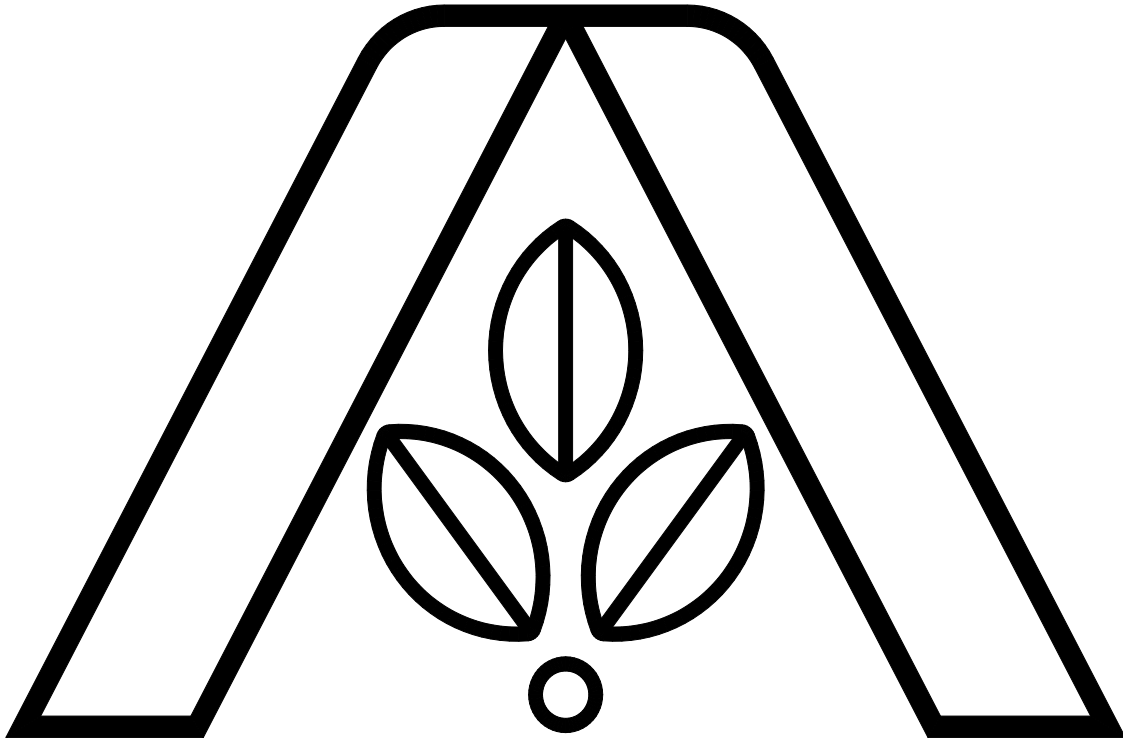


AG SHIELD



OPERATOR'S HANDBOOK AND PARTS MANUAL ReCon 200 pull type

Ag Shield Manufacturing
Box 9, Benito, Manitoba R0L 0C0
phone 800-561-0132 or 204-539-2000
fax 204-539-2130
e-mail address sales@agshield.com
Please visit web site at <http://www.agshield.com>

Printed in Canada

- Nov 25, 2002

REV 8A

-Part No 113587

Serial no.-1802100 1803700

2" Mechanical gearbox drive

RETURN TO

WARRANTY REGISTRATION-ReCon 200 Swath Reconditioner



AG SHIELD MANUFACTURING

BOX 9, BENITO, MB, R0L 0C0

PHONE 800-561-0132 or 204-539-2000 FAX 204-539-2130

e-mail sales @agshield.com

This form must be filled out by the dealer(if applicable) and signed by both the dealer and customer at the time of delivery, and returned to Ag Shield within 10 days to validate warranty.

Customer _____

Dealer _____

Address _____

Address _____

City, _____

City, _____

Prov. _____ Code _____

Prov. _____ Code _____

phone(_____) _____

phone(_____) _____

fax _____

fax _____

Model and size _____ ReCon 200

Model and size _____ ReCon 200

_____ 7 ft _____ 9 ft _____ Double 9 ft.

Serial no _____

Delivery Date _____

Delivery Date _____

Used for - ☐ farm ☐ custom haymaking

Used for - ☐ farm ☐ custom haymaking

DEALER INSPECTION REPORT

SAFETY

_____ Hydraulic Reservoir filled 3" top with reservoir in working position

_____ All decals installed

_____ Hydraulic connections all sealed

_____ Reflectors clean

_____ Rollers set @1/8" lowest both sides

_____ Guards and shields installed

_____ Springs set to 14.5" overall

_____ Review operating and safety instructions

_____ Tire pressure 18 psi for cushion

_____ Retainer pins installed as required

I have thoroughly instructed the customer on the above described equipment, including the content of the Owner's Handbook, equipment care, adjustments, safe operation, and applicable warranty policy.

Date _____ Dealer signature _____

The equipment was complete with all parts in good working order except as noted below. I have received the owner's handbook, and I have been thoroughly instructed in the use of it. I have been instructed in the care, adjustments, the safe operation of the machine, and the applicable warranty policy.

Date _____ Customer signature _____

Except _____

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2.INTRODUCTION AND SIGN-OFF FORM

Congratulations! on your choice of an Ag Shield ReCon 200 forage reconditioner. This equipment has been designed and manufactured to meet the haying needs of the discerning farmers and custom haymakers.

OPERATOR ORIENTATION - The directions left, right, front and rear, as mentioned throughout this manual, are as seen from the tractor driver's seat and facing in the normal direction of travel.

Ag Shield follows the general safety standards specified by the American Society of Agricultural Engineers (ASAE) and the Occupational Safety and Health Administration OSHA). Anyone who will be operating and/or maintaining the Ag Shield ReCon 200 must read and clearly understand ALL Safety, Operating, and Maintenance information presented in this manual.

Do not operate or allow anyone else to operate this equipment until such information has been reviewed. Review this information annually before season start-up. Make these reviews of safety and operation a standard practice for all of your equipment. An untrained operator is **not qualified** to operate this machine.

A sign off sheet is provided for your record keeping to show that all personnel who will be working with the equipment have read and understood the information in the Operators Handbook and have been instructed in the operation of the equipment.

SIGN-OFF FORM

DATE	OPERATORS SIGNATURE	EMPLOYERS SIGNATURE

3. SAFETY

SAFETY ALERT SYMBOL

This Safety Alert symbol means:
ATTENTION! BECOME ALERT!
YOUR SAFETY IS INVOLVED!

The Safety Alert symbol identifies important safety messages on the Ag Shield ReCon 200 and in the manual. When you see this symbol, be alert to the possibility of personal injury or death. Follow the instructions in the safety message.



3 Big Reasons

Accidents Disable and Kill
Accidents Cost
Accidents Can Be Avoided

SIGNAL WORDS:

Note the use of the signal words **DANGER**, **WARNING** and **CAUTION** with the safety messages. The appropriate signal word for each message has been selected using the following guide-lines:

- DANGER -** An immediate and specific hazard which **WILL** result in severe personal injury or death if the proper precautions are not taken.
- WARNING -** A specific hazard or unsafe practice which **COULD** result in severe personal injury or death if proper precautions are not taken.
- CAUTION -** Unsafe practices which **COULD** result in personal injury if proper practices are not taken, or as a reminder of good safety practices.

3.1. SAFETY OVERVIEW

YOU are responsible for the **SAFE** operation and maintenance of your Ag Shield ReCon 200. **YOU** must ensure that you and anyone else who is going to operate, maintain or work around the reconditioner be familiar with the operating and maintenance procedures and related **SAFETY** information contained in this manual. This manual will take you step-by-step through your working day and alerts you to all good safety practices that should be adhered to while operating the reconditioner.

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.

- Reconditioner owners must give operating instructions to operators or employees before allowing them to operate the ReCon 200, and at least annually thereafter per OSHA regulation 1928.57.
- The most important safety device on this equipment is a **SAFE** operator. It is the operator's responsibility to read and understand **ALL** Safety and Operating instructions in the manual and to follow these. All accidents can be avoided.
- A person who has not read and understood all operating and safety instructions is not qualified to operate the machine. An untrained operator exposes himself and bystanders to possible serious injury or death.
- Do not modify the equipment in any way. Unauthorized modification may impair the function and/or safety and could affect the life of the equipment.
- Think **SAFETY!** Work **SAFELY!**

3.2. GENERAL SAFETY

1. Read and understand the Operator's Manual and all safety signs before operating, maintaining, adjusting or unplugging the ReCon 200.
2. Only trained competent persons shall operate the reconditioner. An untrained operator is not qualified to operate the machine.



3. Have a first-aid kit available for use should the need arise and know how to use it.



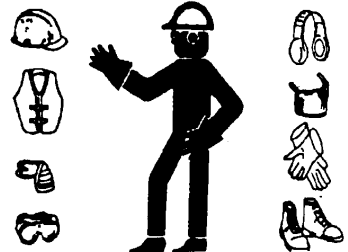
4. Have a fire extinguisher available for use should the need arise and know how to use it.



5. Do not allow riders.

6. Wear appropriate protective gear. This list includes but is not limited to:

- A hard hat
- Protective shoes with slip resistant soles
- Protective glasses or goggles
- Heavy gloves
- Hearing protection



7. Stop the engine, place all controls in neutral, set park brake, remove ignition key and wait for all moving parts to stop before servicing, adjusting, repairing or unplugging.
8. Review safety related items with all personnel annually.

3.3. MAINTENANCE SAFETY

1. Review the Operators Manual and all safety items before working with, maintaining or operating the reconditioner.
2. Stop the tractor engine, place all controls in neutral, set park brake, remove ignition key, wait for all moving pads to stop before servicing, adjusting, repairing or unplugging.
3. Before applying pressure to a hydraulic system, make sure all components are tight and that steel lines, hoses and couplings are not damaged.
4. Relieve pressure from hydraulic circuit before servicing or disconnecting from tractor.
5. Keep hands, feet, clothing and hair away from all moving and/or rotating pads.
6. Clear the area of bystanders, especially children, when carrying out any maintenance and repairs or making any adjustments.
7. Place stands or blocks under the frame before working beneath the machine.

3.4. THROWN OBJECTS SAFETY

1. Always wear safety goggles when working near or adjusting conditioner.
2. Never stand or run directly behind rollers when machine is rotating, as rollers are capable of throwing obstacles at greater than 30 mph.
3. Shields are provided to reduce thrown debris hazard, Leave chain guard in place, be sure the rock guards are in place, inspect chain guard frequently to ensure protection is in good repair.

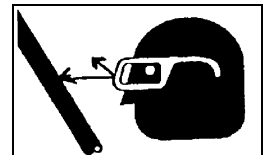
3.5. CHAIN DRIVE SAFETY

1. Always keep safety guard in place. You might be the one who trips and falls into a rotating machine.
2. Never adjust the chain tension, roller spacing, roller tension, or other items with the machine running, Always stop the machine before opening chain cover.

3.6. HYDRAULIC SAFETY

1. Always place all tractor hydraulic controls in neutral before dismounting.

2. Make sure that all components in the hydraulic system are kept in good condition and are clean.
3. Replace any worn, cut, abraded, flattened or crimped hoses and steel lines.
4. Do not attempt any makeshift repairs to the hydraulic lines, fittings or hoses by using tape, clamps or cements. The hydraulic system operates under extremely high-pressure. Such repairs can fail suddenly and create a hazardous and unsafe condition.
5. Wear proper hand and eye protection when searching for a high-pressure hydraulic leak. Use a piece of wood or cardboard as a backstop instead of hands to isolate and identify a leak.
6. If injured by a concentrated high-pressure stream of hydraulic fluid, seek medical attention immediately. Serious infection or toxic reaction can develop from hydraulic fluid piercing the skin surface.
7. Before applying pressure to hydraulic system make sure that all connections are tight and that all hoses and fittings are in good condition.



3.7. MECHANICAL GEARBOX DRIVELINE SAFETY

The operator must obey all safety labels and must maintain the proper shielding. A high percentage of driveline injuries occur when safety shielding is missing or not functioning properly.

1. Do not operate the machine without all driveline, tractor, and implement shields in place.
2. Before operating the machine be sure drivelines are attached securely to the tractor and to the implement.
3. Keep operators and bystanders away from all moving parts.
4. Shut off tractor engine and remove key before coming close to the implement or doing any maintenance

5. Drive shafts shielding must be kept in condition and checked daily to see that it is free spinning on the inner shaft.

3.8. STORAGE SAFETY

1. Store unit in an area away from human activity.
2. Do not permit children to play on or around the stored reconditioner.
3. Store in a lower position so persons cannot be injured or property cannot be damaged by mechanical failure.

3.9. TRANSPORT SAFETY

1. Read and understand ALL the information in the Operator's Manual regarding procedures and SAFETY when operating the ReCon 200 in the field and/or on the road.
2. Check with local authorities regarding machinery transport on public roads. Obey all applicable laws and regulations.
3. Always travel at a safe speed. Use caution when making corners or meeting traffic.
4. 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. Daybreak and dusk are particularly dangerous and pilot vehicles are recommended.
5. Ensure that the trailer is hitched positively to the towing vehicle. Always use a safety chain between the machine and the tractor.
6. Keep to the right and yield the right-of-way to allow faster traffic to pass. Drive on the road shoulder, if permitted by law.
7. Always use hazard warning flashers on the ReCon 200 when transporting unless prohibited by law.

3.10. REFUELING SAFETY



1. Handle fuel with care. It is highly flammable.
2. Do not refuel the machine while smoking or when near open flame or Sparks.

3. Stop engine before refueling. Clean up spilled fuel before restarting engine.

3.11. TIRE SAFETY

1. 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.
2. Do not attempt to mount a tire unless you have the proper equipment and experience to do the job.
3. Have a qualified tire dealer or repair service perform required tire maintenance.
4. Operate the tires at the pressures, loads, and speeds suggested by the manufacturer.

3.12. OPERATING SAFETY

1. Read and understand the Operator's Manual and all safety signs before using.
2. Stop engine place all controls in neutral, set park brake, remove ignition key, wait for all moving parts to stop before servicing, adjusting, repairing or unplugging.
3. Before conditioning a field, be familiar with all potential hazards: trees, rocks ditches, gullies, etc. Plan your route to avoid hazards. Keep conditioner width in mind when maneuvering to avoid obstacles.
4. Keep hands, feet, hair and clothing away from all moving and/or rotating parts.
5. Keep all shields and guards in place when operating.
6. Do not allow riders on the ReCon 200 or tractor during operation or transporting.
7. Clear the area of all bystanders, especially children, before starting.
8. Stay away from machine when folding deflectors. Keep others away.
9. Before applying pressure to the hydraulic system, make sure all components are tight and that steel lines, hoses and couplings are not damaged.
10. Review safety instructions annually

3.13. SAFETY DECALS

Become familiar with these decals and the hazards they are marking.



part #113522



part #113524



part # 113552

Become familiar with these decals and the hazards they are marking.



part # 113523



part # 113525



part # 113526

4. Setup from Shipping Mode

4.1. MECHANICAL GEAR DRIVE

****Refer to section 7, SPECIFICATIONS - RECON 200, page 22 for correct requirements for the model and size of your ReCon 200.**

The ReCon 200 roller unit has been run and rollers timed at the factory.

The driveline was tested for output, although not all components together.

Items required or preferred for setup

1. Tractor with front end loader or forklift
2. Tractor with hydraulic system to raise and lower, machine, and 1000 or 540 PTO as required.
3. Hand tools
4. Source of air to inflate tires to 18 psi and pressure gauge

Procedure

1. Inflate tires to 18 psi only (depending on model and size of your machine). This pressure will allow the tires side wall to flex over bumps in the field, and yet is enough pressure to allow long distance travel at 100 km/h (60 mph).
2. Place ReCon 200 in area where you can use front end loader at 15ft height
3. Remove the one inch pin holding 2 arms 320205 & 320206 to deflector.
4. Cut wires and metal banding that hold plastic deflectors (320269 & 320270) onto chassis and set aside the deflectors.
5. Cut wires and metal banding that hold top all metal deflector (320236) onto chassis. Loosen jack(also secures deflector) and set deflector and jack aside
6. Remove toolbox & obtain these instructions
7. Cut straps securing A-front forward hitch. With a partner or hoist set aside. Cut zip ties and remove the two pieces of PTO shaft. Remove yellow hose/light bar and set aside. Hook chain to main frame hitch. Use the loader to back up and pull the mainframe over to leave unit in field ready position.
8. Install A-front forward hitch onto mainframe using the 5/8"x2" bolts and 5/8" nylok nuts and torque to 160+ lb.-ft. Install the hitch jack onto the hitch- assembly so that it points in the same direction as the four mounting holes.
9. Hook up the farm tractor to the draw bar and adjust hitch to provide 14"-16" rearward from tip of PTO shaft to center of draw pin hole.
10. Attach forward drive shaft with smaller overrunning clutch towards rear of machine and CV joint towards front of machine(to tractor)

11. Attach unit driveline to tractor using the quick-connect coupler.
12. Install right hand light mount by inserting tube into socket on top of rear corner, and tightening the t-bolt.
13. Install right left hand light into bracket using 6mm nuts.
14. Remove plug from lift cylinder Attach the two ¼" hoses to the lift cylinder. Clean and plug hydraulic couplers into tractor, and raise unit slightly until bottom of rollers is about 25 cm (10 inches) above ground.
15. Refer to 8.1ROLLERS/ MAINFRAME(L.H.) and wheel ASSEMBLY page 23. Install the tool box on the top and near the forward edge of the deck (on left hand side) Use two ¼NC x 1" bolts with washers and self locking nuts.
16. Fill the chain oiler reservoir (black cap) with 5 liter (1.4 US Gal) of hydraulic oil (JD Hy Gard or equivalent) and replace cap. Remove the retaining clip and flip the guard up to the front of the machine, open the oil valve. Be sure to shut valve off when testing is complete, as reservoir will drain onto ground.
17. Clear the area of all bystanders, and be sure no tools or items are near the rollers. Start the PTO slowly, observe that the rollers turn,
18. With PTO running raise unit to top, top roller should lift clear of bottom roller. Operate at full-recommended speed for 1 minute, observe chain runs smoothly. Stop machine and observe that oil began to flow to the chain oiling brush while the machine was running.
19. Remove 1" OD x 3 5/8"pin on ram end of deflector cylinder and swing center link out towards rear of machine. Reattach link (tab end) to deflector cylinder using 1" OD x 3 5/8". Link is marked up/down and long end of link should be nearest unit. Attach the two ¼" hoses to the lift cylinder.
20. Using two 1" OD x 5" long pins, install left deflector. The pin head notch must straddle the ReCon frame to stop the pin from turning. Use the cotter pins supplied to retain the hinge pins. Install the right deflector and cotter pins.
21. Install the top deflector through 2 oblong holes in side frame above and to the rear of the rollers. Retain with the bushing and ¼" bolt provided.
22. Grease the 4 grease nipples on deflector pivots; the four on the front of the main lift rockshaft and one on each side on the upper roller pivots. Refer to 5.2.1Lubrication-, page 16.
23. Refer to section 8.2 Deflectors page 25. Install arms (320201,320205,320206) as marked.

5. OPERATIONS



DANGER

WATCH FOR THROWN OBJECTS WHENEVER MACHINE IS RUNNING

5.1. RECON 200 ADJUSTMENTS

The tires have been oversized for maximum flotation; factory setting of tire pressure is 17-19 psi to take advantage of suspension in tire side wall.

5.1.1. Height of operation-Belleville spring disc washers

Proper operating height is the maximum at which the rollers do an excellent job of picking up the swath, usually 8 cm (3") or more between bottom of roller lug and the ground. You will have excessive maintenance if the rollers are continually contacting the ground. All pull type models have Belleville spring disc washers on the lift cylinder to give smooth ride at all operating heights

Set the stroke adjustment on the hydraulic cylinder to the normal operating position. This setting will eliminate the possibility of the rollers being run into the ground on an operator over travel.

Use highest settings to reduce contact with knobby stones and pick up or throw fewer fist-sized stones.

Chain Tension

Refer to "A" Ag Shield ReCon 200 drawing, pg. 20

The main drive chain is kept in correct tension at all times with a compression spring tightener. Continue to increase chain tension until the spring holding cup is within 13mm (1/2") of the spring adapter wldt.(sprocket mount), that is, only 1/2" of spring is visible. This setting allows the idler sprocket to take up extra chain length as upper roller floats without allowing rollers to become out of time.

Spring Tension

The upper roller springs should be tightened until the overall extreme spring measurement is 37cm (14.5"). This tension will keep rollers from moving up excessively even in heavy crops and will allow passage of a 8 cm (3") stone or other hard object with out damage to rollers.

Upper Roller Lift

Refer to "B" on drawing following this section.

When the ReCon 200 frame is raised to highest hydraulic height, the upper roller should be lifted to have approximately 3cm (1 1/4 ") of gap between the lugs of the rollers. Chain may have links removed or added to achieve this setting. Use the lower of two holes in the lever on the rockshaft and 30 rollers plus 2 joiners as a starting point. For your convenience, units have a hole in side plate to allow chain joiner to feed from the inside of end plate when putting link on pivot plate end.

Clearing a Wad

On PTO mechanical drive models, a wad that stops the rollers from turning causes the slip clutches to slip. To get going again, disengage the PTO, raise the machine to highest height (to raise the upper roller), and engage PTO to start rollers. If roller fails to start on 2 attempts, **place PTO in OFF position**, turn off the motor, set the park brake, and walk to rear of machine and lift on lugs of bottom roller to turn wad back out and clear the rollers. A 12-15" crescent wrench can give the operator additional mechanical advantage.

For operation in hemp or wadded swath conditions, an optional 30" roller turning "wrench" is available to assist in reversing rollers. This wrench (part # 320330) also scraps clay from between the lugs on the rollers.

5.1.2. Roller speed

The ReCon 200 is designed to have high roller speed to throw material when combining swaths and to lesser degree inverting swaths. If you are not combining or inverting, the life of the drive chain will be more than doubled by running at 75% of standard input speeds as shown in table below.

Nominal pto input speed	Actual PTO speed Combining or inverting swathes	Fluffing, pick up put down swath behind machine
540	540 rpm	400 rpm
1000	850 rpm	650 rpm

If the swaths are extra heavy, this reduced speed will somewhat reduce capacity.

5.1.3. Timing of Drive Rollers

Refer to "C" on drawing following this section.

It is essential that drive rollers be kept in proper timing and adjustment at all times to avoid damage to drive components.

Timing is accomplished by setting the top roller rotation to mesh with the bottom roller using the timing notches ground into the upper roller shaft. At the factory, the **key way on the lower roller shaft is aligned at the 1:30 position with notches ground into the upper shaft at the 7:30 position.** A new chain should align exactly in this position. A well-used chain will align in a slightly different position as caused by longer chain between roller sprockets. Refer to 6 AG SHIELD RECON 200 GEAR DRIVE/ 540-1000 CHANGE OVER page 21.

Set the top roller to have 3.3mm (1/8") clearance between lug and body of bottom roller, which is the normal lowest setting with the machine height in a low enough position that the 50 chains are not lifting the upper roller. Rotate the rollers by hand to align the key way of lower roller at 1:30 with notches ground into the end shaft of upper roller at 7:30.

If this cannot be done, loosen the 80 chain drive at spring tensioner, and jump chain over sprocket teeth on lower roller until timing is correct. If timing cannot be corrected with above procedure, then chain stretch has caused upper roller to rotate counter clockwise (as viewed from right side) in drawing and 3/4" measurement will be decreased.

The chain should be replaced when 12 links of chain exceeds 314mm (12 3/8"), an increase of 3% or 3/8" from new length, in the opinion of some chain manufacturers much sooner.

On serial numbers 1803113, top roller lug is 2.5mm (1/16") from barrel of bottom roller, and the spacing from rear side of lug on bottom roller to front of lug of top roller is 22mm (7/8").

5.1.4. Roller adjustment vs crop damage

Refer to "D". Ag Shield ReCon 200 drawing, pg. 20

Rollers are factory set to have 1/8" or less between the lug of top roller and the round barrel of lower roller when the roller Quik Set (part # 320230) is at minimum thickness. This setting will give a very aggressive crimping action required for fastest dry down. As the forage becomes drier in swath, it may be desirable to move the rollers further apart. The rollers can be quickly raised 8mm (5/16") to reduce crimp, or 16mm (5/8") to leave slight overlap of lugs on rollers, or 24mm (15/16") to have only a fluffing action on the swath.

If increasing the gap between the rollers does not reduce crop damage to an acceptable level, consider reducing the roller speed, by reducing PTO speed as low as 60% of normal rpm.

5.1.5. Deflector adjustment

The adjustment of both top and side deflectors is critical to obtaining desired results. Both of these adjustments are in turn modified by changes in forward speed. A small change frequently causes dramatic changes in swath shape, position, and degree of inversion.

Refer to "E" on drawing following this section.

The top deflector changes the place of contact of the swath on the side deflector. Use lower setting in high (cross) wind conditions to keep material from scattering excessively. Use highest setting to raise a swath up and drop down on same location. Use any setting to alter the degree of inversion of swath by directing to different position on rear deflectors. In hemp, a low setting will be preferred to keep heavy stocks from scattering.

Side deflectors have a high degree of adjustment to give maximum flexibility in machine usage. The factory setting will allow swaths to be moved to left or right, inverted, or the combining of two cuts into one swath, while the 2nd deflector provides wind protection for the process. Swaths may be shaped into a high narrow configuration by causing material to tumble off of the end of deflectors, or left in original width by setting side deflectors wide enough to avoid contact.

When operating in high crosswind conditions, consider changing side deflector at each end of field to throw primarily down wind.

If 2 conditioning passes (in grasses or hemp) are anticipated, leave the swath wider during first pass, narrowing during second, If bleaching of green color is primary concern, consider more side deflector action to invert and mix swath.

Swaths may be combined with your ReCon 200 by driving one direction and throwing material to the side, and returning on next swath deflecting second swath on or beside the first. Two 12 ft swaths may be combined using standard side deflectors, two 14 may be combined into a single 28ft swath by using optional extensions (part# 320301).

5.2. OPERATIONS

5.2.1. Lubrication-

Grease using standard high quality grease according to the following table. **Do not over grease wheel and roller bearings** to the point where seals are damaged or pushed out.



decals mark zerk

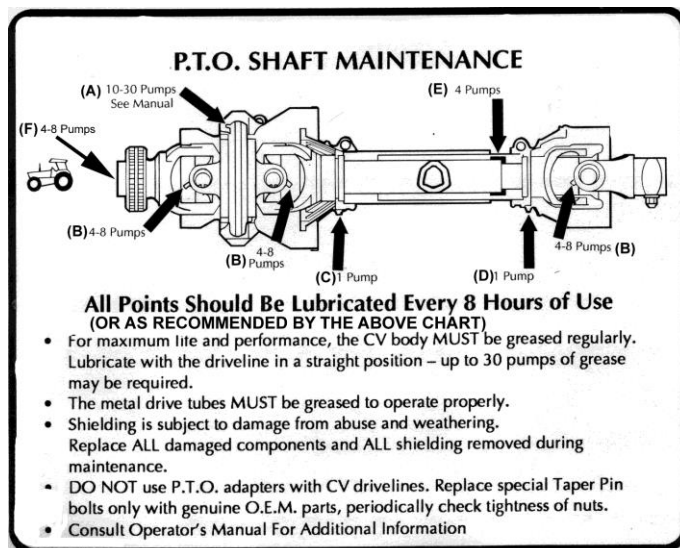
locations

MAINFRAME/ROLLER DRIVE

LOCATION	PERIOD	# OF ZERKS
Main height rock shaft	10hr daily	4 along top
Deflector inner hinges	10hr daily	2 each side
Height cylinder adjustment	10hr daily	1 on casting
Upper roller pivots	10hr-daily	1 each side
Wheel bearings	Weekly +	1 each side
Main roller bearings	120 hours 3 shot per bearing	2 each side do not over grease
Chain tightener 320872	10hr/daily	1 on wldt
Spring adapter 320876	10hr/daily	1 on wldt

DRIVELINE

Decal below	LOCATION	PERIOD	# OF PUMPS	# OF ZERKS
	CV Shaft Assembly:			
A	Center body (C.V. joint)	8 hr/ daily	10-30	1 ea. side of joint
B	Cross journals	8 hr/ daily	4-8	1 ea. yoke
C	Outer tubing	16 hrs daily	1-2	1 ea tube
D	Inner tubing	16 hrs daily	1-2	1 ea tube
E	Shaft inner	16 hr/ daily	4-8	No zerk Apply to shafts
F	Quick connect yoke	40 hr/ weekly	4-8 to inside splines	No zerk Apply to splines
	Overrunning clutch	40 hr/ weekly	1	1 on clutch assembly
	U-joint (side drive shaft)	8 hr/daily	2-4 as req'	1 at gearbox
	Pillow Block*2*	Annual	4-8 as req'	1 on ea. pillow block



Refer to section 8.6 DRIVE LINE COMPONENTS page 30 for additional information on lubrication points of driveline.

5.2.2. Drive chain oiling, all models

Your ReCon 200 has a 5 liter (1.4gal) reservoir built into the frame. The reservoir will empty during normal use in less than 10 hours of operation. Refill through the black pipe cap protruding through the top of machine near the drive chain end. The drive chain requires continuous lubrication using transmission hydraulic oil or 30W motor oil. Oil that is too high a viscosity will not penetrate between the side plates to the pivot pin location. Sticky chain lubrication oils will lubricate the outside of roller but not get between side plates.

The ReCon 200 mechanical drive has a valve on a hose that must be turned on before chain drive begins and off when not in operation for more than 10 minutes.

To maximize the life of the drive chain, consider removing chain daily to soak overnight or having 2 chains to run on alternating days. The chain should be **replaced** when 12 links of chain exceeds 314mm (12 3/8"), an increase of 3% or 3/8" from new length. Replace with highest quality chain available (prefer Ag Shield part # 114206 for Tsubaki long life 80 chain for longest life in comparative tests in this application)

5.3. MECHANICAL GEAR BOX DRIVE ONLY - OPERATIONS

5.3.1. Hook-Up

Length

Adjust the tractor hitch length to provide 14"-16" rearward from tip of PTO shaft to center of draw pin hole.

Attachment

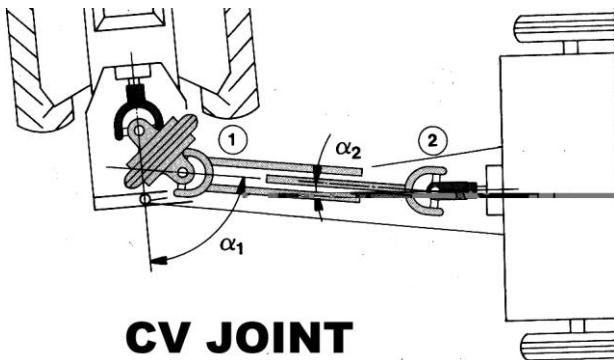
Lubricate tractor PTO splines and quick disconnect yoke with grease to reduce wear on splines. Twist locking collar and slide quick connect yoke onto PTO shaft. Be sure the driveline is properly attached and all bolts and setscrews are tight on the implement input shaft and on the tractor PTO shaft. Raise jack to storage position.

Shielding

Be sure the shielding is not damaged and rotates freely on the driveline.

Working angle

Constant velocity joints can operate up to 80 degrees for short periods.(i.e. during turns).



Storage

When not in use, cover to protect the driveline from the weather. When removed from the machine, store both half shafts together to prevent damage. Check all components for proper function and lubrication before use.

5.3.2. 540-1000 RPM Changeover

The ReCon 200 is designed to have high roller speed to throw material when combining swaths and to lesser degree inverting swaths. If you are not combining or inverting, the life of the drive chain will be more than doubled by running at 75% of standard input speeds as shown in table below.

Nominal pto input speed	Actual PTO speed Combining or inverting swaths	Fluffing, pick up put down swath behind machine
540	540 rpm	400 rpm
1000	850 rpm	650 rpm

The RECON 200 gearbox PTO drive is designed for conversion from standard 540 input RPM to 1000 RPM. For maximum driveline life, the 540 rpm shaft speed is recommended.

Optional # 320473 - 540-1000 RPM Changeover kit

These optional parts include:

- 1- 114260 drive sprocket (80Q18)
- 1- 114249 idler sprocket (80x12T 3/4" bore)
- 1- 100903 hex hd bolt 3/4 x 4
- 1- 102128 nylok nut 3/4 gr. 5 pltd.
- 2- 101118 3/4" washers (1/8" thick)
- 1- 320471 spacer, 1/4"
- 1- 320472-spacer 1/2"

for temporary change

- 1-111311 PTO adapter 1 3/8 21 female x 1 3/8 6 male(540 spline)

OR

For more permanent change-

Optional #320474

These optional parts include:

- 1- 320473 540-1000 RPM Changeover kit
- 1- 111693 Yoke 1 3/8 21 female(1000 spline) for end of drive shaft

Refer to section 6 AG SHIELD RECON 200 GEAR DRIVE/ 540-1000 CHANGEOVER, page 21 and follow this sequence:

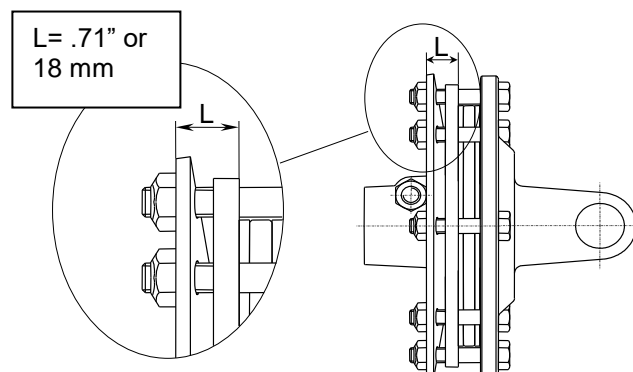
1. Lower machine towards field position slowly until the 50 chains that lift the upper roller are loose.
2. Remove the chain guard.
3. Observe the that alignment of the timing marks on top and bottom roller shafts is the same as the recommended on the diagram in section 6 AG SHIELD RECON 200 GEAR DRIVE/ 540-1000 CHANGEOVER page 21. If not mark for speed of reassembly and timing.
4. Raise the machine to highest setting for convenience during changeover procedures.
5. Block machine at this height for safe working conditions. .
6. Ensure PTO disengaged, parking brake is engaged, tractor is shut off, and key removed.
7. Loosen 80 chain at spring tightener until 1"or more slack. Remove cotter keys from joiner link and remove chain.
8. Remove 4 chain rollers until 82 rollers remain. Use the half link to reconnect. Set chain aside.

9. Remove bushing bolts and bushing from top sprocket (80Q30) and remove top sprocket from the 1 3/8" shaft
10. Install idler sprocket (part #114249) on raised tabs (J) directly below area of top shaft using 3/4" bolt and nut. Use spacers and washers provided to align sprocket with the chain travel over other sprockets.
11. Install 80Q18 sprocket on shaft using same bushing as the 30 tooth sprocket. Align slightly inside the line of the bottom sprockets and tighten bushing bolts. The sprocket should pull into proper line as 3 bolts are tightened. Final torque on the 3 bolts should be 25-30 lb ft
12. Remove blocking and lower machine to ensure rollers are at correct timing marks (notches in line).
13. Reinstall 80 chain (length-82 rollers) around all drive and idler sprockets (see diagram pg 22,) and tighten chain to proper tension. At this point adjustment may be required to one or more sprockets to bring all in line, so chain may have to be loosened. Be sure that all sprockets are aligned and that timing notches are aligned. Retighten chain to proper working tension as per 5.1-RECON 200 ADJUSTMENTS page 15
14. Start the tractor and engage PTO at low engine RPM. If the rollers are not clashing, slowly raise the ReCon 200 to the top of travel. This check is necessary to ensure timing is correct even when the roller is raised up on a wad during field operation.
15. Reinstall the chain guard.
16. If this is a temporary changeover, remove driveline from tractor stub, change output shaft of tractor to 1000 rpm, install the shaft adapter (part # 111311), and reconnect the driveline. Use only bolt tightening adapters.
- 17. Lengthen drawbar to again provide 14"-16" rearward distance from tip of PTO shaft to center of draw pin hole.**
18. If this is intended as a more permanent changeover install yoke (part# 111693) on front of driveline for optimum future operation.
19. Happy haymaking!!

5.3.3. Clutch F34 Spring Disk Maintenance and Settings

Torque Setting Thickness Height (L)

Nm	In.lb	mm	in	mm	in
800	7080	3.50	0.14"	18.0	0.71"



5.3.4. Spring clutch maintenance and settings

Annual maintenance of your clutch is required to ensure that the unit has not rusted and seized in the off-season, effectively eliminating the clutch protection of components.

Refer to "F" in section 6 AG SHIELD RECON 200 GEAR DRIVE/ 540-1000 CHANGEOVER page 21.

1. Park the ReCon so that the discharge of ReCon is clear for 50 yards behind the machine.
2. Shut off tractor engine, set the park brake, disengage the PTO lever, and remove the key.
3. Loosen the 8 bolts sufficiently (approximately 1 full turn) using a 17mm wrench. This will allow the friction plates to slip when machine rollers are jammed to simulate a wad or blockage situation.
4. Kneel down in front of one corner of machine, and pull the rock guard aside. Place a sound block of wood (a piece of 2"X4" approx. 8 inches. long works well) between upper and lower roller lugs with the 8" side parallel to the long axis of the rollers. Slightly turn the rollers to hold the block between 2 lugs
5. Observe that no person or being is in the possible discharge of the block. Although there is NO incidence of this jamming device failing to stay in position, better safe than sorry.
6. Start tractor and carefully engage PTO, watching that the jamming device is working properly to stop rollers.

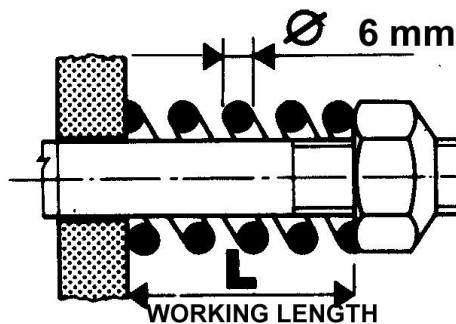
7. Friction type torque limiter should slip on its own hub. This 'burning the clutch' removes rust from the friction plates and prevents damage that could occur should the friction plates become seized and not operate properly.
8. Disengage PTO (AFTER APPROX 5 SEC), then shut off tractor, and remove key. Visually inspect the condition of all components, and service or replace as necessary.
9. Remove object used to jam rollers.
10. Retighten clutch bolts to specifications, ensuring that proper working length of spring is achieved and that this distance is constant for all springs.(see chart)

Spring clutch tension settings

Setting the clutch is critical to correct function of the unit. Adjustment tighter than these settings will result in damage to other components when roller blockage occurs. Improperly tight settings of the springs will void warranty.

Using the 6 mm wire spring supplied, the following chart gives correct spring tension

RPM	WORKING LENGTH- (INCHES)	WORKING LENGTH In MM
1000	1.122	28.5
540	1.102	27.5



5.3.5. Constant velocity (C.V.) shaft

1. The manufacturer recommends proper lubrication and inspection intervals of C.V. components.
2. Become familiar with the limits of the C.V. shaft assembly and components
3. Working angle of constant velocity joints can operate up to 80 degrees for short periods required to turn 90 or 180 degree corners.
4. Refer to 5.3.1, Hook-Up, page 18 for information on working angle, attachment, and storage of C.V. shaft and driveline components.

5.3.6. Lubrication-Mechanical Gearbox Drive

Frequent lubrication is required to maintain superior performance and minimal wear of parts. Grease the driveline parts after the number of hours of use as shown on the chart.

1. After long periods of non-use, lubricate and check the function of every driveline component before operating machine.
2. Grease all universal joints on shaft.
3. Wipe any excess grease off clutch assembly and other driveline components.
4. Check oil level in gearbox and add oil if necessary.
5. Ensure proper operation of friction-type torque limiter.
6. Lubricate tractor PTO splines and quick disconnect yoke with grease to reduce wear on splines

GEARBOX

1. Remove the lower of the two oil level indicator plugs on side of gearbox.
2. If oil begins to drain from the port then the
3. oil level is satisfactory.
4. To add oil, remove fill plug located on top of gearbox. Always use 80-90W gear oil
5. Fill until oil begins to drain from level indicator port on side of gearbox.

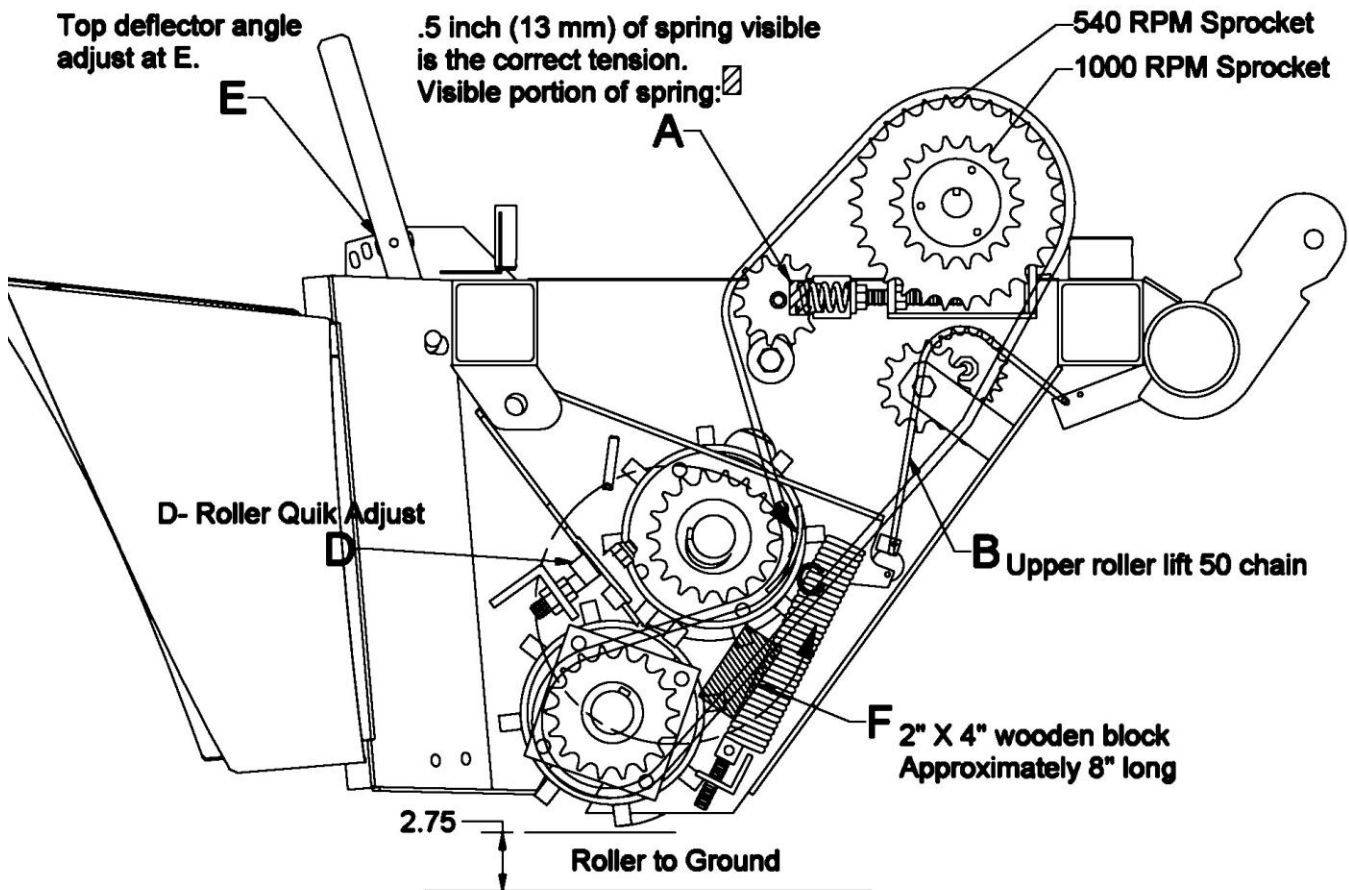
Replace side and top plugs and tighten

DRAIN AND REFILL GEARBOX AT THE BEGINNING OF EACH SEASON

1. Run machine to warm the oil before draining.
2. Raise the machine to a point where the gearbox is level (allows for proper drainage) and block machine for safety.
3. Observe all safe working conditions while performing maintenance. Refer to 3.3 MAINTENANCE SAFETY, page 10.
4. Access drain plug through hole in gearbox mount plate from front and underside of machine Remove drain port plug located on bottom of gearbox using a 5/16" allen wrench.
5. Drain oil into container; replace and tighten drain plug.
6. Remove oil indicator plug on side of gearbox. Remove fill plug located on top of gearbox. Refill gearbox to operating level (oil level at bottom edge of check port). Always use 80-90W gear oil.
7. Replace side and top plugs and tighten.
8. Remove safety blocking, start and run unit to check for leaks.

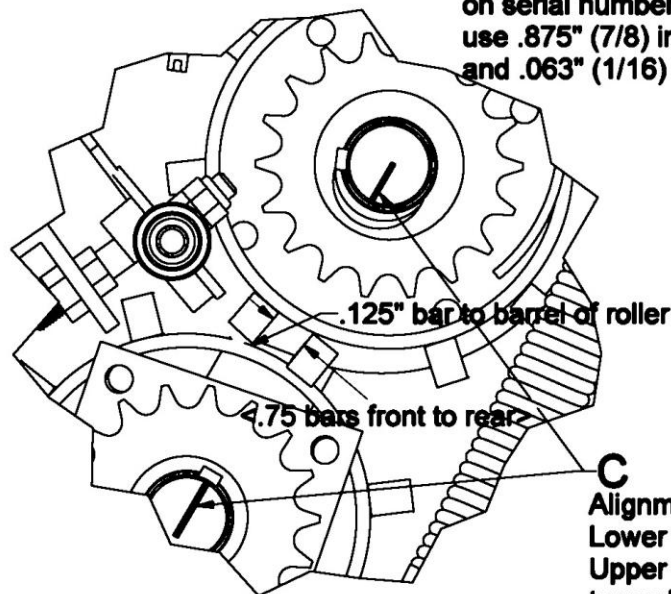
GEARBOX	PERIOD	FILL CAPACITY
2050	ANNUAL	1.0 LITER/ 35oz.
2070	ANNUAL	1.4 LITRE/ 49oz.
2070 with side arm	ANNUAL	1.6 LITRE/ 60oz.

6.AG SHIELD RECON 200 GEAR DRIVE/ 540-1000 CHANGEOVER



Roller Alignment and Timing below

on serial numbers 1803113 up
use .875" (7/8) instead of 3/4 on rotation
and .063" (1/16) instead of .125 on clearance



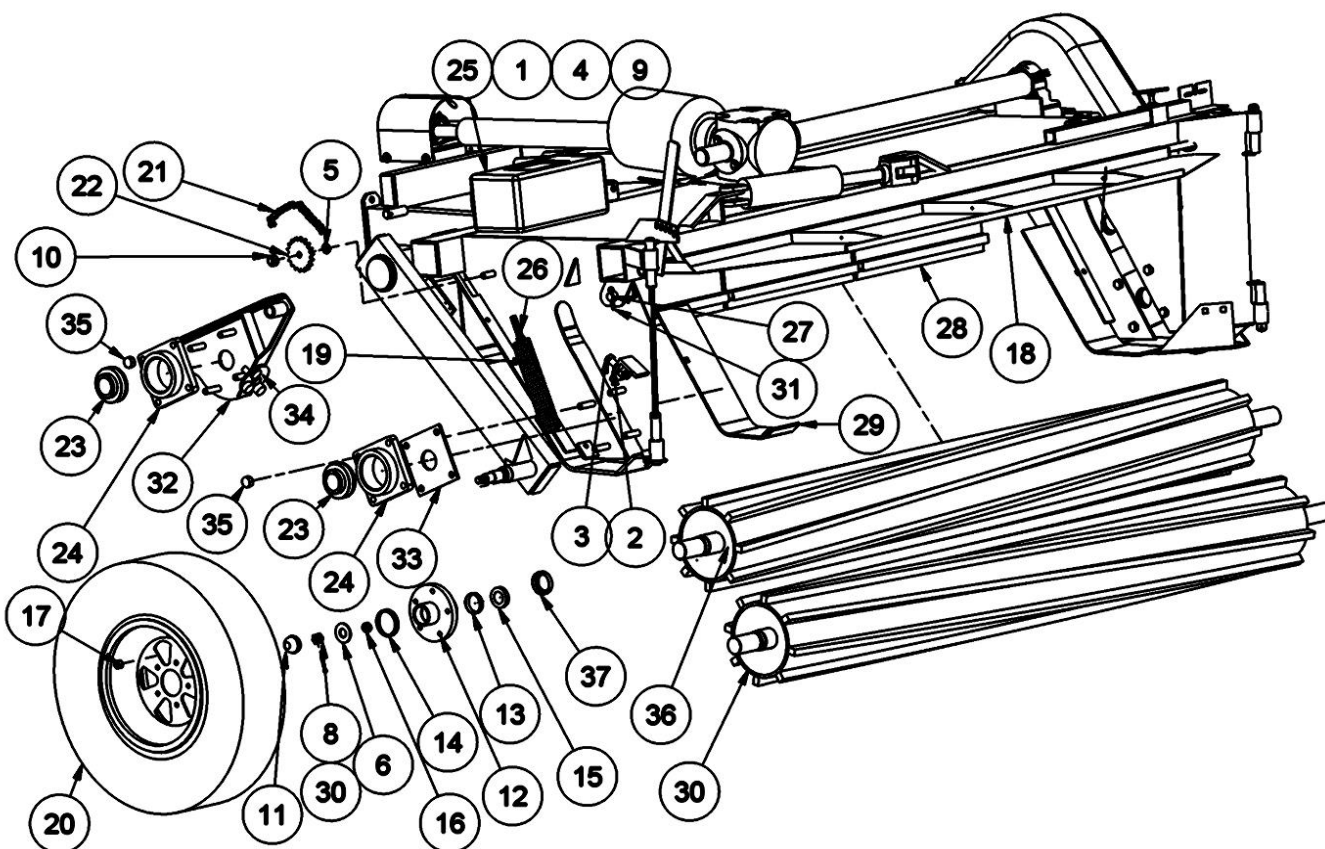
Alignment:
Lower keyway @ 1:30
Upper mark @ 7:30
towards lower (line)

7. SPECIFICATIONS - RECON 200

SPECIFICATION	MECHANICAL GEAR BOX DRIVE 7 ft.-pull type	MECHANICAL GEAR BOX DRIVE 9 ft.-pull-type	MECHANICAL GEAR BOX DRIVE 7 ft.-3 Point Hitch
Weight Dry(shipping) Operating(field)	2470 lb 2470 lb.	2770 lb 2770 lb.	2200 lb. 2200 lb.
Length (hitch to tip of deflector)	238 in.	238 in.	188 in.
Width	128 in.	157 in.	128 in.
Tire Size	P275 60SR15	P275 60SR15	P275 60SR15
Rim Size	15"x 8"x 5"-5 bolt	15"x 8"x 5" -5 bolt	15"x 8"x 5" -5 bolt
Tire pressure	18 psi	19 psi	18 psi
Wheel nut size	½" NF	½" NF	½" NF
Wheel nut torque	70 lb. ft.	70 lb. ft.	70 lb. ft.
Drive system	Mechanical Gearbox PTO driven	Mechanical Gearbox PTO driven	Mechanical Gearbox PTO driven
Reservoir- chain oiler	5 liters or 1.4 gal US	5 liters or 1.4 gal US	5 liters or 1.4 gal US
Drive Line	Constant Velocity shaft assembly & overrunning clutch	Constant Velocity shaft assembly & overrunning clutch	Over running clutch
Drive protection	Friction-type torque limiter	Friction-type torque limiter	Friction-type torque limiter
Tractor Requirements			
PTO horsepower (minimum)	60 hp+	60 hp+	60 hp+
PTO speed-(RPM)	540 or 1000 by changing sprockets	540 or 1000 by changing sprockets	540 or 1000 by changing sprockets
Gearbox	2070	2070	2050
Gearbox oil capacity	1.4 liters / 49 oz.	1.4 liters/49 oz.	1.0 liters/35 oz.
Gear box with side shaft oil capacity	1.6 liters / 60 oz.	1.6 liters /60 oz.	1.6 liters/ 60 oz.

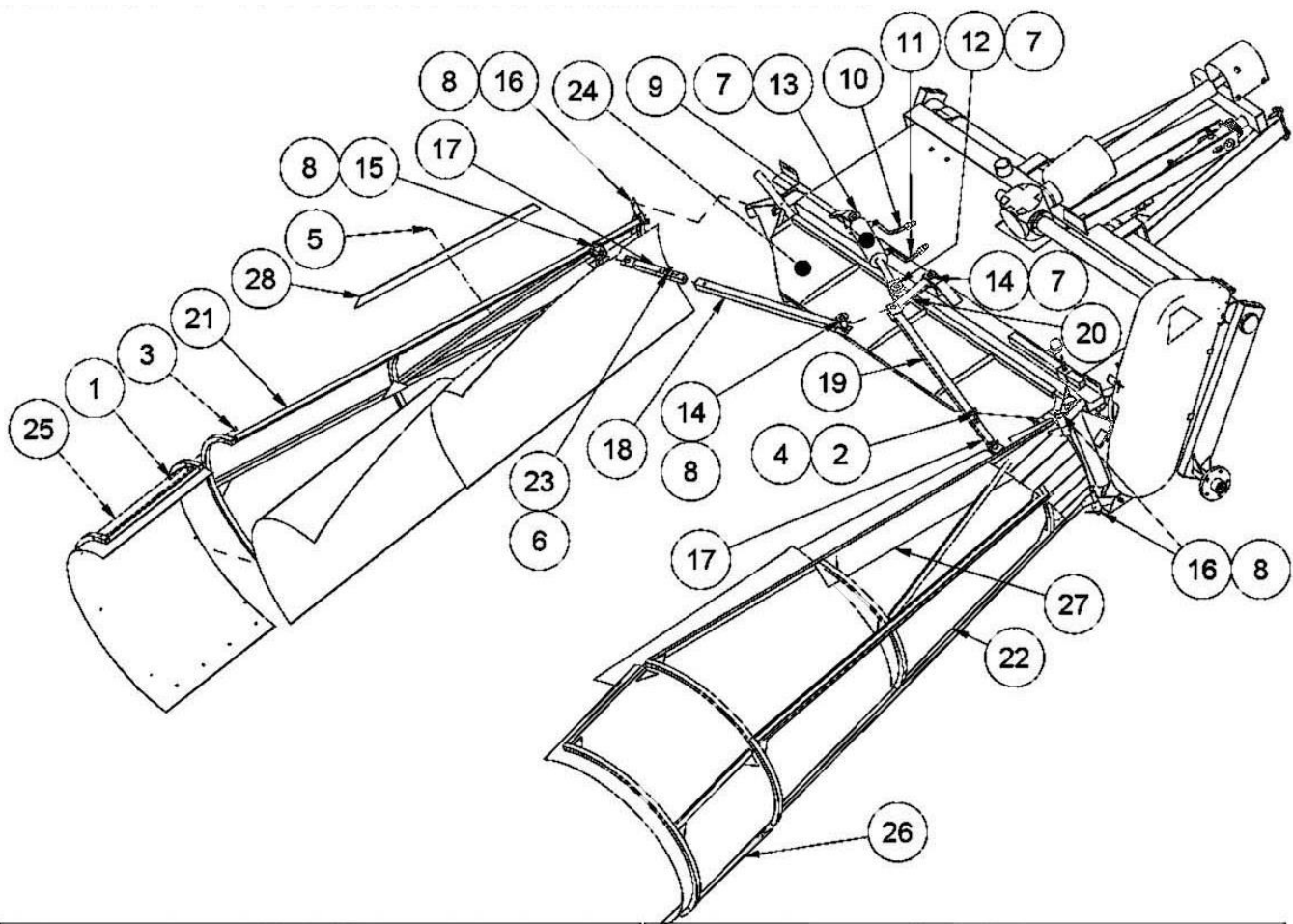
8.PARTS LIST RECON 200 MECHANICAL GEARBOX DRIVE

8.1. ROLLERS/ MAINFRAME(L.H.) AND WHEEL ASSEMBLY



Parts List			Parts List		
ITEM	QTY	PART NUMBER	ITEM	QTY	PART NUMBER
1	2	100403 bolt 1 4NC 1 GR5 pltd hex	21	1	114203 CHAIN 50 @ 30 LINKS
2	2	102109 3 4 nc nut	22	2	114250 sprocket 5017 625 hole sprckt
3	2	100902 bolt hex head 3 4 nc x 3	23	4	114423 BEARING. 211 2 IN dwg
4	7	101103 FLAT WASHERS 1 4	24	4	114425 inv ductile flange 2 inch
5	2	101107 washer flat 58	25	1	128041 TOOL BOX
6	4	101108 washer flat 34 in	26	2	320190Z SPRING ADJUST WLDT
7	1	102108 nut 5 8 nc std	27	2	320192Z PIN WLDT UPPER ROLLER
8	1	102111 castle nut 3 4 inch	28	4	320250 ROCK GUARD ASSY
9	6	102121 nut 1/4 nc nylock gr 5 pltd	29	1	320308 HEMP GUARD LH LOWER
10	5	102127 nut 58 nc nylock	30	1	320377Z roller wldt lower 2IN shaft
11	1	113604 dust cap dc 11	31	9	104907 cotter pin 1 4 X 2 5
12	2	113622 HUB 216 5B 45BC Z	32	1	320390 pivot plate LH wldt 2 IN shaft 0 11101
13	1	113626 bearing inner race LM48510	33	2	320399 plate bearing protector 2.2 IN
14	1	113627 bearing outer race L44810	34	2	321230 adjmnt wldt roller (5/8 bolt)
15	1	113628 bearing inner cone LM48548	35	4	102117 nut 5 8 nc stover lock
16	1	113629 outer cone	36	1	320384Z roller wldt upper 2IN shaft
17	1	113656 WHEEL NUT 1 2 NF	37	1	113633 seal se22
19	2	113949 spring upper roller tension			or 320230 adjmnt wldt roller (3/8 bolt)
20	2	113995 TIRE WHEEL 275 60 15			

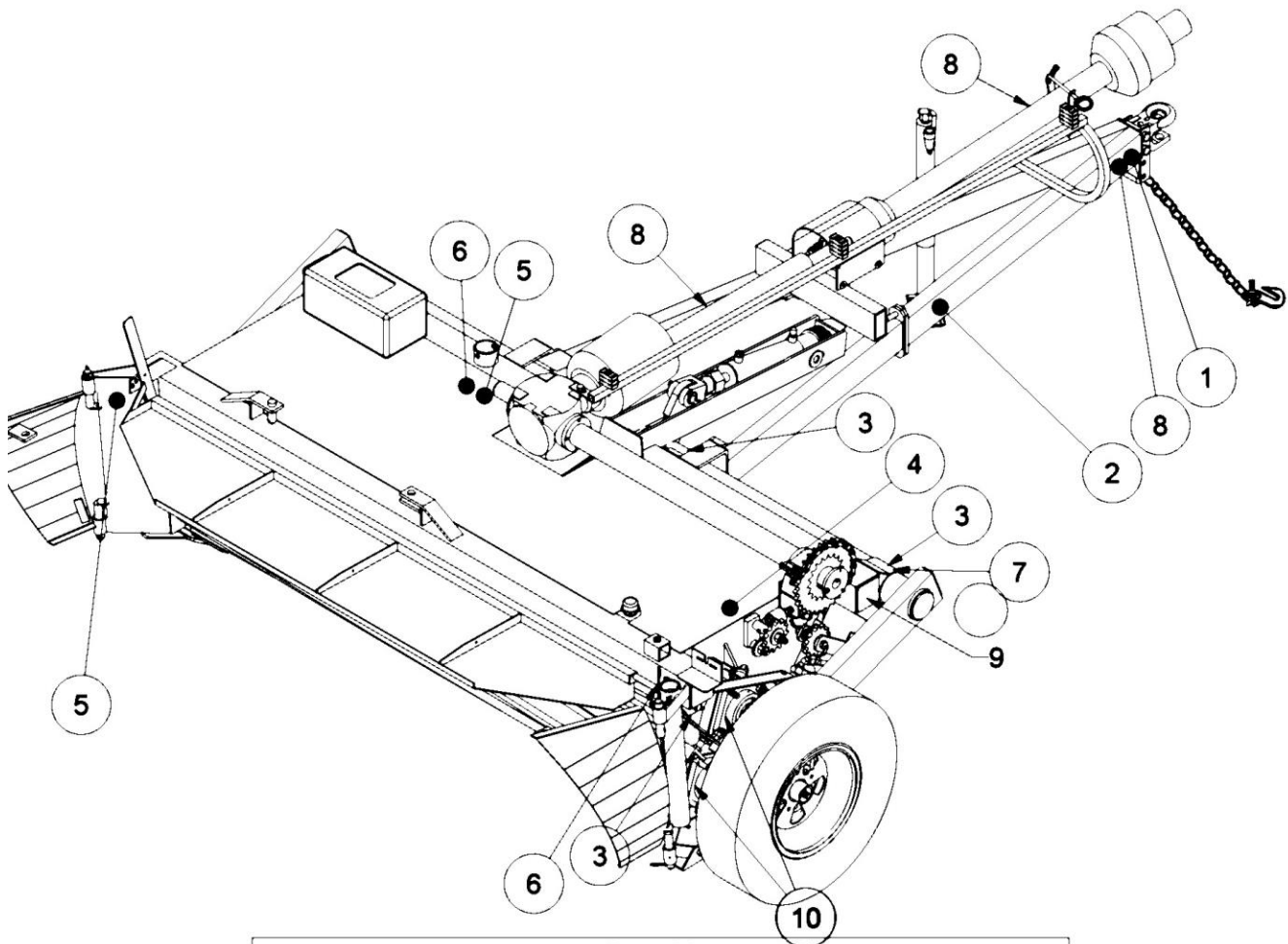
8.2. DELFECTORS



Parts List			Parts List		
ITEM	QTY	PART NUMBER	ITEM	QTY	PART NUMBER
1	1	100509 bolt 5 16NC 2 1 2 gr5 pltd hex	16	4	320196pin wildt1 OD X 5 375 lg recon 200
2	1	100606 bolt 3 8NC 2 GR5 pltd hex	17	2	320201Z arm wldt rear side deflector
3	1	102122 5 16 NYLOCK	18	1	320205Z arm wldt deflector adj LH
4	1	102123 NUT 3 8 NYLOC NC	19	1	320206Z arm wldt deflector adj RL
5	1	103204 10 X 1 DRILL TAP	20	1	320210Z pivot arm wldt deflector adj
6	5	104101 hairpin 11 1 8 x 2 75	21	1	320227rear deflector assy LH recon 2 00
7	3	104301 hairpin 8 3 16 x 4	22	1	320228 rear deflector assy RH recon 200
8	9	104907 cotter pin 1 4 X 2 5	23	2	320229Z pin wldt rear deflector arm
9	1	117495 cylinder 3 8 cw clevis ears	24	1	320236Z deflector wldt top recon 200 wide 16 INCH
10	1	117704 hose 171 1 4 mpt ends	25	1	320301 deflector assy extension side
11	1	117705 hose 181 1 4 mpt ends	26	1	320343 dfltr extn assy side 26 RH
12	1	208255 pin wldt 1 X 3 625	27	1	320478 decal backboard RH plastic
13	1	225554 pin wldt breakaway cy bl end	28	1	320479 decal backboard Lh plastic
14	2	225558 pin wldt front breakaway			
15	2	225558 pin wldt front breakaway 2.25 IN			

8.3. DECAL LOCATIONS

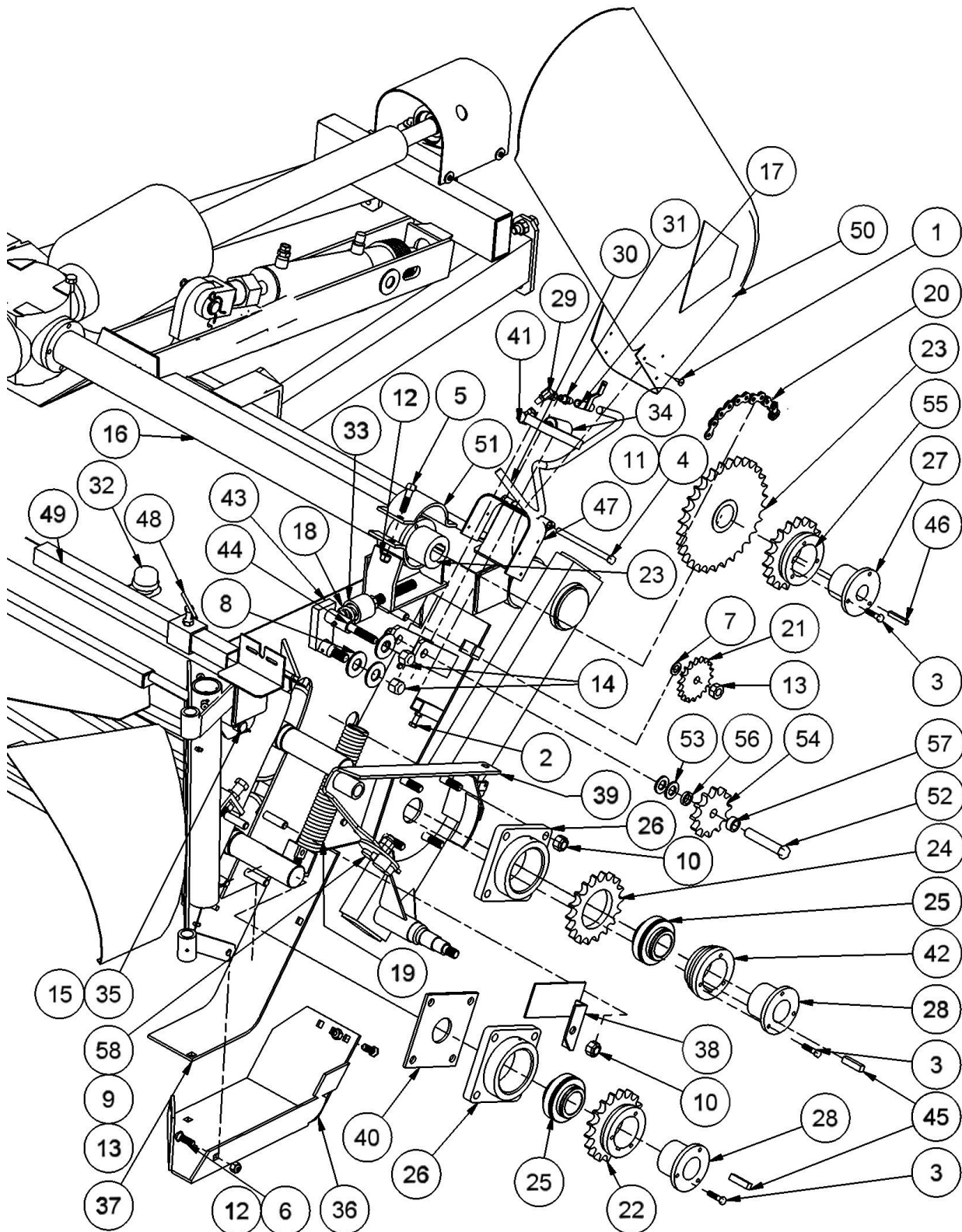
Decal Locations Mech Drive 321007 7 ft Mechanical Drive Recon



Parts List		
ITEM	QTY	PART NUMBER
1	2	113552 Decal -Warning H.P. Fluid
2	2	113501 Decal -"AG Shield" 3" X 12"
3	8	113520 Decal -Grease Every 10 Hours
4	2	113522 Decal -Moving Parts Hazard
5	2	113523 Decal -Thrown Object Hazard
6	2	113524 Decal -Rotating Blade Hazard
7	2	113561 Amber Adhesive Reflector 42 mm X 82 mm
8	3	113525 Decal -Rotating Driveline Gear Drive
9	1	113526 Decal -Guard Missing
10	6	113521 Decal -Grease Annually
27	2	113504 Decal -"Recon by ASM" 36" X 5"
Above Decal Placement with Deflectors		

NOTE: #1, 2, 3, 7, and 8 on both sides and #10 on roller bearing both sides.

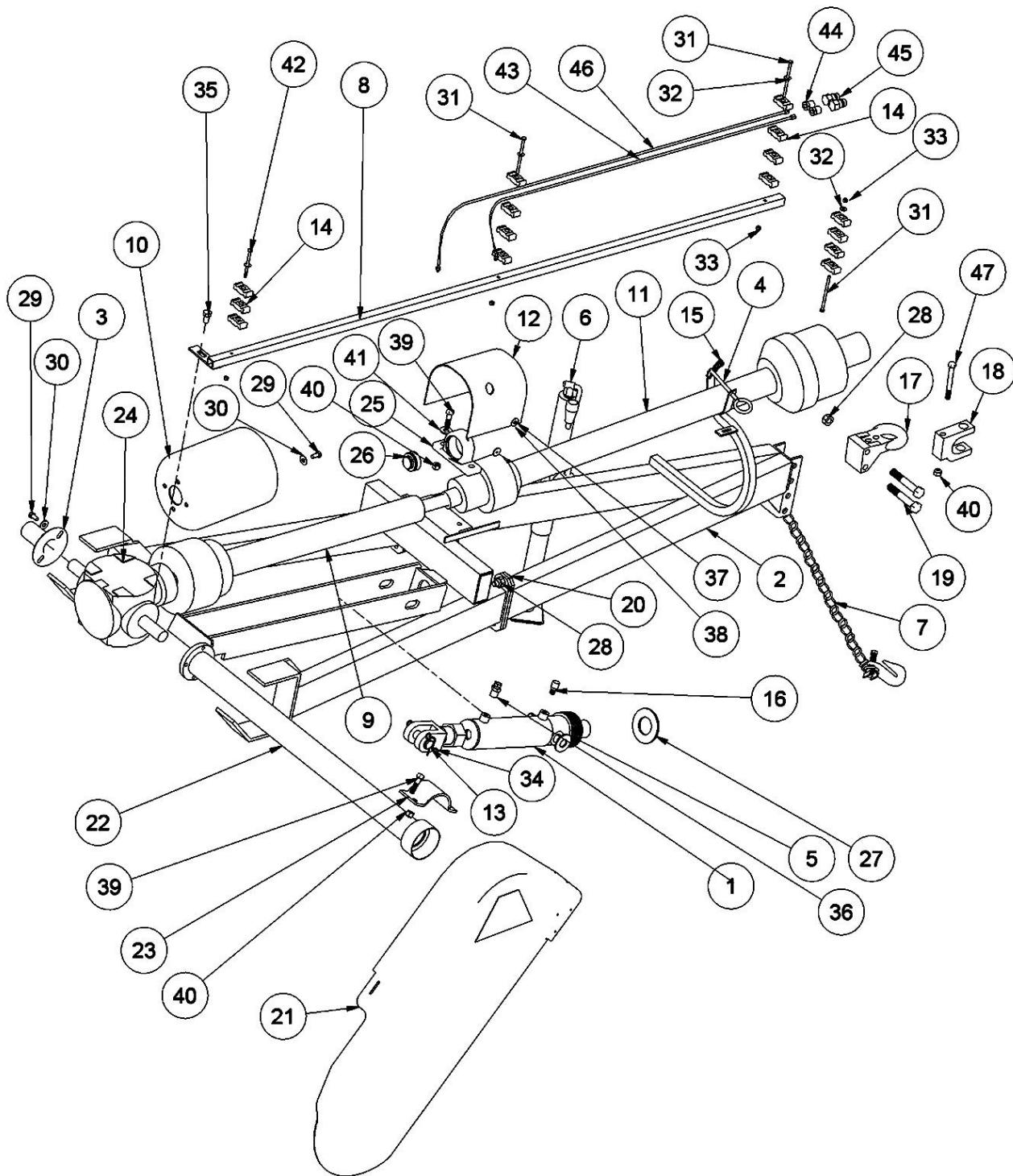
8.4. ROLLER DRIVE AND CHAIN OILER



ITEM	QTY	PART NUMBER
1	1	100171 RIVET 3/16 X 3/8
2	1	100602 BOLT 3 /8NC 1 GR5 PLTD HEX
3	3	100604 BOLTS 3/8NC 1 1/2 GR5 PLTD HEX
4	1	100670 BOLT 7/16 X 6 NC GRD 5 PLATED

5	2	100703 BOLT 1/2NC 2 GR5 PLTD HEX
6	2	100948 BOLT CARRIAGE 1/2NC 1 1/4 GR5 PLTD HEX
7	2	101107 WASHER FLAT 5/8
8	4	101108 WASHER FLAT 3/4 in
9	1	102108 NUT 5/8 NC STD
10	4	102117 NUT 5/8 NC STOVER LOCK
11	1	102124 NUT 7/16 NYLOC NC
12	5	102125 1/2 NYLOC
13	5	102127 NUT 5/8 NC NYLOC
14	3	102128 NUT 3/4 NYLOC GR 5 PLATED
15	9	104907 COTTER PIN 1/4 X 2 1/5
16	1	111770 SIDE SHAFT EXT. 41 INCHES 7 ft RECON
17	1	111296 VALVE BRASS 1/4 TURN
18	1	113929 SPRING HYD MOTOR MOUNT TENSION
19	2	113949 SPRING UPPER ROLLER TENSION
20	1	114206 CHAIN #80 PREMIUM QUALITY 86 LINKS 540 RPM82 LINKS 1000 RPM
21	2	114250 SPROCKET 5017 .625 HOLE SPROCKET
22	2	114255 SPROCKET 80Q18 28
23	1	114258 SPROCKET 80Q30
24	1	114266 SPROCKET 80A18 BORED 35 SPROCKET
25	4	114423 BEARING. 211 2 IN dwg
26	4	114425 inv DUCTILE FLANGE 2 INCH
27	1	114435 bushing Q1 40mm key 8x12 mm
28	2	114434 bushing Q1 2 bore
29	2	117655 RESTRICTOR 90 1/4MPT X 1/4FPTS 1501 4 4 BLANK
30	1	117844 CHAIN OILER HOSE
31	1	118003 04 MPT NIPPLE
32	1	320090 cap 1 1/4 FPT VENTED
33	1	320147Z TIGHTENER SPRING CHAIN WLDT
34	1	320182 BRUSH CHAIN OILER
35	2	320192Z PIN WLDT UPPER ROLLER
36	1	320265 SKID PLATE HEAVY RH Z
37	1	320309 HEMP GUARD RH LOWER
38	1	320361Z DUST GUARD
39	1	320392 PIVOT PLATE RH WLDT TR TO INV
40	2	320399 PLATE BEARING PROTECTOR 2.2 IN
41	1	320417 OILER WLDT SQ TUBE
42	1	320824Z HUB HCQ1 WELD ON MACHINED
43	1	320872 CHAIN TENSIONER WLDT
44	1	320876 SPRING ADAPTOR WLDT
45	2	320899 KEYSTOCK 1/2 X 1/2 X 2
46	1	321128 KEY STOCK .47 x .275 oilbath shft
47	1	320925 HINGE CHAIN GUARD
48	1	320926 T HANDLE LOCK BOLT
49	1	320936 EXTENDABLE LIGHT BAR
50	1	320995 CHAIN GUARD FLIP HINGED
51	1	321122 SHAFT CLAMP FORMED
52	1	100903 BOLT HEX HEAD 3/4 X 4 GR 5
53	2	101123 MACHINERY BUSH 18 ga 3/4 1 1/4
54	1	114249 SPROCKET IDLER 80 X 12 34
55	1	114255 SPROCKET 80Q18 28
56	1	320471 SPACER 25 GEAR CHG 1000 PART1
57	1	320472 SPACER 5 GEAR CHG 1000 PART1
58	2	321230 ADJUST WLDT ROLLER
		parts 54-58 are for 1000 RPM changeover, 114255 replaces 114258

8.5. DRIVE LINE & HITCH ASSEMBLY



ITEM	QTY	PART NUMBER
1	1	117498 NEW 112200 CYL 3 x 8 STROKE CONTROL 2025
2	1	320580 HITCH WLDT FRONT A
3	1	111313 COVER EXTRA SHAFT BP GEARBOX
4	1	320591 PIN WLDT PTO SHAFT SUPPORT
5	1	320486 PIN WLDT HGT LIFT CYL NEW
6	1	116905 HITCH JACK 2015
7	1	320295 SAFETY CHAIN ASSY
8	1	321130 MNT WLDT HOSE HOLD 02
9	1	111323 Q SHAFT WITH CLUTCH 1 38 MF
10	1	111314 GUARD COUNTERCONE FOR GEARBOX PART1
11	1	111605 PTO SHAFT 48 CONST VEL 1 38 FF OVERRUNNING
12	1	320844 SAFETY SHIELD FRT STEADY BRG
13	1	117508 PIN CYL 1 x 3.6lg GROOVED
14	15	128106 HOSE HOLDER
15	5	104101 HAIRPIN 11 1/8 x 2.75
16	1	117651 RESTRICTOR 1/4MPT x 1/4FPS 06
17	1	113637 PERFECT HITCH CLEVIS PP107VR
18	1	111637 CLEVIS PERFECT HITCH
19	2	100809 BOLTS 5/8NC 4 1/2 GR5 PLTD HEX
20	3	100803 BOLT 5/8NC 2 GR5 PLTD HEX
21	1	320995 CHAIN GUARD FLIP HINGED
22	1	111770 SIDE SHAFT EXT 41" 7 ft Recon
23	1	321122 SHAFT CLAMP FORMED
24	1	111297 GEARBOX T 1 1 1 38 6 spline 2070
25	1	114473 PILLOW BLOCK
26	1	114474 BEARING 1 3/8 SA
27	9	113955 WASHER BELLEVILLE SPRING 100 51 6
28	5	102127 NUT 5/8 NC NYLOC
29	3	100219 BOLT HEX HEAD 10 X 20 METRIC
30	3	101105 WASHER FLAT 3/8
31	3	100423 HEX HEAD BOLT 1/ 4NC X 4 1/ 2 GR5
32	7	101103 FLAT WASHERS 1/4
33	6	102121 NUT 1/4 NC NYLOK GR 5 PLTD
34	2	104303 HAIRPIN FOR 1 GRVD PINS
35	2	100240 BOLT HEX HEAD 14 X 25 METRIC
36	1	118101 1/4 MPT X 1/4 FPT S
37	4	103202 S M SCR 10 X 3/4 D T
38	4	101102 FENDER WASHER .188 X 1
39	2	100703 BOLT 1/2 NC 2 GR5 PLTD HEX
40	5	102125 1/2 NYLOCK
41	1	101106 WASHER FLAT 1/2
42	1	100412 BOLTS 1/4NC 3 1/2 GR5 PLTD HEX
43	1	117849 HOSE 1/4 x 116 1/4 MPT
44	4	118014 08 X 04 NPT RB
45	4	117502 HYD CPLR12 FPT X MALE PIONEER
46	1	117850 HOSE 1/4 x 107 1/4 MPT
47	1	100715 BOLT 1/2 NC 4 1/2 GR5 PLTD HEX

CONSTANT VELOCITY (C.V.) SHAFT ASSEMBLY #111605



This diagram shows an exploded view of a mechanical assembly. The components are labeled with numbers and a question mark:

- 20**: A small pin or screw.
- 21**: A large outer housing or flange.
- 22**: A circular gasket or seal.
- 23**: A central shaft or pin.
- 2**: A small internal component, possibly a ball or bearing.
- 3**: A small internal component, possibly a ball or bearing.
- ??**: A central component, possibly a valve or actuator, which is the subject of the question.
- 22**: A second circular gasket or seal.
- 24**: A large outer housing or flange, similar to part 21.

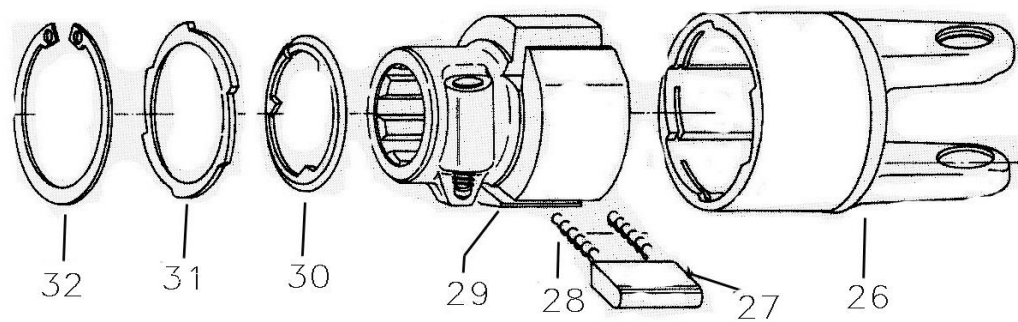
This diagram shows an exploded view of a mechanical assembly. The components are numbered as follows: 30 (a bolt), 31 (a flange with a central hub), 33 (a small ring), 34 (a large flange), 35 (a ring with a central slot), 36 (a flange with a central hub), 37 (a central hub assembly), 38 (a bolt), 39 (a flange with a central hub), 40 (a flange with a central hub), and 30 (a bolt). The assembly is shown in a disassembled state, with dashed lines indicating the alignment of the parts.

DRIVE LINE COMPONENTS

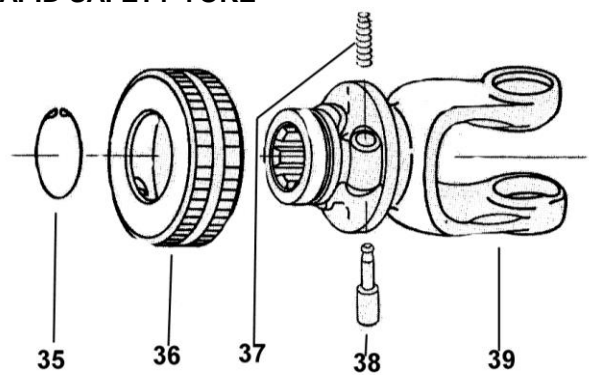
ITEM	PART #	DESCRIPTION	QTY
	111605	CV SHAFT ASSEMBLY	
2	111694	6 SPL. TRACTOR YOKE (OUTER YOKE)	1
	111693	21 SPL TRACTOR YOKE-OPTIONAL 1000 RPM	
3	111695	CV JOINT CROSS KIT (CROSS W/ SNAP RING)	2
4	111698	CV JOINT (CENTRE BODY)	1
	111697	C.V JOINT ASSY.W/CROSSES&YOKES	
5	111692	OUTER TUBE YOKE	1
6	111691	INNER TUBE YOKE	1
7	111696	STANDARD CROSS KIT (CROSS W/ SNAP)	1
	111690	CV JOINT /SHIELD ASSEMBLY	1
20		CLAMPING SCREW	1
21		HALF SHELL SHIELD**OUTER	1
22		BEARING CONTACT	2
23	111686	TWIST COLLAR (SLEEVE)	1
2	111694	C.V. JOINT YOKE	1
3	111695	CV JOINT CROSS KIT (CROSS W/ SNAP RING)	2
24		HALF SHELL SHIELD**INNER	1
		FRICTION-TYPE TORQUE LIMITER ASSEMBLY	1
30	111742	Bolt and Lock Nut M10 X 70	
31	111743	Flange Yoke FV34 #6	8
			1
33	111729	Bushing FF1/FF2/FF3/FF4 Clutch	
34	111745	Lining for FD2/22 142 MM O.D.	1
35	111746	Clutch Driving Plate FV34	4
36	111747	Clutch Plate Inner FT34	1
37	111748	FT34 Hub 1-3/8" Taper Pin	1
38	111749	Taper Pin Kit 1-3/8" Z6/Z21	1
39	111750	Backing Plate FT34 170X78.5X8	1
40	111751	FT/FV 32/34 Clutch Spring T=3.5	1

DRIVE LINE COMPONENTS

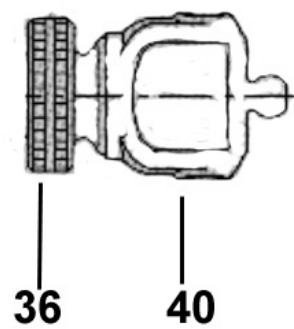
R.A. OVER-RUNNING CLUTCH ASSEMBLY



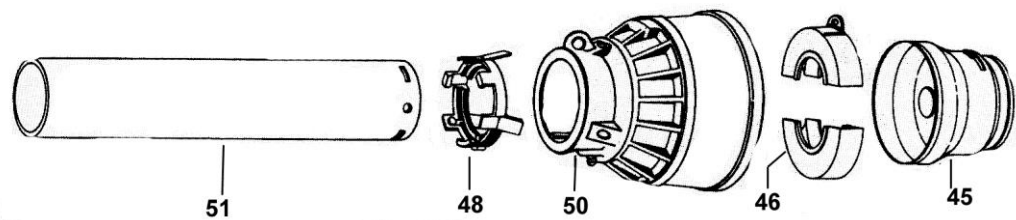
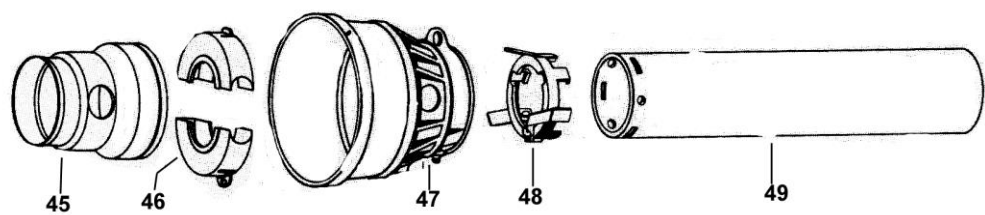
R.S. RAPID SAFETY YOKE



OUTER YOKE- CV JOINT



NF TYPE SHIELD



DRIVE LINE COMPONENTS

ITEM	PART #	DESCRIPTION	QTY
		R.A. OVER-RUNNING CLUTCH ASSEMBLY	
25	111700	GREASE NIPPLE HOUSING	1
26	111701	HOUSING W/ YOKE FOR C/V JOINT CONNECTION	1
27	111702	PAWL WITH SPRINGS	1
28	#	SPRING	1
29	111699	HUB WITH TAPER PIN	1
	111687	PIN KIT FOR HUB	
30	111703	SUPPORT RING	1
31	111704	SEAL PLATE	1
32	111705	RETAINING RING	1
#	#	RS RAPID SAFETY YOKE ASSEMBLY	
35	#	SNAP RING	1
36	111706	TWIST COLLAR (SLEEVE)	1
37	#	PUSH PIN	1
38	#	SPRING	1
39	#	YOKE	1
40	111694	CV OUTER YOKE	
#	#	NF TYPE SAFETY SHIELD	
45	#	OUTER YOKE CONE	2
46	#	CONTACT BEARING	2
47	#	OUTER CONE SET	1
48	#	COLLAR (BEARING RING)	2
49	#	OUTER TUBE	1
50	#	INNER CONE SET	1
51	#	INNER TUBE	1

9.WARRANTY

1. Ag Shield Manufacturing warrants each new Ag Shield reconditioner to be free from factory defects in material and workmanship under normal use and service, when set up and operated in accordance with factory instructions for one year from the date of delivery to the original purchaser.
2. Ag Shield's obligation under this warranty is limited to the supplying of parts to replace those which are defective due to factory workmanship or material.
3. Your Ag Shield Dealer is responsible for providing warranty labour. Credit for required labour is specifically agreed to on an individual case basis.
4. The warranty is void on any unit which has been tampered with, or modified in any way not authorized in writing by the factory.
5. This warranty is void on any unit which is subject to misuse, negligence or accident, or which has had the serial number tampered or removed.
6. A "Warranty Claim Form" (sample at end of handbook) must be submitted to Ag Shield with returned parts in order for parts to be considered for warranty examination.
7. A warranty registration page from the front of this manual must be returned to the factory in order to qualify for warranty examination.
8. All returned parts must be sent to the factory freight prepaid, and warranty parts will be returned to you freight collect.
9. Replacement parts shipped pending receipt of parts for examination will be invoiced, and remain on your account until such time as examination indicates that a credit for those parts be issued or that payment is due.
10. Parts not returned for warranty examination within 30 days must be paid for at that time. Ag Shield will immediately reimburse any cash paid for items that are later determined defective.
11. Warranty terms and conditions are subject to provincial and state legislation.

WARRANTY CLAIM FORM

Dealer			Ag Shield Mfg Box 9, Benito, MB, R0L 0C0 ph 800-561-0132 fax 204-539-2130 ph 204-539-2000i			End User					
Address						Address					
City	State/Province	Zip/Postal				City	State/Province	Zip/Postal			
DATE OF SALE		DATE FAILED		REPAIR DATE		ACRES/HOURS		MODEL		SERIAL NUMBER	
LABOUR HOURS		LABOUR RATE		LABOUR AMOUNT		PARTS MUST BE RETURNED TO BENITO MB FREIGHT PREPAID TO BE CONSIDERED FOR WARRANTY. DATE SHIPPED					
QUANTITY ITEM	PART NUMBER	DESCRIPTION			PRICE EACH	TOTAL PRICE	DESCRIBE THE CAUSE OF FAILURE AND CORRECTIVE ACTION TAKEN			APPROVE /REJECT	
1											
2											
3											
4											
5											
6											
7											
8											
I CERTIFY THAT THE INFORMATION IS ACCURATE AND THAT THE PARTS WERE REPLACED ON THE MACHINE					PARTS		DATE PARTS RECD		RECD BY		
					LABOUR		ITEMS TO SUPPLIERS				
					TOTAL						

SHADED AREAS AG SHIELD USE ONLY ---PLEASE ADD DETAILS FOR ITEM NUMBERS ON BACK

ITEM _____

ITEM

The end

New cover started by mark??

Cover Photo is Recon.jpg\2002.qd3

Logo corel.dat\asm logo c small

Mech drive up in air ?? NA4 in recon.jpg, na2 for driveshaft