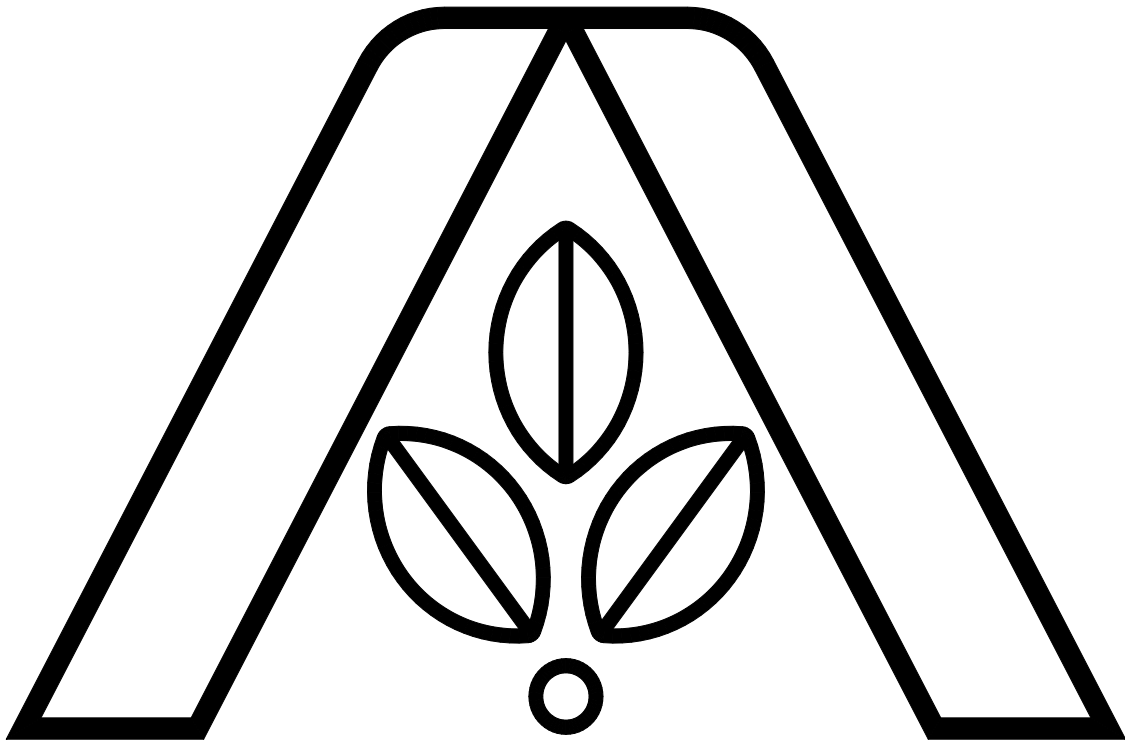


# AG SHIELD



## OPERATOR'S HANDBOOK AND PARTS MANUAL ReCon 200 pull type For serial numbers 1899xxx

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](mailto:sales@agshield.com)  
Please visit web site at <http://www.agshield.com>

Printed in Canada

- Mar 25, 1999

REV 4

-Part No 113582



WARRANTY REGISTRATION-ReCon 200 Swath Reconditioner

RETURN TO



**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 7ft \_\_\_\_\_

Serial no \_\_\_\_\_

Delivery Date \_\_\_\_\_

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 @3/8" lowest both sides

\_\_\_\_ Guards and shields installed

\_\_\_\_ Springs set to 14.5" overall

\_\_\_\_ Review operating and safety instructions

\_\_\_\_ Tire pressure 15psi 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. use.

### 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.




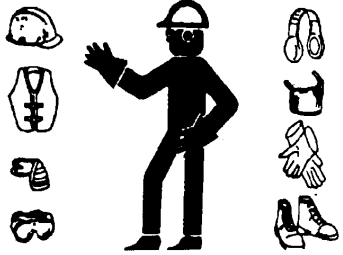
### 3.1. SAFETY OVERVIEW

**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 reconitioner 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 reconitioner.

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.

- Reconitioner 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 reconitioner. 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. 2.
4. Have a fire extinguisher available for use should the need arise and know how to use it. 
5. Do not allow riders. 4.
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
- 6.
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

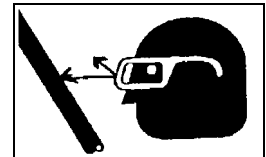
1. Always wear safety goggles when working near or adjusting conditioner.
2. Never stand or run directly behind rollers when machine is rotating as rollers are capable of throwing obstacles at greater than 30 mph.
3. Shields are provided to reduce thrown debris hazard, Leave belt shield in place, be sure the belt reinforcing tubings are in place, inspect belt shield 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 will 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. 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.

### 3.8. STORAGE SAFETY

1. Store unit in an area away from human activity.
2. Do not permit children to play on or around the stored reconitioner.

### 3.9. 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.

### 3.10. 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.

### 3.11. 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 wen 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

### 3.12. SAFETY DECALS

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

<b>⚠ WARNING</b>	
	
<b>MOVING PART HAZARD</b>	
<p>To prevent serious injury or death from moving parts:</p> <ul style="list-style-type: none"> <li>• Close and secure guards and shields before starting.</li> <li>• Keep hand, feet, hair and clothing away from moving parts.</li> <li>• Disconnect and lockout power source before adjusting or servicing.</li> <li>• Do not stand or climb on machine when operating.</li> </ul>	
<small>SW404</small>	

	<b>⚠ WARNING</b>
	<b>HIGH-PRESSURE FLUID HAZARD</b>
<p>To prevent serious injury or death:</p> <ul style="list-style-type: none"> <li>• Relieve pressure on hydraulic system before servicing or disconnecting hoses.</li> <li>• Wear proper hand and eye protection when searching for leaks. Use wood or cardboard instead of hands.</li> <li>• Keep all components in good repair.</li> </ul>	
<small>T5</small>	

<b>⚠ DANGER</b>

<b>THROWN OBJECT HAZARD</b>
<p>To prevent injury or death from outlet chute projectiles:</p> <ul style="list-style-type: none"> <li>• Stay away from outlet during operation.</li> <li>• Keep others away.</li> <li>• Do not direct outlet toward people, animals or buildings.</li> </ul>
<small>SW804</small>

<b>⚠ WARNING</b>		
		
<b>ROTATING BLADE HAZARD</b>		
<p>• Keep Away - Rotating Blades</p> <p>• To prevent serious injury or death from thrown objects or blade contact:</p> <ul style="list-style-type: none"> <li>• Do not operate with deflectors removed.</li> <li>• Do not point discharge toward people, animals or buildings when operating.</li> <li>• Do not place hands or feet under deck when operating or when engine is running.</li> </ul>		
<small>SW800</small>		

## 4. Setup from Shipping Mode

The ReCon 200 roller unit has been run and rollers timed at the factory, the relief valve set, to 3000 psi for high performance pumps, 2250psi if 540 standard pump was ordered. The pump 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 for pump test
3. oil, 130 liters (34 US Gal) or of transmission hydraulic oil (John Deere Hy Gard summer or equivalent)
4. hand tools
5. source of air to inflate tires to 15 psi and pressure gauge

Procedure

1. Inflate tires to 15 psi only. 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 that hold plastic deflectors (320269 & 320270) onto chassis and set aside the deflectors.
5. Cut wires that hold top all metal deflector (320240) onto chassis, and set aside
6. Remove toolbox & obtain these instructions
7. Remove  $\frac{3}{4}$ " bolt and with a partner or hoist set yellow oil reservoir on floor, **caution the pump makes assembly top heavy with a tendency to twist.**
8. Install the hitch jack onto the hitch-reservoir assembly so that it points in the same direction as the four mounting holes.
9. Use the front-end loader to lift the hitch reservoir by at least 1 meter (36") of the safety hitch chain. Hang the reservoir above the roller unit, install the 4  $\frac{3}{4}$ " x 2 bolts (100109) and  $\frac{3}{4}$ " self locking nuts (102128), and torque to 200+ lb-ft.
10. Use the loader to back up and pull the hitch over to leave unit in normal position.
11. Hook up the farm tractor to the draw bar so that the hitch reservoir is 15cm (6") lower at front end than the rear end.
12. Attach the two  $\frac{1}{4}$ " 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.

13. Install the lights on to the brackets on each side as marked.
14. Install the tool box on the top and near the forward edge of the deck to the right of hitch as per 7.1 ROLLERS AND MAINFRAME page 19. Use two  $\frac{1}{4}$ NC x 1" bolts with washers and self locking nuts.
15. Locate the hydraulic filter assembly and fitting (item number 36, 26, 34, and 39) inside the toolbox, assemble as per 7.3 HYDRAULICS, RESERVOIR, & CHAIN OILER.
16. Remove the plugs, and connect as per 7.3 HYDRAULICS, RESERVOIR, & CHAIN OILER
17. Mount the PTO driven hydraulic pump onto the tractor PTO shaft. Be certain that the anti rotation angle is to the **right** of the draw bar as viewed from the rear. Secure the angle snugly against the draw bar with chain and snap link assembly.
18. Add hydraulic oil (JD Hy Gard or equivalent) to the yellow reservoir until the oil is 8 cm (3") below the top of the tube. Replace cap.
19. Fill the chain oiler reservoir (black cap) with 10 liter (2.5 US Gal) of hydraulic oil (JD Hy Gard or equivalent) and replace cap.
20. 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, after one minute, stop and refill the reservoir up to the 3" (8 cm) level again.
21. Restart PTO and 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.
22. 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.
23. Install the top deflector through 2 oblong holes in side frame above and to the rear of the rollers. Retain with the bushing and  $\frac{1}{4}$ " bolt provided.
24. Grease the 4 grease nipples on deflector pivots, the four on the front of the main lift rock shaft, one on each side on the upper roller pivots, and the pivot on hydraulic motor mount. Refer to 5.1.4 Lubrication.
25. Refer to 7.4 DEFLECTORS page 27 Remove pins from both ends of item 4 (320210) and attach pivot as shown with "bottom" towards the ground.
26. Refer to 7.4 DEFLECTORS page 27 .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 15 psi to take advantage of suspension in tire side wall.

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. Set the stroke adjustment on the hydraulic cylinder to that position to 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" on drawing following this section.

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 6mm (1/4") of the bottom of hydraulic motor mount, that is only 1/4" of spring is visible. This setting allows take up of 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 5 cm(2") stone or other hard object without damage to rollers.

#### Upper Roller Lift

Refer to "B" on drawing following this section.

When the ReCon 200 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.

#### Clearing a Wad

On PTO pump drive models, a wad that stops the rollers from turning causes oil to go over the relief

valve. 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**, walk to rear of machine and lift on lugs of bottom roller to turn wad back out and clear the rollers.

For hemp operation, an optional roller turning "wrench" is available to assist in reversing rollers.

#### 5.1.1. 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 are 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 rollers.

Set the top roll 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 of upper roller at 7:30.

If this cannot be done, loosen the 80 drive chain at spring tensioner, and jump chain over sprocket teeth until timing is correct. If timing can not be corrected above, 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.

#### 5.1.2. Roller adjustment vs crop damage

Refer to "D" on drawing following this section.

Rollers are factory set to have 1/8" between the lug of top roller and the round barrel of lower roller when the roller Quik Set 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 10mm (3/8") to reduce crimp, or 20mm (.75") to leave small gap

between rollers, or 29mm (1.125”) 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.

There are 3 pump options, 1000 rpm hi performance, 540 standard performance, and 540 high performance (available at extra cost). The PTO pump should be run at it’s normal speed rpm for best power and material throw. The hydraulic relief valve is factory preset to 3000 psi for high performance pumps, and 2250 psi for standard performance 540 pump. Increasing this setting will void component warranty, and lead to premature component failure.

### 5.1.3. 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 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. A wider top deflector is available for hemp operations. 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 2<sup>nd</sup> 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 a low wide manner by having material strike the shield and fall downward.

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

If 2 conditioning passes are anticipated, leave the swath wider during first pass, narrowing during second, If bleaching of green color is primary concern, consider more deflector action to invert swath.

### 5.1.4. Lubrication

Grease zerks

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.

Location	Interval	# 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
Hydraulic motor pivot pin	10hr daily	1 near frame
Upper roller pivots	10hr-daily	1 each side
Wheel bearings	Weekly +	1 each side
Main roller bearings	Weekly +	2 each side



decal marks zerk locations

### Drive chain oiling

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 has an automatic valve that opens a valve whenever the rollers are turning. A gravity oil flow is metered through an orifice to the chain oiling brush.

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.

### PTO Hydraulic system

The ReCon 200 hydraulic reservoir is factory filled with a hydraulic oil (John Deere Hy Gard or equivalent). Use any compatible transmission hydraulic oil that is normally used in farm tractors.

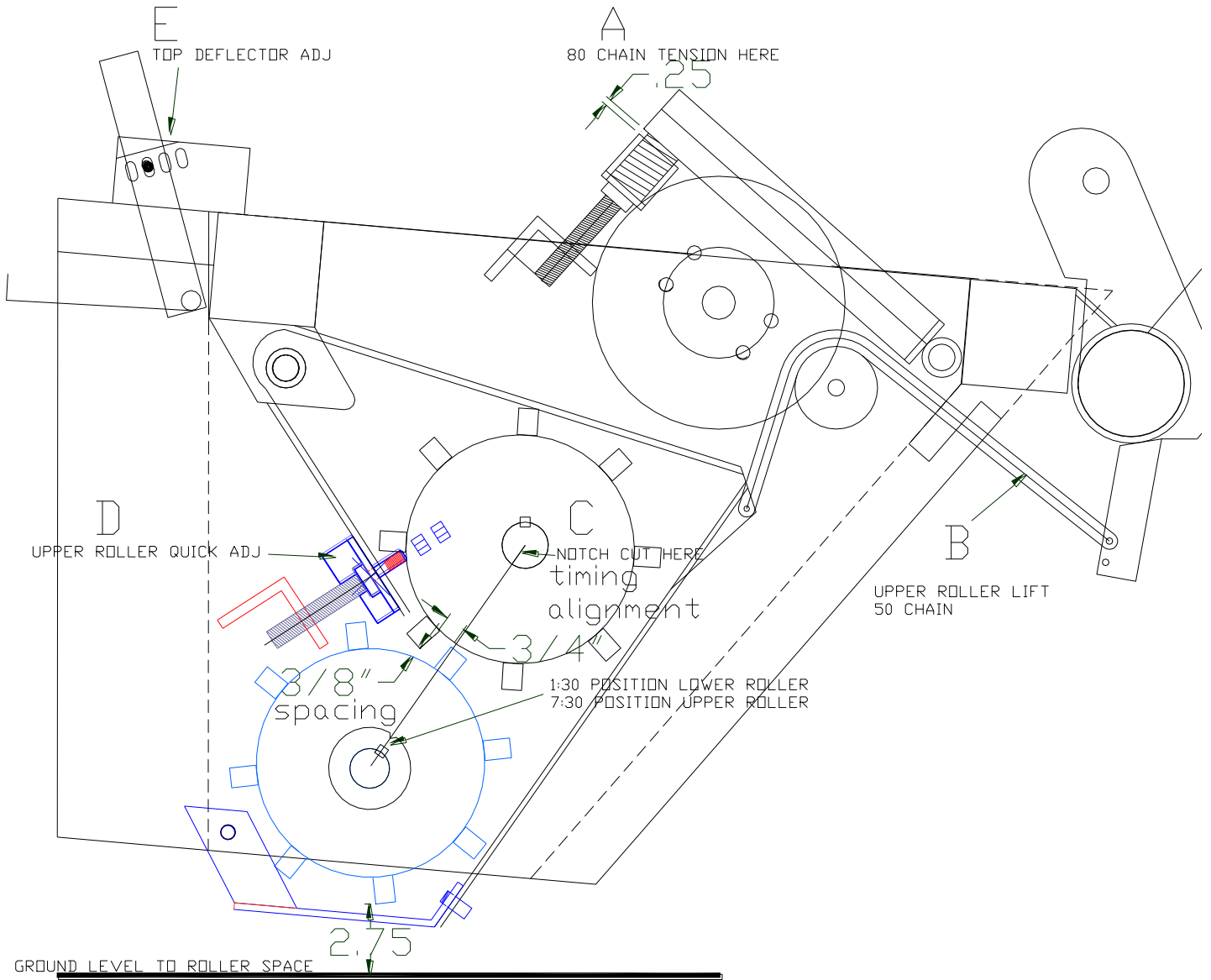
The oil in the reservoir can be expected to warm up significantly. Oil temperatures of up to 82C (180 degrees F) are acceptable maximums for components supplied, although lower temperatures are preferred. At 55C (130F) a person can stand hard pressure on metal surface, at 60C (140F) a person may touch but not apply pressure or hold onto metal, at 70C (160F) or higher, a person will be unable to touch without pulling hand back. An inexpensive meat thermometer will usually give accurate reading if in doubt. Excessively hot oil is an indicator that higher

pressures have been required to turn the hydraulic motor powering the rollers, and slippage of oil is putting excess energy (heat) into the oil. Call dealer or factory for further discussion of this topic should the oil exceed 82C (180 degrees F).

## 5.2. AG SHIELD RECON 200 DRAWING

AG SHIELD RECON 200  
DIRECTION OF TRAVEL

RIGHT SIDE VIEW



## 6. 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 replacement parts 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.



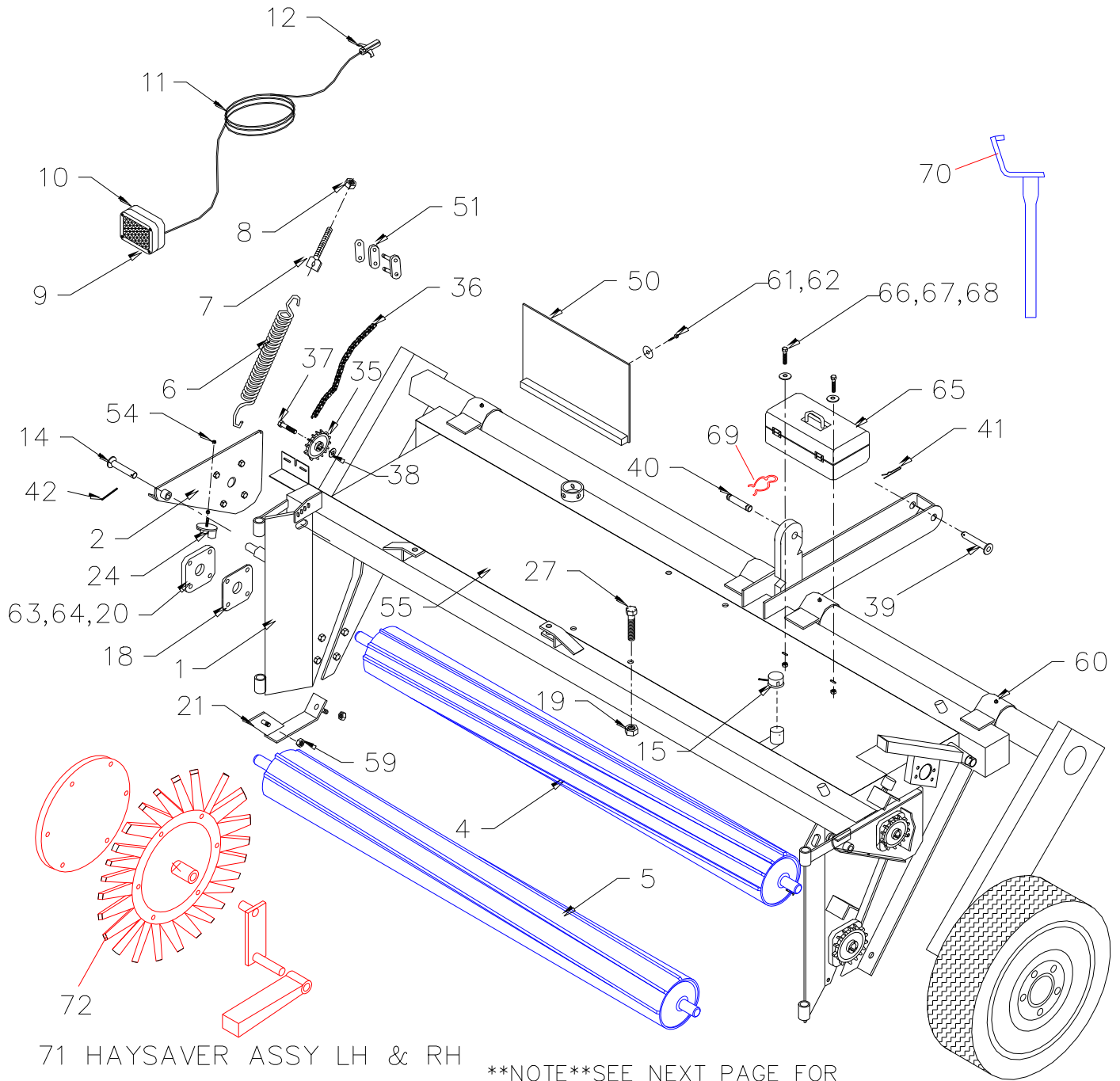
# SPECIFICATIONS

<b>SPECIFICATION</b>	<b>HYDRAULIC DRIVE</b>	<b>MECHANICAL GEAR DRIVE</b>
Weight	2010 lb	2300
Length (hitch to tip of deflector)	228 in.	238 in. (+8" for driveline ext.)
Width	128 in.	128"
Tire Size	P275 60SR15	P275 60SR15
Rim Size	15"x 8"x 5"	15"x 8"x 5"
Tire pressure	15 psi	15 psi (to 16-17 psi for 2000 Mech.)
Wheel nut size	½" NF	½" NF
Wheel nut torque	65-75 lb-ft.	65-75 lb-ft.
Drive system	Hydraulic pump/PTO driven	Mechanical Gearbox PTO driven
Reservoir- Hydraulic oil	130 liters or 34 gal US.	N/A
Reservoir- chain oiler	10 liters or 2.5 gal US	10 liters or 2.5 gal US
Drive Line	N/A	Constant Velocity (CV) shaft assembly
Drive protection	N/A	Friction-type torque limiter
Tractor Requirements		
PTO horsepower(minimum)		
PTO shaft		1-Constant velocity and 1-standard
PTO speed	540 or 1000	540 or 1000
Serial number location	Left side of mainframe	Left side of mainframe



# 7.PARTS LIST ReCon 200

## 7.1. ROLLERS AND MAINFRAME



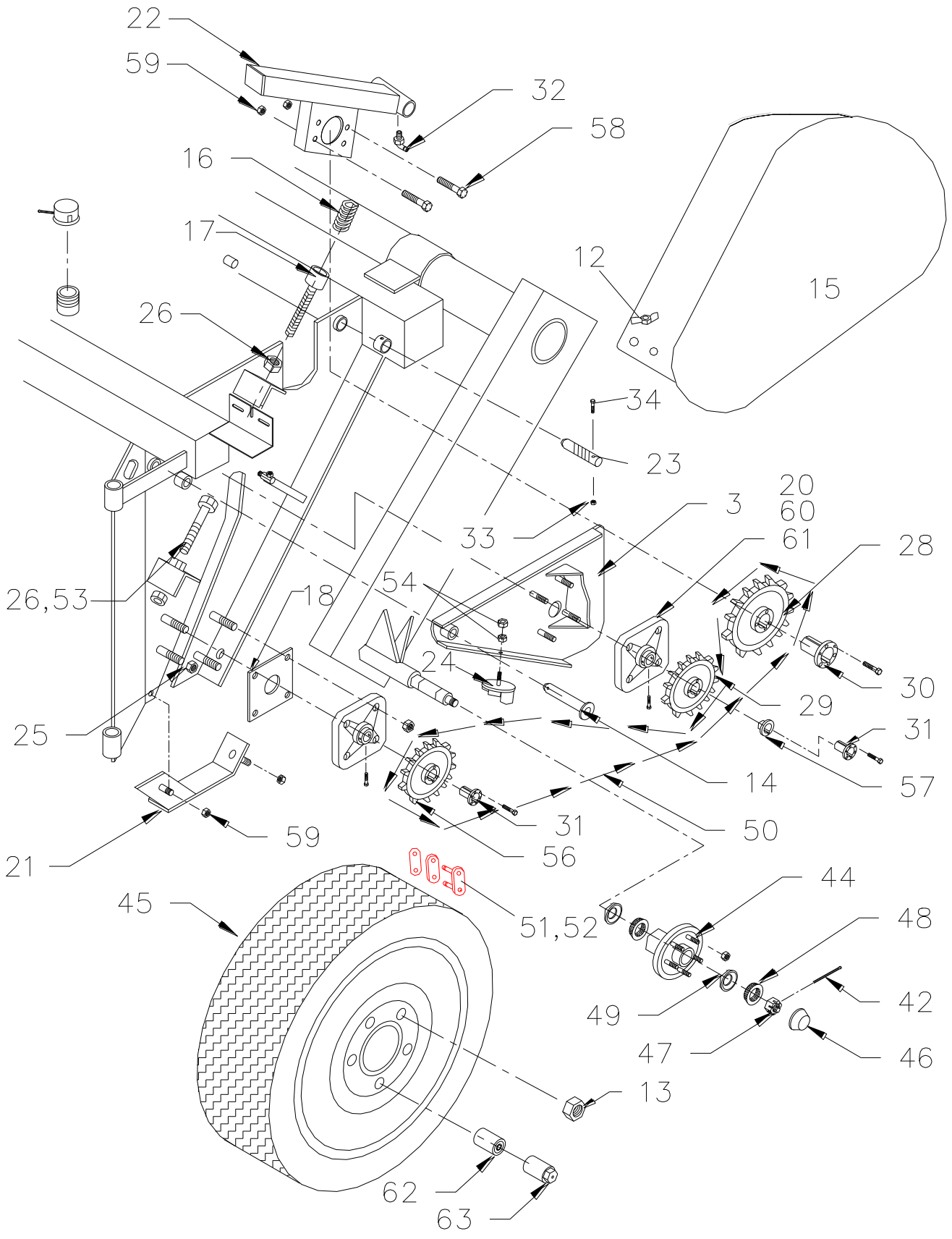
71 HAYSAVER ASSY LH & RH

\*\*NOTE\*\*SEE NEXT PAGE FOR EXPLODED VIEW OF THIS SIDE

## ROLLERS AND MAINFRAME

ITEM	PART	DESCRIPTION	QTY.
	302040	MAINFRAME ASSY,W/SPROCKETS,LIGHTS,ROLLERS	
1	320044	ROCKSHAFT/MAINFRAME WLDT	1
2	320128	UPPER ROLLER PIVOT WLDT LH	1
4	320150	ROLLER, UPPER WLDT	1
5	320160	ROLLER,LOWER WLDT	1
6	320167	SPRING,UPPER ROLLER TENSION	1
7	320190	SPRING,ADJUST WLDT	2
8	102127	NUT 5/8 NYLOK GR.5 PLTD.	2
9	320185	LIGHT ASSEMBLY RECON 200 C/W HARNESS & PLUG	
10	113297	LIGHT,STOP,TURN & TAIL RED #80308R	2
11	113367	CABLE,16/3 SJTW 60C YELLOW 216"	2
12	1132985	CONNECTOR 7 POLE PLUG FEMALE	1
14	320192	PIN WLDT,UPPER ROLLER 1" OD X 4" LG	1
15	320090	CAP,BREATHER 1 1/4" FPT	1
18	320165	PLATE,BEARING PROTECTOR	1
19	102128	NUT 3/4" NYLOK GR 5 PLTD	5
20	114428	BEARING,4 BOLT ECCENTRIC LOCKING BRG HOUSING	2
21	320215	SKID PLATE WLDT,LH	1
24	320230	ROLLER ADJ.WLDT	2
25	102146	NUT 1/2" STOVER	8
27	100109	BOLT,HEX HEAD 3/4" NC X 2 LG	4
35	114250	SPROCKET,IDLER 50CH 15T 5/8" BORE	1
36	114203	CHAIN,#50 X 26 LINK	1
37	100804	BOLT,HEX 5/8" NC X 2-1/2" LG	1
38	101107	WASHER,5/8" FLAT	1
39	320198	PIN WLDT,HYD CYL BARREL END 1" OD X 5" LG	1
40	117508	PIN,CYL 1 OD X 3.6 LG GROOVED	1
	104303	HAIRPINS,WITH CYLINDER	2
41	104301A	HAIRPIN #8 3/16" X 3-3/4" LG	1
42	104903	COTTER PIN 1/8" X 1-1/2"	4
50	320250	ROCK GUARD ASSY	4
51	114204	CONNECTOR LINK,#50 CHAIN	1
54	102113	NUT 7/16 NC GR. 5 PLTD.	2
59	102125	NUT 1/2 NYLOK GR. 5 PLTD.	2
60	105609	GREASE NIPPLE 1/4-28 THREAD FORMING	3
61	103206	S/M SCR # 12 D/T	A/R
62	101102	FENDER WASHER 1" OD X 3/16 ID	A/R
63	114424	FLANGE DUCTILE F208-N1D1 4BOLT	2
64	114426	BEARING UC 208-24	2
65	128041	TOOL BOX FOR GLOVES GOGGLES	1
66	100403	HEX HD BOLTS 1/4 NC X 1	2
67	102121	NUT 1/4 NC NYLOK GR.5 PLTD.	2
68	101103	FLAT WASHERS 1/4	2
69	104303	HAIRPIN, 7X FOR GRVD PINS	2
70	320330	WRENCH WLDT, RECON ROLLERS	1
71	320600	HAYSAVER ASSY LH & RH (OPT)	1
72	127900	HAYSAVER WHEEL REPLACEMENT	2

## **7.2. ROLLER DRIVE AND WHEEL**



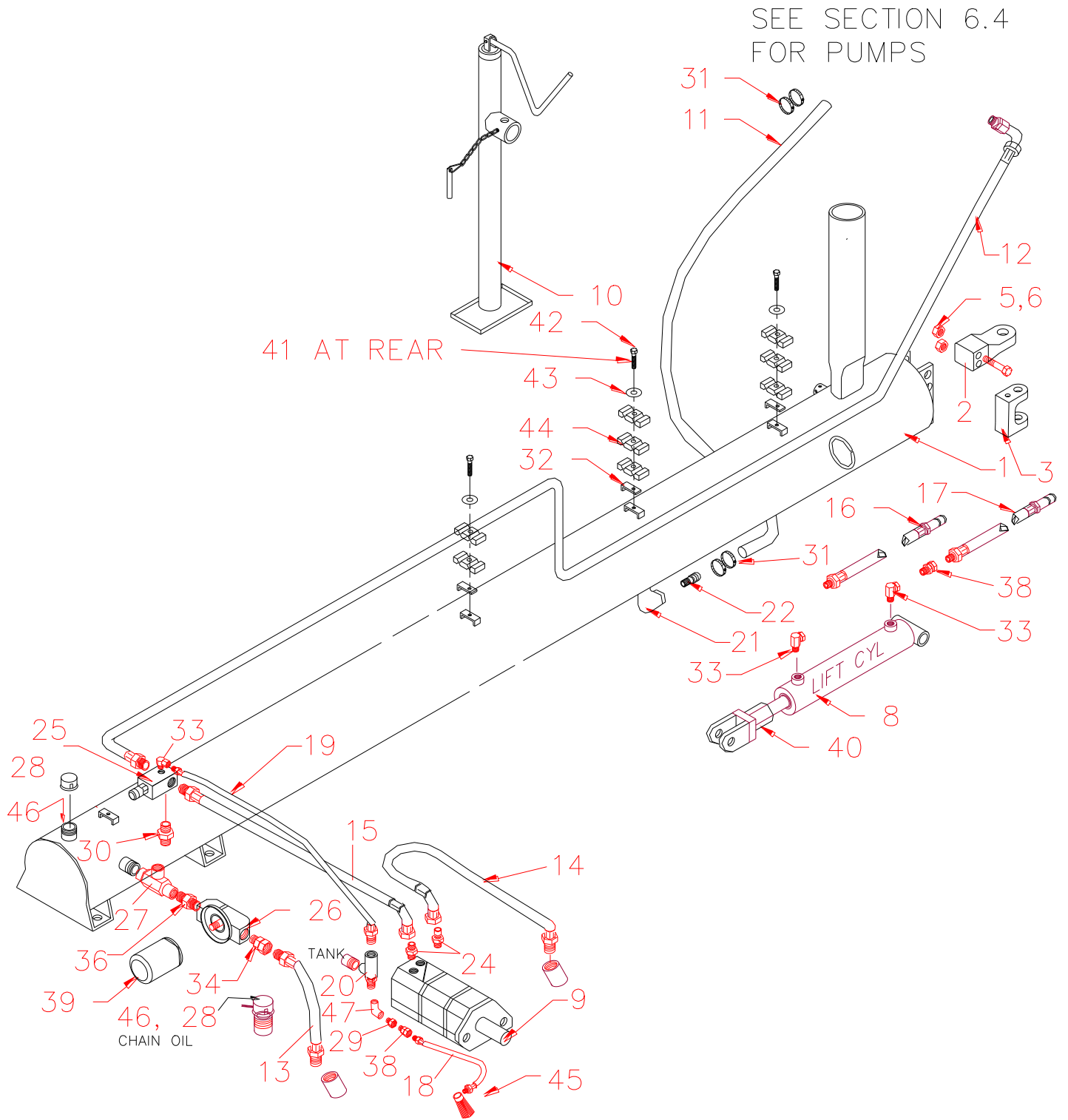
## ROLLER DRIVE & WHEEL

ITEM	PART	DESCRIPTION	QTY.
	302040	MAINFRAME ASSY,W/SPROCKETS,LIGHTS,ROLLERS	
3	320124	UPPER ROLLER PIVOT WLDT RH	1
12	102070	NUT WING 1/4" NC PLATED	
13	113656	WHEEL NUT 1/2" NF	5
14	320192	PIN WLDT,UPPER ROLLER 1" OD X 4" LG"	1
15	320300	GUARD, CHAIN RECON 200	1
16	113929	SPRING,2.75" X .848" ID X 1.4" OD 2.5FL	1
17	320147	TIGHTENER ,SPRING CHAIN WLDT	1
18	320165	PLATE,BEARING PROTECTOR	1
21	320216	SKID PLATE WLDT,RH	1
22	320140	MOUNT WLDT,HYDRAULIC MOTOR	1
23	320197	PIN , PUMP PIVOT 1" OD X 5-3/4" LG	1
24	320230	ROLLER ADJ WLDT	1
25	102146	NUT,1/2" STOVER	8
26	102109	NUT,3/4" NC STD	1
28	114258	SPROCKET 80Q30	1
29	320139	SPROCKET 80A18 WELD ON HARDENED	1
30	114432	BUSHING Q 1 X 1-1/4"	1
31	114430	BUSHING P 1 X 1-1/2"	2
32	105601	GREASE NIPPLE,1/4" MPT X 90 DEG	1
33	102121	NUT 1/4" NC NYLOK GR 5 PLATED	2
34	100409	BOLT,HEX 1/4" NC X 2-1/2" LG	2
#	320347	DUST GUARD WLDT,RH SIDE PLATE	1
42	104903	COTTER PIN 1/8 X 1-1/2	1
44	113624	HUB,5 BOLT 4.5" CIRCLE 216 DIZ	1
45	113995	TIRE, P275 60SR15 C/W 15X8X5 RIM	1
46	113604	DUST CAP DC-11	1
47	102111	CASTLE NUT 3/4"	1
48	113607	BEARING CONE L-44643	2
49	113606	BEARING CUP L-44610	2
50	114206	CHAIN,#80 X 70 LINK	1
51	114208	LINK, OFFSET 80 CHAIN	
52	114207	CONNECTOR LINK,#80 CHAIN	1
53	100903	BOLT,HEX HEAD 3/4" NC X 4" LG	1
54	102113	NUT 7/16 NC GR. 5 PLTD.	1
55	102124	NUT 7/16 NYLOK GR. 5 PLTD.	1
56	114260	SPROCKET H80P18	1
57	114460	HUB, HP1 WELD ON 2.875X P1	1
58	100703	HEX HD BOLTS 1/2 NC X 2	2
59	102125	NUT 1/2 NYLOK GR. 5 PLTD.	4
60	114424	FLANGE <b>DUCTILE NOT CAST</b> F208-N1D1 4BOLT	4
61	114426	BEARING UC 208-24 FOR FLUSH MOUNT	4
62	113996	WHEEL NUT 1/2" KEYED ALIKE	2
63	113997	WHEEL NUT KEY FOR KEYED ALIKE	1





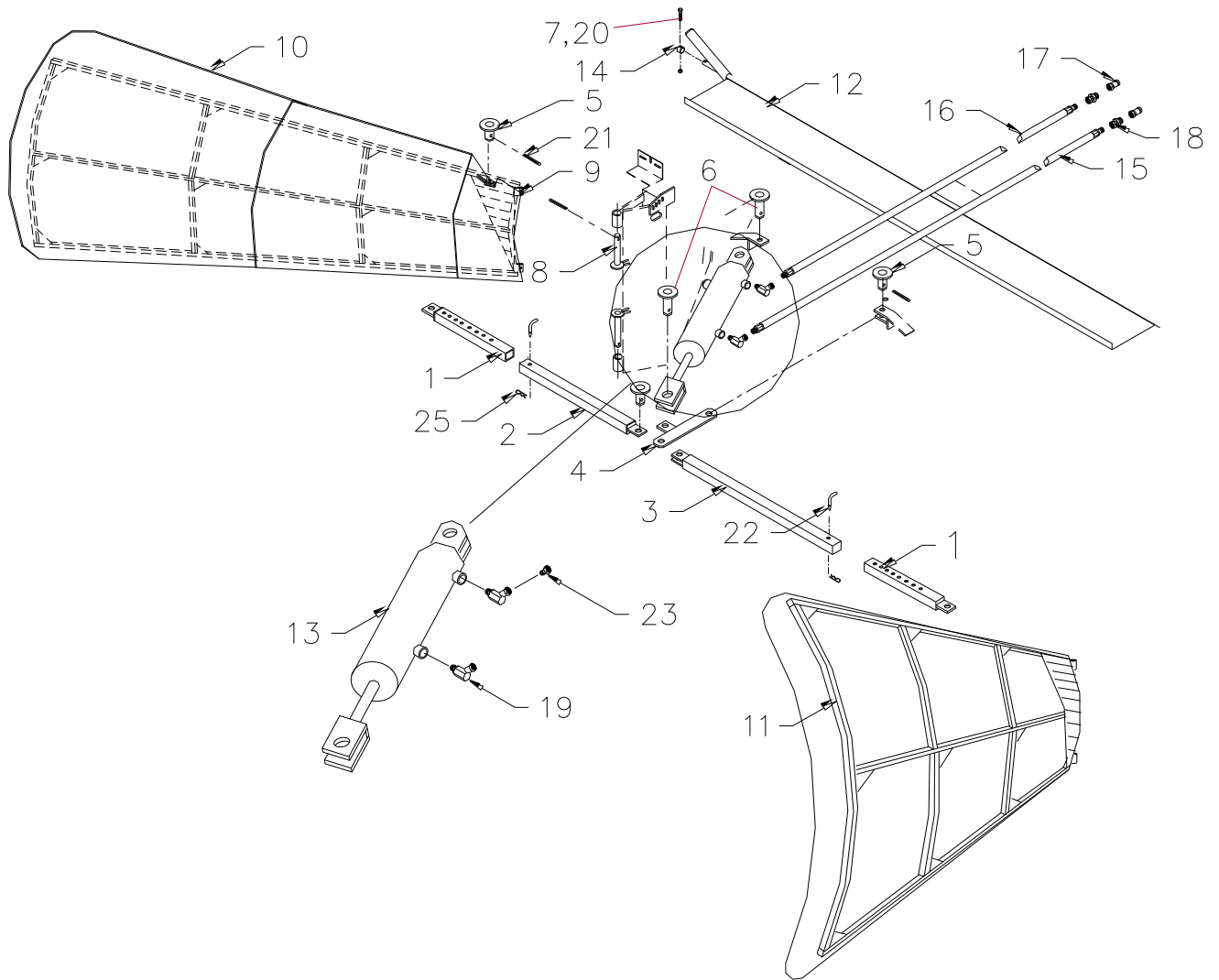
### 7.3. HYDRAULICS, RESERVOIR, & CHAIN OILER



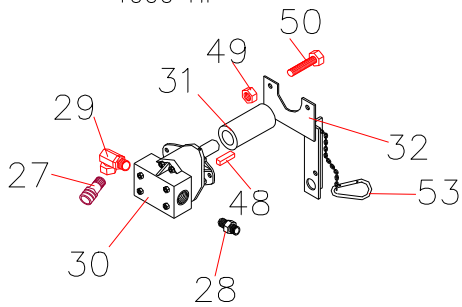
## PARTS LIST HYDRAULICS & RESERVOIR,CHAIN OILER

ITEM	PART NO	DESCRIPTION	QTY
	320045	RESERVOIR-HITCH-PTO PUMP ASSY	
1	320065	RESERVOIR HITCH WLDT	1
2	113636	PERFECT HITCH BASE PPI-126VR	1
3	113637	PERFECT HITCH CLEVIS PP107VR	1
5	100809	HEX HD BOLTS 5/8 X 4 1/2	2
6	102127	NUT 5/8 NYLOK GR. 5 PLTD.	2
8	117498	HYD.CYLINDER 3 X 8 IMP. RWCC	1
	117497	CYL. SEAL KIT FOR 3X8(RECON)	
	117499	SHAFT,1-1/4" DIA. 3 X 8 RWCC	
9	117165	HYD. MOTOR CHAR-LYNN 104-1024	1
10	116903	HITCH JACK SIDE MNT TOP CRANK	1
11	113080	HOSE, HYD INTAKE 11/4ID 50"	1
12	117866	HOSE ASSY, 3/4' X 146"	1
13	117869	HOSE ASSY 3/4 X 30" TO FILTER	1
14	117867	HOSE ASSY 3/4 X 32" TO FRAME	1
15	117868	HOSE, 36", 3/4 FJIC ID X3/4MPT	1
16	117849	HOSE 1/4"X116" 1/4"MPT ENDS	1
17	117850	HOSE 1/4"X107" 1/4"MPT ENDS	1
18	117844	HOSE ASSY 1/4 X 1/4 MPT 20LG	1
19	117764	HOSE ASSY HYD 1/4"X 44"MPT END	1
20	117626	PILOT CHECK VALVE LINE 3\8"NPT	1
21	110125	ELBOW 1 1/4 FPT X 11/4FPT BLK	1
22	110150	HOSE BARB 11/4MPTX11/4 BLSTEEL	1
24	117954	ADAPTER #10 ORB M X #12 J1C M	2
25	118403	BODY, ALUMINUM 3/4 FPT	1
	118400	CARTRIDGE, RELIEF VALVE,	
26	117685	FILTER ASSY, HYD RETURN 3/4FPT	1
27	118052	TEE FPTXFPTXFPT 25VJ-12	1
28	320090	CAP, VENTED GALV 1 1/4 FPT	1
29	110758	REDUCING BUSHING GALV 3/8 MPT X 1/4 FPT	1
30	110135	NIPPLE 3/4 MPT X 3/4 MPT 2' LONG	1
31	112404	HOSE CLAMP ALL SS HAS 24	4
32	320088	HOSE HOLDER,HYD.RESERVOIR	4
33	118121	ADAPTER 1/4 MPT X90 DEG1/4 FPS	2
34	118109	SWIVEL ADAPTER 3/4MPT X 3/4FPT	2
36	118009	NIPPLE 3/4 MPT X 3/4 MPT	1
37	118101	SWIVEL ADAPTER 1/4MPT X 1/4FPS	1
38	117651	RESTRICTOR 0107X4X4 #61SA-04 X	1
39	132010	FILTER ELEMENT 10 MICRON	1
40	117496	CYL.STROKE CONTROL NUT C\W GREASE	1
41	100608	HEX HD BOLTS 3/8 NC X 2-1/2	2
42	100610	HEX HD BOLTS 3/8 NC X 3	2
43	101115	FLAT WASHER 3/8 SAE	4
44	128106	HYDRAULIC HOSE RETAINING CLIP	10
45	320187	BRUSH ASSY,OILER RECON 200	1
46	115095	OIL TRANSMISSSION HYDRAULIC (equivalent JOHN DEERE HY GARD SUMMER)	34 GAL
47	110386	ELBOW, 3/8FPT X 3/8 FPT GALV	1

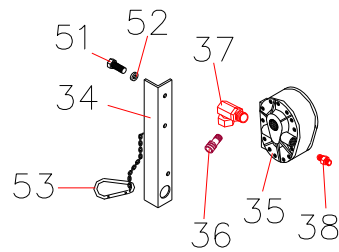
## 7.4. DEFLECTORS AND PUMPS



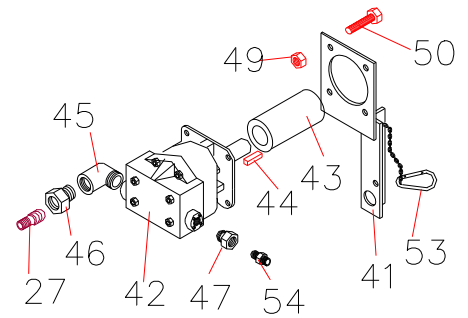
1TM 26 ASSY# 320360  
1000 HP



ITM 33 ASSY# 320340  
540 STD



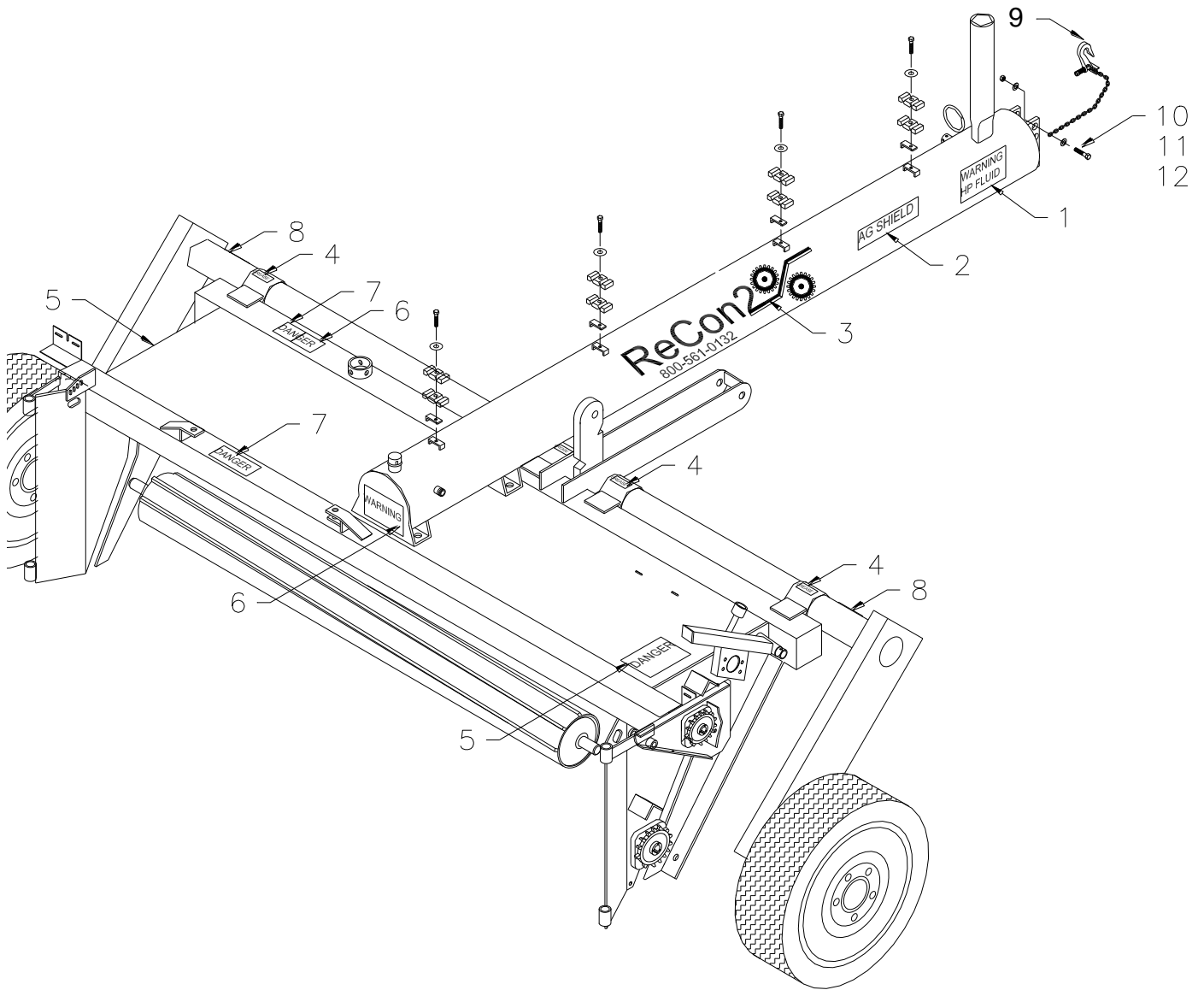
ITM 40 ASSY# 320350  
540 HP



## DEFLECTORS AND PUMPS

ITEM	PART NO	DESCRIPTION	QT
	320200	DEFLECTORS,REAR TOP & SIDES	
1	320201	ARMS,ADJ SIDE DEFLECTOR	2
2	320205	ARMS,INNER ADJ LH	1
3	320206	ARMS,INNER ADJ RH	1
4	320210	PIVOT ARM,REAR CROP DEFLECTOR	1
5	225558	PIN WLDT,DEFLECTOR 1" X 2-1/4" LONG	4
6	208255	PIN WLD'T, RAM & BRL END 3-5/8"	2
7	102121	NUT 1/4 NC NYLOC GR.5 PLTD.	1
8	320196	PIN WLDT 5",DEFLECTOR PIVOT	4
9	105609	GREASE NIPPLES 1/4-28 THREAD FM	4
10	320227	REAR DEFLECTOR ASSY.LH	
	320269	DEFLECTOR WLDT,LH RECON 200	1
11	320228	REAR DEFLECTOR ASSY.RH	
	320270	DEFLECTOR WLDT,RH RECON 200	1
12	320240	DEFLECTOR.TOP WLDT	1
13	117495	CYLINDER 3 X 8 C/W CLEVIS EARS BRL PIN 90 TO PORTS	1
	117497	CYL. SEAL KIT FOR 3X8(RECON)	
	117507	CYL SHAFT FOR 3X8 CYL #117495	
14	320245	BUSHING STOP, TOP DEFLECTOR WLDT	1
15	117705	HYD HOSE 1/4" D604 181"	1
16	117704	HYD HOSE 1/4" D604 171"	1
17	117502	HYD CPLR.1/2 FPT X MALE PIONEER	2
18	118041	RED BUSH 1/2 MPT X 1/4 FPT	2
19	118148	HYD FITTING, 1/4" MPT X 1/4 FPS 45 DEG	2
20	100405	BOLT,HEX HEAD 1/4"NC X 1-1/2"	1
21	104907	COTTER PIN,1/4" X 2-1/2"	6
22	320204	PIN,REAR DEFLECTOR ARM	2
23	117651	RESTRICTOR, 1/4" MPT X 1/4" FPS X .060	1
25	104099	HAIR PIN #16 1/8 X 2 9/16"	2
26	320360	PUMP & MOUNT ASSY,1000 HP PUMP	1
27	110150	HOSE BARB 1 1/4 MPTX1 1/4 BARB PLATED STEEL	1
28	117959	ADAPTER #16 ORB M X #12 J1C M	1
29	117965	ADAPTER, 20MORB X 90 1 1/4 FPS	1
30	117622	PUMP, HYD 1000 RPM HI PERFORM- 1" INPUT SHAFT	1
31	111310	PTO STUB 1 3/8 21sp 1000X1"RD	1
32	320325	MOUNT WLDT,1000 HP PUMP	1
33	320340	PUMP & MOUNT ASSY.540 STD PUMP (320010 IN LIEU)	1
34	320085	MOUNT WLDT,540 STD PUMP	1
35	117621	PUMP, HYD, 540 PTO 20 GPM	1
36	110151	HOSE BARB 1" MPT X 1 1/4" HOSE PLATED METAL	1
37	118128	ELBOW, 16 ORB M X 90 1"FPS	1
38	117957	ADAPTER 90 12 MJIC X 12 MORB	1
40	320350	PUMP & MOUNT ASSY,540 HP PUMP (320011 IN LIEU)	1
41	320329	MOUNT WLDT,540 HP PUMP	1
42	117623	PUMP HYD,540RPM HI-PERF 1 1/4" SHAFT	1
43	320341	PTO STUB 1 3/8 6 SPLINE X 1 1/4" 1/4 KEY	1
44	320342	KEY, 3/16 X 1/4" X 1.25 LONG	1
45	110330	ELBOW, STREET GALV 1.5 MPT X 1.5 FPT	1
46	110767	RED BUSH, 1 1/2 MPT X 1 1/4 MPT GALV	1
47	118022	RED BUSH, HYD 1 1/4 MPT X 3/4" FPT	1
48	206193	KEYSTOCK 1/4" X 1/4" X 1.25 LONG	1
49	102125	NUT 1/2 NYLOK GR. 5 PLTD.	A/R
50	100702	BOLT 1/2 NC X 1 1/2 HX PLTD GR5	A/R
51	100602	BOLT 3/8 NC X 1 HEX PLTD GR5	2
52	101145	LOCK WASHERS 3/8	2
53	114355	SNAP LINK 7/16 X 4.75" LONG	1
54	117945	ADAPTER, 3/4 MPT X 12MJIC	

## 7.5. DECAL LOCATIONS



ITEM	PART NO	DESCRIPTION	QTY
1	113552	DECAL - WARNING H.P. FLUID	1
2	113501	DECAL "AGSHIELD" 3"X12"	2
3	113504	DECAL"RECON 200 BY ASM" 36"x5"	2
4	113520	DECALS GREASE EVERY 10 HRS	4
5	113522	DECAL MOVING PARTS HAZARD	2
6	113523	DECAL THROWN OBJECT HAZARD	2
7	113524	DECAL ROTATING BLADE HAZARD	2
8	113561	AMBER ADHESIVE REFLECTOR 42MM X 82	2
9	320295	SAFETY CHAIN HOOK/LOCK ASSY	1
10	100608	HEX HD BOLTS 3/8 NC X 2-1/2	1
11	102123	NUT, 3/8 NC NYLOK GR. 5 PLT	1
12	101105	FLAT WASHERS 3/8	1

## 8. WARRANTY CLAIM FORM

Dealer			<b>Ag Shield Mfg</b> 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				
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

