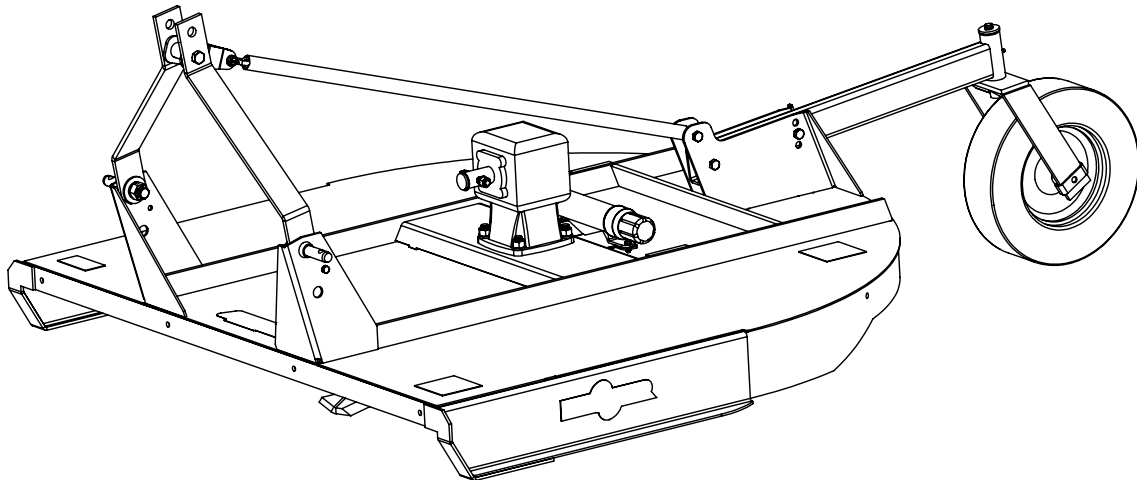




## Pulsar Rotary Cutter Operator's / Parts Manual



MK Martin Enterprise Inc.  
3950 Steffler Rd Elmira, ON, Canada N3B 2Z3

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REV: 18-1



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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 other than by 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!

1. Read and understand the Operator's Manual and all safety signs before operating, servicing, adjusting, repairing or unplugging.
2. Do not allow riders.
3. Install and secure all guards and shields before operating the equipment.
4. Keep hands, feet, hair and clothing away from all moving parts.
5. Place all controls in neutral, stop tractor engine, set park brake, remove ignition and wait for all moving parts to stop before servicing, adjusting, repairing or unplugging the cutter.
6. Place all tractor controls in neutral before starting.
7. Never operate the mower unless you are sitting on the tractor seat.
8. Do not operate the tractor inside a building unless there is adequate ventilation.
9. Clear the area of bystanders, especially small children before starting.
10. Stay clear of the machine when engaging the PTO. Keep others away.
11. Clean reflectors, SMV sign and lights if used, before transporting.
12. When transporting use hazard flashing lights.
13. Do not put hands or feet under machine while tractor engine is running.
14. Do not operate the cutter in a raised position.



15. Objects can be thrown out from the cutter with sufficient force to severely injure people or pets. Stay away from mower when it is running, keep others away.

16. Remove all sticks, stones and other loose matter in the area before starting.
17. Review operator's manual annually.



18. It is the responsibility of the owner or operator to read this manual and to train all other operators before they start working with the cutter.



19. Follow all safety instructions. Safety is everyone's business. By following recommended procedures, a safe working environment is provided for the operator, bystanders and the area around the work-site.



20. Untrained operators are not qualified to operate the cutter!

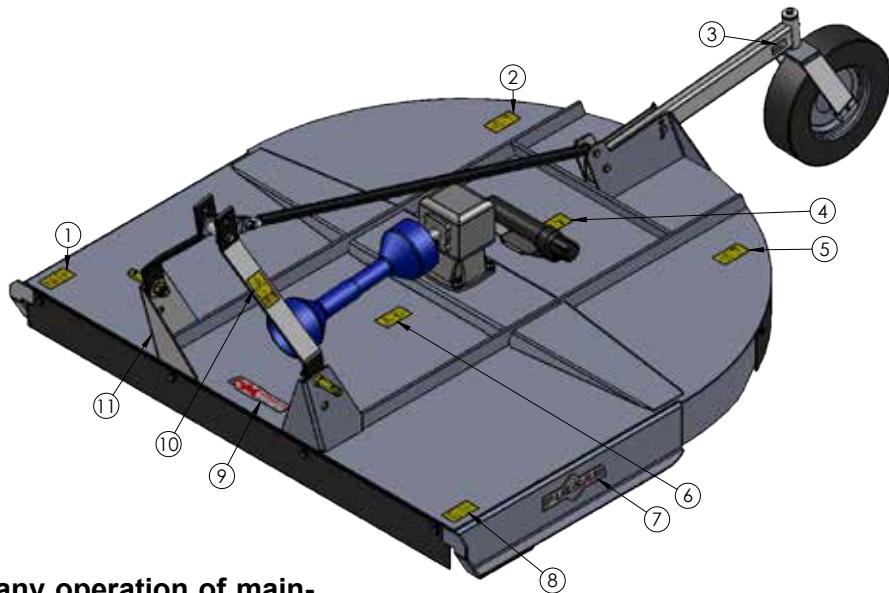


## **WARNING !**

**Always block cutter securely before working on or under cutter.**



# Decal Location



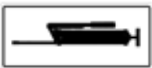
#11 - Serial plate



#1 - 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.



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



#3 - Grease



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



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



#6 - DANGER of being caught by the PTO shaft. Do not go near the rotating members of the machine while in operation.



#7 - Pulsar decal - x2



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



#9 - MK Martin Made in Canada



#10 - DANGER of being crushed. Do not get between the tractor and the machine.



## Assembly Information

The Pulsar Cutter is shipped with the “A” Frame and Chain with fastening hardware packaged, bolted to the cutter deck

The smaller Cutter with standard gearbox, have a PTO shaft with a shearbolt. This PTO has a large ‘bell’ on one end, covering the yoke and shearbolt.

The larger Cutter with a heavier gearbox, have a PTO shaft with a slip clutch and a PTO Guard bolted on the gearbox. These guards are shipped, bolted on upside down on the gearbox.

### Upon Receiving:

Unpack the parts and using preceding page (decal location) as reference. The lower “A” Frame pivots on a bushing, fastened with hitch pins. Each end of the brace is bolted with a nut lock-washer and flatwasher. After tightening, make sure A frame pivots freely.

### Cutters with larger gearbox:

The PTO Guard is bolted on with 4 metric bolts. Use a 13mm wrench to remove the bolts and turn the Guard right side up, with the removable shield on top. These parts are secured to each other with one lynch pin.



## WARNING !

**Always block cutter securely before working on or under cutter.**

# Operating

## **For the new operator**

The Pulsar Cutter is designed to cut long grass and scrub land with small trees or saplings 1 1/4 inch dia. The cutter will work best on dry conditions. When cutting damp or longer grass, use slower travel speed and you may need to frequently clean the underside of the cutter deck. Power to the blades is provided by the tractor through a PTO Shaft and Gearbox.

The cutter is designed for a 540 RPM PTO speed and will give the best performance at this speed.

Many features in this cutter are the result of suggestions made by customers like you.

By following the operating instructions in conjunction with a good maintenance program, your Pulsar Cutter will provide you with many years of service.

## **To Operate:**

Attach the cutter to the tractor 3ph. Ensure the deck is level to the ground by adjusting the right hitch arm adjustment and the top link until the deck is level.

Cutting height is controlled by adjusting the rear wheel height.

## **Starting the Mower:**

With the cutter slightly raised from the ground. (wheel may be off the ground 3-6 inches)

Run the engine at a slow speed and slowly engage the PTO.

Slowly bring the engine to PTO speed. Do not exceed rated speed.

Lower the cutter to the ground and proceed to cut.

## **Ground Speed:**

Travel speed can vary between 1 and 4 mph (1.5 and 6km/h) depending on the grass and terrain conditions. It is the responsibility of the operator to note the conditions of the job being done and to set the speed to obtain a quality cutting job while maintaining control of the equipment.

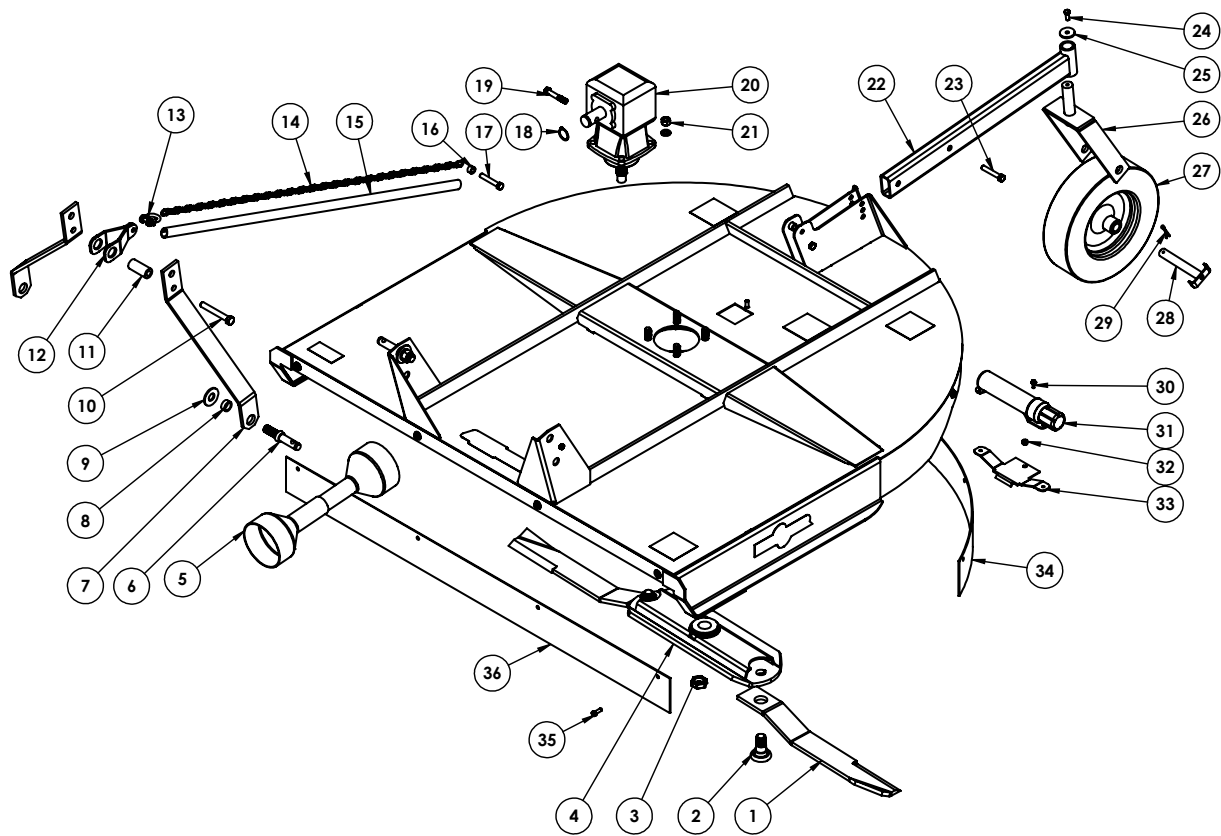
The speed can be increased for lighter cutting conditions.

Decrease your speed if the cut is ragged and uneven, or uncut patches.

## **Transport on Road - Be Safe, Be Seen!**

When driving on the road please follow all regulations. Use lights, reflectors, SMV sign as required by law.

## Pulsar Cutter Parts

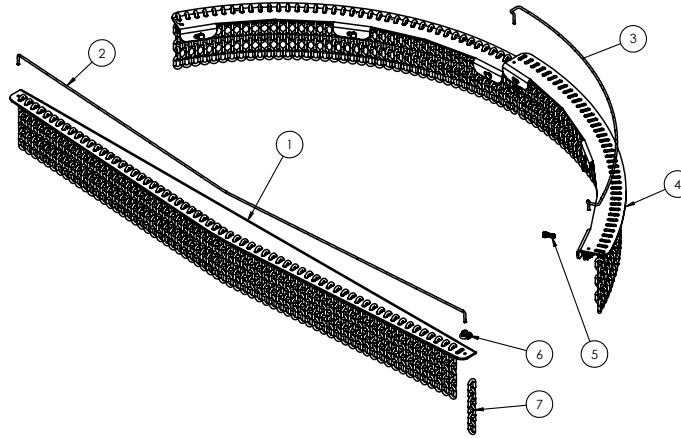


Item#	Part#	Description	Qty 48L	Qty 48	Qty 60	Qty 66	Qty 72	Qty 72HD
1	53058	Short Blade	2	2				
	53057	Blade			2	2	2	2
2	53060	Blade Bolt c/w lw,n	2	2	2	2	2	2
3	Nut	See Page	pg.13	pg.13	pg.13	pg.13	pg.13	pg.14
4	53427	48L - 48 Blade Bar	1	1				
	52898	60 Blade Bar			1			
	52925	66 Blade Bar				1		
	52935	72 Blade Bar					1	
	52939	72 HD Blade Bar						1
5	512-482223	48 PTO	1	1				
	512-602223	60 PTO			1			
	512-662223	66 PTO				1		
	512-722223LD	72 PTO					1	
	512-722223HD	72 HD PTO						1
6	53061	Hitch Pin c/w lw,n	2	2	2	2	2	2
7	52892	A Frame	2	2	2	2	2	2
8	52893	Bushing	2	2	2	2	2	2
9	OL	FW 7/8	2	2	2	2	2	2
10	OL	Bolt 5/8 x 4 1/2 c/w lw,n	1	1	1	1	1	1
11	52894	Spacer	1	1	1	1	1	1
12	52905	Chain Clevis	1	1	1	1	1	1
13	53062	Anchor Shackle	1	1	1	1	1	1

## Pulsar Cutter Parts

Item#	Part#	Description	Qty 48L	Qty 48	Qty 60	Qty 66	Qty 72	Qty 72HD
14	53063	48L - 48 Chain	1	1				
	53064	60 Chain			1			
	53065	66 Chain				1		
	53066	72 - 72 HD Chain					1	1
15	53088	48" Protector	1	1				
		60" Protector			1			
		66" Protector				1		
		72" Protector					1	1
16	52897	Chain Spacer	2	2	2	2	2	2
17	OL	Bolt 1/2 x 3 c/w In	1	1	1	1	1	1
18	OL	Snap Ring 1 3/8	1	1	1	1	1	1
19	OL	Bolt 1/2 x 3 c/w lw,n	1	1	1	1	1	1
20	53794	Gearbox	1	1				
	53067	Standard Gearbox			1	1	1	
	53068	Heavy Gearbox						1
21	OL	Nut 5/8 c/w lw	4	4	4	4	4	
	OL	Nut 3/4 c/w lw						4
22	53445	Wheel Beam	1					
	52889	Wheel Beam		1	1	1	1	1
23	OL	Bolt 1/2 x 3 c/w lw,n		2	2	2	2	2
24	OL	Bolt 3/8 x 1 c/w lw		1	1	1	1	1
25	30260	Cap		1	1	1	1	1
26	53447	Wheel Fork	1					
	22830	Wheel Fork		1	1	1	1	1
27	53795	Wheel	1					
	53069	Wheel		1	1	1	1	1
28	OL	Bolt 3/4 x 8 c/w In	1					
	30086	Wheel Axle		1	1	1	1	1
29	OL	Cotter Pin 3/16 x 2		1	1	1	1	1
30	OL	Flange bolt 1/4 x 3/4 c/w Flange nut	2	2	2	2	2	2
31	52649	Manual tube	1	1	1	1	1	1
32	OL	Nut 3/8 c/w lw	1	1	1	1	1	1
33	52902	Cover	1	1	1	1	1	1
34	53435	48 Back rubber guard	1	1				
	53433	60 Back rubber guard			1			
	53431	66 Back rubber guard				1		
	53410	72 Back rubber guard					1	1
35	OL	Bolt 3/8 x 1 c/w fw, In	10	10	10	10	11	11
36	53434	48 Front rubber guard	1	1				
	53432	60 Front rubber guard			1			
	53430	66 Front rubber guard				1		
	53409	72 Front rubber guard					1	1

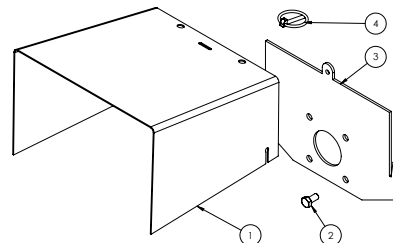
## Chain Guard Parts



Item#	Part#	Description	Qty 48	Qty 60	Qty 66	Qty 72
1	52944	48 Front Chain Guard	1			
	52903	60 Front Chain Guard		1		
	52949	66 Front Chain Guard			1	
	52954	72 Front Chain Guard				1
2	52947	48 Front Cable	1			
	52942	60 Front Cable		1		
	52952	66 Front Cable			1	
	52957	72 Front Cable				1
3	52946	48 Rear Cable	2			
	52941	60 Rear Cable		2		
	52951	66 Rear Cable			2	
	52956	72 Rear Cable				2
4	52945	48 Rear Chain Guard	2			
	52901	60 Rear Chain Guard		2		
	52950	66 Rear Chain Guard			2	
	52955	72 Rear Chain Guard				2
5	OL	Bolt 3/8 x 1 c/w lw,n	10	10	10	11
6	OL	3/16 Cable Clamp	6	6	6	6
7	53081	5/16 Chain	104	128	146	164

## Pulsar Cutter 72HD Shield Parts

Item#	Part#	Description	Qty 72HD
1	30109	Cover Shield	1
2	OL	M8 x 16 c/w lw	4
3	30108	Shield Mount	1
4	OL	3/16 Lynch Pin	1

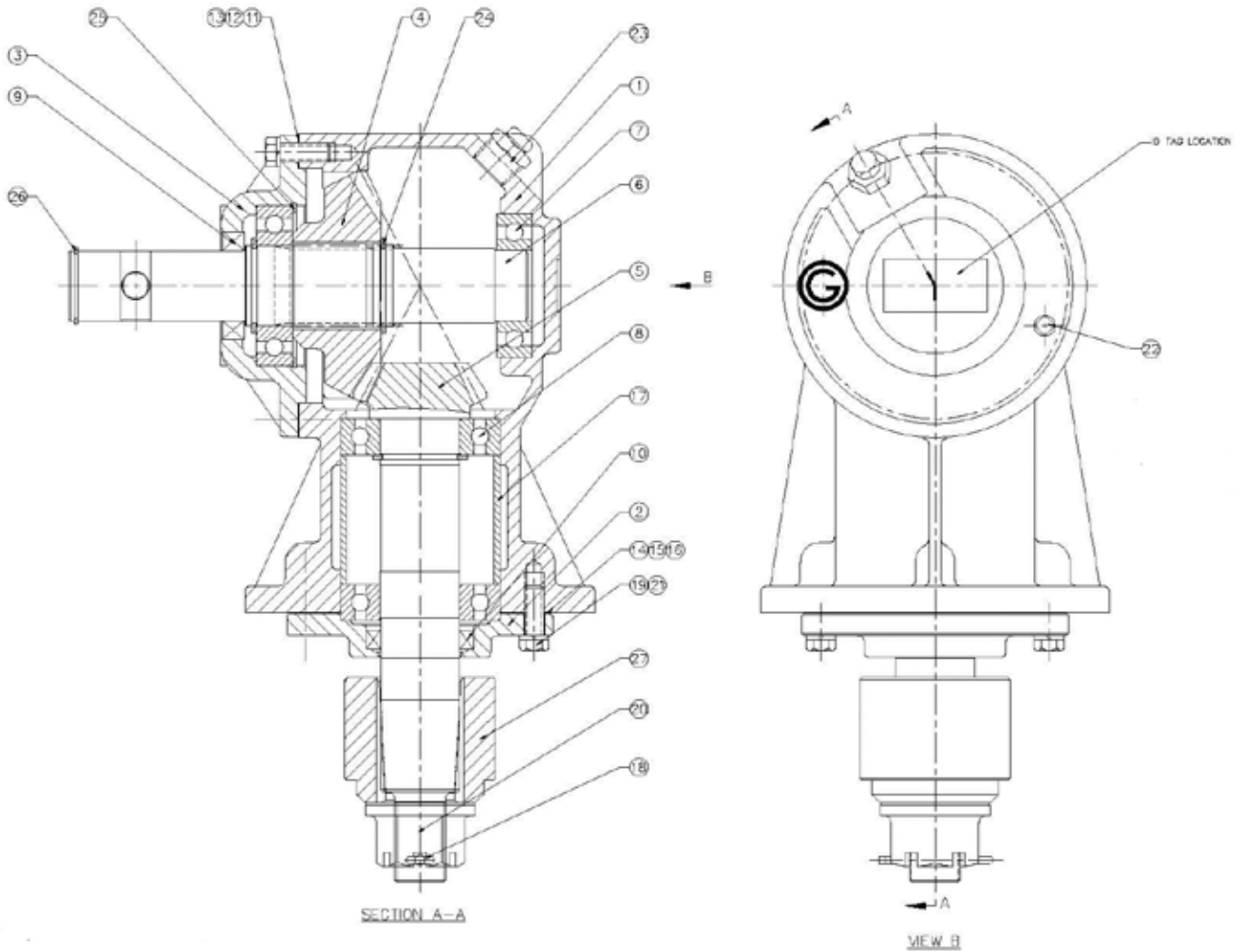


**Note:**  
 OL = Obtain Locally  
 c/w = complete with  
 12

fw = Flatwasher  
 lw = Lockwasher

ln = Locknut  
 n = Nut

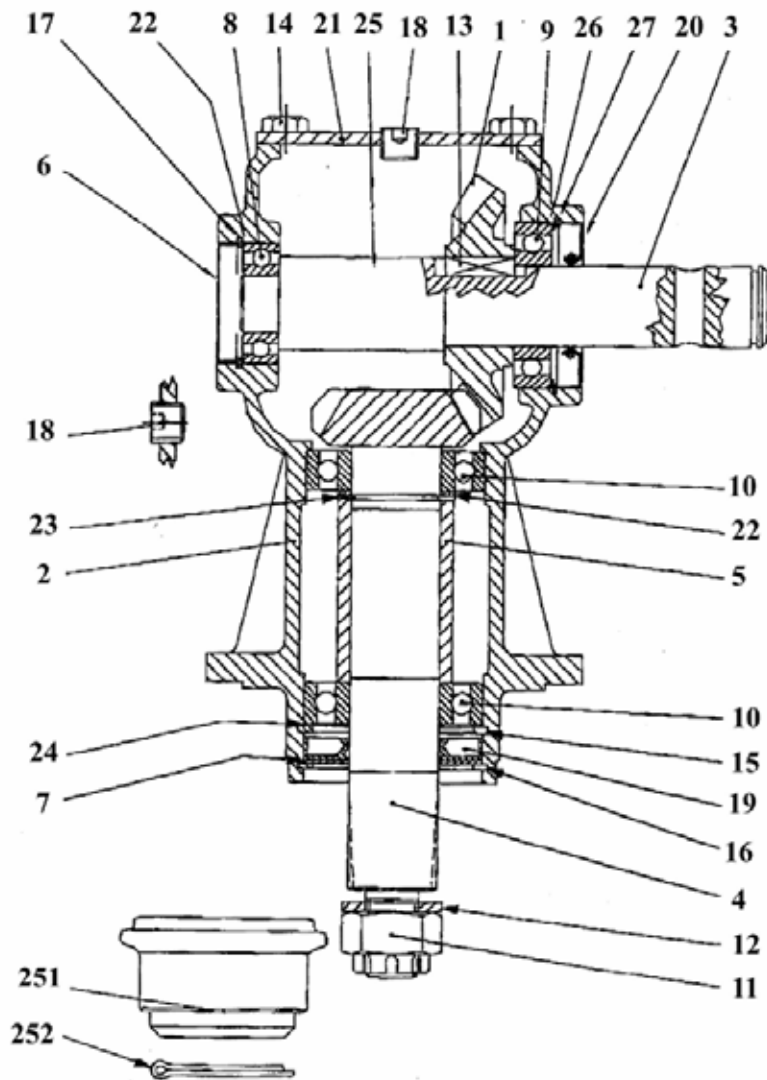
## Cutter RC30 gearbox



Item #	Part #	Description	Qty
1	010001	Housing	1
2	020003	Cap, Output	1
3	020161	Cap, Input	1
4	030036	Gear,	1
5	030037	Out Pinion,	1
6	040040	Shaft,Input, 1 3/8	1
7	050006	Ball Bearing, 6207	1
8	050007	Ball Bearing, 6208	3
9	060060	Seal, Input	1
10	060061	Seal, Output	1
11	070131	Gasket, 0.1mm	1
12	070132	Gasket, 0.2mm	1
13	070133	Gasket, 0.3mm	1
14	070134	Gasket, 0.1mm	1
15	070135	Gasket, 0.2mm	1
16	070136	Gasket, 0.3mm	1

Item #	Part #	Description	Qty
17	090000	Spacer	1
18	100001	Pin,	1
19	110190	Hex capscrew 10m-1.5x30	10
20	120050	Slotted Hex nut	1
21	130060	Lock washer, M10	10
22	140017	Square Head Pipe Plug	1
23	140033	Pressure Relief Plug	1
24	200000	Ret - Ring	3
25	200163	Ret - Ring	1
26	200142	Ret - Ring	1
27	210000	Blade Hub	1

## Cutter LF 205J gearbox

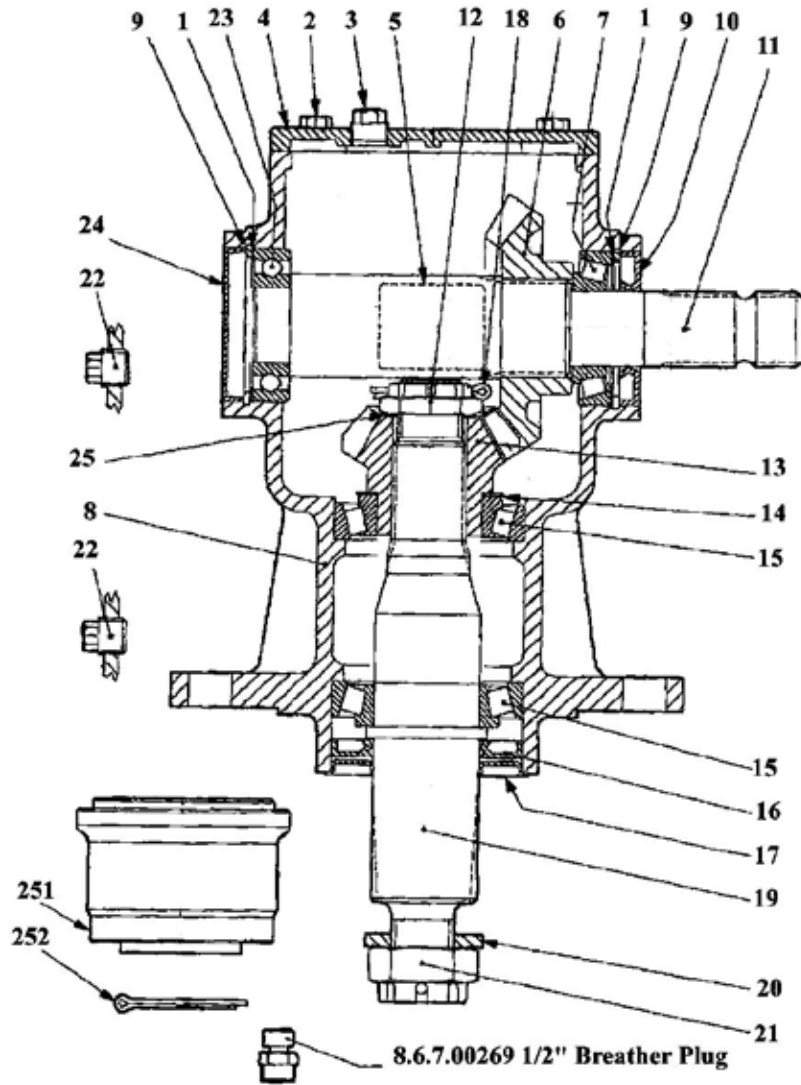


Item #	Part #	Description	Qty
1	0.131.5000.00	Crown Gear	1
2	0.205.0300.00	Casting	1
3	0.135.2004.00	Input Shaft	1
4	0.135.6201.00	Pinion	1
5	0.135.71.5.00	Spacer	1
6	8.7.0.00693	Oil Cap	1
7	1.135.7100.00	Protective Washer	1
8	8.0.1.00034	Bearing 6205	1
9	8.0.1.00870	Bearing 6207	1
10	8.0.1.00871	Bearing 6208	2
11	8.2.2.00515	Castle Nut	1
12	8.3.2.00409	Bolt Washer	1
13	8.4.1.00993	Key	1
14	8.1.1.00054	Bolt M10x20	4
15	8.5.2.00030	Snap Ring	1
16	8.5.2.00955	Snap Ring	1

Item #	Part #	Description	Qty
17	8.5.2.01358	Snap Ring	1
18	8.6.6.00201	3/8 Plug	2
19	8.7.1.00748	Dust Lip	1
20	8.7.3.00055	Oil Seal	1
21	0.205.1300.00	Cover	1
22	0.244.7500.00	Shim Kit	2
23	8.5.1.00680	Snap Ring	1
24	0.287.7500.00	Shim Kit	1
25	0.124.7135.00	Name Plate	1
26	0.248.7500.00	Shim Kit	1
27	8.5.2.00131	Snap Ring	1
251	0.135.7000.00	Bushing (small)	
251	8.4.7.00516	Cotter Pin	



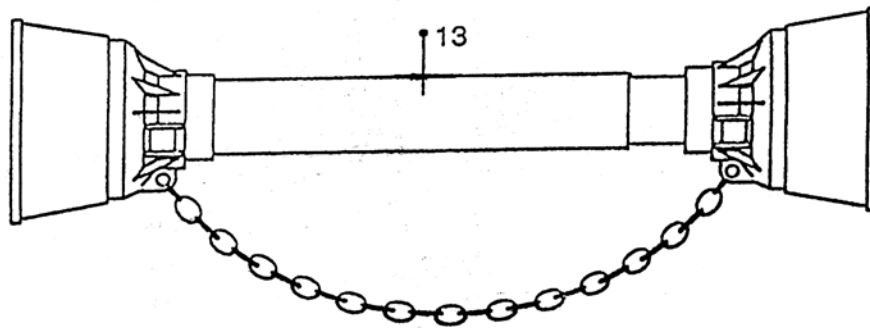
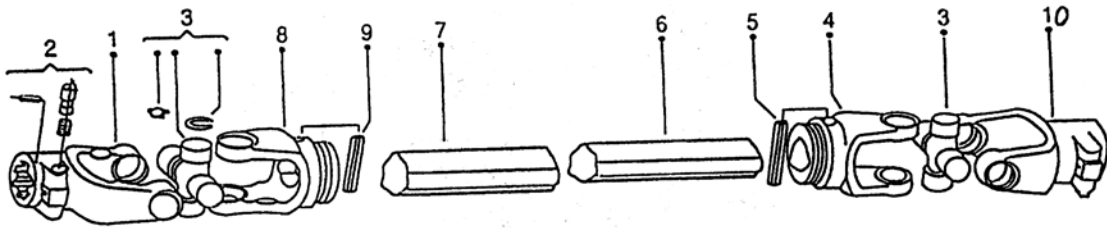
## Pulsar Cutter LF 140J Gearbox



Item #	Part #	Description	Qty
1	512-02487500	Shim	2
2	512-81100041	Bolt M8x22	4
3	512-86500203	1/2" Solid Plug	1
4	512-01401302	Cover	1
5	512-01247135	ID Plate	1
6	512-01326004	Crown Gear	1
7	512-80900026	Bearing 30207	1
8	512-01400300	Casting	1
9	512-85200131	Snap Ring	2
10	512-87300055	Oil Seal 35x72x10	1
11	512-01402000	Input Shaft	1
12	512-01327106	Castle Nut	1
13	512-01166204	Pinion Gear	1
14	512-07127500	Shim	1
15	512-80900469	Bearing 30210	2
16	519-87101107	Oil Seal 50x90x10	1

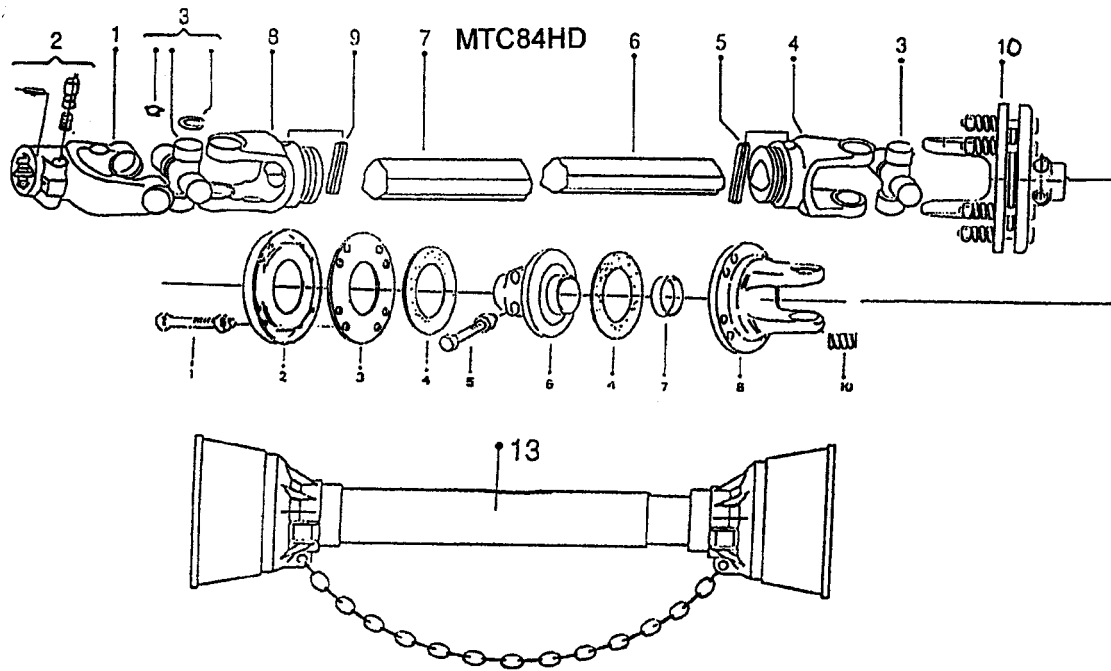
Item #	Part #	Description	Qty
17	512-01397100	Dust Lip	1
18	512-8470111	Cotter Pin	1
19	512-01403002	Output Shaft	1
20	512-01397101	Flatwasher	1
21	512-01407102	Castle Nut	1
22	512-68500006	3/8" Plug	2
23	512-80100870	Bearing 6207	1
24	512-87000744	Oil Seal	1
25	512-01027510	Shim	1
251	512-01307000	Hub (large)	1
252	512-84700146	Cotter Pin	1

## Binnachi B4 PTO Pulsar 48, 60, 66



Item #	Part #	Description	Qty
1	512-0800403	Push Pin Yoke	1
2	512-0986014047	Push Pin Kit	1
3	512-08204	Cross Kit	2
4	512-08004011	Inner Tube Yoke	1
5	512-098700855	Inner Tube Spring Pin	1
6	512-0981364100	Inner Tube	1
7	512-09881433100	Outer Tube	1
8	512-08004021	Outer Tube Yoke	1
9	512-098700860	Outer Tube Spring Pin	1
10	512-0800401K60	Implement Yoke	1
13	512-083E041101	Complete Shield	1

## Binnachi B5 PTO Pulsar 72H,



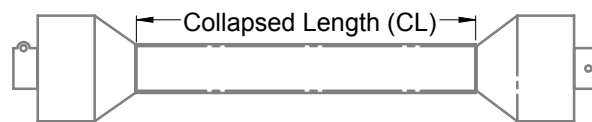
Item #	Part #	Description	Qty
1	512-0700503	Push Pin Yoke	1
2	512-0986014047	Push Pin Kit	1
3	512-08205	Cross Kit	2
4	512-0805011	Inner Tube Yoke	1
5	512-098700865	Inner Tube Spring Pin	1
6	512-09881454100	Inner Tube	1
7	512-09881523100	Outer Tube	1
8	512-08005021	Outer Tube Yoke	1
9	512-098700870	Outer Tube Spring Pin	1
10	512-086205	Implement Yoke	1
13	512-083E05110SC	Complete Shield	1
<b>Slip Clutch</b>			
1	512-099510085B	Complete Screw	8
2	512-0889212	Pressure Cover	1
3	512-0889219	Inner Disc	1
4	512-08833160	Friction Disc	2
5	512-099512C60	Complete Screw	2
6	512-06692007C60	Center Disc	1
7	512-0981554125	Bushing	1
8	512-088920105	Flange Yoke	1
10	512-0984523605	Spring	8

## PTO Drive-line Dimension

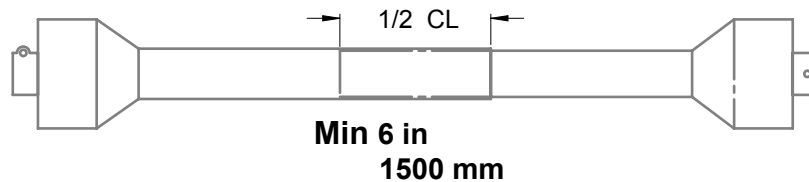
The PTO Drive-line as supplied with the machine will need to be checked for the proper length before being put into service.

To accommodate the various hitch and tractor configurations the supplied shaft may be too long, or in some cases too short. To determine shaft length, find the collapsed length, raise or lower the equipment until the PTO out of the tractor is horizontal with the input shaft on the machine. Measure lock-pin groove to lock-pin groove or bolt hole on the equipment. If this is on trailed equipment then turn tractor as sharp as possible.

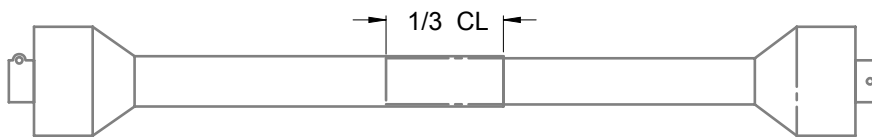
Measure collapsed PTO shaft from lock-pin to lock-pin or bolt hole and compare it with the measurement on the tractor. The difference of these measurements needs to be cut from Both Halves of the PTO shaft plus 1/2".



**Working Length overlap is 1/2 of above collapsed length**



**Minimum Overlap in Transport Position 1/3 of collapsed length**



**Following these guidelines will reduce the chances of damage to the equipment.**

- Use a sharp hacksaw to cut the PTO tube
- Use a fine file to remove any sharp edges and burrs from sawing
- Clean off all dirt and filings from tube , carefully test for smooth fit.
- Apply a light coat of grease to the outside of the small tube
- Reinstall the shields
- Install on equipment and recheck

**These procedures need to be done before first putting into operation and when attaching to a different tractor**

## Maintenance

The Pulsar Cutter is a low maintenance product. It has few parts to lubricate.

### Daily Lubrication or 8 hours

Grease  
PTO Joint Bearings  
PTO Shield Bearings  
Castor Swivel Bearing

### Weekly Lubrication or 40 hours

Grease  
Wheel Bearing  
Check Oil Level in Gearbox  
Check for wear on Blade Bolts  
Check for wear and cracks around Blade Pivot Hole

### Annually

Wash and cleanup  
Touch up any paint scratches  
Store on blocks of wood in a dry place

Gearbox Oil 80w90 Gear oil



## WARNING !

**Always block cutter securely before working on or under cutter.**

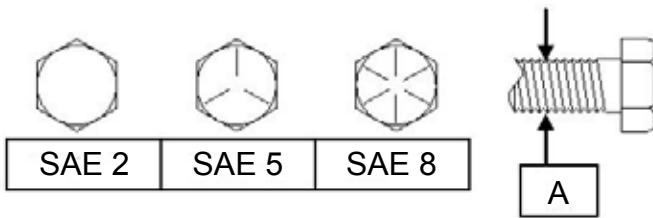
## Bolt Torque

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





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