

Parts List

# DRUM WINCH

WITH

MECHANICAL

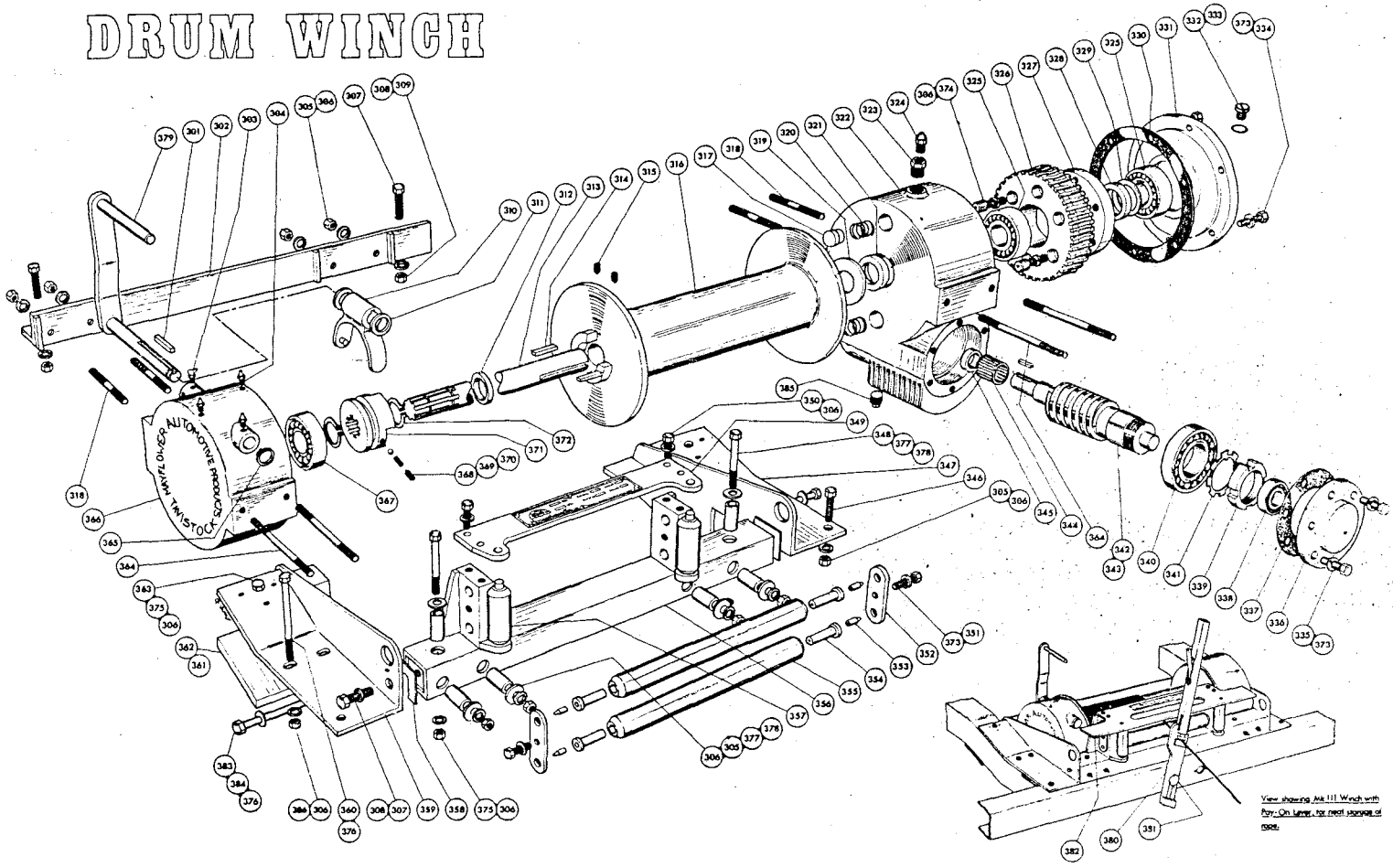
# POWER TAKE OFF



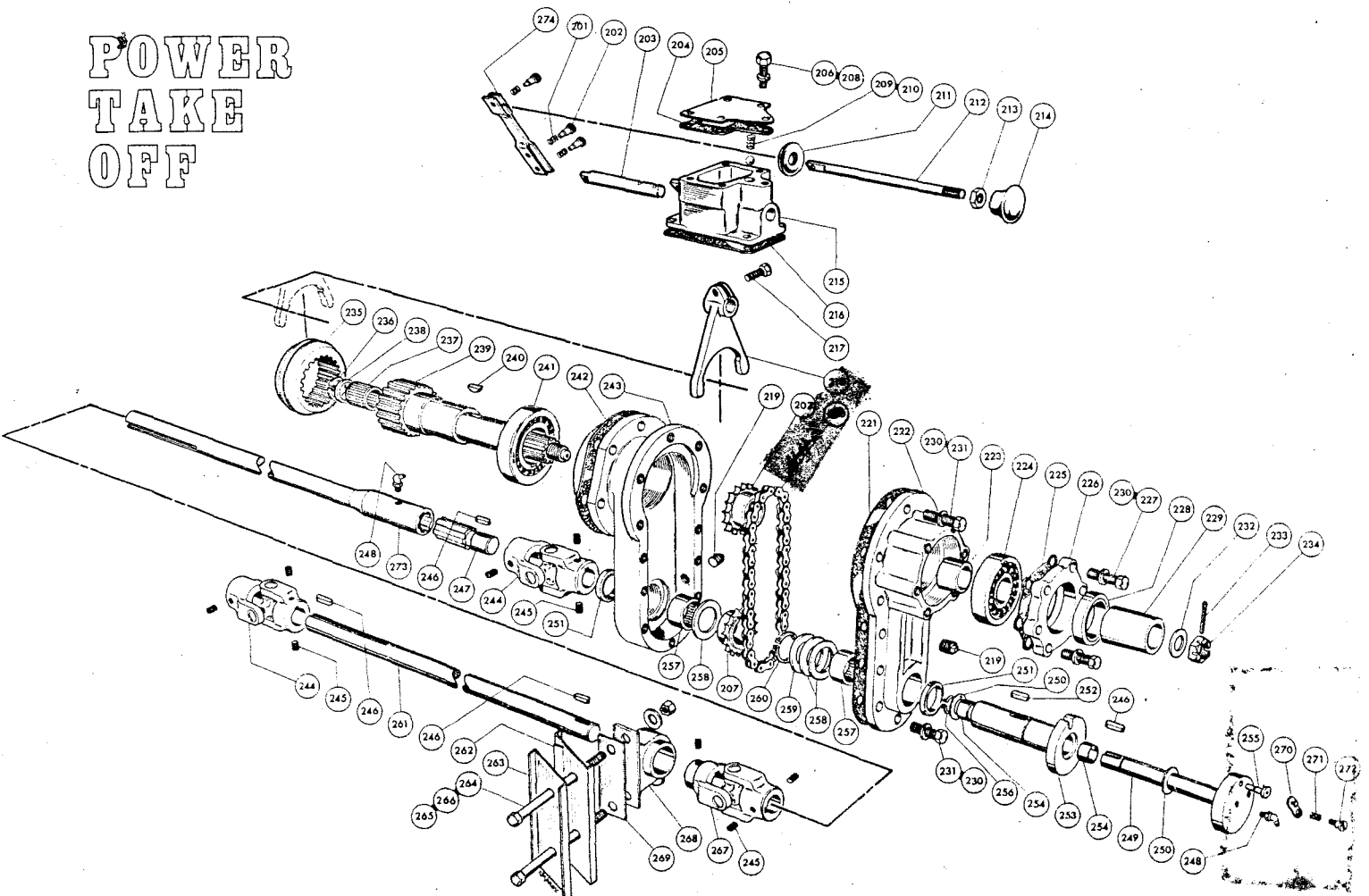
**LAND**  
**- ROVER**

by **FATREY**  
**WINCHES**

# DRUM WINCH



# POWER TAKE OFF



# Fitting Instructions

Please follow these instructions carefully. The fitting of your winch will be made easier if a vehicle hoist or pit is available.

Please take careful note of your drawings—these have been compiled with all components in their relative position. When ordering new parts—specify part numbers on the drawings and list—this may save valuable time.

## FRONT DRUM ASSEMBLY

1. Remove front bumper bar and retain the 4 fixing bolts, nuts and washers. (See sketch No. 1 for standard bumper bar modification).
2. Remove valance at base of radiator grill—this is not used again.
3. Loosen 4 bolts (307) on your winch drum assembly.
4. Place the assembly between front chassis members and insert 2-115mm (4-1/2in.) long bolts (383), one each side, through side plates and existing holes in chassis.
5. Replace bumper bar and put back the 4 original fixing bolts through winch frame, bumper bar and chassis. Replace washers and nuts but do not tighten.
6. Ensure that your winch frame side plates (359-347) are tight against the inside of chassis members using clamps if necessary.
7. On the top plate of the winch side frames are 3—threaded holes, these are used only to screw on your drill jig (supplied on loan). Using this jig (see sketch No. 2) drill one hole through each chassis member 9.5mm (3/8in.) dia. remove jig and insert 127mm (5in.) bolts part (363).
8. Place underneath each side of your chassis stiffener (361/362) put on washers (306) and nuts (375). Note 2 chassis stiffeners are supplied—one of which has the fixing hole off centre (361) this is arranged to clear the steering damper bracket fitted to some vehicles.
9. Insert packing plate (358) equally on each side of your frame that is between (356) and (359) L/H side—(356) and (347) R/H side.
10. Tighten all bolts throughout the unit.
11. Drill 2 holes 9.5mm (3/8in.) dia. through bumper bar using cross member (356) as template insert bolt and spacer (348-377) with nut (375) and washer under top flange of bumper—tighten.
12. Drill 2 holes using side plates (347-359) as templates and insert bolts (346) nuts and washers—tighten.

## POWER TAKE-OFF

Rear Mainshaft Housing Assembly (Rover Part No. 230696) must be removed from the gear box transfer case, please take care not to damage threads on 6 studs and retain nuts and spring washers. In this housing assembly (Rover Part No. 230696) are three components which must be transferred to your new P.T.O. shaft (239) in sequence as shown on the illustration, these are, Bearing (Rover Part No. 217478), Retaining Plate Outer (Rover Part No. 217523), and Circlip (Rover Part No. 217525).

Remove Cover Plate (Rover Part No. 217970) and Joint Washer (Rover Part No. 230140) taking care not to damage threads on 4 studs, retain nuts and spring washers.

The Housing assembly and cover plate, referred to above, are not required again but should be retained in case of vehicle being sold and your winch unit being removed.

On your new Power Take-off chain case (243), (already factory assembled), check that the dog clutch (235) is fitted with the relieved teeth outwards, and fit gasket (242) onto housing (243), with a smear of grease on both sides, making sure the holes are in line to avoid subsequent gasket damage.

Locate P.T.O. Chain case assembly (243) onto the 6 transfer case studs, making sure the flat portion on the casting flange is lined up with the top of the Rover transfer casing, hold in position with 3 existing nuts and tighten temporarily.

**DRIVE SHAFT ASSEMBLY.** Jack up vehicle and remove left front wheel. Position and lightly clamp your drill jig (supplied on loan) to chassis (see sketch No. 3) and insert shaft (261) into the universal joint (244) approx. 1in. Now bolt on your plummer block assembly (268, 267 and 261) to drill jig.

Engage your inclined shaft (273) female spline on to the P.T.O. male spline (247) until the back end face of the spline is flush with the end of socket (this will give correct clearance to allow for any engine movement). Maintain this position and offer front end of shaft to the universal joint (267), on plummer block, mark off to allow approximately 25mm (1in.) depth into universal, and cut shaft to length.

Loosen P.T.O. chain case, which is temporarily positioned with 3 nuts, and withdraw enough to assemble the inclined shaft into universal (267) and male P.T.O., spline. **IMPORTANT.** Make sure your universal joint yokes (244, 267 and 244) are in line (see sketch No. 5). Put back your P.T.O. chain case, bolt up securely and recheck end clearance on spline, if satisfactory, tighten up all grub screws in universal joints.

**NOTE:-** Your shaft assembly should now be complete. but before drilling the chassis adjust Plummer Block and drill jig (if necessary) to give rear inclined shaft maximum clearance between vehicle clutch housing and chassis cross member, also front engine support. Clamp drill jig firmly into this final position, remove studs securing plummer block (see sketch No. 3) and drill chassis, using drill guide tubes to give correct horizontal alignment. Remove drill jig and assemble bolts (264), chassis stiffeners (262, 263), and firmly bolt on plummer block, using illustration as guide for assembly sequence. 1.5mm (1/16in.), shims are provided (269) for use if necessary.

## SELECTOR

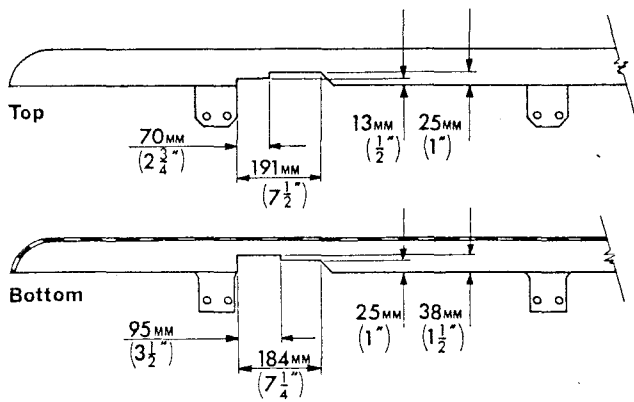
Install the selector assembly part (215) to the top of vehicle transfer case, making sure the selector fork (218) engages in the dog clutch (235) groove. Check operation before fitting cover plate and gasket (204, 205).

## LUBRICATION

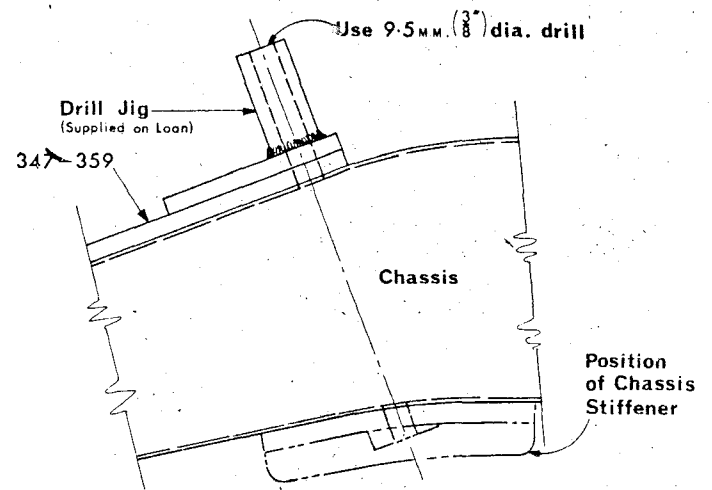
Due to carriage difficulties, the worm box is not filled with oil. It should be filled and run on load for approximately 3 hours—emptied and finally filled for permanent use.

When filling, top up to the level of the plug between fins on end of gear box cover. Oil to be used—Esso GX.90/140 or equivalent. Fill the P.T.O. box to the level of the plug (219) with S.A.E. 90 oil.

Regularly lubricate all nipples with Lithium base E.P. grease.



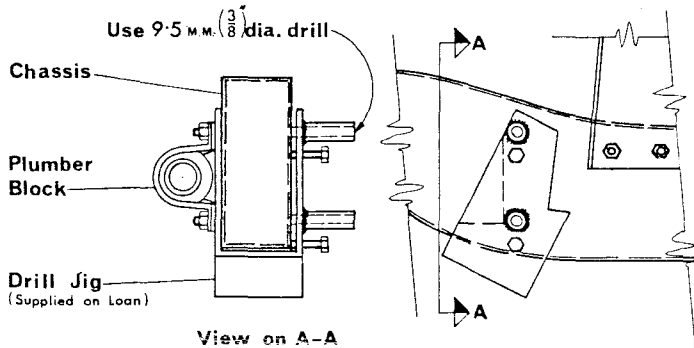
Dimensions for Modification in Standard Bumper Bar



View Showing Mounting of Jig for Drilling Winch Frames

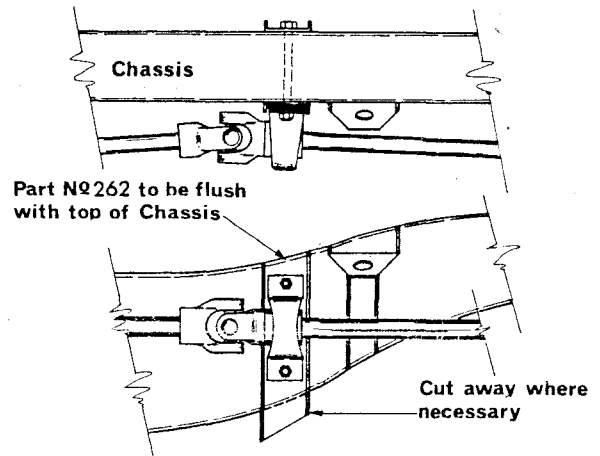
Sketch No 1

Sketch No 2



Clamp Drill Jig on Chassis to determine correct position of Plumber Block - Remove Plumber Block and Studs making sure Drill Jig does not move and Drill accordingly.

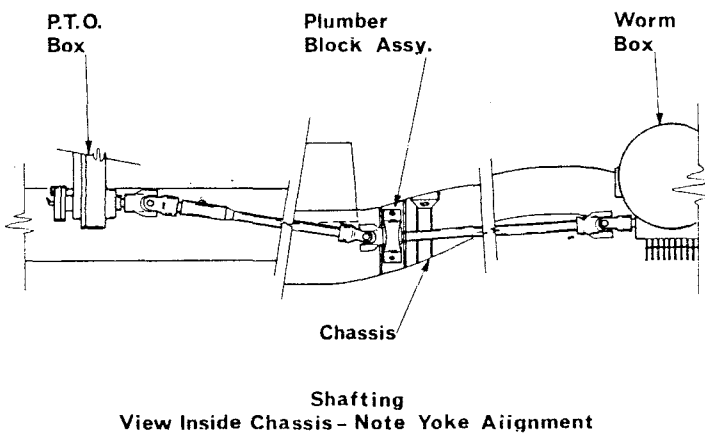
View Showing Mounting of Jig for Drilling Plumber Block



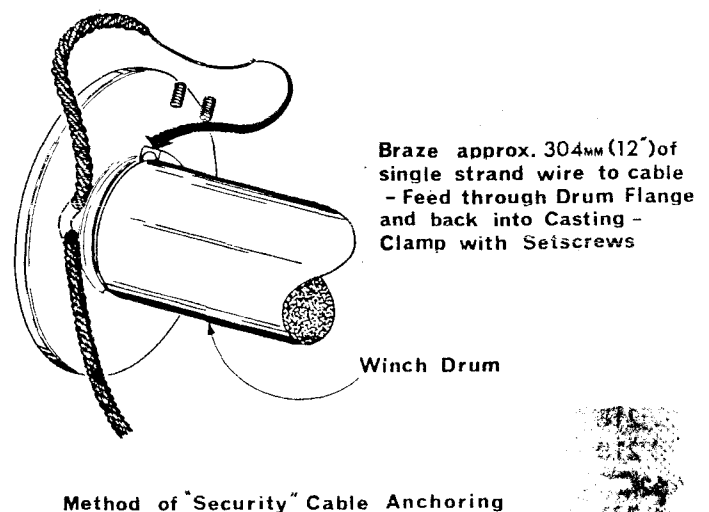
View Showing Mounting of Plumber Block Assembly

Sketch No 3

Sketch No 4



Sketch No 5



Sketch No 6

# WINCH (Front Assembly)

# Parts List

Part	Description	No. Off	Part	Description	No. Off	Part	Description	No. Off
301	Key 3/16" sq.	1	333	O' Ring	1	362	Chassis Stiffener	1
302	Frame Rear-Angle	1	334	Linread Setscrew		363	Bolt 3/8" BSF x 5" lg.	2
303	Grease Nipple (Angled)	1		5/16" BSW x 1 1/2" lg.	8	364	Stud 3/8" BSW x 3 1/4" lg.	4
304	Grease Nipple	3	335	Linread Setscrew		365	Circlip 3/4" dia.	1
305	Nut 3/8" BSW	8		5/16" BSW x 3/4" lg.	6	366	Clutch Housing	1
306	Spring Washer 3/8" I/D	28	336	Worm Shaft Cover	1	367	Ball Bearing	1
307	Bolt 1/2" BSW	4	337	Gasket	1	368	Grub Screw 4 5/16" BSW x 3/8" lg.	1
308	Spring Washer 1/2" I/D	4	338	Ball Bearing	1	369	Spring	1
309	Nut 1/2" BSW	2	339	Adjustment Nut	1	370	Ball	1
310	Dog Selector	1	340	Ball Bearing	1	371	Clutch Dog	1
311	Spacer	2	341	Lock Washer	1	372	Circlip 1 1/2" dia.	2
312	Collar	1	342	Worm Shaft	1	373	Spring Washer	
313	Winch Shaft	1	343	Key 3/16" sq.	1		5/16" I/D	16
314	Key 5/16" sq.	2	344	Roller Bearing	1	374	Allen Screw	
315	Grub Screw		345	Oil Seal	1		3/8" BSF x 1 1/2"	6
	5/16" BSW x 5/8" lg.	2	346	Bolt 3/8" BSW x 1 1/2" lg.	2	375	Nut 3/8" BSF	4
316	Drum	1	347	R.H. Frame	1	376	Washer 3/8" I/D	8
317	Brake Shoe	2	348	Bolt 3/8" BSF x 3" lg.	2	377	Spacing Tube	6
318	Stud 3/8" BSW x 2" lg.	4	349	Top Plate	1	378	Washer (Plate)	
319	Spacer	1	350	Setscrew 3/8"			3/8" I/D x 1" O/D	6
320	Brake Spring	2		BSF x 1 1/2" lg.	4	379	Selector Shaft	1
321	Collar	1	351	Setscrew 5/16"		380	Pay-on Lever	
322	Worm Box	1		UNF x 3/4" lg.	2		(Optional Extra)	1
323	Adaptor	1	352	Pivot Retaining Plate	2	381	Lever Pivot	
324	Relief Valve	1	353	Grease Nipple	4		(Optional Extra)	1
325	Ball Bearing	2	354	Roller Pivot	4	382	Pay-On Lever Top Plate	
326	Worm Wheel	1	355	Horizontal Roller	2		(Optional Extra)	1
327	Worm Wheel Hub	1	356	Main Frame	1	383	Bolt 3/8" BSF x 4 1/2" lg.	2
328	Collar	1	357	Vertical Roller	2	384	Nyloc Nut	2
329	Packing Shim	1	358	Packing Plate	4	385	Drain Plug	1
330	Gasket	1	359	L.H. Frame	1	386	Nut 3/8" UNF	4
331	Worm Box Cover	1	360	Bolt 3/8" UNF	4			
332	Filler Plug	1	361	Chassis Stiffener, SD Side	1			

# P.T.O.

# Parts List

Part	Description	No. Off	Part	Description	No. Off	Part	Description	No. Off
201	Spring	3	226	Cover Plate	1	249	Inner Shaft	1
202	Pivot Screw	3	227	Linread Set Screw 5/16"		250	Thrust Washer	2
203	Selector Shaft	1		BSW x 1 1/2" lg.	6	251	Oilseal	2
204	Gasket	1	228	Oilseal	1	252	Key 1/4" sq.	1
205	Cover Plate	1	229	Collar	1	253	Outer Shaft	1
206	Set Screw 1/4"		230	Spring Washer		254	Bush	2
	BSW x 5/8" lg.	5		5/16" I/D	18	255	Shear Pin	1
207	Sprocket	2	231	Linread Set Screw 5/16"		256	Circlip (External)	1
208	Spring Washer 1/4" I/D	5		BSW x 3/4" lg.	12	257	Roller Bearing	2
209	Spring	1	232	Washer 5/8" I/D	1	258	Spacer	3
210	Ball	1	233	Splitpin	1	259	Spacer (Recessed)	1
211	Grammet	1	234	Locknut	1	260	Circlip	1
212	Link Rod	1	235	Dog Clutch	1	261	Horizontal Shaft	1
213	Lock Nut	1	236	Circlip (Internal)	1	262	Inner Chassis Stiffener	1
214	Control Knob	1	237	Roller Bearing	1	263	Outer Chassis Stiffener	1
215	Selector Housing	1	238	Retaining Plate	1	264	Bolt 3/8" BSF x 4"	2
216	Gasket	1	239	P.T.O. Shaft	1	265	Washer 3/8" I/D	2
217	Set Screw 5/16"		240	Woodruff Key	1	266	Nylock Nut	2
	BSF x 1" lg.	1	241	Ball Bearing	1	267	Universal Joint	1
218	Selector Fork	1	242	Gasket	1	268	Plumber Block	1
219	Plug	1	243	Chain Case	1	269	Packing Plate	1
220	Chain (Endless)	1	244	Universal Joint	2	270	Shear Pin Clip	1
221	Gasket	1	245	Grub Screw 1/4" BSF	9	271	Spring	1
222	Chain Case Cover	1	246	Key 3/16" sq.	4	272	Shoulder Screw	1
223	Spacer	1	247	Splined Stub Shaft	1	273	Inclined Shaft	1
224	Ball Bearing	1	248	Grease Nipple	1	274	Operating Lever	1
225	Gasket	1						



# FAIREY WINCHES \*

HAMILTON WORKS  
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Telephone: (0822) 2345/6.  
Telex: 45324.

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