



John Berends Implements Pty Ltd

AGRICULTURAL ENGINEERS

OPERATOR'S MANUAL PARTS LIST



Light Duty Rotary Slashers - TA

PRODUCT NO.

0350	TA 100 (3'4") Slasher – Dual Mount
0351	TA 120 (3'10") Slasher – Dual Mount
0348	TA 135 (4'6") Slasher – Dual Mount with slip clutch
0364	TA 150 (5") Slasher – Dual Mount with slip clutch

130 FRANKSTON/DANDENONG RD, DANDENONG SOUTH, VIC. 3175 AUSTRALIA

PHONE (03) 9791 2494

FAX NO. (03) 9794 5568

www.johnberendsimplements.com.au

TABLE OF CONTENTS

	Page No.
TROUBLE SHOOTING.....	2
SAFETY INSTRUCTIONS.....	3
SAFETY FEATURES.....	6
ASSEMBLY.....	7
OPERATION.....	7
MAINTENANCE.....	9
SPARE PARTS.....	12

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 (optional)	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, turn off engine and investigate.


 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 to slashers when operating in public areas. These are available as optional extras. Rear flaps are compulsory in public areas.

 Watch overhead clearance and beware of underground pipes and cables.

 Where fitted, hydraulic hoses and fittings must be maintained so as to prevent damage.

 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.

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.

TA Slashers

TA models are fitted with adjustable skids and are standard with centre and offset mount linkage. They are a light duty machine and should avoid being used on uneven ground.

MACHINE SPECIFICATIONS

MODEL	TA 100	TA 120	TA 135	TA 150
Cutting Width	1.0 m	1.15 m	1.36m	1.45m
	(approx 40")	(approx 45")	(approx 53")	(approx 57")
Cutting Height (with adjust skids)	25 -100mm			
Tractor H.P.	15-25 H.P.	18-30 H.P.	25-40 H.P.	25-50 H.P.
Gearbox/PTO speed	40 H.P. (540 RPM)			
PTO/Adjustable Slip Clutches	B4			
Blades	Stepped / Bushed			
Headstock	Floating			
Body Construction	3mm Top-plate / 6mm Skirt			
Nett Weight (kg)	185	200	230	250
Length (Overall)	1.05m	1.22m	1.45m	1.53m
Width (Overall)	1.10m	1.25m	1.47m	1.56m
Height (To top of gearbox guard)	470mm	470mm	470mm	470mm

WARRANTY

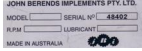


John Berends Implements P/L warrants each new product sold to be free from defects in material and workmanship, under normal use and service, as outlined in the operators manual, for a period of 12 months.

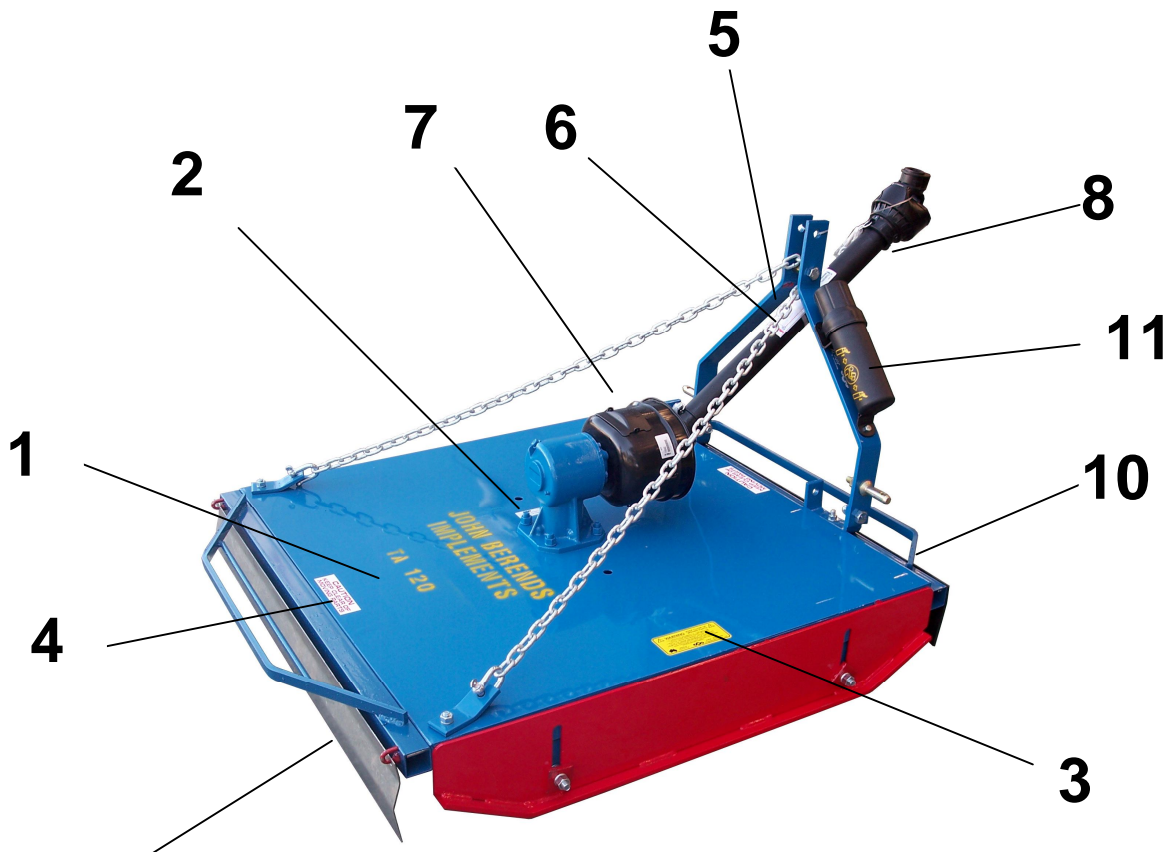
This warranty is void if any damage to the machine has been caused by misuse or non genuine parts have been used or any repairs have been made by any persons other than authorised dealer service personnel.

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.

Safety Features

1. FRONT/REAR GUARDS
2. SERIAL NUMBER (Decal)
A rectangular decal with fields for MODEL, SERIAL NO. (4542), P.M.H., LUBRICANT, and MADE IN AUSTRALIA.
3. WARNING DECAL
A yellow triangular warning decal with a black border and text.
4. CAUTION DECAL
A red and black decal with the text "CAUTION KEEP CLEAR OF MOVING PARTS".
5. CAUTION DECAL FOR P.T.O. SHAFT
6. BERENDS DECAL
7. GEARBOX COVER GUARD
8. P.T.O. SHAFT INNER/OUTER GUARDS
9. REAR HINGING STEEL GUARDS
10. FRONT RUBBER GUARDS
11. DOCUMENT HOLDER



9

ASSEMBLY

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.

Care must be taken when operating on tractors with down pressure, as this prevents the slasher from floating when hitting obstructions.

Ensure the front rubber guard and rear steel guard are bolted on securely. These guards (or optional chains) must be in place when working near people. Failure to do so may result in injury or death to bystanders. It is recommended that guards remain fitted at all times. If it is necessary to remove guards for a special purpose, then the operator must ensure that no persons are in the vicinity of the slasher during operation and both guards must be replaced at completion of slashing. It is suggested that signs be used in the working area to alert people of the dangers.

Do not operate the slasher in reverse as damage can occur to the rear guard. Lift the slasher off the ground first.

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.10). This can be done with a hacksaw.

FITTING AND REMOVAL OF P.T.O. SHAFT

The clutch 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.

OPERATION

Once all safety procedures have been followed, start the tractor and raise the slasher approximately 100-200mm (4-6 inches) off the ground

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 TA135 and TA150 machines are fitted with adjustable clutches (Refer to page 10). These are optional on the TA100 and TA120 models

CAUTION:

Continuous slipping can burn the clutch plates (Refer to page 10). If this happens there is no alternative but to replace the clutch plates. These are not covered by warranty.

When slashing, always drive the tractor clockwise, so the cut material is not thrown into the standing material. Always allow for the effect the weight of the slasher has on the performance of the tractor, particularly on sloping hillsides and unstable areas

STOPPING

Lower the machine, stop the tractor engine (removing the ignition key) and apply the park brake. Remain clear until the machine has stopped its rotation completely
Disengage the P.T.O. prior to any maintenance, transporting or when not in use.

HEIGHT ADJUSTMENT

1) Adjustable skids

Where slashers are fitted with adjustable skids, adjustment is simple. Loosen off the nuts sufficiently for the skids to be moved up or down. In heavy terrain it is an advantage if the front of the slasher is about 20-30mm lower than the rear. Note: Slots in the skids are provided instead of holes so as to enable the slasher to be tilted forward, while the whole skid remains in contact with the ground.

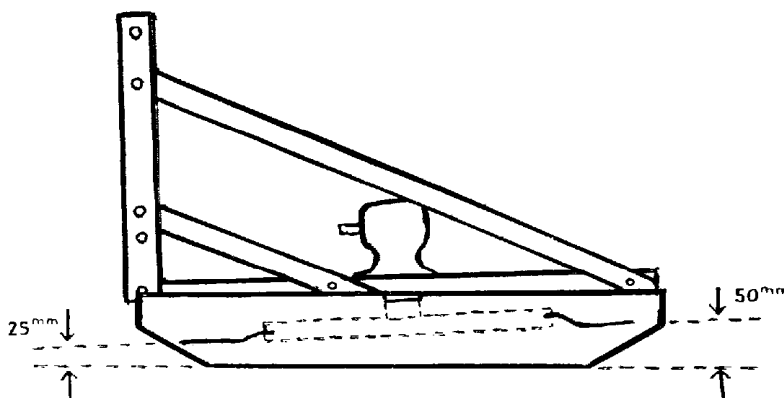


FIGURE 1. : Front and rear height variations using adjustable skids.

As shown in Figure 1, the material is only cut once. If the slasher is lower at the rear, the material will be cut a second time, requiring more horsepower. When adjusting skids make sure the whole skid surface touches the ground, to avoid uneven wear.

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 – do not rely on the tractor to hold it in position. After 1-2 hours work, check all bolts and nuts and tighten if necessary. Check all fasteners and guards are installed (Refer to page 6)

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 if necessary. Use EP80/90 or HD140 gearbox oil. 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 (all TA models are fitted with bushes). When replacing blades, make sure they are fitted correctly (refer to page 11).

Rotor

Remove any foreign material wrapped around the rotor and ensure the rotor spins freely without any vertical play.

Adjustable skids

Check for any damage and make sure they are set to the required cutting height and secured.

Stays

Check for damage (eg. twisting)

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 angles 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.

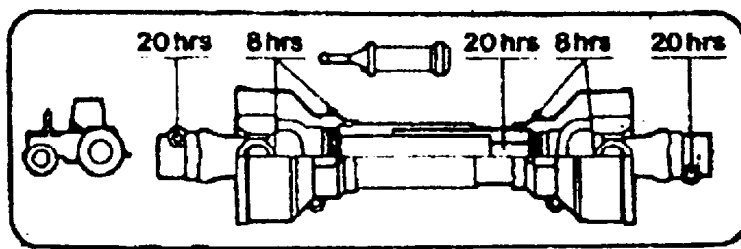


FIGURE 2. : Grease points and intervals for P.T.O. shaft.

The TA100 and TA120 models are fitted standard with shearbolt protection. This protects the pto shaft from damage when under excessive load. It is possible to shear the bolt when engaging the pto at too high revs. Always engage the pto at low revs and gradually increase the revs until you reach 540rpm. Always replace the shearbolt with an approved replacement bolt,

Slip clutch setting (optional on TA100 and TA120 models)

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

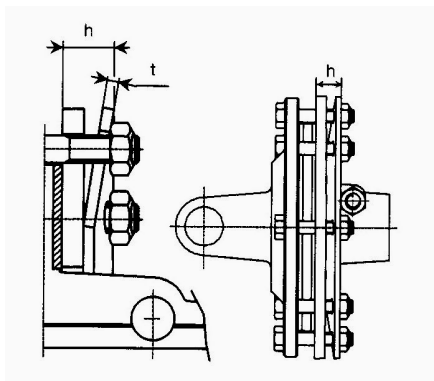
The setting of the clutch is dependent on many variables - the work, the size of the tractor, the size of the machine and so on. It is best to set each clutch individually if possible. The aim is to start with a loose clutch and tighten it up to the exact point where it stops slipping in normal work. 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.

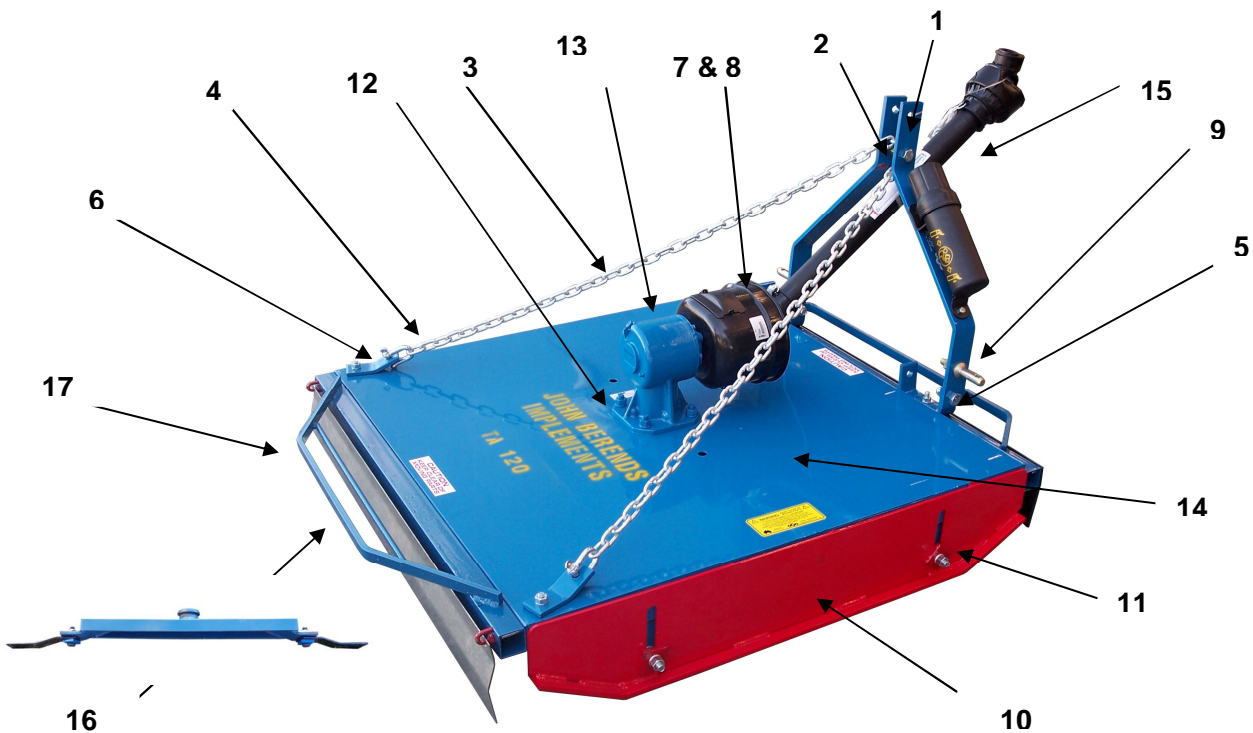
Glossary of terms

c/w = Complete with
 sw = Spring Washer
 n.s.s. = Not serviced separately
 a.r. = As required

fw = Flat Washer

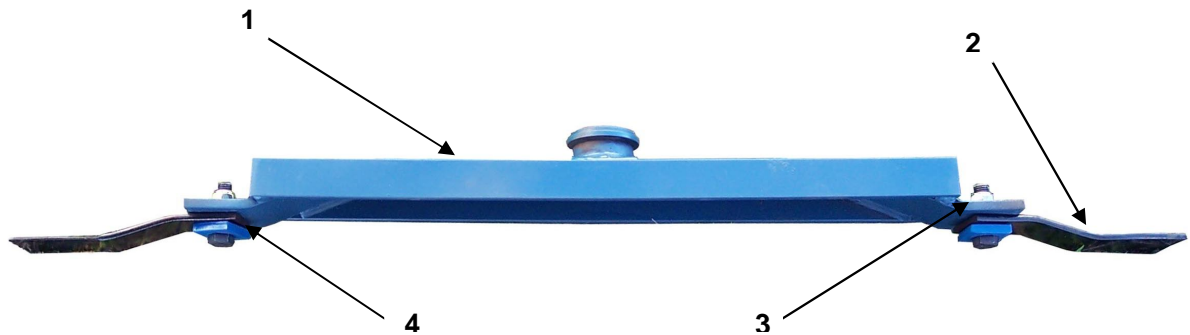
TA Light Duty Slasher (0350/0351/0348/0364)

Key No.	Part No.	Quantity	Description
1	3776	2	"A" Frame bars
2	3777	1	Bolt/nut/sw and spacer (A Frame)
3	3778	1	Support chain suit 3'4" (TA100)
	3779	1	Support chain suit 3'10" (TA120)
	3936	1	Support chain suit 4'6" (TA135)
		1	Support chain suit 5' (TA150)
4	3780	2	D-shackle suit rear of support chains
5	3781	2	Bolt/nut/sw assembly
6	3782	2	Chain support bracket/bolt/nut
7	3783	1	Clutch cover
8	3200	4	Bolt & washer assembly (suit above)
9	1967	2	Cat 1 Bolt on
10	1845	2	Adj skid suit 3'4"
	1854	2	Runner only suit above
	1846	2	Adj skid suit 3'10"
	1855	2	Runner only suit above
	1847	2	Adj skid suit 4'6"
	1856	2	Runner only suit above
	1848	2	Adj skid suit 5'
	1857	2	Runner only suit above
11	1901	4	Adj skid bolt c/w plate/nut/sw
12	1898	4	Gearbox mounting bolt/nut/sw
13	3784	1	Gearbox (for breakdown refer gearbox section)
14		1	Slasher body (priced on request)
15	3785	1	P.T.O. (for breakdown refer pto section)
16		1	Rotor (for breakdown refer rotor section)
17		2	Front/rear guards (refer slasher flaps section)



TA Light Duty Slasher

Key No.	Part No.	Quantity	Description
1	3786	1	Beam/Rotor assy c/w blades suit 3'4"
	3787	1	Beam/Rotor assy c/w blades suit 3'10"
	3935	1	Beam/Rotor assy c/w blades suit 4'6"
		1	Beam/Rotor assy c/w blades suit 5'
2	1980	2	Blade stepped
3	1542	2	Bolt/nut/bush
4	1571	2	EP rotor square washer
		1	Castle nut/washer/split pin refer gearbox breakdown



<u>Slasher steel flaps</u>	
1050	Rear steel flap TA100 (3'4") – hinging
1051	Rear steel flap TA120 (3'10") – hinging
1052	Rear steel flap TA135 (4'6") – hinging
1053	Rear steel flap TA150 (5') – hinging
<u>Slasher front rubber flaps</u>	
3843	Rubber front guard TA100 (3'4") – bolt on
3844	Rubber front guard TA120 (3'10") – bolt on
3937	Rubber front guard TA135 (4'6") – bolt on
3969	Rubber front guard TA150 (5') – bolt on