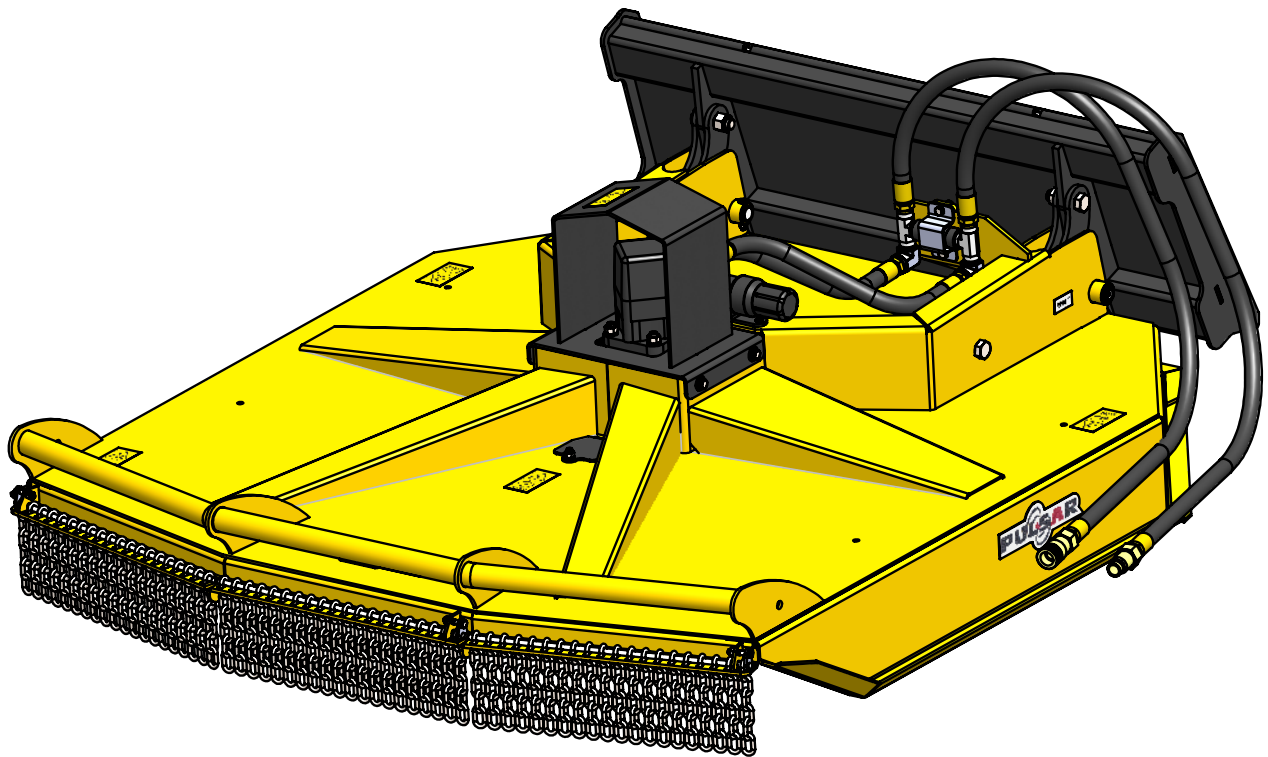




Skid Steer Cutter Operator's / Parts Manual



MK Martin Enterprise Inc.
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3950 Steffler Rd. • Elmira • Ontario, Canada • N3B 2Z3 • Email : sales@mkmartin.ca • Fax : (519)-664-3695 • Tel : (519)-664-2752

Warranty

Effective on products retailed on or after November 1, 2017

Two Year Limited Consumer Warranty

Five Year Limited Consumer Warranty on Gearboxes

90 Day Limited Commercial Warranty including Gearboxes

Commercial includes rental and industrial applications.

Warranty begins at the time of customer delivery and is activated upon warranty registration receipt at MK Martin Enterprise Inc.

Warranty coverage is null and void unless the Warranty Registration form has been completed in full and is on file at MK Martin Enterprise Inc.

Keep your registration copy in a safe place, it is required as proof of warranty activation.

This new and unused product is warranted by MK Martin Enterprise Inc. to be free from defects in material and workmanship under normal use and regular service as described in the owner's manual, for a consumer period of 2 years and 5 years for gearboxes, from the date of delivery, and commercial period of 90 days, including gearboxes, from the date of delivery. Warranty is limited to the replacement of parts and / or repair of the product.

If issues develop within the warranty period with the product, contact the local dealer from which you purchased the unit. Only MK Martin authorized dealers may make repairs to the product or affect the replacement of defective parts, unless otherwise approved by MK Martin. Repairs / replacement will be done at no charge within a reasonable time after the receipt of the product.

This warranty does not cover the following items:

1. Normal replacement of service items.
2. Normal maintenance or adjustments.
3. Machines or parts lost or damaged during shipment,
4. Accessory items / parts not supplied by MK Martin
5. Damages resulting from:
 - misuse, negligence, accident, theft or fire
 - use of improper or insufficient fuel, fluids or lubricants
 - use of after market parts or accessories, unless approved by MK Martin
 - modifications, alteration, tampering or improper repair
 - any device or accessories installed by other than an authorized dealer.
6. Tires are covered by the manufacturer of the tire and the warranty period specified by that manufacturer. **Please contact the tire manufacturer for warranty on these items.**

MK Martin Enterprise Inc. shall not, in any event, be liable for any losses, damages or costs; to include profits, travel, transportation, pick up, delivery, towing cost, tow vehicle, loss of use, whether special, incidental, consequential or otherwise, in any way. Unit or parts are returned at the customer's expense.

Include a copy of your completed Warranty Registration form with any claim as proof of warranty activation.

There are no warranties, expressed or implied, other than those specified herein. No agent, employee or other person has any authority to vary any of the foregoing provisions.

Warranty coverage is null and void unless the Warranty Registration form has been completed in full and is on file at MK Martin Enterprise Inc. Warranty begins at the time of customer delivery and is activated upon Warranty Registration receipt at MK Martin Enterprise Inc.

M K Martin Enterprise Inc

3950 Steffler Rd

Elmira ON CA N3B 2Z3

Purchaser's warranty protection is valid only when this completed form or a copy of this form is on file at M K Martin Enterprise Inc. By filling out this form the purchaser has acknowledged delivery of equipment and owner's / operator's manual and has accepted the condition of the equipment.

Date of delivery to purchaser -----

Type of Equipment -----

Model # ----- Serial # -----

Retailer's Signature Indicates

- *Equipment was properly assembled as directed by manufacturer*
- *Equipment was tested for functionality and operates properly*
- *Purchaser was instructed in safe and proper operating procedures*
- *Warranty was explained to purchaser*
- *Purchaser was given the operators manual*

Retailer

Signature -----

Company -----

Address -----

Purchaser's signature indicates

- *Acceptance of equipment fully assembled*
- *Received operator's manual*
- *Clearly understands conditions of warranty*
- *Received instructions of safe and proper operation of equipment*

Purchaser

Signature -----

Company -----

Mailing address -----

City ----- Prov/State ----- Postal Code/Zip -----

Available phone number -----

Warranty is valid only when it has been received by manufacturer at address above

Warranty Registration

Please Cut and Return to M K Martin Enterprise Inc

Fold And Tape here

Do not tape all edges or use staples

Fold Here

**Postage
Stamp**

**M K Martin Enterprise Inc
3950 Steffler Rd
Elmira ON CA N3B 2Z3**

Safety

Take Note! This safety symbol is found throughout this manual to call your attention to instructions involving yourself and others working around the machine.

- **Failure to follow these instructions can result in injury or death**



This symbol means

-- Attention!
-- Become Alert!
-- Your Safety is involved!

Signal words are used in this manual.

Caution: Indicates a potentially hazardous situation that may result in injury.

Warning: Indicates a hazardous situation that could result in serious injury or death.

Danger: Indicates a hazardous situation that needs to be avoided. It is you the operator that needs to be aware of these dangers.

If you have any questions not answered in this manual please contact your dealer or

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Safety -- It's in your interest!



Safety Guidelines.

Safety of the operator is one of our main concerns, however it is up to the operator to practice caution.

To avoid personal injury, study the following precautions and insist that those that are working with you follow them.

The Skid Steer Pulsar Cutter has a chain guard at the front of the machine, to lower the possibility of debris being ejected out of the machine.

The cutter has a cover plate in the deck to gain access to one side of the blade bolts, do not operate the cutter with this removed or missing.



This cutter has High Pressure hydraulic lines and a leak can be extremely hazardous!

Replace any decals that may be missing or not readable. Location of the decals are indicated elsewhere in this manual.

Do not use this machine while under the influence of drugs or alcohol.

Review the safety instructions with all users annually.

This equipment should not be operated by children: or those unfamiliar with the operation of the Skid Steer Pulsar Cutter. Do not allow persons to operate this machine until they have read this manual and/or were instructed by a qualified person.

Do not paint over, remove or deface any safety signs or warning decals on the Pulsar Cutter. Observe all safety signs and practice the instructions on them.

Do not use this machine to push or carry objects or people.



Please be careful with the extra length on the front of the loader, you need a larger space to turn.



Please stop the engine on the loader and set the cutter on a solid support! When servicing the blades do not work or walk under an unsupported cutter!

Hydraulic Leak Test



Warning! Do not check for high pressure leaks with your hands or fingers. Use a piece of cardboard or a thin piece of wood to detect the leak.

A high pressure stream of fluid from a pin hole can penetrate the skin and inject hydraulic fluid into your blood veins.

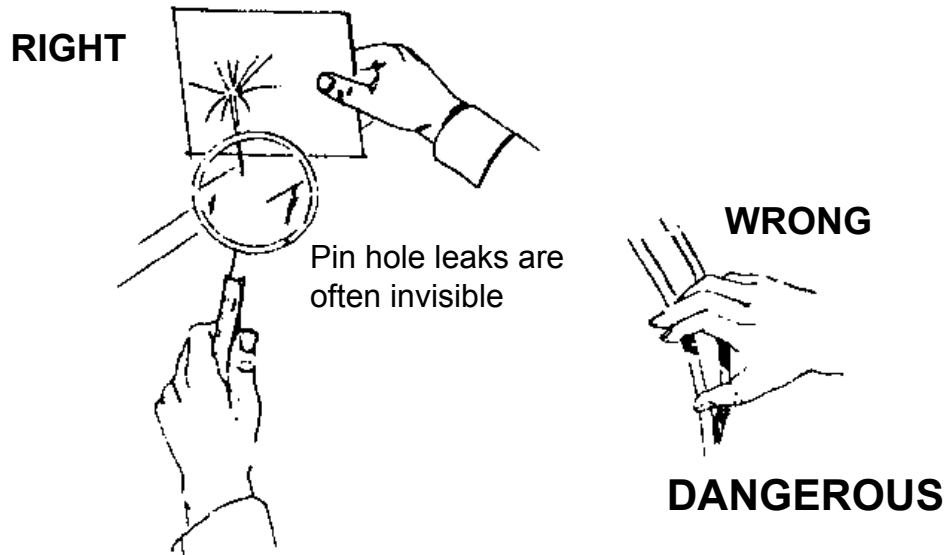


Figure 1. Detecting pinhole leaks in a hydraulic system.



IF THE SKIN HAS BEEN PENETRATED GET MEDICAL ATTENTION IMMEDIATELY!



Hydraulic lines may have high pressure fluid in the lines, even when the lines are disconnected.

Remember a small leak at high pressure may be invisible yet can penetrate the skin. If this happens get medical attention immediately, serious infection or toxic reaction can develop when hydraulic fluid pierces the skin.

Use caution when working with hydraulic components. Ensure there are no leaks, all fittings are tight and all components are in good repair.



Use a piece of wood or cardboard as a backstop when searching for leaks, **NEVER** your hand or fingers.



Always relieve pressure before disconnecting or working on hydraulic system.

Decal Location



#1 - Before operating machine, carefully read the instruction manual



#2 - DANGER. Avoid fluid escaping under pressure, Consult manual for service procedures.



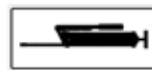
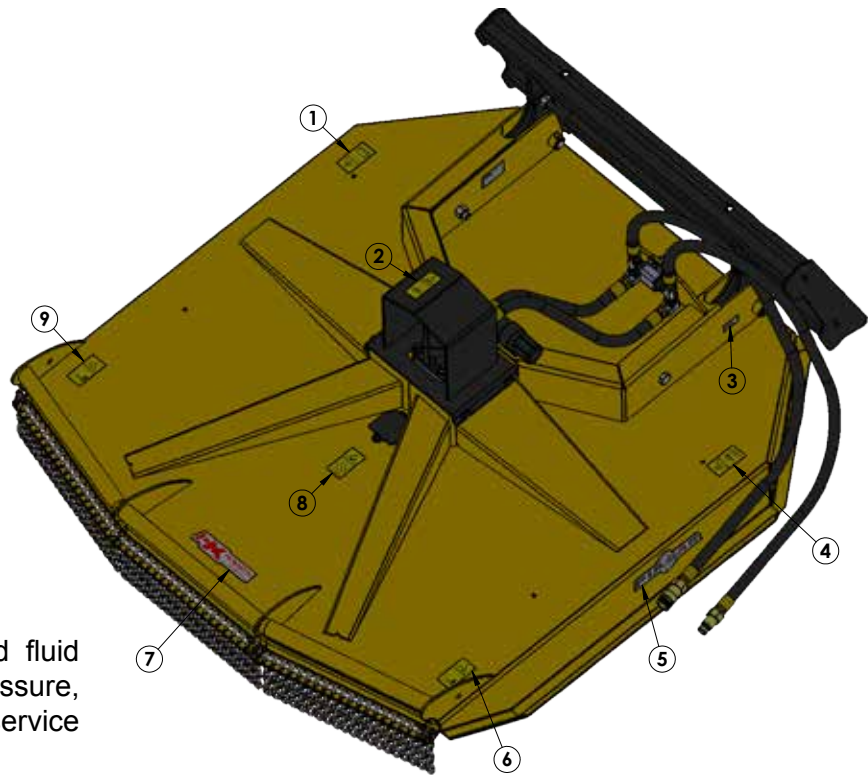
#4 - Before any operation of maintenance a/o adjustment, stop, brake the tractor on level ground, lower the machine to the ground and read the instruction manual.



#6 - DANGER. Sharp objects could be thrown. Keep safe distance from the machine



#8 - DANGER of possible shearing of limbs. Do not remove the protective shields unless all moving parts of the machine have reached a complete standstill.



#3 - Grease - x2



Serial plate



#5 - Pulsar decal - x2



#7 - MK Martin Made in Canada



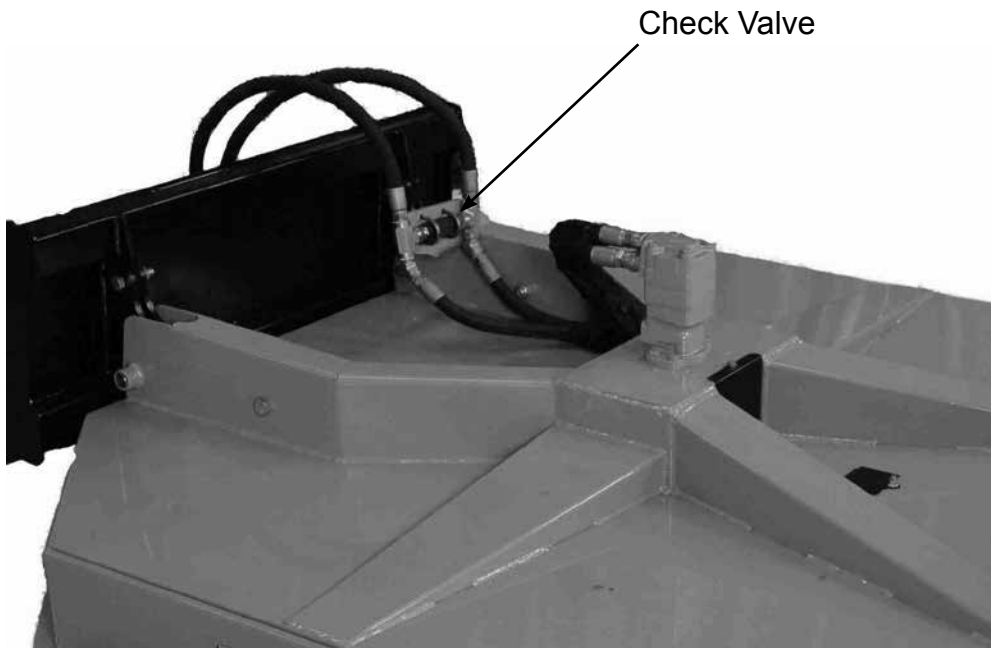
#9 - DANGER of possible shearing of limbs. Keep a safe distance from the machine while it is working.

Operating

Upon receiving the product please take a few moments and check for broken or damaged or missing parts that happened during shipping.

The Skid Steer Pulsar® Cutter is shipped with most or all the components in place. The exception may be the hydraulic lines.

Unpack the lines and route them as shown below. Clamp the check valve part to the frame to secure the lines.



Attaching the Pulsar® Cutter to your loader

1. Ensure that the hydraulic lines are not hanging in front of the loader plate
2. Hook loader adaptor into the top of the loader plate and tilt up until the front of the cutter is lifted.
3. Lock the attachment to the loader.
4. Attach the hydraulic lines to the loader.

You are now ready to do some cutting.

Operating

This cutter was designed for a skid steer loader. The loader plate has a floating link to allow the cutter to float freely up and down at the front while in use. The hydraulics has a check-valve in the line that will act like an overrunning clutch when the cutter is stopped. This avoids the tremendous pressure surge when the valve is closed, allows the blade to be turned by hand during servicing and will not run the cutter in reverse rotation.

Operating *continued*

Operating the Pulsar Cutter

With the cutter secured to the loader and you are at the site you want to cut.

Ensure that NO bystanders or workers are in the vicinity that you want to cut. Do not run cutter in any other position then flat on the ground!



Be sure to stop the cutter whenever you raise it off the ground!



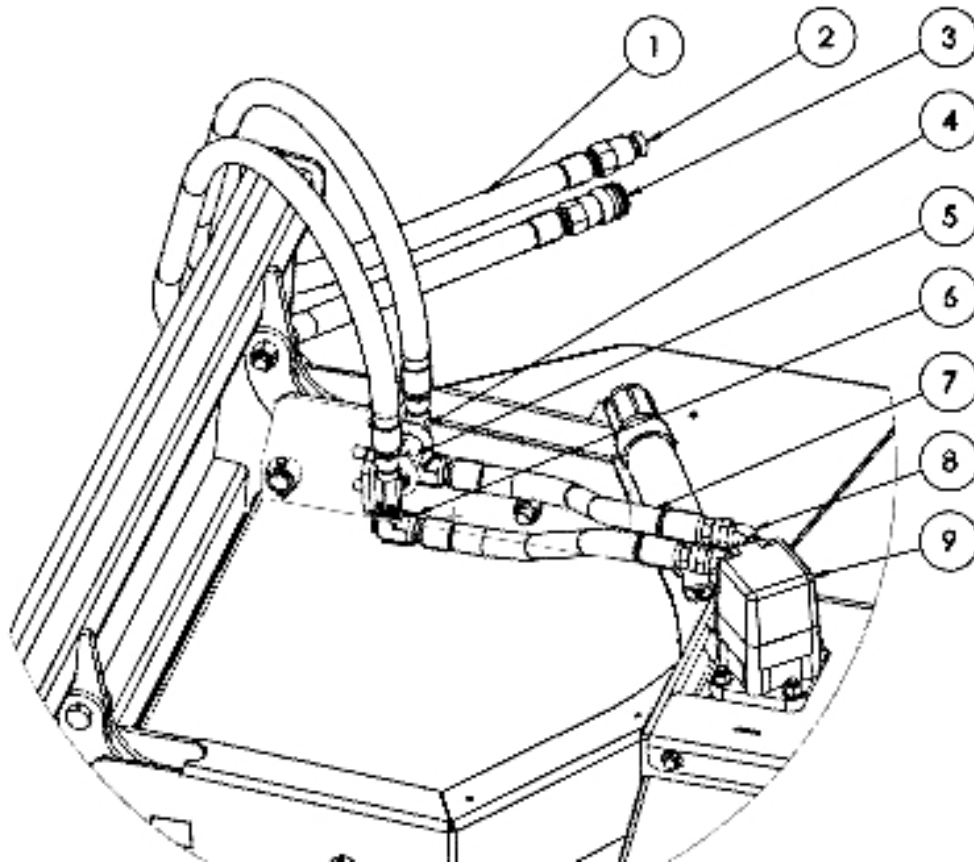
This cutter is mounted in front of the loader and is pushed rather than dragged. The loader is also capable to put down pressure on the cutter, (this is not desirable).

With the cutter tilted up slightly at the front, lower the cutter until the sides almost touch the ground.

1. Tilt the cutter down until the front comes in contact with the ground.
2. Tilt it a little further to allow the cutter to float over uneven terrain.
3. Slowly start the cutter and bring it up to Full speed. (It is the speed of the blades
4. that do the cutting).
5. Lift the cutter up before turning
6. Stop the cutter any time it is not in contact with the ground.
7. Slow down if the cutter speed decreases.
8. After the job is completed Stop the cutter blade.

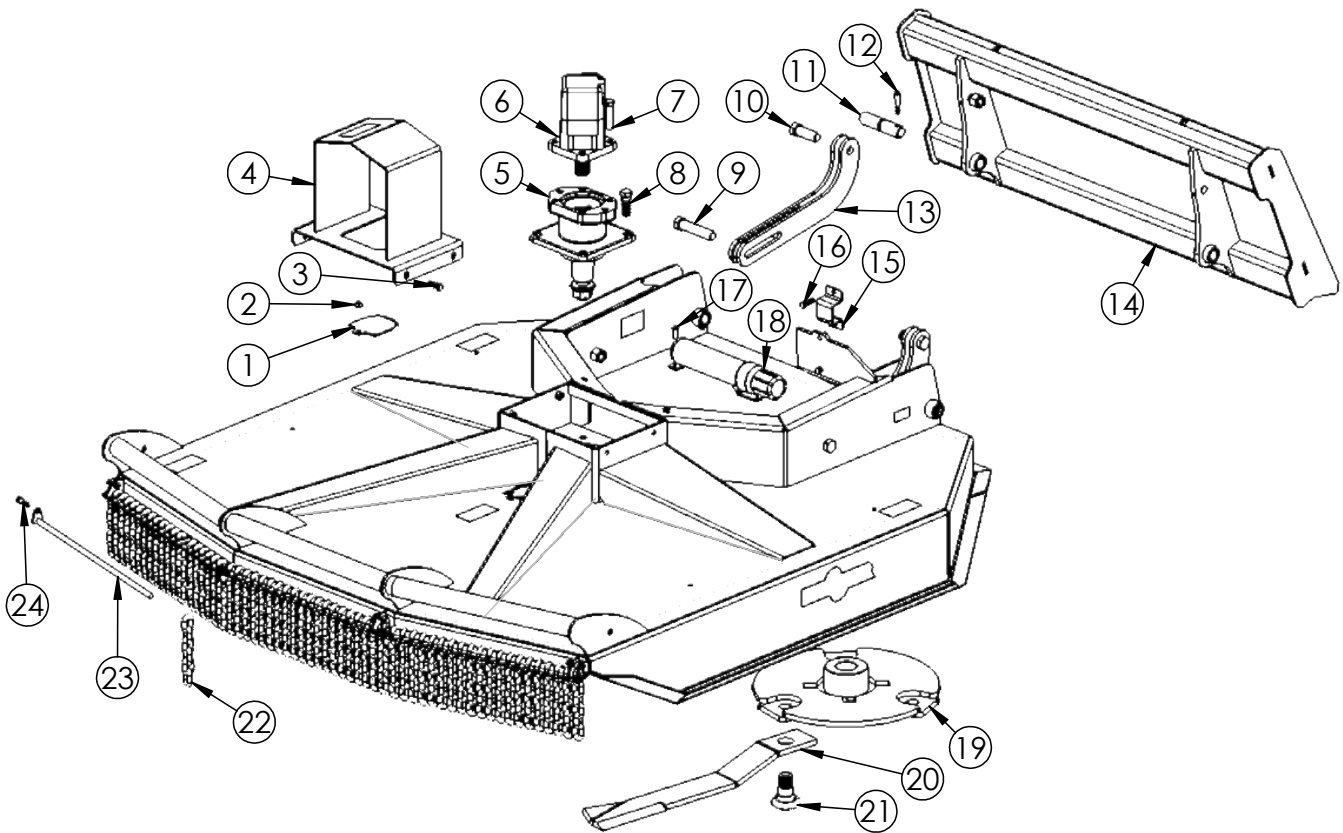
When driving with the cutter attached to the loader. Lift the cutter up for ground clearance only. The cutter extends out the front and will tend to swing in a larger arc when turning and may cause the loader to be unstable.

Skid Steer Pulsar Cutter Hydraulics



Item #	Part #	Description	Qty
1	24427	3/4 M NPT x 60" - 3/4 M NPT Loader Hose	2
2	801301001	Flat Face male	1
3	801301000	Flat Face female	1
4	5604-1212	3/4 Tee	2
5	512-SSC116	3/4 NPT Check Valve	1
6	5502-1212	3/4 NPT 90° St Elbow	2
7	24426	3/4 M NPT x 30" - 3/4 F JIC Motor Hose	2
8	6400-1214	3/4 JIC - SAE10	2
9	52672	Drive Motor A	1
	52673	Drive Motor B	1
	52674	Drive Motor B +	1
	52675	Drive Motor C	1
	52676	Drive Motor C +	1
	52677	Drive Motor D	1

Pulsar Skid Steer Cutter Parts



Item #	Part #	Description	60 Qty	72 Qty
1	21660	Deck Cover Plate 60	1	
	31419	Deck Cover Plate 72		1
2	OL	Nut 3/8 c/w lw	1	1
3	OL	Bolt 3/8 x 1 1/4 c/w fw,lw	4	4
4	34880	Motor Guard	1	1
5	See page 14	Drive Spindle	1	1
6	See page 11	Drive Motor	1	1
7	OL	Bolt 1/2 x 2 1/2 c/w lw,n	4	4
8	OL	Bolt 5/8 x 2 c/w lw,n	4	4
9	OL	Bolt 3/4 x 4 c/w ln	2	2
10	OL	Bolt 3/4 x 2 1/2 c/w ln	2	2
11	54078	Pivot Pin	2	2
12	OL	Bolt 1/4 x 2 c/w ln	2	2
13	31410	Float Link	2	2

Pulsar Skid Steer Cutter Parts

Item #	Part #	Description	60 Qty	72 Qty
14	21620	Loader Adapter	1	1
15	35324	Check Valve Clamp	1	1
16	OL	Bolt 3/8 x 1 1/4 c/w In	2	2
17	OL	RH Bolt 1/4x1 c/w Flange Nut	2	2
18	52649	OP Manual Tube	1	1
19	36378	PRCH60 Cutter Bar	1	
	35177	PRCH72 Cutter Bar		1
20	53057	Cutter Blade	3	3
21	53060	Blade Bolt c/w lw, n	3	3
22	53081	PRCH60 Guard Chain	60	
23	35323	PRCH60 Chain Retainer	3	
	35328	PRCH72 Center Chain Retainer		1
	35327	PRCH72 Chain Retainers		2
24	OL	Bolt 5/16x1 1/2 c/w In	3	3

Note:

OL = Obtain Locally

c/w = complete with

fw = Flatwasher

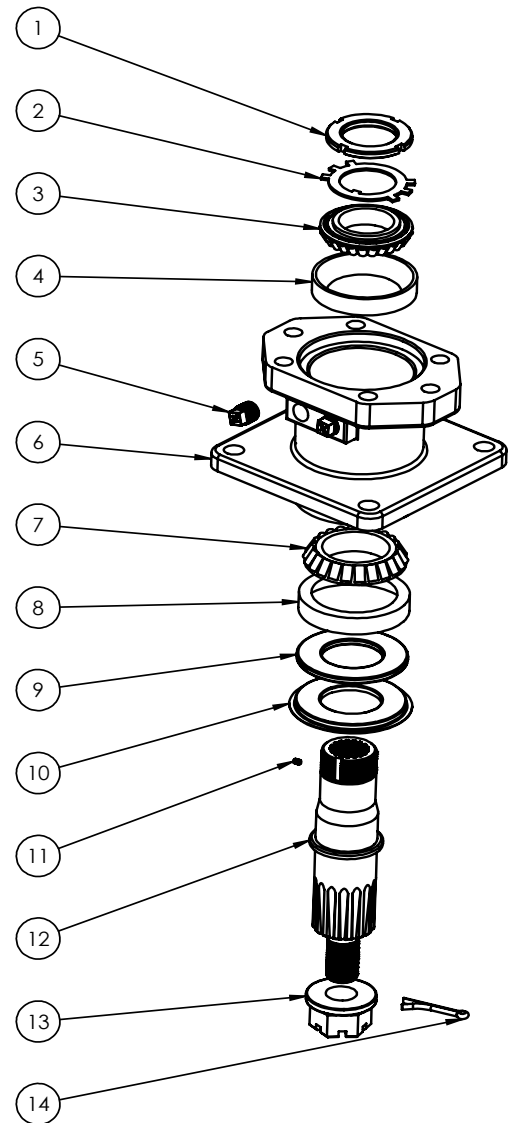
lw = Lockwasher

In = Locknut

n = Nut

Skid Steer Pulsar Cutter Spindle

Item #	Part #	Description	Qty
1	52654	Bearing Nut	1
2	52653	Lock Washer	1
3	52650	Top Cone	1
4	52649	Top Cup	1
5	52666	Plug	2
6	52647	Housing	1
7	52652	Bottom Cup	1
8	52651	Bottom Cone	1
9	52656	Seal	1
10	52655	Protector	1
11	52665	Set Screw	2
12	52648	Shaft	1
13	52664	Nut	1
14	OL	3/16 x 2 Cotter Pin	1





Maintenance

- Check all nuts and bolts after the first hour of use (re-tighten if necessary).
- Grease pivot pin on loader adapter plate every 8 hours of use.
- When hooking up hydraulic lines check for wear marks and abraded spots. Replace if lines are worn and/or cracked.

Inspect blades for wear every 25 hrs of use. Replace All blades and bolts if excessive wear is noticed.

Torque Blade Nuts To 500 ft./lbs.

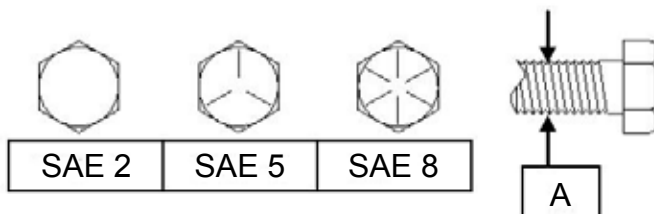
Bolt Torque

As used on this machine

- Bolt torque table shown below gives torque values for various bolts used.
- This chart is for non-lubricated threads.
- Replace with same strength bolt.

Torque Specifications. Torque values are identified by their head markings.

Diameter	SAE 2		SAE 5		SAE 8	
"A"	ft-lb	N.m	ft-lb	N.m	ft-lb	N.m
1/4	6	(8)	8	(11)	12	(16)
5/16	11	(15)	17	(24)	25	(33)
3/8	20	(27)	31	(42)	44	(59)
7/16	32	(43)	49	(67)	70	(95)
1/2	49	(66)	76	(105)	105	(145)
5/8	97	(130)	150	(205)	210	(285)
3/4	144	(195)	265	(360)	375	(510)
7/8	165	(225)	430	(585)	605	(820)
1	250	(340)	645	(875)	910	(1230)
1 1/8	355	(480)	795	(1080)	1290	(1750)
1 1/4	500	(680)	1120	(1520)	1820	(2460)
1 1/2	870	(1180)	1950	(2640)	3160	(4290)



Allen head cap screw are similar to SAE 8 quality

These torques are for reference only. Not all these sizes and grades are necessarily used in this machine. Bolts that are used as a pivot or hinge have to be used with a locknut, therefore only tighten enough to secure the bolt and still allowing the part to rotate freely.

Notes:

[illegible]



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