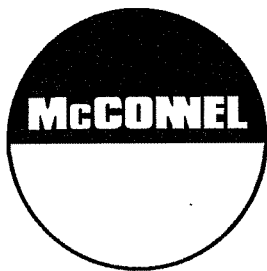


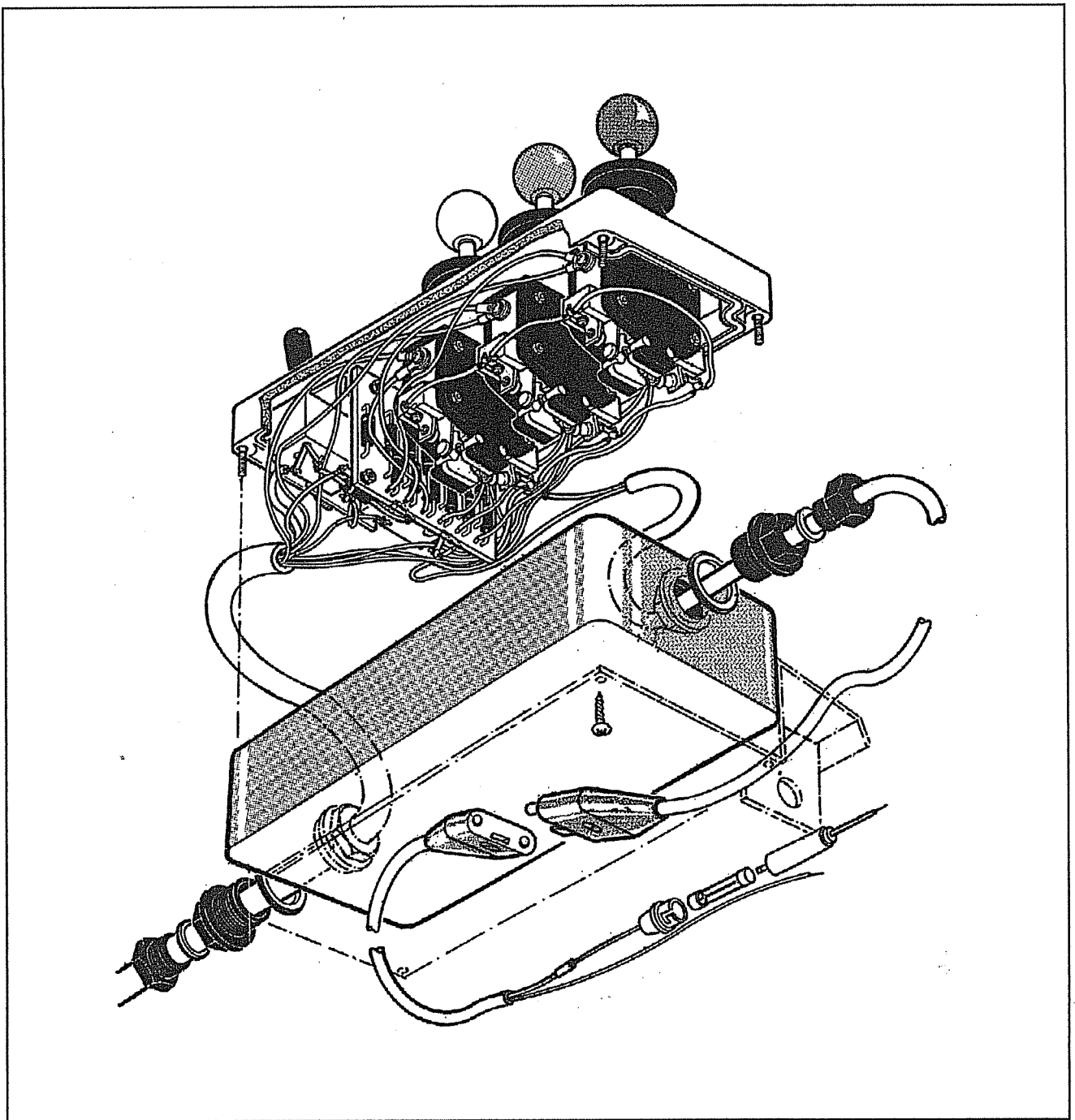
Publication 174
July 1992
Part No. 71.93.860



PA 93E

'Classic'

Parts Manual



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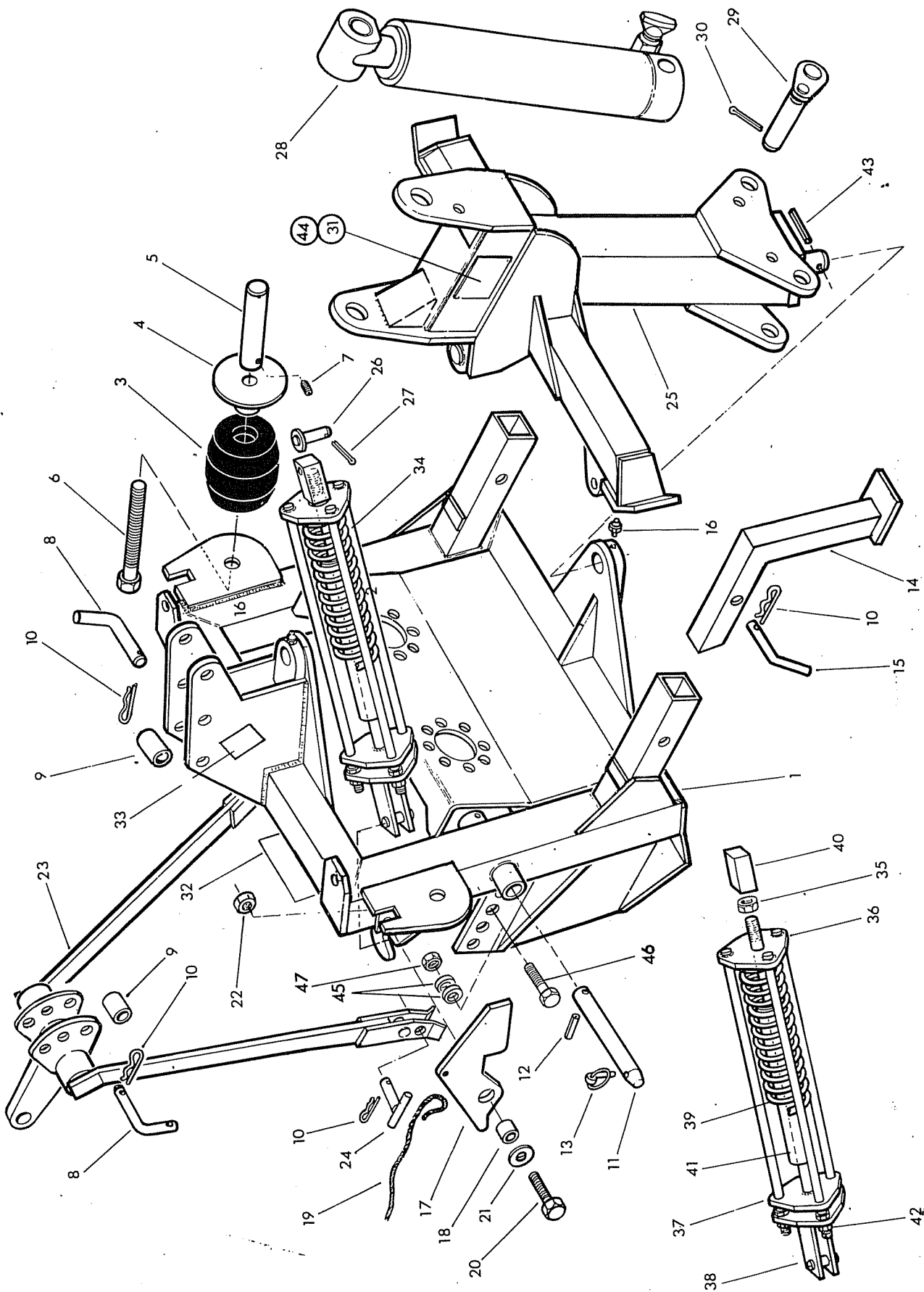
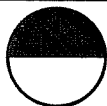
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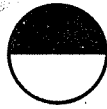
- Machine Type
- Serial Number
- Part Number

Design Improvements 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.

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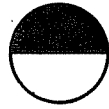
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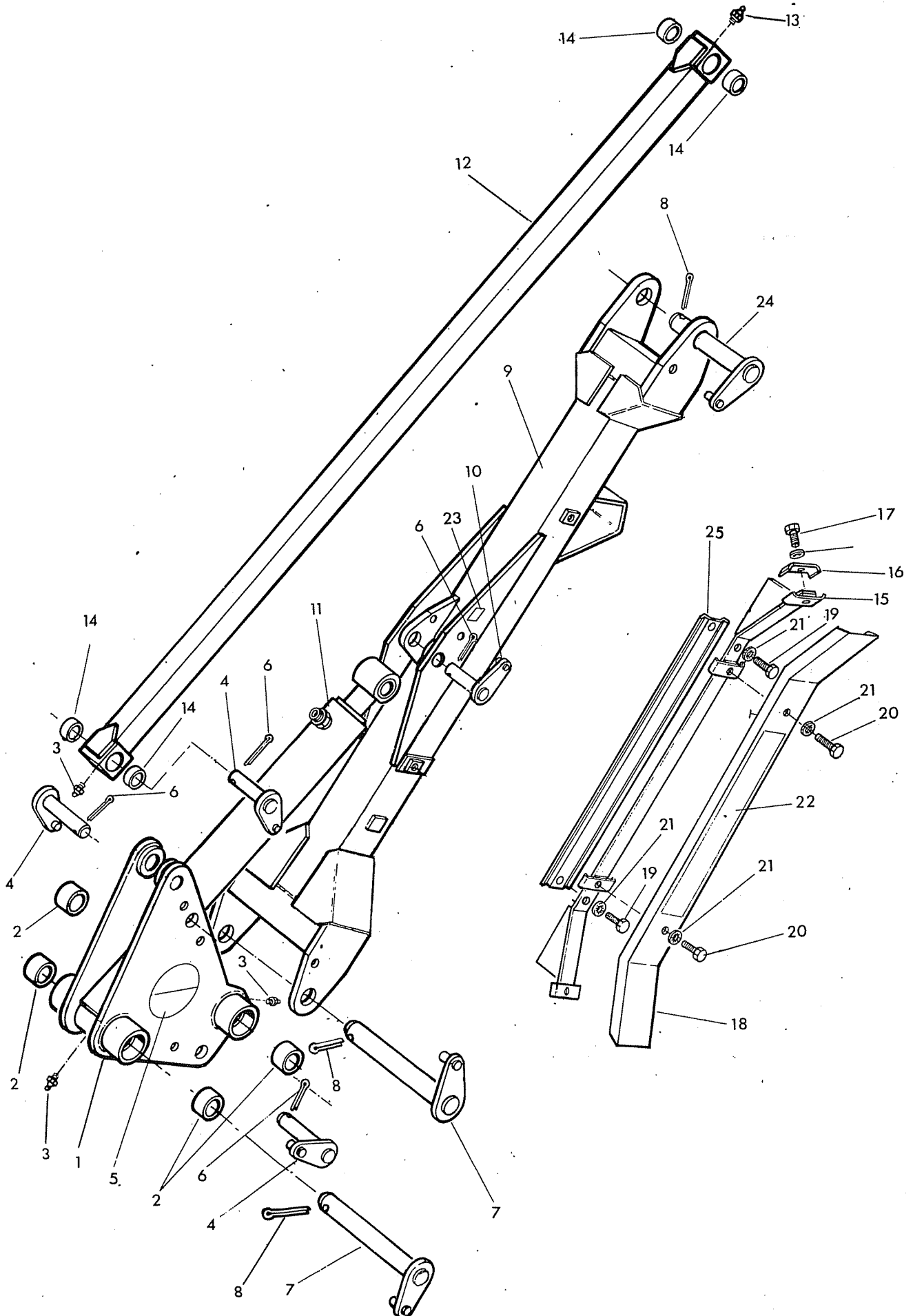


Ref.	Part No.	Qty.	Description
MAIN FRAME, STABILISER & PILLAR			
1	71 93 391	1	Main frame
2	71 36 330	1	P.T.O. Shaft - not illustrated
3	71 35 033	1	Buffer
4	71 35 034	1	Buffer locating disc
5	71 93 323	1	Buffer abutment
6	71 35 293	1	Buffer bolt
7	93 63 034	1	Grubscrew
8	71 92 026	2	Top link pin
9	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



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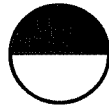
Ref.	Part No.	Qty.	Description
MAIN ARM ROCKER & TENSION LINK FOR STD POWER MACHINES			
1	71 93 330	1	Rocker
2	72 13 023	4	Bush - Rocker pivot
3	09 01 121	3	Greaser
4	71 93 025	4	Pivot pin - Tension link, Reach base & lift ram rod
5	12 90 296	1	Sticker "Logo roundel"
6	05 03 166	5	Split pin
7	71 93 033	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 49)
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

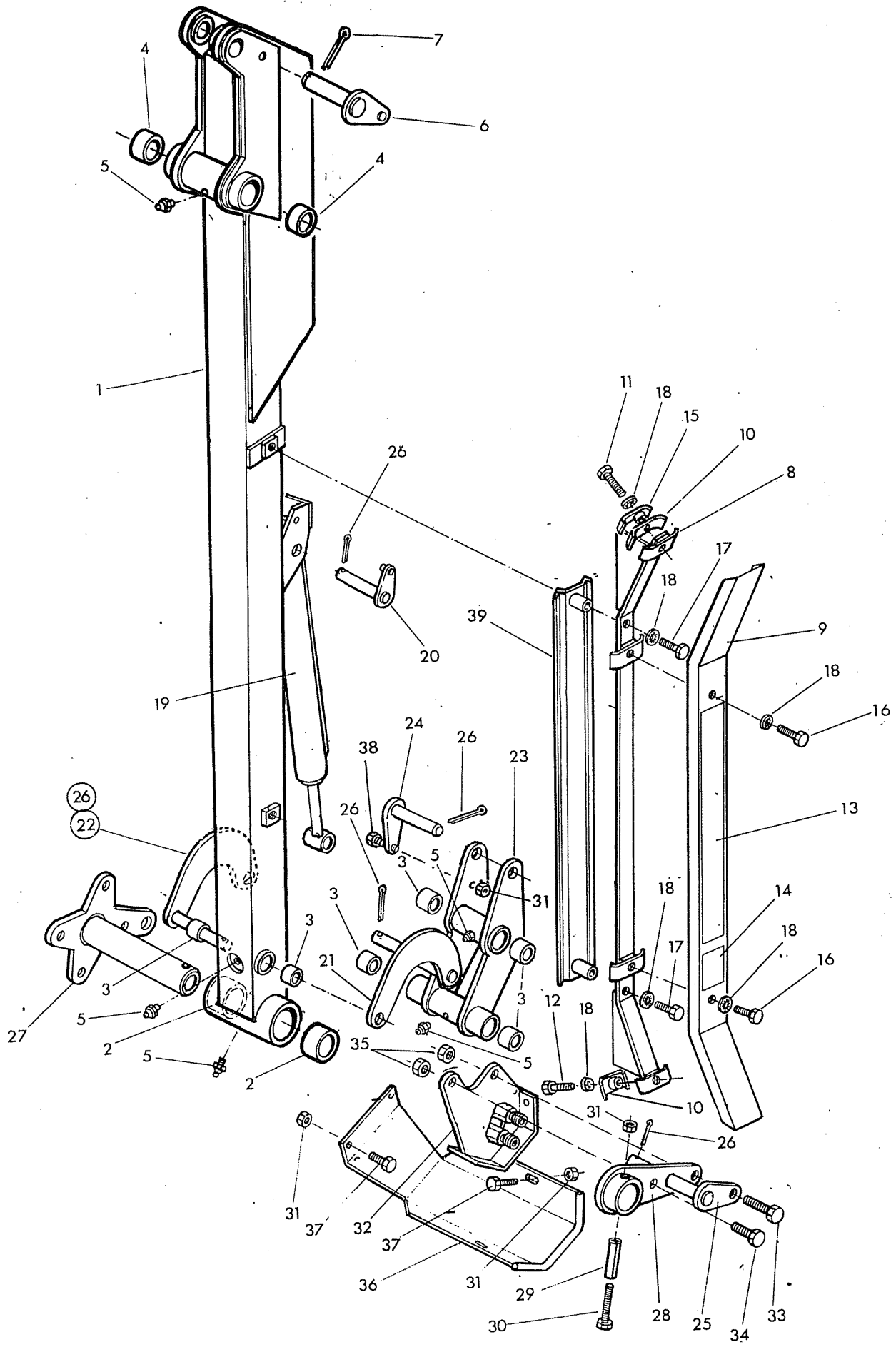
The parts list is identical to above with the following exceptions

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



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Ref.	Part No.	Qty.	Description
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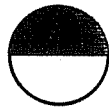
STANDARD DIPPER ARM AND ANGLING FOR STANDARD POWER MACHINES

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	2	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

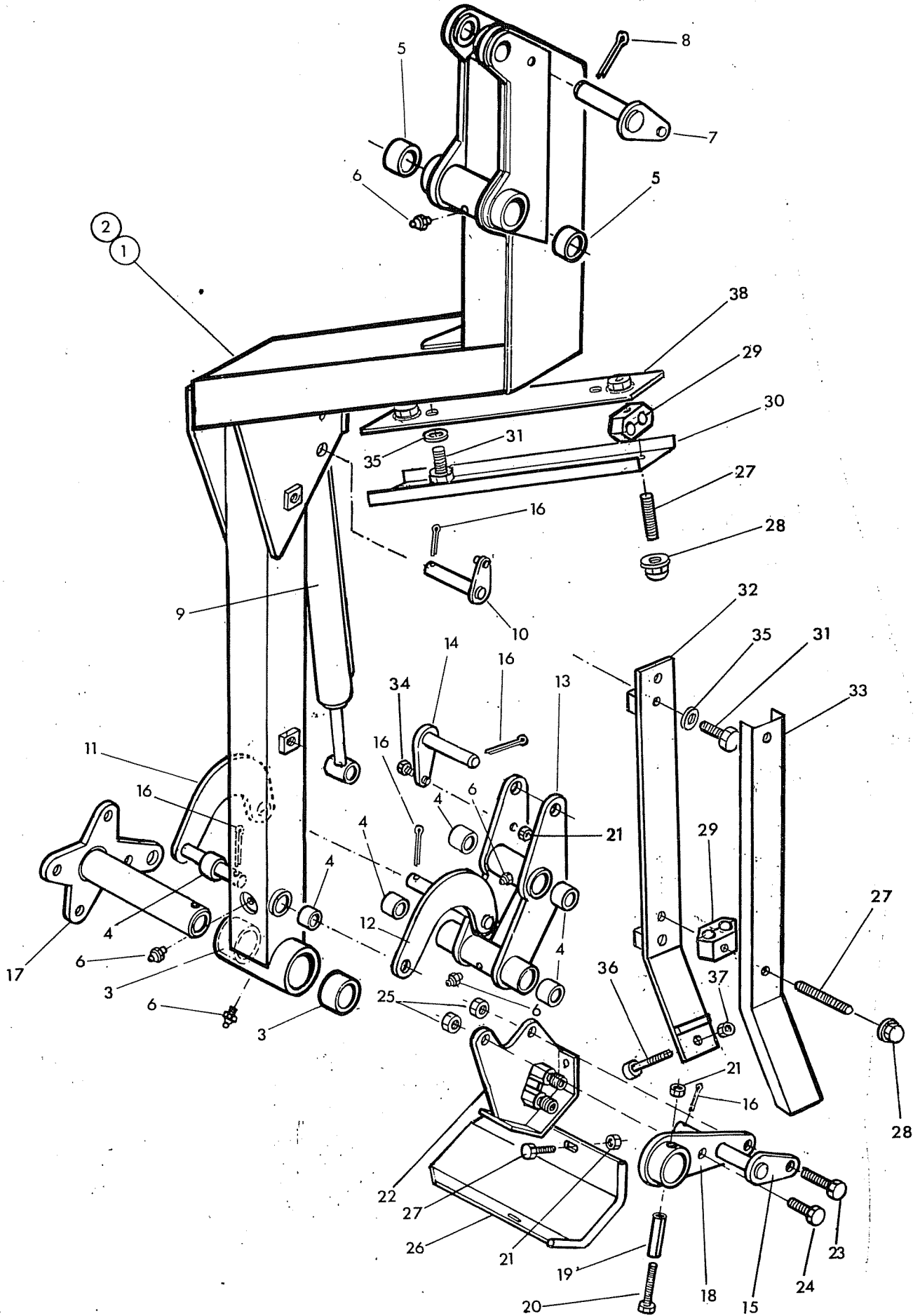
STD DIPPER ARM & ANGLING MECHANISM FOR HI POWER MACHINES

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



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Ref	Part No	Qty	Description
			MID CUT DIPPER ARMS AND ANGLING MECHANISM

R HAND

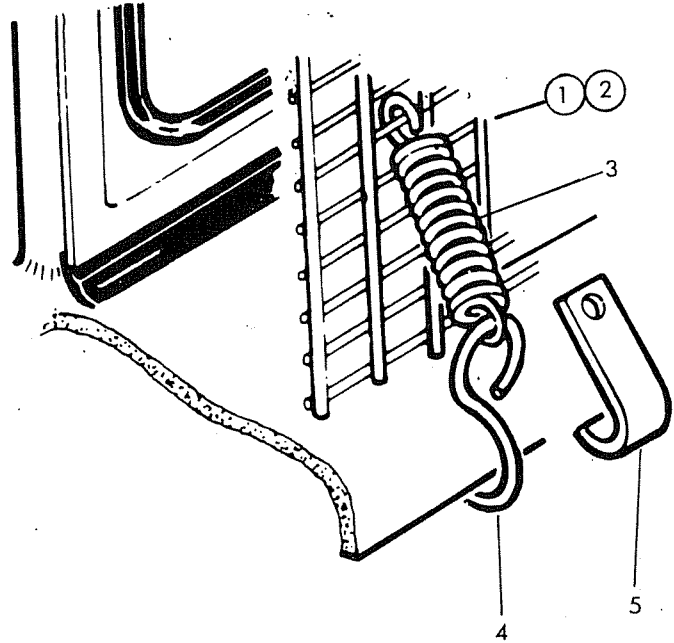
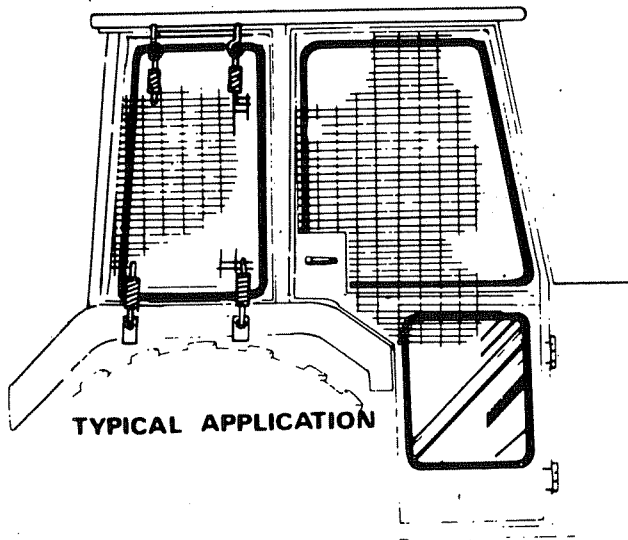
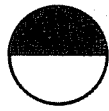
1	71 93 345		Dipper arm R Hand
---	-----------	--	-------------------

L HAND

2	71 93 346		Dipper arm L Hand
---	-----------	--	-------------------

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	2	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

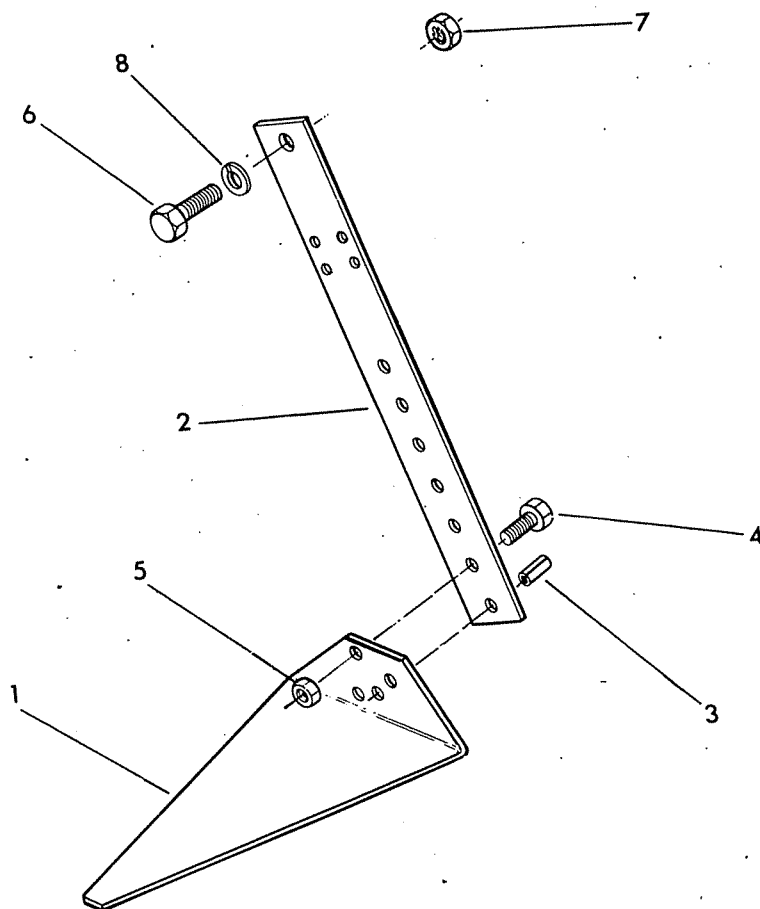


Ref.	Part No.	Qty.	Description
	73-13-324		CAB GUARD KIT
1	73-13-049	1	Guard panel - large
2	73-13-050	1	Guard panel - small
3	60-01-064	12	Spring
4	60-01-065	6	Hook
5	73-13-051	6	Hook

**CONTROL MOUNTING
ASSY**

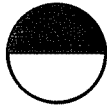


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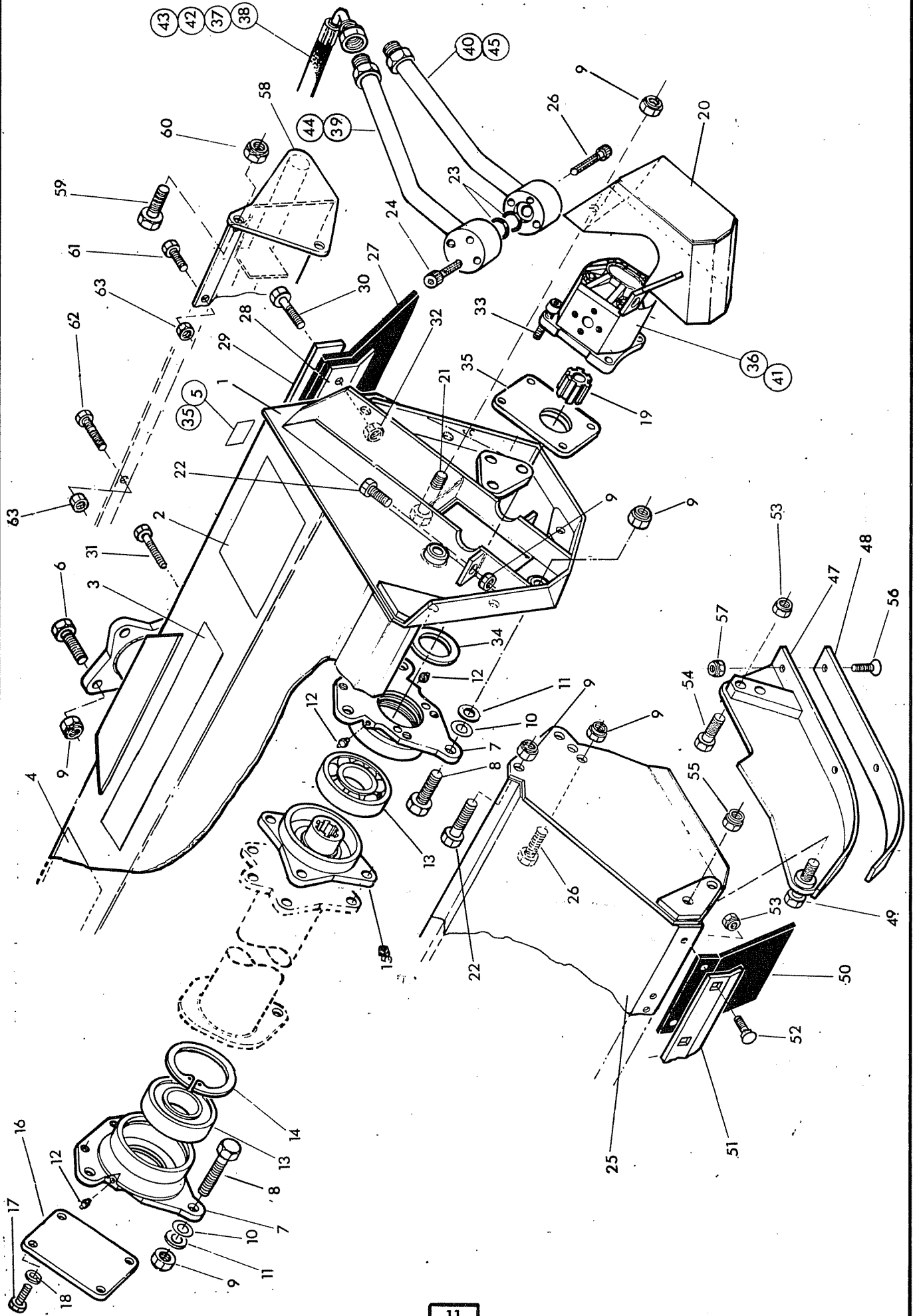


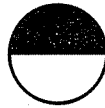
Ref.	Part No.	Qty.	Description
	71-90-319		CONTROL MOUNTING ASSEMBLY
1	71-09-320	1	Sandwich plate
2	71-09-146	1	Pillar including spring dowel
3	04-22-816	1	Spring dowel
4	93-13-066	1	Setscrew
5	91-13-006	1	Nut
6	93-11-086	1	Setscrew
7	01-11-006	1	Nut
8	01-00-206	1	Spring washer

FLAIL HEAD CASING



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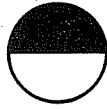
Ref.	Part No.	Qty.	Description
FLAIL HEAD CASING			
1	71 90 262	1	Flail casing
2	12 90 377	1	Sticker 'Flail head instructions
3	12 90 255	1	Sticker 'McConnel'
4	12 90 341	1	Sticker 'Flail guarding'
5	13 35 246	1	Serial No. plate
6	02 11 186	4	Bolt
7	71 90 261	2	Bearing housing
8	02 11 166	4	Bolt
9	01 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 dia
15	71 90 472	1	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	4	Setscrew
23	86 00 121	2	'O' ring
24	93 00 014	6	Capscrew 'wedglok'
25	71 90 288	1	Front hood
26	03 11 106	2	Setscrew
27	71 90 314	1	Rear flap
28	71 90 312	1	Mounting strip
29	71 90 313	1	Clamp strip
30	93 13 065	7	Setscrew
31	93 13 075	2	Setscrew
32	91 43 005	9	Self locking nut
33	93 00 144	4	Capscrew wedglok
34	71 90 015	1	Motor locating washer
35	71 03 230	4	Pop rivet

The following items 36-40 inclusive are also required for std power machines.

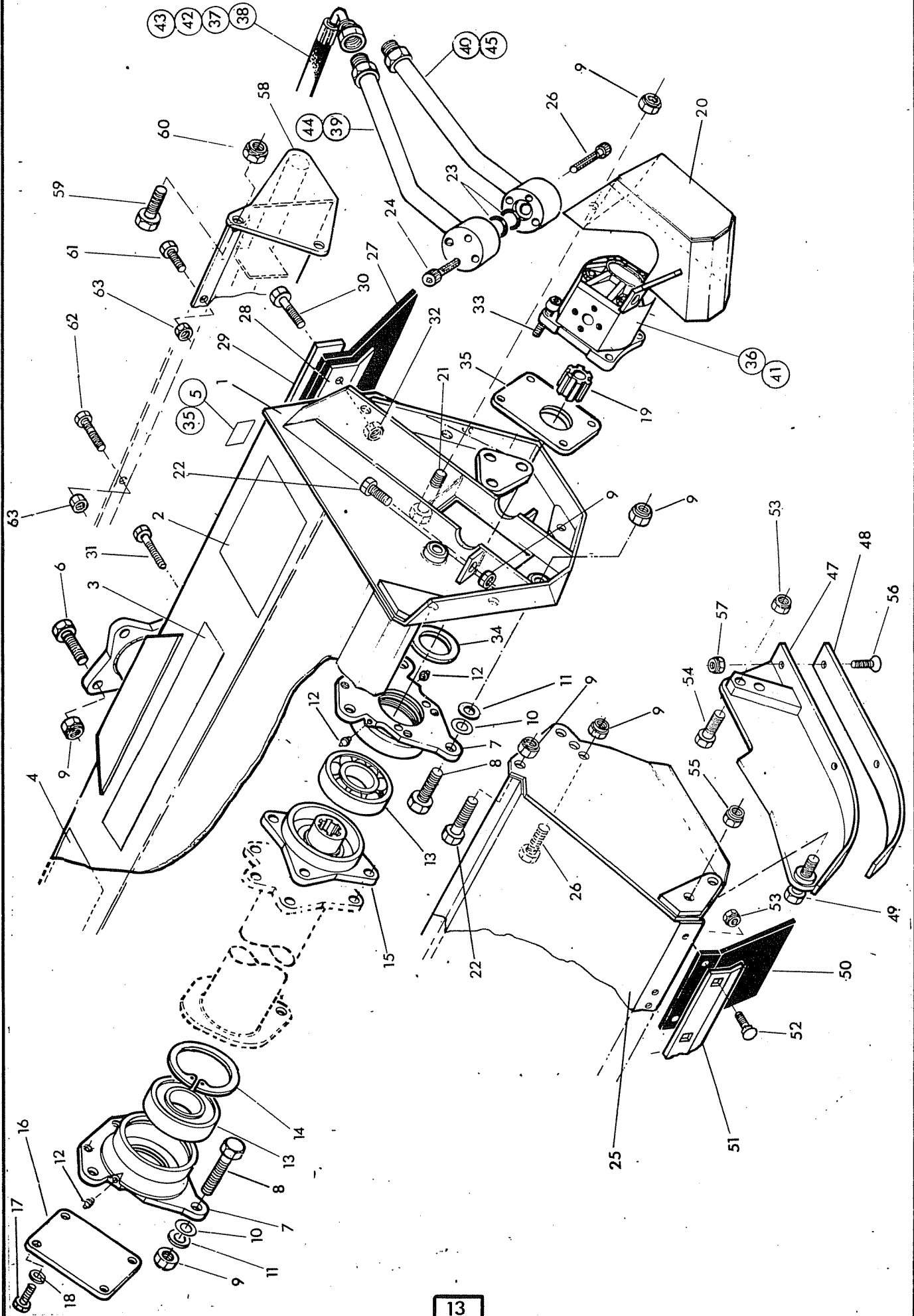
36*	83 01 281	1	Hydraulic motor
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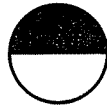
Continued overleaf

FLAIL HEAD CASING



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FLAIL HEAD CASING continued.

37	85 38 015	2	Hose 3/4" BSP x 34" long for heads with motor outboard
38	85 38 025	2	Hose 3/4" BSP x 42" long for heads with motor inboard
39	71 90 295	1	Motor pipe upper
40	71 90 296	1	Motor pipe lower

86 99 236

SEAL KIT - for hydraulic motor

The following items 41-45 inclusive are also required for Hi Power machines

41	83 01 282	1	Hydraulic motor
42	85 01 097	2	Hose 1" BSP x 34" long for heads with motor outboard
43	85 01 154	2	Hose 1" BSP x 42" long for heads with motor inboard
44	71 90 297	1	Motor pipe upper
45	71 90 298	1	Motor pipe lower

86 99 236

SEAL KIT- for hydraulic motor

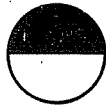
EXTRA PARTS FOR GRASS CUTTING

46	71 90 300	1	Skid R. Hand - not illus
47	71 90 301	1	Skid L. Hand
48	73 14 323	2	Replaceable skid
49	03 11 146	2	Setscrew
50	71 90 020	8	Flap
51	71 90 304	1	Flap clamp strip
52	92 93 054	16	Cup square bolt
53	91 43 004	16	Self locking nut
54	03 11 086	2	Setscrew
55	01 41 006	4	Self locking nut
56	93 33 065	6	Setscrew c/sunk
57	91 43 005	6	Self locking nut

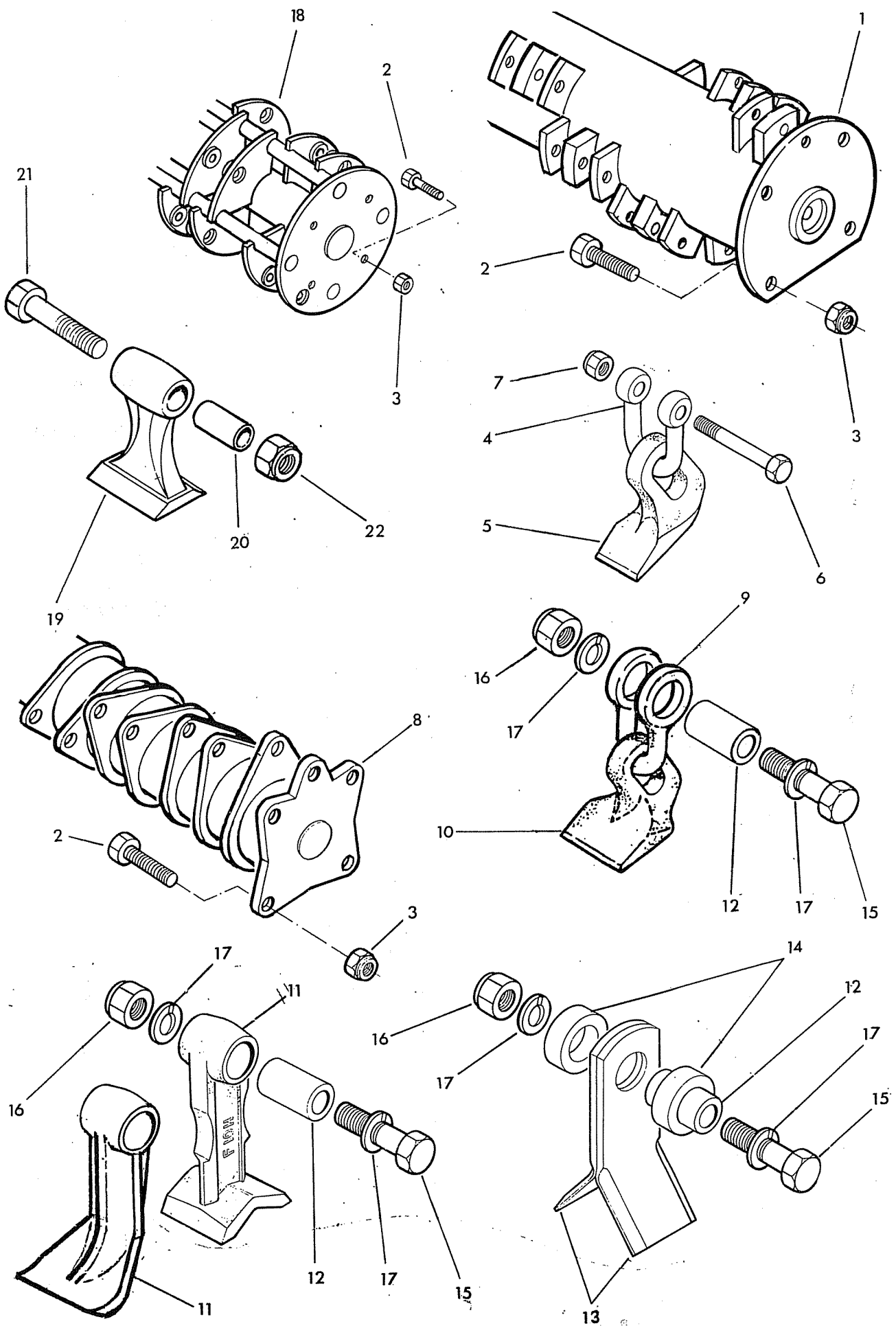
EXTRA PARTS FOR DOWNWARD CUTTING

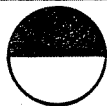
	71 90 310	1	Rear hood kit
58	71 90 285	1	Rear hood
59	03 11 106	4	Bolt
60	01 41 006	4	Self locking nut
61	93 13 045	7	Setscrew
62	93 13 055	2	Setscrew
63	91 43 005	9	Self locking nut

ROTOR & FLAIL OPTIONS



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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

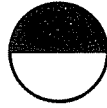
OMEGA ROTOR SUITABLE FOR 1.2 METRE FLAIL HEADS

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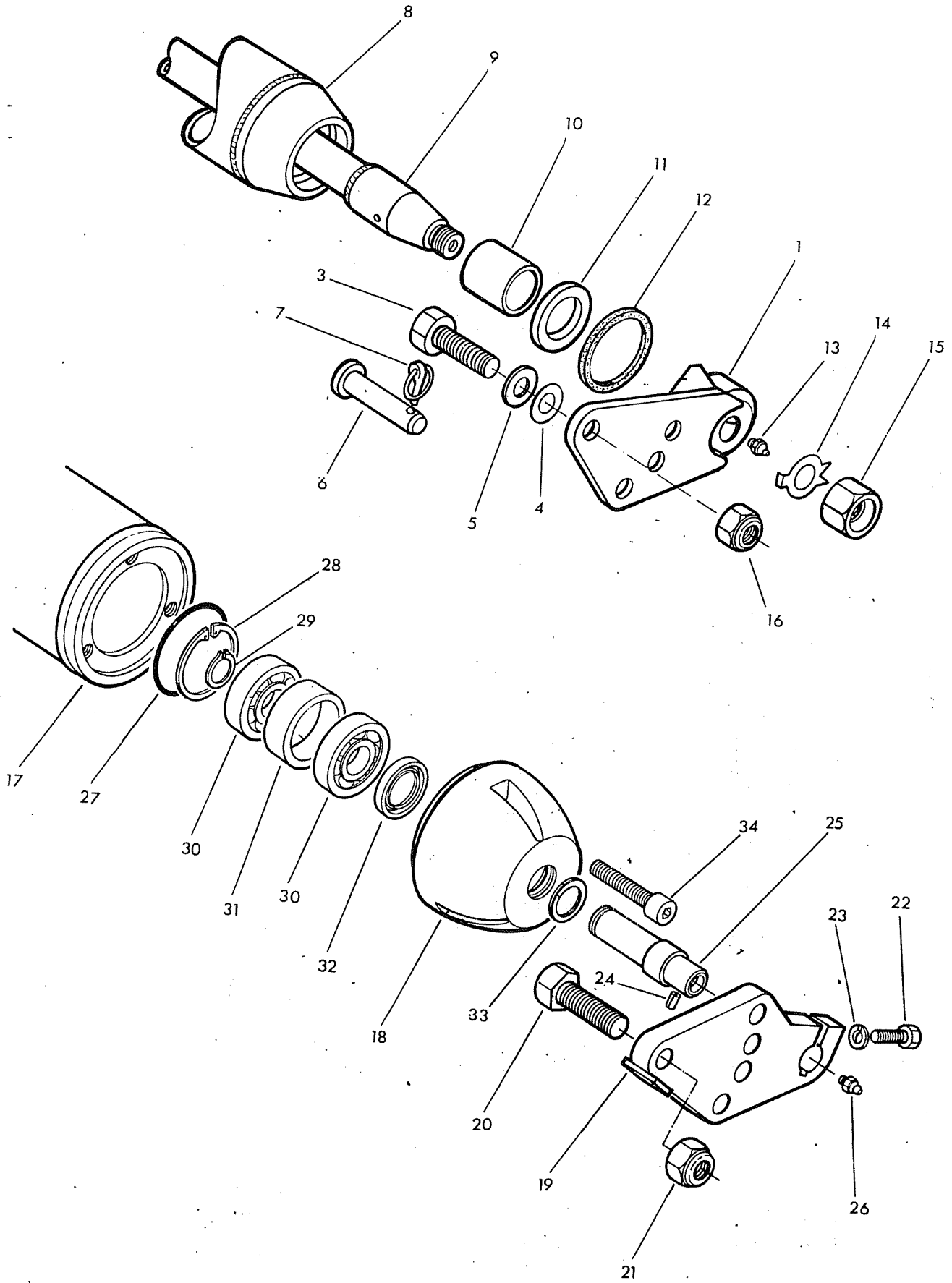
FLAIL FOR OMEGA ROTOR - Quantities are per flail station

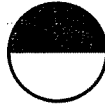
19	71 90 464	1	Flail
20	71 90 117	1	Bush
21	71 90 118	1	Special bolt
22	01 41 006	1	Self locking nut 5/8" UNF

ROLLER OPTIONS

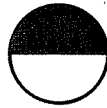


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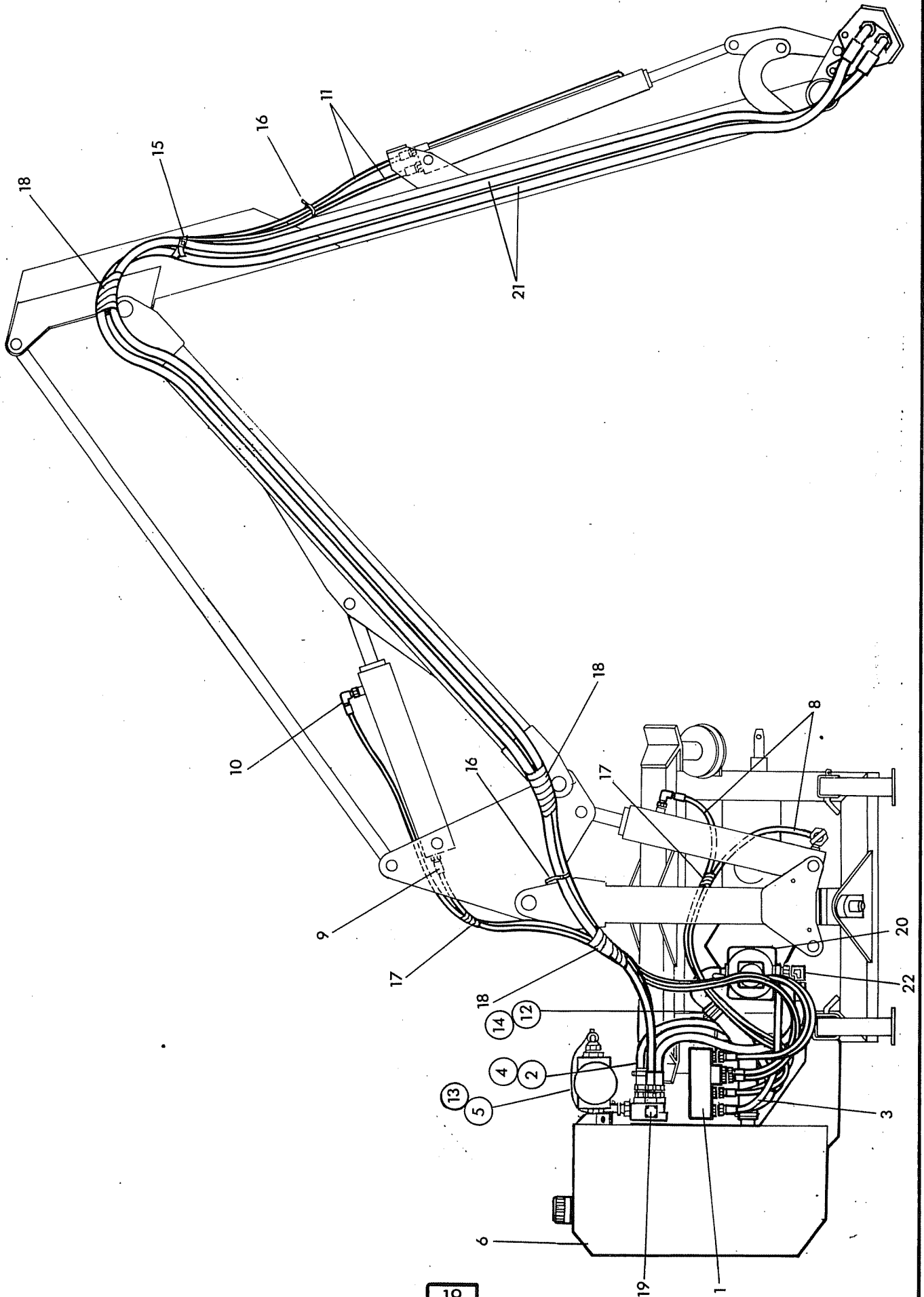


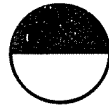


Ref.	Part No.	Qty.	Description
ROLLERS OPTIONS FOR 1.2m FLAIL HEADS			
BUSHED ROLLER ASSEMBLY			
1	71 90 306	1	Roller bracket L. Hand
2	71 90 305	1	Roller bracket R. Hand - not illus
3	02 11 166	2	Bolt
4	81 21 043	as reqd	Shim
5	81 21 044	as reqd.	Shim
6	71 90 032	2	Pin
7	04 31 213	2	Linch pin
8	71 90 307	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
BALL BEARING ROLLER ASSEMBLY			
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



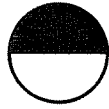
Standard arm 1



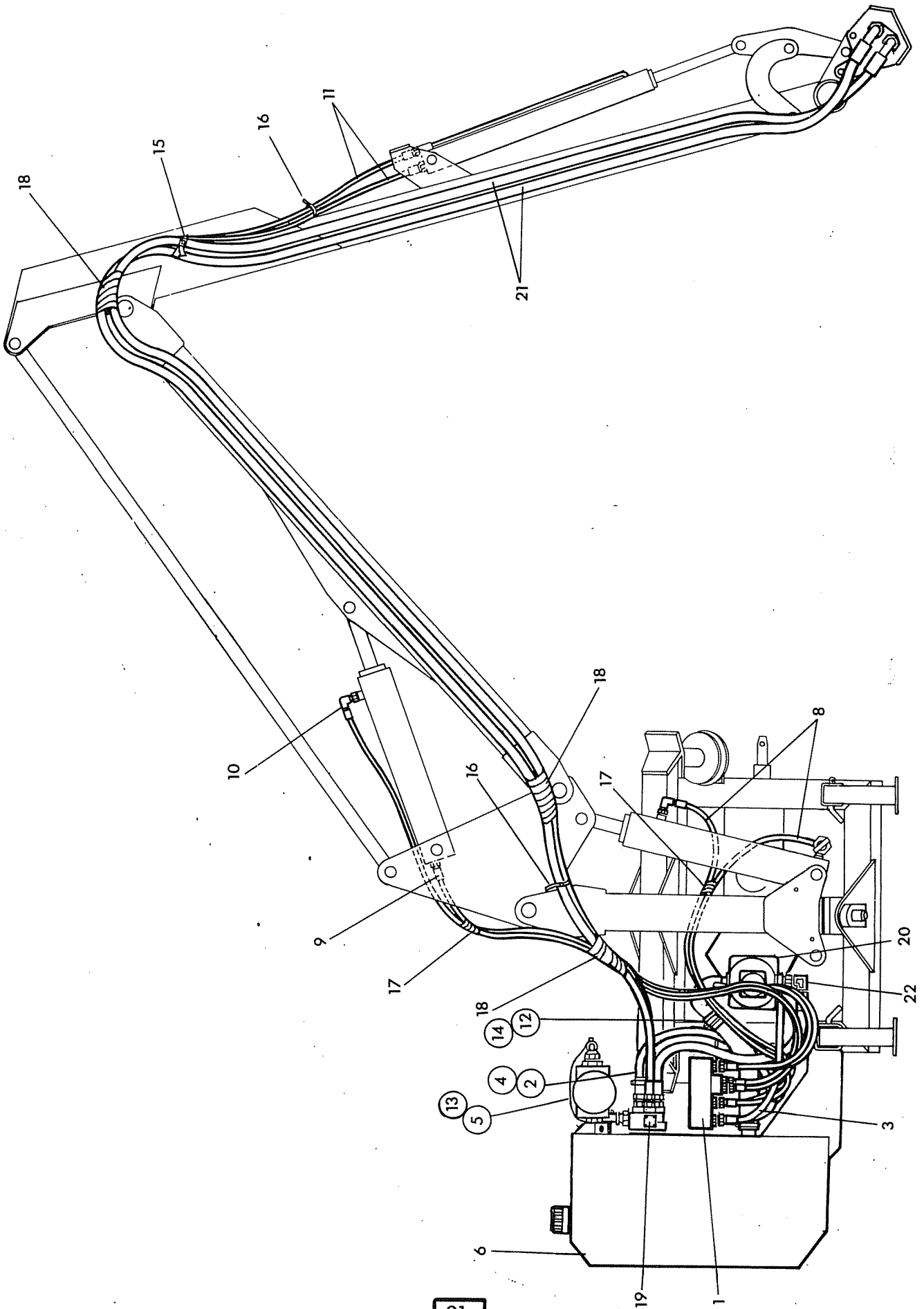


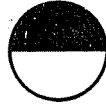
Ref.	Part No.	Qty.	Description.
HYDRAULIC INSTALLATIONS FOR STANDARD ARM MACHINES			
Items 1 to 17 inclusive are common to all standard arm hydraulic installations			
1	81 30 367	1	Electric control assembly (see pages 27- 32)
2	85 01 158	1	Hose 5/8" bore x 24" long. Return to rotor on/off valve
3	85 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 41 .)
7	71 09 319	1	Control mounting assembly -not illus-(see page 10)
8	85 35 022	2	Hose 1/4 BSP x 48" long. Lift
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	2	Hose armour coil 3/8" dia

See over to continue



Standard arm 2





Ref.	Part No.	Qty.	Description
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HYDRAULIC INSTALLATIONS FOR STANDARD ARM MACHINES - Continued

The following additional items will be required for specific hydraulic installations

HYDRAULIC INSTALLATION FOR R. HAND STD POWER. STD ARM MACHINE

18	71 93 026	3	Hose armour coil 3/4" dia
19	81 25 377	1	Rotor Control valve assembly (see page 39)
20	80 13 459	1	Gearbox/pump assembly (See page 33)
21	85 38 065	2	Hose 3/4" BSP x 200" long-flail motor
22	85 38 045	1	Hose 3/4" BSP x 29" long-Pump- R.C. Valve

HYDRAULIC INSTALLATION FOR L.HAND STD POWER STD ARM MACHINES

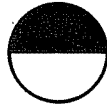
18	71 93 026	3	Hose armour coil 3/4" dia
19	81 25 378	1	Rotor control valve assembly (see page 39)
20	80 13 458	1	Gearbox/pump assemblies (see page 33)
21	85 38 065	2	Hose 3/4" BSP x 200" long-Flail motor
22	85 38 075	1	Hose 3/4" BSP x 20" long Pump- R.C. Valve

HYDRAULIC INSTALLATION FOR R. HAND HI POWER STD ARM MACHINES

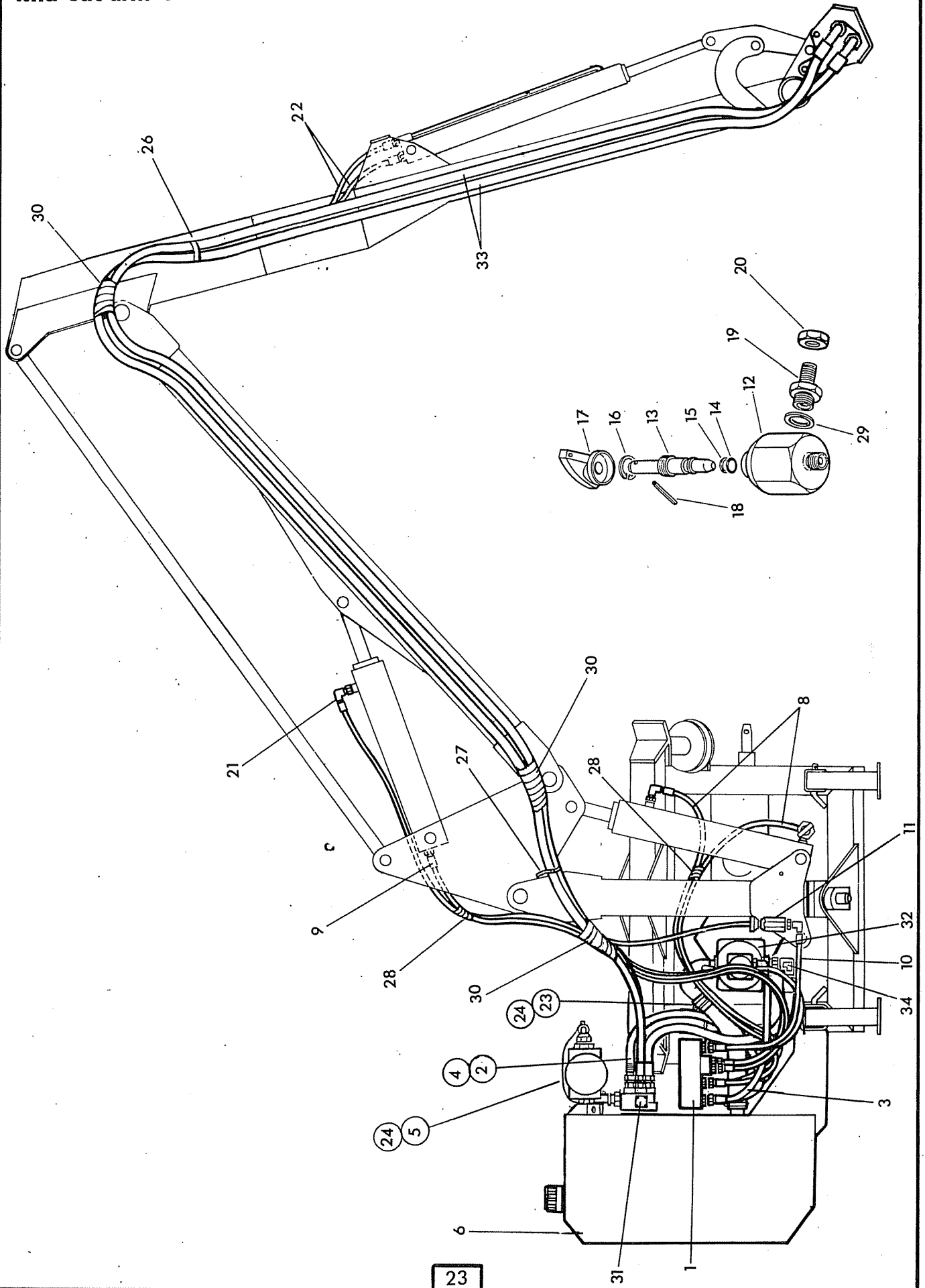
18	71 36 143	3	Hose armour coil 1" dia
19	81 25 379	1	Rotor control valve assembly (see page 39)
20	80 13 472	1	Gearbox/pump assembly (see page 35)
21	85 01 183	2	Hose 1" BSP x 200" long-Flail motor
22	85 01 169	1	Hose 1" BSP x 29" long Pump R.C. Valve

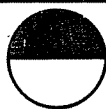
HYDRAULIC INSTALLATION FOR L. HAND HI POWER STD ARM MACHINES

18	71 36 143	3	Hose armour coil 1" dia
19	81 25 380	1	Rotor control valve assembly (see page 39)
20	80 13 471	1	Gearbox/pump assembly (see page 35)
21	85 01 183	2	Hose 1" BSP x 200" long-Flail motor
22	85 01 201	1	Hose 1" BSP x 17" long Pump- R.C. Valve



Mid cut arm 1





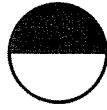
Ref.	Part No.	Qty.	Description.
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HYDRAULIC INSTALLATIONS FOR MID CUT ARM MACHINES

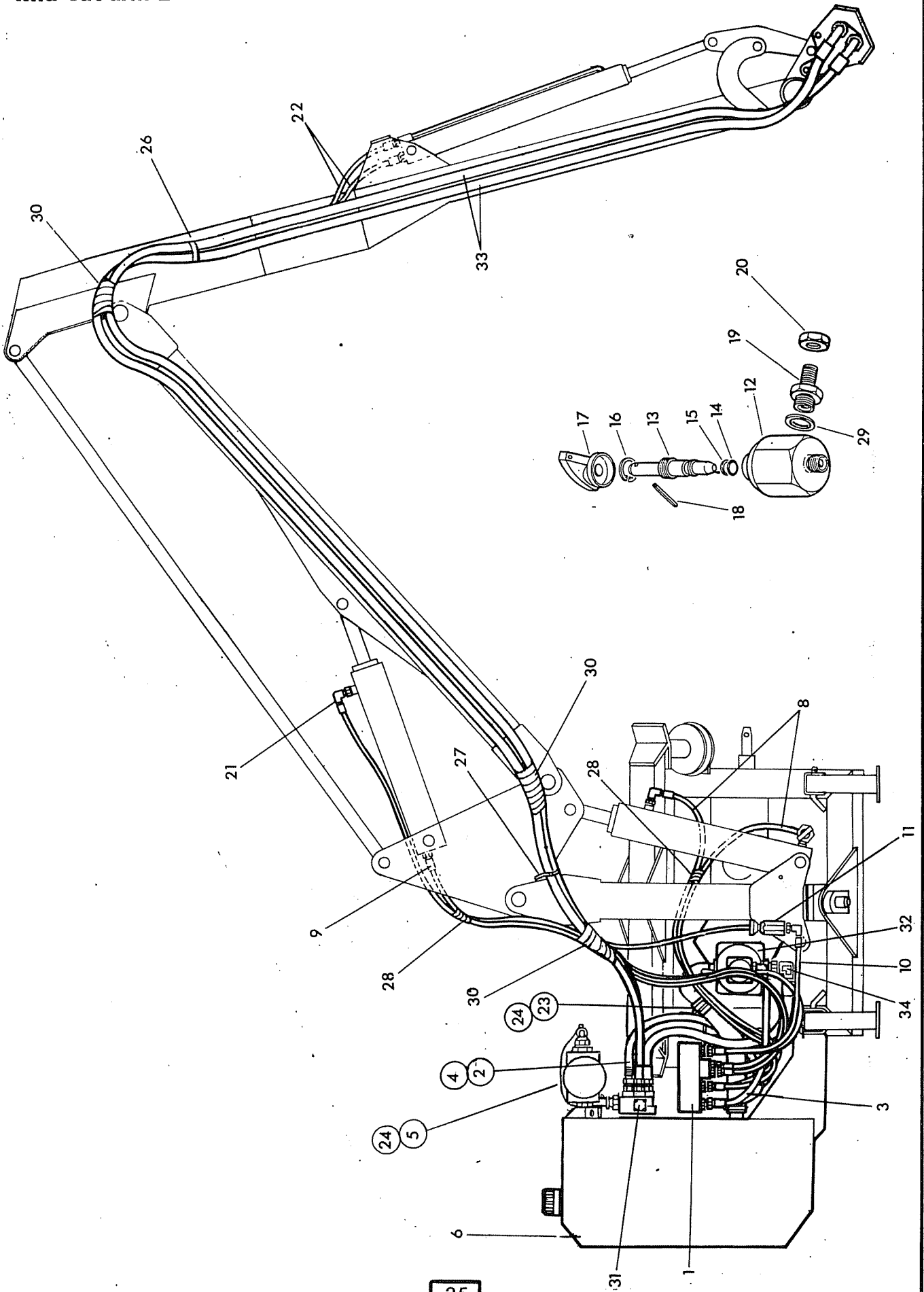
Items 1 to 29 inclusive are common to all mid cut arm hydraulic installations

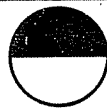
1	81 30 367	1	Electric control assembly (see pages 27-32)
2	85 01 158	1	Hose 5/8" bore x 24" long. Return to rotor on/off valve
3	85 11 253	1	Hose 3/8" BSP x 18" long. Supply from pump
4	09 04 204	2	Hose clip - 5/8 bore hose
5	85 00 828	1	Hose low pressure 1" bore x 28" long rotor valve-tank
6		1	Tank assembly (see page 41)
7	71 09 319	1	Control mounting assembly -not illus-(see page 10)
8	85 35 022	2	Hose 1/4 BSP x 48" long. Lift
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 1/8" dia x 1 1/4" long
19	85 81 297	1	Bulkhead adaptor 3/8" BSP 1/4" BSP MM
20	01 39 001	1	Backnut 1/4" BSP
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	2	Hose armour coil 3/8" dia
29	86 50 103	1	Bonded seal 3/8" BSP

See over to continue



Mid cut arm 2





Ref	Part No.	Qty.	Description.
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HYDRAULIC INSTALLATIONS FOR MID CUT ARM MACHINES - Continued

The following additional items will be required for specific hydraulic installations

HYDRAULIC INSTALLATION FOR R. HAND STD POWER MACHINES

30	71 93 026	3	Hose armour coil 3/4" dia
31	81 25 377	1	Rotor Control valve assembly (see page 39
32	80 13 459	1	Gearbox/pump assembly (See page 33)
33	85 01 132	2	Hose 3/4" BSP x 12" long-flail motor
34	85 38 045	1	Hose 3/4" BSPx 29" long-Pump- R.C. Valve

HYDRAULIC INSTALLATION FOR L.HAND STD POWER MACHINES

30	71 93 026	3	Hose armour coil 3/4" dia
31	81 25 378	1	Rotor control valve assembly (see page 39)
32	80 13 458	1	Gearbox/pump assemblies (see page 33)
33	85 01 132	2	Hose 3/4" BSP x 212" long-Flail motor
34	85 38 075	1	Hose 3/4" BSP x 20" long Pump- R.C. Valve

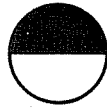
HYDRAULIC INSTALLATION FOR R. HAND HI POWER MACHINES

30	71 36 143	3	Hose armour coil 1" dia
31	81 25 379	1	Rotor control valve assembly (see page 39)
32	80 13 472	1	Gearbox/pump assembly (see pages 35)
33	85 01 205	2	Hose 1" BSP x 212" long-Flail motor
34	85 01 169	1	Hose 1" BSP x 29" long Pump R.C. Valve

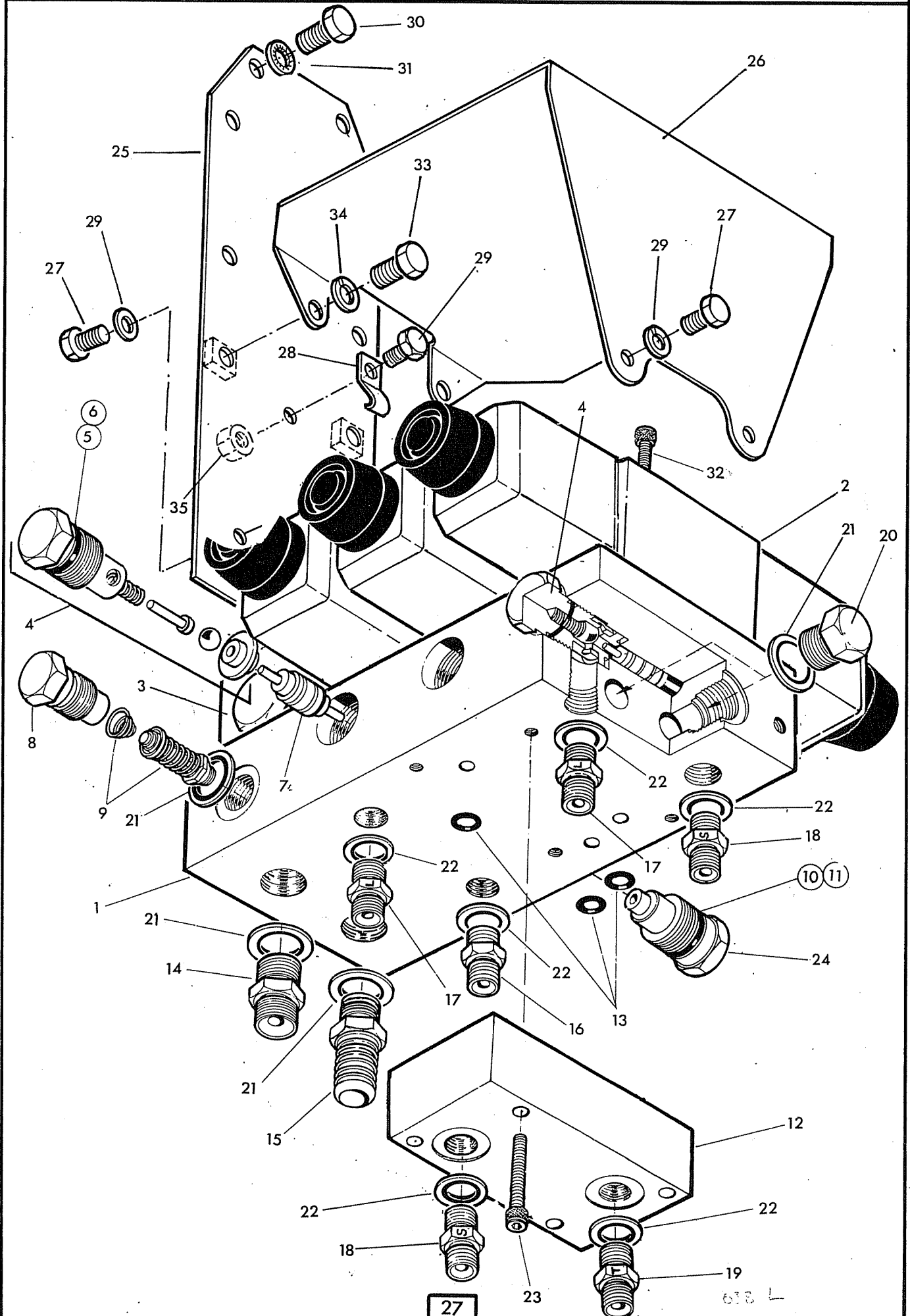
HYDRAULIC INSTALLATION FOR L. HAND HI POWER MACHINES

30	71 36 143	3	Hose armour coil 1" dia
31	81 25 380	1	Rotor control valve assembly (see page 39)
32	80 13 471	1	Gearbox/pump assembly (see pages 35)
33	85 01 205	2	Hose 1" BSP x 212" long-Flail motor
34	85 01 201	1	Hose 1" BSP x 17" long Pump- R.C. Valve

CONTROL VALVE



McCormell

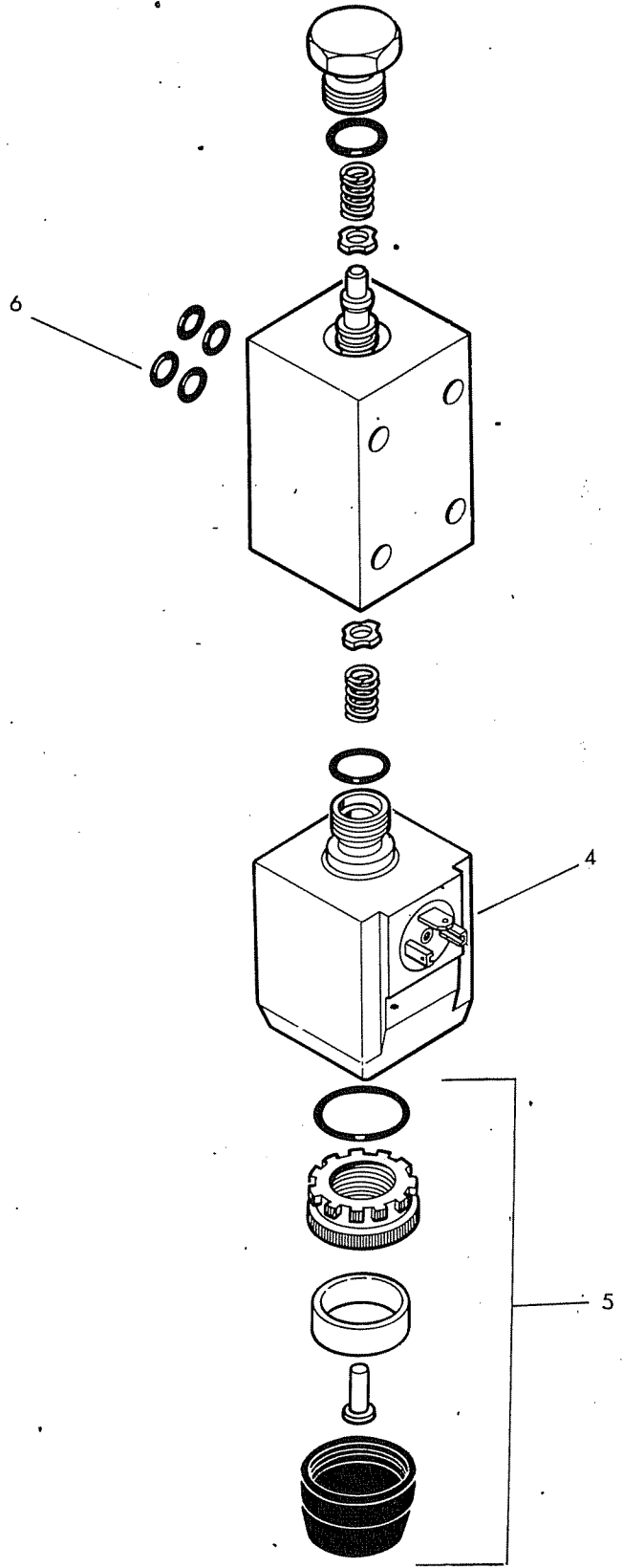
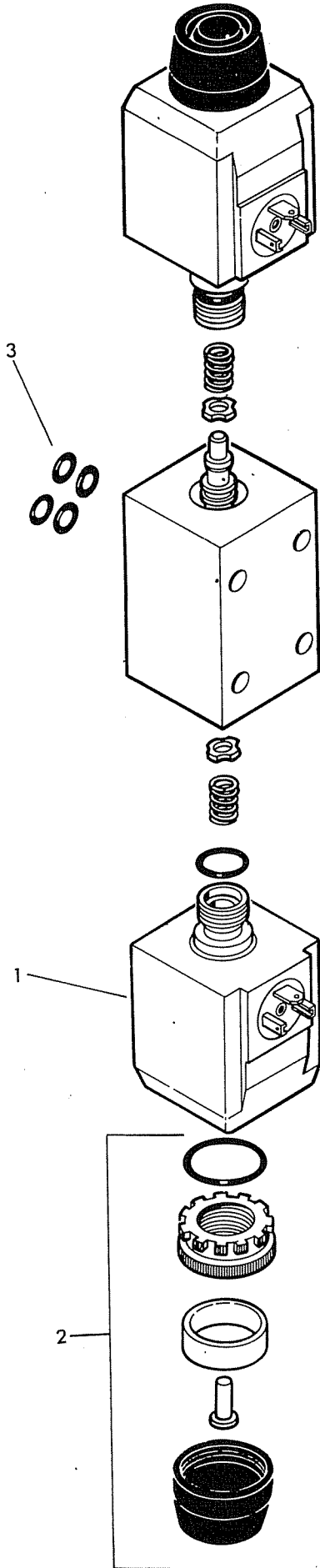
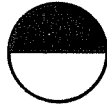


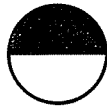


Ref.	Part No.	Qty.	Description
	81-30-367		ELECTRIC CONTROL PACK
	81-30-318		Solenoid/manifold assembly compr:
1	81-30-321	1	Manifold block
2	81-30-455	3	Double solenoid valve] See page 29
3	81-30-456	1	Single solenoid valve]
4	81-30-090	5	Check valve assembly incl.
5	87 00 644	1	O ring
6	87 09 644	1	Anti extrusion ring
7	81-30-087	3	Actuator
8	81-30-032	1	Relief valve cap
9	81-30-124	1	Relief valve c/w spring
10	87-09-644	1	Anti extrusion ring
11	87-00-644	1	'O' ring
12	81 30 322	1	Hose plate incl. O rings
13	87 00 511	3	O ring
14	60-00-113	1	Union
15	81-25-008	1	Return connection
16	80-02-117	1	Union
17	81-30-038	2	Restrictor Union 'L'
18	81-30-037	2	Restrictor Union 'S'
19	81 30 103	1	Restrictor union T
20	80 03 001	2	Plug
21	86 50 103	5	Bonded seal
22	86-50-102	6	Bonded seal
23	92-43-082	4	Socket headed setscrew
24	81-30-078	1	Check valve gallery plug
25	71-94-003	1	Valve mounting plate
26	71 94 277	1	Valve cover
27	93-13-034	5	Setscrew
28	71-09-151	1	Cable clamp
29	91-00-204	4	Spring washer
30	93-13-045	2	Setscrew
31	91-00-305	2	Internal serrated washer
32	92-43-062	16	Capscrew, socket headed
33	93-13-035	2	Setscrew
34	91-00-205	2	Spring washer
35	91 43 004	1	Self locking nut

86-99-197**SEAL KIT**

Switch box. See page 31





81-30-455

DOUBLE SOLENOID VALVE

1	81-30-175	2
2	81-30-176	2
3	87-00-511	4

Coil
Manual override kit
'O' ring

81-30-456

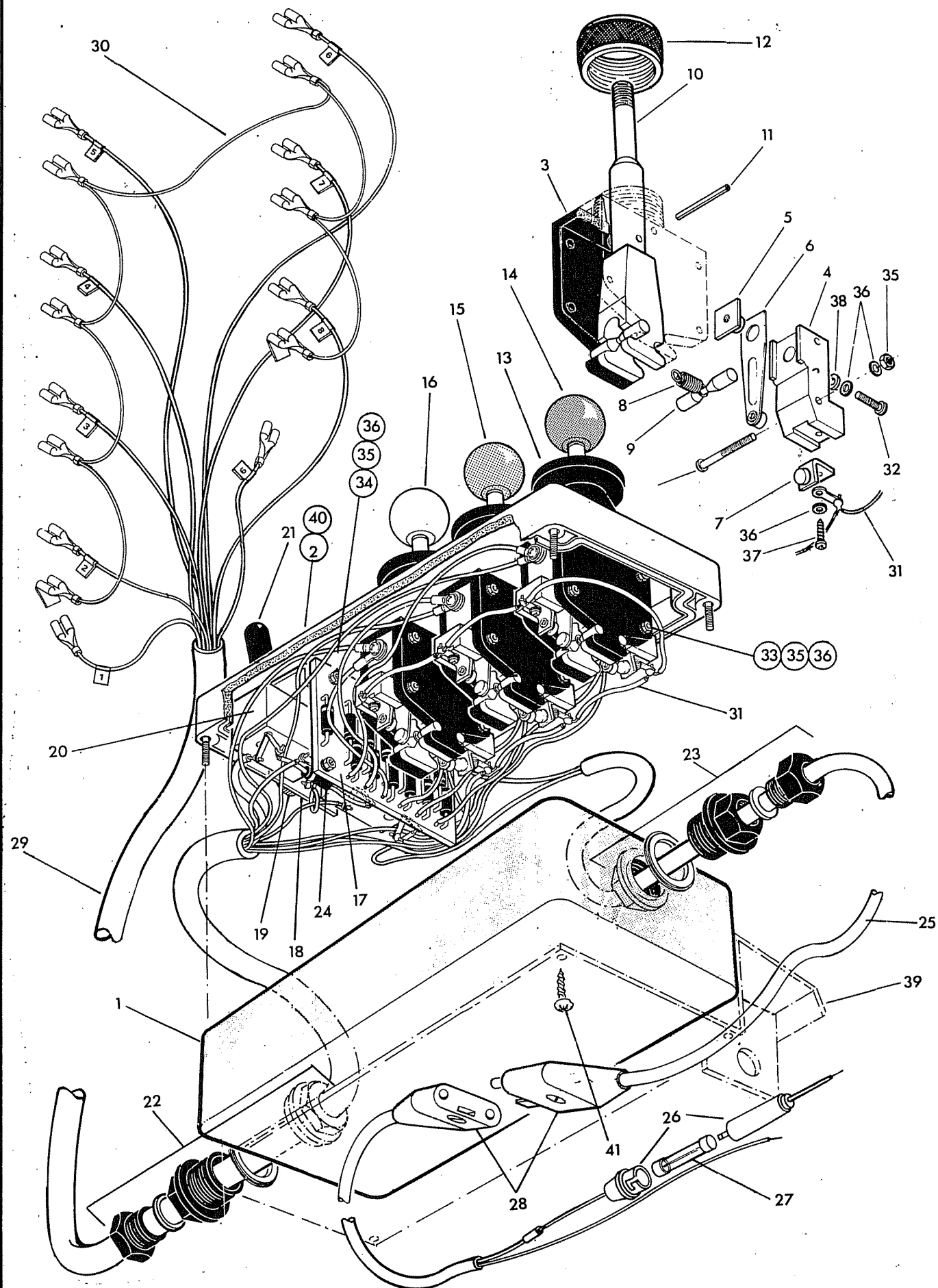
SINGLE SOLENOID VALVE

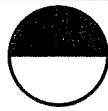
4	81-30-175	1
5	81-30-176	1
6	87-00-511	4

Coil
Manual override kit
'O' ring

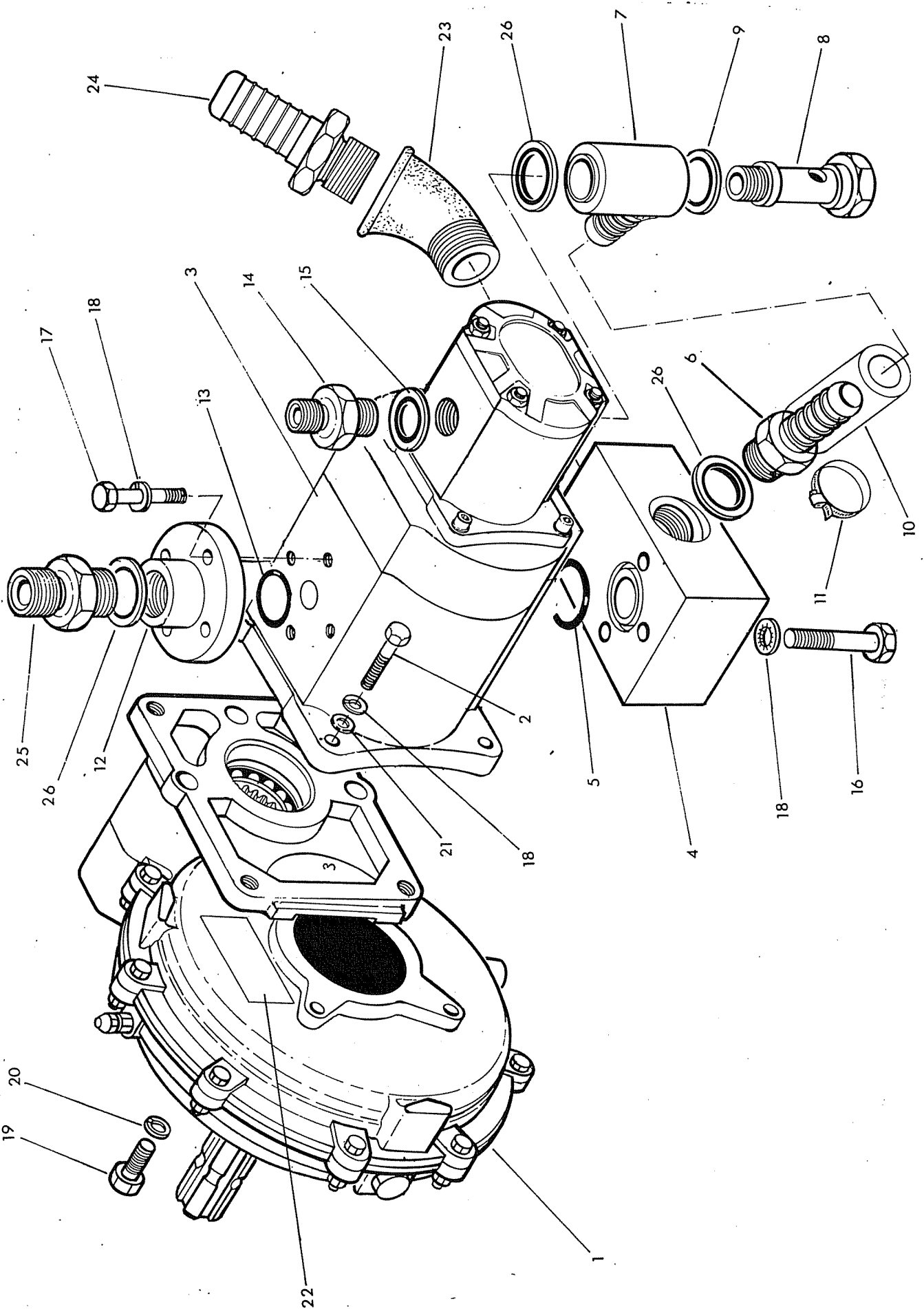
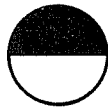
86-99-224

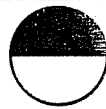
SEAL KIT





Ref.	Part No.	Qty.	Description
	81-30-367		ELECTRIC CONTROL PACK - cont
	84-02-280		Switch box assembly compr:-
	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 dia.
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 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-plated
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
	80 13 459		GEARBOX PUMP ASSEMBLY -FOR STD. POWER T.I.M/CS R.HAND - from June 1992
	80 13 458		GEARBOX PUMP ASSEMBLY FOR STD. POWER T.I.M/CS L.HAND - from June 1992

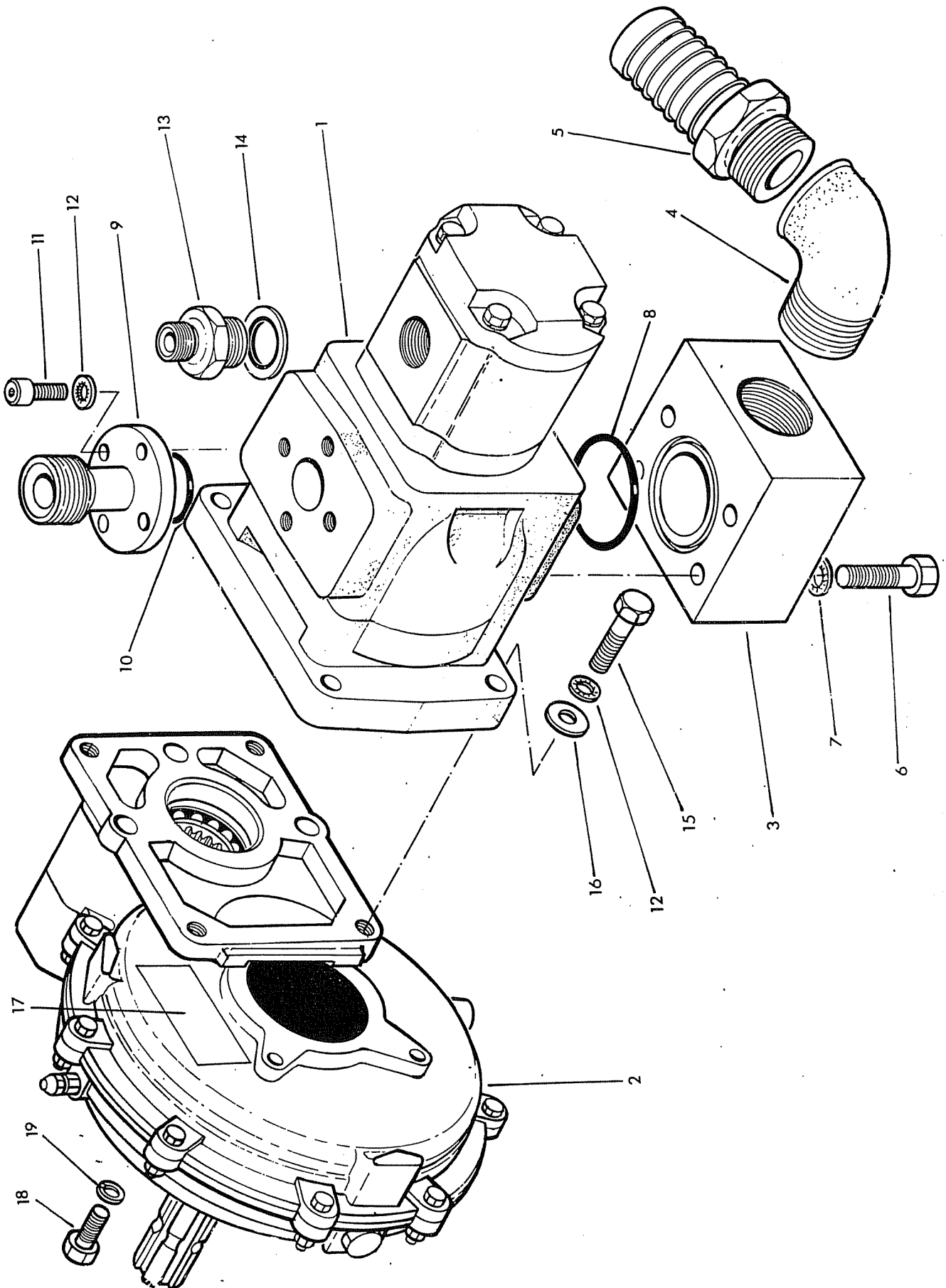
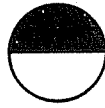
The parts list for right and left hand is identical. Assemblies vary only in build arrangement and comprise:-

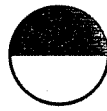
1	86 13 444	1	Gearbox
2	92 13 094	4	Bolt
3	82 01 466	1	Tandem pump CPL 33/5.7 - as shown -Compr.
	82 01 664	1	Large pump
	82 01 667	1	Small pump
	82 01 466	1	Tandem pump - cast iron end plate - alternative build compr:-
	82 01 684	1	Large pump
	82 01 677	1	Small pump
4	71 92 371	1	Suction block
5	86 00 122	1	'O' ring
6	85 81 301	1	Adaptor
7	80 13 096	1	Banjo
8	80 13 095	1	Banjo bolt
9	86 50 107	1	Bonded seal
10	85 01 213	1	Connecting hose
11	09 04 204	2	Hose clip
12	80 13 088	1	Pump flange
13	86 00 119	1	'O' ring
14	60 00 112	1	Adaptor
15	85 50 104	1	Bonded seal
16	92 13 144	3	Bolt
17	93 13 054	4	Setscrew
18	91 00 404	11	Shakeproof washer
19	93 13 056	4	Setscrew
20	91 00 206	4	Spring washer
21	91 00 104	7	Plain washer
22	12 90 054	1	Gearbox label
23*	85 81 283	1	Elbow
24*	85 81 367	1	Adaptor
25	85 81 136	1	Union
26	86 50 106	3	Bonded seal

86 99 215**PUMP SEAL KIT -33/5.7****86 99 231****PUMP SEAL KIT -Cast iron end plate**

***Assembly note :-** Items 20 and 21 to be assembled using PTFE tape

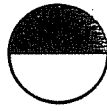
Spares note :- Check pump identification carefully before ordering section replacements.



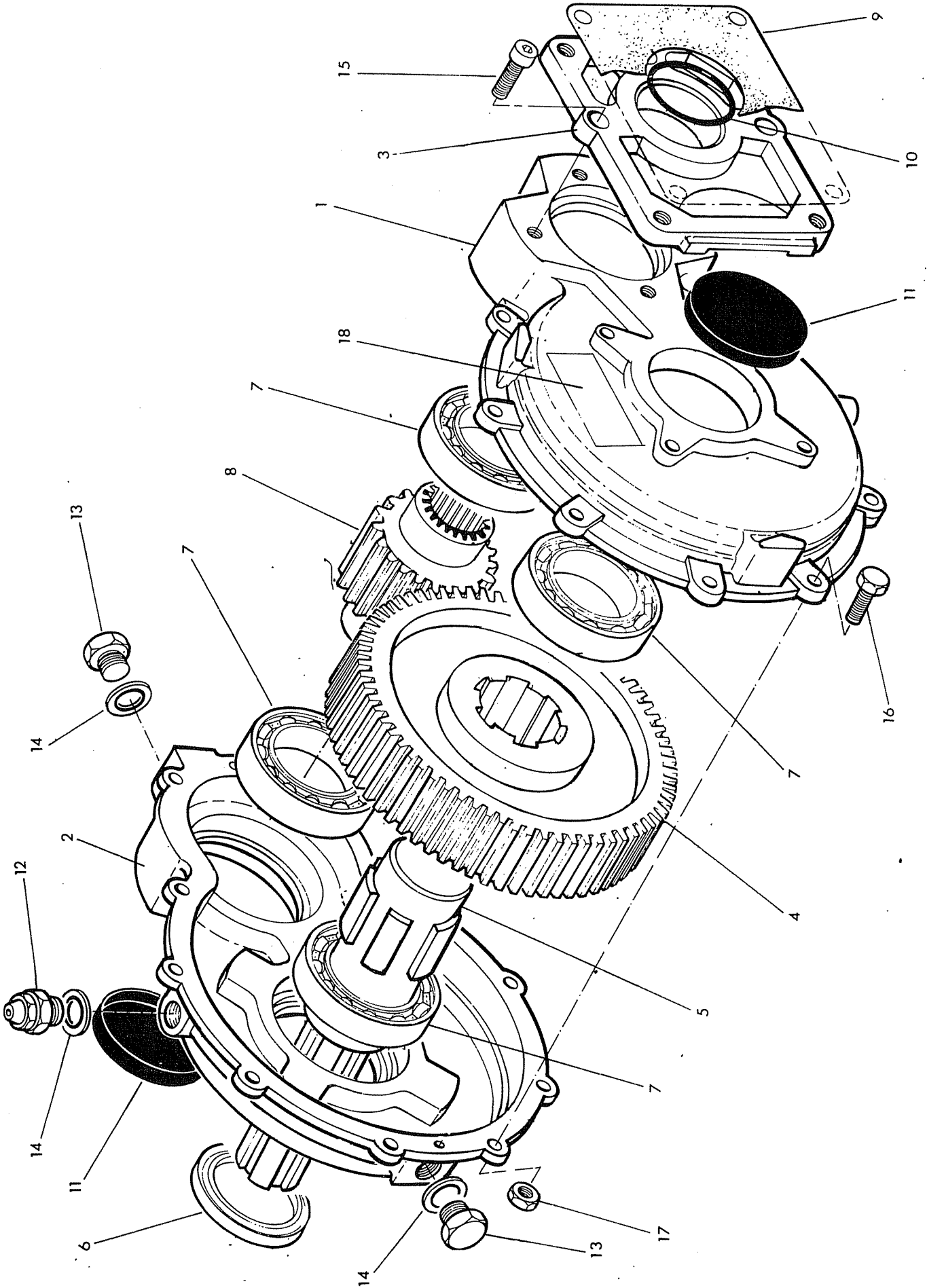


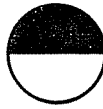
Ref	Part No	Qty	Description
			T.I PUMP AND GEARBOX L.HAND HI POWER - as illustrated
			T.I PUMP AND GEARBOX R.HAND HI POWER
The parts list for right and left hand is identical. Assemblies vary only in build arrangement and comprise:-			
1	82 01 685	1	Tandem pump compr:-
	82 01 165	1	Large-pump
	82 01 166	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 washer
17	12 90 054	1	Gearbox label
18	93 13 056	4	Setscrew
19	91 00 206	4	Spring washer
	86 99 234		SEAL KIT

GEARBOX



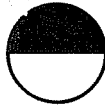
McCOMEL



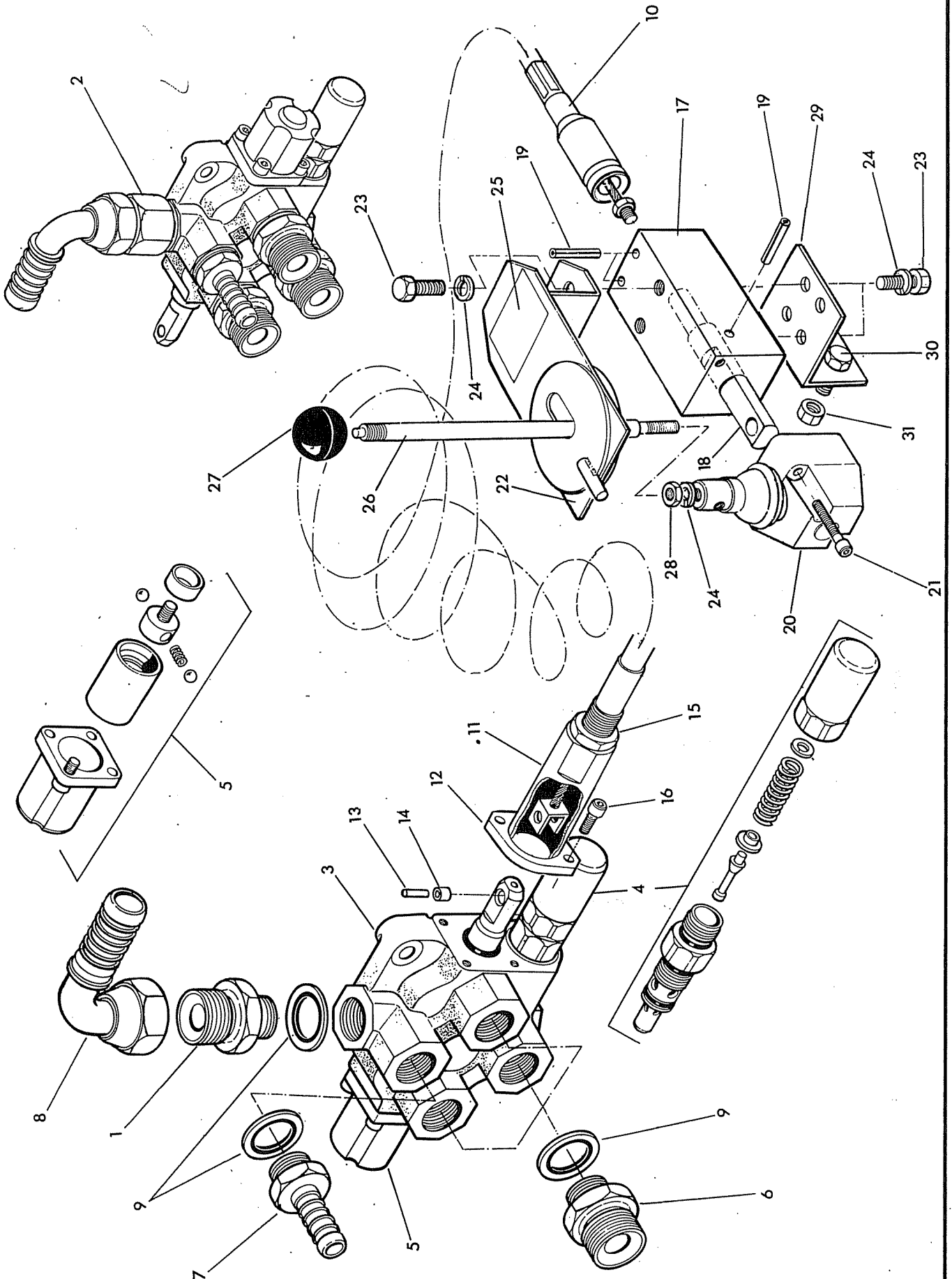


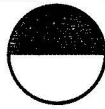
Ref	Part No	Qty	Description
	80 13 444		GEARBOX
1	80 13 100	1	Case - output side
2	80 13 101	1	Case - input side
3	80 13 102	1	Pump mounting flange
4	80 13 105	1	Gear
5	80 13 105	1	Shaft
6	86 29 196	1	Shaft seal
7	06 00 042	4	Bearing
8	80 13 104	1	Pinion
9	80 13 056	1	Gasket
10	86 00 523	1	'O' ring
11	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





MCCORMEL

Ref.	Part No.	Qty.	Description
	81 25 377		ROTOR CONTROL VALVE ASSEMBLY STD POWER R. HAND - shown exploded
1	80 02 086	1	Adaptor
	81 25 378		ROTOR CONTROL VALVE ASSEMBLY STD POWER L. HAND - shown inset
2	85 81 295	1	Extended adaptor

Items 3 -28 inclusive are common to both R and L Hand std power rotor valves

3	81 25 355	1	Rotor control valve
4	81 25 107	1	Relief valve 3000 (210 Bar)
5	81 25109	1	Detent assembly
6	85 81 136	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 13 072	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

86 99 218

SEAL KIT

81 25 379

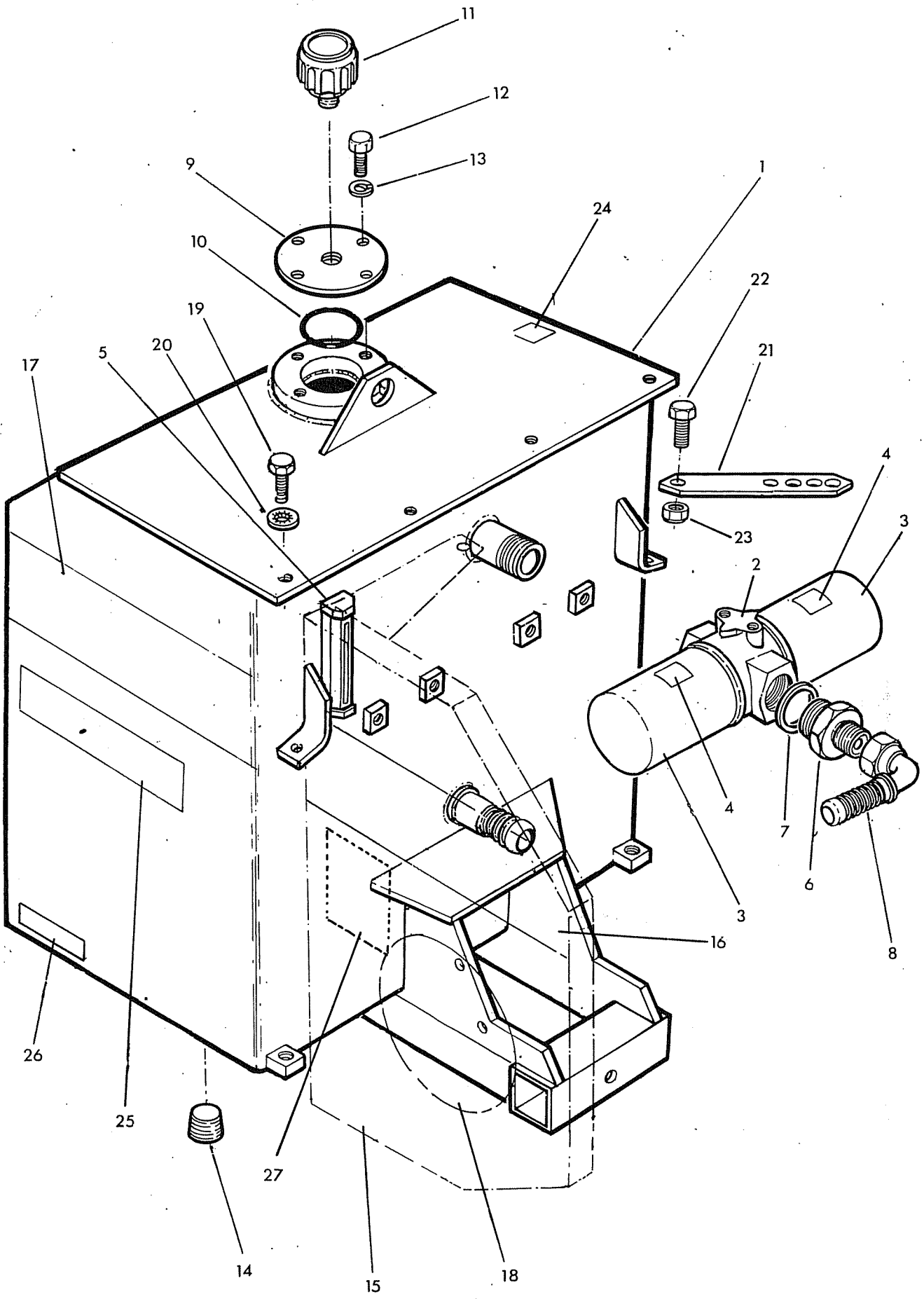
**ROTOR CONTROL VALVE ASSEMBLY HI
POWER R. HAND**

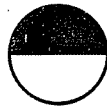
81 25 380

**ROTOR CONTROL VALVE ASSEMBLY HI
POWER L. HAND**

The parts list are identical with their std power counterparts except the following

3	81 25 356	1	Rotor control valve incl. relief valve and detent
4	81 25 108	1	Relief valve incl 'O' rings - 190 bar
6	80 02 086	3	Adaptor





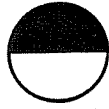
Ref	Part No	Qty	Description
ENDURO HYDRAULIC TANK AND COVER PLATE			
	71 93 392		Oil tank assembly compr:-
1	71 93 386	1	Oil tank
2	84 01 060	1	Return filter head
3	84 01 041	2	Filter element
4	12 90 023	2	Sticker "filter instructions"
5	84 01 048	1	Level guage
6	85 81 291	1	Union
7	86 50 224	1	Bonded 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

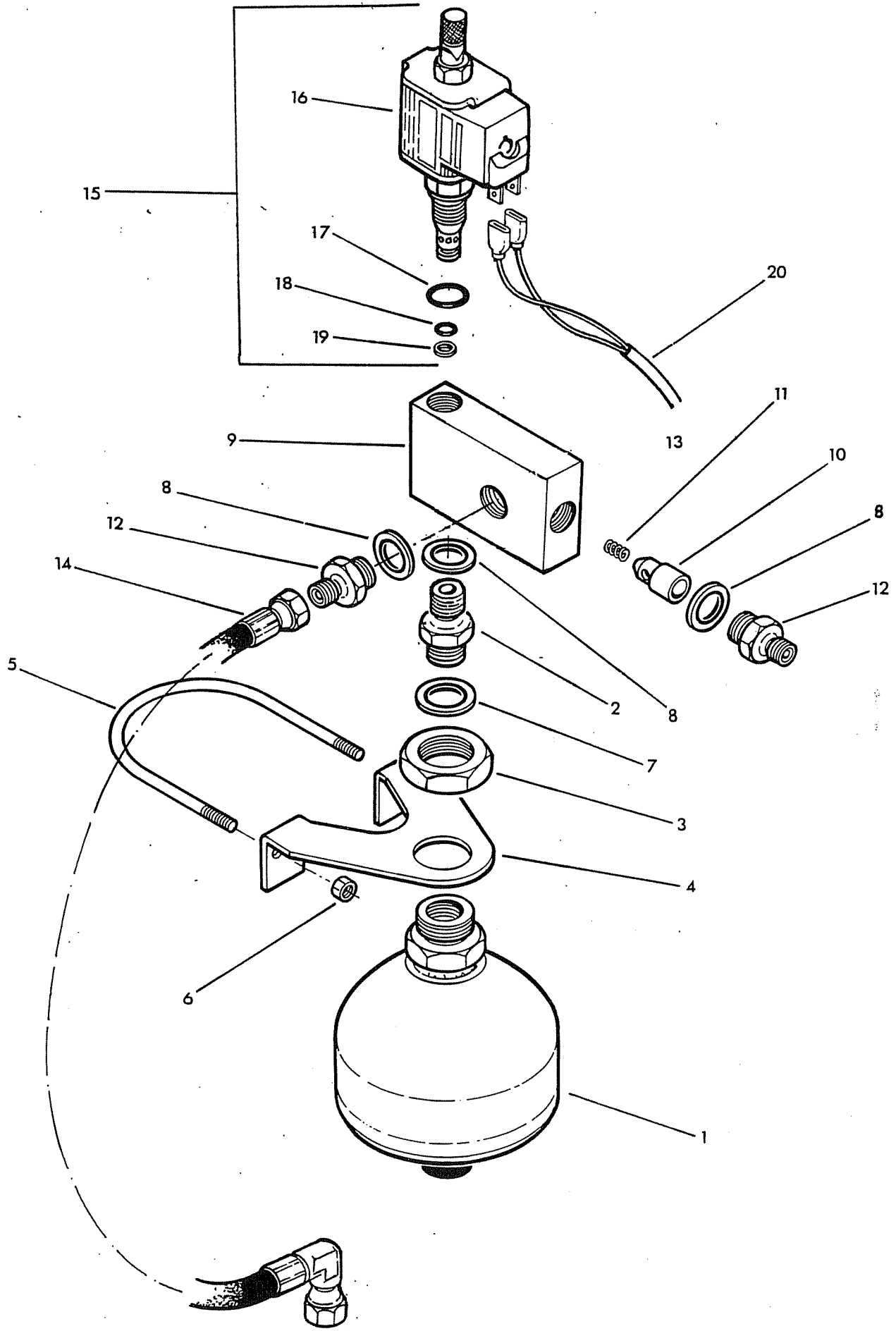
Parts are identical to the R. hand assembly with the following exceptions.

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

LIFT FLOAT KIT

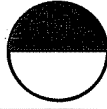


McCOMEL

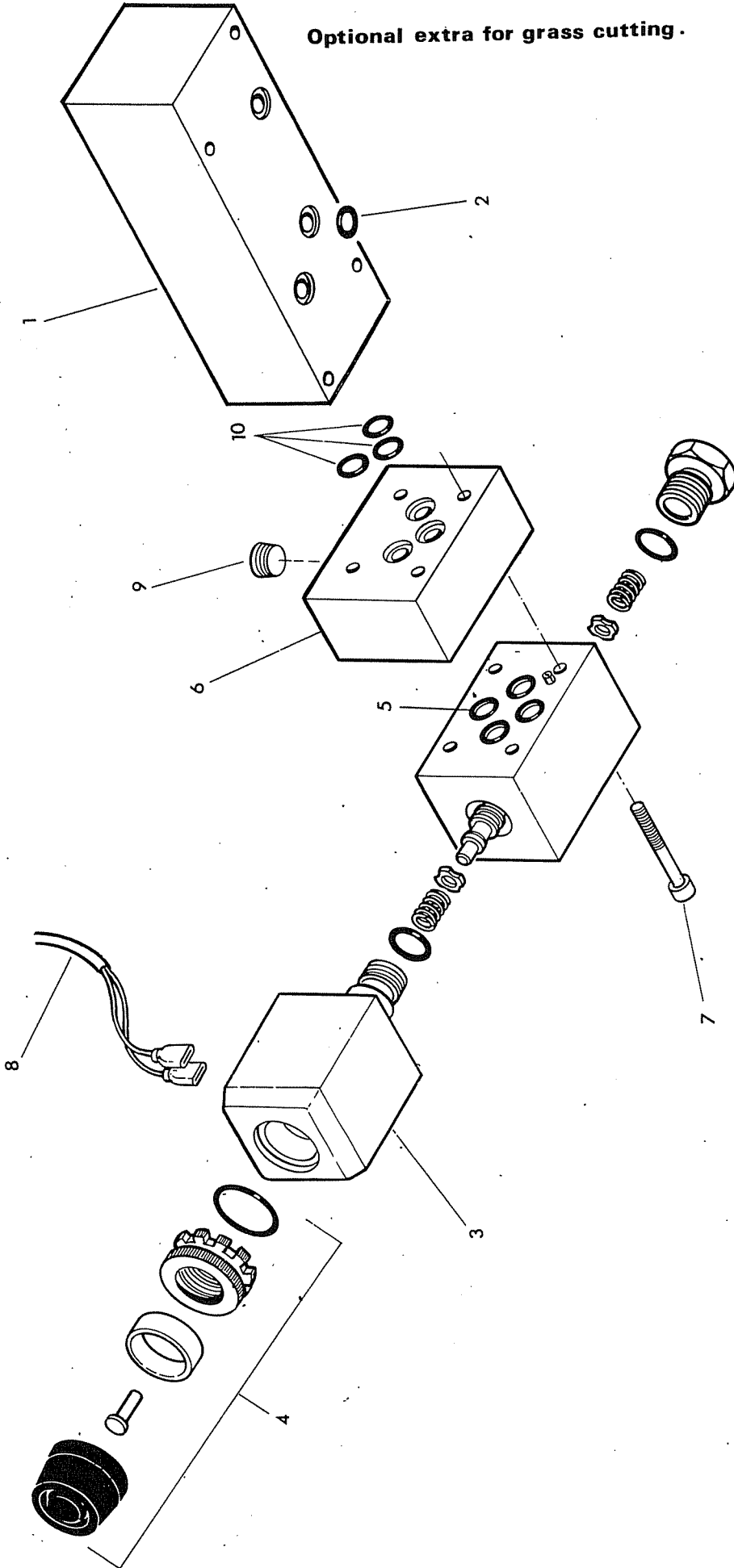


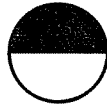


Ref.	Part No.	Qty.	Description
	81 26 290		LIFT FLOAT KIT - Quick response
1	81 26 042	1	Accumulator
2	G241 0380	1	Adaptor M22
3	81 26 035	1	Bulkhead nut M33
4	81 26 286	1	Bracket
5	81 26 031	1	U. bolt
6	91 43 004	2	Self locking nut M8
7	86 50 322	1	Bonded seal M22
8	86 50 103	3	Bonded seal 3/8" BSP
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 3/8" BSP - 1/4" BSP
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



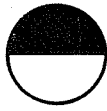
Optional extra for grass cutting.



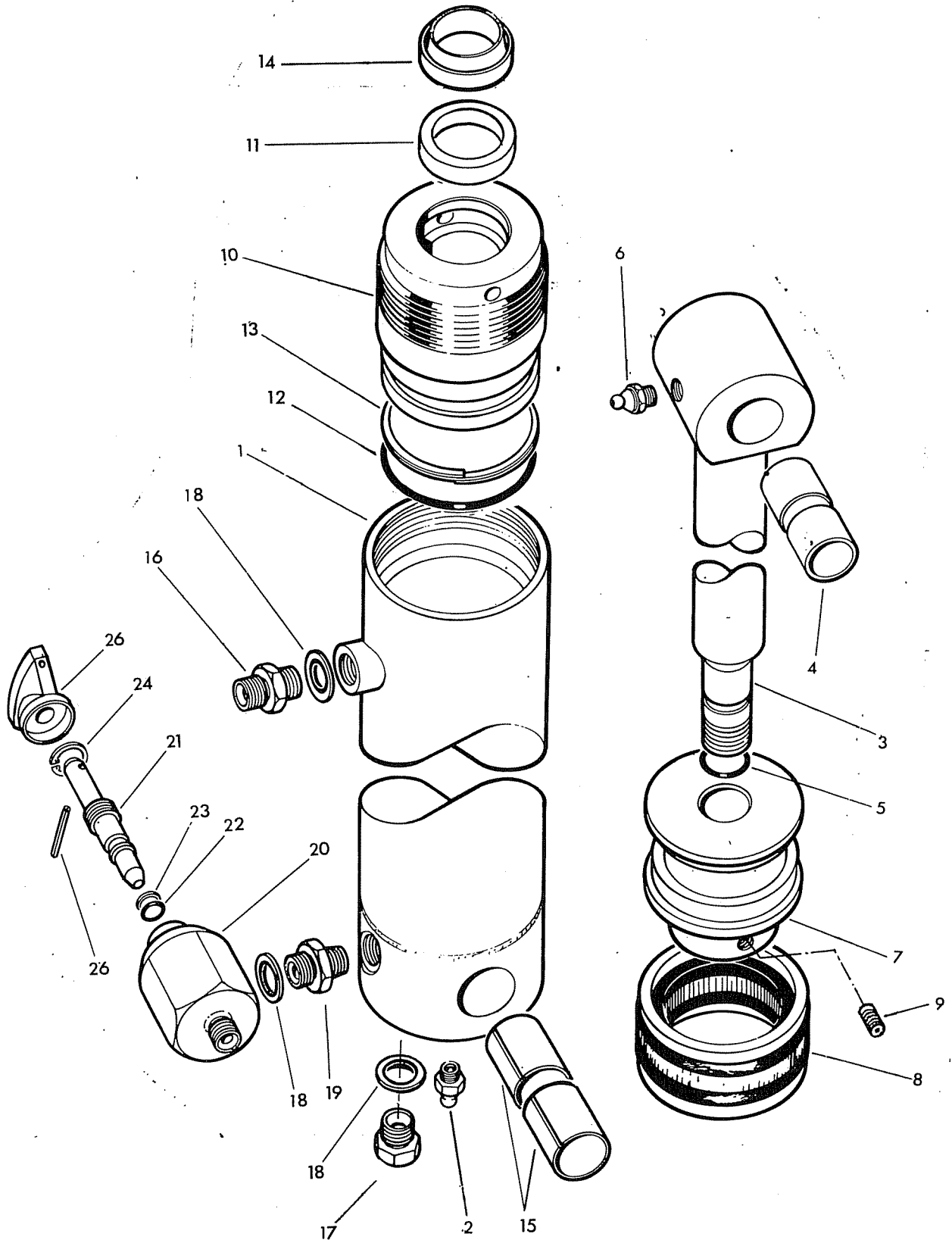


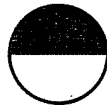
Ref.	Part No.	Qty.	Description
	81-26-261		ANGLE FLOAT KIT -Optional extra for ground cutting
1	81-30-323	1	Float valve block
2	87-00-511	3	O ring
	81-30-457	1	Angle float solenoid incl:-
3	81-30-175	2	Coil
4	81-30-176	1	Manual override kit
5	87-00-511	4	O ring
6	81-26-280	1	Bridging plate
7	92-43-102	4	Setscrew socket headed
8	84-02-059	1	Wiring harness
9	85-82-041	1	Plug
10	87-00-511	3	'O' ring - ref only
	86-99-224		SOLENOID SEAL KIT

LIFT RAM



McCORMICK

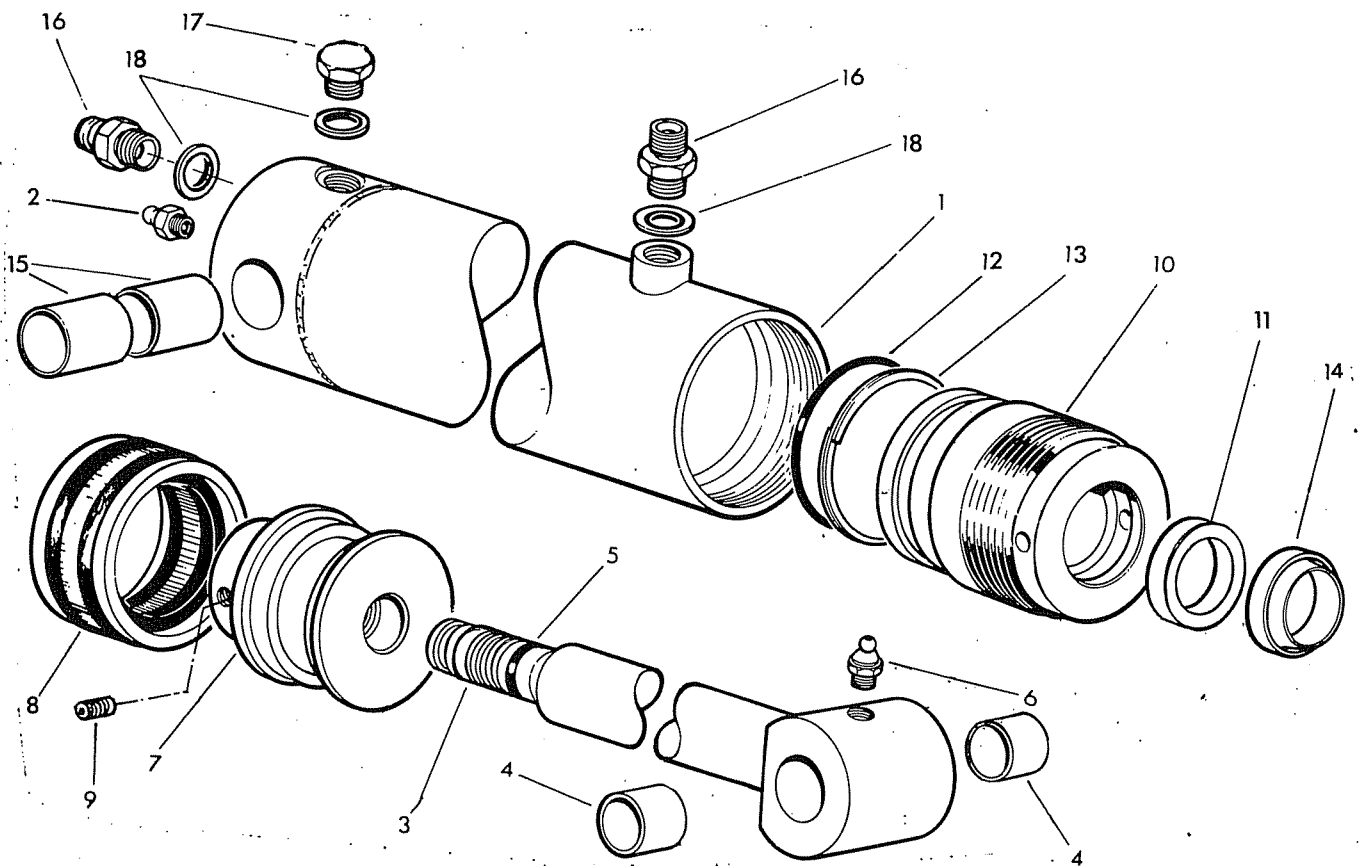
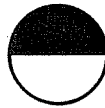




Ref.	Part No.	Qty.	Description
	71-93-333		LIFT RAM ASSEMBLY
1	71-35-283	1	Ram cylinder
2	09-01-121	1	Greaser
3	71-93-029	1	Piston rod
4	60-12-032	2	Bush
5	86-00-119	1	'O' ring
6	09-01-121	1	Greaser
7	71-35-004	1	Piston
8	86-38-740	1	Piston seal
9	93-63-023	1	Grub screw
10	71-35-282	1	Gland housing
11	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**

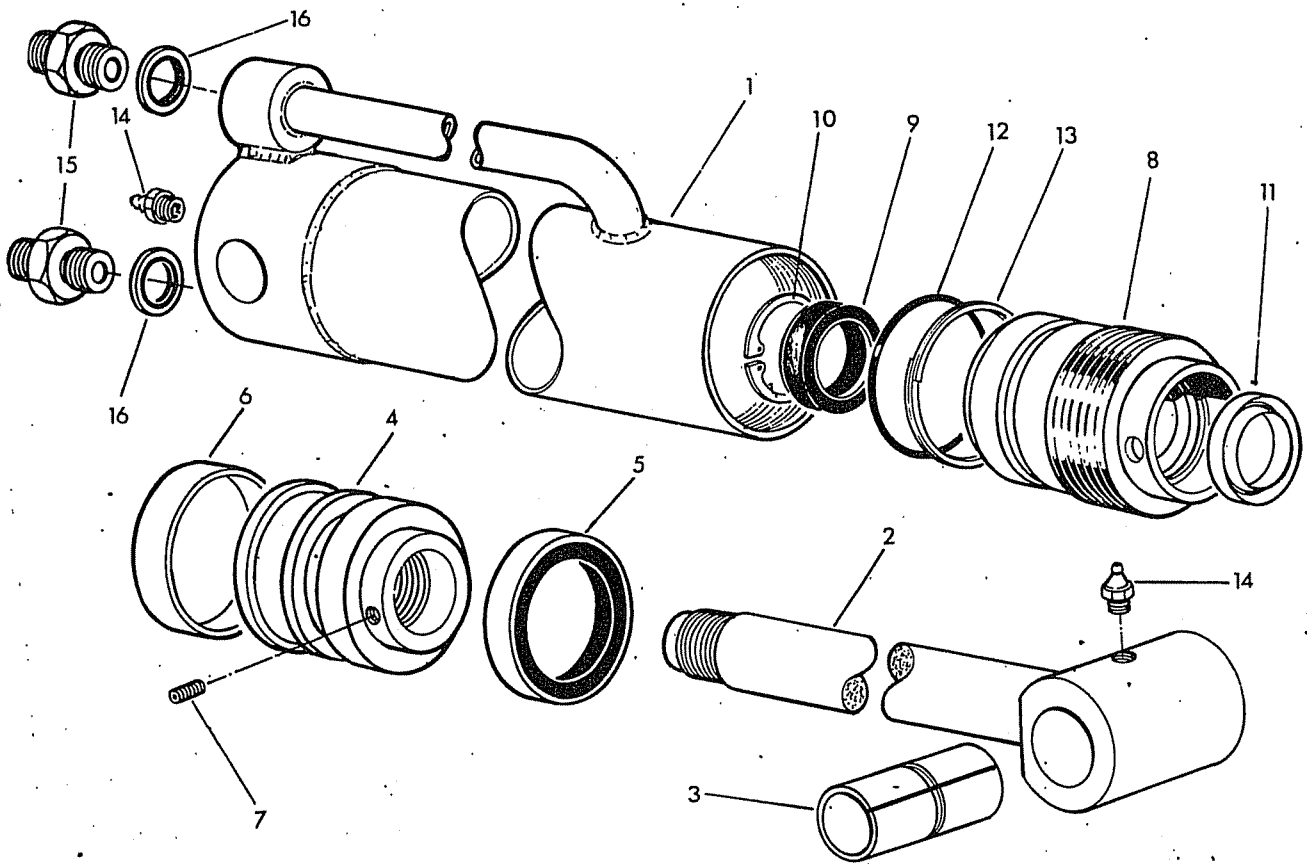
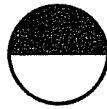
Assembly note Fully tighten item 9 and centre pop edge of hole to retain.



Ref.	Part No.	Qty.	Description
	71-93-334		REACH RAM ASSEMBLY
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.

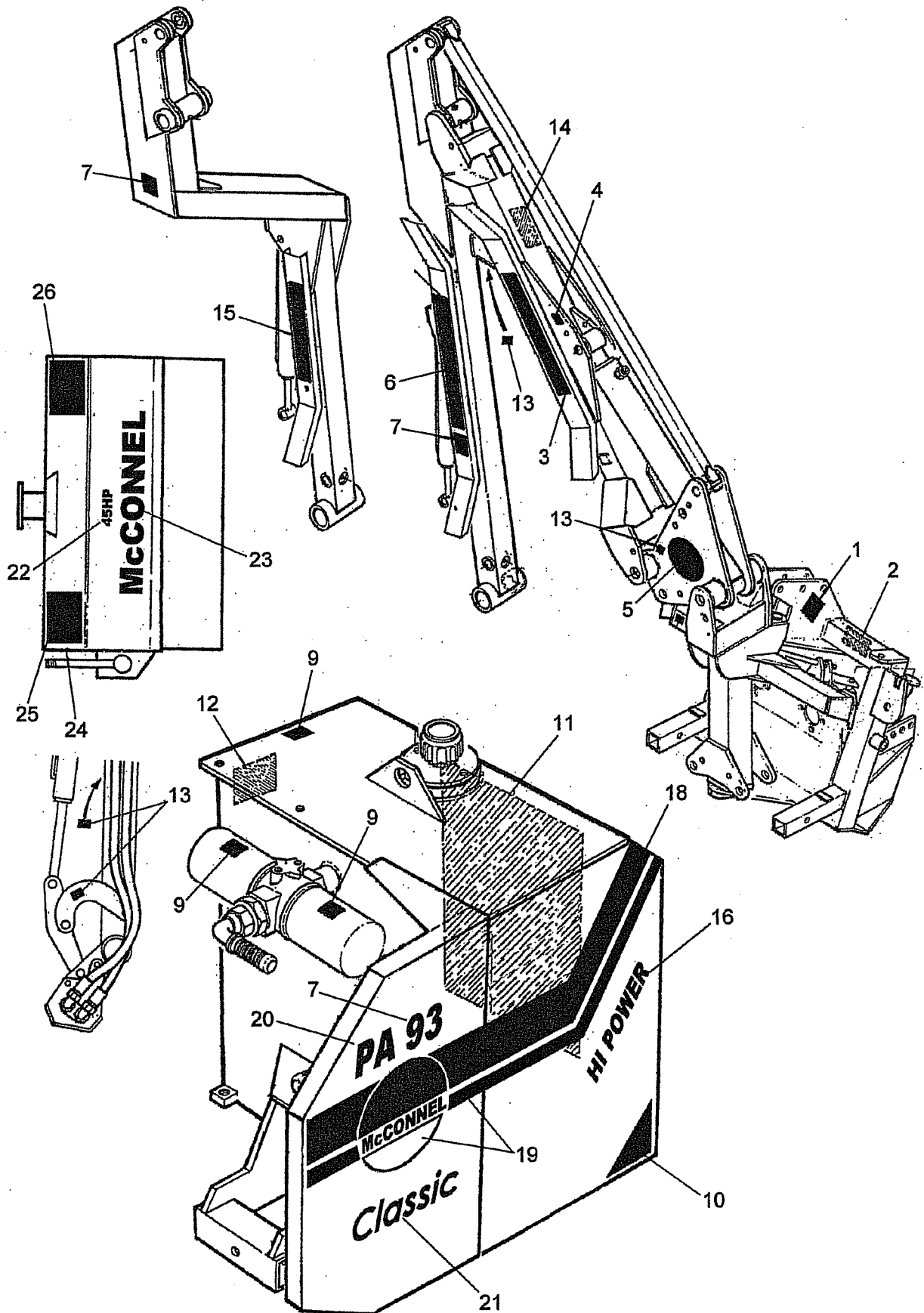


Ref.	Part No.	Qty.	Description
	75-60-344		ANGLING RAM ASSEMBLY
1	71-35-292	1	Cylinder
2	71-35-009	1	Rod
3	71-05-050	1	Bush
4	75-60-095	1	Piston
5	86-29-187	1	Piston seal
6	86-29-188	1	Bearing ring
7*	93-63-023	1	Grub screw socket head
8	71-35-291	1	Gland housing
9	86-29-148	1	Gland seal
10	04-16-240	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
	86-99-188		SEAL KIT

*** Assembly note**

Tighten fully and centre punch edge of hole to secure.

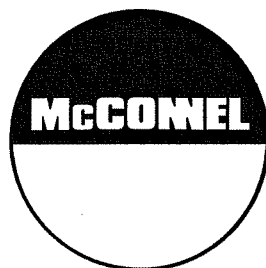
Modules: Refer to Parts List opposite





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
						FLAILHEAD DECALS
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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