



John Berends Implements Pty Ltd

AGRICULTURAL ENGINEERS

OPERATOR'S MANUAL PARTS LIST

Rotary Slashers – Twin Rotor

PRODUCT NO.

0101	2.4m (8') 3 point linkage slasher, 2 solid rubber castor wheels
0102	3.0m (10') Trailing slasher
0104	3.0m (10') 3 point linkage slasher, 2 solid rubber castor wheels
0112	3.6m (12') Trailing slasher
0114	3.6m (12') 3 point linkage slasher, 2 solid rubber castor wheels
0118	Hydraulic ram & hoses suit 10' & 12' slasher – in lieu of ratchet
0119	Hydraulic ram & hoses suit 10' & 12' slasher – as spare part



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INTRODUCTION:

This manual was developed specifically for the machine you have purchased. The information within is to assist you in preparing, operating and maintaining your machine. Please read and understand the contents of the manual completely before attempting to operate your machine, paying special attention to all safety details. With our policy of continuous improvement, products and specifications may change without notice and without incurring the obligation to install such changes on any unit previously delivered.

Twin Rotor Slashers

Three point linkage twin rotor slashers are available in 8', 10' and 12' widths and come standard with solid rubber castor wheels. Trailing rotor slashers are available in 10' and 12' widths only and are fitted with 14" Holden wheels as standard. Horsepower requirements largely depend on terrain and what is being cut, however the following specifications are a guide. The top plate is 5mm thick and the fixed skids are 6mm thick. There are two outer gearboxes driven by a centre T gearbox. There is a two plate slip clutch between each box. The blades are not timed, just missing each other by approximately 3mm. Wheels are adjusted by a ratchet link as standard, with a hydraulic option available. Chains can be fitted on request.

MACHINE SPECIFICATIONS

MODEL	THREE POINT LINKAGE			TRAILING	
	8'	10'	12'	10'	12'
Size					
Cutting Width	2.35m (7'8")	2.95m (9'8")	3.55m (11'8")	2.95m (9'8")	3.55m (11'8")
Tractor H.P.	60 H.P.	70 H.P.	80 H.P.	70 H.P.	80 H.P.
Tractor CAT connection	Cat 1/2	Cat 1/2	Cat 1/2	Drawbar	Drawbar
Gearbox/PTO speed	110 H.P. centre gearbox / 75 H.P. outer gearboxes / 540 rpm				
Blades	Stepped / Reversible / Bushed				
Headstock	Rigid with floating top-link				
Body Construction	5mm Top plate / 6mm skirt				
Nett weight (kg)	621	875	975	825	925
Length (Overall)	2.48m	3.08m	3.68m	3.08m	3.68m
Body Width (Overall)	1.37m	1.65m	1.96m	1.65m	1.96m
Wheelkits	Solid Rubber Castor Wheels			Holden Wheels	
Height (Overall)	580mm				

WARRANTY

John Berends Implements P/L warrants each new product sold to be free from defects in material and workmanship, under normal use and service, as outlined in the operators manual, for a period of 12 months.

This warranty is void if any damage to the machine has been caused by misuse or non genuine parts have been used or any repairs have been made by any persons other than authorised dealer service personnel.

The manufacturer/dealer is not obligated to any transportation charges incurred in the repair or replacement of parts.

This warranty does not exclude any condition or warranty implied by the Trade Practices Act 1974 or any other legislation which implies any condition which cannot be excluded.

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Trouble Shooting


<u>Defect</u>	<u>Component</u>	<u>Possible Cause</u>
Vibration	P.T.O shaft	Twisted/bent shaft Universal joints damaged or worn Lifting slasher too high while P.T.O. engaged
	Rotor and blades	Damaged due to obstruction by foreign object Blades not loose on bushes
Excessive noise	Gearbox	Worn or loose bearing No oil
	P.T.O. shaft	Lifting slasher too high while P.T.O. engaged
Leaking oil	Gearbox	Loose/damaged seals and/or bearings
Excessive heat	Slip Clutch	Worn friction discs Incorrect spring adjustments Incorrect positioning of pressure plate
	P.T.O. shaft	Needs lubrication





SAFETY





Farm machinery is dangerous if operated incorrectly so please read this manual in its entirety prior to operating the machine.


 No operator, however experienced in farm machinery operation, should attempt to use any machine they have not been competently trained to use. Your local Department of Agriculture can help you with training, as can most Occupational Health and Safety offices, Agricultural schools and colleges and farm equipment dealerships.


 All instructions relating to tractor safety as per the tractor operators manual should be followed. When making any machine adjustments, stop the tractor engine first and wait for all moving parts to stop. Maintain the tractor to ensure it remains safe to use. Do not operate faulty or damaged equipment.


 Extreme caution should be taken when fitting equipment to the tractor's three point linkage. Avoid standing between the implement and the tractor when coupling machinery.


 All machines should be mounted and retained correctly. All guards must be kept in place and correctly maintained. P.T.O. shafts must be correctly attached and secured to both the tractor and the machine. Decals must be visible and legible at all times. Keep well clear of all moving parts.


 Keep all people and animals at a safe distance from all moving parts. Children must not be allowed to operate this equipment and all passengers must have the same level of protection as the operator.


 Wear protective clothing where appropriate.


 Never operate when tired (not alert) or in poorly lit areas and stay alert for humps and other hidden hazards. Remove all timber, rocks and foreign objects prior to operation.


 Avoid operating the machine in wet conditions.


 Exercise extreme caution when changing direction on hills. Avoid sudden movement, sudden breaking, high speeds, rough terrain and steep slopes.

 If machine starts to vibrate, stop tractor using method as described in the operation section (Page 8)

 After striking a foreign object or if there are doubts about the performance of the machine, stop the tractor as described and check if machine is making excessive noise.

 Extreme caution must be taken when working in public areas (roadsides etc). It is recommended that flaps and chains are fitted in these areas. These are available as optional extras. Rear flaps are compulsory in public areas.

 Do not modify this equipment in anyway, or use it for any other purpose than it was designed to do.

 Never work under unsupported machines or adjust unsupported machines. Do not enter the danger zone where a load being carried by a machine could fall on you, for example a round bale from a bale fork, a log from a carryall or material from a rear end loader.

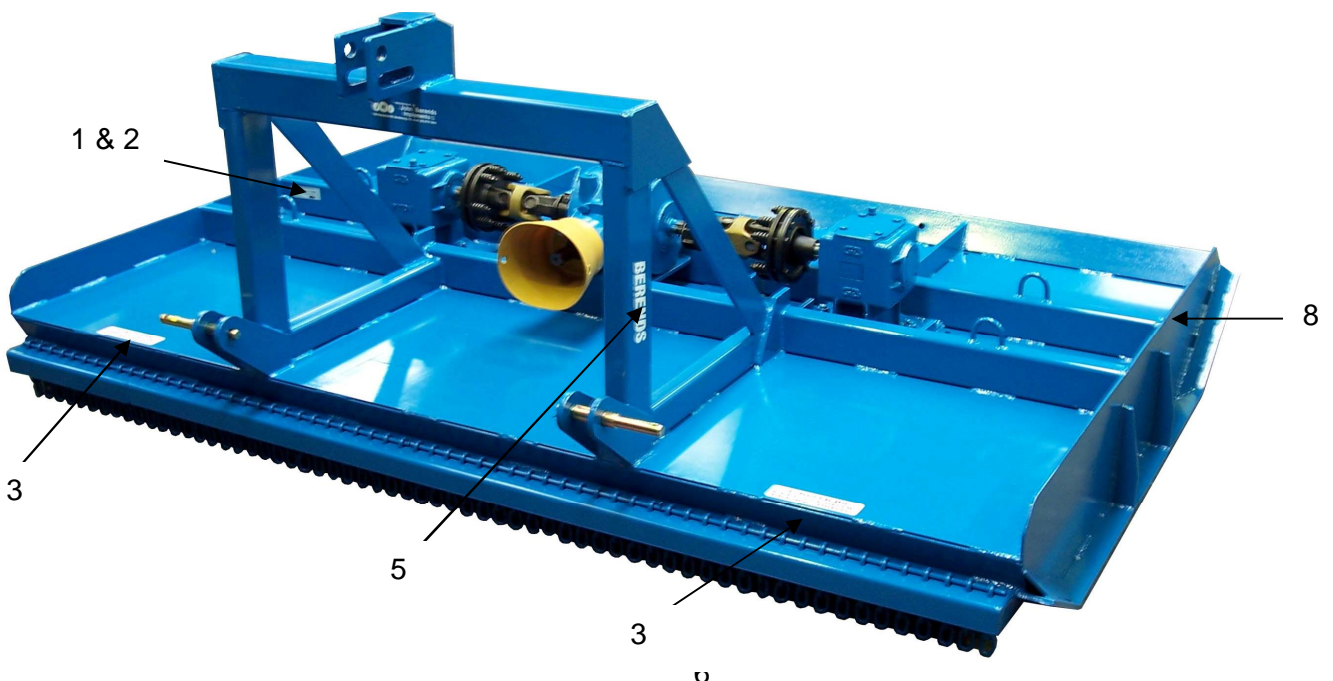
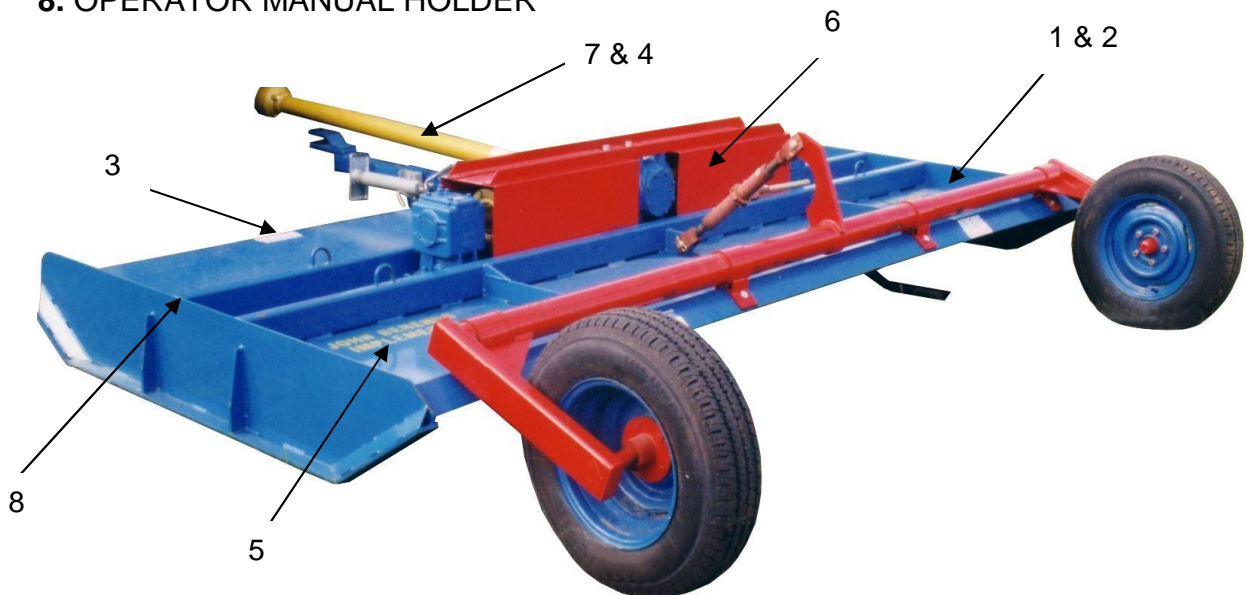
These instructions should be used in conjunction with any local regulations regarding safety ie OHS.

Maintenance is essential for safe operation. Ensure maintenance is carried out regularly by people qualified to do so. This is of particular importance on P.T.O. drive machines where driven parts can fly off at high speed if wearing parts are not properly maintained.

FAILURE TO FOLLOW THESE INSTRUCTIONS AND PROCEDURES MAY RESULT IN EQUIPMENT MALFUNCTION, OR DAMAGE, SERIOUS INJURY OR EVEN DEATH.

Safety Features

1. MODEL NUMBER
2. SERIAL NUMBER (Decal)
3. WARNING DECAL
4. CAUTION DECAL FOR P.T.O. SHAFT
5. BERENDS DECAL
6. CLUTCH COVER GUARD
7. P.T.O. SHAFT INNER/OUTER GUARDS
8. OPERATOR MANUAL HOLDER



ASSEMBLY

THREE POINT LINKAGE MODELS

Line up the lower linkage arms with the linkage pins of the slasher, slide the linkage arms onto the pins and secure with linch pins. Attach the top link to the slasher. Raise the slasher from the ground and adjust stabiliser bars or chains if required.

TRAILING MODELS

Connect the drawbar of the slasher to the hitch point of the tractor. It may be necessary to alter the height of the drawbar depending on the model of the tractor. The drawbar can be turned upside down so as to alter the height. There are four different connection positions available to alter the height of the drawbar. The jack can also be used to lift the drawbar for higher connections.

CAUTION:

Check the length of the P.T.O. shaft before connecting to the tractor by raising the shaft to a position where it would be horizontal when connected. If necessary have the shaft shortened by cutting the same amount off both metal tubes and both plastic covers (Refer to P.T.O shaft section p.7)

FITTING AND REMOVAL OF P.T.O. SHAFT

The inner cover tube end of the P.T.O. shaft is located in the groove on the slasher input shaft with a quick release pin. This is similar to the quick release pin on the tractor end. The P.T.O. shaft can be fitted or removed by depressing the pin. To avoid difficulties later it is advisable to apply some grease to the input shaft prior to fitting the P.T.O. shaft.

CHECKING CLUTCHES

The clutches between the gearboxes need to be checked prior to use. See the section on how to set clutches in the maintenance pages of this manual.

CAUTION:

Do not overtighten the clutches, as this will cause damage to the machine when placed under severe shock loads. It is very important that the clutches are able to slip when necessary. In heavy growth this may involve slowing down the ground speed of the tractor to compensate.

OPERATION

Once all safety procedures have been followed, start the tractor and raise the slasher approximately 100-200mm (4-6 inches) off the ground. On the trailing models this is done via the wheelkit using either the ratchet or optional hydraulics.

CAUTION:

Depending on the model of the slasher and the tractor it may be possible to lift the slasher too high and the P.T.O. shaft may hit the slasher body. Set the adjustment on your hydraulics before operation, do not depend on your memory. Engage P.T.O. drive and put the tractor into gear. Build up revolutions to 540 rpm and edge slowly forward while lowering the slasher. To minimise wear and tear on both tractor and slasher the P.T.O. speed should be maintained at 540 rpm. Lower speeds cause excessive wear, especially to blades and blade bolts, as the blades move continuously due to low centrifugal force. If the operator is not certain of the condition of the area to be slashed, a prior inspection is recommended, particularly as vacant blocks, sides of roads and channels can hold hazardous surprises. Remove all timber, rocks and foreign objects. If the cutting is extremely heavy and the tractor has difficulty handling it, take a narrower cut which requires less horsepower and creates more space for the cut material to form a windrow. All machines are fitted with adjustable clutches between the gearboxes (Refer to page 8).

CAUTION:

Continuous slipping can burn the clutch plates (Refer to page 8). If this happens there is no alternative but to replace the clutch plates. These are not covered by warranty.

CAUTION:

Always allow for the effect the weight of the slasher has on the performance of the tractor, particularly on sloping hillsides and unstable areas. If working under extreme conditions, in particular where rocks or stumps may be present, the toggle link enables the slasher to lift at the rear without lifting the front

STOPPING

Slow engine speed to idle and disengage P.T.O shaft. Lower the machine, stop the tractor engine (removing the ignition key) and apply the park brake. Remain clear until the machine has stopped it's rotation completely.

HEIGHT ADJUSTMENT

All twin rotor slashers are fitted with wheelkits, solid rubber castor wheels or 14" Holden wheels for height adjustment. To adjust these wheels, the operator must disengage the P.T.O. and manually adjust the ratchet until the required height is obtained. In the case where hydraulics have been fitted as an option, the wheelkit can be adjusted from the tractor seat.

MAINTENANCE

When doing any type of maintenance on this machine, always follow the safety steps described in this manual. Service should only be carried out by qualified personnel. Use only authorised genuine parts for replacement.

The slasher must be adequately supported under its body on all twin rotor machines (Make certain it cannot fall). After 1-2 hours work, check all bolts and nuts and tighten if necessary. Check all fasteners and guards are installed (Refer to page 4)

Gearbox

It is recommended the first oil change occur after 50 working hours; subsequent changes should take place after 500-800 working hours. Periodically check the oil level and top up with HD140 gearbox oil if necessary. Regularly check for leaks by lifting the slasher, turning off the engine and looking underneath the slasher for any oil.

Blades

Check slasher bolts and blades every 8 working hours. Check the blades are not jammed, are sharp and evenly worn and are free of nicks and cracks. If too much movement is apparent, replace the bolts and bushes (if fitted). When replacing blades, make sure they are fitted correctly. If the blades hit each other at any time it may be necessary to adjust the gearbox positioning. Loosen the four gearbox mounting bolts on the left hand gearbox. Position the gearbox using the adjusting bolt at the base of the gearbox. Check that the blades are not hitting each other or the side of the slasher and then tighten up the gearbox mounting bolts.

Rotor

Remove any foreign material wrapped around the rotor.

Stays

Check for damage (eg. twisting)

Wheel kit

Check tyre pressure (Holden wheelkits only). Wheel must run freely on axle and yoke must be lubricated. Note: Bearings are replaceable if necessary.

Hydraulic Fittings and Hoses (where applicable)

Before doing any maintenance on the hydraulic system, release the oil pressure. Be careful when searching for oil leaks as oil escaping under pressure can be invisible and may penetrate the skin.

Power take off (p.t.o.) shaft

Before operating the machine, check that the P.T.O. shaft is securely attached to the tractor and to the slasher.

Confirm the minimum and maximum working lengths of the P.T.O. shaft. The telescopic tubes must be overlapping at least 150mm. If it is necessary to shorten the shaft, contact your implement dealer.

Check that the tube guards are not damaged and rotate freely on the P.T.O. shaft. Safety chains must be sufficiently loose to allow free turning of the tube guards.

Check that the angle of the joints on the P.T.O. shaft do not exceed 35 degrees.

When machine is not in use, protect or cover the P.T.O. shaft from the weather.

Check all components are fully lubricated before use. Frequently grease all points as shown in Figure 2.

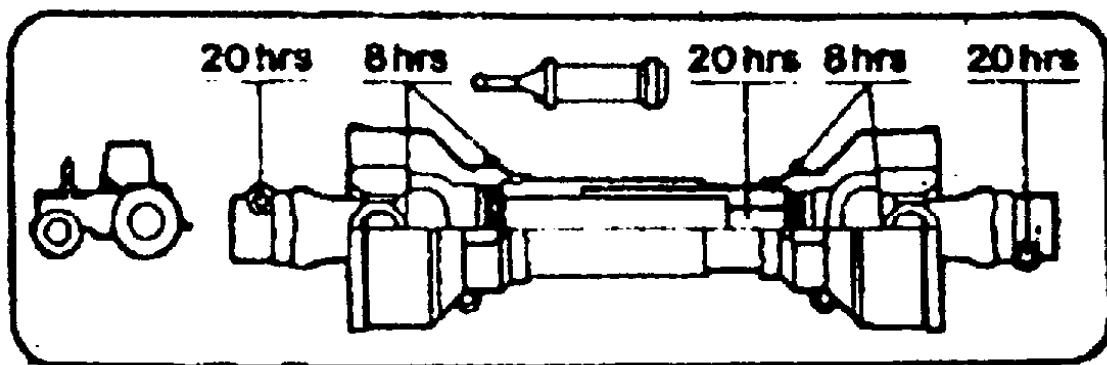


FIGURE 2. : Grease points and intervals for P.T.O. shaft.

Slip clutch setting

Slip Clutches need to be set if one of the following occurs:

The clutch has been repaired (including replacing the friction discs).

The clutch is slipping in work (clutch getting hot, burning out friction discs, machine slowing down in work).

The clutch is not slipping when the machine hits an obstruction (tractor stalls, P.T.O. breaks).

The clutch has been freed up after a period of storage (see "how to free up clutch" next page).

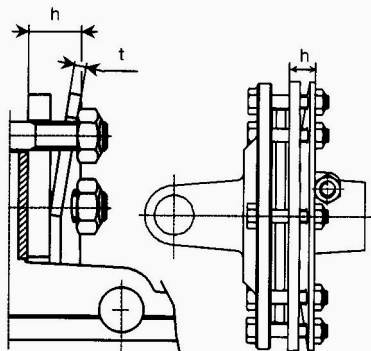
How to set the clutch




The setting of the clutch is dependent on many variables - the work, the size of the tractor, the size of the machine and so on. It is best to set each clutch individually if possible. The aim is to start with a loose clutch and tighten it up to the exact point where it stops slipping in normal work. If set in this way the clutch will slip if any load exceeds this point, protecting both tractor and machine. It is best to set up the clutch with the machine on the tractor which will normally be used, and in conditions which approximate to the normal work the machine does.

These friction clutches are equipped with special Belleville springs, designed to apply pressure that varies with the amount of compression. The compression of the Belleville springs must be adjusted to compensate for wear of the friction linings and to maintain the desired setting.

Do not over-tighten the bolts. This may endanger the function of the clutch. The table below set out spring codes, thicknesses and compression 'h' measured as shown in the figure for standard settings.

The height of the spring is measured next to each bolt and may be $\pm 0.2\text{mm}$ of the listed value. The tables also show the amount of rotation of each bolt required to achieve the next higher or lower setting, relative to the nominal setting (listed with no rotation noted on the bolt). In addition to the listed settings, intermediate settings may be obtained by tightening or loosening the bolts proportionately.



FV32 Friction clutches 2 plates, diameter 180 mm				
Spring code	t mm	Setting Nm	h mm	
367008860	3.75	900	17.5	
		1000	17.0	
		1100	16.5	

The clutch must be quite loose initially to ensure it will slip. Slipping can be identified by the clutch getting very hot. The clutch will always be quite warm in work as the gearbox gets warm. Run the machine for a short distance (20 metres) in work and check the clutch slips. Then tighten each tension bolt up a turn (more if the clutch was very loose) evenly and run a short distance again. Keep repeating this procedure until the clutch is not slipping - it should only take a few stops. As you get to the point at which the clutch is not slipping tighten the tension bolts half a turn instead of a full turn.

If the clutch still slips when you have set the maximum recommended setting, *reduce the load*. Reduce your ground-speed or take less cut. Otherwise you risk damaging the machine. *Whenever a slip clutch slips take all load off it until full operating speed is regained with zero load. Continuing operations with a slipping clutch results in clutch damage.*

Continue to work the machine checking the clutch regularly to see how it is performing. You may want to adjust it for varying conditions. If the clutch is too loose it will slip, wearing out the friction discs, getting hot and possibly damaging the clutch pressure surfaces as well. Remember as the plates wear, the tension on them is reduced. If the clutch is too tight it will fail to protect the tractor and machine when an overload occurs.

How to free up the clutch after a period of storage

Slip clutches can seize up if left for long periods without use. To free up the clutch loosen all the tension bolts until the Belleville spring is free of any tension. Then run the machine into normal work so the clutch slips. With the clutch set in this way the machine will fail to work at all, clutch slip being 100%. Run the machine in this way for 30 seconds to one minute. This cleans the surfaces of the clutch. An alternative to this is dismantling the clutch and cleaning it.

SPARE PARTS

ORDER SPARE PARTS THROUGH YOUR ORIGINAL SUPPLIER OR YOUR LOCAL JOHN BERENDS IMPLEMENTS DEALER.

Always quote the machine serial No. or product No., spare part number and its part name as stated in the operator's manual.

Glossary of terms

c/w = Complete with

sw = Spring Washer

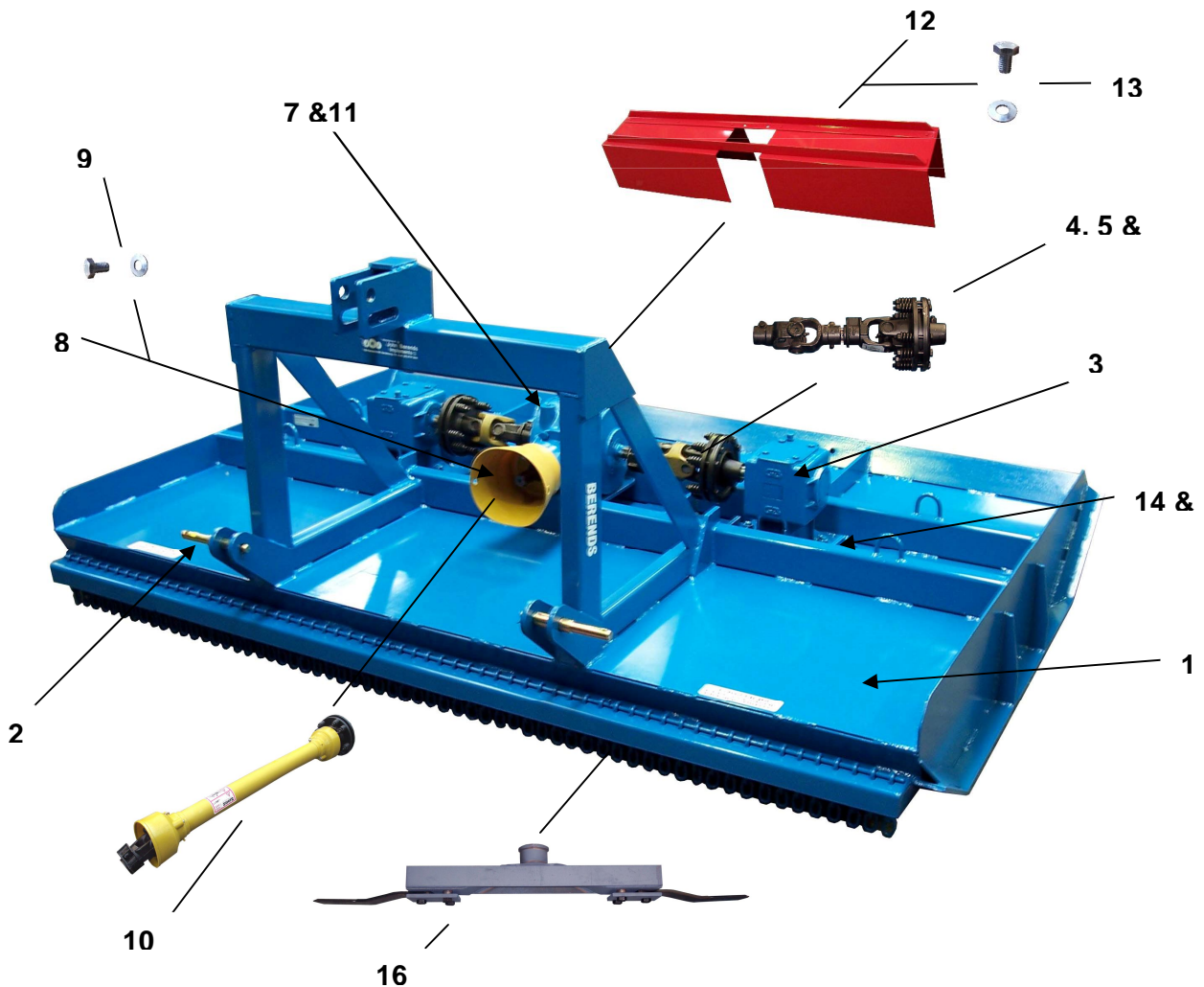
n.s.s. = Not serviced separately

a.r. = As required

fw = Flat Washer

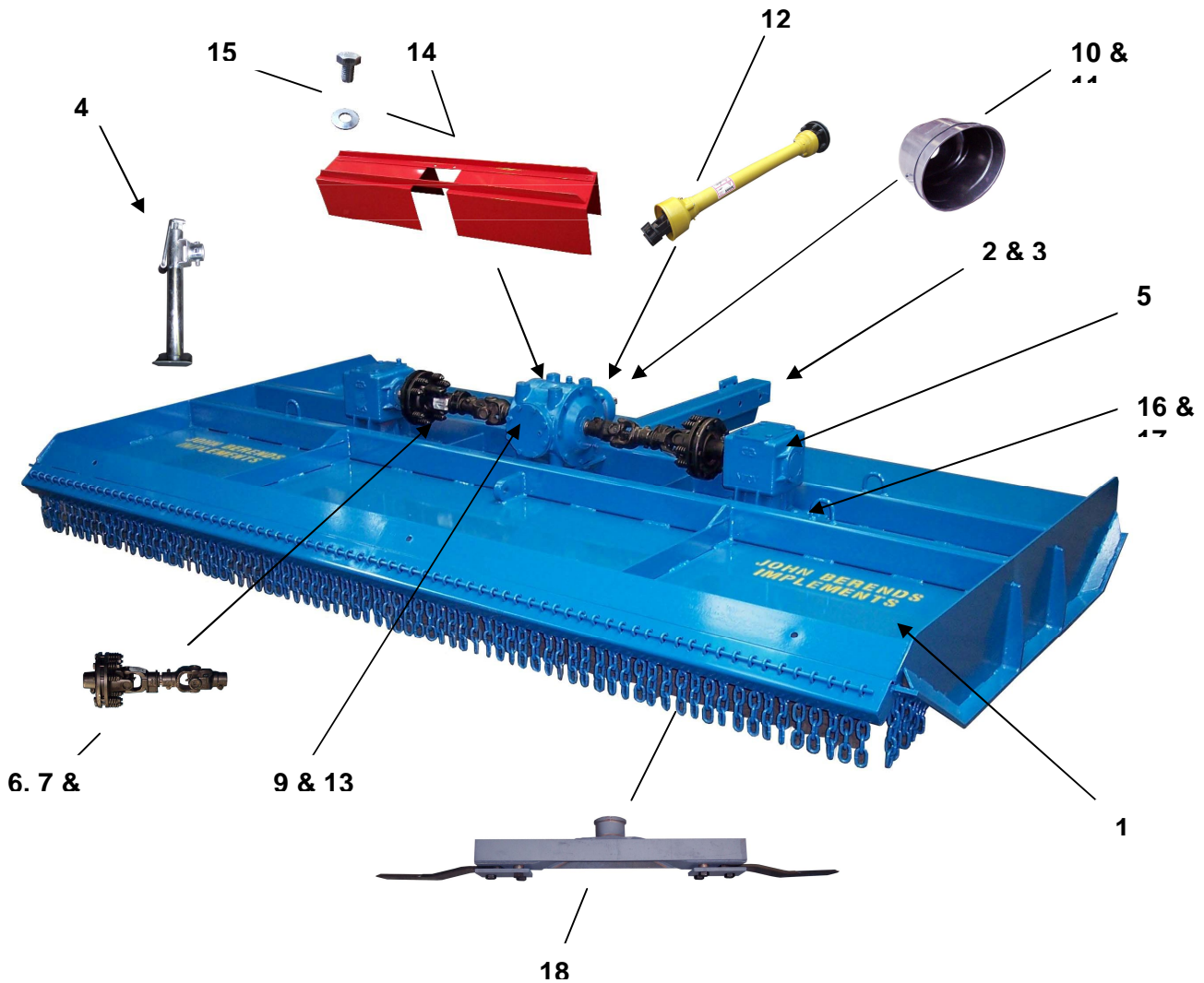
8', 10' & 12' Linkage Slasher (0101/0104/0114)

Key No	Part No	Quantity	Description
1		1	Slasher Body (priced on request)
2	1971	1	Cat 1/2 Single Step P/Through Linkage Pin
3	1590	2	Gearbox (for breakdown re: gearbox section)
4	1907	2	Complete Clutch Assembly suit 10' and 12' models (for breakdown re: PTO section)
	3762	2	Complete Clutch Assembly suit 8' model (for breakdown re: PTO section)
5	1905	2	Splined Shaft between G/boxes (10' only)
	1906	2	Splined Shaft between G/boxes (12' only)
6	1908	2	Coupling (2 Q/R yokes & uni) – suits 10' & 12'
7	1592	1	Gearbox (for breakdown re: gearbox section)
8	3199	1	Safety cover
9	3200	4	Bolt & washer assembly suit above
10		1	P.T.O. (refer to pto section)
11	3213	4	Gearbox mount bolt/sw
12	3205	1	Gearbox cover
13	3213	4	Gearbox cover mounting bolt/sw
14	1899	8	Gearbox mount bolt/nut sw
15	3212	2	Gearbox adjusting bolts c/w locknuts
16		2	Rotor (for breakdown refer rotor section)



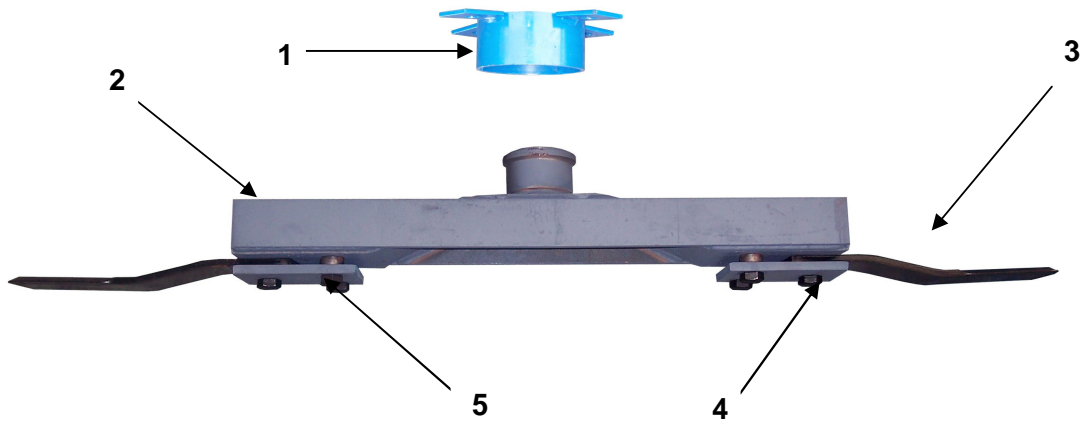
10' & 12' Trailing Slasher (0102/0112)

Key No	Part No	Quantity	Description
1		1	Slasher Body
2	3216	1	Drawbar
3	3217	2	Drawbar retaining bolts
4	3218	1	Jack
5	1590	2	HD G/Box (re: gearbox section)
6	1907	2	Complete Clutch Assembly (re: PTO section)
7	1905	2	Splined Shaft between G/boxes (10' only)
	1906	2	Splined Shaft between G/boxes (12' only)
8	1908	2	Coupling (2 Q/Release yokes & uni)
9	1592	1	Gearbox (Re: gearbox section)
10	3199	1	Safety cover
11	3200	4	Bolt & washer assembly suit above
12		1	P.T.O. (refer diagram)
13	3213	4	Gearbox mount bolt/sw
14	3205	1	Gearbox cover
15	3213	4	Gearbox cover mounting bolt/sw
16	1899	8	Gearbox mount
17	3212	2	Gearbox adjusting bolts c/w locknuts
18		2	Rotor (for breakdown refer rotor section)



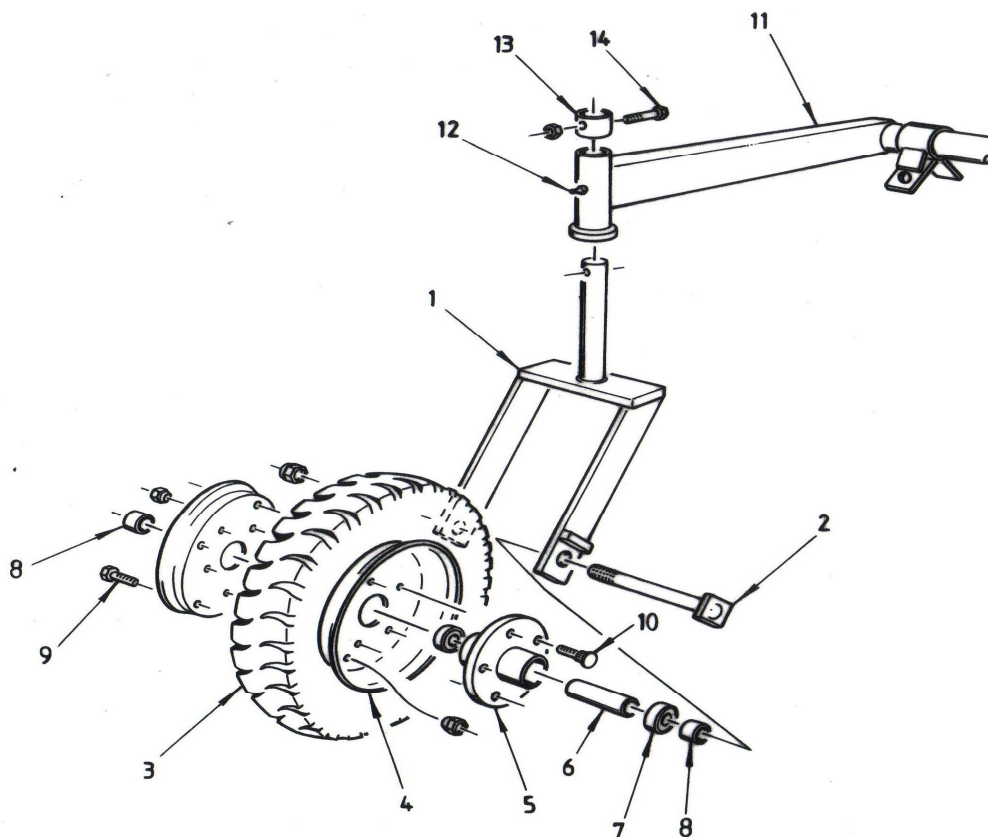
Heavy duty 8', 10' & 12' twin rotor slashers

Key No	Part No	Quantity	Description
1	3203	1	Rotor guard
2	1575	2	8' Complete rotor with boss & blades
2	1585	2	10' Complete rotor with boss & blades
2	1586	2	12' Complete rotor c/w boss & blades
3	2004	2	Blade (stepped 1 1/4" hole) – suit 8' and 10'
3	2005	2	Blade (stepped 1 1/4" hole) – suit 12'
4 & 5	1992	12	Bolt/nut/bush
6	3207	4	Plate Blade Retaining – 8' 10' 12' Rotors
			Castle nut/washer/split pin refer gearbox



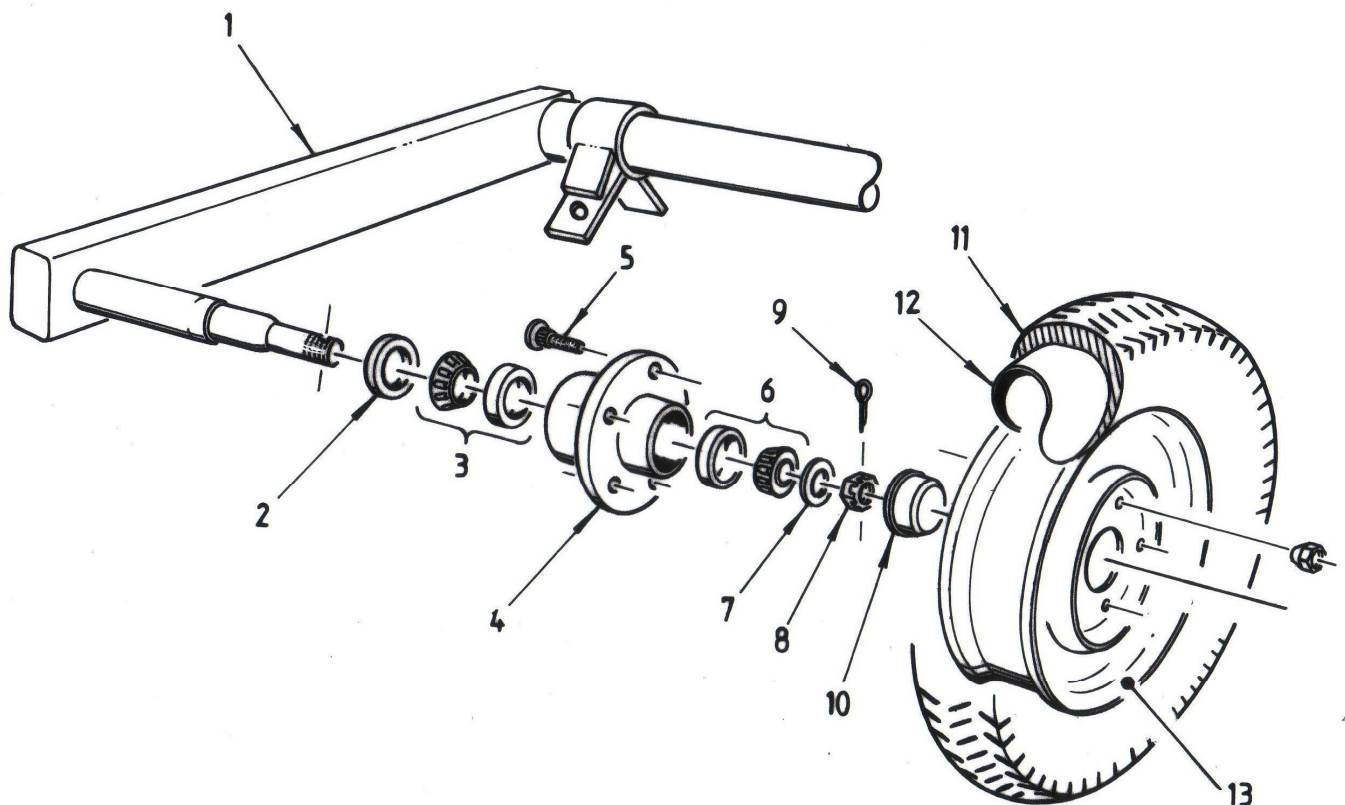
8' 10' & 12' 3PL Slasher Mower wheel kit

Key No	Part No	Quantity	Description
1	3226	2	Single wheel yoke
2	1597	2	Axle c/w nut to single wheel
3	1595	2	Solid rubber tyre
	3227	2	Solid rubber tyre & rim – no hub
4	3228	2	Rim
5	3229	2	Hub
6	3230	2	Brg spacer bush
7	1902	4	Bearing
8	3231	4	Spacer
9	3232	12	Bolt & nut suit rim
10	3233	10	Bolt & nut suit hub
11		1	Main Frame
12	3234	5	Grease nipple
13		2	Sleeve comes with 3226, n.s.s.
14	3235	2	Bolt & nut suit sleeve
	1598	2	Solid rubber wheel c/w hub



10' & 12' trailing slasher wheel kit

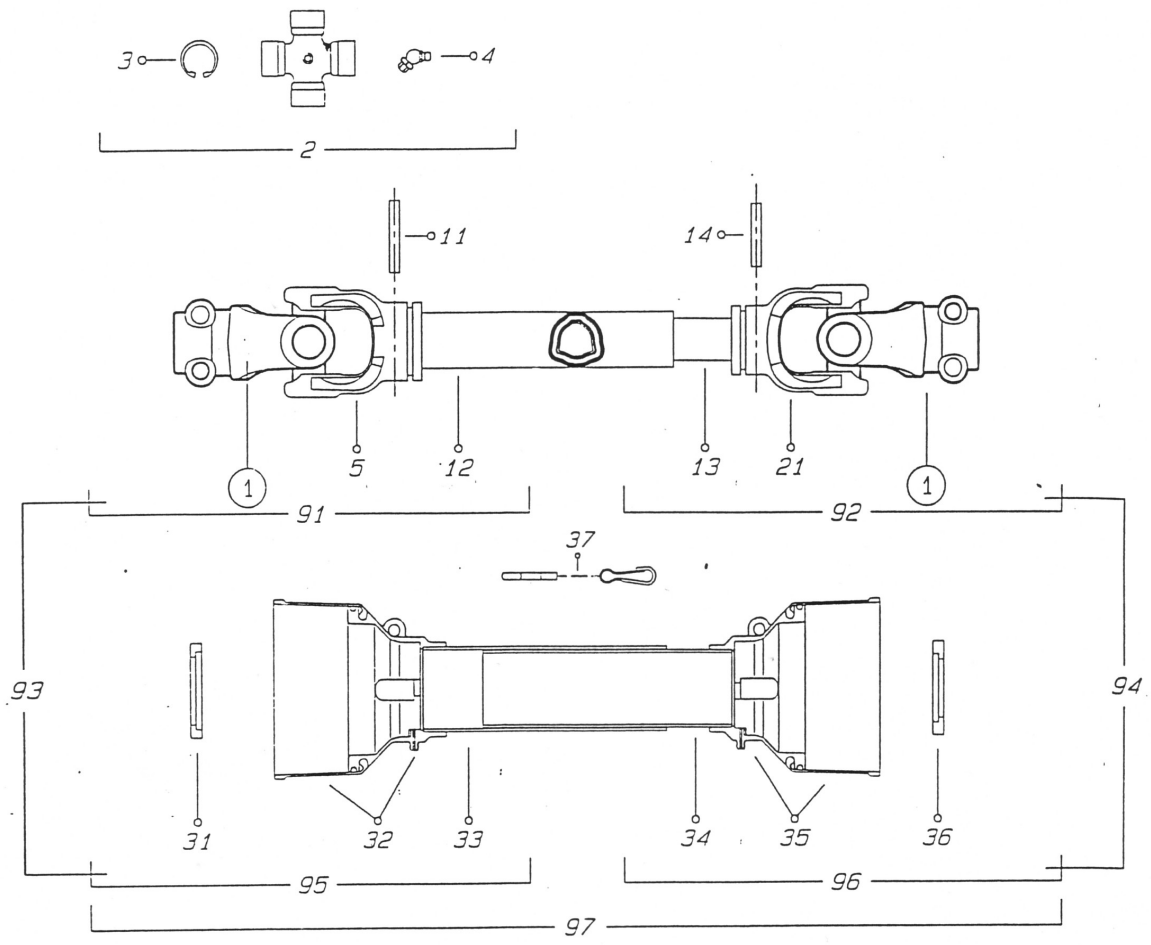
Key No	Part No	Quantity	Description
1		1	Main frame
2	3239	2	Seal
3	3240	2	Brg cup and cone
4	3241	1	Hub comes complete with studs, no brgs
5	3233	5	Stud & nut suit hub
6	3242	2	Brg cup and cone
7	3243	2	Plain washer
8	3244	2	Castle nut
9	3245	2	Split pin
10	3246	2	Dust cap
11	3247	2	Tyre 174/14 seconds recap
12		2	Tube
13	3248	2	Rim



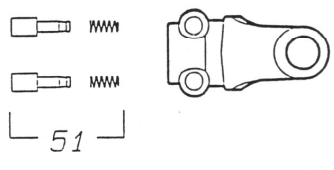
10' & 12' slasher main shaft

Key no.	Part no.	Quantity	Description
1	3107	2	Yoke
2	3108	2	Cross/universal joint
3		8	Circlip – n.s.s.
4		2	Grease nipple - n.s.s.
5	3109	1	Outer tube yoke
11	3037	1	Roll pin
12	3110	1	Outer drive tube
13	3111	1	Inner drive tube
14	3038	1	Roll pin
21	3112	1	Inner tube yoke
31	3118	1	Bearing ring set of 2
32		1	Cone - n.s.s.
33		1	Outer cover tube - n.s.s.
34		1	Inner cover tube - n.s.s.
35		1	Cone - n.s.s.
36	3118	1	Refer p/n # 31
37	3021	1	Chains
51	3113	1	Quick release pin
91		1	Half shaft less cover - n.s.s.
92		1	Half shaft less cover - n.s.s.
93	3046	1	Half shaft c/w cover
94	3051	1	Half shaft & cover
95	3117	1	Outer half shaft cover
96	3116	1	Inner half shaft cover
97	3053	1	Complete shaft – 10' trailing and 8', 10' and 12' linkage models
	3917	1	Complete shaft – 12' trailing models

10' & 12' slasher main shaft

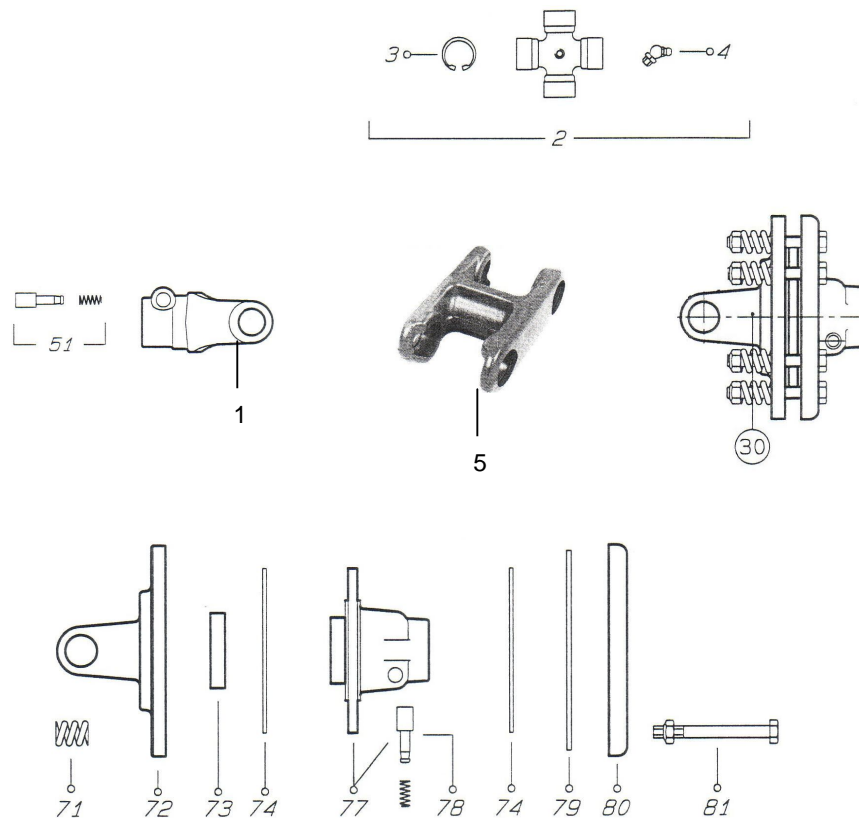


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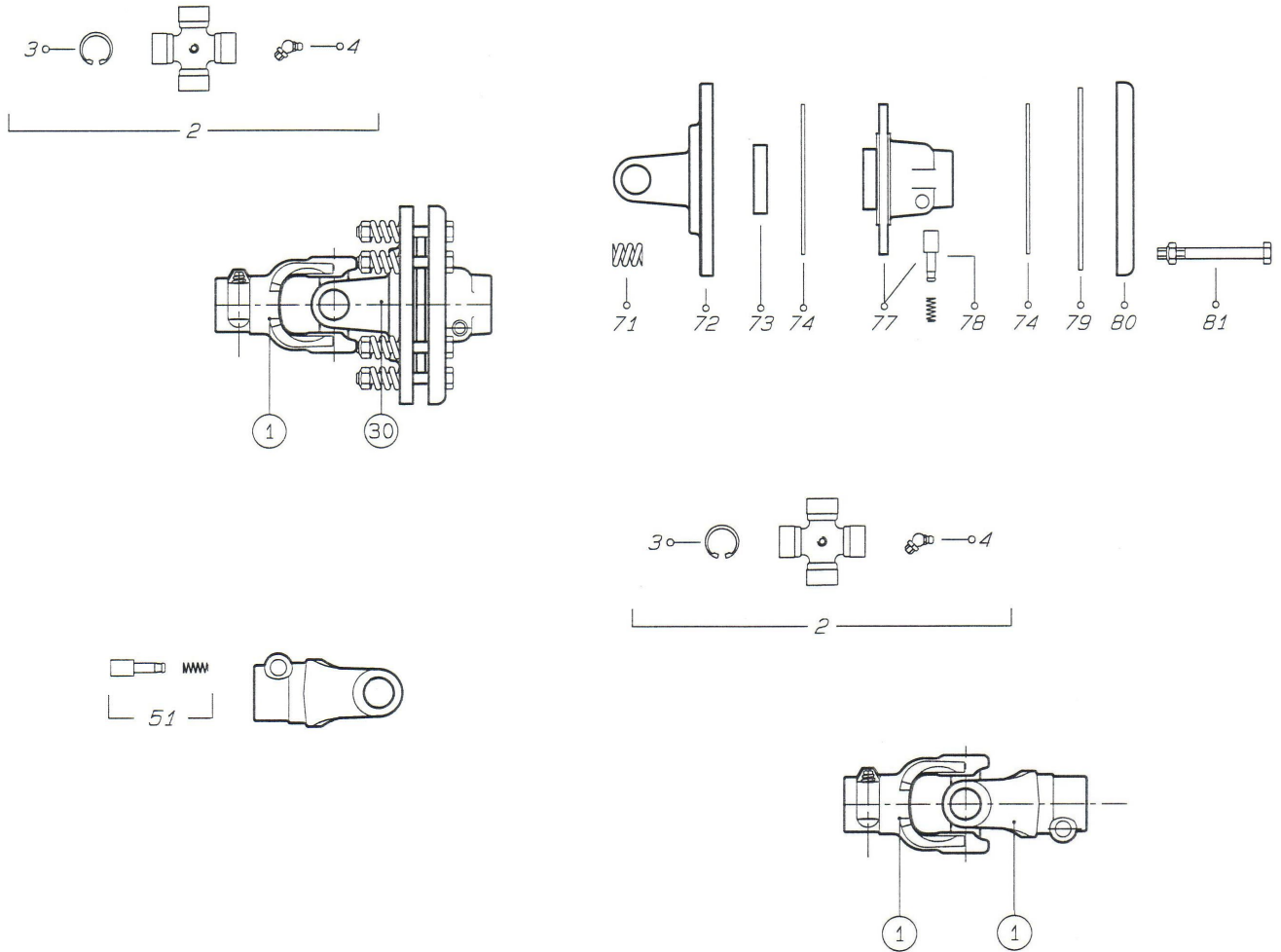
8' slasher clutches

Key no.	Part no.	Quantity	Description
1	3039	1	Yoke
2	3040	2	Cross/universal joint
3		8	Circlip - n.s.s
4		2	Grease nipple - n.s.s
5	3933	1	H-yoke
30	3047	1	Clutch
51	3045	1	Quick release pin
71	3048	8	Springs
72	3049	1	Flange
73	3050	2	Bush
74	1567	1	Clutch lining
77	3052	1	Hub
78	3075	1	Quick release pin
79	3054	1	Inner plate
80	3055	1	Pressure plate
81	3056	8	Bolt & nut
	3762	1	Complete clutch assembly



10' and 12' slasher clutches

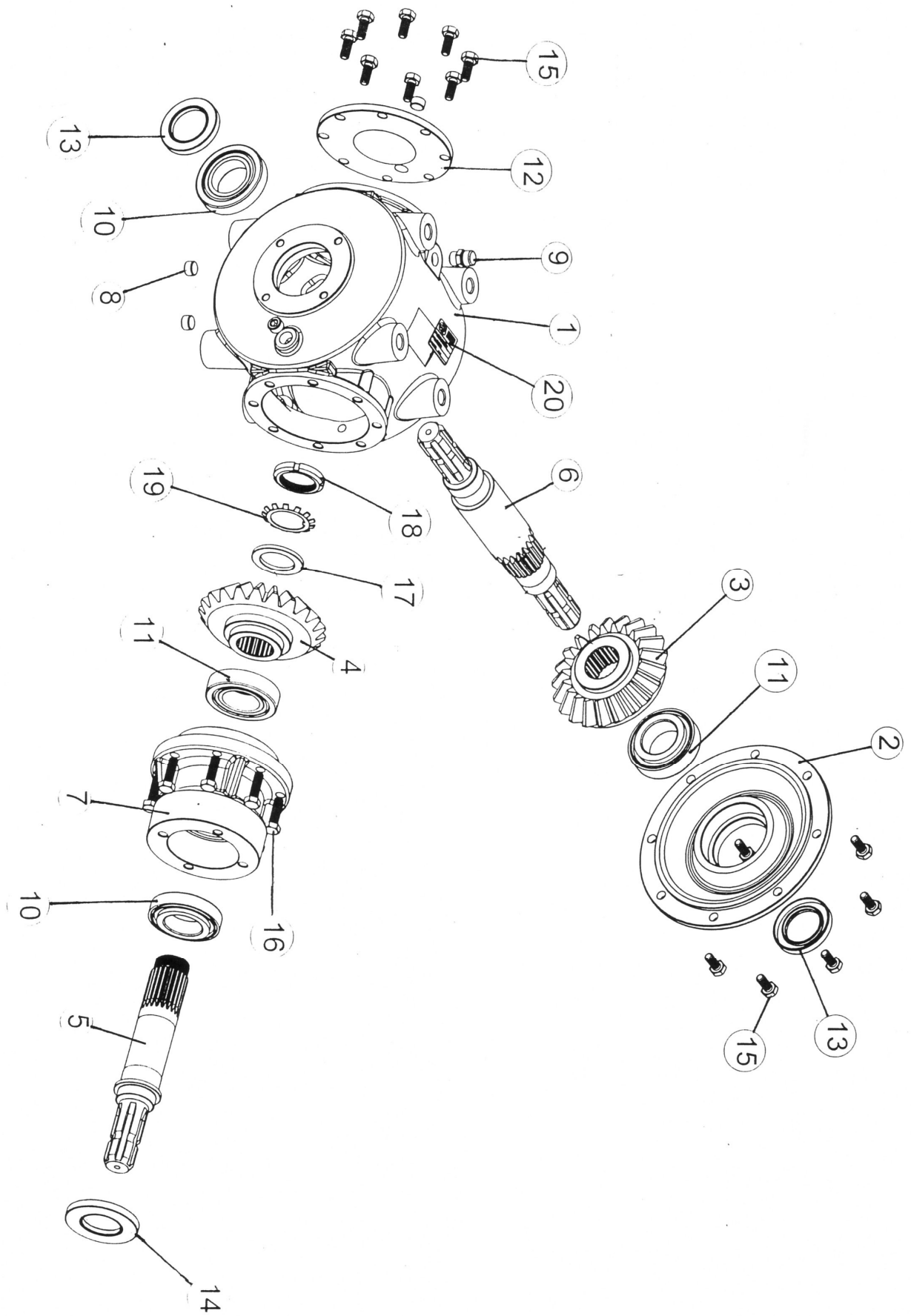
Key no.	Part no.	Quantity	Description
1	3039	3	Yoke
2	3040	2	Cross/universal joint
3		8	Circlip - n.s.s
4		2	Grease nipple - n.s.s
30	3047	1	Clutch
51	3045	3	Quick release pin
71	3048	8	Springs
72	3049	1	Flange
73	3050	2	Bush
74	1567	1	Clutch lining
77	3052	1	Hub
78	3075	1	Quick release pin
79	3054	1	Inner plate
80	3055	1	Pressure plate
81	3056	8	Bolt & nut
	1907	1	Complete clutch assembly
	1908	1	Complete yoke-uni-yoke assembly (knuckle)



R110 Centre gearbox 8', 10'and 12' slashers – post 2002

Key No.	Part No.	Quantity	Description
1	3600	1	Casing
2	3601	1	Side cover
3	3602	1	Output gear
4	3603	1	Input gear
5	3604	1	Input shaft
6	3605	1	Output shaft
7	3606	1	Input shaft housing
8	3607	4	Drain/level plug
9	3608	1	Breather plug 3/8" gas
10	3609	2	Input/Output bearing
11	3610	2	Input/Output bearing
12	3611	1	Back cover
13	3612	2	Output seal
14	3613	1	Input seal
15	3614	16	Back/side cover bolts
16	3615	8	Input shaft housing bolts
17	3616	1	Input washer
18	3617	1	Input lock nut
19	3618	1	Input locking tab
20	3619	1	R110 label plate

R110 Centre gearbox 8', 10' and 12' slashers – post 2002



M70V HD Slasher Gearbox – 1:1.5 ratio – post 2001
(suits 5' & 6' HD slashers and 10' & 12' Twin rotor slashers)

Key No.	Part No.	Quantity	Description
1	3527	1	Casing
2	3528	1	Input bearing (front)
3	3529	1	Input bearing (back)
4	3530	2	Input circlip
5	3531	1	Output bearing (bottom)
6	3532	1	Input crown wheel
7	3533	1	Output gear
8	3534	1	Input shaft
9	3535	1	Input oil seal
10	3536	1	Cap
11	3537	1	Output bearing (top)
13	3538	3	Drain/level plug
14	3539	1	Cover
15	3540	1	Breather plug
16	3541	1	Output oil seal
19	3542	4	Bolts
20	3543	1	Boss/Hub
22	3544	1	Castle nut
23	3545	1	M70V label plate
25	3546	1	Split pin
26	3547	1	Protective washer
27	3548	1	Output shaft
30	3549	1	Shim
31	3550	1	Split pin
32	3551	1	Flat washer
33	3552	1	Castle nut

M70V HD Slasher Gearbox – 1:1.5 ratio – post 2001
(suits 5' & 6' HD slashers and 10' & 12' Twin rotor slashers)

