Farm King

OPERATOR AND PARTS MANUAL

Backsaver Auger

14122 Model

10/2011 SZ106646

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Manufacturer's statement: for technical reasons Buhler Trading 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 grain type, grain moisture, auger elevation and other factors.

Introduction

To The Owner

Thank you for purchasing a Farm King 14122 Backsaver Auger.

Farm King Backsaver Augers have been designed to provide many years of profitable and dependable service. To assure maximum performance of your Backsaver Auger, it is mandatory that you thoroughly study the operator's manual and follow its recommendations. PLEASE EXAMINE YOUR UNIT CLOSELY AND READ THE ASSEMBLY INSTRUCTIONS TO SEE THAT YOUR UNIT IS PROPERLY ASSEMBLED. Proper operation and maintenance are essential for safety, to maintain performance, and to maximize the life of the Backsaver Auger. When ordering parts or inquiring about the auger, you must include the serial number which is located on the second upright of the lower truss support.

It is the owner's responsibility to:

Operate and maintain this Backsaver Auger in a safe manner and in accordance with all applicable local, provincial, state and federal codes and/or laws.

Make sure each and every operator has read the operator's manual and thoroughly understands safe and correct operating procedures.

Make sure unauthorized people do not operate or are not in the vicinity of the Backsaver Auger while it is in operation.

Maintain the Backsaver Auger in accordance with the maintenance schedule in this manual. Furthermore, as additional technology becomes available, the owner is responsible for improving the safety and reliability of the system.

Fulfill all warranty obligations so as not to void the warranties. Verify the unit is warranty registered prior to making any warranty claims. The warranty section at the back of this manual outlines the warranty policy of Farm King.

Abuse or modifications to the Backsaver Auger that change the performance other than original factory specifications void the warranty.

Farm King reserves the right to make product improvements to the equipment at any time. It shall not be obligated to make such changes to machines already in service.

*The owner, manager and/or operator is responsible for safe, accurate operation and maintenance of the Farm King 14122 Backsaver Auger.

Safety

Safety Instructions

Remember, YOU are the key to safety. Good safety practices not only protect you, but also the people around you. Make these practices a working part of your safety program. Be certain that everyone operating this equipment is familiar with the recommended operating and maintenance procedures and follows all the safety precautions. Most accidents can be prevented. Do not risk injury or death by ignoring good safety practices.

The alert symbol is used throughout this manual. It indicates attention is required and identifies hazards. Follow the recommended precautions.

The safety alert symbol means...
ATTENTION! BECOME ALERT! YOUR SAFETY IS INVOLVED!

	CAUTION	The caution symbol indicates a potentially hazardous situation that, if not avoided, may result in minor or moderate injury. It may also be used to alert against unsafe practices.
	WARNING	The Warning Symbol indicates a potentially hazardous situation that, if not avoided, could result in death or serious injury, and includes hazards that are exposed when guards are removed. It may also be used to alert against unsafe practices.
	DANGER	The Danger Symbol indicates an imminently hazardous situation that, if not avoided will result in death or serious injury. This signal word is to be limited to the most extreme situations, typically for machine components that, for functional purposes, cannot be guarded.

Safety Instructions

- Do not allow anyone to operate this Farm King Backsaver Auger until he or she has read this manual and is completely familiar with all safety and operation procedures.

	CAUTION	Observe all federal, state and provincial environmental regulations and all federal, state, provincial and local codes and/or laws regarding licensing, handling, storage and transportation of the equipment.
	WARNING	Always wear protective clothing, goggles, hearing protection, respirator and gloves. Do not wear loose clothing that can catch on the PTO shaft or machinery.
	DANGER	Stay away from overhead obstructions and power lines during operation and transporting. Electrocution can occur without direct contact.

- If any safety device on the swing Backsaver Auger itself is not functioning properly, DO NOT use the Backsaver Auger. Remove it from service until it has been properly repaired by a qualified service technician.
- Do not allow the following people to operate or repair this equipment:
  - Children
  - Irresponsible persons
  - People under the influence of alcohol, medications or other drugs that can cause drowsiness or impaired judgement.
  - Persons unfamiliar with equipment or people who are careless or unfamiliar with safe operating procedures.

General Safety

- Have a first-aid kit available for use and know how to use it.
- Have a fire extinguisher available, stored in a highly visible location, and know how to use it.
- Wear appropriate protective gear. This list may include but is not limited to:
  - hard hat
  - protective shoes with slip resistant soles
  - protective glasses or goggles
  - heavy gloves
  - wet weather gear
  - hearing protection
  - respirator or filter mask
- Read and understand the Operator's Manual and all safety signs before operating, servicing, adjusting, repairing, or unplugging the equipment.
- Do not attempt any unauthorized modifications to your Farm King product as this could affect function or safety, and could affect the life of the equipment.
- Inspect and clean the working area before operating.

- Keep hands, feet, clothing, and hair away from moving parts.
- Ensure bystanders are clear of the area before operating.
- Keep all shields in place.
- Never operate the unit with any shields removed.
- Never step across any rotating member.

Start-Up Safety

- Do not let inexperienced operators or children run this equipment.
- Place all tractor and machine controls in neutral before starting.
- Operate only with ROPS and seatbelt equipped tractors.
- Do not operate inside a building unless there is adequate ventilation.
- Ensure all shields are in place and in good condition before operating.
- Stay clear of PTO shaft and machine when engaging PTO
- Before starting the tractor, be certain that the PTO is disengaged.
- The auger must be on a level surface and wheels free to move when raising or lowering. Everyone should be kept clear during these operations.
- Keep auger away from electrical power lines.
- Tractor must be attached to auger during operation to prevent upending.
- Hitch pin must be installed between auger and tractor to prevent IID separation.
- Verify that the IID (PTO power shaft) is securely attached to the tractor before starting.
- Operate on level ground. If ground is uneven, anchor the discharge end to prevent tipping.
- Move the auger with a vehicle. Never attempt to move it manually.
- Never allow anyone under the auger when raising or lowering.
- Double check for electrical power lines.
- Inspect the lift cable before erecting the auger and replace if it is frayed or damaged.
- Verify that the winch is rotating the correct way to raise the auger.
- Stop the hydraulic winch BEFORE the track car reaches the end of the track.
- Do not allow the cable to “stack up” on one side of the winch drum.
- Never guide the cable with any part of the human body.
- Never stand along side the winch cable when raising or lowering the auger.
- Erect the auger on level ground, free of obstructions and holes.
- Always install the axle extensions before erecting the auger.

Operation Safety

- Do not permit riders.
- Do not stand on the intake hopper.
- Do not wear loose fitting clothing during operation.
- Empty the auger before moving, to prevent upending.
- The auger should be attached to the drawbar of the tractor at all times during operations.
- Do not allow anyone other than the operator close to the auger when in operation.
- Never stand under the auger while raising or lowering.
- When filling tall bins, tanks, or granaries, it is advisable to anchor the auger to the bin or building to prevent it from being tipped over by the wind or a sudden movement. The upper end of the auger should rest on some support when in operation.

- Do not operate Intake Auger when it is folded in transport position.
- Never raise the intake end of the auger above waist high, as the balance shifts forward, and the auger will tip over.
- Stay away from overhead obstructions and power lines during operation and transporting. Electrocution can occur without direct contact.
- All personnel in the area MUST know how to stop the tractor in an emergency.
- Do not insert fingers, hands, feet, clothing, sticks, boards, wrenches, bars, etc. into the mesh intake guard when in operation.
- Anchor discharge end to prevent tipping over in high wind.
- Do not mount excessive weight to the discharge end of the auger.
- Do not use as a crane or hoist.
- Disconnect the winch hydraulic hoses from the tractor to prevent accidental raising or lowering of the auger.

Transport Safety

- Review Transport Safety instructions in tractor manual before moving.
- Check with local authorities regarding transport on public roads. Obey all applicable laws and regulations.
- Do not tow equipment that does not have brakes at speeds over 32km/h (20 mph).
- Do not tow equipment that does not have brakes that, when fully loaded, has a mass (weight) over 1.5 t (3300 lb) and more than 1.5 times the mass (weight) of the towing unit.
- Make sure the SMV (Slow Moving Vehicle) sign and all the lights and reflectors that are required by the local highway and transport authorities are in place, are clean, and can be seen clearly by all overtaking and oncoming traffic.
- Never have the equipment in operation during transport.
- Always transport the auger in the down position, carrying the weight of the auger on the undercarriage itself, and not the hydraulic winch.
- Take extreme caution in maneuvering on or around tight corners so as not to catch the end of the auger on trees, buildings, power lines, etc.
- The equipment should never be towed without the safety chain securely attached to the auger and the towing vehicle.
- When moving the auger on the road, always use a red flag, or if absolutely necessary to move at night, accessory lights for adequate warning to operators of other vehicles.
- Always travel at a safe speed.
- Inflate transport tires to recommended pressure.
- Remove the IID (PTO power shaft) from the tractor before moving the auger.
- Move the auger with a vehicle. Never attempt to move it manually.
- Keep all persons off the auger during transport, raising or lowering.
- Verify that all anchors on the auger have been removed before attempting to move.
- Make certain that the wheels on the axle are free to move before raising or lowering.
- Transport the auger in the full down position with slight cable tension.
- Do not transport on slopes greater than 20°.
- Do not allow the axle to be greater than 20° to the horizontal.
- Use caution when turning with the auger.
- Do not transport faster than 32km/h (20 mph).

- Disconnect the winch hydraulic hoses from the tractor after positioning to prevent accidental raising or lowering of the auger.
- The hopper safety latch must be engaged before road transport.
- Always install the axle extensions before erecting the auger.

Service and Maintenance Safety

- Stop engine, set brake, remove ignition key, and wait for all moving parts to stop before servicing, adjusting, repairing, or unplugging.
- Lubricate at recommended intervals with recommended lube and/or grease.
- Support the equipment with blocks or safety stands before working beneath it.
- Follow good shop practices including:
  - Keep service area clean and dry
  - Be sure electrical outlets and tools are properly grounded
  - Use adequate light for the job
- Use only tools, jacks, and hoists of sufficient capacity for the job.
- Replace and secure all shields removed during servicing before operating.
- Use heavy leather gloves to handle sharp objects.
- Check hydraulics regularly for leaks. Use cardboard to look for leaks, and use hand and eye protection.
- Relieve pressure on hydraulic system before repairing or adjusting.
- Keep decals clean. Replace any damaged decals.
- Keep all shields in place. Replace after adjustment or maintenance.
- Failure to follow proper procedures when mounting a tire on a wheel or rim can produce an explosion, which may result in serious injury or death.

Storage Safety

- Store the unit in an area away from human activity.
- Do not permit children to play on or around the stored machine.
- Support the frame on stands and blocks to provide a secure base.
- When storing an auger, park it on level ground so that the bottom end will never be over its center of gravity.
- Block the wheels of the auger so that the auger will not move and tear the jack from its mount.

Safety Decals

The following illustration shows the approximate location and detail of safety decals. Keep all safety decals clean and legible and replace any that are damaged or missing. When original parts are replaced, any safety decals affixed to those parts should be replaced as well. Replacement safety decals are available from your local dealer.

Decal Installation

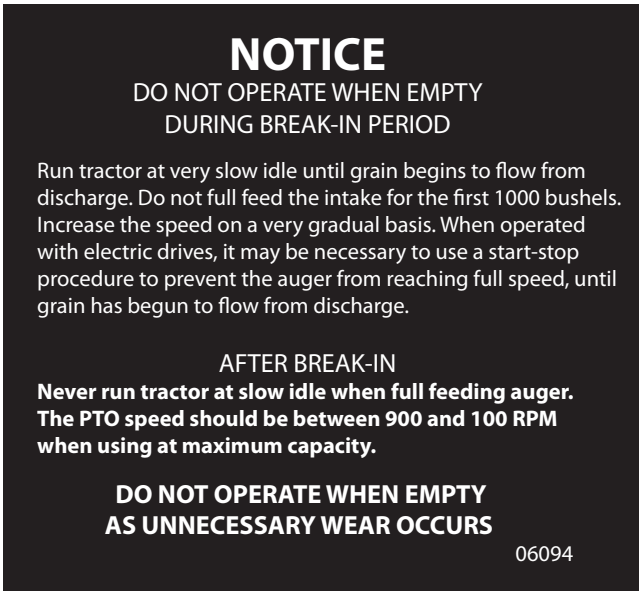
To install safety decals, ensure the installation area is clean and dry. Decide on the exact position before you remove the backing paper. Remove the smallest portion of the split backing paper and align over the specified area. Carefully press in place. Slowly peel back the remaining paper and smooth the remaining portion in place. Small air pockets can be pierced with a pin and smoothed out.

Safety Decals on the Farm King 14122 Backsaver Auger

06527

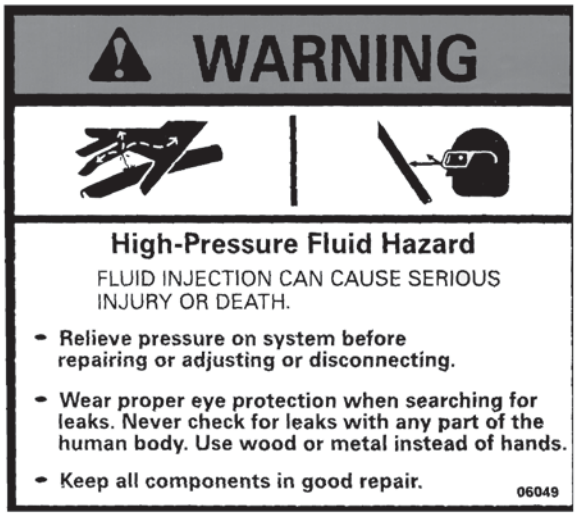
06051

06131

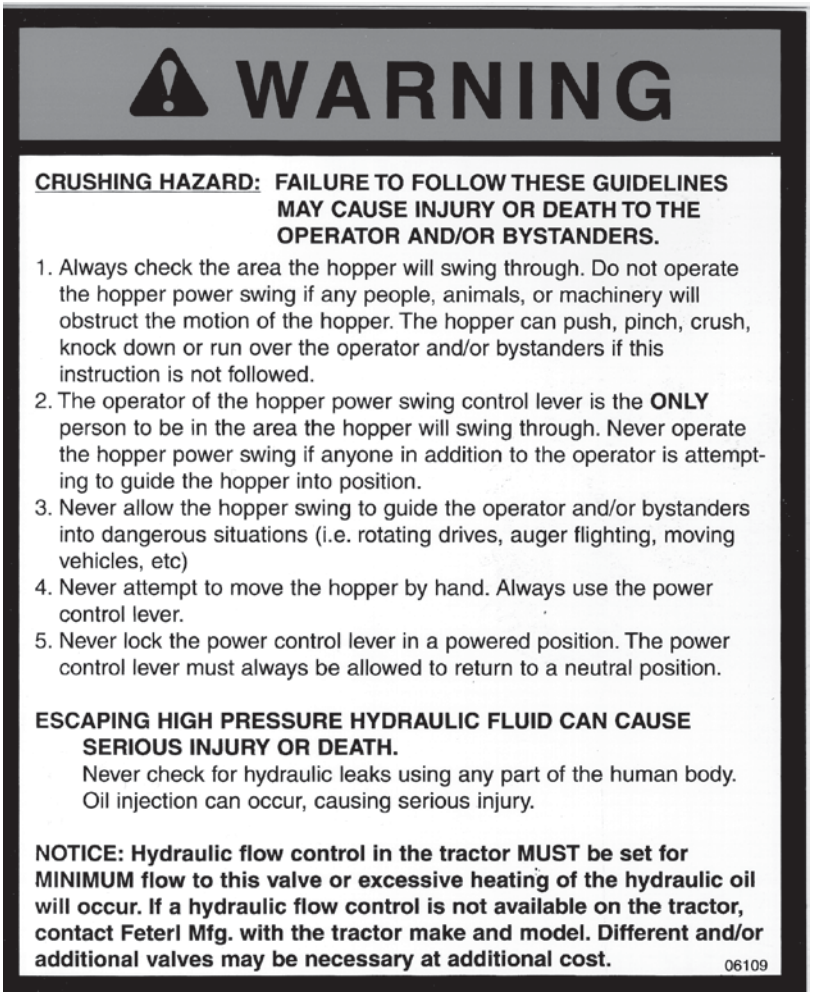


06094

06023



06049



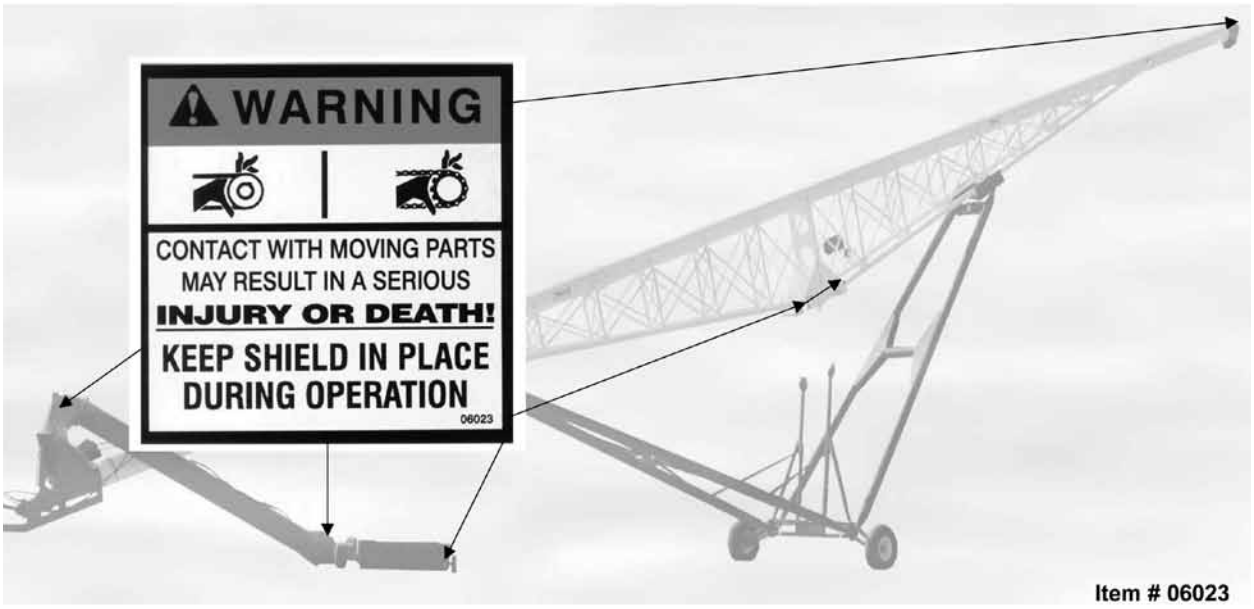
06109

When a decal has been removed or damaged, new decals can be obtained from Farm King Inc.

Part #	Decal	Description	Size & Color
SZ06001	–	Made in the USA	2-1/8" dia.- Red, White, Blue
SZ06010	WARNING	Do not operate the unit before reading the operator's manual	7-1/2" x 11" - Orange
SZ06011	WARNING	Contact w/ rotating flighting & moving parts	4" x 4" - Orange
SZ06017	NOTICE	Raising or lowering the auger with blocked or trapped wheels	4-1/2" x 3-1/2" - Yellow
SZ06021	WARNING	This auger transports over-height	4" x 4-1/4" - Orange
SZ06023	WARNING	Contact with moving parts	4" x 4" - Orange
SZ06026	WARNING	Use 3/8" Grade 5 shear bolt	2" x 1-3/4" - Yellow
SZ06049	WARNING	Hydraulic Operation	4-1/2" x 4" - Orange
SZ06051	DANGER	Rotating Flighting	4" x 5-1/4" - Red
SZ06055	NOTICE	The IID should be disconnected	4-1/2" x 3" - White
SZ06057	–	Grease gun silhouette	1-1/4" x 1/2" - White
SZ06077	NOTICE	Drain hole cover must be opened	3" x 1-1/2" - White
SZ06078	NOTICE	Avoid over feeding	4" x 2" - White
SZ06080	IMPORTANT	The flighting thrust load must be carried	4-1/2" x 2" - Yellow
SZ06094	NOTICE	Do not operate when empty during break-in period	5-1/2" x 4" - Black
SZ06109	WARNING	Crush Hazard	5" x 6" – Orange
SZ06112	NOTICE	Gear box must be checked for proper oil level	1-1/2" x 4" - White
SZ06131	DANGER	Rotating Driveline	4-1/4" x 5" - Red, White
SZ06527	DANGER	Electrocution Hazard	4" x 4" - Red
SZ06528	NOTICE	Do not tow over 20 mph	2" x 1" – White
SZ06052	NOTICE	Auger Worm Winch - Wrap the cable	5" x 3" - White
SZ000110	FARM KING	Logo for 12" & 14" white augers	
SZ000113	FARM KING	Logo for 10", 12" & 14" red augers	
SZ000112	14122	14122 for white augers	
SZ000115	14122	14122 for red augers	
SZ000116	FETERL	Feterl original	

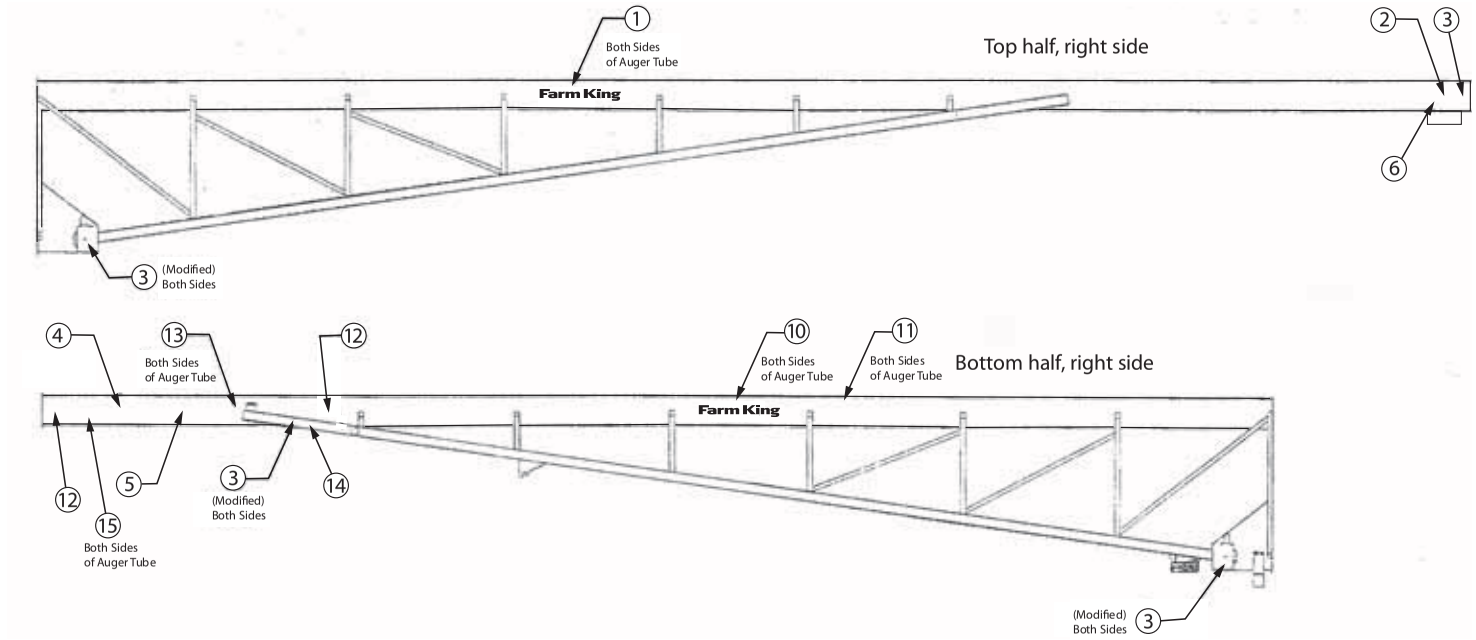
Item # 06010

Item # 06011



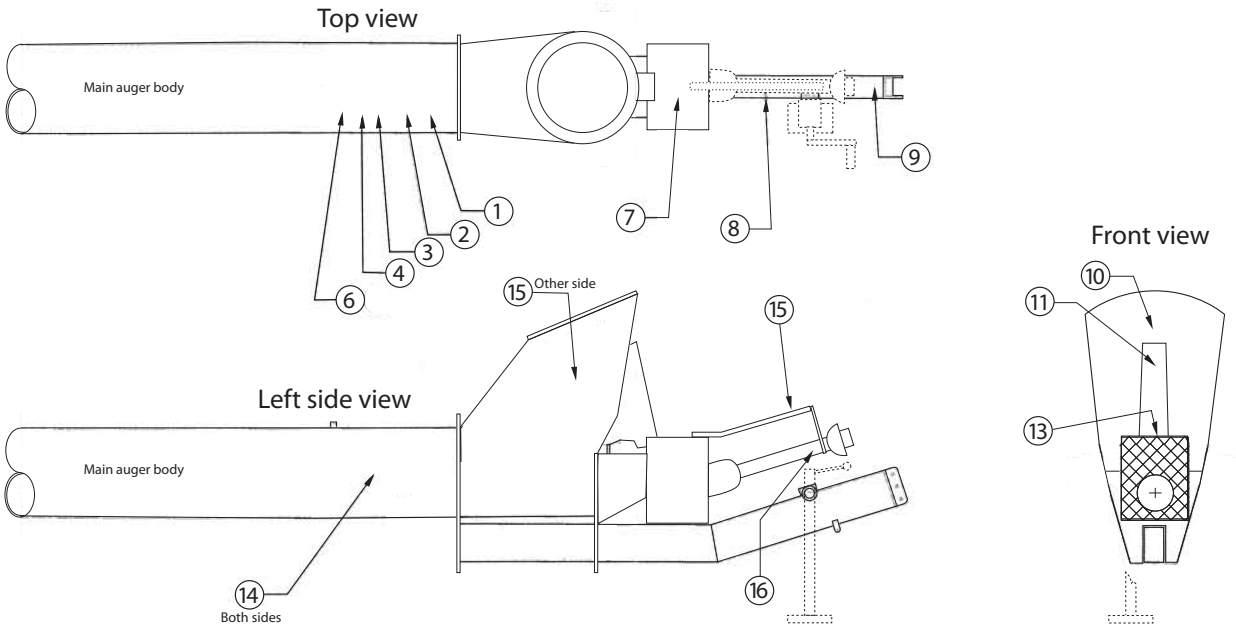
Item # 06023

Item # 06017



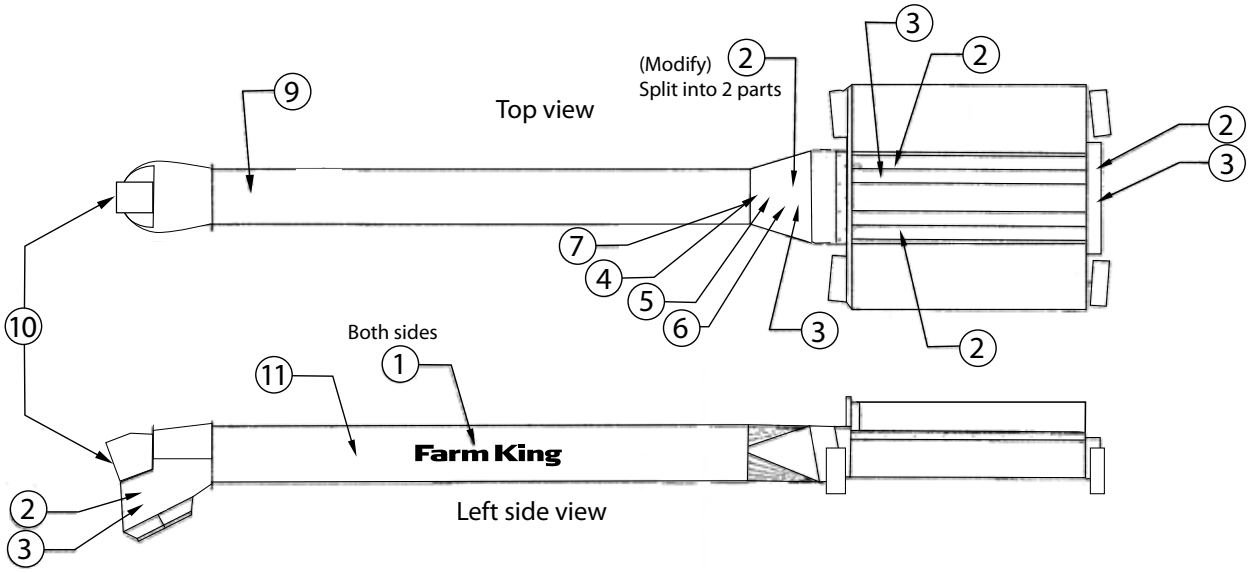
Item #	Part #	Description	Qty.
1	SZ000110	FARM KING - logo for white augers	2
	SZ000113	FARM KING - logo for red augers	2
2	SZ06051	DANGER – Rotating Flighting	1
3	SZ06023	WARNING – Contact with moving parts	6
4	SZ06527	DANGER – Rotating Driveline	1
5	SZ06021	WARNING –This auger transports over-height	1
6	SZ06011	WARNING – Contact w/ rotating flighting & moving parts	1
10	SZ000110	FARM KING logo	2
11	SZ000112	14122 for white augers	2
	SZ000115	14122 for red augers	2
12	SZ06049	WARNING – Hydraulic Operation	2
13	SZ06017	NOTICE – Raising or lowering the auger with blocked or trapped wheels	2
14	SZ06052	NOTICE - Auger Worm Winch - Wrap cable (modified)	1
15	SZ000116	Feterl Original – logo	2

Safety and Instruction Decal Placement – Swing Drive Section



Item #	Part #	Description	Qty.
1	SZ06010	Do not operate the unit before reading the operator's manual	1
2	SZ06094	NOTICE – Do not operate when empty during break-in period	1
3	SZ06051	DANGER – Rotating Flighting	1
4	SZ06527	DANGER – Electrocution Hazard	1
6	SZ06001	Made in the USA	1
7	SZ06077	NOTICE – Drain hole cover must be opened	1
8	SZ06021	WARNING –This auger transports over-height	1
9	SZ06528	NOTICE – Do not tow over 20 mph	1
10	SZ06080	IMPORTANT –The flighting thrust load must be carried	1
11	SZ06055	NOTICE –The IID should be disconnected	1
13	SZ06057	Grease gun silhouette	1
14	SZ06049	WARNING – Hydraulic Operation	2
15	SZ06026	WARNING – Use 3/8" Grade 5 shear bolt	2
16	SZ06132	DANGER – Rotating driveline	1

Safety and Instruction Decal Placement – Swing Drive Hopper



Item #	Part #	Description	Qty.
1	SZ000113	FARM KING – white logo	2
2	SZ06023	WARNING – Contact with moving parts	5
3	SZ06057	Grease gun silhouette	4
4	SZ06051	DANGER – Rotating Flighting	1
5	SZ06094	NOTICE – Do not operate when empty during break-in period	1
6	SZ06011	WARNING – Contact w/ rotating flighting & moving parts	1
7	SZ06078	NOTICE – Avoid over feeding	1
9	SZ06058	Do Not Raise	1
10	SZ06112	NOTICE – Gear box must be checked for proper oil level	1
11	SZ06109	WARNING – Crush Hazard	1

Specifications

The Farm King 14" Backsaver Auger has different length options. Before inquiring about the auger or ordering parts, check the auger serial number located on the second upright on the lower truss support. The auger serial number must be used at the time of parts ordering to ensure that the correct parts are being ordered.

Power Source (Tractor) Requirements:

Type 3 power take-off

- 1000 RPM - 1-3/4" 20-spline (see pages 40 and 57 for information if Type 2 (1-3/8 21 -spline is to be used)
- 540 RPM drive is not available for 14" Backsaver Augers

Horsepower

- 122' auger requires HP minimum ** 1-1/4 HP minimum per foot of auger length; these requirements will change depending on grain type, grain moisture and auger elevation.

Hydraulic requirements

- 12 GPM minimum
- 1500 PSI minimum
- 3 remote outlets

**Closed Center Tractor Hydraulic System (see pages 46 and 57 for information if an open center hydraulic system is to be used).

Transport Information

Do not tow over 32 km/h (20 mph). Faster speeds may cause premature failure to hub, tires and bearings.

Transport height - 15'5"

Transport width (to outside of tire) - 10'8" (14'6" with axle extensions installed)

Transport length (hitch pin to tube end) - 126'

Customer Supplied Items Information

Tires

- 2 - 12L x 15

Hydraulic hoses

- 2 - #8 JIC Female x 1/2" NPT Male x 10'
- 2 - #8 JIC Female x 1/2" NPT Male x 14'
- 1 - #8 JIC Female x 1/2" NPT Male x 16'
- 1 - #8 JIC Female x 1/2" NPT Male x 19'

NOTE: #8 JIC also called 3/4-16 JIC

Up to 16,00 bushels per hour in dry corn.;

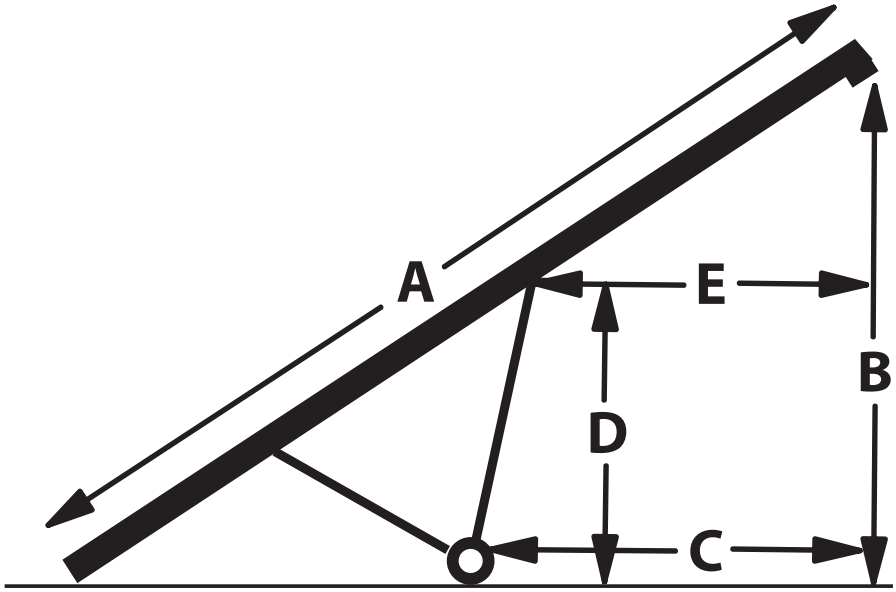
Made from 12 ga tube

Flighting rolled from 1/4"

Hopper 10-1/2" clearance, 60" x 48" opening

Auger Height and Reach

Size of auger	A	B		C		D		E	
		19°	Max.	19°	Max.	19°	Max.	19°	Max.
14" 122' CSW	122'	41'4"	69'6"	56'	50'	26'9"	33'11"	35'7"	45'9"



Assembly Instructions

One must use extreme caution when assembling this auger. Two lifting devices (i.e. loader tractor, forklift, etc.) are required as well as various wrenches and tools. Assemble the auger on a flat surface. Right, left, front and back refer to looking at the auger from the intake end.

1. Fasten the front undercarriage arms (Ref. #37 & 38) together using twenty-four 1/2" x 1-1/2" bolts and corresponding locknuts. Mount the four x-braces (Ref. #40 and #41) using eight 1/2" x 1-1/2" bolts and corresponding locknuts. **Do not fully tighten bolts until further instructed**.

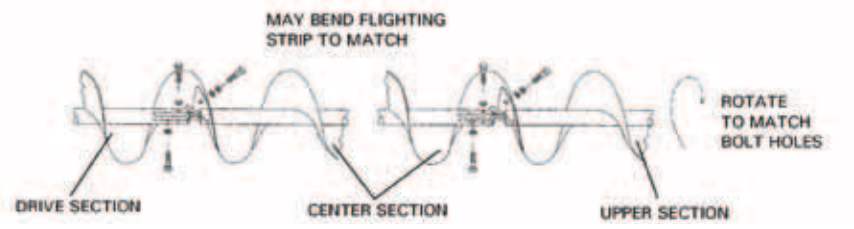
2. Attach the front arms to the axle weldment (Ref. #27), using ten 1/2"-13UNC x 1-1/2 grade 5 bolts and corresponding locknuts. The front of the axle weldment (side with "Jack Points") must face the intake end of the auger. **Do not fully tighten bolts until further instructed**.

3. Attach axle extensions (Ref. #28) to the axle weldment using twelve 5/8" x 2" bolts and corresponding locknuts (Farm King part numbers 126114 and 125036). Fasten the hub and spindle assemblies (Ref. #29) to the axle extensions using twelve 5/8"x 2" bolts and corresponding locknuts. **NOTE: The axle extensions cannot be used when transporting on a public road, but must be used when operating the auger.** Mount the wheels (Ref. #30) using the wheel bolts. **NOTE: Use "Jack Point" to raise the auger for mounting and removing axle extensions.**

4. Position the lower truss (Ref. #18) into the undercarriage assembly and fasten support arms to the truss using a 1-1/4" x 29-5/8" pin (Ref. #43) and two 1/4" x 2" cotter pins (Farm King #6001420) and two 1-1/4" x 10 ga. machine bushings (Farm King #0231250). The center splice will rest on the top of the axle weldment. **Tighten all bolts that were not tightened in step #1 and #2.**

5. Position the lower tube (Ref. #3) into the lower truss (Ref. #18) so the truss mounts on the tube line up with the ends of the truss. Mount the lower tube to the lower truss using four 1/2" x 1-1/4" bolts and corresponding locknuts. Use 2-bolt half clamps (Ref. #19), 3/8" x 1-1/2" bolts and locknuts to clamp the tube to the lower truss. **NOTE: The truss must be supported to ensure the straightness of the tube after being clamped into the truss**.

6. Position the drive section (Ref. #4) straight in line with the lower tube section (Ref. #3) two feet from the lower end of the tube. Join the flighting assemblies (Ref. #8 & 9) together, as shown above, with two 1/2"-20UNF x 4-1/2" bolts (Farm King #126109) and corresponding locknuts (Farm King #125033), and one 3/8" x 7/8" socket head screw (Farm King #126000) and corresponding locknut (Farm King #125030). Fasten the flighting assemblies so that the drive flighting assembly (Ref. #9) overlaps the lower flighting assembly (Ref. #8). **NOTE: Do not bend flighting core while connecting. Making sure the tubes are straight in line helps keep the truss**. Use two 1/2" x 6-1/2" threaded rods (Ref. #16) and eight corresponding hex nuts to bolt adjustable brackets to the upper tube truss mounts. Use 1/2" x 1-1/2" grade 5 bolts and corresponding locknuts to bolt the truss to the upper tube truss mount. Use one 1/2" flat washer for each of the slotted holes on the truss mount when assembling. Make sure the top tube is straight and tighten the bolts on the truss end mount.



7. Attach the axle riser assemblies (Ref #27) to the axle with ten 5/8"-11UNC x 4-1/2" bolts and corresponding locknuts (Farm King # 126118 and #125036). Connect axle riser support cable assemblies to each axle riser and also to the front undercarriage mount. Fasten the rear undercarriage arms (Ref. #37 and #38) together with components using twenty-four 1/2" x 1-1/2" bolts and corresponding locknuts. Mount the two X-braces using four 1/2" x 1-1/2" bolts and corresponding locknuts. **Do not fully tighten bolts until further instructed**.

8. Attach the rear undercarriage assembly to the axle weldment with two 1-1/4" x 5-7/8" pins (Ref. #31). Secure each pin with a 1/4" x 2" cotter pin (Farm King #6001420) and 1-1/4" x 10 ga. machine bushing (Farm King #0231250) **NOTE: The flat sides of the lower cross member mounting brackets should be facing the ground**.

9. Position the top truss (Ref. #15) over the undercarriage straight in line with the lower truss (Ref. #18) and connect splice plate with 1/2" x 1-1/2" grade 5 bolts and corresponding locknuts. **NOTE: Be sure the intake end of the auger is weighted to avoid tipping of the unit when bolting the two units together. Tighten all bolts that were not tightened in step #7**.

10. Position the center tube section (Ref. #2) over the truss straight in line with the lower tube section (Ref. #3) within one foot of the lower tube. Join the flighting assemblies together, as shown **on Page 20**, with two 1/2"-20UNF x 4-1/2" bolts (Farm King #126109) and corresponding locknuts (Farm King #125033), and one 3/8" x 7/8" socket head screw (Farm King #126000) with its corresponding locknut (Farm King #125030). Fasten the flighting assemblies such that the lower flighting (Ref. #8) overlaps the center tube flighting (Ref. #7). **NOTE: Do not bend flighting core while connecting. Making sure the tubes are straight in line helps keep flighting from bending.** Slide the center tube down to meet the lower tube at the flange ring. **NOTE: Support some of the weight of the tube so it will slide in the half clamps.** Connect the tubes at the flange ring using eighteen 1/2" x 1-1/2" bolts and corresponding locknuts. **NOTE: Do NOT fully tighten bolts in flange ring connection the first time**. Work around flange ring at least twice to gradually pull the connection together. Fully tightening the bolts on one side will pull the auger tubes out of alignment. Use 2-bolt half clamps (Ref. #19) and 3/8" x 1-1/2" bolts and locknuts to clamp the tube to the lower & upper truss. **NOTE: The truss must be supported to ensure the straightness of the tube after being clamped into the truss**.

11. Position the top tube section (Ref. #1) over the truss straight in line with the center tube section (Ref. #2), but within one foot from the center tube section. Join the flighting assemblies together, as shown **on Page 20**, with two 1/2"-20UNF x 4-1/2" bolts (Farm King #126109) and corresponding locknuts (Farm King #125033), and one 3/8" x 7/8" socket head screw (Farm King #126000) with its corresponding locknut (Farm King #125030). Fasten the flighting assemblies such that the center tube flighting (Ref. #7) overlaps the upper tube flighting (Ref. #6). **NOTE: Do NOT bend flighting core while connecting**. Making sure the tubes are straight in line helps keep flighting from bending. Slide the upper tube section and middle tube section together and connect with 1/2" x 1-1/2" grade 5 bolts and corresponding locknuts. **NOTE: Do NOT fully tighten bolts in flange ring connection the first time**. Work around the flange at least twice to gradually pull the connection together. Fully tightening the bolts on one side will pull the auger tubes out of alignment. Use 2-bolt half clamps (Ref. #19) and 3/8" x 1-1/2" bolts and corresponding locknuts to clamp the tube to the upper truss. **NOTE: The truss must be supported to ensure the straightness of the tube after being clamped into the truss**. Use two 1/2" x 6-1/2" threaded rods (Ref. #16) and eight corresponding hex nuts to bolt adjustable brackets to the upper tube truss mounts. Use 1/2" x 1-1/2" grade 5 bolts and corresponding locknuts to bolt the truss to the upper tube truss mount. Use one 1/2" flat washer for each of the slotted holes on the truss mount when assembling. Make sure the top tube is straight and tighten the bolts on the truss end mount.

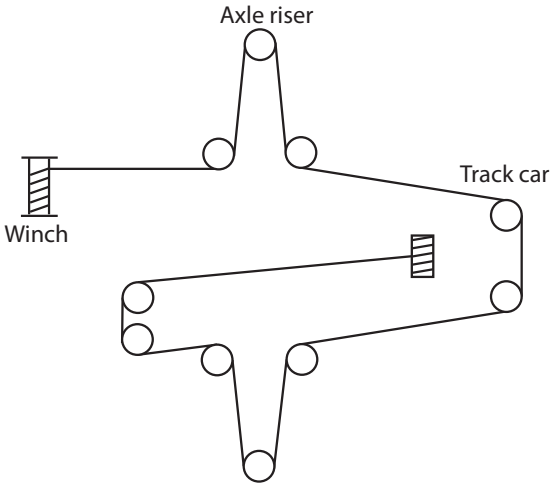
12. Assemble the track car nylon slide bushings (Ref. #36) into the track car guides (Ref. #35) using 1/8" x 1" cotter pins. The cotter key must be to the outside of the guide. Mount the track car assembly (Ref. #34) to the rear undercarriage assembly using a 1-1/4" x 40-1/4" pin, two 1/4" x 2" cotter pins (Farm King #6001420), and two 1-1/4" x 10 ga. machine bushings (Farm King #0231250). Next, attach the track car to the track and upper truss (Ref. #15) using the two track car guides and eight 1/2" x 1-1/2" bolts and corresponding locknuts. Be sure auger tubes are all straight and fully tighten all bolts on undercarriage.

13. Remove the 2" nut (Ref. #12) from the discharge end of the upper flight (Ref. #6). Slide the auger shaft through the drop spout openings and fasten the drop spout (Ref. #14) to the upper tube flange ring using eight 1/2" x 1-1/2" bolts and ten corresponding locknuts. Fasten the bearing and bearing flange (Ref. #11) to the end drive mounts on the drop spout with four 5/8" locknuts. Align the female spline in the drive section flight with the male spline on the gear box. Push flight toward the drive section until the splines bottom out on each other. Thread the 2" nut back onto the flighting until finger tight. Tighten the nut two more full turns. Do not let the flighting 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**. Tighten the set screw into the keyway to lock the nut. Tighten the bearing lock collar. Attach the shield (Ref. #13) using two 3/8" locknuts (Farm King #125030).

14. Attach the hydraulic winch assembly (Ref. #20) to the lower truss by using four 5/8" x 2" bolts (Farm King #126114) and corresponding locknuts (Farm King #125036). Fasten the hydraulic motor to the winch with two 1/2" x 2" bolts (Farm King #126095) and corresponding locknuts (Farm King #125010). Fasten 90 degree hydraulic fittings (Farm King #2123801) in the two ports on the hydraulic motor. Fasten the two hydraulic lines (Farm King #105093) to the hydraulic fittings previously installed. Run hoses through clips located on the side of the lower auger tube up to the drive section.

15. Thread the 3/8" lift cable (Farm King #02137190). Begin by fastening the cable to the winch assembly, making sure the cable comes over the top side of the winch drum to give it proper clearance. Thread the cable between the tube (Ref. #3) and the pivot pin. Thread the cable along the left side of the auger first, through the sheave on the tube undertruss, up over the sheave on the riser assembly, then back through the next sheave on the tube undertruss, up to the track car, around and through the sheaves to the right side of the auger. Come back down to the first sheave on the tube undertruss, then up over the sheave on the riser assembly and back down to the next sheave on the tube undertruss. Next thread the cable around the sheaves in the middle of the tube undertruss and back to the track car. Anchor the cable around the vertical pin in the car with two 3/8" cable clamps (Farm King #6003375) and one 3/8" thimble (Farm King #6009375).

Proper threading of cable



16. Mount the “STOP LIFT" sign (Ref. #26). Clamp the flag assembly on the left side of the auger to the first undertruss riser after the center splice on the top auger section. Use two flat straps and four 3/8" x 3" bolts (Farm King #126076) and corresponding locknuts (Farm King #125030). Fasten the extension spring and adjust the flag so it will catch the flat bar on the top of the track car guides. The “STOP LIFT" sign will swing out, when properly adjusted, when maximum height has been reached.

17. Mount the cable riser half clamp (Ref. #19) with 3/8" x 1-1/2" bolts and corresponding locknuts. Mount two support cables with eight 3/8" cable clamps (Farm King #6003375), two 5/16" cable clamps, and four thimbles. Mount the 5/16" cable clamps into the cable riser half clamp.

18. Mount the Implement Input Driveline (IID) shaft to the lower gear box using a 3/8" x 2" key (Farm King #0113820). Tighten set screw on IID. Mount the IID hanger using 1/4" x 2" cotter pin (Farm King #6001420). Hang IID from hanger with rubber strap (Farm King #91230).

19. Mount the hopper cylinder lift assembly (Ref. #5) to the lower tube using two 1/2" x 1-1/2" bolts and corresponding locknuts and one 3/4" x 2" bolt (Farm King #126122), flat washer (Farm King #127005), and two jam nuts (Farm King #125024). Insert the hopper lift riser arm (Farm King #9981429) into the hopper lift end anchor and secure using a 5/8" x 4" clevis pin (Farm King #128013) and 1/8" hair pin (Farm King #128018). Thread the 1/4" hopper lift cable assembly (Farm King #0215170).

20. Install the upper half of the hopper telescoping power shaft onto the gear box in the hopper head using one 7/16" x 2-1/2" spiral pin (Farm King #6007025). **NOTE: be sure to mount the hopper power shaft half with the tube to the upper gear box**. Place the Swing Drive Hopper on the auger with the hopper pivot ring centered on the drive section. Secure the hopper to the drive section using four 1/2" spacers, four 1/2" washers, and four 1/2" locknuts. The hopper can be mounted on either side of the auger. Slide the lower half of the hopper telescoping power shaft into the upper half and install the driveline onto the lower gear box in the drive section using one 7/16" x 2-1/2" spiral pin (Farm King #6007025).

21. Mount the Owner’s Manual Container tube onto the top half of the drive section fan shield with two mounting straps (Farm King #126047) and corresponding locknuts (Farm King #125035).

22. Hitch auger to tractor (see page 24). Install hydraulic hoses between tractor and hydraulic lines. Raise auger using hydraulic lift; check several times while raising for interference and to see that the cable runs through the proper sheaves and openings without binding. When lowering, be sure the cable seats itself through the guides and into the sheaves on the arms of the axle and riser assembly.

Operation Instructions

Farm King Portable Grain Augers are designed primarily to convey grain to and from grain storage bins or buildings. This machine 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 (some need 100 bushels and some need several hundred bushels) it will run smooth at recommended speed. The tractor and/or auger must have the correct adjustments made to prevent damage to either the tractor or auger.

Tractor to Auger

These instructions must be followed every year and/or every time a different tractor is attached to the auger.

1. Adjust the tractor until the distance from the end of the tractor PTO shaft to the hitch pin is 16".
2. Hitch the tractor to the auger and attach the IID to the tractor. If the IID is not approximately mid-range of the telescoping range, further drawbar length adjustment may be necessary.

NOTICE: The shielding has been removed in the illustration for parts demonstration only. Install all shielding before operating the unit.

3. **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.
4. Attach the hydraulic hoses controlling the main auger winch and the hopper lift to the tractor. Release the hopper safety latch (it may be necessary to use the hopper lift in order to release this latch). Verify that the axle extensions are installed and 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.
5. Using the tractor hydraulic valve, engage the main lift winch and begin to raise the auger. Verify that the cable is wrapping on the top side of the winch drum (closest to the auger tube). If not, correct the winch drum rotation.
6. Raise the auger until the necessary height has been reached. Maneuver the auger into position, ending with the tractor as close to in-line with the auger as possible. Disconnect the main auger winch hoses from the tractor to prevent accidental raising or lowering of the auger. Stop the winch BEFORE the track car reaches the end of the track or damage and/or collapse may occur.
7. Re-attach the IID to the tractor. Verify that the angle of the U-joints are not excessive and that the IID is free to telescope.
8. Lower the hopper to the ground using the hopper lift (controlled by the tractor hydraulic valve). Attach the hydraulic hoses controlling the lateral movement of the hopper (powered hopper wheels). Move the tractor hydraulic valve and lock into place to give continuous flow to the valve located on the hopper tube. Move the control lever on the hopper control valve to rotate the hopper to the side.
9. Engage the tractor PTO and begin to load grain into the intake hopper.

Initial break-in period operating instructions:

- Approximately 800 bushels will be required.
- For the first 300 bushels, operate at a slow PTO speed (approximately 500 RPM) and restrict the flow of grain at the intake to approximately half of capacity.
- For each of the next 100 bushels, gradually increase the PTO speed 100 rpm and continue to restrict the flow of grain at the intake to approximately half of capacity.
- After 800 bushels, the auger should be operating at 1000 RPM.
- **Do not run empty during break-in period.**
- Failure to heed this complete break-in procedure may damage the auger tube and/or flighting. **Damage incurred due to improper break-in procedure will not be covered under warranty.** This damage may result in the auger vibrating and shaking at various PTO speeds. Once this damage has occurred, replacement of both the tube and flight is necessary.

Normal operating instructions (after the break-in period):

- Start the auger at slow PTO speed (approximately 500 RPM) to minimize shear bolt failure.
- Begin to put grain into the intake and increase the PTO speed to 1000 RPM.
- Operate at PTO speeds between 900 and 1000 RPM.
- Empty the auger between loads of grain and slow the PTO speed to approximately 500 RPM before stopping the auger.

10. After completing the transfer of grain, run the auger until the grain has been emptied. Rotate the hopper toward the tube, engage the hopper lift cable, and raise the hopper to transport position.

11. **Disconnect The IID (PTO) From The Tractor**. Re-attach the hydraulic hoses controlling the main auger winch to the tractor. Move the auger to a clear area and 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. Lower the auger to transport position. Keep slight tension on the lift cable.

12. Engage the hopper safety latch. Disconnect the hydraulic hoses from the tractor. Auger is ready for short distance movement.

13. For road transport, remove axle extensions to narrow the transport width. Do not lift any place other than the auger axle to remove the axle extensions. Two jack points are located on the axle for removing the axle extensions. **Do not tow over 32 km/h (20 mph).** Auger hubs, rims and tires are rated for 32 km/h (20 mph) maximum speed. Auger is over width, over height and over length for road transport in most states.

WARNING

Do not operate the auger empty for extended periods. If the auger is run empty at 1000 RPM for more than **20 seconds** at a time, damage to the auger may occur. This is a shorter interval than is normally experienced between trucks, and/or different truck compartments. Slowing the tractor during this time is helpful, but damage may still occur. The auger MUST be stopped or damage may occur. This damage may result in the auger vibrating and shaking at various PTO speeds. Once this damage has occurred, replacement of both the tube and flight is necessary.

WARNING

Do not start or stop the auger at maximum PTO speed. Start and stop the auger at reduced PTO speed (approximately 500 RPM) to minimize shear bolt failure caused by sudden starts and stops.

WARNING

Do not operate at reduced PTO speed when full feeding the auger. This will cause excessive stress on the auger and may result in excessive shear bolt failures and/or plugged auger and/or damage to the auger drive components.

WARNING

Avoid over feeding or plugging. Shear bolt failure indicates an overload on the auger. Verify that the correct PTO speed (900-1000 RPM) is maintained during maximum capacity. Wet grain requires more power. Restricting flow of wet grain at the intake may be necessary to prevent shear bolt failure.

WARNING

Avoid force-feeding the hopper. Do not open the grain gate on hopper bottom trailers fully causing a force-feed situation. Force-feeding will overload the hopper, causing possible damage to the hopper and/or auger.

WARNING

Empty the auger of grain before stopping. Failure to empty the auger will cause excessive stress on the auger and may result in excessive shear bolt failures and/or plugged auger and/or damage to the auger drive components.

WARNING

Disconnect the implement input driveline (IID) from the tractor before moving the auger. Physical damage may occur. Common damage is breaking the ball from the centering device on the IID, requiring replacement.

DANGER

Always disconnect the winch hydraulic hoses from the tractor after the auger is raised or lowered to the desired position. Accidental movement of the tractor hydraulic control valve may cause damage and/or personal injury.

WARNING

Always raise the hopper before moving the auger. Dragging the hopper may cause damage.

WARNING

Replace shear bolt only with specified size and grade. When the specified size and grade of shear bolt shears, it is the operator's warning that an extreme condition exists, normally requiring a reduction of flow into the intake hopper. **Replacing with a higher grade bolt may result in damage to the drive components**.

WARNING

The hopper powered wheel is not designed to push grain, rocks, dirt, etc. when in use. The area the hopper moves over must be reasonably clear of all obstructions. If the wheels spin or the hopper "stalls out", this is an indication that there is an obstruction to the hopper movement.

Maintenance

Main Auger Shear Bolt

14" Backsaver Augers use a **7/16" x 1" grade 5 shear bolt** with oval locknut located on the Implement Input Driveline.

- **Replace shear bolt only with specified size and grade**. When the specified size and grade of shear bolt shears, it is the operator's warning that an extreme condition exists, normally requiring a reduction of flow into the intake hopper. **Replacing with a higher grade bolt may result in damage to the drive components.**

Shear bolt failure indicates an overload on the auger. Verify that the auger is started and stopped at reduced PTO speed (approximately 500 RPM). Verify that the correct PTO speed (1000 RPM) is maintained during maximum capacity. Wet grain requires more power. Restricting flow of wet grain at the intake may be necessary to prevent shear bolt failure. Check for foreign objects (sacks, cans, rags, etc.) in the tube. Objects may go part way up the tube and wedge between the flights, blocking the grain flow.

Lubrication

Speed reducing (lower) auger gear box

- Check before initial use. Gear box is filled at factory but leakage may occur during shipment.
- Check annually and every 50 hours of use
- Maintain oil level to sight gauge (overfilling will cause excessive temperatures)
- **Use only high temperature synthetic oil**
  - Mobil1 SAE 75W-90 or equivalent
- Change lube annually
- 120 oz. Capacity

Hopper (upper) gear box

- Check before initial use. Gear box is filled at factory but leakage may occur during shipment.
- Check annually and every 50 hours of use
- Maintain oil level to 1/2 full (check plug on side of gear case)
- **Use SAE 90 gear lube**
- Change lube annually
- 18 oz. Capacity

Hopper chain case

- Located at the end on the hopper
- Use common gun grease
- Maintain level below lower bearing
- Add 8 oz. annually

Hopper hanger bearings

- Four (4) grease zerks
- Located on the pivot end of the hopper side flight (1 on each side)
- Located on hopper center flight (access on intake mesh)

- Located on discharge tube flight by access door
- **Eight (8) hour maximum interval between lubrication**
- **Use common gun grease**

Hopper flight u-joint

- Two (2) grease zerks
- Located by hopper center flight (access through intake mesh)
- Located on discharge tube flight (access through access door)
- **Eight (8) hour maximum interval between lubrication**
- **Use common gun grease**

Tractor to auger implement input driveline (PTO shaft):

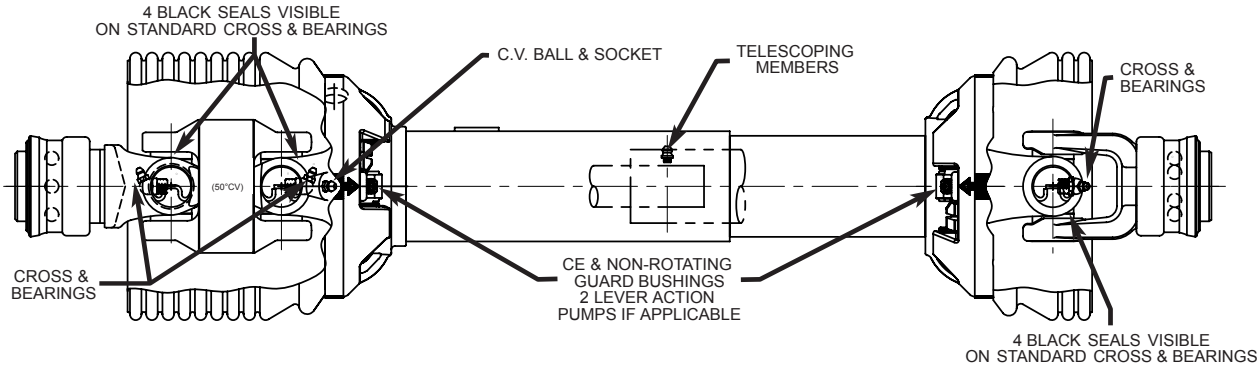
Frequent lubrication with a high temperature grease is required due to the elevated temperatures experienced by this power shaft. Both the service interval and specified grease must be used or premature failure will result.

- **Replacement parts must be lubricated at time of assembly and during use per the lube recommendations**
- **High temperature (less than 1% molybdenum) grease must be used**
  - Farm King part #74HITEMP
  - John Deere part #TY6341
  - Conoco part #EP#2
  - Precision lubricants part #EP2

50 Hrs	Extended Lube Cross & Bearing (Orange Seals Not Visible)	2-3 Lever Action Pumps
8 Hrs.*	Standard Cross & Bearings (Black Seals)	2-3 Lever Action Pumps
8 Hrs.	Telescoping Members (50 Hrs. Hardened Spline)	8-10 Lever Action Pumps
8 Hrs.*	Cv Ball & Socket	4-6 Lever Action Pumps
50 Hrs.**	Non-Rotating Guard Bushings (1000 Rpm Max.)	2 Lever Action Pumps

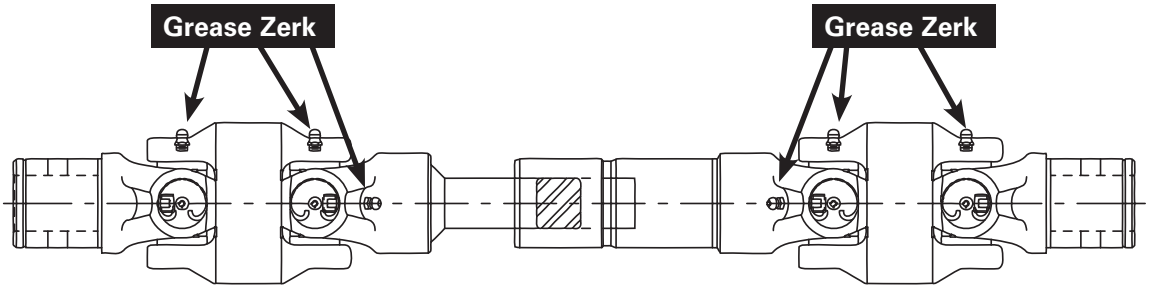
*Constant angle applications may require a lube interval of 4 hours.

**High speed may require a lube interval of 8 hours.



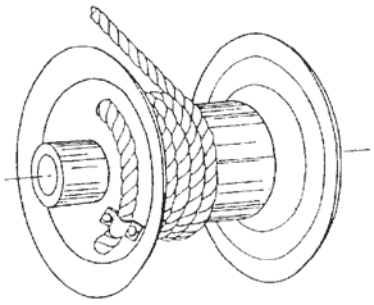
Auger gear box to hopper gear box power shaft:

- Six (6) grease zerks
- Three (3) of the grease zerks are located on the auger gear box end of the CV joint
- Three (3) of the grease zerks are located on the hopper gear box end of the CV joint
- **Six (6) hour maximum interval between lubrication**
- **High temperature (less than 1% Molybdenum) grease must be used**



Hydraulically driven worm winch:

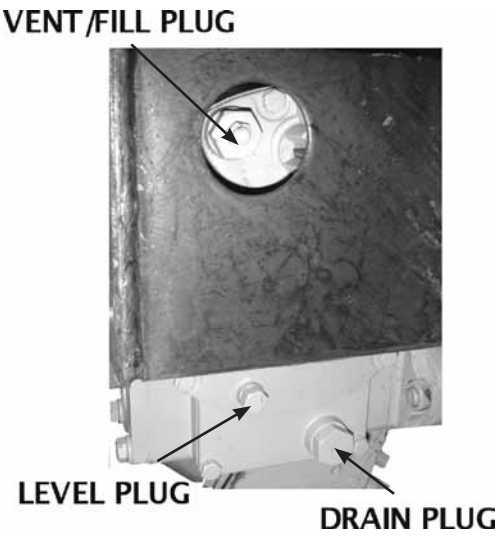
All main lift winches should be checked for proper oil level at the start of every season and if oil leakage is occurring. Oil level, fill, and drain plugs are all located on the winch. (see picture below)



- Maintain at least five full wraps of cable on the winch drum.
- Check cable annually for kinks or sharp bends. Replace cable if kinks, fraying or strand breaks are found.
- Verify that cable clips and cable clamps are properly installed.
- Be sure that the cable on the winch is a diameter and type as furnished (3/8" 7x19) to support the load to be lifted.

Gear Box Oil Level

To check the oil level, remove the Level Plug located as shown. The oil should be level with the bottom of this opening. If more oil is needed, use the recommended gear oil listed below.



Oil change information

- The winch vent/fill and drain plugs are located as shown. 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.
- The oil capacity is 1/2 pint 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.

Recommended gear oil

- 90W multi-purpose E.P. gear oil meeting API classification GL-S. This type of oil is found at most service stations for use in automotive rear axles.

Troubleshooting

1. **Excessive auger vibration**. Some vibration is normal when the auger is in operation. If the auger is shaking and/or "jumping up and down", these are the common causes.

   - **Improper break-in of the auger**. If the tube and flight were not allowed to break-in and polish each other correctly, the tube and/or flighting may be damaged (the flight edge is very rough and the tube inside is rough and gouged). Once this damage has occurred, replacement of the flighting and/or tube is necessary.
   - **Running auger empty**. If the auger is run empty between trucks and/or different truck hoppers, damage to the tube and/or flighting may occur (similar to improper break-in). Once this damage has occurred, replacement of the flighting and/or tube is necessary.
   - **Bent auger flighting**. If a "banging" noise is detected in one area, remove the flighting from the tube and inspect for straightness. A common procedure is to put the flighting on a concrete floor, roll the flighting and observe the area in question. If a bend is detected, straighten the flight and re-install.
   - **Improper PTO speed**. If the auger is not being operated at 1000 RPM PTO speed when full feeding the intake hopper, shaking is likely. Operate at 1000 RPM PTO speed to correct this problem. On some specific augers, shaking will occur at 1000 RPM PTO speed but not at slightly slower speed. Slowing to 900 RPM PTO speed may correct the shaking.

2. **Excessive shear bolt failure**. The shear bolt is used to prevent damage to the auger by limiting the amount of torque. A shear bolt works well when a shock load is transmitted, but a slow, smooth overload will also shear the bolt. These are the common causes for excessive shear bolt failure.

   - **Starting or stopping the auger at maximum PTO speed**. Start and stop the auger at reduced PTO speed (approximately 500 RPM) to minimize shear bolt failure caused by sudden starts and stops.
   - **Reduced PTO speed when full feeding the intake hopper**. Reducing the PTO speed requires a higher torque to be transmitted through the shear bolt. The shear bolt limits the amount of torque, and the slower the PTO speed, the higher the torque required.
   - **Overloading the intake hopper**. A force-feed situation will overload the hopper and/or auger. A common force-feed situation is opening the gate on a hopper bottom truck completely. Avoid any force-feed situations.
   - **Starting the auger under load**. If the auger is not emptied before being stopped, an excessive amount of torque is required to start the auger.
   - **Wet grain**. Wet grain requires more power to move than dry grain. Reduce the rate of flow into the intake hopper. In some situations, partially covering the intake area with boards, sheet metal, cardboard, etc. is extremely effective. The amount of coverage depends upon grain moisture content, type of grain, type of unloading situation, etc.

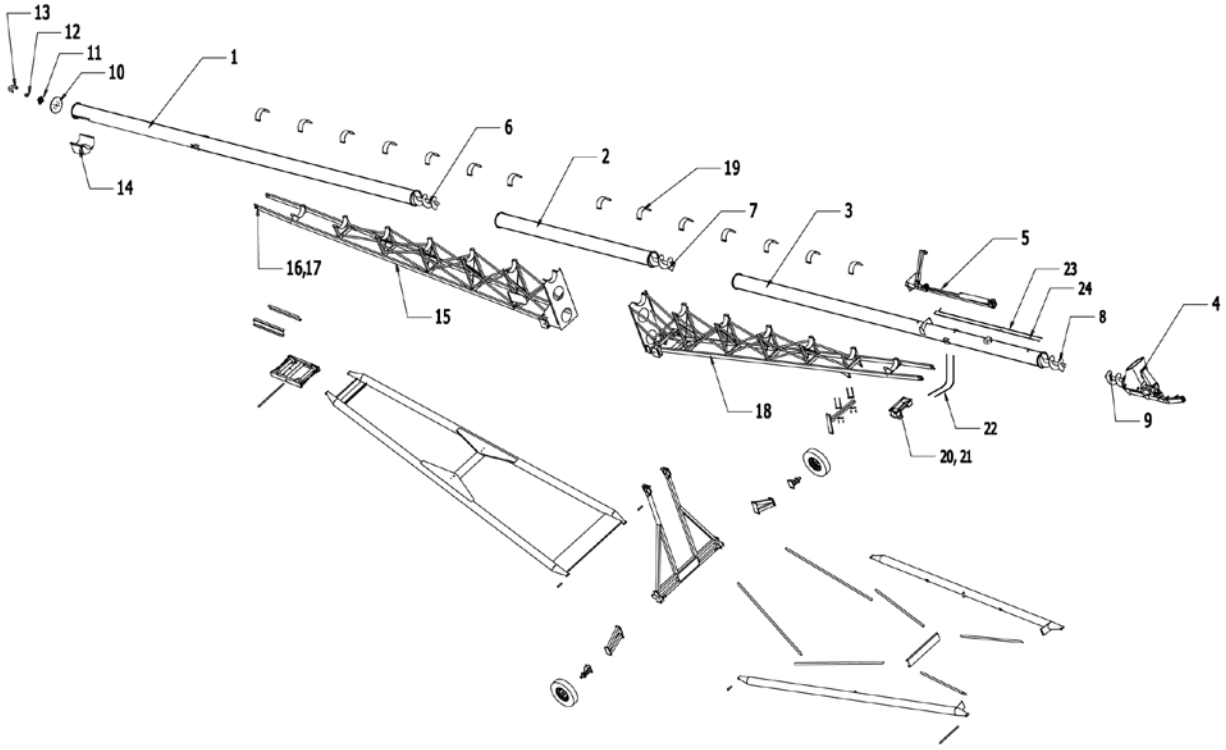
3. **Plugging the auger**. These are some of the most common causes of auger plugging.

   - **Reduced PTO speed when full feeding the intake hopper.** This will cause the intake hopper to overload and then overload the main auger.
   - **Overloading the intake hopper**. A force-feed situation will overload the hopper and/or auger. A common force-feed situation is opening the gate on a hopper bottom truck completely.
   - **Foreign objects in the auger**. Rags, sacks, cans, tools, etc. in the grain will go part way up the tube and wedge into place or restrict the grain flow.

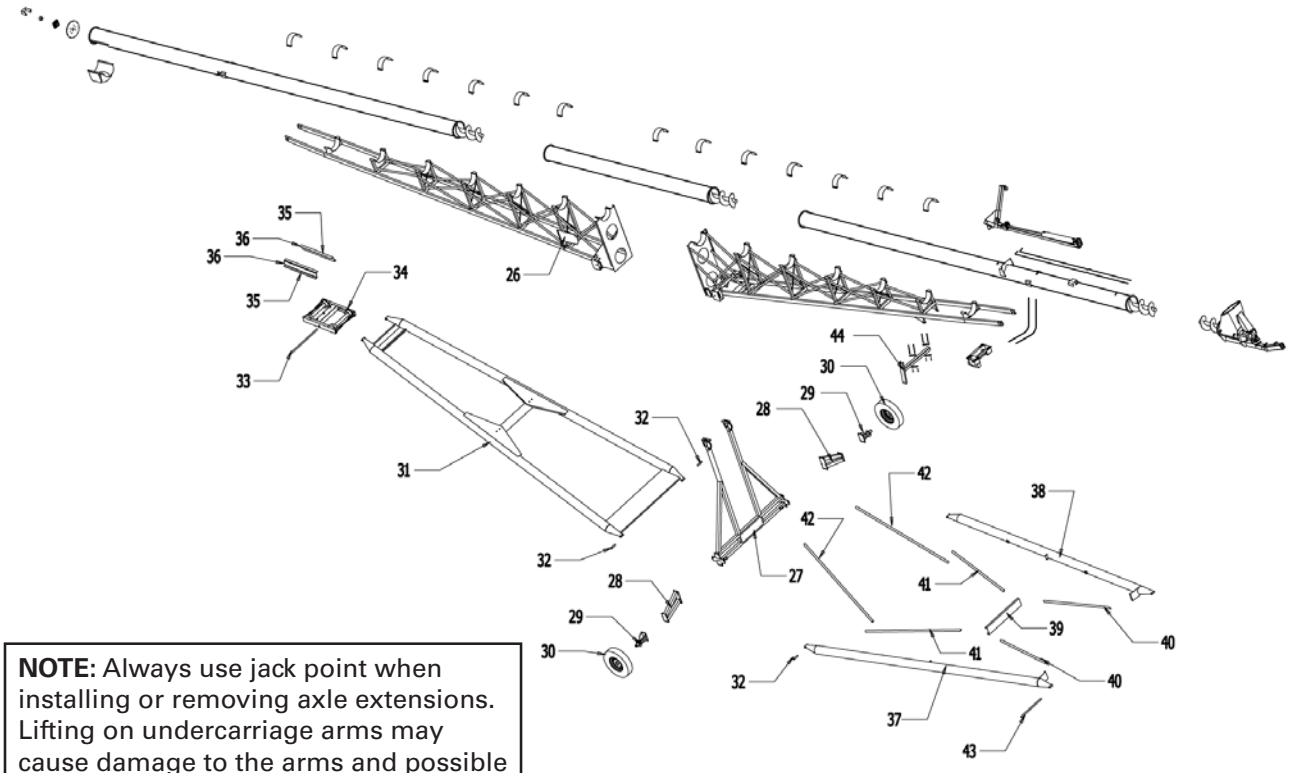
- **Wet grain**. Wet grain requires more power to move than dry grain and will pack into a semi-solid mass. Reduce the rate of flow into the intake hopper.
- **Snow or cce in grain**. When the grain moisture, grain temperature, outside temperature and outside humidity reach certain combinations, unexplainable plugging occurs. This occurs most often when ice or snow are present in the grain. Reducing the rate of flow into the intake hopper seems to be the only solution.

4. **Capacity problems**. Wet grain, high degree of elevation, slow PTO speed, trash in the grain, how and where the intake hopper is being loaded, etc. are all factors that will reduce the actual capacity from the rated capacity of the auger.

Main Auger Tube and Flight Drawing



Auger Undercarriage Drawing



NOTE: Always use jack point when installing or removing axle extensions. Lifting on undercarriage arms may cause damage to the arms and possible collapse of auger.

Ref No.	Part No.	Description	Qty
1	SZ104963	Tube (Top Section)	1
2	SZ104962	Tube (Center Section)	1
3	SZ104961	Tube (Lower Section)	1
4	SZ101989	Drive Section Assembly	1
		1/2" x 1-1/2" Grade 5 Bolt, Nut & Lockwasher	54
5	SZ99814241	Hopper Lift Assembly	1
6	SZ1408201	Flighting (Upper Section)	1
7	SZ140970	Flighting (Center Section)	1
8	SZ1412002	Flighting (Lower Section)	1
9	SZ1412005	Flighting w/ Splined Coupler	1
		1/2" x 4-1/2" Fine Thread Bolt & 3/8 Nut	6
		3/8" x 7/8" Socket Head Bolt & Self-Locking Nut	3
11	SZ384821	2" 4-Bolt Cast Flange Bearing	1
	SZ2011056	2" Replacement Bearing Only	*
		5/8" x 2" Bolt, Nut & Lockwasher	4
12	SZ6001200	2" Hex Nut With 3/8" Set Screw	1
13	SZ2127212	Head Cap Shield	1
		3/8" x 1" Bolt, Nut & Lockwasher	2
14	SZ2127416	Drop Spout Assembly With Relief Door	1
		3/8" x 1-1/2" Bolt, Nut & Lockwasher	4
15	SZ21274120	Upper Truss Support Weldment	1
16	SZ9901381	1/2" Threaded Rod x 6-1/2"	2
		1/2" Nut	6
17	SZ21274121	Top Truss "Jack" Lug Tightener	2
18	SZ21284120	Lower Truss Support Weldment	1
		1/2" x 1-1/2" Grade 5 Bolt, Nut & Lockwasher	24
19	SZ2031403	14" 2-Bolt Painted Half Clamps	18
		3/8" x 1-1/2 Bolt, Nut & Lockwasher	72
20	SZ2011450	Winch Assembly	1
		5/8" x 2" Bolt, Nut & Lockwasher	4
21	SZ02137190	3/8" Winch Cable	1
		3/8" Cable Clamp	2
22	SZ2123055	3/8" x 55-1/2" Hydraulic Hose w/ Ends	2
	SZ2123801	1/2" Male To 3/8 Female Pipe 90° Elbow	2
23	SZ2120516	1/2" Hydraulic Line x 14'1" With 1/2" Jic F Ends	1
24	SZ2120517	1/2" Hydraulic Line x 14'3" With 1/2" Jic F Ends	1
	SZ2121220	Hydraulic Line Clip	8
		1/4" x 3/4" Bolt & Self-Locking Nut	4
25	SZ103783	Hopper Assembly	1

*As needed

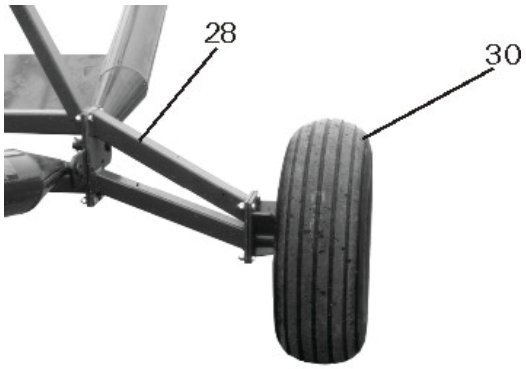
Ref No.	Part No.	Description	Qty
26	SZ1200050	Stop Flag Assembly	1
	SZ3032424	Flat Mounting Straps	2
		3/8" x 3" Bolt, Nut & Lockwasher	4
27	SZ0211301	Axle And Riser Weldment	1
28	SZ0211302	Axle Extension Weldment	2
		5/8" x 2" Bolt, Nut & Lockwasher	14
29	SZ02113001	8 Bolt Spindle Assembly	2
		5/8" x 2" Bolt, Nut & Lockwasher	10
30	SZ0118115	15" 8 Bolt Wheel (12L x 15" Tires are Recommended)	2
31	SZ0318294	Rear Undercarriage Arm Weldment	1
32	SZ0216319	Front & Rear Arm Pin Weldment 1-1/4" x 5-7/8"	2
		1/4" x 2" Cotter Pin & 1-1/4" 10 Ga. Machine Bushing	8
33	SZ1247011	Rear Undercarriage Arm Hinge Pin (Track Car)	1
		1/4" x 2" Cotter Pin & 1-1/4" 10 Ga. Machine Bushing	2
34	SZ0211248	Track Car Weldment	1
35	SZ0211250	Track Car Guide Weldment	2
		1/2" x 1-1/2" Grade 5 Bolt, Nut & Lockwasher	8
36	SZ990211248008	Track Car Nylon Slide Bushing	4
		1/8" x 1" Cotter Pin	4
37	SZ0216322	Front Undercarriage Arm – Right	1
38	SZ0217322	Front Undercarriage Arm – Left	1
		1/2" x 1" Bolt, Nut & Lockwasher	2
39	SZ0212441	Front Undercarriage Arms Cross Tie – 49"	1
		3/8" x 1" Bolt, Nut & Lockwasher	4
40	SZ0212493	Undercarriage Cross Brace – 93-1/2"	2
41	SZ0212494	Undercarriage Cross Brace – 98-1/2"	2
		1/2" x 1" Bolt, Nut & Lockwasher	2
		1/2" x 2" Bolt, Nut & Lockwasher	1
42	SZ0212498	100" Front Support Brace	2
		1/2" x 1" Bolt, Nut & Lockwasher	2
		1/2" x 1-1/4" Bolt, Nut & Lockwasher	2
43	SZ0216329	Front Undercarriage Arm Hinge Pin	1
		1/4" x 2" Cotter Pin & 1-1/4" 10 Ga. Machine Bushing	2
44	SZ9981409	Hopper Transport Frame	1
	SZ9981408	Transport Frame Strap	4
		1/2" x 9-1/2" Bolt, Nut & Lockwasher	4

Auger Undercarriage – Axle Extensions and Jack Point

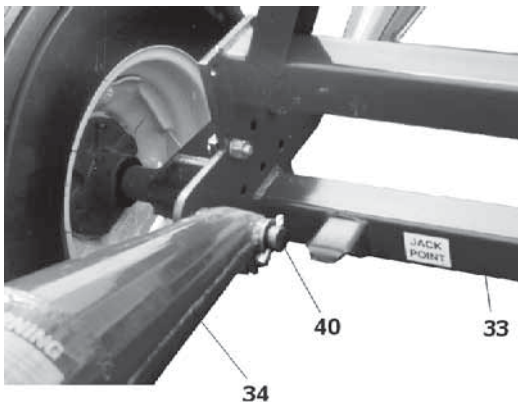
CAUTION

Always use jack point when installing or removing axle extensions. Lifting on undercarriage arms may cause damage to the arms and possible collapse of auger.

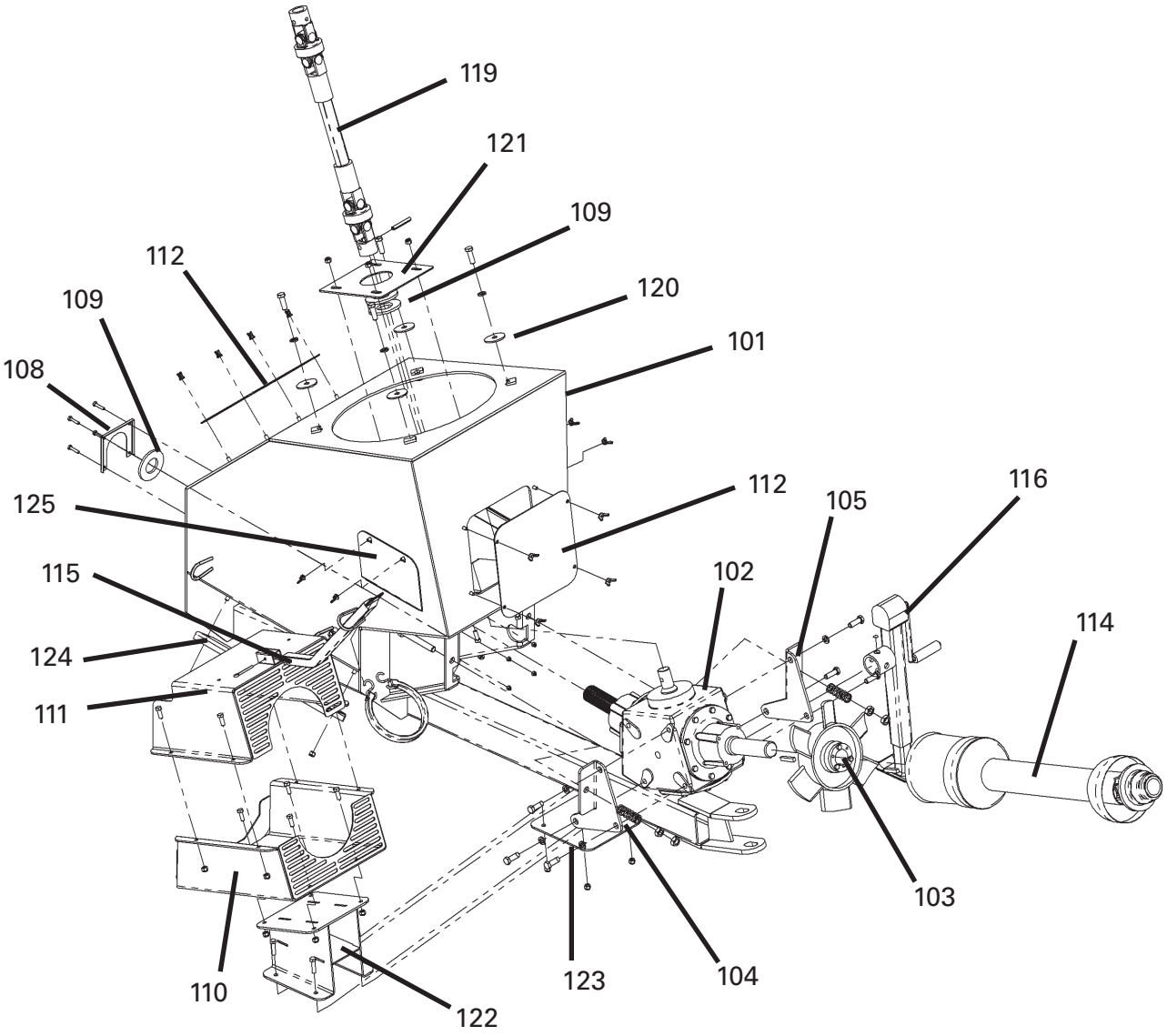
AXLE EXTENSIONS



JACK POINT



Drive Section Assembly Drawing - #SZ49814991



CAUTION

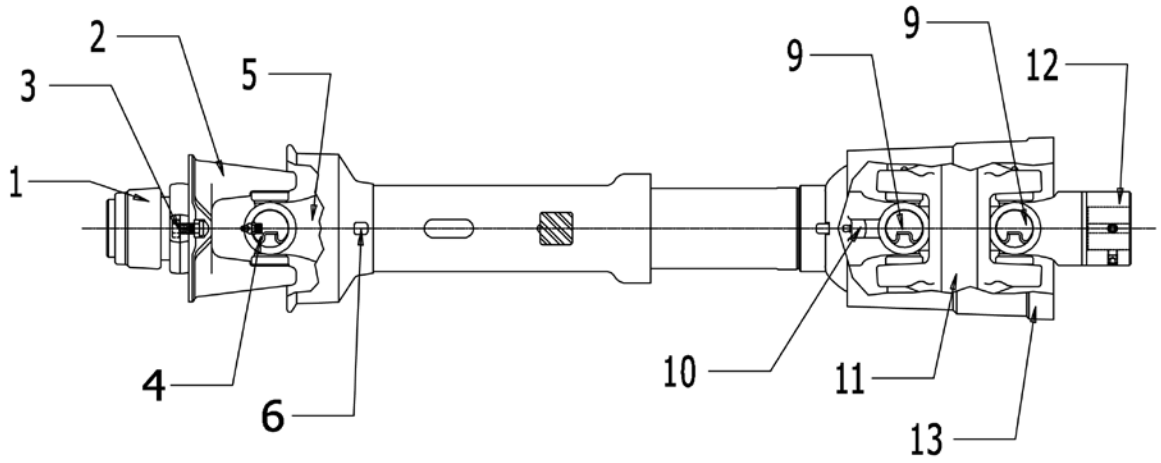
The aluminum fan (Item # 103) is not intended to move large volumes of air.

WARNING

The speed reducing (lower) gear box (Item # 102) will run at temperatures up to 115.5° C (240° F). This is hotter than normally expected on grain augers and will burn hands and boil water. The IID (Item # 114) will also operate at elevated temperature on the CV end. Synthetic lube for this gear box and high temperature grease for the IID are required to prevent failure. See pages 28-31 for lubrication specifications.

Ref No.	Part No.	Description	Qty
101	SZ101927	Drive Section Weldment	1
102	SZ000155	Speed Reducing Gear Box	1
103	SZ0161175	Aluminum Fan – 11-3/4" Diameter	1
	SZ0113820	3/8" x 2" Square Key	1
104	SZ101945	Drive Section LH Gear Box Mount	1
105	SZ101944	Drive Section RH Gear Box Mount	1
		1/2" x 1-1/2" Grade 5 Bolt & Lockwasher	4
106	SZ4910190	1" x 3-1/2" Spring	2
107		5/8" x 4-1/2" Bolt & (2) Jam Nuts	2
108	SZ9902138	Drive Section Gear Box Seal Plate	1
		1/4" x 1" Bolt, Nut & Lockwasher	4
109	SZ9902137	Drive Section Gear Box Seal Washer	2
110	SZ103674	Lower Fan Shield Weldment	1
		3/8" x 1" Bolt, Nut & Locknut	4
111	SZ101942	Upper Fan Shield Weldment	1
		3/8" x 1" Bolt, Nut & Locknut	4
112	SZ9902533	Access Door	2
		5/16" Wing Nut	6
114	SZ0165545	55R Cv 1-3/4" 20-Spline x 1-3/4" IID	1
	SZ0113820	3/8" x 2" Square Key	1
		7/16" x 1" Grade 5 Shear Bolt And Nut	1
115	SZ4989602-14SD	IID Hanger w/ Shear Bolt	1
	SZ91230	Rubber Strap #509-S w/ S-Hook	1
		1/4" x 2" Cotter Pin	1
116	SZ103298	Jack Assembly w/Tube Mounting	1
119	SZ01614210	Hopper IID w/ Grain Shield (w/ #126 & 127)	1
	SZ6007025	7/16" x 2-1/2" Spiral Pin	2
120	SZ9941718	1/2" Galvanized Washer	4
		1/2" x 1-1/2" Bolt & Lockwasher	4
121	SZ101990	Plate Gearbox Seal Drive Section 14" 10 Ga	1
122	SZ101937	Weldment Fan Shield Mount 14"	1
123	SZ101997	Plate Fan Shield Mount Bottom 7 Ga	1
124	SZ100381	Cover Drive Section Lower	1
125	SZ104216	Drive Section Door Access w/ Decal 1/4"	1

Tractor to Auger (IID) Repair Parts Drawing - Power Shaft #SZ0165545



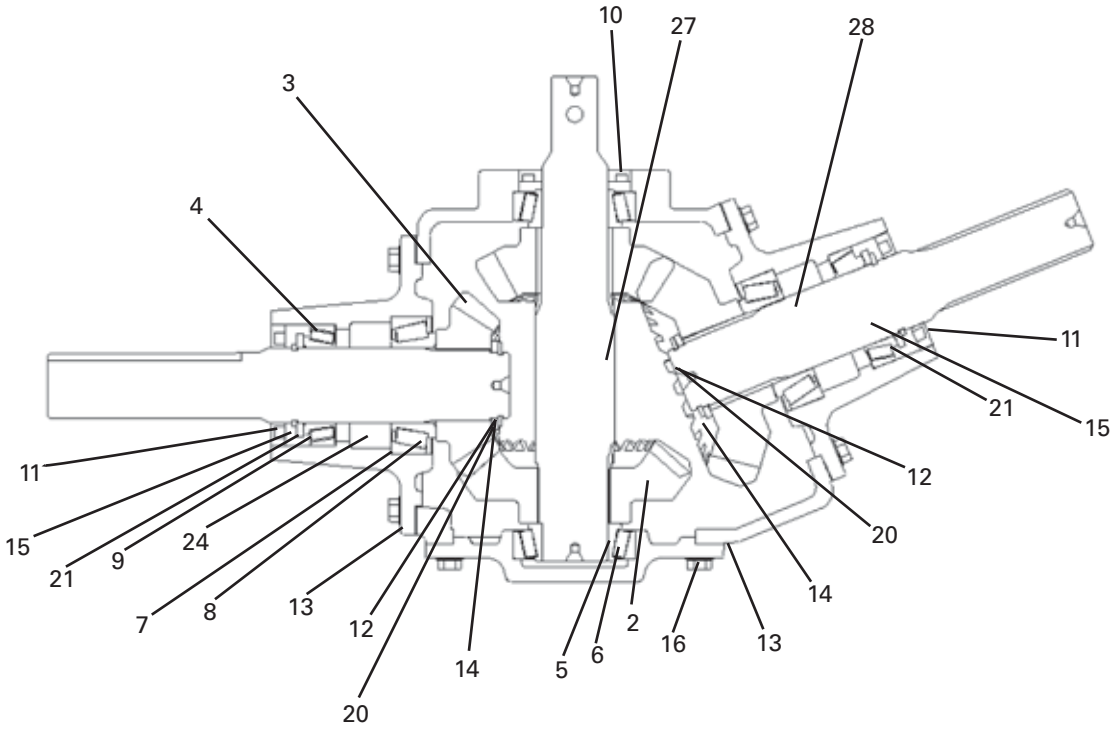
1-3/4" 20-spline tractor end is standard. If 1-3/8" 21-spline tractor end is required, order the appropriate Item #2 listed below and replace the tractor end by changing at the cross and bearing. The cross and bearing (Item # 4) may also need replacement if care in disassembly and re-assembly is not taken.

1-3/8" 21-spline power shaft or tractor half is not available

Ref No.	Part No.	Description	Qty
1	SZ26-13804	Spring Lock Repair Kit	1
2	SZ40-10017	55R 1-3/4" 20-Spline Snap Hitch Shear Yoke	1
	SZM-20796	55R 1-3/8" 21-Spline Snap Hitch Shear Yoke	*
3		7/16" x 1" Grade 5 Shear Bolt w/ Oval Locknut	1
4	SZ03-10050	55R Cross & Bearing Kit (1 Per Unit)	1
5	SZ99-20700	Square Shaft w/ 55R Yoke	1
6	SZ19-11106	Outer Shield Bearing Kit	1
9	SZ03-14298	55R Cross & Bearing Kit	2
10	SZ98-20427	Torque Tube w/ Slip Sleeve & 55R Cv Yoke	1
11	SZ55251-1599	55R Cv Center Body	1
12	SZ55261-1827	1-3/4" Round 55R Cv End Yoke	1
13	SZ90-22085	Complete Shield Set	1

*Optional

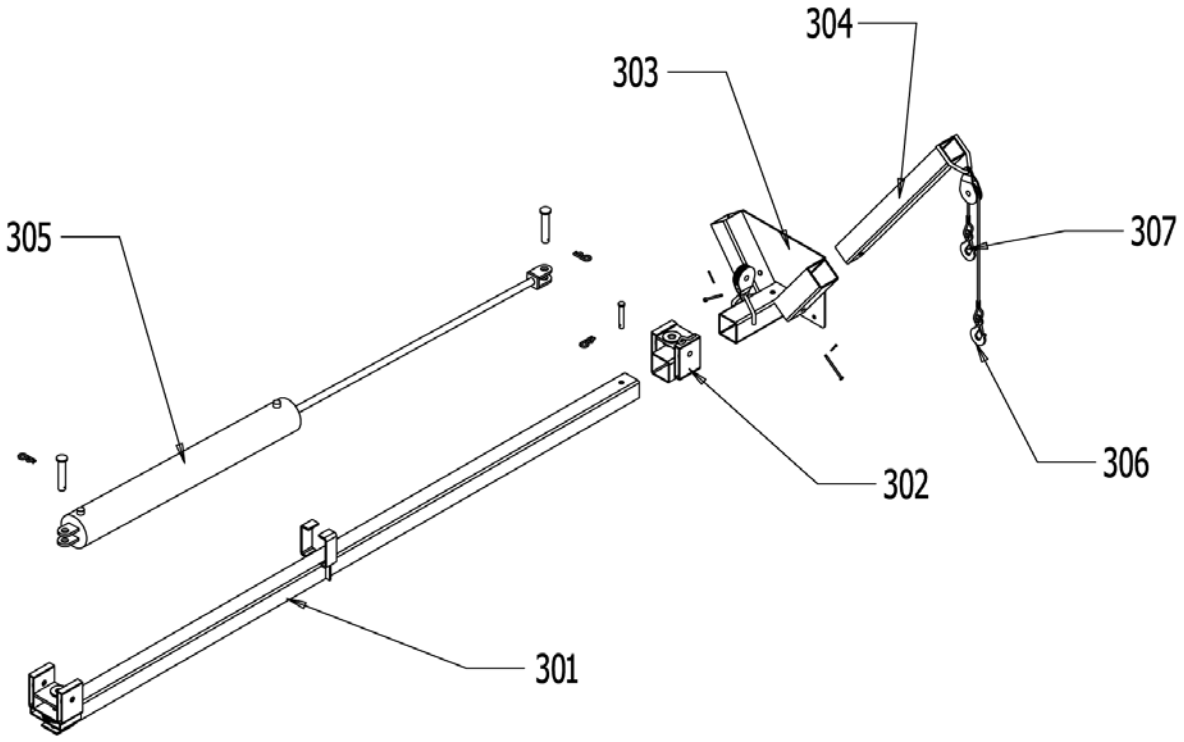
Speed Reducing (Lower) Gear Box Repair Parts Drawing - Gear Box #SZ000155



Ref No.	Part No.	Description	Qty
2	SZ000156	Gear - 27T	1
3	SZ108786	Gear - 20T	1
4	SZLM104949	Bearing Cone (LM104949)	2
5	SZ625581	Bearing Cone (25581)	2
6	SZ625520	Bearing Cup (25520)	2
7	SZ603730	Bearing Cup (3730)	2
8	SZ603780	Bearing Cone (3780)	2
9	SZLM104912	Bearing Cup (LM104912)	2
10	SZ000158	Oil Seal (1.750" x 0.313")	1
11	SZ105122	Seal	2
12	SZ000159	Shim (1.750" - 0.007")	2
13	SZ000160	Shim - Cover	3
14	SZ000161	Snap Ring (5160 - 175)	2
15	SZ000162	Snap Ring (5160 - 200)	2
16	SZ000163	Bolt, 3/8" - 16 UNC - 1.00	24
17	SZ000164	Vent (5 psi - 1/8 NPT)	1
18	SZ105123	Bushing (3/8" - 1/8" NPT)	1
19	SZ000165	Plug (1/2" NPT)	1
20	SZ000166	Washer (1.75" x 0.179")	2
21	SZ105124	Washer (2.00" x 0.179")	2

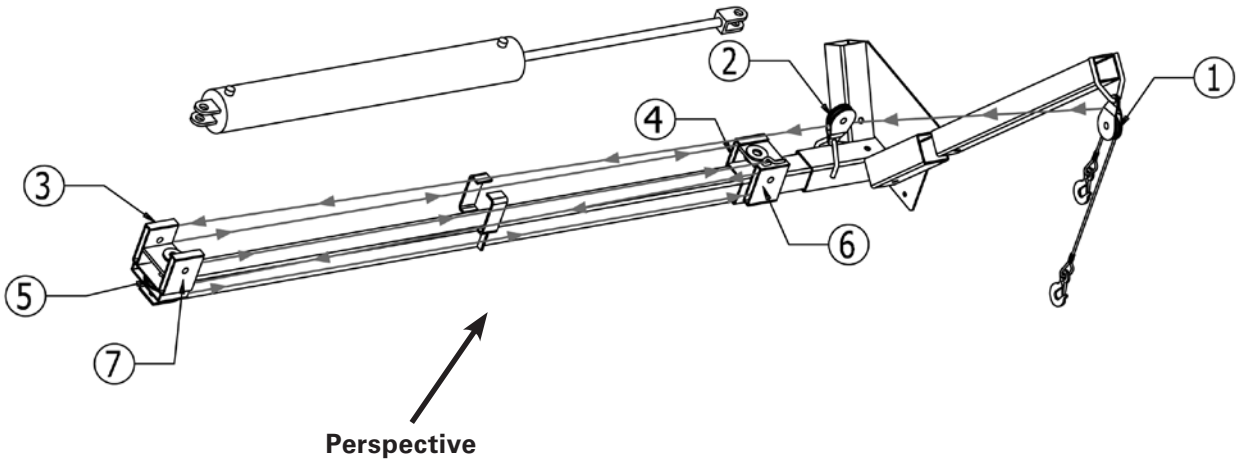
Ref No.	Part No.	Description	Qty
22	SZ000167	Housing, Quill	2
23	SZ000168	Cover, Closed	1
24	SZ108785	Shaft, Quill	1
25	SZ000169	Pinion - 17T, 68°	1
26	SZ000170	Gear - 23T, 68°	1
27	SZ000171	Shaft, Cross	1
28	SZ105129	Shaft, Quill	1
29	SZPG1659	Key (3/8")	2

Hopper Lift Assembly Drawing - #SZ99814241



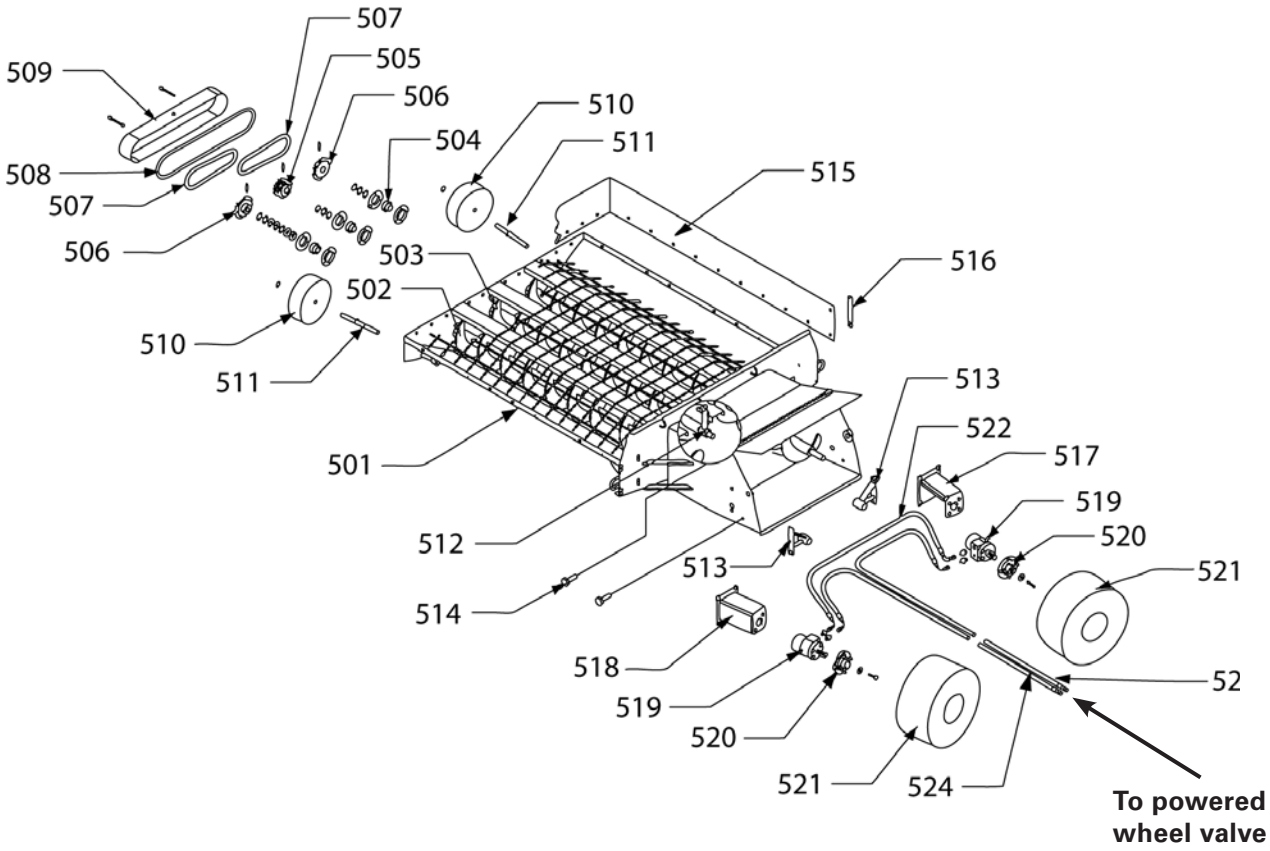
Ref No.	Part No.	Description	Qty
301	SZ9981424	Hopper Lift Tube Weldment	1
302	SZ9981423	Hopper Lift Slider Weldment	1
303	SZ9981425	Hopper Lift End Anchor	1
		5/8" x 4" Clevis Pin & 1/8" Hairpin	1
304	SZ9981429	Hopper Lift Riser	1
		5/8" x 4" Clevis Pin & 1/8" Hairpin	1
305	SZ2122136	3-1/2" x 36" Hydraulic Cylinder	1
		#8 O-Ring Male x #8 Jic Female Swivel x 90° Elbow	2
306	SZ0215170	1/4" Hopper Lift Cable w/ Hook	1
	SZ6003104	1/4" Cable Clamp	2
	SZ6009104	1/4" Cable Thimble	1
307	SZ0215002	1/4" Safety Cable With Hook	1
	SZ6003104	1/4" Cable Clamp	2
		3/4" x 2" Bolt, Nut & Flatwasher (Mounting Bolts)	1
		1/2" x 1-1/2" Grade 5 Bolt, Nut & Lockwasher (Mounting Bolts)	2

Hopper Lift Assembly Threading Drawing

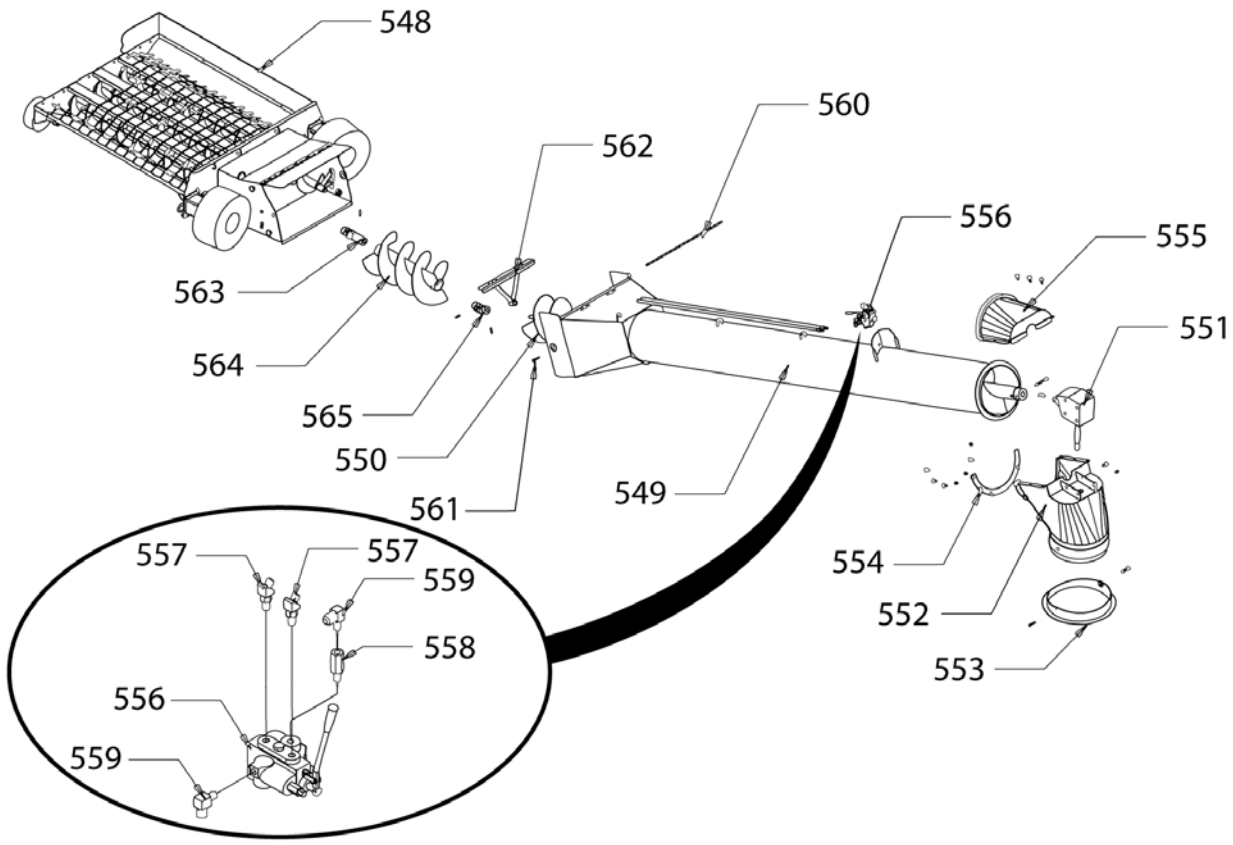


1. Thread cable through sheave #1.
2. Thread cable through sheave #2.
3. Thread cable through the top of sheave #3 & back through the bottom of sheave #3.
4. Thread cable through the top of sheave #4 & back through the bottom of sheave #4.
5. Thread cable through the left side of sheave #5 & back through the right side of sheave #5.
6. Thread cable through the bottom of sheave #6 & back through the top of sheave #6.
7. Thread cable through the bottom of sheave #7 & back through the top of sheave #7.
8. Anchor the cable on the hook located on top of sheave #6.

Hopper Body Assembly Drawing - #SZ103784



Hopper Assembly Drawing - #SZ103783



Notice: The powered hopper wheels are not designed to push grain, rocks, dirt, etc. when in use. The area the hopper moves over must be reasonably clear of all obstructions. If the wheels spin, this is an indication that there is an obstruction. Adjusting the hopper wheels to provide more ground clearance may be necessary

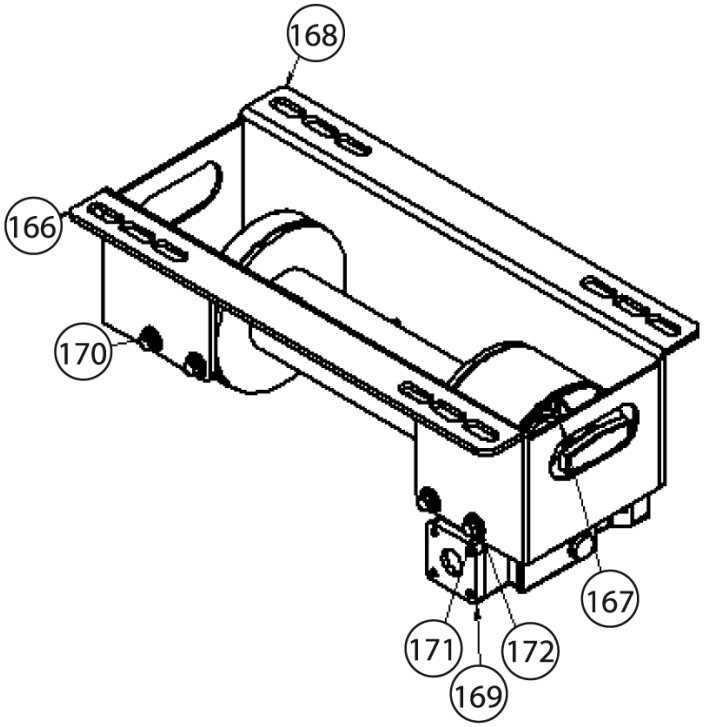
Notice: The powered hopper wheels require a tractor with a closed center hydraulic system. If a tractor with an open center hydraulic system is to be used, the conversion kit #384937 (see page 57) must be installed to minimize the hydraulic oil temperature. If you have any questions about what type hydraulic system the tractor has, contact your tractor dealer.

Ref No.	Part No.	Description	Qty
501	SZ9991410	Hopper Weldment	1
502	SZ9869815	Hopper Side Flight Weldment	2
503	SZ9869817	Hopper Center Flight Weldment	1
504	SZ2017043	1" Bearing With Loose Lock Collar	3
	SZ65052MSCI000	1" 3 - Bolt Bearing Flange	6
		5/16" x 3/4" Bolt, Nut & Lockwasher	9
505	SZ00425151	50-15 Tooth Hopper Sprocket	1
506	SZ0040520	50-20 Tooth Hopper Sprocket	2
	SZ6001602	5/16" x 2" Spiral Pin	3
	SZ0231110	1" 10 Ga. Machine Bushing	9
507	SZ0043548	50 Chain – 48 Pitch With Connector	2
508	SZ68RUBOCHLOSL	Rubber Seal Channel	4.5 ft
509	SZ9981413	Hopper Chain Shield Weldment	1
		1/4" x 4" Bolt, Nut & Lockwasher	2
510	SZ3981273	Pneumatic Hopper Wheel	2
511	SZ9951230	Hopper Wheel Axle (Removable)	2
	SZ0237510	3/4" 10 Ga. Machine Bushing	2
	SZ6003531	5/32" x 1-1/4" Cotter Pin	4
512	SZ9981416	Hopper Center Hanger Bearing Weldment	1
		3/8" x 1" Bolt, Nut, Lockwasher & Flatwasher	2
513	SZ9991430	Hopper Side Flight Hanger Bearing Weldment	2
		3/8" x 1" Bolt, Nut & Lockwasher	4
514		5/8" x 1" Bolt & Self-Locking Nut (Height Stop Bolt)	4
515	SZ9981418	Hopper Belt	1
516	SZ9941215	10 Ga. 1" x 7" Hopper Belt Strap	2
		1/4" x 3/4" Bolt, Nut, Lockwasher & Flatwasher	32
517	SZ9981420	Hopper RH Power Wheel Mount Weldment	1
518	SZ9981419	Hopper LH Power Wheel Mount Weldment	1
		3/8" x 1-1/4" Bolt, Nut & Lockwasher	8
519	SZ3981080	Hydraulic Motor 101-1059	2
		3/8" x 1" Bolt, Nut & Lockwasher	8
	SZ384359	#6 Jic M x #10 O-Ring M Straight	4
520	SZ99812057	Power Wheel Hub Weldment	2
		1/4" x 1-3/4" Bolt & Lockwasher	2
	SZ9901357	Powered Wheel Hub Washer	2
521	SZ101503-6	Tire & Wheel Assembly w/ Valve Stem	2
522	SZ300925-12	1/4" x 56" Hydraulic Hose w/ #6 Jic 90 Deg Ends	1
523	SZ300925-18	1/4" x 185" Hydraulic Hose w/ #6 Jic F 90 Deg Ends	1
524	SZ300925-11	1/4" x 163" Hydraulic Hose w/ #6 Jic F 90 Deg Ends	1
548	SZ99914103	Hopper Body Assembly w/ Flights	1
549	SZ9991411	Discharge Tube Weldment	1

Ref No.	Part No.	Description	Qty
550	SZ9869814	Discharge Flight Weldment	1
		5/16" x 4" Bolt & Self Locking Nut	1
	SZ0113122	5/16" x 1-3/4" Square Key	1
551	SZ103280	Hopper Head Gear Box	1
		1/2" x 1" Bolt & Lockwasher	4
552	SZ9981412	Hopper Head Weldment	1
	SZ66DRAWLATCH	Over Center Draw Latch	1
	SZ66PRIVET3/16	3/16" Stainless Steel Pop Rivet	2
553	SZ9981432	Pivot Ring Weldment	1
	SZ661/2X20/0G5	1/2" x 2" Bolt Grade 5	2
	SZ66LKNUT01/20	1/2" Greer Locknut Grade 5	2
554	SZ9902155	14" Hopper Head Lower Clamp Ring	1
	SZ661/2X05/8SB	1/2" x 5/8" Shoulder Bolt	7
555	SZ9981415	Hopper Head Access Door Clamp	1
		3/8" x 1-1/4" Bolt, Nut & Lockwasher	6
556	SZ99812053	Powered Wheel Control Valve	1
		5/16" x 1-3/4" Bolt, Nut & Lockwasher	2
557	SZ99812055	#6 Jic M x #8 O-Ring w/ Orifice	2
	SZ9901352	#6 Jic M x #8 O-Ring Threaded For Orifice	*
	SZ9901353	5/16" Brass Plug With .032 Hole	*
558	SZ384361	Check Valve	1
559	SZ384206	#8 Jic M x #10 M O-Ring 90 Deg Elbow	2
560	SZ9902532	Access Door Pin	1
		1/8" Hairpin	2
561		5/8" x 1-1/2" Bolt & Self Locking Nut	2
562	SZ9991417	Discharge Flight Hanger Bearing w/ Bushing	1
	SZ651-1/4X.75B	1-1/4" OD x 1" ID x 3/4" Long Bronze Bushing (Replacement)	*
		3/8" x 1" Bolt, Nut & Lockwasher	4
563	SZ1002602A	6N Slip Sleeve U-Joint w/ 3/8" Cross Hole	1
	SZ6001825	3/8" x 2-1/2" Spiral Pin	1
564	SZ9869816	14" Hopper Tapered Flight Weldment	1
565	SZ1001602A	6N U-Joint – 1" Bore w/ 3/8" Cross Holes	1
	SZ6001825	3/8" x 2-1/2" Spiral Pin	2

*As needed

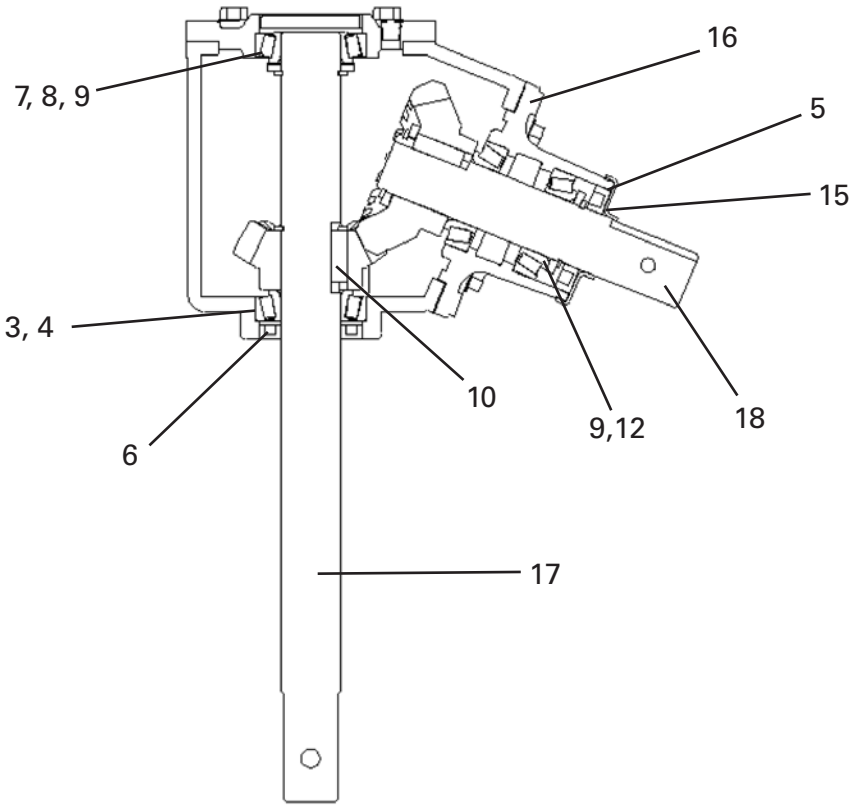
Winch Assembly Drawing - #SZ103297



Ref No.	Part No.	Description	Qty
166	SZ9901233	Plt, Frmd, Wnch, Mnt, Rear	1
167	SZ9901235	Plt, Wnch, Mnt, Side, 7 Ga	2
168	SZ9901234	Plt, Rmd, Wnch, Mnt, Fr	1
169	SZ2121250	Wnch, Worm, Braden, Hu8a	1
170	SZ127002	Wshr, Flt, 3/8"	8
171	SZ126065	Blt, Hhcs, 3/8"-16Unc, 1, G5	8
172	SZ127009	Wshr, Lck, 3/8"	8

NOTE: Repair parts for the Braden winch and Char-Lynn hydraulic motor are not available through Farm King Inc.

Hopper (Upper) Gear Box Repair Drawing - #SZ103280

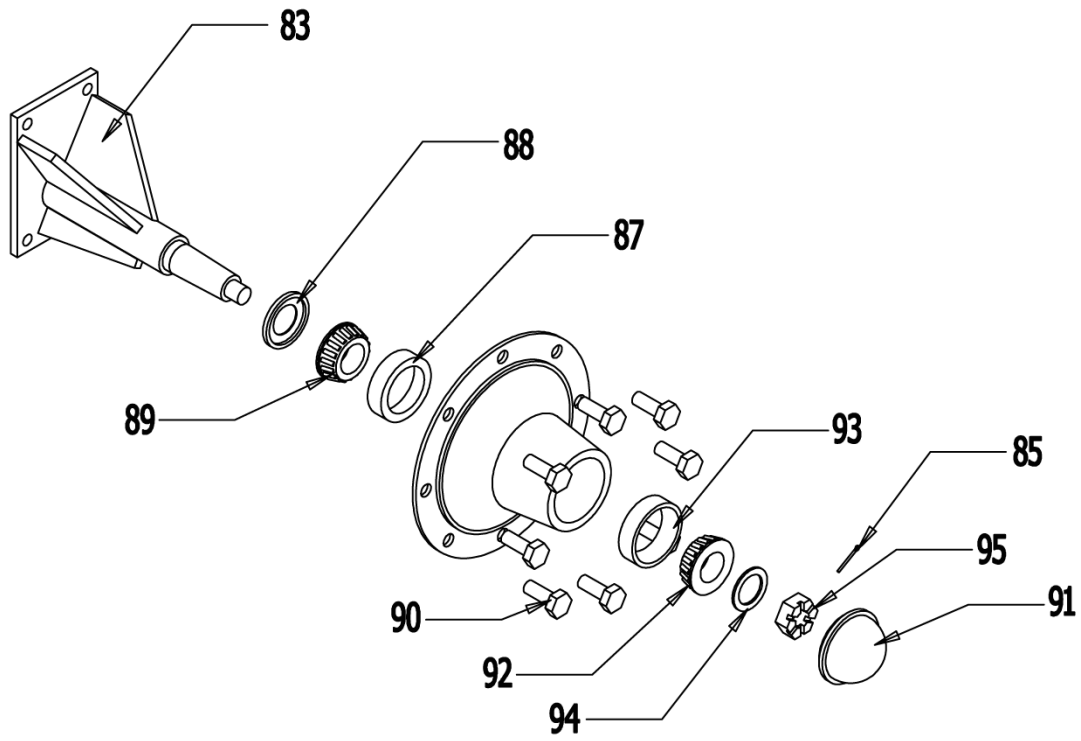


Ref No.	Part No.	Description	Qty
	SZ103280	Prairie Gear Model 1088	1
3	SZ101151	Bearing Cone	4
4	SZ100152	Bearing Cup	4
5	SZK313	Seal	1
6	SZPG-1480	Seal	1
7	SZPG-1511	Shim – .005"	*
8	SZPG-1534	Shim – .007"	*
9	SZPG-1614	Snap Ring	4
10	SZPG-1661	Key	2
12	SZPG-1824	Washer – 1.375" x .179"	3
13	SZPG-1850	Plug	2
14	SZPG-1881	Expansion Plug	1
15	SZPG-2828	Shield	1
16	SZPG-4105	Quill	1
17	SZ105282	Cross Shaft	1
18	SZ105114	Quill Shaft	1

*As needed

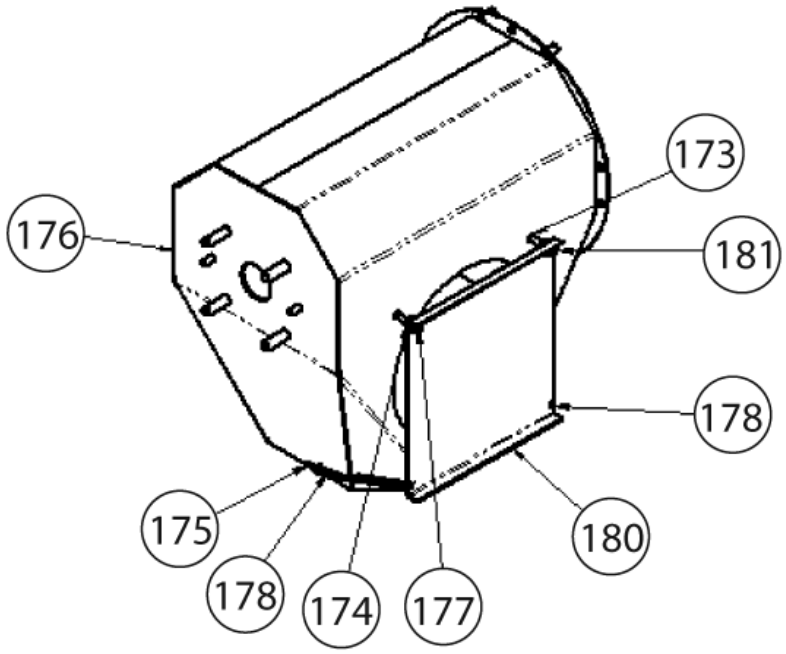
NOTE: Prairie Gear, Made in Canada & 1088 **molded on case.**

8 Bolt Hub Drawing



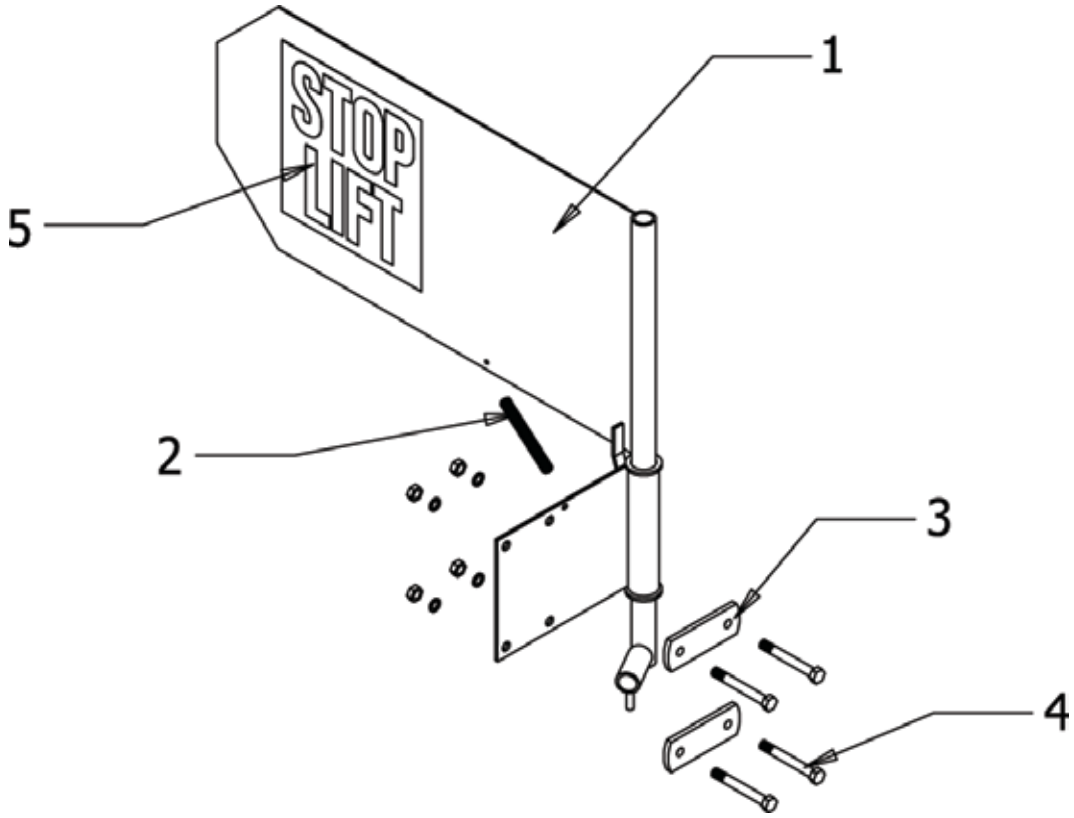
Ref No.	Part No.	Description	Qty
80	SZ02113001	8 Bolt Hub & Spindle Assembly (Complete)	1
83	SZ0211300	8 Bolt Spindle Weldment	1
84	SZ0118118	8 Bolt Hub Assembly With Bearings	1
85	SZ66C5/32X13/4	5/32" x 1-3/4" Cotter Pin	1
86	SZ01181181	8 Bolt Hub w/ Cups	1
87	SZLM603011	Inner Bearing Cups	1
88	SZSE-1300	Grease Seal	1
89	SZLM603049	Inner Bearing Cone	1
90	SZWB11250	Wheel Bolt	8
91	SZDC13	Dust Cap	1
92	SZLM67048	Outer Bearing Cone	1
93	SZLM67010	Outer Bearing Cup	1
94	SZ6002X3/4WA	Spindle Washer	1
95	SZ600NUT0SL0T1	Spindle Nut	1

Drop Spout Assembly Drawing #SZ104965



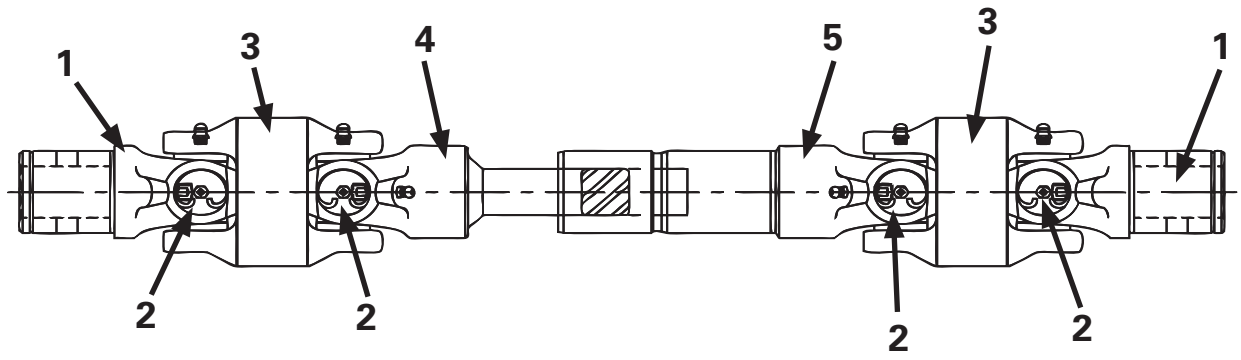
Ref No.	Part No.	Description	Qty
173	SZ127002	Wshr, Flt, 3/8"	6
174	SZ125007	Nut, Hex, 3/8"-16Unc, G5	2
175	SZ128016	Pin, Cotter, 1/8", 1	2
176	SZ104964	Wldt, Drop, Spout, 14", w/ Relief	1
177	SZ125030	Nut, Lck, 3/8"-16Unc, Nylock	2
178	SZ80.500x5.7	Spr, Ext, 1/2", 5.75	2
179	SZ06136	Decal, Danger, Contact	1
180	SZ105188	Door, Relief, 14, Galv	1
181	SZ126071	Blt, Hhcs, 3/8"-16Unc, 2-1/4", G5	2

Stop Lift Assembly Drawing - #SZ1200050



Ref No.	Part No.	Description	Qty
1	SZ1200051	Flag Weldment	1
2	SZ992127201	Extension Spring	1
3	SZ3032424	Flag Mounting Strap	2
4		3/8" x 3" Bolt, Nut & Lockwsher	4
5	SZ06086	Stop Lift Decal	1

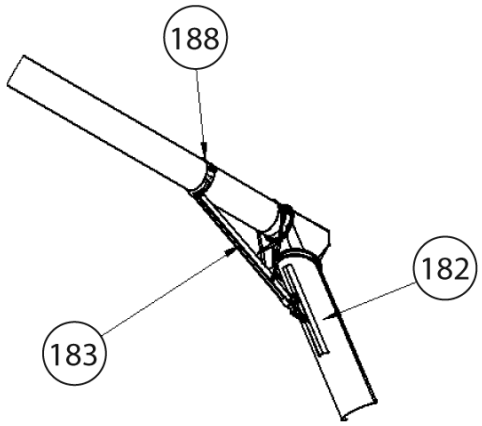
Auger Gear Box to Hopper Gear Box Power Shaft - #SZ0161421



Ref No.	Part No.	Description	Qty
	SZ0161421	Complete IID w/ 1-1/4" Round End Yoke	1
1	SZ14131-1869	1-1/4" Round 14R CV End Yoke	2
2	SZ03-15136	14R Cross & Bearing Kit	4
3	SZ14191-1951	14R CV Center Body	2
4		1" x 1-1/8" Shaft With 14R CV Yoke	N/A
5		Torque Tube w/ 14R Yoke & Slip Sleeve	N/A

Optional Equipment

14" Swivel Spout - #SZ105281



Assembly Instructions

1. Mount the swivel spout carriage assembly to auger tube using two half camps and 3/8" x 1-1/4" bolt, nut and lockwasher combinations.
2. Mount the spout assembly to the spout carriage assembly using the 1" x 10" pin and the 1/4" x 2" cotter pin. NOTE: Swivel spout should swivel without contacting the auger head cap.
3. Assemble the spout cover onto the spout assembly using 1/4" x 3/4" bolt, nut, lockwasher, and flatwasher.
4. Attach the winch assembly to the auger tube between the auger trussing and intake assembly. This is done using one half clamp and the 3/8" x 1-1/4" bolt, nut and lockwasher combinations. **Do not tighten at this time.**
5. With the spout centered, thread the 3/16" cable up through the guides on one side of the spout carriage assembly around the spout cable ring twice, back down through the guides on the other side of the spout carriage assembly. The cable is then threaded through the auger trusses down to the cable winch. Wrap the cable around the winch, in the same direction, four more times. The cable is then treaded up through the auger trusses and spliced together using two 3/16" cable clamps. The splice should be made at a point where the clamp will not contact the cable guides when the crank is turned.
6. Take up slack in the cable by sliding the winch assembly downward on the auger tube. Tighten the bolts on the winch half clamp.

Ref No.	Part No.	Description	Qty
182	SZ104975	Wldt, Spout, 14", Swivel	1
183	SZ104976	Wldt, Mnt, Spout, Swivel, 14	1
184	SZ6003316	Clmp, Cbl, 3/16"	2
185	SZ02131240	Cable, 3/16", 7x19, 2880	1
186	SZ125030	Nut, Lck, 3/8"-16Unc, Nylock	8
187	SZ126158	Blt, Hhcs, 3/8"-16Unc, 1-1/4", G5	8
188	SZ2031402	Half Clamp 14", 2 Bolt, White	2

Conversion Kits

No returns accepted of parts removed when installing conversion kits.

Tractor Hydraulic System

The 14" Backsaver Auger is furnished to work with a closed center tractor hydraulic system as standard.

- If a tractor with an open center hydraulic system is to be used, order and install conversion kit #398937.
- If a tractor with a closed center hydraulic system is to be used, remove kit #384937 and reinstall parts removed. If the parts are not available, order and install conversion kit #384936.

Tractor PTO

The 14" Backsaver Auger requires 1000 RPM and is furnished with a 1-3/4" 20-spline tractor end as standard.

- If a tractor with 1-3/8" 21-spline is to be used, order tractor end yoke with shear clutch #M-20796.

Serial Number

NOTE: The auger serial number is located on the second upright support on the lower cradle.

The following page contains a space for you to record the information about your Backsaver Auger found on this plate. Please record this information here for future reference.

Serial Number Information

Farm King Number:_____

Farm King Serial Number:_____

Component Serial Numbers:

Manufacturer Part Number Serial No. Notes:

Farm King Limited Warranty

This document limits your warranty rights.

Base Limited Warranty

Buhler Industries Inc. provides this warranty only to original retail purchasers of its product. Buhler Industries Inc. warrants to such purchasers that all Buhler Industries Inc. 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 12 months (80 days for commercial applications). This limited warranty applies only to those parts and components manufactured by Buhler Industries Inc. Parts and components manufactured by others are subject to their manufacturer's warranties, if any.

Buhler Industries Inc. 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 Buhler Industries Inc. within thirty (30) days of the date that such defect or improper workmanship is, or should have been, discovered. Buhler Industries Inc. reserves the right to either inspect the product at the buyer's location or have it returned to the factory for inspection. Parts must be returned through the selling representative and the buyer must prepay transportation charges.

Buhler Industries Inc. 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 Buhler Industries Inc. 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. Also: Buckets and Bucket Tines carry no warranty, Bent Spears carry no warranty, Snowblower Fan Shafts carry no warranty, Mower Blades carry no warranty, Portable Auger Parts Have Two (2) Year Warranty, Loader Parts Have Two (2) Year Warranty. The purchaser is solely responsible for determining suitability of goods sold. This warranty is expressly in lieu of all other warranties expressed or implied. Buhler Industries Inc. will in no event be liable for any incidental or consequential damages whatsoever. Nor for any sum in excess of the price received for the goods for which liability is claimed.

Repair Parts Limited Warranty

Buhler Industries Inc. warrants Farm King replacement parts purchased after the expiration of the Buhler Industries Inc. 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. Buhler Industries Inc. 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 Buhler Industries Inc. 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 Buhler Industries Inc. 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 Buhler Industries Inc.; 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 Buhler Industries Inc.

Authorized Dealer and Labor Costs
Repairs eligible for labor under this limited warranty must be made by Buhler Industries Inc. or an authorized Farm King dealer. Buhler Industries Inc. 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 Buhler Industries Inc. 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. Buhler Industries Inc. will not approve or pay invoices sent for repairs that Buhler Industries Inc. has not previously approved. Warranty service does not extend the original term of this limited warranty.

Warranty Requirements
To be covered by warranty, each Farm King new product must be registered with Buhler Industries Inc. 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, Buhler Industries Inc. 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.

Warranty Claims:
Warranty requests must be prepared on Buhler Industries Inc. Warranty Claim Forms with all requested information properly completed. Warranty Claims must be submitted within a thirty (30) day period from date of failure repair.

Warranty Labor:
Any labor subject to warranty must be authorized by Buhler Industries Inc. The labor rate for replacing defective parts, where applicable, will be credited at 100% of the dealer's posted shop rate.

Exclusive Effect of Warranty and Limitation of Liability

TO THE EXTENT PERMITTED BY LAW, BUHLER INDUSTRIES INC. 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, BUHLER INDUSTRIES INC. 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 BUHLER INDUSTRIES INC.'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 PRODUCTS MANUFACTURED BY BUHLER INDUSTRIES INC. ARE THOSE SET FORTH HEREIN. IN NO EVENT SHALL BUHLER INDUSTRIES INC. 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 provinces or 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 province to province or state to state.

Buhler Industries Inc. 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 Buhler Industries Inc. to the purchaser, and Buhler Industries Inc. 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 Buhler Industries Inc.'s ability to obtain materials or manufacture 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.

Government Legislation:
Warranty terms and conditions are subject to provincial or state legislation.

Important Note: This warranty does not apply to rentals.

www.farm-king.com

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www.farm-king.com

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