

Farm King

OPERATOR AND PARTS MANUAL

Conventional Auger

8" & 10" x 31' Model



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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

The Farm King conventional augers deliver numerous well-proven design features for more convenience, efficiency and safety. A longer bottom end below the gearbox allows the auger further into the bin.

These augers are well balanced for easy handling. A belt tightener and improved hinged belt-guards provide you with added convenience and an extra measure of safety. Beefy, wide-stance undercarriages and lift-systems with automotive-type hubs and bearings are all Farm King standards. Strength and stability come with square tube construction. Farm King gives you all the drive options:

- Direct PTO
- Belt Drive PTO
- Gas Engine Drive
- Electric Motor Drive (belt and direct)

All belt drive engine models have self-levelling motor mounts. Reliable safety clutch winches are used. The double flighting intake rotates in a brass bushing on all conventional auger intake guards. A new, narrow safety guard and removable clevis hitch allows for easier penetration into smaller openings. A storage bracket holds the clevis hitch when not needed. Sealed lubrication in the top drive assembly makes it resistant to heat, dust, debris and moisture. It also reduces maintenance requirements and adds to the longevity of the chain and sprockets.

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

The directions left, right, front and rear, as mentioned throughout this manual, are as seen facing in the direction of travel of the implement.

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.

General Safety Instructions

- 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.

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.
- Make certain electric motors are grounded.

Operation Safety

- Do not permit riders.
- Do not wear loose fitting clothing during operation.
- Empty the auger before moving to prevent upending.
- 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.
- Never operate a Conventional Auger with the intake end off the ground.
- Never operate over 540 PTO rpm speed.
- 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.

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 20 mph (32km/h).
- Do not tow equipment that does not have brakes that, when fully loaded, has a mass (weight) over 3300 lb (1.5 t) and more than 1.5 times the mass (weight) of the towing unit.
- Make sure the SMV (Slow Moving Vehicle) emblem 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 Conventional Auger in the down position, carrying the weight of the auger on the winch cable and not on the track stops.
- 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.

Service and Maintenance

- Stop engine, set brake, remove ignition key, and wait for all moving parts to stop before servicing, adjusting, repairing, or unplugging.
- 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.
- 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 it will not move and tear the jack from it's mount.
- When storing the auger, the intake end should be tied or weighted to prevent tipping.

Safety Signs

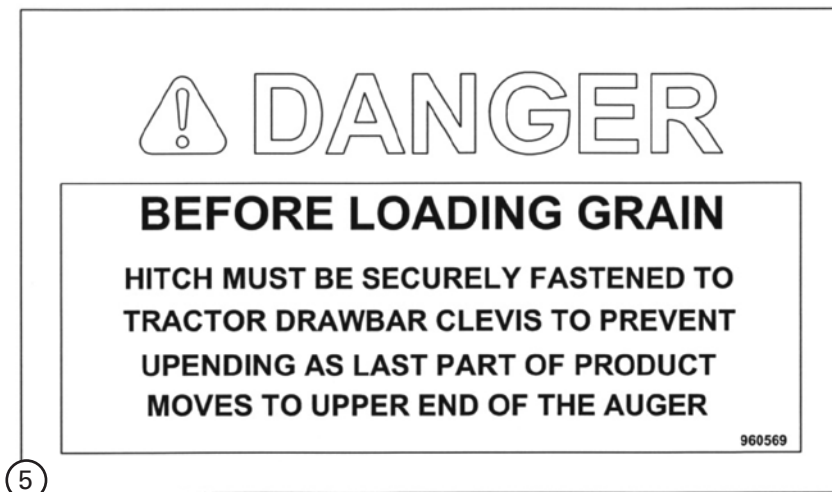
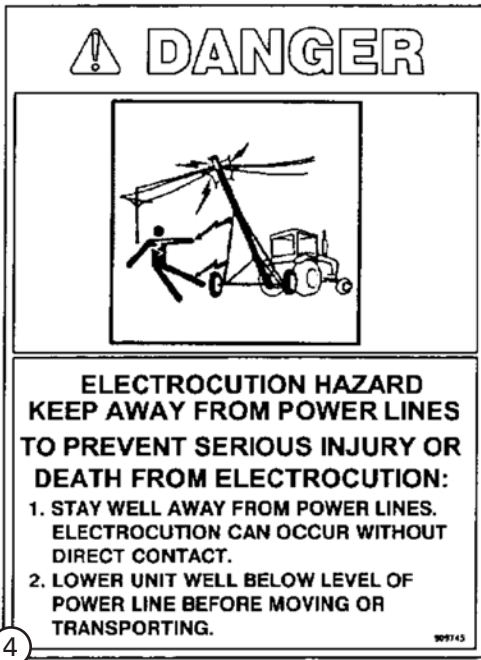
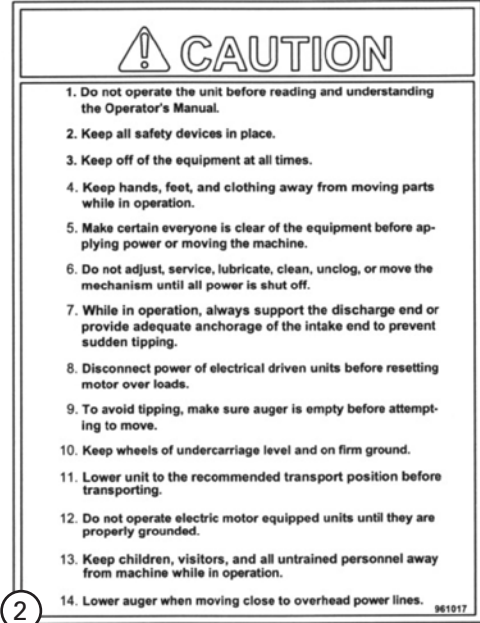
- The following illustration shows the approximate location and detail of safety signs.
- Keep all safety signs clean and legible and replace any that are damaged or missing.
- When original parts are replaced, any safety signs affixed to those parts should be replaced as well. Replacement safety signs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

Installation

- To install safety signs, 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.



- Replace safety signs immediately should they become damaged, torn or illegible. Obtain replacements from your authorized dealer using the part numbers shown.



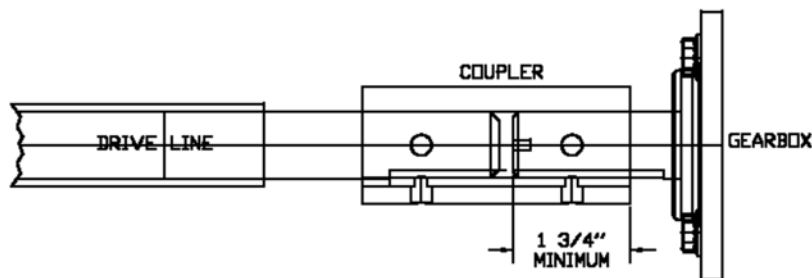
Assembly Instructions

1. Page 22: Bolt the intake guard (#10) to the bottom of the auger using 3/8" x 2" hex bolts, lock washers and hex nut.
2. Page 22: 8" x 31' only: The gearbox is shipped without oil. Before you mount the gearbox on the auger, remove the top plug and fill about 1/3 full of SAE80-90 oil. The gearbox may be used on either the left or the right side. Connect the gearbox to the driveline with a coupler (#23) using a 1/4" x 1/4" x 3-1/2" key and 3/8" x 3/8" socket set screws. Bolt the gearbox to the mounting plate on the tube using 3/8" x 3/4" hex bolts and lock washers.



ALERT

The pinion shaft of the gearbox should protrude into the 4" coupler at least 1-3/4" as shown in diagram.



CA-02

Bolt the gearbox plate (#18) to the top of the gearbox with the ring on the drive side. The extension shield holder (#17) bolts on top of the plate with the welded bolt turned towards the top of the auger. Use the same hardware as for the gearbox.

10" x 31' only: The gearbox is shipped without oil. Before you mount the gearbox on the auger, remove the lid and fill the gearbox about 1/3 full with SAE80-90 oil (oil should just be touching the bottom of the gears, do not overfill). Use gasket glue when replacing the cover to reduce the chance of leaks. The gearbox may be used on either the left or the right side. Check to see that the breather plug on the gearbox lid will be on the top and the drain plug will be at the bottom when the gearbox is bolted to the auger. Connect the gearbox to the splined coupler on the drive line and bolt on the gearbox using 1/2" x 1" hex bolts and lock washers. Bolt the gearbox plate (#18) to the top of the gearbox with the ring on the drive side. The extension shield holder (#17) bolts on top of the plate with the welded bolt turned towards the top of the auger. Use the same hardware as for the gearbox.

3. Page 26: Mount the two undercarriage arms (#1) and (#2) to the pivot pin under the welded gearbox mount using 1-1/2" washers (#7) and 5/16" x 2-1/4" cotter pins (#8). Bolt the undercarriage arms to the axle (#4) using 1/2" x 3-1/4" bolts, lock washers and hex nuts. Slide the track roller assembly (#44) onto the track with the larger roller turned to the bottom of the auger. Bolt the lift arm extension (#6) to the track roller using 1/2" x 4-1/2" bolts and lock nuts for the 7" & 8" and 5/8" x 6" bolts for the 10". Bolt the lift arm extension to the top of the lift arms (#5). Use 1/2" x 4" bolts, lock washers and hex nuts for the 8" and 5/8" x 4-1/2" for the 10".

Bolt the track stops (#25) (Page 22) to the top and 6" from the bottom of the track. Use 5/16" x 1" hex bolts, lock washers and hex nuts for 8" and 3/8" x 1" for the 10".

**WARNING**

The bottom of the lift arms bolt to the inside of the welded axle brackets using 5/8" x 1-1/2" bolts and lock nuts.

The two cross tubes (#3 and #53) bolt to the undercarriage and axle using 1/2" x 3" and 1/2" x 1 1/2" bolts.

4. Page 26: Bolt the winch mounting plate (#36) to the undercarriage arms using 3/8" x 2-3/4" bolts, lock washers and hex nuts. Fit the slots in the winch bracket onto the right hand cross tube and slide against the welded stop. The slots in the winch bracket at 90° to the cross tube are turned up. Bolt in place using two connector plates and 3/8" x 1-1/4" hex bolts, lock washers and hex nuts. Bolt the winch (#37) to the winch plate 3/8" x 1" hex bolts, lock washers and hex nuts. Flat washers are supplied for bolts which go through slotted holes.
5. Page 26: Bolt the swivel pulley holder (#39) to loops at the top and inside of the undercarriage using 5/16" x 2" hex bolts, lock washers and hex nuts. The pulley holder is offset on the shaft. Turn so the pulley is offset to the side opposite the drive.
6. Page 40: Thread the cable (#1) as shown in the drawing, one end is clamped to the cable anchor at the bottom of the track assembly and the other end to the winch spool using the clamps provided.
7. Page 26: A clevis holder (#48) bolts to the top end of one undercarriage arm using a 3/8" x 8" bolt, lock washer and hex nut. This holder is used as a place to leave the intake swivel clevis when it is removed prior to inserting the auger in a bin.
8. Page 26: Mount the wheels (#35) and tires on the axle using 1/2" wheel bolts and torque bolts to 80 ft./lbs. (108 N-m).
9. PTO Belt Drive Augers: Page 30
 - Install the hanger (#45) between the welded brackets near the bottom of the undercarriage using the 1" shaft (#46) and two 1/4" x 1-1/2" cotter pins. Turn as shown in drawing.
 - Bolt the PTO mount assembly (#27) to the hanger using 1/2" x 1-1/4" hex bolts, lock washers and hex nuts.
 - Bolt the guard plate (#2) to the back of the sheave guard (#38) using 1/4" x 1/2" bolts, lock washers and hex nuts. Slide onto the welded ring on the PTO mount (#27). The guard is held on by a ring (#56) with two 5/16" x 3/4" set screws and hex nuts. Hinge on guard must be up.
 - Attach the 12" sheave (#8) to the arbor shaft (#28) using a 1/4" key (8" – 2"; 10" – 3-3/8") and set screws.
 - A 13-3/4" pivot arm (#39) bolts to the inside of the guard with a 3/8" x 1" hex bolt and lock nut and to the undercarriage with a 3/8" x 2-3/4" hex bolt and lock nut. Turn as shown in drawing.

- Bolt a guard plate (#2) to the 6" guard (#1). Attach to the welded ring on the gearbox plate. The guard is held on by a ring (#56) with two 5/16" x 3/4" set screws and hex nuts. Hinge on guard must be up.
- Bolt the 9" long guard pivot arm (#4) to the back of the guard using 5/16" x 3/4" hex bolts, lock washers and hex nuts. A 10-3/4" pivot arm (#5) bolts to the end of the 9" arm and to the undercarriage. Turn arm as shown in drawing.
- Mount the 6" sheave (#6) on the gearbox. Fasten with a key (8"-1/4"; 10"-3/8") and set screws.
- Align the sheaves with the tube and mount the belts (#55).
- Bolt the belt tightener brackets (#40) under the gearbox with the bevel to the intake end using 3/8" bolts (8"-2-3/4"; 10"-3"), lock washers and hex nuts. The outer tightener tube (#41) bolts to the brackets using 1/2" bolts (8"-2-3/4"; 10"-3") and lock nuts. The inner tightener tube (#42) slides into the outer and bolts to the bottom of the hanger (#45) using 1/2" x 3" bolt and lock nut. Tension belts and hold in place using the set screw in the outer rod.
- Bolt a guard plate (#3) on the outside of the 6" guard (#1) to cover the opening using 1/4" x 1/2" hex bolts, lock washers and hex nuts. Bolt the guard mount (#31) to the outside of the 12" guard with the same size of hardware. Slide the flexible PTO guard (#32) and the guard clamp (#33) onto the PTO shaft. Attach the PTO shaft using 1/4" key, set screws and clamp bolt. Securely tighten set screws and clamp bolt. After mounting the PTO, clamp on the flexible PTO guard using a 5/16" x 1-1/2" hex bolt, lock washer and hex nut.
- Bolt the PTO cradle (#49) & (#50) onto the lift arms for transport position. A pin in the cradle keeps the PTO shaft from falling out during transport.
- When belts and sheaves are aligned, bolt the bottom edges of both guards together using 1/4" x 1/2" hex bolts, lock washers and hex nuts.

10. Engine Belt Drive Augers: Page 34

- Install the hanger (#29) between the welded brackets near the bottom of the undercarriage using the 1" shaft (#18) and two 1/4" x 1-1/2" cotter pins. Turn as shown in drawing.
- The motor mount (#33) should be installed so the handle is toward the axle. Use 1/2" x 1 1/4" hex bolts, lock washers and hex nuts.
- The motor mount spacer (#37) and the guard mount (#38) fit under the motor base and are bolted on together with the gas motor. The ring on the guard mount with the gas motor. The ring on the guard mount is used to clamp on the guard for the motor sheave.
- Bolt the guard plate (#2) to the back of the 12" belt guard (#1) using 1/4" x 1/2" bolts, lock washers and hex nuts. Slide onto the welded ring on the gearbox plate. The guard is held on by a ring (#42) with two 5/16" x 3/4" set screws and hex nuts. Hinge on guard must be up.
- Mount the 12" sheave #4 on the gearbox using a key (8"-1/4"; 10"-3/8") and set screws.
- A 10-3/4" pivot arm (#5) bolts to the inside of the guard with a 3/8" x 1" hex bolt and lock nut and to the undercarriage with a 3/8" x 2-3/4" hex bolt and lock nut. Turn as shown in drawing.
- Bolt the clamp plate (#13) to the back of the engine pulley guard. Turn as shown in drawing. Clamp the guard to the welded ring on the guard mount (#38) using 5/16" x 1-1/4" hex bolts, lock washers and hex nuts. Hinge on guard must be up.
- Mount the engine sheave (#39) on the gas engine. This sheave must be supplied by the customer.
- Align the sheaves with the tube and mount the belts (#40).

- Bolt the belt tightener brackets under the gearbox with the bevel to the intake end using 3/8" bolts (8"-2-3/4"; 10"-3") and lock nuts. The outer tightener tube (#20) bolts to the brackets using 1/2" bolts (8"-2-3/4"; 10"-3") and lock nuts. The inner tightener tube (#21) slides into the outer and bolts to the bottom of the hanger (#29) using 1/2" x 3" bolt and lock nut. Tension belts and hold in place using the set screw in the outer rod.
- Bolt a guard plate (#3) on the outside of both guards to cover the opening using 1/4" x 1/2" hex bolts, lock washers and hex nuts.
- The quick release on the motor mount (#33) is used when starting the engine and to stop the auger without shutting off the engine.
- When belts and sheaves are aligned, bolt the bottom edges of both guards together using 1/4" x 1/2" hex bolts, lock washers and hex nuts.

11. Direct Drive Augers: Page 38

- Bolt the PTO hanger (#9) to the welded bracket on the tube using 3/8" x 1" hex bolts, lock washers and hex nuts. A pin (#7) holds the PTO in place during transport.
- Mount the PTO guard holder (#14) to the welded ring on the gearbox plate using a 4" I.D. clamp (#15) with 5/16" x 1-1/4" hex bolts, lock washers and hex nuts.
- Slide the flexible PTO guard (#2) and the guard clamp (#3) onto the PTO shaft. Attach the PTO shaft using a key (8"-1/4"; 10"-3/8"), set screws and clamp bolt. Securely tighten the set screws and clamp bolt. After mounting the PTO, clamp on the flexible PTO guard using a 5/16" x 1-1/4" hex bolt, lock washer and hex nuts.

12. Page 22: Attach the driveline shields (#5) starting at the top of the auger. The last drive line shield (#4) has a slotted hole at one end and is bolted to the shield holder (#17) using a 5/16" flat washer, lock washer and hex nut.

13. Re-check and tighten all bolts of particular importance:

- Cable Clamps.
- Bolts on track roller assembly.
- Bolts on lift arm joining axle and extension tube.
- Bolts joining undercarriage, cross tube and axle.
- Gearbox mounting bolts.
- Pulley set screws.
- All bolts on shields.
- Wheel bolts.
- Set screws and clamp bolts holding on PTO shaft.

14. NOTES:

- Gearbox is shipped without oil. Use 400 ml (13.5 oz.) of SAE 90.
- Do not exceed 600 rpm flighting speed when operating auger.
- An external chain tightener is supplied with all augers.
- High position: It is dangerous to move auger in raised position in vicinity of electrical lines.
- Keep all shields and guards in place.
- Turn off power when servicing or unplugging auger.
- Check that intake guard bolts are tight and that the swivel clevis pin has the hitch pin in place before transporting the auger.

Operation Instructions

- All augers may be elevated up to 45°; however, for the best operating efficiency, 35° should not be exceeded. At angles over 35° the capacity and life of the auger decreases.
- Never operate an empty auger for over one minute, as the flighting and housing will experience excessive wear.
- To position the auger, always tow or move the auger in the down position to a point as close as possible to the bin or barn.



ALERT

Always keep the wheels level. 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 it carries a lot of weight and may cause damage to the underside of the auger to the bin.



ALERT

Never place blocks under the wheels to increase the elevation of auger.

- Be sure the wheels are free to move and no one is standing close to the auger when raising or lowering. Never attempt to raise or lower the auger while it is in operation.
- The auger is equipped with a safety brake winch. The auger may be raised or lowered by simply turning the winch handle in the proper direction until the desired discharge height is obtained.
- Never have less than three wraps of cable on the drum of the winch.



ALERT

Arrow on winch shows proper direction of rotation. Improper rotation may cause winch brake failure.



ALERT

All wiring should be done by a competent electrical contractor to ensure the electric motor is receiving the correct voltage and the cable will carry the correct load.

- The life of a motor is greatly reduced if it is run at too high or too low voltage. Also, a motor cannot develop full power if the cable is too small. The electrical supply to each motor should include an enclosed safety switch or circuit breaker of the correct size to protect the motor from being overloaded. The switch should be under a padlock to prevent the motor from being turned on by accident while working on or moving the auger. This will also prevent unauthorized people or children from operating the motor. A magnetic starter should be used to shut off the motor in case of low voltage, loss of power, or overloading the motor.

- The electric motor must then be started manually.
- Power take-off drives are designed for tractors with 540 PTO rpm and should not be run by tractors with 1000 PTO rpm.

**ALERT**

Always check to see that both ends of the PTO shaft are securely attached before using any PTO drive auger. This should always be done with the tractor shut off.

- To ensure a long life from a PTO tumbler shaft, operate the shaft at the least angle possible and always keep the tractor axle parallel to the side of the auger housing.

**ALERT**

Always maintain at least a 6" overlap on the tumbler shields. Be sure they turn freely and make certain everyone stands clear of the tractor, tumbler shaft, and auger before engaging PTO. Be sure ends are securely connected to the auger and tractor.

- Before engaging PTO, start tractor and idle engine. Engage PTO slowly and bring up to recommended speed of 500 PTO rpm.
- Before stopping auger (except in an emergency) let all grain empty out of the auger, idle engine then disengage PTO. Shut off tractor.

**ALERT**

When operating an auger for the first time when new or at the beginning of a season, run only partially full until flighting becomes polished. It is always a good idea to check the flighting for freedom of movement by turning pulley or tumbler shaft by hand before connecting to a power source. Other items to check are the head (spout) and intake cage for bird nests or other obstructions before starting the auger.

**ALERT**

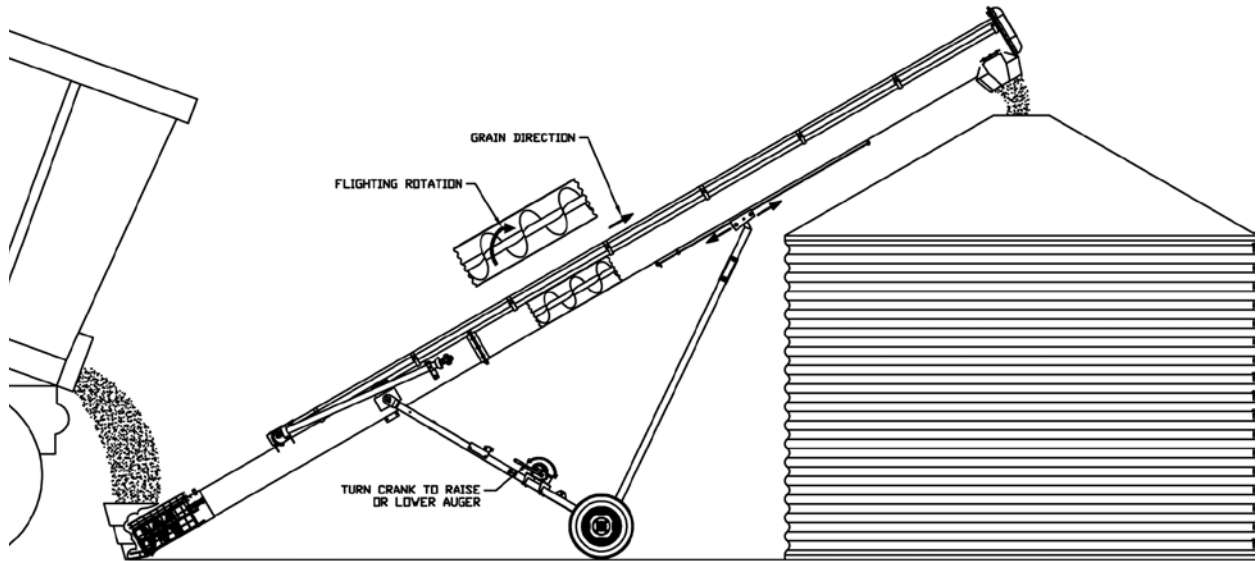
Always lower auger before transporting and allow the weight of the auger to rest on the winch cable and not on the transport stops.

**ALERT**

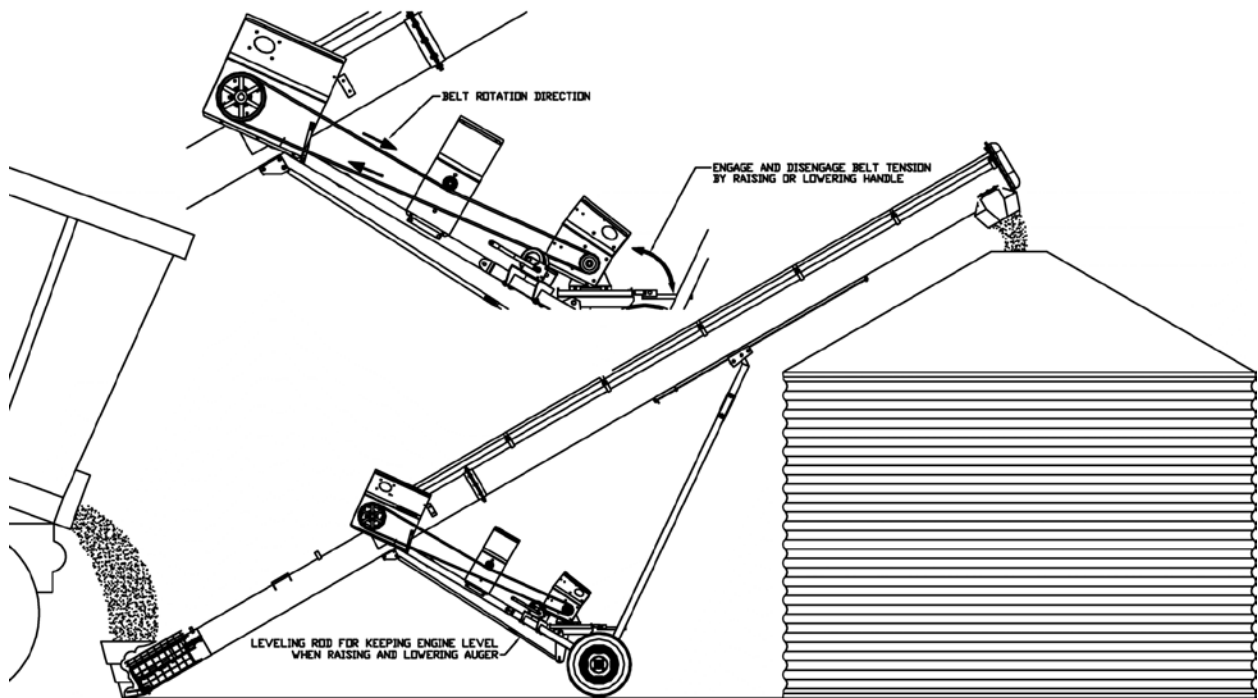
When towing the auger, never exceed 32 km/h (20 mph).

- Use signal lights and a safety rated tow chain when towing an auger on a road. Check your local regulations for further safety devices in this regard.

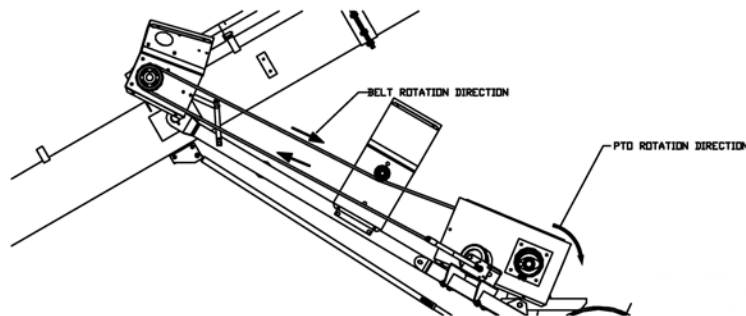
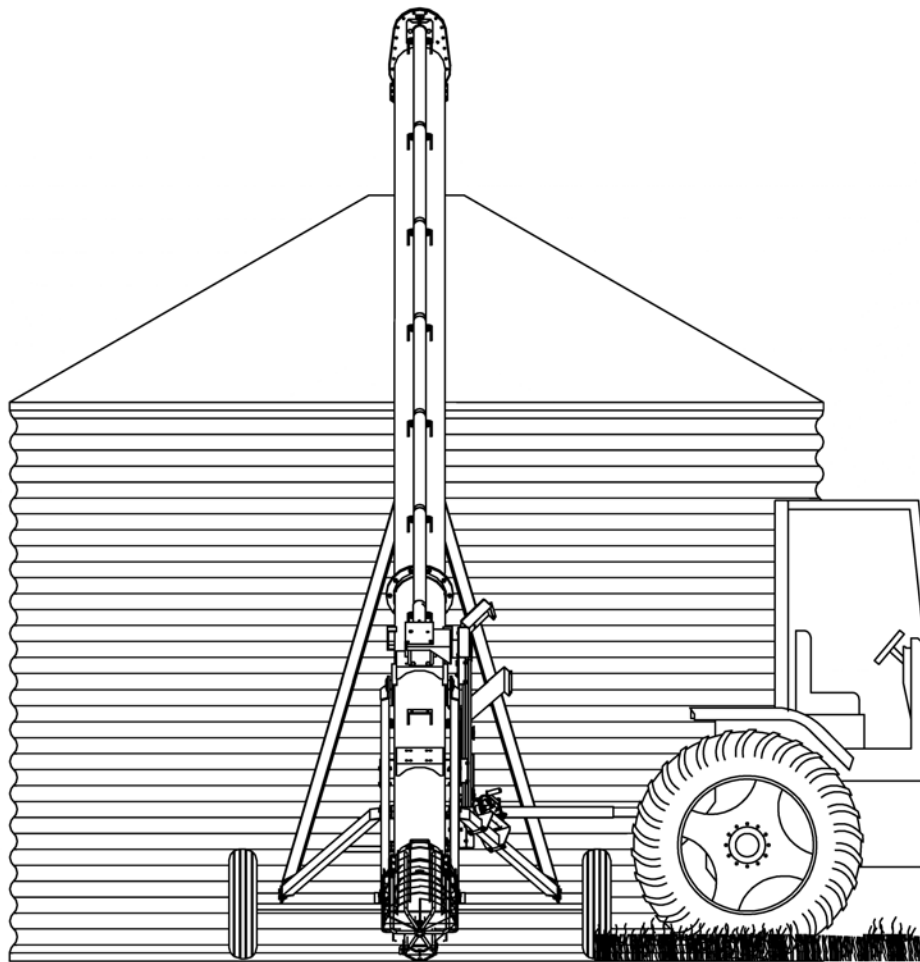
Theory of Operations



CA-41



CA-42



CA-43

Maintenance Instructions

- Check condition of winch cable occasionally and replace if it shows wear. The greatest wear will occur on the first few wraps around the drum of the winch.
- The main thing to check on the cable is for broken strands or rust, which penetrates the cable core. This is particularly important if the auger is more than a few years old.
- Oil the moving parts of the winch two times per year.
- Lubricate the PTO tumbler shaft universal joints every five hours. Grease the PTO shear yoke before using PTO for the first time.
- Check the oil level of the gearbox one time per year and maintain the level at 1/3 full. Use SAE90.



ALERT

When replacing bearings or tightening a loose bearing collar, always tighten collar in the direction of shaft rotation using a center punch or a similar tool.

- The plastic chain guard at the top of the auger must be removed to inspect or replace the chain and sprockets. When replacing the plastic guard, clean off the residue from the old silicone and apply a fresh bead using a caulking gun. There must be about 2 pounds of grease in the guard. The bolts should be tightened in a criss-cross sequence to ensure proper seating of the guard. The bolts are a 1/4" grade 5 which should be torqued to about 9 foot pounds using a torque wrench. (12 N-m)
- After every 40 hours of use, add approximately 10 squirts of grease to chain cover at the top of the auger.
- If the auger is towed extensively, the wheel bearings should be repacked at least semi-annually. Keep tire pressure at 37 psi maximum. (255 kPa)
- Regularly check the tightness of all cable clamps to avoid slipping.
- Inspect wire rope regularly for evidence of wear or corrosion. Such inspections should take place at progressively shorter intervals over the useful life of the rope, as wear tends to accelerate with use and/or age. Where wear is rapid, the outside of a wire rope will show flattened surfaces in a short time. A piece of cloth or rag, rubbed along the wire rope will help to reveal broken wires. The effects of corrosion are not easy to detect because the exterior wires may appear to be only slightly rusty, and the damaging effects of corrosion may be confined to the hidden inner wires where it cannot be seen. To prevent damage by corrosion, the rope should be kept well lubricated. Periodic cleaning of wire rope by using a stiff brush and kerosene or with compressed air or live steam and relubricating will help to lengthen rope life and reduce abrasion and wear on sheaves and drums.

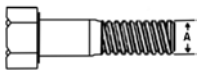



Storage

- The auger should be stored in a dry place if possible. If stored outside, lower auger to its lowest position and tie the tail end down so that no one can accidentally overturn it.
- Clean auger thoroughly as dirt draws moisture and causes metal to rust. If the auger has been used to move fertilizer, clean thoroughly and apply oil or grease on entire flighting and inside the housing to stop and prevent further corrosion.
- Remove belts and store in a cool dry place if auger is to be left outdoors.
- At this time check all moving parts for wear and order replacement parts from your nearest dealer.
- When taking the auger out of storage, clean it thoroughly and check for obstructions at the inlet and outlet ends. Check the oil in the gearbox.
- Check all bolts and set screws.

Bolt Torque

Checking Bolt Torque

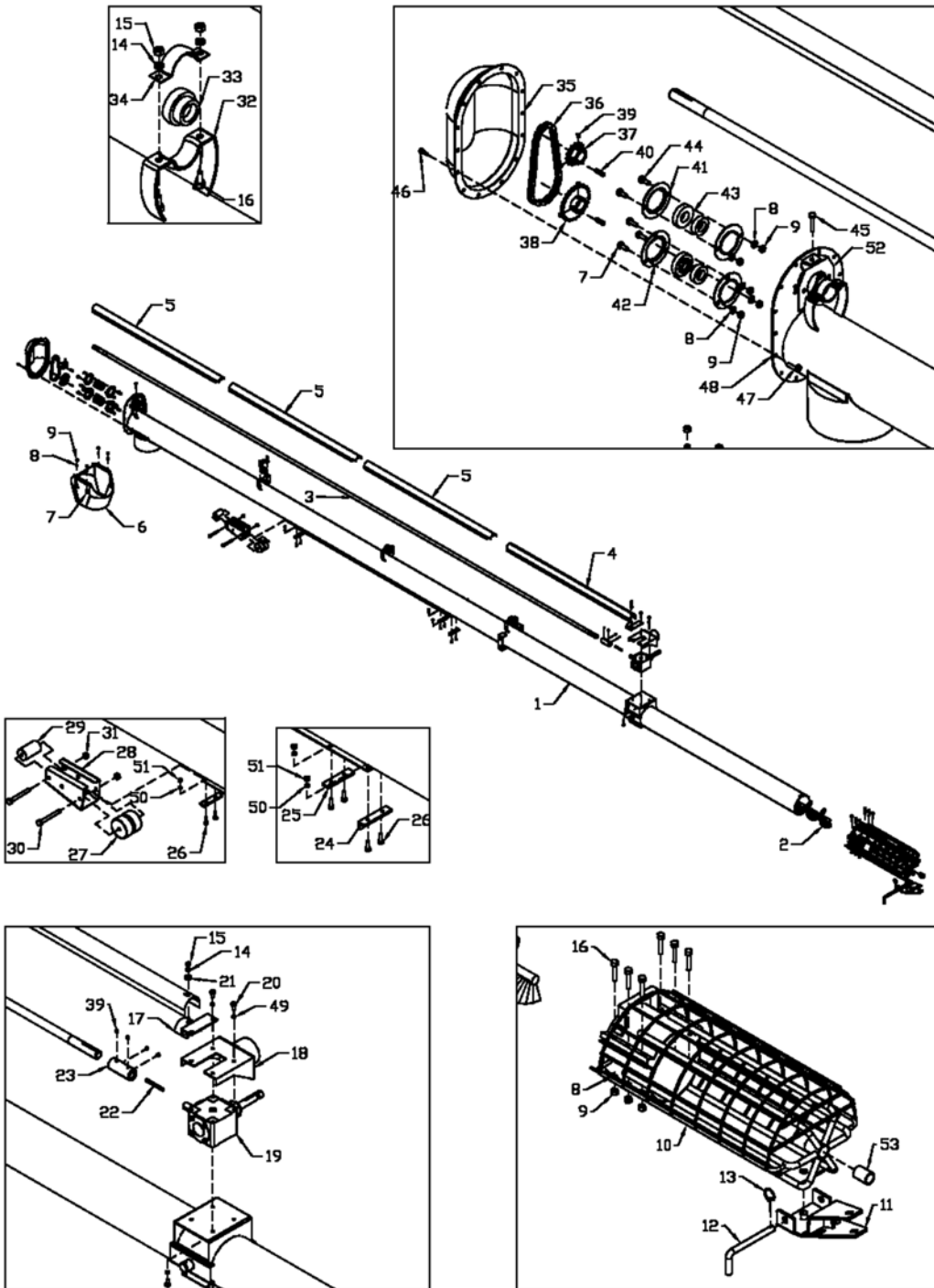
The tables shown below give correct torque values for various bolts and hex bolts. Tighten all bolts to the torques specified in chart unless otherwise noted. Check tightness of bolts periodically, using bolt torque chart as a guide. Replace hardware with the same strength bolt.

Bolt Torque*						
						
Bolt Diameter (inches)	Grade 2 Bolts SAE 2		Grade 5 Bolts SAE 5		Grade 8 Bolts SAE 8	
"A"	(lb-ft)	(N.m)	(lb-ft)	(N.m)	(lb-ft)	(N.m)
0.25 (1/4)	6	8	9	12	12	17
0.313 (5/16)	10	13	19	25	27	36
0.375 (3/8)	20	27	33	45	45	63
0.438 (7/16)	30	42	53	72	75	100
0.5 (1/2)	45	61	80	110	115	155
0.563 (9/16)	70	95	115	155	165	220
0.625 (5/8)	95	128	160	215	220	305
.75 (3/4)	165	225	290	390	400	540
0.875 (7/8)	170	230	420	570	650	880
1	225	345	630	850	970	1320

Torque figures indicated above are valid for non-greased or non-oiled threads and heads unless otherwise specified. Therefore, do not grease or oil bolts or hex bolts unless otherwise specified in this manual. When using locking elements, increase torque values by 5%.

*Torque value for bolts and hex bolts are identified by their head markings.

Tube Assembly Drawing



CA-01

When Ordering Parts

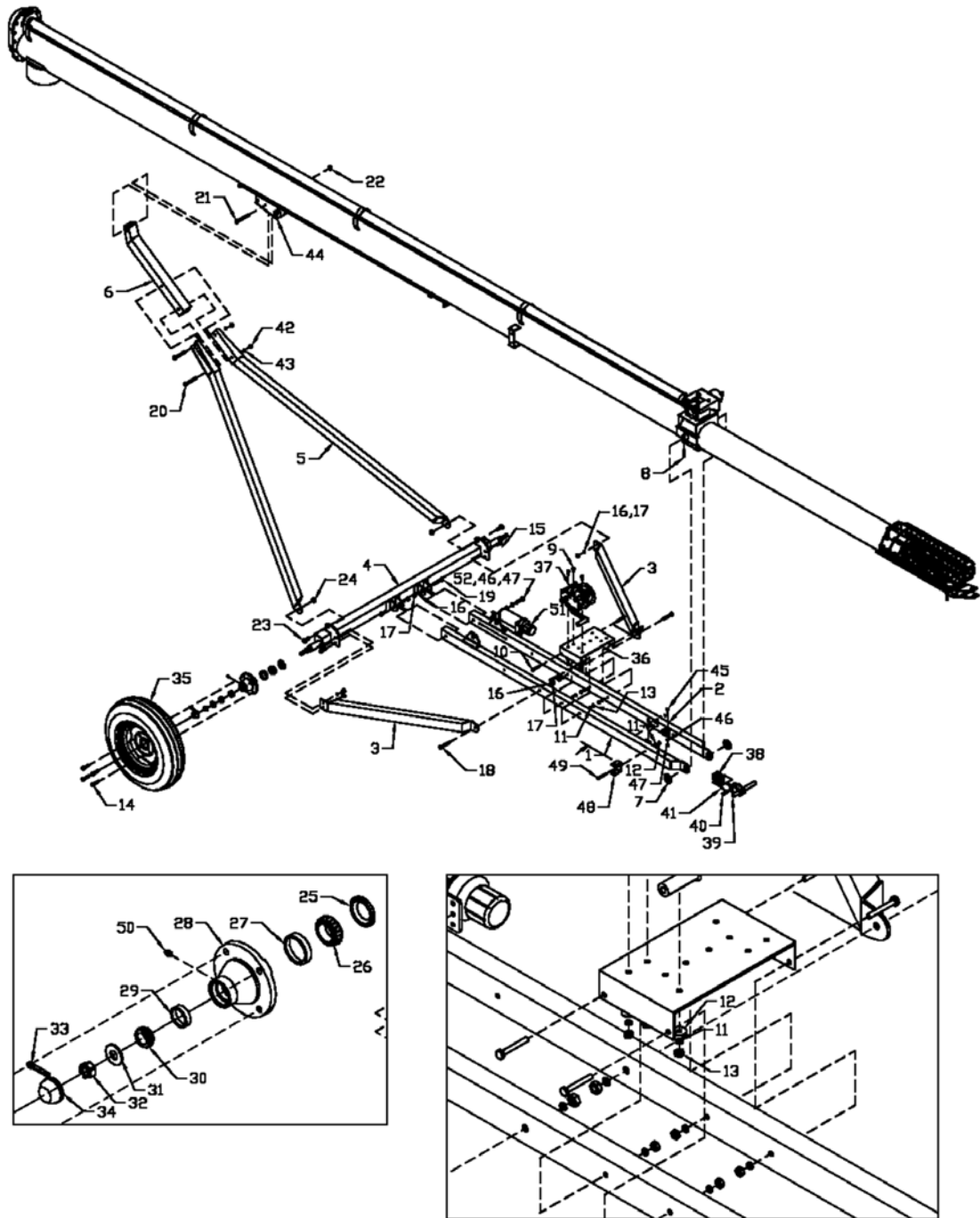
Always give your dealer the Model, Color and Serial Number of your machine to assist him in ordering and obtaining the correct parts. Use the exploded view and tabular listing of the area of interest to exactly identify the required part.

Item	Part Number	Description
1	961335	8" Tube Weldment 29' Long
	961336	10" Tube Weldment 29' Long
2	961583	8" x 29' Basic Flighting
	961169	10" x 29' Flighting
3	961603	8" Drive Line 1-1/4" x 21'- 9" Long
	961175	10" Drive Line 1-3/8" x 21'- 8-3/4" Long
4	961337	8" Drive Line Shield 20ga x 6-3/4" x 64-1/2"
	961338	10" Drive Line Shield 20ga x 6-3/4" x 51-1/4"
5	961848	8" Drive Line Shield 20ga x 6-3/4" x 66"
	961176	10" Drive Line Shield 20ga x 6-3/4" x 53"
6	961339	10" Bolt On Spout
7	86170	3/8" x 1" Hex Bolt (pl) (10")
8	81593	3/8" Lock Washer (pl)
9	81592	3/8" Hex Nut (pl)
10	903556	8" Intake Guard Weldment
	903558	10" Intake Guard Weldment
11	903248	8" Clevis Weldment
	903294	10" Clevis Weldment
12	903246	Clevis Pin 5/8" x 9"
13	966729	3/16" Linch Pin
14	81569	5/16" Lock Washer (pl)
15	81568	5/16" Hex Nut (pl)
16	811795	3/8" x 2" Hex Bolt (pl)
17	961345	Extension Shield Holder (8")
	961346	Extension Shield Holder (12ga) (10")
18	961347	8" Gearbox Plate 10ga x 7-1/2"
	961348	10" Gearbox Plate 10ga x 9-1/8"
19	961092	8" Gearbox
	961085	8" Reverse Shift Gearbox (Optional)
	BU50510	10" Gearbox
20	961086	10" Reverse Shift Gearbox (Optional)
	84072	3/8" x 3/4" Hex Bolt (pl) (8")
21	81619	1/2" x 1" Hex Bolt (pl) (10")
	81570	5/16" BS Flat Washer (pl)
22	961155	1/4" x 1/4" x 3-1/2" Key
23	961611	Gearbox Coupling 1-3/4" O.D. x 4" Long

Item	Part Number	Description
24	961349	Cable Anchor 1/4" x 1" x 1" Angle (8")
	961350	Cable Anchor 1/4" x 1-1/2" x 1-1/2" Angle (10")
25	961351	Track Stop 1/4" x 1" x 4-1/4" Long (8")
	961352	Track Stop 1/4" x 1-1/2" x 5-1/2" Long (10")
26	812026	5/16" x 1" Hex Bolt (pl)
	86170	3/8" x 1" Hex Bolt (pl) (10")
27	901758	Track Roller 3.45" O.D. x 3-1/2" Long (8")
	902364	Track Roller 3.45" O.D. x 4-1/2" Long (10")
28	961353	Track Roller Frame (10ga) (8")
	961354	Track Roller Frame (7ga) (10")
29	901759	Rear Track Roller 2" O.D. x 3-1/2" Long
	902365	Rear Track Roller 2" O.D. x 4-1/2" Long
30	811691	1/2" x 4-1/2" Hex Bolt (pl) (8")
	812087	5/8" x 6" Hex Bolt (pl) (10")
31	812364	1/2" Lock Nut (pl) (8")
	812482	5/8" Lock Nut (pl) (10")
32	961430	1-1/4" Bearing Stand (8")
	961989	1-3/8" Bearing Stand (10")
33	965818	1-1/4" Bearing (8")
	965917	1-3/8" Bearing (10")
34	961432	Bearing Holder Cap (8")
	961990	Bearing Holder Cap (10")
35	961097	Plastic End Cover (8")
	961098	Plastic End Cover (10")
36	961954	#60 Chain (42 Link) (8" Belt Drive)
	961691	#60 Chain (34 1/2 Link) (8" Direct Drive)
	961047	#80 Chain (40 Link) (10" Belt Drive)
	961181	#80 Chain (38 Link) (10" Direct Drive)
37	961684	15 Tooth Sprocket #60 (1-1/4" Bore) (8" Belt & Direct Drive)
	961041	15 Tooth Sprocket #80 (1-3/8" Bore) (10" Belt Drive)
	961998	20 Tooth Sprocket #80 (1-3/8" Bore) (10" Direct Drive)
38	961686	28 Tooth Sprocket #60 (1-1/4" Bore) (8" Belt Drive)
	961042	28 Tooth Sprocket #80 (1-3/8" Bore) (10" Belt Drive)
	961684	15 Tooth Sprocket #60 (1-1/4" Bore) (8" Direct Drive)
	961998	20 Tooth Sprocket #80 (1-3/8" Bore) (10" Direct Drive)
39	988999	3/8" x 3/8" Socket Set Screw
40	961602	1/4" Sq. x 1-1/4" Key (8")
	967041	5/16" Sq. x 1-1/2" Key (10")
41	961091	2-Hole Bearing Flange
42	961675	3-Hole Bearing Flange
43	961676	1-1/4" Bearing (8")

Item	Part Number	Description
	965917	1-3/8" Bearing w/ Collar (10")
44	81914	3/8" x 1" Carriage Bolt (pl)
45	967291	3/8" x 2" Full Thread Bolt (pl)
46	967473	1/4" x 3/4" Flange Bolt (pl)
47	967474	1/2" Flange Hex Nut (pl)
48	961301	7" & 8" Auger End Plate
	904787	10" Auger End Plate c/w Grease Nipple
49	81593	3/8" Lock Washer (pl) (8")
	81637	1/2" Lock Washer (pl) (10")
50	81569	5/16" Lock Washer (pl) (8")
	81593	3/8" Lock Washer (pl) (10")
51	81568	5/16" Hex Nut (pl) (8")
	81592	3/8" Hex Nut (pl) (10")
52	903435	Chain Tightener Bracket (8")
	903478	Chain Tightener Bracket (10")
53	960461	Brass Bushing 1-3/8" x 1-3/4" Lg (8")
	967915	Brass Bushing 1-5/8" x 1-3/4" Lg (10")

Undercarriage, Axle and Lift Arm Assembly Drawing

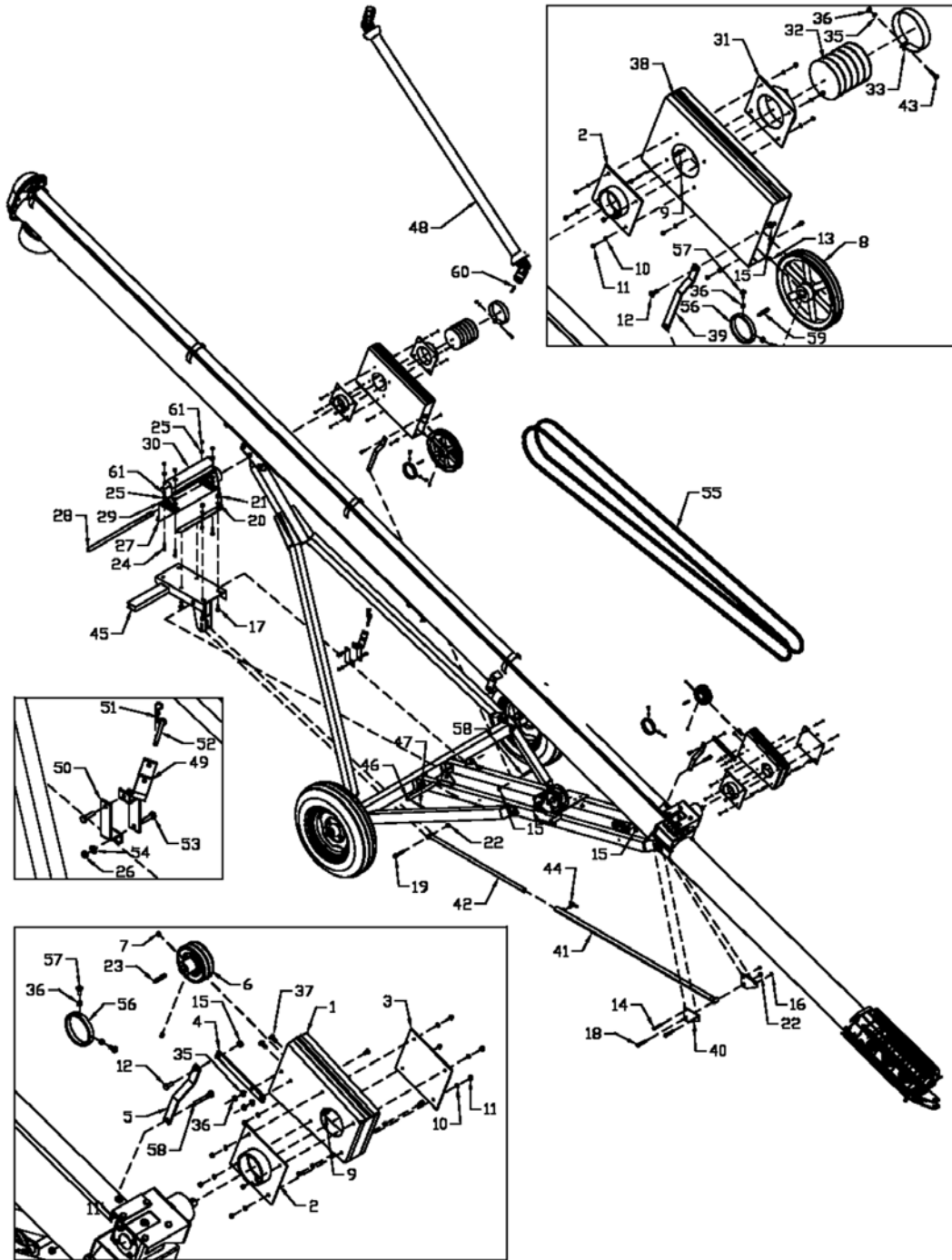


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Item	Part Number	Description
1	962067	8" RH Undercarriage Tube 2" x 3" x 92" Long
	962068	10" RH Undercarriage Tube 2" x 3" x 90" Long
2	909526	8" LH Undercarriage Tube 2" x 3" x 92" Long
	909539	10" LH Undercarriage Tube 2" x 3" x 90" Long
3	962071	Cross Tube 2" x 3" x 38 1/8"
4	905303	8" Axle 3" x 3" x 66" Long
	907209	10" Axle 3" x 3" x 66" Long
5	962074	8" Lift Arm 2" x 3" x 73-3/8" Long
	961328	10" Lift Arm 3" x 3" x 66" Long
6	961329	8" Lift Arm Extension
	961330	10" Lift Arm Extension
7	967135	1-1/2" Rim Washer (10ga) (pl)
8	967913	5/16" x 2-1/4" Cotter Pin (pl)
9	86170	3/8" x 1" Hex Bolt (pl)
10	967488	3/8" x 2-3/4" Hex Bolt (pl)
11	81593	3/8" Lock Washer (pl)
12	84000	3/8" BS Flat Washer (pl)
13	81592	3/8" Hex Nut (pl)
14	968404	1/2" Wheel Bolt (pl)
15	84277	1/2" x 1-1/2" Hex Bolt (pl)
16	81637	1/2" Lock Washer (PL) (8")
17	81636	1/2" Hex Nut (PL) (8")
18	81627	1/2" x 3" Hex Bolt (pl)
19	81628	1/2" x 3-1/4" Hex Bolt (pl)
20	811752	1/2" x 4" Hex Bolt (pl) (8")
	81672	5/8" x 4-1/2" Hex Bolt (pl) (10")
21	811691	1/2" x 4-1/2" Hex Bolt (pl) (8")
	812087	5/8" x 6" Hex Bolt (pl) (10")
22	812364	1/2" Lock Nut (pl) (8")
	812482	5/8" Lock Nut (pl) (10")
23	84268	5/8" x 1-1/2" Hex Bolt (pl)
24	812482	5/8" Lock Nut (pl) (10")
25	961891	Oil Seal (SE11)
26	967712	Inner Cone (LM67048)
27	967711	Inner Cup (LM67010)
28	105173	4-Bolt Hub (H411)
	9105173	H411 Hub Assembly
29	968405	Outer Cup (LM11910)
30	968406	Outer Cone (LM11949)
31	9812416	3/4" S.A.E. Washer
32	81834	3/4" Slotted Hex Nut (br)

Item	Part Number	Description
33	9812486	1/8" x 1-1/2" Cotter Pin
34	968409	Dust Cap (DC12)
35	F7110	15" x 4.5" x 4-Bolt Wheel
36	961331	Winch Mounting Plate 7ga x 8" x 17-3/4" (8")
	961332	Winch Mounting Plate 7ga x 9" x 20-1/4" (10")
37	961888	K1550 Winch (8")
	961945	K2550 Winch (10")
38	961846	4" Cast Cable Pulley
39	961333	Pulley Holder (8")
	961334	Pulley Holder (10")
40	961010	1/2" x 2-1/8" Clevis Pin (pl)
41	9812430	1/8" x 1" Cotter Pin (pl)
42	81636	1/2" Hex Nut (pl) (8")
	81676	5/8" Hex Nut (pl) (10")
43	81637	1/2" lock washer (pl) (8")
	81677	5/8" Lock Washer (pl) (10")
44	961385	Track Roller Assembly (8")
	961386	Track Roller Assembly (10")
45	810640	5/16" x 2" Hex Bolt (pl)
46	81569	5/16" Lock Washer (pl)
47	81568	5/16" Hex Nut (pl)
48	903392	Clevis Holder
49	81583	3/8" x 3" Hex Bolt (pl)
50	967900	1/4" Grease Fitting
51	909277	Manual Holder
52	810582	5/16" x 3" Hex Bolt (pl)

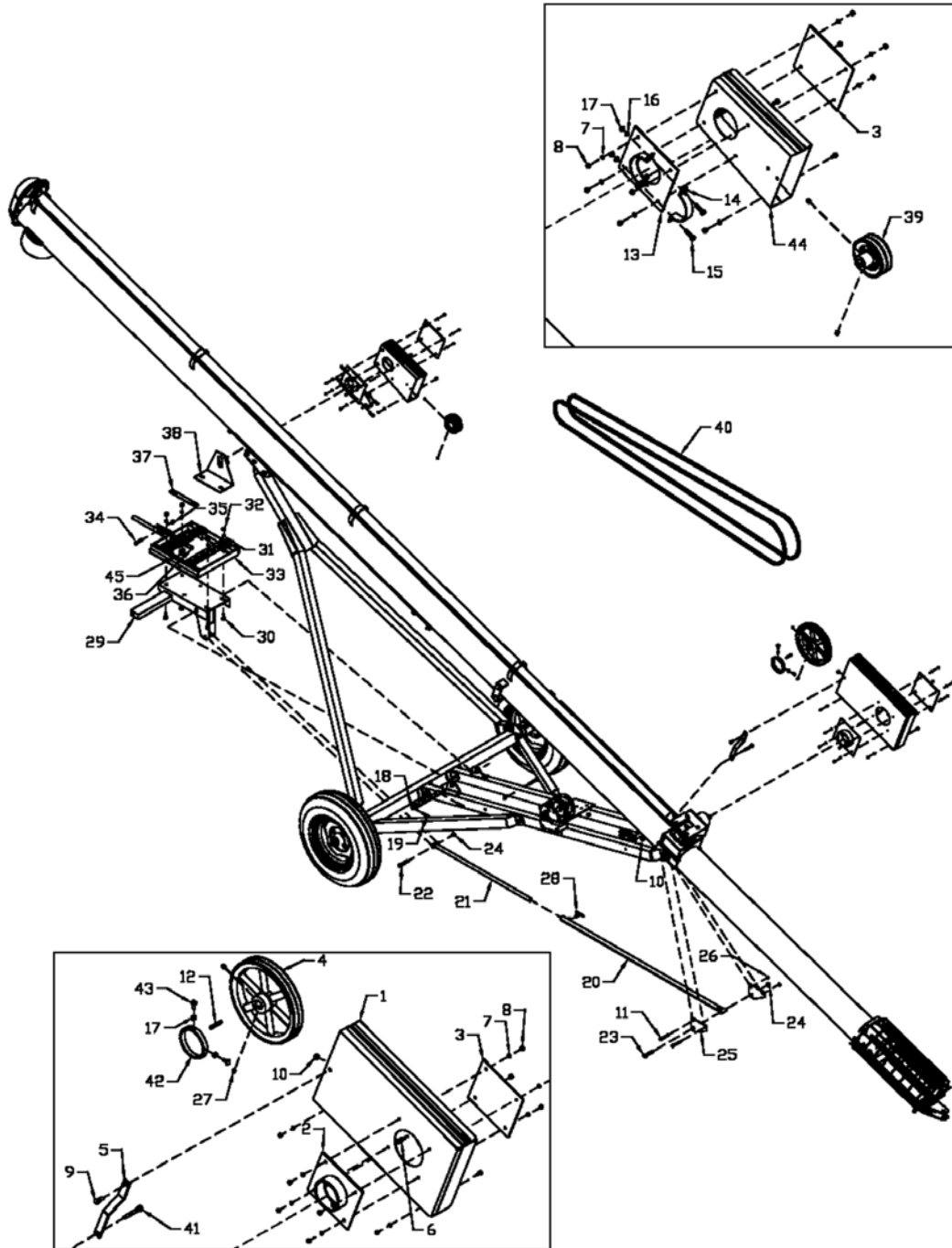
PTO Belt Drive Assembly Drawing



Item	Part Number	Description
1	961355	6" Sheave Guard (8")
	961356	6" Sheave Guard (10")
2	961357	Guard Plate Weldment
3	961358	8" x 8" Solid Cover Plate
4	961359	Guard Pivot Arm 9" Long
5	961360	Guard Pivot Arm 10-3/4" Long
6	966166	6" Double Sheave (1" Bore) (8")
	961074	6" Triple Sheave (1-1/2" Bore) (10")
7	988999	3/8" x 3/8" Socket Set Screw
8	961567	12" Double Sheave (1" Bore) (8")
	961004	12" Triple Sheave (1-1/4" Bore) (10")
9	81523	1/4" x 1/2" Hex Bolt (pl)
10	81545	1/4" Lock Washer (pl)
11	81544	1/4" Hex Nut (pl)
12	86170	3/8" x 1" Hex Bolt (pl)
13	81213	3/8" x 1" Square Head Set Screw
14	967488	3/8" x 2-3/4" Hex Bolt (pl) (8")
	81583	3/8" x 3" Hex Bolt (pl) (10")
15	812363	3/8" Lock Nut (pl)
16	81592	3/8" Hex Nut (pl)
17	81620	1/2" x 1-1/4" Hex Bolt (pl)
18	81626	1/2" x 2-3/4" Hex Bolt (pl) (8")
	81627	1/2" x 3" Hex Bolt (pl) (10")
19	81627	1/2" x 3" Hex Bolt (pl)
20	81637	1/2" Lock Washer (pl)
21	81636	1/2" Hex Nut (pl)
22	812364	1/2" Lock Nut (pl)
23	968811	1/4" x 1/4" x 2" Key (8")
	967044	3/8" x 3/8" x 3-3/8" Key (10")
24	81578	3/8" x 1-13/4" Hex Bolt (pl) (8")
	811791	1/2" x 2" Hex Bolt (pl) (10")
25	84000	3/8" Flat Washer (pl) (8")
	81638	1/2" Flat Washer (pl) (10")
26	81592	3/8" Hex Nut (pl)
27	961362	PTO Mount Weldment (8")
	961363	PTO Mount Weldment (10")
28	961364	PTO Arbor Shaft 1"Ø x 25" Long (8")
	961365	PTO Arbor Shaft 1-1/4"Ø x 25" Long (10")
29	961792	1" Pillow Bearing w/ Collar (8")
	973223	1-1/4" Pillow Bearing w/ Collar (10")
30	961366	20ga x 16-3/16" Arbor Shaft Shield (8")

Item	Part Number	Description
	961367	20ga x 12-3/4" Arbor Shaft Shield (10")
31	961368	Guard Weldment 10ga x 8" x 8"
32	961201	Flexible Guard 6" O.D. x 6-1/2" Long
33	961200	Guard Clamp 16ga x 1-1/4" x 21-1/2" Long
34	81552	5/16" x 1-1/4" Hex Bolt (pl)
35	81569	5/16" Lock Washer (pl)
36	81568	5/16" Hex Nut (pl)
37	81549	5/16" x 3/4" Hex Bolt (pl)
38	961369	12" Sheave Guard (8")
	961370	12" Sheave Guard (10")
39	961371	Guard Pivot Arm 13-3/4" Long
40	961372	Belt Tightener Bracket 54" x 6"
41	908702	Outer Tightener Tube 1-5/16" O.D. x 55" Long
42	961693	Inner Tightener Tube 1" O.D. x 42" Long
43	81553	5/16" x 1-1/2" Hex Bolt (pl)
44	961647	1/2" Tightener Screw
45	961375	Hanger Weldment (8")
	961376	Hanger Weldment (10")
46	961377	Hanger Swivel Shaft 1"Ø x 10-1/2" Long (8")
	961378	Hanger Swivel Shaft 1"Ø x 13" Long (10")
47	9812434	1/4" x 1-1/2" Cotter Pin (pl)
48	F0444	PTO Shaft (8")
	F0467	PTO Shaft (10")
49	961379	PTO Holder Weldment (8")
	961380	PTO Holder Weldment (10")
50	961381	PTO Holder Bracket (8")
	961382	PTO Holder Bracket (10")
51	12780	#7 Hair Pin Clip
52	961539	PTO Holder Pin 3/8"Ø x 4-1/2" Long
53	811792	3/8" x 1-1/2" Hex Bolt (pl)
54	81593	3/8" Lock Washer (pl)
55	961897	B-199 V-Belt (2/8" Auger & 3/10" Auger)
56	961383	Guard Holder Ring 4-1/2" O.D. x 5/8" Long
57	9812377	5/16" x 3/4" Square Head Set Screw (pl)
58	967488	3/8" x 2-3/4" Hex Bolt (pl)
59	968811	1/4" x 1/4" x 2" Key (8")
	961384	1/4" x 1/4" x 3-3/8" Key (10")
60	968811	1/4" x 1/4" x 2" Key (8")
61	81592	3/8" Hex Nut (pl) (8")
	81636	1/2" Hex Nut (pl) (10")
62	81553	5/16" x 1-1/2" Hex Bolt (pl)

Engine Belt Drive Assembly Drawing

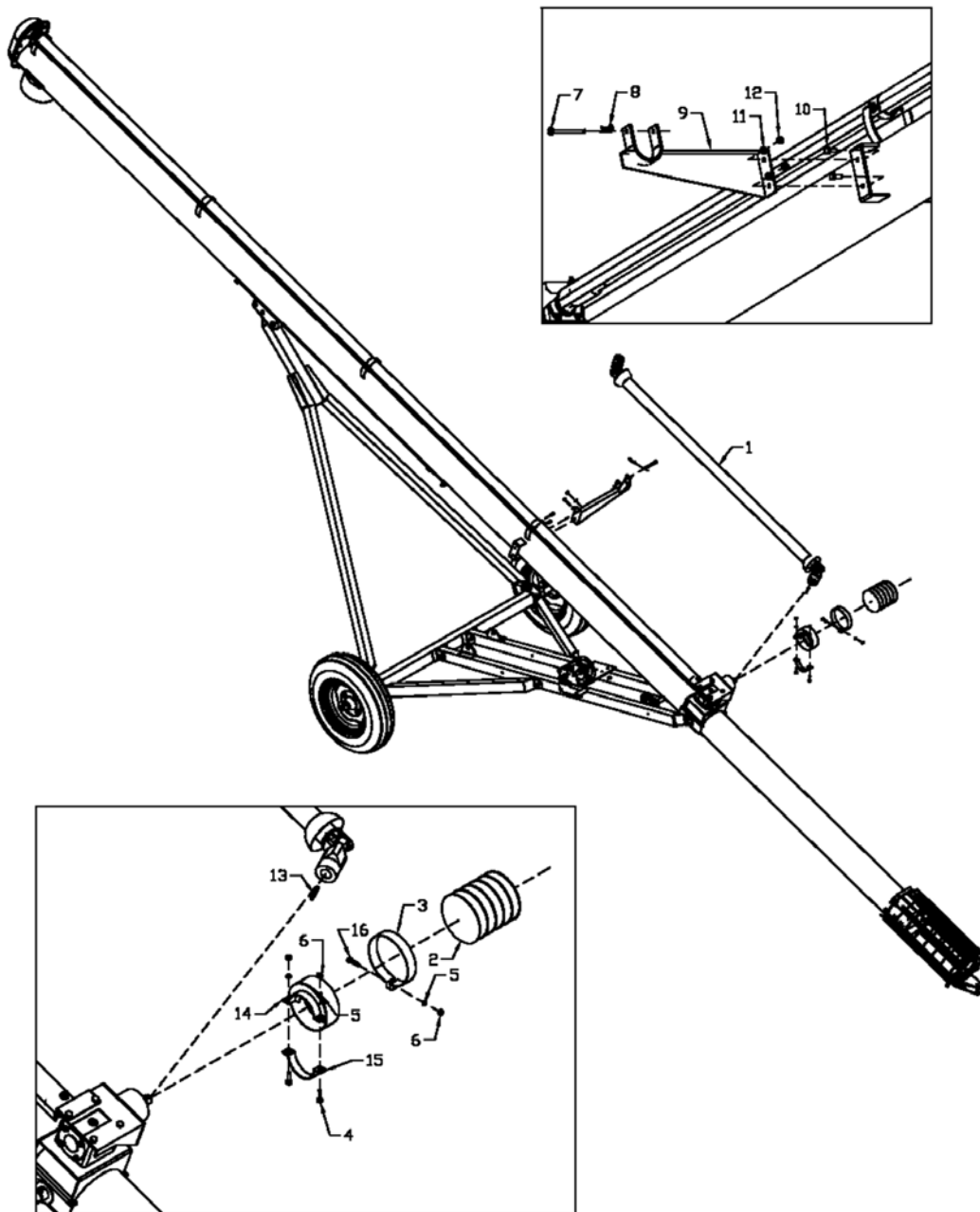


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Item	Part Number	Description
1	961369	12" Guard (8")
	961370	12" Guard (10")
2	961357	Guard Plate Weldment
3	961358	Guard Plate
4	961567	12" Double Sheave (1" Bore) (8")
	961187	12" Triple Sheave (1-1/2" Bore) (10")
5	961360	Guard Pivot Arm 10-3/4" Long
6	81523	1/4" x 1/2" Hex Bolt (pl)
7	81545	1/4" Lock Washer (pl)
8	81544	1/4" Hex Nut (pl)
9	86170	3/8" x 1" Hex Bolt (pl)
10	812363	3/8" Lock Nut (pl)
11	967488	3/8" x 2-3/4" Hex Bolt (pl) (8")
	81583	3/8" x 3" Hex Bolt (pl) (10")
12	968811	1/4" x 1/4" x 2" Key (8")
	967044	3/8" x 3/8" x 3-3/8" Key (10")
13	962066	Clamp Weldment
14	961896	Clamp (4" I.D.)
15	81552	5/16" x 1-1/4" Hex Bolt (pl)
16	81569	5/16" Lock Washer (pl)
17	81568	5/16" Hex Nut (pl)
18	961377	Hanger Swivel Shaft 1"Ø x 10 1/2" Long (8")
	961378	Hanger Swivel Shaft 1"Ø x 13" Long (10")
19	9812434	1/4" x 1-1/2" Cotter Pin (pl)
20	908702	Outer Tightener Tube 1-15/16" O.D. x 60" Long
21	961693	Inner Tightener Tube 1" O.D. x 36" Long
22	81627	1/2" x 3" Hex Bolt (pl) (10")
23	81626	1/2" x 2-3/4" Hex Bolt (pl) (8")
	81627	1/2" x 3" Hex Bolt (pl) (10")
24	812364	1/2" Lock Nut (pl)
25	961372	Belt Tightener Bracket 7ga x 4" x 6"
26	81592	3/8" Hex Nut (pl)
27	81213	3/8" x 1" Square Head Set Screw
28	961647	12" Tightener Screw
29	961375	Hanger Weldment (8")
	961376	Hanger Weldment (10")
30	81620	1/2" x 1-1/4" Hex Bolt (pl)
31	81637	1/2" Lock Washer (pl)
32	81636	1/2" Hex Nut (pl)
33	908010	Motor Mount Weldment
34	981601	7/16" x 2" Hex Bolt (pl)

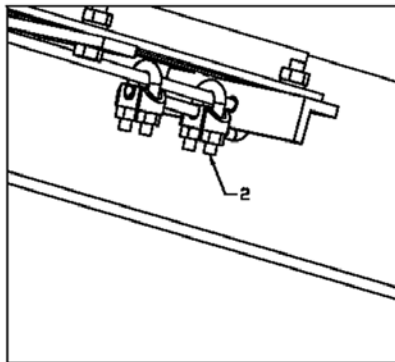
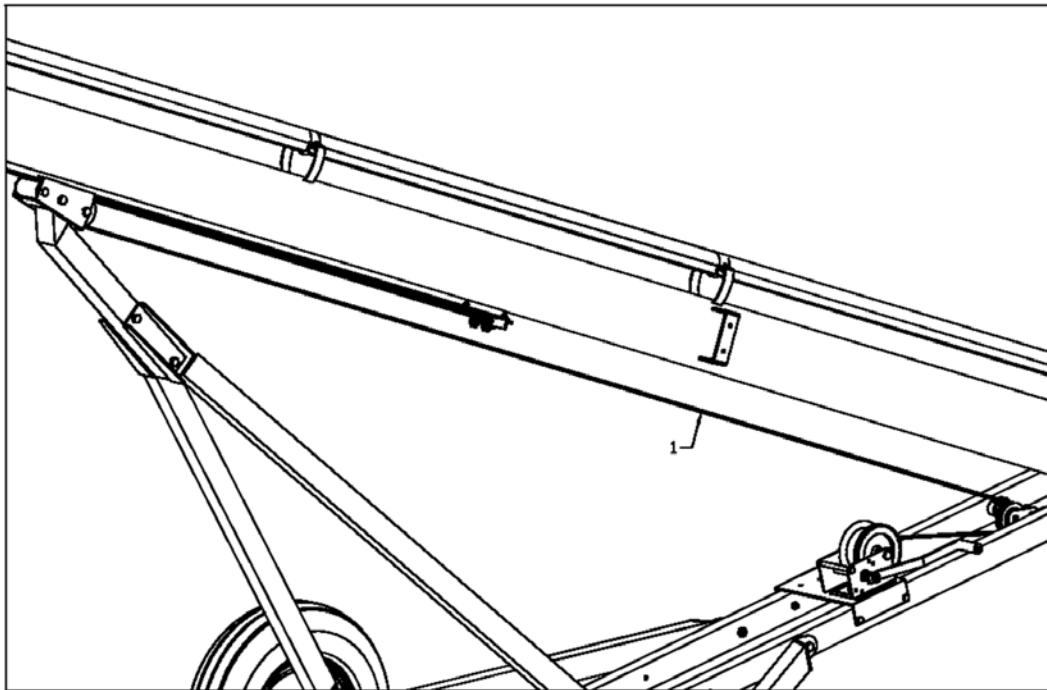
Item	Part Number	Description
35	86273	7/16" Lock Nut (pl)
36	961973	12" Adjusting Rod
37	961167	Motor Mount Guard Spacer 10" long
38	961166	Guard Mount
39	F889	3-1/2" Double Sheave 1" Bore (8")
		3-1/2" Triple Sheave (10") (By Customer)
40	961897	B-199 V-Belt (2/8" Auger & 3/10" Auger)
41	967488	3/8" x 2-3/4" Hex Bolt (pl)
42	961383	Guard Holder Ring 4-1/2" O.D. x 5/8" Long
43	9812377	5/16" x 3/4" Square Head Set Screw (pl)
44	961355	6" Sheave Guard (8")
	961356	6" Sheave Guard (10")
45	811852	3/4" Sq. Nut (pl)

Direct Drive Assembly Drawing



Item	Part Number	Description
1	F0444	8" PTO Shaft
	F0466	10" PTO Shaft
2	961201	6" Plastic Tube 6-1/2" Long
3	961200	6-1/4" x 1-1/4" Guard Clamp
4	81552	5/16" x 1-1/4" Hex Bolt (pl)
5	81569	5/16" Lock Washer (pl)
6	81568	5/16" Hex Nut (pl)
7	961539	3/8" x 4-1/2" Pin
8	12780	#7 Hair Pin Clip
9	961790	PTO Hanger
10	86170	3/8" x 1" Hex Bolt (pl)
11	81593	3/8" Lock Washer (pl)
12	81592	3/8" Hex Nut (pl)
13	968811	1/4" x 1/4" x 2" Key (8")
	968807	3/8" x 3/8" x 2" Key (10")
14	961202	PTO Guard Holder (w/ 4" I.D. Clamp)
15	961896	Clamp (4" I.D.)
16	81553	5/16" x 1-1/2" Hex Bolts (pl)

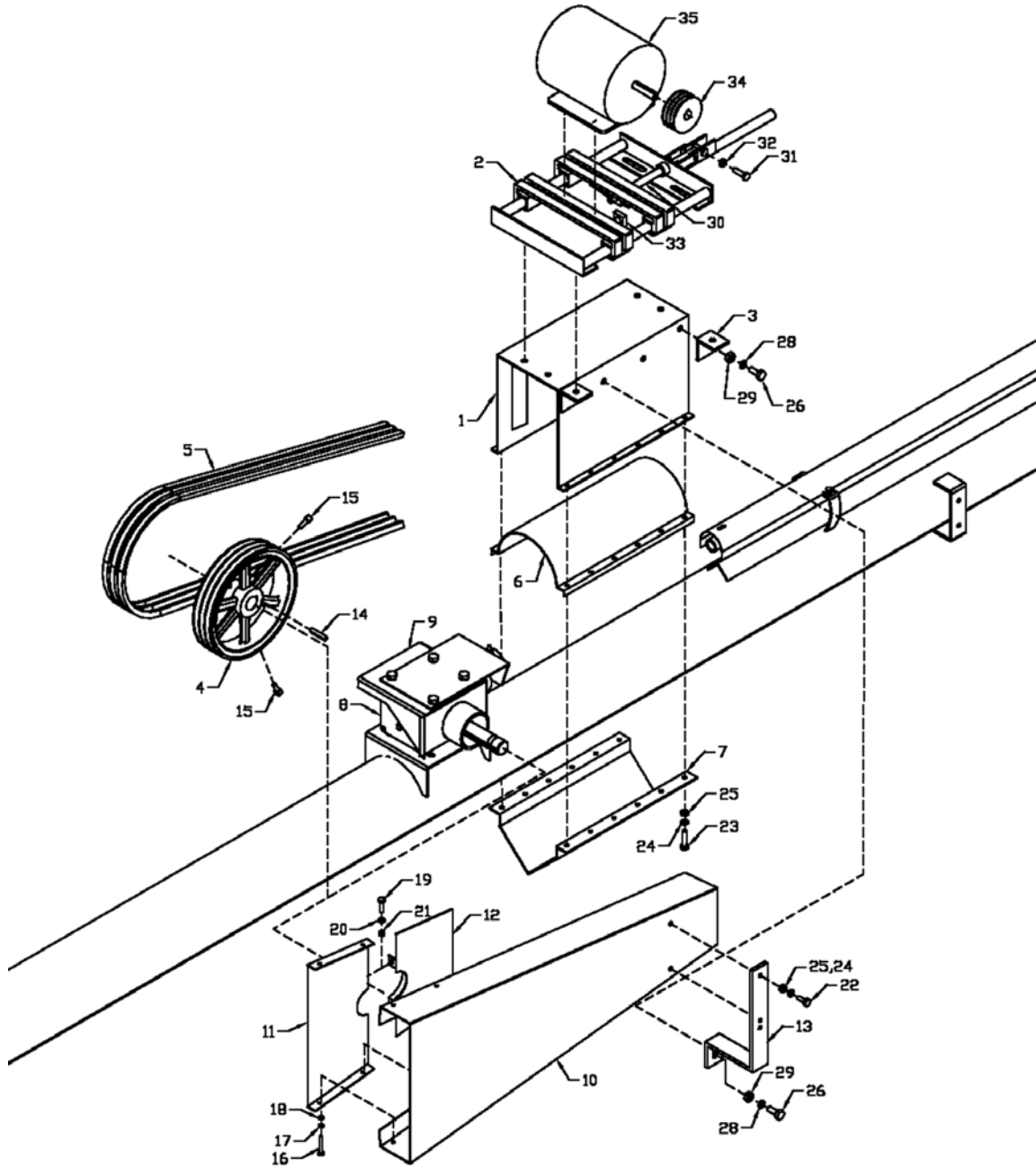
Cable Assembly Drawing



CA-07

Item	Part Number	Description
1	961641	1/4" Cable 23' Long (8")
	961140	5/16" Cable 23' Long (10")
2	961658	1/4" Cable Clamp (8")
	961763	5/16" Cable Clamp (10")

Clamp-on Motor Mount Drawing



CA-08

Item	Part Number	Description
1	961196	8" Motor Mount Stand
	961184	10" Motor Mount Stand
2	907360	Motor Mount Weldment
	907361	Motor Mount Assembly
3	961186	Angle Iron
4	961567	12" Double Sheave, 1" Bore - 8"
	961187	12" Triple Sheave, 1-1/2" Bore - 10"
5	973621	Belt B62 Match Pair (2 required) 8"
	973417	B-83 V-Belt (3 required) - 10"
6	961164	8" Round Clamp
	961191	10" Round Clamp
7	961165	8" V-Clamp
	961192	10" V-Clamp
8	961092	8" Gearbox
	BU50510	10" Gearbox
9	961347	8" Gearbox Plate
	961348	10" Gearbox Plate
10	F1870	Belt Guard (33" Long) - 8"
	F1871	Belt Guard (42 1/2" Long) - 10"
11	961159	8" Bolt-on Guard Insert
	961157	10" Bolt-on Guard Insert
12	961160	8" Clamp-on Guard Insert
	961158	10" Clamp-on Guard Insert
13	961162	Guard Bracket
14	968811	1/4" Sq. x 2" Key - 8"
	968807	3/8" Sq. x 2" Key - 10"
15	81213	3/8" x 1" Sq. Hd. Set Screw
16	81525	1/4" x 3/4" Hex Bolt
17	81545	1/4" Lock Washer
18	81544	1/4" Hex Nut
19	81552	5/16" x 1-1/4" Hex Bolt
20	81569	5/16" Lock Washer
21	81568	5/16" Hex Nut
22	86170	3/8" x 1" Hex Bolt
23	81578	3/8" x 1-3/4" Hex Bolt
24	81593	3/8" Lock Washer
25	81592	3/8" Hex Nut
26	81620	1/2" x 1-1/4" Hex Bolt
27	81638	1/2" Flat Washer
28	81637	1/2" Lock Washer
29	81636	1/2" Hex Nut

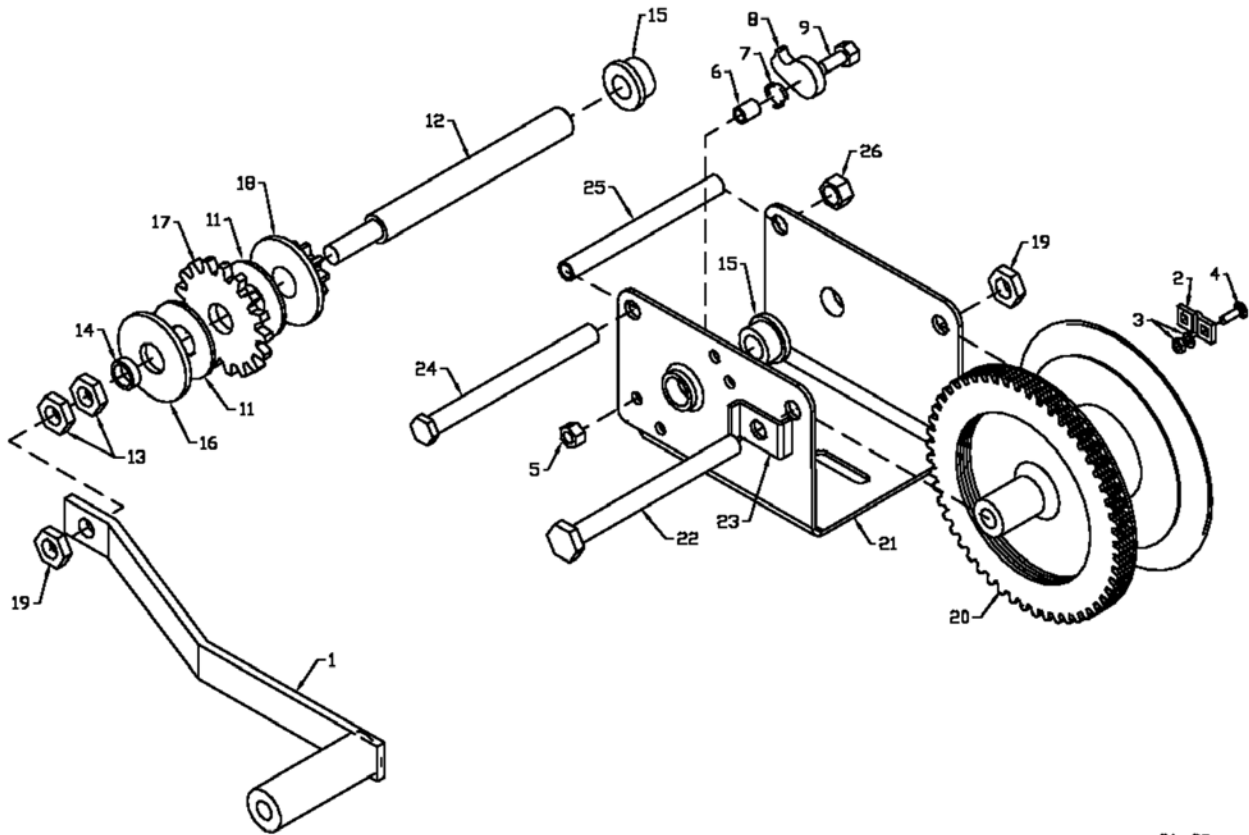
Item	Part Number	Description
30	961973	12" Adjusting Rod
31	981601	7/16" x 2" Hex Bolt
32	86273	7/16" Lock Nut
33	811852	3/4" Sq. Nut (pl)
34*		Motor Sheave (Supplied by Customer)
35*		Electric Motor (Supplied by Customer)

*See instructions for correct Sheave

Clamp-on Motor Mount Kit Instructions

1. The procedure for installing the kit is the same for belt drive or direct drive. Bolt the motor mount stand (#1) and the two clamps (#6) and (#7) together on the tube with 3/8" x 1-3/4" cap screws, lock washers and hex nuts. Bolt the angle irons (#3) to the side of the stand so they are flush with the top of the stand. **NOTE:** The angle irons and the two extra holes on the side of the stand near the center must be on the same side as the guard.
2. Bolt the electric motor (#34) to the motor mount and mount a sheave (#33) (both supplied by customer). Use a double sheave for 8" augers and a triple sheave for 10" augers. Do not tighten bolts until both sheaves are aligned. The electric motor must be a 1725 rpm. Motor sizes are: 8" x 31' = 7.5 hp; 10" x 31' = 10 hp. Sheave sizes are: Direct Drive = 3-1/2", Belt Drive = 6"
3. Mount the 12" sheave on the gearbox using key and set screws supplied (double sheave for 8" x 31' and triple sheave for 10" x 31'). After aligning the two sheaves with the auger tube, tighten motor mount bolts and sheave set screws. Mount belts on the pulleys. The motor mount handle acts as a belt tightener.
4. Bolt the guard insert (#11) to the belt guard (#10) using 1/4" x 3/4" cap screws, lock washers and hex nuts. The guard assembly is then clamped to the ring on the gearbox plate using clamp (#12) and 5/16" x 1-1/4" cap screws, lock washers and hex nuts. The other end of the guard is held on by a guard bracket (#13) which bolts to the guard using 3/8" x 1" bolts and to the motor mount stand (#1) using 1/2" x 1-1/4" bolt. Center the guard on the motor sheave before tightening bolts.

1550 Winch Drawing

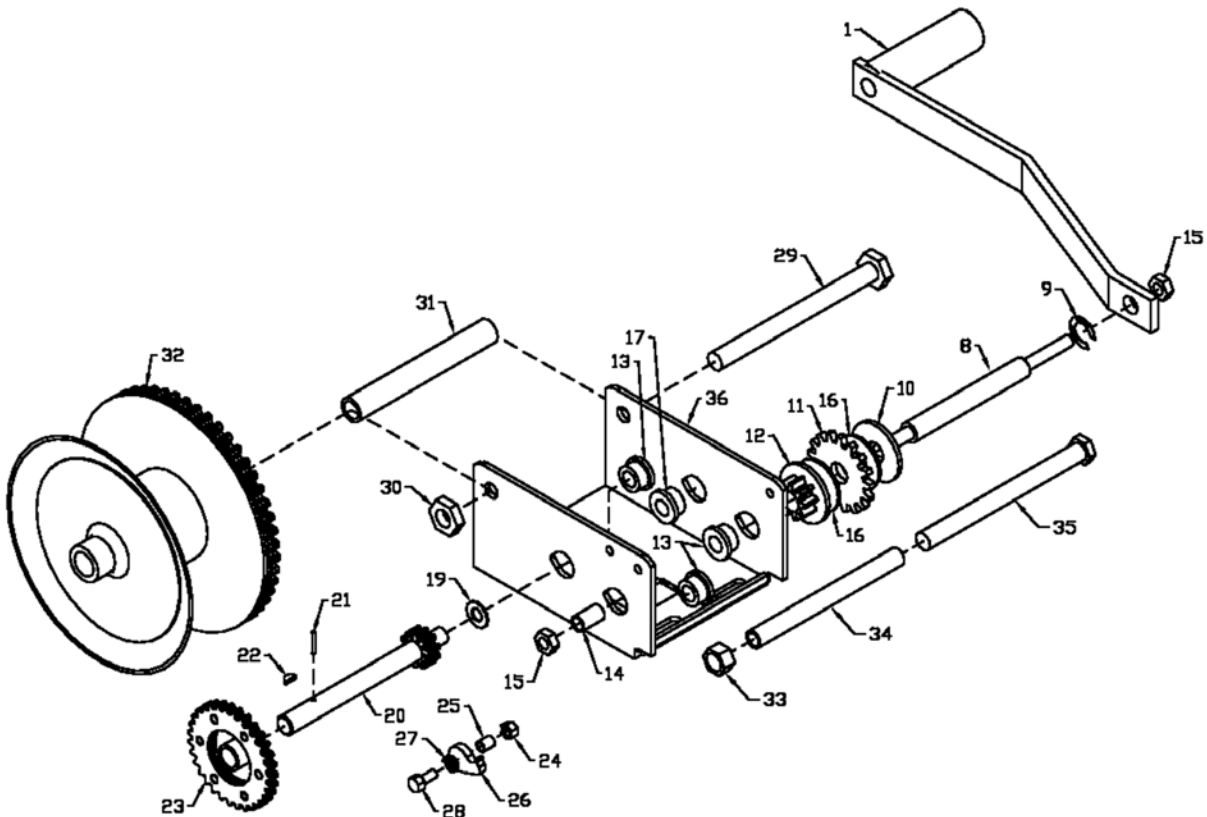


CA-25

Item	Part Number	Description
1	2461S01	Handle Assembly
	5621S01	Cable Keeper Kit
2		Cable Clamp
3		Lockwasher & Nut
4		Carriage Bolt
	6730S00	Ratchet Kit
5		5/16" Lock Nut
6		Ratchet Spacer
7		Ratchet Spring
8		Ratchet Pawl
9		Shoulder Bolt
11		Bushing
	1563S01	Input Shaft Kit
12		Input Shaft
13		1/2" Lock Nut
14		Spacer
15		Bushing
16		Shaft Brake Disc
17		Ratchet Gear
18		Pinion & Disc Assembly
19*		1/2" Lock Nut
20*		Drum Assembly
21*		Frame
22*		1/2" x 5-3/4" Cap Screw
23*		Drum Spacer
24*		3/8" x 5-3/4" Cap Screw
25*		Frame Spacer
26*		3/8" Lock Nut

*Not available

K2550 Winch Drawing



CA-26

Item	Part Number	Description
1	2461S01	Handle
	5621S01	Cable Keeper Kit
4		Bolt
5		Cable Clamp
6		Lockwasher
7		Nut
	1565S01	Input Shaft Kit
8		Input Shaft
9		Retaining Ring
10		Brake Disc
11		Ratchet Gear
12		Pinion Gear
13		Bushing
14		Spacer
15		Nut
16	1578S00	Friction Disc
	1569S01	Intermediate Shaft Kit
17		Bushing
19		Washer
20		Intermediate Shaft
21		Roll Pin
22		Woodruff Key
23		Gear
	6730S00	Ratchet Kit
24		Nut
25		Spacer
26		Ratchet Pawl
27		Spring
28		Shoulder Bolt

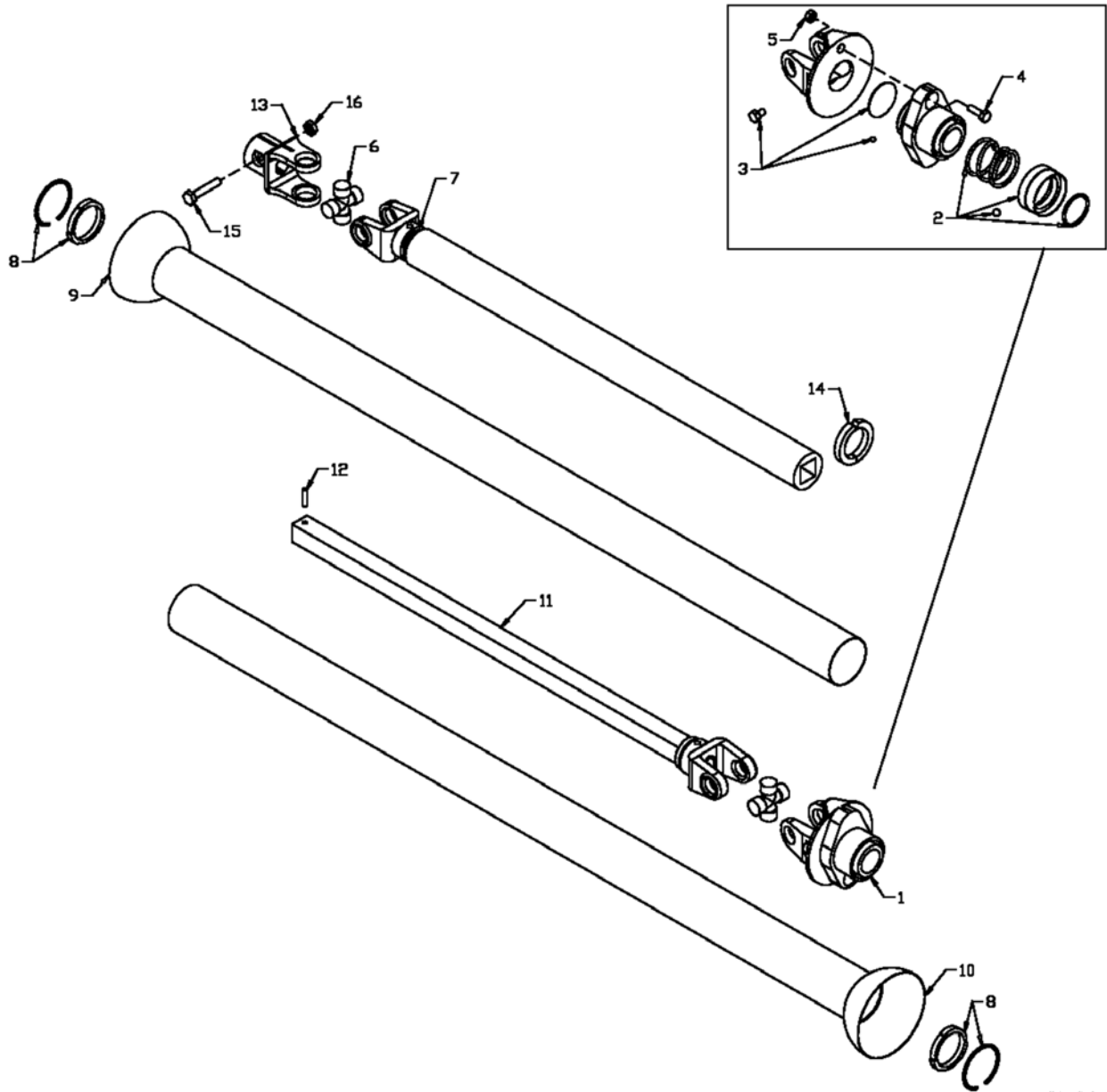
*Not available

29*		Drum Bolt
30*		Lock Nut
31*		Drum Spacer
32*		Drum Assembly
33*		Lock Nut
34*		Frame Spacer
35*		Bolt
36*		Frame

	906537	Bushing Kit
13		Bushing
17		Bushing

* Not available

PTO Assembly Drawing



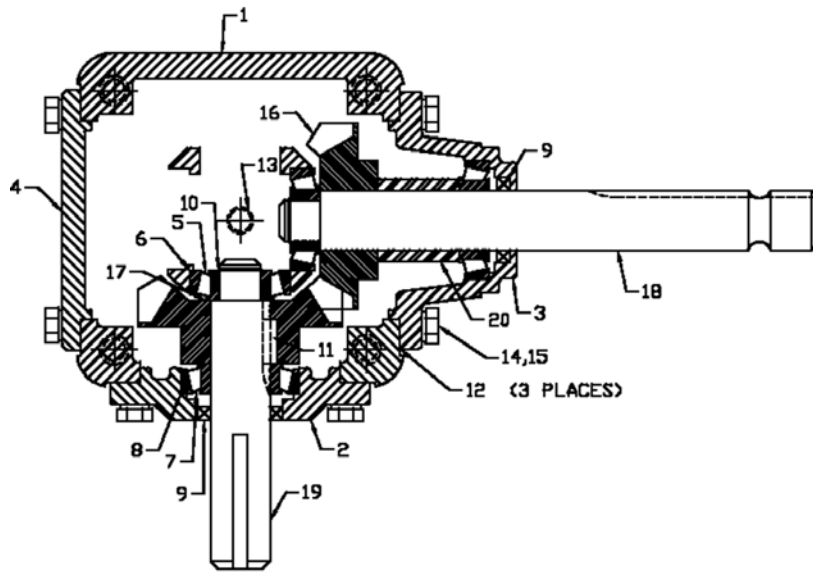
CA-27

Item	Part Number	Description
7" & 8" PTO Belt Drive and Direct Drive Assembly Parts List		
	F0444	Shaft Complete
	908953	Tractor Half of PTO (shear)
	908952	Implement Half of PTO
1	936308	Shear Assembly
2	936168	Spring-Lok Repair Kit
		(Collar, Spring, Ret. Ring, 2 - 3/8" Balls)
3	936248	Shear Assembly Repair Kit
		(3/8" x 1/2" Bolt, Blank, 24 - 1/4" Balls)
4	812026	5/16" x 1" Shear Bolt (Grade 5) - one required
5	812362	5/16" Lock Nut
6	936079	Repair Kit
7	936309	Yoke & Tube
8	936387	Bearing & Snap Ring Kit
9	908951	Inner Guard
10	907399	Outer Guard
11	936314	Yoke & Shaft
12	936315	1/4" x 1" Roll Pin
13	936374	Clamp Yoke
14	936316	Shield Bearing
15	811795	3/8" x 2" Hex Bolt
16	812363	3/8" Lock Nut

Item	Part Number	Description
10" & 13" PTO Belt Drive Assembly Parts List		
	F0467	Shaft Complete
	908960	Tractor Half of PTO (Shear)
	908959	Implement Half of PTO
1	936324	Shear Assembly
2	936168	Spring-Lok Repair Kit (Collar, Spring, Ret. Ring, 2-3/8" Balls)
3	936248	Shear Assembly Repair Kit (3/8" x 1/2" Bolt, Blank, 24-1/4" Balls)
4	86170	Shear Bolt - 3/8" x 1" (Gr.5)
5	812363	3/8" Lock Nut
6	936093	Repair Kit
7	936325	Yoke & Tube
8	936320	Nylon Bearing Repair Kit
10	908956	Inner Guard
11	908397	Outer Guard
12	936329	Yoke & Shaft
13	936315	Roll Pin (1/4" x 1")
14	936262	Clamp Yoke
15	936316	Shield Bearing
16	81628	1/2" x 3-1/4" Hex Bolt
17	812364	1/2" Lock Nut

Item	Part Number	Description
10" & 13" PTO Direct Drive Assembly Parts List		
	F0466	Shaft Complete
	908960	Tractor Half of PTO (shear)
	908958	Implement Half of PTO
1	936324	Shear Assembly
2	936168	Spring-Lok Repair Kit (Collar, Spring, Ret. Ring, 2-3/8" Balls)
3	936248	Shear Assembly Repair Kit (3/8" x 1/2" Bolt, (Grade 5) - one required
4	86170	3/8" x 1" Shear Bolt (Grade 5) - one required
5	812363	3/8" Lock Nut
6	936093	Repair Kit
7	936325	Yoke & Tube
8	936320	Nylon Bearing Repair Kit
9	908956	Inner Guard
10	907397	Outer Guard
11	936329	Yoke & Shaft
12	936315	1/4" x 1" Roll Pin
13	936376	Clamp Yoke
14	936316	Shield Bearing
15	81628	1/2" x 3-1/4" Hex Bolt
16	812364	1/2" Lock Nut

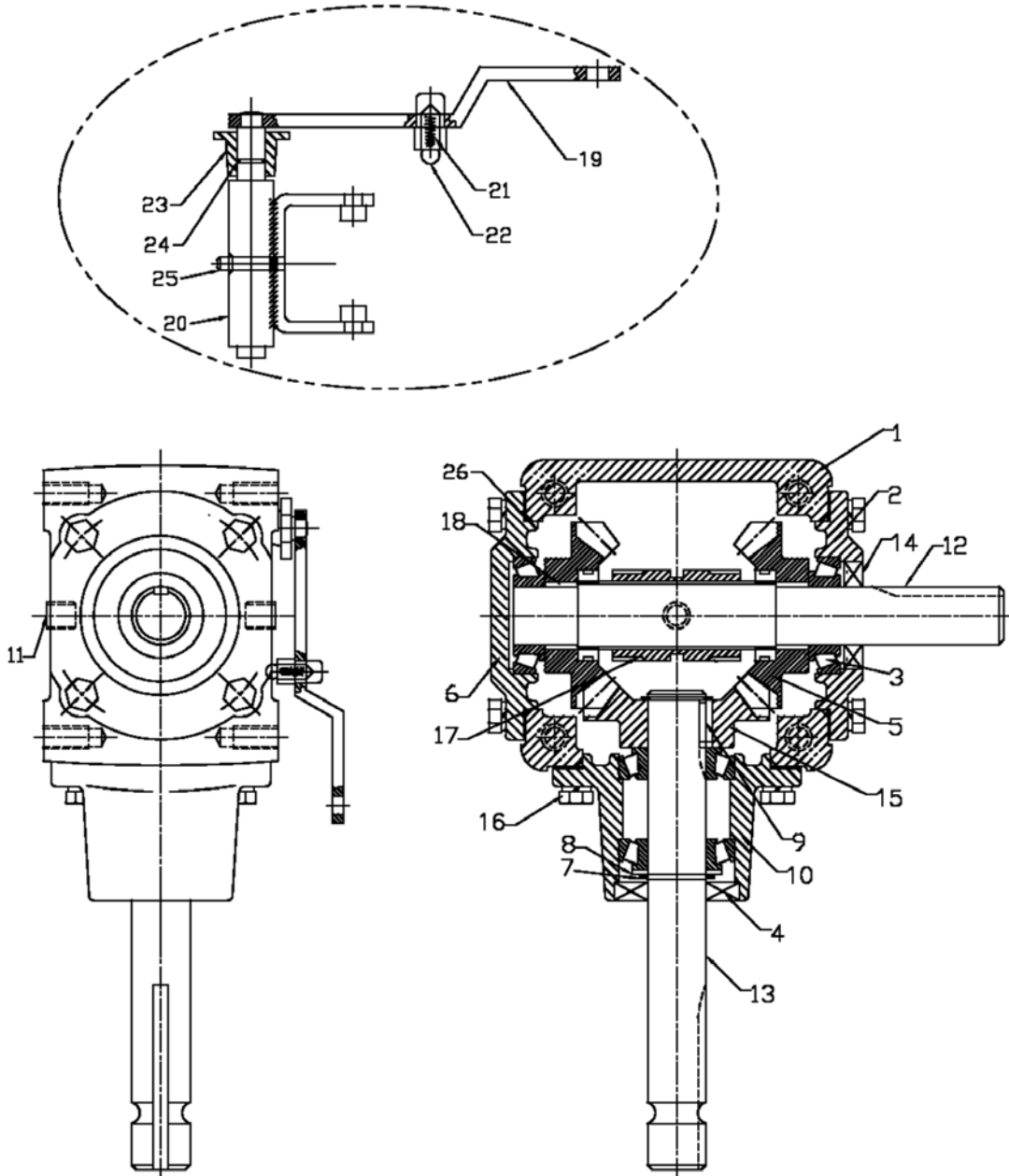
8" Gearbox Drawing



CA-28

Item	Part Number	Description
	961092	Gearbox Complete
1	961315	Housing
2	961316	Bearing Cap
3	961317	Bearing Cap
4	961318	Cover Cap
5	93020	Bearing Cone (LM11749)
6	93019	Bearing Cup (LM11710)
7	966776	Bearing Cone (I44643)
8	966777	Bearing Cup (L44610)
9	961319	Seal (Nat. #470553)
10	961320	Retainer
11	961321	Key 1/4" sq. x 3/4" long
12	961322	Shim .005 A/R, Shim .0075 A/R, Shim .020 A/R
13	960818	Pipe Plug, 1/4" NPT
14	81549	5/16" x 3/4" Hex Bolt
15	81569	5/16" Lock Washer
16	961323	Gear, 90 degree Bevel, 19T
17	961324	Shim, Bearing Spacer
18	961325	Shaft
19	961326	Shaft
20	961327	Spacer Bearing

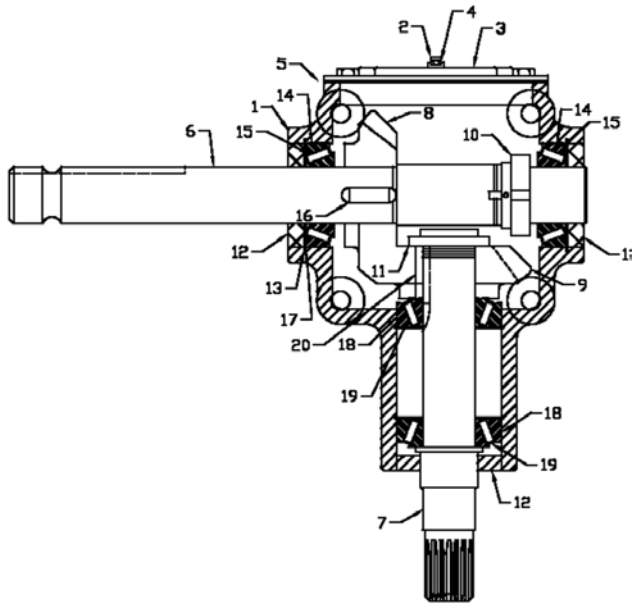
8" Reverse Gearbox Drawing



CA-30

Item	Part Number	Description
	961085	Gearbox Complete
1	906670	Case
2	906671	End Cap
3	966777	Bearing (L44643&L44610)
4	906673	Seal
5	906672	Gear
6	961316	End Cap
7	906674	Snap Ring
8	906675	Shim
9	961321	Key
10	906676	Quill
11	906677	3/8" NPT Solid Plug
12	906678	Output Shaft
13	906679	Input Shaft
14	961319	Seal
15	906680	Input Gear
16	906681	Cap Screw, 3/8" UNC x 3/4
17	906682	Dog
18	906683	Bronze Bushing
19-25	906684	Complete Lever Assembly
26	907450	O-Ring

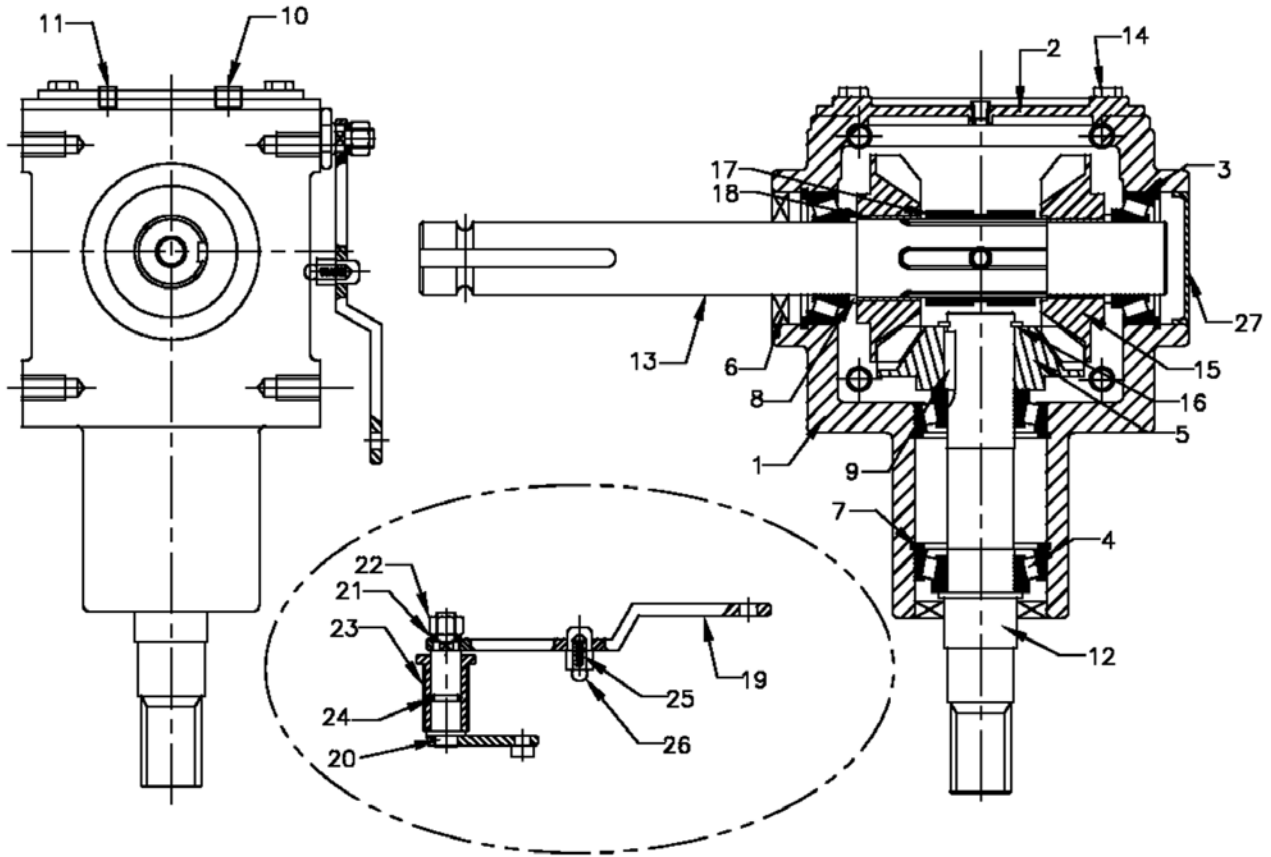
10" Gearbox Drawing



CA-29

Item	Part Number	Description
	BU50510	Gearbox Complete
1	BU50310	Gearbox Casting Only
2	BU500089-3	Pipe Plug
3	BU50457	Gearbox Cover
4	BU500167-1	Relief Valve
5	BU50458	Gearbox Gasket
6	BU50509	Cross Shaft
7	BU50502	Pinion Shaft
8	BU50329	Bevel Gear 1-1/2" B
9	BU50331	Bevel Gear 1-3/8" B
10	BU50428	Adjusting Nut
11	BU50444	Adjusting Nut
12	BU50422-1	Oil Seal (3 used)
13	BU50415	Retainer Ring (4 used)
14	BU575902	Bearing Cup (2 used)
15	BU575901	Bearing Cone (2 used)
16	BU50429	Key
17	BU50210X	Shim Set
18	BU575907	Bearing Cup (2 used)
19	BU575906	Bearing Cone (2 used)
20	BU50417-1	Key

10" Reverse Gearbox Parts List



CA-31

Item	Part Number	Description
	961086	Gearbox Complete
1	906690	Case
2	906691	End Cap
3	906692	Bearing (13620 & 13687)
4	906693	Bearing (14276 & 14137)
5	906694	Gear
6	906695	Seal
7	906696	Snap Ring
8	906697	Shim
9	906698	Key
10	906699	ZG 1/8" - 27 Vent Plug
11	906700	3/8" NPT Solid Plug
12	906701	Output Shaft
13	906702	Input Shaft
14	906703	Bolt 5/16" UNC x 3/4"
15	906704	Gears
16	906705	Snap Ring
17	906706	Dog
18	906707	Bronze Bushes
19-26	906708	Complete Lever Assembly
27	907453	Stamping Cap

Shipping Kit and Bundle Numbers

The following is a list of Kit Numbers for this product and the Bundle Numbers, Descriptions, and Quantities for each Kit.

Quantity	Bundle Number	Description
----------	---------------	-------------

C831E - 8" x 31' Engine Belt Drive Augers		
1	F8800	Basic Auger, 8" x 31'
1	F0712	Undercarriage & Axle
1	F8822	Lift Arms
1	F0725	Crate of Parts

C831P - 8" x 31' PTO Belt Drive Augers		
1	F8800	Basic Auger, 8" x 31'
1	F0712	Undercarriage & Axle
1	F8822	Lift Arms
1	F0726	Crate of Parts

C831D - 8" x 31' PTO Direct Drive Augers		
1	F8801	Basic Auger, 8" x 31'
1	F0712	Undercarriage & Axle
1	F8822	Lift Arms
1	F0727	Crate of Parts

C1031E - 10" x 31' Triple Engine Belt Drive Augers		
1	F9900	Basic Auger, 10" x 31'
1	F0719	Undercarriage & Axle
1	F9911	Lift Arms
1	F0763	Crate of Parts

C1031P - 10" x 31' PTO Triple Belt Drive Augers		
1	F9900	Basic Auger, 10" x 31'
1	F0719	Undercarriage & Axle
1	F9911	Lift Arms
1	F0762	Crate of Parts

C1031D - 10" x 31' PTO Direct Drive Augers		
1	F9900	Basic Auger, 10" x 31'
1	F0719	Undercarriage & Axle
1	F9911	Lift Arms
1	F0761	Crate of Parts

Optional Bundle Numbers

The following is a list of options available for the Kits listed above.

Quantity	Bundle Number	Description
1	F3003	8" Flexible Spout (galvanized)
1	F3004	10" Flexible Spout (galvanized)
1	F213	8" Poly Spout
1	F214	10" Poly Spout
1	F210	Standard Flex Hopper
1	F211	Big Daddy Hopper
1	F890	Battery Box
1	F0013	Reflective Safety Decal Kit
1	Y0017	Safety Light Kit

Y0064 - 8" Clamp-on Motor Mount Kit		
1	F0588	8" Clamp-on Motor Mount Bundle
1	F1867	Carton of Parts
1	F1870	Belt Guard

Y0067 - 10" Clamp-on Motor Mount Kit		
1	F0589	10" Clamp-on Motor Mount Bundle
1	F1869	Carton of Parts
1	F1871	Belt Guard

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.

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