

116SUP3101



BD80 BULLDOZER

SUPPLEMENTARY PARTS CATALOGUE

**BEML LIMITED
INDIA**

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FOREWORD

IN THE PARTS CATALOGUE FEW CODIFICATIONS HAVE BEEN INTRODUCED FOR THE BETTER UNDERSTANDING AND USE, SPECIALLY WITH REGARDS TO THE SERVICEABILITY AND REPLACEMENT OF PARTS:

NAME OF PART : Part name with prefixes, (.), (..), (...) and so on indicate level of assembly.

QTY : 'Qty' indicates the quantity of a part required per equipment. In case of a component part of an assembly, however it indicates the quantity of the part required per assembly.

***** : Part is not supplied as an independent part, but the assembly containing the part is.

: Item is shown to furnish further details and the same is for reference only. Hence the 'QTY' should not be recond.

\$: Item is shown for shipping purpose only. These items are to be removed while assembling.

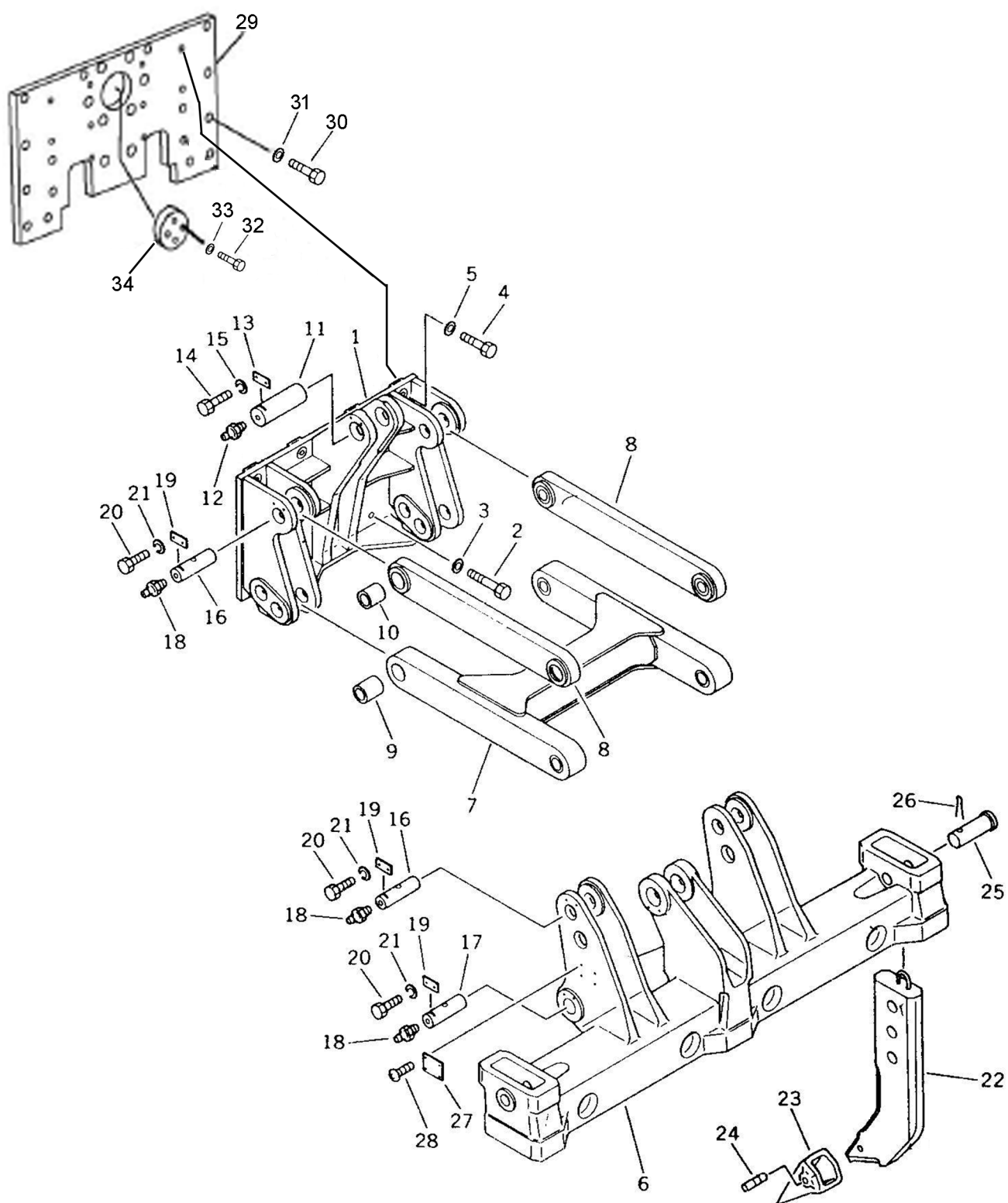
R : Items marked thus are required only when ripper is fitted.

Note : 1) Refer this catalogue in conjunction with catalogue to part number 116PAR3109.

2) Discard Figure numbers 6015, 6065, 6075, 6115, 6126 and 6135 from catalogue part number 116PAR3109.

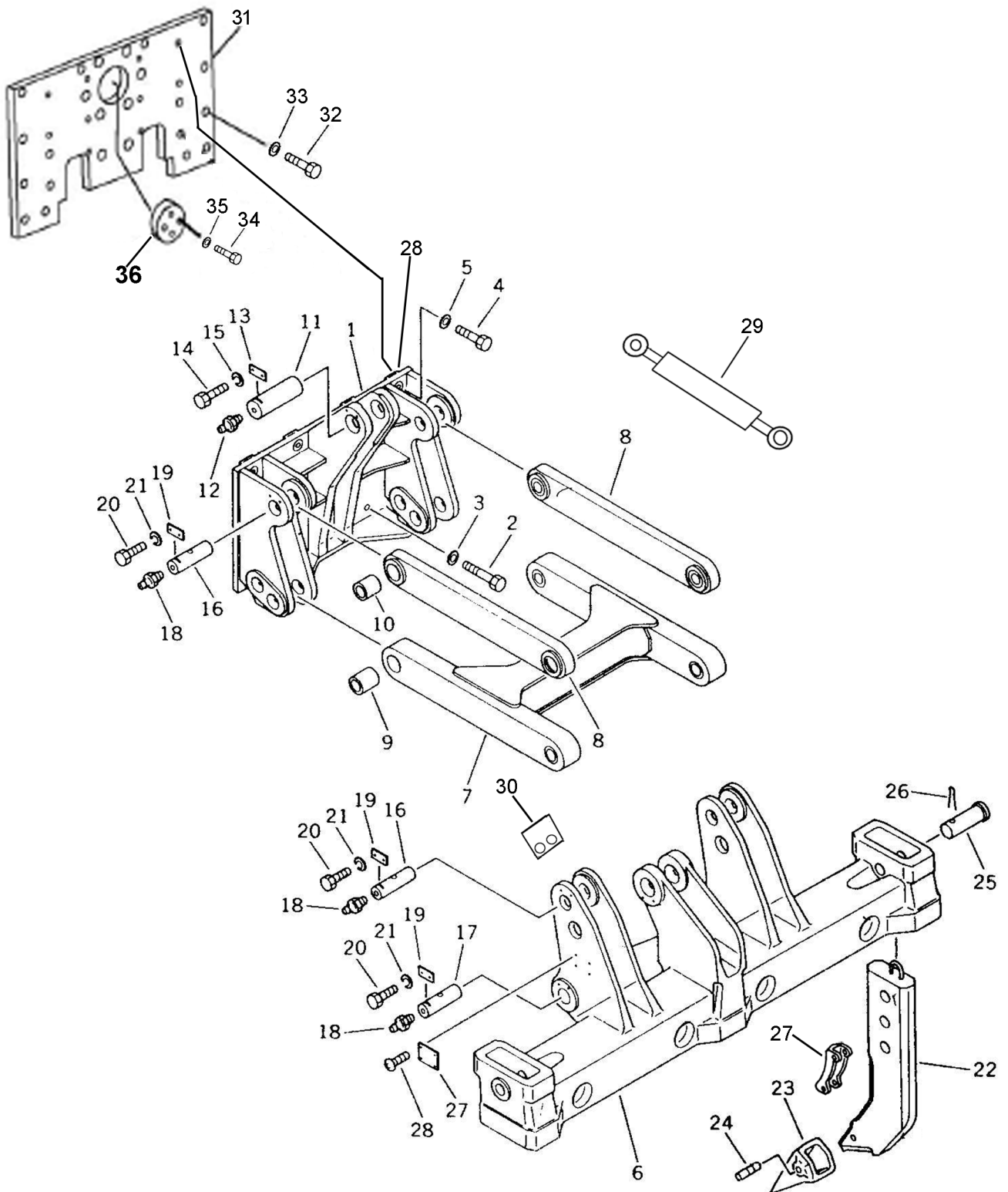
\$\$@@\$\$

FIG 9030 RIPPER FRAME (INDIGENIZED)



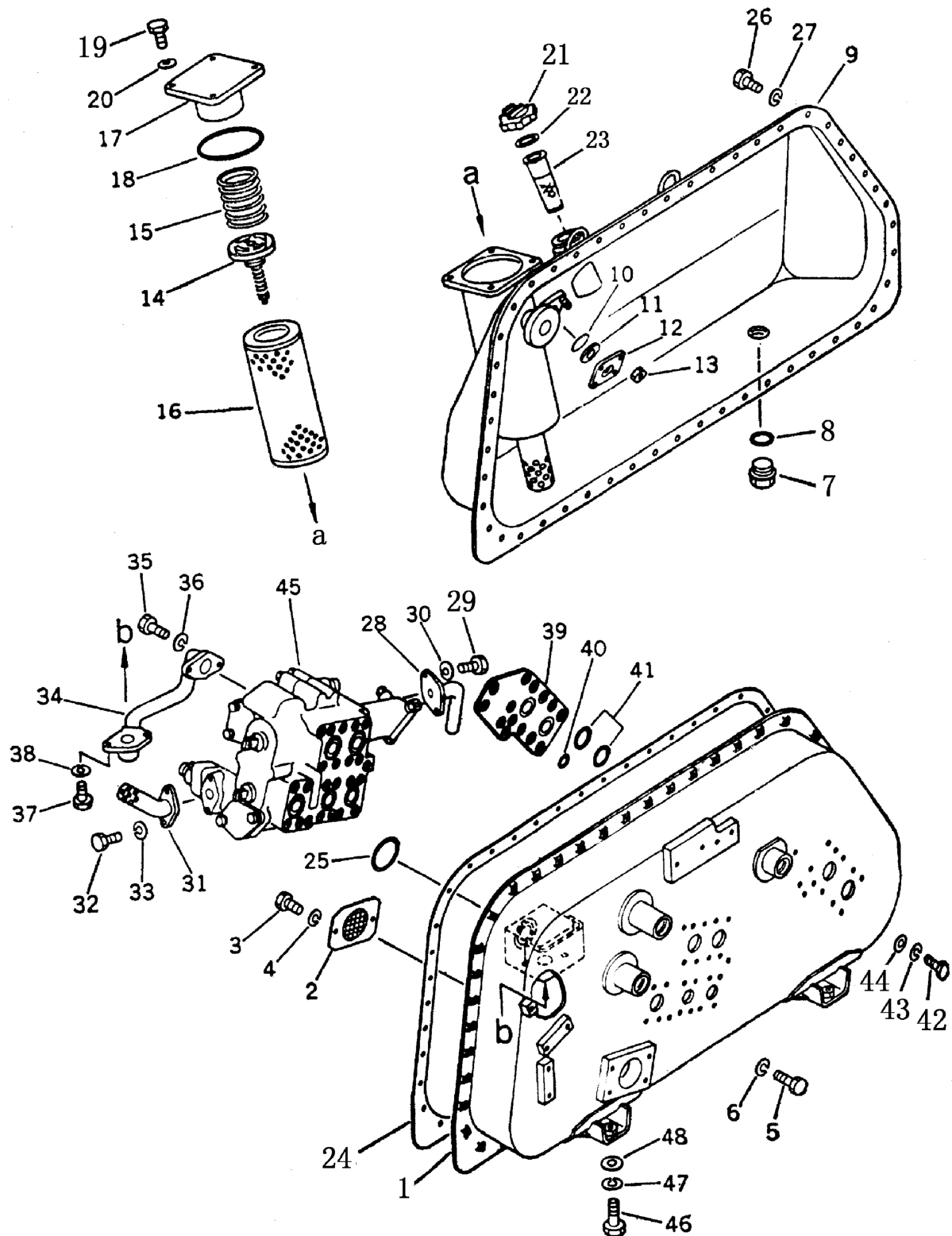
ITEM	PART NUMBER	NAME OF PART	QTY	REMARKS
1	113 RI 02006	SUPPORT	1	
2	CFB01 23390	BOLT	6	
3	CFN05 33080	WASHER, PLAIN	6	
4	CFS01 32480	BOLT	10	
5	CFW05 24060	WASHER, PLAIN	10	
6	113 RI 02047	BEAM	1	
7	113 RI 02022	LINK	1	
8	113 RI 02014	LINK	2	
9	113 RI 11516	BUSHING	4	
10	113 RI 11508	BUSHING	4	
11	113 RI 11557	PIN	2	
12	CLN01 10000	FITTING GREASE	2	
13	CLP03 00514	PLATE, LOCK	2	
14	CFB07 21435	BOLT	4	
15	CFW01 11442	WASHER SPRING	4	
16	113 RI 11549	PIN	4	
17	113 RI 11532	PIN	4	
18	CLN01 10000	FITTING GREASE	8	
19	CLP03 00212	PLATE, LOCK	8	
20	CFS01 31225	BOLT	16	
21	CFW01 11236	WASHER SPRING	16	
	113 RI 00102	SHANK AND POINT ASSY	3	
22	113 RI 02039	. SHANK	1	
	113 RI 00119	. POINT ASSY	1	
23	113 RI 31564	.. POINT	1	
24	CFP15 02508	.. PIN	1	
25	113 RI 11524	PIN	3	
26	CFP01 00063	PIN, COTTER	3	
27	CDP04 00835	PLATE, NAME	1	
28	CFS33 03060	SCREW, TAPPING	4	
29	757 RI 11063	ADAPTOR PLATE	1	
30	CFB07 23385	BOLT	12	
31	CFW01 13382	WASHE SPRING	12	
32	CFS01 21030	SCREW	4	
33	CFW01 11030	WASHER SPRING	4	
34	757 RI 11103	COVER PLATE	1	

FIG 9040 RIPPER FRAME (IMPORTED)



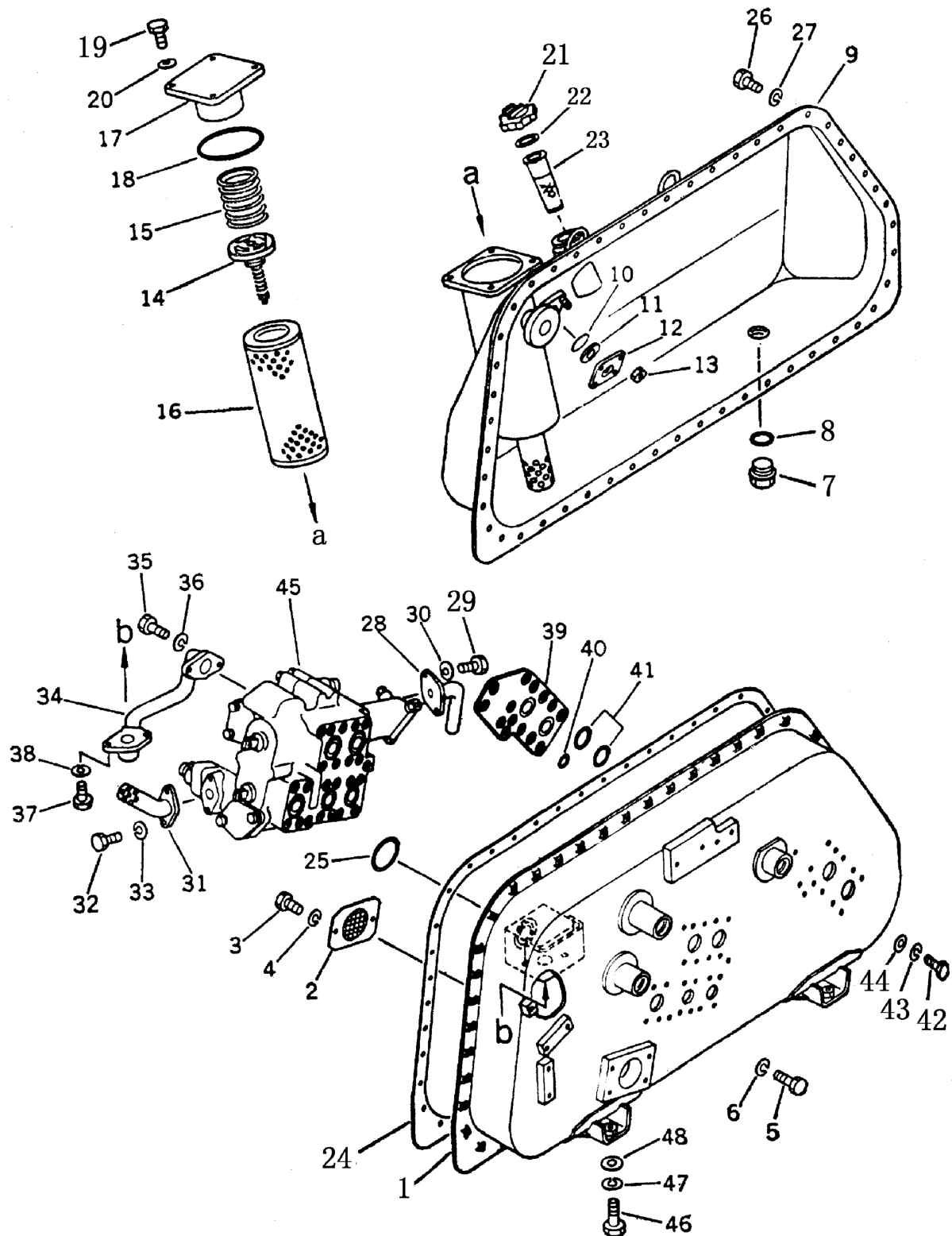
ITEM	PART NUMBER	NAME OF PART	QTY	REMARKS
	118 RI 91106	RIPPER FRAME ASSY	1	
1	118 RI 91082	.STEADIER WELD	1	
2	CFB31 53390	.BOLT	6	
3	CFN05 33080	.WASHER, PLAIN	6	
4	CFB01 22480	.BOLT	10	
5	CFW05 24060	.WASHER, PLAIN	10	
6	118 RI 91099	.BEAM	1	
7	118 RI 91114	.LINK ROD, LOWER	1	
8	118 RI 91122	.LINK ROD, UPPER	2	
9	118 RI 91139	.BUSHING	4	
10	118 RI 91147	.BUSHING	4	
11	118 RI 91155	.PIN, SHAFT	2	
12	CLN03 01018	.FITTING, GREASE	2	
13	CLP03 00514	.BAFFLE	1	
14	CFB07 21430	.BOLT	4	
15	CFW01 11442	.WASHER SPRING	4	
16	118 RI 91163	.PIN, SHAFT	4	
17	118 RI 91171	.PIN, SHAFT	4	
18	CLN03 01018	.FITTING, GREASE	8	
19	CLP05 00209	.PLATE, STOPPER	8	
20	CFS01 31225	.SCREW	16	
21	CFW01 11236	.WASHER SPRING	16	
22	118 RI 91058	.SHANK POINT	3	
23	118 RI 91066	.TINE POINT	3	
24	CFP15 02508	.BUSHING, PIN	3	
25	118 RI 91188	.PIN	3	
26	118 RI 91228	.PIN, COTTER	3	
27	118 RI 91074	.PLATE, GUARD	3	
28	118 RI 91196	.ASBESTINE GASKET	1	
29	118 RI 91203	.CYLINDER ASSY.	1	
30	118 RI 91211	.PLATE, STOPPER	1	
31	757 RI 11063	.ADAPTOR PLATE	1	
32	CFB07 23385	.BOLT	12	
33	CFW01 13382	.WASHER SPRING	12	
34	CFS01 21030	.SCREW	4	
35	CFW01 11030	.WASHER SPRING	4	
36	757 RI 11103	.COVER PLATE	1	

FIG 9050 HYDRAULIC TANK (1/2) (ANGLE DOZER & RIPPER)



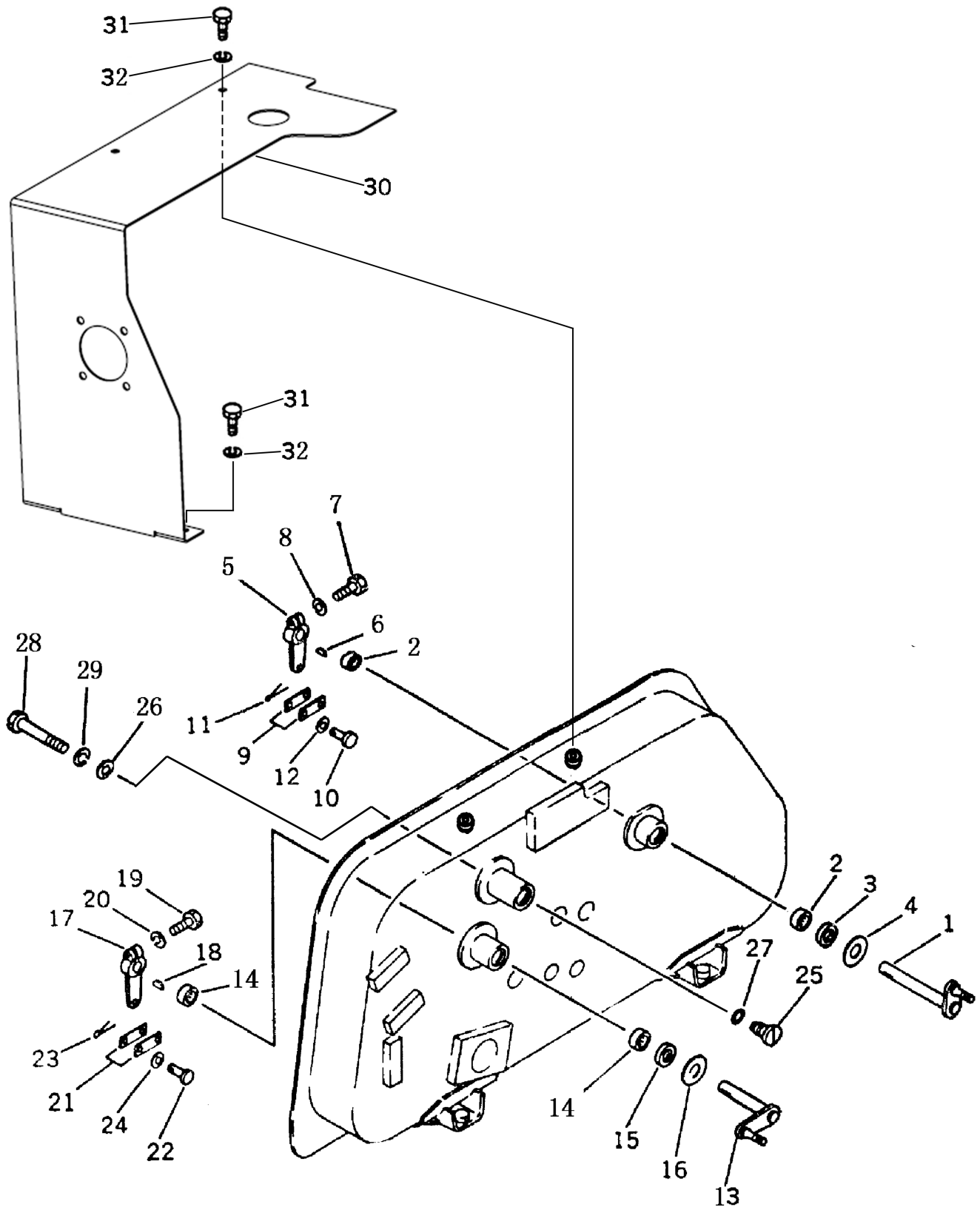
ITEM	PART NUMBER	NAME OF PART	QTY	REMARKS
	113 HS 01027	HYD TANK & VALVE AS	1	
1	113 HS 02056	BODY, TANK	1	
2	113 HS 91765	STRAINER	1	
3	CFS01 31016	SCREW	2	
4	CFW01 11030	WASHER SPRING	2	
5	CFS01 31225	SCREW	3	
6	CFW01 11236	WASHER SPRING	3	
7	CPL03 13620	DRAIN PLUG	1	
8	CHS03 03634	O RING	1	
9	113 HS 02064	OVER TANK	1	
10	CMS06 00651	COVER	1	
11	CMS06 11257	RING	1	
12	CMS06 21074	CASE	1	
13	CFN24 21011	NUT	4	
14	113 HS 03028	VALVE ASSY	1	
	113 HS 11833	. SPACER	1	
	113 HS 11841	. PEDESTAL SPRING	2	
	113 HS 11858	. SPRING	1	
	113 HS 11866	. BOLT	1	
	CFN03 20809	. NUT	1	
	CFP01 02016	. PIN	1	
	113 HS 91879	. SEAL OIL	1	
15	113 HS 11777	SPRING	1	
16	113 HS 91781	ELEMENT	1	
17	113 HS 11793	COVER	1	
18	CHS01 12125	O RING	1	
19	CFB01 21030	BOLT	4	
20	CFW01 11030	WASHER SPRING	4	
21	CCP05 20000	CAP	1	
22	CCP05 00003	GASKET	1	
23	113 HS 91805	STRAINER	1	
24	113 HS 71814	GASKET	1	
25	113 HS 61965	O RING	1	
26	CFB01 21015	BOLT	49	
27	CFW01 11030	WASHER SPRING	49	
28	113 HS 02072	TUBE	1	
29	CFB01 21030	BOLT	2	
30	CFW01 11030	WASHER SPRING	2	
31	113 HS 02089	TUBE	1	
32	CFS01 30825	SCREW	2	
33	CFW01 10825	WASHER SPRING	2	

FIG 9050 HYDRAULIC TANK (1/2) (ANGLE DOZER & RIPPER)



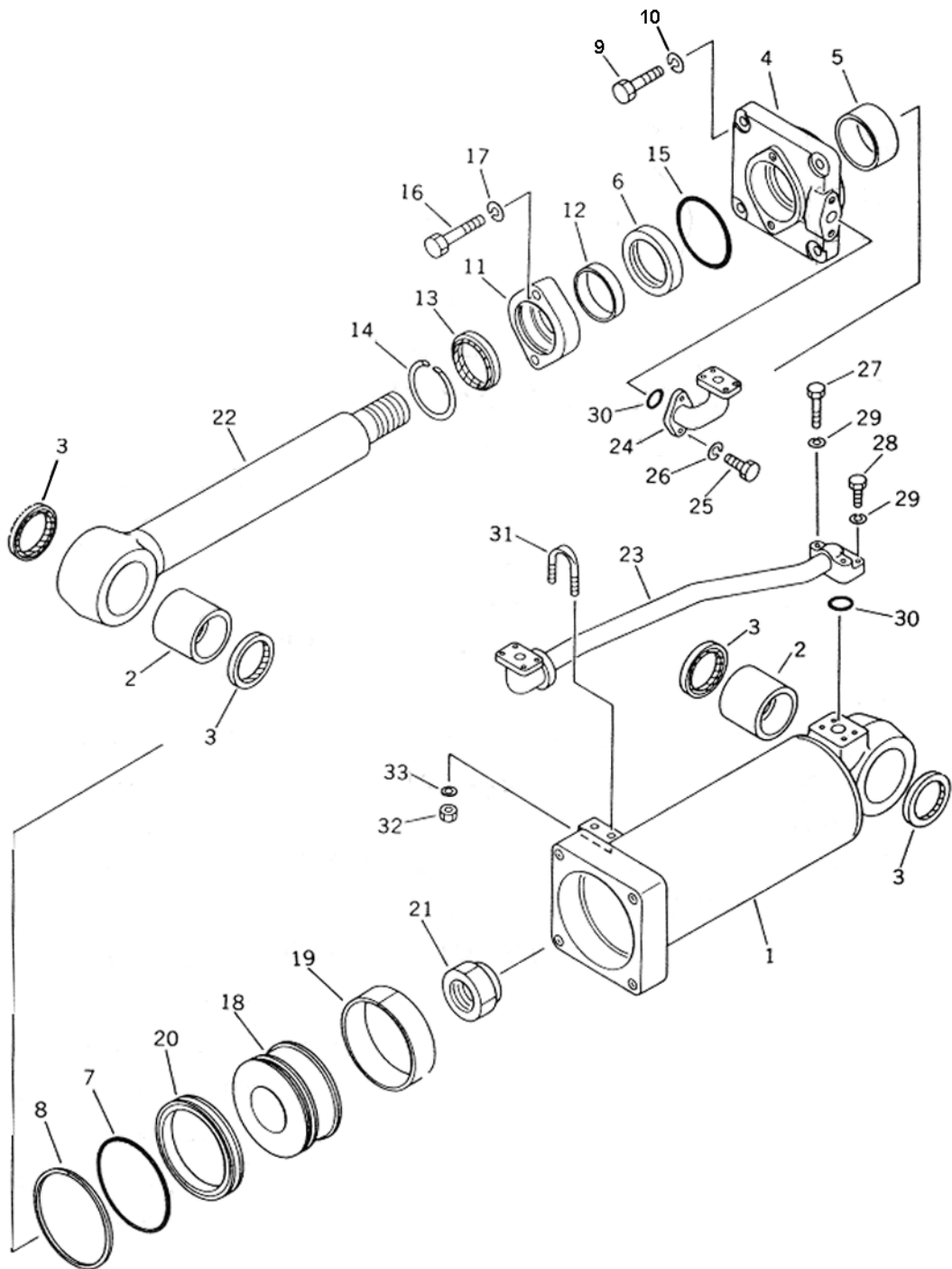
ITEM	PART NUMBER	NAME OF PART	QTY	REMARKS
34	113 HS 02097	TUBE	1	
35	CFB07 21445	BOLT	2	
36	CFW01 11442	WASHER SPRING	2	
37	CFB07 21440	BOLT	2	
38	CFW01 11442	WASHER	2	
39	113 HS 11825	PLATE, COVER	1	
40	CHS01 12015	O RING	14	
41	CHS01 12015	O RING	2	
42	CFS01 31230	BOLT	14	
43	CFW01 11236	WASHER SPRING	14	
44	CFW05 12032	WASHER	14	
45	113 CV 02169	VAVLE ASSY	1	
46	CFB07 21460	BOLT	5	
47	CFW01 11442	WASHER SPRING	5	
48	CFW05 14045	WASHER	5	

FIG 9060 HYDRAULIC TANK (2/2) (ANGLE DOZER & RIPPER)



ITEM	PART NUMBER	NAME OF PART	QTY	REMARKS
	#113 HS 01027	HYD TANK & VALVE ASS	1	
1	113 HS 02104	SHAFT	1	
2	113 HS 91887	BEARING 57941/20	2	
3	113 HS 71896	SEAL OIL	1	
4	113 HS 11906	PLATE	1	
5	113 HS 51912	LEVER	1	
6	CFK02 00519	KEY	1	
7	CFS01 30830	BOLT	1	
8	CFW01 10825	WASHER	1	
9	113 HS 41925	YOKE	2	
10	CFP02 11028	PIN	2	
11	CFP01 03215	PIN COTTER	2	
12	CFW03 11020	WASHER	2	
13	113 HS 02112	SHAFT	1	
14	113 HS 91887	BEARING 57941/20	2	
15	113 HS 71896	SAL OIL	1	
16	113 HS 11906	PLATE	1	
17	113 HS 51937	LEVER	1	
18	CFK02 00519	KEY	1	
19	CFS01 30830	BOLT	1	
20	CFW01 10825	WASHER SPRING	1	
21	113 HS 41925	YOKE	2	
22	CFP02 11028	PIN	2	
23	CFP01 03216	PIN COTTER	2	
24	CFW03 11020	WASHER	2	
25	113 HS 11947	PLUG	1	
26	113 HS 11955	COLLAR	1	
27	CHS01 13020	O RING	1	
28	CFB01 21090	BOLT	1	
29	CFW01 11030	WASHER SPRING	1	

FIG 9070 HYDRAULIC RIPPER CYLINDER(INDIGENIZED)

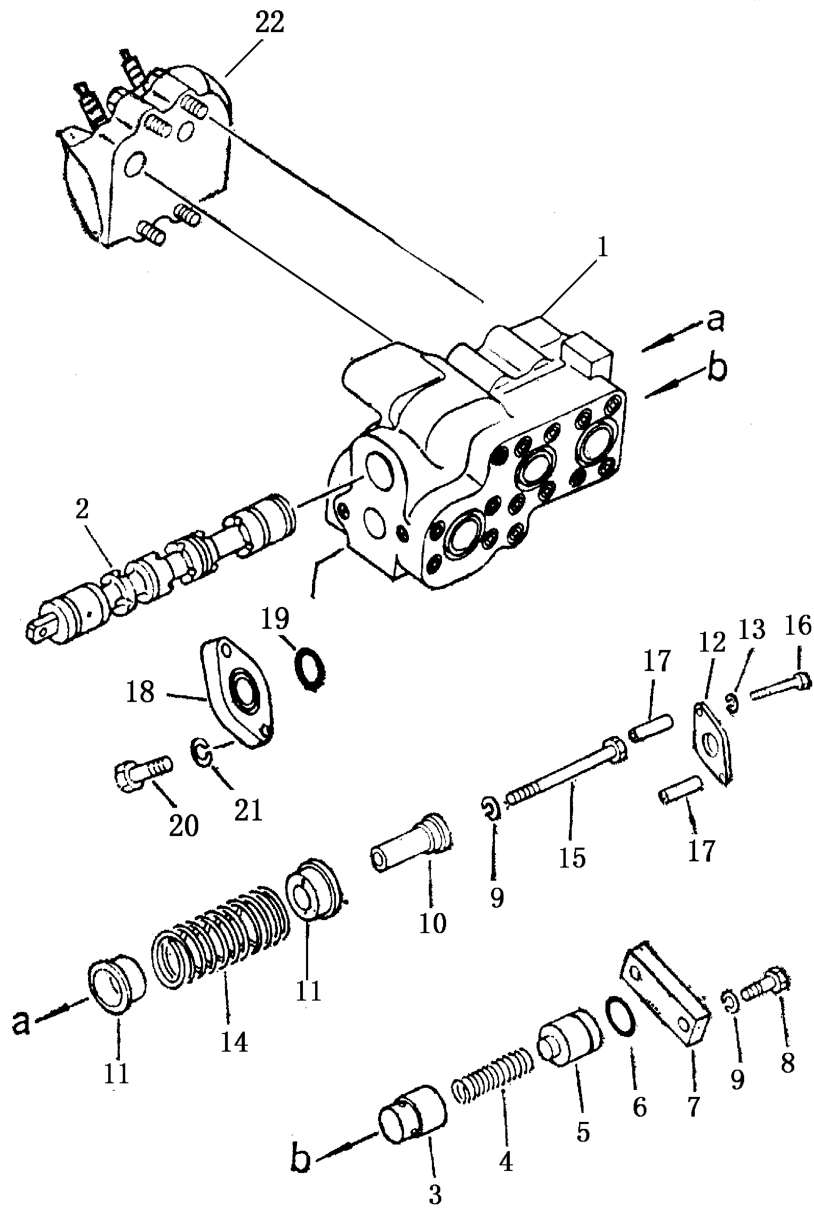


HYDRAULIC RIPPER CYLINDER(INDIGENIZED)

FIG NO.9070

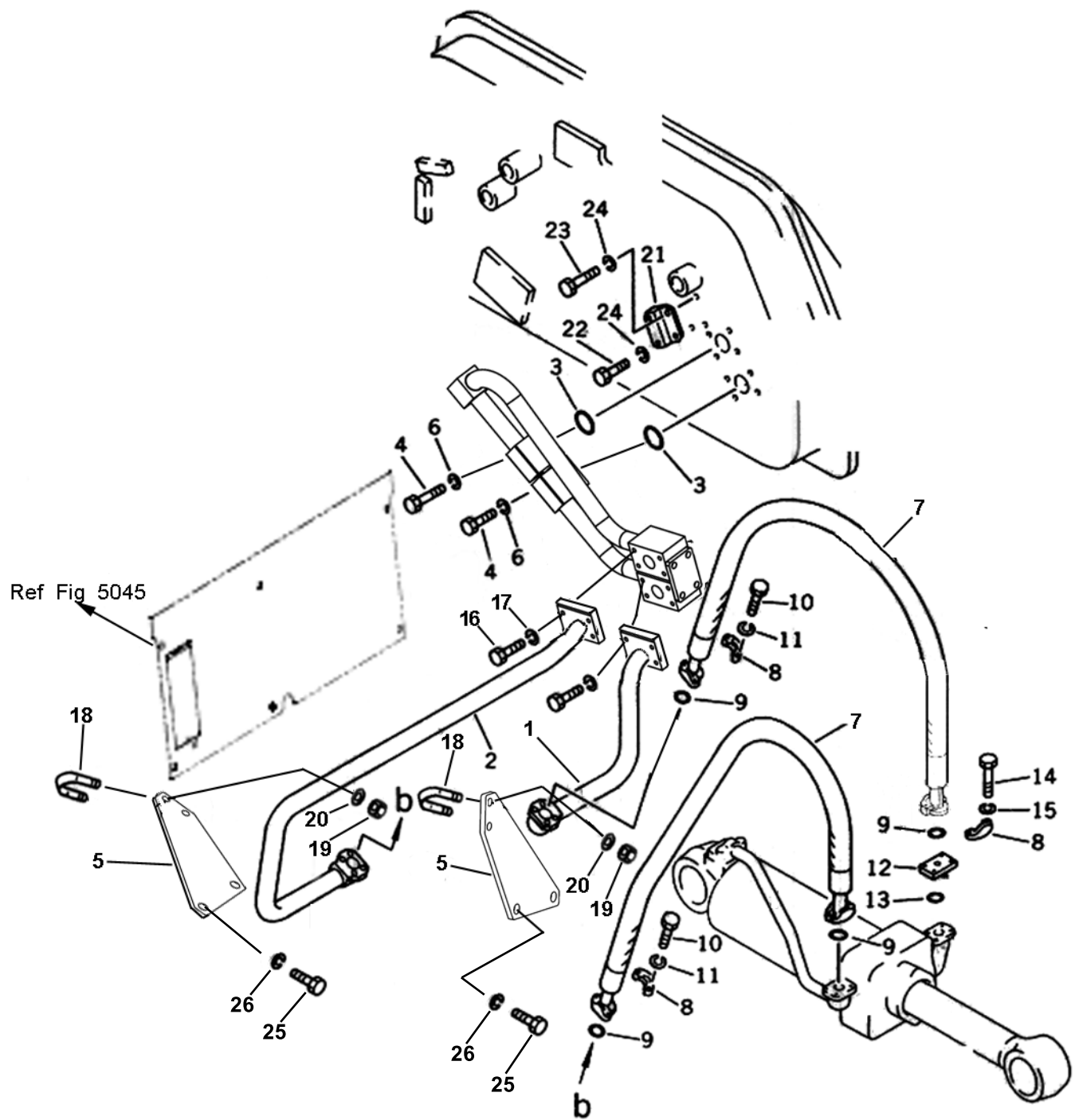
ITEM	PART NUMBER	NAME OF PART	QTY	REMARKS
	113 HC 02045	HYD. CYLINDER ASSY	1	
1	113 HC 03017	.CYLINDER	1	
2	CSB03 10707	.BUSHING	2	
3	CSD01 00075	.SEAL DUST	4	K21
4	113 HC 31416	.HEAD, CYLINDER	1	
5	CSB02 07530	.BUSHING	1	
6	125 HC 61631	.PACKING ROD	1	K21
7	CHS01 15150	.O RING	1	K21
8	CGR02 05152	.RING BACK-UP	1	K21
9	CFB07 22775	.BOLT	4	
10	CFW01 12783	.WASHER SPRING	4	
11	113 HC 11514	.GLAND	1	
12	CSB02 07515	.BUSHING	1	
13	125 HC 61623	.SEAL DUST	1	K21
14	CFL10 00097	.RING SNAP	1	
15	113 HC 61492	.O RING	1	K21
16	CFS01 31650	.SCREW	2	
17	CFW01 11648	.WASHER SPRING	2	
18	113 HC 11336	.PISTON	1	
19	CGR03 01640	.RING, WEAR	1	K21
20	113 HC 91502	.RING, PISTON	1	K21
21	CFN44 15252	.NUT	1	
22	113 HC 03114	.ROD, PISTON	1	
23	113 HC 03122	.TUBE	1	
24	113 HC 31473	.ELBOW	1	
25	CFB07 21435	.BOLT	2	
26	CFW01 11442	.WASHER SPRING	2	
27	CFB01 20850	.BOLT	2	
28	CFB01 20840	.BOLT	2	
29	CFW01 10825	.WASHER SPRING	4	
30	CHS01 13030	.O RING	2	K21
31	CCC07 12738	.CLIP	1	
32	CFN28 11011	.NUT	2	
33	CFW05 10032	.WASHER	2	
	113 HC 00028	SERVICE KIT	1	

FIG 9080 RIPPER CONTROL VALVE



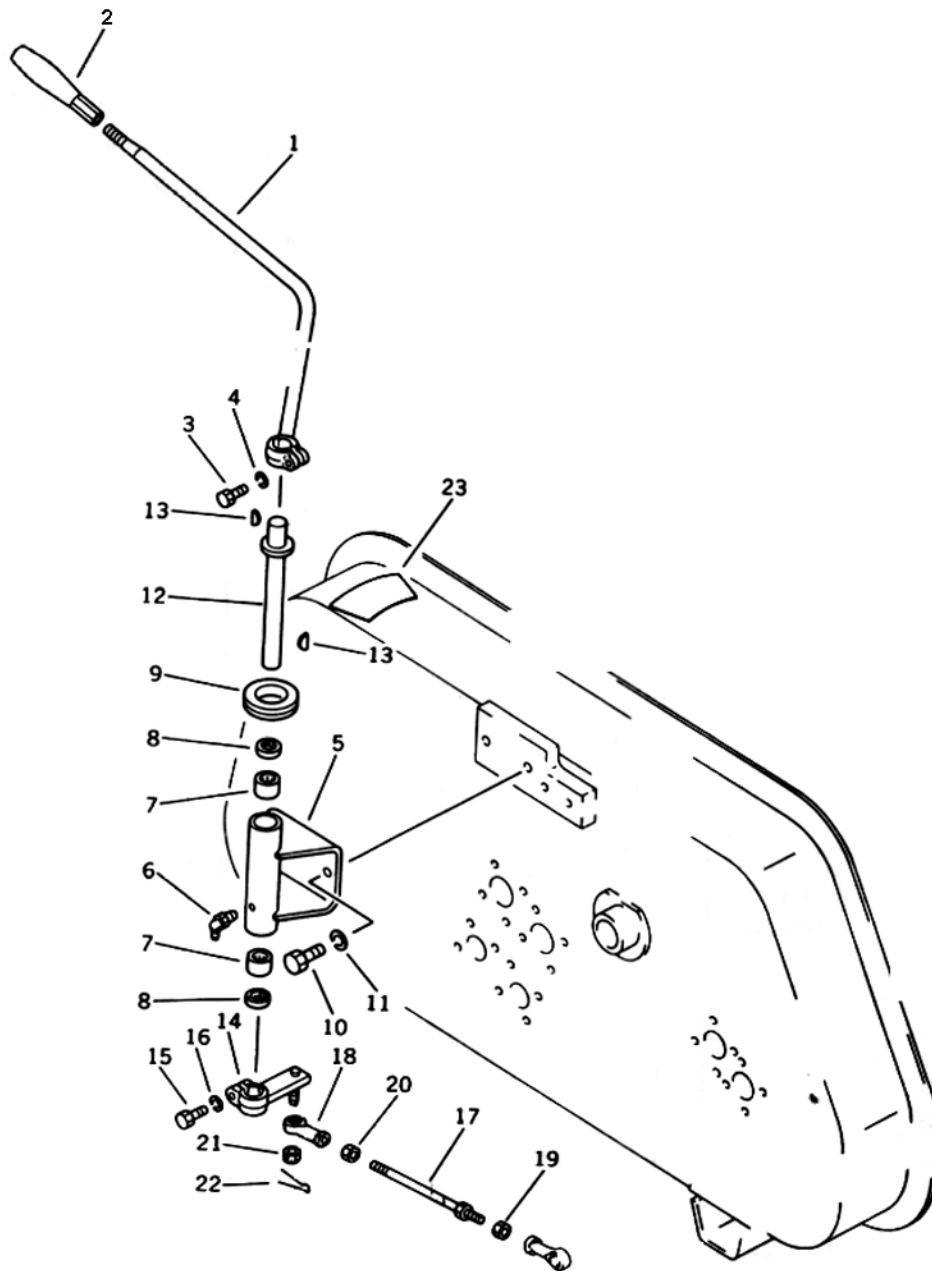
ITEM	PART NUMBER	NAME OF PART	QTY	REMARKS
	113 CV 02152	HYD CTRL VALVE ASSY	1	
	113 CV 03027	MAIN VALVE ASSY	1	
1	113 CV 42742	BODY CONTROL VALVE	1	
2	113 CV 12756	COLLAR	1	
3	113 CV 11646	VALVE	1	
4	113 CV 11638	SPRING	1	
5	113 CV 11621	SEAT	1	
6	CHS01 13035	O RING	1	
7	113 CV 11613	PLATE	1	
8	CFS01 31235	BOLT	2	
9	CFW01 11236	WASHER	3	
10	113 CV 12764	DETENT	1	
11	113 CV 11687	RETAINER	2	
12	113 CV 12772	PLATE	1	
13	CFW01 11030	WASHER	2	
14	113 CV 12789	SPRING	1	
15	CFB01 21280	BOLT	1	
16	CFB01 21095	BOLT	2	
17	113 CV 12797	COLLAR	2	
18	113 CV 11751	PLATE	1	
19	CHS01 13040	O RING	1	
20	CFB07 21440	BOLT	2	
21	CFW01 11442	WASHER	2	
22	113 CV 03035	SAFETY VALVE ASSY	1	

FIG 9090 RIPPER PIPING[TANK TO RIPPER CYLINDER]



ITEM	PART NUMBER	NAME OF PART	QTY	REMARKS
1	116 RI 02009	TUBE	1	
2	116 RI 02017	TUBE	1	
3	CHS01 13048	O RING	2	
4	CFS01 31245	SCREW	8	
5	118 RI 11121	PLATE	2	
6	CFW01 11236	WASHER SPRING	8	
7	CHH19 11612	HOSE	2	
8	CFG03 16045	FLANGE SPLIT	8	
9	CHS01 13032	O RING	4	
10	CFB27 11030	BOLT	12	
11	CFW01 11030	WASHER SRING	12	
12	113 RI 11573	FLANGE	1	
13	CHS01 13032	O RING	1	
14	CFB27 11045	BOLT	4	
15	CFW01 11030	WASHER SPRING	4	
16	CFS01 21045	SCREW	8	
17	CFW01 11030	WASHER SPRING	8	
18	CCC07 23442	CLIP	2	
19	CFN28 21011	NUT	4	
20	CFW05 10032	WASHER	4	
21	113 RI 11662	FLANGE	1	
22	CFS01 31230	SCREW	2	
23	CFS01 31240	SCREW	2	
24	CFW01 11236	WASHER SPRING	4	
25	CFS01 21230	SCREW	4	
26	CFW01 11236	WASHER SPRING	4	

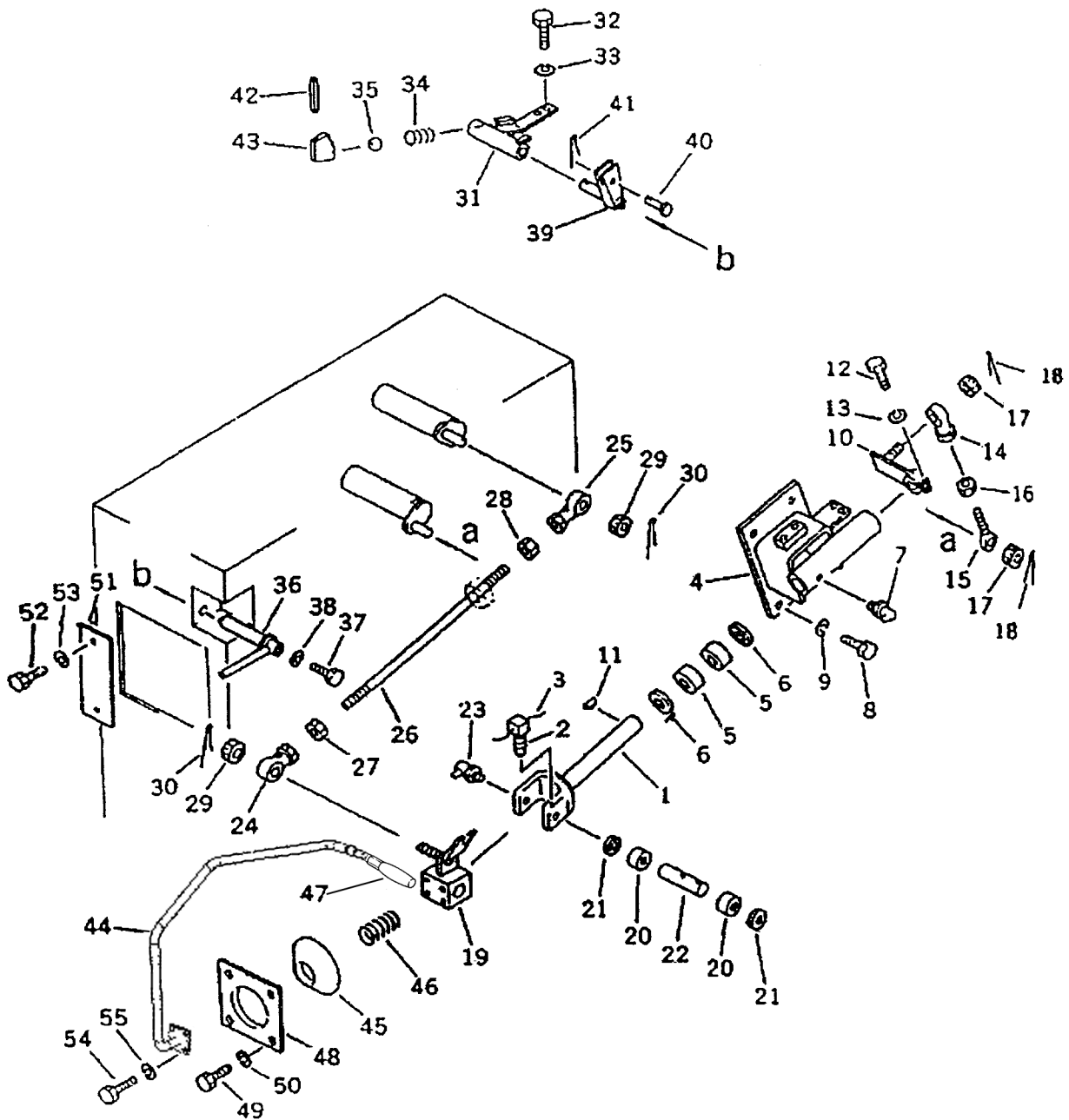
FIG 9100 RIPPER CONTROL LEVER



RIPPER CONTROL LEVER
FIG NO.9100

ITEM	PART NUMBER	NAME OF PART	QTY	REMARKS
1	113 RI 02055	LEVER	1	
2	CDN02 11400	KNOB	1	
3	CFS01 30830	SCREW	1	
4	CFW01 10825	WASHER SPRING	1	
5	113 RI 02128	BRACKET	1	
6	CLN01 10900	FITTING GREASE	1	
7	CBN01 02016	BEARING NEEDLE	2	
8	CBN03 02004	SEAL BEARING	2	
9	113 RI 61751	SEAL	1	
10	CFS01 31225	SCREW	2	
11	CFW01 11236	WASHER SPRING	2	
12	113 RI 02111	SHAFT	1	
13	CFK02 00519	KEY	2	
14	113 RI 02103	LEVER	1	
15	CFS01 30830	SCREW	1	
16	CFW01 10825	WASHER SPRING	1	
17	CFY05 11017	ROD	1	
18	CFY14 61056	END	1	
19	CFN19 41008	NUT	1	
20	CFN01 21084	NUT	1	
21	CFN36 11008	NUT	1	
22	CFP01 02018	PIN COTTER	1	
23	CDS15 00003	PLATE OPERATING	1	

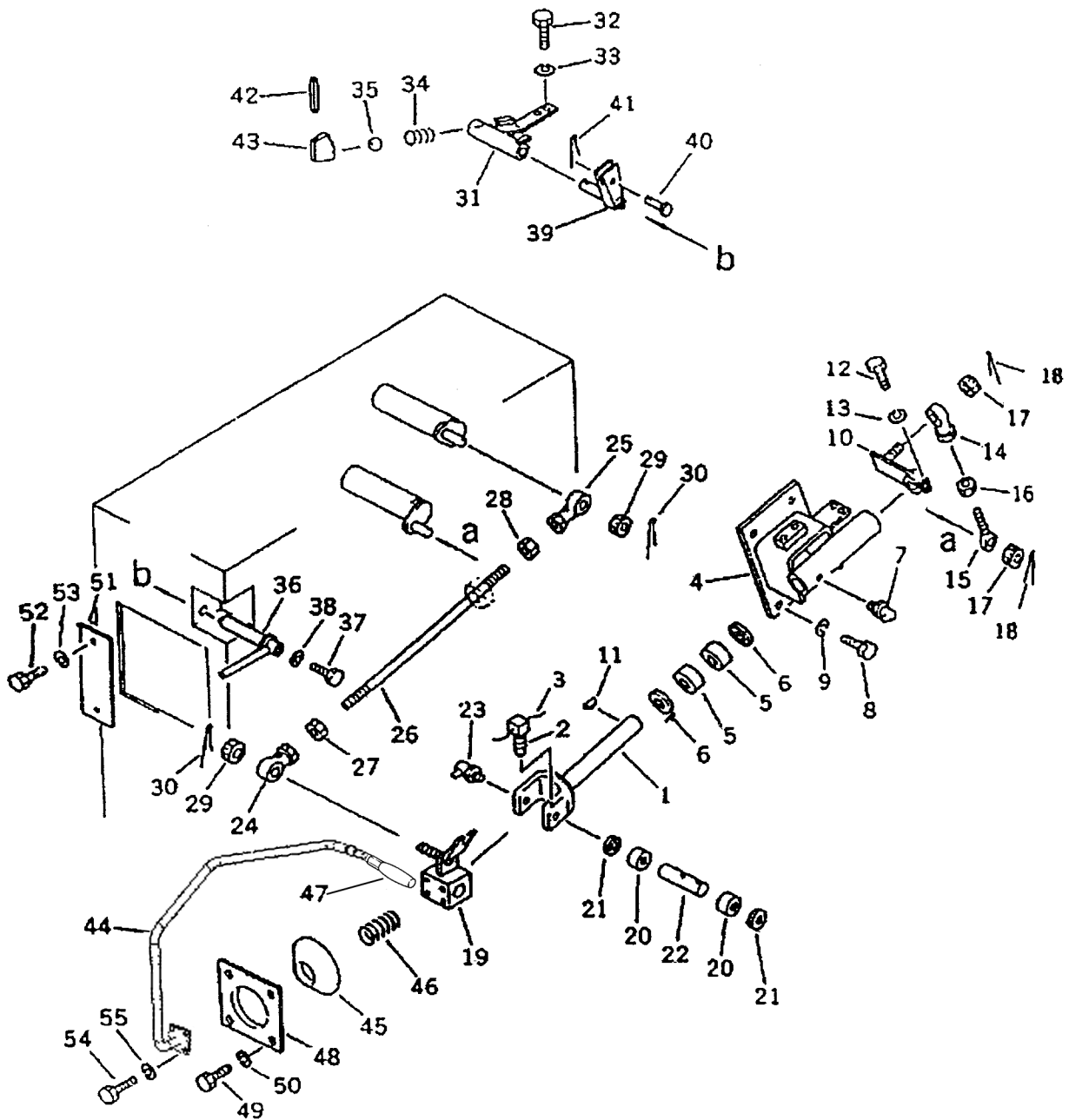
FIG 9110 CONTROL LEVER



CONTROL LEVER (BLADE LIFT & LOWERING)
FIG NO.9110

ITEM	PART NUMBER	NAME OF PART	QTY	REMARKS
1	113 WC 02007	SHAFT	1	
2	BFS22 10616	SCREW	1	
3	CWW01 01312	WIRE LOCK	1	
4	113 WC 02015	BRACKET	1	
5	CBN01 02016	BEARING	2	
6	CBN03 02004	SEAL BEARING	2	
7	CLN01 10900	GREASE NIPPLE	1	
8	CFS01 31230	SCREW	4	
9	CFW01 11236	WASHER SPRING	4	
10	113 WC 02087	LEVER	1	
11	CFK02 00519	KEY	1	
12	CFS01 30830	SCREW	1	
13	CFW01 10825	WASHER SPRING	1	
14	CFY14 41056	END	1	
15	CFY15 01061	END	1	
16	CFN19 41008	NUT	1	
17	CFN36 11008	NUT	2	
18	CFP01 02018	PIN COTTER	2	
19	113 WC 02031	LEVER	1	
20	CBN01 01612	BEARING	2	
21	CBN03 01603	SEAL BEARING	2	
22	113 WC 11111	SHAFT	1	
23	CLN01 10900	GREASE NIPPLE	1	
24	CFY14 61056	END	1	
25	CFY14 41056	END LEFT TURN SCREW	1	
26	CFY05 11032	ROD	1	
27	CFN38 21006	NUT LEFT TURN SCREW	1	
28	CFN19 41008	NUT	1	
29	CFN36 11008	NUT	2	
30	CFP01 02018	PIN COTTER	2	
31	113 WC 02048	BRACKET	1	
32	CFS01 31025	SCREW	2	
33	CFW01 11030	WASHER SPRING	2	
34	113 WC 11169	SPRING	1	
35	CBZ01 01270	BALL	1	
36	113 WC 02056	LEVER	1	
37	CFB01 10655	BOLT	1	
38	CFW01 10619	WASHER SPRING	1	
39	113 WC 02064	SHAFT	1	
40	CFP02 10822	PIN	1	
41	CFP01 02012	PIN COTTER	1	

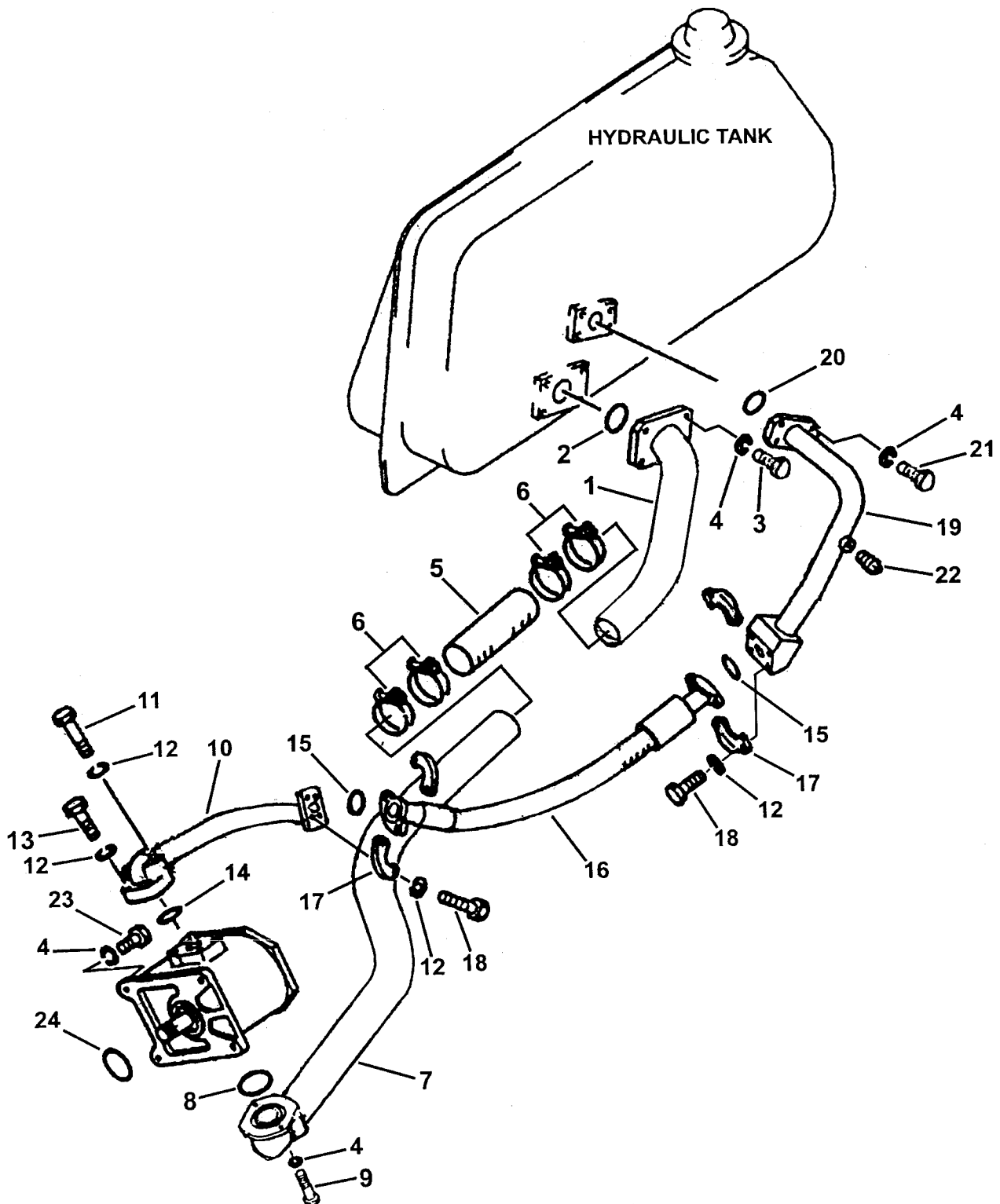
FIG 9110 CONTROL LEVER



CONTROL LEVER**FIG NO.9110**

ITEM	PART NUMBER	NAME OF PART	QTY	REMARKS
42	CFP13 04032	PIN SPRING	1	
43	113 WC 11282	NOTCH	1	
44	116 WC 02001	LEVER	1	
45	113 WC 71247	COVER	1	
46	CDC01 10130	SPRING	1	
47	CDN02 11400	KNOB	1	
48	113 WC 11266	COVER	1	
49	CFS01 30820	SCREW	4	
50	CFW01 10825	WASHER SPRING	4	
51	113 WC 11258	COVER	1	
52	CFS01 30816	SCREW	2	
53	CFW01 10825	WASHER SPRING	2	
54	CFS01 30616	SCREW	4	
55	CFW01 10619	WASHER SPRING	4	

FIG 9120 HYDRAULIC PIPING (TANK TO PUMP)

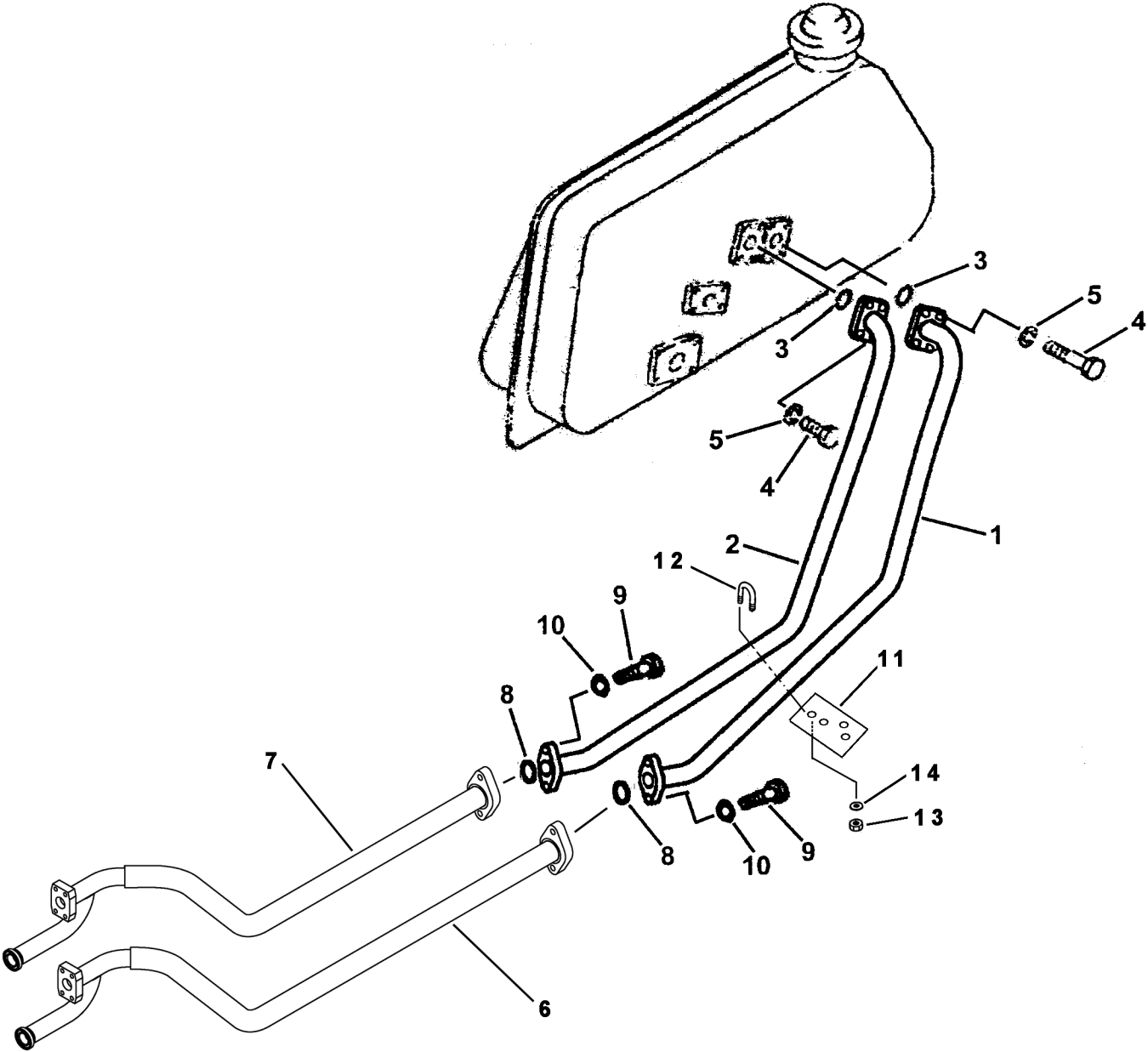


HYDRAULIC PIPING(TANK TO PUMP)

FIG NO.9120

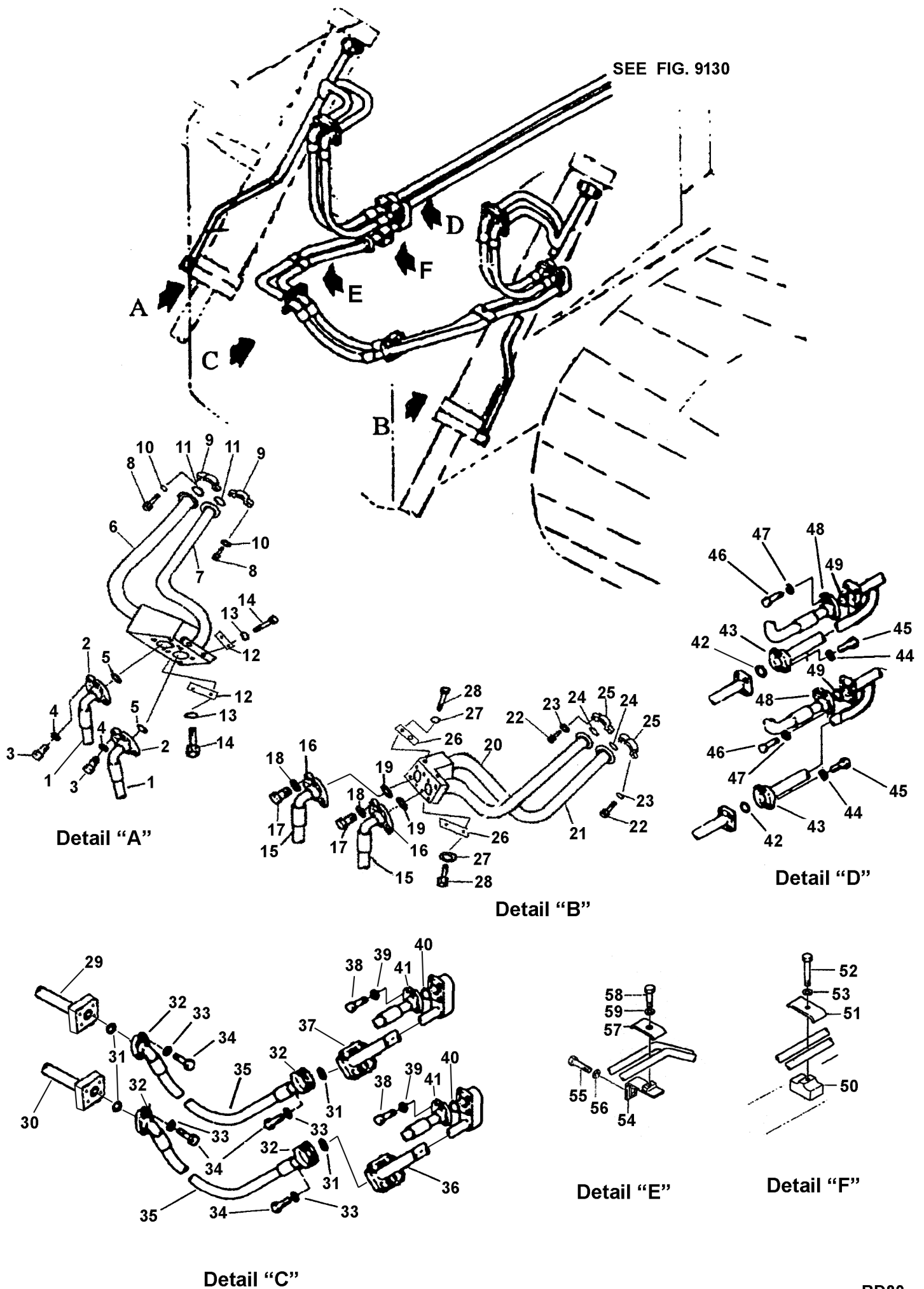
ITEM	PART NUMBER	NAME OF PART	QTY	REMARKS
1	116 RI 02025	PIPE ASSY	1	
2	CHS01 12075	O RING	1	K16
3	CFS01 31235	SCREW	4	
4	CFW01 11236	WASHER SPRING	14	
5	CHH30 25820	HOSE	1	
6	CCC01 09020	CLAMP	4	
7	116 RI 02033	PIPE ASSY	1	
8	CHS01 13070	O RING	1	K16
9	CFB01 11200	BOLT	2	
10	116 RI 02041	PIPE ASSY	1	
11	CFB01 21075	BOLT	2	
12	CFW01 11030	WASHER SPRING	12	
13	CFB01 21055	BOLT	2	
14	CHS01 13040	O RING	1	K16
15	CHS01 13038	O RING	2	K16
16	116 RI 02058	HOSE	1	
17	CFG03 20052	FLANGE SPLIT	4	
18	CFB27 11035	BOLT	8	
19	116 RI 02066	PIPE ASSY	1	
20	CHS01 13048	O RING	1	K16
21	CFB01 21245	BOLT	4	
22	CPL01 10810	PLUG TAPER	1	
23	CFB01 21245	BOLT	4	
24	CHS01 13078	O RING	1	K16

FIG 9130 HYDRAULIC PIPING (FOR BLADE LIFT)(1/2)



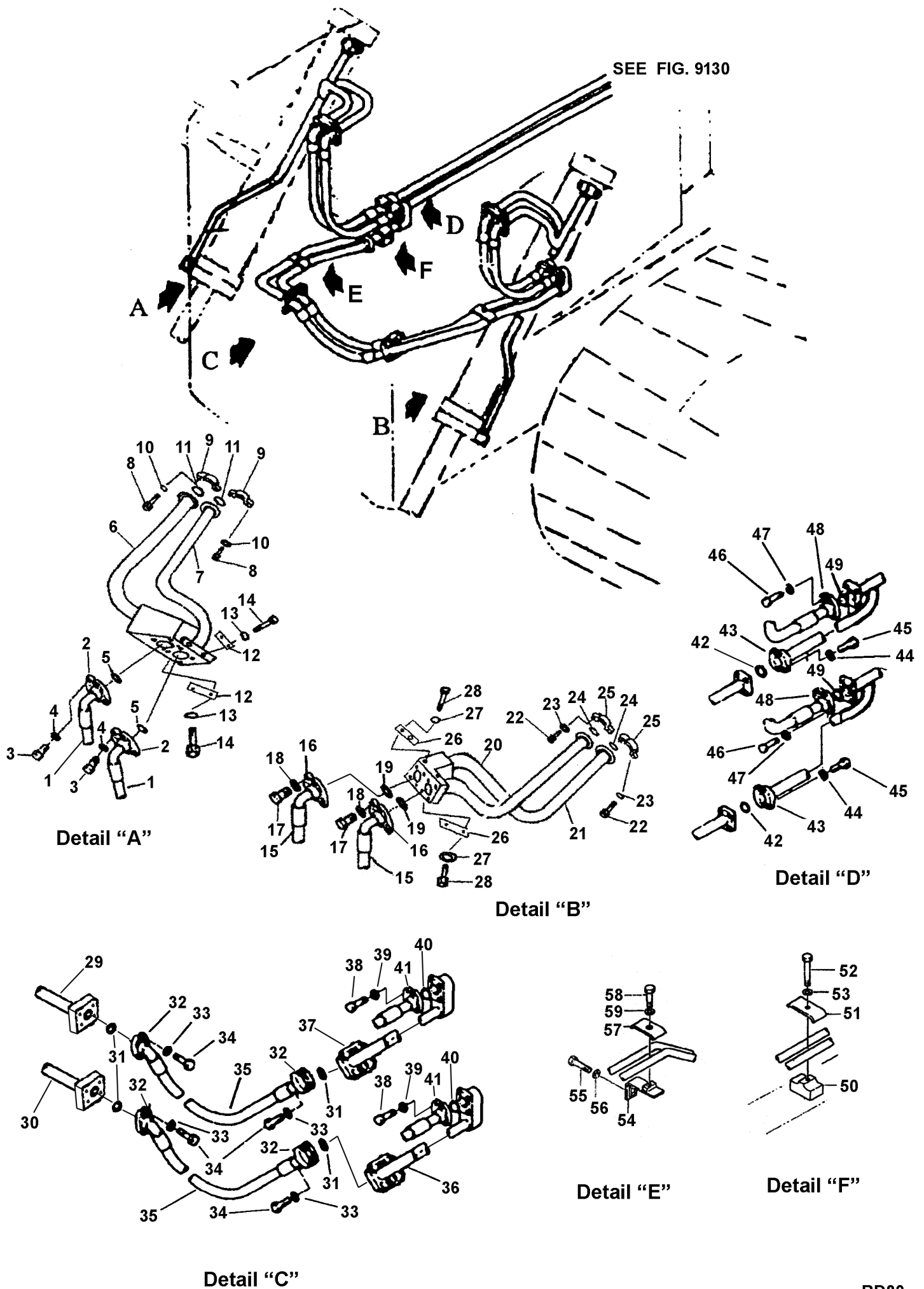
ITEM	PART NUMBER	NAME OF PART	QTY	REMARKS
1	116 RI 02074	PIPE ASSY	1	K17
2	116 RI 02082	PIPE ASSY	1	
3	CHS01 13048	O-RING	2	
4	CFB01 21245	BOLT	8	
5	CFW01 11236	WASHER SPRING	8	
6	116 RI 02099	PIPE ASSY	1	K17
7	116 RI 02106	PIPE ASSY	1	
8	CHS01 13045	O-RING	2	
9	CFB07 21445	BOLT	4	
10	CFW01 11442	WASHER SPRING	4	
11	116 RI 11146	PLATE	1	
12	CCC07 24346	CLAMP	2	
13	CFN28 21011	NUT	4	
14	CFW05 10032	WASHER	4	

FIG 9140 HYDRAULIC PIPING (FOR BLADE LIFT)(2/2)



ITEM	PART NUMBER	NAME OF PART	QTY	REMARKS
1	CHH11 11210	HOSE	2	
2	CFG03 12039	SPLIT FLANGE	4	
3	CFS01 30830	SCREW	8	
4	CFW01 10825	WASHER SPRING	8	
5	CHS01 13025	O RING	2	
6	116 PH 02019	TUBE ASSY	1	
7	116 PH 02035	TUBE ASSY	1	
8	CFB27 11035	BOLT	8	
9	CFG03 16045	SPLIT FLANGE	4	
10	CFW01 11030	WASHER SPRING	8	
11	CHS01 13032	O RING	2	
12	116 PH 11415	PLATE	2	
13	CFW01 10825	WASHER SPRING	4	
14	CFS01 30816	SCREW	4	
15	CHH11 11210	HOSE	2	
16	CFG03 12039	SPLIT FLANGE	4	
17	CFS01 30830	SCREW	8	
18	CFW01 10825	WASHER SPRING	8	
19	CHS01 13025	O RING	2	
20	116 PH 02027	TUBE ASSY	1	
21	116 PH 02043	TUBE ASSY	1	
22	CFB27 11035	BOLT	8	
23	CFW01 11030	WASHER SPRING	8	
24	CHS01 13032	O RING	2	
25	CFG03 16045	SPLIT FLANGE	4	
26	116 PH 11415	PLATE	2	
27	CFW01 10825	WASHER SPRING	4	
28	CFS01 30816	SCREW	4	
29	116 PH 02935	TUBE ASSY	1	
30	116 PH 02854	TUBE ASSY	1	
31	CHS01 13025	O RING	4	
32	CFG03 12039	SPLIT FLANGE	8	
33	CFW01 10825	WASHER SPRING	16	
34	CFS01 30830	SCREW	16	
35	CHH11 11205	HOSE	2	
36	116 PH 02968	TUBE ASSY	1	
37	116 PH 02951	TUBE ASSY	1	
38	CFS01 30830	SCREW	8	
39	CFW01 10825	WASHER SPRING	8	
40	CHS01 13025	O RING	2	
41	CFG03 12039	SPLIT FLANGE	4	

FIG 9140 HYDRAULIC PIPING (FOR BLADE LIFT)(2/2)



ITEM	PART NUMBER		NAME OF PART	QTY	REMARKS
42	CHS01	13032	O RING	2	
43	CFG03	16045	SPLIT FLANGE	4	
44	CFW01	11030	WASHER SPRING	8	
45	CFS01	31030	SCREW	8	
46	CFS01	30830	SCREW	8	
47	CFW01	10825	WASHER SPRING	8	
48	CFG03	12039	SPLIT FLANGE	4	
49	CHS01	13025	O RING	2	
50	116 PH	02108	BRACKET	1	
51	116 PH	11123	PLATE	1	
52	CFB01	21090	BOLT	1	
53	CFW01	11030	WASHER SPRING	1	
54	116 PH	02132	BRACKET	2	
55	CFS01	31025	SCREW	4	
56	CFW01	11030	WASHER SPRING	4	
57	116 PH	11123	PLATE	2	
58	CFB01	21090	BOLT	2	
59	CFW01	11030	WASHER SPRING	2	

X. SERVICE KIT

SERVICE KIT

<u>GROUP</u>	<u>SLNO</u>	<u>FIGNO</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>	<u>QTY</u>
XX	113 HC 00028 - RIPPER CYLINDER SERVICE KIT				K21
	1	9070	CSD01 00075	SEAL DUST	4
	2	9070	125 HC 61631	PACKING ROD	1
	3	9070	CHS01 15150	O RING	1
	4	9070	CGR02 05152	RING BACK-UP	1
	5	9070	125 HC 61623	SEAL DUST	1
	6	9070	113 HC 61492	O RING	1
	7	9070	CGR03 01640	RING, WEAR	1
	8	9070	113 HC 91502	RING, PISTON	1
	9	9070	CHS01 13030	O RING	2

XI. INDEX

PART NUMBER	F/NO.	I/NO.	PART NUMBER	F/NO.	I/NO.	PART NUMBER	F/NO.	I/NO.
113 CV 02152	9080		113 HS 51912	9060	5	116 PH 02108	9140	50
113 CV 02169	9050	45	113 HS 51937	9060	17	116 PH 02132	9140	54
113 CV 03027	9080		113 HS 61965	9050	25	116 PH 02854	9140	30
113 CV 03035	9080	22	113 HS 71814	9050	24	116 PH 02935	9140	29
113 CV 11613	9080	7	113 HS 71896	9060	3	116 PH 02951	9140	37
113 CV 11621	9080	5	113 HS 71896	9060	15	116 PH 02968	9140	36
113 CV 11638	9080	4	113 HS 91765	9050	2	116 PH 11123	9140	51
113 CV 11646	9080	3	113 HS 91781	9050	16	116 PH 11123	9140	57
113 CV 11687	9080	11	113 HS 91805	9050	23	116 PH 11415	9140	12
113 CV 11751	9080	18	113 HS 91879	9050		116 PH 11415	9140	26
113 CV 12756	9080	2	113 HS 91887	9060	2	116 RI 02009	9090	1
113 CV 12764	9080	10	113 HS 91887	9060	14	116 RI 02017	9090	2
113 CV 12772	9080	12	113 RI 00102	9030		116 RI 02025	9120	1
113 CV 12789	9080	14	113 RI 00119	9030		116 RI 02033	9120	7
113 CV 12797	9080	17	113 RI 02006	9030	1	116 RI 02041	9120	10
113 CV 42742	9080	1	113 RI 02014	9030	8	116 RI 02058	9120	16
113 HC 00028	9070		113 RI 02022	9030	7	116 RI 02066	9120	19
113 HC 02045	9070		113 RI 02039	9030	22	116 RI 02074	9130	1
113 HC 03017	9070	1	113 RI 02047	9030	6	116 RI 02082	9130	2
113 HC 03114	9070	22	113 RI 02055	9100	1	116 RI 02099	9130	6
113 HC 03122	9070	23	113 RI 02103	9100	14	116 RI 02106	9130	7
113 HC 11336	9070	18	113 RI 02111	9100	12	116 RI 11146	9130	11
113 HC 11514	9070	11	113 RI 02128	9100	5	116 WC 02001	9110	44
113 HC 31416	9070	4	113 RI 11508	9030	10	118 RI 11121	9090	5
113 HC 31473	9070	24	113 RI 11516	9030	9	118 RI 91058	9040	22
113 HC 61492	9070	15	113 RI 11524	9030	25	118 RI 91066	9040	23
113 HC 91502	9070	20	113 RI 11532	9030	17	118 RI 91074	9040	27
113 HS 01027	9050		113 RI 11549	9030	16	118 RI 91082	9040	1
113 HS 01027	9060		113 RI 11557	9030	11	118 RI 91099	9040	6
113 HS 02056	9050	1	113 RI 11573	9090	12	118 RI 91106	9040	
113 HS 02064	9050	9	113 RI 11662	9090	21	118 RI 91114	9040	7
113 HS 02072	9050	28	113 RI 31564	9030	23	118 RI 91122	9040	8
113 HS 02089	9050	31	113 RI 61751	9100	9	118 RI 91139	9040	9
113 HS 02097	9050	34	113 WC 02007	9110	1	118 RI 91147	9040	10
113 HS 02104	9060	1	113 WC 02015	9110	4	118 RI 91155	9040	11
113 HS 02112	9060	13	113 WC 02031	9110	19	118 RI 91163	9040	16
113 HS 03028	9050	14	113 WC 02048	9110	31	118 RI 91171	9040	17
113 HS 11777	9050	15	113 WC 02056	9110	36	118 RI 91188	9040	25
113 HS 11793	9050	17	113 WC 02064	9110	39	118 RI 91196	9040	28
113 HS 11825	9050	39	113 WC 02087	9110	10	118 RI 91203	9040	29
113 HS 11833	9050		113 WC 11111	9110	22	118 RI 91211	9040	30
113 HS 11841	9050		113 WC 11169	9110	34	118 RI 91228	9040	26
113 HS 11858	9050		113 WC 11258	9110	51	125 HC 61623	9070	13
113 HS 11866	9050		113 WC 11266	9110	48	125 HC 61631	9070	6
113 HS 11906	9060	4	113 WC 11282	9110	43	757 RI 11063	9030	29
113 HS 11906	9060	16	113 WC 71247	9110	45	757 RI 11063	9040	31
113 HS 11947	9060	25	116 PH 02019	9140	6	757 RI 11103	9030	34
113 HS 11955	9060	26	116 PH 02027	9140	20	757 RI 11103	9040	36
113 HS 41925	9060	9	116 PH 02035	9140	7	BFS22 10616	9110	2
113 HS 41925	9060	21	116 PH 02043	9140	21	CBN01 01612	9110	20

PART NUMBER		F/NO.	I/NO.	PART NUMBER		F/NO.	I/NO.	PART NUMBER		F/NO.	I/NO.
CBN01	02016	9100	7	CFB27	11035	9140	22	CFS01	21045	9090	16
CBN01	02016	9110	5	CFB27	11045	9090	14	CFS01	21230	9090	25
CBN03	01603	9110	21	CFB31	53390	9040	2	CFS01	30616	9110	54
CBN03	02004	9100	8	CFG03	12039	9140	2	CFS01	30816	9110	52
CBN03	02004	9110	6	CFG03	12039	9140	16	CFS01	30816	9140	14
CBZ01	01270	9110	35	CFG03	12039	9140	32	CFS01	30816	9140	28
CCC01	09020	9120	6	CFG03	12039	9140	41	CFS01	30820	9110	49
CCC07	12738	9070	31	CFG03	12039	9140	48	CFS01	30825	9050	32
CCC07	23442	9090	18	CFG03	16045	9090	8	CFS01	30830	9060	7
CCC07	24346	9130	12	CFG03	16045	9140	9	CFS01	30830	9060	19
CCP05	00003	9050	22	CFG03	16045	9140	25	CFS01	30830	9100	3
CCP05	20000	9050	21	CFG03	16045	9140	43	CFS01	30830	9100	15
CDC01	10130	9110	46	CFG03	20052	9120	17	CFS01	30830	9110	12
CDN02	11400	9100	2	CFK02	00519	9060	6	CFS01	30830	9140	3
CDN02	11400	9110	47	CFK02	00519	9060	18	CFS01	30830	9140	17
CDP04	00835	9030	27	CFK02	00519	9100	13	CFS01	30830	9140	34
CDS15	00003	9100	23	CFK02	00519	9110	11	CFS01	30830	9140	38
CFB01	10655	9110	37	CFL10	00097	9070	14	CFS01	30830	9140	46
CFB01	11200	9120	9	CFN01	21084	9100	20	CFS01	31016	9050	3
CFB01	20840	9070	28	CFN03	20809	9050		CFS01	31025	9110	32
CFB01	20850	9070	27	CFN05	33080	9030	3	CFS01	31025	9140	55
CFB01	21015	9050	26	CFN05	33080	9040	3	CFS01	31030	9140	45
CFB01	21030	9050	19	CFN19	41008	9100	19	CFS01	31225	9030	20
CFB01	21030	9050	29	CFN19	41008	9110	16	CFS01	31225	9040	20
CFB01	21055	9120	13	CFN19	41008	9110	28	CFS01	31225	9050	5
CFB01	21075	9120	11	CFN24	21011	9050	13	CFS01	31225	9100	10
CFB01	21090	9060	28	CFN28	11011	9070	32	CFS01	31230	9050	42
CFB01	21090	9140	52	CFN28	21011	9090	19	CFS01	31230	9090	22
CFB01	21090	9140	58	CFN28	21011	9130	13	CFS01	31230	9110	8
CFB01	21095	9080	16	CFN36	11008	9100	21	CFS01	31235	9080	8
CFB01	21245	9120	21	CFN36	11008	9110	17	CFS01	31235	9120	3
CFB01	21245	9120	23	CFN36	11008	9110	29	CFS01	31240	9090	23
CFB01	21245	9130	4	CFN38	21006	9110	27	CFS01	31245	9090	4
CFB01	21280	9080	15	CFN44	15252	9070	21	CFS01	31650	9070	16
CFB01	22480	9040	4	CFP01	00063	9030	26	CFS01	32480	9030	4
CFB01	23390	9030	2	CFP01	02012	9110	41	CFS33	03060	9030	28
CFB07	21430	9040	14	CFP01	02016	9050		CFW01	10619	9110	38
CFB07	21435	9030	14	CFP01	02018	9100	22	CFW01	10619	9110	55
CFB07	21435	9070	25	CFP01	02018	9110	18	CFW01	10825	9050	33
CFB07	21440	9050	37	CFP01	02018	9110	30	CFW01	10825	9060	8
CFB07	21440	9080	20	CFP01	03215	9060	11	CFW01	10825	9060	20
CFB07	21445	9050	35	CFP01	03216	9060	23	CFW01	10825	9070	29
CFB07	21445	9130	9	CFP02	10822	9110	40	CFW01	10825	9100	4
CFB07	21460	9050	46	CFP02	11028	9060	10	CFW01	10825	9100	16
CFB07	22775	9070	9	CFP02	11028	9060	22	CFW01	10825	9110	13
CFB07	23385	9030	30	CFP13	04032	9110	42	CFW01	10825	9110	50
CFB07	23385	9040	32	CFP15	02508	9030	24	CFW01	10825	9110	53
CFB27	11030	9090	10	CFP15	02508	9040	24	CFW01	10825	9140	4
CFB27	11035	9120	18	CFS01	21030	9030	32	CFW01	10825	9140	13
CFB27	11035	9140	8	CFS01	21030	9040	34	CFW01	10825	9140	18

PART NUMBER		F/NO.	I/NO.	PART NUMBER		F/NO.	I/NO.	PART NUMBER		F/NO.	I/NO.
CFW01	10825	9140	27	CFW01	11442	9070	26	CHS01	13030	9070	30
CFW01	10825	9140	33	CFW01	11442	9080	21	CHS01	13032	9090	9
CFW01	10825	9140	39	CFW01	11442	9130	10	CHS01	13032	9090	13
CFW01	10825	9140	47	CFW01	11648	9070	17	CHS01	13032	9140	11
CFW01	11030	9030	33	CFW01	12783	9070	10	CHS01	13032	9140	24
CFW01	11030	9040	35	CFW01	13382	9030	31	CHS01	13032	9140	42
CFW01	11030	9050	4	CFW01	13382	9040	33	CHS01	13035	9080	6
CFW01	11030	9050	20	CFW03	11020	9060	12	CHS01	13038	9120	15
CFW01	11030	9050	27	CFW03	11020	9060	24	CHS01	13040	9080	19
CFW01	11030	9050	30	CFW05	10032	9070	33	CHS01	13040	9120	14
CFW01	11030	9060	29	CFW05	10032	9090	20	CHS01	13045	9130	8
CFW01	11030	9080	13	CFW05	10032	9130	14	CHS01	13048	9090	3
CFW01	11030	9090	11	CFW05	12032	9050	44	CHS01	13048	9120	20
CFW01	11030	9090	15	CFW05	14045	9050	48	CHS01	13048	9130	3
CFW01	11030	9090	17	CFW05	24060	9030	5	CHS01	13070	9120	8
CFW01	11030	9110	33	CFW05	24060	9040	5	CHS01	13078	9120	24
CFW01	11030	9120	12	CFY05	11017	9100	17	CHS01	15150	9070	7
CFW01	11030	9140	10	CFY05	11032	9110	26	CHS03	03634	9050	8
CFW01	11030	9140	23	CFY14	41056	9110	14	CLN01	10000	9030	12
CFW01	11030	9140	44	CFY14	41056	9110	25	CLN01	10000	9030	18
CFW01	11030	9140	53	CFY14	61056	9100	18	CLN01	10900	9100	6
CFW01	11030	9140	56	CFY14	61056	9110	24	CLN01	10900	9110	7
CFW01	11030	9140	59	CFY15	01061	9110	15	CLN01	10900	9110	23
CFW01	11236	9030	21	CGR02	05152	9070	8	CLN03	01018	9040	12
CFW01	11236	9040	21	CGR03	01640	9070	19	CLN03	01018	9040	18
CFW01	11236	9050	6	CHH11	11205	9140	35	CLP03	00212	9030	19
CFW01	11236	9050	43	CHH11	11210	9140	1	CLP03	00514	9030	13
CFW01	11236	9080	9	CHH11	11210	9140	15	CLP03	00514	9040	13
CFW01	11236	9090	6	CHH19	11612	9090	7	CLP05	00209	9040	19
CFW01	11236	9090	24	CHH30	25820	9120	5	CMS06	00651	9050	10
CFW01	11236	9090	26	CHS01	12015	9050	40	CMS06	11257	9050	11
CFW01	11236	9100	11	CHS01	12015	9050	41	CMS06	21074	9050	12
CFW01	11236	9110	9	CHS01	12075	9120	2	CPL01	10810	9120	22
CFW01	11236	9120	4	CHS01	12125	9050	18	CPL03	13620	9050	7
CFW01	11236	9130	5	CHS01	13020	9060	27	CSB02	07515	9070	12
CFW01	11442	9030	15	CHS01	13025	9140	5	CSB02	07530	9070	5
CFW01	11442	9040	15	CHS01	13025	9140	19	CSB03	10707	9070	2
CFW01	11442	9050	36	CHS01	13025	9140	31	CSD01	00075	9070	3
CFW01	11442	9050	38	CHS01	13025	9140	40	CWW01	01312	9110	3
CFW01	11442	9050	47	CHS01	13025	9140	49				

BD80 MULTI SHANK RIPPER

OPERATION & MAINTENANCE MANUAL

BHEL LIMITED
INDIA

QUICK REFERENCE INFORMATION

QUICK REFERENCE INFORMATION

MACHINE MODEL NAME & MACHINE SERIAL NO.	ENGINE MODEL NAME & ENGINE SERIAL NO.	NEAREST BEML OFFICE ADDRESS & TELEPHONE NO.

PERIODIC SERVICE

ITEM	DATE	SERVICE METER
DELIVERY		
PERIODIC		
PERIODIC		
PERIODIC		
PERIODIC		

CONSUMABLE PARTS

[illegible]

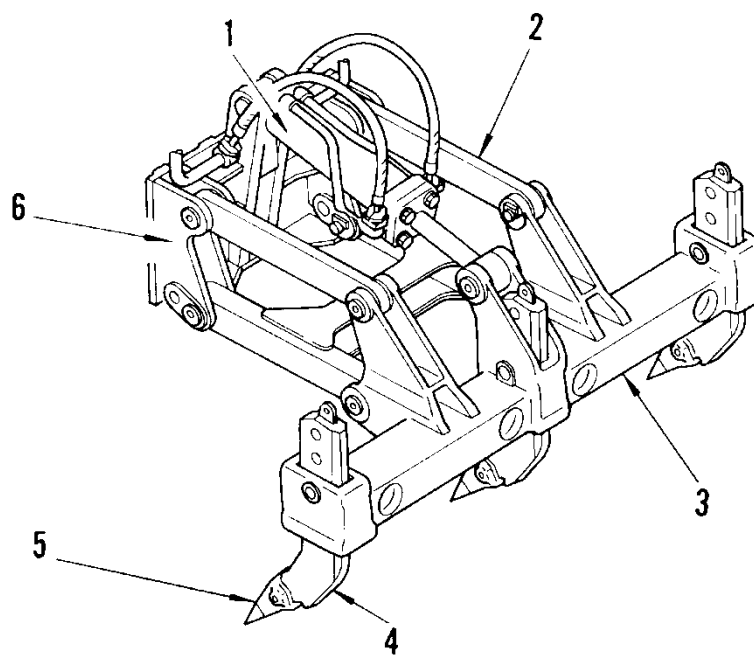
MULTI SHANK RIPPER

FOR BD80

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OPERATION AND ADJUSTMENT	5
PRECAUTIONS BEFORE WORK	5
OPERATION OF RIPPER	5
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ADJUSTING DIGGIN ANGLE	6
ADJUSTMENT OF DIGGING DEPTH	7
PERIODICAL MAINTENANCE	8
TROUBLE SHOOTING GUIDE	9

GENERAL LOCATIONS

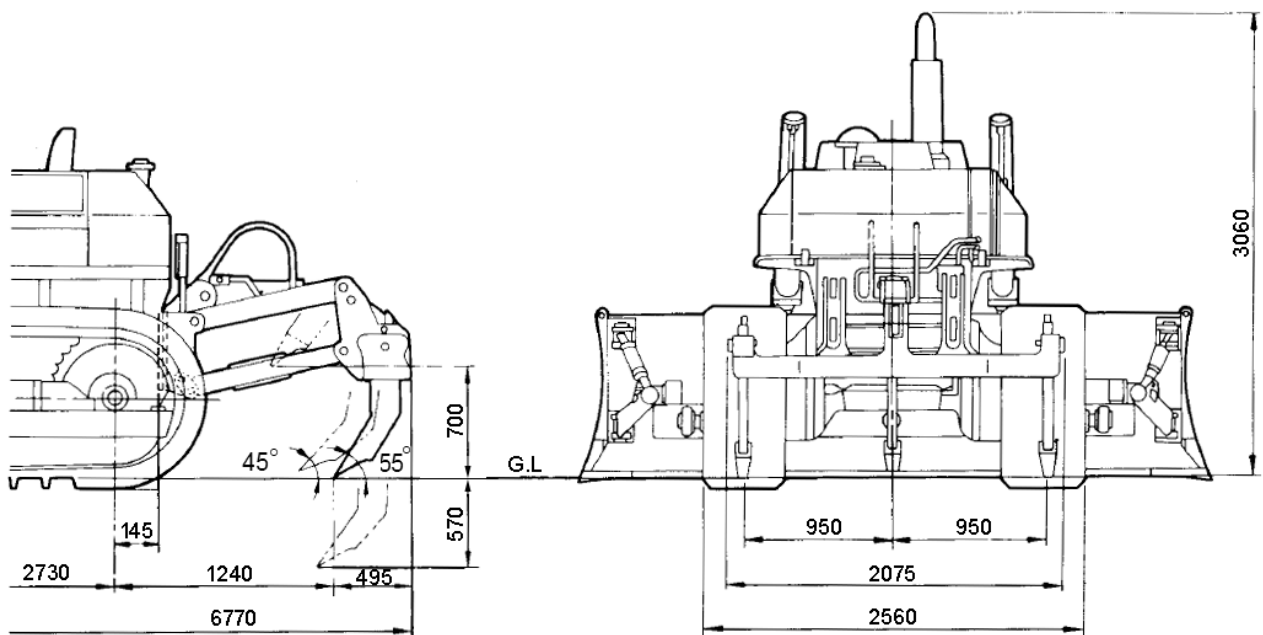


- 1. Hydraulic cylinder
- 2. Link
- 3. Beam
- 4. Shank
- 5. Point
- 6. Support

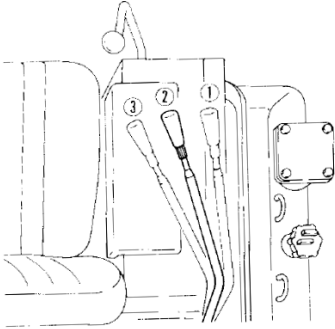
SPECIFICATIONS

RIPPER

RIPPER MODEL		
Applicable machine		BD80
Operating weight	(Kg)	21,750
Ripper weight	(Kg)	1720
No. of shanks		3 (Standard)
Oil capacity	(ℓ)	117

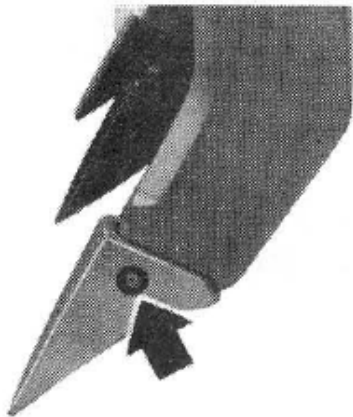


OPERATION AND ADJUSTMENT

PRECAUTIONS BEFORE WORK	OPERATION OF RIPPER	PRECAUTIONS
For safety, check the following items before operating the machine. - Loosening or falling off of each bolt and nut. - Oil leakage from piping, loosening of connecting part, and wear or damage or rubber hose. - Wear of point on the shank edge, damage of installation pin of point. - Oil level of hydraulic tank.	Control with control lever as follows. (1) RAISE Ripper is raised. (2) HOLD Ripper is held at the same position (3) LOWER Ripper is lowered. ❖ When operating ripper, ripper does not function unless bucket or blade control lever is set to NEUTRAL. 	Ripping work is carried out by lowering gradually along with the starting of machine in low gear and by returning control lever when the best excavation depth is obtained. - During ripping work, never turn the machine suddenly or travel backward. In this case, raise shank once from the ground. - When the operating with only one shank, use the middle one and remove both sides shanks or raise them by changing their installation holes. - Never enter shank deeply from the beginning of the ripping work. - When starting to ascend the steep slope or finishing descending, raise shank because point edge will touch ground and may be damaged.

REPLACEMENT OF POINT

When point, which is installed with the edge of shank to protect shank, is worn out and has to be replaced, apply something sharp at the arrow-marked place as shown on the figure and hit it so that pin is drawn out at the opposite side. Since pin is solid type, when inserting, insert it by hand halfway, then hit it in with hammer.



ADJUSTING DIGGING ANGLE

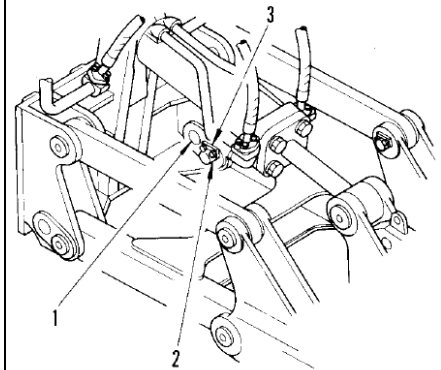
Digging angle adjustment may be effected as required by using either of two holes (1) and (2) provided in the support bracket to which the lower links are to be pinned.

Digging angle:

When used hole (1): 45°

When used hole (2): 55°

Each pin is locked with a lock plate (3).



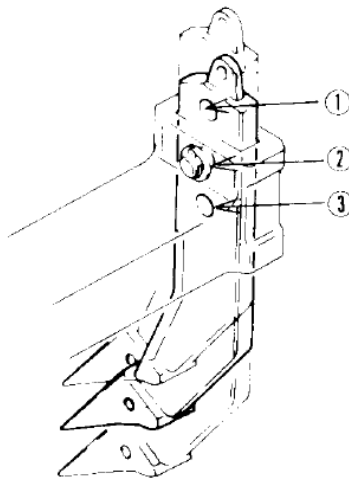
ADJUSTMENT OF DIGGING DEPTH

Digging depth can be obtained arbitrarily by control lever, also it can be adjusted by using properly the installation pin holes of shank according to the digging depth.

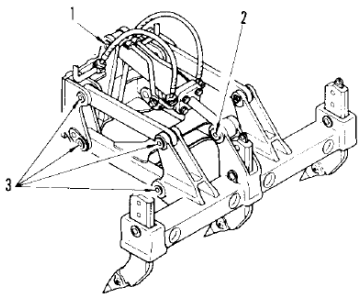
Maximum digging depth (mm)

Hole (1)	Hole (2)
570	460

The hole (3) is used to install shank when ripping work is not carried out.



PERIODIC MAINTENANCE

EVERY 250 HOURS SERVICE		EVERY 1000 HOURS SERVICE
a. LUBRICATING Apply grease to the following grease fittings. (1) Cylinder pin (1 place) (2) Piston rod pin (1 place) (3) Link pin (8 places) 	b. CHECK OIL LEVEL IN HYDRAULIC TANK Park the machine on flat ground, put work equipment and point of hydraulic ripper on the ground, stop the engine, and check with oil gauge, then refill oil from oil filler. ❖ Use engine oil CLASS-CD SAE10W for all seasons.	• CHANGE OIL IN HYDRAULIC TANK Drain from drain plug and supply oil from oil filler. ❖ Oil capacity: 117 ℓ

TROUBLE SHOOTING GUIDE

Problem	Main cause	Remedy
Slow ripper raising and function, lack of ripping force	• Lack of hydraulic oil. • Gear pump is faulty. • Control valve, safety valve, suction valve and valve spool are faulty • Piston ring, packing and valve are faulty • Piping inside is blocked.	• Refill to the specified level. • Contact your BEML distributor.
Lack of cylinder holding force	• Leaking from piping and hose • Piston ring and packing are faulty. • Piston valve function is faulty. • Valve spool is faulty. • Safety valve and suction valve are faulty.	• Tighten. • Contact your BEML distributor.
Excessive oil pressure	• Piping inside is blocked. • Relief valve is out of adjustment	• Contact your BEML distributor.

“Usage of BEML Genuine Spare Parts Enhances Equipment Life”

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