



John Berends Implements Pty Ltd

AGRICULTURAL ENGINEERS

OPERATOR'S MANUAL PARTS LIST



Mulching Mowers

PRODUCT NO.

0157	Cyclomatic 1500 (4'8") Offset Mulching Mower
0126	Cyclomatic 1800 (6') Offset Mulching Mower
0122	Cyclomatic 1800 (6') Centre Line Mulching Mower
0120	Cyclomatic 2100 (7') Offset Mulching Mower
0150	Cyclomatic 2100 (7') Centre Line Mulching Mower
0128	Cyclomatic 2400 (8') Offset Mulching Mower
0129	Cyclomatic 2400 (8') Centre Line Mulching Mower
0123	Cyclomatic Hi-Body 1800 (6') Offset Mulching Mower
0151	Cyclomatic Hi-Body 1800 (6') Centre Line Mulching Mower
0121	Cyclomatic Hi-Body 2100 (7') Offset Mulching Mower
0155	Cyclomatic Hi-Body 2100 (7') Centre Line Mulching Mower
0127	Cyclomatic Hi-Body 2400 (8') Centre Line Mulching Mower

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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 mulcher too high while P.T.O. engaged
	Rotor and blades	Damaged due to obstruction by foreign object Blades not loose on bushes Blades missing Failure of rotor bearings
Excessive noise	Gearbox	Worn or loose bearing No oil
	P.T.O. shaft	Lifting mulcher too high while P.T.O. engaged
	Rotor	Obstructed by foreign object or unbalanced due to blades missing or failed bearings
Leaking oil	Gearbox	Loose/damaged seals and/or bearings
Excessive heat	Pulleys	Belts are loose
	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 braking, high speeds, rough terrain and steep slopes.

 If machine starts to vibrate, stop tractor using method as described in the operation section (Page 7)

 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.

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.

Mulching Mowers

The Cyclomatic Low Body Mulcher is available in four models, the Cyclomatic 1500, 1800, 2100 and 2400. They are all fitted with adjustable rear rollers as standard equipment. Optional extras include adjustable skids, wheel kits and the choice of centre line or offset linkage mounting (except the Cyclomatic 1500 which is available in offset only) The wheel kit consists of two solid rubber wheels which swivel 180 degrees. All linkage mounts are adjustable, so an offset can be moved towards the centre and a centre mount offset slightly if required. The Cyclomatic 1500 is offset 6" from centre as standard so can be adjusted to centre if required. Hydraulic sideshift is also available on these models

The Cyclomatic Hi-Body Mulcher is available in three models, the 1800, 2100 and 2400. they are all fitted with adjustable skids as standard equipment . Optional extras include solid rubber wheel kits, rear rollers and the choice of centre line or offset linkage mounting (except the Cyclomatic Hi-Body 2400 which is available in centre line only).

All Berends mulchers are fitted with stone guards and Y-blades as standard. Tee blades and L blades (high body only) are available for specific uses and are easily interchangeable

MACHINE SPECIFICATIONS

MODEL	Cyclomatic Low Body				Cyclomatic Hi-Body		
	1500	1800	2100	2400	1800	2100	2400
Cutting Width	1.40m	1.75m	2.05m	2.35m	1.75m	2.05m	2.35m
Overall Width	1.70m	2.00m	2.30m	2.60m	2.00m	2.30m	2.60m
Body Height	500mm				900mm		
Weight (kg)	400	490	540	580	660	750	800
Tractor H.P.	40-60	48-72	56-84	64-96	57-86	67-100	76-115
Tractor CAT connection	3 Point Linkage / Cat 1 & 2						
PTO/Adjustable Slip Clutches	B7						
Gearbox/PTO speed	85 H.P. (540 rpm)						
Rotor Speed @ 540 PTO rpm	2268 rpm						
No. of blades							
- 'Y' type/'L' type	32	40	48	56	40	48	56
- 'Tee' type	16	20	24	28	20	24	28
Rotor diameter	165mm						

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. MODEL NUMBER (Decal)

2. SERIAL NUMBER (Decal)

3. WARNING DECAL

4. CAUTION DECAL

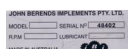
5. BERENDS DECAL

6. CLUTCH COVER GUARD

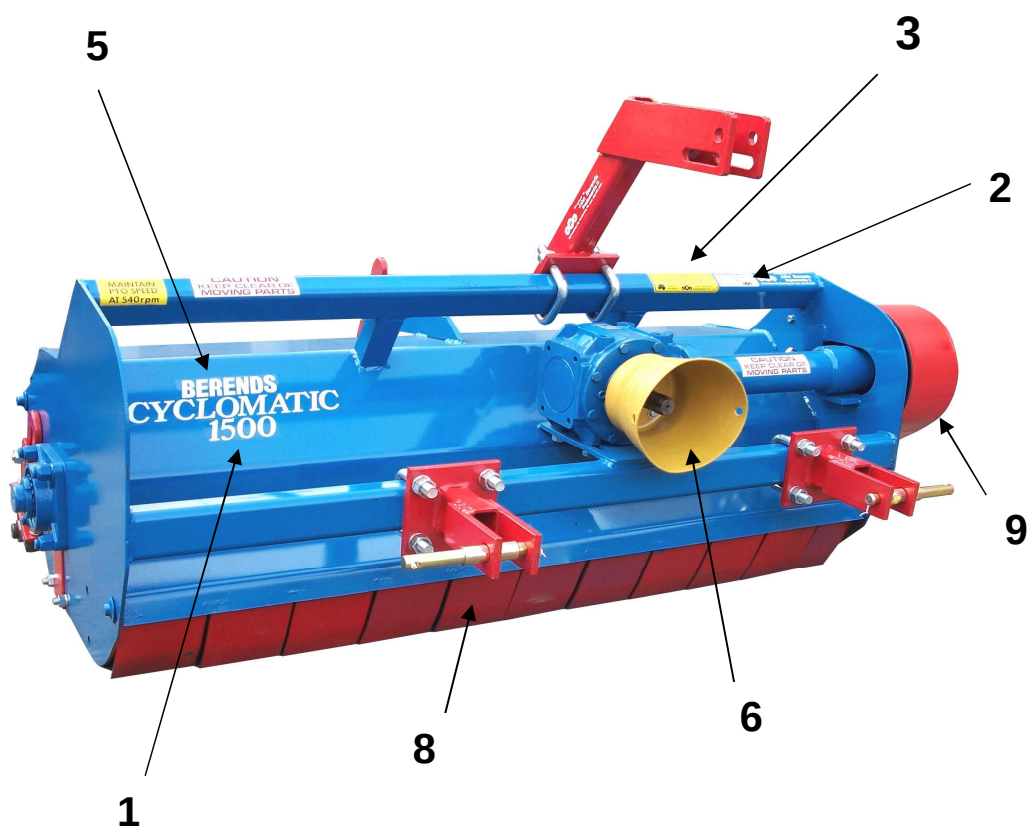
7. P.T.O. SHAFT INNER/OUTER GUARDS (not shown)

8. STONE GUARD

9. BELT AND PULLEY COVER



**CAUTION
KEEP CLEAR OF
MOVING PARTS**



ASSEMBLY

The linkage brackets can be adjusted to suit the sway arms on the tractor, and vary the offset of the machine. Line up the lower linkage arms with the linkage pins of the mulcher, slide the linkage arms onto the pins and secure with linch pins. Attach the top link to the mulcher. Raise the mulcher from the ground and adjust stabiliser bars or chains if required.



CAUTION:

The P.T.O. shaft has to run at an angle if the linkage brackets are offset from the gearbox. 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.8)

FITTING AND REMOVAL OF P.T.O. SHAFT

The P.T.O. shaft can be fitted or removed by depressing the quick release pins at each end. 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 mulcher approximately 100-200mm (4-6 inches) off the ground. When using the machine ensure the speed is always kept at 540 rpm. Select a low ground speed for initial operation, in the vicinity of 5 kph.



CAUTION:

Depending on the model of the mulcher and the tractor it may be possible to lift the mulcher too high and the P.T.O. shaft may hit the mulcher 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 mulcher. To minimise wear and tear on both tractor and mulcher **the P.T.O. speed must be maintained at 540 rpm**. Lower speeds cause excessive wear, especially to bearings, blades and blade bolts. If the operator is not certain of the condition of the area to be mulched, 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 fall.

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 its rotation completely.



CAUTION:

Before disengaging the P.T.O., reduce the rpm so as to prevent damage to the shaft.

HEIGHT ADJUSTMENT

Cutting height is controlled by setting the rear roller, skids or wheels (whichever is fitted). The machine should be kept as level as possible. In the case of the roller or wheels the height can be varied by adjusting the top link, however do not let the machine tilt too far forward or back as P.T.O. life will be reduced. The top link bracket has one fixed hole position and a slotted hole. When connected to the slotted hole the machine can then float to follow ground contours. If the machine is fitted with roller or wheels set the tractor hydraulics to "position" control and set the stop on the hydraulic quadrant, to ensure the machine does not drop below desired cutting height in use.

Where mulchers are fitted with adjustable skids, adjustment is simple. Remove the nuts and position the bolts in the desired depth hole, replacing the nuts securely once the skids have been positioned. 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 mulcher must be adequately supported under its body (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

The gearbox is filled to the level plug half way up the front of the gearbox with SAE90 gear oil. Ensure the machine is level to get an accurate reading from the level plug. It is a wise precaution to change the oil after an initial break in period of approximately 10 hours, and annually thereafter. The drain plug is located at the bottom of the main gearbox housing. Regularly check the gearbox for oil leaks.

Blades

Check mulcher bolts and blades every 8 working hours. Check the blades are all present and are not jammed, are sharp and evenly worn and are free of nicks and cracks. Even a small amount missing from one blade can cause the machine to vibrate. When replacing blades, make sure they are fitted correctly. If the machine is run with part of a blade missing, the resulting high frequency vibration will wreck the rotor bearing.



CAUTION:

Only use genuine blades as replacement and do not weld/hardface blades, weld balance weights or make any modifications to rotor without contacting Berends first. Any changes in weight distribution may affect the balancing of the rotor

All blades are retained by bolts fitted with Nyloc self locking nuts. If the nuts are removed for any reason it is a wise precaution to replace the nut or use a locking compound on it. Bolts should be checked for wear whenever the blades are removed or reversed. A set of bolts will last for approximately two sets of blades, depending on conditions. Note the bolts are specially manufactured to suit the machine and must be purchased from the manufacturer or an authorised dealer. The "Y" type blade is reversible. The "Tee" blade has an induction hardened edge which can be resharpened as required. The back of the mulcher opens up for easy access to the blades.

Rotor and roller bearings

Due to the excellent sealing arrangement and the quality of the grease used during bearing manufacture provide us with a bearing that does not require greasing under 'normal conditions'. Therefore in most operating situations the bearing will not require greasing at all. Any greasing whatsoever will result in either the bearing heating up unnecessarily or the seals being pushed out. Either way the bearing life will be significantly shortened. Bearings work most efficiently at 30-35% grease fill. These bearings have been tested to last up to 1500 hours without greasing providing the seals have not been contaminated.

If the seals have been punctured or damaged due to foreign matter, then the grease will run out of the bearing. In this case the bearing will need to be lubricated constantly to ensure there is always adequate grease in the bearing. This should only be done if the seals are damaged and grease is being released.

In order to minimise damage of the bearing from foreign material, all mulchers are fitted with a protective plate between the bearing housing and the mulcher body.

In high dust situations where the bearing may become infiltrated with contaminants the bearing may need to be purged through relubrication. As operating conditions differ, it is difficult to establish a general rule regarding greasing frequently, however approximately 100 working hours is not uncommon before purging is necessary. In this extreme situation 3-5 grams of grease is sufficient.

To maintain bearing life as long as possible, it is also recommended that the grease in the bearing does not reach a solid state. The best way to prevent this is to run the mulcher for approximately 10 minutes every two months.

Always use a high temperature lithium based grease when necessary.

There are other factors which also extend the life of the bearing. These include:

- **Running the mulcher at 540 rpm at all times**
- **Correct fitting of replacement bearings**
- **Rotor must be kept in balance, therefore check all blades are intact and avoid hitting foreign objects such as rocks.**

Generally, no greasing is required unless conditions are extreme and cause bearing to be contaminated, in which case purging is necessary.

Remove any foreign material wrapped around the rotor or roller. The bearings are removed and replaced by twisting them in and out from the inside of the housing. Be sure to line up the grease groove with the grease nipple hole - most bearings have a locator lug on them to ensure the bearing can only go in one way. The bearing has to be 90 degrees to the housing, in line with two cut out sections of housing, to be put in or out of the housing. The roller bearings are retained on the shaft by grub-screws in the collar of the bearing. The rotor bearings are retained by taper lock sleeves. To remove, loosen the sleeve retaining nut and push the sleeve back into the bearing by applying pressure to the nut. It is better to apply pressure to the nut then to take the nut off and risk damaging the thread. Once the bearing has moved off the taper the nut can be removed and the bearing pulled off.

Caution must be taken when fitting replacement rotor bearings. Use the following instructions when fitting replacement bearings and taper sleeves. The easiest method of replacing bearings is to have the mulcher up-side down as it is much easier to support the rotor. Ensure the rotor is sitting central in the body and that the blades are clear to spin freely.

- a) Push the taper sleeve onto the bare shaft (with the thread facing outwards)
- b) Fit the bearing into the housing and slide it over the taper sleeve as far as possible. Tighten the housing to the body using the four bolts
- c) Push the taper sleeve in to the bearing as far as possible from the inner side of the mulcher. This is best achieved using a screwdriver or a punch.
(If the sleeve isn't pushed all the way into the bearing, then when sleeve nut is tightened up it will cause the side plate of the mulcher to distort and result in a lot of sideways pressure on the bearings).
- d) Place the lock washer and nut (supplied with the taper sleeve) onto the sleeve and tighten by hand as far as possible. Tighten the nut a further $\frac{1}{2}$ to $\frac{3}{4}$ turn and secure with the lock washer by folding the tabs over.

Do not tighten the nut too tight as this expands the centre of the bearing resulting in shortened bearing life.

The distance between the rotor pipe and the side of the mulcher body should remain the same during the procedure – wedge an object in the gap if necessary. Rotor must spin freely without preload on the bearings.

Belts and pulleys

Check the belt tension approximately every 40 hours. There is an inspection plate in the belt cover for this purpose. A weight of 20kg should deflect the belts 1cm. Belt slippage is indicated by the pulleys getting hot. The following steps show how the belts are changed on the mulcher:

- 1) Lift mulcher off the ground and support with blocks of wood under the skids. This is to ensure that the rotor (and therefore the pulley) is able to turn freely.
- 2) Loosen the four gearbox bolts and the tension adjustment bolt and push the gearbox and shaft towards the body of the machine. Sometimes it may pay to loosen the two rear gearbox bolts only slightly as they may hit the body preventing the gearbox from pushed all the way back.
- 3) Place the two inside belts on the inner side of the pulley and ply on with a screwdriver. To get these belts on you will need to put the first one in the outside groove first and then move it along to the next groove. Then put the outside belt on. The same process goes for the two belts on the outer side of the pulley.
- 4) Now it is time to tension the belts so that they can only be moved about 3-4mm. It is extremely important that the two pulleys and the belts are in a straight line to prevent wear. Additionally the gearbox shaft must run parallel with the body of the mulcher to also prevent wear on the belts. Tighten the front right hand gearbox bolt first and then began tightening the belts via the adjustment bolt. Once the tension is right, move the gearbox shaft forward until it is parallel with the mulcher body and then tighten the gearbox bolts.

There may be instances in heavy cutting, where the belts slip excessively on higher horsepower tractors (eg over 100HP). If this is the case it is recommended to replace the belts with a "Power Wedge" belt which has a higher horsepower rating than the standard SPB vee-belts, as well as increased wear life.

The taper lock pulleys are serviced as follows:

- 1) Slacken and remove all screws. Place one screw in jacking off hole (the hole which has no screw in it) and tighten it until the bush and pulley are loose. Remove from shaft.
- 2) Ensure mating surfaces are clean and free from oil and dirt. Insert bush in pulley so that the holes line up. Oil screws and place in locking holes. Clean shaft and fit pulley and bush to shaft as one unit, locate in position - note bush will nip the shaft first, then the pulley will be drawn onto the bush. Tighten the screws, hammering the end of the bush lightly to seat squarely in the bore. Check alignment and re-check tightness after running under load for a short while.

Adjustable skids

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

Deflector Flap (High Body Models only)

The deflector flap can be adjusted via the handle on the side of the mulcher. Moving the flap closer to the blades will produce a finer mulch. This is done by removing the bolt and moving the handle forward to another hole position. When blades are new it may not be possible to use the lowest hole position due to the blades hitting the flap – this is designed so that more adjustment can be made later on when blades are worn. Before starting the mulcher up again ensure the blades do not interfere with the flap and tighten up the bolt holding the handle in place.

Wheel kit

Wheel must run freely on axle and yoke must be kept lubricated. Note: Bearings are replaceable if necessary.

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 mulcher.

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 1.

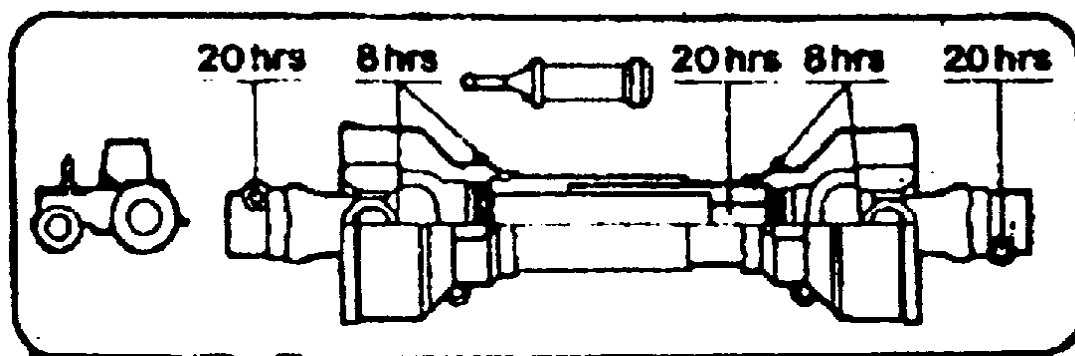


FIGURE 1. : Grease points and intervals for P.T.O. shaft.

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,

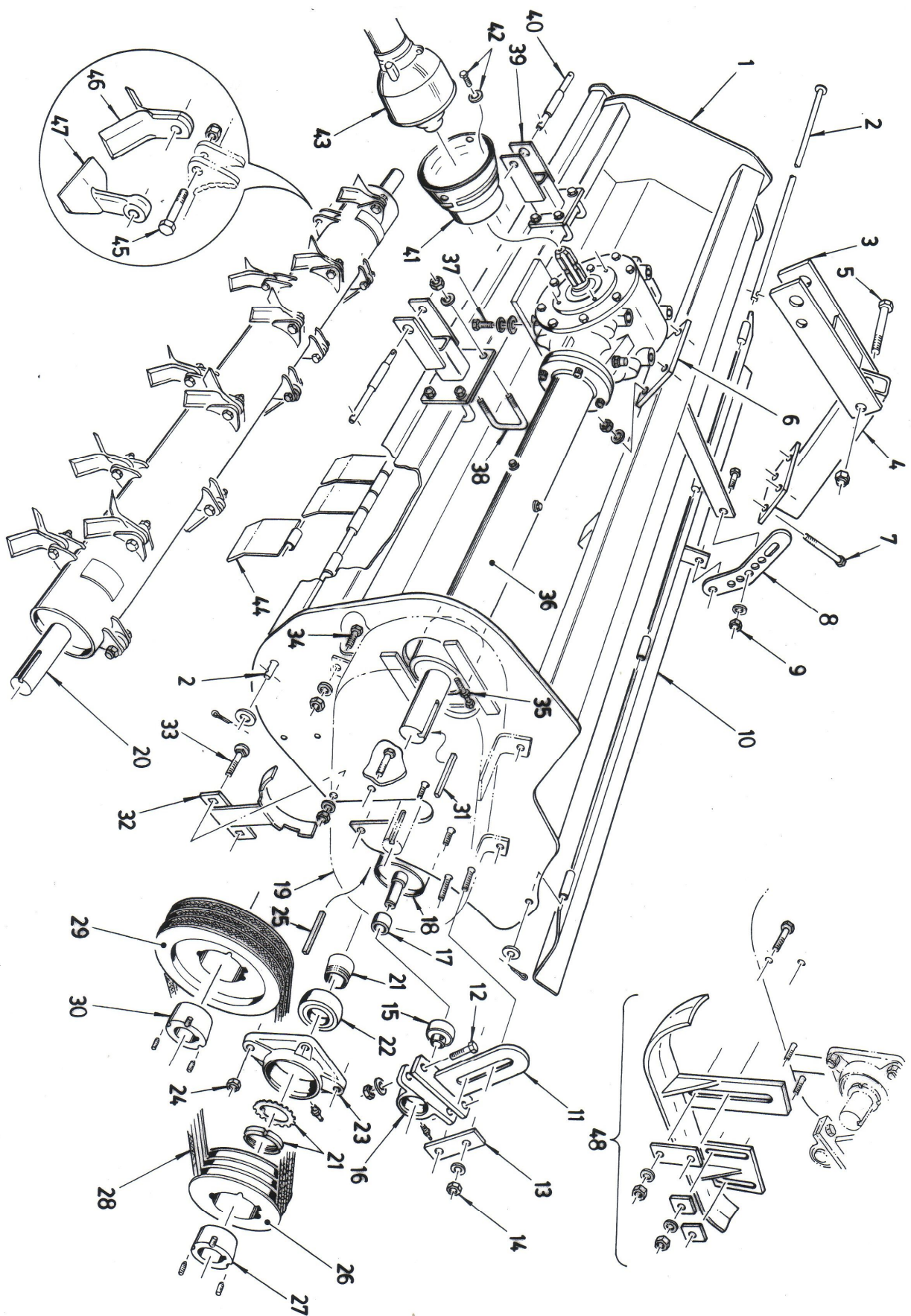
n.s.s. = not serviced separately,

a.r. = as required,

fw = flat Washer

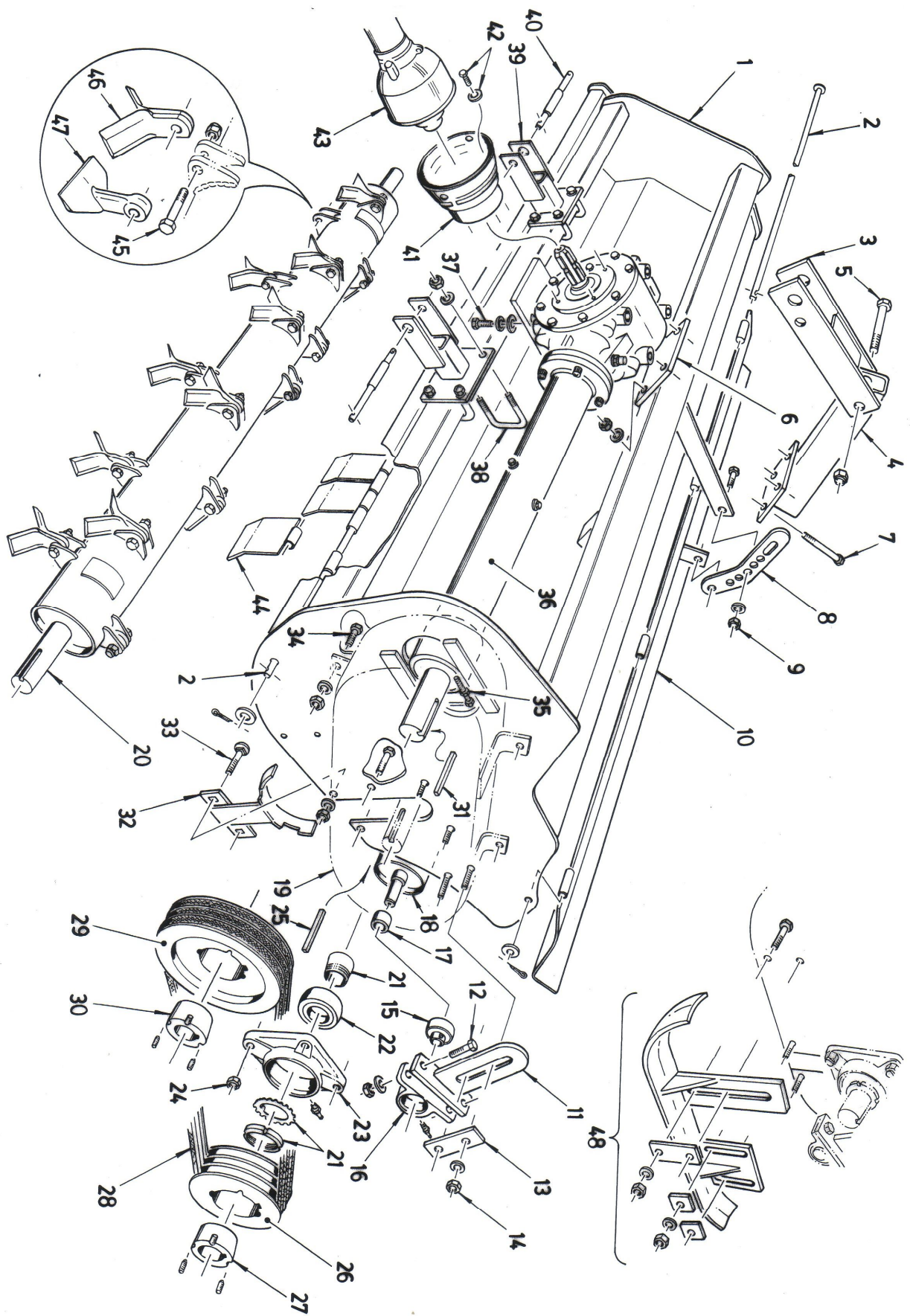
Low body mulcher – all models

Key No	Part No	Quantity	Description
1		1	Mulcher body
2	3206	1	Pivot rod, mulcher rear flap/stone flaps 1500
	3284	1	Pivot rod, mulcher rear flap/stone flaps 1800
	3285	1	Pivot rod, mulcher rear flap/stone flaps 2100
	3286	1	Pivot rod, mulcher rear flap/stone flaps 2400
3	3211	1	Top link H bracket – old style
4	3255	1	Top link bracket - complete
5	3256	1	Pivot bolt & nut suit top link bracket – old style
6	3257	1	Clamp plate suit mounting top link
7	1960	4	Bolt/nut/sw suit clamp plate
8	3259	1 or 2	Adjustment plate for back flap,1 on 1500/1800, 2 on 2100/2400
9	3260	4 or 8	Bolt/nut/sw hold adjustment plate
10	3261	1	Flap suit 1500
	3262	1	Flap suit 1800
	3263	1	Flap suit 2100
	3264	1	Flap suit 2400
11	3265	2	Roller adjusting bracket
12	1954	4	Bolt/nut/sw suit roller adjustment
13	3266	2	Clamp plate
14	1955	2	Bolt/nut/sw suit spacer plate
15	1997	2	Special triple sealed roller bearing
16	1928	2	Roller bearing housing (specify LH or RH)
17	3267	2	Roller spacer bush
18	1773	1	1500 mulcher roller c/w bearings
	1774	1	1800 mulcher roller c/w bearings
	1775	1	2100 mulcher roller c/w bearings
	1776	1	2400 mulcher roller c/w bearings
	1769	1	1500 mulcher roller only
	1770	1	1800 mulcher roller only
	1771	1	2100 mulcher roller only
	1772	1	2400 mulcher roller only
19	3268	1	'V' belt cover
20	2006	1	1500 mulcher rotor c/w blades
	1924	1	1800 mulcher rotor c/w blades
	1925	1	2100 mulcher rotor c/w blades
	1926	1	2400 mulcher rotor c/w blades
21	1931	2	Taper sleeve
22	1929	2	2" bearing (taper centre)
23	1930	2	Cast iron housing
23A	2313	2	Bearing guard suit part 1930
24	3270	8	Bolt/nyloc nut suit cast iron housing
25	3271	1	Key suit rotor
26	3272	1	Belt pulley suit rotor - 3 groove 1500/1800
	3273	1	Belt pulley suit rotor - 4 groove 2100/2400
27	3274	1	Bush suit rotor pulleys
28	1608	1 set	(3) SPB wedge section belt 1500/1800
	1610	1 set	(4) SPB wedge section belt 2100/2400



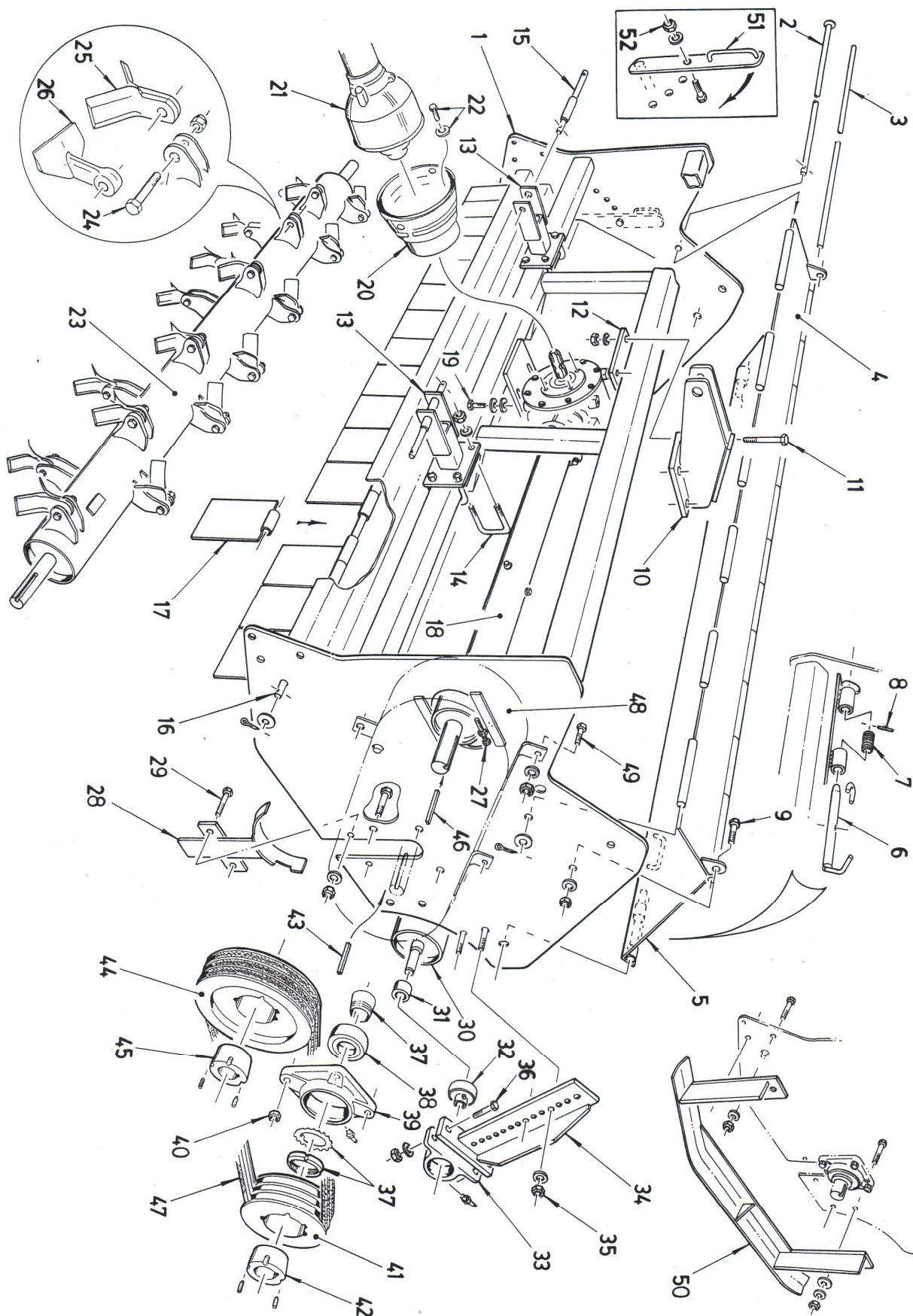
Low body mulcher (continued)

Key No	Part No	Quantity	Description
29	3275	1	Belt pulley suit g/box - 3 groove 1500/1800
	3276	1	Belt pulley suit g/box - 4 groove 2100/2400
30	3277	1	Bush for g/box pulley suit 3 groove
	3278	1	Bush for g/box pulley suit 4 groove
31	3279	1	Key suit gearbox
32	1999	2	Rotor guard (specify "Y" or "T" blades)
33	3280	4	Bolt/nut/sw suit rotor guard
34	3281	3	Bolt/nyloc nut suit belt cover
35	3212	1	G/Box adjustment bolt
36	1888	1	Gearbox (all offset 615mm long)
	3282	1	Gearbox (c/line 1800 models - 950mm long)
	1889	1	Gearbox (c/line 2100/2400 models -1060mm long)
37	3213	4	G/Box mount bolt/sw
38	1601	2	'U' Bolt c/w nut/sw
39	3283	2	Lower linkage bracket
40	1970	2	Cat 1/2 double stepped push through l/pins
41	3199	1	Safety cover
42	3200	4	Bolt & washer assembly to suit
43		1	P.T.O. (refer diagram)
44	1923	ar	Stone flaps - 11 on 1500, 13 on 1800, 16 on 2100, 18 on 2400
45	1602	1	Special bolt/nut suit both 'Y' & 'T' Blade
	1605	ar	Lug suit mulcher rotor
46	1600	32	'Y' Blade suit 1500 Mulcher
		40	'Y' Blade suit 1800 Mulcher
		48	'Y' Blade suit 2100 Mulcher
		56	'Y' Blade suit 2400 Mulcher
47	1603	16	'T' Blade suit 1500 Mulcher
		20	'T' Blade suit 1800 Mulcher
		24	'T' Blade suit 2100 Mulcher
		28	'T' Blade suit 2400 Mulcher
	1604	ar	Mulcher flat blade (superseded)
	1606	ar	Bolt and nut suit flat blade
48	1612	2	Mulcher Skids Assembly Complete



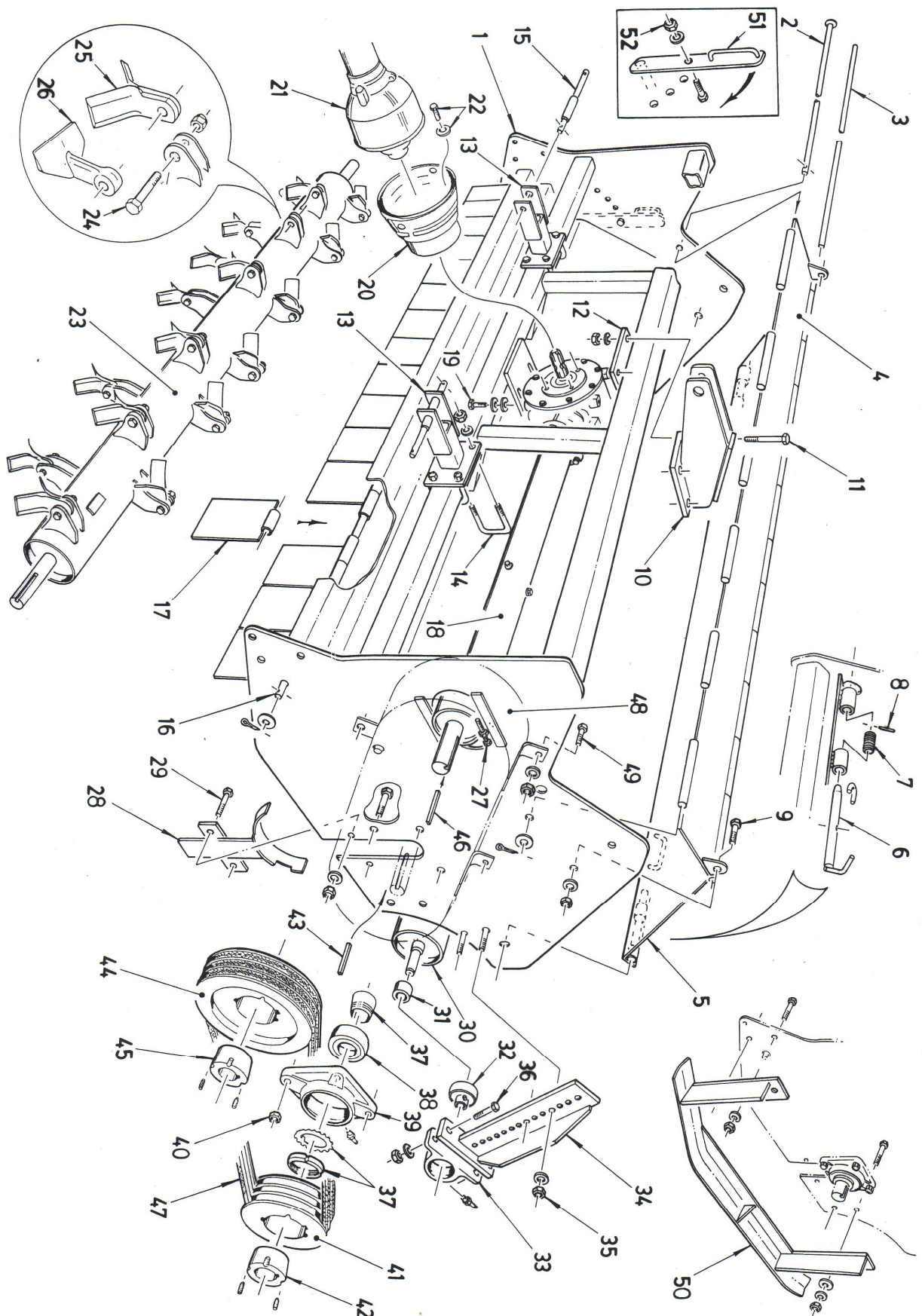
High Body Mulcher – all models

Key No	Part No	Quantity	Description
1		1	Mulcher body
2	3284	1	Pivot rod, mulcher top flap/stone flaps 1800
	3285	1	Pivot rod, mulcher top flap/stone flaps 2100
	3286	1	Pivot rod, mulcher top flap/stone flaps 2400
3	3288	1	Pivot rod mulcher rear flap 1800
	3289	1	Pivot rod mulcher rear flap 2100
	3290	1	Pivot rod mulcher rear flap 2400
4	3291	1	Centre/top panel of flap 1800
	3292	1	Centre/top panel of flap 2100
	3293	1	Centre/top panel of flap 2400
5	3294	1	Rear panel of flap 1800
	3295	1	Rear panel of flap 2100
	3296	1	Rear panel of flap 2400
6	3297	2	Handle rear flap
7	1943	2	Handle spring
8	3298	2	Roll pin
9	3299	2	Bolt & nut fasten centre panel
10	3300	1	Top link bracket
11	1960	4	Mounting bolt suit top link
12	3257	1	Clamp plate suit mounting top link
13	3283	2	Lower link brackets
14	1601	4	'U' bolt c/w nut/sw
15	1970	2	Cat 1/2 double stepped push through l/pins
16	3284	1	Pivot rod, mulcher rear flap/stone flaps 1800
	3285		Pivot rod, mulcher rear flap/stone flaps 2100
	3286		Pivot rod, mulcher rear flap/stone flaps 2400
17	1922	Ar	Stone flaps - 13 on 1800, 16 on 2100, 18 on 2400
18	1888	1	Gearbox (all offset 615mm long)
	3282	1	Gearbox (c/line 1800 models - 950mm long)
	1889	1	Gearbox (c/line 2100/2400 models -1060mm long)
19	3213	4	G/box mounting bolts
20	3199	1	Safety cover
21		1	P.T.O shaft (refer pto shaft section)
22	3200	4	Bolt & washer assembly suit safety cover
23	1919	1	1800 mulcher rotor
	1920	1	2100 mulcher rotor
	1921	1	2400 mulcher rotor
24	1602	1	Bolt & Nut suit both 'Y','T' & 'L Blade
	1605	Ar	Lug suit mulcher rotor
24A	1607	Ar	Old long lug suit mulcher rotor (pre 2000)
25	1609	40	Long 'Y' Blade suit 1800 Mulcher
		48	Long 'Y' Blade suit 2100 Mulcher
		56	Long 'Y' Blade suit 2400 Mulcher
25A	1600	Ar	Short 'Y' Blade suit mulcher (pre 2000)



High Body Mulcher (continued)

Key No	Part No	Quantity	Description
25B	1599	40	Long 'L' Blade suit 1800 Mulcher
		48	Long 'L' Blade suit 2100 Mulcher
		56	Long 'L' Blade suit 2400 Mulcher
26	1594	20	Long 'T' Blade suit 1800 mulcher
		24	Long 'T' Blade suit 2100 mulcher
		28	Long 'T' Blade suit 2400 mulcher
26B	1604	Ar	Mulcher flat blade (superseded)
	1606	Ar	Bolt and nut suit flat blade
27	3212	1	G/box tensioning bolt
28	3287	2	Rotor guard (specify "Y" or "T" blades)
29	3280	4	Bolt/nut/sw suit rotor guard
30	1777	1	1800 mulcher roller c/w bearings
	1778	1	2100 mulcher roller c/w bearings
	1779	1	2400 mulcher roller c/w bearings
	1770	1	1800 mulcher roller only
	1771	1	2100 mulcher roller only
	1772	1	2400 mulcher roller only
31	3267	2	Roller spacer bush
32	1997	2	Special triple sealed roller bearing
33	1928	2	Roller bearing housing (specify RH or LH)
34	3301	1	Roller adjustment bracket LH
	3302	1	Roller adjustment bracket RH
35	1954	4	Bolt/nut/sw suit roller bracket
36	1954	4	Bolt/nut/sw suit adjustment bracket
37	1931	2	Taper sleeve
38	1929	2	2" bearing (taper centre)
39	1930	2	Cast iron housing
39A	2313	2	Bearing guard suit part 1930
40	3270	8	Bolt/nyloc nut suit housing
41	3272	1	Belt pulley suit rotor - 3 groove 1800
	3273	1	Belt pulley suit rotor - 4 groove 2100/2400
42	3274	1	Bush suit rotor belt pulleys
43	3271	1	Key suit rotor
44	3275	1	Belt pulley suit g/box - 3 groove 1800
	3276	1	Belt pulley suit g/box - 4 groove 2100/2400
45	3277	1	Bush for g/box belt pulley suit 3 groove
	3278	1	Bush for g/box belt pulley suit 4 groove
46	3279	1	Key suit gearbox
47	1910	1 set	(3) SPB wedge section belt 1800
	1911	1 set	(4) SPB wedge section belt 2100/2400
48	3303	1	'V' belt cover
49	3281	3	Bolt/nyloc nut suit belt cover
50	1912	2	Mulcher skid assembly
51		1	Adjustable mulching bar handle n.s.s.
52	3260	1	Bolt/nut/sw to suit

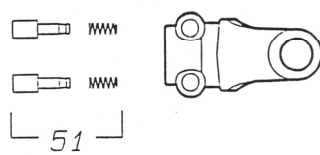
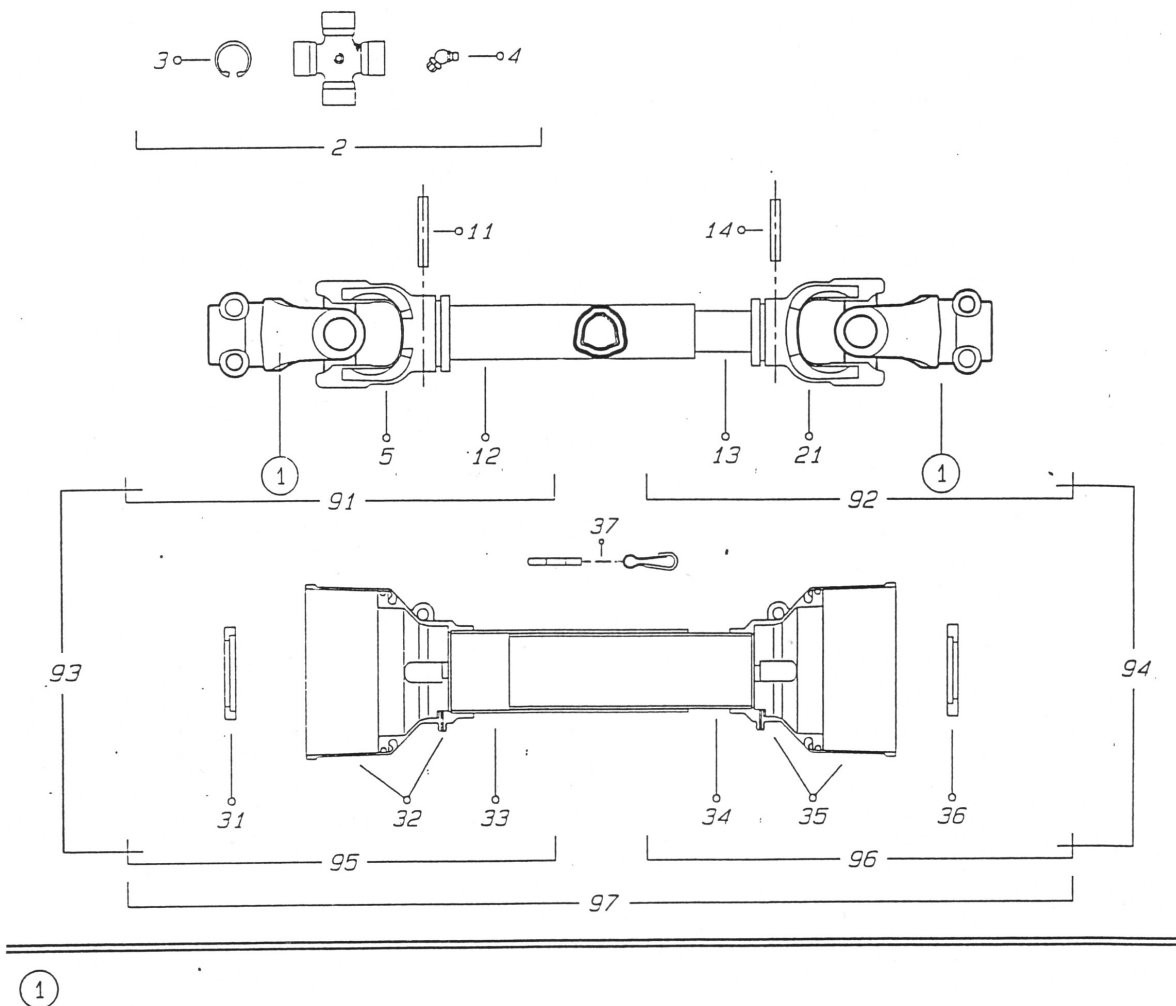


Mulcher

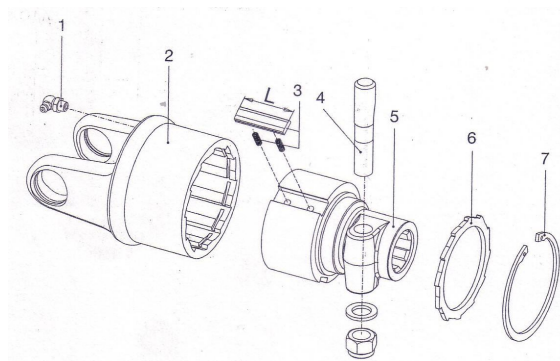
Key no.	Part no.	Quantity	Description
1	3107	2	Yoke
2	3120	2	Cross/universal joint
3		8	Circlip - n.s.s.
4		2	Grease nipple - n.s.s.
5	3121	1	Outer tube yoke
11	3057	1	Roll pin
12	3122	1	Outer drive tube
13	3123	1	Inner drive tube
14	3068	1	Roll pin
21	3124	1	Inner tube yoke
31	3130	1	Bearing ring set 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		1	Refer p/n # 31
37	3021	1	Chains
51	3125	1	Quick release pin
91		1	Half shaft less cover - n.s.s.
92		1	Half shaft less cover - n.s.s.
93	3073	1	Half shaft c/w cover
94	3079	1	Half shaft & cover
95	3129	1	Outer half shaft cover
96	3128	1	Inner half shaft cover
	3126	1	Complete cover assy
97	3090	1	Complete shaft
	3201	1	Optional Clutch (standard on 8' Highbody)

Mulcher clutch (breakdown)

1	348014000R20	1	Grease nipple
2	418172203	1	Housing
3	4210E0001R03	1	Pawl + springs kit
4	408000047R02	1	Taper pin kit
5	5150E0301	1	Hub with taper pin
6	246000132R02	1	Seal plate
7	338005000R20	1	Retaining ring



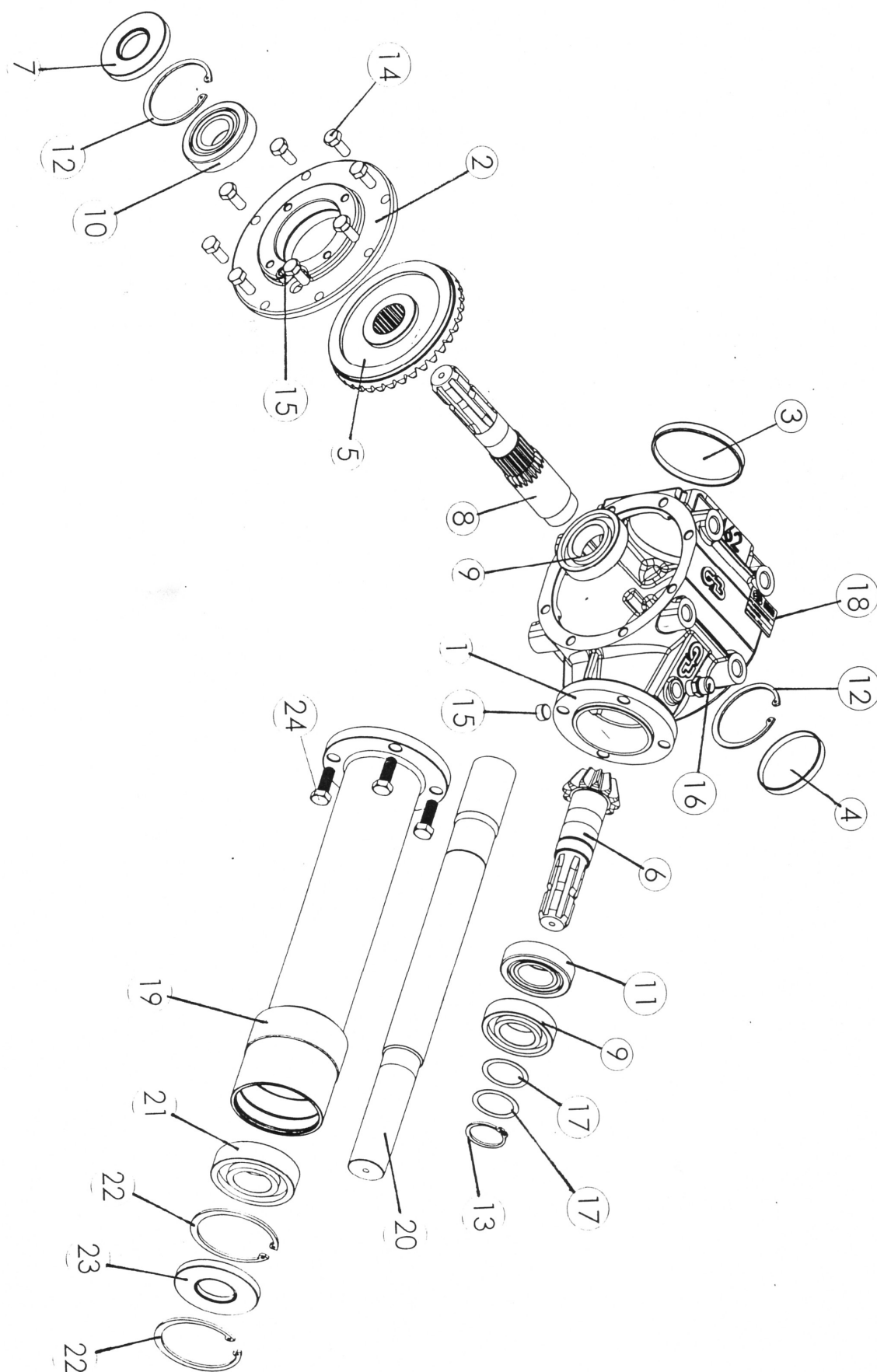
Mulcher Clutch (optional)



M62T Offset mulcher gearbox (615mm extension) – post 2002

Key No.	Part No.	Quantity	Description
1	3657	1	Casing
2	3658	1	Cover
3	3659	1	Cap
4	3660	1	Cap
5	3661	1	Input gear
6	3662	1	Output shaft
7	3663	1	Input seal
8	3664	1	Input shaft
9	3665	2	Input/output bearing
10	3666	1	Input bearing
11	3667	1	Output bearing
12	3668	2	Input circlip
13	3669	1	Output circlip
14	3670	8	Cover bolts
15	3671	2	Drain/level plug
16	3672	1	Breather plug 3/8" gas
17	3673	2	Output shim
18	3674	1	M62T label plate
19	3675	1	Extension casing – 615mm
20	3676	1	Output extension shaft –615mm
21	3677	1	Output bearing
22	3678	2	Output circlip
23	3679	1	Output seal
24	3680	4	Extension casing bolts

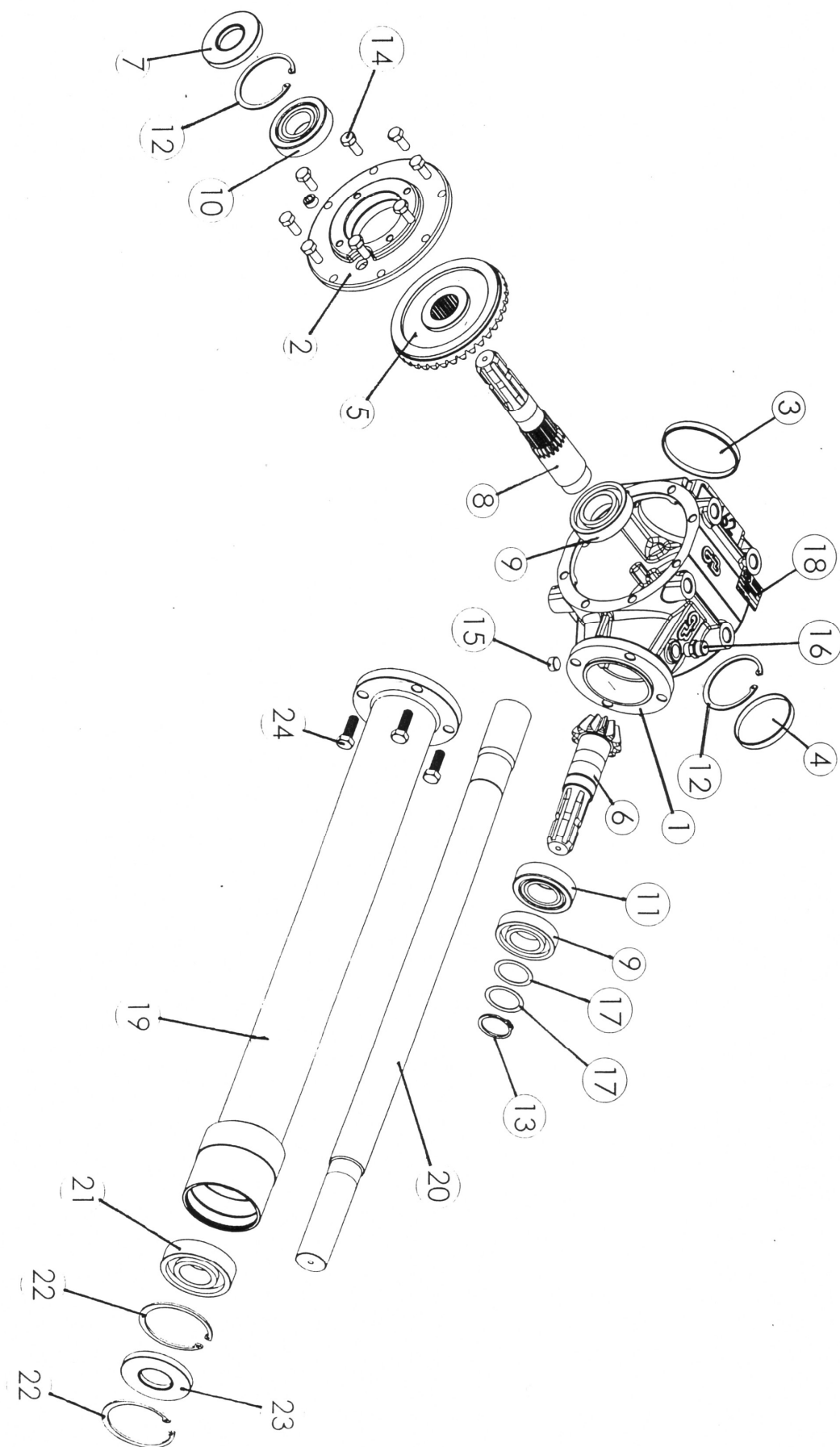
M62T Offset mulcher gearbox (615mm extension) – post 2002



M62T 6' Centre mount mulcher gearbox (950mm extension) – post 2002

Key No.	Part No.	Quantity	Description
1	3657	1	Casing
2	3658	1	Cover
3	3659	1	Cap
4	3660	1	Cap
5	3661	1	Input gear
6	3662	1	Output shaft
7	3663	1	Input seal
8	3664	1	Input shaft
9	3665	2	Input/output bearing
10	3666	1	Input bearing
11	3667	1	Output bearing
12	3668	2	Input circlip
13	3669	1	Output circlip
14	3670	8	Cover bolts
15	3671	2	Drain/level plug
16	3672	1	Breather plug 3/8" gas
17	3673	2	Output shim
18	3674	1	M62T label plate
19	3681	1	Extension casing – 950mm
20	3682	1	Output extension shaft –950mm
21	3677	1	Output bearing
22	3678	2	Output circlip
23	3679	1	Output seal
24	3680	4	Extension casing bolts

M62T 6' Centre mount mulcher gearbox (950mm extension) – post 2002



M62T 7' and 8' Centre mount mulcher gearbox (1060mm extension) – post 2002

Key No.	Part No.	Quantity	Description
1	3657	1	Casing
2	3658	1	Cover
3	3659	1	Cap
4	3660	1	Cap
5	3661	1	Input gear
6	3662	1	Output shaft
7	3663	1	Input seal
8	3664	1	Input shaft
9	3665	2	Input/output bearing
10	3666	1	Input bearing
11	3667	1	Output bearing
12	3668	2	Input circlip
13	3669	1	Output circlip
14	3670	8	Cover bolts
15	3671	2	Drain/level plug
16	3672	1	Breather plug 3/8" gas
17	3673	2	Output shim
18	3674	1	M62T label plate
19	3683	1	Extension casing – 1060mm
20	3684	1	Output extension shaft –1060mm
21	3677	1	Output bearing
22	3678	2	Output circlip
23	3679	1	Output seal
24	3680	4	Extension casing bolts

M62T 7' and 8' Centre mount mulcher gearbox (1060mm extension) – post 2002

