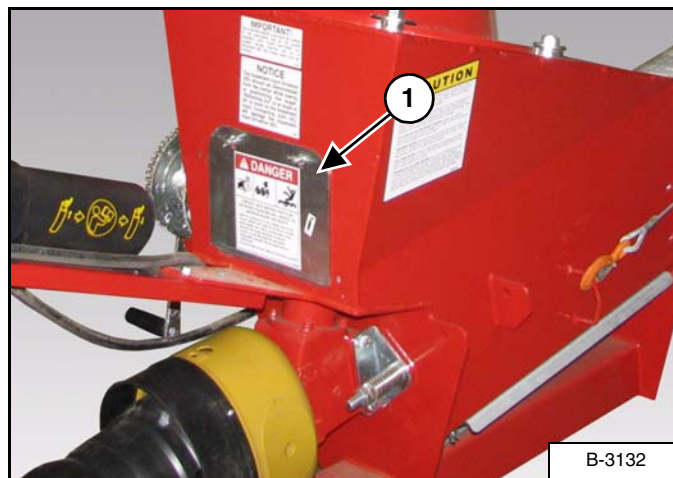
- Always park on a flat level surface.
- Place all controls in NEUTRAL.
- Engage the park brake.
- Stop the engine and remove the key.
- Wait for all moving parts to stop.

Leave the operator's position. (See "Leaving The Operator's Position" on page 76.)

Disconnect PTO driveline. (See "Disconnecting The PTO Driveline" on page 78.)

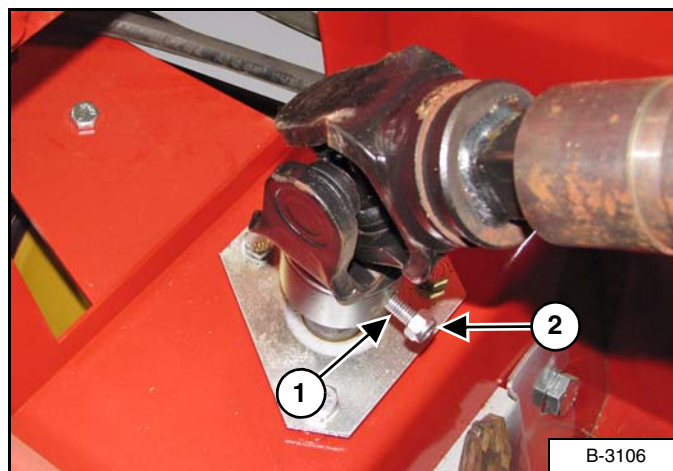
Disconnect hydraulic lines. (See "Connecting / Disconnecting Hydraulic Lines" on page 82.)

Figure 184



Remove access door (Item 1) [Figure 184].

Figure 185



Align mounting holes of top shaft of the lower gearbox and internal power shaft u-joint. Install one 5/16" x 3" bolt (Item 1) through the u-joint and lower gearbox shaft. Install one 5/16" lock nut (Item 2) [Figure 185] onto the bolt and tighten against the u-joint.

SAFETY SIGN (DECAL) INSTALLATION**Procedure**

When replacing safety signs (decals), the temperature must be above 10° C (50° F).

- Remove all portions of the damaged safety sign (decal).
- Thoroughly clean the area with glass cleaner. Removing all adhesive residue.
- Allow the area to dry completely before installing the new safety sign (decal).
- Position the safety sign (decal) in the correct location. Remove a small portion of the backing paper on the safety sign (decal).
- Press on the safety sign (decal) where the backing paper has been removed.
- Slowly remove the remaining backing paper, pressing on the safety sign (decal) as the backing paper is removed.
- Using the backing paper, pressing firmly, move the backing paper over the entire safety sign (decal) area.

NOTE: Small air pockets can be pierced with a pin and smoothed out using the piece of the backing paper.

STORAGE AND RETURN TO SERVICE

Storage

Sometimes it may be necessary to store your Farm King Backsaver Auger for an extended period of time. Below is a list of items to perform before storage.



DO NOT permit children to play on or around the stored machine.

- Thoroughly clean the equipment.
- Lubricate the equipment.
- Inspect the hitch and all welds on the equipment for wear and damage.
- Check for loose hardware, missing guards, or damaged parts.
- Check for damaged or missing safety signs (decals). Replace if necessary.
- Replace worn or damaged parts.
- Touch up all paint nicks and scratches to prevent rusting.
- Check the tightness of all cable clamps to avoid slipping.
- Inspect the cables for wear or corrosion. Replace if worn.
- Lubricate the cables.
- If stored outside, lower the auger to its lowest position and block the wheels so the auger will not move.
- Place the equipment flat on the ground.

Return To Service

After the Farm King Backsaver Auger has been in storage, it is necessary to follow a list of items to return the equipment to service.

- Be sure all shields and guards are in place.
- Lubricate the equipment.
- Connect to a tractor and operate equipment, verify all functions operate correctly.

Check for leaks. Repair as needed.

Farm King



PARTS IDENTIFICATION

GENERAL INFORMATION	117
HYDRAULIC PARTS	117
LOWER GEARBOX SZ0160112	118
UPPER GEARBOX SZ0160100	120
UNDERCARRIAGE	122
TRACK CAR GUIDE ASSEMBLY	123
AXLE EXTENSIONS	123
SPINDLE & HUB ASSEMBLY	124
AXLE RISERS	125
TRUSS	126
BRIDGING CABLE AND SUPPORT	127
DISCHARGE SPOUT	128
MAIN TUBE FLIGHTING	129
LIFT STOP	130
TRUSS LIFT WINCH	131
DRIVE SECTION	132
HOPPER ASSEMBLY	134
HOPPER DRIVE TUBE	136
HOPPER HEAD ASSEMBLY	138
HOPPER LIFT ASSEMBLY	140

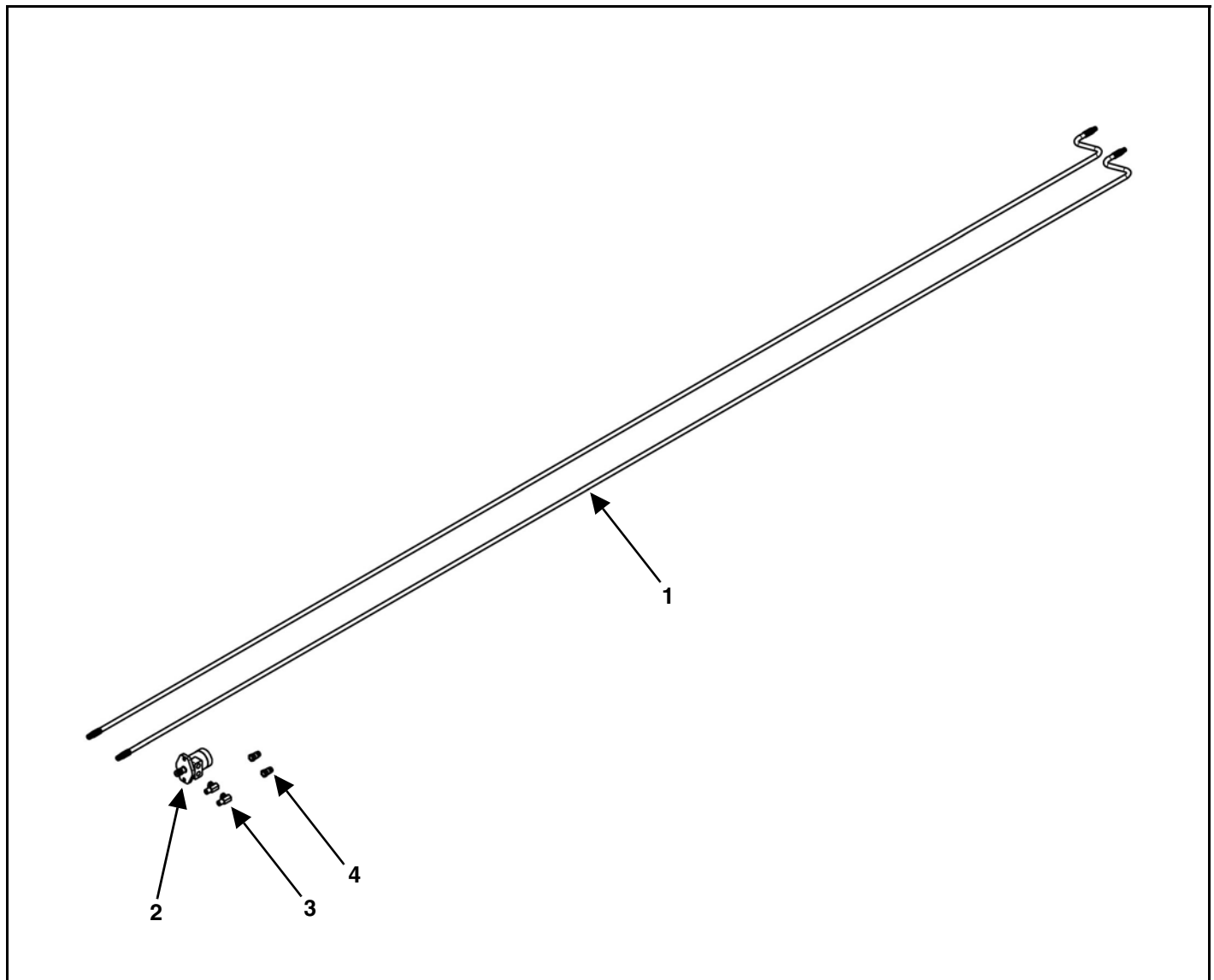
Farm King



GENERAL INFORMATION

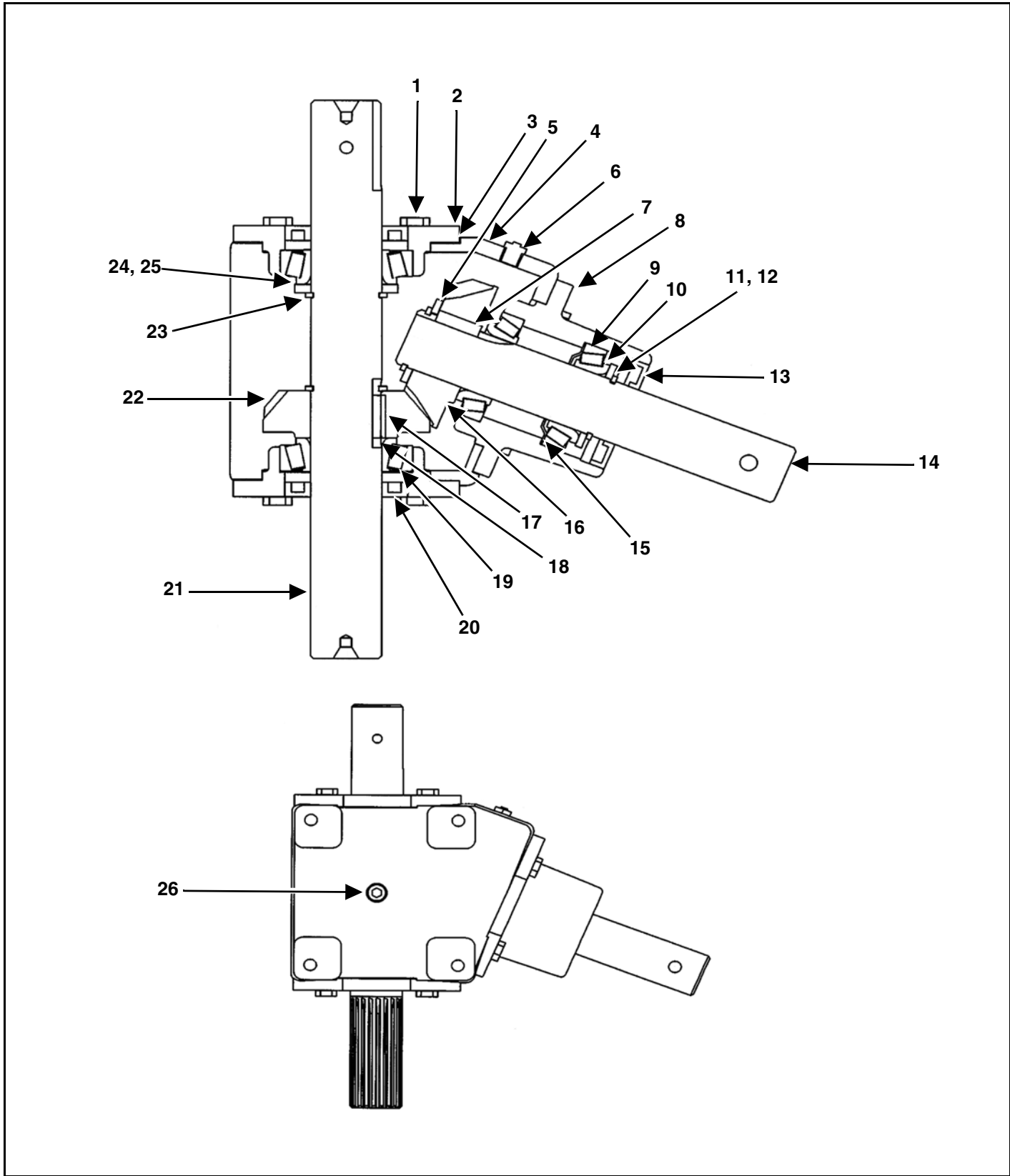
The parts identification section list descriptions, part numbers and quantities for 12112 & 12122 Backsaver Augers. Contact your Farm King dealer for additional 12112 & 12122 Backsaver Augers parts information.

HYDRAULIC PARTS



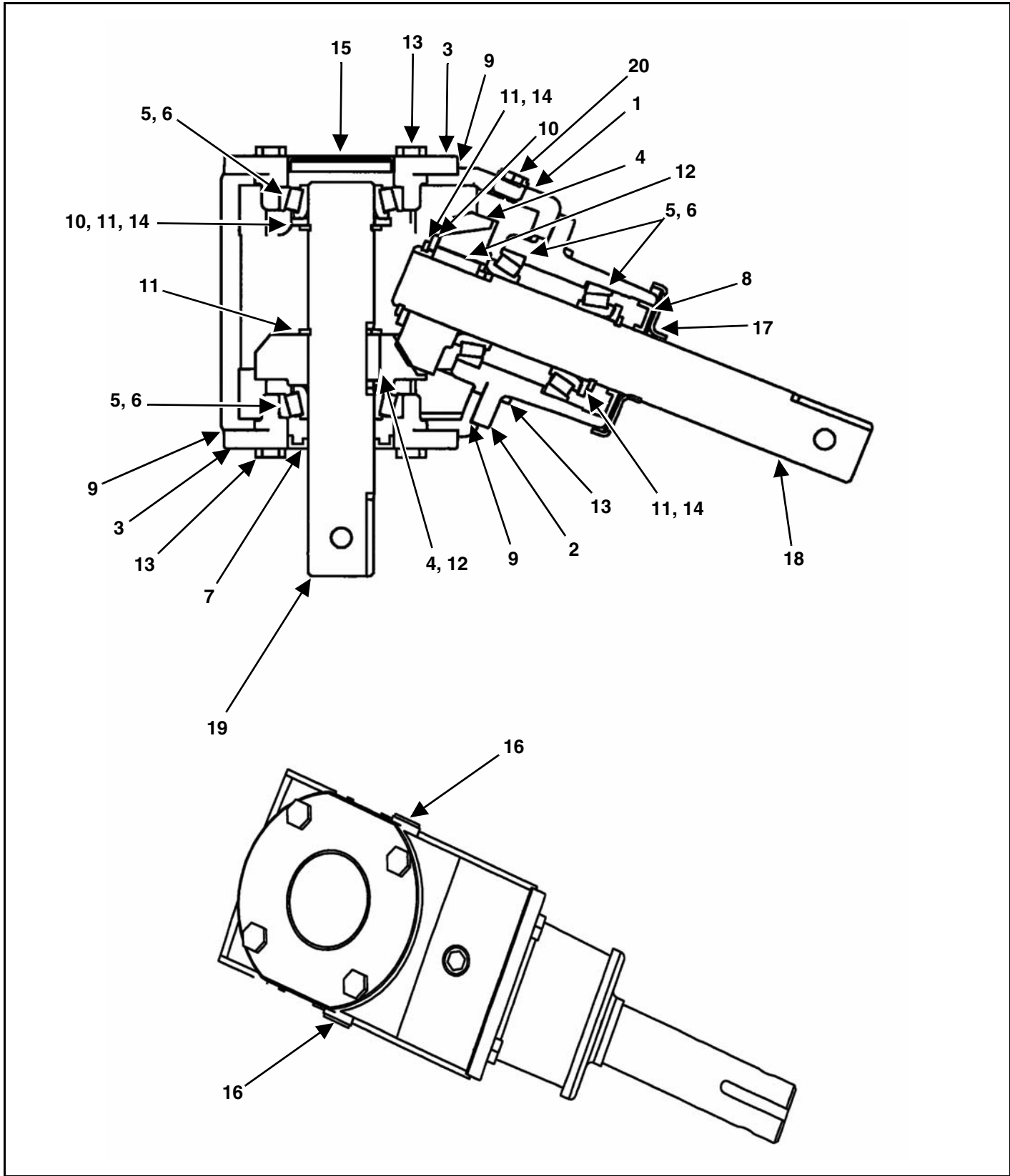
ITEM	PART NUMBER	DESCRIPTION	QTY
1	SZ105161	ASSEMBLY, HOSE HYDRAULIC, 3/8 312	2
2	SZ3981155	HYDRAULIC MOTOR, H SERIES 101-1026	1
3	SZ2123801	FITTING, 90	2
4	812208	NIPPLE, 1/2" BODY, 1/2"-14 NPTF, QUICK CONNECT	2

LOWER GEARBOX SZ0160112

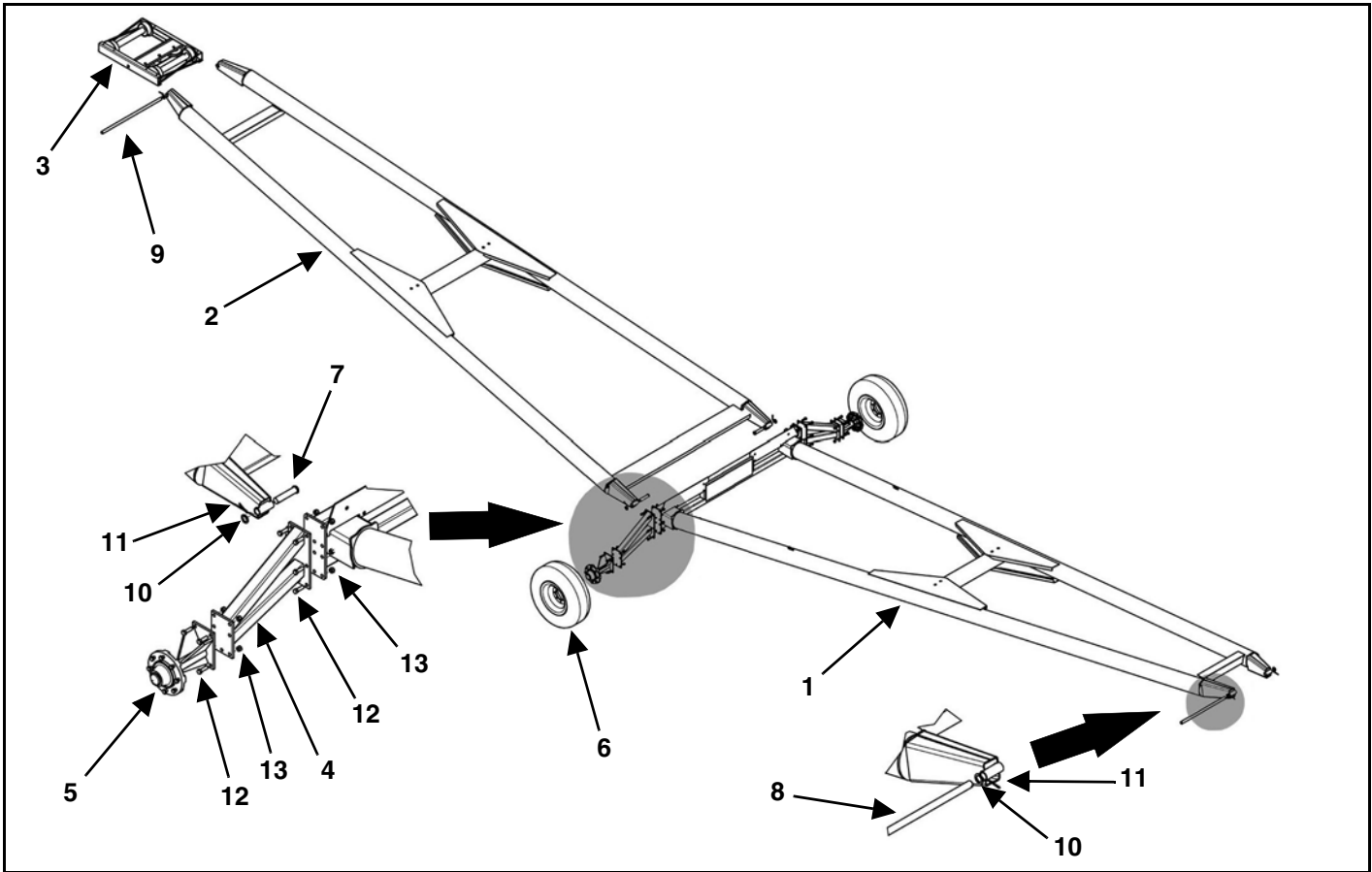


ITEM	PART NUMBER	DESCRIPTION	QTY
1	SZ126046	5/16-18UNC x 3/4" HHCS, G5	12
2	SZPG-4110	COVER	2
3	SZPG-1503	SHIM, 0.010	2
	SZPG-1502	SHIM, 0.0075	2
	SZPG-1501	SHIM, 0.005	2
4	N/A	CASE, 68 DEGREE	1
5	SZPG-1537	SHIM, 0.007 x 1.25 I.D.	1
6	SZPG-1853	VENT, 1/8 NPT, 5 PSI	1
7	SZPG-1650	KEY, 1/4 SQ x 7/8"	1
8	SZPG-1192	QUILL	1
9	SZ100126	BEARING CUP, (LM67010)	2
10	SZ100125	BEARING CONE, (LM67048)	2
11	SZPG-1805	WASHER, 1-1/4"	2
12	SZPG-1600	SNAP RING – 1-1/4"	2
13	SZ8742128904	SEAL	1
14	SZPG-5258	QUILL SHAFT	1
15	SZPG-2816	GREASE WASHER	1
16	SZPG-1246	GEAR, 68 DEGREE, 1-1/4"	1
17	SZPG-1665	KEY, 5/16 SQ x 7/8	1
18	SZ100151	BEARING CONE, (LM48548)	2
19	SZ100152	BEARING CUP, (LM48510)	2
20	SZPG-1480	SEAL	2
21	SZPG-5263	THRU SHAFT	1
22	SZPG-1296	GEAR, 68 DEGREE, 1-3/8"	1
23	SZPG-1614	SNAP RING, 1-3/8"	2
24	SZPG-1824	WASHER, 1-3/8"	1
25	SZPG-1534	SHIM, 0.007 x 1.375 I.D.	1
26	SZPG-1850	PLUG, 1/4 NPT	2

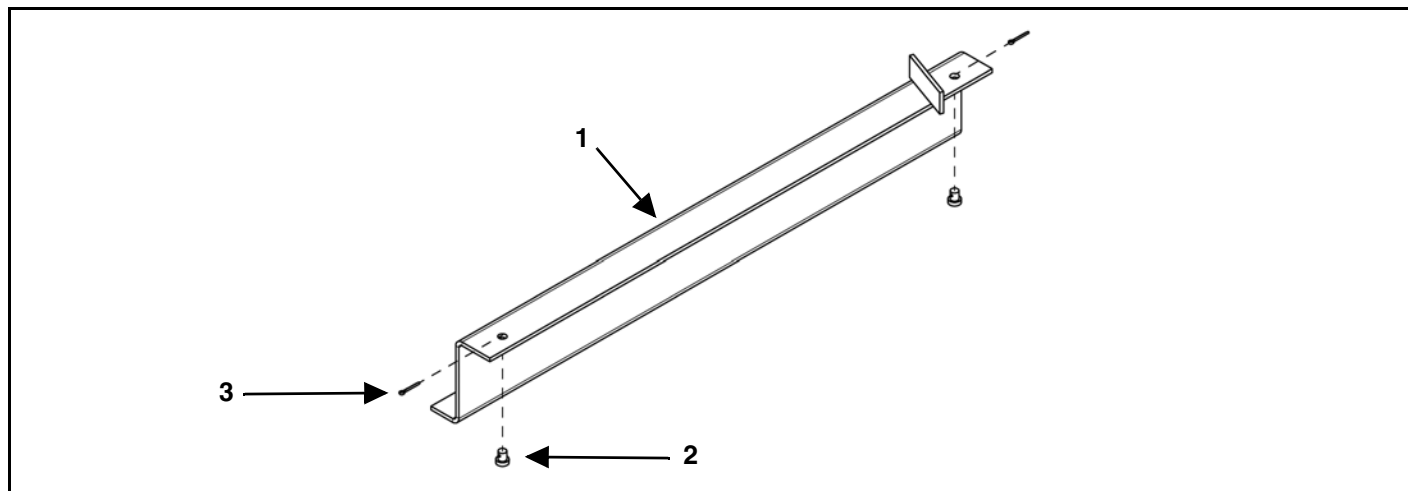
UPPER GEARBOX SZ0160100



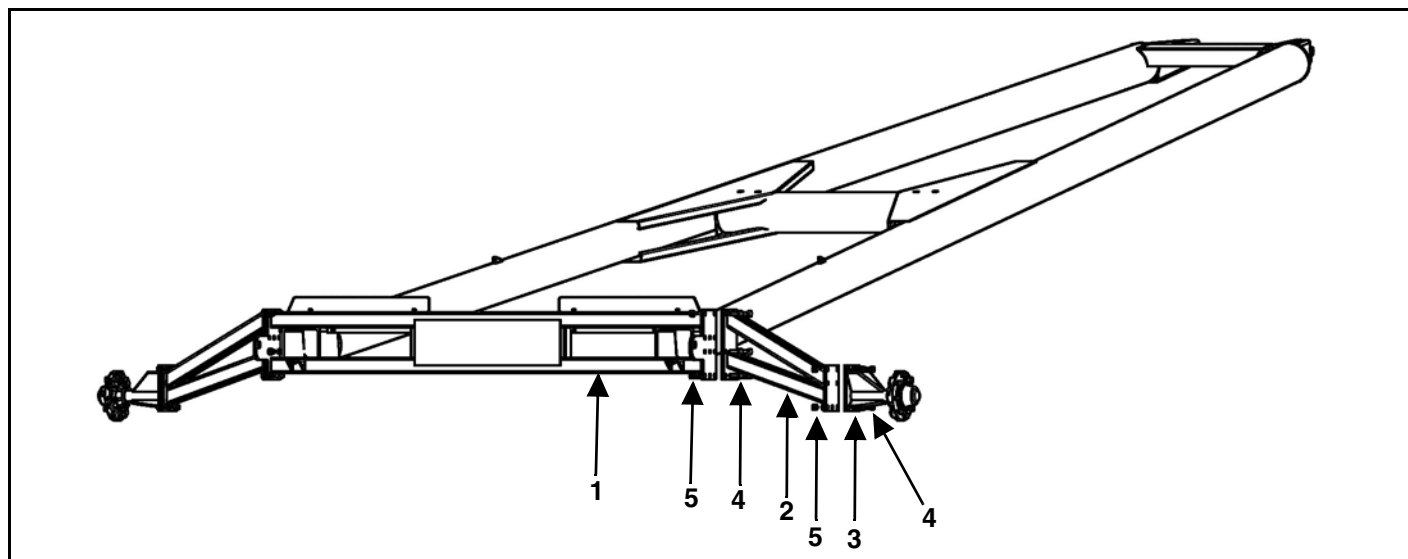
ITEM	PART NUMBER	DESCRIPTION	QTY
1	N/A	CASE, 68 DEGREE	1
2	SZPG-1192	QUILL	1
3	SZPG-1193	COVER, OPEN	2
4	SZPG-1246	GEAR, 19T, 1-1/4"	2
5	SZ100125	BEARING CONE, (LM67048)	4
6	SZ100126	BEARING CUP, (LM67010)	4
7	SZPG-1471	SEAL, 1.25 - 2.00	1
8	SZ8742128904	SEAL, 1.25 - 2.375	1
9	SZPG-1502	SHIM, COVER	3
10	SZPG-1537	SHIM, 1.25 - 0.007	2
11	SZPG-1600	SNAP RING, SH-125	4
12	SZPG-1650	KEY, 1/4" SQ	2
13	SZ126046	5/16"-18UNC X 3/4" HHCS	12
14	SZPG-1805	WASHER, 1.250 - 0.134	3
15	SZPG-1855	END CAP PLUG, 2.00	1
16	SZPG-1872	3/8" NPT PIPE PLUG	2
17	SZPG-2809-1	SHIELD, 1.25	1
18	SZPG-5161	QUILL SHAFT	1
19	SZPG-5162	CROSS SHAFT	1
20	NA	PIPE PLUG, 1/8" NPT	1

UNDERCARRIAGE


ITEM	PART NUMBER	DESCRIPTION	QTY
1	SZ102601	AXLE, WELDMENT, 12-112 & 122	1
2	SZ102602	UNDERCARRIAGE, WELDMENT, REAR, 12-112 & 122	1
3	SZ0211248	TRACK CAR ASSEMBLY, 12-122	1
4	SZ0211302	AXLE EXTENSION WELDMENT, 12-122	2
5	SZ02113001	SPINDLE & HUB ASSEMBLY, 12-122	2
6	SZ000100	TIRE ASSEMBLY	2
7	SZ0216319	FRONT & REAR ARM PIN, WELDMENT	2
8	SZ0216329	1-1/4" CR ROUND x 29-5/8" FRONT	1
9	SZ1247011	1-1/4" CR ROUND x 40-1/4", 12-122	1
10	SZ0231250	WASHER, FLAT, 1-1/4 x 1-7/8 10GA	6
11	SZ6001420	PIN, COTTER, 1/4" x 2"	6
12	SZ126114	BOLT, HHCS, 5/8-11UNC 2" G5	22
13	SZ125036	LOCK NUT, 5/8" - 11UNC	22

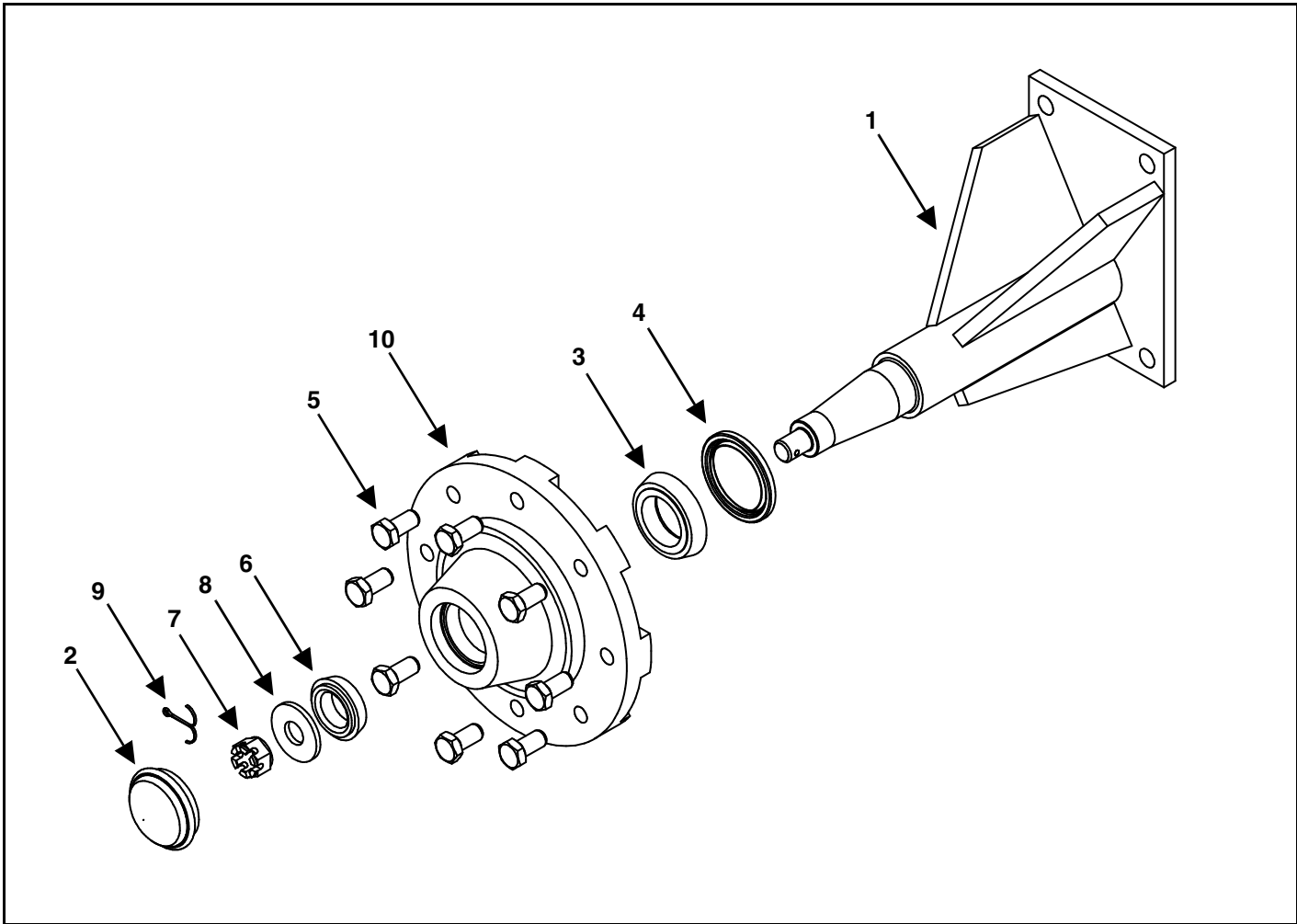
TRACK CAR GUIDE ASSEMBLY


ITEM	PART NUMBER	DESCRIPTION	QTY
1	SZ0211249	GUIDE, TRACK CAR, 12112 / 12122	1
2	SZ990211248008	3/8" DIA x 13/16" NYLON BUSHING	2
3	SZ128016	COTTER PIN, 1/8" x 1"	2

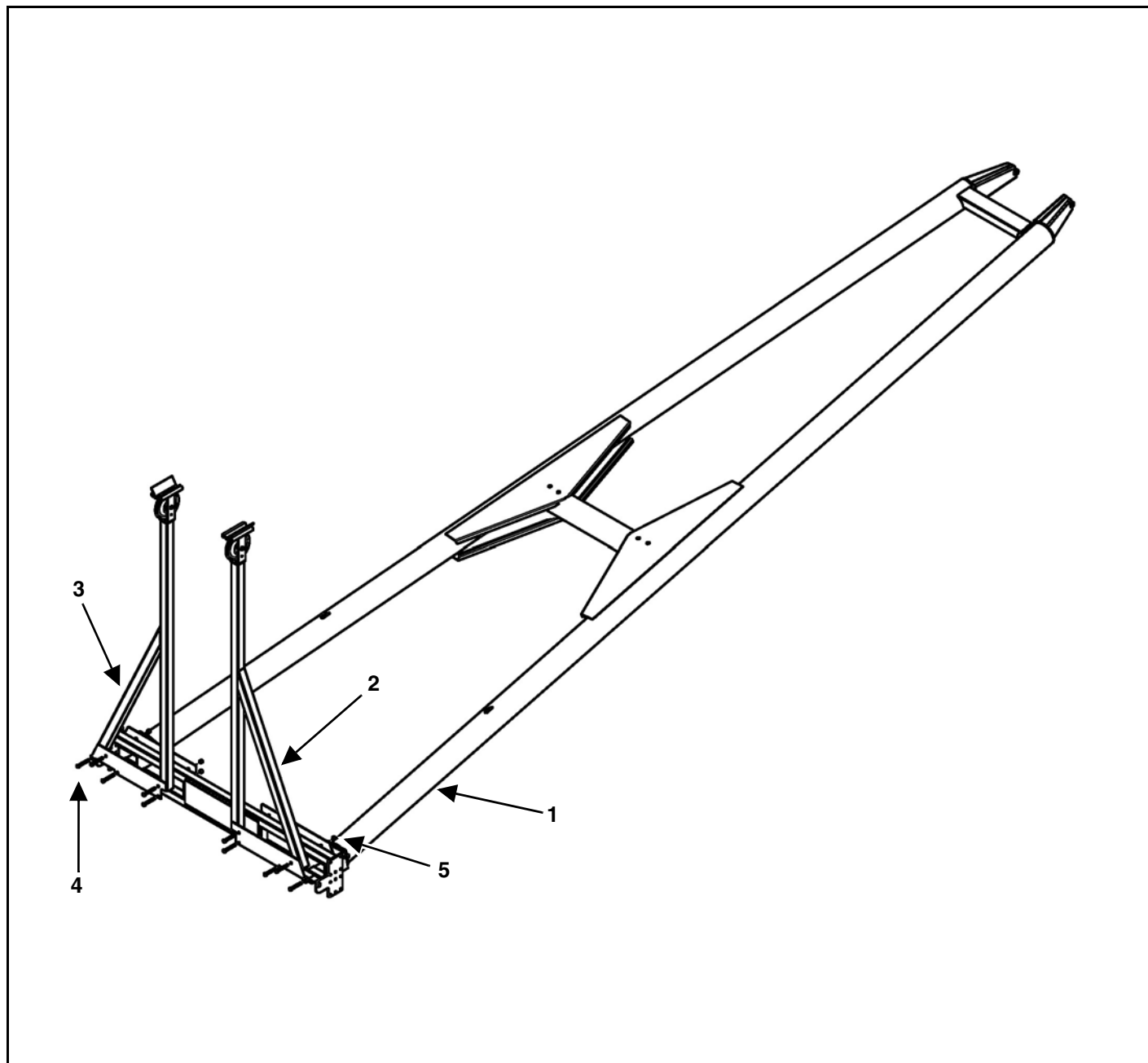
AXLE EXTENSIONS


ITEM	PART NUMBER	DESCRIPTION	QTY
1	SZ102601	AXLE, UNDERCARRIAGE, WELDMENT	1
2	SZ0211302	AXLE, EXTENSION WELDMENT	2
3	SZ02113001	SPINDLE & HUB ASSEMBLY	2
4	SZ126114	BOLT, HHCS, 5/8" - 11 UNC x 2" G5	22
5	SZ125036	LOCK NUT, 5/8" - 11 UNC	22

SPINDLE & HUB ASSEMBLY

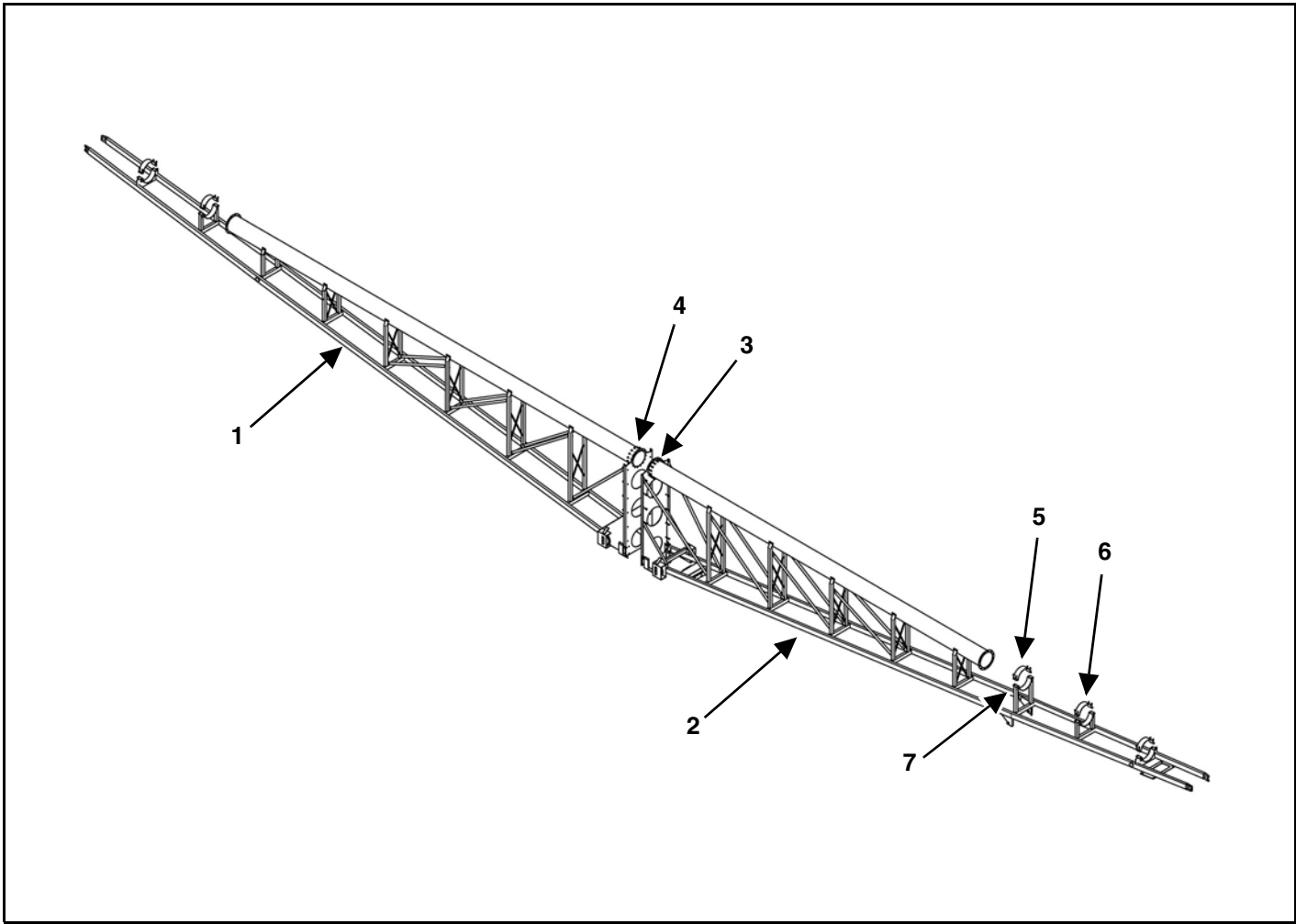


ITEM	PART NUMBER	DESCRIPTION	QTY
1	SZ0211300	WELDMENT, SPINDLE 12-122	1
2	SZDC13	DUST CAP, 6-BOLT HUB	1
3	SZLM603049	INNER BEARING, LM603049	1
4	SZSE-1300	GREASE SEAL, P602115	1
5	SZWB11250	LUG BOLT, 9/16" x 1-1/8"	8
6	SZ100125	OUTER BEARING CONE, LM 67048	1
7	SZ600NUT0SLOT1	NUT, SPINDLE	1
8	SZ6002X3/4WA	WASHER, SPINDLE 2" x 13/16"	1
9	SZ66C5/32X13/4	COTTER PIN 5/32" x 1-3/4"	1
10	SZ01181181	8-BOLT HUB W/ BEARING CUPS	1

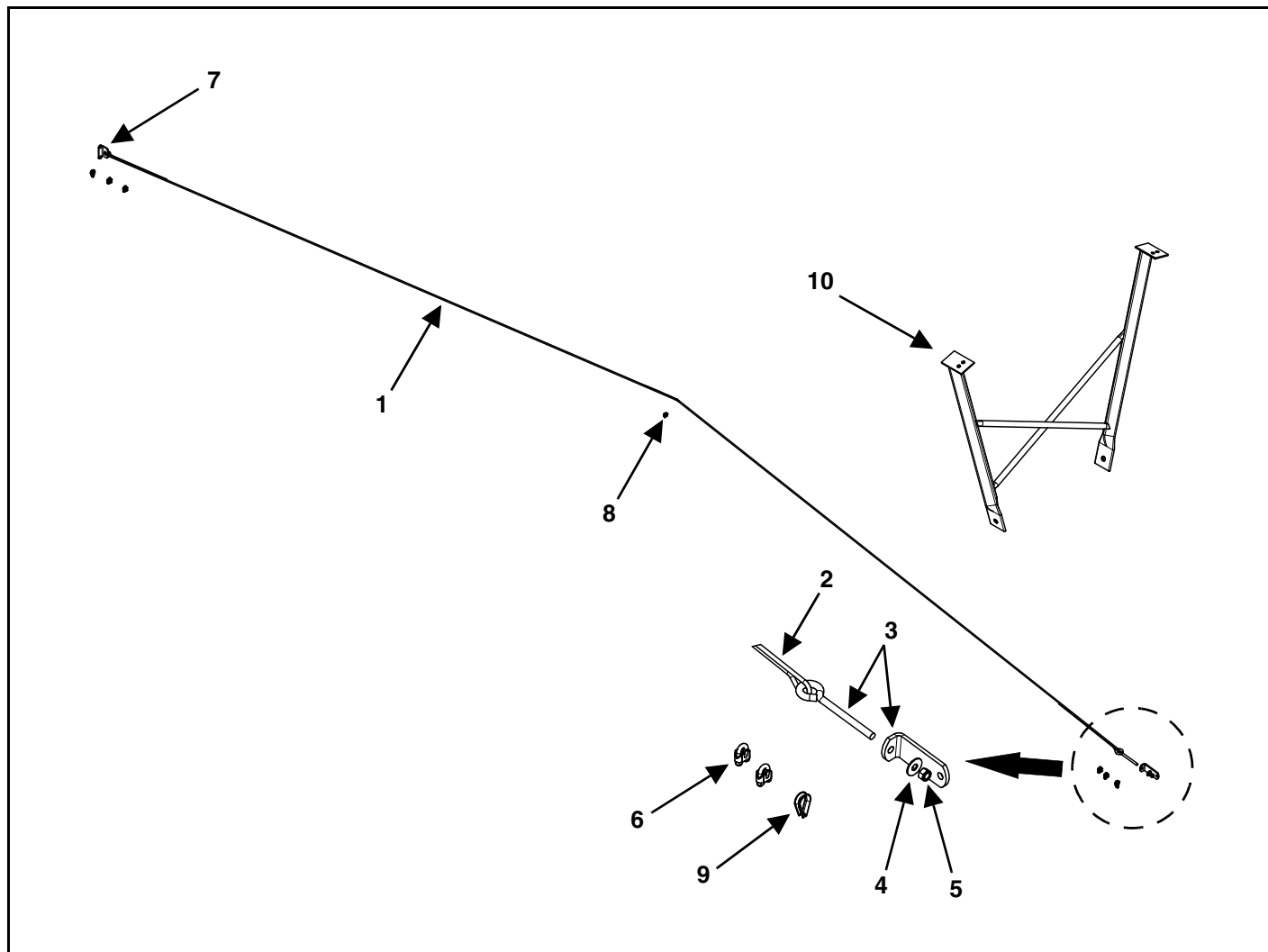
AXLE RISERS


ITEM	PART NUMBER	DESCRIPTION	QTY
1	SZ102601	UNDERCARRIAGE AXLE, WELDMENT	1
2	SZ107232	RISER, AXLE, LH, WELDMENT	1
3	SZ107233	RISER, AXLE, RH., WELDMENT	1
4	SZ126118	BOLT, HHCS, 5/8" - 11 UNC x 4-1/5" G5	10
5	SZ125036	LOCK NUT, 5/8" - 11 UNC	10

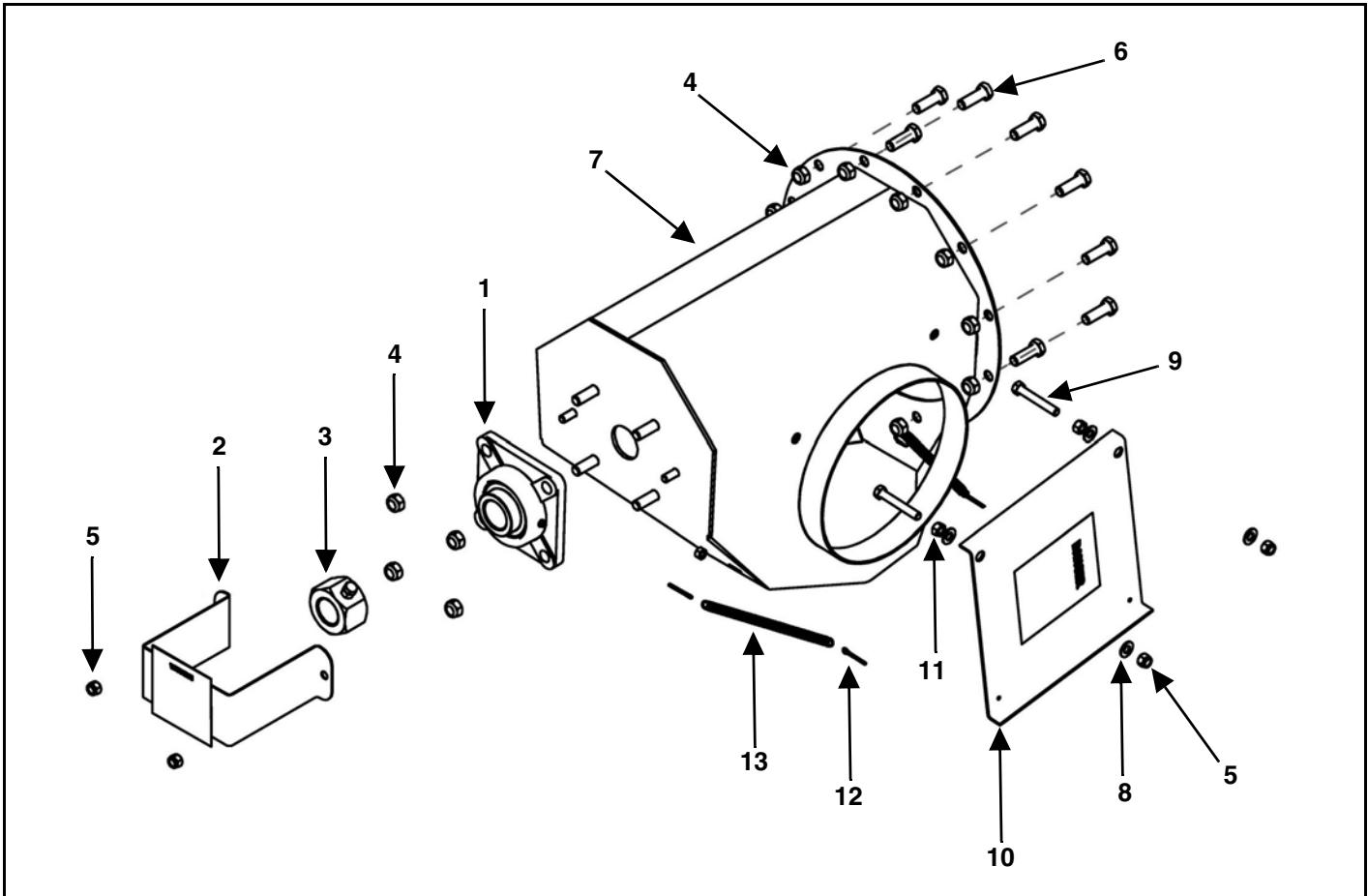
TRUSS



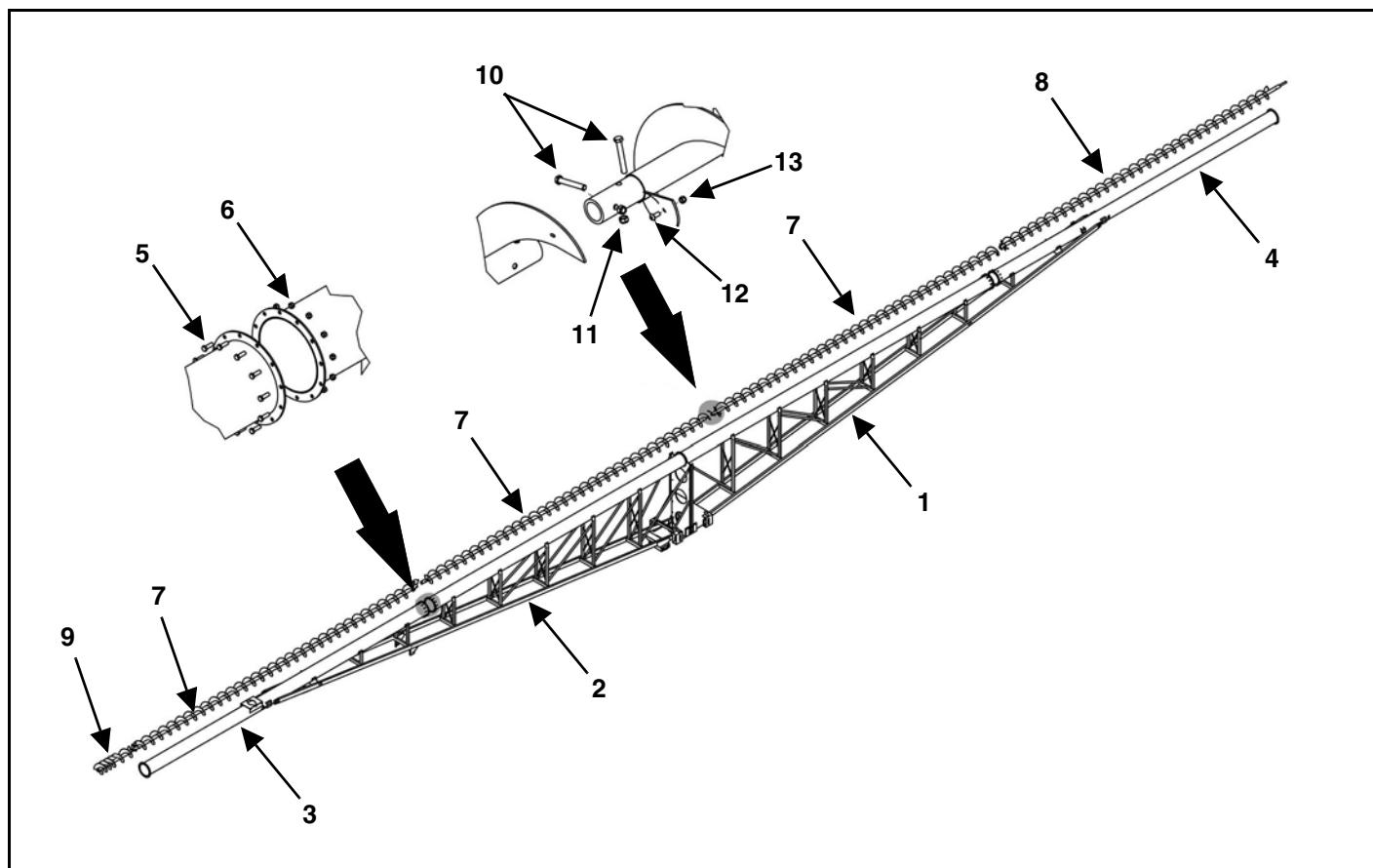
ITEM	PART NUMBER	DESCRIPTION	QTY
1	SZ102482	WELDMENT, TUBING, 12", TRUSS, TOP SECTION	1
2	SZ102481	WELDMENT, TUBING, 12", TRUSS, LOWER SECTION	1
3	SZ126092	BOLT, HHCS, 1/2-13UNC 1-1/2" G5	35
4	SZ125032	LOCK NUT, 1/2" -13UNC NYLOCK	35
5	SZ102634	CLAMP, HALF, TRUSS 12 4 10GA 2 W	5
6	SZ126158	BOLT, HHCS, 3/8-16UNC 1-1/4" G5	20
7	SZ125030	LOCK NUT, 3/8-16UNC NYLOCK	20

BRIDGING CABLE AND SUPPORT


ITEM	PART NUMBER	DESCRIPTION	QTY
1	SZ9901952	CABLE, 3/8, 7 x 19, 504	1
2	SZ126017	EYEBOLT, 5/8-11 UNC x 6-1/2"	1
3	SZ9901897	TRUSS CABLE, EYEBOLT ANCHOR BAR	1
4	SZ127004	WASHER, FLAT, 5/8"	1
5	SZ125036	LOCK NUT, 5/8" - 11UNC	1
6	SZ6003375	CLAMP, CABLE, 3/8"	4
7	SZ104742	ANCHOR, TRUSS FLANGE RING	1
8	SZ6003516	CLAMP, CABLE 5/16"	1
9	SZ6009375	THIMBLE, CABLE 3/8	2
10	SZ2032321	SHORT TRUSS SUPPORT, 12" SL	1

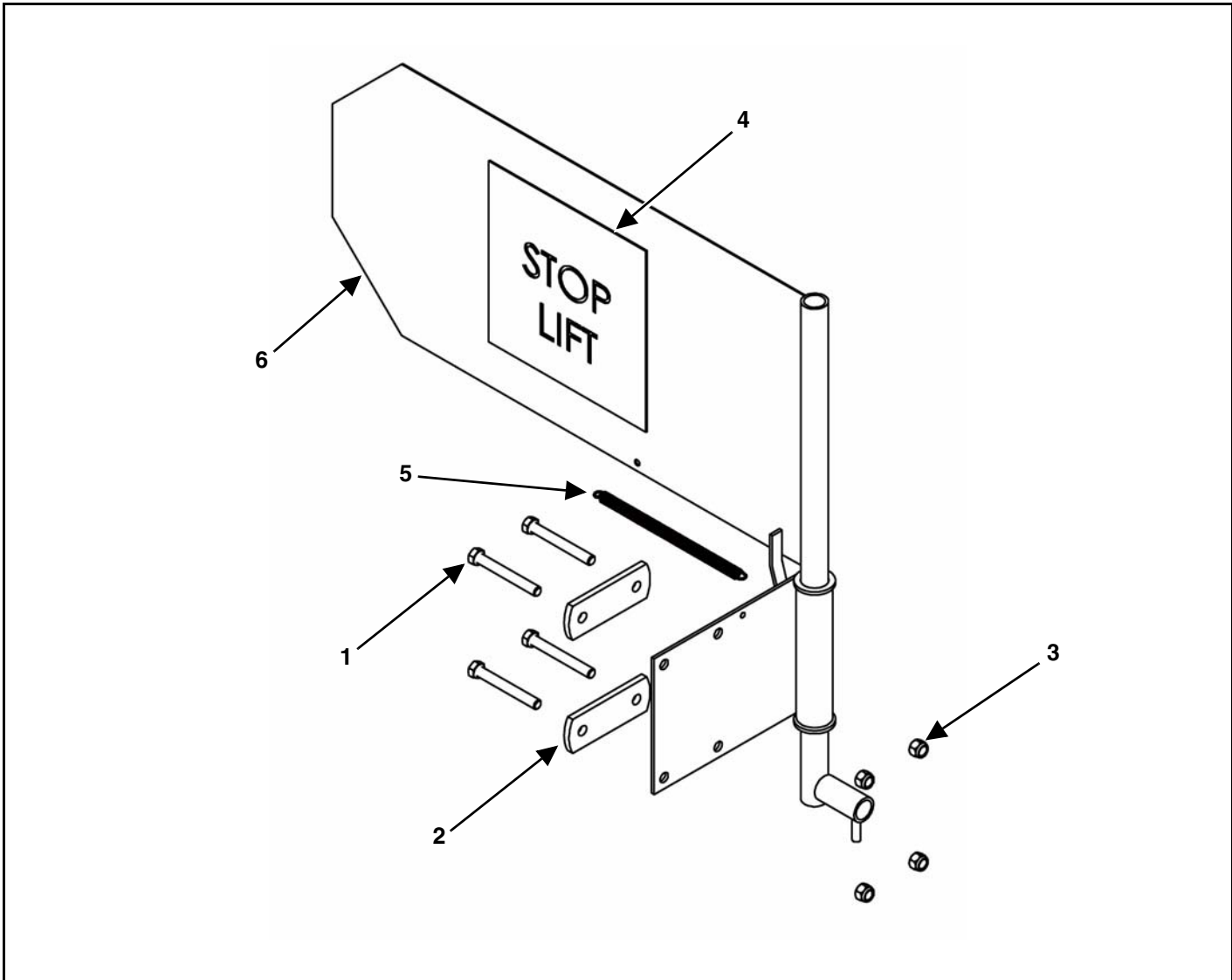
DISCHARGE SPOUT


ITEM	PART NUMBER	DESCRIPTION	QTY
1	SZ2011053	BEARING, 1-1/2" 4-BOLT CAST FI	1
2	SZ2127212	ASSEMBLY, SHIELD, CAP, HEAD	1
3	SZ6001050	NUT, 1-1/2" NC HEX W 3/8" SETSCREW	1
4	SZ125032	LOCK NUT, 1/2" -13UNC NYLOCK	14
5	SZ125030	LOCK NUT, 3/8-16UNC NYLOCK	4
6	SZ126092	BOLT, HHCS, 1/2-13UNC x 1-1/2" G5	10
7	SZ105658	WELDMENT DROP SPOUT 12" W/ RELIEF	1
8	SZ127002	WASHER, FLAT 3/8	4
9	SZ126072	BOLT, HHCS, 3/8-16UNC x 2-1/2" G5	2
10	SZ9900697	DOOR, RELIEF 12"	1
11	SZ125007	NUT, HEX 3/8-16UNC	2
12	SZ128016	PIN, COTTER, 1/8 x 1"	4
13	SZ80.500X5.7	EXTENSION SPRING, 1/2" x 5-3/4"	2

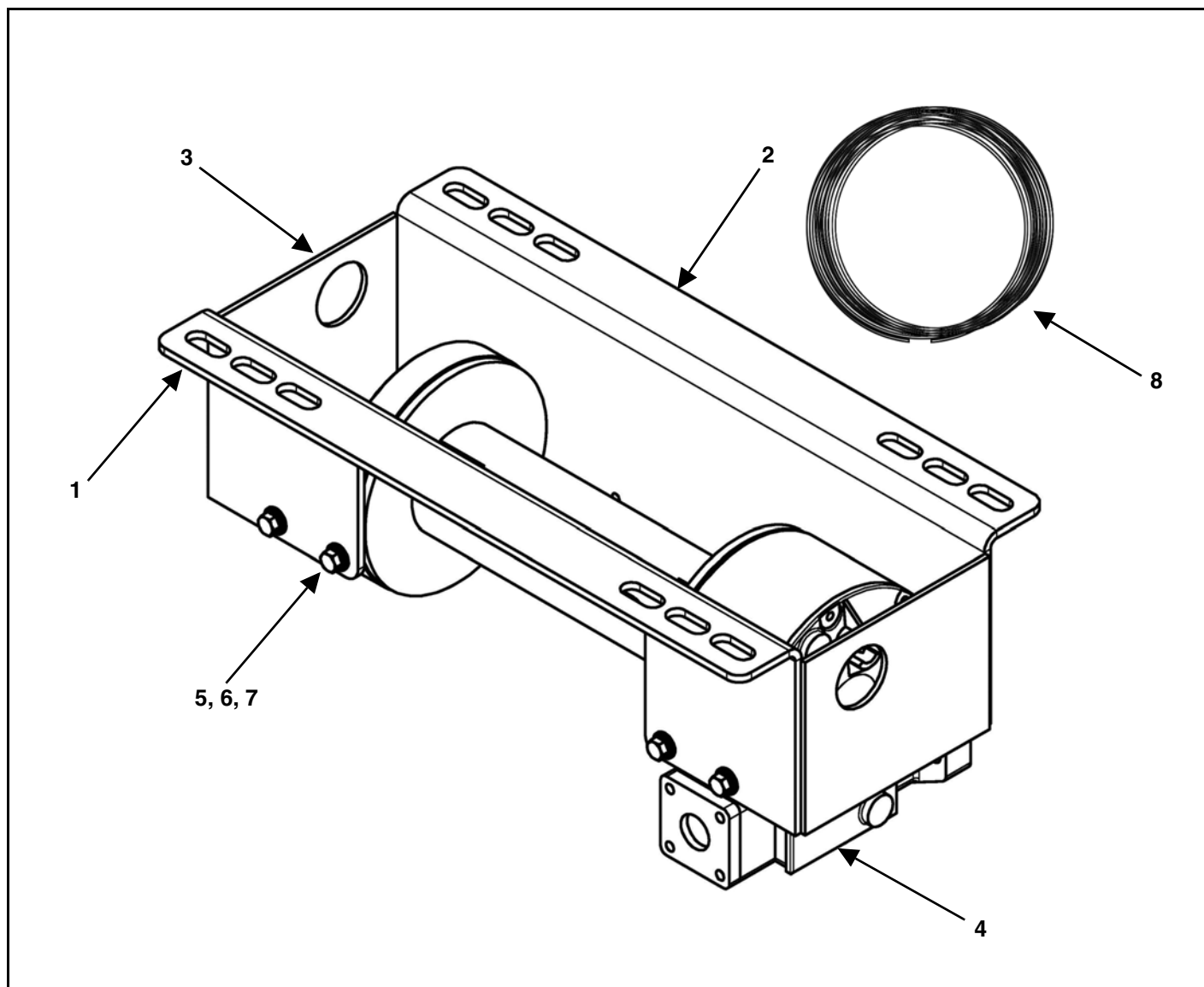
MAIN TUBE FLIGHTING


ITEM	PART NUMBER	DESCRIPTION	QTY
1	SZ102482	WELDMENT, TUBING, 12", TRUSS, TOP SECTION	1
2	SZ102481	WELDMENT, TUBING, 12", TRUSS, LOWER SECTION	1
3	SZ102479	WELDMENT, TUBING, LOWER, 12" AUGER, 360	1
4	SZ102480	WELDMENT, TUBING, 12" AUGER, CSW, DISCHARGE, 360	1
5	SZ126092	BOLT, HHCS, 1/2-13UNC 1-1/2" G5	24
6	SZ125032	LOCK NUT, 1/2-13UNC NYLOCK	24
7	SZ9902382	FLIGHT, 12" DIA-30' LOWER	3
8	SZ9902383	FLIGHT, 12" DIA-30' DISCHARGE	1
9	SZ9902384	FLIGHT, 12" DIA - DRIVE SECTION	1
10	SZ126106	BOLT, HHCS, 1/2"-20UNF 3-1/2" G5	8
11	SZ125033	LOCK NUT, 1/2" -20UNF	8
12	SZ126000	BOLT, HHCS, 3/8"-16UNC 7/8"	4
13	SZ125030	LOCK NUT, 3/8"-16UNC NYLOCK	4

LIFT STOP

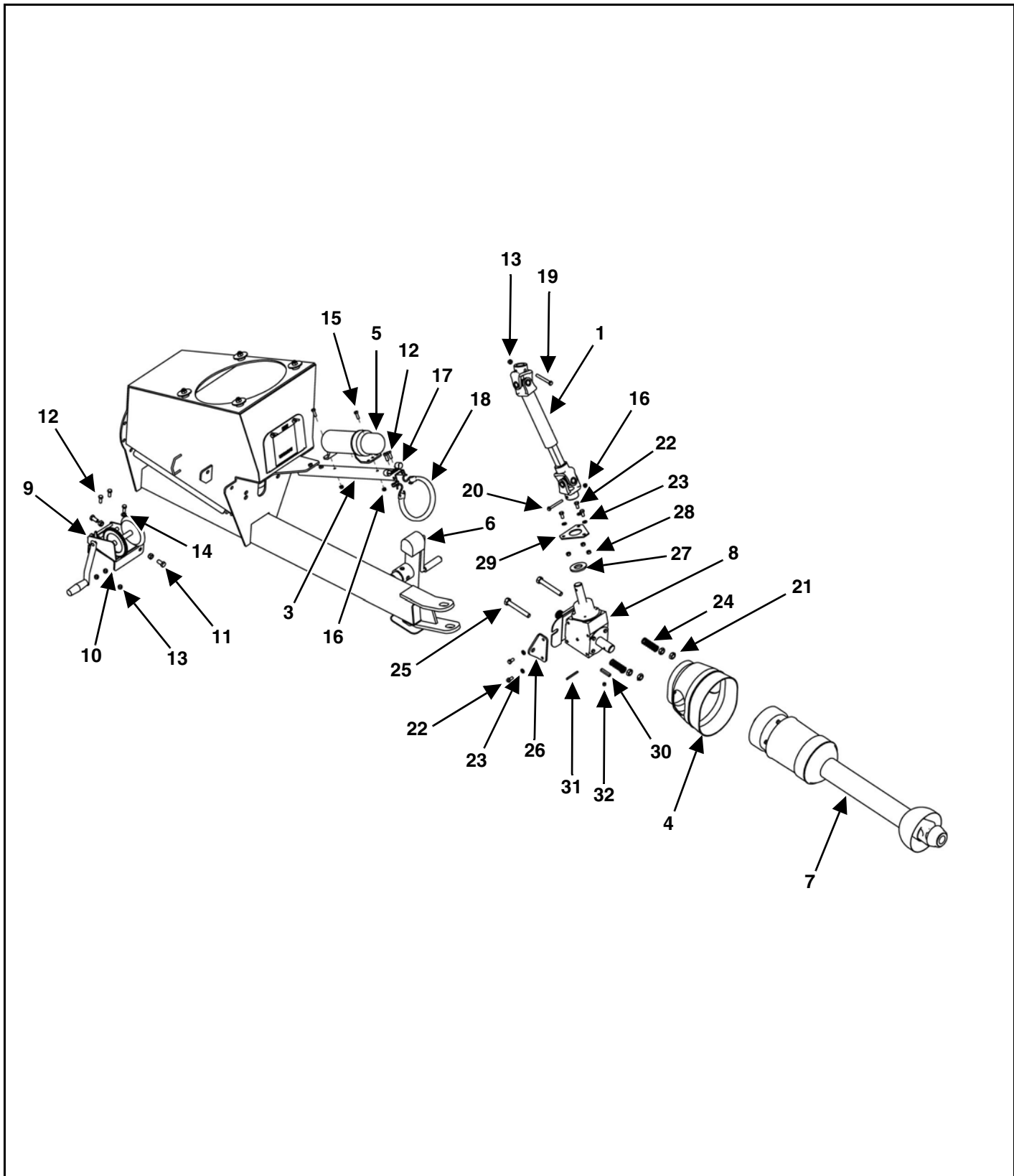


ITEM	PART NUMBER	DESCRIPTION	QTY
1	SZ126076	BOLT, HHCS, 3/8" - 16UNC 3" G5	4
2	SZ3032424	PLATE, MOUNT, STRAP, 1.5" x 4.18" x 1/4"	2
3	SZ125030	LOCK NUT, 3/8-16UNC NYLOCK	4
4	SZ06086	DECAL, STOP LIFT, 8 x 8-3/4"	1
5	SZ992127201	SPRING, EXTENSION, GALVANIZED PLATED 0.054" x 0.5" x 6"	1
6	SZ1200051	FLAG WELDMENT, 12 - 86 THR 12 - 120	1

TRUSS LIFT WINCH


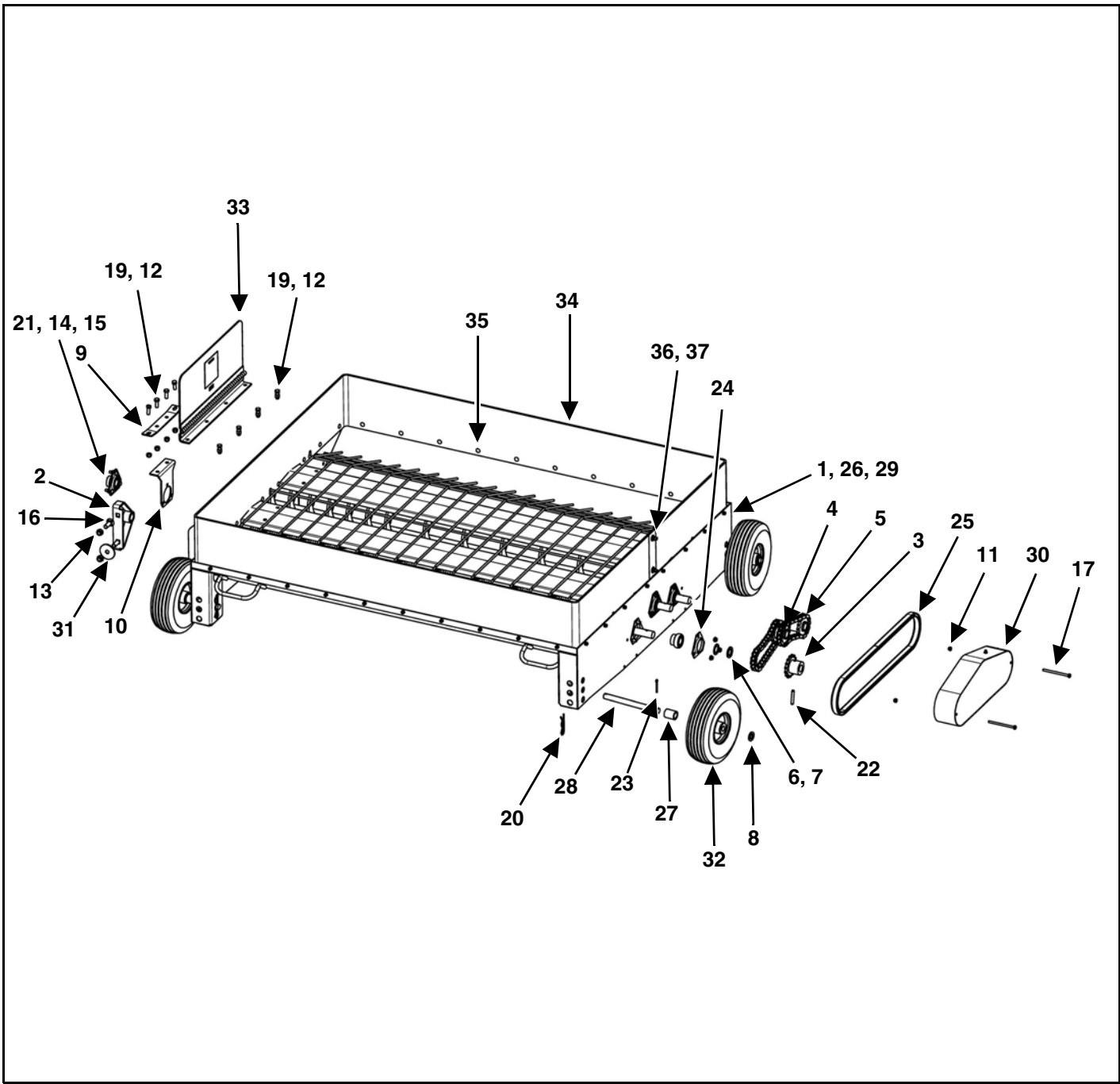
ITEM	PART NUMBER	DESCRIPTION	QTY
1	SZ9901233	HYDRAULIC WINCH MOUNT, 14" REAR	1
2	SZ9901234	AUGER HYDRAULIC WINCH, 14" REAR PLATE	1
3	SZ9901235	SIDE PLATE W/HOLE, 14" WINCH MOUNT	2
4	SZ2121250	BRADEN HU 8A WINCH, 12-120 AUGER	1
5	SZ126065	BOLT, HHCS, 3/8-16 UNC x 1" G5	8
6	SZ127002	WASHER, FLAT, 3/8"	8
7	SZ127009	LOCK WASHER, 3/8"	8
8	SZ02137190	CABLE, 3/8" x 190'	1

DRIVE SECTION



ITEM	PART NUMBER	DESCRIPTION	QTY
1	SZ0166020	INTERNAL POWER SHAFT	1
2	SZ02137190	CABLE, 3/8" 7 x 19 2280 (Not Shown)	1
3	SZ103260	CHANNEL, FORMED, HANGER PTO, CSW	1
4	SZ103268	IMPLEMENT POLY SHIELD	1
5	SZ103296	OWNER'S MAUAL CONTAINER	1
6	SZ103298	2000 LB JACK DI 6620	1
7	SZ103423	55E 50 DEG CV POWER SHAFT 40 CLUTCH	1
8	SZ104493	ASSEMBLY DRIVE SECTION 12"	1
9	SZ2038221	BOLT-ON BRAKE WINCH - K1550	1
10	SZ9901480	HOPPER WINCH PLATE	1
11	SZ126089	BOLT, HHCS, 1/2-13UNC x 1"	2
12	SZ126065	BOLT, HHCS, 3/8-16 UNC x 1"	7
13	SZ125030	LOCK NUT, 3/8-16UNC NYLOCK	8
14	SZ127002	WASHER, FLAT 3/8	1
15	SZ126047	BOLT, HHCS, 5/16" -18UNC x 1" G5	2
16	SZ125035	LOCK NUT, 5/16" -18UNC, NYLOCK G5	3
17	SZ103259	CLAMP, HOSE TIE-DOWN	2
18	SZ91230	STRAP, RUBBER #509-S W/S-HOOK	1
19	SZ126076	BOLT, HHCS, 3/8" - 16UNC x 3"	1
20	SZ126059	BOLT, HHCS, 5/16" - 18UNC x 3" G5	1
21	SZ125023	NUT, JAM 5/8-11UNC	4
22	SZ126063	BOLT, HHCS, 3/8-16UNC x 3/4" G5	7
23	SZ127009	WASHER, LOCK 3/8"	7
24	SZ4910190	SPRING, PLATED 1" x 3-1/2"	2
25	SZ126118	BOLT, HHCS, 5/8-11UNC x 4-1/2" G5	2
26	SZ9902333	GEARBOX, MOUNT BRACKET	2
27	SZ9901481	WASHER, FLAT 1.28" x 3.25" NYL	1
28	SZ125007	NUT, HEX 3/8"-16UNC	3
29	SZ9902601	SHIELD, DRIVE SECTION GRAIN	1
30	SZ105165	KEY, SQ 5/16" x 1.75" 4140	1
31	SZ60025111	PIN, SPL 1/4" x 2-1/4"	1
32	SZ128041	SET SCREW, 3/8"-16UNC 3/8" CP KNRL	1

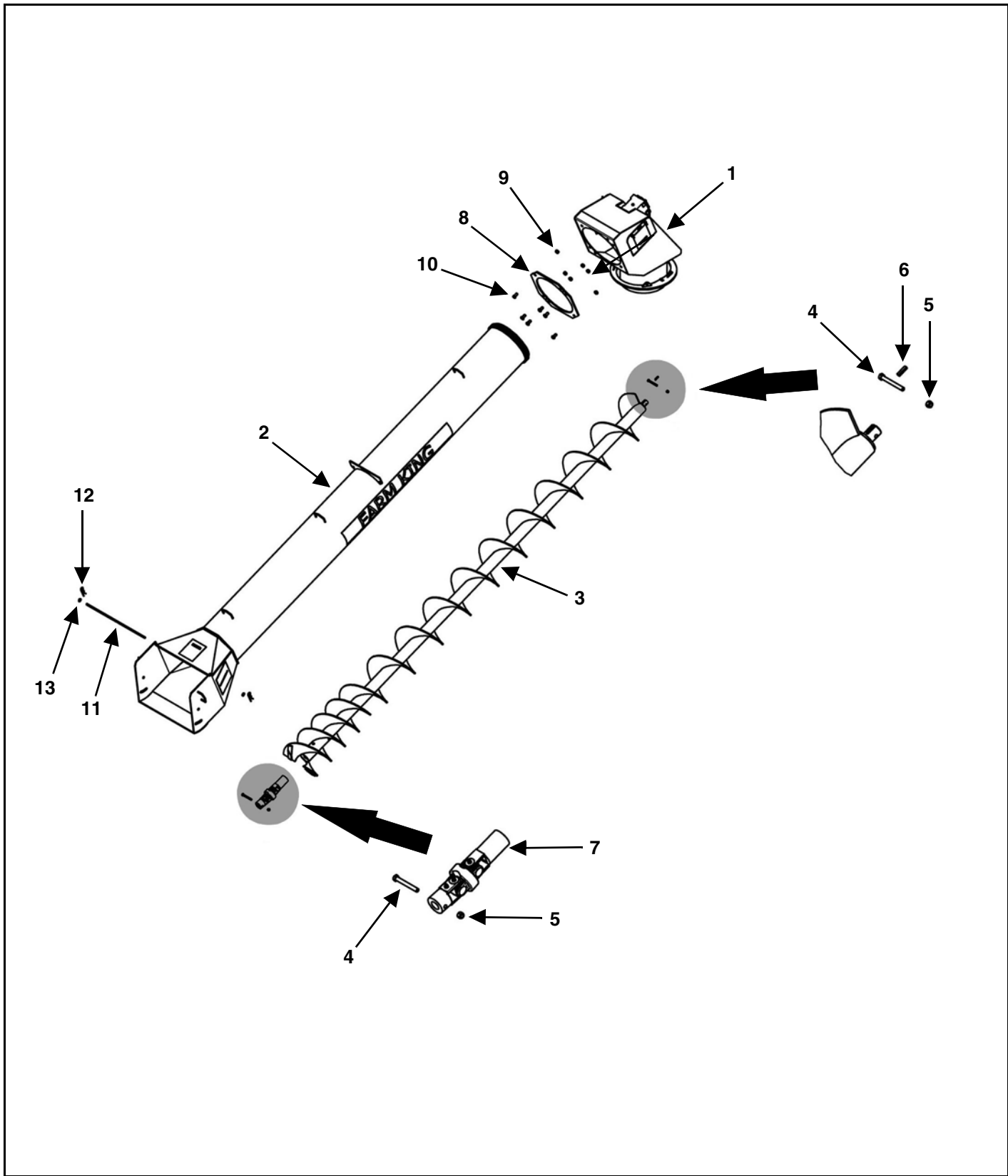
HOPPER ASSEMBLY



ITEM	PART NUMBER	DESCRIPTION	QTY
1	SZ101817	WELDMENT, HOPPER BODY, 12" GROUND HUGGER	1
2	SZ101820	WELDMENT, HOPPER, HANGER BEARING, 12" GROUND HUGGER	2
3	SZ00405153	INTERNAL DRIVE, HOPPER SIDE SPROCKET, 12"	2
4	SZ00425151	INTERNAL DRIVE, HOPPER CENTER SPROCKET, 12"	1

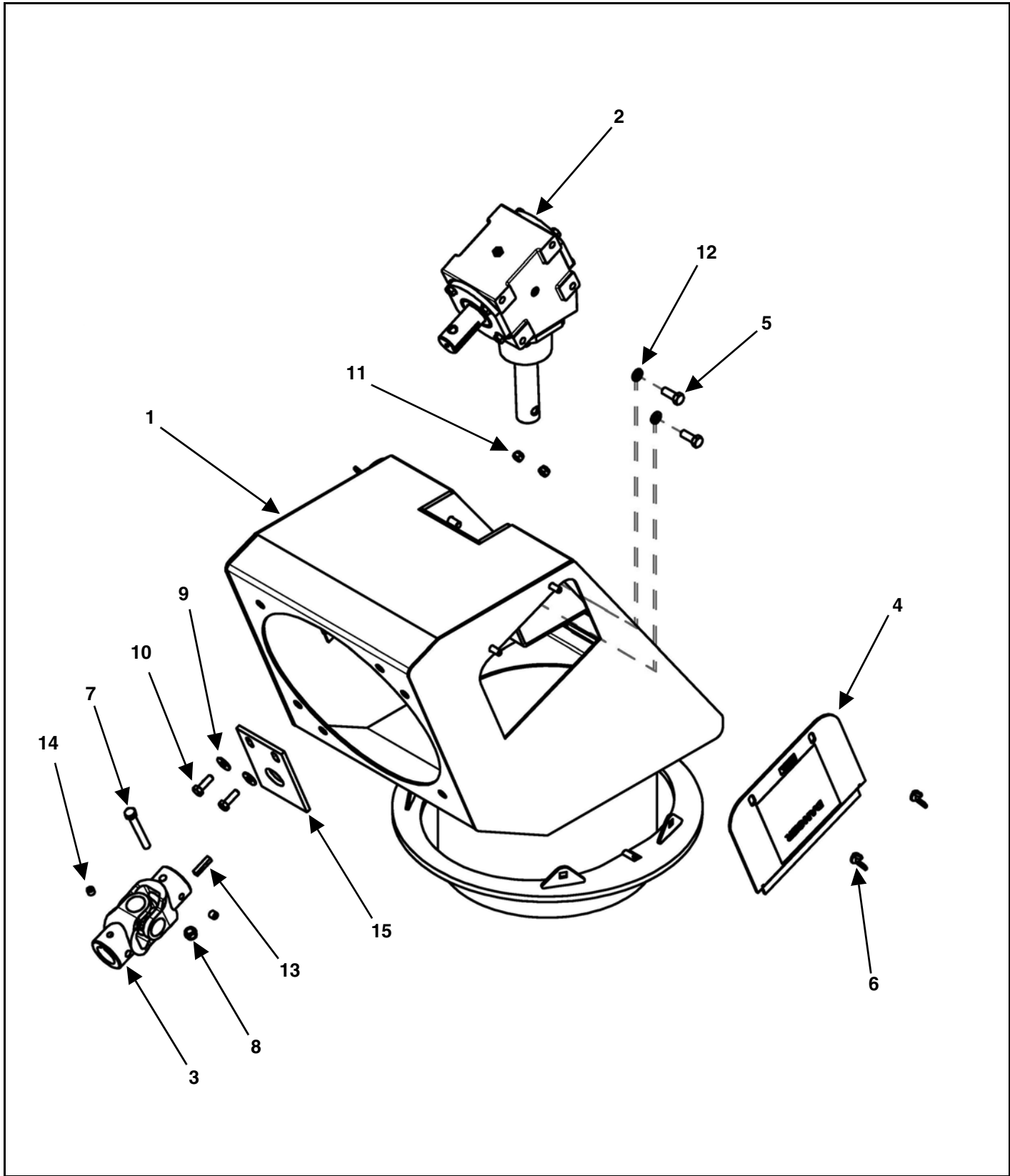
5	SZ0043534	ASSEMBLY, CHAIN ROLLER, #50 34P	2
6	SZ0231110	BUSHING, MACH, 1" 10GA	3
7	SZ0231140	BUSHING, MACH, 1" ID, 14GA	3
8	SZ0237510	BUSHING, MACH, 3/4"	4
9	SZ102638	PLATE, FORMED, MOUNT, BEARING HOPPER, 12 TOP	1
10	SZ103292	PLATE, FORMED, MOUNT, BEARING HOPPER, 12 BOTTOM	1
11	SZ125028	LOCK NUT, 1/4" - 20UNC NYLOCK	38
12	SZ125030	LOCK NUT, 3/8-16UNC NYLOCK	8
13	SZ125032	LOCK NUT, 1/2" -13UNC NYLOCK	4
14	SZ125035	LOCK NUT, 5/16" -18UNC, NYLOCK G5	14
15	SZ126007	BOLT, CARRIAGE, 5/16-18UNC 1"	3
16	SZ126013	BOLT, CARRIAGE, 1/2-13UNC NYLOCK	4
17	SZ126043	BOLT, HHCS, 1/4-20UNC x 4" G5	2
18	SZ126046	BOLT, HHCS, 5/16-18UNC x 3/4" G5	9
19	SZ126065	BOLT, HHCS 3/8-16 UNC x 1" G5	8
20	SZ128018	PIN, HAIR, 1/8"	4
21	SZ2017043	BEARING, 1" W/LOOSE LOCK COLLAR	4
22	SZ6001602	PIN, SPL, 5/16" x 2"	3
23	SZ6003531	PIN, COTTER, 5/32" x 1-1/4"	4
24	SZ65052MSCI000	FLANGE, BEARING, 52MM 3 BOLT	4
25	SZ68RUB0CHL0SL	RUBBER, SEAL, E-3559	1
26	SZ9860013	FLIGHT, 12" GROUND HUGGER	1
27	SZ9901747	TUBING, ROUND, 1-3/16 x 3/16 x 1.5	2
28	SZ9901748	HOPPER, WHEEL, AXLE	4
29	SZ9902434	SHAFT ROUND, 1 x 64.5	1
30	SZ9902466	WELDMENT, SHIELD, 12" HOPPER CHAIN	1
31	SZ9941718	WASHER, FLAT, 0.53 x 2.25, 10GA GALVANIZED	2
32	960714	WHEEL, W/TIRE 4.10/3.50	4
33	SZ9902449	HOPPER, ACCESS DOOR WELDMENT, 12"	1
34	SZ102637	EXTENSION, FLEX, 12" HOPPER 8.00 x 214.00	1
35	SZ000882	BOLT, CARRIAGE, 1/4-20UNC 3/4	36
36	SZ126047	BOLT, HHCS, 5/16" -18UNC, 1" G5	2
37	SZ127002	WASHER, FLAT, 3/8	4

HOPPER DRIVE TUBE



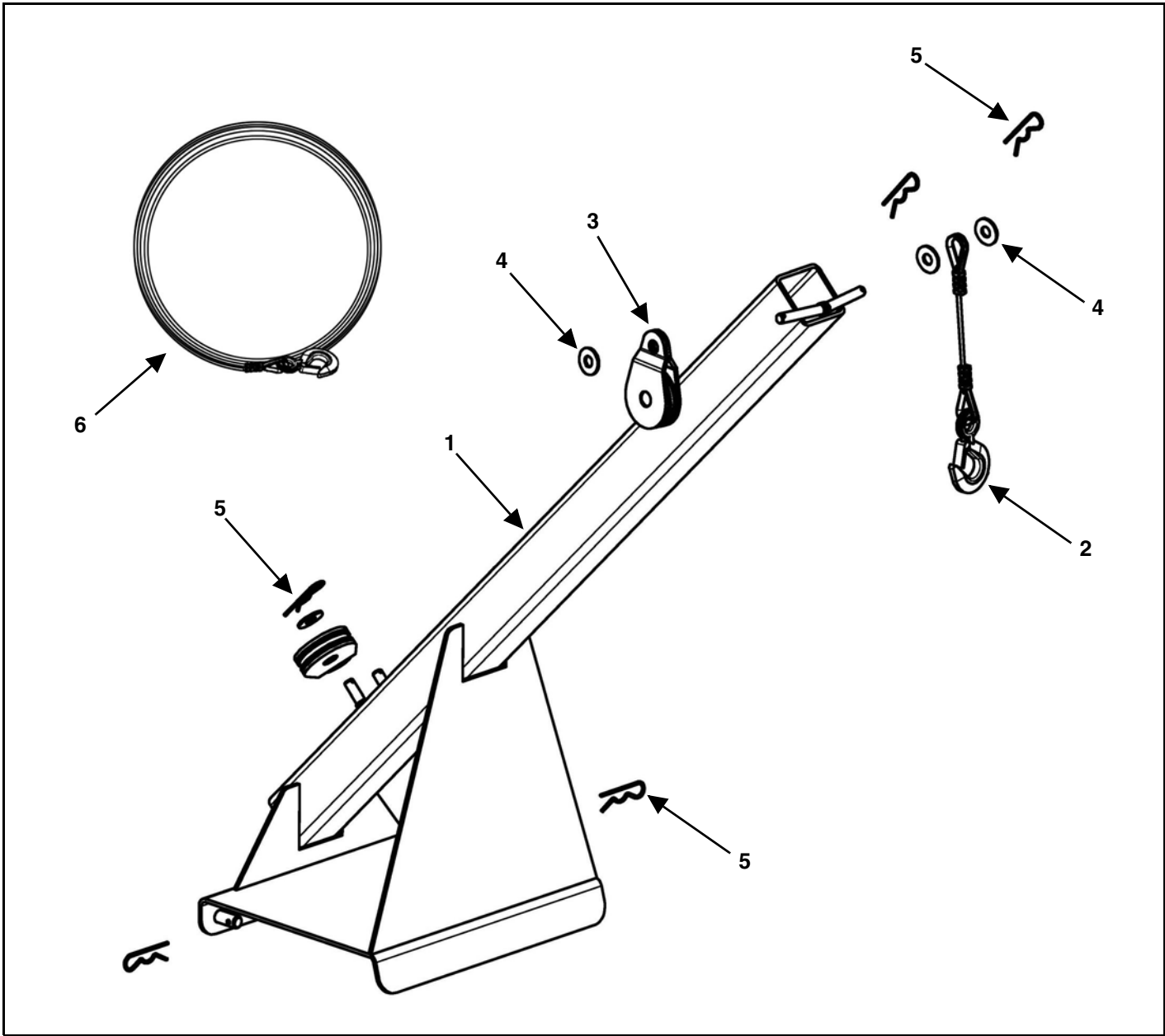
ITEM	PART NUMBER	DESCRIPTION	QTY
1	SZ9902531	HOPPER, HEAD ASSEMBLY	1
2	SZ101824	WELDMENT, TUBING, DISCHARGE, 12"	1
3	SZ9902393	WELDMENT, FLIGHT, 12" DISCHARGE	1
4	SZ126076	BOLT HHCS, 3/8" - 16UNC 3" G5	2
5	SZ125030	LOCK NUT, 3/8-16UNC NYLOCK	2
6	SZ01125118	KEY, SQ, 1/4" x 1.19"	1
7	SZ0165547	6E 50 DEG CV W/ 15/16" SQUARE	1
8	SZ9901981	PLATE, HOPPER HEAD SWIVEL, 12"	2
9	SZ125032	LOCK NUT, 1/2" -13UNC NYLOCK	6
10	SZ126089	BOLT, HHCS, 1/2-13UNC 1" G5	6
11	SZ9902475	PIVOT, HOPPER LID PIN, 12"	1
12	SZ128018	PIN, HAIR, 1/8"	2
13	SZ127002	WASHER, FLAT, 3/8"	2

HOPPER HEAD ASSEMBLY



ITEM	PART NUMBER	DESCRIPTION	QTY
1	SZ9901979	HOPPER HEAD	1
2	SZ0160100	GEARBOX, HOPPER DRIVE, 2001	1
3	SZ1001604	12N U-JOINT, 1-1/4" x 1-1/4"	1
4	SZ9902289	DRIVE SECTION ACCESS DOOR	3
5	SZ126065	BOLT, HHCS, 3/8-16 UNC x 1" G5	4
6	SZ125040	NUT WING, 5/16-18UNC	6
7	SZ126076	BOLT, HHCS, 3/8" - 16UNC x 3" G5	1
8	SZ125030	LOCK NUT, 3/8-16UNC NYLOCK	1
9	SZ127001	WASHER, FLAT, 5/16"	2
10	SZ126047	BOLT, HHCS, 5/16" -18UNC, x 1" G5	2
11	SZ125035	LOCK NUT, 5/16" -18UNC, NYLOCK G5	2
12	SZ127009	LOCK WASHER, 3/8"	4
13	SZ01125118	KEY, SQ, 1/4" x 1.19"	1
14	SZ128041	SSCR 3/8-16UNC 3/8, CP KNRL	2
15	SZ9902534	HOPPER GEARBOX SEAL	1

HOPPER LIFT ASSEMBLY



ITEM	PART NUMBER	DESCRIPTION	QTY
1	SZ9901880	WELDMENT, ARM, SWING OVER	1
2	SZ9902509	ASSEMBLY, CABLE, 3/16" 7 x 19 14" THIMBLE GRAB	1
3	SZ02165035	WELDMENT, SHEAVE	2
4	SZ127003	WASHER, FLAT, 1/2"	4
5	SZ128018	PIN, HAIR, 1/8"	5
6	SZ0213235	CABLE, 3/16" x 35' W / GRABHOOK	1

SPECIFICATIONS

SPECIFICATIONS	143
Dimensions	143
Performance	143
Tractor Requirements	143
Optional Kits	143
AUGER HEIGHT & REACH CHART	144
HARDWARE TORQUE VALUES	145
Metric Chart	145
Imperial Chart	146
HYDRAULIC CONNECTION SPECIFICATIONS	147
O-Ring Fitting (Straight Thread)	147
O-ring Face Seal Connection	147
Flare Fitting	147
Port Seal (O-ring Boss) Fitting	147
Tubelines And Hoses	147

Farm King



SPECIFICATIONS
Dimensions

DESCRIPTION	12112	12122
Length	112'	122'
Width	120"	120"
Transport Height	16' 3"	16' 3"
Maximum Discharge Height	65' 7"	65' 10"

Performance

DESCRIPTION	12112	12122
Size	12" x 112'	12" x 112'
Tubing Material	12 gauge	12 gauge
Flighting Material	1/4"	1/4"
Wheels / Hubs	15" w / 8 Bolt Hubs	15" w / 8 Bolt Hubs
Tires	12.5L x 15"	12.5L x 15"
Swing Auger Drive	Internal Drive w / Externally Mounted Gear Boxes	
Hopper Dimensions	60" x 40"	60" x 40"
Weight	9,250 lb.	9,500 lb.

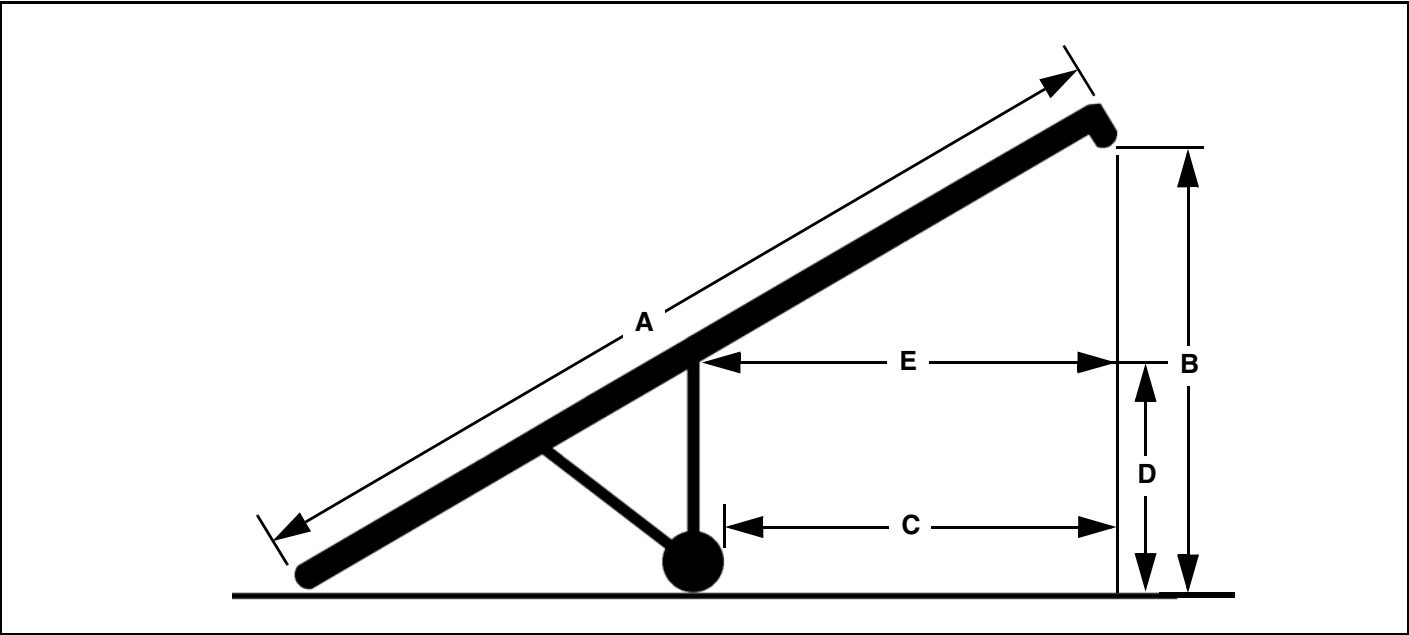
Tractor Requirements

DESCRIPTION	12112	12122
PTO Drive	540 RPM w / 55 Series CV Joints w / Extended Life Bearings	
PTO HP (Minimum)	110 HP	120 HP
Hydraulic Pressure (Minimum)	1500 PSI	1500 PSI
Maximum Discharge Height	65' 7"	65' 10"

Optional Kits

DESCRIPTION	PART NO.	12112	12122
12" RCR Electric / Hydraulic Kit	SZ000919	Optional	Optional
12" Hydraulic Hopper Winch Kit	SZ4021215	Optional	Optional
12" Hydraulic Hopper Power Mover Kit	SZ103032	Optional	Optional

AUGER HEIGHT & REACH CHART



MODEL	A	B		C		D		E	
		19°	MAX.	19°	MAX.	19°	MAX.	19°	MAX.
12112	112'	38' 1"	65' 7"	43' 2"	63' 7"	23' 6"	30' 9"	33'	41' 7"
12122	122'	41' 4"	65' 10"	56' 9"	50' 8"	24' 5"	60' 6"	39' 2"	47' 7"

HARDWARE TORQUE VALUES

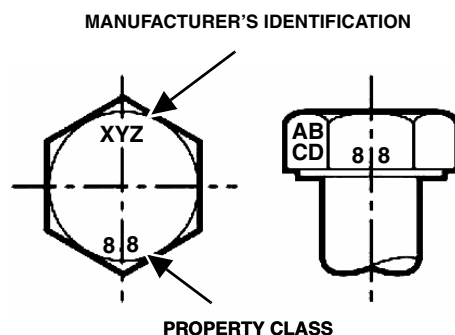
Metric Chart

NOTE: Do not use the values listed in the charts if a different torque value or tightening procedure is specified in this manual for a specific application. Torque values listed are for general use only.

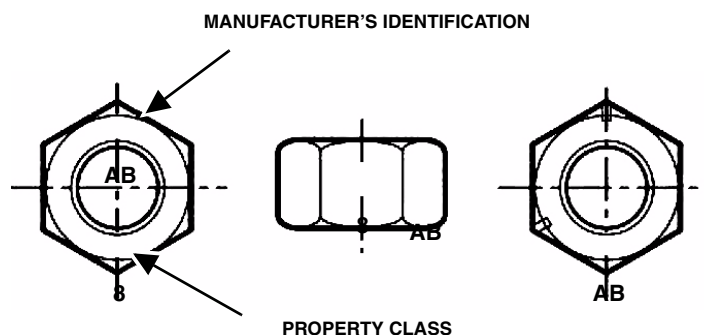
Use the following charts to determine the correct torque when checking, adjusting or replacing hardware. **Torque values are listed in newton-meters (inch* or foot pounds) for normal assembly applications.**

Nominal Size	Class 5.8		Class 8.8		Class 10.9		Lock nuts
	Unplated	Plated W / ZnCr	Unplated	Plated W / ZnCr	Unplated	Plated W / ZnCr	CL.8 w/ CL. 8.8 Bolt
M4	1.7 (15*)	2.2 (19*)	2.6 (23*)	3.4 (30*)	3.7 (33*)	4.8 (42*)	1.8 (16*)
M6	5.8 (51*)	7.6 (67*)	8.9 (79*)	12 (102*)	13 (115*)	17 (150*)	6.3 (56*)
M8	14 (124*)	18 (159*)	22 (195*)	28 (248*)	31 (274*)	40 (354*)	15 (133*)
M10	28 (21)	36 (27)	43 (32)	56 (41)	61 (45)	79 (58)	30 (22)
M12	49 (36)	63 (46)	75 (55)	97 (72)	107 (79)	138 (102)	53 (39)
M16	121 (89)	158 (117)	186 (137)	240 (177)	266 (196)	344 (254)	131 (97)
M20	237 (175)	307 (226)	375 (277)	485 (358)	519 (383)	671 (495)	265 (195)
M24	411 (303)	531 (392)	648 (478)	839 (619)	897 (662)	1160 (855)	458 (338)
NOTE: Torque values shown with * are inch pounds.							

Identification of Hex Cap Screws and Carriage Bolts - Classes 5 and up



Identification of Hex Nuts and Lock Nuts - Classes 5 and up



HARDWARE TORQUE VALUES (CONT'D)
Imperial Chart

NOTE: Do not use the values listed in the charts if a different torque value or tightening procedure is specified in this manual for a specific application. Torque values listed are for general use only.

Use the following charts to determine the correct torque when checking, adjusting or replacing hardware. **Torque values are listed in newton-meters (inch* or foot pounds) for normal assembly applications.**

Nominal Size	SAE Grade 5		SAE Grade 8		LOCK NUTS			
	Unplated or Plated Silver	Plated W / ZnCr Gold	Unplated or Plated Silver	Plated W / ZnCr Gold	Unplated or Plated Silver	Plated W / ZnCr Gold	Grade W / Gr. 5 Bolt	Grade W / Gr. 8 Bolt
1/4	6.2 (55*)	8.1 (72*)	9.7 (86*)	12.6 (112*)	13.6 (121*)	17.7 (157*)	6.9 (61*)	9.8 (86*)
5/16	13 (115*)	17 (149*)	20 (178*)	26 (229*)	28 (250*)	37 (324*)	14 (125*)	20 (176*)
3/8	23 (17)	30 (22)	35 (26)	46 (34)	50 (37)	65 (48)	26 (19)	35 (26)
7/16	37 (27)	47 (35)	57 (42)	73 (54)	80 (59)	104 (77)	41 (30)	57 (42)
1/2	57 (42)	73 (54)	87 (64)	113 (83)	123 (91)	159 (117)	61 (45)	88 (64)
9/16	81 (60)	104 (77)	125 (92)	163 (120)	176 (130)	229 (169)	88 (65)	125 (92)
5/8	112 (83)	145 (107)	174 (128)	224 (165)	244 (180)	316 (233)	122 (90)	172 (127)
3/4	198 (146)	256 (189)	306 (226)	397 (293)	432 (319)	560 (413)	217 (160)	306 (226)
7/8	193 (142)	248 (183)	495 (365)	641 (473)	698 (515)	904 (667)	350 (258)	494 (364)
1	289 (213)	373 (275)	742 (547)	960 (708)	1048 (773)	1356 (1000)	523 (386)	739 (545)
NOTE: Torque values shown with * are inch pounds.								

Identification of Hex Cap Screws and Carriage Bolts

 SAE GRADE
2 BOLTS

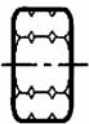
 SAE GRADE
5 BOLTS

 SAE GRADE
8 BOLTS

 SAE GRADE
2 NUTS

 SAE GRADE
2 NUTS

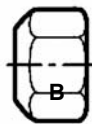
 SAE GRADE
2 NUTS

Identification of Hex Nuts and Lock Nuts


Grade A - No Notches

Grade B - One Circumferential Notch

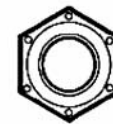
Grade C - Two Circumferential Notches



Grade A - No Mark

Grade B - Letter B

Grade C - Letter C



Grade A - No Marks

Grade B - Three Marks

Grade C - Six Marks

(Marks not always located at corners)

HYDRAULIC CONNECTION SPECIFICATIONS

O-Ring Fitting (Straight Thread)

Lubricate the O-ring before installing the fitting. Loosen the jam nut and install the fitting. Tighten the jam nut until the washer is tight against the surface.

O-ring Face Seal Connection

Figure 186

O-ring Face Seal Tightening Torque		
Tubeline O.D.	Thread Size	N•m (ft-lb)
1/4"	9/16" - 18	13 (18)
3/8"	11/16" - 16	22 (30)
1/2"	13/16" - 16	40 (54)
5/8"	1" - 14	60 (81)
3/4"	1-3/16" - 12	84 (114)
7/8"	1-3/16" - 12	98 (133)
1"	1-7/16" - 12	118 (160)
1-1/4"	1-11/16" - 12	154 (209)
1-1/2"	2" - 12	163 (221)

When the fitting is tightened, you can feel when the fitting is tight to eliminate leakage caused by under or over torqued fittings. Use petroleum jelly to hold the O-ring in position until the fittings are assembled.

Flare Fitting

Figure 187

Flare Fitting Tightening Torque		
Tubeline O.D.	Thread Size	N•m (ft-lb)
1/4"	7/16" - 20	13 (18)
5/16"	1/2" - 20	17 (23)
3/8"	9/16" - 18	22 (30)
1/2"	3/4" - 16	40 (54)
5/8"	7/8" - 14	60 (81)
3/4"	1-1/16" - 12	84 (114)
7/8"	1-3/16" - 12	98 (133)
1"	1-5/16" - 12	118 (160)
1-1/4"	1-5/8" - 12	154 (209)
1-1/2"	1-7/8" - 12	163 (221)
2"	2-1/2" - 12	252 (342)

Tighten until the nut makes contact with the seat. Use the chart [Figure 187] to find the correct tightness needed.

NOTE: If the fitting leaks, disconnect and inspect the seat area for damage.

Port Seal (O-ring Boss) Fitting

Figure 188

Port Seal And O-ring Boss Tightening Torque		
Tubeline O.D.	Thread Size	N•m (ft-lb)
1/4"	7/16" - 20	13 (18)
3/8"	9/16" - 18	22 (30)
1/2"	3/4" - 16	40 (54)
5/8"	7/8" - 14	60 (81)
3/4"	1-1/16" - 12	84 (114)
7/8"	1-3/16" - 12	98 (133)
1"	1-5/16" - 12	118 (160)
1-1/8"	1-7/16" - 12	154 (209)
1-1/4"	1-5/8" - 12	163 (221)

NOTE: Port seal and nut, washer and O-ring (O-ring Boss) fittings use the same tightening torque valve chart.

If a torque wrench cannot be used, use the following method.

Tighten the nut until it just makes metal to metal contact, you can feel the resistance.

Tighten the nut with a wrench no more than one hex flat maximum.

Do not over tighten the port seal fitting.

NOTE: If a torque wrench cannot be used, use the hex flat tightening method as an approximate guideline.

NOTE: Port seal fittings are not recommended in all applications. Use O-ring boss fittings in these applications.

Tubelines And Hoses

Replace any tubelines that are bent or flattened. They will restrict flow, which will slow hydraulic action and cause heat.

Replace hoses which show signs of wear, damage or weather cracked rubber.

Always use two wrenches when loosening and tightening hose or tubeline fittings.

Farm King



WARRANTY

WARRANTY151

Farm King



WARRANTY

Farm King

Limited Warranty

BASE LIMITED WARRANTY

Farm King provides this warranty only to original retail purchasers of its products. Farm King warrants to such purchasers that all Farm King manufactured parts and components used and serviced as provided for in the Operator's Manual shall be free from defects in materials and workmanship for a period following delivery to the original retail purchaser of two (2) years. This limited warranty applies only to those parts and components manufactured by Farm King. Parts and components manufactured by others are subject to their manufacturer's warranties, if any.

Farm King will fulfill this limited warranty by, at its option, repairing or replacing any covered part that is defective or is the result of improper workmanship, provided that the part is returned to Farm King within thirty (30) days of the date that such defect or improper workmanship is, or should have been, discovered. Parts must be returned through the selling Farm King Dealer and the buyer must prepay transportation charges.

Farm King will not be responsible for repairs or replacements that are necessitated, in whole or part, by the use of parts not manufactured by or obtained from Farm King. Under no circumstances are component parts warranted against normal wear and tear. There is no warranty on product pump seals, product pump bearings, rubber product hoses, pressure gauges, or other components that require replacement as part of normal maintenance.

REPAIR PARTS LIMITED WARRANTY

Farm King warrants genuine Farm King replacement parts purchased after the expiration of the Farm King Limited Warranty, and used and serviced as provided for in the Operator's Manual, to be free from defects in materials or workmanship for a period of thirty (30) days from the invoice date for the parts. Farm King will fulfill this limited warranty by, at its option, repairing or replacing any covered part that is defective or is the result of improper workmanship, provided that the part is returned to Farm King within thirty (30) days of the date that such defect or improper workmanship is, or should have been, discovered. Such parts must be shipped to the Farm King factory at the purchaser's expense.

WHAT IS NOT COVERED

Under no circumstances does this limited warranty cover any components or parts that have been subject to the following: negligence; alteration or modification not approved by Farm King; misuse; improper storage; lack of reasonable and proper maintenance, service, or repair; normal wear; damage from failure to follow operating instructions; accident; and/or repairs that have been made with parts other than those manufactured, supplied, and or authorized by Farm King.

AUTHORIZED DEALER AND LABOR COSTS

Repairs eligible for labor under this limited warranty must be made by Farm King or an authorized Farm King dealer. Farm King retains the exclusive discretion to determine whether it will pay labor costs for warranty repairs or replacements, and the amount of such costs that it will pay and the time in which the repairs will be made. If Farm King determines that it will pay labor costs for warranty work, it will do so by issuing a credit to the dealer's or distributor's account. Farm King will not approve or pay invoices sent for repairs that Farm King has not previously approved. Warranty service does not extend the original term of this limited warranty.

Farm King

Limited Warranty

WARRANTY REQUIREMENTS

To be covered by warranty, each new product must be registered with Farm King within thirty (30) days of delivery to original retail purchaser. If the customer decides to purchase replacement components before the warranty disposition of such components is determined, Farm King will bill the customer for such components and then credit the replacement invoice for those components later determined to be covered by this limited warranty. Any such replacement components that are determined not be covered by this limited warranty will be subject to the terms of the invoice and shall be paid for by the purchaser.

EXCLUSIVE EFFECT OF WARRANTY AND LIMITATION OF LIABILITY

TO THE EXTENT PERMITTED BY LAW, FARM KING DISCLAIMS ANY WARRANTIES, REPRESENTATIONS, OR PROMISES, EXPRESS OR IMPLIED, AS TO THE QUALITY, PERFORMANCE, OR FREEDOM FROM DEFECT OF THE COMPONENTS AND PARTS COVERED BY THIS WARRANTY AND NOT SPECIFICALLY PROVIDED FOR HEREIN.

TO THE EXTENT PERMITTED BY LAW, FARM KING DISCLAIMS ANY IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ON ITS PRODUCTS COVERED HEREIN, AND DISCLAIMS ANY RELIANCE BY THE PURCHASER ON FARM KING'S SKILL OR JUDGMENT TO SELECT OR FURNISH GOODS FOR ANY PARTICULAR PURPOSE. THE PURCHASER'S ONLY AND EXCLUSIVE REMEDIES IN CONNECTION WITH THE BREACH OR PERFORMANCE OF ANY WARRANTY ON FARM KING'S PRODUCTS ARE THOSE SET FORTH HEREIN. IN NO EVENT SHALL FARM KING BE LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES (INCLUDING, BY WAY OF EXAMPLE ONLY AND NOT LIMITATION, LOSS OF CROPS, LOSS OF PROFITS OR REVENUE, OTHER COMMERCIAL LOSSES, INCONVENIENCE, OR COST OF REPLACEMENT OF RENTAL EQUIPMENT). IN NO EVENT SHALL FARM KING'S CONTRACT OR WARRANTY LIABILITY EXCEED THE PURCHASE PRICE OF THE PRODUCT. (Note that some states do not allow limitations on how long an implied warranty lasts or the exclusion or limitation of incidental or consequential damages, so the above limitations and exclusion may not apply to you.) This warranty gives you specific legal rights and you may also have other rights, which vary from state to state.

Farm King neither assumes nor authorizes any person or entity, including its selling representatives, to assume any other obligations or liability in connections with the sale of covered equipment, or to make any other warranties, representations, or promises, express or implied, as to the quality, performance, or freedom from defect of the components and parts covered herein. No one is authorized to alter, modify, or enlarge this limited warranty, or its exclusions, limitations and reservations.

Corrections of defects and improper workmanship in the manner, and for the applicable time periods, provided for herein shall constitute fulfillment of all responsibilities of Farm King to the purchaser, and Farm King shall not be liable in negligence, contract, or on any other basis with respect to the subject equipment.

This limited warranty is subject to any existing conditions of supply which may directly affect Farm King's ability to obtain materials or manufacturer replacement parts.

Buhler Industries Inc. reserves the right to make improvements in design or changes in specifications to its products at anytime, without incurring any obligation to owners of units previously sold.

ALPHABETICAL INDEX

AUGER HEIGHT & REACH CHART	144	STORAGE AND RETURN TO SERVICE . . .	113
AXLE EXTENSIONS	123	TRACK CAR GUIDE ASSEMBLY	123
AXLE RISERS	125	TRANSPORTING	97
AXLE	110	TROUBLESHOOTING	103
BASE GROUP	32	TRUSS LIFT WINCH	131
BRIDGING CABLE AND SUPPORT	127	TRUSS	126
DISCHARGE SPOUT	128	UNDERCARRIAGE	122
DRIVE SECTION	132	UPPER GEARBOX SZ0160100	120
EQUIPMENT DECALS AND SIGNS	26	WARRANTY REGISTRATION FORM	5
EQUIPMENT IDENTIFICATION	10	WARRANTY	151
FIRE PREVENTION	16	WINCH CABLE INSTALLATION	66
GENERAL ASSEMBLY INFORMATION . . .	31		
GENERAL INFORMATION	117		
GENERAL INFORMATION	73		
HARDWARE TORQUE VALUES	145		
HOPPER ASSEMBLY	134		
HOPPER DRIVE TUBE	136		
HOPPER HEAD ASSEMBLY	138		
HOPPER LIFT ASSEMBLY	140		
HYDRAULIC ASSEMBLY	65		
HYDRAULIC CONNECTION SPECIFICATIONS	147		
HYDRAULIC PARTS	117		
INITIAL SET-UP	76		
LIFT STOP	130		
LOADING GRAIN INTO THE HOPPER . . .	93		
LOWER GEARBOX SZ0160112	118		
LUBRICATION	105		
MAIN AUGER SHEAR BOLT	111		
MAIN TUBE FLIGHTING	129		
OPERATING SAFETY ZONE	18		
OWNER'S INFORMATION	9		
SAFETY INSTRUCTIONS	13		
SAFETY SIGN (DECAL) INSTALLATION .	112		
SAFETY SIGN-OFF FORM	28		
SAFETY SIGNS (DECALS)	19		
SERVICE SCHEDULE	104		
SPECIFICATIONS	143		
SPINDLE & HUB ASSEMBLY	124		

Farm King



www.farm-king.com

Farm King

411 Center Avenue West
Salem, SD USA 57058-0398
Toll Free: 1-888-FK-80001
E-mail: info@buhler.com
www.farm-king.com

Equipment shown is subject to change without notice.
©2012 Buhler Trading Inc. Printed in Canada TSX:BUI

bühler | *a division of Buhler Industries Inc.*