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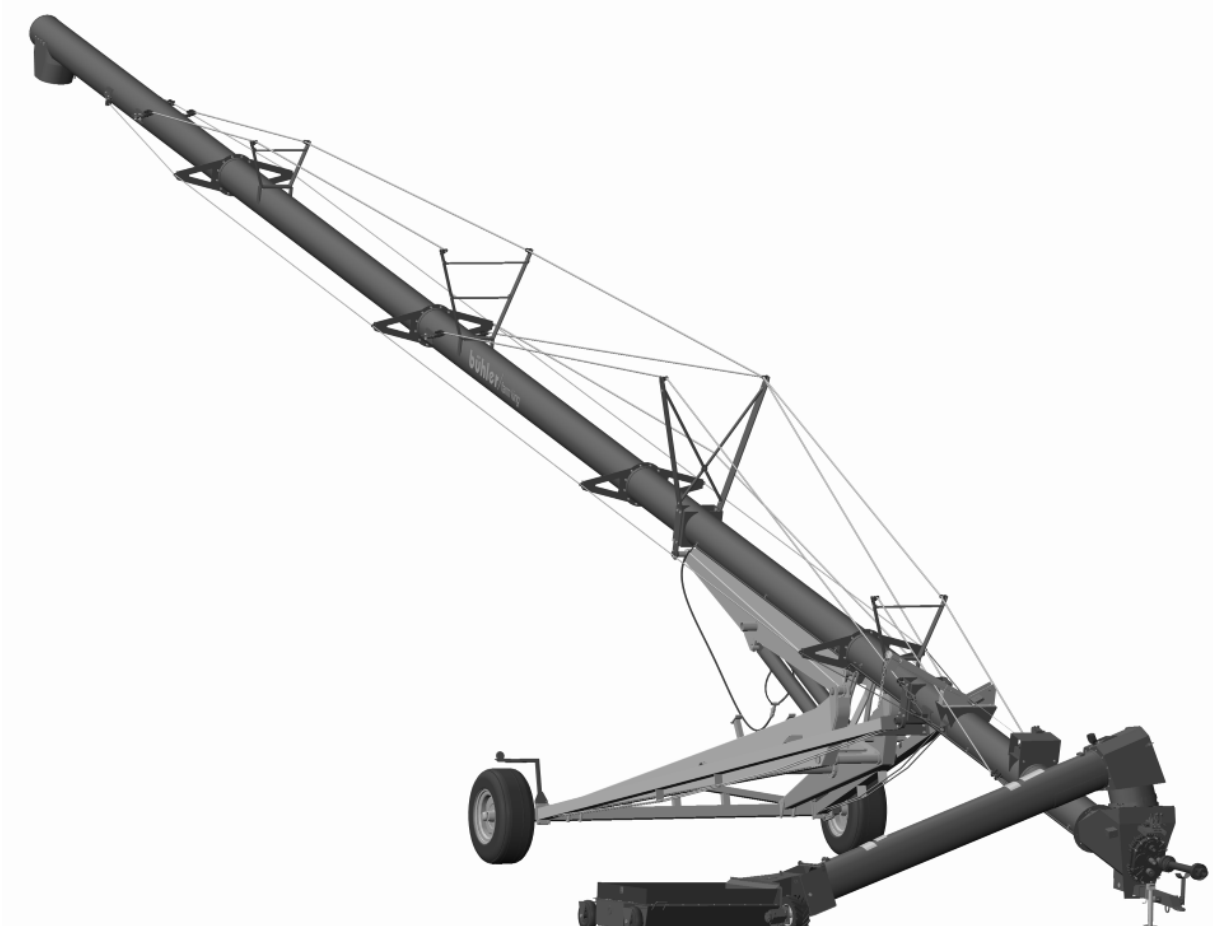

# 16" x 104' Backsaver Auger

Operator's and Parts Manual
FK370

2006

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# WARRANTY POLICY

Buhler Manufacturing products are warranted for a period of twelve (12) months (90 days for commercial application) from original date of purchase, by original purchaser, to be free from defects in material and workmanship under correct, normal agricultural use and proper applications.

**Buhler Manufacturing’s obligations under this warranty shall be limited to the repair or exchange, at Buhler Manufacturing’s option, of any Buhler Manufacturing product or part which proves to be defective as provided. Buhler Manufacturing reserves the right to either inspect the product at the buyer’s location or have it returned to the factory for inspection.**

The above warranty does not extend to goods damaged or subject to accident, abuse or misuse after shipment from Buhler Manufacturing’s factory, nor to goods altered or repaired by anyone other than an authorized Buhler Manufacturing representative.

Buhler Manufacturing makes no Express Warranties other than those, which are specifically described. Any description of goods, including any references and specifications in catalogues, circulars and other written material published, is for the sole purpose of identifying goods and shall conform to such descriptions. Any sample or model is for illustrative purposes only and does not create an Express Warranty that the goods conform to sample or model shown.

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 Manufacturing 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.

WARRANTY CLAIMS:
**Warranty requests must be prepared on Buhler Manufacturing 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 Manufacturing. The labor rate for replacing defective parts, where applicable, will be credited at 100% of the dealer’s posted shop rate. Defective parts will receive an extra 10% discount to assist with freight or other incidental costs.

**GOVERNMENT LEGISLATION:**
Warranty terms and conditions are subject to Provincial or State legislation.

**IMPORTANT FACTS:**
**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**

**IMPORTANT NOTE:**
**This warranty does not apply to rentals.**

## SAFETY INSTRUCTIONS

The safety of the operator of any piece of equipment is of prime importance to the manufacturer and the following precautions should be taken when operating, starting or doing any maintenance work on this auger.

Read and understand the operator’s manual before operating.

Always transport the auger in the down position carrying the weight of the auger on the undercarriage itself and not the hydraulic cylinder and hose.

Take extreme caution in maneuvering on or around tight corners so as not to catch the end on trees and buildings, etc.

When moving the auger on a road use the light kit supplied with the auger.

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.

Empty auger before moving, to prevent upending.

16” Auger must be attached to the drawbar of the tractor at all times during operations. This is done to prevent possible upending as the last part of the product moves to the upper end of the auger.

Keep hands, feet and clothing away from exposed flighting and all moving parts. Do not allow children or anyone other than the operator close to the auger when in operation. Make certain everyone is clear before operating or moving machine.

Before attempting to service, adjust or unclog an auger, disengage drive and shut off tractor.

As a precaution, when storing the auger, park it on level ground so that the bottom end will never be over its center of gravity.

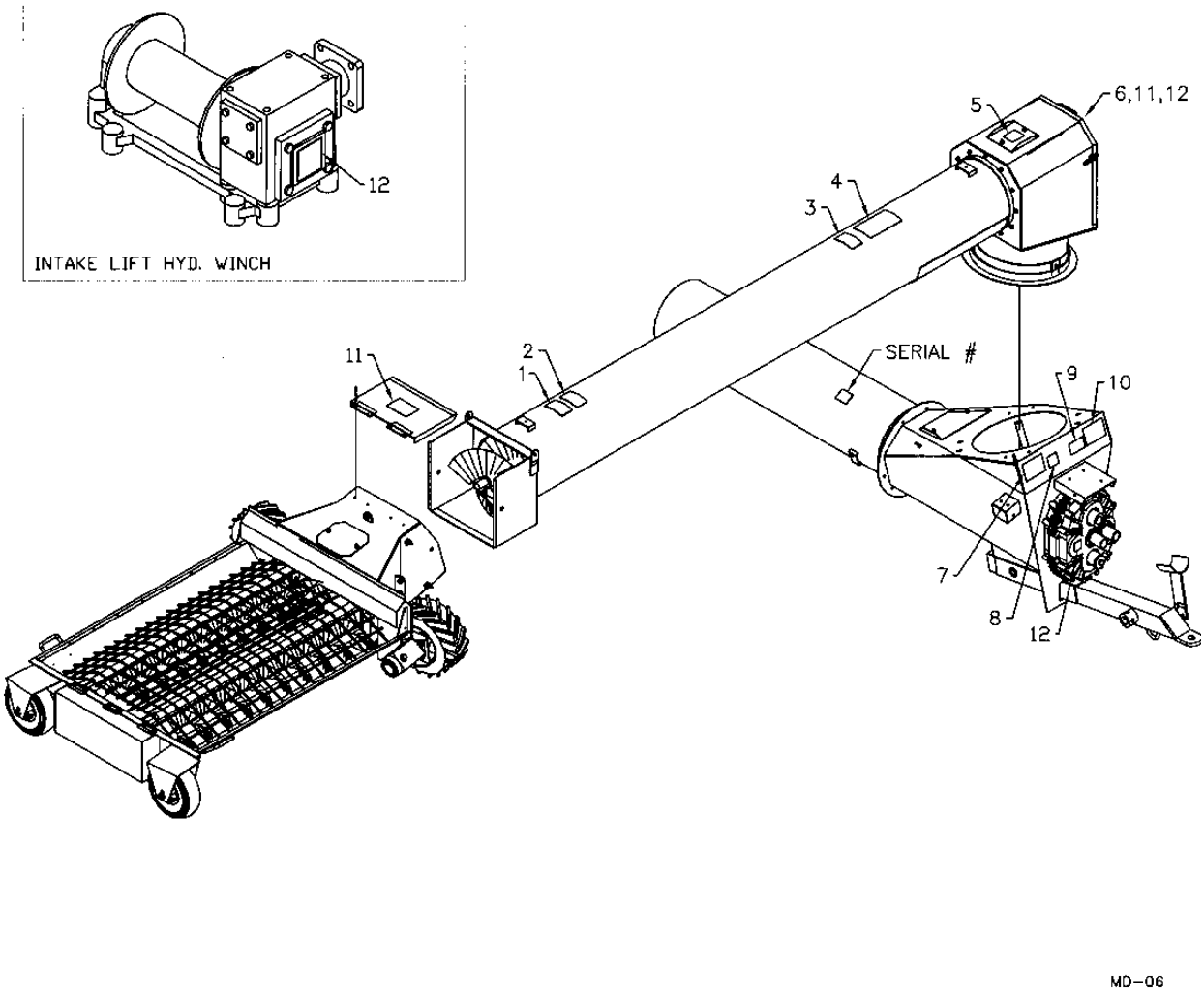
When storing auger be sure to block the wheels so that there is no chance of auger moving and tearing jack from its moorings.

Check to see that the bolts and lock nuts that clamp the PTO to the bottom of the auger flighting are in place and firmly tightened every time you are preparing to use the auger.

Keep all safety shields and devices in place.

Do not operate hydraulic cross auger when it is folded in transport position.

## 13” AUGER SAFETY SIGNS




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

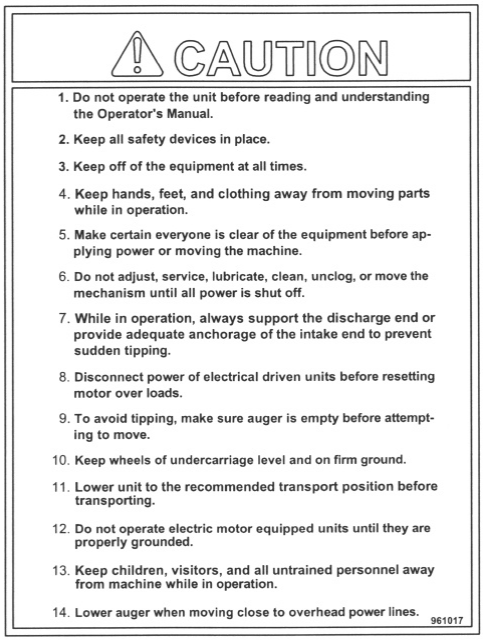
#1

#2

## 13” AUGER SAFETY SIGNS – cont’d.

#3

#5

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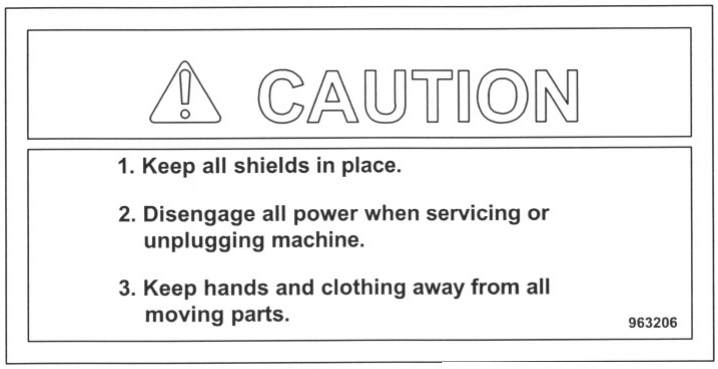


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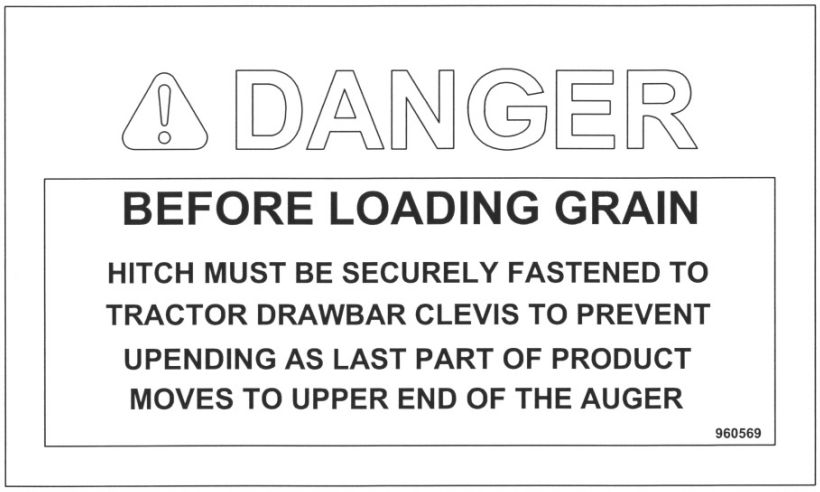


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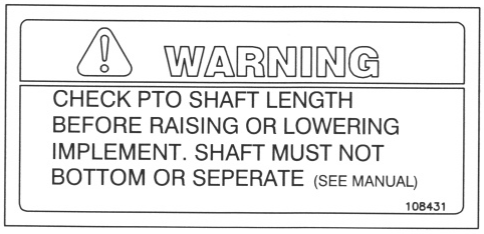
## 13” AUGER SAFETY SIGNS – cont’d.

#8

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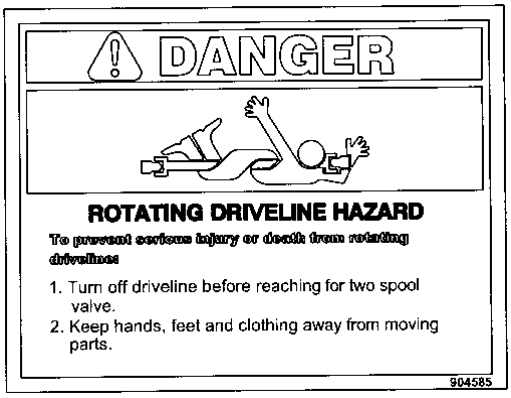



#10

#11

#12

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

Run auger partially full until flighting becomes polished.

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 or to the bin. The auger should be firmly attached to the drawbar of the tractor at all times during operation.

⚠ **ALERT:** Never place blocks under the wheels to increase the elevation of the 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 intake auger swivels freely on the top of the input box. It can be positioned anywhere between the tractor and the side of the auger.

⚠ **ALERT:** 16" Augers are designed for PTO drive tractors with1000 rpm only. Maximum capacity will be attained while running the main auger at or near 1000 rpm.

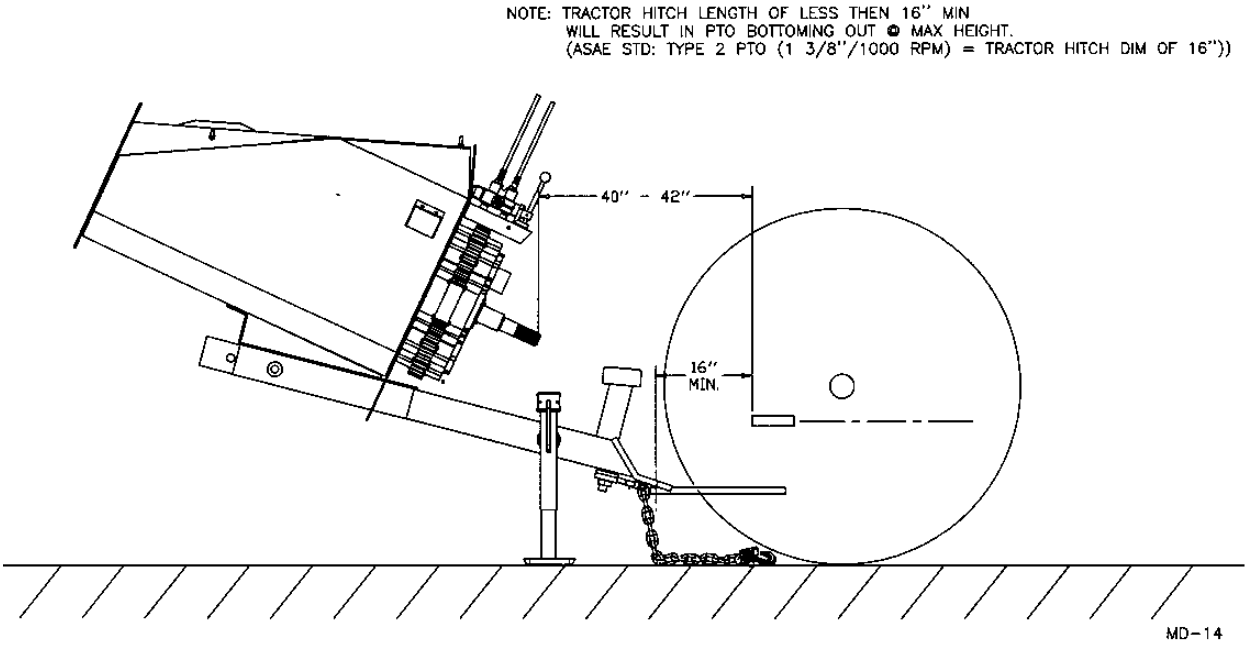
The auger uses a hydraulic winch to lift the intake auger. Never have less than three wraps of cable on the drum of the winch.

⚠ **ALERT:** Never operate the hydraulic winch or the hopper mover when the PTO shaft is engaged.

A two-spool valve assembly on the back of the input box controls both the hopper mover and the hydraulic winch. See drawing for proper hose plumbing.

## OPERATING INSTRUCTIONS - CONT'D.

⚠ **ALERT:** Always maintain at least a 4” lap on the PTO shields. Be sure they turn freely and make certain everyone stands clear of the tractor, PTO shaft, and auger before engaging power take-off. Be sure ends are securely connected to the auger and tractor.




The distance between the tractor and the auger stubs should be between 40” and 42” with the tractor and auger on level ground and the auger in full down position. This distance is obtained by either adjusting the tractor hitch, the auger hitch or both.

Before engaging power take-off, start tractor and idle engine. Engage power take-off slowly and bring PTO rpm up to recommended speed of 1000 rpm for 16" augers.

Before stopping auger (except in an emergency) let all grain empty out of the auger, idle engine then disengage power take-off. Shut off tractor.

⚠ **ALERT:** Do not use the reverse kit to attempt to unplug the auger. The reverse kit is designed to be used for **CLEAN-OUT ONLY!**

⚠ **ALERT:** When auger is left in raised position over night, close the ball valve on the hydraulic line to the cylinder. This will prevent the auger from lowering, due to hydraulic leakage, and avoid possible damage.

The hydraulic winch is designed to lift an empty intake auger only. Clean out hopper before attempting to lift with the winch. Do not lift the main auger any higher than 35 degrees before lowing the intake auger. There will be interference between the intake auger and the input box if you go any higher.

## OPERATING INSTRUCTIONS - CONT'D.

One-way flow control valve can be adjusted by loosening the hex nut on the side, and turning on the screw with the machined end. Turning the screw in decreases the speed the auger lowers, while turning it out increases the speed. The approximate initial setting should be 3 ½ turns out from the tight position. When set, re-tighten hex nut to set position. **NOTE**: Be sure that the valve is somewhat open before raising the first time or auger will not lower.

Be sure there is always some tension on the flighting by adjusting the end thrust bearing at the upper end of the auger.

**ALERT:** Always lower auger before transporting and allow the weight of the auger to rest on the undercarriage and not the hydraulic cylinder.

Be certain to turn jack sideways when towing auger.

**ALERT:** Disconnect the PTO shaft from the tractor and pin it in place in the PTO holder when towing or maneuvering the auger. This will prevent possible damage to the PTO shaft during cornering.

**ALERT:** If the PTO shaft angle exceeds 50° during a tight turn, the constant velocity joints will be fractured and will likely fail shortly thereafter during operation.

PTO shear bolts (2 required) – 3/8" x 1" hex bolt (grade 8)

**ALERT:** When towing the auger, never exceed 32 kilometers per hour.

This 16” auger has a total weight of about 13,000 pounds and a hitch weight of about 2,700 pounds. You must have a vehicle rated for this amount of weight to transport this auger.

## MAINTENANCE & LUBRICATION

Check condition of winch cable regularly. Be sure it is lubricated. Replace cable if you notice any broken strands.

Check to see that there is no downward bow in the main tubes at the start of every augering season. Re-tension cables if required as per the assembly instructions. This should also be checked immediately after hauling the auger for a long distance.

Use a high temperature grease for all lubrication.

Lubricate the PTO shaft as per instruction sheet.

Check grease on end thrust bearing to be sure it is running smoothly and freely. Remove cap and grease at the start of every season.

Check hydraulic lines frequently for leaks or damage.

Grease universal joint in intake auger after every eight hours of use.

Grease the U-joint connecting the two gearboxes about every 8 hours. Do regular checks on the oil level in the gearboxes. Fill if necessary to the height of the side plug using SAE 90 oil. Because the gearbox runs in the grain, it is difficult to see any oil leaks so regular checks should be done. The reducer gearbox requires a 75W – 90 synthetic oil.

⚠ **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.

## STORAGE

The auger should be stored in a dry place if possible. If stopped outside, lower auger to its lowest position and block up the wheels so auger will not move.

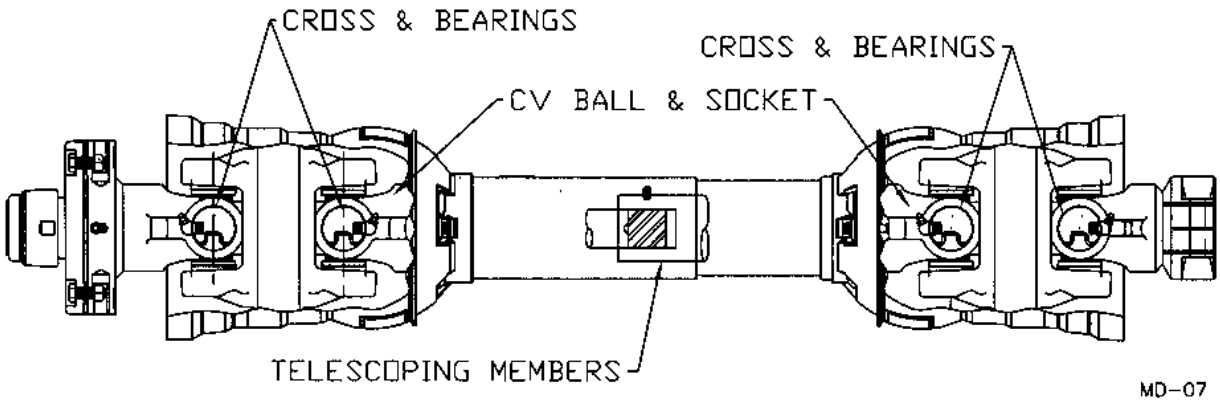
Clean auger thoroughly as dirt draws moisture and causes metal to rust. If the auger has been used to move fertilizer, clean thoroughly and apply oil or grease on entire flighting and inside the housing to stop and prevent further corrosion.

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 all bolts and set screws.

## RECOMMENDED CUSTOMER GREASING PROCEDURE FOR 50 DEGREE DOUBLE C.V. PTO




A general purpose grease may be used. However, a grease containing 3% molybdenum disulfide will allow the lube intervals to be extended to twice as long as that listed. The first lube interval should be 16 – 24 hours of operation after initial start-up; then follow the schedule below. Constant angle applications must have a lube interval of 4 hours.

### LUBE RECOMMENDATIONS

| INTERVAL | LOCATION | AMOUNT |
|---|---|---|
| 8 hrs. | Cross & Bearings | 1 pump |
| 8 hrs. | Telescoping Members | 4-8 pumps (until grease comes out of end) |
| 8 hrs. | CV Ball & Socket | 1-2 pumps |

Greases containing various percentages of moly. are available as extreme pressure greases. Please note that all E.P. greases do not contain moly so some investigation may be necessary. The following greases all contain 3% moly: Mobile Oil Company, “Mobile Grease CMP”; Shell Oil Company, “Retinax AM”; and Texaco, “Molytex EP (#0) and (#2)”.

## ASSEMBLY INSTRUCTIONS

The assembly of this 16” auger will require a 3 ton overhead crane and a forklift. Many of the components are very heavy so they cannot be maneuvered into place without this equipment.

1. Start the assembly by assembling the entire lift system. With the axle weldment (page 22, #7) turned as shown. Bolt on the stub axles (page 22, #58) using ¾” x 2 ¼” hex bolts, lock washers and hex nuts. Mount the wheel and the tire assemblies (page 22, #48) using 5/8” x 2 ½” wheel bolts.

⚠ **ALERT:** Do not tighten any hardware for the rest of the lift assembly.

2. Mount the left hand undercarriage arm (page 22, #1) to the welded plate on the axle using ¾” x 2 ½” hex bolts, lock washers and hex nuts. Next attach the left hand lower lift arm (page 22, #9) with a 1 ¼” x 7 1/8” pin (page 22, #11) and a ¼” x 1 ¾” cotter pin.

3. Assemble the two cylinders (page 22, #57), the two yokes (page 22, #13) and the link weldment (page 22, #14). The yoke arm fits against the outside of the link and against the center divider of the link. The cylinder ends fit in the open spaces left in the link. Join parts using a 2” x 18 7/8” pin (page 22, #17) and a ¼” x 2 ½” cotter pin.

⚠ **ALERT:** Cylinder ports should be facing down.

4. Position the cylinder, link arm and yoke assembly up against the left hand lower lift arm. Before attacking the right hand lower lift arm (page 22, #10) to the axle. At this point you should lift up the ends of the cylinders until the assembly connecting the lower lift arms is finished. With the cylinders raised, connect the two lower lift arms with the torque tube weldment (page 22, #55) using ½” x 2” hex bolts, lock washers, flat washers and hex nuts. Welded brackets on the torque tube must be turned up

5. Bolt the cradle rest (page 22, #12) to the welded brackets on the torque tube using 5/8” x 3 ½” hex bolts, lock washers and hex nuts. Connect the yoke, link and cylinder assembly to the bottom of the lower lift using a 2 ¾” x 39” pin (page 22, #20). Fit the end of the link between the bottom bushings on the lower lift arms. Insert the pin through the right hand lift arm first, the link second and then the left hand arm. Lock the ends of the pin in place with ½” x 3 ½” bolts and lock nuts.

6. Connect the upper lift arm (page 22, #8) to the upper bushings on the lower lift arms using 2” x 9 5/8” pins (page 22, #21) and 5/16” x 3” cotter pins. These pins must be installed with the head of the pin facing the center of the auger and the cotter pin end facing out. Attach the ends of the yokes to the upper lift arm using a 2” x 20 ½” pin (page 22, #15) and a ¼” x 2 ½” cotter pin.

## ASSEMBLY INSTRUCTIONS – cont’d.

7. Attach the two cylinders to the welded bracket on the upper lift arm using a 2” x 17 ¼” pin (page 22, #16) and a ¼” x 2 ½” cotter pin. Attach the right hand undercarriage arm (page 22, #2) at this point. Connect the two undercarriage arms with the tie plate (page 22, #5) using 5/8” x 1 ¾” bolts, lock washers and hex nuts.

8. Lift the end of the lift arm assembly slightly above the undercarriage arms. Bolt the lift arm rest tube (page 22, #6) to the top surface of the angle irons welded to the inside of the undercarriage arms. Lower the lift arms onto the rest tube. The hardware on the lift assembly will be tightened after the assembly is connected to the tubing and is positioned in place.

9. After the lift assembly is complete, the main tubing is assembled. Align tubes and assemble tube number 5. (page 18, #5) to the top number 4 (page 18, #4) using 5/8” x 1 ¾” grade 8 hex bolts, 5/8” S.A.E. flat washers and lock nuts. Two side bridging brackets (page 18, #18) are bolted to the sides of each pipe ring connection at the same time that the pipe rings are bolted together. Align the flighting with the couplers at the ends and bolt together using a ¾” x 4” bolt and lock nut. Next, assemble tube number 3 (page 17, #3) to tube number 2 (page 17, #2) to tube number 3. Finally, bolt tube number 1 (page 17, #1) to tube #2.

10. Couple the 12 7/8” drive shaft (page 25, #11) to the bottom end of the flighting using a ¾” x 4” hex bolt and lock nut. Make sure the shaft fits into the RPM gearbox (page 25, #26) before bolting to the flighting. Insert a 3/8” x 7 3/8” key (page 25, #12) into the drive shaft and slide the input box assembly (page 25, #1) onto the drive shaft. Line up the flange bolt holes on the input box with the pipe ring and bolt together using 5/8” x 1 ¾” grade 8 hex bolts, S.A.E. flat washers and lock nuts. The drive shaft is held on by inserting a 5/8” x 1 ¾” bolt, lock washer and a ½” thick x 3” flat washer (page 25, #24) at the end of the shaft. Insert splined drive shaft (page 25, #84) into the outer coupler on the gearbox and attach PTO shaft (page 25, #85).

⚠ **ALERT:** There are two holes on the top stub shaft for cotter pin installation on the top flighting which should allow for a wide range of adjustment.

11. Attach all the bridging yokes. The main bridging yoke (page 17, #11) bolts to the welded brackets on tube numbers using 5/8” x 1 ¾” hex bolts, lock washers, flat washers and hex nuts. Attach the two braces (page 17, #12) to the main yoke using ½” x 1 ½” hex bolt, lock washers and hex nuts. Tube number 1 has a 74” long yoke (page 17, #9) with a 34” brace (page 17, #10) bolted on using the same hardware. Tube number 3 uses a 103” long yoke (page 17, #13) with a 43” brace (page 17, #14) also with the same hardware. The final bridging yoke bolts to tube number 4 which is a 60” long yoke (page 18, #16) with a 27 ¾” brace (page 18, #17) also using the same hardware.

## ASSEMBLY INSTRUCTIONS – cont’d.

12. Using an overhead hoist, put a sling around tube number 1 and lift so the bottom end is raised about 12 inches. Attach the shorter top bridging cable first (page 17, #78). This cable goes from just below the undercarriage pivot plate on tube number one, across the main bridging yoke and to the top end of tube number 3. Bolt the 2” wide cable yokes (page 18, #83) to the top end of each cable using ¾” x 2 ½” hex bolts, lock washers and hex nuts. Bolt the yokes to the cable brackets welded to tube number 3 with the same hardware. Use the bottom hole in the yoke if possible. The other holes can be used if the cable stretches after a few years. The long top bridging cable (page 18, #79) goes from the lower part of tube number 1, across the main bridging yoke and to the center of tube number 5. Use the same hardware as the short cables. The side bridging cables (page 18, #77) run across the four side bridging brackets on each side of the pipe rings from tube number 1 to tube number 5. Use the 1 ½” wide cable yokes (page 18, #84) at the top end of these cables. The hardware for these cables is ½” x 1 ¾” hex bolts, lock washers and hex nuts. The top bridging cables are tightened using the threaded rods at the bottom end until the tubes bow up a few inches. Tension the side cable evenly o tubes are straight left and right. Tighten cable clamps after tensioning is complete.

⚠ **ALERT:** On yokes where the cable clamps hold two cables, do not use the cast part of the cable clamp.

13. Put a sling around the tubing at a point just above the main bridging yoke. Raise the top end of the tube assembly high enough to fit the discharge spout (page 18, #82) over the spout opening. Bolt on spout using 3/8” x 1” hex bolts, lock washers and hex huts.

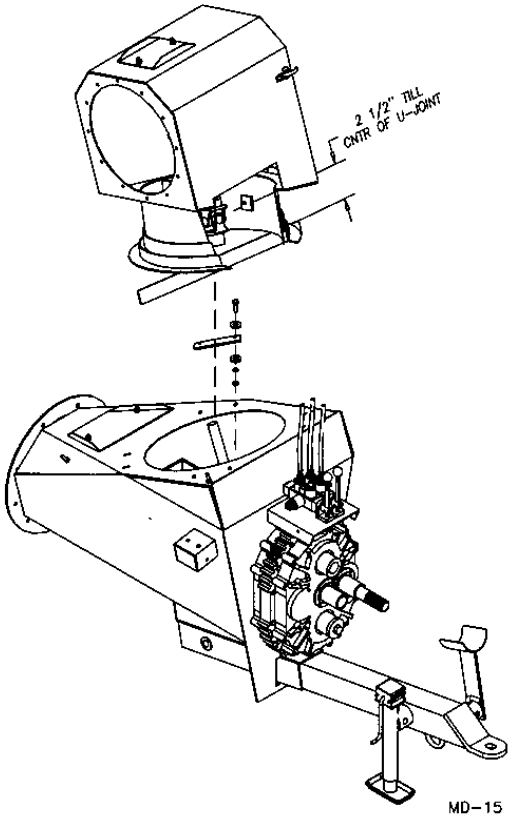
14. Tension the flighting using the crown nut at the top of the flighting. Snug up this nut and then give it about an extra 1/4 turn. Do not over tighten. You only want the weight of the flighting to hang from the top bearing.

15. Bolt the undercarriage connector plates (page 22, #41) to the welded brackets on the sides of tube number 1. Use 5/8” x 1 ¾” hex bolts, lock washer and hex nuts on the top 2 holes. Flat head bolts on the bottom 2 bolts. Lift the tube assembly high enough to roll the lift assembly underneath centered on the tubing. You will need an overhead crane with a 3 ton capacity to lift the tube assembly. The holes at the end of the undercarriage arms must line up with the holes in the connector plates. Slide a 3” o.d. x 24 ½” long tube (page 22, #3) through all four holes and lock in place with 1 ½” wide collars (page 22, #4), ½” x 4 ½” hex bolts, lock washers and hex nuts. Connect the upper lift arm to the bottom of the main bridging yoke using a 2” x 22 ½” pin (page 22, #18). Lock in place with collars (page 22, #19), ½” x 3 ¼” hex bolts, lock washers and hex nuts.

**ASSEMBLY INSTRUCTIONS – cont’d.**

16. Lift up the tubing assembly so lift assembly is a few inches above the cradles. Center the upper lift arm on the cradle. This will require a forklift. Tighten all lift arm and undercarriage hardware while the tube assembly is raised. Lower back into cradle when hardware has all been tightened.

17. Using 3/8” x ¾” sq. hd. set screws and a 3/8” x 1 ½” key mount the u-joint (page 25, #98) on the intake auger gearbox. Position the u-joint by placing a straight edge along the bottom of the pipe ring on the intake auger top box (page 25, #67) and measuring exactly 2 ½” from the top of the straight edge to the center of the u-joint as shown in drawing.




18. Lift the intake auger assembly onto the input box (page 25, #1). The splines on the U-joint must slide onto the splines on the input box gearbox. This will require a hoist. Let the ring sit on the input box without forcing it to the exact center if it not perfectly positioned. Flip open the intake auger top door (page 25, #77) and bolt on the ring using 3/8” x 1 ½” hex bolts. A 3/8” (10 gauge) flat washer goes under the input box top cover. The 1 ¼” o.d. flat washers should be 1/8” to 3/16” from touching the edge of the ring. This is done to prevent side pressure on the u-joint. Four 2” x 6 ½” plates (page 25, #33) act as a ring holder. Tighten bolts using 3/8” lock washers and hex nuts. The intake auger should turn freely around the input box.

## ASSEMBLY INSTRUCTIONS – cont’d.

⚠ **ALERT:** If the intake auger is removed for repair or replacement, the bolt coupling the flighting to the intake auger gearbox must be replaced when the flighting is replaced. Not replacing this bolt could cause failure of the hopper flighting.

19. Using a 3/8” x 1 ½” key and 3/8” x ¾” sq. hd. set screws, join the hopper flighting and the intake auger flighting at the universal joint (page 26, #48). Join the hopper and intake auger using two ¾” x 1 5/8” bolts and lock nuts. A flat washer goes on the outside only. Parts must swivel freely after bolting together. Check that the cross on the u-joint is in line with the two pivot bolts.

    The cover (page 26, #16) bolts to the front edge of the hopper using ¼” x ¾” hex bolts, lock washers and hex nuts. The cover is held down by the cover rod (page 25, #64) which is pushed through the clevises welded to the intake auger and held in place with a 3/16” x 1 ½” cotter pin. Check that all the set screws on the u-joint have been tightened and that the u-joint has grease before closing the cover.

⚠ **ALERT:** Never run the auger without this cover bolted on. The yoke center must align with the pivot holes after assembly.

20. Bolt the 7” wide rubber edging (page 26, #59) supplied to the top edge of the hopper using ¼” x 1” hex bolts, lock washers and hex nuts. Use 1” wide strips on the sides of the hopper (page 26, #90) and on the outside edge (page 26, #88). These strips fit on the inside of the hopper and help keep the rubber from tearing. The ends of the rubber strips are joined using connector plates (page 26, #91) with ¼” x 1” hex bolts, flat washers, lock washers and hex nuts.

21. The lift boom (page 17, #20) is bolted to a welded bracket on top of tube number 1 about 136” from the bottom pipe ring using 5/8” x 1 ¼” hex bolts, lock washers and hex nuts. The intake auger lift cable (page 17, #85) has a safety hook at one end. Thread the other end of the 3/8” cable around the pulley at the end of the lift boom and then around a cable pulley in the bracket which swivels at the back of the lift boom. Bolt the hydraulic winch (page 17, #89) and solenoid assembly to the welded winch bracket near the bottom of tube number 1 using ½” x 2” hex bolts, flat washers, lock washers and hex nuts. **NOTE:** The end of the lift cable must be run through the winch guard (page 17, #93) before attaching the cable to the winch. Bolt on the winch guard using ½” x 1 ½” hex bolts, lock washers and hex nuts. There are flat irons with two holes welded near the front on the sides of the hopper. Hook the lift cable in the upper hole on the far side of the hopper so the hopper will turn open end toward the auger. This is the standard transport position. The safety chain is attached to the loop at the top end of the hopper. This chain should always be attached when transporting the auger. The lift boom can be used on either side of the auger. The lower hole on the hopper bracket is used for clean out only.

## ASSEMBLY INSTRUCTIONS – cont’d.

⚠ **ALERT:** When the intake auger is raised in working position, the lift cable is hooked into the loop at the top of the hopper. The open end of the hook must be turned toward the hopper. The intake auger could detach and fall if the main auger is raised with the hook turned the other way.

22. The hydraulic line on the auger must be coupled at the pipe rings between tube number 1 and tube number 2 using a 63” hydraulic hose (page 30, #21). Screw a 90 degree elbow (page 30, #25) into the ball valve (page 30, #26) and connect this assembly to the bottom of the hydraulic line. Attach a 120” hydraulic hose (page 30, #24) to this elbow. The other end of the hose connects to the tractor.

23. Connect the 8’ 6” hydraulic hose (page 30, #15) with the assembled 12” lines and fittings from the base of the cylinders to the hydraulic line on the main auger. All fittings should be taken apart and sealed with Teflon tape before tightening. Install the two vents plus (page 22, #42) in the cylinders.

⚠ **ALERT:** The flow control valve (page 30, #16) regulates the lowering of the auger to avoid damage which could be caused by lowering the auger too quickly. Arrow on the flow control should be pointing toward the 6 foot hose. Be sure that the valve is open approximately 3 ½ turns before raising the auger to full height or the auger will not lower.

24. Assemble the fittings into the two spool valve assembly (page 25, #9). There are two #12 MORB to #8 MJIC adaptors (page 25, #87) in the side ports. With the valve turned as shown on page 25, fit two #10 MORB to #8 MJIC adaptors (page 25, #20) in the right hand ports on top of the valve. The left hand ports which control the mover use adaptors with a restrictor valve (page 25, #109).

25. Assemble the fittings into the hydraulic motors (page 26, #56). The upper port on the motor uses a #12 MORB straight adaptor (page 26, #87) while the lower port uses a 90 degree #12 MORB adaptor. The two straight adaptors are joined using a 79” hose (page 29, #3). Two 21 foot hoses (page 29, #2) attach to the 90 degree elbows on the hydraulic motor. They run up between the motor and the hopper and along the intake auger tube till the right side ports, on top of the valve (looking up from the back of the auger). These lines are clamped down to the top of the intake auger tube using hose holders (page 25, #31) with 3/8” x 1” hex bolts, lock washers and hex nuts. The hopper mover is controlled by the valve handle which lines up with the two ports the hoses are attached to in the valve.

⚠ **ALERT:** The hopper mover may move quite quickly with some tractors. Be sure everyone is clear of the area when using the mover.

## ASSEMBLY INSTRUCTIONS – cont’d.

26. Attach the 139” hydraulic hoses (page 29, #5) to the release valve (page 29, #12) bolted to the winch hydraulic motor. These hoses run down the tube, alongside the input box and connect to the left side ports on the top of the valve. The winch has a pressure relief valve so the hoses must be connected to the correct parts. Check hydraulic system drawing to verify. Two 79” hoses connect to the sides of the valve. These both attach to the tractor.

27. The relief valve bolted to the winch hydraulic motor should be adjusted before using. The power is adjusted on the control screw at the top of the unit. Loosen the hex nut on the threaded shaft and adjust using an Allen wrench. Adjust so you have enough power to lift the empty intake auger off the ground. Lock the setting in place with the hex nut. The winch speed is adjusted by a control screw on the side. Remove the plug and adjust the speed with an Allen wrench. Adjust so the intake auger lifts slowly and replace the plug.

28. The standard drive position for the drive shaft (page 25, #84) in the rpm gearbox (page 25, #26) is in the outer coupler. The center coupler on the gearbox is used to reverse the flighting. This should be used to clean out the auger only. There are two solid plugs in the side of the gearbox. The higher of the two plugs should be removed and replaced with a 90 degree vent plug. The lower of the two plugs acts as an oil level plug.

29. Re-check and tighten all bolts.

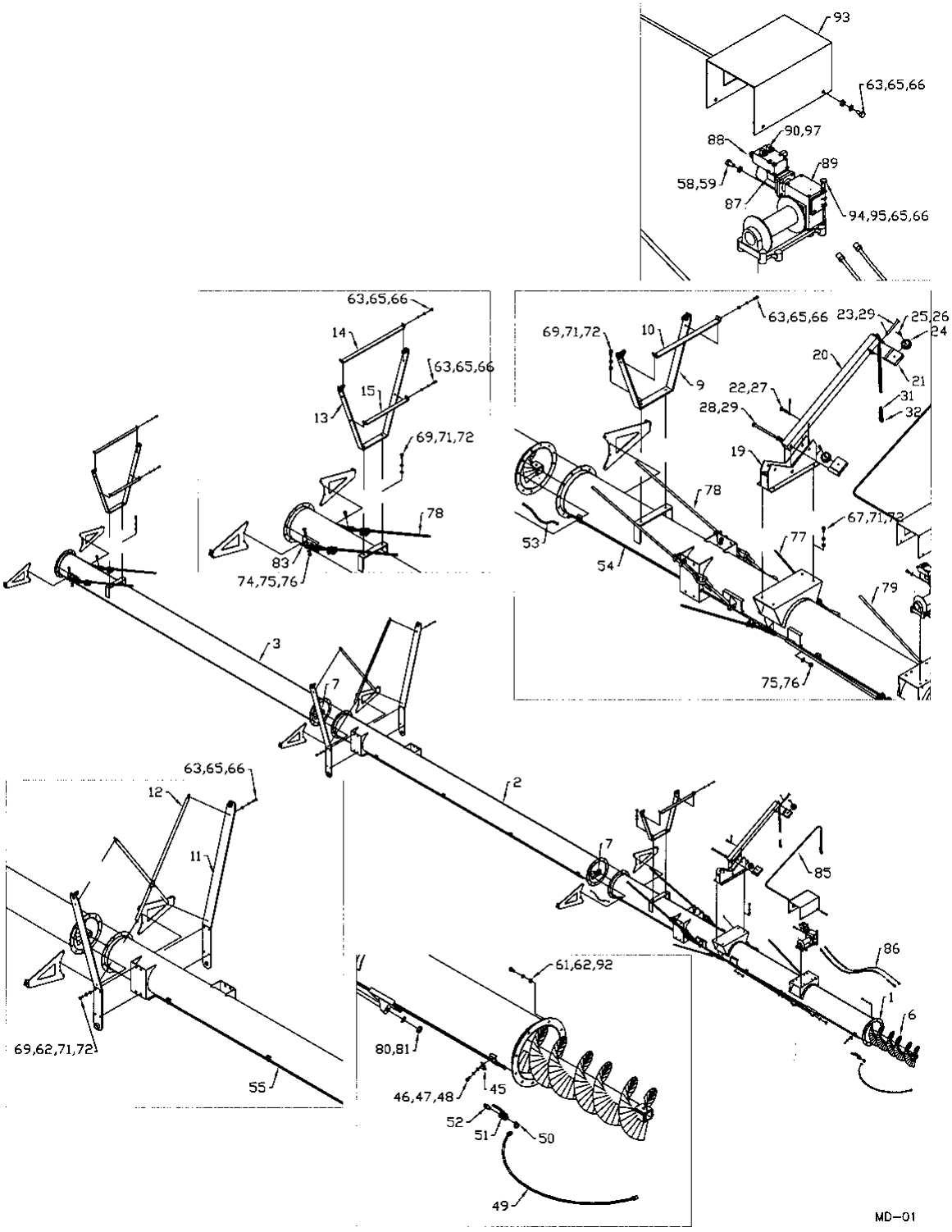
30. Immediately after setting up the auger, hook it up to a tractor. Raise and lower the auger three or four times to purge all the air out of the hydraulic line to the lift cylinder. This will help to prevent the auger from settling when you have it in working position above a bin.

31. When assembly is complete run the auger empty for approximately 5 minutes, this will allow for all the moving parts to settle. Once the auger has been turned off re-tighten the crown nut at the top of the auger approximately 3 ½ turns. This final step should produce a quieter running auger while empty.

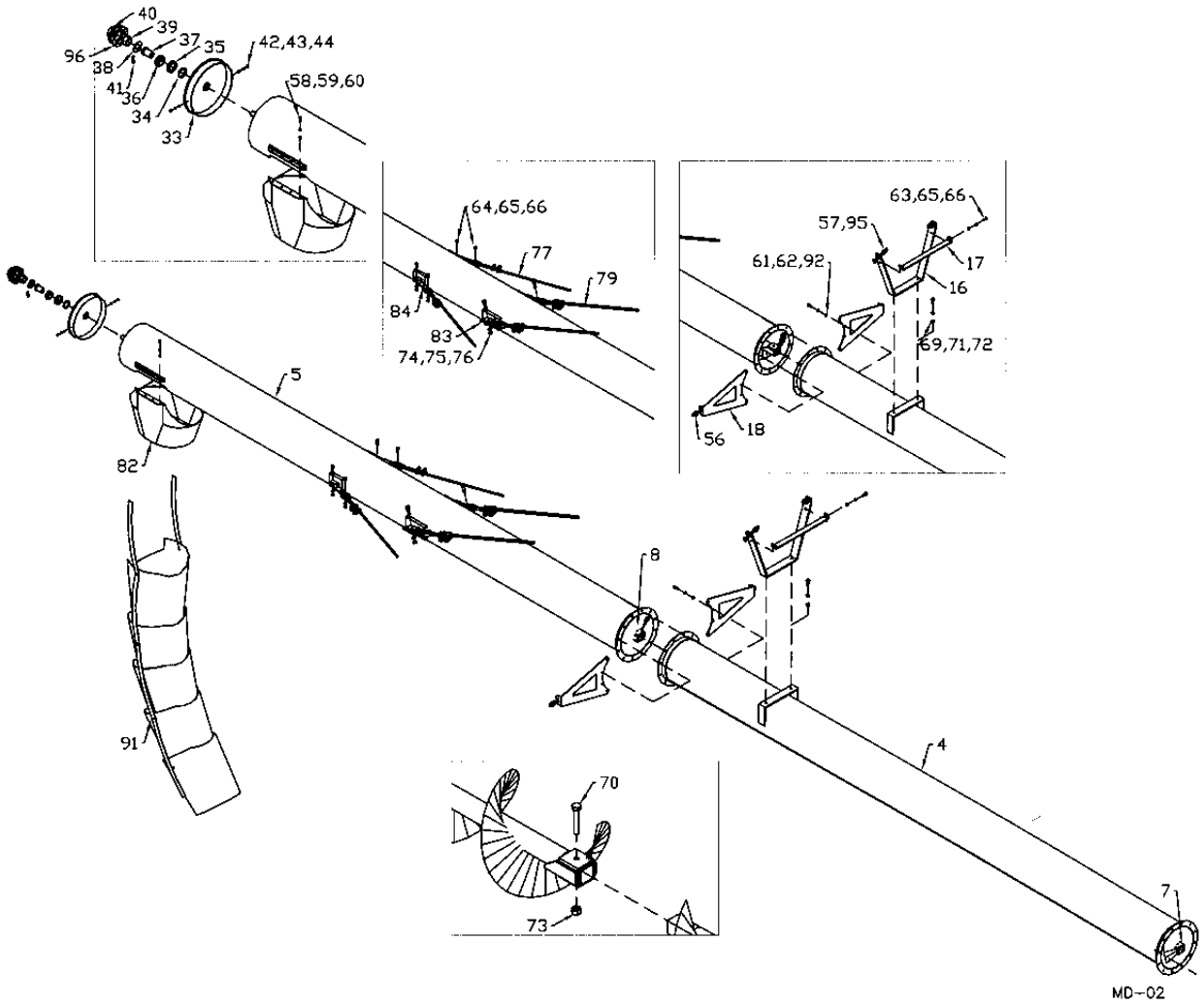
⚠ **ALERT:** Always check to see that both ends of the PTO shaft are securely attached every time the auger is used. This should always be done with the tractor engine shut off. When transporting the auger, disconnect the PTO shaft from the tractor. The PTO holder at the end of the hitch is used to hold the PTO during transport.

Do not run the auger with the intake auger in the transport position. Doing this will damage the u-joint between the intake auger and the input box.

## TUBE ASSEMBLY DRAWING



## TUBE ASSEMBLY DRAWING



## 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.

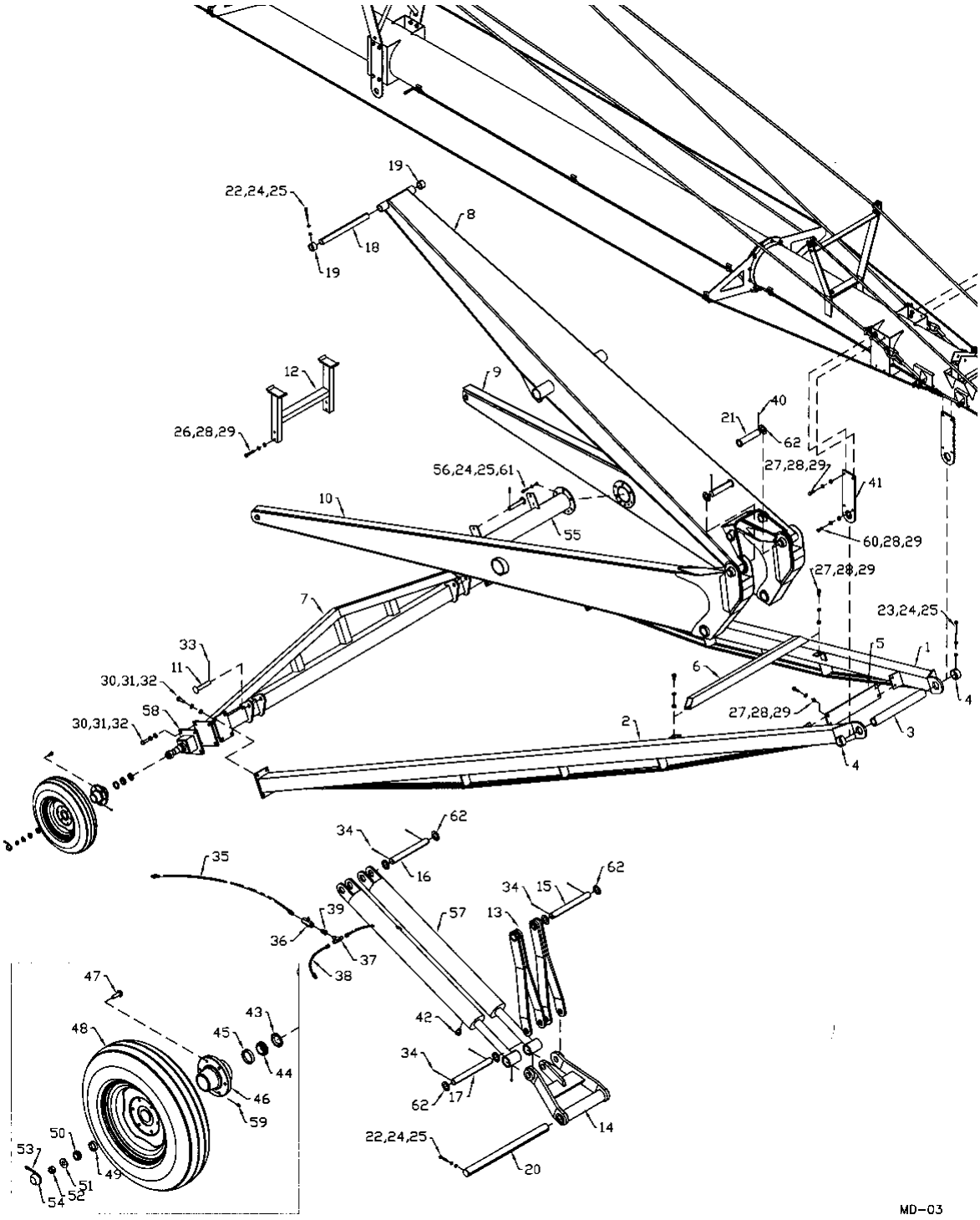
### 16" x 104' BACKSAVER AUGER - TUBE ASSEMBLY

| Item # | Part # | Description |
|---|---|---|
| 1 | 905720 | Tube Weld't #1 |
| 2 | 905721 | Tube Weld't #2 |
| 3 | 905722 | Tube Weld't #3 |
| 4 | 902723 | Tube Weld't #4 |
| 5 | 905274 | Tube Weld't #5 |
| 6 | 905760 | Flighting Weld't Tube #1 |
| 7 | 905763 | Flighting Weld't Tube #2, 3, & 4 |
| 8 | 905766 | Flighting Weld't Tube #5 |
| 9 | 905816 | Brg Pl 3" x 74" (Tube #1) |
| 10 | 905817 | Brg Brace 2" x 34" |
| 11 | 805826 | Brg Pl 1/2" x 5" x 84 1/2" |
| 12 | 805827 | Brg Brace 1 5/16" OD x 63" |
| 13 | 805828 | Brg Pl 3" x 103" Lg (Tube #3) |
| 14 | 905829 | Brg Brace 2" x 43" |
| 15 | 905830 | Brg Brace 2" x 30 1/4" |
| 16 | 905831 | Brg Pl 3" x 60" (Tube #4) |
| 17 | 905832 | Brg Brace 2" x 27 3/4" |
| 18 | 906076 | Side Brg Brkt 15 7/16" x 24 7/8" |
| 19 | 905811 | Side Pl Weld't |
| 20 | 905815 | Arm Tube Weld't 3" Sp. X 45" Lg |
| 21 | 905919 | Pulley Hldr Weld't |
| 22 | 905821 | Pin Weld't 3/4" x 4 1/4" Lg |
| 23 | 905823 | Pin Weld't 1" x 6 1/2" |
| 24 | 961846 | Cable Pulley 3 1/2" OK x 1 1/8" W |
| 25 | 960913 | 1/2" x 1 13/16" clevis Pin (pl) |
| 26 | 9812430 | 1/8" x 1" Cotter Pin (pl) |
| 27 | 961012 | Hair Pin Clip #16 |
| 28 | 967233 | 1" x 10" Hex Bolt (pl) |
| 29 | 84051 | 1" Jam Nut (pl) |
| 30 | 9812433 | 3/16" x 1 1/2" Cotter pin (pl) |
| 31 | 909172 | Quick Link 3/8" (pl) |
| 32 | 909171 | Hook w/ Latch (3/4 Ton) |
| 33 | 906101 | Top Pl Weld't 16 3/8" OD |
| 34 | 907052 | Oil Seal (CR17617) |

| | | |
|---|---|---|
| 35 | 907284 | Inner Bearing Cup (t4-460) |
| 36 | 907283 | Outer Bearing Cone (453a#Bw) |
| 37 | 905906 | End Brg Sleeve |
| 38 | 9812445 | Washer Narrow Rim 1/5 x 10 Ga (br) |
| 39 | 907053 | 1 1/2" Slotted Hex Nut (br) |
| 40 | 907312 | Dust Cap |
| 41 | 812435 | 1/4" x 1 3/4" Cotter Pin |
| 42 | 81549 | 5/16" x 3/4" Hex Bolt (pl) |
| 43 | 81569 | 5/16" Lock Washer (pl) |
| 44 | 81568 | 5/16" Hex Nut (pl) |
| 45 | 960140 | Hyd Line Clamp 1" x 3 1/8" |
| 46 | 86170 | 3/8" x 1" Hex Bolt (pl) |
| 47 | 81593 | 3/8" Lock Washer (pl) |
| 48 | 81592 | 3/8" Hex Nut (pl) |
| 49 | 967463 | 1/2" x 120" Hd. Hose (Both Ends Solids &.5" NPT) |
| 50 | 860585 | 1/2" x 90Deg Street Elbow (Stl.) |
| 51 | 960057 | 1/2" Ball Valve |
| 52 | 960152 | Adaptor (JIC to 1/2" NPT) |
| 53 | 116926 | 1/2" x 63" Hyd. Hose (Both Ends JIC) |
| 54 | 906104 | Hyd Tube 5/8" x 230" Lg w/ MJIC Both Ends |
| 55 | 906105 | Hyd Tube 5/8" OD x 162" Lg w/ MJIC Both Ends |
| 56 | 964565 | 1/2" Cable Clamp |
| 57 | | 3/4" Cable Clamp |
| 58 | 86171 | 3/8" x 1 1/4" Hex Bolt (pl) |
| 59 | 81593 | 3/8" Lock Washer (pl) |
| 60 | 81592 | 3/8" Hex Nut (pl) |
| 61 | 967285 | 5/8" x 1 3/4" Hex Bolt (Gr.8)(pl) |
| 62 | 812639 | 5/8" SAE Flat Washer (pl) |
| 63 | 84277 | 1/2" x 1 1/2" Hex Bolt (pl) |
| 64 | 87553 | 1/2" x 1 3/4" Hex Bolt (pl) |
| 65 | 81637 | 1/2" Lock Washer (pl) |
| 66 | 81636 | 1/2" Hex Nut (pl) |
| 67 | 811702 | 5/8" x 1 1/4" Hex Bolt (pl) |
| 68 | 84268 | 5/8" x 1 1/2" Hex Bolt |
| 69 | 84270 | 5/8" x 1 3/4" Hex Bolt (pl) |
| 70 | 967287 | 3/4" x 4" Hex Bolt (pl) |
| 71 | 81677 | 5/8" Lock Washer (pl) |
| 72 | 81676 | 5/8" Hex Nut (pl) |
| 73 | 81513 | 3/4" Lock Nut (pl) |
| 74 | 84346 | 3/4" x 2 1/2" Hex Bolt (pl) |
| 75 | 81701 | 3/4" Lock Washer 9pl) |

| | | |
|---|---|---|
| 76 | 81700 | 3/4" Hex Nut (pl) |
| 77 | 906045 | Side Brg Cables 80'-8" |
| 78 | 906057 | Upper Brg Cables 49'-8" |
| 79 | 906059 | Upper Brg Cables 87'-0" |
| 80 | 81723 | 7/8" Lock Washer (pl) |
| 81 | 81722 | 7/8" Hex Nut (pl) |
| 82 | 906130 | Discharge Spout |
| 83 | 905853 | Upper Cable Yoke Pl 2" x 10" |
| 84 | 960244 | Side Cable Yoke Pl 1 1/2" x 10" |
| 85 | 906066 | Winch Cable Assy 3/8" x 40' - Int. Auger Lift Boom |
| 86 | 116766 | Hose 1/2" x 16'-6" 1/2" MNPT x 3/4"MORB |
| 87 | 971518 | Hyd Motor 101-1018 |
| 88 | 909169 | Release Valve |
| 89 | 909143 | Hyd. Winch |
| 90 | 905392 | Elbow 3/4" MORB x 3/4" FORB |
| 91 | F0678 | Flex Spout |
| 92 | 812482 | 5/8" Lock Nut (Stl.)(pl) |
| 93 | 909201 | Guard Winch 18" x 30" |
| 94 | 811791 | 1/2" x 2" Hex Bolt (pl) |
| 95 | 81638 | 1/2" Flat Washer std (pl) |
| 96 | 907642 | Dust Cap Rubber Gasket (ctd#SE49) |
| 97 | 812079 | Adaptor Str. 3/4" MORB x 1/2" SWFNPT |

## LIFT ARM AND UNDERCARRIAGE DRAWING

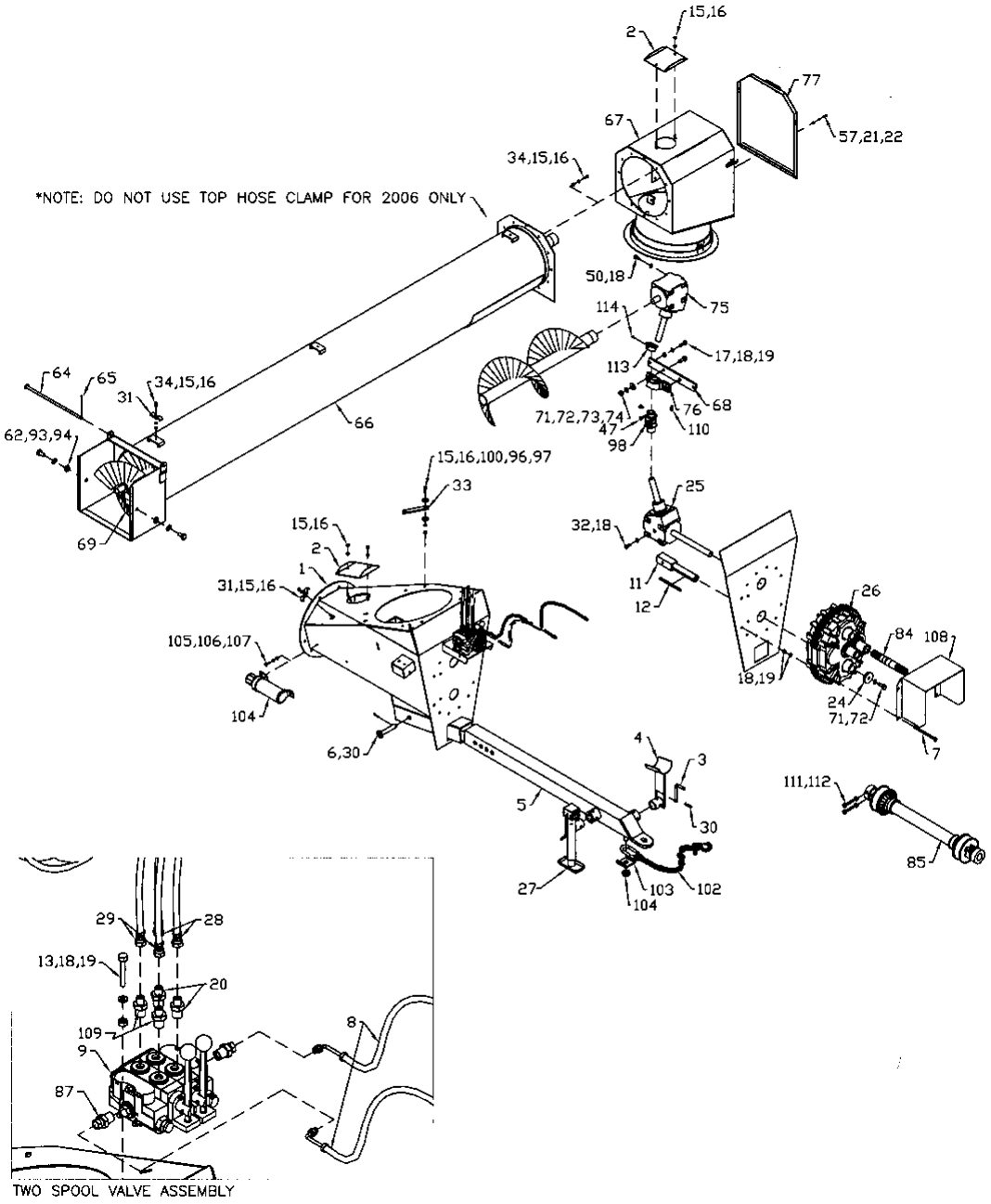


## 16" x 104' BACKSAVER AUGER - AXLE & UNDERCARRIAGE ASSEMBLY

| Item # | Part # | Description |
|---|---|---|
| 1 | 905732 | Undercarr Weld't - L |
| 2 | 905733 | Undercarr Weld't - R |
| 3 | 905735 | Undercarr Pin 3" OD x 1/4" W x 24 1/2" |
| 4 | 905736 | Undercarr Pin Sleeve 3 1/2" OD x 3 1/16" ID x 1.5 |
| 5 | 905737 | Brace Plate 5" x 25 3/8" x 1/2" Th |
| 6 | 905738 | Lift Arm Rest Tube 3" Sq. x 57 3/4" |
| 7 | 905745 | Axle Weld't 5" Sq. x 141 1/2" |
| 8 | 908445 | Upper Lift Arm Weld't 188.44" Lg |
| 9 | F0612 | Lower Lift Arm - L |
| 10 | F0611 | Lower Lift Arm - R |
| 11 | 905779 | Axle Pin 1 1/4" Rd x 7 1/8" Lg |
| 12 | 905786 | Cradle Rest Weld't |
| 13 | 908464 | Yoke Arm Weld't |
| 14 | 908472 | Link Weld't |
| 15 | 908480 | Upper Lift Arm Pin 2" Rd x 20 1/2" |
| 16 | 908478 | Upper Cylinder Pin 2" Rd x 17 1/4" Lg |
| 17 | 908490 | Lift System link Pin 2" Rd x 18 7/8" |
| 18 | 905806 | Upper Lift Arm Pin 2" Rd x 22 1/2" Lg |
| 19 | 905807 | Upper Lift Arm Pin Collar 2 5/8" Od x 1 1/2" Lg |
| 20 | 908474 | Connecting Link Pin 2 3/4" Rd x 39" Lg |
| 21 | 908476 | Lift Arm Clevis Pin 2" Rd x 9 5/8" Lg |
| 22 | 81629 | 1/2" x 3 1/2" Hex Bolt (pl) |
| 23 | 811691 | 1/2" x 4 1/2" Hex Bolt (pl) |
| 24 | 81637 | 1/2" Lock Washer (pl) |
| 25 | 81636 | 1/2" Hex Bolt (pl) |
| 26 | 81669 | 5/8" x 3 1/2" Hex Bolt (pl) |
| 27 | 84270 | 5/8" x 1 3/4" Hex Bolt (pl) |
| 28 | 81677 | 5/8" Lock Washer (pl) |
| 29 | 81676 | 5/8" Hex Nut (pl) |
| 30 | 84346 | 3/4" x 2 1/2" Hex Bolt (pl) |
| 31 | 81701 | 3/4" Lock Washer (pl) |
| 32 | 81700 | 3/4" Hex Nut (pl) |
| 33 | 812435 | 1/4" x 1 3/4" Cotter Pin |
| 34 | 9812436 | 1/4" x 2 1/2" Cotter Pin |
| 35 | 116938 | 1/2" X 8'-6" Hyd. Hose (1/2" NPT; JIC) |
| 36 | 960118 | Flow Control Valve |
| 37 | 812069 | Tee 3/4" MJIC |
| 38 | 906103 | 1/2" x 12" Hyd Hose (3/4" MORB;1/2" FNPT) |

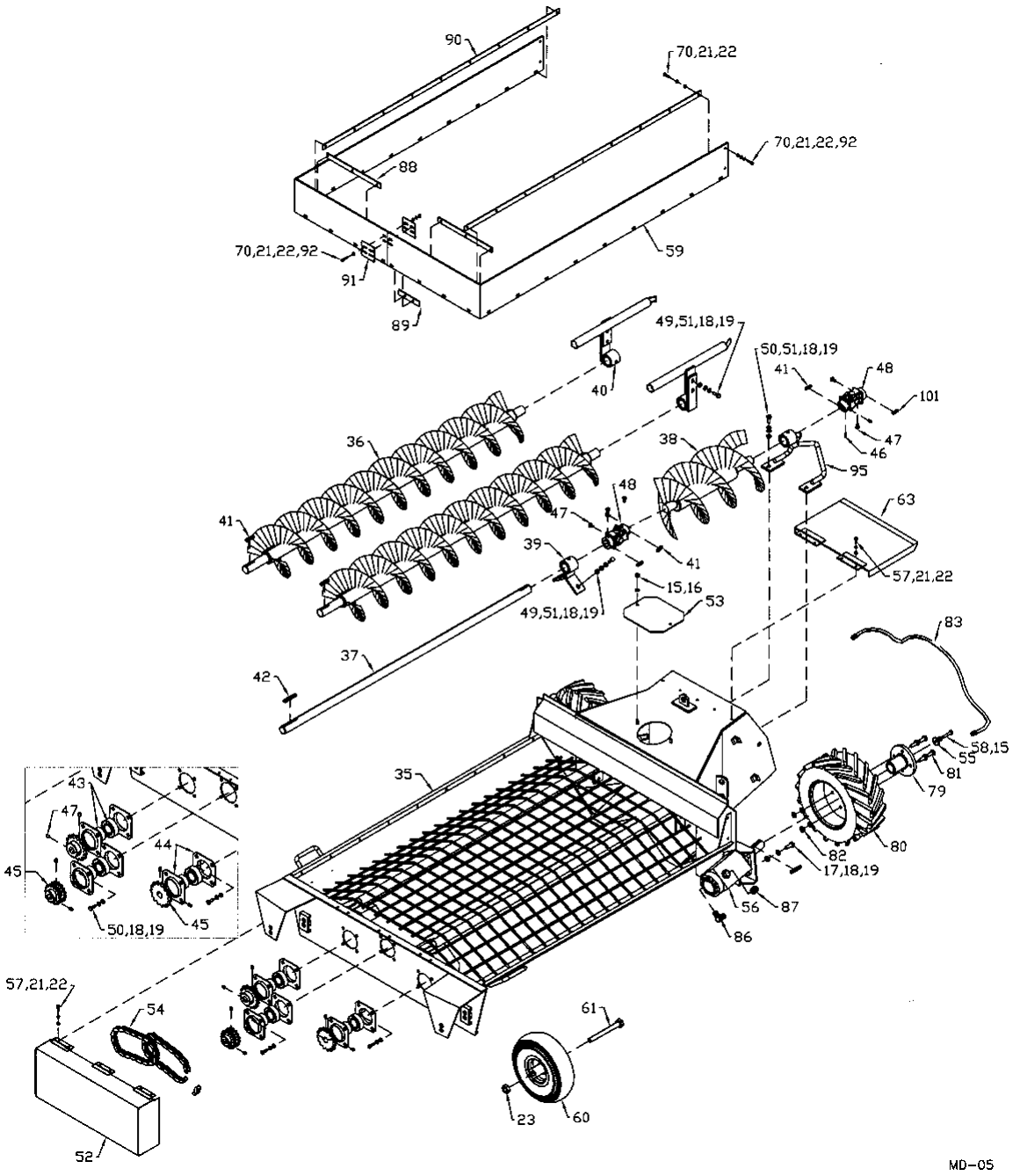
| | | |
|---|---|---|
| 39 | 811422 | Adaptor str. 1/2" MNPT x 3/4 MJIC |
| 40 | 967162 | 5/16" x 3" Cotter Pin |
| 41 | 905734 | Undercarr Connector Pl |
| 42 | 967908 | 3/4 - 16 ORB Vent Plug |
| 43 | 909184 | Oil Seal |
| 44 | 909185 | Inner Bearing Cone |
| 45 | 909188 | Inner Bearing Cup |
| 46 | 909186 | Hub w/ Bearing Cups (8-Bolt) |
| 47 | | 5/8" x 2 1/2" Wheel Bolt (16") |
| 48 | 909181 | Wheel |
| | 909182 | Tire - 16.5L - 16.1Fi |
| | F0679 | Wheel & Tire Assy |
| 49 | 909189 | Outer Bearing Cup |
| 50 | 909187 | Outer Bearing Cone |
| 51 | 9812442 | 1 1/4" x 10 Ga Narrow Rim Washer (br) |
| 52 | 960037 | 1 1/4" Slotted Hex Nut Gr. 2 (br) |
| 53 | 81207 | 3/16" x 2" Cotter Pin |
| 54 | 909192 | Dust Cap CTD #DC27 |
| 55 | 907741 | Torque Tube Weld't 6" Od x 53" Lg |
| 56 | 811791 | 1/2" x 2" Hex Bolt (pl) |
| 57 | F0664 | Cylinder 5.00 x 55.35 W/ 3 1/2" Shaft |
| 58 | 906109 | Bolt On Stub Axle Weld't (8-Bolt) |
| 59 | 967900 | 1/4" Grease Fitting |
| 60 | 967284 | 5/8" x 1 3/4" Fl Hd Skt Bolt (pl) |
| 61 | 81638 | 1/2" Flat Washer Std. (pl) |

## INTAKE SYSTEM ASSEMBLY




MD-04

## INTAKE SYSTEM ASSEMBLY



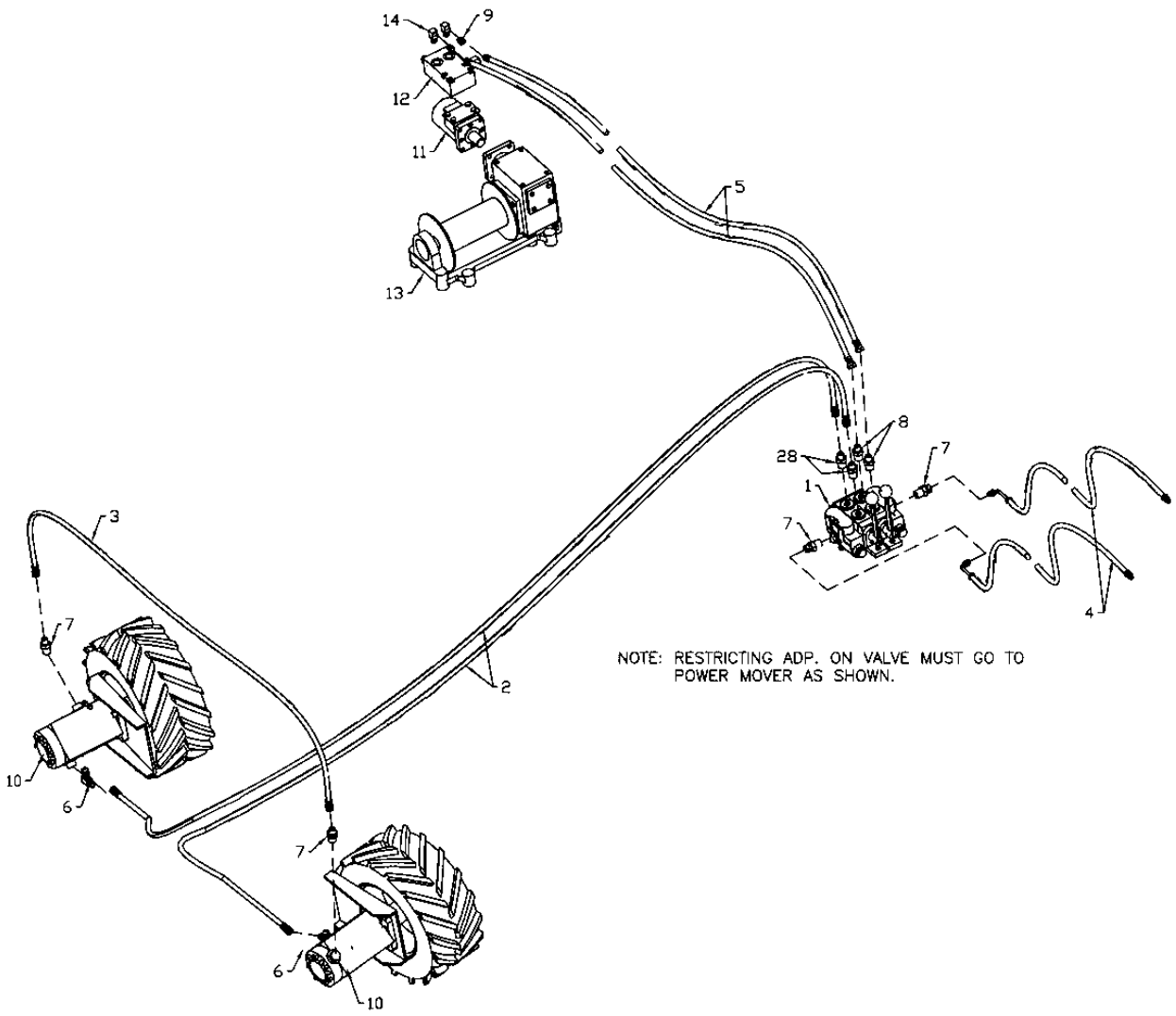
## 16" x 104' BACKSAVER AUGER - INTAKE SYSTEM ASSEMBLY

| Item # | Part # | Description |
|---|---|---|
| 1 | 905877 | Input Box Weld't |
| 2 | 905880 | Top Cover 10" x 16" |
| 3 | 9108493 | Pto Holder Pin 5/8" x 7 7/8" |
| 4 | 905879 | Pto Hold Weld't |
| 5 | 905887 | Hitch Weld't |
| 6 | 905889 | Hitch Pin Weld't |
| 7 | 904557 | 1/2" x 8 1/2" Hex Bolt (pl) |
| 8 | 116848 | Hyd. Hose 1/2" x 79" (1/2 MNPT x 90deg. #8 MJIC) (Valve to Tractor) |
| 9 | 24659 | Valve Assy - Two Spool |
| 10 | 906148 | 1" Lock Nut (pl) |
| 11 | 905900 | Drive Shaft 2" x 12 7/8" lg |
| 12 | 906061 | Drive Key 3/8" Sq. x 7 3/8" lg |
| 13 | 81581 | 3/8" x 2 1/2" Hex Bolt (pl) |
| 14 | 906074 | Gearbox Key 3/8" Sq. x 2 1/2" |
| 15 | 81593 | 3/8" Lock Washer (pl) |
| 16 | 91592 | 3/8" Hex Nut (pl) |
| 17 | 97553 | 1/2" x 1 3/4" Hex Bolt (pl) |
| 18 | 81637 | 1/2" Lock Washer (pl) |
| 19 | 81636 | 1/2" Hex Nut (pl) |
| 20 | 886897 | Adaptor Str. (#10 MORB to #8 MJIC) (Valve Top - To Hyd. Winch) |
| 21 | 84498 | 1/4" Lock Washer (pl) |
| 22 | 81544 | 1/4" Hex Nut (pl) |
| 23 | 812365 | 3/4" Lock Nut (pl) |
| 24 | 906073 | Washer 1/2" x 3" x 21 /32" Id |
| 25 | 905882 | Input Box Gearbox |
| 26 | 906628 | RPM Box |
| 27 | 909195 | Jack |
| 28 | 116850 | Hyd. Hose 1/2" x 21'-0" (#8 FJIC Both Ends) (Valve to Power Mover) |
| 29 | 116849 | Hyd. Hose 1/2" x 139" (1/2" MNPT x #8 FJIC) (Valve to Winch) |
| 30 | 12779 | #9 Hair Pin Clip |
| 31 | 964638 | Hose Holder 1" x 4 1/4" |
| 32 | 81620 | 1/2" x 1 1/4" Hex Bolt |
| 33 | 960653 | Box Ring Clamp 2" x 6 1/2" |
| 34 | 86170 | 3/8" x 1" Hex Bolt (pl) |
| 35 | 905973 | Hopper Weld't |
| 36 | 905980 | Outer Flighting Weld't |
| 37 | 906063 | Center Dr. Shaft 1 1/2" x 59 7/8" Lg |

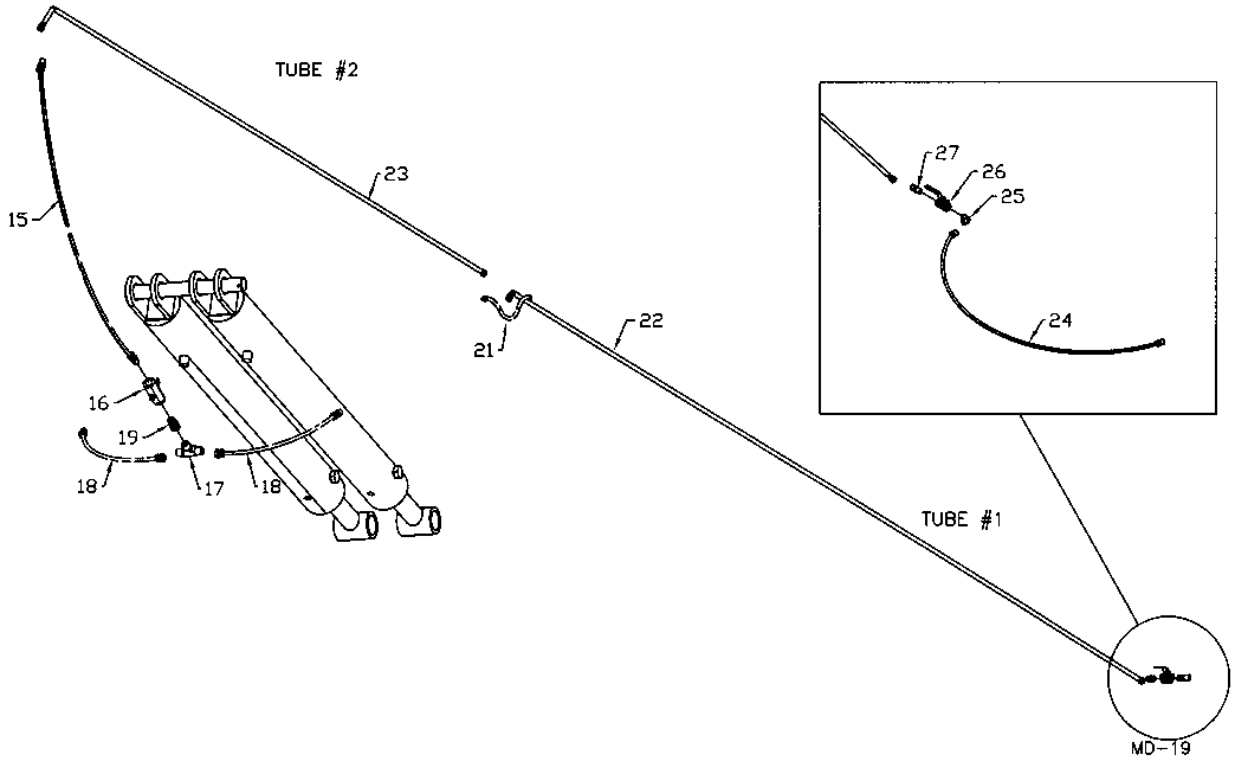
| | | |
|---|---|---|
| 38 | 905988 | Center Flighting Shaft Weld't |
| 39 | 906003 | Rear Center Flighting Holder Assembly |
| 40 | 906007 | Outer Flighting Holder Assembly |
| 41 | 960705 | Key 3/8" Sq. x 1 3/4" Lg |
| 42 | 906021 | Key 3/8" Sq. x 2 5/8" Lg |
| 43 | 968627 | Bearing 1 1/2" w/ Collar |
| 44 | 967260 | Flange Brg. (80MM-SQ) |
| 45 | 960719 | Spkt 15T 1 1/2" Bore #80 |
| 46 | 988999 | 3/8" x 3/8" Setscrew Scktser (br) |
| 47 | 9812378 | 3/8" x 3/4" Setscrew Sqhead (br) |
| 48 | 907282 | U-Joint 1 1/2" Both Ends W/ 3/8" Keyway |
| 49 | 84277 | 1/2" x 1 1/2" Hex Bolt (pl) |
| 50 | 81620 | 1/2" x 1 1/4" Hex Bolt (pl) |
| 51 | 84048 | 1/2" Flat Washer (pl) |
| 52 | 906011 | Hopper Chain Guard Cover |
| 53 | 905364 | Top Clean Out Cover |
| 54 | 906042 | Chain Assmebly #80 x 34 Pitches Incl. Conn |
| 55 | 909180 | Flat Washer 2" Od x 13/32" ID x 7 Ga |
| 56 | 909193 | Hyd. Motor 169-0093-001 |
| 57 | 81525 | 1/4" x 3/4" Hex Bolt (pl) |
| 58 | 810958 | 1/4" x 2 1/4" Hex Bolt (pl) |
| 59 | 906018 | 1/4" Rubber Edge 7" x 82 1/2" |
| 60 | 966851 | 13" x 5.00" x 6" Tire w/ Wheel |
| 61 | 902615 | 3/4" x 7" Bolt Axle (pl) |
| 62 | 967437 | 3/4" x 1 5/8" Hex Bolt (pl) |
| 63 | 906015 | Pivot Cover Weld't 12" x 20 1/4" |
| 64 | 906017 | Pivot Cover Pin 5/8" x 20" |
| 65 | 9812433 | .188" x 1 1/2" Cotter pin (pl) |
| 66 | 905919 | Intake Auger Tube Weld't |
| 67 | 905933 | Intake Auger Top |
| 68 | 905928 | Bearing Holder Plate 2" x 16 1/2" |
| 69 | 905949 | Flighting Weld't 156 1/16" Lg |
| 70 | 81527 | 1/4" x 1" Hex Bolt (pl) |
| 71 | 84270 | 5/8" x 1 3/4" Hex Bolt (pl) |
| 72 | 81671 | 5/8" Lock Washer (pl) |
| 73 | 812639 | 5/8" Flat Washer (pl) |
| 74 | 81676 | 5/8" Hex Nut (pl) |
| 75 | 905881 | Intake Auger Gearbox |
| 76 | 905951 | Brg & Flange Set 1 3/4" Wooden |
| 77 | 905937 | Intake Auger Door Weld't |
| 78 | 905934 | Top Cover 12 Ga x 8" x 9" |
| 79 | 909179 | Power Mover Whl Hub Weld't |
| 80 | 960800 | Tire w/ Whl. 16 x 6.5 x 8 4-Bolt |

| | | |
|---|---|---|
| 81 | 968404 | 1/2" x 1 1/4" NF Whl Bolt |
| 82 | 967105 | 1/2" Lock Nut (NF)(pl) |
| 83 | 116851 | Hyd. Hose 1/2" x 79" (#8 FJIC Both Ends) (Power Mover Motor to Motor) |
| 84 | 906629 | Drive Shaft 1 3/4" x 12" (Splined) |
| 85 | F0680 | PTO Shaft 2x CV 20/21 Splines |
| 86 | 811960 | Elbow 90 deg. (#12 MORB to #8 MJIC) |
| 87 | 811748 | Adaptor Str. (#12 MORB to #8 MJIC) |
| 88 | 906019 | Back Rubber Reinf. 1" x 13" |
| 89 | 960834 | Back Cntr Rubber Renif. 1" x 5" |
| 90 | 960660 | Rubber Reinf. 1" x 57 1/4" |
| 91 | 903483 | Rubber Connector Plates |
| 92 | 812624 | 1/4" Flat Washer (pl) |
| 93 | 84050 | 3/4" Flat Washer (pl) (SAE) |
| 94 | 812365 | 3/4" Lock Nut (pl) |
| 95 | 905999 | Center Flighting Holder Assembly |
| 96 | 964001 | 3/8" Flat Washer |
| 97 | 960494 | 1 1/4" Od x 13/32" Id Washer |
| 98 | 905788 | U-Joint 1 3/4" Bore Both Ends 8 1/2" Lg |
| 99 | 905873 | Clean-Out Weld't 9" x 11 1/4" |
| 100 | 811792 | 3/8" x 1 1/2" Hex Bolt (pl) |
| 101 | 905769 | Key 3/8" sq x 1 1/2" lg |
| 102 | 909173 | Hook & Safety Chain Assy |
| 103 | 904580 | Safety Chain Pl 3/8" x 3" x 5 1/2" |
| 104 | 909277 | Manual Holder |
| 105 | 812026 | 5/16" x 1" Hex Bolt (pl) |
| 106 | 81569 | 5/16" Lock Washer (pl) |
| 107 | 81568 | 5/16" Hex Nut (pl) |
| 108 | 909454 | Pto Guard 10 3/8" x 38" |
| 109 | 909460 | Adaptor Str. Restricting(#10 MORB to #8 MJIC) (Valve Top - To Power Mover) |

## HYDRAULICS DRAWING



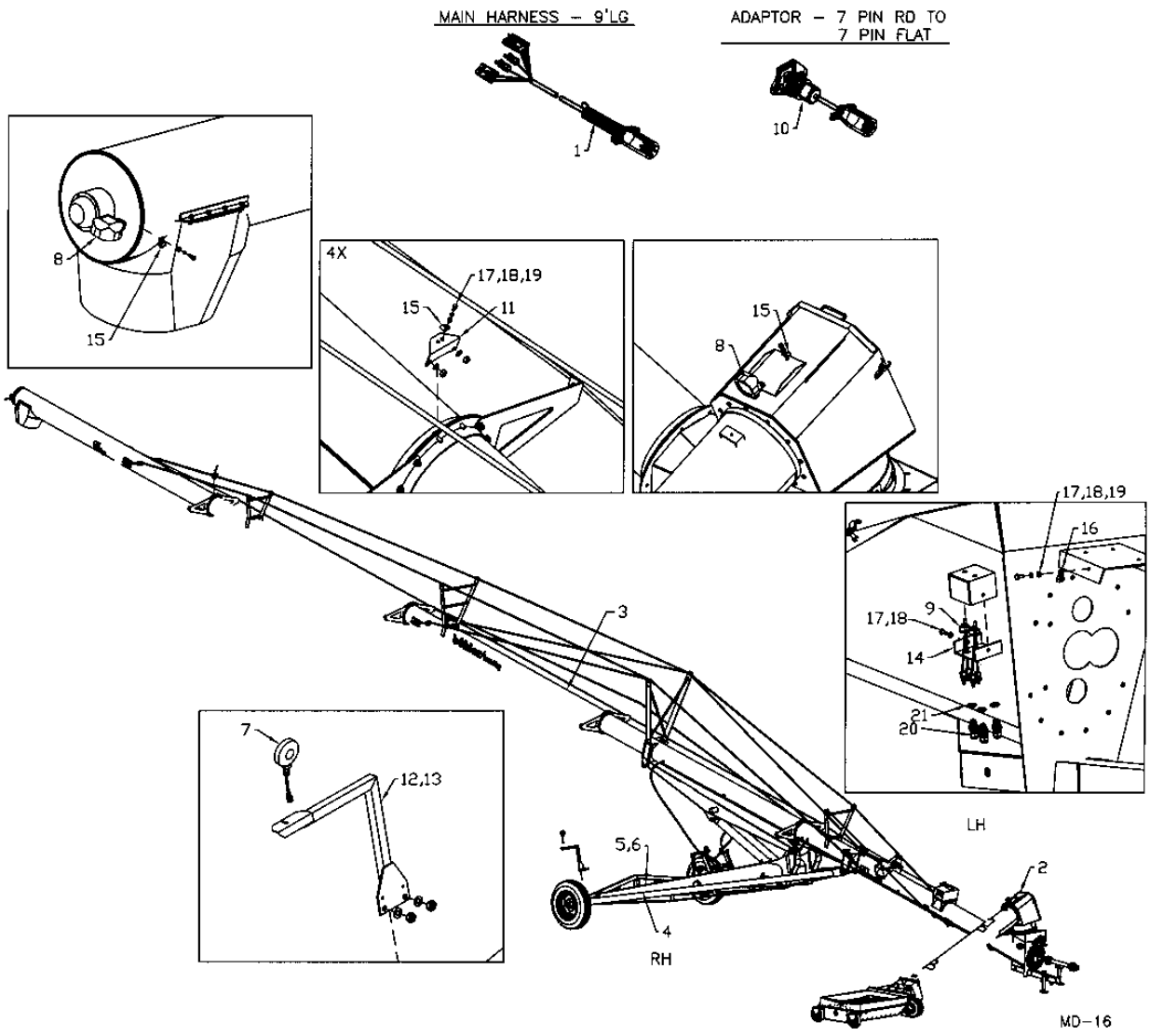
## HYDRAULICS DRAWING



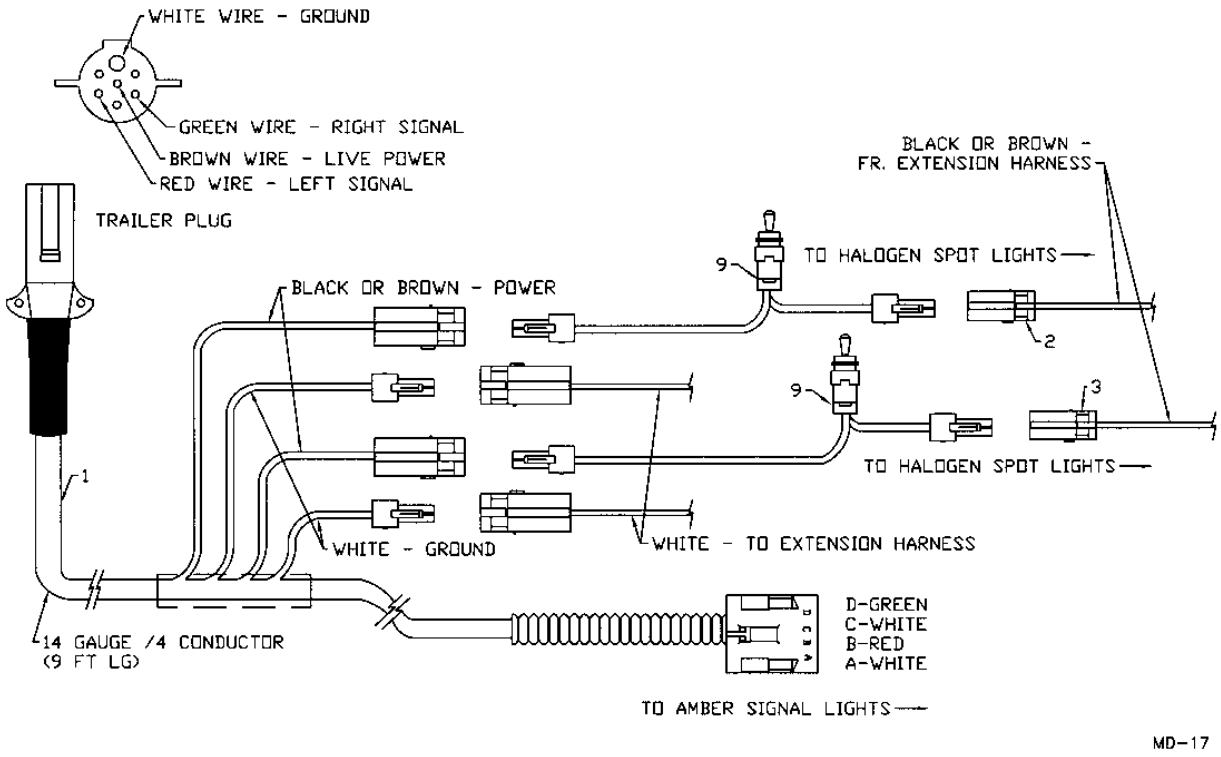
## 16" x 104' Backsaver Auger - Hydraulics

| Item # | Part # | Description |
|---|---|---|
| 1 | 24659 | Hyd. Valve Assy. - 2 Spool |
| 2 | 116850 | Hyd. Hose 1/2" x 21'-0" (#8 FJIC Both Ends) |
| 3 | 116851 | Hyd. Hose 1/2" x 79" (#8 FJIC Both Ends) |
| 4 | 116848 | Hyd. Hose 1/2" x 79" (1/2" MNPT x 90deg #8 MJIC) |
| 5 | 116849 | Hyd. Hose 1/2" x 139" (1/2" MNPT x #8 FJIC) |
| 6 | 811960 | Elbow 90 Deg. (#12 MORB to #8 MJIC) |
| 7 | 811748 | Adaptor Str. (#12 MORB to #8 MJIC) |
| 8 | 886897 | Adaptor Str. (#10 MORB to #8 FJIC)<br>(Top of Valve - To Hyd. Winch) |
| 9 | 812079 | Adaptor Str. 3/4" MORB x 1/2" SWFNPT |
| 10 | 909193 | Hyd. Motor 169-0093-001 - Power Mover |
| 11 | 971518 | Hyd. Motor 101-1018 |
| 12 | 909169 | Release Valve |
| 13 | 909143 | Hyd. Winch |
| 14 | 905392 | Elbow 90 Deg. (3/4" MORB x 3/4" FORB) |
| 15 | 116938 | 1/2" X 8'-6" Hyd. Hose (1/2" NPT; JIC) |
| 16 | 960118 | Flow Control Valve |
| 17 | 812069 | Tee 3/4" MJIC |
| 18 | 906103 | 1/2" x 12" Hyd Hose (3/4" MORB;1/2" FNPT) |
| 19 | 811422 | Adaptor str. 1/2" MNPT x 3/4 MJIC |
| 20 | F0664 | Cylinder 5.00 x 55.35 W/ 3 1/2" Shaft |
| 21 | 116926 | 1/2" x 63" Hyd. Hose (Both Ends JIC) |
| 22 | 906104 | Hyd Tube 5/8" x 230" Lg w/ MJIC Both Ends |
| 23 | 906105 | Hyd Tube 5/8" OD x 162" Lg w/ MJIC Both Ends |
| 24 | 967463 | 1/2" x 120" Hd. Hose (Both Ends Solids &.5" NPT) |
| 25 | 960585 | 1/2" x 90Deg Street Elbow (Stl.) |
| 26 | 960057 | 1/2" Ball Valve |
| 27 | 960152 | Adaptor (JIC to 1/2" NPT) |
| 28 | 909460 | Adaptor Str. Restricting (#10 MORB to #8 FJIC)<br>(Top of Valve - To Power Mover) |

## LIGHT KIT


MAIN HARNESS – 9'LG
ADAPTOR – 7 PIN RD TO 7 PIN FLAT
1
10
8
15
4X
17,18,19
15
11
15
8
3
17,18,19
16
17,18
9
14
21
20
LH
7
12,13
5,6
4
RH
2
MD-16

## LIGHT KIT WIRING SCHEMATIC



## 16" x 104' Backsaver Auger - Light Kit (F0697)

| Item # | Part # | Description |
|---|---|---|
| Light & Harness Kit (909209) | | |
| 1 | 909414 | Main Harness, 9'-0" lg |
| 2 | 909415 | Ext. Harness to Halogen Lamp, 5'-6" lg |
| 3 | 909416 | Ext. Harness to Halogen Lamp, 107'-0" lg |
| 4 | 909417 | Main Extension Harness To Amber Lamps, 45'-0" lg |
| 5 | 909418 | Ext. Harness #1 to Amber Lamp - 13'-0" |
| 6 | 909419 | Ext. Harness #2 to Amber Lamp, 2'-6" lg |
| 7 | 909420 | Amber Lamp |
| 8 | 909421 | Halogen Lamp |
| 9 | 909422 | Switch - Weather Proof |
| 10 | 909423 | Adaptor, 7 Pin Rd to 7 Pin Flat |
| Brackets & Mounts | | |
| 11 | 909219 | Cable Bracket 4 25/32" x 6" |
| 12 | 909226 | Blinker Mount Weld't - R.H |
| 13 | 909227 | Blinker Mount Weld't - L.H |
| 14 | 909231 | Light Switch Box Btm Pl 4" x 7 1/2" |
| 15 | JDCAH77279 | Clip |
| 16 | JDCAH78237 | Clip, Plastisol |
| 17 | 81549 | 5/16" x 3/4" Hex Bolt (pl) |
| 18 | 81569 | 5/16" Lock Washer (pl) |
| 19 | 81568 | 5/16" Hex Bolt (pl) |
| 20 | 908916 | 1/2" Strain Relief Connector |
| 21 | 909427 | Lock Nut, Strain Relief Connector |

## 16” X 104’ AUGER LIGHT KIT ASSEMBLY

The light kit can be assembled while assembling the auger or it can be added afterwards. The light kit will have to be used in conjunction with the reflective safety decals in some areas. Check local laws to see if this applies in your area. The reflectors and instructions for their placement are in the crate of parts. Always use the light kit when moving the auger on a public roadway.

1. The main harness (#1) along with the two lines to the halogen lamps (#2 & #3) connect to the two switches (#9) mounted in the switch box welded to the input box. Use a clip (#16) and a 5/16” x ¾” hex bolts, lock washer and hex nut to fasten the main harness to the side of the valve mount on the input box. The main harness has a 7 pin round end. An adapter (#10) which coverts 7 pin round to 7 pin flat is supplied with the light kit. See the wiring schematic for the proper wiring. Hook-up at the switch.

2. Bolt one halogen lamp (#8) to the top box on the intake auger as shown in drawing. Position the lamp so it points at the hopper. Halogen lamps are for use during auger operation only. Switch them off during transport. The harness for the intake auger lamp is clamped on with clip (#15) using the top bolt on the clean out at the top of the intake auger. The other end of the harness connects to the switch as shown in wiring schematic.

3. Bolt the second halogen lamp to the top end plate on the auger. Bolt cable brackets (#11) to all four sets of pipe rings using the top two bolts on the pipe ring as shown in drawing. Run the 107-foot wiring harness (#3) from the halogen lamp at the top down to the switch. Clamp the harness to the cable brackets on the pipe rings using clips (#15) with 5/16” x ¾” hex bolts, lock washers and hex nuts. Pull the bottom end of the harness through the cable brackets and lower bridging stand welded to the bottom auger tube. Connect the bottom end of the harness to the switch as shown in the wiring schematic. A clip (#15) holds the harness at the top of the auger using one of the bolts holding on the top end plate as shown in drawing. Use this lamp for positioning the spout over a bin.

4. The three lines running to the switch box must be fitted through three straw relief connectors (#20) mounted in the switch box bottom plate (#14). Assemble the connectors with accompanying lock nuts (#21) on the three wires before making the final connections. Bolt the bottom plate to the switch box using 5/16” x ¾” hex bolts and lock washers. Lock the wires in place using the lock nuts which fit onto the connectors.

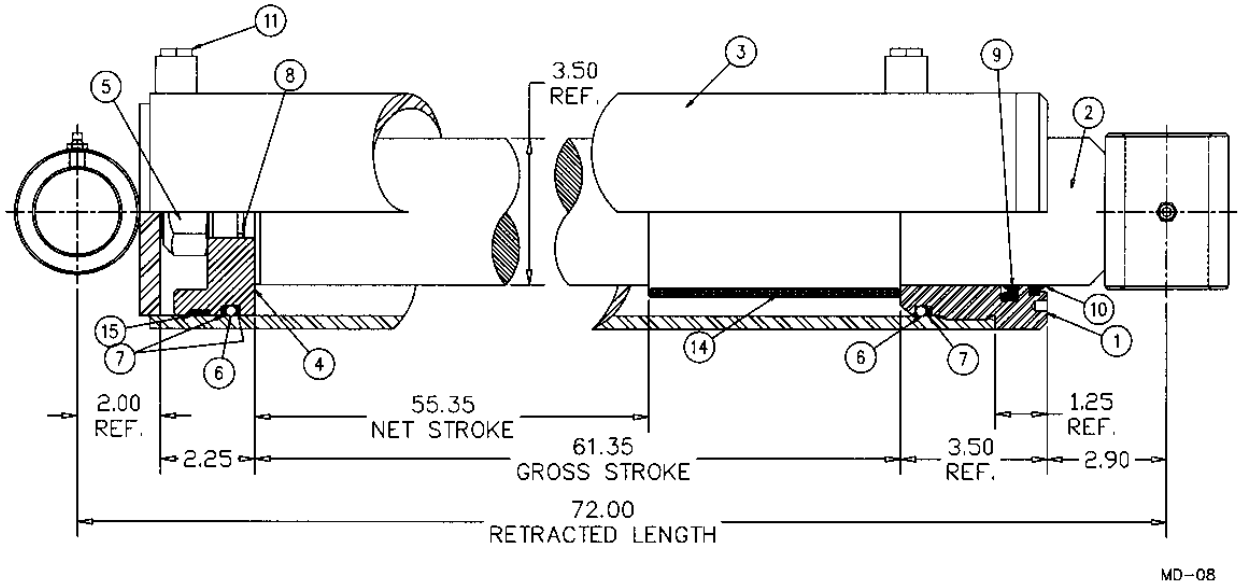
## 16” X 104’ AUGER LIGHT KIT ASSEMBLY – cont’d.

5. Remove the nuts and lock washers from the top two bolts on both undercarriage clamp plates and bolt on the right and left blinker mount weldments (#12 & #13). The ends should face out across the tire. Bolt an amber light (#7) to the top of each mount. The 30-inch harness (#6) connects to the light on the right hand side as shown in drawing. The two lights are joined by a 13-foot harness (#5). Use nylon ties to fasten the harness to the axle so it will not hang down. The 45 foot harness (#4) attaches at the point where the 30 inch and 13 foot cables join. Run this wire along the right hand undercarriage and clamp on using nylon ties. Thread the remaining wire through the openings in the cable brackets welded to the side of the auger tube down to the switch box. Connect the end to the main wiring harness

6. Connect the main wiring harness to the towing vehicle and check to see that all lights are working properly. The halogen lamps should turn on and off with the switches. The amber lights should turn on and off with the towing vehicle lights. Use the vehicle flasher if you want the amber lights to flash.

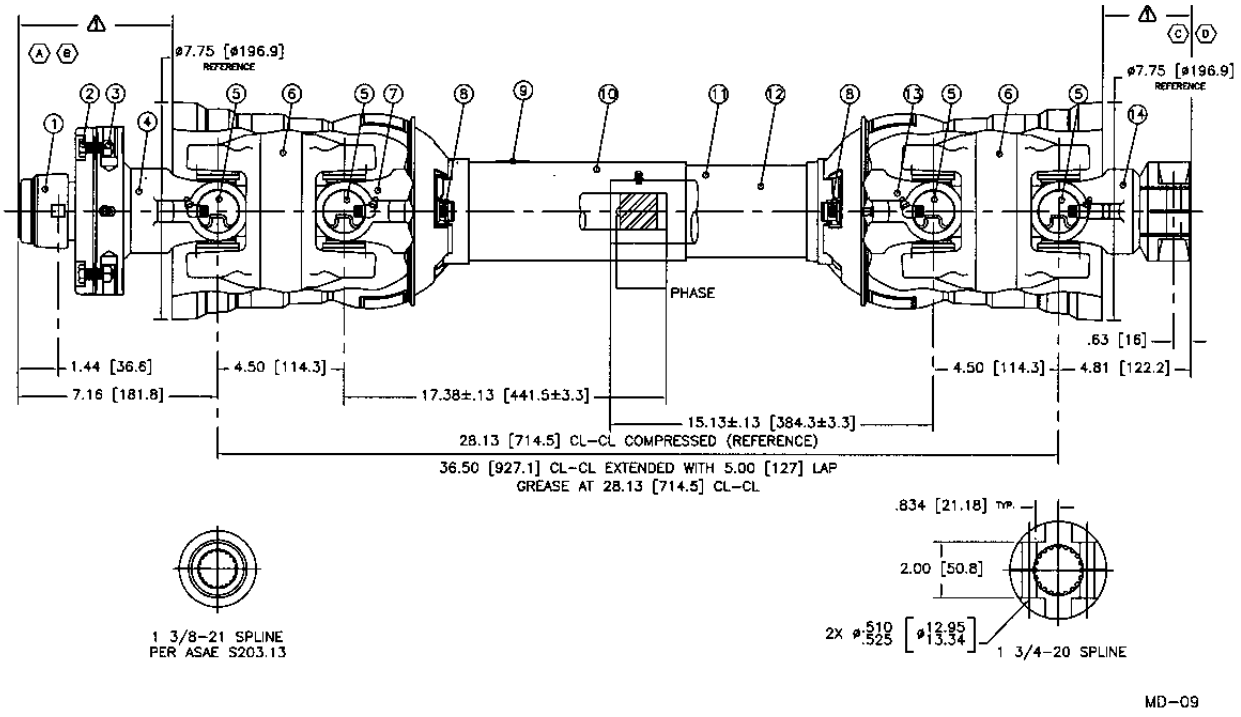
## 16" x 104' Backsaver Auger - Cylinder F0664

| Item # | Part # F0664 | Description |
|---|---|---|
| 1 | 25123 | 5.0 Dia. Headplate |
| 2 | 116817 | Shaft Weld't 3.5 od x 70.00 Lg |
| 3 | 25329 | 5.0 Dia. Tube Weld't |
| 4 | 116818 | 5.0 Dia. Piston |
| 5 | 87557 | Locknut 1.25 UNF |
| 6 | 82425 | O-Ring 4.50 ID x 5.00 OD x 0.085 |
| 7 | 83425 | Backup 4.50 ID x 5.00 OD x 0.085 |
| 8 | 82214 | O-Ring 1.00 ID x 1.25 OD Buna |
| 9 | 115130 | U-Cup 4.25 OD x 3.50 ID x 0.375 |
| 10 | 115129 | Wiper Seal 3.50 ID x 4.00 OD x 0.25 |
| 11 | 812081 | Plug 3/4 MORB Steel |
| 12 | 22370 | Hydraulic Cylinder Decal |
| 13 | 105420 | Reference Plate JBI/FK Serial # |
| 14 | 116129 | Stop Tube 6.00 Lg |
| 15 | 814406 | Wear Ring 5.00 OD x 4.75 ID x 0.500 W |

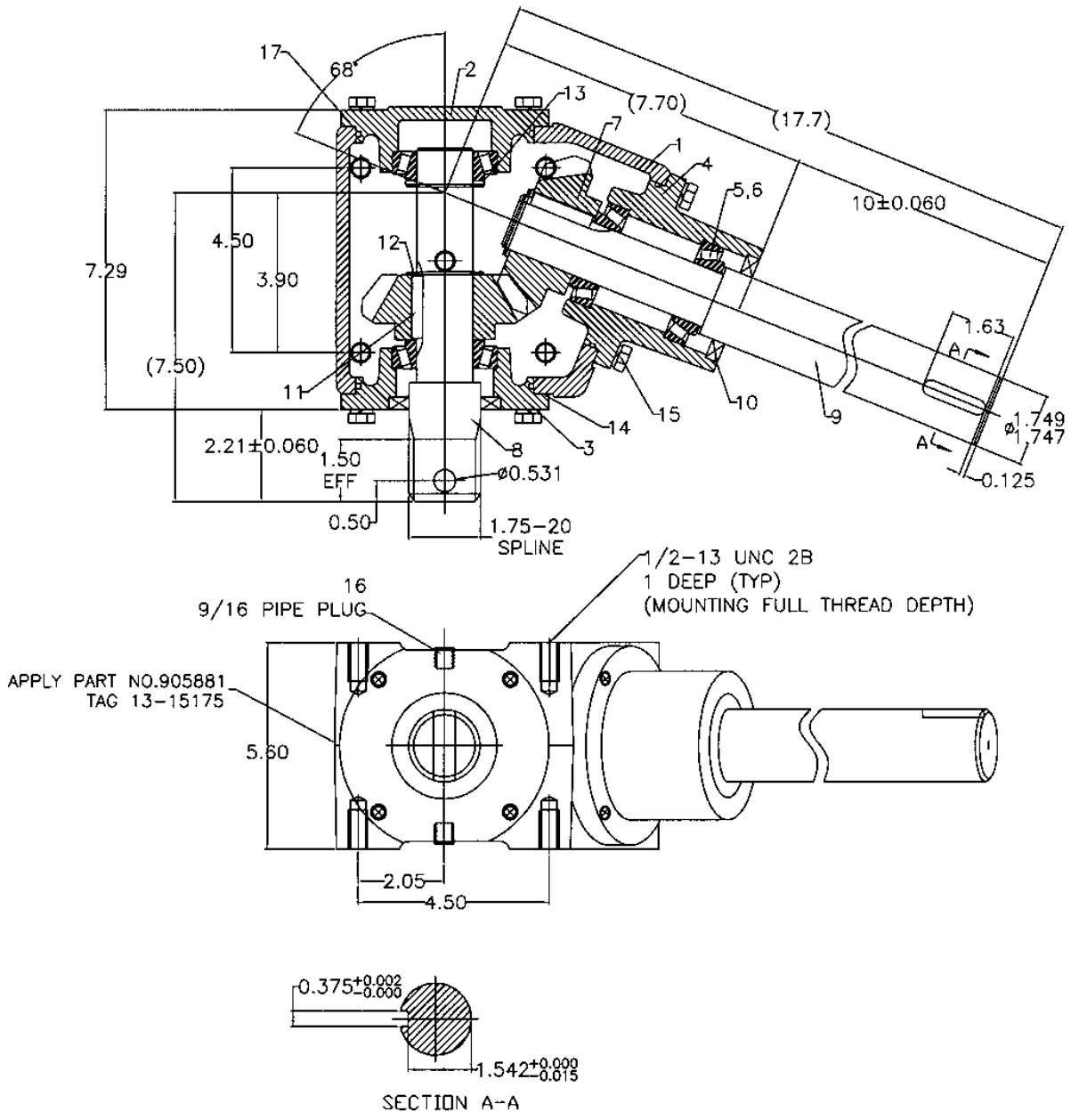


## 16" x 104' Backsaver Auger - PTO F0680

| Item # | Part # | Description |
|---|---|---|
| | F0680 | Shaft Complete |
| | 909354 | Joint & Shaft Half - Tractor |
| | 909355 | Joint & Tube Half - Implement |
| 1 | 936433 | SSL/Auto-Lock Repair Kit |
| 2 | 909356 | Bolt, .375-16 x 1.00 Lg., Gr. 8 |
| 3 | 909357 | Lock Nut, .375-16 |
| 4 | 909358 | Ball Shear ASM. |
| 5 | 906505 | 55E Cross & Bearing Kit |
| 6 | 936436 | Center Housing |
| 7 | 909359 | Yoke & Shaft (1.31 Square) |
| 8 | 908844 | Guard Repair Kit |
| 9 | 909360 | Safety Sign |
| 10 | 909361 | Outer Guard |
| 11 | 909362 | Inner Guard |
| 12 | 909363 | Safety Sign (Not Shown) |
| 13 | 909364 | Yoke, Tube & Slip Sleeve |
| 14 | 909365 | Yoke |



## 16" x 104' Backsaver Auger - Intake Auger Gearbox (905881)

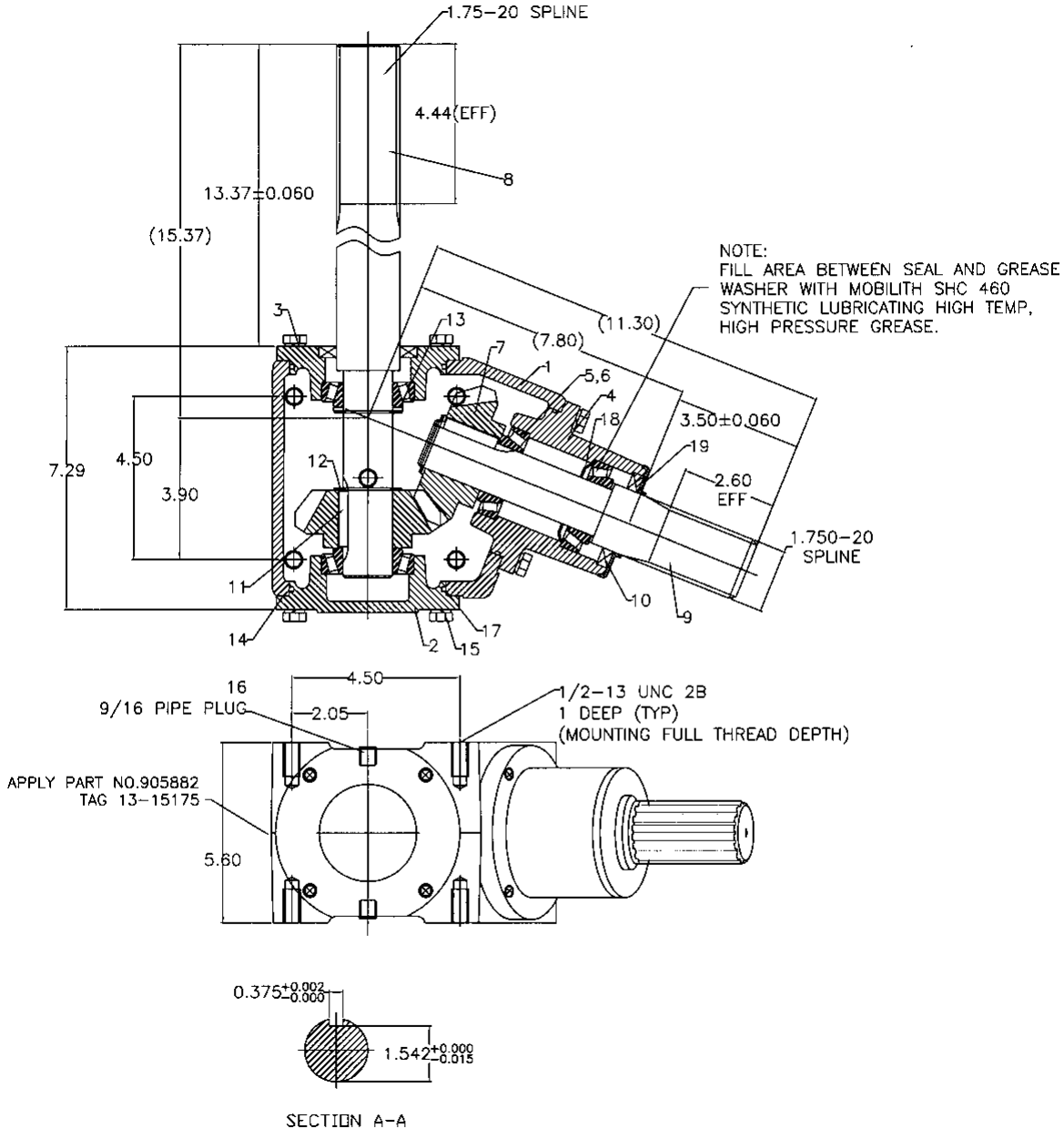



MD–10

## 16" x 104' Backsaver Auger - Intake Auger Gearbox (905881)

| Item # | Part # | Description |
|---|---|---|
| | 905881 | Complete Gearbox |
| 1 | 960803 | Housing |
| 2 | 960805 | End Cap |
| 3 | 909366 | End Cap |
| 4 | 909367 | Quill |
| 5 | 967208 | Bearing Cone LM48548 |
| 6 | 968412 | Bearing Cup LM48510 |
| 7 | 960812 | Gear, DP 4.23 Teeth 17 |
| 8 | 909368 | Shaft, Cross |
| 9 | 909369 | Shaft, Quill |
| 10 | 909370 | Seal, (1.75 x 2.717x0.315) |
| 11 | 960821 | Square Key, 5/16" x 1.61" |
| 12 | 960809 | Snap Ring |
| 13 | 960808 | Spacer |
| 14 | 960815 | Gasket |
| 15 | 960814 | Capscrew, 3/8"-16UNC x 1.00" |
| 16 | 960818 | 9/16" Pipe Plug w/ O-Ring |
| 17 | 908895 | O-Ring, 105mm x 3.1 |

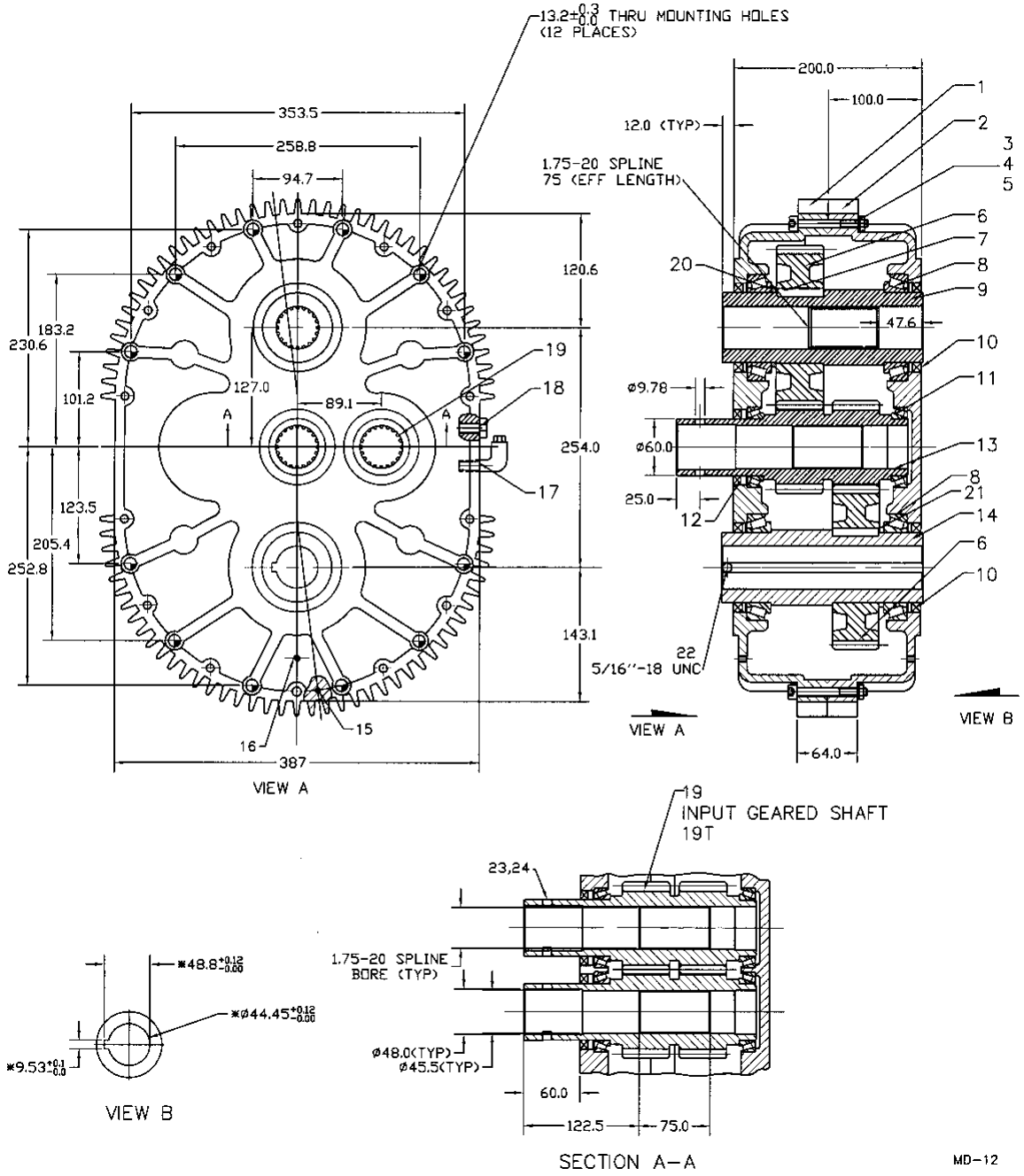
## INPUT BOX GEARBOX – PART #905882



## 16" x 104' Backsaver Auger - Input Box Gearbox (905882)

| Item # | Part # | Description |
|---|---|---|
| | 905882 | Complete Gearbox |
| 1 | 960803 | Housing |
| 2 | 960805 | End Cap |
| 3 | 909366 | End Cap |
| 4 | 909367 | Quill |
| 5 | 967208 | Bearing Cone LM48548 |
| 6 | 968412 | Bearing Cup LM48510 |
| 7 | 960812 | Gear, DP 4.23 Teeth 17 |
| 8 | 909371 | Shaft, Cross |
| 9 | 909372 | Shaft, Quill |
| 10 | 909370 | Seal, (1.75 x 2.717x0.315) |
| 11 | 960821 | Square Key, 5/16" x 1.61" |
| 12 | 960809 | Snap Ring |
| 13 | 960808 | Spacer |
| 14 | 960815 | Gasket |
| 15 | 960814 | Capscrew, 3/8"-16UNC x 1.00" |
| 16 | 960818 | 9/16" Pipe Plug w/ O-Ring |
| 17 | 908895 | O-Ring, 105mm x 3.1 |
| 18 | 960824 | Grease Washer |
| 19 | 909372 | Shield |

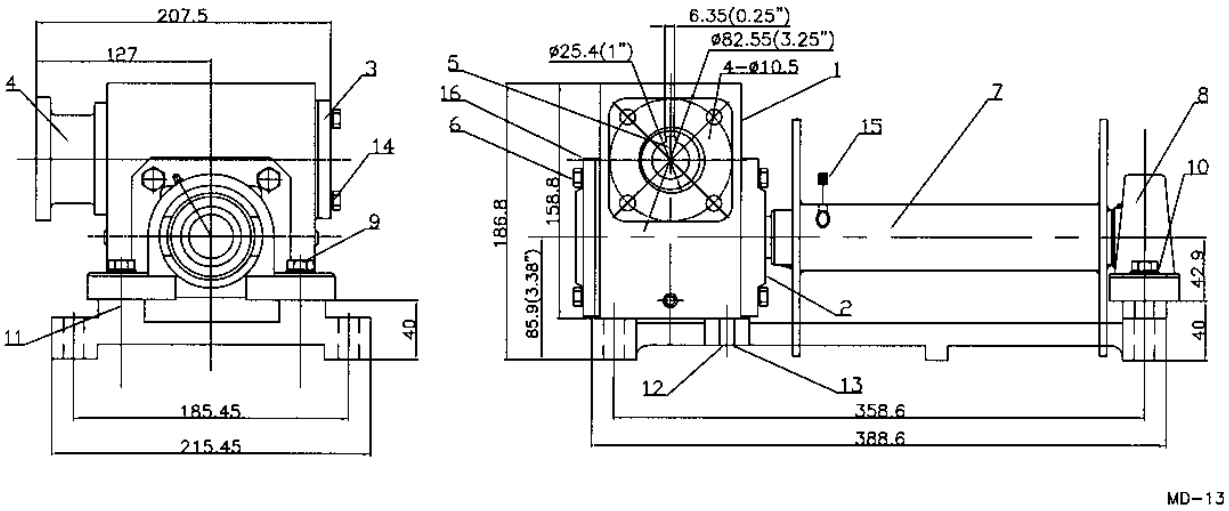
## RPM GEARBOX – PART #906628



## 16" x 104' Backsaver Auger - RPM Gearbox (906628)

| Item # | Part # | Description |
|---|---|---|
| | 906628 | Complete Gearbox |
| 1 | 909388 | Housing |
| 2 | 909389 | Housing |
| 3 | 909390 | Bolt M8 x 110 |
| 4 | 909391 | Washer M8 x 1mm |
| 5 | 909392 | Nut M8 x 1 |
| 6 | 909393 | Output Gear M4.5 35 T |
| 7 | 909394 | Key 52 x 22 x 7.5 |
| 8 | 909395 | Bearing 29688/20 |
| 9 | 909396 | Output Shaft |
| 10 | 909397 | Oil Seal 94 x 74 x 10 |
| 11 | 909398 | Bearing 32912 |
| 12 | 909399 | Oil Seal 80 x 60 x 8 |
| 13 | 909400 | Idler Sleeve 19T |
| 14 | 909401 | Output Shaft |
| 15 | 909402 | Pin 5 Dia x 30 |
| 16 | 909403 | Pipe Plug 1/4" |
| 17 | 909404 | Vent Plug 3/8" |
| 18 | 909405 | Pipe Plug 3/8" |
| 19 | 909406 | Input Shaft 19T |
| 20 | 909407 | Spacer |
| 21 | 909408 | Spacer |
| 22 | 909409 | Capscrew, 5/16"-18UNC |
| 23 | 909412 | 3/8" x 3" Hex Bolt (pl) |
| 24 | 909413 | 3/8" Lock Nut (pl) |

## INTAKE LIFT – HYDRAULIC WINCH – PART #909143




### 16" x 104' Backsaver Auger - Intake Lift Hydraulic Winch (909143)

| Item # | Part # | Description |
|---|---|---|
| | 909143 | Complete Winch |
| 1 | 909374 | Housing |
| 2 | 909375 | Output Cap |
| 3 | 909376 | Input Cap |
| 4 | 909377 | Input Flange |
| 5 | 909378 | Worm |
| 6 | 909379 | Bolts |
| 7 | 909380 | Output Shaft |
| 8 | 909381 | Bearing |
| 9 | 909382 | Bolt |
| 10 | 909383 | Washer |
| 11 | 909384 | Base |
| 12 | 909385 | Bolt |
| 13 | 909386 | Washer |
| 14 | 909387 | Bolt |
| 15 | 967050 | 3/8" x 1/4" Socket Setscrew |

## SHIPPING BUNDLES

**SIZE: 16" x 104’ BACKSAVER AUGER - Y16104**

| QUANTITY REQUIRED | BUNDLE NUMBER | DESCRIPTION |
|---|---|---|
| 1 | F0108 | Intake Auger Assembly |
| 1 | F0109 | Multi-flighting Hopper Assembly |
| 1 | F0114 | Input Box |
| 1 | F0128 | Crate of Parts |
| 1 | F0129 | Tube #1 Assembly |
| 1 | F0130 | Tube #2 Assembly |
| 1 | F0131 | Tube #5 Assembly |
| 1 | F0139 | Tube #3 Assembly |
| 1 | F0140 | Tube #4 Assembly |
| 1 | F0611 | Lower Lift Right |
| 1 | F0612 | Lower Lift Left |
| 2 | F0679 | Wheel and Tire Assembly |
| 1 | 905732 | Undercarriage Left |
| 1 | 905733 | Undercarriage Right |
| 1 | 905745 | Axle |
| 1 | 908445 | Upper Lift Arm |

# NOTES

# NOTES

# NOTES

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