

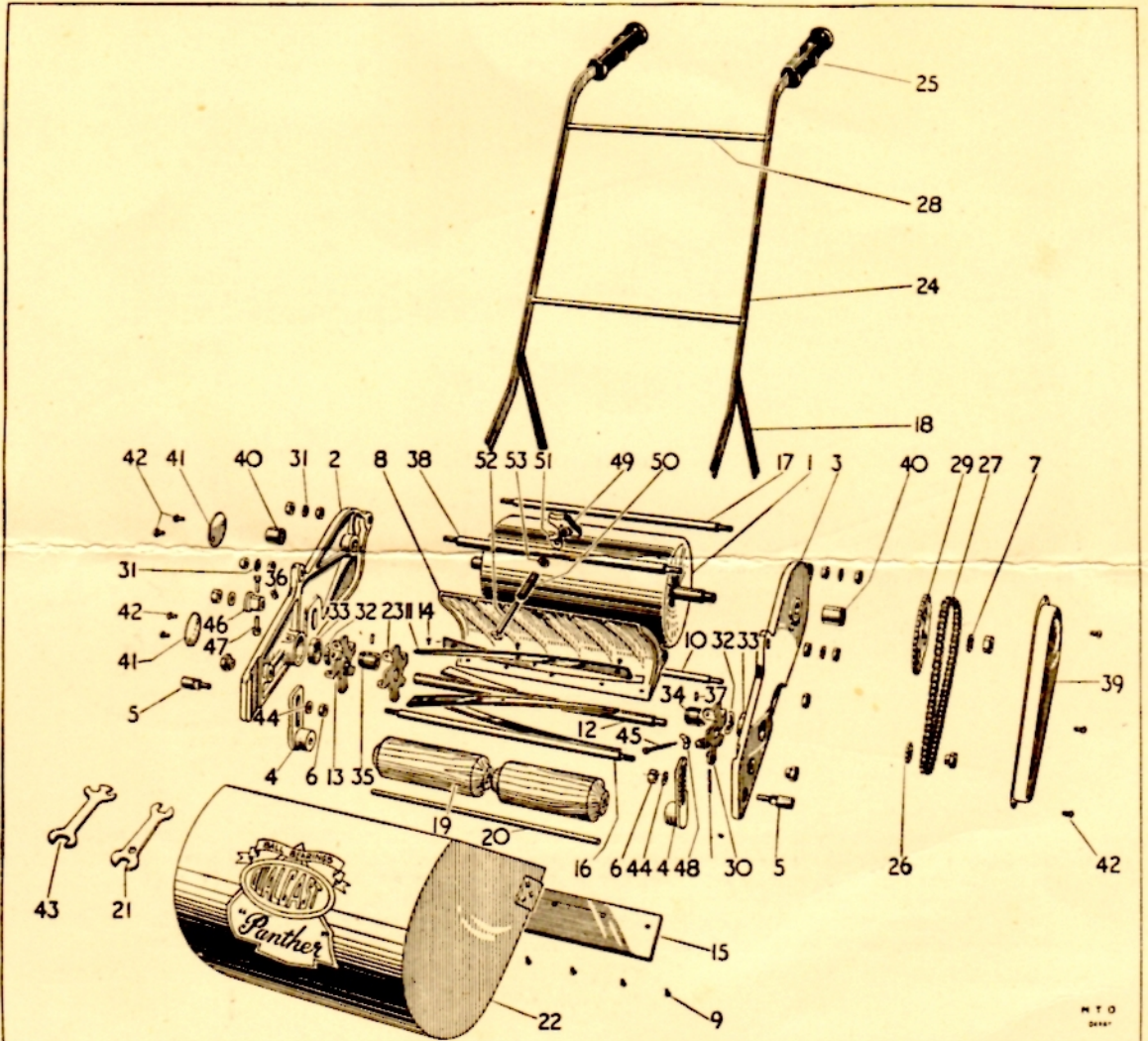


INSTRUCTIONS FOR USING "PANTHER" BALL BEARING LAWN MOWER

SPARE PARTS

Part No.	Description.	No. Plate		Part No.	Description.	No. Plate	
		off	Ref.			off	Ref.
L 1J	Roller, Back Assembly	.. 1	1	L 74A	Sprocket (large)	.. 1	29
L 5D	Plate, Side, R.H.	.. 1	2	L 75B	Spider, L.H.	.. 1	30
L 6D	Plate, Side, L.H.	.. 1	3	L 88	Washers, Handle Bracket	.. 4	31
L 9B	Carriers, Roller	.. 2	4	L 122A	Cage, Ball Brg. (Cylinder)	.. 2	32
L 12B	Bolt and Nut, Roller Carr.	.. 2	5 6	L 122B	Cup, Ball Brg. (Cylinder)	.. 2	33
M 13	Washer, Back Roller	.. 1	7	L 122C	Cone, Ball Brg., L.H. (Cyl.)	.. 1	34
L 15C	Conveyor	.. 1	8	L 122A,	Cone-Cup and Ball Race,		
L 15CA	Conveyor Assembly	.. 1	—	B & C	Assem. (Cyl.)	.. 1	—
E 16	Screws, Bottom Blade	.. 5	9	L 164	Cone, R.H. (Cylinder)	.. 1	35
L 17A	Stretcher, Conveyor	.. 1	10	L 99	Screw (Housing)	.. 2	36
L 18	Blade, Spiral, 12in.	.. 5	11	L 100	Screw, Grub (Cone Locking)	2	37
L 18G	Cylinder Assembly	.. 1	—	L 103A	Stretcher, Adjusting Conveyor	1	38
L 20	Spindle, Cyl. and Nut	.. 1	12	L 105A	Case (Chain)	.. 1	39
L 20C	Spider, R.H.	.. 1	13	L 107	Cover (Spindles)	.. 2	41
S 67A	Rivet	.. 15	14	L 108	Screws (Case and Cover)	.. 7	42
L 23	Blade, Bottom, 12in.	.. 1	15	L 111A	Spanner (Locking)	.. 1	43
L 24C	Stretcher, Front and Nut	.. 1	16	E 88	Washer, Roller Carrier	.. 2	44
L 24B	Stretcher, Back	.. 1	17	H 59	Screw, Cheese Head (Cone Adjusting)	.. 1	45
L 30	Strap, Handle Arm Adj.	.. 2	18	L 123	Bush, Adjusting Conveyor	.. 1	46
L 32A	Roller, Front	.. 2	19	L 124	Screw, Adjusting	.. 2	47
L 33	Spindle, Front Roller	.. 1	20	H 180	Nut Wing Lock	.. 1	48
L 34A	Spanner	.. 1	21	L 69M	Handwheel, Adjusting	.. 1	49
L 39B	Box, Grass	.. 1	22	L 174	Spring, Compression	.. 1	50
L 52	Spider-Centre	.. 1	23	L 230B	Nut, Fixed	.. 1	51
L 57A	Arm, Handle	.. 2	24	L 231A	Screw, Adjusting	.. 1	52
L 58A	Rubber Handle	.. 2	25	L 232	Washer-Conveyor, Adj.	.. 1	53
L 67	Sprocket (small)	.. 1	26	L 60	Bearing Bush, Bronze	.. 2	40
L 68	Chain	.. 1	27				
L 73	Stretcher, Handle Arm	.. 2	28				

IMPORTANT NOTE.—In ordering parts which are made right and left hand, please specify which is needed as you push the machine, and always give the number and name of part, with letter which is marked on part. **Oil Often.**
Every part of this Mower is made in England.





INSTRUCTIONS FOR USING "PANTHER" BALL BEARING ROLLER MOWER.

1. The "Qualcast Panther" is sent out from the Factory securely packed in a box, and when received should be carefully examined to see that it has not been damaged during transit.

2. **Chain Lubrication.** The chain is lubricated with a few drops of oil at frequent intervals through the oil hole situated at the top of the chain cover. At the same time rotate the back roller so as to lubricate the full length of the chain. The chain cover can be detached easily to inspect the chain when necessary.

3. **Ball Bearing Lubrication.** The Ball Bearings on Cylinder are sent out from the Factory well packed with grease, and should not require attention for a considerable time. Fresh grease is introduced to the Cylinder Bearings by removing screws L.99 (36). If the cutting edges of the Blades are smeared with a well soaked oily rag during use, the labour of mowing is considerably reduced.

4. **Back Roller Lubrication.** The Back Roller bearings are of the self lubricating type, but it may be necessary, after a lengthy period, to oil same. An oil hole is provided in each bearing housing on side plates.

5. **Height of User.** To adjust the Handle to a convenient height for user, slacken nuts A, raise or lower handles to height required, and re-tighten nuts.

6. **Height of Cut.** Place the machine on a table or any flat surface, loosen the bolts on the brackets supporting the wooden front roller, and raise or lower the roller until cutting edge of bottom plate is $\frac{1}{4}$ -in. higher than you desire the finished grass to be, as the weight of the machine will cause it to sink into the turf approximately this amount, then re-tighten bolts. The roller brackets are notched. This enables you to see that the roller is parallel with cylinder. If the grass is long it is more satisfactory to set the machine fairly high for a first cut, and finish off with the machine set low.

7. **To adjust for Keen Cutting.** No matter how sharp the blades of a mower may be, if the Bottom Blade is not properly adjusted in relation to the Cylinder, the result will be unsatisfactory. Every mower is adjusted before leaving the Factory to cut paper $\frac{1}{250}$ in. thick, and no adjustment should be necessary for some time.

If the Cylinder and Bottom Blade are in too close contact, the machine will be extremely hard to push. If they are not close enough, the grass will appear bruised and not clipped.

The Bearings of the Revolving Cylinder should not allow any vertical movement; should there be any such movement, it means that the Bearing is "sloppy" and needs adjusting.

To adjust Cylinder Ball Bearing—remove screw L.99 (36) on left hand side of machine, and revolve cylinder until the grub screw L.100 (37) locking the ball bearing cone on to the spindle is fully visible. Slacken this grub screw slightly and screw up the set pin (45) you will find on the inside of the spider, until there is no end or vertical play in the cylinder, and at the same time see that the cylinder spins freely. Tighten up the grub screw above mentioned to lock cone in position, grease, and replace screw L.99 (36).

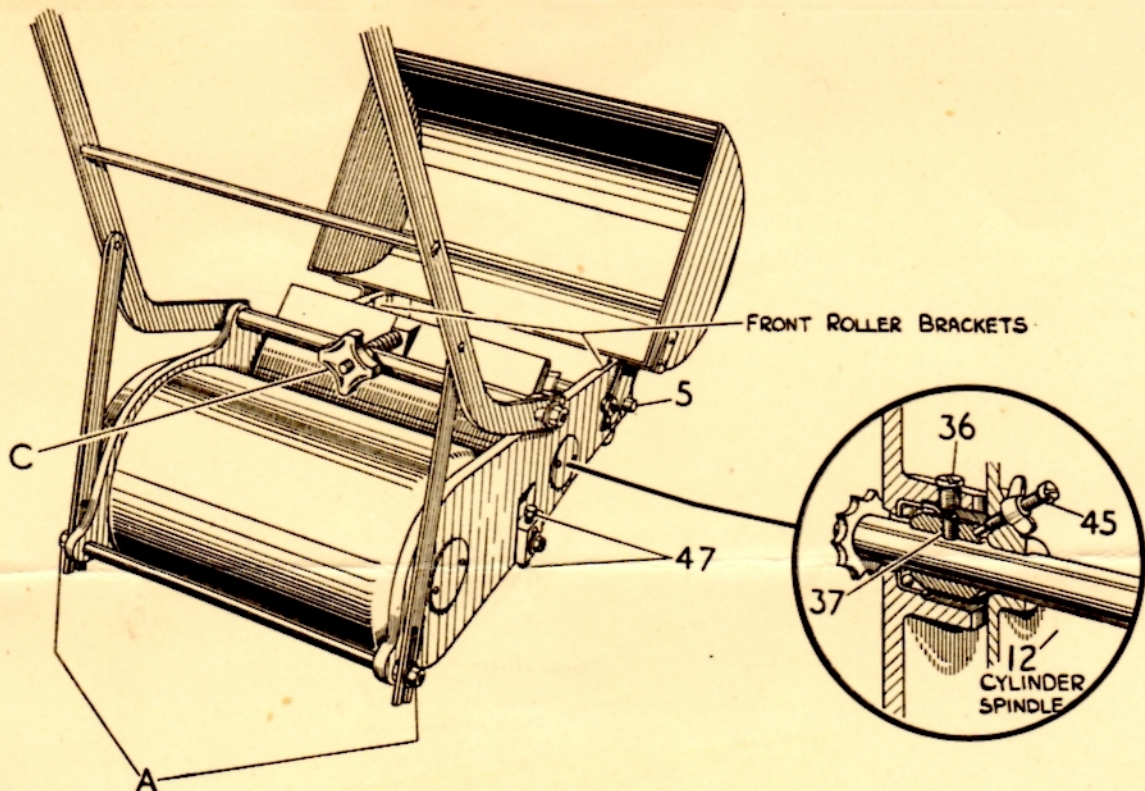
No attempt should be made to adjust the Bottom Blade to the Cylinder until the Cylinder Bearing is correct.

The adjustment to the Bottom Blade is by means of the small Hand Wheel C. To bring the cutting edge of the Bottom Blade up closer to the Cylinder, turn Hand Wheel C in a clockwise direction, until the Mower will cut fairly thick brown paper. To lower the Bottom Blade away from the Cylinder, turn Hand Wheel C in an anti-clockwise direction, or exactly the reverse of the previous operation.

One click on this adjustment brings the Bottom Blade three thousandths of an inch nearer to the Cutting Cylinder, turning in a clockwise direction; and three thousandths of an inch further away from the Cutting Cylinder, turning in an anti-clockwise direction.

This adjustment is simplified if the front of the machine is tilted up until the handles are resting on the floor, so that the Iron Rollers are not touching the ground, and are free to revolve the Cutting Cylinder.

Should you find that the Bottom Blade is not in perfect alignment with the Cylinder, correct by means of the two screws (L.124) as illustrated (47).



8. The Grass Box fitting is illustrated (5).

9. After your Mower has been in use about a week, it will, like all new machinery, bed down slightly, so look it over and see if it needs tightening anywhere.

10. Do not run with your Mower; walk steadily at about two miles per hour.

11. Always clean the Mower after use, and wipe the knives with an oily rag.

12. The name "Qualcast" implies service, and should the Mower for any reason fail to give satisfactory service, write to QUALCAST LIMITED, DERBY, explaining the difficulty.