

**Manufacturers of High Quality  
Mowing Equipment**  
Est. 1878

# **INSTRUCTION MANUAL & SPARE PARTS LIST FOR THE**

# **PALADIN FINE TURF MOTOR MOWER**

with Sensogrip Operator Presence Control

## FOREWORD

These instructions have been prepared carefully so that you - now the owner of a Lloyds Paladin Mower - may get the service and satisfaction your machine was designed to give.

Before attempting to do any work on it or with it, read this instruction book carefully and always keep it handy for reference.

If any queries or problems arise in connection with your mower, which appear to be outside the scope of this manual, the manufacturers will always be pleased to advise you.

Always remember - use only genuine Lloyds spare parts. If spurious parts are fitted to the Paladin they may at the time seem cheaper, but no guarantee can be given or responsibility taken by the manufacturers of the mower, for any resulting loss of performance or machine failure.

The Paladin mower is designed and built for cutting fine turf on bowling greens, putting greens, cricket squares, tennis courts and fine private lawns. It is not intended to deal with long or rough grass.

Whilst every care is taken to ensure that the information in this manual is correct, no liability can be accepted by the authors for loss, damage or injury caused by any errors in, or omissions from, the information given.

It is the policy of Lloyds & Co. to continually make changes to specifications and recommendations and these will be incorporated into the manual at the earliest opportunity.

## Operation and Maintenance Instructions

**NB - All references to left hand and right hand in this manual are determined from the operator's position behind the handle.**

### **STARTING INSTRUCTIONS**

Check that there is fuel in the tank. Turn the ignition switch, mounted in the centre of the handle, to the "I" position ("On"). Ensure both clutches are disengaged. Turn on the fuel tap and move the choke lever to the closed position. Pull the recoil starter rope. When the engine is running, gradually open the choke.

### **Running-in**

The life of the Paladin Mower will be extended if run-in carefully. Do not run the engine at full throttle during the first ten hours. After which time drain the oil from the clutch box and the engine sump, while the engine is hot, and replace with fresh, clean, 10W-40 Grade oil. It is possible that after a period of 50 to 100 hours, some minor adjustment may be necessary to the cylinder or drum clutch, due to bedding-in.

Symptoms of clutch bedding-in are:

- Cylinder will not disengage
- Cylinder drive slipping
- Drive to drum will not disengage

Adjustment should be carried out as detailed on pages 4 and 5

### **Operation**

Set the engine revs to the required operation level.

The throttle control is situated on the right hand side of the handle.

The 'Sensogrip' handle grips act as an Operator Presence Control (OPC). With one or both of the clutches engaged, either hand can be removed from the handle and the engine will continue running. If both hands are removed however, the engine will stop running and the machine will stop.

To use the mower place both hands onto the handle grips, engage first the cylinder clutch (RH lever) and then the drum clutch (LH lever), the machine will move forward and cut.

When emptying the grassbox, to save regular restarting of the engine, disengage the drum clutch and then the cylinder clutch. Both hands can then be removed from the handle and the engine will continue running.

Switch off the ignition switch at the end of use.

It is good practise to release (engage) the drum and cylinder clutches when the mower is not in use to remove unnecessary strain on the control cables.

### **NB**

***The OPC is fitted so that this machine complies with the EEC machinery directive 89/392/EEC. Any tampering with or disabling of this mechanism could expose the owner or operator of the machine to serious repercussions should an accident occur.***

## LUBRICATION

### Engine

Notwithstanding what recommendations the manufacturers of the engine may make, **change the oil in the engine sump every 50 hours of running.** Experience has shown that the extra cost of oil, compared with that involved in less frequent changes is more than offset by the longer life enjoyed by such engine parts as the cylinder, piston, big and small ends, crankshaft and main bearings.

**We cannot over-stress the importance of frequent oil-changing in small single-cylinder engines. Be sure not to overfill the sump.**

The oil capacity of the engine is 600cc (1.05pints).

### Clutch Box

Check the oil level in the Clutchbox with the dipstick when changing the engine oil and top up if necessary. **Do not over-fill the clutch box.** The mark on the dipstick is only 12mm (½ in.) from the end. Use the same oil as for the engine sump. The oil capacity of the clutch box is 284cc(0.5 pints). Change the oil in the Clutchbox every 250 hours.

### Grease Nipples

It is very important that the mower is greased regularly once a week. We recommend the use of a Lime based grease equivalent to NLGI No.2. The grease points are ten in number and are positioned as follows: -

- One in each drum half to lubricate the drum bushes. These are located at the outside ends of the drum halves, in one of the three spokes. Rotate the drum until a suitable access position is found. Grease is ducted to the centre bushes by brass tubing.
- One at each end of the front roller.
- Two on the side of the left-hand sideplate for cutting cylinder and drum shaft bearings.
- Two on the right-hand sideplate, one on the front edge and one on the rear edge, for the cutting cylinder and drum shaft bearings.
- One on each sideplate for the front roller bracket shaft bush.

### Chain

Remove the chain-cover every 250 hours of running and apply a few drops of engine oil to the chain. At the same time check the chain and the vee-belt for correct tension.

### Roller Adjuster

Remove hand knob periodically, clean out any debris and put some anti-seize assembly compound into the tapped hole and onto the screw thread of the B155 adjuster screw.

### General

Use only recommended lubricants. Do not use additives of any kind.

## ENGINE

As with all machines driven by internal combustion engines, regular maintenance based upon hours of work, coupled with reasonable care in keeping the machine clean and dry, will give the longest life and the greatest economy of operation.

For details of the engine fitted to your machine see the handbook supplied separately.

Use only clean unleaded petrol to BS EN228. **On no account use additives**, such as upper cylinder lubricants, in the petrol. These additives have disastrous effects on small single-cylinder four-stroke engines.

## Air Cleaner

The air cleaner fitted to this mower has a dual sponge and paper element which should be **inspected daily** and **removed** at least **once a week** for cleaning or more frequently in dusty conditions.

To clean, remove the foam and paper elements from the air cleaner case. Wash the foam element in a neutral detergent diluted with water, rinse with water and dry with compressed air or by wringing. Soak in oil and wring firmly.

The paper element should be tapped lightly to get rid of dirt or apply compressed air from the inside. If dirt is severe, replace the element.

## MOWER SECTION



**Never touch the cutting mechanism of the mower  
without first removing the sparking plug cap**

### Height of cut

The height of cut is set by a single hand nut 'A' on the left hand side of the machine. See Fig.1. Clockwise rotation increases the height of cut and vice versa.

### Bottom Knife Adjustment

To bring the bottom knife closer to the cylinder blades, first switch off the engine and disengage the cutting cylinder clutch, then slacken off the lower adjusting screw 'B' on each side by a fraction of a turn and tighten the upper screw 'C' on each side. See Fig. 1

Test for correct adjustment until the bottom knife is barely touching the cutting cylinder throughout its length. Retighten the lower screws. **Do not** set the bottom blade to press hard against the cylinder blade.

**Do not** slacken the bottom bar retaining bolts when adjusting the bottom knife position.

Periodically, remove the adjusting screws, clean apply a little anti-seize assembly compound and refit them. If the thread shows signs of wear, replacement is advised.

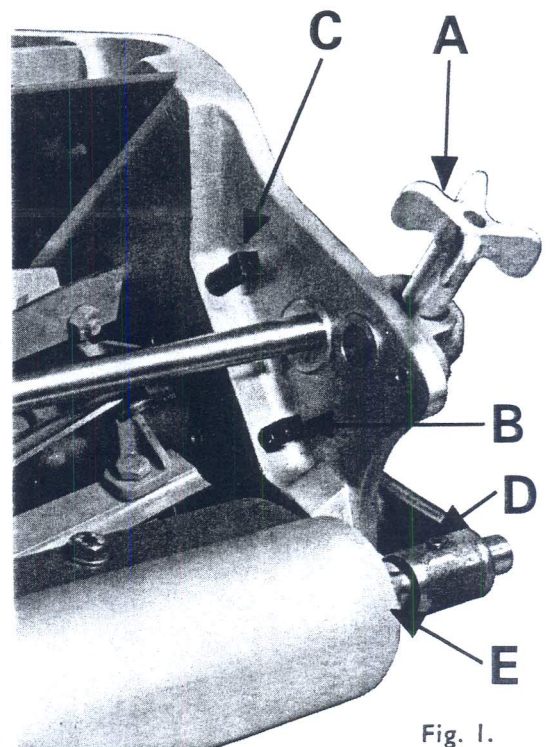


Fig. 1.

## ROLLER ALIGNMENT

To ensure that the drum and front roller are aligned perfectly square with the cutting mechanism, the following adjustment can be made. To undertake this adjustment a setting gauge will be required. This special tool can be obtained from Lloyds & Co. on request. The Part Number is 197-138931.

To carry out the adjustment, loosen off socket screw 'D' on both the left and right hand roller brackets. See Fig.1. Using a 24mm a/f spanner on either end of the roller, rotate nut 'E' very slowly. This will cause the left hand side of the roller, as viewed from the front, to be raised or lowered due to that end of shaft being slightly eccentric. Check with the setting gauge, on both ends, until level, then retighten socket screw 'D' on both roller brackets.

## Cutting Cylinder Bearings



**Never touch the cutting mechanism of the mower  
without first removing the sparking plug cap**

The cutting cylinder runs on taper roller bearings, which, by a provision for adjustment, allow end-play to be taken up. Ensuring that the engine is switched off and the cutting cylinder clutch is disengaged, test the cylinder periodically for end-play, by hand, after the first ten hours of cutting and at intervals subsequently. If play is felt, slacken the locknut on the left hand side of the mower, opposite the cutting cylinder shaft (Item 111 on the illustration), tighten the central screw very gradually until the play is eliminated, then re-tighten the locknut.

**On no account over-tighten the cylinder bearings.**

This, of course, should **always** be carried out when fitting a new cutting cylinder, refitting a re-ground cylinder or when fitting a new or reground bottom bar and knife assembly.

## Clutches

The **drive clutch** for the rear drums is operated by the lever on the handle. No matter how suddenly it is released, the machine will move forward smoothly, accelerating gradually without roller spin. The smoothness of the clutch take up will improve after a period of running in.

- Failure to disengage fully usually means that the cable tension needs tightening.
- Failure to transmit the drive without slipping means either that the cable adjustment is too tight, which is more probable, or that the clutch inside the clutch box requires readjustment.

## Cable Adjustment

Cable adjustment will need checking for the upper and lower clutch cables. Adjustment of the upper cable is effected at the bulkhead adjuster within the OPC casing. **TAKE CARE TO DISCONNECT THE WIRES TO THE IGNITION SWITCH WHEN REMOVING THE CASING COVER.** Adjustment of the lower cable is effected at the threaded cable fitting in the clutch box casing.

When both cables are adjusted correctly the top shoulder of the actuating shaft, (item 230 on the illustration) which connects the two cables, should be level with the upper end of the bush in the shaft mounting, (item 228 on the illustration). This position is important as incorrect adjustment can lead to damage to or incorrect operation of the micro switches.

## Toggle Adjustment

To adjust the clutch, remove the lid of the clutch box, taking care not to damage the gasket.

Disengage the clutch and slacken the screw 'A' on the toggle holder 'B'. See Fig.2.

Turn the toggle holder clockwise a little and retighten the Screw 'A'.

With the clutch now re-engaged, the toggles 'C' should ride on the tapered part of the cone, about 5mm(3/16in.) from the level part (thicker end).

The maximum drive of the clutch is attained in this position and no further adjustment will increase the efficiency. The cause of any driving failure after these adjustments are effected must be sought elsewhere.

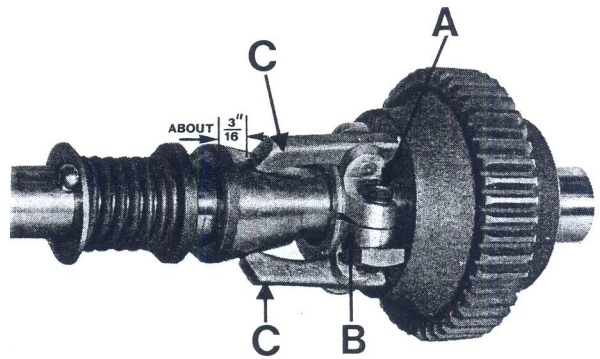


Fig. 2.

After making these adjustments check that there is at least 1mm (1/32in.) of free play on the clutch cables, in the engaged position. When the clutch is engaged the bronze collar in the groove of the cone must be loose.

The cutting cylinder clutch works on the same principle, and is adjusted in the same way. It is operated by the right hand of the two levers in the centre of the handle. However, failure of the drive to be transmitted to the cutting cylinder when the clutch is engaged will most likely be due either to the need for adjustment of the clutch cable or through the vee-belt slipping. In the first case adjusting the screwed cable fitting in the clutch box casing allows the play to be adjusted. In the latter case the vee-belt can be tightened by adjustment of the jockey-roller inside the side cover.

### **Delivery Plate**

The delivery plate can be set at whatever distance from the cutting cylinder best suits the kind of grass being cut. In dry weather and with short grass, set it close to the cylinder; if grass is longer or damp raise, the delivery plat

### **Handle**

The handle can be used fixed in any one of four positions to suit the height of the operator, or it can be left floating. The latter is usually preferred on undulating ground.

### **Dismantling**

To remove the engine, unscrew the three screws which secure the bearing housing B55-92 to the clutch box and take out the bolts which secure the engine to the square-section frame shafts. The engine can now be slid away from the clutch box and lifted clear.

To remove the clutch box, take off the side cover, remove the vee-belt, the vee-belt pulley and the chain. The bolts securing the clutch box to the square-section frame shafts and the screw through the right hand sideplate can now be removed and the clutch box detached complete.

To remove the cutting cylinder, first, remove the delivery plate, then, slacken off the bottom bar adjuster screws (See Fig.1 B&C); take off the side cover and remove the vee-belt and the pulley from the cutting cylinder shaft. Remove the three screws which secure the cutting cylinder bearing housing to the opposite (left hand) sideplate and remove the bearing housing. The cylinder may now be removed.

The bottom bar can be taken out by simply removing its two securing bolts, one at each end, after first slackening the four adjusting screws. (See Fig. 1 B & C)

### **Carrier Wheels**

The rear roller shaft is hollow and can take a square shaft (B250-533 or B250-610) carrying rubber-tyred wheels, to allow the Paladin to be driven from green to green on golf courses under its own power. To fit the shaft slide it into position and secure it by means of two grub screws (B54) through the right hand end of the drum shaft into the countersinks in the carrier shaft. Fit wheels as necessary. If the shaft is to be regularly removed from the machine during cutting, it is not necessary to fit the grub screws.

A stand is provided to raise the rear drum off the ground to ease wheel fitting.



## **GENERAL MAINTENANCE AND REPAIRS**

Follow the instructions for routine lubrication, and in addition keep the Paladin as clean as possible. Do not douse with water, use a brush. **On no account use a Power Washer or Steam Cleaner.**

Grass, soil particles and grass sap mix together to form a compound which dries hard onto the front of the cutting cylinder blades. If this is allowed to accumulate it will interfere with the proper cutting of the mower. Regular brushing after use will help to keep it at bay but if an accumulation is noticed scrape it off.

All mowers in regular daily use need overhauling annually, and, except where the owner has proper workshop facilities, the mower should be returned to the makers or entrusted to a competent professional repairer.

It is important that grinding should be done correctly. The cutting cylinder should be ground while rotating on its own bearings, not between centres. It is not possible to grind it accurately one blade at a time.

The bottom blade should preferably be ground after attachment to the bottom bar casting. Unless otherwise ordered bottom blades are supplied ready ground, but if so ordered they can be supplied unground, so that repairers can fit them to the bottom bar casting and then grind them.

Alternatively, if a bottom bar casting and a worn out blade are returned to Lloyds & Co. a new knife can be fitted and ground on the bar.

## **DAMAGE**

No fine-turf mower, even as robust as the Paladin, can be made immune from occasional damage due to the cutting mechanism catching a stone or other hard object.

We strongly recommend customers who demand long continuous operation of their mowers to purchase a spare bottom bar and knife assembly. It is also a sound policy to carry a spare cutting cylinder.

## Paladin Motor Mower Parts List

**NB - All references to left hand and right hand in this manual are determined from the operator's position behind the handle.**

Item No	Part No.	Description	Quantity per Machine	Notes
1	B138X-90-533	21" Front Roller Assembly Complete	1	
	B138X-90-610	24" Front Roller Assembly Complete		
2	342-25-003	Grease Nipple	10	
3	B146	Nut - Roller	2	
4	B143-86	Bearing End Cap	2	
5	B147	V - Ring Seal	2	
6	B142-86	Ball Bearing	2	
7	B145-90-533	21" Roller Spindle	1	
	B145-90-610	24" Roller Spindle		
9	B140X-90-533	21" Roller Tube & Ends Assembly	1	
	B140X-90-610	24" Roller Tube & Ends Assembly		
12	B14X-92-533-06	21" 9 Bladed Cutting Cylinder Complete	1	
	B14X-52-533-06	21" 5 Bladed Cutting Cylinder Complete		
	B14X-112-533-06	21" 11 Bladed Cutting Cylinder Complete		
	B14X-52-610-06	24" 5 Bladed Cutting Cylinder Complete		
	B14X-92-610-06	24" 9 Bladed Cutting Cylinder Complete		
	B14X-112-610-06	24" 11 Bladed Cutting Cylinder Complete		
13	B 12	Taper Roller Bearing & Cup - Cylinder - LH	1	
14	B 22/3-87	Cylinder Dust Washer - Small - LH	1	
15	B 20-87	O Ring - Cylinder - Small - LH	1	
17	B 14-92-533-013	21" 9 Bladed Cutting Cylinder - Less fittings	1	
	B 14-52-533-013	21" 5 Bladed Cutting Cylinder - Less fittings		
	B 14-112-533-013	21" 11 Bladed Cutting Cylinder - Less fittings		
	B 14-52-610-013	24" 5 Bladed Cutting Cylinder - Less fittings		
	B 14-92-610-013	24" 9 Bladed Cutting Cylinder - Less fittings		
	B 14-112-610-013	24" 11 Bladed Cutting Cylinder - Less fittings		
23	B 21-87	O Ring - Cylinder - Large - RH	1	
24	B 24/5-87	Cylinder Dust Washer - Large - RH	1	
25	B 13	Taper Roller Bearing & Cup - Cylinder - RH	1	
27	B 6	Washer - RH sideplate	1	
28	B 8X-533	21" Bottom Bar & Knife Assembly	1	
	B 8X-533-045	21" Bottom Bar & Knife Assembly - Shaver		
	B 8X-533-4B	21" Bottom Bar & knife Assembly - Thick		
	B 8X-610	24" Bottom Bar & Knife Assembly		
	B 8X-610-045	24" Bottom Bar & Knife Assembly - Shave		
	B 8X-610-20	24" Bottom Bar & Knife Assembly - Thick		
29	B 9S	Screw - Bottom Knife	21"x7, 24"x8	
30	B 9-533	21" Bottom Knife	1	
	B 9-533-045	21" Bottom Knife - Shaver		
	B 9-533-4B	21" Bottom Knife - Thick		
	B 9-610	24" Bottom Knife		
	B 9-610-045	24" Bottom Knife - Shaver		
	B 9-610-20	24" Bottom Knife - Thick		
31	B 8-533	21" Bottom Bar	1	
	B 8-610	24" Bottom Bar		
32	B227	Bottom Bar Adjusting Bolt-Bottom-Short	2	
33	B228	Bottom Bar Adjusting Bolt-Top-Long	2	

	Part No.	Description	Quantity per Machine	Notes
34	B 11-533	21" Frame Stay	1	
	B 11-610	24" Frame Stay		
35	B 10-F-533	21" Frame Shaft - Front	1	Sold only with Item 80
	B 10-F-610	24" Frame Shaft - Front		
36	B 31X-533	21" Drum Half Complete	2	
	B 31X-610	24" Drum Half Complete		
37	B241	Bush - Drum	4	
38	B 45X	Drum Bearing Assembly	2	
39	B125	Set Screw - Clutchbox to Shaft	2	
-	AR472	Bolt - Clutchbox to Shaft - Rear	1	
40	B200X	Jockey Roller Assembly Complete	1	
41	B201	Arm	1	
42	B240-86	Bush	2	
43	B 54	Socket Set Screw	4	
43A	B272-77	Socket Cap Screw	1	
44	B 29-73S	Cap Screw	1	
45	B 29-73	Roller Bracket - RH	1	
46	B130FX	Pulley	1	
47	B129F	Vee Belt	1	
48	B134	Bolt	1	
49	B 51X	21T - Drive Sprocket	1	
50	B137	Drive Chain	1	
51	B164	Bolt	3	
-	GS160-006	Hex. Nut	1	
-	GS164-006	Spring Washer	1	
52	B135	Oil Seal	2	
-	AR398	Retaining Screw - Oil Seal	2	
	GS163-003	Flat Washer	2	
53	GS163-009	Washer	2	
54	B229	Bolt	2	
55	B203X	Roller & Bush Assembly	1	
56	B202	Roller	1	
57	B203	Bush	1	
58	GS163-005	Flat Washer	1	
59	EU728	Screw	1	
60	B204	Flat Washer	1	
61	GS168-0320	Split Pin	1	
62	B 50	Woodruff Key	7	
63	EU701	Washer	1	
64	B136	Chain Tensioner	1	
65	ET268	Bolt	1	
-	GS164-004	Spring Washer	1	
66	B128	Nut	2	
67	B233	Bolt	2	
69	B 7	Side Cover	1	
70	B 53	11T Drive Sprocket	1	
71	B126	Pulley	1	
72	782	Bolt	1	
73	B237	Bolt	2	
74	B168L	Handle Pivot Bolt - RH	1	
75	GS160-005	Hex. Nut	4	
76	GS164-005	Spring Washer	4	
78	B 5	Sideplate - RH	1	
79	B 60X-95	Clutch Box Assembly	1	
80	B 10-R-533	21" Frame Shaft - Rear	1	Sold only with item 35
	B 10-R-610	24" Frame Shaft - Rear		
81	B160X-95-533	21" Handle Complete	1	
	B160X-95-610	24" Handle Complete		

Item No	Part No.	Description	Quantity per Machine	Notes
84	B164L	Bolt	1	
-	GS160-006	Hex Nut	2	
	GS164-006	Spring Washer	2	
85	B171	Handle Grip	1	
86	B166	Handle Crosspiece	1	
89	B189	Clutch Lever	2	
-	B196	Retainer	2	
90	B192N	Locknut for Adjuster	1	
94	B172	Cable Clip	7	
95	B 59	Set Screw	7	
95A	B157	Set Screw	2	
96	GS163-004	Flat Washer	5	
97	B242-533	21" Scraper - Drum	1	
	B242-610	24" Scraper - Drum		
98	B 35X-533	21" Drum Shaft	1	
	B 35X-610	24" Drum Shaft		
99	B 38	Freewheel	2	
100	B 39C	Dust Cover - B39	1	
-	B 39	Collar - Freewheels	1	
101	B 41X-533	21" Drum Shaft Assembly Complete	1	
	B 41X-610	24" Drum Shaft Assembly Complete		
102	B30X-533	21" Drum Assembly Complete	1	
	B30X-610	24" Drum Assembly Complete		
103	B168	Handle Pivot Bolt - LH	1	
104	B169-71	Handle Stop	2	
-	GS160-006	Hex. Nut	2	
	GS164-006	Spring Washer	2	
106	GS160-007	Nut	4	
108	B 1	Sideplate - LH	1	
110	B 2	Bearing Housing	1	
111	B 4	Locknut	1	
112	B 3	Adjusting Screw	1	
113	B 2S	Set Screw	4	
114	B 6S	Washer	1	
116	B164	Bolt	1	
117	B237	Bolt	4	
118	GS164-005	Spring Washer	4	
119	GS163-005	Flat Washer	4	
120	GS160-004	Nut	1	
121	B215	Fixed Bracket	2	
122	AR398	Screw	2	
123	28C	Washer	2	
124	B 32	Driving Pin - Drum	1	
-	GS160-007	Nut	2	
125	B210X-71-533	21" Delivery Plate	1	
	B210X-71-610	24" Delivery Plate		
127	B254	Wheel Retaining Pin	2	
140	B250-533	21" Carrier Wheel Shaft	1	
	B250-610	24" Carrier Wheel Shaft		
	B360X	Carrier Wheel Complete - LH	1	
	B361X	Carrier Wheel Complete - RH	1	
-	B245X-97-533	21" Support Stand Assembly Complete	1	
	B245X-97-610	24" Support Stand Assembly Complete		
-	B246	Tension Spring - Stand	1	

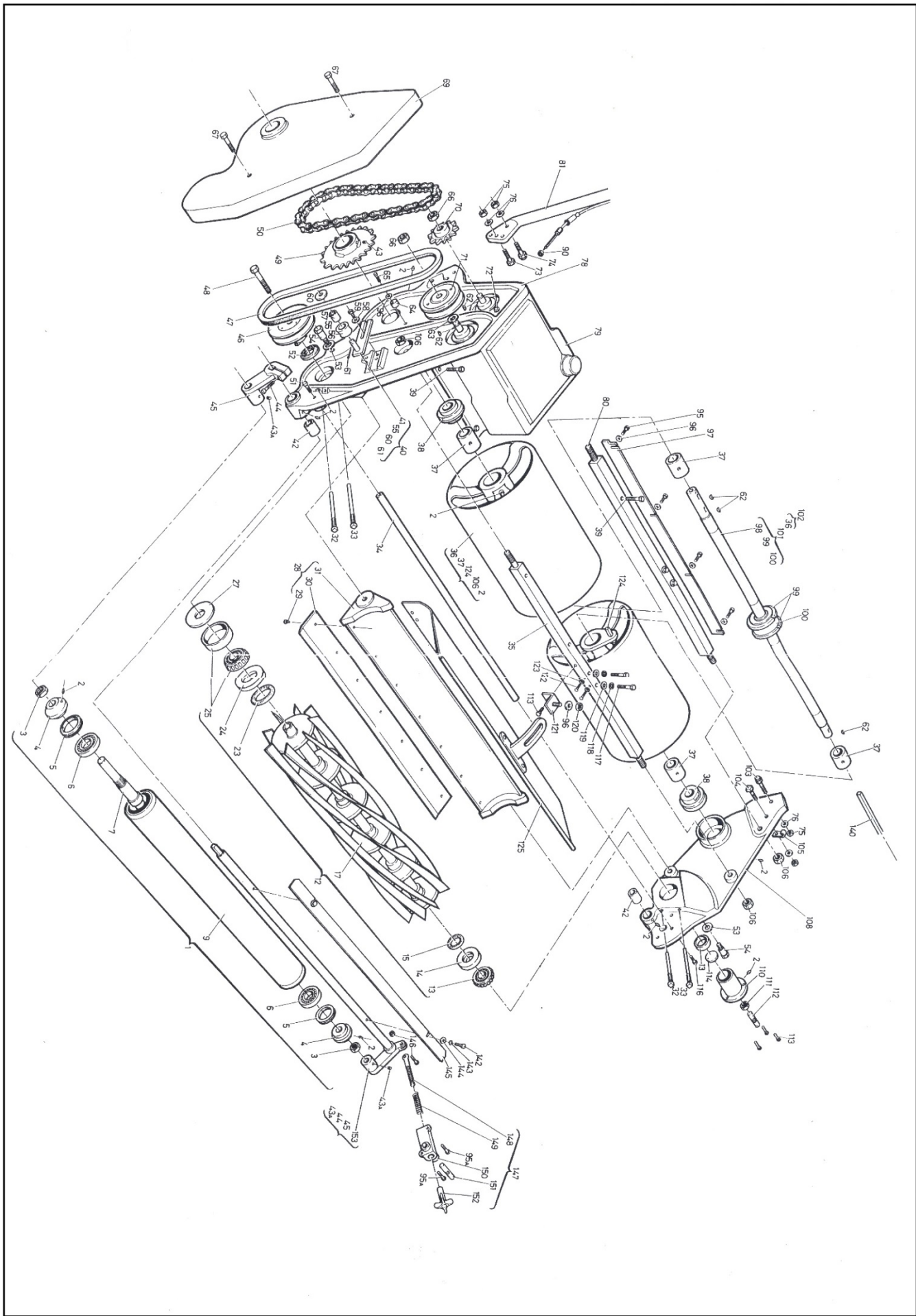
Item No	Part No.	Description	Quantity per Machine	Notes
-	B247	Spring Catch	1	
-	B249	Bolt - Retaining Spring to Stand	1	
-	342-27-031	Nut	1	
142	B 2S	Set Screw	2	
143	GS164-004	Spring Washer	2	
144	GS163-004	Flat Washer	2	
145	B244-533	21" Scraper - Front Roller	1	
	B244-610	24" Scraper - Front Roller		
146	B158/B158N	Pivot Bolt & Nut	1	
147	B150X	Roller Adjuster Assembly	1	
148	B155	Adjuster Screw	1	
149	B156	Spring - Adjuster	1	
150	B151	Adjuster Body	1	
151	B152	Locating Pin	1	
152	B154	Hand Knob	1	
153	B 27X-87-533	21" Roller Bracket & Shaft Assembly	1	
	B 27X-87-610	24" Roller Bracket & Shaft Assembly		
154	B 61	Clutch Box	1	
-	B116-93	Drain Plug	1	
156	B 70	Needle Bearing	4	
157	B 68-86	Thrust Washer	2	
158	B 68-O/S	Oil Seal	2	
159	B 67	Bearing Housing - Pulley End	2	
160	B 62	Screw	26	
161	B119	Gasket	1	
162	B195	Oil Retaining Nut	1	
165	B 86	Clutch Fork	1	
166	B104-95	Retaining Bracket	1	
167	GS163-006	Flat Washer	1	
168	B 88	Bolt	2	
177	B 70S	Sleeve - Needle Bearing	4	
178	GS168-0532	Split Pin	2	
179	B 83	Washer	2	
180	B 82	Spring	1	
181	B 81	Cone	2	
182	B 76X-84	Toggle Assy	2	
183	B 80-87	D-Shaped Nut	2	
184	B 82S	Spring	1	
185	B 79-84	Socket Cap Screw	2	
186	B 95X	Drum Clutch Assembly	1	
187	B118	Clutch Box Lid	1	
188	B 94	Loose Clutch Plate	1	
189	B 92	Gear - 60T	1	
191	B123X-90	Dipstick	1	
192	B 91	Drum Clutch Shaft	1	
193	006-167-0530	Pin	2	
194	B 93	Fixed Clutch Plate	1	
195	B 72	Fixed Clutch Plate	1	
196	B 71	Cylinder Clutch Shaft	1	
197	B 74	Gear - 46T	1	
198	B 75	Loose Clutch Plate	1	
199	B 90X	Cylinder Clutch Assembly	1	
200	B 96-97	Intermediate Gear	1	
201	B102	Washer	As Req'd	
202	B 87	Tube	2	
203	B85	Collar	2	
204	B103-90	Clutch Fork		

Item No	Part No.	Description	Quantity per Machine	Notes
206	B 68-86	Thrust Washer	2	
207	B 66	Bearing Housing - Engine End	2	
208	B177-92	Engine Pinion - 22T	1	
210	B 57	Ball Bearing	1	
212	B 58-92	Oil Seal	1	
213	B 55-92	Bearing Holder - Engine to Clutch Housing	1	
214	B149-76	Spacing Tube	1	
215	B180-76	21" Extension - Engine Shaft	1	
	B180-610	24" Extension - Engine Shaft	1	
216	AR481-76	Plain Parallel Key	1	
217	B101X	Shaft & Housing Assembly - Intermediate Gear	1	
218	006-152-0520	Cap Screw	2	
219	B316	Lever Mounting	1	
220	B318	Screw	1	
221	B315	OPC Lever	1	
222	B314	Mounting Tube	1	
223	B341	Cable Assembly - OPC	1	
224	B342	Cable Assembly - Upper - Cylinder	1	
225	B308	Transfer Lever	1	
226	B327	Link	1	
227	006-163-005	Flat Washer	22	
228	B323	Bush	3	
229	B321	Microswitch	3	
230	B322	Actuating Shaft	3	
231	B313	Return Spring	1	
232	B343	Cable Assembly - Lower - Cylinder	1	
233	B347	Earth Wire Assembly	1	
234	B346	Cable Assembly - Throttle	1	
235	B345	Cable Assembly - Lower - Drum	1	
236	005-214-005	Connector Block	1	
237	B312	Clevis Pin	2	
238	B324	Bush	3	
239	006-160-002	Nut	4	
240	006-155-02-0250	Stud	2	
241	B326	Spacing Bush	4	
242	GS168-0216	Split Pin	1	
243	873-527-101	Keyswitch	1	
244	B344	Cable Assembly - Upper - Drum	1	
-	B302	Upper Casing	1	
-	B330	Seal - OPC Casing	1	Sold in 1/2m lgth
245	006-157-0620	Screw	1	

#### Parts for Grassbox

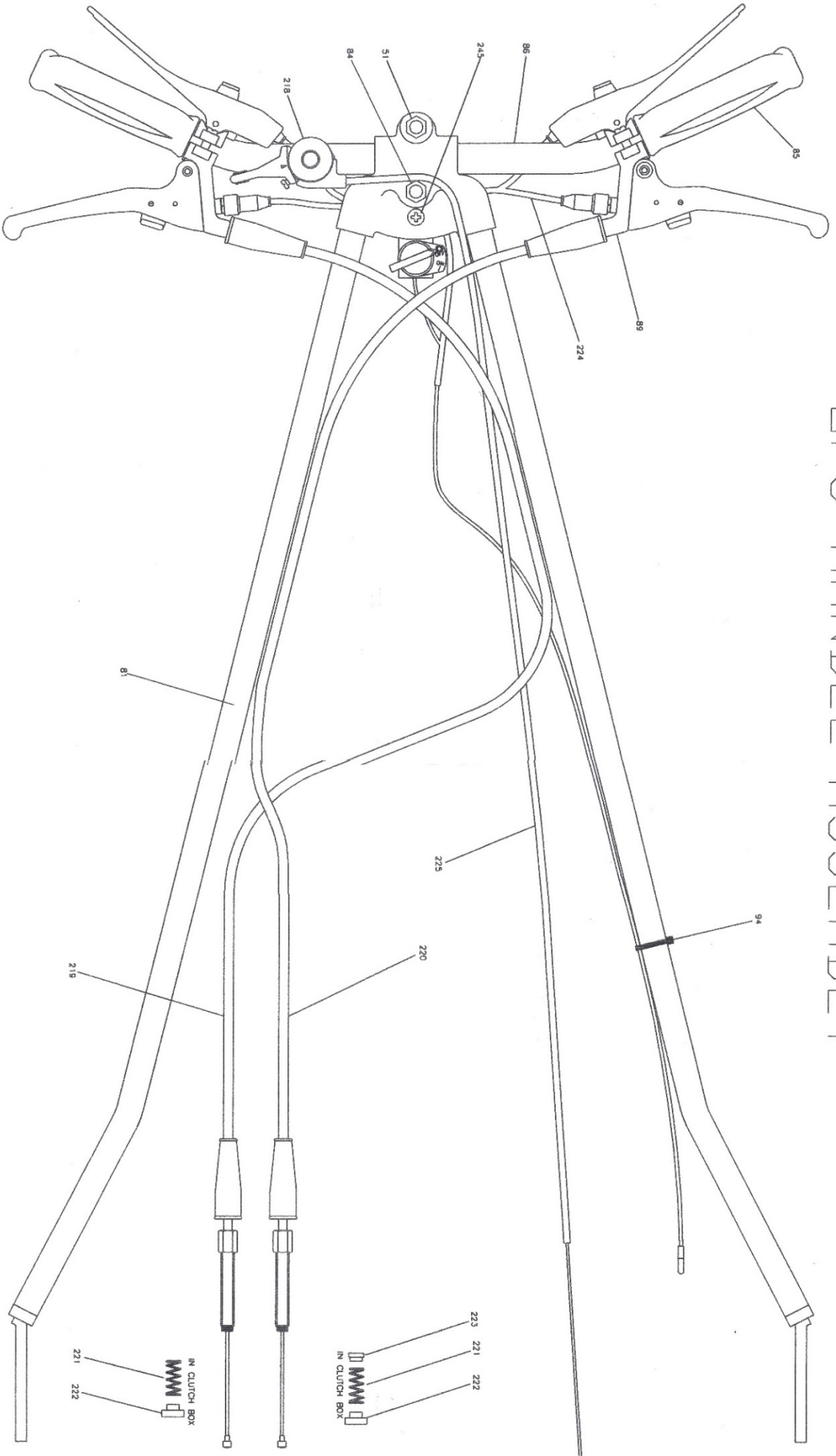
-	B220X-94-533	21" Grassbox Complete	1	
	B220X-94-610	24" Grassbox Complete		
-	B221-94	Grassbox Bracket - LH	1	
-	B222-94	Grassbox Bracket - RH	1	
-	B223PRL	Blind Rivet	12	
-	B224-94	Backplate	2	
-	B225-95	Handle	1	
-	006-157-0516	Pan Screw	2	
-	006-161-005	Nyloc Nut	2	
-	006-163-005	Flat Washer	2	

Item No	Part No.	Description	Quantity per Machine	Notes
<b><u>Parts for Rake</u></b>				
-	B270X-77-533	21" Rake Complete	1	
	B270X-77-610	24" Rake Complete		
-	B273	Tine	21	
-	B272-77	Socket Cap Screw - Fix Bracket	1	
-	B276-77-533	21" Tine Retaining Bracket	1	
	B276-77-610	24" Tine Retaining Bracket		
-	B277-77	Socket Cap Screw - Clamp	2	
-	GS152-0316	Screw - Tine Retaining Bracket	8	
-	AR527	Nut	8	
<b><u>Parts for Vertirake</u></b>				
	2218-001	21" Vertirake Assembly	1	
	2218-001-610	24" Vertirake Assembly	1	
	2218-002	21" Shaft	1	
	2218-002-610	24" Shaft	1	
	2218-004	Disc	21"x26, 24"30	
	2218-005	Disc Spacer	21"x25, 24"x29	
	2218-006	Washer	1	
	2218-007	Nut	1	
	2218-010	21" Support Bar Assembly	1	
	2218-010-610	24" Support Bar Assembly	1	





# OPC HANDLE ASSEMBLY



IN CLUTCH BOX  
221  
222

IN CLUTCH BOX  
223  
221  
222

