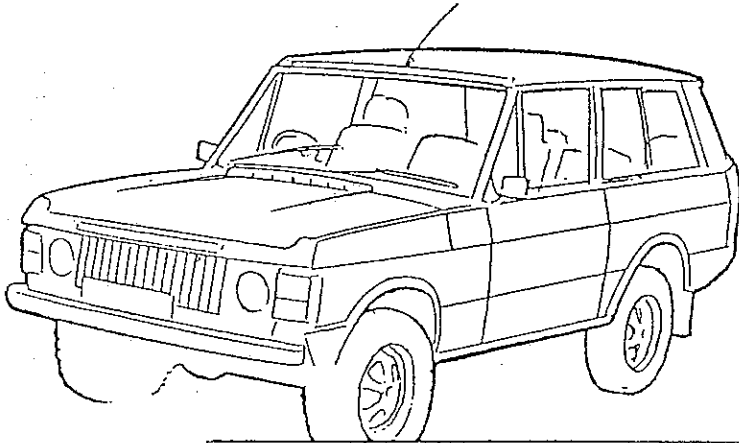


Superwinch Ltd.  
Abbey Rise Whitchurch Road  
Tavistock Devon PL19 9DR

# SUPERWINCH

Telephone: Tavistock (0822) 614101/7  
Telex: 45324  
Fax: (0822) 615204

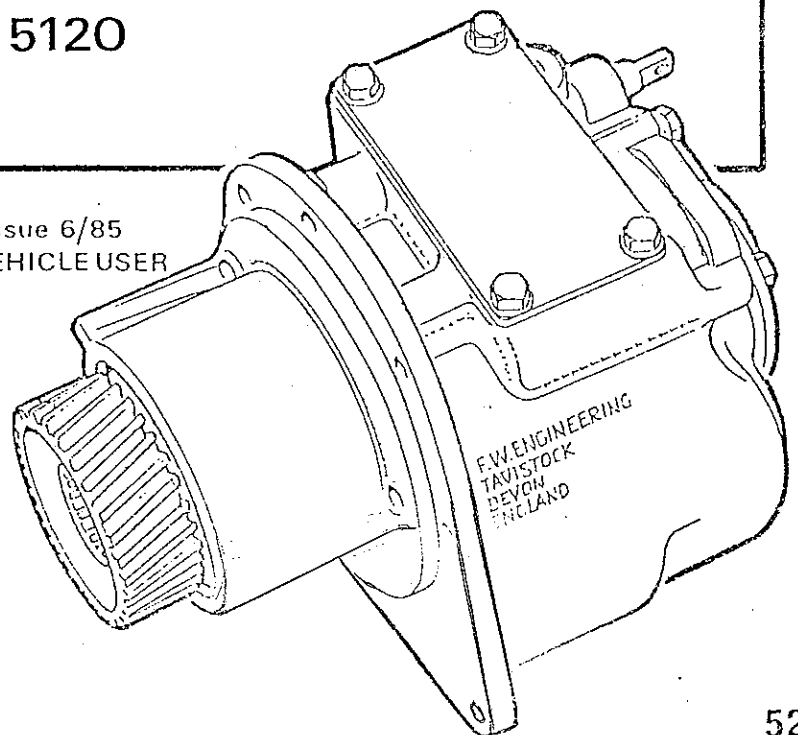


# RANGE ROVER OVERDRIVE

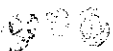
KIT No. 5120

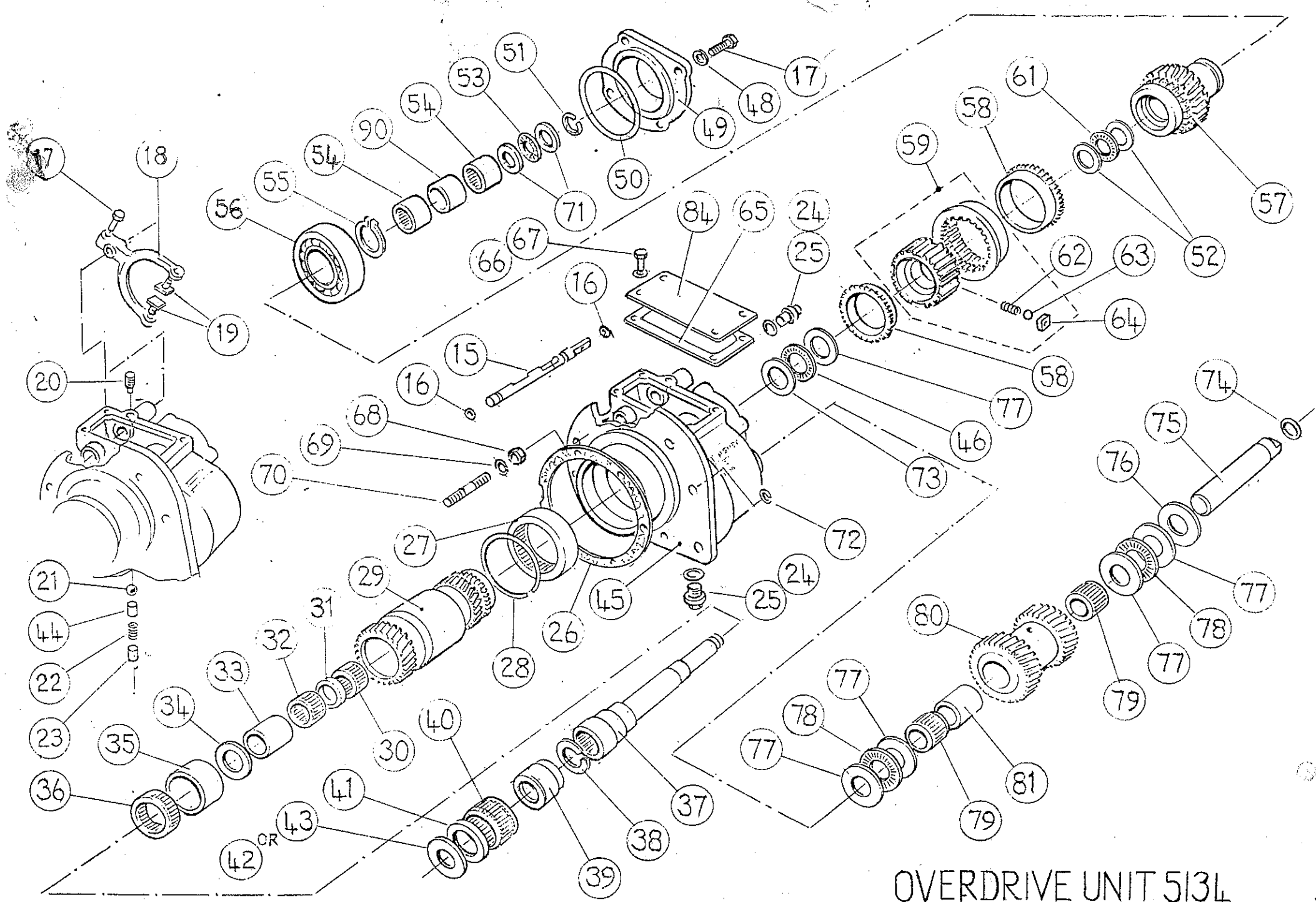
**FITTING INSTRUCTIONS** Issue 6/85  
PLEASE PASS ON THESE INSTRUCTIONS TO VEHICLE USER

CONTENTS	PAGE
Illustrated Parts list	1
Fitting Instructions	8
Operating Instructions	12
Maintenance	12



5203





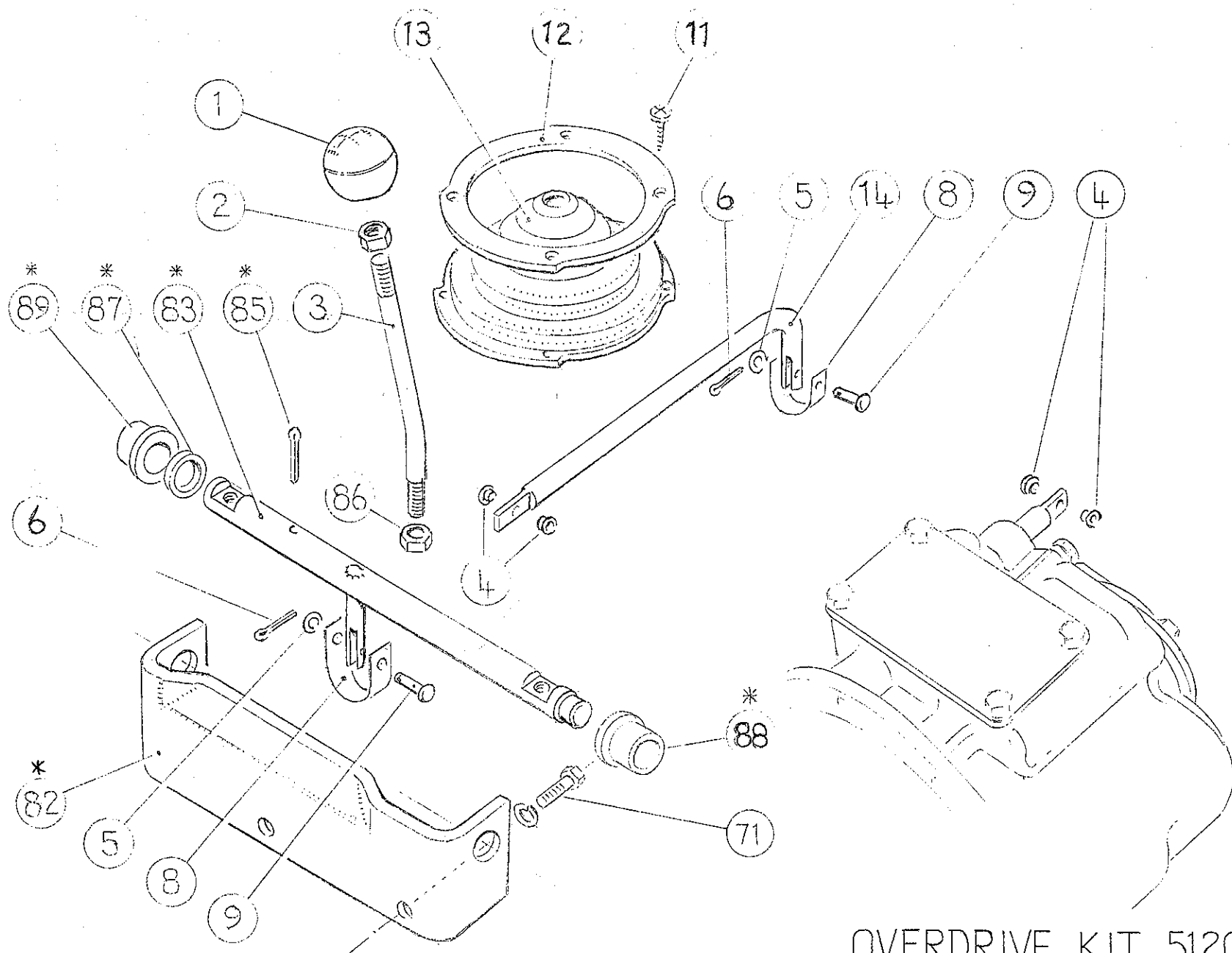
OVERDRIVE UNIT 5134

## Overdrive Unit. 5134 Parts List

<u>Item</u>	<u>Description</u>	<u>F.W. Part No.</u>	<u>Quantity</u>
15	Selector Shaft	5130-A2	1
16	'O' Ring Seal	4-21-0123	2
17	Bolt	718-A4	1
18	Selector Fork	757-A2	1
19	Swivel Pads	758-A3	2
20	Set Screw	4-46-08123	1
21	Ball	753-A4	1
22	Spring	725-A3	1
23	Set Screw	4-39-101003	1
24	Copper Washer	5004-A4	2
25	Drain Plug	992-A4	2
26	Gasket	5193-A3	1
27	Bearing	4-12-75922533	1
28	Snap Ring	5192-A4	1
29	Output Gear	5117-A1	1
30	Needle Cage Bearing	4-12-30361423	1
31	Oil Flow Regulator	5160-A4	1
32	Needle Cage Bearing	4-12-30361423	1
33	Mainshaft Spacer	5127-A4	1
34	Thrust Washer	5820-A3	1
35	Spacer	5129-A4	1
36	Needle Cage Bearing	4-12-50582023	1
37	Main Shaft	5125-A1	1
38	Snap Ring	5185-A4	1
39	Clutch Sleeve	5114-A2	1
40	Needle Cage Bearing	4-12-50582023	1
41	Clutch Sleeve Spacer	5207-A4	1
42	Thrust Washer	4-03-3856083	1
<del>43</del>	<del>Thrust Washer</del>	<del>5191 A4</del>	<del>1</del>
44	Steel Roller	5206-A4	1
45	Main Housing	5119-A0	1
46	Roller Thrust Bearing	4-09-3047503	2
47	BOAT	4-33-081822	4
48	Shakeproof Washer	4-53-0823	4
49	End Cap	5124-A3	1
50	'O' ring Seal	4-21-5363	1
51	Circlip	4-24-2535203	1

## Overdrive Unit. 5134 Parts List

<u>Item</u>	<u>Description</u>	<u>F.W. Part No.</u>	<u>Quantity</u>
52	Thrust Washer	4-03-2542303	2
53	Thrust Bearing	4-07-2542203	1
54	Bearing	4-12-25322013	2
55	Circlip	4-24-4053183	1
56	Bearing	4-13-040090233	1
57	Input Gear	5116-A1	1
58	Synchro Cone	737-A1	2
59	Synchro Assembly	740-A2	1
61	Thrust Bearing	4-07-2542203	1
62	Spring	726-A3	3
63	Ball	741-A4	3
64	Block	743-A3	3
65	Gasket	724-A4	1
66	Plain Washer	4-50-0823	1
67	Bolt	4-33-081822	4
68	Nut	4-47-0813	1
69	Spring Washer	4-51-0823	4
70	Stud	765-A4	1
71	Thrust Washer	3.175 mm 5662-A3	} 2
		3.226 mm 5663-A3	
	Select to give	3.327 mm 5664-A3	
	.05 mm to	3.429 mm 5665-A3	
	.10 mm end	3.531 mm 5666-A3	
	float	3.632 mm 5667-A3	
		3.683 mm 5668-A3	
72	Spring Washer	4-51-0823	7
73	Thrust Washer	4-09-3247503	1
74	'O' Ring Seal	4-21-2133	1
75	Layshaft	5126-A3	1
76	Shim	4-01-3047133 } 4-01-3047053 }	As reqd.
77	Thrust Washer	4-03-3047103	6
78	Thrust <b>Bearing</b>	4-07-3047203	2
79	Bearing	4-12-30362623	2
80	Laygear	5115-A2	1
81	Spacer	5128-A4	1
84	Top Cover	5135-A4	1
90	Spacer	5491-A4	1



⑦ ASSEMBLY OF PARTS MARKED \*

OVERDRIVE KIT 5120  
SELECTOR MECHANISM

## RANGE ROVER OVERDRIVE KIT 5120

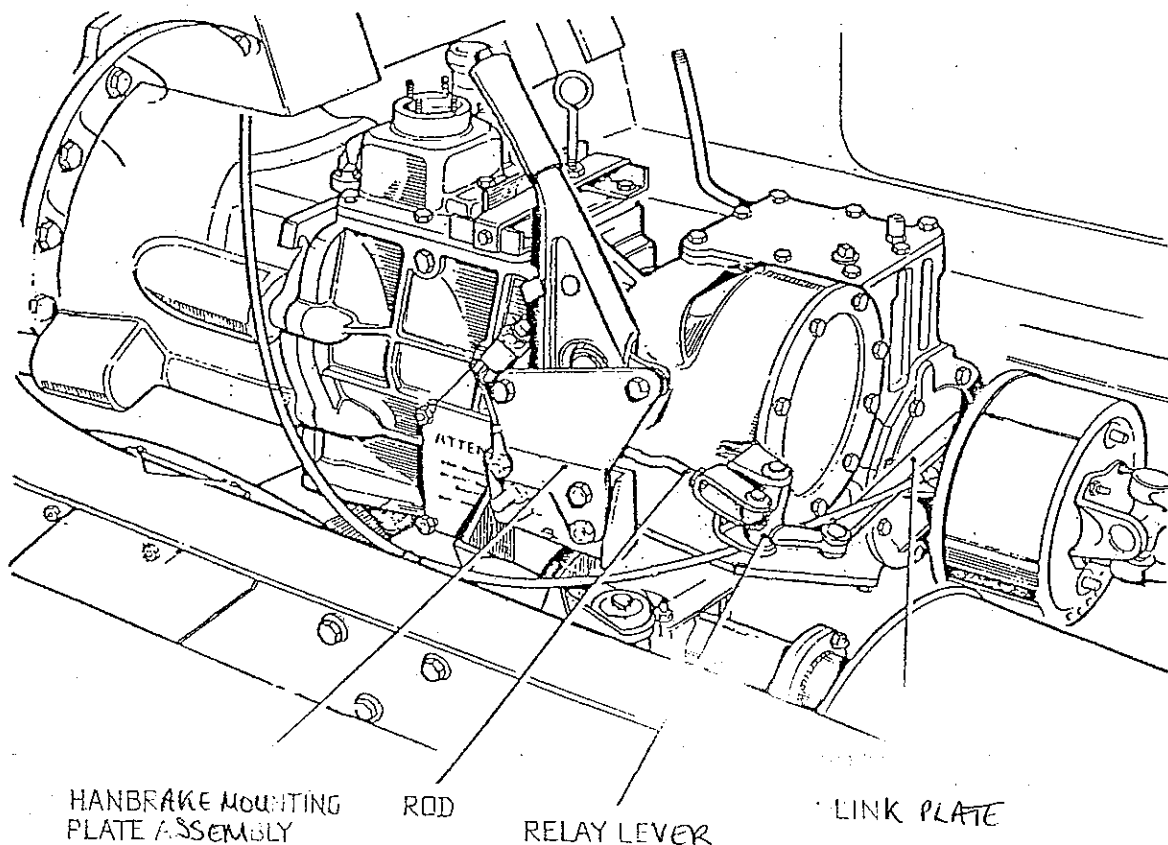
## SELECTOR LINKAGE PARTS LIST

<u>Item</u> <u>Ref.</u>	<u>Description</u>	<u>F.W. Part No.</u>	<u>Quantity</u>
1	Knob	746-A3	1
2	Locknut	4-49-1223	1
3	Shift Lever	5282-A3	1
4	Nylon Bush	5190-A4	4
5	Plain Washer	156-A4	2
6	Split Pin	4-63-151223	
7	Operating Lever Assembly	5295-A2	1
8	Nylon Strip	5058-A4	
9	Clevis Pin	785-194	1
10	Clevis Pin	785-A4	1
11	Screw	5197-A4	2
	Screw	5204-A4	2
12	Sealing Ring	5495-A3-10127	1
13	Grommet	5194-A3	1
14	Link Rod	5189-A3	1
71	Bolt	4-33-083012	2
82	Operating Bracket	5276-A3	1
83	Pivot Bar Assy	5475-A3	1
85	Split Pin	4-63-322523	1
36	Lock Nut	4-49-1023	1
87	Spacer	5280-A4	1
88	Spigot Bush	5278-A4	1
89	Spigot Bush	5279-A4	1
90	Label	5201-A4	1
91	Warning Label	5361-A4	1
92	Screw	5363-A4	4

} Not Illustrated

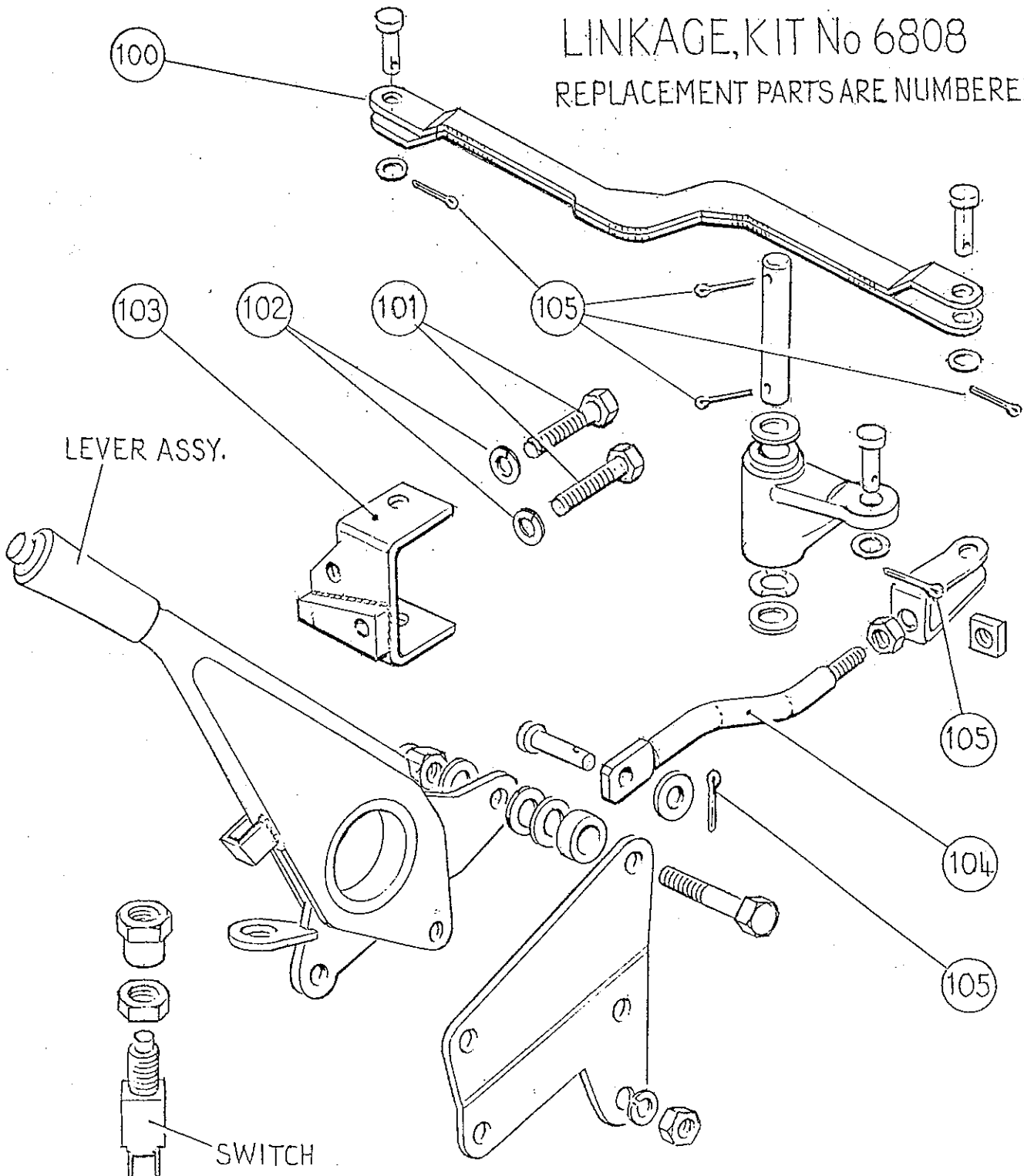
L. H. DRIVE VEHICLES ONLY

1. Inside the vehicle remove the carpet around the handbrake lever to allow access to the handbrake grommet retainer.
2. Remove grommet retainer.
3. Disconnect switch leads.
4. Disconnect rod at relay lever end.
5. Remove nuts and remove handbrake mounting plate complete with handbrake assembly.
6. Disconnect link plate at drum brake end.
7. Remove relay lever and bracket.
8. Fit the overdrive. (Refer to page 8 )
9. Reassemble handbrake system replacing the existing parts with new parts as shown.
10. Using the thread on the rod readjust the brake to its original setting.



VIEW SHOWING EXISTING HANDBRAKE LINKAGE ON LEFT HAND DRIVE VEHICLES

LEFTHAND DRIVE BRAKE  
LINKAGE, KIT No 6808  
REPLACEMENT PARTS ARE NUMBERED



LEFT HAND DRIVE, BRAKE LINKAGE, KIT No 6808

100	Link	5431-A2	1
101	Bolt. M8 x 35 LG	4-33-0803512	2
102	Spring Washer 8 mm	4-51-0823	2
103	Pivot Bracket	5432-A3	1
104	Short Link	5430-A2	1
105	Split Pin 2.5 Dia x 25 LG	4-63-252523	6



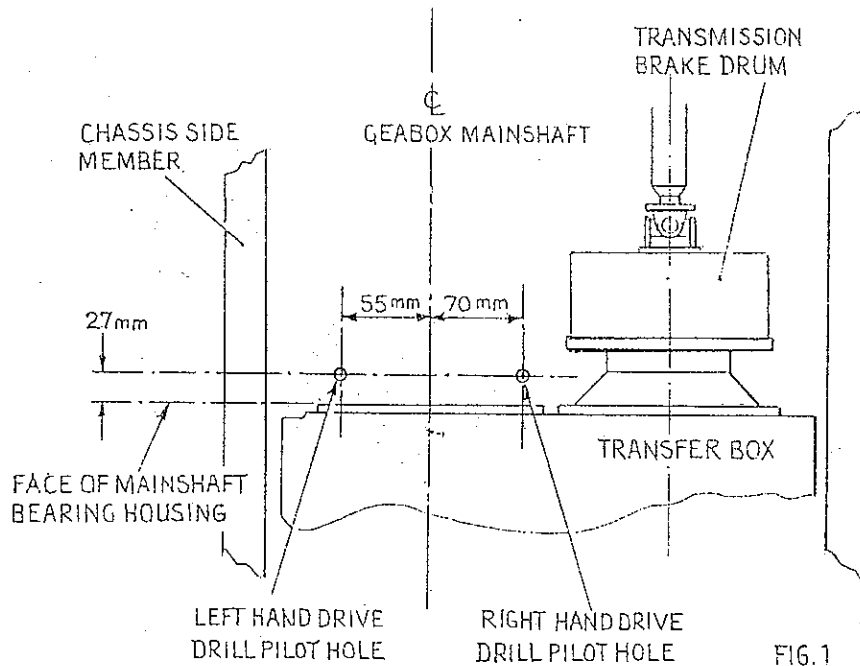
## F I T T I N G   I N S T R U C T I O N S

NOTE: Where parts are numbered ( ) etc refer to Parts List.

1. Disconnect the battery terminals.
2. Disconnect and remove the silencer box.
3. Remove the U bolt from the front pipe mounting bracket.
4. Remove the heat shield from beneath the floor.
5. Inside the vehicle pull forward the carpet to expose the rear end of the floor covering the gearbox/transfer box.

LEFT HAND DRIVE VEHICLES, REFER TO APPENDIX 'A' PAGE 6.

6. From underneath, (see Fig. 1), centre punch and drill a pilot hole, 1/16" dia, through the floor of the vehicle in the position appropriate to whether the vehicle is either left or right hand drive.



7. RIGHT HAND DRIVE VEHICLES From inside the vehicle drill a 50.8 mm (2") dia. hole in the floor, 87 mm (3-7/16") to the right of the pilot hole. (see Fig 1)

LEFT HAND DRIVE VEHICLES Drill 50.8 mm (2") dia hole using the Pilot Hole as the centre. (see dig. 1)

Drain the transfer box oil.

Remove the transfer box bottom cover.

11. Support the rear end of the gearbox using a jack.
12. Remove the 6 bolts holding the gearbox mountings at the chassis side members.
13. Gently lower the jack until the gearbox rests on the cross member. While doing this make sure that the fan blades etc. remain free.
14. Remove the transfer box mainshaft rear bearing housing complete and roller bearing.

**IMPORTANT - PLEASE OBSERVE THE FOLLOWING**

It is possible for the gearbox main shaft to float, therefore care must be taken to ensure that this shaft is NOT pushed towards the gearbox when fitting (42) or (43), (39) and (38). If these items cannot be fitted, gearbox thrust bearing No. 571064 has moved on the main shaft and must be repositioned. (Refer to vehicle workshop manual)

15. Remove the snap ring, shim and mainshaft transfer gear from the end of the mainshaft.
16. Refit the shim onto the mainshaft.
17. Fit the ~~thicker of the two~~ thrust washers, (42), onto the mainshaft. See Fig. 2
18. Fit the clutch sleeve, (39), onto the mainshaft.
19. Push the new snap ring, (38), edge on into the groove to ensure that it will fit.
20. If the snap ring will fit, push it onto the shaft and into its groove.
21. ~~If the snap ring will not fit, remove the clutch sleeve and thrust washer. Fit the other, thinner, thrust washer, (43). Refit the clutch sleeve and push the snap ring into place.~~
22. Push the spacer, (41), onto the clutch sleeve.

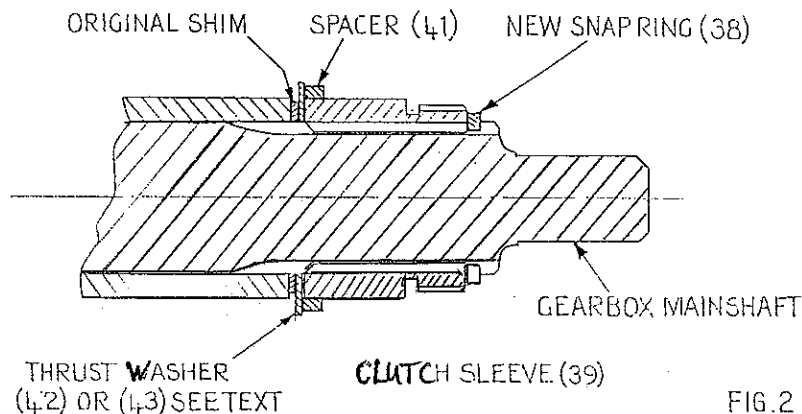
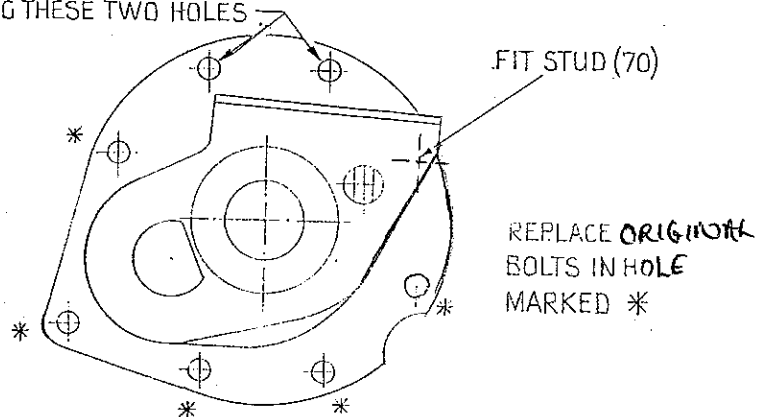


FIG. 2

23. Smear some oil onto the bearing, (40).
24. Push the bearing into the large end of the overdrive.
25. Make sure that the selector shaft, (15), coming out of the rear of the overdrive unit is pushed as far forward as possible.
26. Fit the gasket, (26), onto the overdrive flange.
27. Lift the overdrive unit into the end of the transfer box.
28. The overdrive unit will slide forward to within about 12 mm ( $\frac{1}{2}$ " ) of the transfer box face.
29. Rotate the unit slightly from side to side until it slides fully into place (making sure that the cutaway in the cast flange coincides with the end of the gear shaft in the transfer box).
30. If the unit will still not slide fully forward adopt the following procedure :-
31. Engage first gear in the main gearbox.  
Shift the high-low ratio lever to neutral.  
Whilst pushing the overdrive, spin the engine a few times until the overdrive slides into position.
32. Fit the stud, (70), into the one hole shown on Fig 3.
33. Refit 5 original bolts into the flange holes shown in Fig. 3.
34. Assemble Link Rod, (14) to Operating Linkage with a smear of grease on the moving surfaces.
35. Using the two bolts, (71), bolt the linkage assembly into position. (Figs. 3 and 5)
36. Connect the linkage onto the overdrive selector shaft using items (4), (5), (6), (8), (9).
37. Jack the gearbox back into position and replace the 6 bolts.
38. Refit the transfer box bottom cover and drain plug.

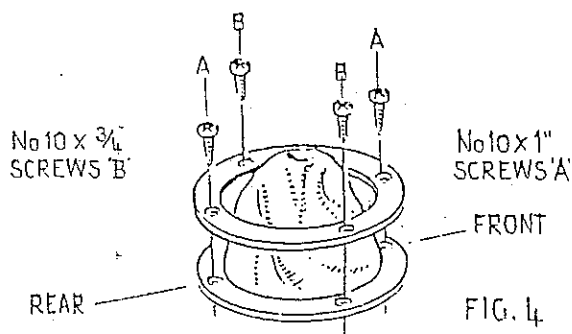
BOLT LINKAGE ASSY. INTO PLACE  
USING THESE TWO HOLES



END VIEW OF OVERDRIVE UNIT

FIG.3

39. Fill the transfer box with clean oil and leave out the level plug.
40. Remove the overdrive filler plug, check that the drain plug is tight. Add oil to the overdrive until it starts to flow from the transfer box level.
41. Refit the filler plug in the transfer box and in the overdrive.
42. Refit the front exhaust pipe U bolt, the heat shield and the silencer box.
43. Cut a hole in the carpet to clear the overdrive operating lever.
44. Fit Shift Lever, (3) and Lock Nut, (86) to Pivot Bar, (83). (Through 50.8 mm dia hole in floor).
45. Position the rubber grommet, (13), and retaining ring, (12).
46. Drill four holes 3 mm dia to accept the self tapping screws, (11).
47. The long screws (1") 'A' must be fitted in the front and rear of the grommet and screwed fully home. Then fit short screw ( $\frac{3}{4}$ " 'B', to each side of grommet. This is to prevent screws coming into contact with pivot bar (83). See Fig. 4)



48. Fix the knob, (1), and locknut, (2), onto the operating lever, (3).
49. Check that all nuts and bolts are tight.
50. Reconnect the battery.
51. Fit warning label to Dashboard.
52. Fit Overdrive Label to rear of vehicle.
53. Fitting is now complete.

PLEASE PASS THESE INSTRUCTIONS ON TO THE VEHICLE USER

## OPERATING INSTRUCTIONS

The overdrive is fitted with a synchromesh/Gear Selector and should be treated as an extra gearbox.

Since the overdrive gearchange is mechanical, the clutch must be used when changing into or out of overdrive just the same as when changing gear in the gearbox. There are three lever positions, overdrive in, neutral, and overdrive out.

### To engage

Simultaneously press the clutch and release the accelerator pedal. Move the overdrive lever forward. Simultaneously release the clutch and press the accelerator.

### To disengage

Simultaneously press the clutch and release the accelerator pedal. Move the overdrive operating lever rearward. Simultaneously release the clutch and press the accelerator.

Only use the overdrive in 3rd and 4th gear.

### Running In

To allow the overdrive unit to bed in correctly, it is most important that for the first 500 miles the Range Rover should be driven conservatively. After 500 miles drain and refill the transfer box and overdrive.

## MAINTENANCE

The overdrive oil is integral with the transfer box. When changing the transfer box oil also remove the overdrive drain plug. When refilling the overdrive always make sure that the transfer box level plug is removed to obtain the correct oil level.