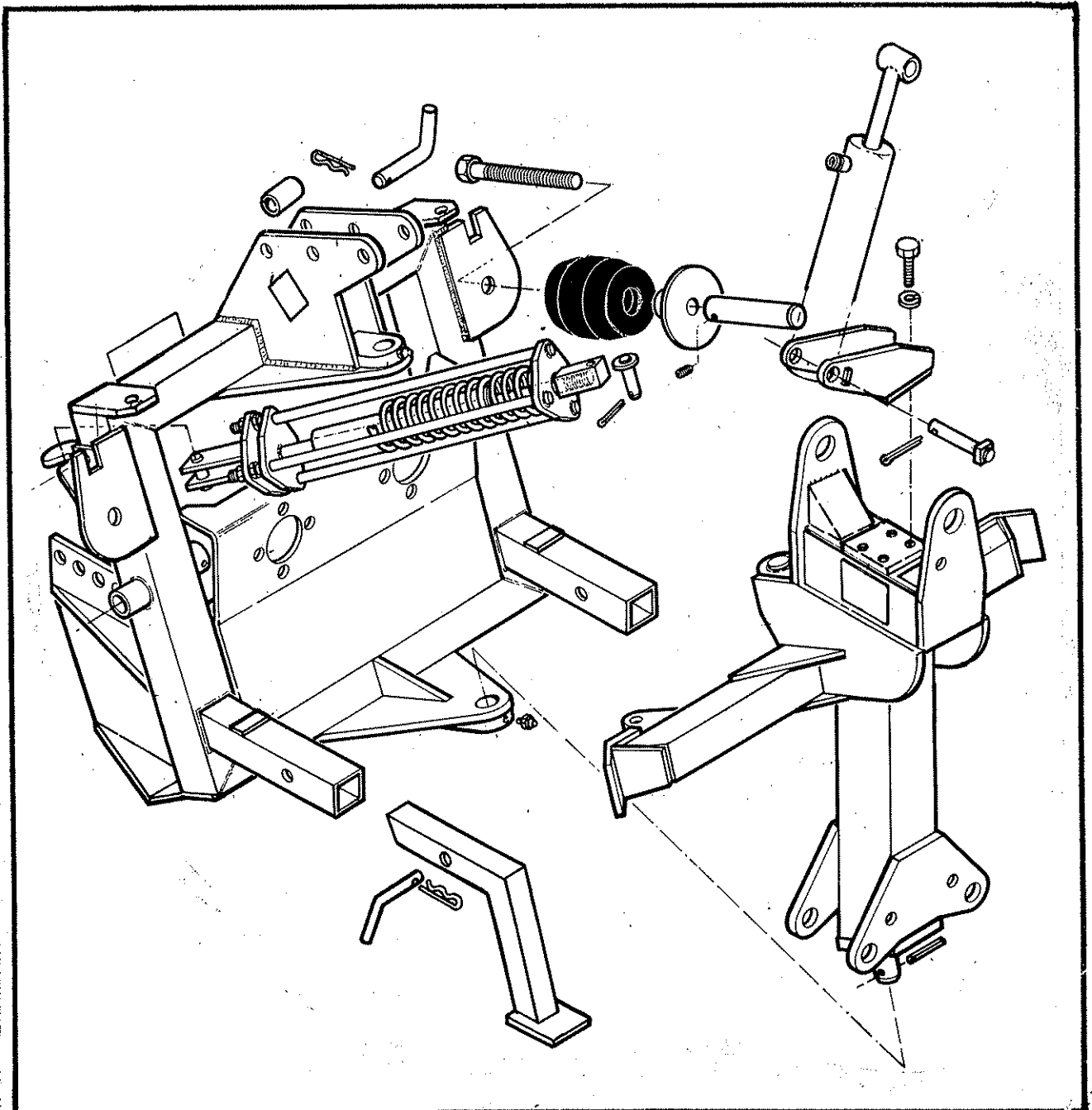


# PA 93E AHC

## Spare parts





# **SPARE PARTS MANUAL**

## **FOR BEST PERFORMANCE....**

### **USE ONLY McCONNEL SPARE PARTS**

To be assured of the latest design improvements purchase your genuine replacements from the original equipment manufacturer **McConnel Ltd.** through your local dealer or stockist.

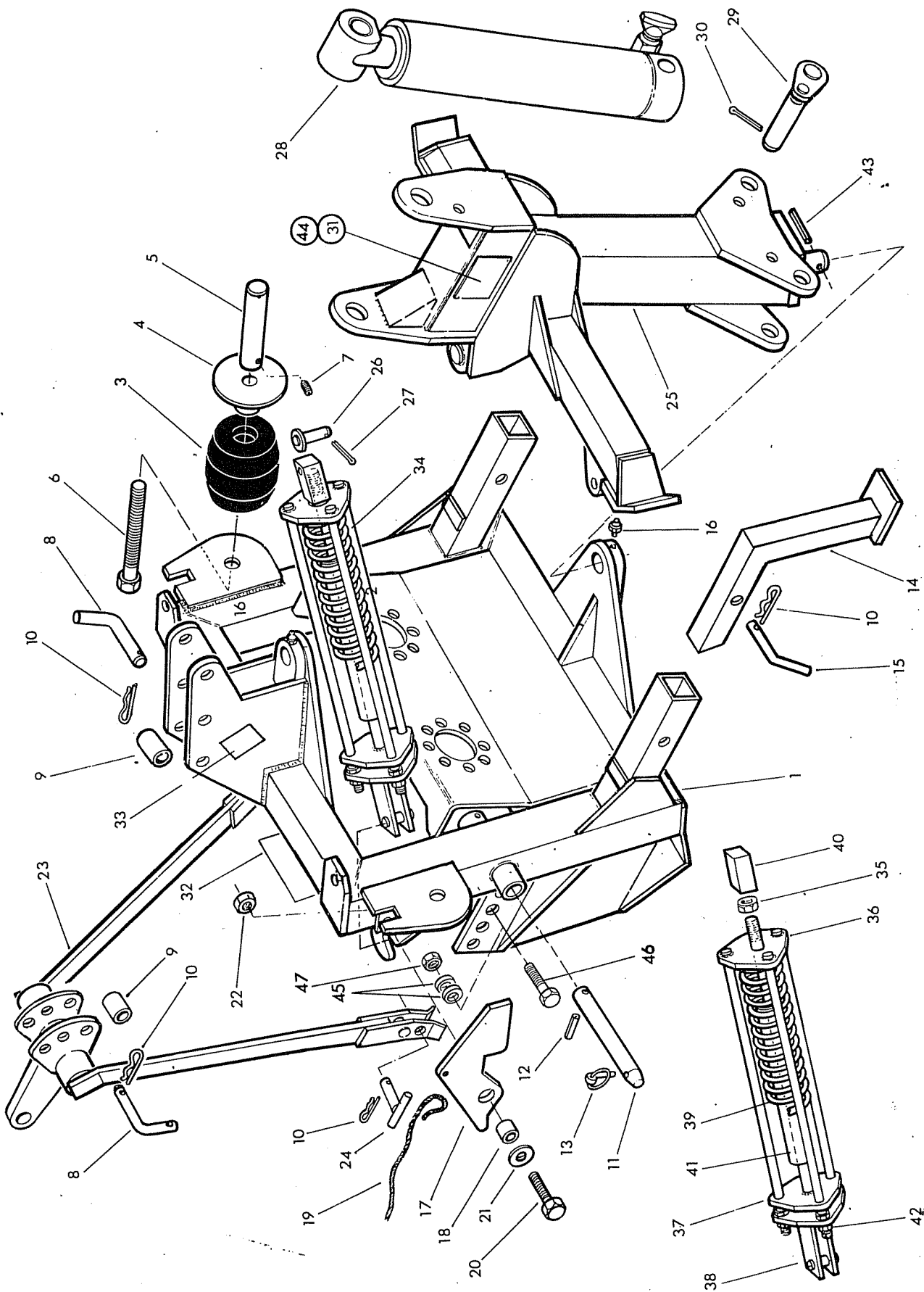
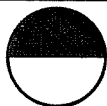
Always quote machine type and serial number as well as the part number.

Design improvement may have altered some of the parts listed in this manual - The latest part will always be supplied when it is interchangeable with an earlier one.

FOR NOTES

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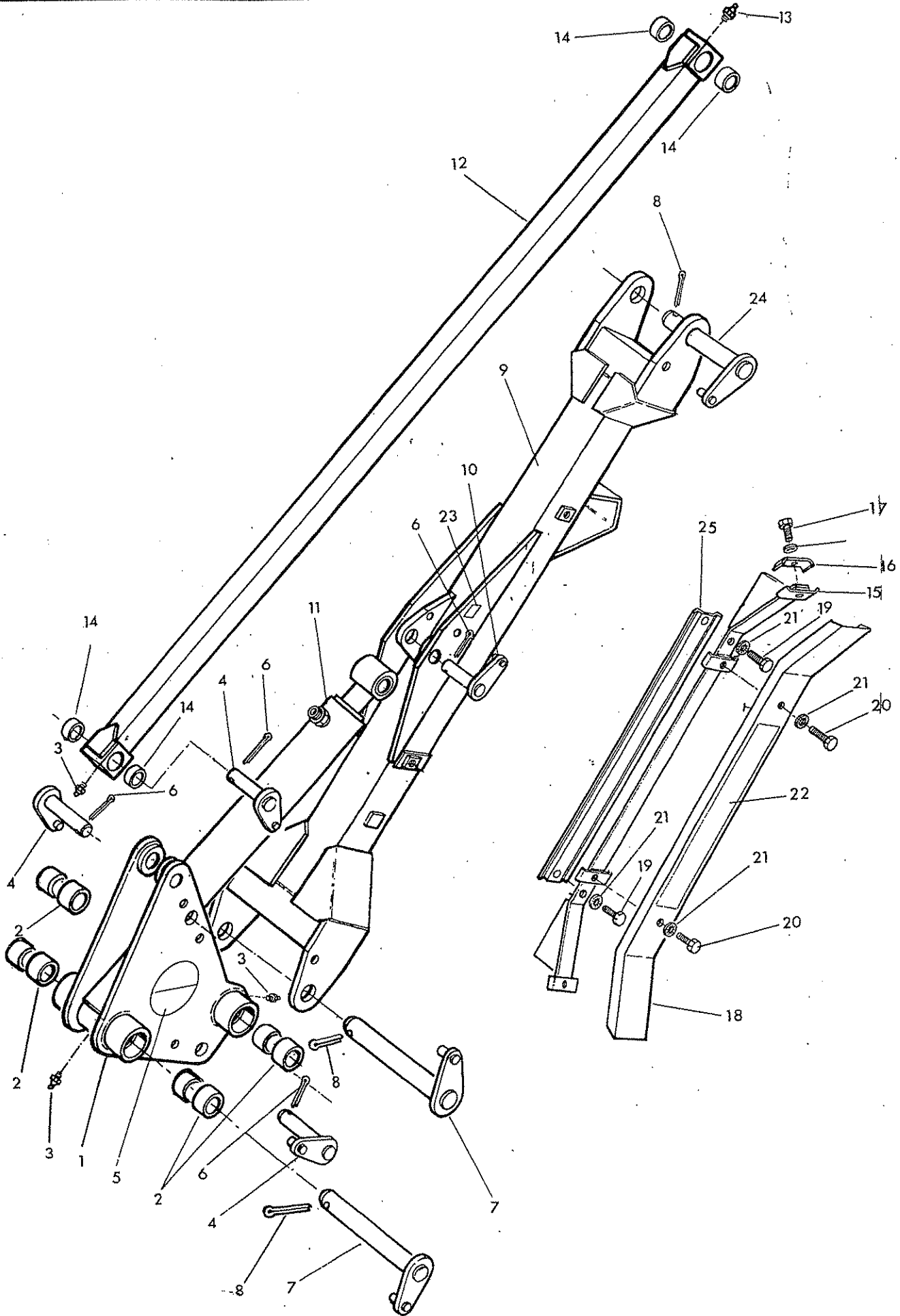


Ref.	Part No.	Qty.	Description
			<b>MAIN FRAME, STABILISER &amp; PILLAR</b>
1	71 93 391	1	Main frame
2	71 36 330	1	P.T.O. Shaft - not illustrated
3	71 35 033	1	Buffer
4	71 35 034	1	Buffer locating disc
5	71 93 323	1	Buffer abutment
6	71 35 293	1	Buffer bolt
7	93 63 034	1	Grubscrew
8	71 92 026	2	Top link pin
9	14 67 063	2	Sleeve
10	04 31 105	6	Spring cotter
11	71 93 020	2	Linkage pin
12	04 22 628	2	Spring dowel
13	04 31 217	2	Linch pin
14	71 92 307	2	Stand leg
15	71 92 023	2	Leg pin
16	09 01 121	2	Greaser
17	71 93 325	1	Latch
18	71 35 097	1	Spacer
19	71 35 036	1	Operating cord
20	92 13 106	1	Bolt
21	91 00 106	1	Plain washer
22	91 43 006	1	Self locking nut
23	71 92 405	1	Stabiliser
24	71 92 027	2	Stabiliser pin
25	71 93 356	1	Pillar
26	71 93 021	1	Anchor pin
27	95 01 406	1	Split pin
28	71 93 333	1	Lift ram assembly
29	71 93 025	1	Pin - Lift ram base
30	05 03 166	1	Split pin
31	13 35 246	1	Serial No. plate
32	71 35 295	1	Sticker - "Tighten check chains"
33	71 05 130	1	Sticker - "Read instruction book first"
34	71 35 314	1	Breakaway assistor spring assy. includes
35	01 11 006	1	Nut
36	71 35 315	1	Spring cage
37	71 35 316	1	Tie rod
38	71 35 317	1	Jaw end
39	71 35 298	1	Spring
40	71 35 081	1	Pinned end
41	71 35 318	1	Spacer
42	01 11 003	6	Nut
43	04 22 632	1	Spring Dowel
44	71 03 230	4	Pop rivet
45	71 92 080	4	Eccentric collar
46	92 13 148	2	Bolt
47	91 43 008	2	Self locking nut

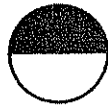
MAIN ARM & ROCKER



McCOMEL







Ref.	Part No.	Qty.	Description
<b>MAIN ARM ROCKER &amp; TENSION LINK FOR STD POWER MACHINES</b>			
1	71 93 330	1	Rocker
2	72 13 023		Bush - Rocker pivot
3	09 01 121	3	Greaser
4	71 93 025	4	Pivot pin - Tension link, Reach base & lift ram rod
5	12 90 296	1	Sticker "Logo roundel"
6	05 03 166	5	Split pin
7	71 93 033	2	Pivot pin - Main Arm and rocker
8	95 01 509	3	Split pin dia
9	71 93 355	1	Main arm
10	71 93 022	1	Pivot pin - Reach
11	71 93 334	1	Reach ram assembly - see page 59
12	71 93 326	1	Tension link
13	09 01 124	1	Greaser
14	60 12 032	4	Bush
15	71 93 312	1	Hose guide - Main Arm
16	71 93 014	2	Hose clamp
17	92 13 085	2	Bolt
18	71 93 320	1	Hose cover - Main Arm
19	93 13 055	2	Bolt
20	93 13 055	2	Setscrew
21	91 00 305	6	Internal serrated washer
22	12 90 255	1	Sticker "McConnel"
23	60 55 002	1	Sticker "Sling here"
24	71 93 034	1	Pivot pin - Dipper

**MAIN ARM ROCKER & TENSION LINK FOR HIGH POWER MACHINES**

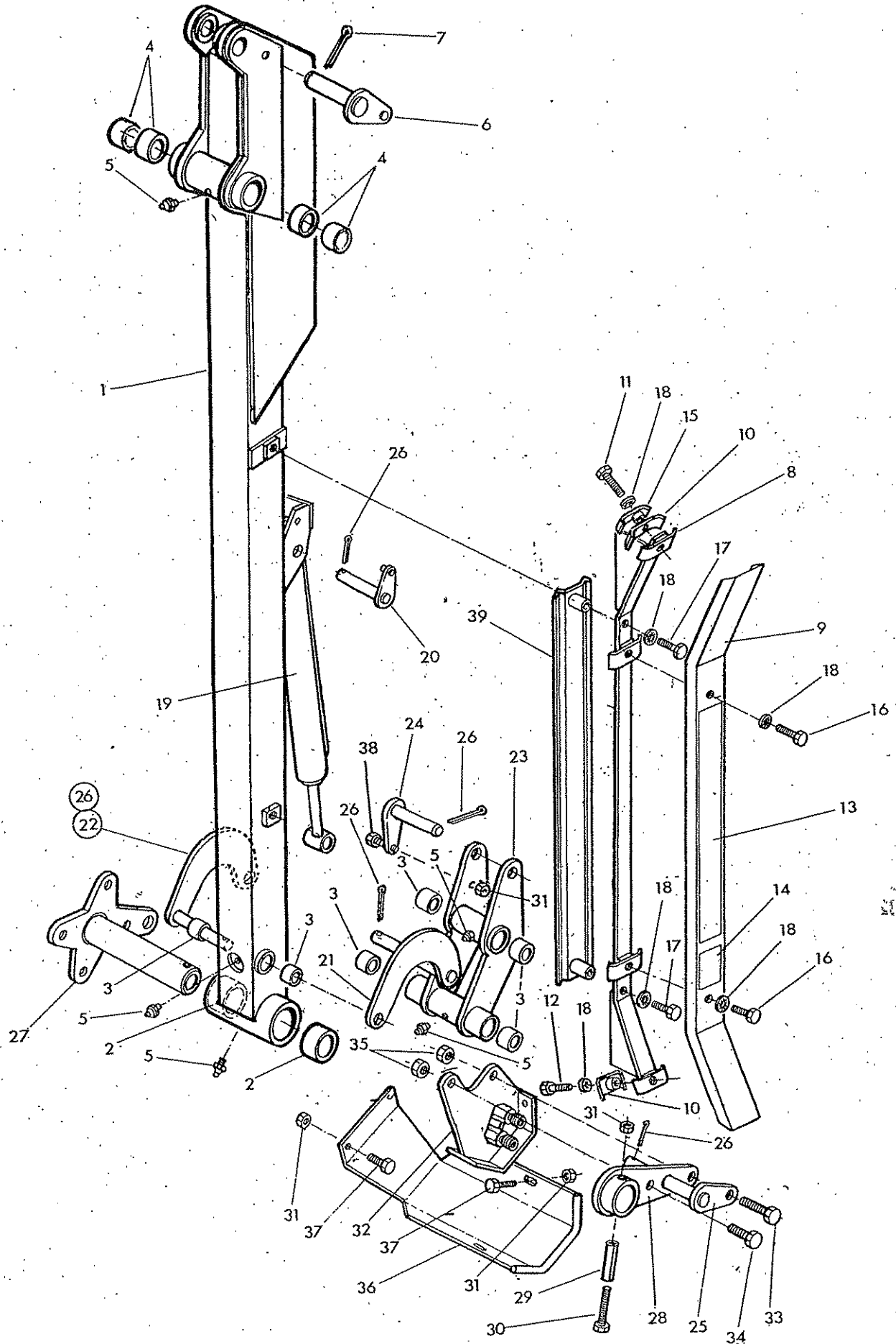
The parts list is identical to above with the following exceptions

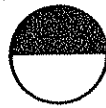
15	71 95 309	1	Hose guide main arm
16	71 93 015	2	Hose clamp
17	92 13 095	2	Bolt
19	92 13 095	2	Bolt
25	71 95 311	1	Hose plate

STANDARD DIPPER



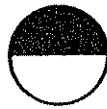
McCOMEL



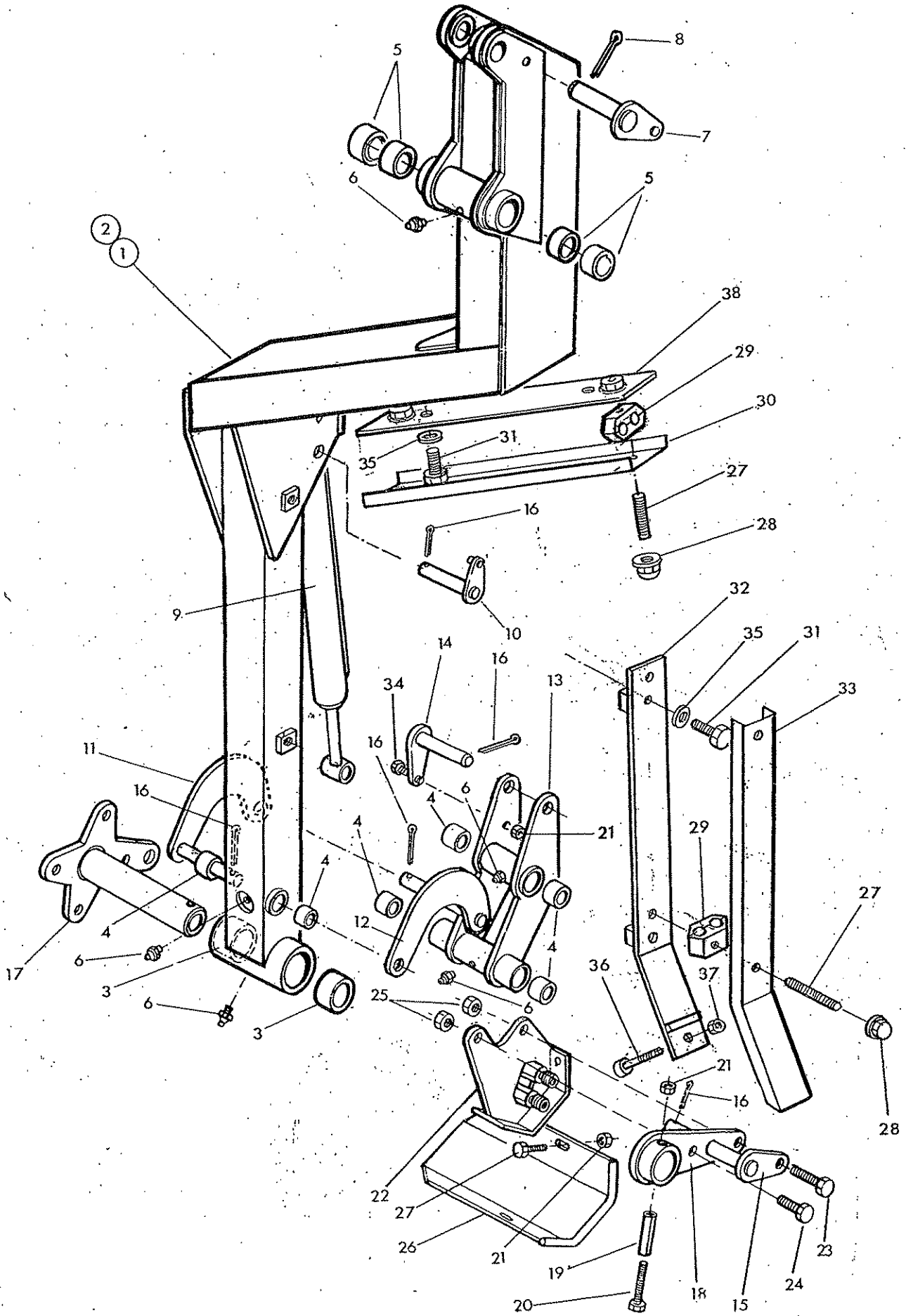


Ref.	Part No.	Qty.	Description
<b>STANDARD DIPPER ARM AND ANGLING FOR STANDARD POWER MACHINES</b>			
1	71 93 308	1	Dipper arm
2	71 36 035	2	Bush - head pivot
3	41690-01	6	Bush - Radius arm pivot and slave link
4	72 13 023	4	Bush - Dipper pivot
5	09 01 121	4	Greaser
6	71 93 025	1	Pivot pin - Tension link
7	05 03 166	1	Split pin
8	71 93 313	1	Hose guide - dipper
9	71 93 321	1	Hose cover - dipper
10	71 93 014	2	Hose clamp
11	92 13 125	1	Bolt
12	92 13 085	1	Bolt
13	12 90 295	1	Sticker 'Power Arm'
14	12 90 292	1	Sticker '94'
15	71 93 019	1	Hose clip - angle
16	93 13 055	2	Bolt
17	93 15 055	2	Setscrew
18	91 00 305	6	Internal serrated washer dia 10
19	75 60 344	1	Angle ram assembly - ( see page 50 )
20	71 92 024	1	Pivot pin - Angle ram base
21	74 50 250	1	Radius arm - rear
22	74 50 251	1	Radius arm - front
23	71 92 309	1	Slave link
24	41693-01	1	Pivot pin - Angle ram rod
25	71 92 009	1	Pivot pin - Slave link
26	95 01 406	5	Split pin dia
27	71 92 308	1	Head pivot tube
28	71 92 316	1	Jaw plate
29	04 23 548	1	Spring dowel
30	92 13 185	1	Bolt
31	91 43 005	6	Self locking nut
32	71 92 321	1	Hose junction bracket
33	02 11 146	1	Bolt
34	02 11 126	1	Bolt
35	01 41 006	2	Self locking nut
36	71 92 324	1	Hose tray
37	93 13 045	4	Setscrew
38	93-15-055	2	Setscrew
<b>STD DIPPER ARM &amp; ANGLING MECHANISM FOR HI POWER MACHINES</b>			
8	71 95 310	1	Hose guide
10	71 93 015	2	Hose clamp
12	92 13 095	1	Bolt
14	92 13 095	2	Bolt
32	71 95 303	1	Hose junction bracket
39	71 95 312	1	Hose plate

MID CUT DIPPER



McDOWELL





**WAGGONER**

Ref	Part No	Qty	Description
			<b>MID CUT DIPPER ARMS AND ANGLING MECHANISM</b>

**R HAND**

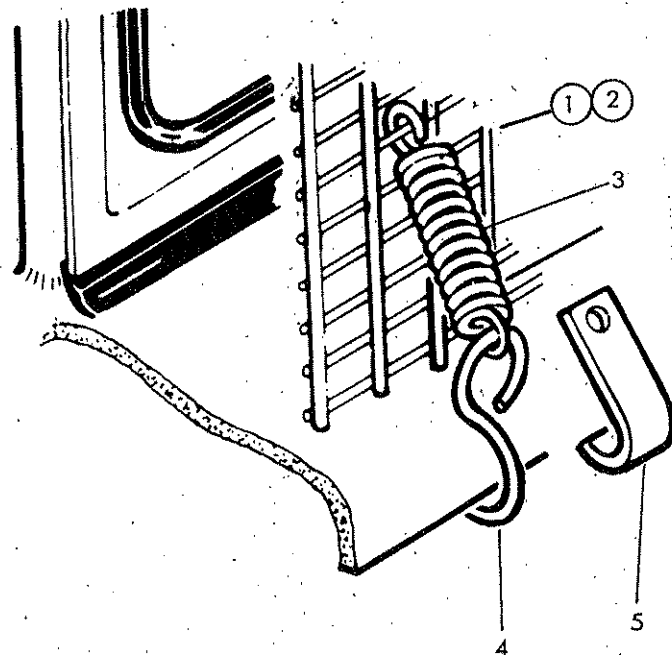
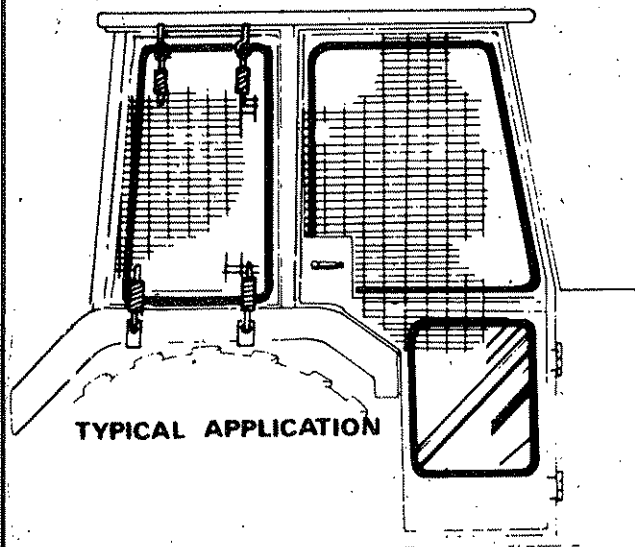
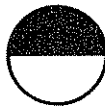
1	71 93 345		Dipper arm R Hand
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**L HAND**

2	71 93 346		Dipper arm L Hand
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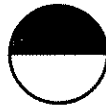
Items 3 to 38 inclusive are common to both mid cut dipper arm assemblies:

3	71 36 035	2	Bush - head pivot
4	41690.01	6	Bush - radius arm pivot and slave link
5	72 13 023	4	Bush - dipper pivot
6	09 01 121	5	Greaser
7	71 93 025	1	Pivot pin - tension link
8	05 03 166	1	Split pin
9	75 60 344	1	Angle ram assembly
10	71 92 024	1	Pivot pin - angle ram base
11	74 50 251	1	Radius arm - front
12	74 50 250	1	Radius arm - rear
13	71 92 309	1	Slave link
14	41693.01	1	Pivot pin - angle ram rod
15	71 92 009	1	Pivot pin - slave link
16	95 01 406	5	Split pin dia
17	71 92 308	1	Head pivot tube
18	71 92 316	1	Jaw plate
19	04 23 548	1	Spring dowel
20	92 13 185	1	Bolt
21	91 43 005	6	Self locking nut
22	71 95 303	1	Hose junction bracket - Hi power
	71 92 321	1	Hose junction bracket - Std power
23	02 11 146	1	Bolt
24	02 11 126	1	Bolt
25	01 41 006	2	Self locking nut
26	71 98 333	1	Hose tray
27	04 282.76	4	Stud
28	91 00 025	4	Dome nut
29	42024.06	5	Hose clamp - 1 pair - Hi power
	71 90 148	1	Hose clamp - 1 pair - Std power
30	71 93 047	1	Hose cover
31	93 13 045	6	Bolt
32	42951.01	1	Hose guide
33	71 93 048	1	Hose cover
34	93 13 055	1	Setscrew
35	91 00 305	4	Internal serrated washer
36	92 43 154	1	Capscrew
37	91 43 004	1	Self locking nut
38	42952.01	1	Hose guide

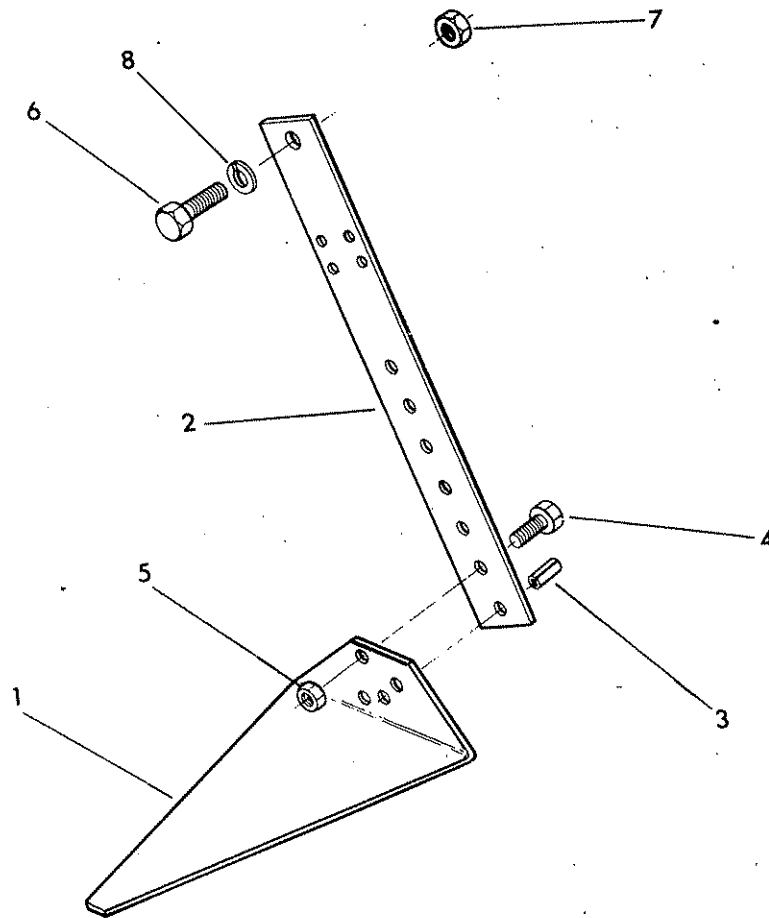


Ref.	Part No.	Qty.	Description
	<b>73-13-324</b>		<b>CAB GUARD KIT</b>
1	73-13-049	1	Guard panel - large
2	73-13-050	1	Guard panel - small
3	60-01-064	12	Spring
4	60-01-065	6	Hook
5	73-13-051	6	Hook

**CONTROL MOUNTING  
ASSY**



**McCORMEL**

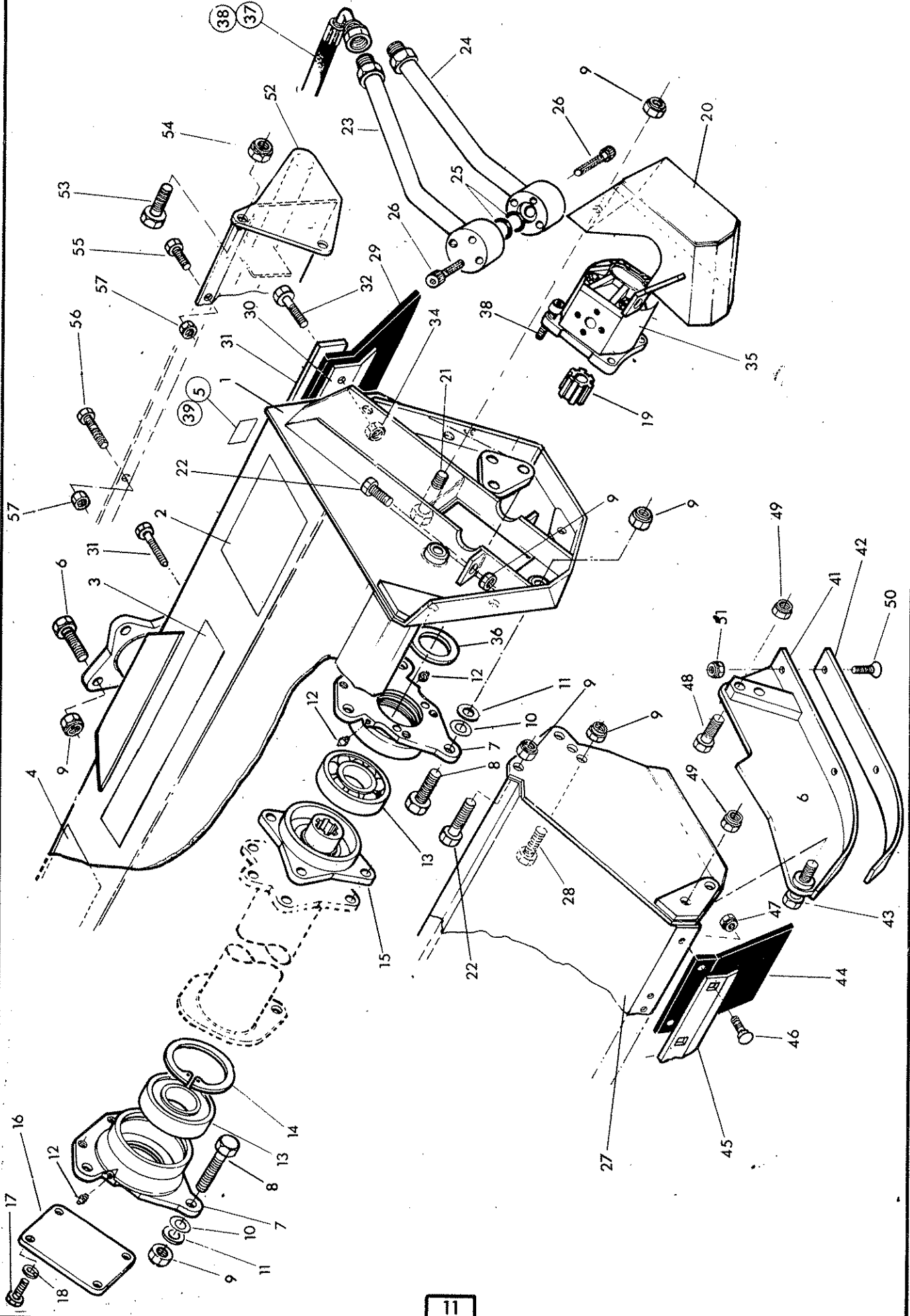


Ref.	Part No.	Qty.	Description
	<b>71-90-319</b>		<b>CONTROL MOUNTING ASSEMBLY</b>
1	71-09-320	1	Sandwich plate
2	71-09-146	1	Pillar including spring dowel
3	04-22-816	1	Spring dowel
4	93-13-066	1	Setscrew
5	91-13-006	1	Nut
6	93-11-086	1	Setscrew
7	01-11-006	1	Nut
8	01-00-206	1	Spring washer

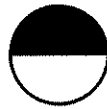
# FLAIL HEAD CASING



# McCOMB







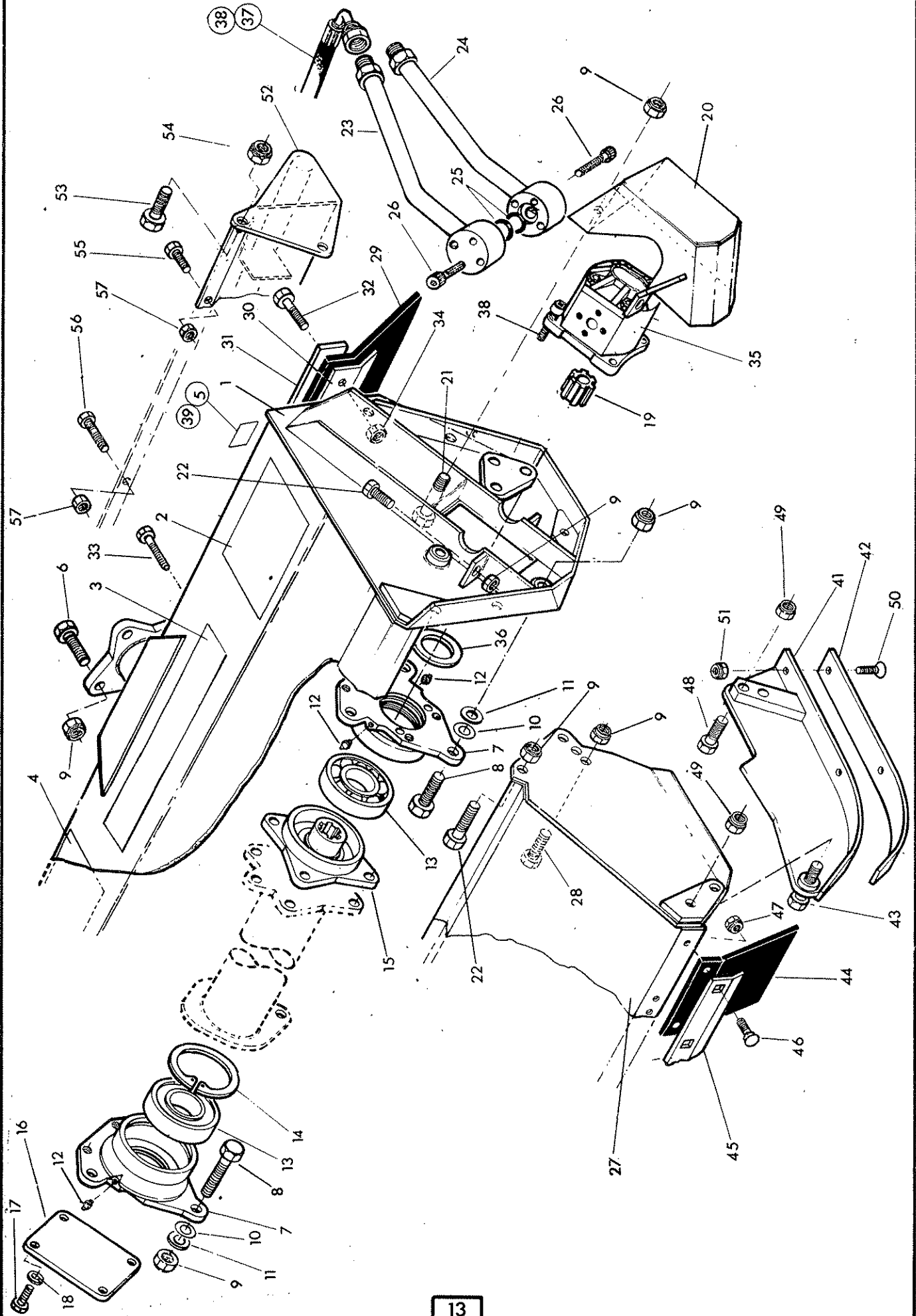
Ref.	Part No.	Qty.	Description
<b>FLAIL HEAD CASING</b>			
1	71 90 262	1	Flail casing
2	12 90 377	1	Flail head instruction sticker
3	12 90 255	1	Sticker 'McConnel'
4	12 90 341	1	Sticker - 'Flail guarding'
5	13 35 246	1	Serial No. plate
6	02 11 186	4	Bolt
7	71 90 261	2	Bearing housing
8	02 11 166	6	Bolt
9	01 41 006	17	Self locking nut
10	81 21 043	as reqd	Shim .015"
11	81 21 044	as reqd	Shim .025"
12	09 01 121	4	Greaser
13	06 00 018	2	Bearing
14	71 90 022	1	Internal circlip
15	71 90 472	2	Rotor hub
16	71 90 444	1	Cover plate
17	93 13 045	4	Setscrew
18	91 00 205	4	Spring washer
19	71 90 009	1	Drive coupling
20	71 90 488	1	Motor cover
21	02 11 266	1	Bolt
22	03 11 126	2	Setscrew
23	71 90 297	1	Motor pipe - upper
24	71 90 298	1	Motor pipe - lower
25	86 00 121	2	'O' ring
26	93 00 014	6	Capscrew 'wedglok'
27	71 90 288	1	Front hood
28	03 11 106	2	Setscrew
29	71 90 314	1	Rear flap
30	71 90 312	1	Mounting strip
31	71 90 313	1	Clamp strip
32	93 13 065	7	Setscrew
33	93 13 075	2	Setscrew
34	91 43 005	9	Self locking

**Continued overleaf**

# FLAIL HEAD CASING



# McCONNEL





## FLAIL HEAD CASING continued

35	83 01 282	1	Hydraulic motor
36	71 90 015	1	Motor locating washer
37	85 01 097	2	Hose 1" BSP x 34" long for heads with motor outboard
	85 01 154	2	Hose 1" BSP x 42" long for heads with motor inboard
38	93 00 144	4	Capscrew wedglok
39	71 03 230	4	Pop rivet

### 86 99 236

## SEAL KIT for hydraulic motor

## ADDITIONAL REQUIREMENTS FOR GRASS CUTTING

40	71 90 300	1	Skid R. Hand - not illus
41	71 90 301	1	Skid L. Hand
42	73 14 323	2	Replaceable skid
43	03 11 146	2	Setscrew
44	71 90 020	8	Flap
45	71 90 304	1	Flap clamp strip
46	92 93 054	16	Cup square bolt
47	91 43 004	16	Self locking nut
48	03 11 086	2	Setscrew
49	01 41 006	4	Self locking nut
50	93 33 065	6	Setscrew c/sunk
51	91 43 005	6	Self locking nut

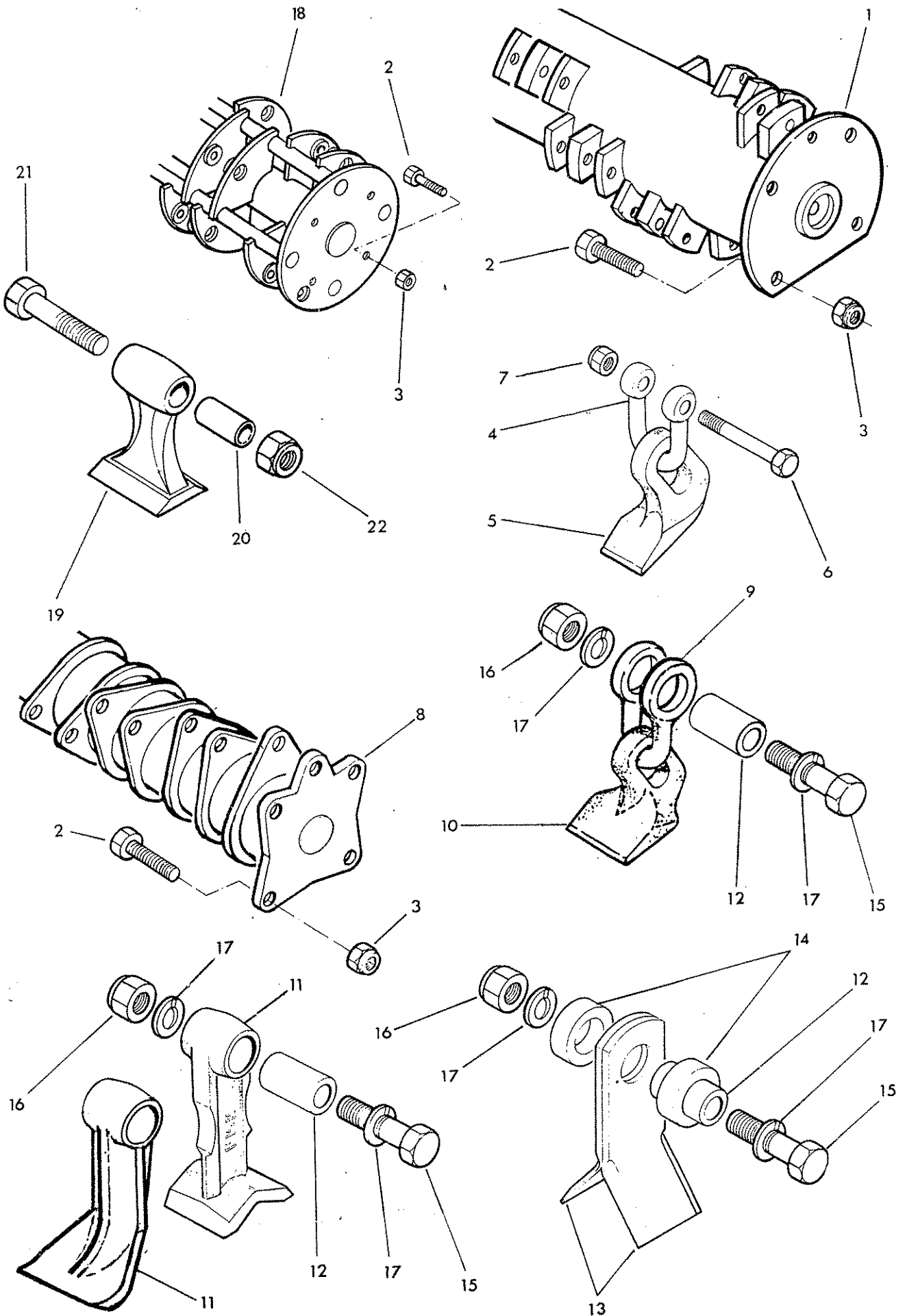
## OPTIONAL EXTRA FOR DOWNWARD CUTTING FLAILS

	71 90 310	1	Rear hood kit
52	71 90 285	1	Rear hood
53	03 11 106	4	Bolt
54	01 41 006	4	Self locking nut
55	93 13 045	7	Setscrew
56	93 13 055	2	Setscrew
57	91 43 005	9	Self locking nut

ROTOR & FLAIL OPTIONS



McCONEL





Ref	Part No	Qty	Description
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### ROTORS AND FLAILS

#### 140mm DIA ROTOR SUITABLE FOR HI POWER FLAIL HEADS ONLY

1	71 90 424	1	Rotor 1.2m (32 flail stations)
2	03 11 146	4	Setscrew 5/8 UNF x 1 3/4" long
3	01 41 006	4	Self locking nut 5/8 UNF

#### FLAIL FOR 140mm DIA ROTORS - Quantities shown are per flail station

4	71 90 086	1	Shackle
5	71 90 463	1	Flail
6	71 90 088	1	Special bolt
7	01 41 004	1	Self locking nut 7/16 UNF

#### 100mm DIA ROTOR SUITABLE FOR STANDARD AND HI POWER FLAIL HEADS

8	71 90 320	1	Rotor (24 flail stations)
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#### FLAIL OPTIONS FOR 100mm DIA ROTORS - Quantities show are per flail station.

9	71 90 106	1	Shackle
10	71 90 462	1	Flail
11	73 14 366	1	Flail F10H
	73 90 276	1	Flail - alternative single edged
12	73 14 223	1	Pivot bush
13	71 90 315	2	Flail
14	71 90 010	2	Flail spacer
15	73 14 201	1	Special bolt
16	01 41 006	1	Self locking nut 5/8 UNF
17	01 00 206	2	Spring washer 5/8" dia

#### OMEGA ROTOR SUITABLE FOR 1.2 METRE FLAIL HEADS

18	71 90 465	1	Rotor (20 flail stations)
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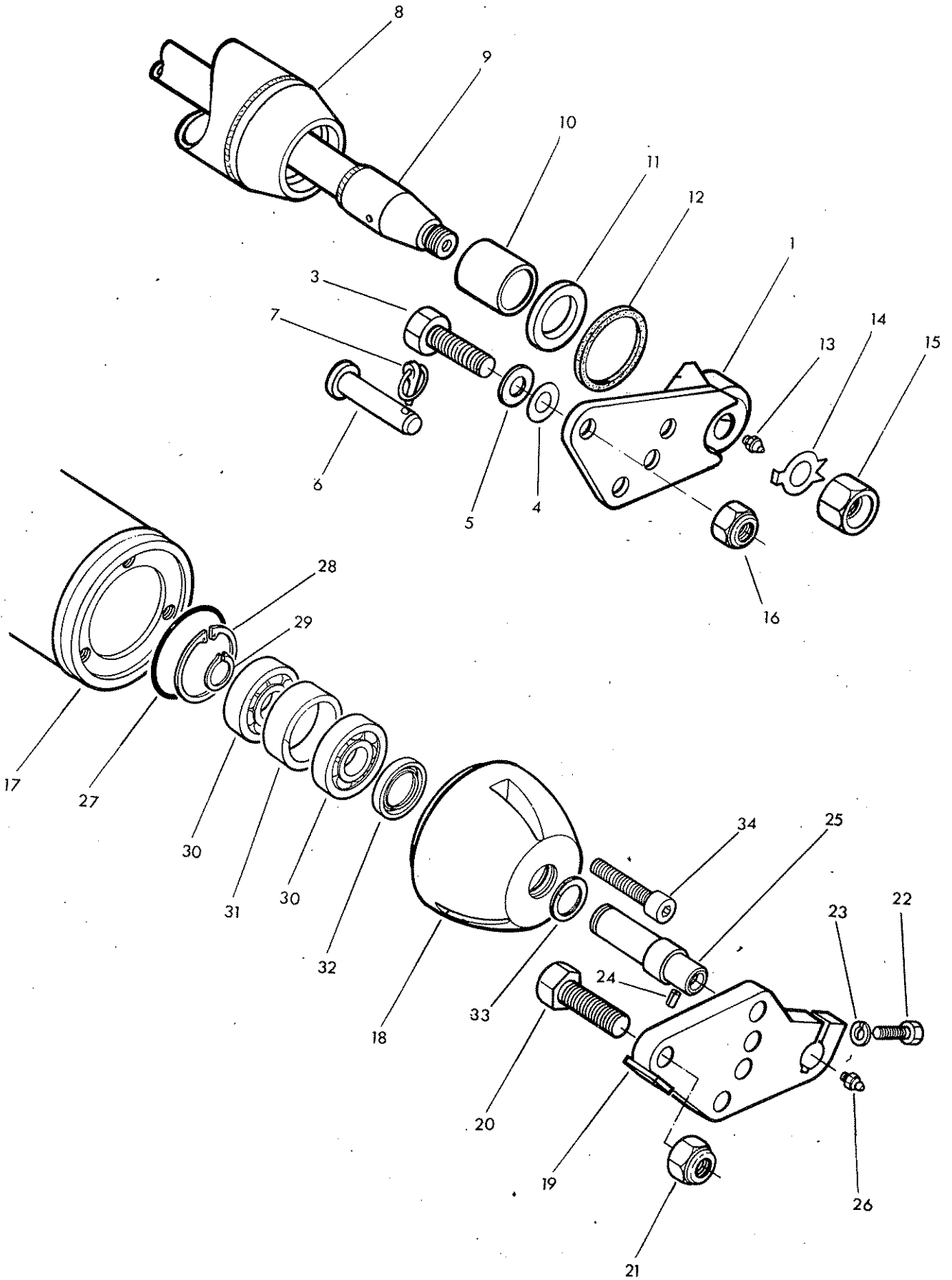
#### FLAIL FOR OMEGA ROTOR - Quantities are per flail station

19	71 90 464	1	Flail
20	71 90 117	1	Bush
21	71 90 118	1	Special bolt
22	01 41 006	1	Self locking nut 5/8" UNF

ROLLER OPTIONS



**MCCORMICK**

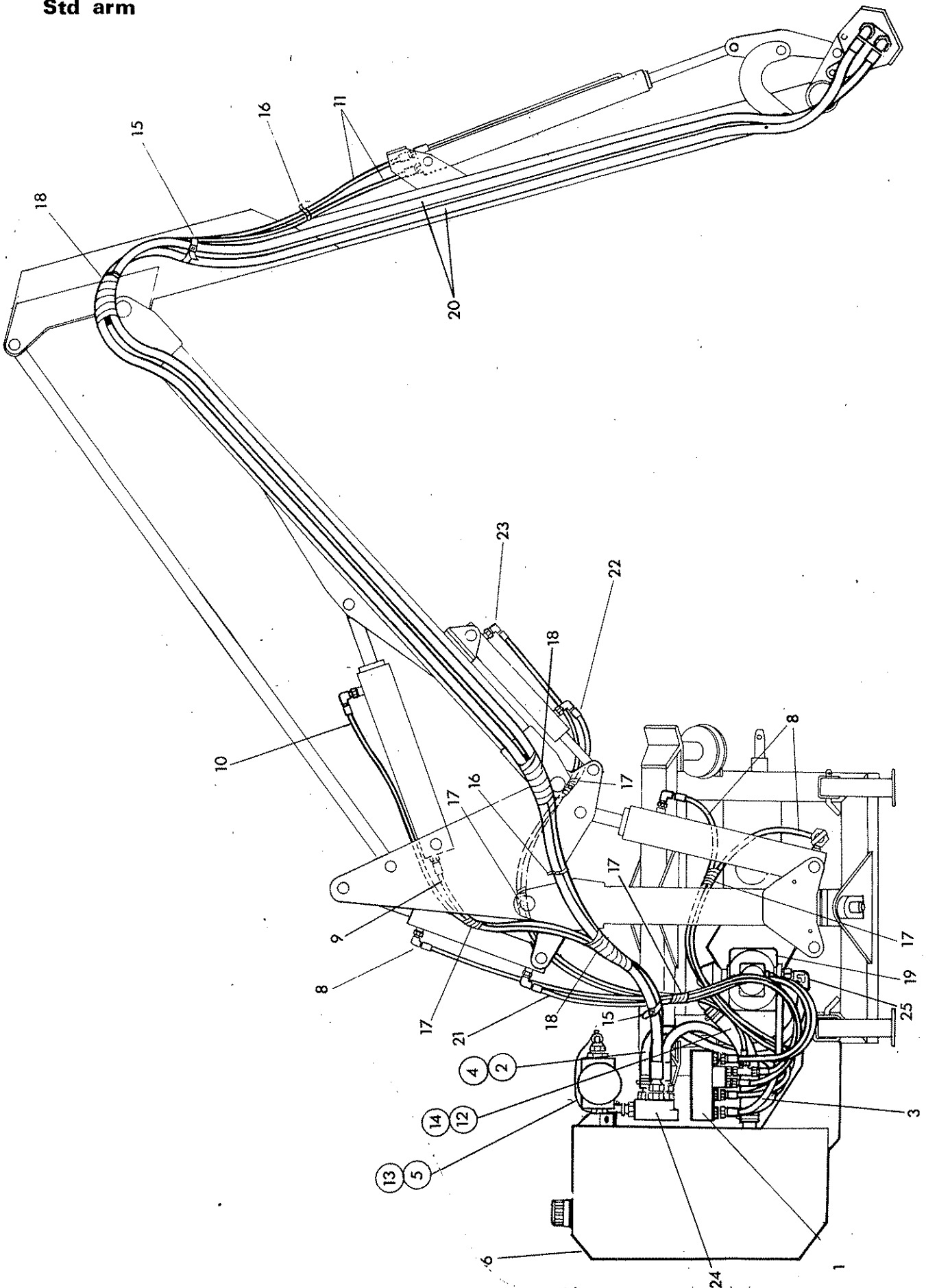




Ref.	Part No.	Qty.	Description
<b>ROLLERS OPTIONS FOR 1.2m FLAIL HEADS</b>			
<b>BUSHED ROLLER ASSEMBLY</b>			
1	71 90 306	1	Roller bracket L. Hand
2	71 90 305	1	Roller bracket R. Hand - not illus
3	02 11 166	2	Bolt
4	81 21 043	as reqd	Shim
5	81 21 044	as reqd.	Shim
6	71 90 032	2	Pin
7	04 31 213	2	Linch pin
8	71 90 307	1	Roller
9	71 90 308	1	Roller tie rod
10	72 13 023	2	Bush
11	71 90 026	2	Thrust washer
12	71 90 028	2	Felt seal
13	09 01 121	2	Greaser
14	71 90 023	2	Tab washer
15	71 14 176	2	Special nut
16	01 41 006	4	Self locking nut
<b>BALL BEARING ROLLER ASSEMBLY</b>			
17	71 90 434	1	Roller
18	71 90 429	2	Roller end
19	71 90 428	2	Mounting bracket
20	02 11 206	4	Bolt
21	01 41 006	4	Self locking nut
22	02 11 123	2	Bolt
23	01 00 203	2	Spring washer
24	04 25 408	2	Spring dowel
25	71 90 430	2	Stub axle
26	09 01 121	2	Greaser
27	86 00 139	2	'O' ring
28	04 11 262	2	Internal circlip
29	04 01 225	2	External circlip
30	06 00 088	4	Bearing
31	71 90 082	2	Spacer
32	86 29 125	2	Seal
33	04 12 120	2	Spring ring
34	93 00 104	6	Capscrew - self locking



Std arm







Ref.	Part No.	Qty.	Description.
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## HYDRAULIC INSTALLATIONS FOR STD. ARM MACHINES

Items 1 to 23 inclusive are common to all standard arm hydraulic installations

1	81 30 367	1	Electric control assembly (see pages 23 - 29 )
2	85 01 158	1	Hose 5/8" bore x 24" long. Return to rotor on/off valve
3	85 11 253	1	Hose 3/8" BSP x 18" long. Supply from pump
4	09 04 204	2	Hose clip - 5/8 bore hose
5	85 00 828	1	Hose low pressure 1" bore x 28" long rotor valve-tank
6		1	Tank assembly ( see page 37 )
7	71 09 319	1	Control mounting assembly -not illus-(see page 10 )
8	85 35 022	3	Hose 1/4 BSP x 48" long. Lift & Lift comp gland
9	85 15 132	1	Hose 1/4" BSP x 64" long. Reach base
10	85 35 142	1	Hose 1/4" BSP x 80" long. Reach gland
11	85 15 122	2	Hose 1/4" BSP x 162" long- Angle
12	85 01 122	1	Hose 1 1/2" bore x 11 3/4" long. Suction from tank
13	09 04 106	4	Hose clip - 1" bore hose
14	09 04 107	4	Hose clip - 1 1/2" bore hose
15	71 06 187	2	Hose tie
16	71 35 084	2	Hose tie
17	72 13 005	5	Hose armour coil
18	71 36 143	3	Hose armour col
19	85 01 183	1	Hose 1" BSP x 200"long - Flail motor
20	85 35 162	1	Hose 1/4" BSP x 36"long- Lift comp base
21	85 35 052	1	Hose 1/4" BSP x 70" long - Reach comp gland
22	85 35 072	1	Hose 1/4" BSP x 60" lg. - Reach comp base

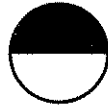
The following additional items will be required for specific hydraulic installations

## HYDRAULIC INSTALLATION FOR R. HAND STD ARM MACHINES

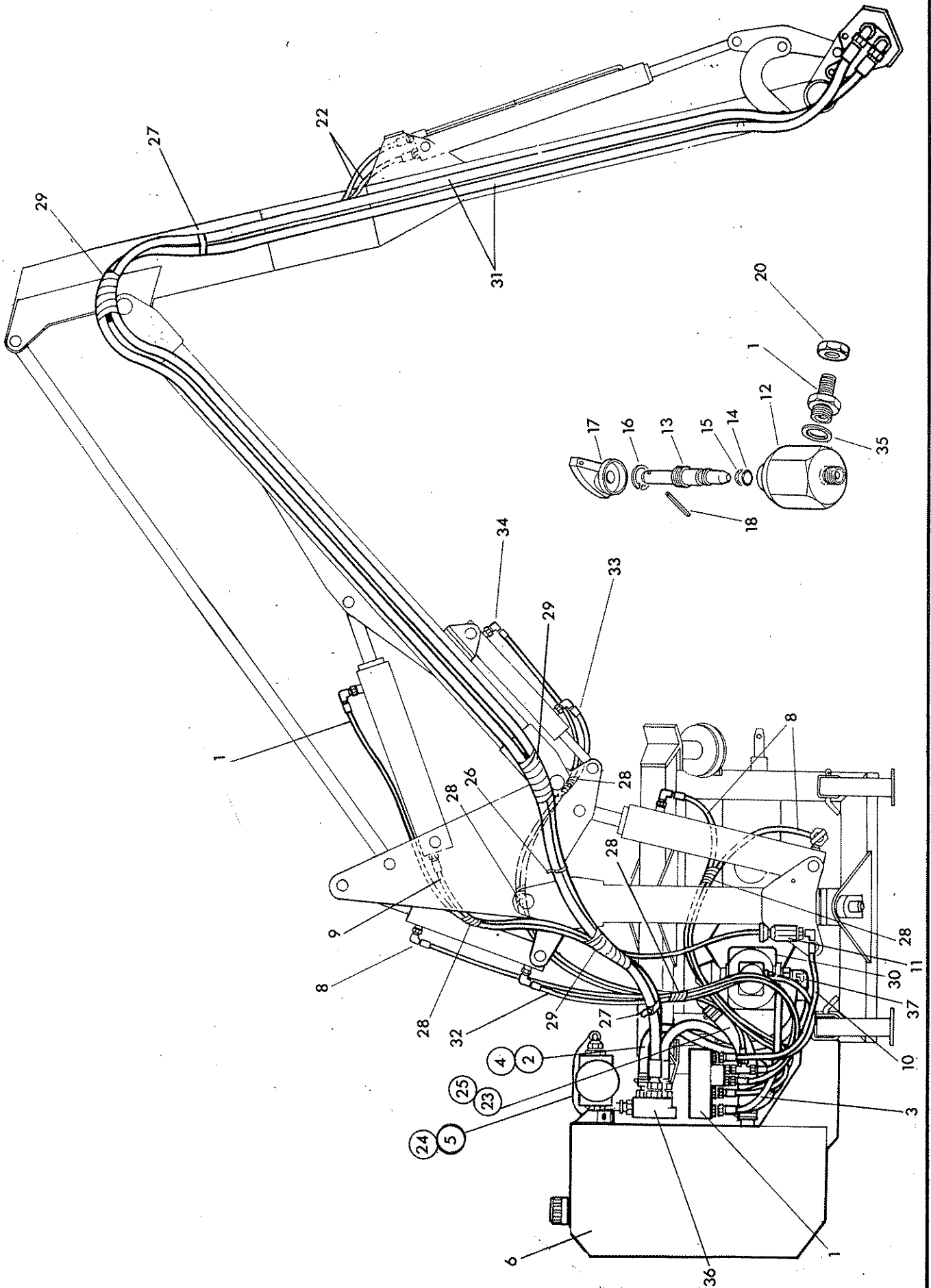
23	81 25 379	1	Rotor control valve assembly (see page 35 )
24	85 01 169	1	Hose 1" BSP x 29" lg. Pump R.C. Valve
25	80 13 472	1	Pump/gearbox assembly see page 31

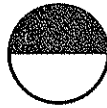
## HYDRAULIC INSTALLATION FOR L. HAND STD ARM MACHINES

23	81 25 380	1	Rotor control valve assembly (see page 35 )
24	85 01 201	1	Hose 1" BSP x 17" long Pump- R.C. Valve
25	80 13 471	1	Pump/gearbox assembly see page 31



Mid cut arm





Ref.	Part No.	Qty.	Description.
<b>HYDRAULIC INSTALLATIONS FOR MID CUT ARM MACHINES</b>			
<b>Items 1 to 35 inclusive are common to all mid cut arm hydraulic installations</b>			
1	81 30 367	1	Electric control assembly (see pages 23 -29 )
2	85 01 158	1	Hose 5/8" bore x 24" long. Return to rotor on/off valve
3	85 11 253	1	Hose 3/8" BSP x 18" long. Supply from pump
4	09 04 204	2	Hose clip - 5/8 bore hose
5	85 00 828	1	Hose low pressure 1" bore x 28" long rotor valve-tank
6		1	Tank assembly ( see page 37)
7	71 09 319	1	Control mounting assembly -not illus-(see page 10 )
8	85 35 022	3	Hose 1/4 BSP x 48" lg. Lift & Lift comp gland
9	85 32 192	1	Hose 1/4" BSP x 44" long Reach base - tap
10	85 35 102	1	Hose 1/4" BSP x 17" long Reach tap - valve.
11	71 93 050	1	Lock tap assembly compr :-
12	71 35 284	1	Tap body
13	71 35 006	1	Tap spindle
14	86 00 107	1	O ring
15	86 09 107	1	Anti extrusion ring
16	04 16 110	1	Internal circlip
17	81 08 006	1	Tap knob
18	04 20 820	1	Spring dowel
19	85 81 297	1	Bulkhead adaptor
20	01 39 001	1	Backnut
21	85 35 142	1	Hose 1/4" BSP x 80" long. Reach gland
22	85 15 212	2	Hose 1/4" BSP x 185" long- Angle
23	85 01 122	1	Hose 1 1/2" bore x 11 3/4" long. Suction from tank
24	09 04 106	4	Hose clip - 1" bore hose
25	09 04 107	4	Hose clip - 1 1/2" bore hose
26	71 06 187	2	Hose tie
27	71 35 084	2	Hose tie
28	72 13 005	5	Hose armour coil
29	71 36 143	3	Hose armour col
30	85 01 243	1	Hose 1" BSP x 220" long - Flail motor
31	85 01 162	1	Hose 1/4" BSPx 36" long - Lift comp base
32	85 35 052	1	Hose 1/4" BSP x 70" long - Reach comp gland
33	85 35 072	1	Hose 1/4" BSP x 60" long Reach comp base
34	86 50 103	1	Bonded seal 3/8" BSP

The following additional items will be required for specific hydraulic installations

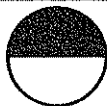
### HYDRAULIC INSTALLATION FOR R HAND MACHINES

35	81 25 379	1	Rotor control valve assembly (see page 35 )
36	85 01 169	1	Hose 1" BSP x 29" long Pump R.C. Valve
37	80 13 472	1	Pump/gearbox assembly see page 31

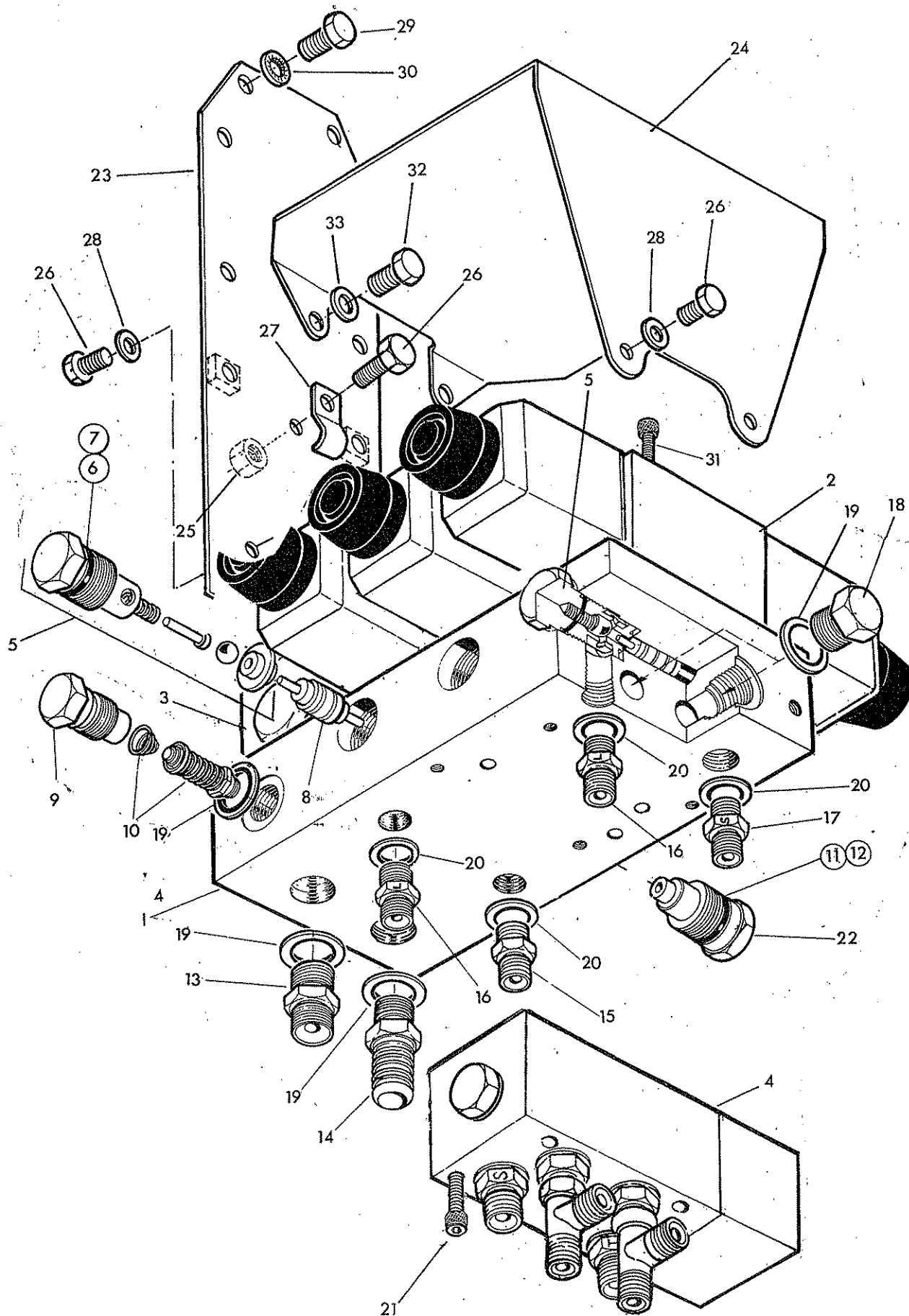
### HYDRAULIC INSTALLATION FOR L. HAND MACHINES

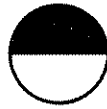
35	81 25 380	1	Rotor control valve assembly (see page 35)
36	85 01 201	1	Hose 1" BSP x 17" long Pump- R.C. Valve
37	80 13 471	1	Pump/gearbox assembly see page 31

CONTROL VALVE



McCOMEL





Ref.	Part No.	Qty.	Description
	<b>81-30-368</b>		<b>ELECTRIC CONTROL PACK</b>
	81-30-364		Solenoid/manifold assembly compr:
1	81-30-321	1	Manifold block
2	81-30-455	3	Double solenoid valve ] See page 27
3	81-30-456	1	Single solenoid valve ]
4	81-30-352	1	Head compensator valve See page 25
5	81-30-090	5	Check valve assembly incl.
6	87 00 644	1	"O" ring
7	87 09 644	1	Anti extrusion ring
8	81-30-087	3	Actuator
9	81-30-032	1	Relief valve cap
10	81-30-124	1	Relief valve c/w spring
11	87-09-644	1	Anti extrusion ring
12	87-00-644	1	'O' ring
13	60-00-113	1	Union
14	81-25-008	1	Return connection
15	80-02-117	1	Union
16	81-30-038	2	Restrictor Union 'L'
17	81-30-037	1	Restrictor Union 'S'
18	80-03-001	2	Plug
19	86-50-103	5	Bonded seal
20	86-50-102	4	Bonded seal
21	92-43-082	4	Socket headed setscrew
22	81-30-078	1	Check valve gallery plug
23	71-94-003	1	Valve mounting plate
24	71-94-277	1	Valve cover
25	91-43-004	1	'Clevelok' nut
26	93-13-034	5	Setscrew
27	71-09-151	1	Cable clamp
28	91-00-204	4	Spring washer
29	93-13-045	2	Setscrew
30	91-00-305	2	Int. serrated washer
31	92-43-062	16	Capscrew, socket headed
32	93-13-035	2	Setscrew
33	91-00-205	2	Spring washer

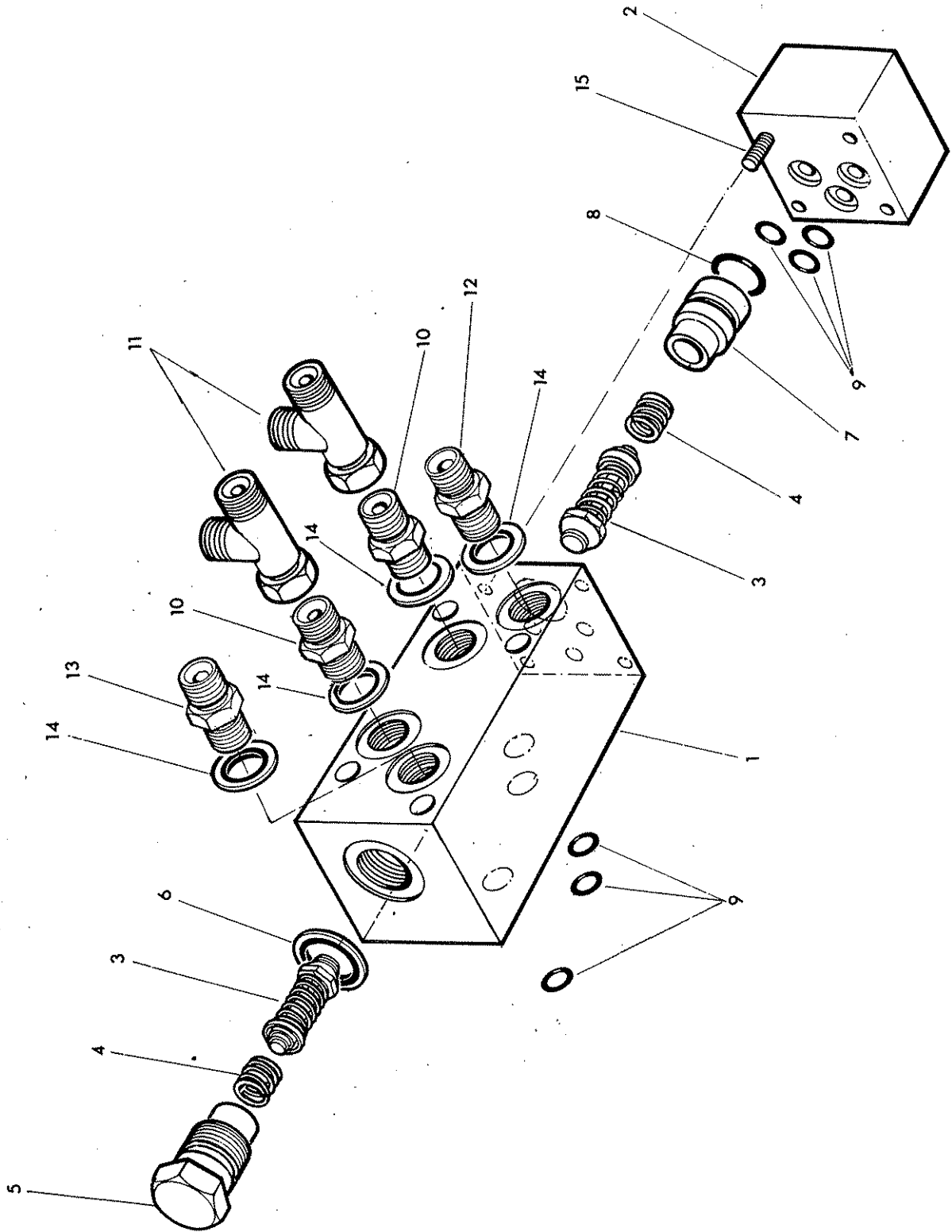
**86-99-197****SEAL KIT**

Switch box. See page 29

COMPENSATOR VALVE



McCONNELL



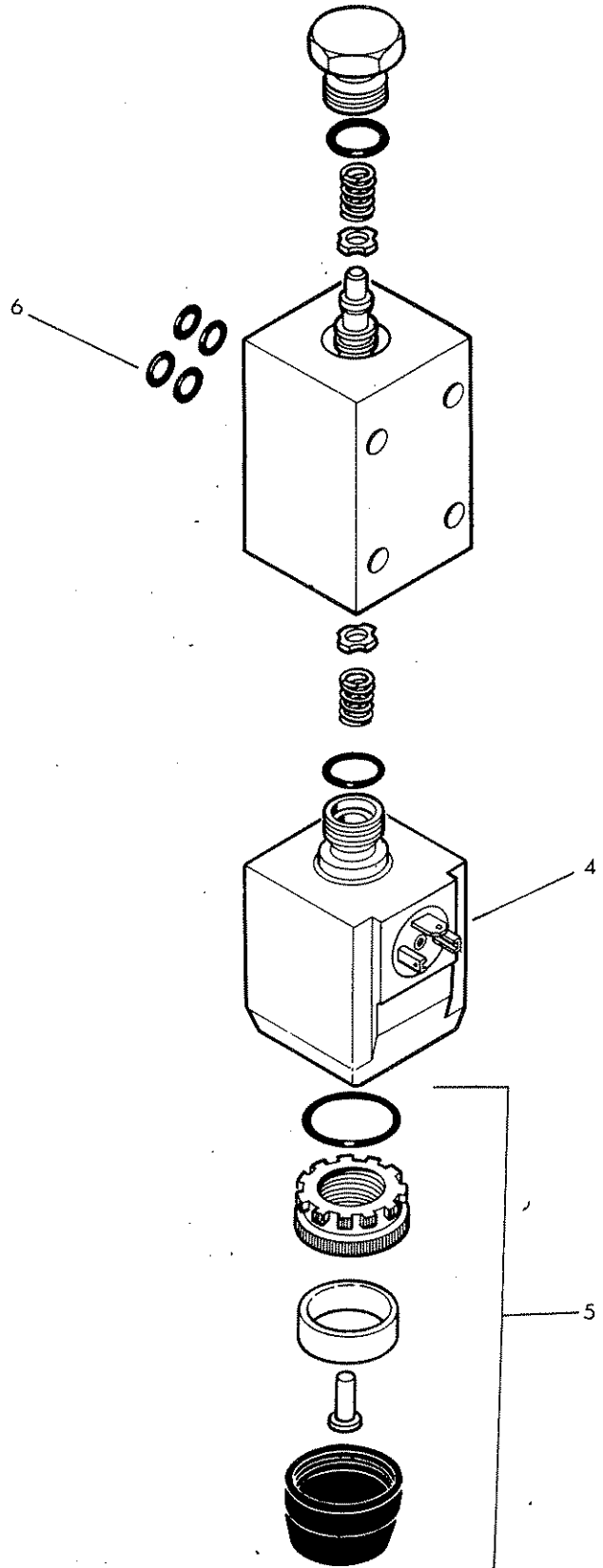
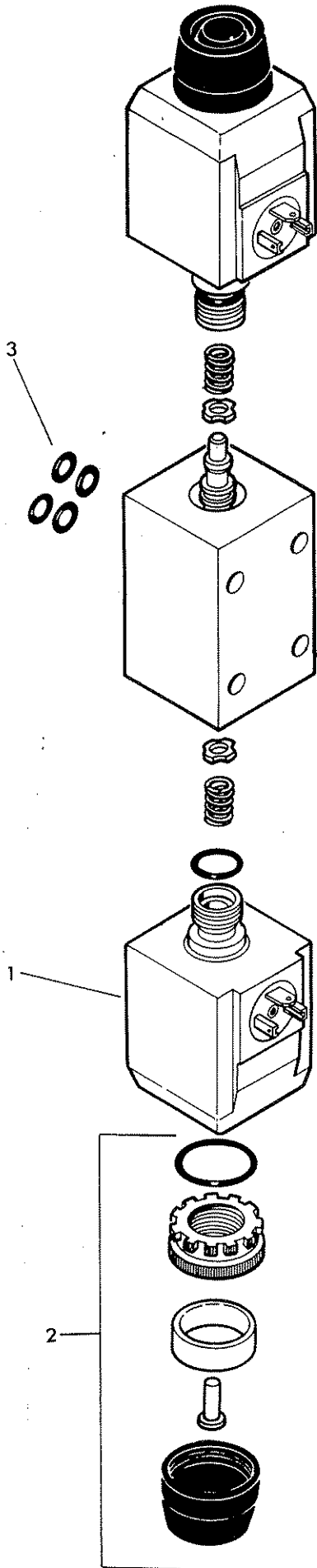


Ref.	Part No.	Qty.	Description
	<b>81-30-362</b>		<b>HEAD COMPENSATOR VALVE</b>
1	81-30-361	1	Valve block
2	81-30-139	1	Blanking plate
3	81-30-141	2	Relief valve cartridge
4	81-16-011	2	Spring
5	81-30-032	1	Relief valve cap
6	86-50-103	1	Bonded seal
7	81-30-140	1	Relief valve plug
8	86-00-109	1	'O' ring
9	87-00-511	6	'O' ring
10	85-81-169	2	Union
11	85-81-254	2	Tee piece
12	81-30-037	1	Restrictor union 'S'
13	81-30-038	1	Restrictor union 'L'
14	86-50-102	4	Bonded seal
15	92-43-062	4	Capscrew - socket headed

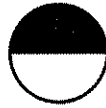
SOLENOIDS



McDONNELL







## 81-30-455

## DOUBLE SOLENOID VALVE

1	81-30-175	2	Coil
2	81-30-176	2	Manual override kit
3	87-00-511	4	'O' ring

## 81-30-456

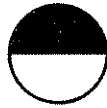
## SINGLE SOLENOID VALVE

4	81-30-175	1	Coil
5	81-30-176	1	Manual override kit
6	87-00-511	4	'O' ring

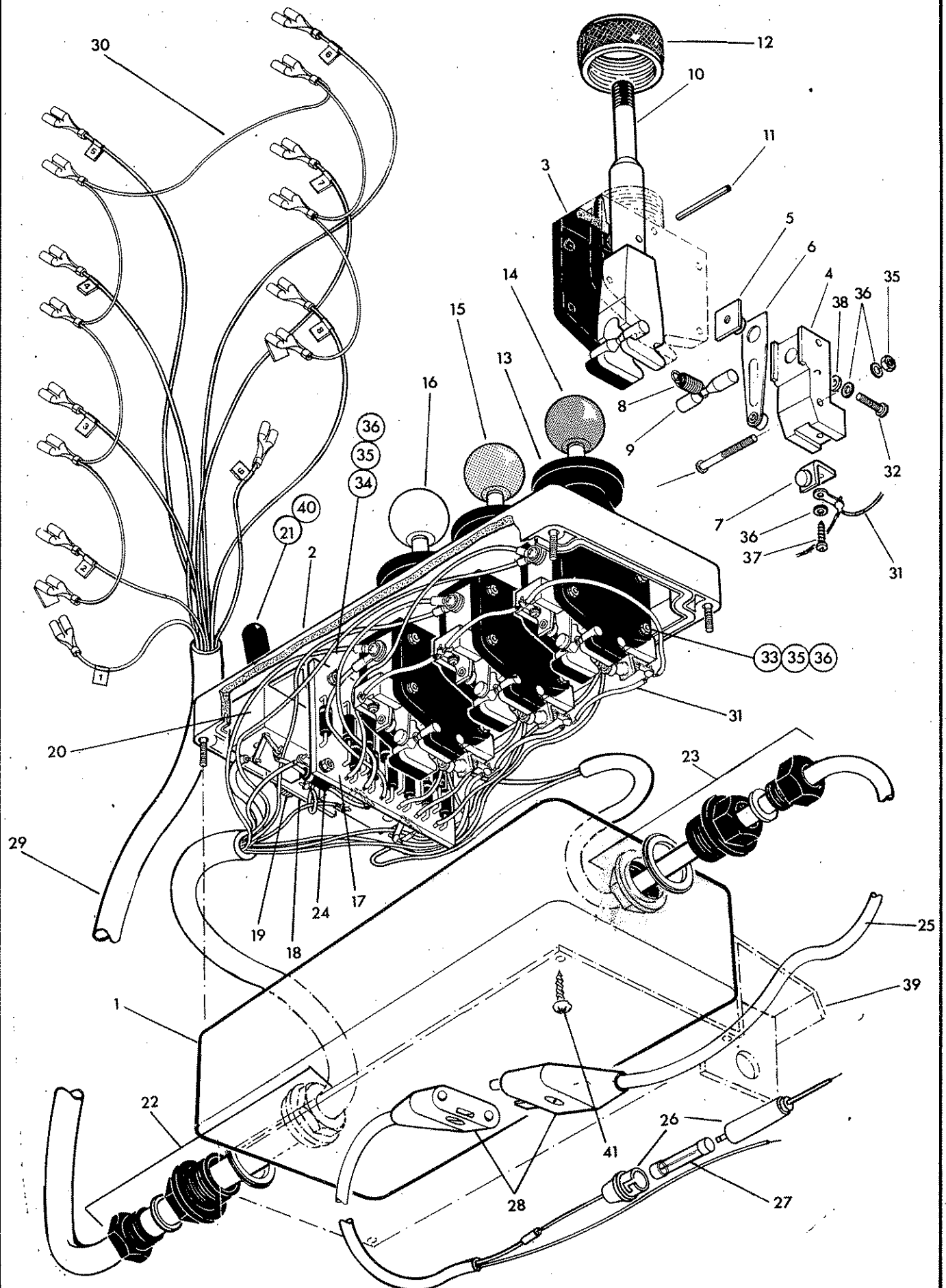
## 86-99-224

## SEAL KIT

SWITCHBOX & LOOM

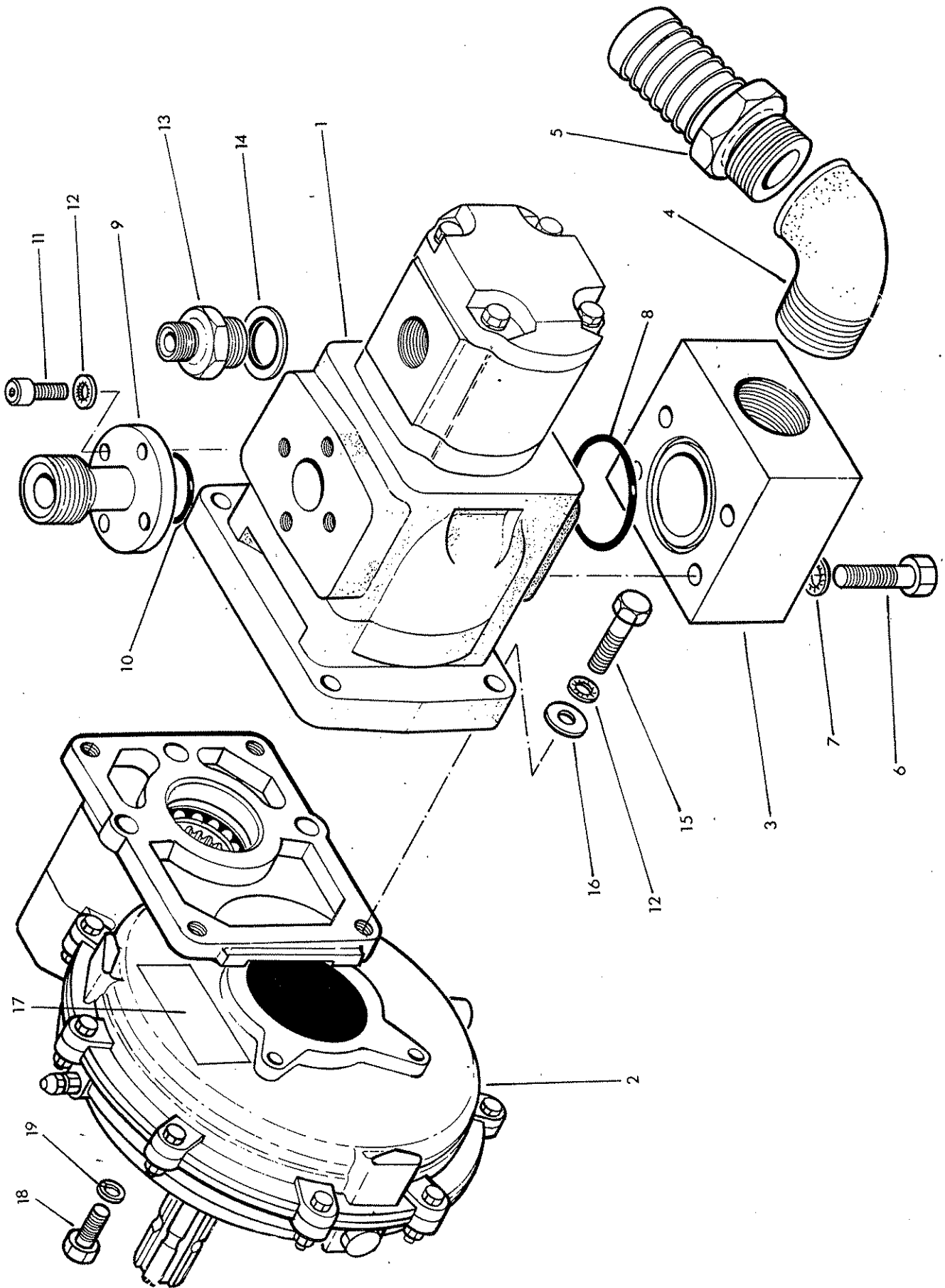


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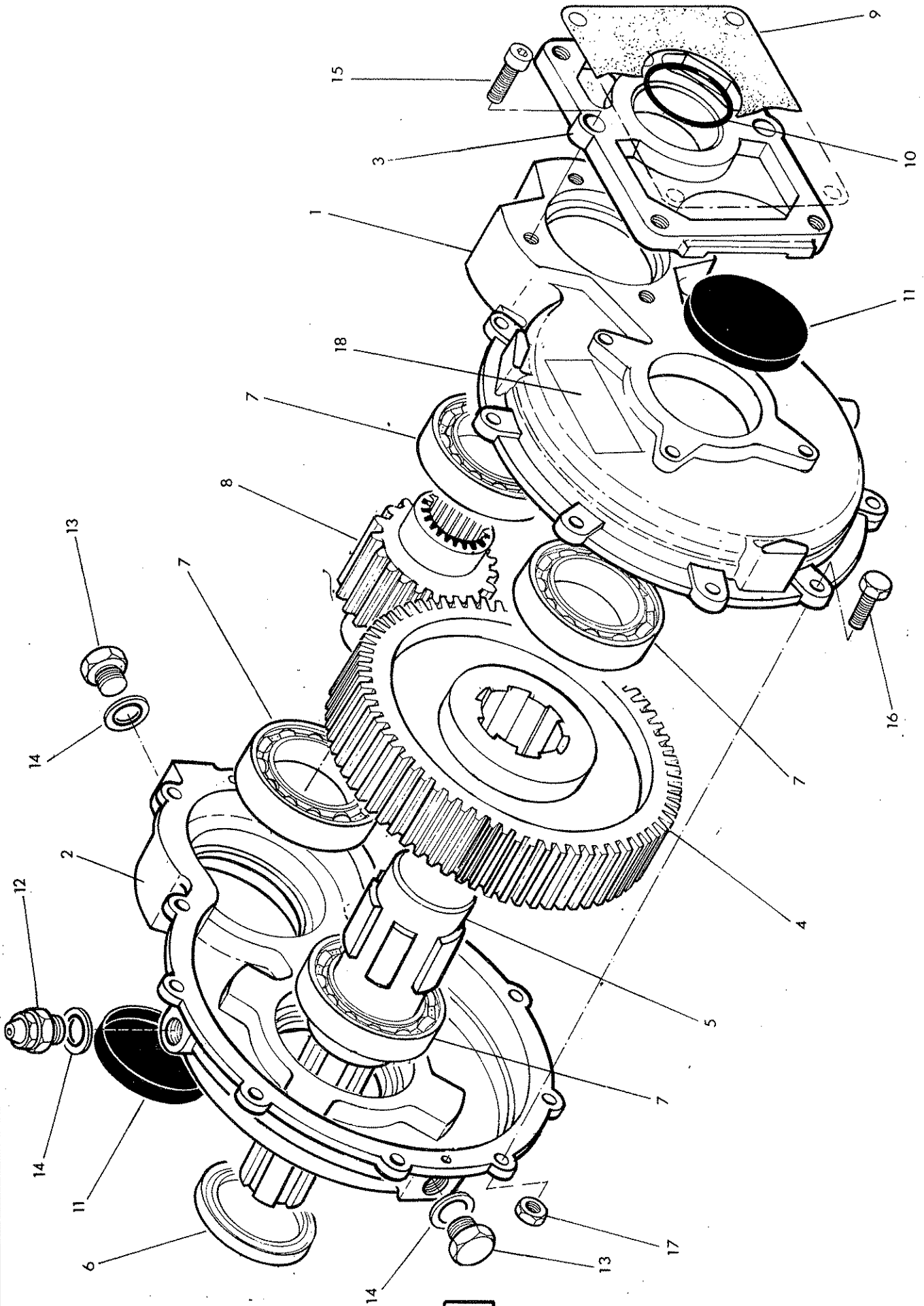
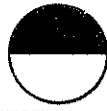


Ref.	Part No.	Qty.	Description
	<b>81-30-368</b>		<b>ELECTRIC CONTROL PACK FOR PA95 CONTINUED</b>
	84-02-280		Switch box assembly comp:-
	84-02-281	1	Box assembly
1	84-02-263	1	Box body
2	84-02-282	1	Box lid c/w screws
3	84-02-285	3	Body
4	84-02-106	6	Contact holder
5	84-02-109	6	Spring contact retainer
6	84-02-113	6	Spring contact
7	84-02-108	6	Fixed contact
8	84-02-101	3	Spring
9	84-02-111	6	Bar
10	84-02-256	3	Lever
11	04-25-320	3	Spring dowel
12	84-02-051	3	Bezel ring
13	84-02-022	3	Lever gaiter
14	84-02-026	1	Knob red
15	84-02-027	1	Knob green
16	84-02-028	1	Knob yellow
17	84-02-115	1	Printed circuit board assembly
18	84-02-110	1	Bracket c/w diode
19	84-02-281	1	Diode
20	84-02-023	2	Toggle switch
21	84-02-024	2	Switch cover
22	84-02-029	1	Gland assembly - large
23	84-02-042	1	Gland assembly - small
24	84-02-025	1	Diode
25	84-02-284	1	Power supply harness compr:-
26	84-02-114	1	Fuse Holder
27	84-02-037	1	Fuse
28	84-02-062	1	Plug /socket
29	84-02-283	1	Main harness c/w common link
30	84-02-058	1	Common link harness
31	84-02-116	1	Common link - switchbox
32	92-00-005	6	Screw -posidrive pan-head
33	92-00-006	12	Screw - posidrive pan-head
34	92-00-007	3	Screw-posidrive pan-head
35	91-00-013	15	Hexagon nut
36	91-00-400	27	External serrated washer
37	84-02-119	6	Self tapping screw
38	84-02-280	6	Plain washer
39	84-02-260	1	Switch box mounting bracket c/w label
40	12-90-353	1	Instruction label
41	28-00-203	4	Self tapping screw





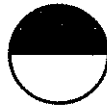
Ref	Part No	Qty	Description
			<b>T.I PUMP AND GEARBOX L.HAND HI POWER - as illustrated</b>
			<b>T.I PUMP AND GEARBOX HAND HI POWER</b>
			<b>The parts list for right and left hand is identical. Assemblies vary only in build arrangement and comprise:-</b>
1	82 01 685	1	Tandem pump compr:-
	82 01 165	1	Large-pump
	82 01 166	1	Small-pump
2	80 13 444	1	Gearbox
3	85 81 312	1	Suction flange
4	85 81 261	1	Elbow 90 degrees
5	85 81 367	1	Adaptor
6	92 13 146	4	Bolt
7	91 00 406	4	Shakeproof washer
8	86 00 304	1	'O' ring
9	80 13 090	1	Pressure connection
10	86 00 117	1	'O' ring
11	93 43 054	4	Cap screw
12	91 00 404	8	Shakeproof washer
13	60 00 112	1	Adaptor
14	86 50 104	1	Bonded seal
15	93 13 074	4	Bolt
16	91 00 104	4	Plain wasner
17	12 90 054	1	Gearbox label
18	93 13 056	4	Setscrew
19	91 00 206	4	Spring washer
	<b>86 99 234</b>		<b>SEAL KIT</b>



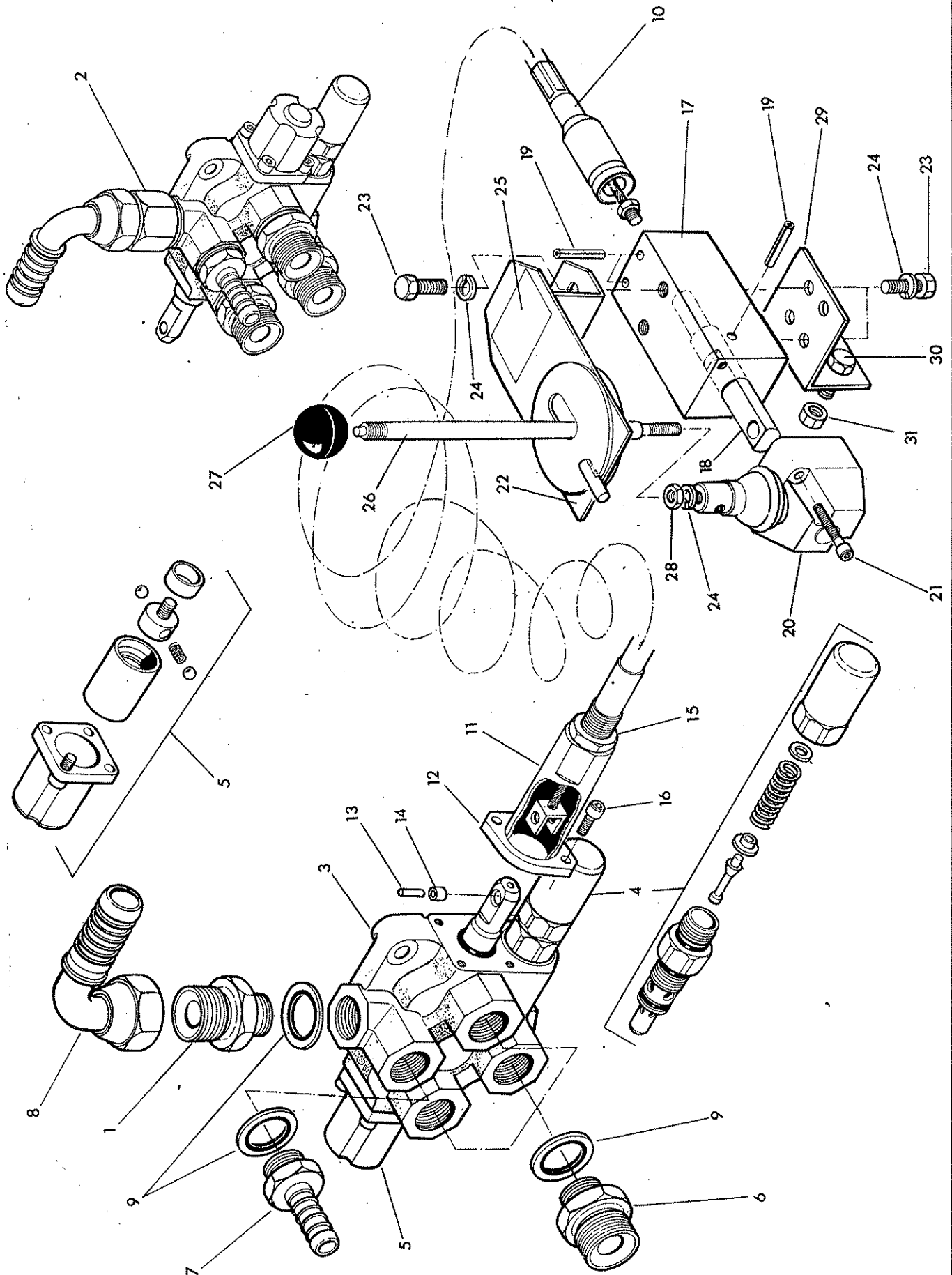


<b>Ref</b>	<b>Part No</b>	<b>Qty</b>	<b>Description</b>
	<b>80 13 444</b>		<b>GEARBOX - from June 1992</b>
1	80 13 100	1	Case - output side
2	80 13 101	1	Case - input side
3	80 13 102	1	Pump mounting flange
4	80 13 105	1	Gear
5	80 13 105	1	Shaft
6	86 29 196	1	Shaft seal
7	06 00 042	4	Bearing
8	80 13 104	1	Pinion
9	80 13 056	1	Gasket
10	86 00 523	1	'O' ring
11	80 13 106	2	End cover
12	80 13 107	1	Breather/adaptor
13	85 81 133	4	Plug
14	86 50 102	4	Bonded seal
15	93 43 045	3	Capscrew socket headed
16	92 13 064	10	Bolt
17	91 43 004	10	Self locking nut
18	12 90 054	1	Sticker

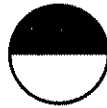
ROTOR CONTROL VALVE



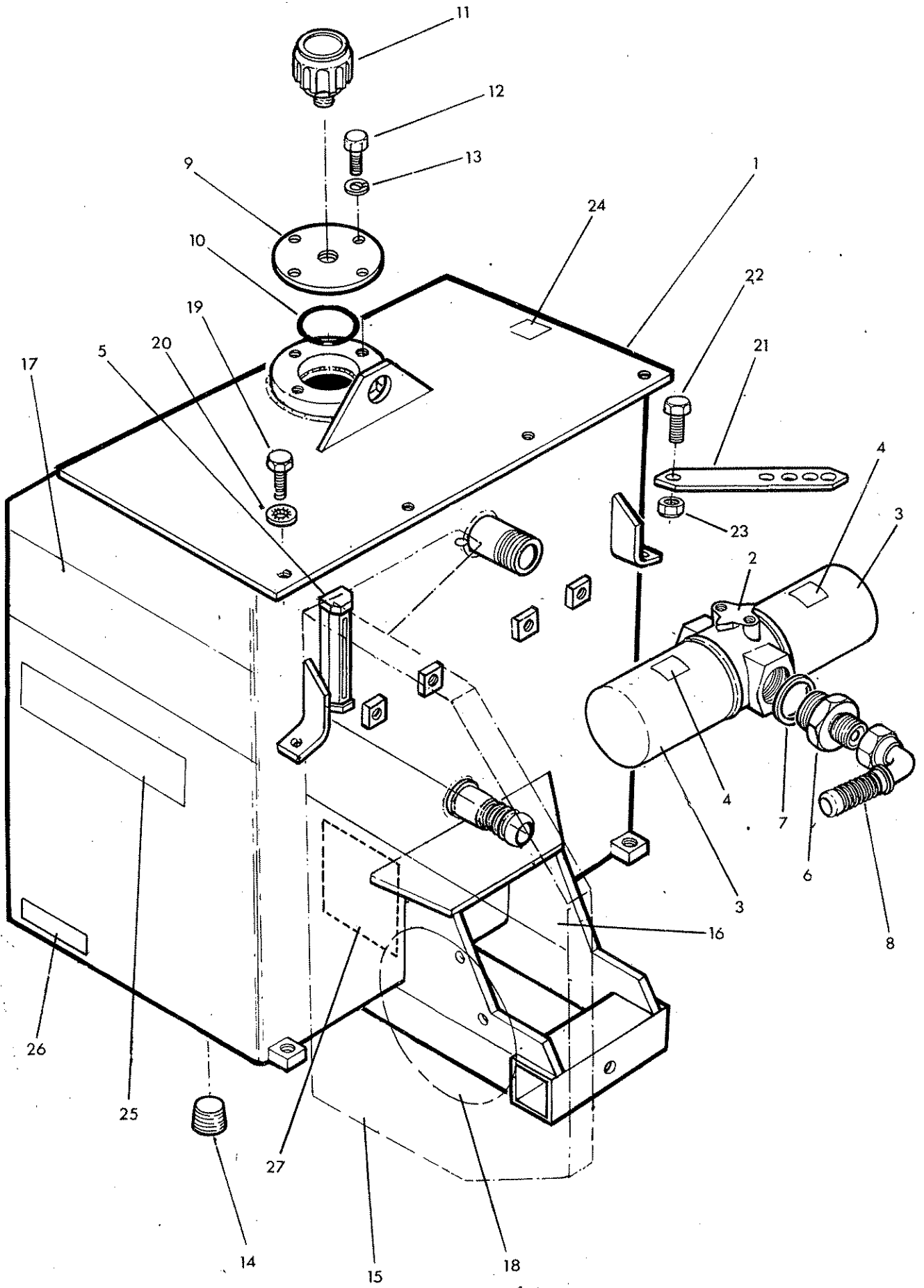
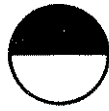
McCOMBI







Ref.	Part No.	Qty.	Description
	<b>81 25 379</b>		<b>ROTOR CONTROL VALVE ASSEMBLY R. HAND - shown exploded</b>
1	80 02 086	1	Adaptor
	<b>81 25 380</b>		<b>ROTOR CONTROL VALVE ASSEMBLY L. HAND - shown inset</b>
2	85 81 295	1	Extended adaptor
<b>Items 3 -31 inclusive are common to both R and L Hand rotor control valves</b>			
3	81 25 356	1	Rotor control valve
4	81 25 108	1	Relief valve
5	81 25 109	1	Detent assembly
6	80 02 086	3	Union
7	85 81 269	1	Adaptor
8	71 14 005	1	Elbow
9	86 50 106	5	Bonded seal
10	81 25 102	1	Cable assembly c/w sleeve flange etc
11	81 25 097	1	Sleeve
12	81 25 098	1	Flange
13	81 25 099	1	Pin
14	81 25 100	1	Bush
15	01 31 006	1	Thin locknut
16	93 43 033	2	Capscrew - socket headed
17	81 25 093	1	Control block
18	81 30 053	1	Control spindle
19	04 25 540	3	Spring dowel
20	81 30 065	1	Pivot box assembly
21	92 43 072	2	Capscrew - socket headed
22	81 25 089	1	Lever control gate
23	93 13 034	4	Setscrew
24	91 00 204	7	Spring washer
25	12 90 338	1	Operating label
26	71 14 072	1	Lever
27	09 03 121	1	Knob - black
28	91 13 004	1	Thin nut
29	81-25-070	1	Mounting bracket
30	93-13-044	2	Setscrew
31	91 43 004	2	Self locking nut
	<b>86 99 218</b>		<b>SEAL KIT</b>





Ref	Part No	Qty	Description
<b>ENDURO HYDRAULIC TANK AND COVER PLATE</b>			
	71 93 392		Oil tank assembly compr:-
1	71 93 386	1	Oil tank
2	84 01 060	1	Return filter head
3	84 01 041	2	Filter element
4	12 90 023	2	Sticker "filter instructions"
5	84 01 048	1	Level guage
6	85 81 291	1	Union
7	86 50 224	1	Bonded seal
8	71 14 005	1	Elbow
9	71 92 062	1	Cover
10	86 00 151	1	'O' ring
11	84 01 063	1	Breather
12	93 13 054	4	Set screw
13	91 00 204	4	Spring washer
14	85 81 203	1	Drain plug
15	71 93 389	1	Cover plate R. hand
16	12 90 283	1	Stripe - R. hand
17	12 90 394	1	Tank stripe PA93 E
18	12 90 365	1	Sticker 'McConnel' rounded
19	93 13 045	2	Set screw
20	91 00 305	2	Internal serrated washer
21	71 92 029	1	Tank strap
22	93 13 056	2	Set screw
23	91 43 006	2	Self locking nut
24	12 90 023	1	Label 'oil filter'
25	12 90 362	1	Sticker 'Hi Power'
26	12 90 376	1	Sticker 'Enduro'
27	71 09 143	1	Sticker Solenoid wiring

### ENDURO HYDRAULIC TANK AND COVER PLATE

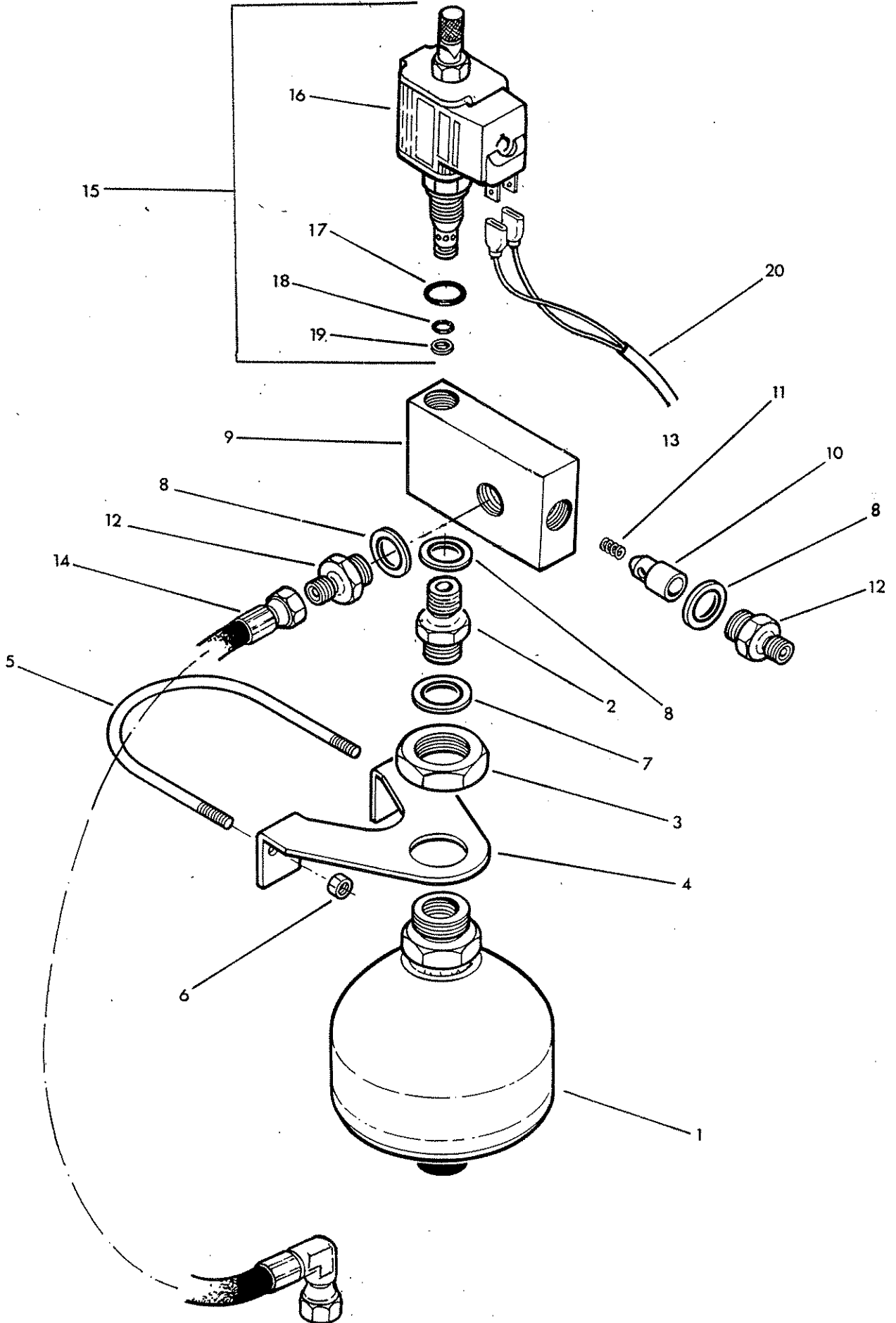
Parts are identical to the R. hand assembly with the following exceptions.

15	71 93 390	1	Cover plate L. hand
16	12 90 284	1	Stripe L. hand

LIFT FLOAT KIT



**MCCORMELL**



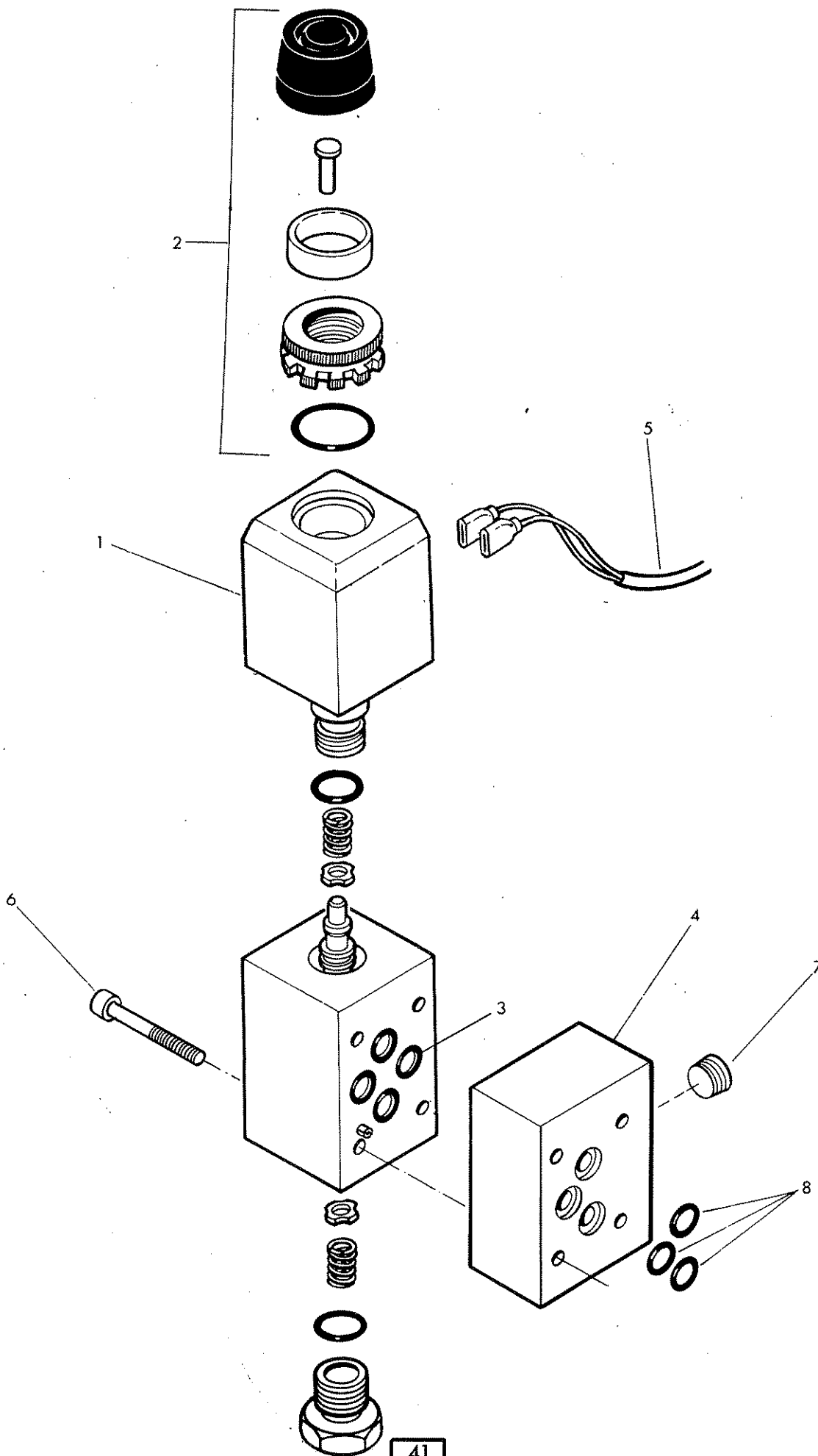


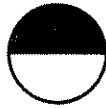
Ref.	Part No.	Qty.	Description
	<b>81 26 290</b>		<b>LIFT FLOAT KIT - Quick response</b>
1	81 26 042	1	Accumulator
2	G241 0380	1	Adaptor
3	81 26 035	1	Bulkhead nut
4	81 26 286	1	Bracket
5	81 26 031	1	U. bolt
6	91 43 004	2	Self locking nut
7	86 50 322	1	Bonded seal
8	86 50 103	3	Bonded seal
9	81 26 287	1	Control block
10	81 26 037	1	Response piston
11	81 16 011	1	Spring
12	85 81 115	2	Adaptor
13	12 90 061	1	Operating sticker
14	85 35 012	1	Hose 1/4" BSP x 12" long SF - 90F
15	81 30 183	1	Poppet valve including :-
16	81 30 184	1	Coil
17	87 00 017	1	O ring
18	87 00 511	1	O ring
19	87 09 511	1	Anti extrusion ring
20	84 02 159	1	Cable - electric machines only

ANGLE FLOAT KIT



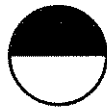
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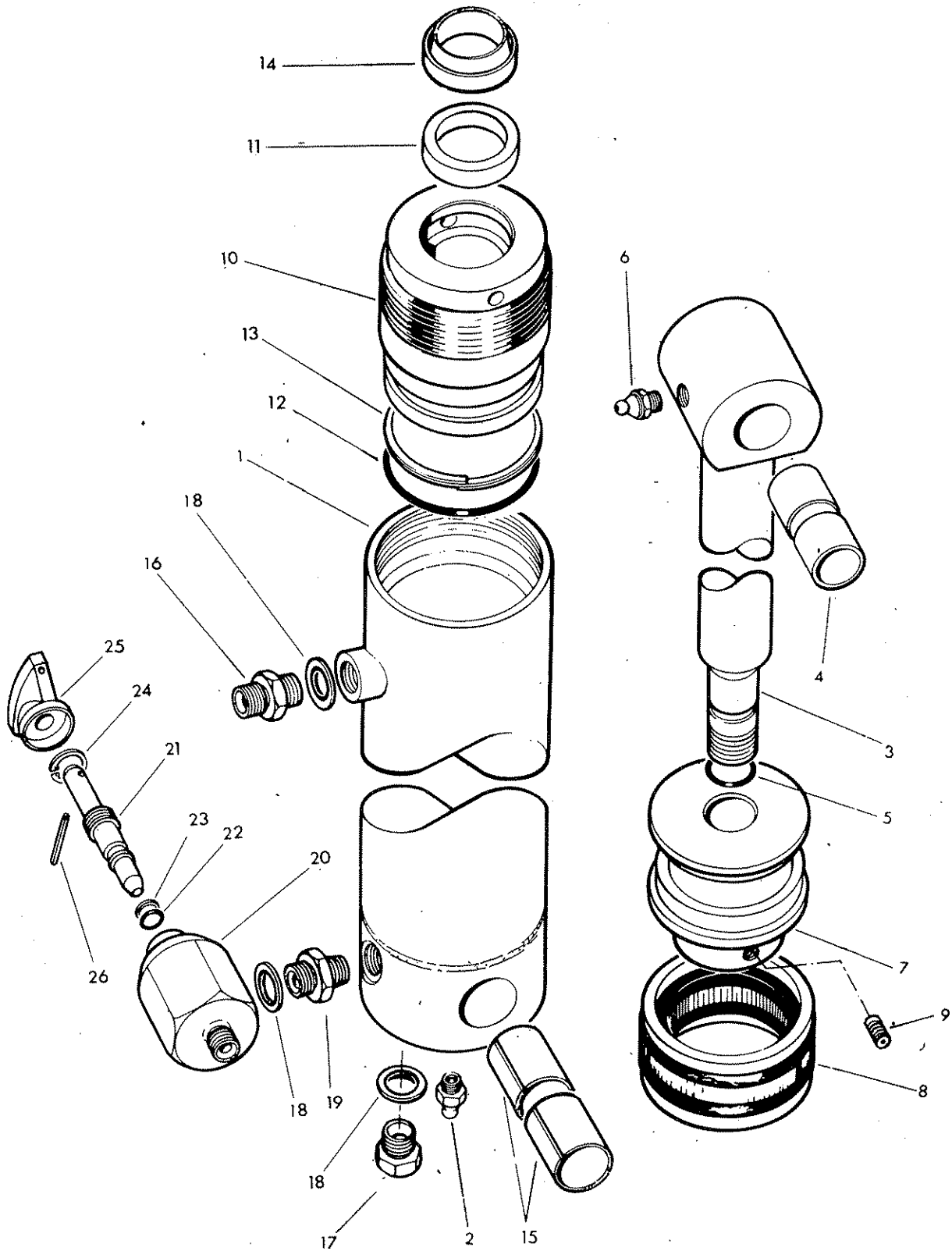


Ref.	Part No.	Qty.	Description
	<b>81-26-281</b>		<b>ANGLE FLOAT KIT . Optional extra for ground cutting</b>
	81-30-457	1	Single solenoid valve compr:-
1	81-30-175	1	Coil
2	81-30-176	1	Manual override kit
3	87-00-511	4	O ring
4	81-26-280	1	Bridging plate
5	84-02-059	1	Wiring harness
6	92-43-102	4	Capscrew - socket headed
7	85-82-041	1	Plug
8	87-00-511	3	'O' ring
	<b>86-99-224</b>		<b>SOLENOID SEAL KIT</b>

LIFT RAM



McCONEL



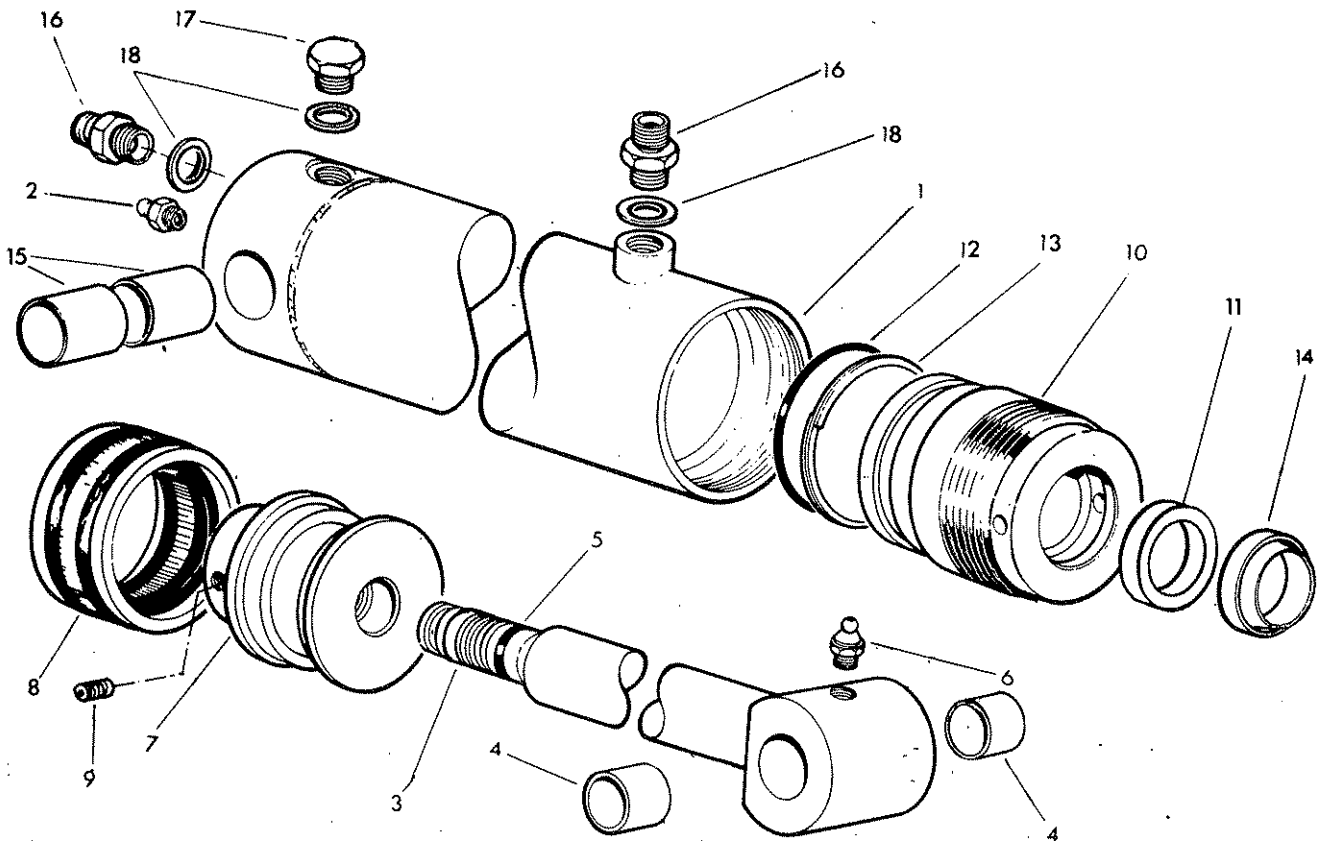




Ref.	Part No.	Qty.	Description
	<b>71-93-333</b>		<b>LIFT RAM ASSEMBLY</b>
1	71-35-283	1	Ram cylinder
2	09-01-121	1	Greaser
3	71-93-029	1	Piston rod
4	60-12-032	2	Bush
5	86-00-119	1	'O' ring
6	09-01-121	1	Greaser
7	71-35-004	1	Piston
8	86-38-740	1	Piston seal
9	93-63-023	1	Grub screw
10	71-35-282	1	Gland housing
11	86-29-164	1	Gland seal
12	87-00-740	1	'O' ring
13	87-09-740	1	Anti extrusion ring
14	86-29-147	1	Wiper
15	71-01-134	2	Bush - ram base
16	85-81-115	1	Union
17	80-03-001	1	Plug
18	86-50-103	3	Bonded seal
19	80-05-007	1	Taper adaptor
	71-35-005	1	Lock tap assembly compr:
20	71-35-284	1	Tap body
21	71-35-006	1	Tap spindle
22	86-00-107	1	'O' ring
23	86-09-107	1	Anti extrusion ring
24	04-16-110	1	Internal circlip
25	81-08-006	1	Tap knob
26	04-20-820	1	Spring dowel

**86-99-187****SEAL KIT**

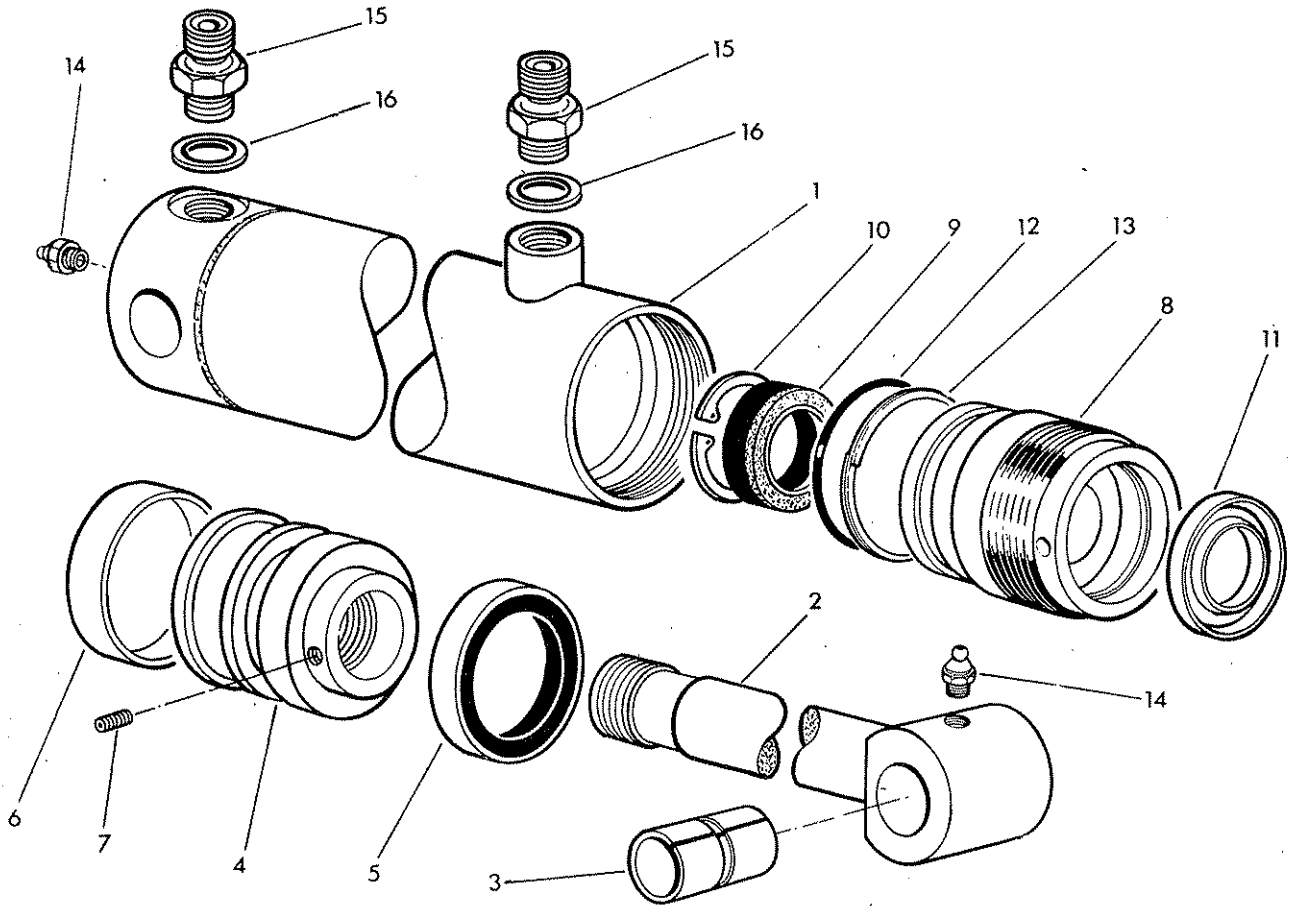
**Assembly note** Fully tighten item 9 and centre pop edge of hole to retain.



Ref.	Part No.	Qty.	Description
	<b>71-93-334</b>		<b>REACH RAM ASSEMBLY</b>
	71-93-332		Ram base compr:-
1	71-35-283	1	Ram cylinder
2	09-01-121	1	Greaser
3	71-93-029	1	Piston rod
4	60-12-032	2	Bush
5	86-00-119	1	'O' ring
6	09-01-121	1	Greaser
7	71-35-004	1	Piston c/w seal and grub screw
8	86-38-740	1	Piston seal
9	93-63-023	1	Grub screw
10	71-35-282	1	Gland housing
11	86-29-164	1	Gland seal
12	87-00-740	1	'O' ring
13	87-09-740	1	Anti extrusion ring
14	86-29-147	1	Wiper
15	71-01-134	2	Bush - ram base
16	85-81-115	2	Union
17	80-03-001	1	Plug
18	86-50-103	3	Bonded seal

**86-99-187 SEAL KIT**

**Assembly note** Fully tighten item 9 and centre pop edge of hole to retain.



Ref.	Part No.	Qty.	Description
	<b>75-60-356</b>		<b>COMPENSATOR RAM ASSEMBLY</b>
1	71-95-305	1	Cylinder
2	71-95-010	1	Rod
3	71-05-050	1	Bush
4	75-60-095	1	Piston
5	86-29-187	1	Piston seal
6	86-29-188	1	Bearing ring
7	93-63-023	1	Grubscrew socket head
8	71-35-291	1	Gland housing
9	86-29-148	1	Gland seal
10	04-16-240	1	Internal circlip
11	86-29-149	1	Wiper seal
12	86-00-302	1	'O' ring
13	86-09-302	1	Anti extrusion ring
14	09-01-121	2	Greaser
15	85-81-169	2	Union
16	86-50-102	2	Bonded seal

**86-99-188**

**SEAL KIT**

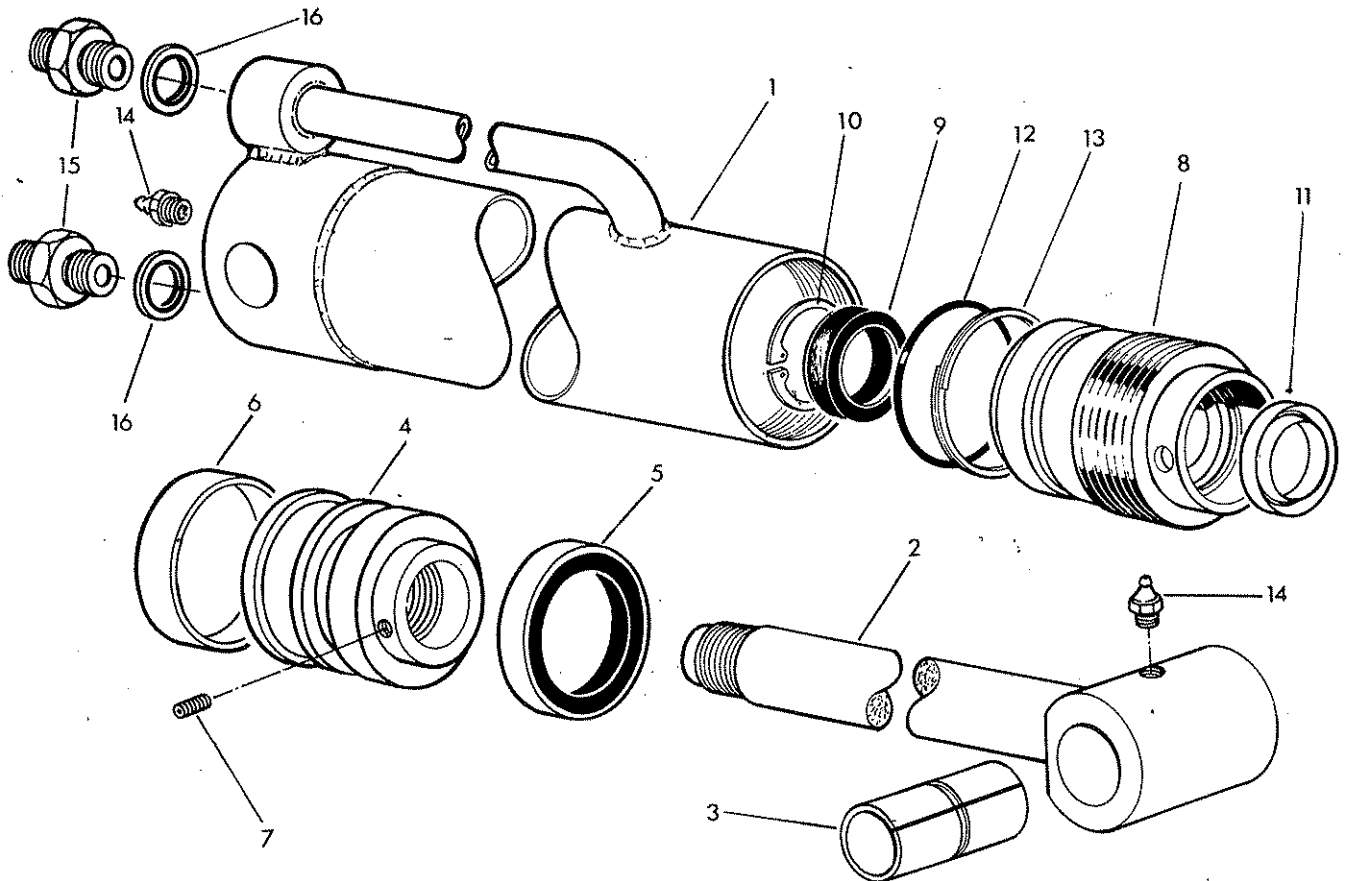
**\* Assembly note**

Tighten fully and centre punch edge of hole to secure.

**ANGLING RAM**



**McCONEL**



Ref.	Part No.	Qty.	Description
	<b>75-60-344</b>		<b>ANGLING RAM ASSEMBLY</b>
1	71-35-292	1	Cylinder
2	71-35-009	1	Rod
3	71-05-050	1	Bush
4	75-60-095	1	Piston
5	86-29-187	1	Piston seal
6	86-29-188	1	Bearing ring
7*	93-63-023	1	Grub screw socket head
8	71-35-291	1	Gland housing
9	86-29-148	1	Gland seal
10	04-16-240	1	Internal circlip
11	86-29-149	1	Wiper seal
12	86-00-302	1	'O' ring
13	86-09-302	1	Anti extrusion ring
14	09-01-121	2	Greaser
15	85-81-169	2	Union
16	86-50-102	2	Bonded seal
	<b>86-99-188</b>		<b>SEAL KIT</b>

**\* Assembly note**

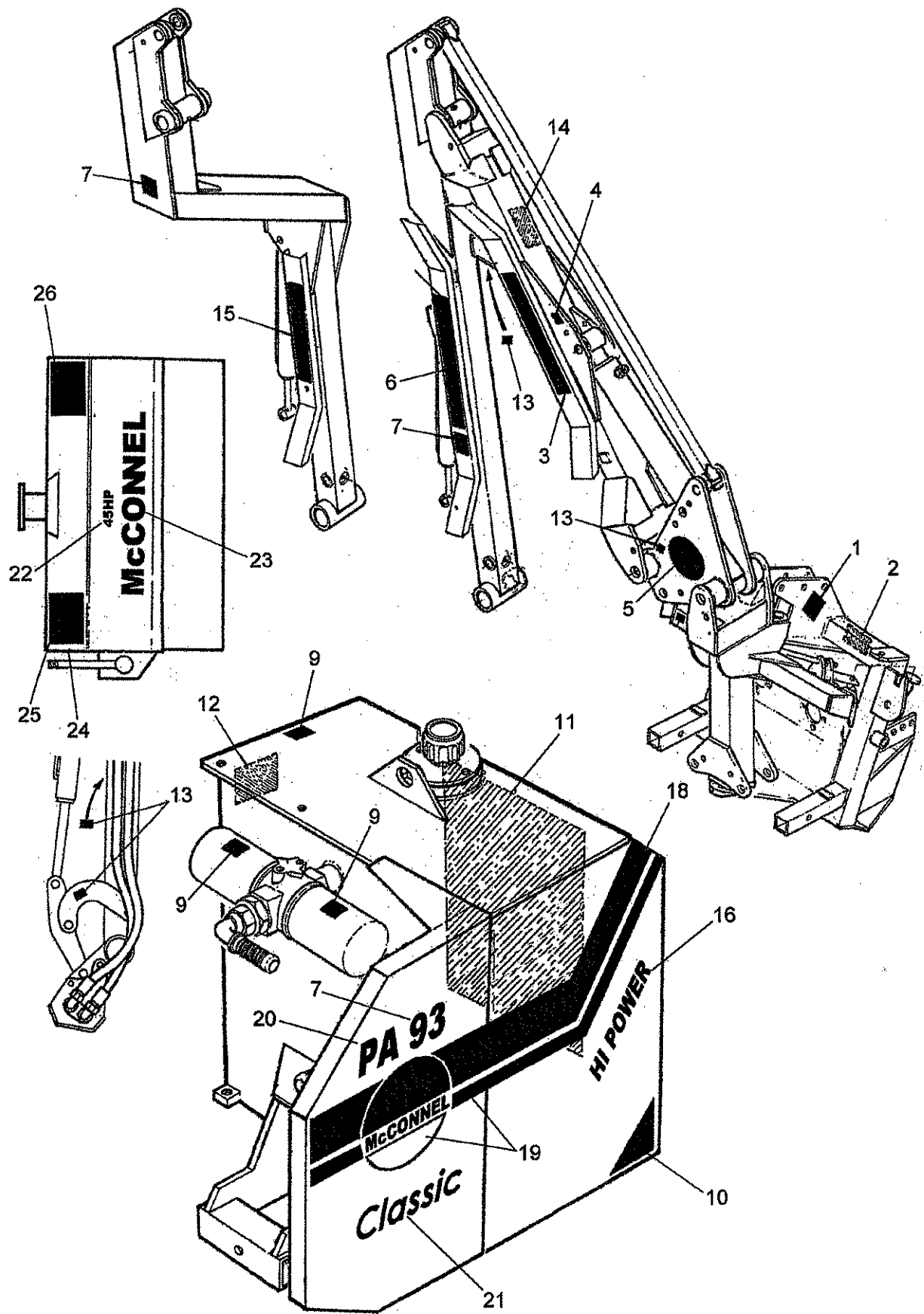
Tighten fully and centre punch edge of hole to secure.



**McCOMBELL**

# MACHINE DECALS

Modules: Refer to Parts List opposite



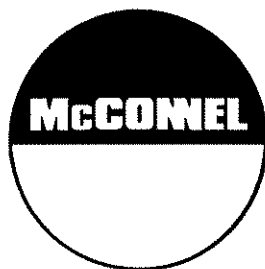
## MACHINE DECALS

REF.	QTY.				PART No.	DESCRIPTION
					7193744	DECAL KIT - PA93 Std. Power Models
					7193745	DECAL KIT - PA93 High Power Models
					7193746	DECAL KIT - PA93 Midcut Std. Power Models
					7193747	DECAL KIT - PA93 Midcut High Power Models
1	1	1	1	1	7105130	DECAL - READ INSTRUCTION BOOK FIRST
2	1	1	1	1	7135295	DECAL - TIGHTEN CHECK CHAINS
3	1	1	1	1	1290255	DECAL - McCONNEL
4	1	1	1	1	1290074	DECAL - SLING HERE SYMBOL
5	1	1	1	1	1290296	DECAL - ROUNDEL LOGO
6	1	1	-	-	1290295	DECAL - POWER ARM
7	2	2	2	2	1290293	DECAL - 93 ( <i>Cable Models</i> )
	2	2	2	2	1290394	DECAL - 93E ( <i>Electric Models</i> )
8	1	1	1	1	1290352	DECAL - GENERAL WARNING
9	3	3	3	3	1290023	DECAL - OIL FILTER INSTRUCTION
10	1	1	1	1	1290376	DECAL - ENDURO TANK
11	1	1	1	1	1290391	DECAL - GENERAL WARNING
12	1	1	1	1	00756494	DECAL - PTO SHAFT FITTING
13	6	6	6	6	02962764	DECAL - PINCH POINT SYMBOL
14	1	1	1	1	1290403	DECAL - BREAKAWAY RETURN WARNING
15	-	-	1	1	1290361	DECAL - MIDCUT
16	-	1	-	1	1290362	DECAL - HIGH POWER
17	1	1	-	-	1290295	DECAL - POWER ARM
18	1	1	1	1	1290454	DECAL - TANK STRIP DIAGONAL
19	1	1	1	1	1290455	DECAL - FAIRING STRIP DIAGONAL
20	1	1	1	1	1290453	DECAL - PA
21	1	1	1	1	1290551	DECAL - CLASSIC
						<b>FLAILHEAD DECALS</b>
22	1	-	1	-	1290509	DECAL - 45HP
	-	1	-	1	1290508	DECAL - 54HP
23	1	1	1	1	1290527	DECAL - McCONNEL
24	1	1	1	1	1290392	DECAL - PARTS INFORMATION
25	1	1	1	1	1290377	DECAL - FLAILHEAD INSTRUCTIONS
26	1	1	1	1	1290341	DECAL - FLAILHEAD GUARDING









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