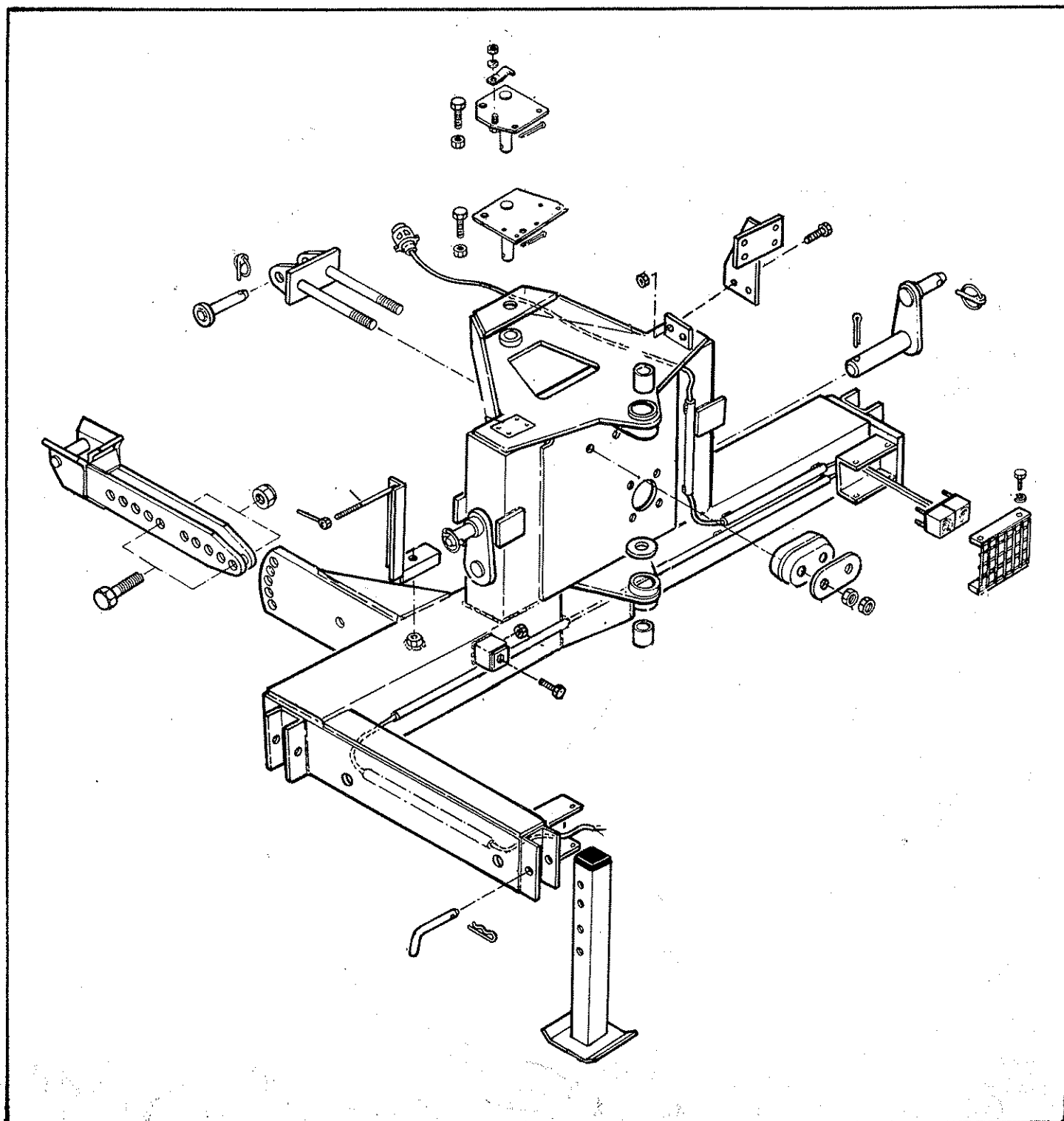


PA 2050 Series

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.

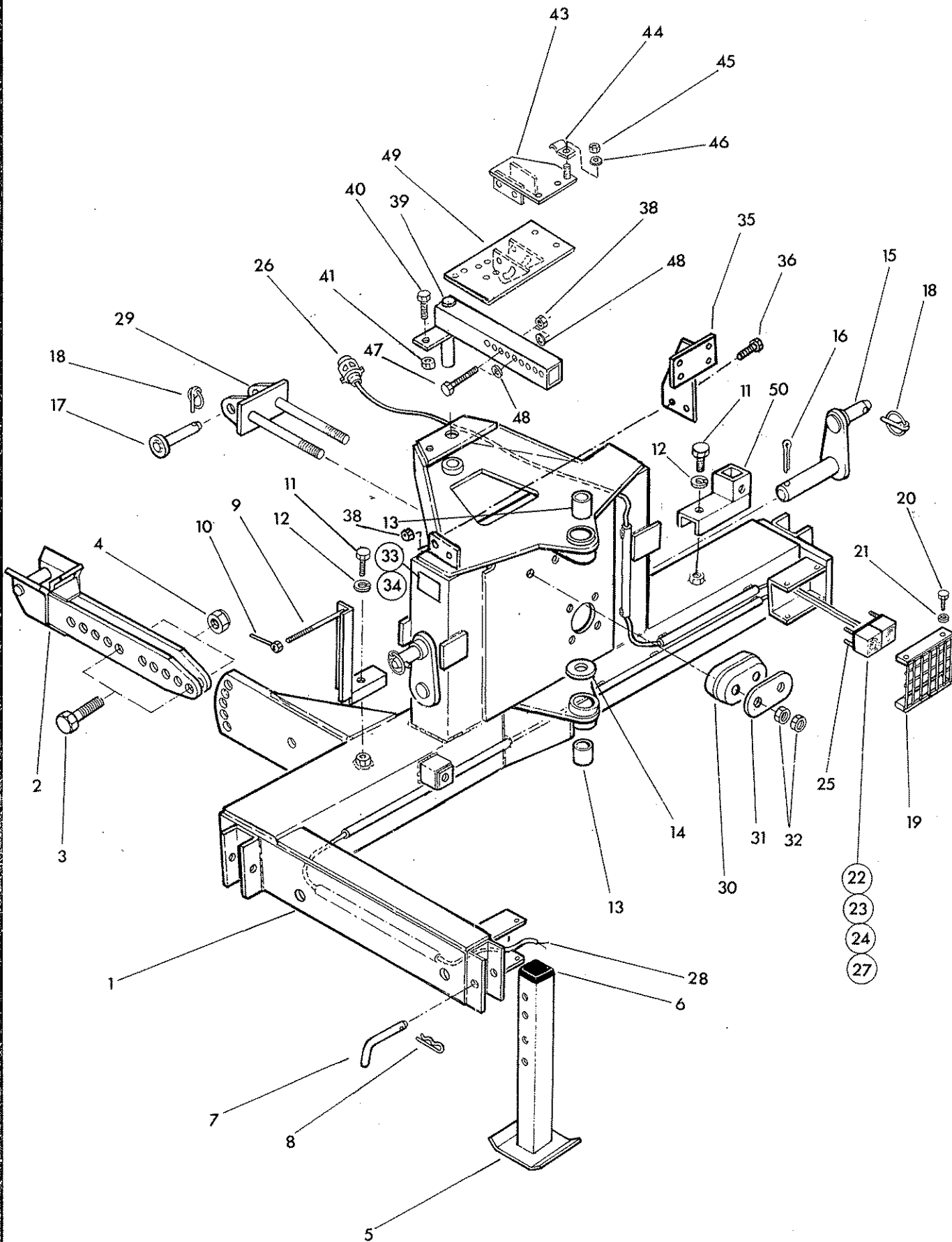
Always quote machine type and serial number as well as the part number.

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.

MAIN FRAME



MCCORMEL





Ref	Part No.	Qty	Description
MAIN FRAME			
1	75 50 280	1	Main frame - R. Hand
	75 50 281	1	Main frame L. Hand - not illus
2	75 60 386	1	Mounting arm 1.0 m L. Hand 1.1m R. Hand
	75 60 387	1	Mounting arm 1.1m L Hand 1.0 m R. Hand
3	92 13 159	4	Bolt
4	91 43 009	4	Self locking nut
5	75 60 021	3	Stand leg
6	71 91 108	3	Plastic bung
7	71 92 023	3	Pin
8	04 31 105	3	Spring cotter
9	75 60 373	1	Leg stay
10	75 60 062	1	Clamp nut
11	93 13 077	1	Setscrew
12	91 00 207	1	Spring washer
13	70 16 010	2	Bush
14	60 01 136	1	Thrust washer
15	75 60 374	2	Lift link pin
16	95 01 509	2	Split pin
17	71 18 112	1	Pin
18	04 31 217	3	Linch pin
19	75 60 353	2	Light gaurd
20	93 13 023	8	Setscrew
21	91 00 203	8	Spring washer
22	75 60 086	2	Rear light
23	75 60 087	2	Stop / tail bulb 12v
24	75 60 088	2	Flasher bulb 12v
25	93 00 142	8	Self tapping screw
26	75 60 089	1	Plug
27	75 60 098	8	Connector
28	75 60 090	1	Cable
29	75 60 398	1	Top hitch bracket
30	75 60 141	1	Rubber damper
31	75 60 130	1	Reaction plate
32*	91 13 009	4	Nut
33	13 35 246	1	Serial No. plate
34	71 03 230	4	Pop rivet
35	75 50 014	1	Rotor control valve bracket
36	93 13 055	2	Setscrew
37	93 13 065	1	Setscrew
38	91 43 005	3	Self locking nut
39	75 50 021	1	Pin
40	92 13 066	1	Bolt
41	91 43 006	1	Self locking nut
42	71 36 330	1	PTO shaft - not illus
43	75 50 027	1	Valve mounting bracket - electric machines
44	71 09 151	1	Cable clamp
45	91 13 004	1	Nut
46	91 00 204	1	Spring washer
47	92 13 225	2	Bolt
48	91 00 105	2	Plain washer
49	75 50 289	1	Valve mounting bracket - cable machines
50	75 80 321	1	Parking cradle transport socket - 2050 M only

*** Assembly note**

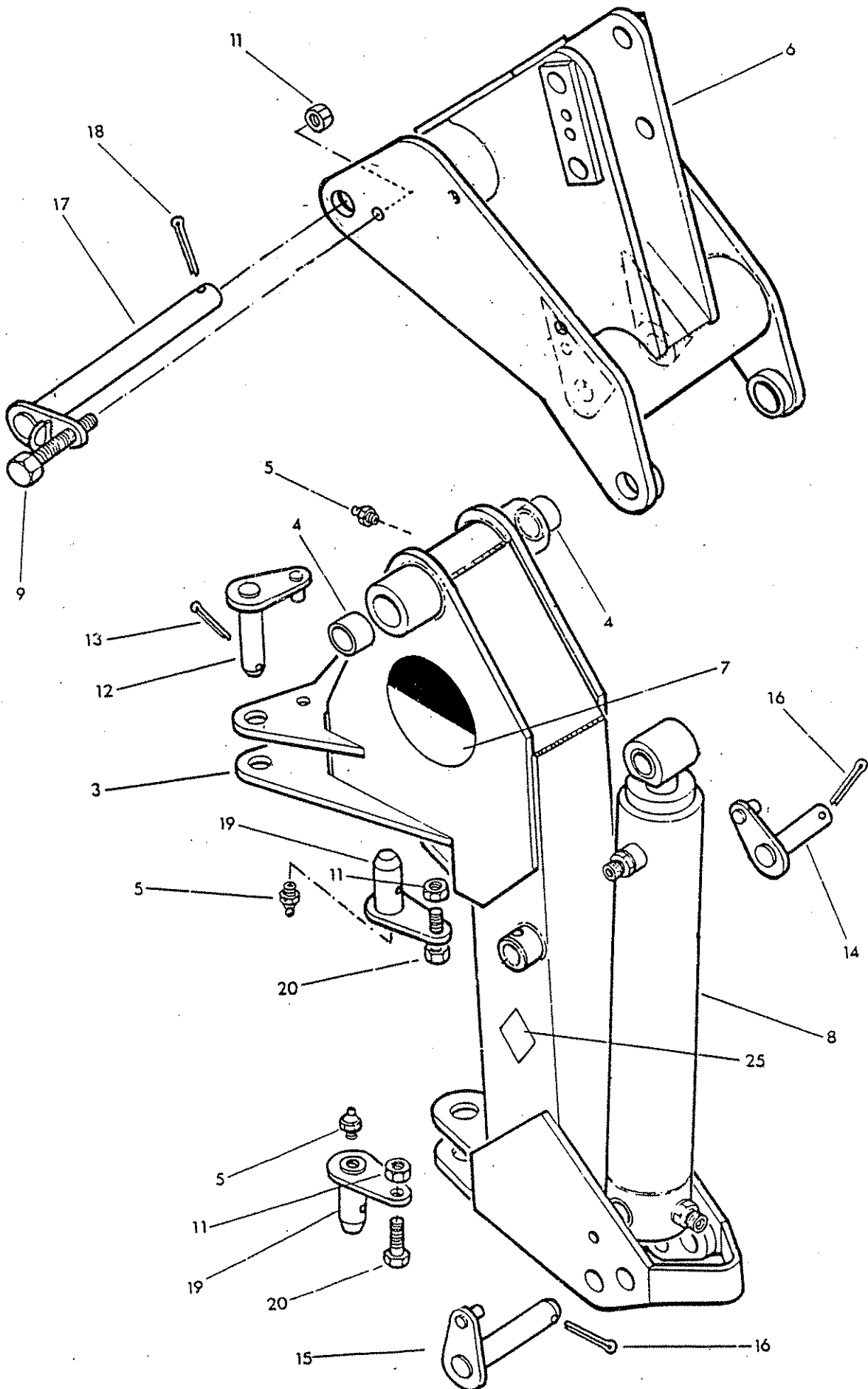
Nuts must be tightened until the rubber damper is compressed to 120 mm thick

Model

**SLEW COLUMN AND
ROCKER**

McCONEL

Tameside Works, Ludlow,
Shropshire, SY8 1JL, England.
Telephone: (0584) 3131.
Telex 35313. Facsimile: (0584) 6463.



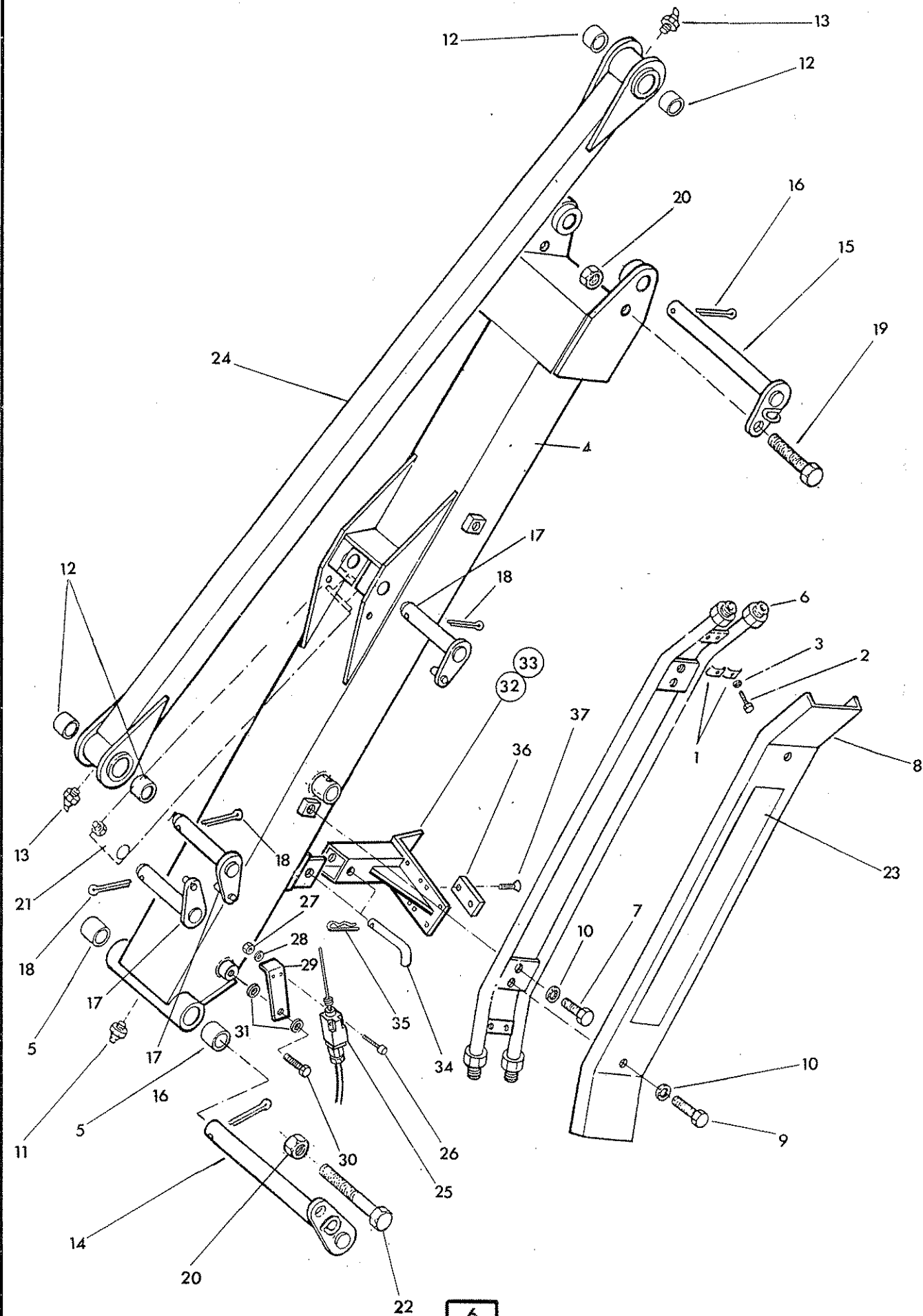


Ref.	Part No.	Qty.	Description
SLEW COLUMN AND ROCKER			
3	71 96 291	1	Slew column
4	71 96 047	2	Bush
5	09 01 121	3	Greaser
6	71 96 303	1	Rocker
7	12 90 286	1	Sticker - roundel
8	71 26 270	1	Lift ram assembly
9	92 13 127	1	Bolt
11	91 43 007	5	Self locking nut
12	71 96 021	1	Pivot pin-slew/breakaway ram rod
13	95 01 406	4	Split pin
14	71 96 016	1	Pivot pin - lift ram rod
15	71 96 017	1	Pivot pin - lift ram base
16	95 01 507	2	Split pin
17	71 96 018	1	Pivot pin - rocker
20	93 13 087	2	Bolt

MAIN ARM AND TENSION LINK



McCOMEL





McCONNEL

Ref.	Part No.	Qty.	Description
MAIN ARM AND TENSION LINK			
1*	71 96 024	2	Hose clamp
2*	93 13 053	2	Setscrew
3*	91 00 203	2	Spring washer
4	75 50 251	1	Main arm
5	71 96 047	2	Bush
6	75 50 279	1	Rigid pipes - extended
7	93 13 045	2	Setscrew
8	75 50 278	1	Pipe cover - extended
9	92 13 075	2	Bolt
10	91 00 305	4	Internal serrated washer
11	09 01 121	1	Greaser straight
12	60 12 032	4	Bush
13	09 01 125	2	Greaser
14	71 96 044	1	Pivot pin - main arm
15	71 96 019	1	Pivot pin - dipper arm
16	05 03 166	1	Split pin
17	71 96 017	3	Pivot pin - reach ram & tension link lower
18	95 01 507	3	Split pin
19	93 13 087	1	Bolt
20	91 43 007	2	Self locking nut
21	71 36 270	1	Reach ram
22	93 13 167	1	Bolt
23	12 90 255	1	Sticker 'McConnel'
24	75 50 253	1	Tension link

84 02 150

PA2050M 'REACH IN LIMIT STOP SWITCH' ASSY

25	84 02 152	1	Limit switch incl. cable and gland
26	92 43 062	2	Cap screw socket headed
27	91 00 014	2	Nut
28	91 00 202	2	Spring washer
29	75 80 317	1	Mounting bracket
30	03 11 065	1	Setscrew
31	01 00 305	1	Shakeproof washer

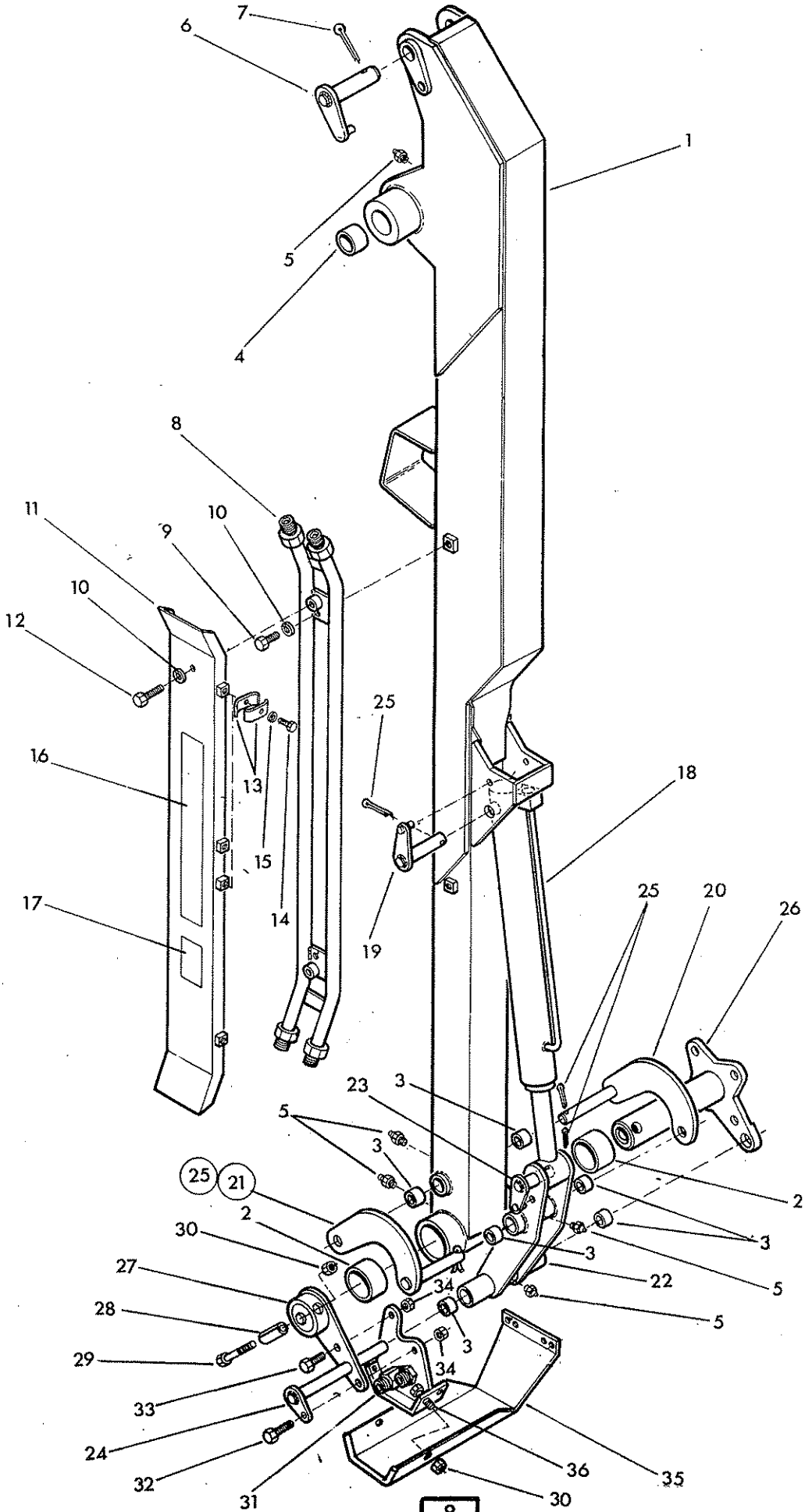
PA2050M PARKING CRADLE AND FITTINGS

32	75 80 323	1	Parking cradle - R hand
33	75 80 322	1	Parking cradle - L hand - not illus
34	75 80 015	1	Cradle pin
35	04 31 105	1	Spring cotter
36	10 75 041	4	Cradle pad
37	10 75 047	8	Countersunk rivet

DIPPER - Std arm



McCONEL





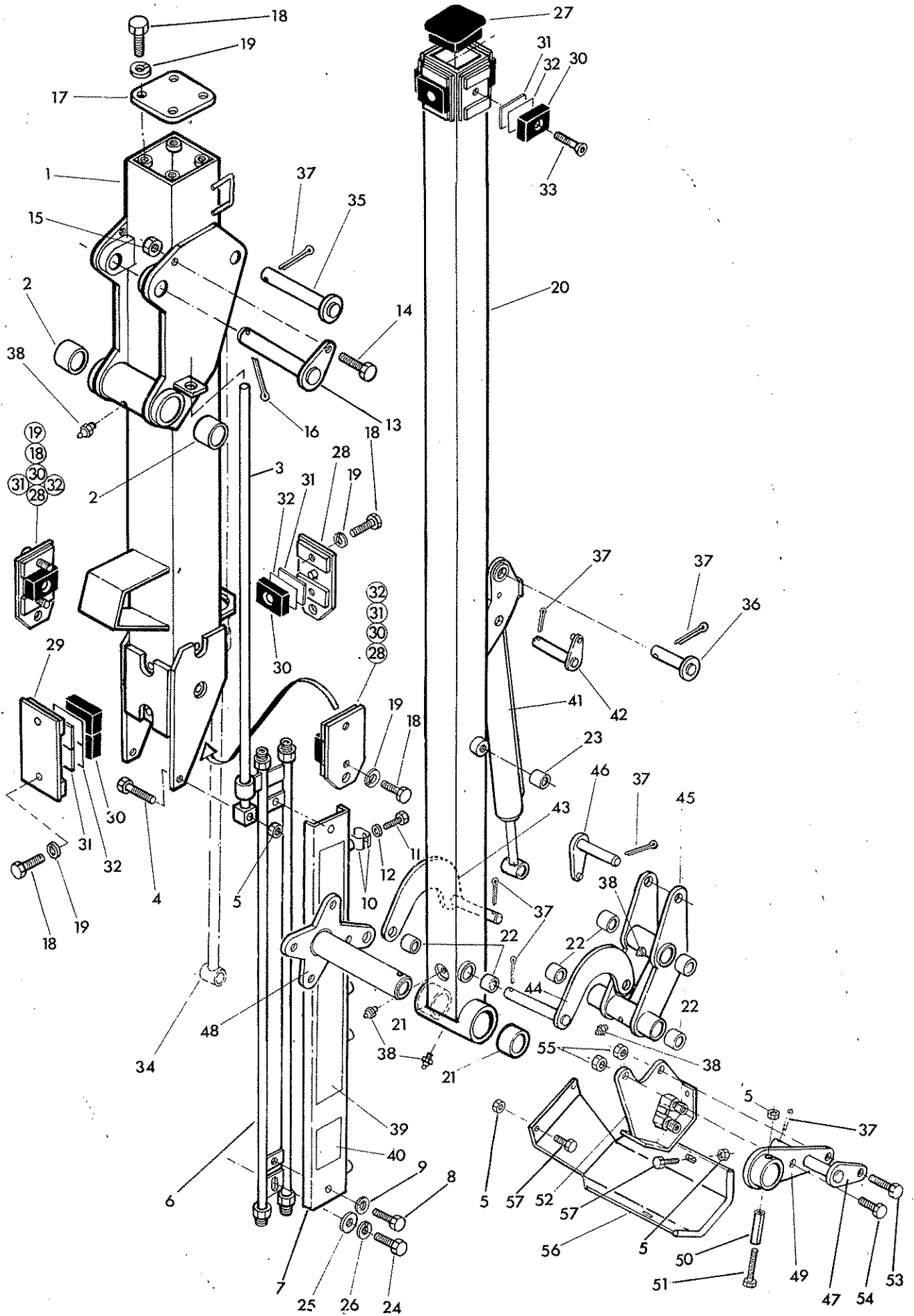
Ref.	Part No.	Qty.	Description
DIPPER ARM & ANGLING MECHANISM FOR PA2050 STANDARD ARM			
1	75 50 252	1	Dipper arm
2	71 36 035	2	Bush - head pivot
3	71 01 083	6	Bush - Radius arm pivot and slave link
4	70 16 010	2	Bush - Dipper pivot
5	09 01 121	5	Greaser
6	71 96 017	1	Pivot pin - Tension link
7	95 01 507	1	Split pin
8	75 50 287	1	Rigid pipe
9	93 13 045	2	Setscrew
10	91 00 305	4	Internal serrated washer
11	75 50 286	1	Pipe cover
12	92 13 075	2	Bolt
13	71 96 024	4	Hose clamp
14	93 13 053	2	Setscrew
15	91 00 203	2	Spring washer
16	12 90 295	1	Sticker "Power Arm"
17	12 90 397	1	Sticker 2050
18	75 60 344	1	Angle ram assembly
19	71 92 024	1	Pivot pin - Angle ram base
20	71 92 311	1	Radius arm - front
21	71 92 310	1	Radius arm - rear
22	71 92 309	1	Slave link
23	71 92 008	1	Pivot pin - Angle ram rod
24	71 92 009	1	Pivot pin - Slave link
25	95 01 406	5	Split pin
26	71 92 308	1	Head pivot tube
27	71 92 316	1	Jaw plate
28	04 23 548	1	Spring dowel
29	92 13 185	1	Bolt
30	91 43 005	5	Self locking nut
31	71 95 303	1	Hose junction bracket
32	02 11 146	1	Bolt
33	02 11 126	1	Bolt
34	01 41 006	2	Self locking nut
35	71 92 324	1	Hose tray
36	93 13 045	4	Setscrew

Model

TELESCOPIC DIPPER ARM

McCONEL

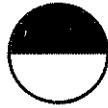
Temeside Works, Ludlow,
Shropshire, SY8 1JL, England.
Telephone: (0584) 3131.
Telex 35313. Facsimile: (0584) 6463.



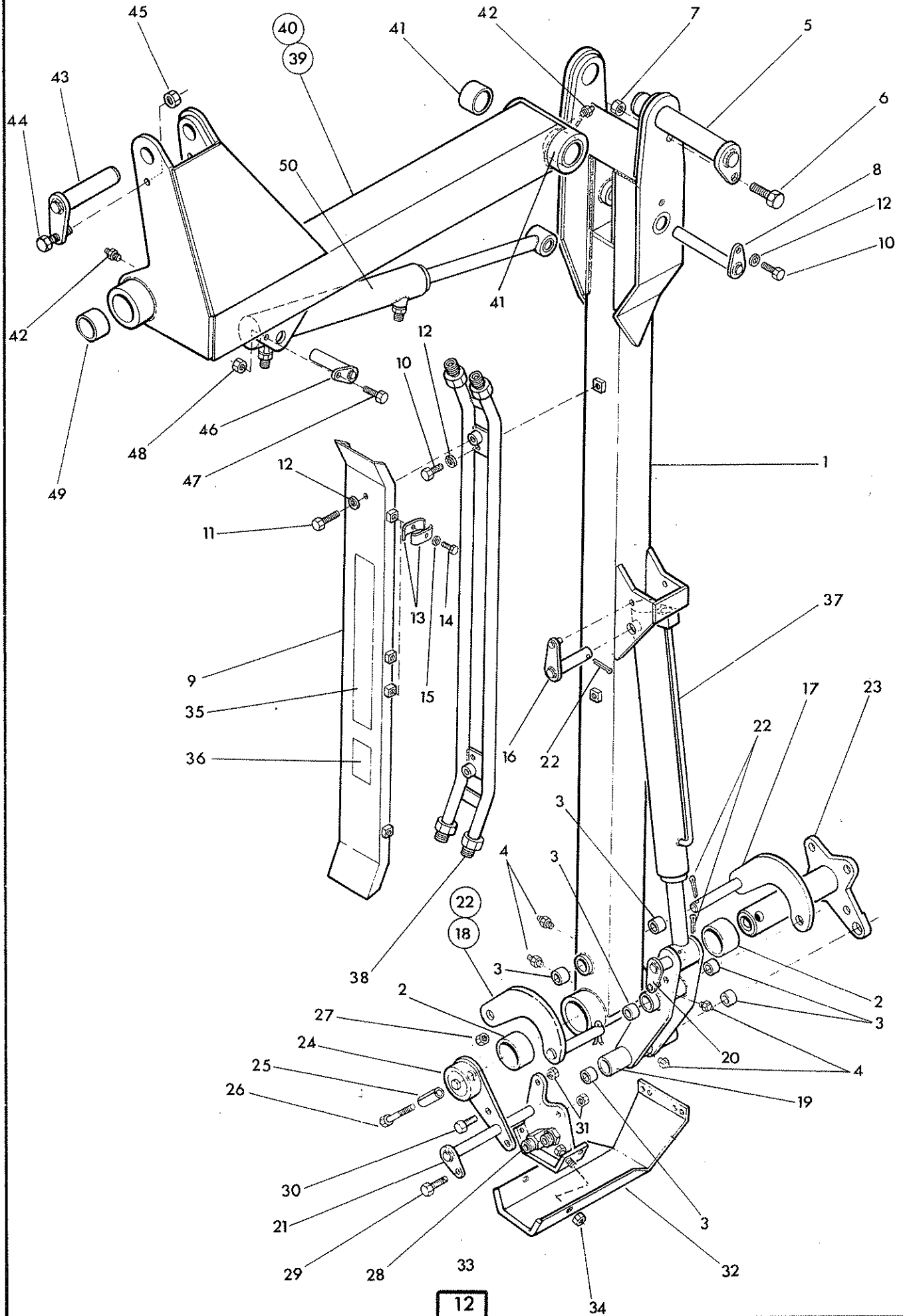


Ref.	Part No.	Qty.	Description
DIPPER ARM AND ANGLING MECHANISM FOR 2050 - TELESCOPIC			
1	71 97 281	1	Dipper socket
2	70 16 010	2	Bush
3	71 97 012	1	Guide rod
4	92 13 125	1	Bolt
5	91 43 005	6	Self locking nut
6	71 97 282	1	Pipe assembly
7	71 97 015	1	Pipe cover
8	93 13 055	2	Setscrew
9	91 00 305	2	Internal serrated washer
10	71 96 024	4	Hose clamp
11	93 13 053	2	Setscrew
12	91 00 203	2	Spring washer
13	71 97 005	1	Pivot pin - tension link upper
14	92 13 066	1	Bolt
15	91 43 006	1	Self locking nut
16	95 01 507	1	Split pin
17	71 36 069	1	Cover plate
18	03 11 065	12	Setscrew
19	01 00 205	12	Spring washer
20	71 97 280	1	Tele dipper
21	71 36 035	2	Bush
22	71 01 083	6	Bush
23	71 97 009	1	Spacer
24	92 17 406	1	Bolt
25	91 00 106	1	Plain washer
26	91 00 206	1	Spring washer
27	71 36 148	1	Plastic bung
28	71 36 314	3	Wear pad carrier - side and top
29	71 36 315	1	Wear pad carrier - bottom
30	71 36 001	13	Wear pad
31	71 36 059	as reqd	Shim 1mm
32	71 36 058	as reqd	Shim 0.25 mm
33	93 53 075	4	Socket head c/sunk screw
34	71 36 275	1	'Tele' ram assembly
35	71 97 003	1	Pivot pin - 'tele' ram base
36	71 97 004	1	Pivot pin - 'tele' ram rod
37	95 01 406	7	Split pin
38	09 01 121	5	Greaser . straight
39	12 90 295	1	Sticker 'Power Arm'
40	12 90 397	1	Sticker '2050'
41	75 60 344	1	Angle ram assembly
42	71 92 024	1	Pivot pin -Angle ram base
43	71 92 311	1	Radius arm - front
44	71 92 310	1	Radius arm - rear
45	71 92 309	1	Slave link
46	71 92 008	1	Pivot pin -Angle ram rod
47	71 92 009	1	Pivot pin - Slave link
48	71 92 308	1	Head pivot tube
49	71 92 316	1	Jaw plate
50	04 23 548	1	Spring dowel
51	92 13 185	1	Bolt
52	71 95 303	1	Hose junction bracket
53	02 11 146	1	Bolt
54	02 11 126	1	Bolt
55	01 41 006	2	Self locking nut
56	71 92 324	1	Hose tray
57	93 13 045	4	Setscrew

DIPPER ARM - Midcut



MCDONNELL





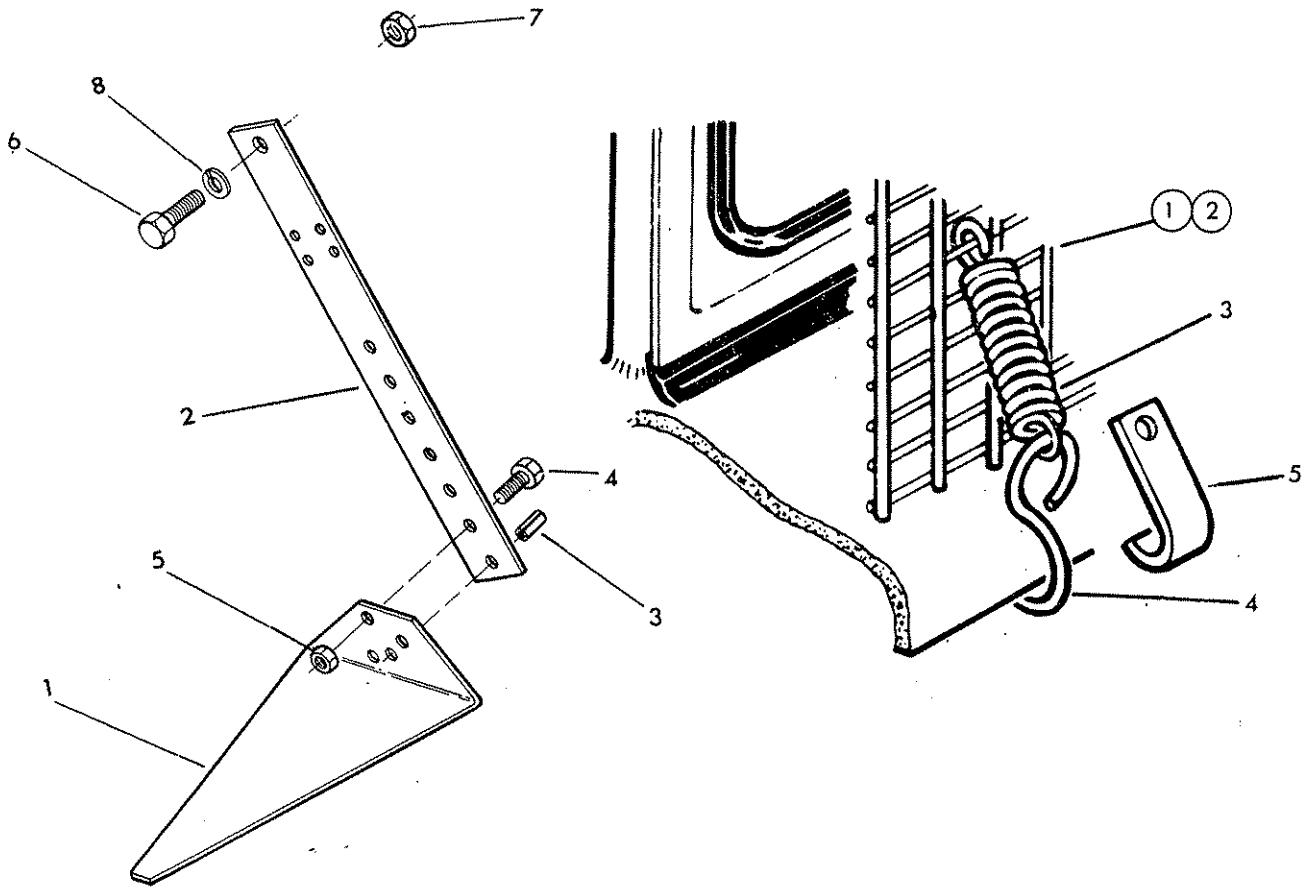
McCORMEL

Ref.	Part No.	Qty.	Description
PA 2050M DIPPER ARM AND FITTINGS			
1	75-50-269	1	Dipper arm
2	71-36-035	1	Nylon head bush
3	71-01-083	6	Bush
4	09-01-121	4	Greaser - straight
5	75-80-023	1	Pin
6	92-13-107	1	Bolt
7	91-43-007	1	Self locking nut
8	75-60-063	1	Pin
9	75-50 276	1	Rigid pipe cover
10	93-13-045	3	Setscrew
11	93-13-075	2	Setscrew
12	91-00-205	5	Spring washer
13	71-96-024	4	Hose clamp
14	93-13-053	2	Setscrew
15	91-00-203	2	Spring washer
16	71-92-024	1	Pin
17	71-92-311	1	Radius arm front
18	71-92-310	1	Radius arm rear
19	71-92-309	1	Slave link
20	71-92-008	1	Pin
21	71-92-009	1	Pin
22	95-01-406	4	Split pin
23	71-92-308	1	Head pivot tube
24	71-92-316	1	Jaw plate
25	04-23-548	1	Spring dowel
26	92-13-185	1	Bolt
27	91-43-005	1	Self locking nut
28	71-95-303	1	Hose junction bracket
29	02-11-146	1	Bolt
30	02-11-126	1	Bolt
31	01-41-006	2	Self locking nut
32	71-92-324	1	Hose tray
33	92-13-045	2	Setscrew
34	91-43-005	2	Self locking nut
DIPPER ANCILLIARIES			
35	12-90-295	1	Sticker "Power Arm"
36	12-90-397	1	Sticker "2050"
37	75-60-344	1	Angling ram
38	75-50 277	1	Rigid pipes
FORWARD EXTENSION AND FITTINGS			
39	75-50 267	1	Forward extension 1.0m R. Hand
40	75-50 268	1	Forward extension 1.0m L. Hand
41	75-60-050	2	Bush
42	09-01-121	2	Greaser
43	75-50 013	1	Pin
44	93-13-077	1	Bolt
45	91-43-007	1	Self locking nut
46	75-60-064	1	Pin
47	92-13-065	1	Bolt
48	91-43-005	1	Self locking nut
49	70 16 010	2	Bush
FORWARD EXTENSION ANCILLIARIES			
50	75-50 288	1	Breakaway ram

**CONTROL MOUNTING
OPERATOR GUARD**



McCORMEL



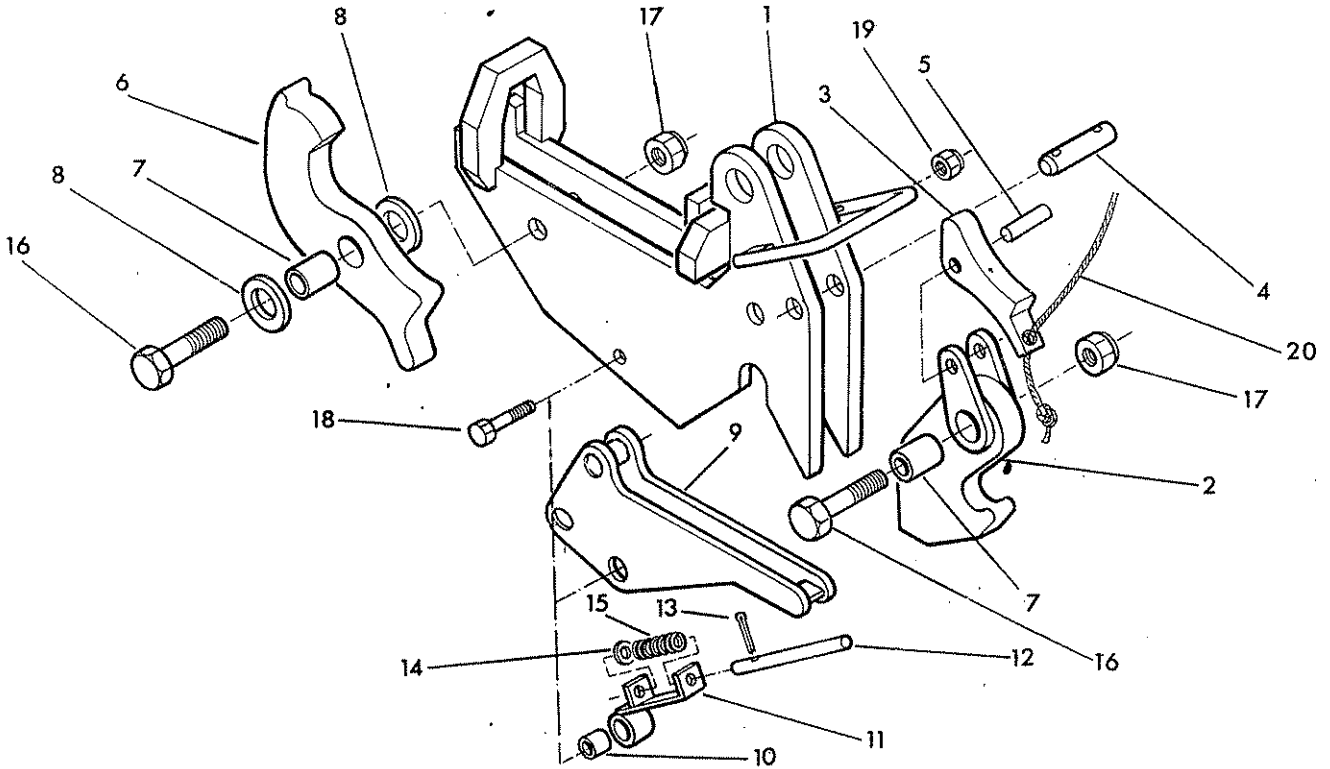
Ref.	Part No.	Qty.	Description
	71-90-319		CONTROL MOUNTING ASSEMBLY
1	71-09-320	1	Sandwich plate
2	71-09-146	1	Pillar including spring dowel
3	04-22-816	1	Spring dowel
4	93-13-066	1	Setscrew
5	91-13-006	1	Nut
6	93-11-086	1	Setscrew
7	01-11-006	1	Nut
8	01-00-206	1	Spring washer

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

CATCH ASSEMBLY Cat 2

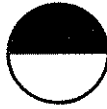


McCONEL



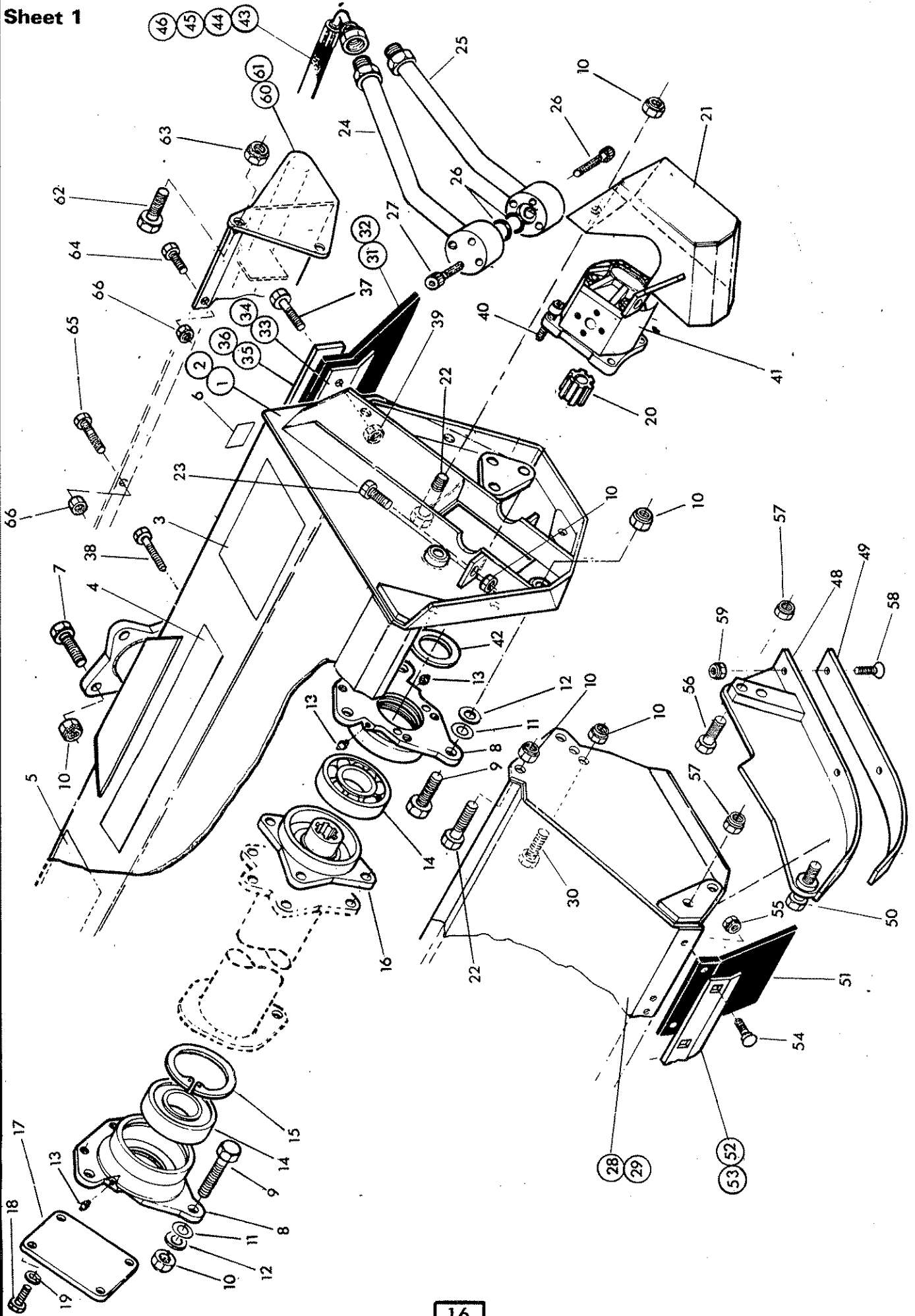
Ref.	Part No.	Qty.	Description
	20-20-999		CATCH ASSEMBLY
1	20-20-901	1	Catch body
2	20-20-902	1	Hitch hook
3	20-20-903	1	Hook release
4	20-20-904	1	Locking pin
5	20-20-906	1	Pivot - hook release
6	20-20-907	1	Plate latch
7	20-20-908	2	Pivot sleeve
8	20-20-909	2	Spacer - plate latch
9	20-20-910	1	Catch lock
10	20-20-911	1	Sleeve - spring rocker
11	20-20-912	1	Spring rocker
12	20-20-913	1	Spring shaft
13	95-01-325	1	Split pin
14	91-00-105	1	Plain washer
15	20-20-914	1	Spring
16	92-13-188	2	Bolt
17	91-43-008	2	Self locking nut
18	92-13-166	1	Bolt
19	91-43-006	1	Self locking nut
20	20-20-915	1	Release cord

FLAIL HEAD CASING 1-2M & 1-6M
90 Series



McCONNEL

Sheet 1



**McCONNEL**

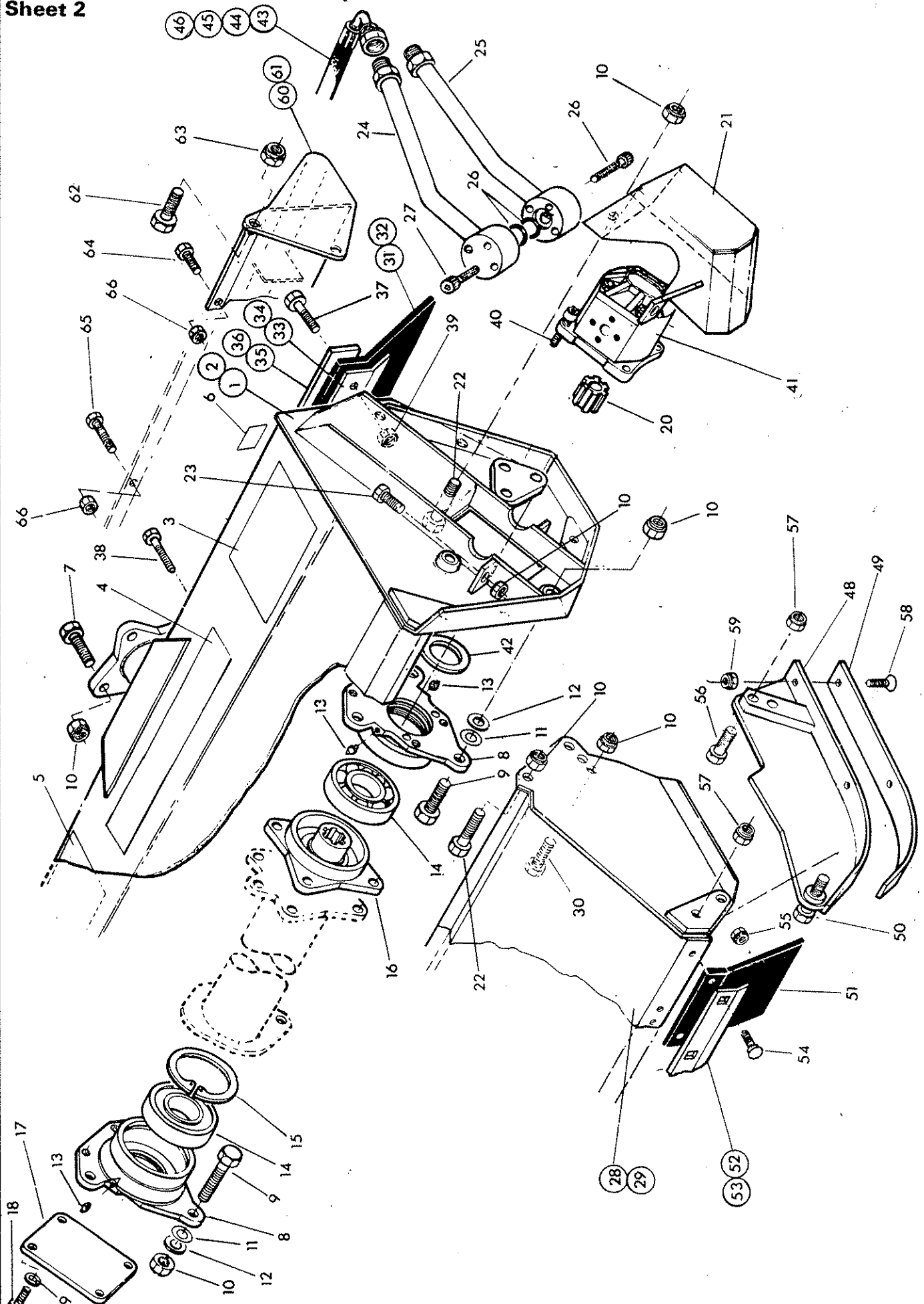
Ref.	Part No.	Qty.	Description
FLAIL HEAD CASING 1.2M & 1.6M - 90 series			
1	71 90 262	1	Flail casing 1.2M
2	71 90 406	1	Flail casing 1.6M
3	12 90 377	1	Flail head instruction sticker
4	12 90 255	1	Sticker 'McConnel'
5	12 90 341	1	Sticker - 'Flail guarding'
6	13 35 246	1	Serial No. plate
7	02 11 186	4	Bolt
8	71 90 261	2	Bearing housing
9	02 11 166	6	Bolt
10	01 41 006	13	Self locking nut
11	81 21 043	as reqd	Shim .015"
12	81 21 044	as reqd	Shim .025"
13	09 01 121	4	Greaser
14	06 00 018	2	Bearing
15	71 90 022	1	Internal circlip
16	71 90 472	1	Rotor hub
17	71 90 444	1	Cover plate
18	93 13 045	4	Setscrew
19	91 00 205	4	Spring washer
20	71 90 009	1	Drive coupling
21	71 90 488	1	Motor cover
22	02 11 266	1	Bolt
23	03 11 126	2	Setscrew
24	71 90 297	1	Motor pipe - upper
25	71 90 298	1	Motor pipe - lower
26	86 00 121	2	'O' ring
27	93 00 014	6	Capscrew 'wedglok'
28	71 90 288	1	Front hood 1.2M
29	71 90 401	1	Front hood 1.6M
30	03 11 106	2	Setscrew
31	71 90 314	1	Rear flap 1.2M
32	71 90 425	1	Rear flap 1.6M
33	71 90 312	1	Mounting strip 1.2M
34	71 90 426	1	Mounting strip 1.6M
35	71 90 313	1	Clamp strip 1.2M
36	71 90 427	1	Clamp strip 1.6M
37	93 13 065	as reqd	Setscrew
38	93 13 075	2	Setscrew
39	91 43 005	as reqd	Self locking nut
40	93 00 144	4	Capscrew wedglok

FLAIL HEAD CASING 1-2M & 1-6M
90 Series



McCONNELL

Sheet 2





FLAIL HEAD CASINGS for 90 series. Continued

41	83 01 283	1	Hydraulic motor 1.6 head
	83 01 282	1	Hydraulic motor 1.2 head
42	71 90 015	1	Motor locating washer
43	85 01 097	2	Hose 1" BSP SF-90 deg F x 34" long for 1.2 heads. with motor outboard
44	85 01 154	2	Hose 1" BSP SF-90 deg F x 42" long for 1.6 heads with motor outboard
45	85 01 154	2	Hose 1" BSP SF-90 deg F x 42" long for 1.2 heads with motor inboard
46	85 01 206	2	Hose 1" BSP SF - 90 deg F x 50" long for 1.6 heads with motor inboard

86 99 236

SEAL KIT for both hydraulic motors

ADDITIONAL PARTS FOR GRASS CUTTING

47	71 90 300	1	Skid R. Hand - not illus
48	71 90 301	1	Skid L. Hand
49	73 14 323	2	Replaceable skid
50	03 11 146	2	Setscrew
51	71 90 020	as reqd	Flap
52	71 90 304	1	Flap clamp strip 1.2M
53	71 90 405	1	Flap clamp strip 1.6M
54	92 93 054	as reqd	Cup square bolt
55	91 43 004	16	Self locking nut
56	03 11 086	2	Setscrew
57	01 41 006	4	Self locking nut
58	93 33 065	6	Setscrew c/sunk
59	91 43 005	6	Self locking nut

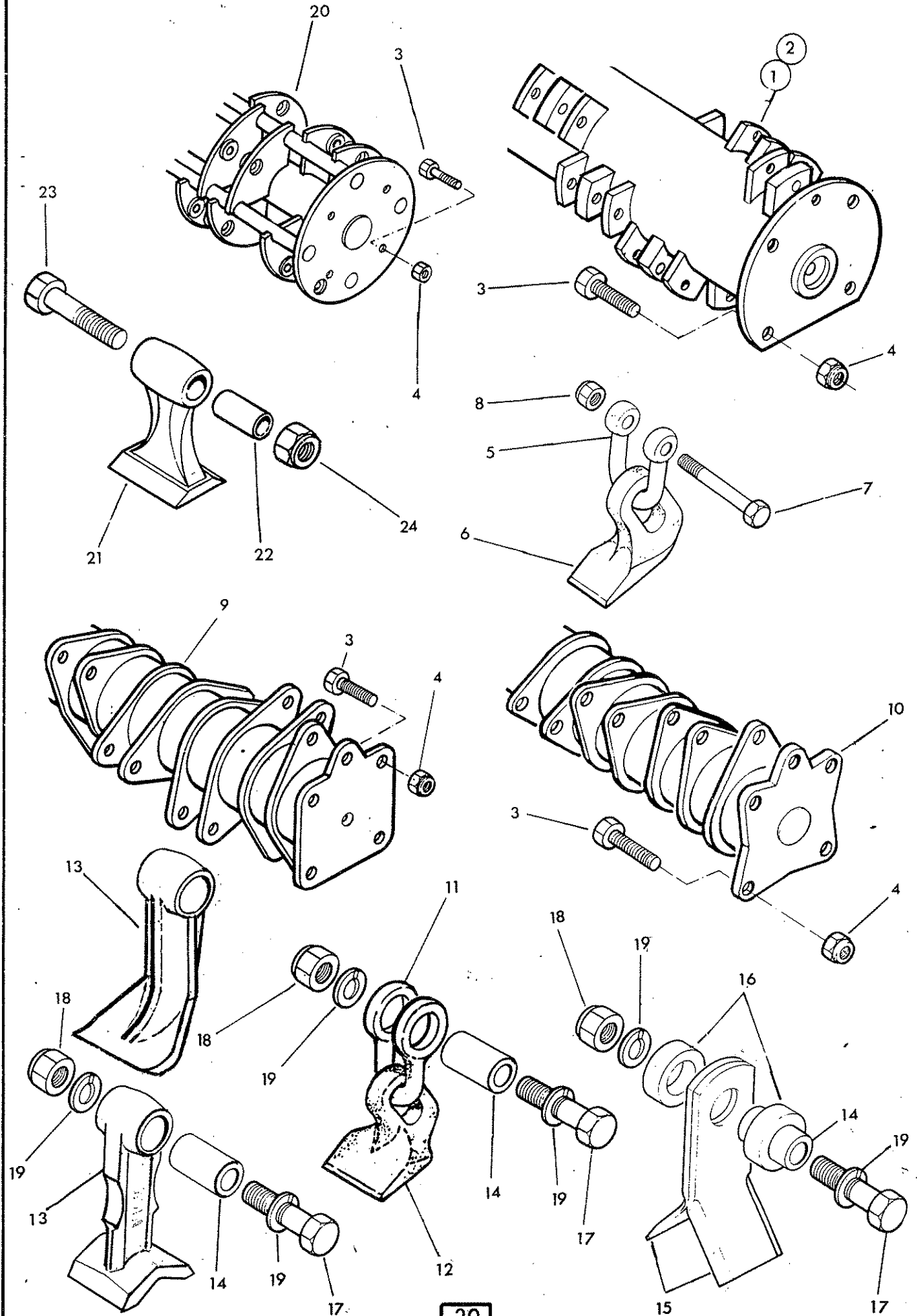
EXTRAS FOR DOWNWARD CUTTING FLAILS

	71 90 310	1	Rear hood kit for 1.2M heads
	71 90 085	1	Rear hood kit for 1.6M heads
60	71 90 285	1	Rear hood 1.2M
61	71 90 443	1	Rear hood 1.6M
62	03 11 106	4	Bolt
63	01 41 006	4	Self locking nut
64	93 13 045	as reqd	Setscrew
65	93 13 055	2	Setscrew
66	91 43 005	as reqd	Self locking nut

ROTOR & FLAIL OPTIONS

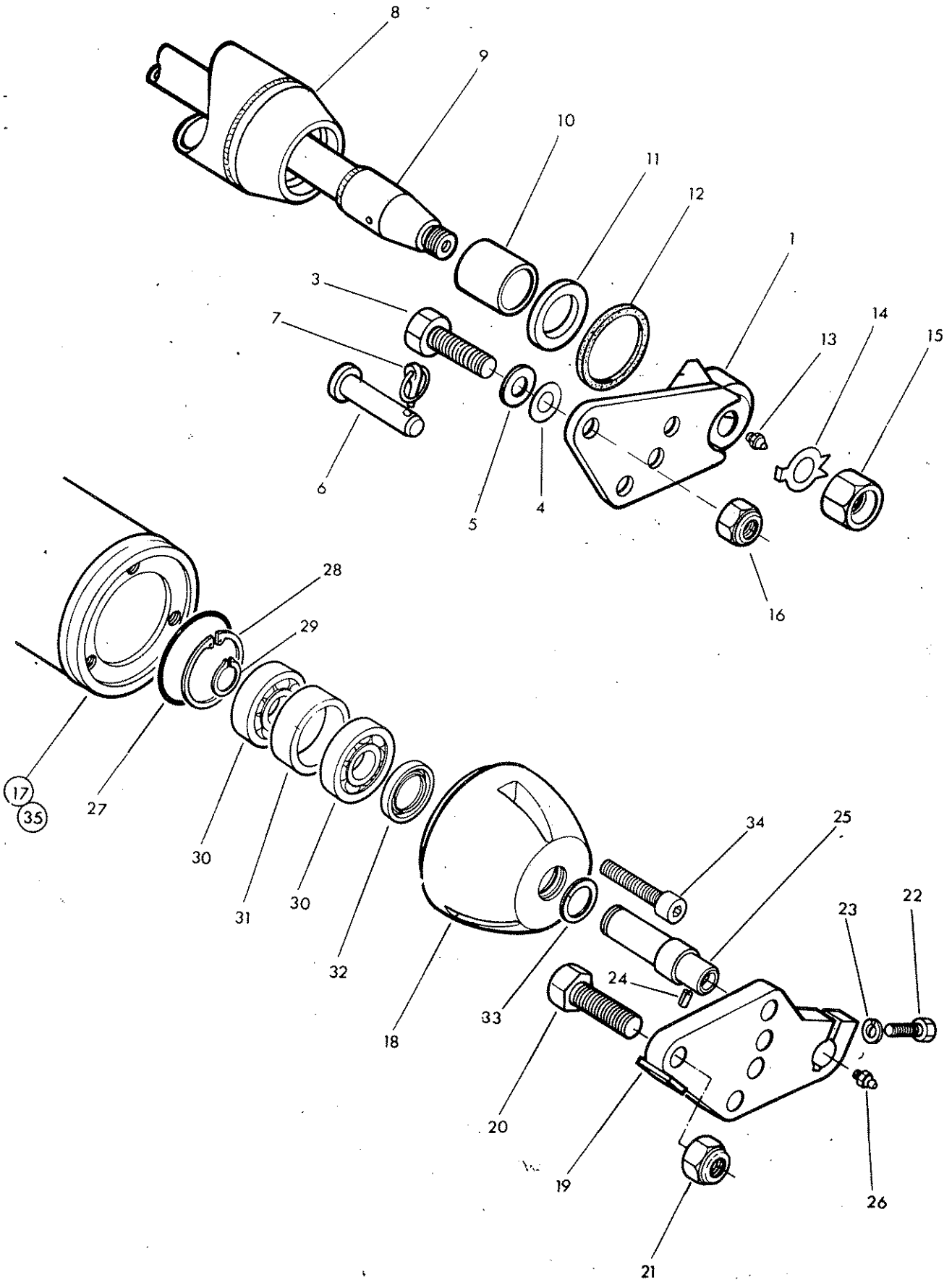
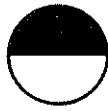


MCCORMICK





Ref	Part No	Qty	Description
140mm DIA ROTOR SUITABLE FOR 1.2m HI POWER AND 1.6m FLAIL HEADS			
1	71 90 422	1	Rotor 1.6m PA2050/2060 only - 44 flail stations
2	71 90 424	1	Rotor 1.2m - 32 flail stations
3	03 11 146	4	Setscrew 5/8 UNFx 1 3/4" long
4	01 41 006	4	Self locking nut 5/8 UNF
FLAIL OPTIONS FOR 140mm DIA ROTORS - Quantities shown are per flail station			
5	71 90 086	1	Shackle
6	71 90 463	1	Flail
7	71 90 088	1	Special bolt
8	01 41 004	1	Self locking nut 7/16 UNF
120mm DIA ROTOR FOR 1.6m FLAIL HEADS			
9	71 90 423	1	Rotor 1.6m PA2050 and 2060 only
100mm DIA ROTOR FOR 1.2m FLAIL HEADS			
10	71 90 320	1	Rotor 1.2 - 24 flail stations
FLAIL OPTIONS FOR 100 & 120mm DIA ROTORS - Quantities shown are per flail station			
11	71 90 106	1	Shackle
12	71 90 462	1	Flail
13	73 14 366	1	Flail F10H
	73 90 276	1	Flail - alternative single edged.
14	73 14 223	1	Pivot bush
15	71 90 315	2	Flail
16	71 90 010	2	Flail spacer
17	73 14 210	1	Special bolt
18	01 41 006	1	Self locking nut 5/8 UNF
19	01 00 206	2	Spring washer 5/8" dia
OMEGA ROTOR - FOR 1.2m FLAIL HEADS			
20	71 90 465	1	Rotor (20 flail stations)
FLAIL FOR OMEGA ROTOR - Qtys are per flail station			
21	71 90 464	1	Flail
22	71 90 117	1	Bush
23	71 90 118	1	Special bolt
24	01 41 006	1	Self locking nut 5/8" UNF





Ref.	Part No.	Qty.	Description
ROLLERS OPTIONS FOR 1.2M 90 SERIES 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 .015"
5	81 21 044	as reqd.	Shim .025"
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 31 232	2	Spring ring
34	93 00 104	6	Capscrew - self locking

ROLLER FOR 1.6 METRE 90 SERIES FLAIL HEAD FLAIL HEAD

BALL BEARING ROLLER ASSEMBLY ONLY

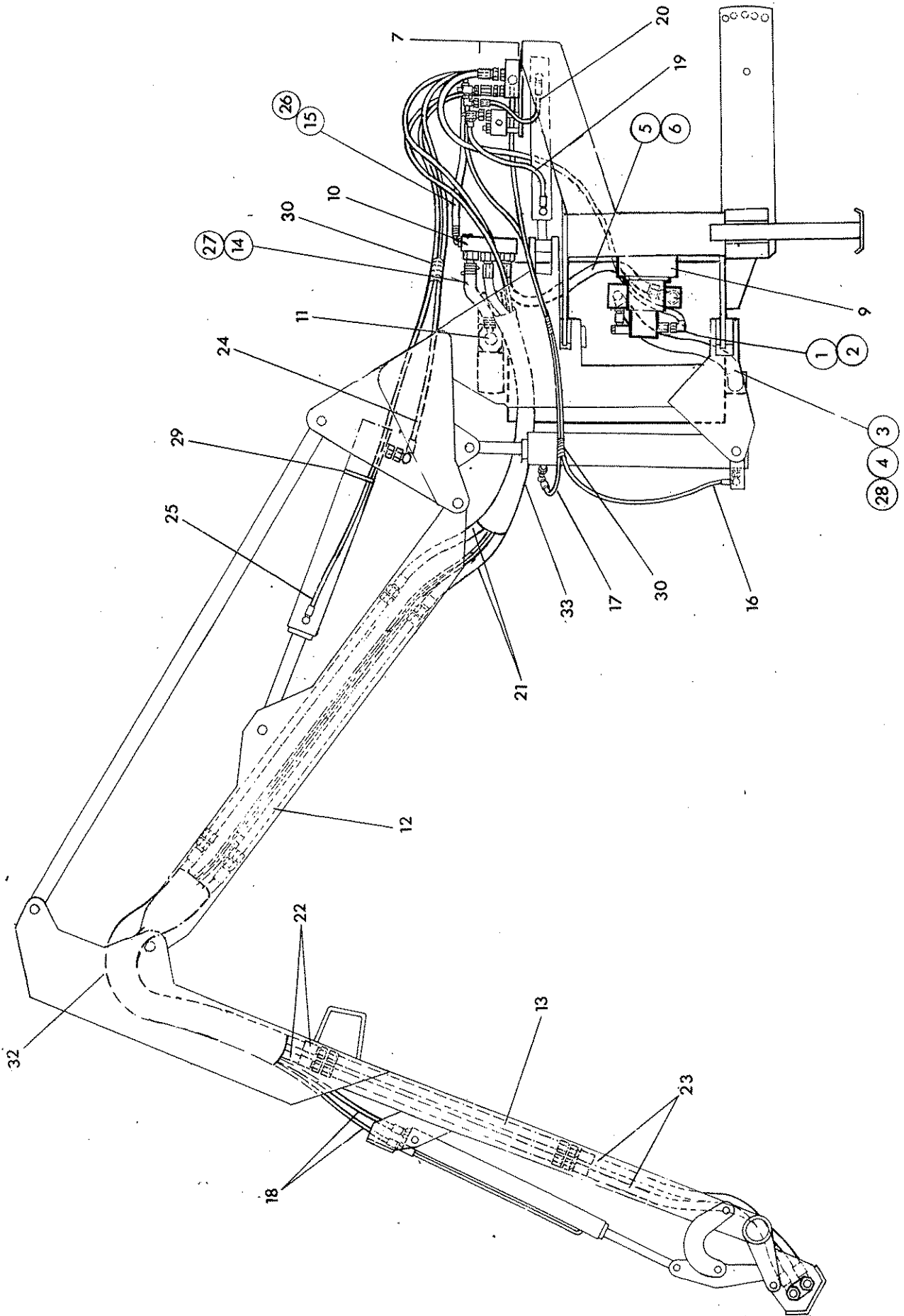
The parts list is identical with the 1.2m ball bearing roller with the following exception

35	71 90 435	1	Roller
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HYDRAULIC INSTALLATION -
Cable machines std arm



McCOMBI





Ref.	Part No.	Qty.	Description
HYRDAULIC INST. - CABLE STD. ARM MACHINES			
1	85 31 423	1	Hose 3/8 BSP x 53 long. Supply from pump - L.Hand only SF-90F
2	85 31 433	1	Hose 3/8 BSP x 63 long. Supply from pump - R.Hand only SF-90F
3	85 01 207	1	Hose 1 1/2" bore x 22" long Suction L.Hand only
4	85 01 192	1	Hose 1 1/2" bore x 27" long Suction R.Hand only
5	85 01 170	1	Hose 1" BSP x 37" long. Pump R.C.Valve L.Hand only SF-90F
6	85 01 098	1	Hose 1" BSP x 48" long. Pump R.C.Valve R.Hand only SF-90F

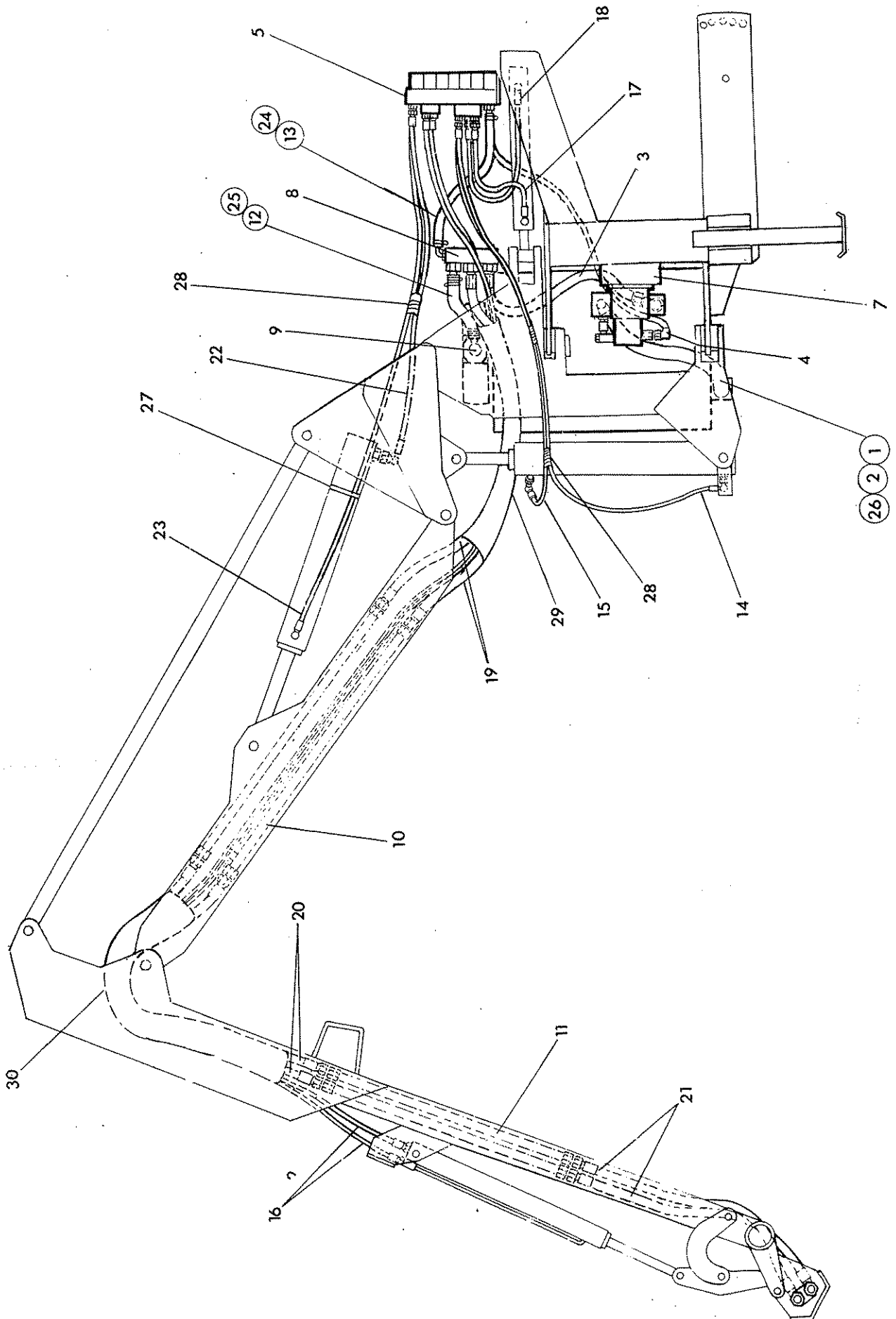
The remaining items are common to both right and left hand installation

7		1	Control valve assembly
8	71 09 319	1	Control mounting assembly
9		1	Pump/gearbox assemblies
10		1	Rotor control valve assemblies
11		1	Tank assembly
12		1	Rigid pipe - Main arm ref only
13		1	Rigid pipe - Dipper - ref only
14	85 00 836	1	Hose 1" bore x 36" long
15	85 01 158	1	Hose 5/8 bore x 24" long return Control valve - RC valve
16	85 35 072	1	Hose 1/4" BSP x 60" long Lift baseS90 SF-90degrees
17	85 35 022	1	Hose 1/4" BSP x 40" long Lift gland S90
18	85 15 182	2	Hose 1/4" BSP x 200" long Angle SF-SF
19	85 35 012	1	Hose 1/4" BSP x 18" long -Slew gland SF-90F
20	85 35 092	1	Hose 1/4" BSP x 22" long - Slew base SF- 90F
21	85 01 179	2	Hose 1" BSP x 53" long R.C.Valve - rigid pipes S-S
22	85 01 060	2	Hose 1" BSP x 43" long - Dipper pivot SF - SF
23	85 01 097	2	Hose 1" BSP x 34" long - Dipper junction SF - 90F
24	85 35 192	1	Hose 1/4" BSP x 44" long Reach base SF - 90F
25	85 35 112	1	Hose 1/4" BSP x 66" long Reach gland
26	09 04 204	2	Hose clip 5/8" bore
27	09 04 106	4	Hose clip 1" bore
28	09 04 107	4	Hose clip 1 1/2" bore
29	71 35 084	1	Hose tie
30	71 35 090	6	Hose armour cable 3/8" dia x 50" long
31	75 50 026	1	Sleeve 66" long
32	75 50 025	1	Sleeve 53" long

HYDRAULIC INSTALLATION -
Std arm electric machines



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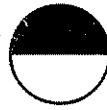


Ref.	Part No.	Qty.	Description
HYDRAULIC INSTALLATION ELECTRIC STD. ARM MACHINES			
1	85 01 207	1	Hose 1 1/2" bore x 22" long-Suction L.Hand only
2	85 01 192	1	Hose 1 1/2" bore x 27" long-Suction R.Hand only
3	85 01 170	1	Hose 1" BSP x 37" long. Pump R.C. Valve L.Hand only SF-90F
	85 01 098	1	Hose 1" BSP x 48" long. Pump R.C. Valve R.Hand only SF-90F

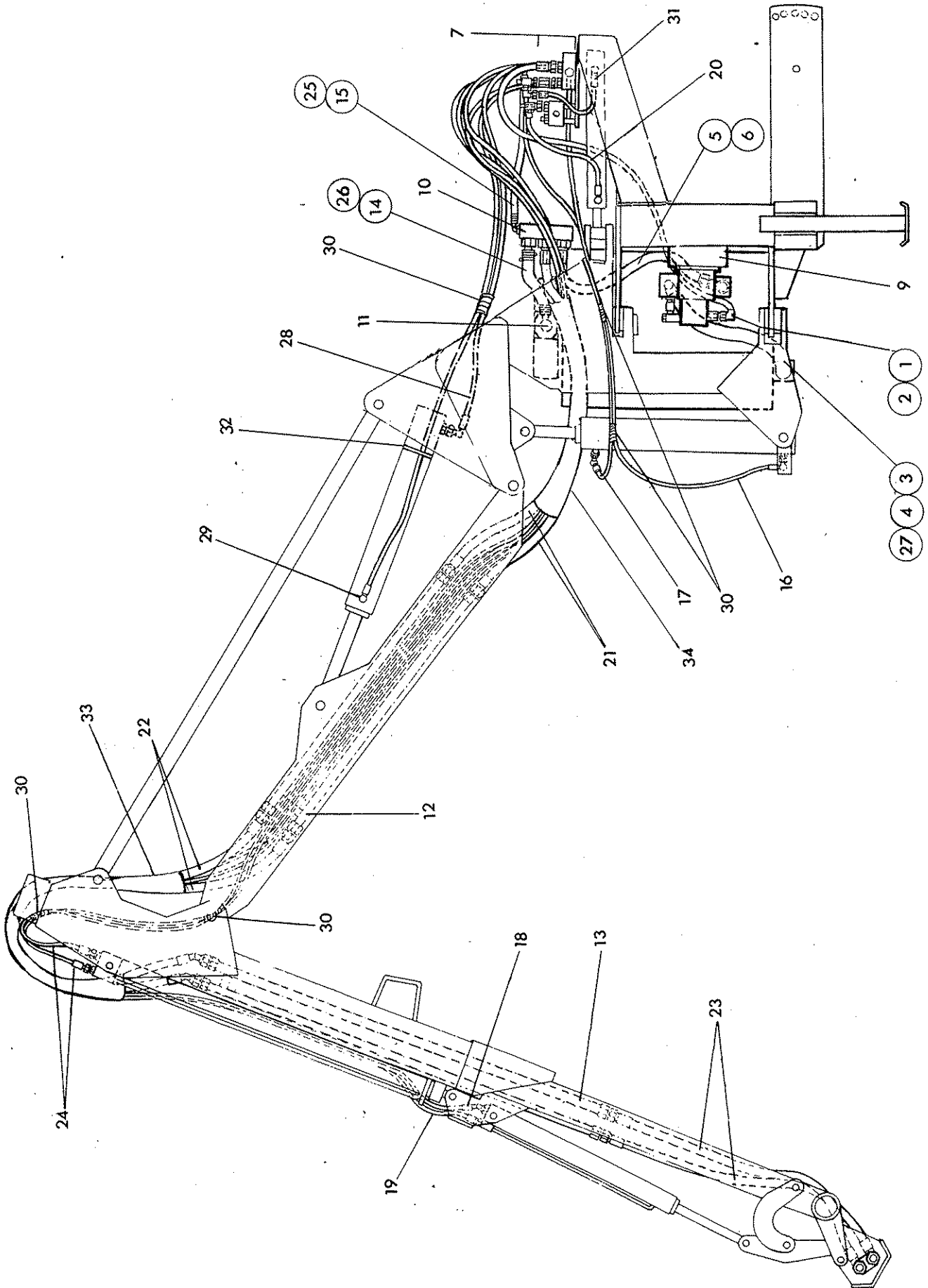
The remaining items are common to both right and left hand installation

4	85 31 243	1	Hose 3/8" BSP x 51" long Supply small pump S -90
5		1	Control valve assembly
6	71 09 319	1	Control mounting assembly
7		1	Pump/gearbox assemblies
8		1	Rotor control valve assemblies
9		1	Tank assembly
10		1	Rigid pipe - Main arm ref only
11		1	Rigid pipe - Dipper - ref only
12	85 00 836	1	Hose 1" bore x 36" long
13	85 01 158	1	Hose 5/8 bore x 24" long return Control valve - RC valve
14	85 35 072	1	Hose 1/4" BSP x 60" long Lift baseS90 SF-90degrees
15	85 35 022	1	Hose 1/4" BSP x 40" long Lift gland S90
16	85 15 182	2	Hose 1/4" BSP x 200" long Angle SF-SF
17	85 35 012	1	Hose 1/4" BSP x 18" long -Slew gland SF-90F
18	85 35 092	1	Hose 1/4" BSP x 22" long - Slew base SF- 90F
19	85 01 179	2	Hose 1" BSP x 53 " long R.C.Valve - rigid pipes S-S
20	85 01 060	2	Hose 1" BSP x 43" long - Dipper pivot SF - SF
21	85 01 097	2	Hose 1" BSP x 34" long - Dipper junction SF - 90F
22	85 35 192	1	Hose 1/4" BSP x 44" long Reach base SF - 90F
23	85 35 112	1	Hose 1/4" BSP x 66" long Reach gland
24	09 04 204	2	Hose clip 5/8" bore
25	09 04 106	4	Hose clip 1" bore
26	09 04 107	4	Hose clip 1 1/2" bore
27	71 35 084	1	Hose tie
28	71 35 090	6	Hose armour cable 3/8" dia x 50" long
29	75 50 026	1	Sleeve 66" long
30	75 50 025	1	Sleeve 53 " long

**HYDRAULIC INSTALLATION -
Cable Telescopic**



McCONNELL





Ref.	Part No.	Qty.	Description
HYRDAULIC INST. - CABLE TELE MACHINES			
1	85 31 423	1	Hose 3/8 BSP x 53 long. Supply from pump - L.Hand only SF-90F
2	85 31 433	1	Hose 3/8 BSP x 63 long. Supply from pump - R.Hand only SF-90F
3	85 01 207	1	Hose 1 1/2" bore x 22" long Suction L.Hand only
4	85 01 192	1	Hose 1 1/2" bore x 27" long Suction R.Hand only
5	85 01 170	1	Hose 1" BSP x 37" long. Pump R.C.Valve L.Hand only SF-90F
6	85 01 098	1	Hose 1" BSP x 48" long. Pump R.C.Valve R.Hand only SF-90F

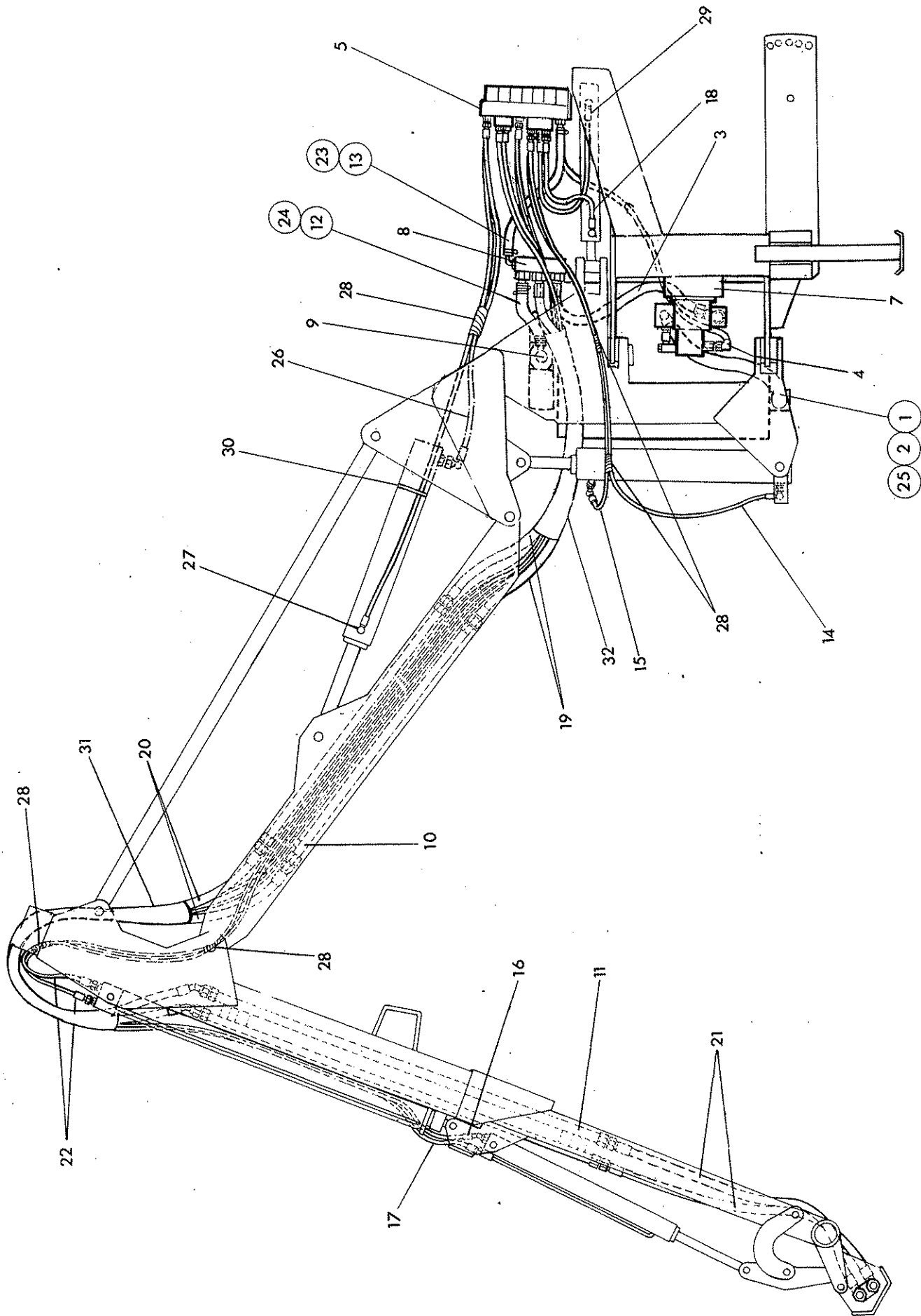
The remaining items are common to both right and left hand installation

7		1	Control valve assembly
8	71 09 319	1	Control mounting assembly
9		1	Pump/gearbox assemblies
10		1	Rotor control valve assemblies
11		1	Tank assembly
12	71 96 298	1	Rigid pipe - main arm - ref only
13	71 97 282	1	Rigid pipe - dipper arm - ref only
14	85 00 836	1	Hose 1" bore x 36" long
15	85 01 158	1	Hose 5/8 bore x 24" long return Control valve - RC valve
16	85 35 072	1	Hose 1/4" BSP x 60" long Lift base S90
17	85 35 022	1	Hose 1/4" BSP x 40" long Lift gland S90
18	85 45 012	1	Hose 1/4" BSP x 212" long Angle base SF-S 135F
19	85 15 022	1	Hose 1/4" BSP x 212" long Angle gland SF - SF
20	85 35 012	1	Hose 1/4" BSP x 18" long -Slew gland SF-90F
21	85 01 179	1	Hose 1" BSP x 53" long RC Valve Rigid pipes SF-SF
22	85 01 161	2	Hose 1" BSP x 65 long Pipes-pipes SF - SF
23	85 01 097	2	Hose 1" BSP x 34" long rigid pipes- head junctionS90
24	85 15 122	2	Hose 1/4" BSP x 162" long SF - SF
25	09 04 204	2	Hose clip 5/8" bore hose
26	09 04 106	4	Hose clip 1" bore hose
27	09 04 107	4	Hose clip 1 1/2" bore hose
28	85 35 192	1	Hose 1/4" BSP x 44" long Reach base SF - 90F
29	85 35 112	1	Hose 1/4" BSP x 66" long Reach gland SF - 90F
30	71 35 090	6	Hose armour cable 3/8" dia x 50mm long
31	85 35 092	1	Hose 1/4" BSP x 22" long Slew base SF - 90F
32	71 35 084	9	Hose tie
33	75 50 025	1	Sleeve 53" long
34	75 50 026	1	Sleeve 66" long

HYDRAULIC INSTALLATION -
Tele arm machines electric



McCOMBI



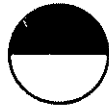


Ref.	Part No.	Qty.	Description
HYDRAULIC INSTALLATION - ELECTRIC TELESCOPIC MACHINES			
1	85 01 207	1	Hose 1 1/2" bore x 22" long Suction L.Hand
2	85 01 192	1	Hose 1 1/2" bore x 27" long Suction R.Hand
3	85 01 170	1	Hose 1" BSP x 37" long Pump R.C. Valve L.Hand S90
	85 01 098	1	Hose 1" BSPx 48" long Pump R.C. Valve R.Hand S90

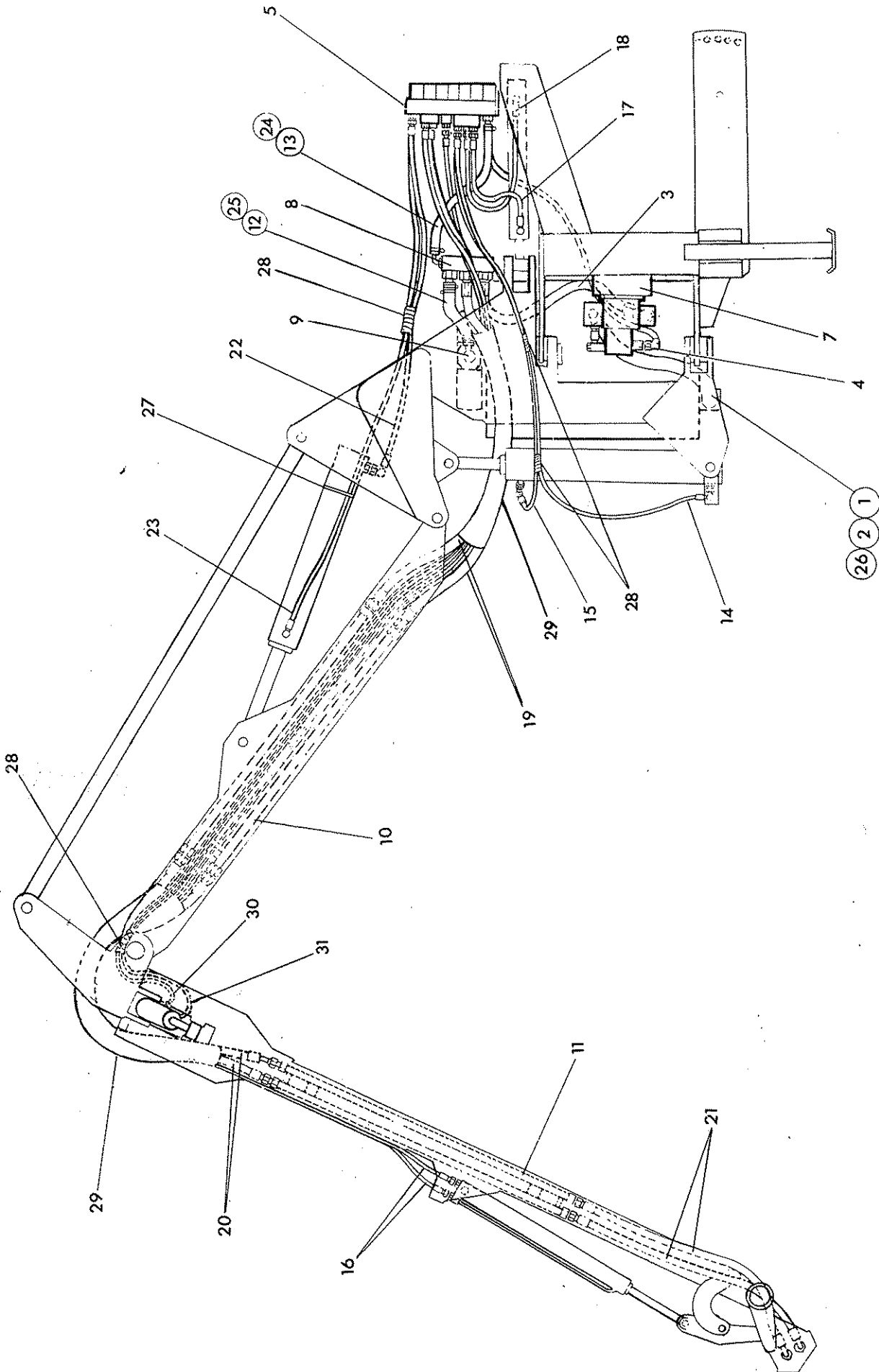
The remaining items are common to both right and left and installations

4	85 31 243	1	Hose 3/8" BSP x 51" long supply small pump S-90
5		1	Control valve assembly
6	71 09 319	1	Control mounting assembly
7		1	Pump/gearbox assemblies
8		1	Rotor control valve assemblies
9		1	Tank assembly
10	71 96 298	1	Rigid pipe - main arm - ref only
11	71 97 282	1	Rigid pipe - dipper arm - ref only
12	85 00 836	1	Hose 1" bore x 36" long
13	85 01 158	1	Hose 5/8 bore x 24" long return Control valve - RC valve
14	85 35 072	1	Hose 1/4" BSP x 60" long Lift base S90
15	85 35 022	1	Hose 1/4" BSP x 40" long Lift gland S90
16	85 45 012	1	Hose 1/4" BSP x 212" long Angle base SF-S 135F
17	85 15 022	1	Hose 1/4" BSP x 212" long Angle gland SF - SF
18	85 35 012	1	Hose 1/4" BSP x 18" long -Slew gland SF-90F
19	85 01 179	1	Hose 1" BSP x 53" long RC Valve Rigid pipes SF-SF
20	85 01 161	2	Hose 1" BSP x 65 long Pipes-pipes SF - SF
21	85 01 097	2	Hose 1" BSP x 34" long rigid pipes- head junctionS90
22	85 15 122	2	Hose 1/4" BSP x 162" long SF - SF
23	09 04 204	2	Hose clip 5/8" bore hose
24	09 04 106	4	Hose clip 1" bore hose
25	09 04 107	4	Hose clip 1 1/2" bore hose
26	85 35 192	1	Hose 1/4" BSP x 44" long Reach base SF - 90F
27	85 35 112	1	Hose 1/4" BSP x 66" long Reach gland SF - 90F
28	71 35 090	6	Hose armour cable 3/8" dia x 50mm long
29	85 35 092	1	Hose 1/4" BSP x 22" long Slew base SF - 90F
30	71 35 084	1	Hose tie
31	75 50 025	1	Sleeve 53" long
32	75 50 026	1	Sleeve 66" long

HYDRAULIC INSTALLATION -
Midcut machines



McCONNELL





Ref.	Part No.	Qty.	Description
HYDRAULIC INSTALLATION ELECTRIC MID CUT ARM MACHINES			
1	85 01 207	1	Hose 1 1/2" bore x 22" long-Suction L.Hand only
2	85 01 192	1	Hose 1 1/2" bore x 27" long-Suction R.Hand only
3	85 01 170	1	Hose 1" BSP x 37" long. Pump R.C. Valve L.Hand only SF-90F
	85 01 098	1	Hose 1" BSP x 48" long. Pump R.C. Valve R.Hand only SF-90F

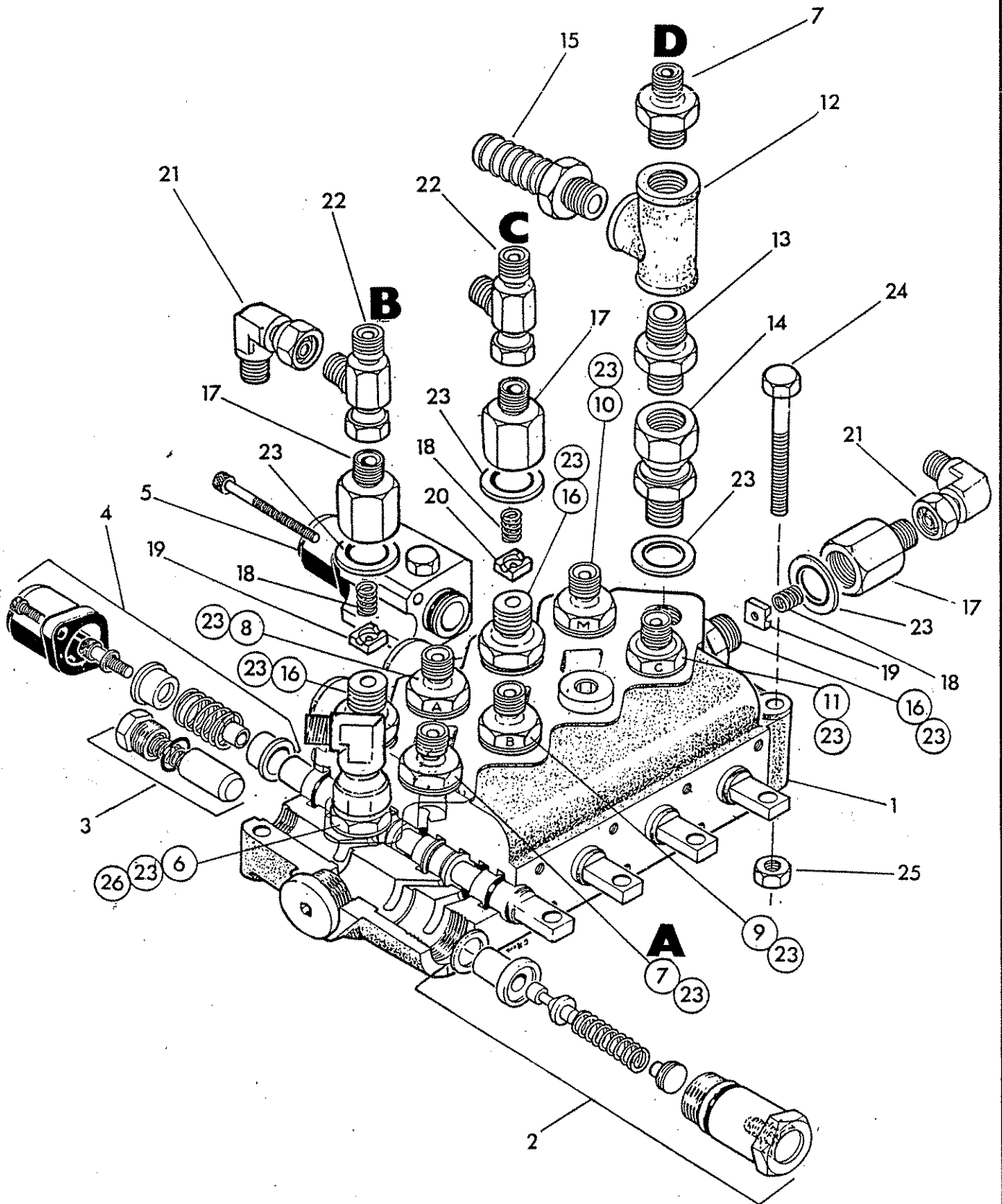
The remaining items are common to both right and left hand installation

4	85 31 243	1	Hose 3/8" BSP x 51" long Supply small pump S -90
5		1	Control valve assembly
6	71 09 319	1	Control mounting assembly
7		1	Pump/gearbox assemblies
8		1	Rotor control valve assemblies
9		1	Tank assembly
10		1	Rigid pipe - Main arm ref only
11		1	Rigid pipe - Dipper - ref only
12	85 00 836	1	Hose 1" bore x 36" long
13	85 01 158	1	Hose 5/8 bore x 24" long return Control valve - RC valve
14	85 35 072	1	Hose 1/4" BSP x 60" long Lift baseS90 SF-90degrees
15	85 35 022	1	Hose 1/4" BSP x 40" long Lift gland S90
16	85 15 022	2	Hose 1/4" BSP x 224" long Angle SF-SF
17	85 35 012	1	Hose 1/4" BSP x 18" long -Slew gland SF-90F
18	85 35 092	1	Hose 1/4" BSP x 22" long - Slew base SF- 90F
19	85 01 179	2	Hose 1" BSP x 53 " long R.C.Valve - rigid pipes S-S
20	85 01 190	2	Hose 1" BSP x 70" long - Dipper pivot SF - SF
21	85 01 097	2	Hose 1" BSP x 34" long - Dipper junction SF - 90F
22	85 35 192	1	Hose 1/4" BSP x 44" long Reach base SF - 90F
23	85 35 112	1	Hose 1/4" BSP x 66" long Reach gland
24	09 04 204	2	Hose clip 5/8" bore
25	09 04 106	4	Hose clip 1" bore
26	09 04 107	4	Hose clip 1 1/2" bore
27	71 35 084	1	Hose tie
28	71 35 090	6	Hose armour cable 3/8" dia x 50" long
29	75 50 026	21	Sleeve 66" long
30	85 45 092	1	Hose 1/4" BSP x 163" long - Breakaway base S- 135
31	85 15 122	1	Hose 1/4" BSP x 162" long - Breakaway gland S -S

MAIN CONTROL VALVE -
Cable machines - std arm



McCORMICK



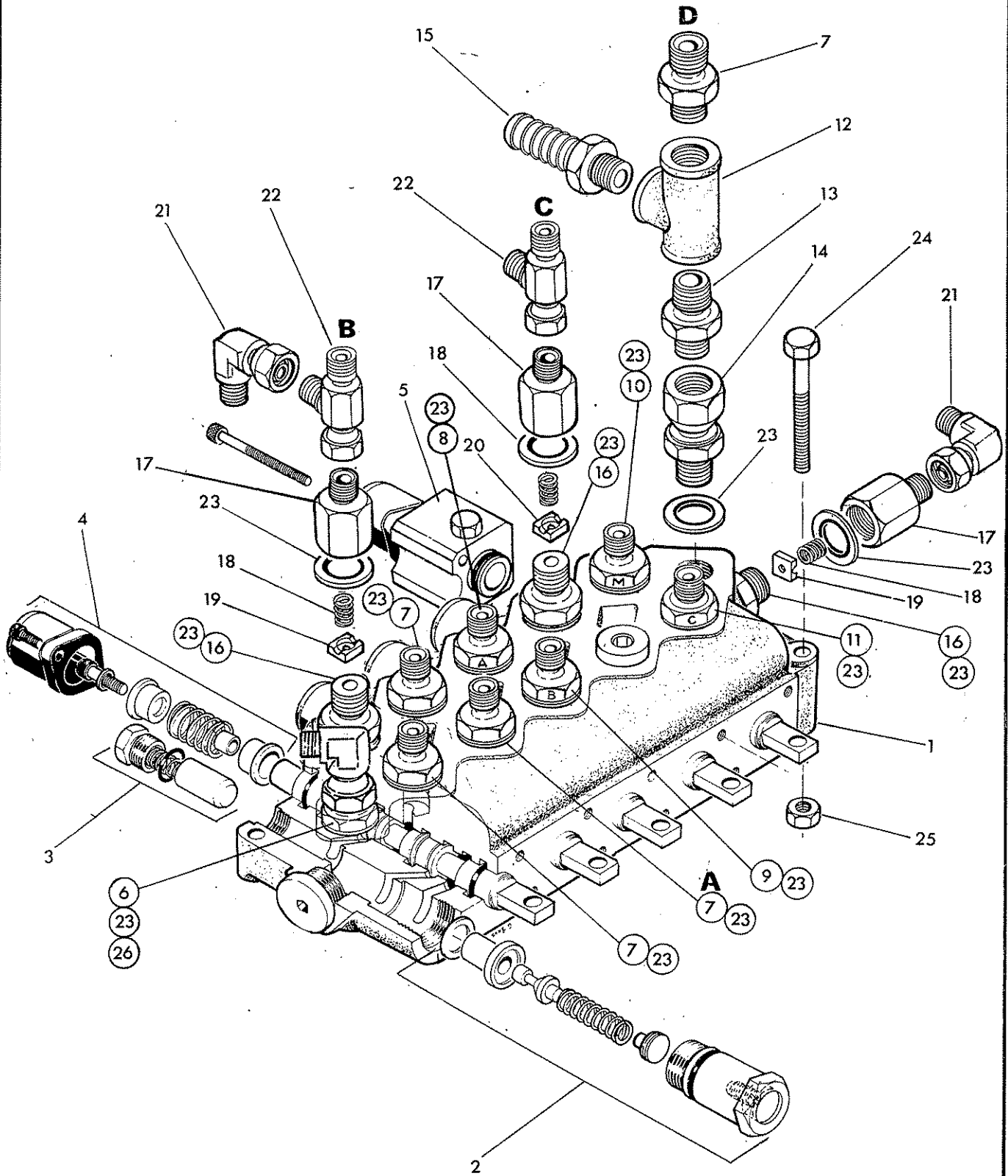


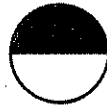
Ref.	Part No.	Qty.	Description
HYDRAULIC CONTROL ASSEMBLY - CONTROL VALVE FOR LIFT, REACH, ANGLE AND SLEW FUNCTIONS - CABLE STD. ARM MACHINES			
1	81 30 466	1	Valve including
2	G381 2540	1	Main relief valve assembly 2500 PSI (Bar)
3	81 30 022	1	Non return valve assembly
4	81 30 134	3	Centering spring assembly
5	81 30 084	1	Angle float detent assembly
6	60 00 113	1	Union
7	85 81 115	1	Adaptor
8	81 30 046	1	Restrictor union 'A'
9	81 30 047	1	Restrictor union 'B'
10	81 30 066	1	Restrictor union 'M'
11	81 30 048	1	Restrictor union 'C'
12	85 81 073	1	Cast Tee F-F-F
13	80 05 007	1	Union
14	85 81 178	1	Swivel adaptor
15	85 81 008	1	Low pressure connection
16	85 81 209	3	Adaptor
17	85 81 214	3	Restrictor body
18	81 16 011	3	Restrictor spring
19	81 23 041	2	Restrictor disc - 'Red'
20	81 23 043	1	Restrictor disc - 'Green'
21	85 81 190	2	Swivel elbow
22	85 81 254	2	Tee
23	86 50 103	13	Bonded seal
24	92 13 134	3	Bolt
25	91 43 004	3	Self locking nut
26	85 81 117	1	Elbow
	86 99 163	2	SEAL KIT

MAIN CONTROL VALVE -
Cable Telescopic



MCCORMICK



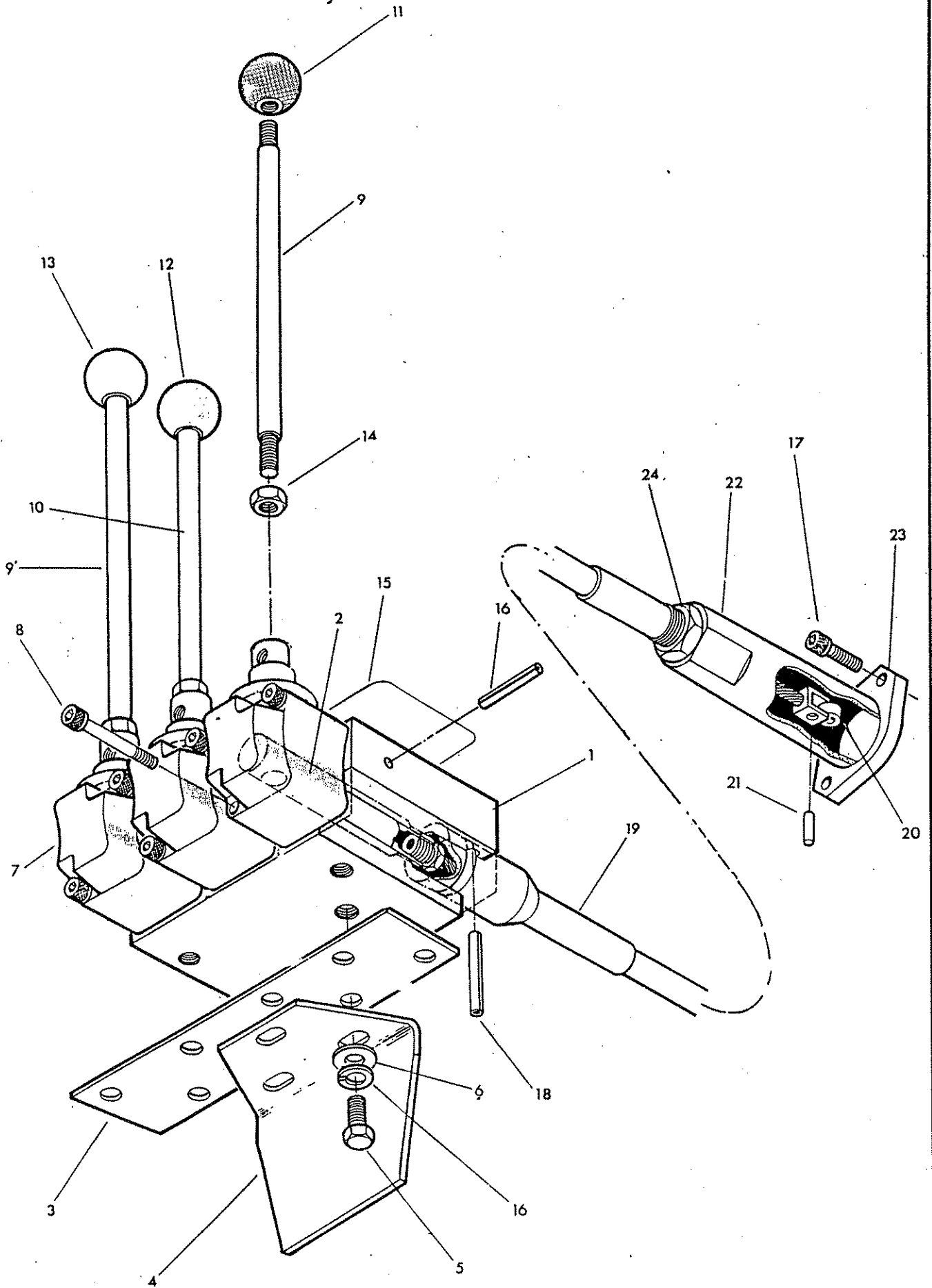


Ref.	Part No.	Qty.	Description
			CONTROL VALVE FOR LIFT, REACH, ANGLE, TELE AND SLEW FUNCTIONS - CABLE TELE MACHINES
1	81 30 416	1	Valve including
2	G381 2540	1	Main relief valve assembly 2500 PSI (Bar)
3	81 30 022	1	Non return valve assembly
4	81 30 134	4	Centering spring assembly
5	81 30 084	1	Angle float detent assembly
6	60 00 113	1	Union
7	85 81 115	3	Adaptor
8	81 30 046	1	Restrictor union 'A'
9	81 30 047	1	Restrictor union 'B'
10	81 30 066	1	Restrictor union 'M'
11	81 30 048	1	Restrictor union 'C'
12	85 81 073	1	Cast Tee F-F-F
13	80 05 007	1	Union
14	85 81 178	1	Swivel adaptor
15	85 81 008	1	Low pressure connection
16	85 81 209	3	Adaptor
17	85 81 214	3	Restrictor body
18	81 16 011	3	Restrictor spring
19	81 23 041	2	Restrictor disc - 'Red'
20	81 23 043	1	Restrictor disc - 'Green'
21	85 81 190	2	Swivel elbow
22	85 81 254	2	Tee
23	86 50 103	15	Bonded seal
24	92 13 134	3	Bolt
25	91 43 004	3	Self locking nut
26	85 81 117	1	Elbow
	86 99 163	2	SEAL KIT

MAIN LEVER CONTROLS -
Cable machines



McCONNEL





Ref.	Part No.	Qty.	Description
LEVER ASSY. FOR LIFT REACH AND ANGLE FUNCTIONS -ALL CABLE MACHINES			
1	81 30 391	3	Control block
2	81 30 144	3	Control block spindle
3	71 14 071	1	Control block mounting base
4	80 17 006	1	Mounting bracket
5	93 13 034	6	Setscrew
6	01 00 102	6	Thin washer
7	81 30 065	3	Lever pivot box assembly
8	92 43 072	6	Socket headed capscrew
9	71 09 131	2	Lever handle long
10	71 09 132	1	Lever handle short
11	09 03 112	1	Lever knob Reach (Red)
12	09 03 113	1	Lever knob Angle (Green)
13	09 03 114	1	Lever knob-Lift (Yellow)
14	91 13 004	3	Hexagon nut
15	81 10 010	1	Operating instruction label
16	91 00 204	3	Spring washer
17	93 43 022	6	Socket headed capscrew
18	04 25 540	6	Spring dowel
19*	G241 0627	3	Cable & spacer & pin,sleeve,flange etc
20	71 15 158	1	Spool eye bush
21	71 15 160	1	Pin
22	71 15 162	1	Sleeve
23	81 25 050	1	Flange
24	01 31 006	1	Thin locknut

* An alternative cable assembly may be fitted depending on supply availability

The complete assembly is interchangeable and thus retains the same assembly Part Number

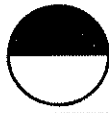
Individual cable components are not interchangeable thus before ordering spares the cable must be correctly identified.

The cable listed above is **BLACK**

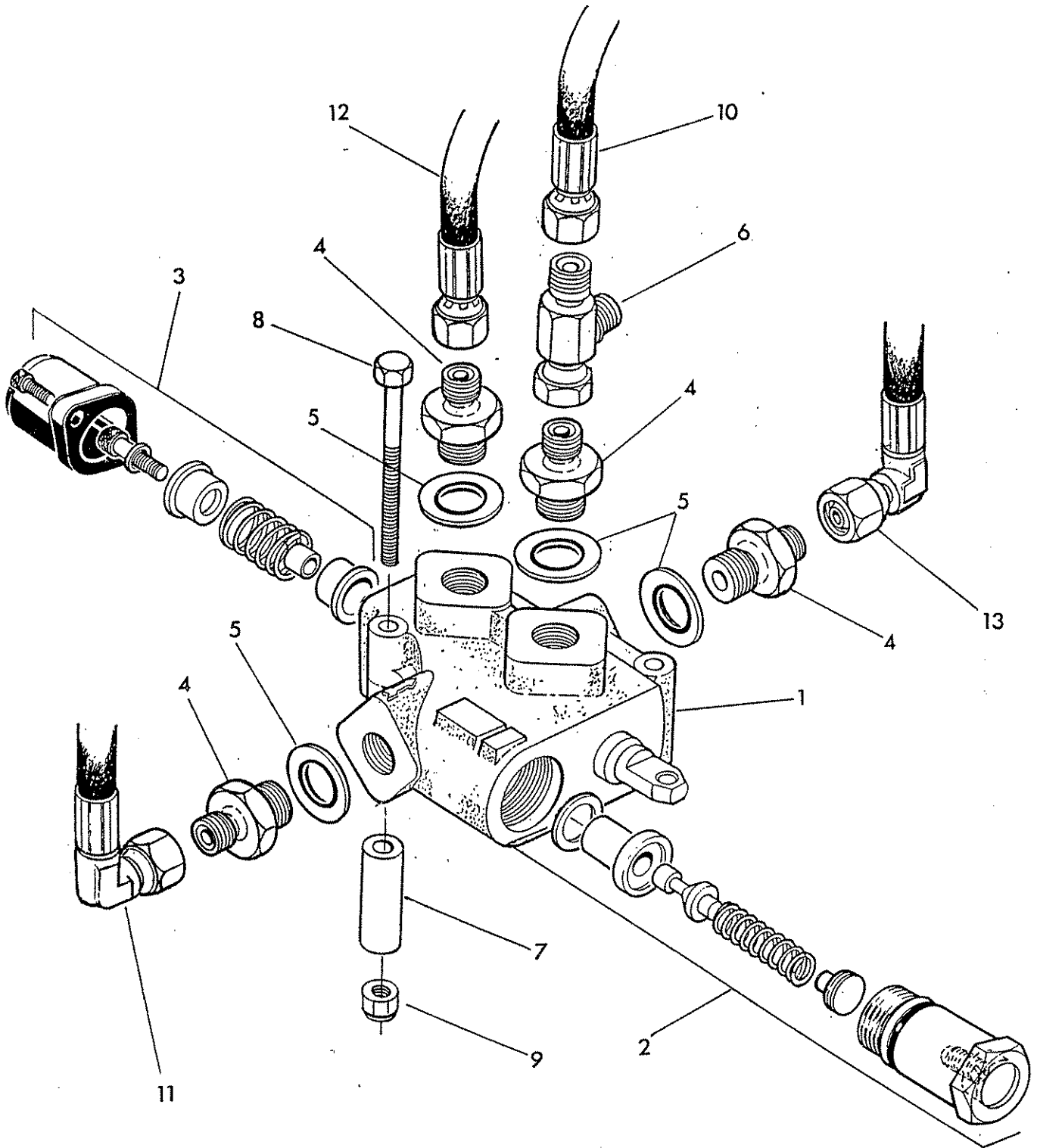
The alternative cable is **RED** and consists of

19	G241 0627	1	Cable assembly c/w sleeve,flange etc
20	80 17 004	1	Spool eye bush
21	81 25 051	1	Pin
22	81 25 049	1	Cable sleeve
23	81 25 050	1	Flange
24	91 00 016	1	Thin locknut

AUXILIARY CONTROL VALVE -
Cable machines



McDONNELL





Ref.	Part No.	Qty.	Description
CONTROL VALVE FOR SLEW/AUTO RESET SELECTION - CABLE MACHINES			
1	81 30 467	1	Valve including
2	G381 2540	1	Relief valve assembly 2500 Psi (170Bar)
3	81 30 134	1	Centering spring assembly
4	85 81 115	4	Union
5	86 50 103	4	Bonded seal
6	85 81 254	1	Tee
7	71 96 052	2	Mounting spacer
8	92 13 224	2	Bolt
9	91 43 004	2	Self locking nut
10*	85 15 092	1	Hose 1/4 BSP x 12" long SF-SF
11*	85 35 102	1	Hose 1/4 BSP x 17" long SF-90F
12*	85 15 032	1	Hose 1/4" BSP x 16" long SF-SF
13*	85 35 102	1	Hose 1/4" BSP x 17" long SF-90F
86 99 163			SEAL KIT

***Assembly note**

Item 10 connects to position A)

Item 11 connects to position B) Shown on

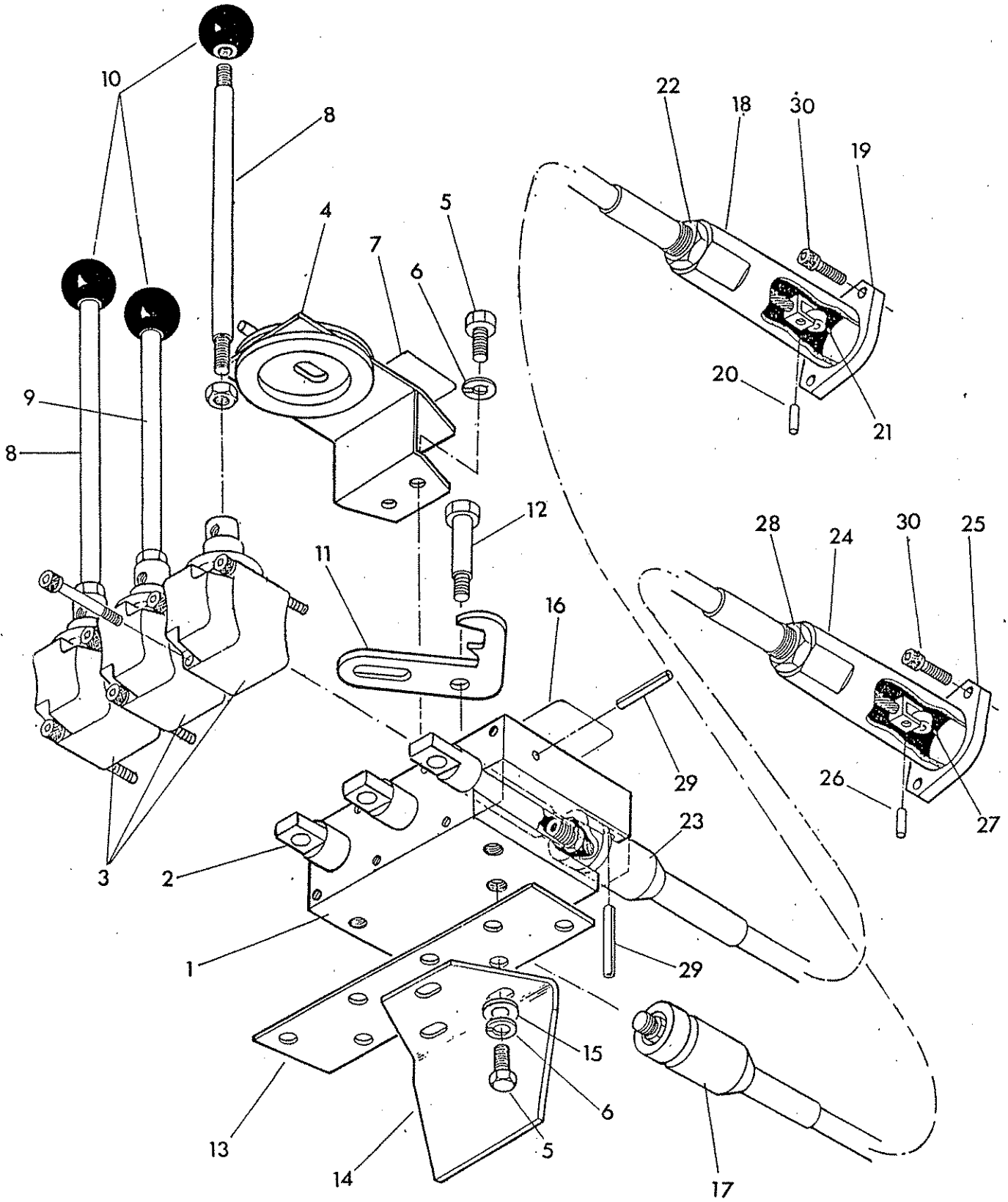
Item 12 connects to position C) page 34 36

Item 13 connects to position D)

AUXILIARY & ROTOR CONTROL
LEVERS - Cable machines std arm



McCONNEL



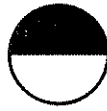


Ref.	Part No.	Qty.	Description
LEVER CONTROLS FOR SLEW, AUTO RESET/SLEW SELECTION AND ROTOR CONTROL - CABLE STD. ARM MACHINES			
1	71 96 054	1	Control block
2	81 30 144	3	Spindle
3	81 30 065	3	Lever pivot box assembly
4	81 25 089	1	Lever control gate
5	93 13 034	5	Setscrew
6	91 00 204	5	Spring washer
7	12 90 338	1	Instruction label -Rotor control
8	71 09 132	2	Lever handle
9	71 14 072	1	Lever handle
10	09 03 121	3	Knob - black
11	71 96 310	1	Control latch
12	71 96 055	1	Shoulder bolt
13	71 14 071	1	Control block mounting base
14	80 17 006	1	Mounting bracket
15	01 00 102	1	Plain washer
16	12 90 357	1	Instruction label - slew and auto reset/slew
17	G241 0631	1	Cable assy - Rotor control-including
18	81 25 097	1	Sleeve
19	81 25 098	1	Flange
20	81 25 099	1	Pin
21	81 25 100	1	Bush
22	01 31 006	1	Thin locknut
23	G241 0627	2	Cable assy -Slew & Auto reset slew selection incl.
24	71 15 162	1	Sleeve
25	81 25 050	1	Flange
26	71 15 160	1	Pin
27	71 15 158	1	Bush
28	01 31 006	1	Thin locknut
29	06 25 540	6	Spring dowel
30	93 43 022	6	Socket headed capscrew

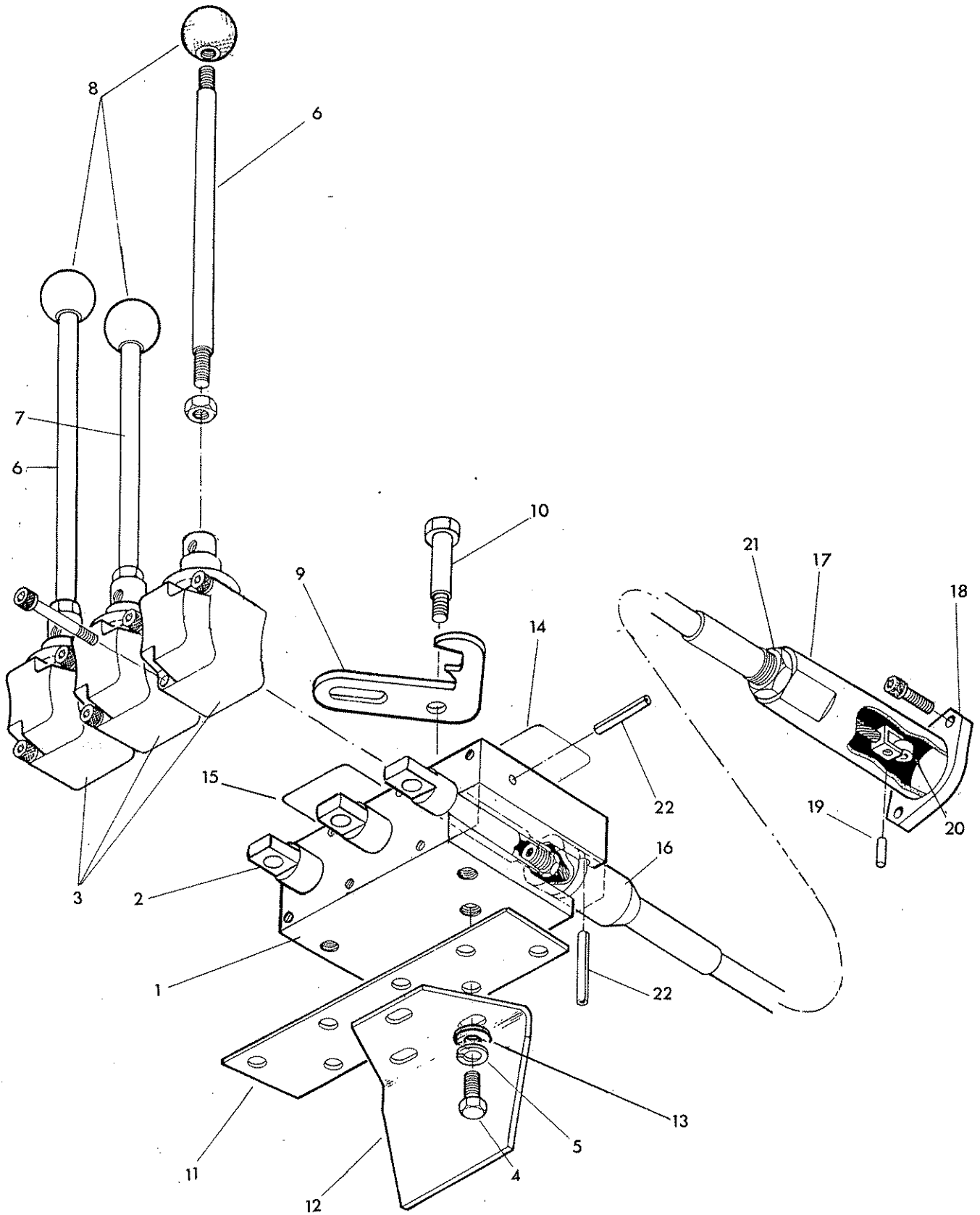
Spares note

Cable alternatives for item 23 are as detailed on page.

**AUXILIARY CONTROL VALVE -
Cable Telescopic**



McDONNELL





Ref.	Part No.	Qty.	Description
LEVER CONTROLS FOR SLEW, AUTO RESET/SLEW SELECTION AND TELE - CABLE TELE MACHINES			
1	71 96 054	1	Control block
2	81 30 144	3	Spindle
3	81 30 065	3	Lever pivot box assembly
4	93 13 034	3	Setscrew
5	91 00 204	3	Spring washer
6	71 09 132	2	Lever handle
7	71 14 072	1	Lever handle
8	09 03 121	3	Knob - black
9	71 96 310	1	Control latch
10	71 96 055	1	Shoulder bolt
11	71 14 071	1	Control block mounting base
12	80 17 006	1	Mounting bracket
13	01 00 102	1	Plain washer
14	12 90 357	1	Instruction label - slew and auto reset/slew
15	12 90 060	1	instruction label - tele control
16	G241 0627	3	Cable assy -Slew & Auto reset slew selection incl.
17	71 15 162	1	Sleeve
18	81 25 050	1	Flange
19	71 15 160	1	Pin
20	71 15 158	1	Bush
21	01 31 006	1	Thin locknut
22	06 25 540	6	Spring dowel
23	93 43 022	6	Socket headed capscrew

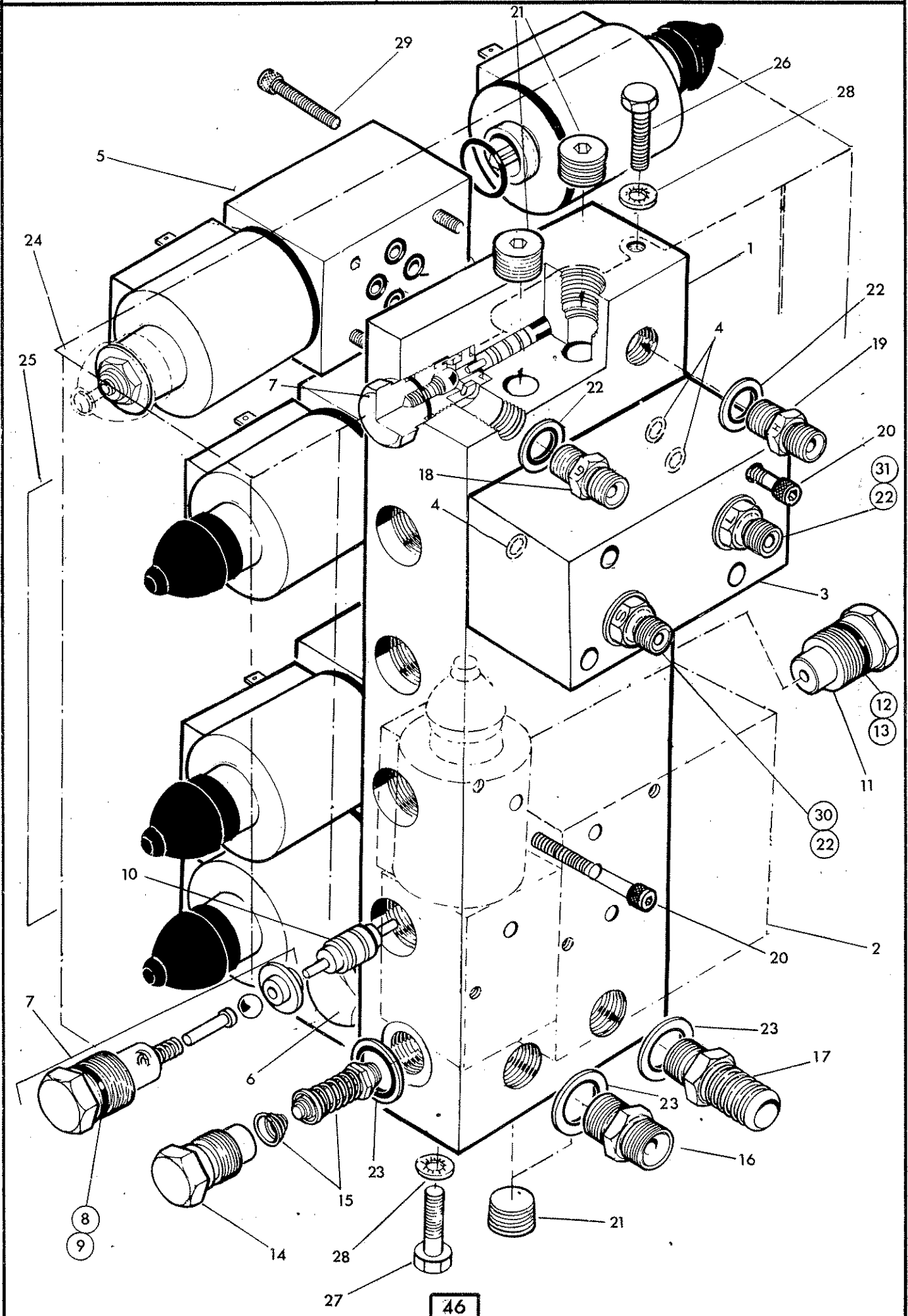
Spares note

Cable alternatives for item 1 are as detailed on page.

ELECTRIC VALVE - Std arm



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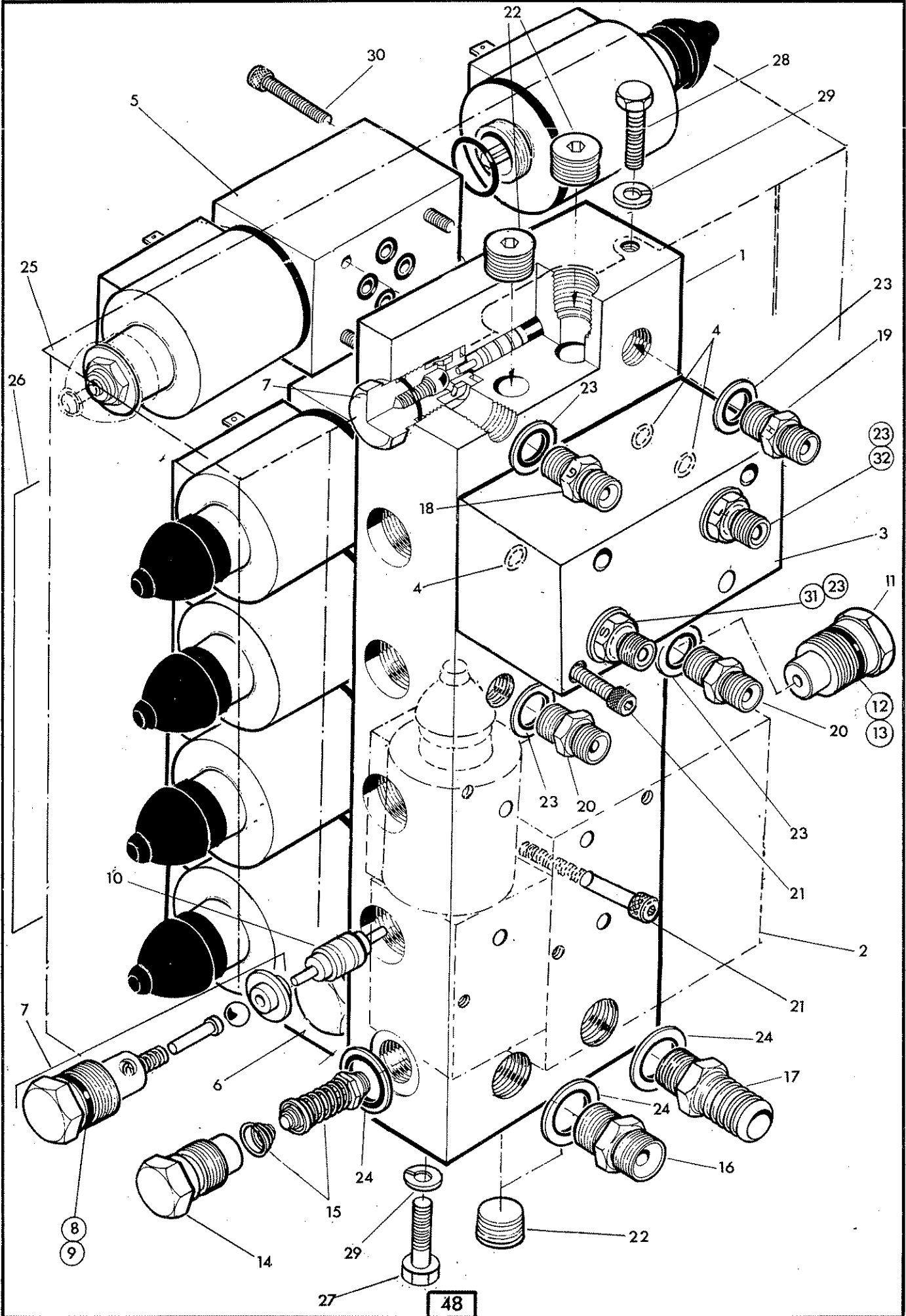


Ref.	Part No.	Qty.	Description
ELECTRIC CONTROL PACK - STD. ARM			
	81 30 499		Solenoid/manifold valve assembly compr:
1	81 30 346	1	Manifold block
2	81 30 349	1	Slew circuit valve assembly
3	81 30 322	1	Hose plate including 'O' rings
4	87 00 511	3	'O' ring
5	81 30 455	4	Double solenoid valve
6	81 30 456	1	Single solenoid valve
7	81 30 090	7	Check valve assembly incl. 'O' ring
8	87 00 644	1	'O' ring
9	87 09 644	1	Anti extrusion ring
10	81 30 087	4	Actuator
11	81 30 078	1	Check valve blank
12	87 00 644	1	'O' ring
13	87 09 644	1	Anti extrusion ring
14	81 30 032	1	Relief valve cap
15	81 30 029	1	Relief valve cartridge c/w spring
16	60 00 113	1	Union
17	81 25 008	1	Return connection
18	81 30 104	1	Restrictor union 'G' reach base
19	81 30 105	1	Restrictor union 'H' reach gland
20	92 43 082	9	Socket headed cap screw
21	85 82 042	4	Taper plug
22	86 50 102	4	Bonded seal
23	86 50 103	3	Bonded seal
24	71 96 302	1	Solenoid cover
25	84 02 136	1	Solenoid wiring sticker
26	93 13 035	2	Setscrew
27	93 13 055	2	Setscrew
28	91 00 305	4	Internal serrated washer
29	92 43 102	20	Capscrew socket headed
30	81 30 037	1	Restrictor union 'S'
31	81 30 038	1	Restrictor union 'L'
	86 99 197		SEAL KIT

ELECTRIC VALVE - Tele arm



McCONEL



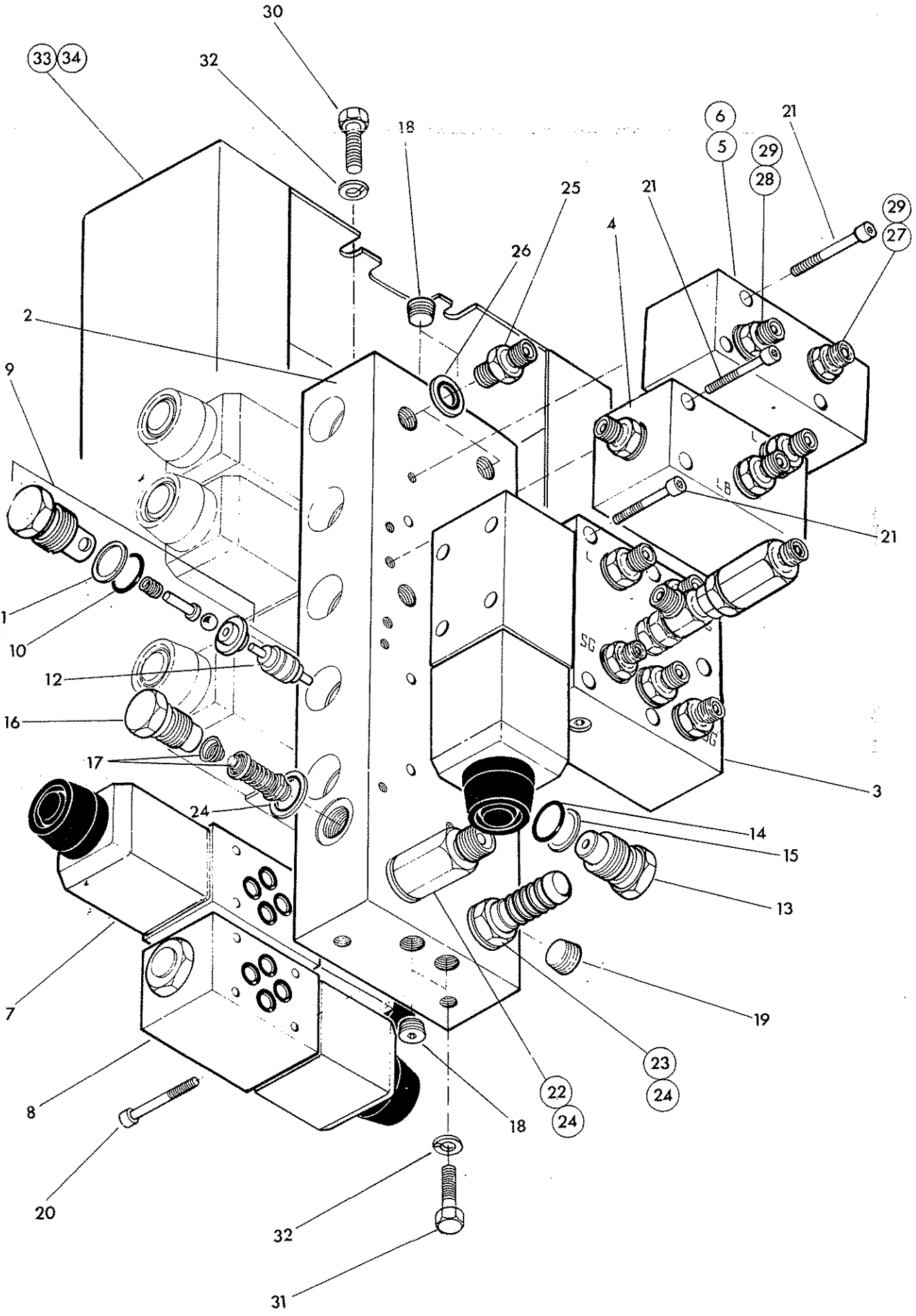


Ref.	Part No.	Qty.	Description
ELECTRIC SOLENOID PACK - TELESCOPIC			
	81 30 500	1	Solenoid/manifold valve assembly compr:
1	81 30 347	1	Manifold block
2	81 30 349	1	Slew circuit valve assembly
3	81 30 322	1	Hose plate incl. 'O' ring
4	87 00 511	3	'O' ring
5	81 30 455	5	Double solenoid valve
6	81 30 456	1	Single solenoid valve
7	81 30 090	9	Check valve assembly incl. 'O' rings
8	87 00 644	1	'O' ring
9	87 09 644	1	Anti extrusion ring
10	81 30 087	5	Actuator
11	81 30 078	1	Check valve blank
12	87 00 644	1	'O' ring
13	87 09 644	1	Anti extrusion ring
14	81 30 032	1	Relief valve cap
15	81 30 092	1	Relief valve cartridge c/w spring
16	60 00 113	1	Union supply
17	81 25 008	1	Return connection
18	81 30 104	1	Restrictor union 'G' reach base
19	81 30 105	1	Restrictor union 'H' reach gland
20	80 02 177	2	Union
21	92 43 082	9	Capscrew - socket headed
22	85 82 042	4	Taper plug
23	86 50 102	6	Bonded seal
24	86 50 103	3	Bonded seal
25	71 36 302	1	Solenoid cover
26	84 02 136	1	Solenoid wiring label
27	93 13 055	2	Setscrew
28	93 13 085	2	Setscrew
29	91 00 305	4	Internal serrated washer
30	92 43 102	24	Capscrew socket headed
31	81 30 037	1	Restrictor union 'S'
32	81 30 038	1	Restrictor union 'L'
	86 99 197		SEAL KIT

ELECTRIC VALVE - Midcut arm

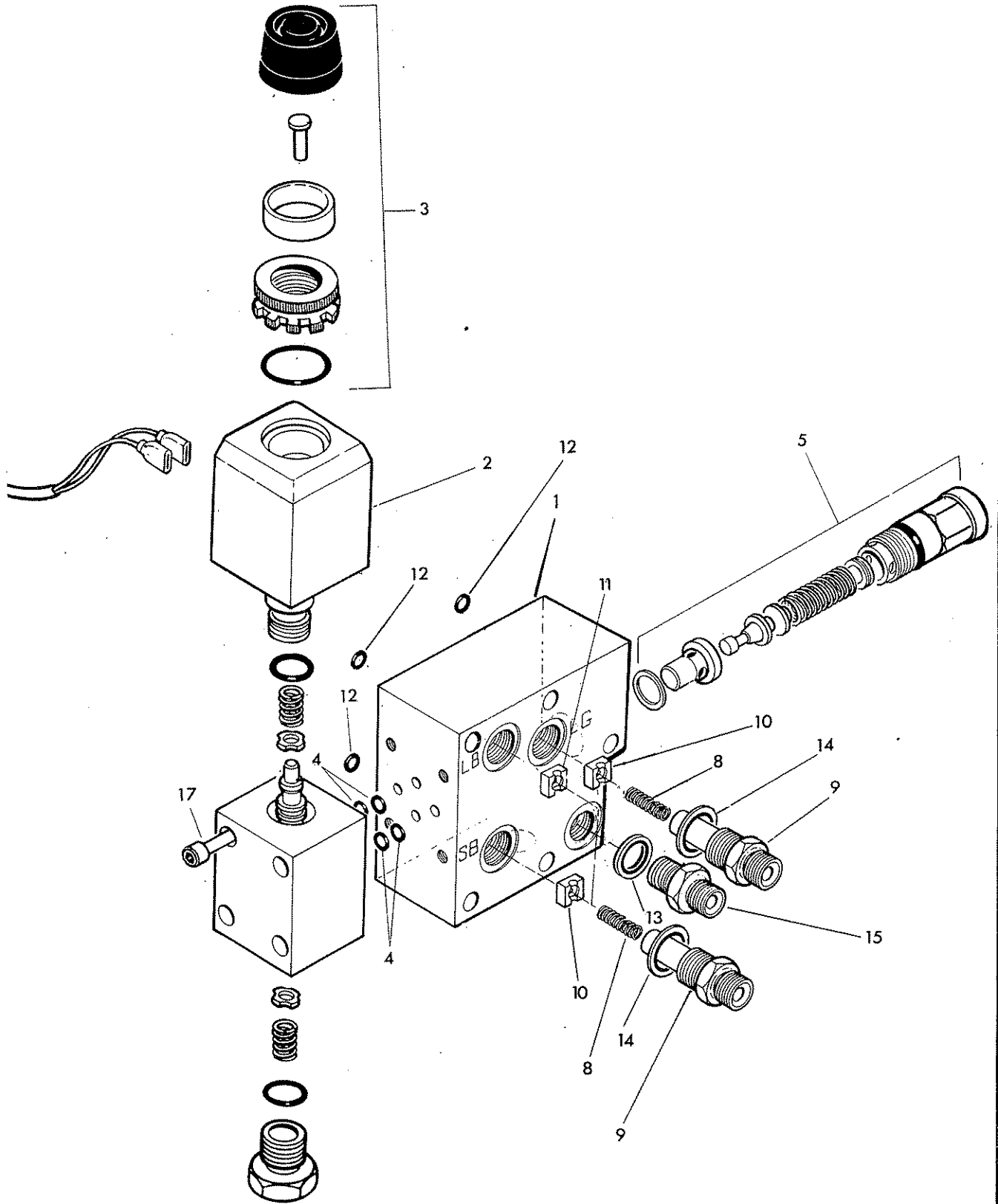
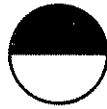


McDONNELL





Ref.	Part No.	Qty.	Description
PA 2050M ARMHEAD CONTROL ASSY.			
1	81-30-481	1	Solenoid/manifold assembly compr:-
2	81-30-346	1	Manifold block
3	81-30-475	1	Park/Work valve assy
4	81-30-182	1	Lift check valve assy
5	81-30 322	1	Hose plate incl. O rings
6	87 00 511	3	O ring
7	81-30-455	4	Double solenoid valve
8	81-30-456	1	Single solenoid valve
9	81-30-090	7	Check valve assembly
10	87-00-644	1	Check valve 'O' ring
11	87-09-644	1	Check valve anti extrusion ring
12	81-30-087	4	Actuator
13	81-30-078	1	Check valve blank
14	87-00-644	1	'O' ring
15	87-09-644	1	Anti extrusion ring
16	81-30-032	1	Relief valve cap
17	81-30-124	1	Relief valve c/w spring
18	85-82-042	4	Taper plug 1/4 BSPT
19	85-82-043	1	Taper plug 3/8 BSPT
20	92-43-062	20	Socket head capscrew
21	92-43-102	11	Socket head capscrew
22	85-81-236	1	Extended union
23	85-25-008	1	Adaptor low pressure
24	86-50-103	2	Bonded seal
25	85-81-169	2	Union
26	86-50-102	2	Bonded seal
27	81 30 038	1	Restrictor union L
28	81 30 037	1	Restrictor union S
29	86 50 102	2	Bonded seal
30	93 13 035	2	Setscrew
31	93 13 055	2	Setscrew
32	91 00 305	4	Internal serrated washer
33	71 96 302	1	Solenoid cover
34	84 02 136	1	Solenoid wiring diagram
		1	Switchbox, mounting bracket etc. -see page 58



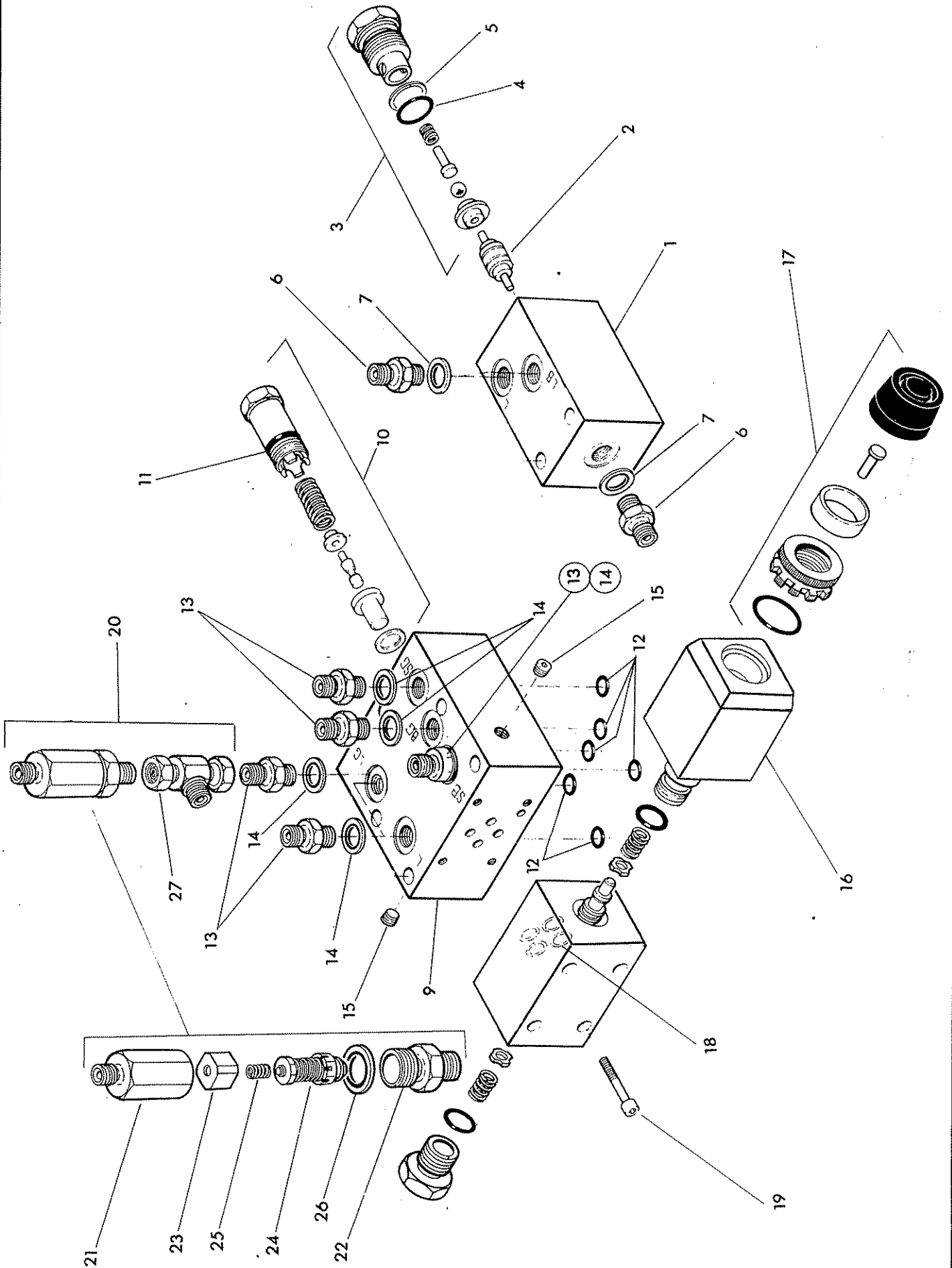


Ref.	Part No.	Qty.	Description
	81 30 349		SLEW VALVE ASSEMBLY
1	81 30 348	1	Valve block
	81 30 457	1	Single solenoid valve inc:-
2	81 30 175	1	Coil
3	81 30 176	1	Manuel override kit
4	87 00 511	4	'O' ring
5	G381 2540	1	Relief valve assembly 170 bar (2500 PSI)
9	85 81 210	3	Special union
10	81 23 041	2	Restrictor disc red-Lift gland, slew base
11	81 23 043	1	Restrictor disc green - Lift base
12	87 00 511	3	'O' ring
13	86 50 102	1	Bonded seal
14	86 50 103	3	Bonded seal
15	85 81 169	1	Union
16	85 82 041	4	Plug
17	92 43 102	4	Capscrew - socket headed
	86 99 224		SOLENOID SEAL KIT

PARK / WORK VALVE } 2050M only
LIFT VALVE



McCORMICK





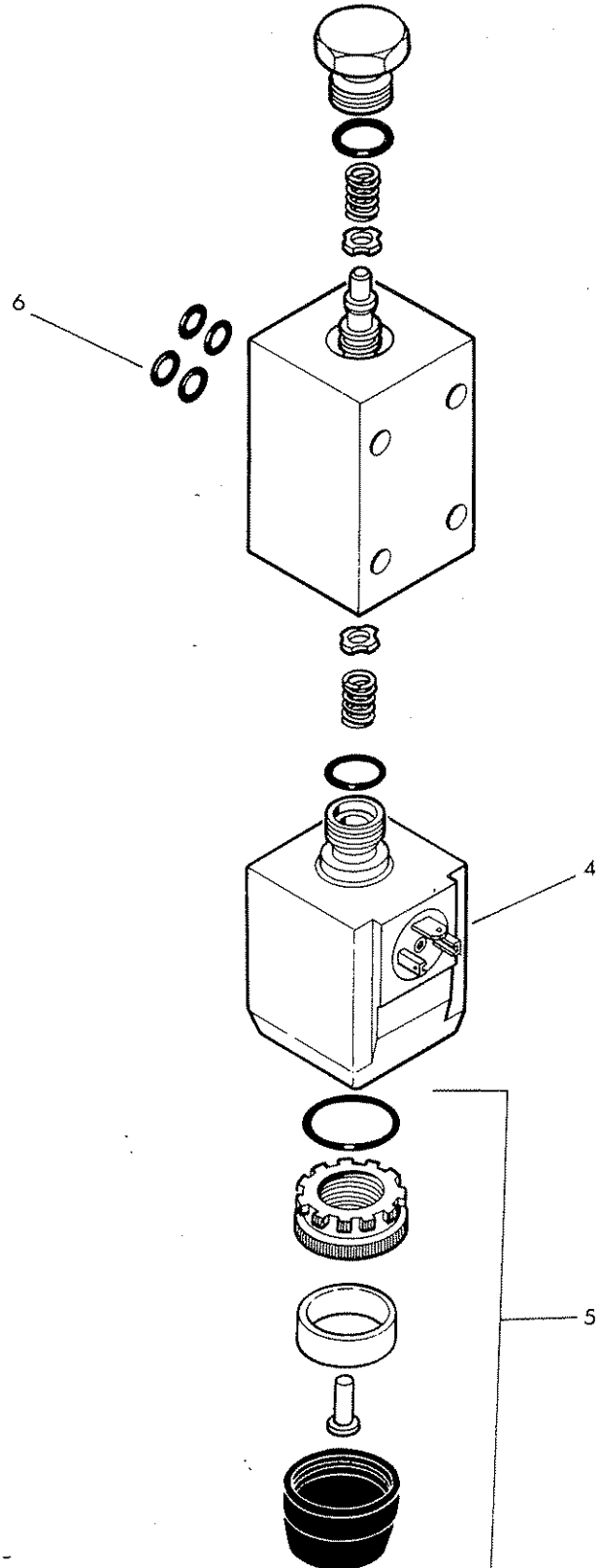
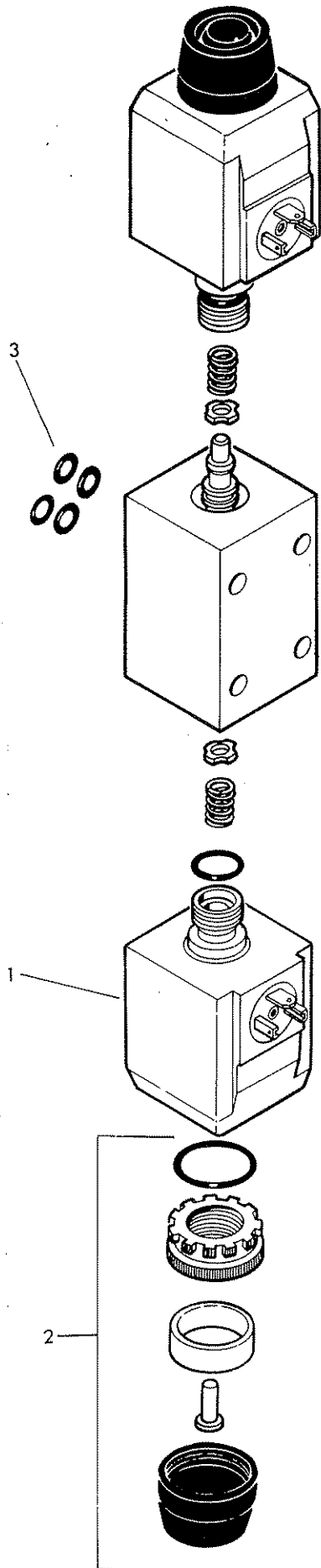
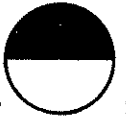
Ref.	Part No.	Qty.	Description
	81-30-171		PA 2050M LIFT CHECK VALVE ASSEMBLY
1	81-30-440	1	Lift check block
2	81-30-087	1	Actuator
3	81-30-090	1	Check valve assembly
4	87-00-644	1	Check valve 'O' ring
5	87-09-644	1	Check valve anti extrusion ring
6	85-81-169	2	Adaptor
7	86-50-102	3	Bonded seal
8	85 81 169	1	Adaptor
	81-30-517		PA 2050M PARK/WORK VALVE ASSEMBLY
9	81-30-474	1	Valve block
10	81-30-149	1	Relief valve assembly 1800 PSI (125 bar)
11	86-00-113	1	Relief valve 'O' ring
12	87-00-511	6	'O' ring
13	85-81-169	5	Adaptor
14	86-50-102	5	Bonded seal
15	85-82-041	2	Taper plug
	81-30-458	1	Single solenoid valve incl :-
16	81-30-175	1	Coil
17	81-30-176	1	Manual override kit
18	87-00-511	4	'O' ring
19	92-43-062	4	Capscrew socket headed
	86-99-224		SOLENOID SEAL KIT
			PARK/WORK VALVE ANCILLIARIES
20	81-30-172	1	Relief valve assembly comprising
21	81-30-173	1	Relief valve housing
22	81-30-083	1	Relief valve body
23	81-30-174	1	Support plug
24	81-30-141	1	Relief valve
25	81-16-011	1	Spring
26	86-50-104	1	Bonded seal
27	85-81-289	1	Tee

Model:

SOLENOID ASSEMBLIES

McCONEL

Temeside Works, Ludlow,
Shropshire, SY8 1JL, England.
Telephone: (0584) 3131.
Telex 35313. Facsimile: (0584) 6463.





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

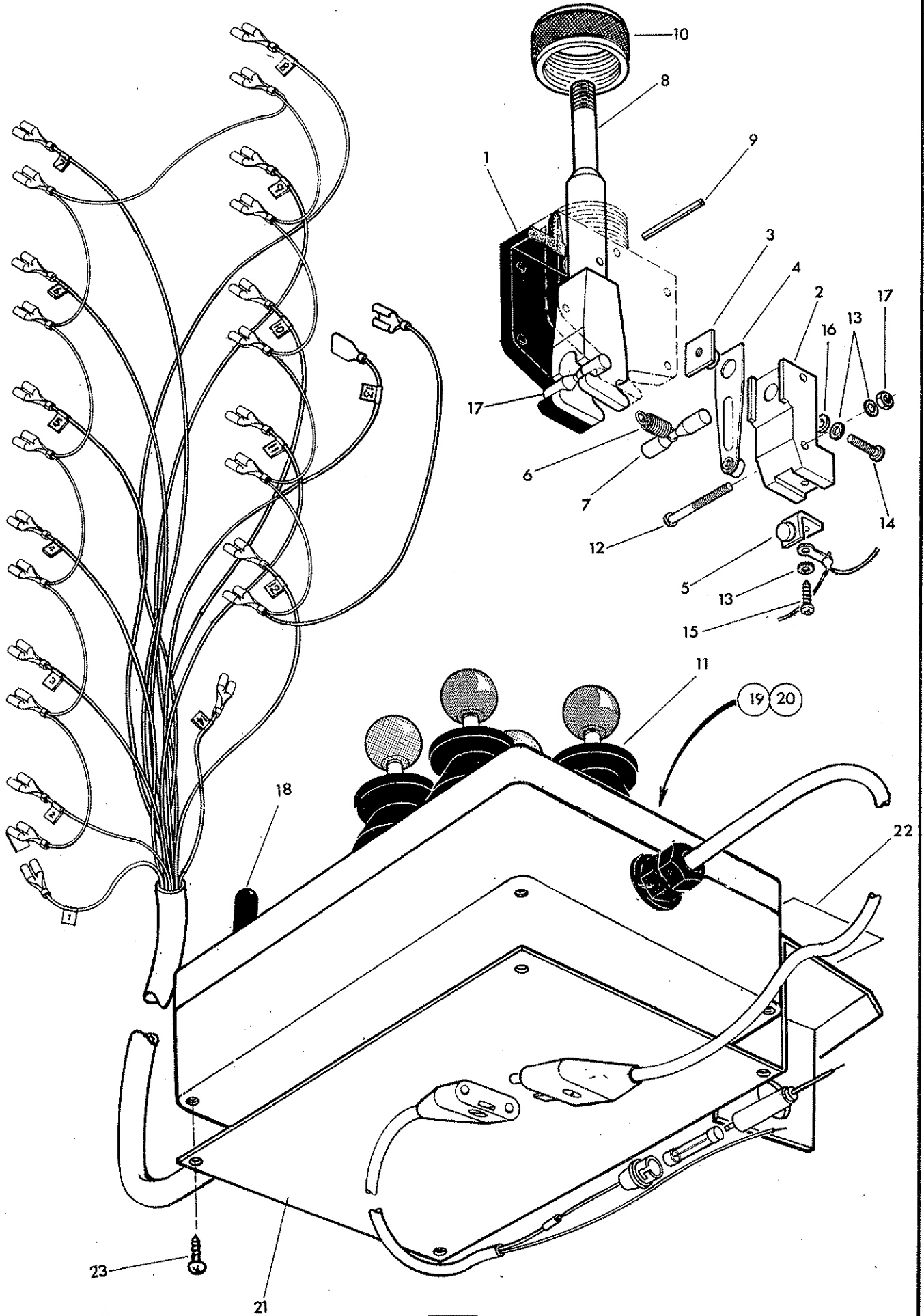
86-99-224

SEAL KIT

SWITCHBOX



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Ref.	Part No.	Qty.	Description
	84-02-290		PA 2050 (Std and tele arm) SWITCH BOX ASSEMBLY
	84-02-122	5	Switch unit compr:
1	84-02-285	1	Switch body
2	84-02-106	2	Contact holder
3	84-02-109	2	Spring contact retainer
4	84-02-113	2	Spring contact
5	84-02-108	2	Fixed contact
6	84-02-101	1	Spring
7	84-02-111	2	Bar
8	84-02-256	1	Lever
9	04-25-320	1	Spring dowel
10	84-02-051	1	Bezel ring
11	84-02-022	1	Lever gaiter
12	92-00-006	4	Screw - posidrive - panhead
13	91-00-400	8	External serrated washer
14	92-00-005	2	Screw - posidrive - panhead
15	84-02-119	2	Self tapping screw
16	84-02-280	2	Plain washer
17	91-13-000	2	Hexagon nut - plated
18	84-02-024	3	Toggle switch weather gaiter
19	12-90-351	1	Operating label - not illustrated

84-02-296

PA2050 M SWITCH BOX ASSEMBLY

The switch box assemblies are **not interchangeable** due to circuitry variations. Available spares are identical to above plus the following addition.

20	12-90-034	1	Park/work overlay sticker - not illus
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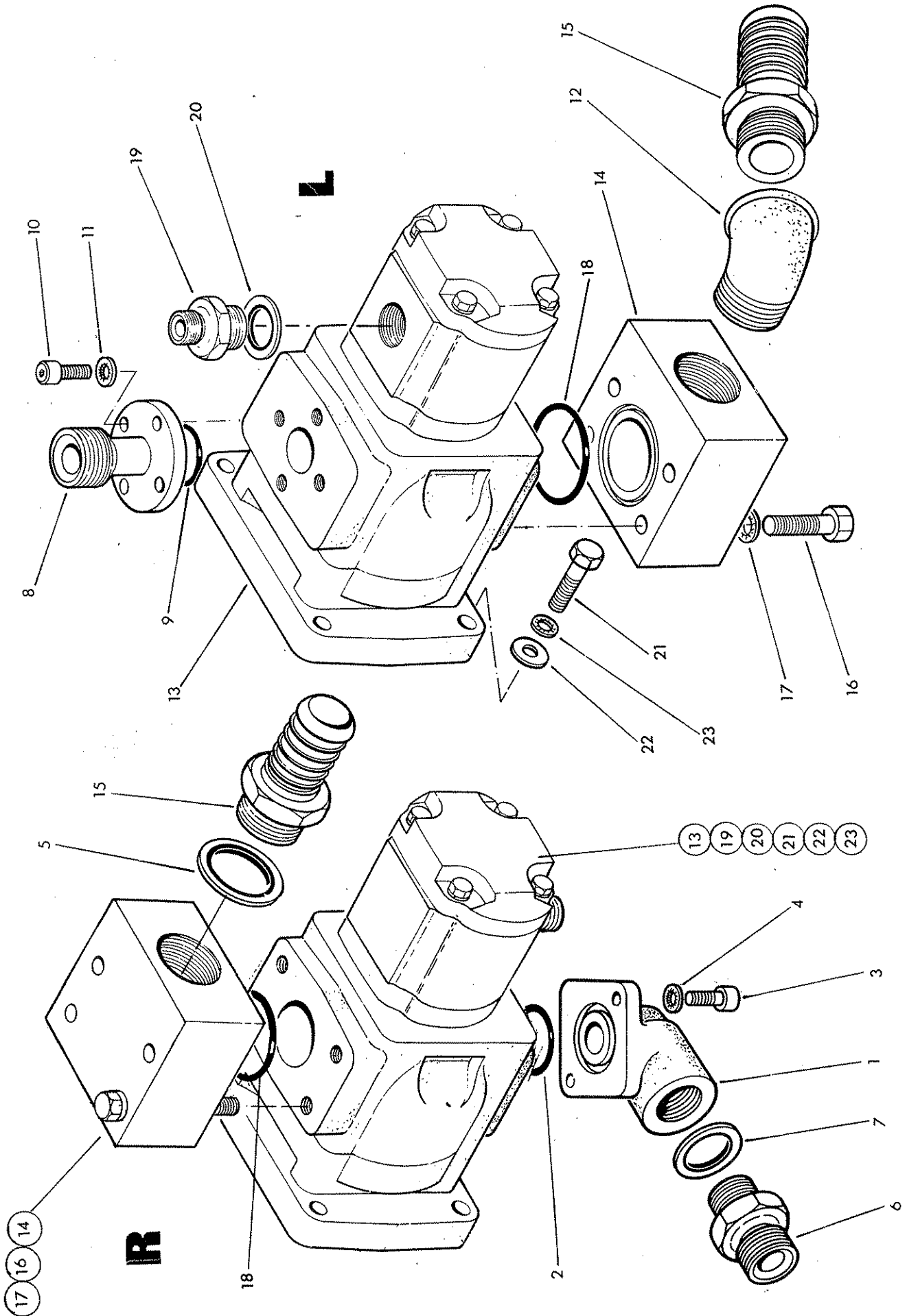
SWITCH BOX ANCILLIARIES

21	84-02-294	1	Switch box mounting bracket c/w label
22	84-02-135	1	'Slew caution' label
23	28-00-203	4	Self tapping screw

PUMP



McCOMBS





Ref.	Part No.	Qty.	Description
PUMP ASSEMBLY R.HAND - Designated R			
1	80 05 052	1	Pressure connection
2	86 00 403	1	'O' ring
3	93 43 054	3	Capscrew
4	91 00 404	3	Shakeproof washer
5	86 50 109	1	Bonded seal
6	80 02 086	1	Adaptor
7	86 50 106	1	Bonded seal

PUMP ASSEMBLY L.HAND - Designated L

8	80 13 090	1	Pressure connection
9	86 00 117	1	'O' ring
10	93 43 054	4	Capscrew
11	91 00 404	4	Shakeproof washer
12	85 81 261	1	Adaptor

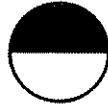
The remaining items are common to both pump assemblies.

13	82 01 685	1	Tandem pump compr:-
	82 01 165	1	Large-pump
	82 01 166	1	Small-pump
14	85 81 312	1	Suction flange
15	85 81 260	1	Adaptor
16	92 13 146	4	Bolt
17	91 00 406	4	Shakeproof washer
18	86 00 304	1	'O' ring
19	60 00 112	1	Adaptor
20	86 50 104	1	Bonded seal
21	93 13 074	4	Bolt
22	91 00 104	4	Plain washer
23	91 00 404	4	Shakeproof washer

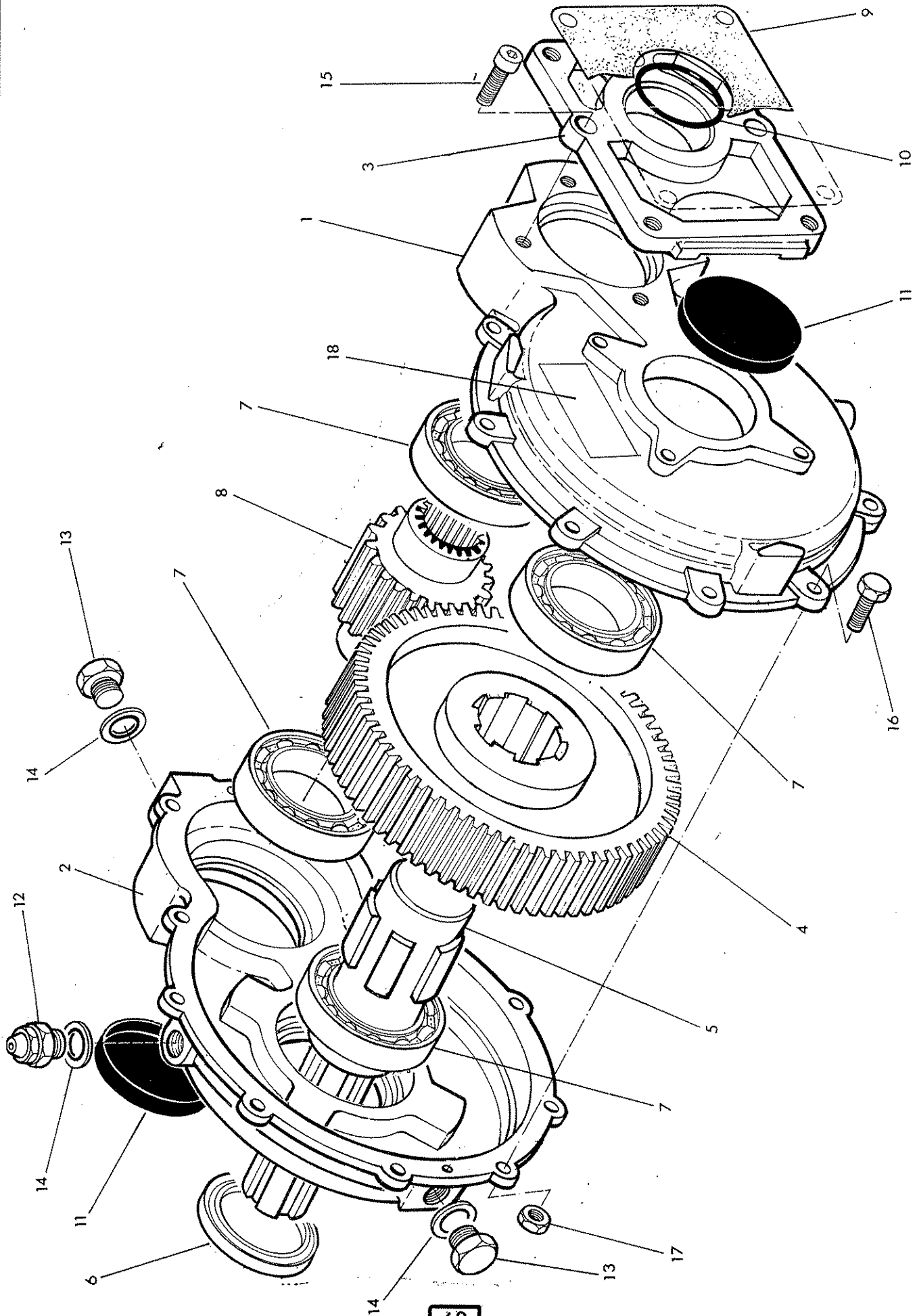
86 99 234

SEAL KIT

GEARBOX



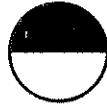
McCONNELL



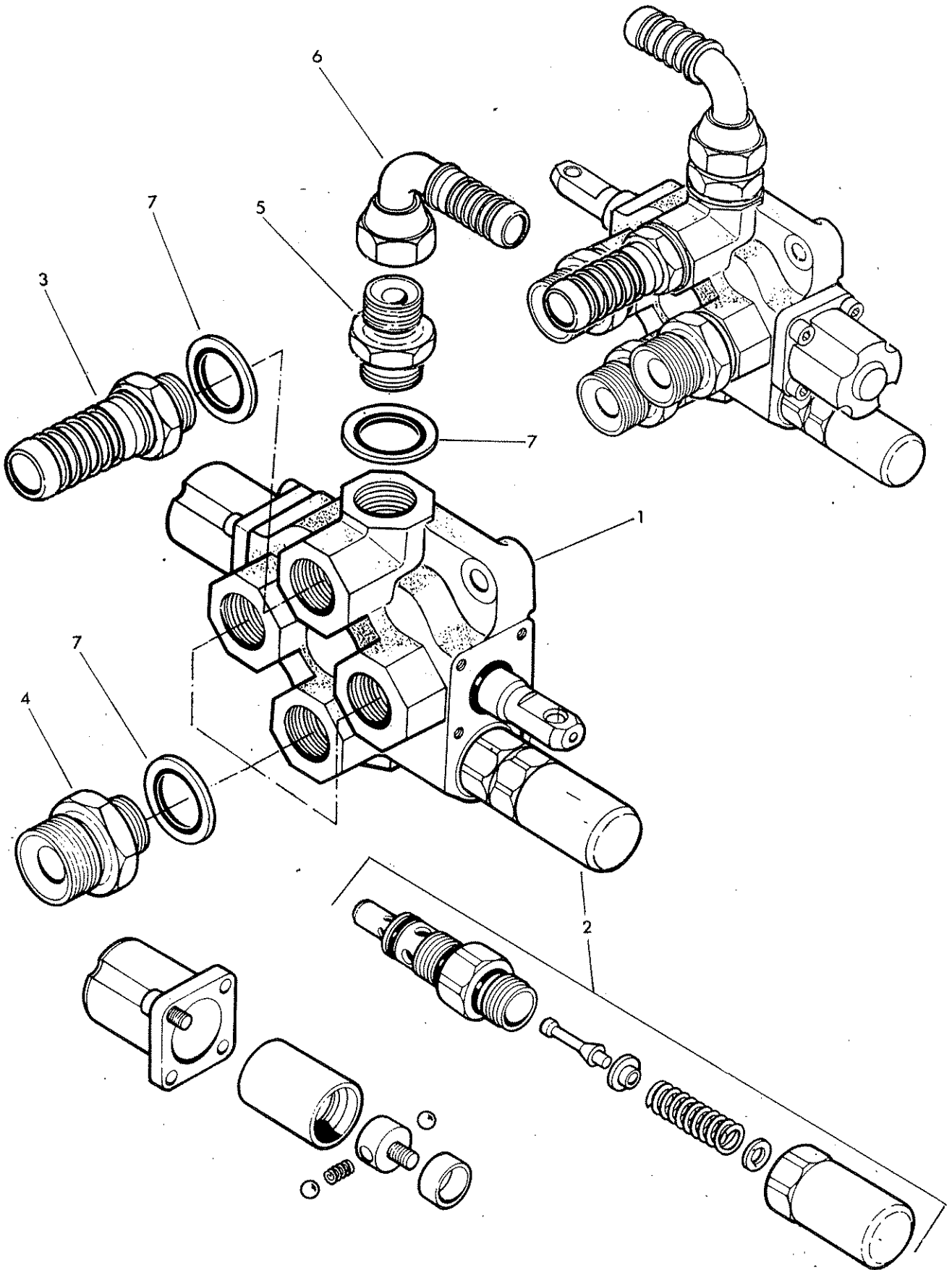


Ref	Part No	Qty	Description
	80 13 444		GEARBOX
1	80 13 100	1	Case - output side
2	80 13 101	1	Case - input side
3	80 13 102	1	Pump mounting flange
4	80 13 105	1	Gear 72t.
5	80 13 105	1	Shaft
6	86 29 196	1	Shaft seal
7	06 00 042	4	Bearing
8	80 13 104	1	Pinion 17t.
9	80 13 056	1	Gasket
10	86 00 523	1	'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
Cable machines except tele



McCOMEL





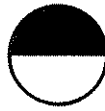
Ref.	Part No.	Qty.	Description
	81 25 401		ROTOR CONTROL VALVE ASSEMBLY FOR CABLE STD. ARM MACHINE. R.HAND SHOWN EXPLODED
	81 25 402		ROTOR CONTROL VALVE FOR CABLE STD. ARM MACHINES L.HAND -SHOWN INSET.

The parts list for both assemblies are identical and vary only in build

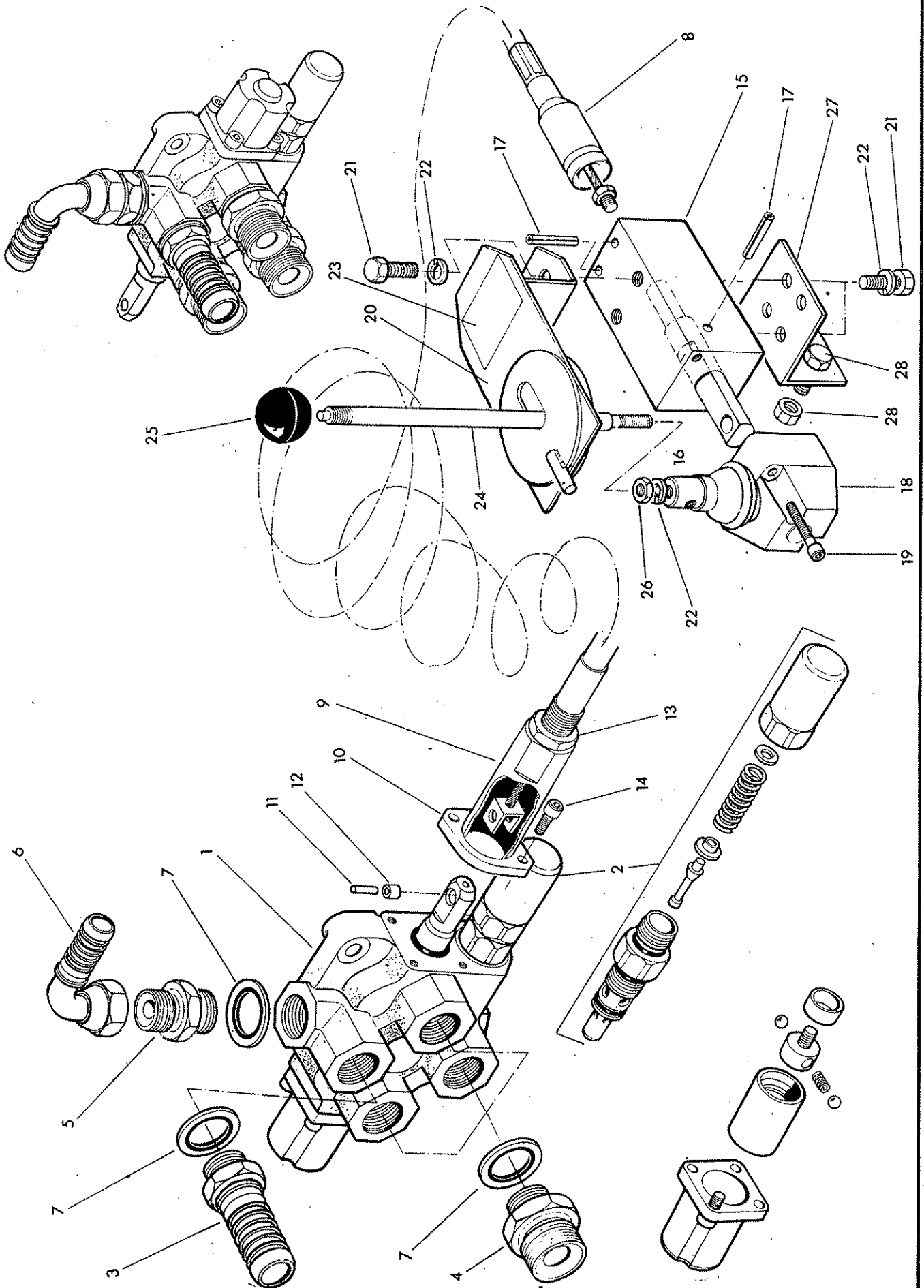
1	81 25 356	1	Rotor control valve
2	81 25 108	1	Relief valve 2750 PSI (190 Bar)
3	85 81 246	1	Adaptor
4	80 02 086	3	Adaptor
5	85 81 270	1	Adaptor
6	85 81 173	1	Elbow
7	86 50 106	5	Bonded seal

86 99 218 SEAL KIT

ROTOR CONTROL VALVE -
Electric machines & cable tele



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Ref.	Part No.	Qty.	Description
	81 25 403		ROTOR CONTROL VALVE ASSEMBLY FOR ELECTRIC MACHINES R.HAND - AS SHOWN EXPLODED
	81 25 404		ROTOR CONTROL VALVE ASSEMBLY FOR ELECTRIC MACHINES L.HAND -SHOWN INSET

The spare parts for both assemblies are identical and vary only in build

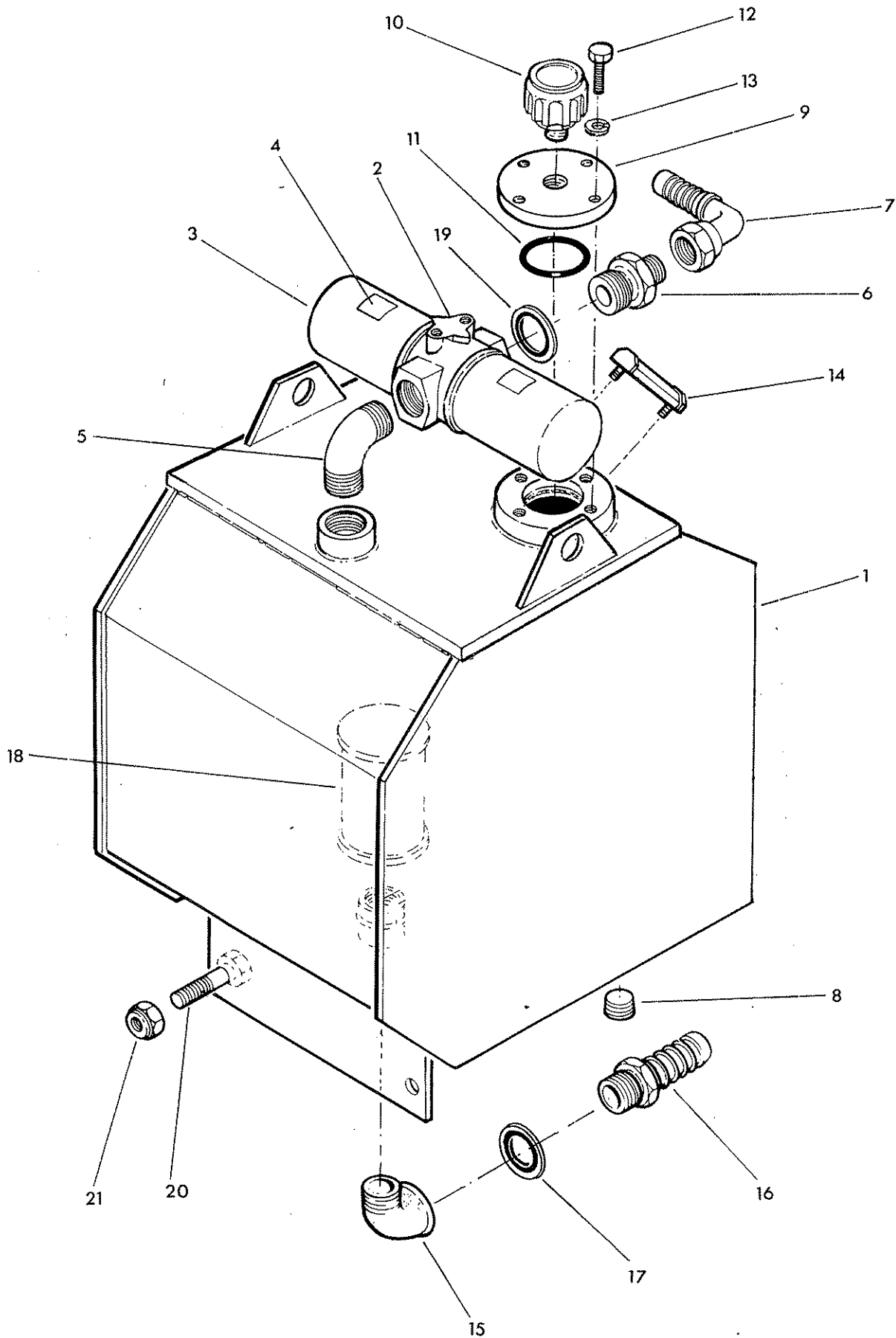
1	81 25 356	1	Rotor control valve
2	81 25 108	1	Relief valve 2750 PSI (190 Bar)
3	85 81 246	1	Adaptor
4	80 02 086	3	Adaptor
5	85 81 270	1	Adaptor
6	85 81 173	1	Elbow
7	86 50 106	5	Bonded seal
8	81 25 096	1	Cable assembly c/w sleeve flange etc
9	81 25 097	1	Sleeve
10	81 25 098	1	Flange
11	81 25 099	1	Pin
12	81 25 100	1	Bush
13	01 31 006	1	Thin locknut
14	93 43 033	2	Capscrew -socket headed
15	81 25 093	1	Control block
16	81 30 053	1	Control spindle
17	05 25 525	3	Spring dowel
18	81 30 065	1	Pivot box assembly
19	92 13 072	2	Capscrew -socket headed
20	81 25 089	1	Lever control gate
21	93 13 034	4	Setscrew
22	91 00 204	4	Spring washer
23	12 90 338	1	Operating label
24	71 14 072	1	Lever
25	09 03 121	1	Knob -black
26	91 13 004	1	Thin nut
27	81 25 070	1	Mounting bracket
28	93 13 044	2	Setscrew
29	91 43 004	2	Self locking nut

86 99 218**SEAL KIT**

HYDRAULIC TANK



MCCORMEL



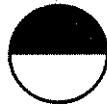


Ref.	Part No.	Qty.	Description
ENDURO OIL TANK AND FITTINGS			
	75 60 436	1	Oil tank assembly compr:-
1	75 60 431	1	Oil tank
2	84 01 060	1	Filter body
3	84 01 062	2	Filter element
4	12 90 023	2	Oil filter sticker
5*	85 81 292	1	Elbow
6	85 81 291	1	Adaptor
7	71 14 005	1	Swept elbow
8	85 81 203	1	Drain plug
9	71 92 063	1	Access cover - Tapped
10	84 01 063	1	Breather
11	86 50 151	1	'O' ring
12	93 13 054	4	Setscrew
13	91 00 204	4	Spring washer
14	84 01 048	1	Oil level gauge
15*	85 81 261	1	90 degrees elbow
16	85 81 260	1	Suction connection
17	86 50 109	1	Bonded seal
18	84 01 047	1	Strainer
19	86 50 224	1	Bonded seal
20	92 13 187	2	Bolt
21	91 00 207	2	Spring washer

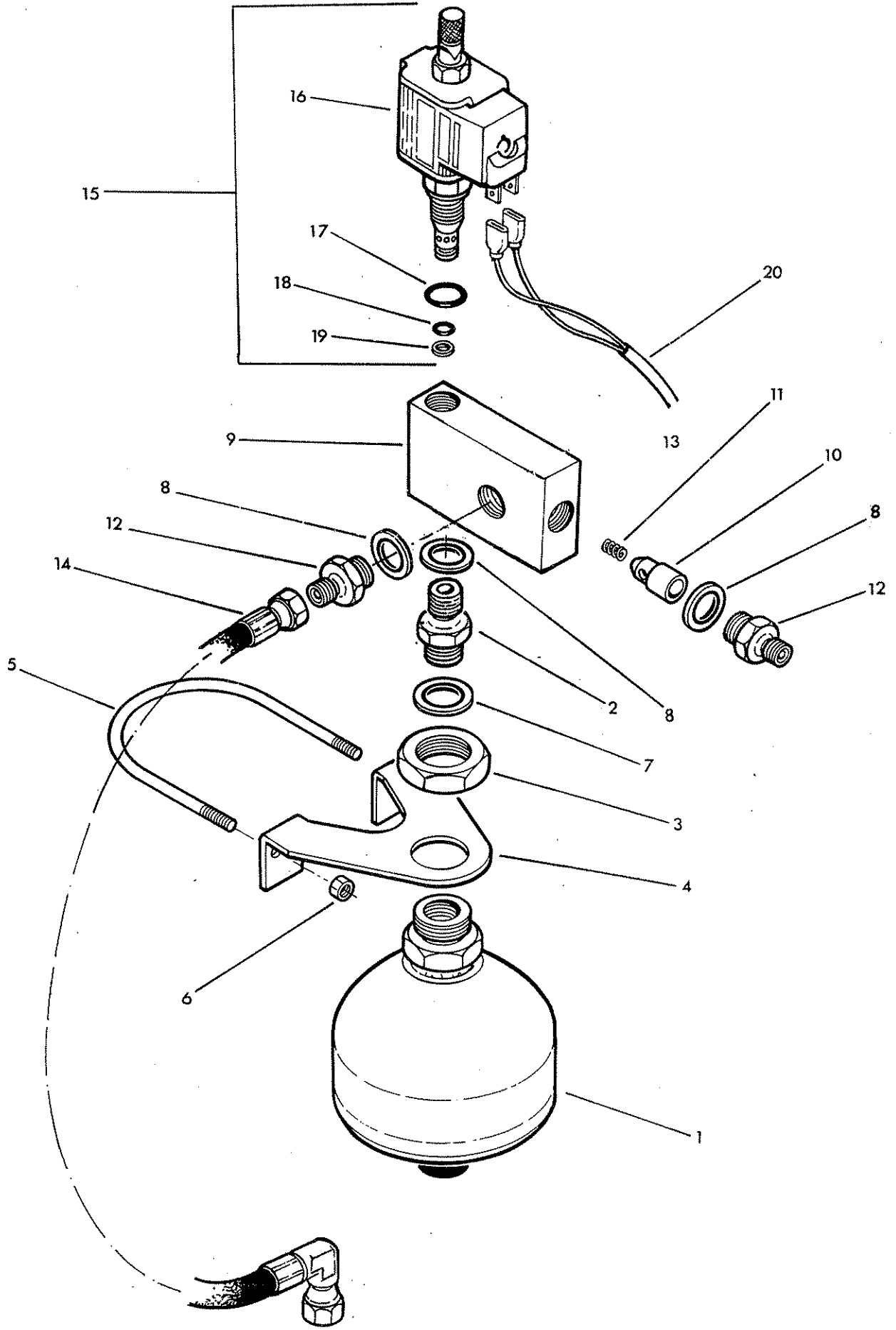
Assembly note

*To be fitted using PTFE tape, Permabond A121 or similar

LIFT FLOAT KIT



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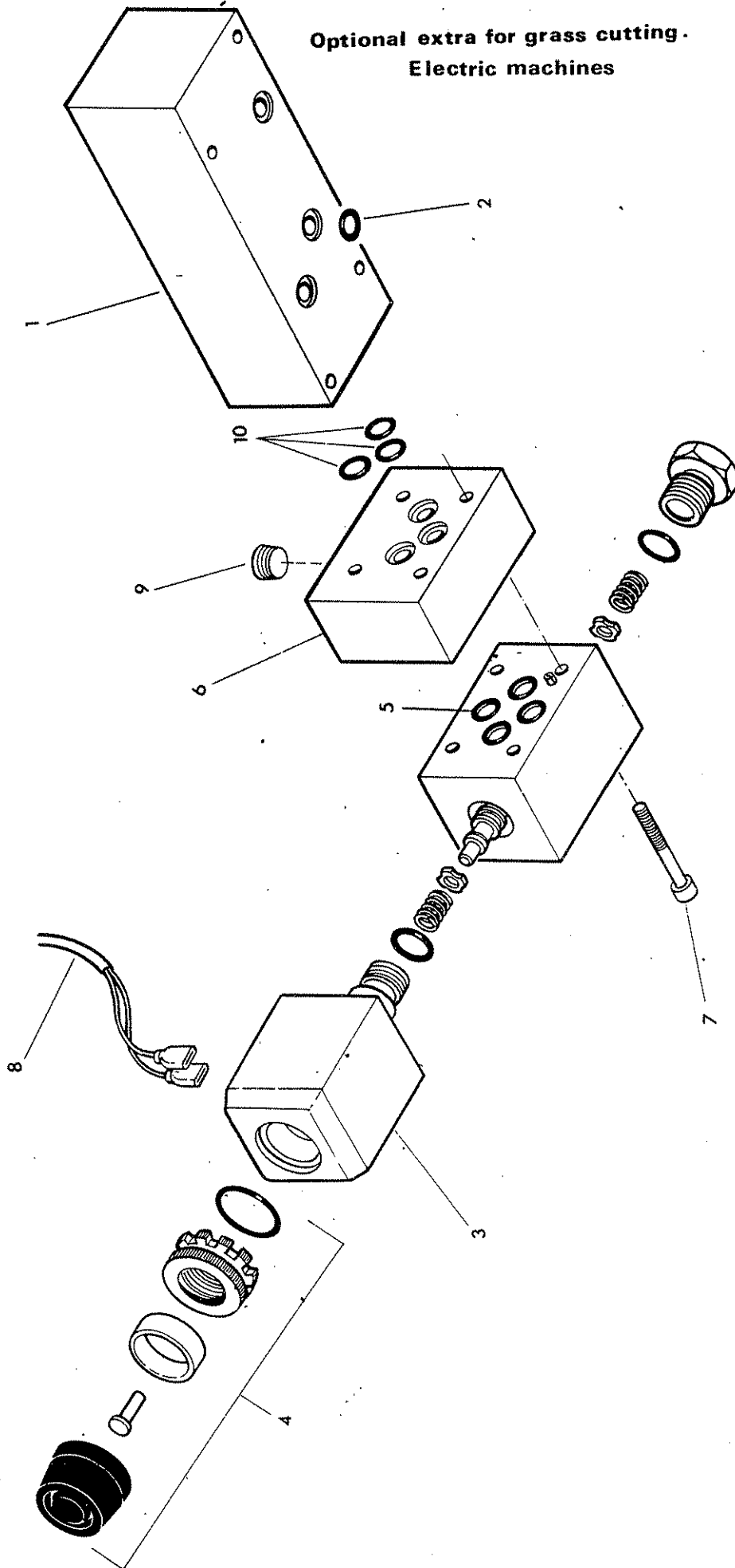
Ref.	Part No.	Qty.	Description
	81 26 290		LIFT FLOAT KIT - Quick response
1	81 26 042	1	Accumulator
2	G241 0380	1	Adaptor
3	81 26 035	1	Bulkhead nut
4	81 26 286	1	Bracket
5	81 26 031	1	U bolt
6	91 43 004	2	Self locking nut
7	86 50 322	1	Bonded seal
8	86 50 103	3	Bonded seal
9	81 26 287	1	Control block
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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Optional extra for grass cutting.
Electric machines



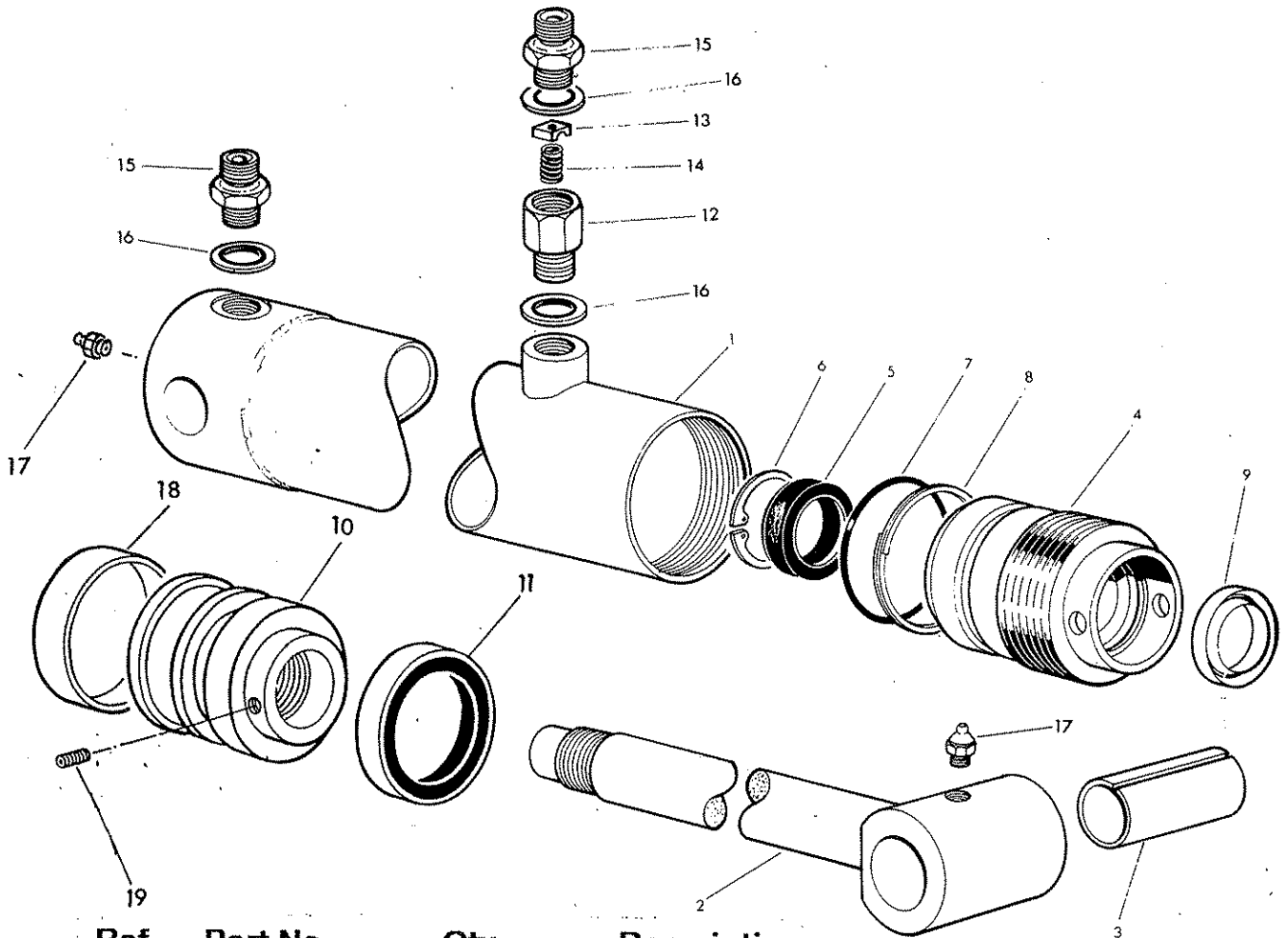


Ref.	Part No.	Qty.	Description
	81 26 261		ANGLE FLOAT KIT -Optional extra for ground cutting - Electric machines only
1	81 30 323	1	Float valve block
2	87 00 511	3	'O' ring
	81 30 457	1	Angle float solenoid incl:-
3	81 30 175	2	Coil
4	81 30 176	1	Manual override kit
5	87 00 511	4	'O' ring
6	81 26 280	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

SLEW/BREAKAWAY RAM



MCDONNELL



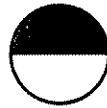
Ref.	Part No.	Qty.	Description
	71 36 274		SLEW/BREAKAWAY RAM ASSEMBLY

	71 36 061	1	Ram assembly basic
1	71 36 065	1	Ram barrel
2	71 36 062	1	Piston rod
3	71 05 050	1	Bush
4	71 36 312	1	Gland housing
5	86 29 148	1	Gland seal
6	04 16 240	1	Internal circlip
7	86 00 306	1	'O' ring
8	86 09 306	1	Anti extrusion ring
9	86 29 149	1	Rod wiper ring
10	71 20 368	1	Piston
11	86 29 156	1	Piston seal
12	85 81 208	1	Restrictor body
13	81 23 047	1	Restrictor disc-green and white
14	81 16 011	1	Spring
15	85 81 145	2	Union
16	86 50 103	3	Bonded seal
17	09 01 121	2	Greaser - straight
18	86 29 157	1	Guide ring
19	93 63 023	1	Grubscrew socket headed

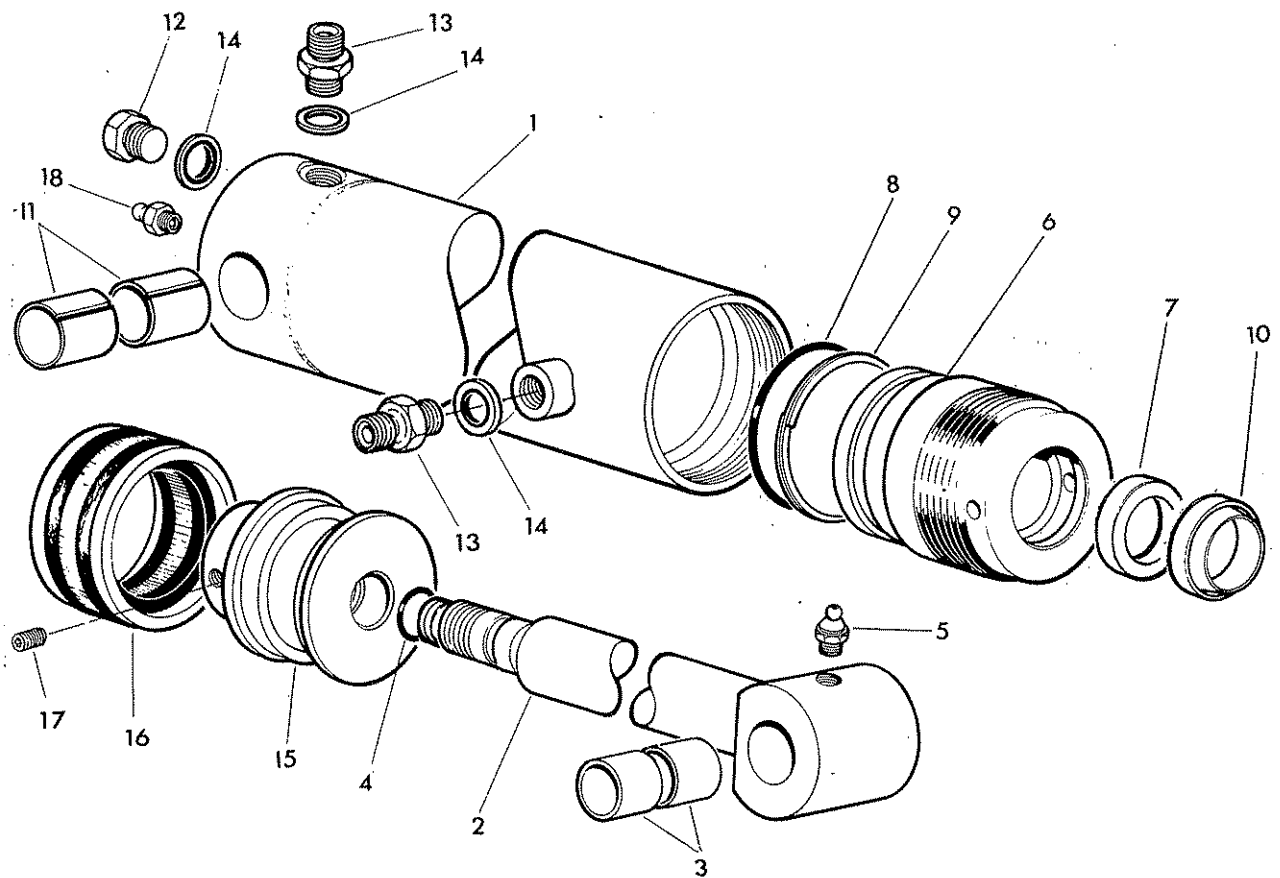
86 99 190

SEAL KIT

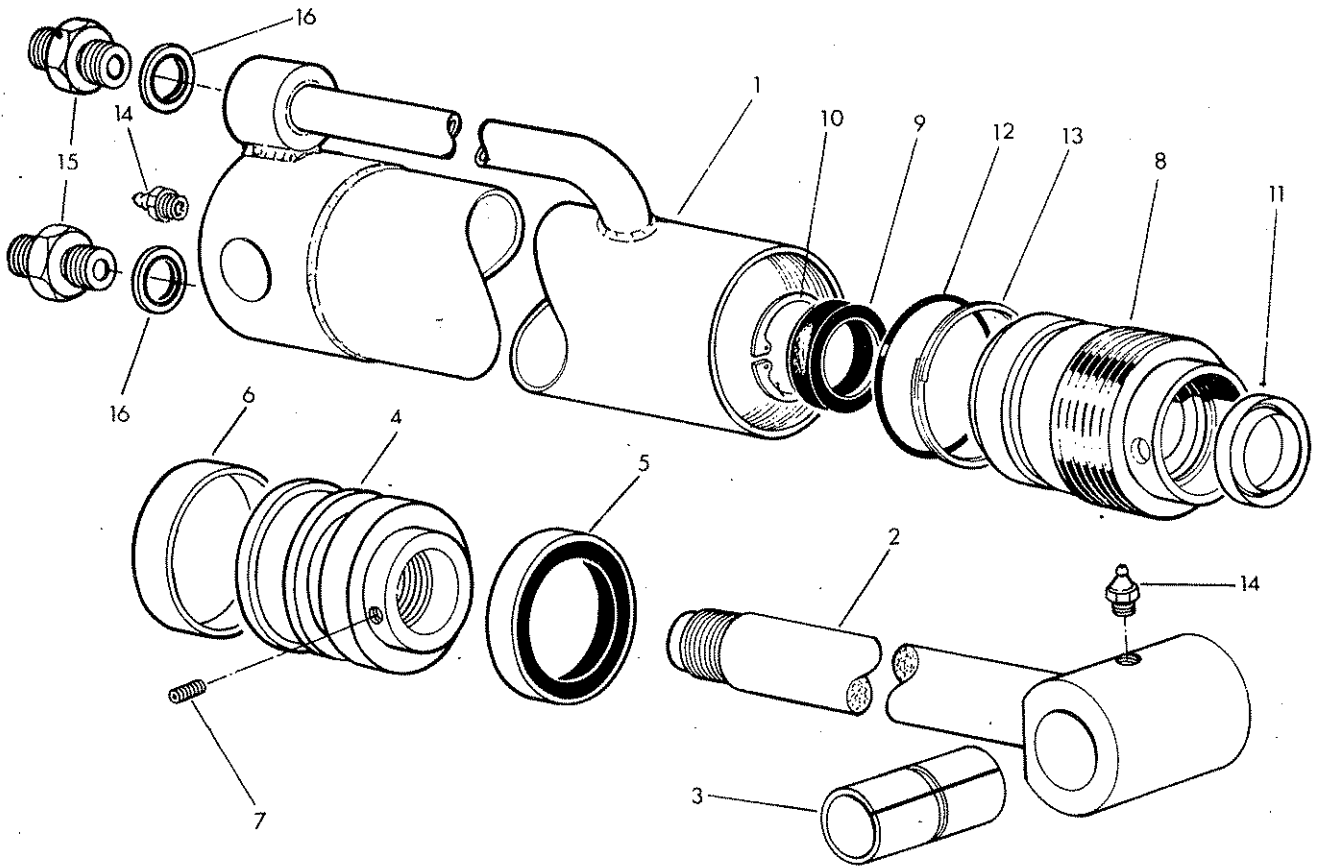
**LIFT AND REACH RAM
ASSEMBLY**



McCORMICK



Ref.	Part No.	Qty.	Description
	71 36 270		LIFT AND REACH RAM ASSEMBLY
1	71 36 271	1	Ram cylinder
2	71 36 333	1	Piston rod
3	60 12 032	2	Bush
4	86 00 119	1	'O' ring
5	09 01 121	1	Greaser straight
6	71 35 282	1	Gland housing
7	86 29 164	1	Gland seal
8	87 00 740	1	'O' ring
9	87 09 740	1	Anti extrusion ring
10	86 29 147	1	Piston rod wiper ring
11	71 01 134	2	Bush
12	80 03 001	1	Plug
13	85 81 115	2	Union
14	86 50 103	3	Bonded seal
15	71 35 004	1	Piston
16	86 38 740	1	Piston seal
17	93 63 023	1	Grub screw
18	09 01 121	1	Greaser straight
	86 99 187		SEAL KIT



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

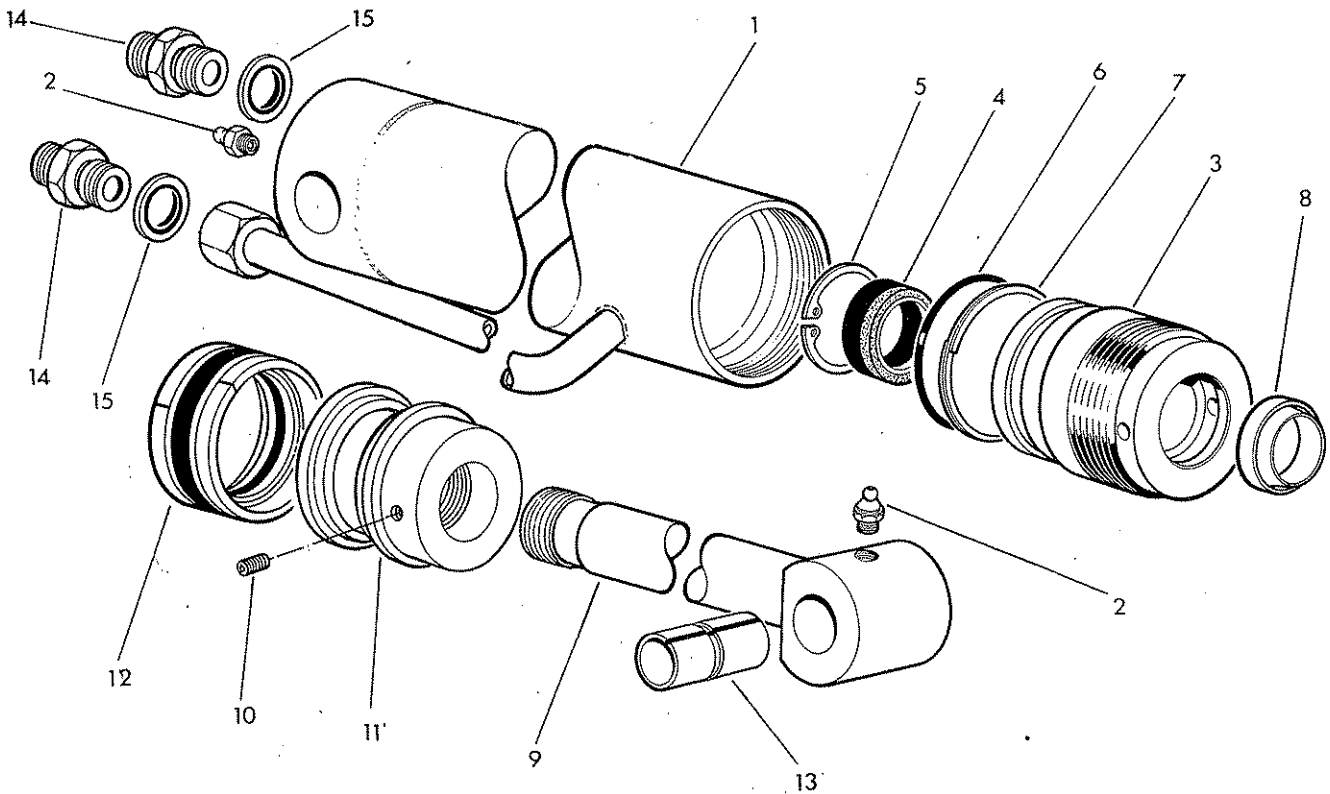
*** Assembly note**

Tighten fully and centre punch edge of hole to secure.

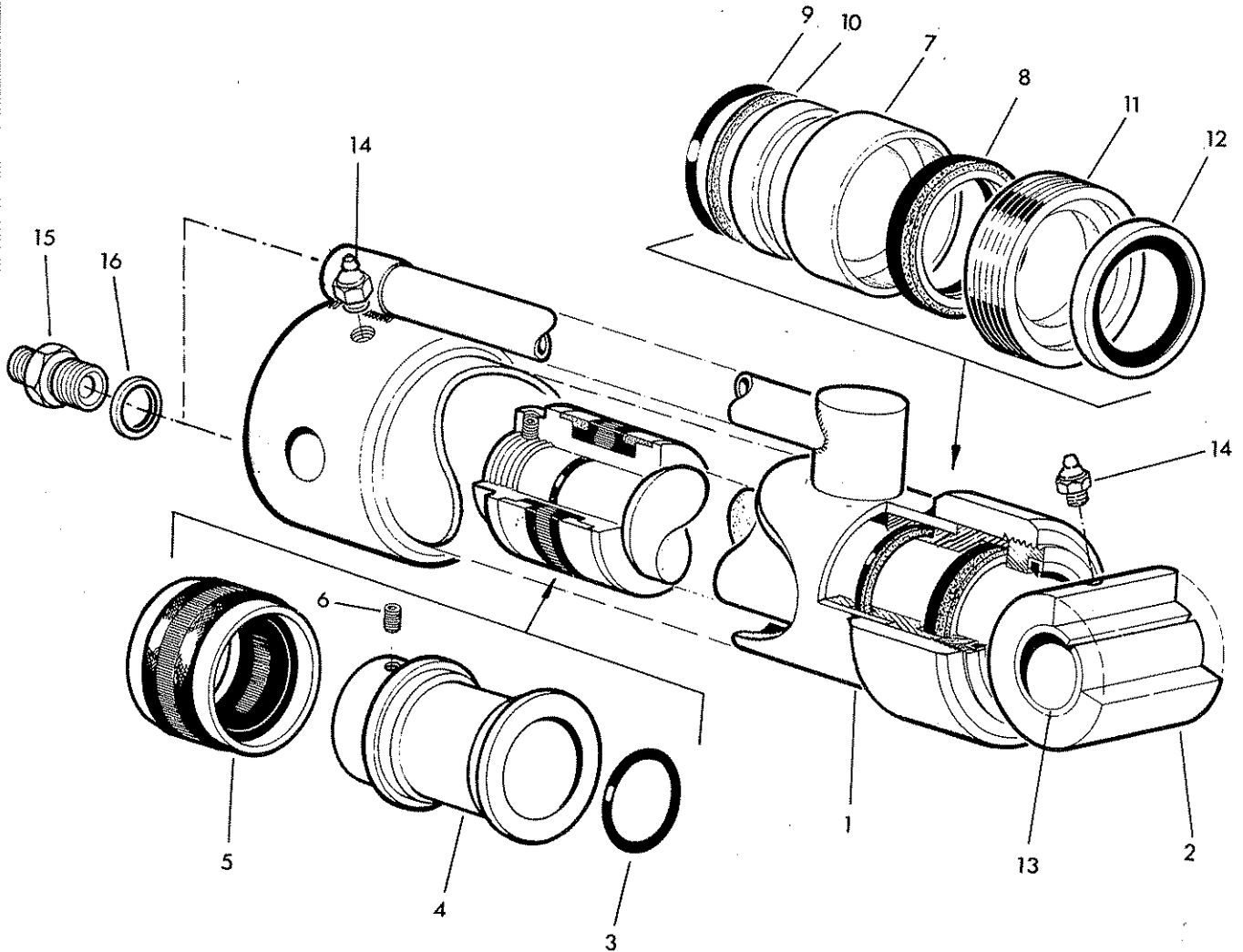
TELE RAM



McDONNELL



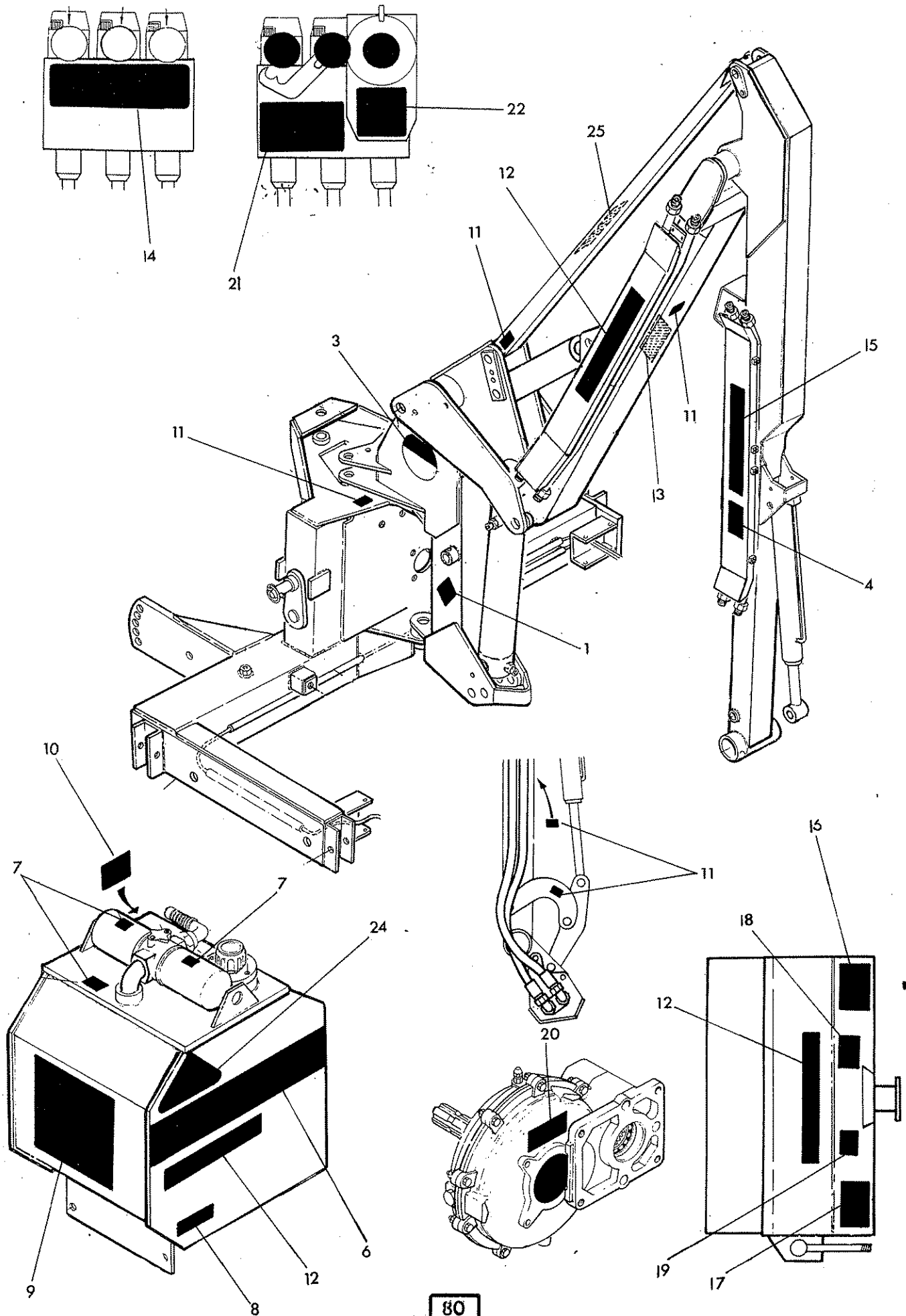
Ref	Part No	Qty	Description
	71-36-275		TELE RAM ASSEMBLY
1	71-36-276	1	Ram cylinder
2	09-01-121	2	Greaser -straight
3	71-35-291	1	Gland housing
4	86-29-148	1	Gland seal
5	04-16-240	1	Internal circlip
6	86-00-302	1	'O' ring
7	86-09-302	1	Anti extrusion ring
8	86-29-149	1	Piston rod wiper seal
9	71-36-104	1	Piston rod
10	93-63-023	1	Grubscrew - socket headed
11	71-35-008	1	Piston
12	86-38-788	1	Piston seal
13	71-05-050	1	Bush
14	85-81-169	2	Union
15	86-50-102	2	Bonded seal
	86-99-188		SEAL KIT



Ref.	Part no.	Qty.	Description.
	75 50 288		BREAKAWAY RAM (2050M only)
1	72 12 272	1	Ram cylinder
2	72 14 004	1	Piston rod
3	86 00 119	1	O ring
4	71 01 165	1	Piston
5	86 36 131	1	Piston seal
6	93 00 110	1	Grub screw
7	71 01 099	1	Gland seal housing
8	86 22 127	1	Gland seal
9	86 00 304	1	O ring
10	86 09 304	1	Anti extrusion ring
11	71 01 100	1	Gland nut
12	86 40 328	1	Piston rod wiper
13	71 05 050	1	Bush
14	09 01 121	2	Greaser
15	85 81 115	2	Union
16	86 50 103	2	Bonded seal
	86 99 102		RAM SEAL KIT



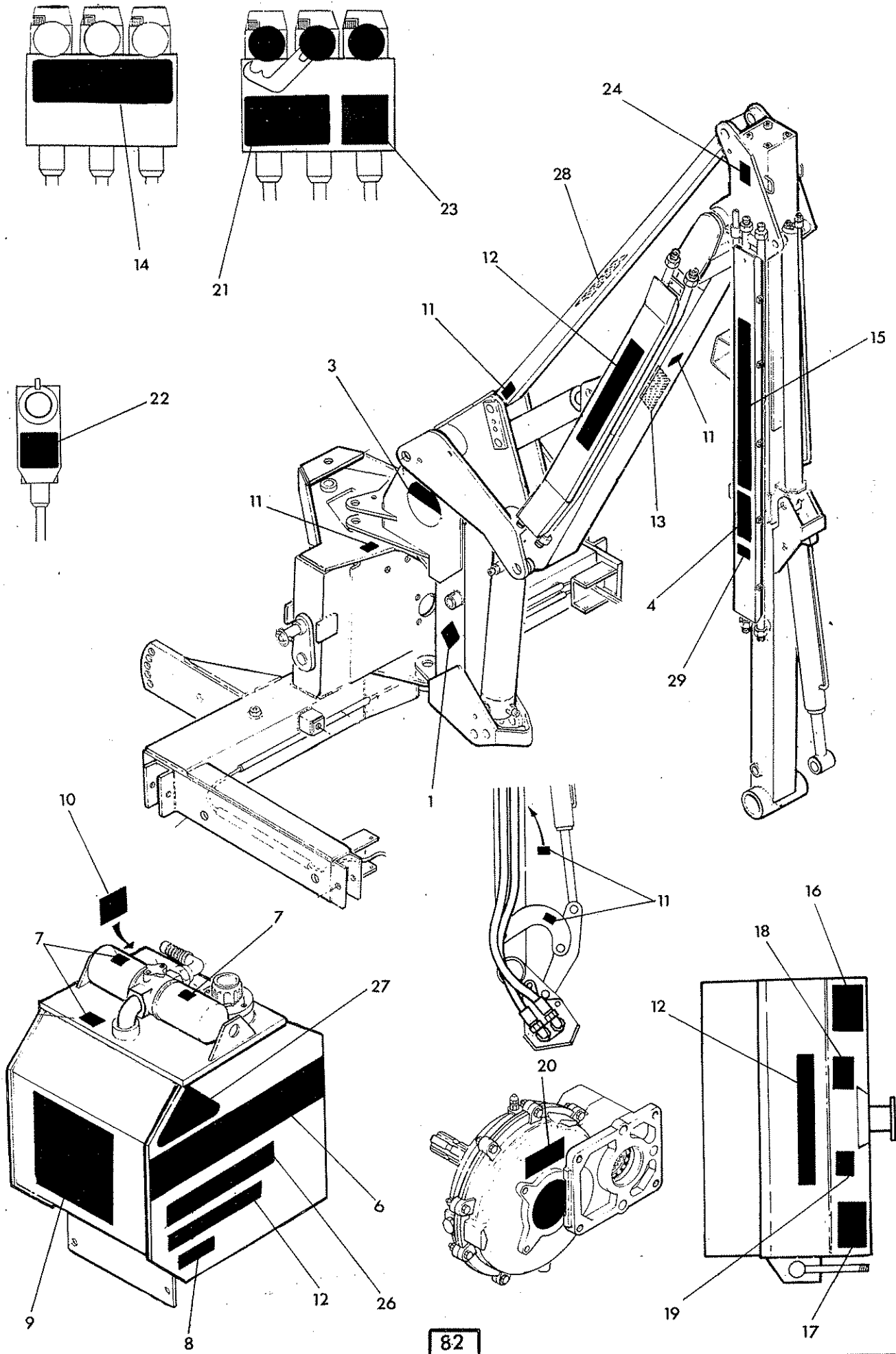
McCOMEL





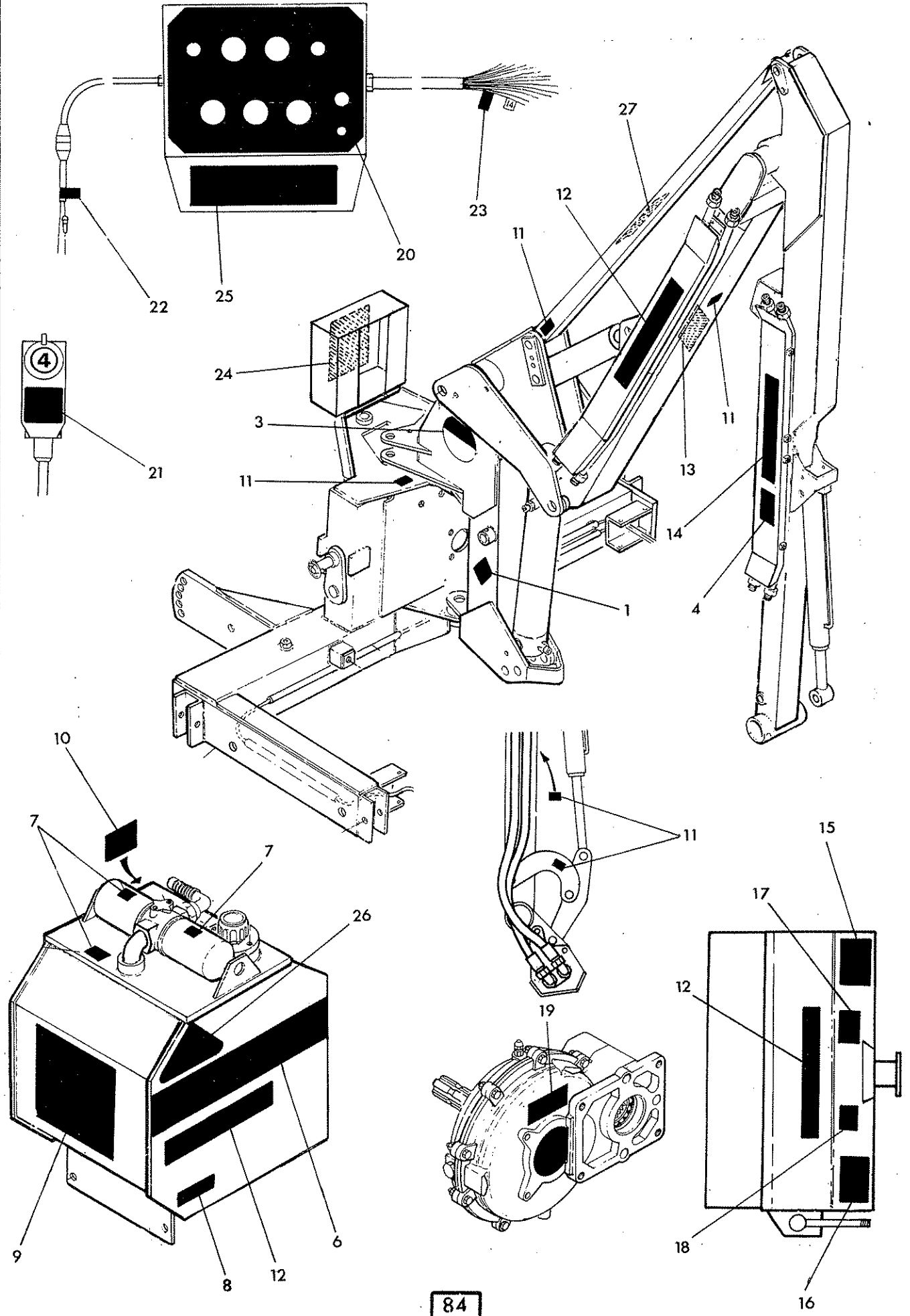
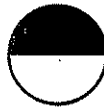
McCONNEL

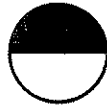
Ref.	Part No.	Qty.	Description
			STICKERS - PA2050 STD ARM - CABLE MACHINE
1	71 05 130	1	Read book first
2	60 55 002	1	Sling here symbol - not illus - on packing strap
3	12 90 296	1	Logo roundel
4	12 90 397	1	2050
5	12 90 352	1	Gen. warning - despatched loose - not illus. - in cab
6	12 90 395	1	PA2050
7	12 90 023	3	Oil filter instructions
8	12 90 376	1	Enduro tank
9	12 90 391	1	General warning
10	0075 6494	1	Fitting P.T.O. shaft
11	0096 2764	8	Pinch point
12	12 90 255	3	McConnel
13	12 90 403	1	Breakaway return warning
14	12 90 368	1	Lever controls - Lift, reach & angle
15	12 90 295	1	Power Arm
16	12 90 377	1	Flail head instructions
17	12 90 341	1	Flail head gaurding
18	0075 6485	1	Rotating blade warning
19	12 90 392	1	Use McConnel spares
20	12 90 054	1	Gearbox oil capacity
21	12 90 357	1	Lever controls -Slew/Auto Reset
22	12 90 338	1	R.C. valve controls
23	84 02 135	1	Slew warning - despatched loose - not illus - in cab
24	12 90 346	1	Warning triangle
25	12 90 406	1	Transport warning



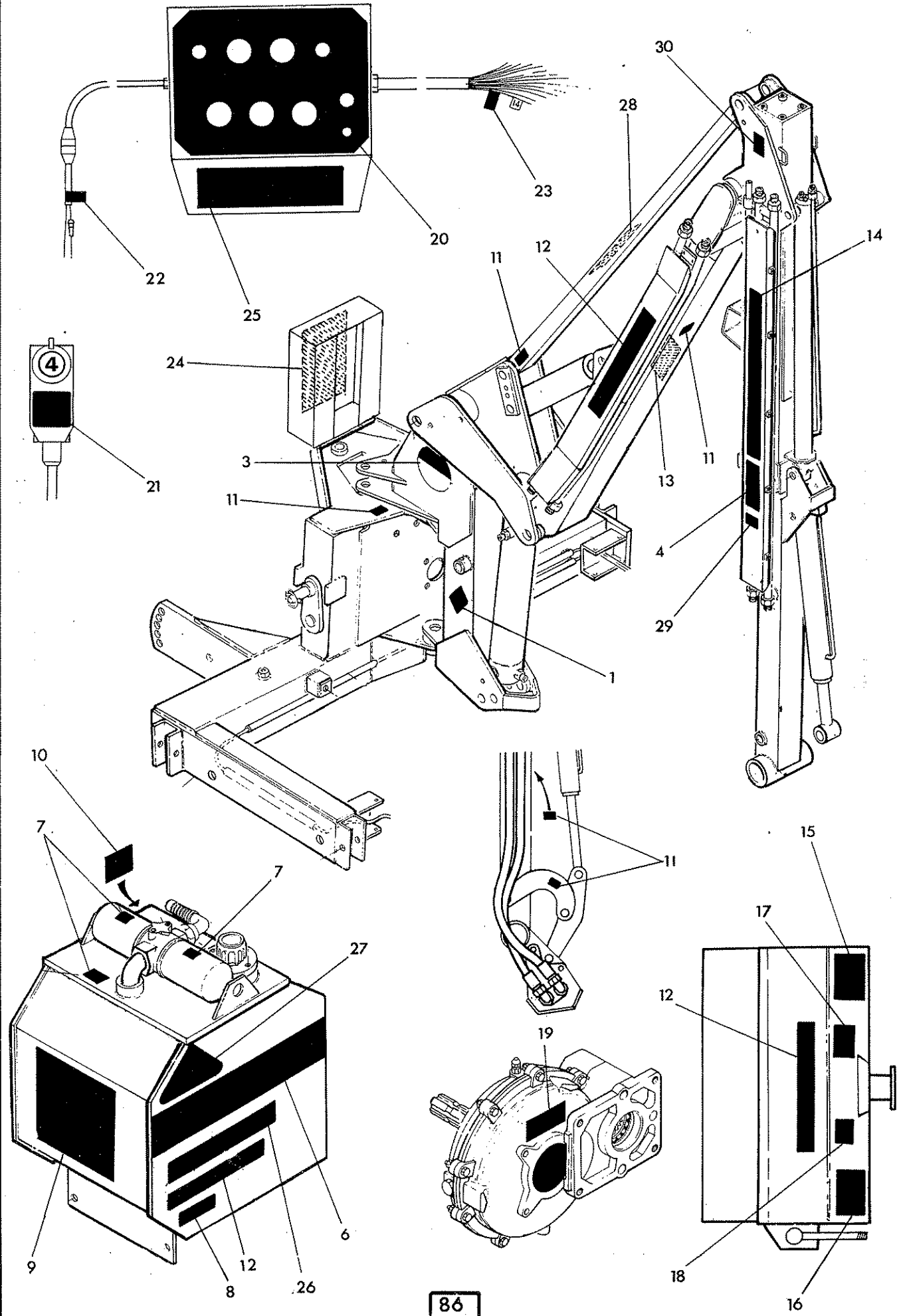


Ref.	Part No.	Qty.	Description
STICKERS - PA2050 TELESCOPIC CABLE MACHINE			
1	71 05 130	1	Read book first
2	60 55 002	1	Sling here symbol -not illus -on packing strap
3	12 90 296	1	Logo roundel
4	12 90 397	1	2050
5	12 90 352	1	Gen. warning - despatched loose - not illus - in cab
6	12 90 395	1	PA2050
7	12 90 023	3	Oil filter instructions
8	12 90 376	1	Enduro tank
9	12 90 391	1	General warning
10	0075 6494	1	Fitting P.T.O. shaft
11	0096 2764	8	Pinch point
12	12 90 255	2	McConnel
13	12 90 403	1	Breakaway return warning
14	12 90 368	1	Lever controls - lift, reach and angle
15	12 90 295	1	Power Arm
16	12 90 377	1	Flail head instructions
17	12 90 341	1	Flail head gaurding
18	0075 6485	1	Rotating blade warning
19	12 90 392	1	Use McConnel spares
20	12 90 054	1	Gearbox oil capacity
21	12 90 357	1	Lever controls - slew/auto reset
22	12 90 338	1	R.C. valve controls
23	12 90 060	1	Lever controls - tele
24	12 90 005	1	Grease socket
25	84 02 135	1	Slew warning - despatched loose - not illus - in cab
26	12 90 396	1	Telescopic
27	12 90 346	1	Warning triangle
28	12 90 406	1	Transport warning
29	12 90 057	1	T



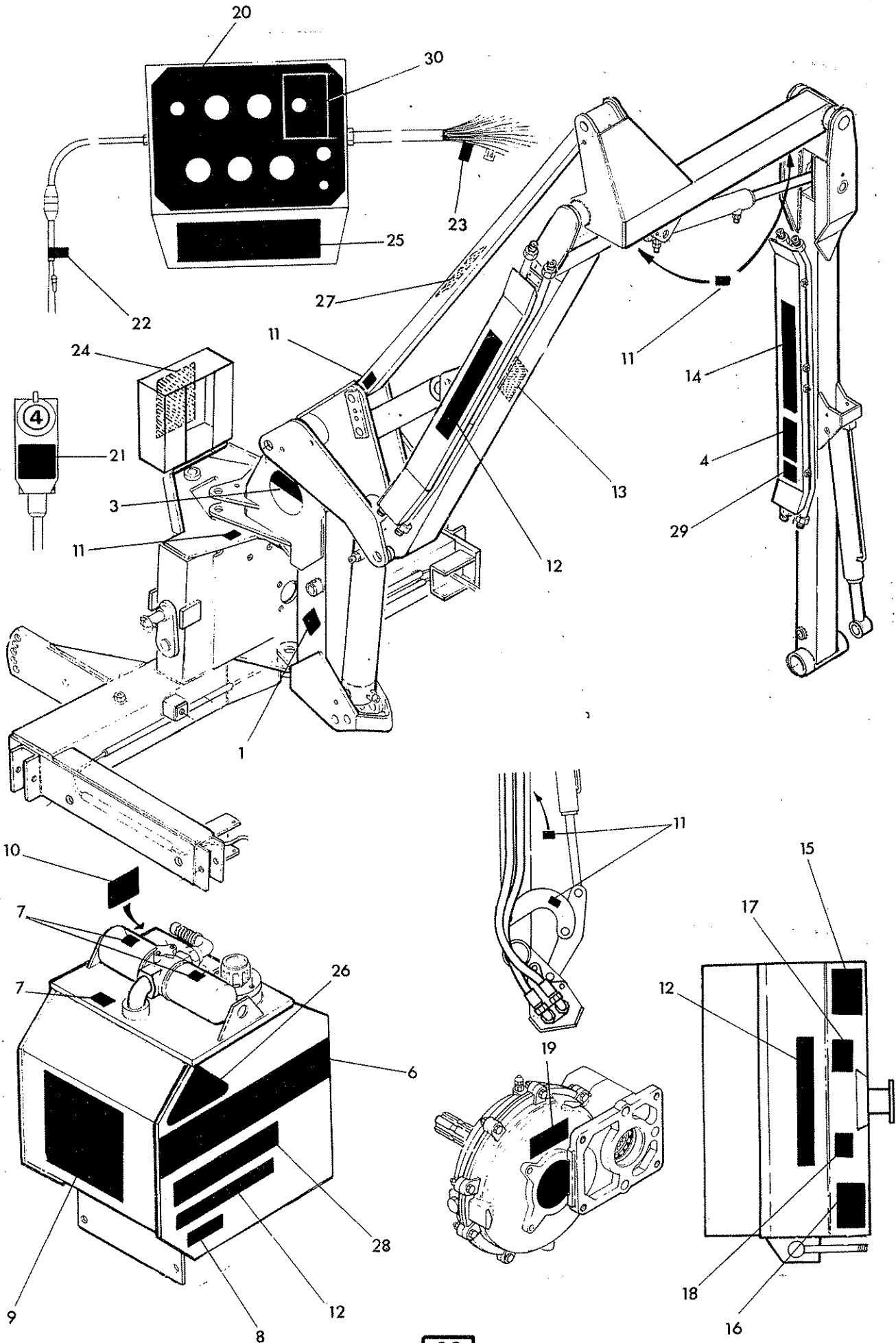
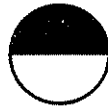


Ref.	Part No.	Qty.	Description
			STICKERS - PA2050 STD ARM - ELECTRIC MACHINE
1	71 05 130	1	Read book first
2	60 55 002	1	Sling here symbol - not illus -on packing strap
3	12 90 296	1	Logo roundel
4	12 90 397	1	2050
5	12 90 352	1	Gen. warning - despatched loose - not illus - in cab
6	12 90 395	1	PA2050
7	12 90 023	3	Oil filter instructions
8	12 90 376	1	Enduro tank
9	12 90 391	1	General warning
10	0075 6494	1	Fitting P.T.O. shaft
11	0096 2764	8	Pinch point
12	12 90 255	3	McConnel
13	12 90 403	1	Breakaway return warning
14	12 90 295	1	Power Arm
15	12 90 377	1	Flail head instructions
16	12 90 341	1	Flail head gaurding
17	0075 6485	1	Rotating blade warning
18	12 90 392	1	Use McConnel spares
19	12 90 054	1	Gearbox oil capacity
20	12 90 351	1	Switch box controls
21	12 90 338	1	R.C. valve controls
22	84 02 105	1	Polarity label
23	84 02 121	1	Connection warning
24	84 02 136	1	Solenoid connections
25	84 02 135	1	Slew warning
26	12 90 346	1	Warning triangle
27	12 90 406	1	Transport warning



**McCONNEL**

Ref.	Part No.	Qty.	Description
			STICKERS - PA2050 TELESCOPIC ELECTRIC MACHINE
1	71 05 130	1	Read book first
2	60 55 002	1	Sling here symbol -not illus -on packing strap
3	12 90 296	1	Logo roundel
4	12 90 397	1	2050
5	12 90 352	1	Gen. warning - despatched loose - not illus - in cab
6	12 90 395	1	PA2050
7	12 90 023	3	Oil filter instructions
8	12 90 376	1	Enduro tank
9	12 90 391	1	General warning
10	0075 6494	1	Fitting P.T.O. shaft
11	0096 2764	8	Pinch point
12	12 90 255	2	McConnel
13	12 90 403	1	Breakaway return warning
14	12 90 295	1	Power Arm
15	12 90 377	1	Flail head instructions
16	12 90 341	1	Flail head gaurding
17	0075 6485	1	Rotating blade warning
18	12 90 392	1	Use McConnel spares
19	12 90 054	1	Gearbox oil capacity
20	12 90 351	1	Switch box controls
21	12 90 338	1	R.C. valve controls
22	84 02 105	1	Polarity label
23	84 02 121	1	Connection warning
24	84 02 136	1	Solenoid connections
25	84 02 135	1	Slew warning
26	12 90 396	1	Telescopic
27	12 90 346	1	Warning triangle
28	12 90 406	1	Transport warning
29	12 90 057	1	T
30	12 90 005	1	Grease socket



**McCONNEL**

Ref.	Part No.	Qty.	Description
STICKERS - PA2050 MIDCUT ARM - ELECTRIC MACHINE			
1	71 05 130	1	Read book first
2	60 55 002	1	Sling here symbol - not illus -on packing strap
3	12 90 296	1	Logo roundel
4	12 90 397	1	2050
5	12 90 352	1	Gen. warning - despatched loose not illus - in cab
6	12 90 395	1	PA2050
7	12 90 023	3	Oil filter instructions
8	12 90 376	1	Enduro tank
9	12 90 391	1	General warning
10	0075 6494	1	Fitting P.T.O. shaft
11	0096 2764	8	Pinch point
12	12 90 255	3	McConnel
13	12 90 403	1	Breakaway return warning
14	12 90 295	1	Power Arm
15	12 90 377	1	Flail head instructions
16	12 90 341	1	Flail head gaurding
17	0075 6485	1	Rotating blade warning
18	12 90 392	1	Use McConnel spares
19	12 90 054	1	Gearbox oil capacity
20	12 90 351	1	Switch box controls
21	12 90 338	1	R.C. valve controls
22	84 02 105	1	Polarity label
23	84 02 121	1	Connection warning
24	84 02 136	1	Solenoid connections
25	84 02 135	1	Slew warning
26	12 90 346	1	Warning triangle
27	12 90 406	1	Transport warning
28	12 90 361	1	Midcut
29	12 90 059	1	M
30	12 90 034	1	Park/work overlay



McCORMEL

Peel off sticker and affix to tractor in operators view.

Vignette à coller au poste de conduite de votre tracteur
bein en vue du conducteur.



McCORMEL

VITAL SAFETY RULES

- Read the instruction book first
- Fit safety screens
- If no cab fitted wear helmet and goggles
- Keep all bolts and nuts tight.
- PTO speed 500 R.P.M.
- Always disengage PTO when rotor is OFF
- Grease daily

McCORMEL

IMPORTANTES REGLES DE SECURITE

- Avant la premier mise en route, vous reporter au manue de l'utilisateur
- Mettez en place les grilles de protection
- Si le tracteur n'est pas equipe d'une cabine, portez un casque et des lunettes de securite
- Verifier tous les jours, le bon serrage des boulons et de ecrous
- En position de-transport, debraquez la prise de force
- Ne jamais dépasser 500 T/MN à la prise de force
- Graisseur tous les jours

12 90 406

12 90 352



12 90 395

CAUTION
CHECK ARM/CAB CLEARANCE
WHEN SLEWING.
84 02 135



12 90 346



12 90 296

Telescopic
12 90 396

⚠ DANGER ⚠

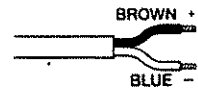
FAILING TO FOLLOW SAFETY MESSAGES AND OPERATING INSTRUCTIONS CAN CAUSE SERIOUS INJURY OR DEATH TO OPERATOR OR OTHERS IN AREA.

1. Study operator manual and safety decals for tractor and flail mower thoughtfully to prevent misuse, abuse and accidents. Practice before operating.
2. Operate only with safety cab or roll bars to prevent injury and possible crushing death from overturn. Allow no riders on machine. Falling oil can cause serious injury or death by being run over by the tractor or by being cut by the mower. Allow no bystanders, especially children, near the tractor/mower.
3. Operator and assistants must wear a hard hat, safety glasses and shoes to prevent injury from falling or thrown objects.
4. Before transport, engage all transport devices. See operator manual.
5. Block up or support machine securely before placing any part of the body beneath the machine to prevent crushing, injury or death from sudden dropping. Make certain area is clear before lowering.
6. Make certain lights, reflectors, and in U.S.A., the SMV sign is clearly visible. Follow highway regulations. Slow down at night, in turns and on hillsides.
7. Before dismounting, secure flail mower in transport position or lower to ground. Stop P.T.O., put tractor in park or set hand brake, stop engine and remove the key. Never mount or dismount a moving vehicle to prevent possible injury or death.
8. Each rear wheel must have a minimum of 1000lbs contact with ground to prevent lateral instability and possible tip over and bodily injury. Widen wheel track and add weights if needed. Contact manufacturer for counterweight procedure.
9. Rear mounted flail mowers move centre of gravity to rear and remove weight from front wheels. Add front ballast until at least 20% of the tractor's weight is on front wheels to prevent rearing up, loss of steering control and possible injury.
10. Never operate unit without an operator guard to prevent injury from falling or thrown objects. Keep bystanders at a safe distance. Stop cutting if they enter the danger area.
11. Never operate the machine without the correct flail head guards in position. Ensure they are in good condition.
12. Beware overhead obstructions. Keep at least five feet away from power lines to prevent accidental contact or electronic flashover and possible serious injury and death.
13. Transport carefully! Slow down even more on slopes and when turning. Never turn up a slope sharply or at high speed and use extra care in rough or bumpy areas to prevent overturn and possible crushing injury or death. If your view to the rear is blocked it is your responsibility to install mirrors that provide a rear view to prevent accidents from blind spots.

0.5L SAE 30\50

12 90 054

CAUTION
CONNECT BROWN TO +
CONNECT BLUE TO -
INCORRECT CONNECTION
MAY DAMAGE CONTROL UNIT



84 02 105

⚠ DANGER ⚠

1. MAKE CERTAIN DRIVELINE ARE OF THE CORRECT LENGTH AND SECURELY ATTACHED. DRIVELINE SEPARATION AND/OR PTO SHAFT FAILURE CAN CAUSE INJURY OR DEATH (See Operator's Manual for procedure)
2. MAKE CERTAIN THAT DRIVELINE SHIELDS ARE INSTALLED CORRECTLY AND TURN FREELY TO PREVENT INJURY OR DEATH FROM ENTANGLEMENT
3. IF DRIVELINE SHIELDS HAVE TETHER CHAINS ATTACH TETHER CHAINS SECURELY TO MOWER AND TRACTOR TO PREVENT SHIELD ROTATION BELL AND OR SHIELD FAILURE AND SERIOUS INJURY OR DEATH
4. 540 PTO RPM UNLESS SPECIFICALLY MARKED OTHERWISE

0075 6494

NOTE
CONNECT ONLY WHEN
AUXILIARY FUNCTION
IS FITTED. EG. HEAD
ANGLE FLOAT KIT (SEE
INSTRUCTION BOOK)

NOTE
CONNECT ONLY WHEN
AUXILIARY FUNCTION
IS FITTED. EG. HEAD
ANGLE FLOAT KIT (SEE
INSTRUCTION BOOK)

84 02 121

**GUARDING REQUIREMENTS
EQUIPMENTS DE SECURITE**

<p>GROUND CUTTING COUPE DE SOL</p> <p>Always cut upwards. Roller set below flails. Skids recommended.</p> <p>Toujours couper en ascension. Rouleau réglé sous les fléaux. Pneus recommandés.</p>	<p>HEDGE CUTTING TAILLE DE HAIES</p> <p>With flails cutting upwards. Roller set above flails.</p> <p>Les fléaux travaillent en ascension. Rouleau réglé au dessus des fléaux.</p>	<p>HEDGE CUTTING TAILLE DE HAIES</p> <p>With flails cutting downwards. Roller set above flails.</p> <p>Les fléaux travaillent en-attaque. Rouleau réglé au dessus des fléaux.</p>
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12 90 341

⚠ DANGER ⚠



KEEP AWAY - ROTATING BLADES

SERIOUS INJURY OR DEATH CAN RESULT FROM THROWN OBJECTS OR BLADE CONTACT.

- * STOP MOWING IF PERSONS ARE NOT CLEAR OF THROWN OBJECTS
- * DO NOT STAND ON OR NEAR MACHINE WHEN IN OPERATION
- * DO NOT OPERATE WITH DEFLECTORS OR GUARDS REMOVED

0075 6485

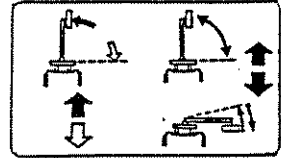


McCormel

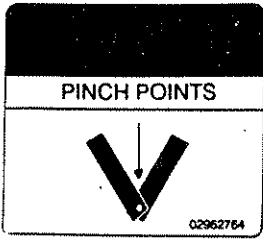
McCormel
12 90 255

**EVERY 200 HOURS
REMOVE END COVER
AND RE-GREASE
INSIDE OF SOCKET.**

12 90 005



12 90 357



PINCH POINTS

0096 2764

MID-CUT
12 90 361

M
12 90 059

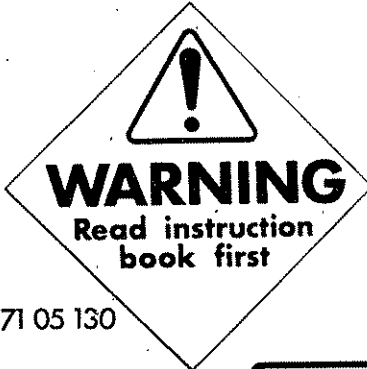
C055 002

Power Arm
12 90 295

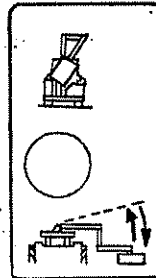
Enduro Tank
12 90 376



12 90 060



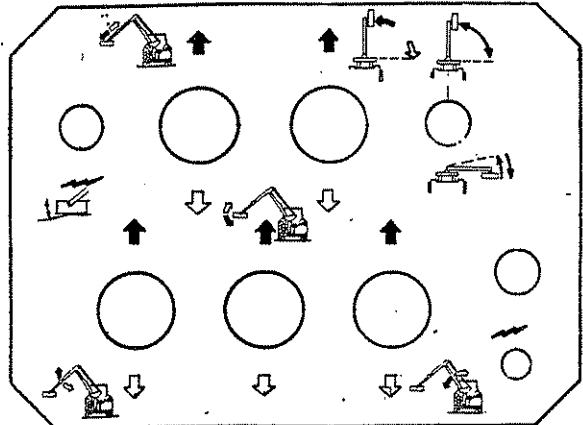
71 05 130



2050
12 90 397

12 90 034

T
12 90 057



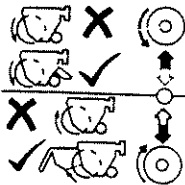
12 90 351

IMPORTANT

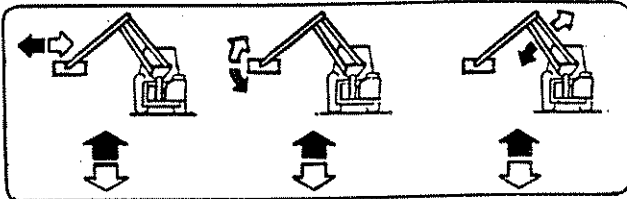
We recommend that Element is replaced after first 50 hours service and every 500 hours service thereafter. Apply Oil film to gasket when replacing element.

Nous recommandons de remplacer la cartouche une première fois après 50 heures de service puis ensuite toutes les 500 heures. Enduire le joint d'une pellicule d'huile lorsqu'on change la cartouche.

12 90 023



12 90 338

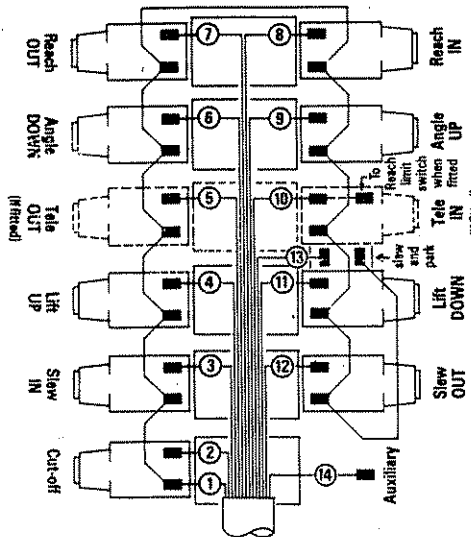


12 90 368

▲ DANGER ▲
**BEWARE AUTOMATIC BREAKAWAY
RETURN. KEEP WELL CLEAR OF THE
FRONT OF THE ARM AND HEAD.**

12 90 403

To adjust position of arms or flail head with hydraulic supply on but electrical supply disconnected, push in plunger on end of solenoid required and at the same time depress plunger on cut-off solenoid.



To adjust position of arms or flail head with hydraulic supply on but electrical supply disconnected, push in plunger on end of solenoid required and at the same time depress plunger on cut-off solenoid.

84.02 136

ATTENTION

Recommended P.T.O.
speed 500 r.p.m.

Vitesse recommandée
500 T min a la
prise de force.

DANGER
Rotating cutters under here.

DANGER
Rotor ne pas approcher.

KEEP BOLTS TIGHT
Check bolt tightness after 1 hour,
4 hours, 10 hours and thereafter daily.

**MAINTENEZ LES
BOULONS SERRÉS**
Et contrôlez serrage après 1 heure,
4 heures, 10 heures puis chaque jour.

**BEWARE OF FLYING DEBRIS. KEEP PEOPLE AWAY.
ATTENTION AUX PROJECTIONS. SE TENIR A L'ECART.**

12 90 377

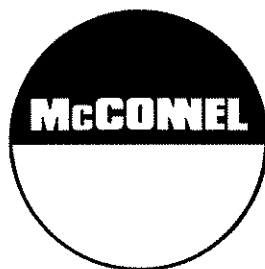


FLAIL PARTS INFORMATION

McCormel Flail Mowers use dynamically balanced and mated system components for Cutter Shafts (Rotors), Knives (Flails), Knife Hangers (Shackles), Bolts, Bushes, Rollers, Drivetrain Components, Bearings Belts and Belt Pulleys. McCormel parts are made and tested to meet close-tolerance specifications of balance, quality and consistency that assure long, trouble-free service. "Will-Fit" parts do not ordinarily meet McCormel Standards and could reduce Mower performance, void warranties, and present an increase in the safety hazard-potential.

DON'T GAMBLE!
USE GENUINE MCCORMEL SERVICE PARTS
See your McCormel dealer

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McConnel Limited, Temeside Works, Ludlow, Shropshire SY8 1JL. England.
Telephone: 01584 873131. Facsimile: 01584 876463. www.mcconnel.com