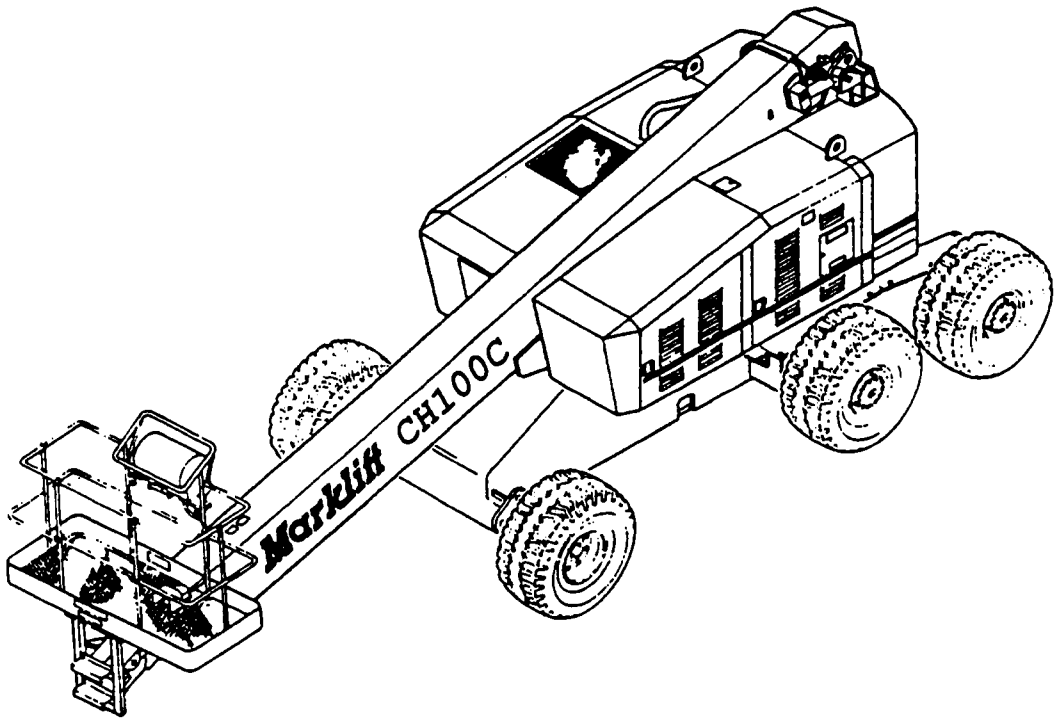
Mark Industries

SELF-PROPELLED BOOM
MODEL CH100C



PARTS MANUAL

MARK INDUSTRIES
106 12th Street S.E.
Waverly, Iowa 50677
(319) 352-3920
(319) 352-5727 FAX

Issued: 2 July 94

P/N 17140

WHEN ORDERING PARTS, SPECIFY MODEL NUMBER, SERIAL NUMBER AND DESCRIPTION OF PART REQUIRED

SECTION 1 CONTAINS:

PAGE	TITLE
1.1	NOTICE TO USERS
1.2	TABLE OF CONTENTS
1.3	HOW TO USE THE PARTS MANUAL
1.4	HOW TO ORDER PARTS

DISCLAIMER

MARK INDUSTRIES strives to include in the Parts Manual, information and illustrations that are accurate, complete, and current. Due to on-going changes and revisions by our many suppliers, it is often impossible to show all variations of a given assembly. Therefore, this information is subject to change without notice.

NOTICE

The Parts Manual, though sometimes helpful in the process of assembly / disassembly, is NOT intended to be assembly / disassembly instructions.

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SECTION 1 "INTRODUCTION" CONTAINS:

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1.2	TABLE OF CONTENTS
1.3	HOW TO USE THE PARTS MANUAL
1.4	HOW TO ORDER PARTS

SECTION 2 "FINAL ASSEMBLY" CONTAINS:

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2.2	MANUAL BOX
2.8	DECALS & PAINT
2.10	SHEET METAL
2.12	AERIAL CONTROL BOX
2.16	SLIDE BAR ASSEMBLY'
2.17	PLATFORM ROTATOR ASSEMBLY'
2.18	PLATFORM ROTATOR
2.20	FOOT SWITCH
2.21	PLATFORM WIRING
2.22	JOYSTICK

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3.16	PARKING BRAKE
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3.20	TIRE & RIM
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4.7	ENGINE - FORD
4.10	AIR CLEANER - FORD
4.11	FUEL TANK - FORD
4.12	ENGINE - LP GAS (FORD)
4.14	LP FUEL SYSTEM
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4.25	BATTERY ASSEMBLY - DETTZ
4.26	ENGINE CONTROL PANEL - DEUTZ
4.28	TURRET ROTATION GEAR BOX
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5.30	POWER TRACK

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Note: Option pages not available with this printing.

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HOW TO USE THE PARTS MANUAL

Mark Industries

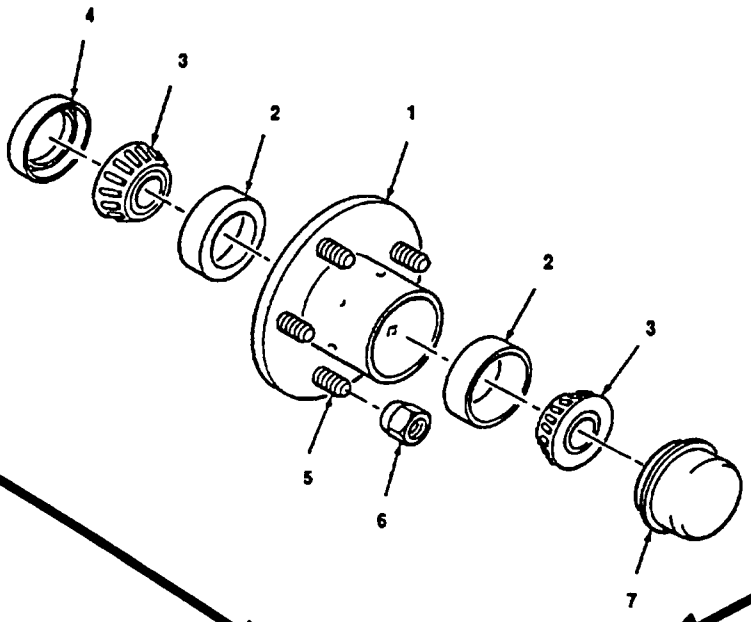
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Mark Industries HUB ASSEMBLY

Models 30KBN
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2



5
4
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8

Ref.	Part No.	Description	Qty	Remarks
-	134	Assembly, Hub (Studs in Assembly are not used)	Ref.	Incl. items 1 thru 7 To order complete assembly, order P/N 134 Hub & 5 each of 160681 Stud.
1	65684	Hub	1	
2	65686	Race, Bearing	2	
3	65059	Bearing	2	
4	66113	Seal, Grease	1	
5	65685	Studs, Wheel (Not used on machine - See Note)	5	Replace with item 8.
6	61316	Nut, Lug	5	
7	137	Dust Cap	1	
8	160681	Studs, Wheel (Used on machine)	5	(Qty 10 per machine)

WHEN ORDERING PARTS, SPECIFY MODEL NUMBER, SERIAL NUMBER AND DESCRIPTION OF PART REQUIRED

PARTS MANUAL FORMAT

1. **SECTION** refers to the major divisions of the Parts Manual.

2. **PAGE** indicates the page number of the illustration or parts list.

3. The **REF.** number shown in the first column of the parts list, corresponds to the callout in the illustration on the same page or facing page.

4. The Mark Industries **PART NUMBER** is shown in the second colmun for items that are serviceable

5. **DESCRIPTION** of the part or assembly is shown in the third column.

6. **QUANTITY** indicates the quantity of items used in the assembly or sub-assembly directly above.

   A Ref. indicates the item is not serviceable or is part of another assembly.

   B. AR indicates the item is used as required. Some quantities may be specified "For Machine".

7. Indented Items are items that are included in the subassembly directly above. See the example below for the indenture system use in this manual.

   EXAMPLE:

Ref.	Part No.	Description	Qty
	123456	Assembly	Ref.
1	234567	Part of Assembly	1
2	345678	Subassembly	1
	456789	Part of Subassembly	2

8. Common abbreviations and symbols that are used throughout this manual are shown on page 1.10 for reference.

9. **REMARKS** are shown in the fifth or far right column. The Remark column will include page number references for more detailed breakdowns, keyed items included in Kits indicated by

HOW TO ORDER PARTS

Mark Industries

1B

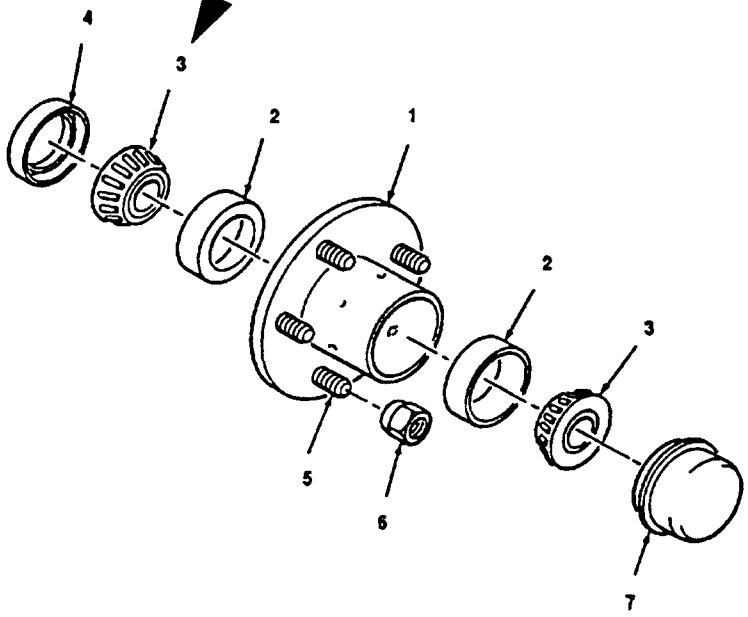
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Mark Industries

HUB ASSEMBLY

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1D

1C

Ref.	Part No.	Description	Qty	Remarks
-	134	Assembly, Hub (Studs in Assembly are not used)	Ref.	Incl. Items 1 thru 7 To order complete assembly, order P/N 134 Hub & 5 each of 160681 Stud.
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3	65059	Bearing	2	
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6	61316	Nut, Lug	5	
7	137	Dust Cap	1	
8	160681	Studs, Wheel (Used on machine)	5	(Qty 10 per machine)

WHEN ORDERING PARTS, SPECIFY MODEL NUMBER, SERIAL NUMBER AND DESCRIPTION OF PART REQUIRED

1. **Find the Mark Industries Part Number.**

   A. Using the Table of Contents, find the Section and Page Number.

   B. Match the required part to the illustration and note the callout number.

   C. Find the corresponding Reference number in the parts list below the illustration or on the facing page.

   D. Use the Mark Industries Part Number listed next to the Ref. number when ordering.

   E. Always include the complete part number, as shown in the Parts Manual, along withthe description of the part and specify the quantity of the part you wish to order.

   F. Anticipate your spare parts requirements.

   G. Place orders early in the day.

   H. Keep a supply of normal maintenance and recommended spare parts in stock.

   I. Obtain recommended parts stocking requirements from Mark Industries or your Mark Industries Distributor.

2. **Customer Ordering:**

   Genuine Mark Industries parts are available worldwide and must be ordered through your local Mark Industries Distributor. For your nearest Mark Industries Distributor, contact the Parts Sales Center at the numbers listed below.

3. **Distributor Ordering: Listed below in the respective order of preference, are the methods of ordering parts.**

   A. ON LINE (Preferred)

   B. FAX: (615) 899-9819

   C. PHONE: (615) 899-6362

   D. MAIL: Parts Sales Center
   P.O. Box 24148
   5959 Shallowford Road, Suite 229
   Chattanooga, TN 37421

   NOTE: If your Parts Department is not ON-LINE, contact the PARTS SALES CENTER for information on using this system.

4. Any errors, comments, or suggestions should be fowarded to the Director of Product Support at the following address:

   Mark Industries
   106 12th Street
   Waverly, IA 50677

ABBREVIATONS AND SYMBOLS

Mark Industries

AC	ALTERNATING CURRENT
ADPTR	ADAPTER
AMP	AMPERE
APPROX	APPROXIMATELY
AR	AS REQUIRED
ASSY	ASSEMBLY
AVAIL	AVAILABLE
BRG	BEARING
BRKT	BRACKET
CCW	COUNTER CLOCKWISE
CFM	CUBIC FEET PER MINUTE
CHRG	CHARGING
CTSK	COUNTERSUNK
CVR	COVER
CW	CLOCKWISE
CYL	CYLINDER
°	DEGREE
DC	DIRECT CURRENT
DIA	DIAMETER
DRV	DRIVE
ENG	ENGINE
EXH	EXHAUST
EXT	EXTERNAL
FT	FEET
GAL	GALLON
GR	GRADE
GSK	GASKET
HD	HEAD
HEX	HEXAGON
HP	HORSEPOWER
HSG	HOUSING
HT	HEAT TREATED
HYD	HYDRAULIC
HZ	HERTZ
ID	INSIDE DIAMETER
INCL	INCLUDES
"	INCHES
INT	INTERNAL
INV	INVERTED
LG	LENGTH
LH	LEFT HAND
MAX	MAXIMUM
MIN	MINIMUM
MM	MILLIMETER
MTG	MOUNTING
P/N	PART NUMBER
NO	NUMBER
NSS	NOT SOLD SEPARATELY
OD	OUTSIDE DIAMETER
PTO	POWER TAKE-OFF
#	POUND
QTY	QUANTITY
RD	ROUND
REF	REFERENCE
RH	RIGHT HAND
ROT	ROTATION
RPM	REVOLUTIONS PER MINUTE
SL	SLOTTED
SM	SMALL
SPD	SPEED
STD	STANDARD
T	TOOTH
THK	THICK
THRU	THROUGH
TEMP	TEMPERATURE
V	VOLT
VAC	VOLTS ALTERNATING CURRENT
VARI	VARIABLE
VS	VARIABLE SPEED
W/	WITH
W/0	WITHOUT

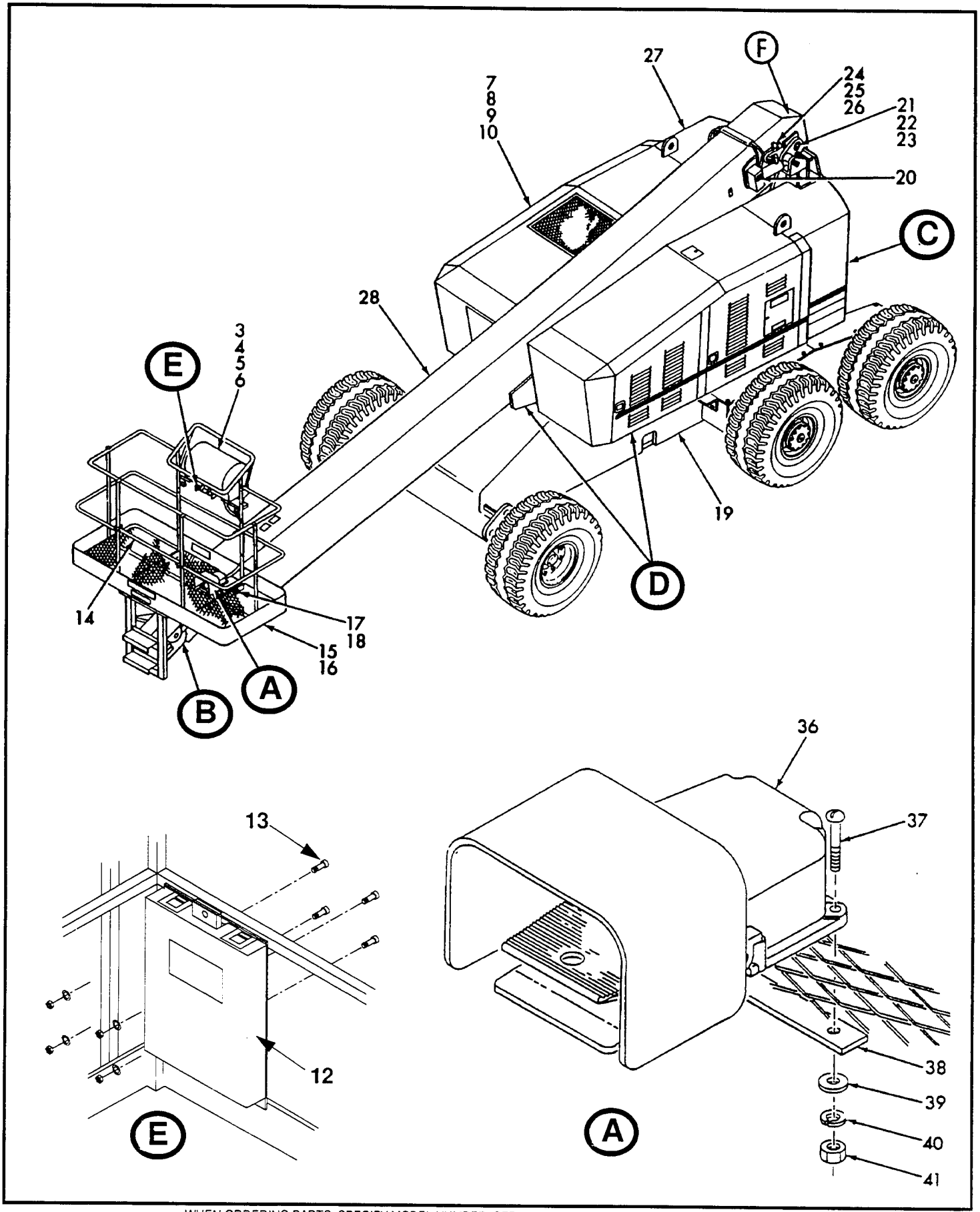
SECTION 2 "FINAL ASSEMBLY" CONTAINS:

PAGE	TITLE
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2.20	FOOT SWITCH
2.21	PLATFORM WIRING
2.22	JOYSTICK

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FINAL ASSEMBLY (CH100C)

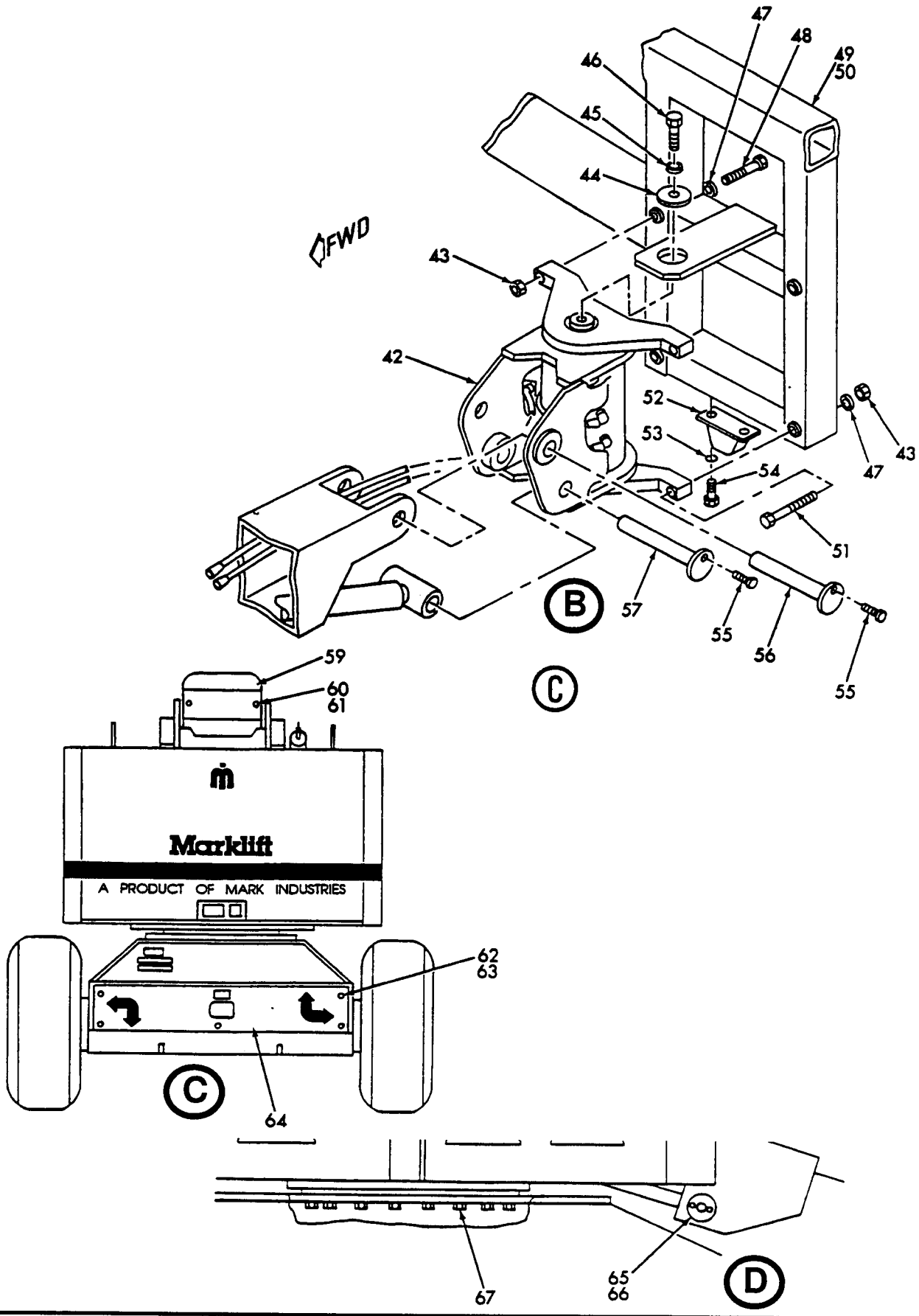
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Ref.	Part No.	Description	Qty	Remarks
1		Assembly, Final	REF.	
2		Set, Decal	1	See Page 2.8 for Details
3	212007	Assembly, Aerial Control Box	1	See Page 2.12 for Details
4	60325	Capscrew	4	
5	63403	Flatwasher	4	
6	63319	Lockwasher	4	
7	22009	Kit, Sheet Metal	1	See Page 2.10 for Details
8	61902	Capscrew	54	
9	63401	Flatwasher	34	
10	60711	Nut, With Nylon Insert	24	
11		Diagram, Hydraulic Hose	1	Not Available This Printing
12	135322	Manual Box	1	
13	61921	Capscrew, 1/4C x 1/2	4	
	1209-2	Washer	4	
	1205-13	Nut	4	
14	24088	Assembly, Slide Bar	1	See Page 2.16 for Details
15	24150	Weldment, Platform (6 Ft.)	1	
-16	16268	Hose Clamp	4	
17	60515	Capscrew	4	
18	61302	Hex Nut	4	
19	24499	Assembly, Base	1	See Page. 3.1 for Details
20	21334	Pin, Leveling Cylinder To Boom	2	
21	23456	Pin, Boom Pivot	2	
22	28157	Tube, Round	1	
23	60607	Capscrew	2	
24	2594	Elbow, Swivel	2	
25	2568-35	Hydraulic Hose	1	
26	2562	Fitting, Straight Swivel	2	
27	24485	Assembly, Turret	1	See Page 4.2 for Details
28	24310	Assembly, Boom	1	See Page 5.2 for Details
29	60325	Capscrew	2	
30	65482	Cap, Anti-Roll	2	
31	63401	Flat Washer	2	
32	61239	Lock Nut	2	
33	65867	Clamp	2	

FINAL ASSEMBLY (CH100C)

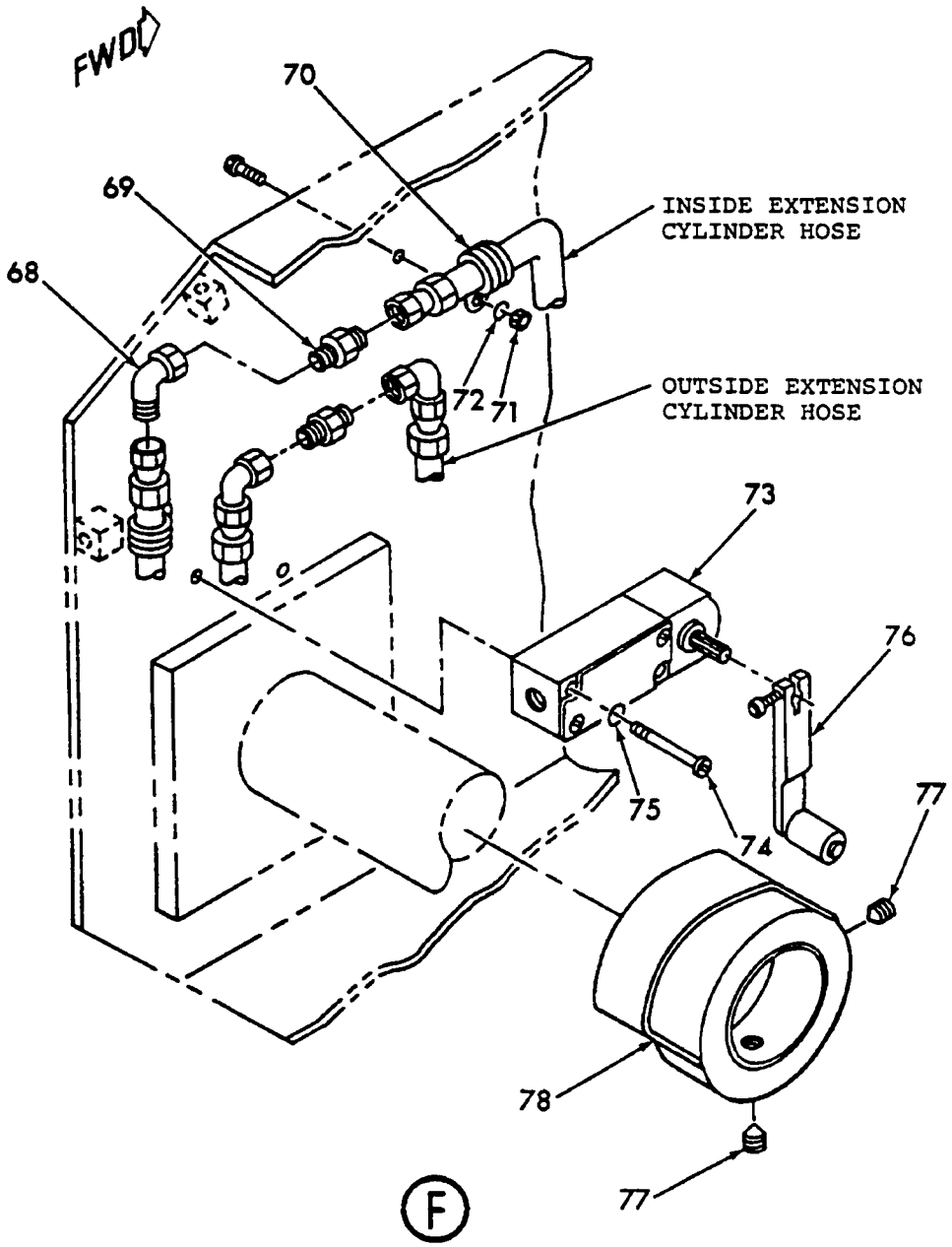
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Ref.	Part No.	Description	Qty	Remarks
34		Not Used		
35		Not Used		
36	20480	Assembly, Foot Switch	1	See Page 2.20 for Details
37	60346	Capscrew	2	
38	22742	Plate, Deadman Switch Backing	2	
39	63402	Flat Washer	2	
40	63302	Lockwasher	2	
41	60702	Hex Nut	2	
42	24444	Assembly, Platform Rotator	1	See Page 2.17 for Details
43	61305	Lock Nut	4	
44	23565	Flat Washer	4	
45	63305	Lockwasher	1	
46	60516	Capscrew	1	
47	63415	Flat Washer	4	
48	60540	Capscrew	2	
49	24171	Weldment, Platform Rotation Fork	1	
50	65321-42	Sleeve, Plastic Coil	1	
51	60513	Capscrew	2	
52	20552	Bumper, Platform	1	
53	63403	Flat Wahser	2	
54	60307	Capscrew	2	
55	60607	Capscrew	2	
56	20457	Pin, Boom To Rotation Fork	1	
57	20261	Pin, Slave Cylinder To Rotation Fork	1	
58		Paint	Ref.	See Page 2.8 for Details
59	24393	Cover, Boom	1	
60	60325	Capscrew	4	
61	63319	Lock Washer	4	
62	60325	Capscrew	4	
63	63319	Lock Washer	4	
64	22098	Cover, Rear	1	
65	24364	Pin, Lift Cylinder To Boom	1	
66	60607	Capscrew	2	
67	60609	Capscrew	36	

FINAL ASSEMBLY (CH100C)

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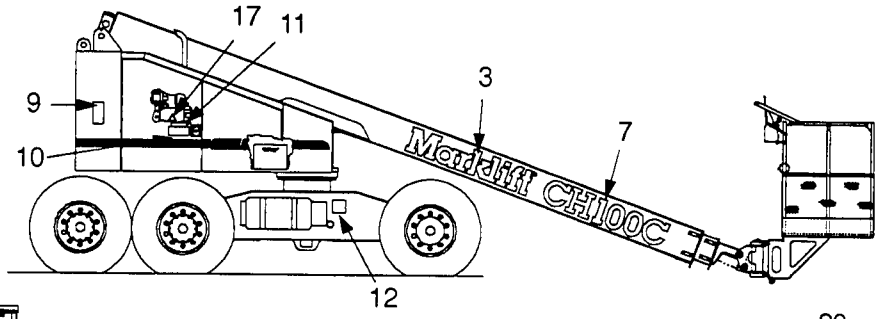
Ref.	Part No.	Description	Qty	Remarks
68	80015-16	Elbow, Swivel Nut	6	
69	80042-06	Union	4	
70	16268	Clamp, Hose	4	
71	61238	Locknut	4	
72	63301	Lockwasher	4	
73	70468	Switch, Limit	1	
74	62704	Screw, Slotted Machine	2	
75	63313	Lockwasher	2	
76	70032	Lever, Switch	1	
77		Set Screw (furnished with cam weldment)	1	
78	24615	Weldment, Cam	1	

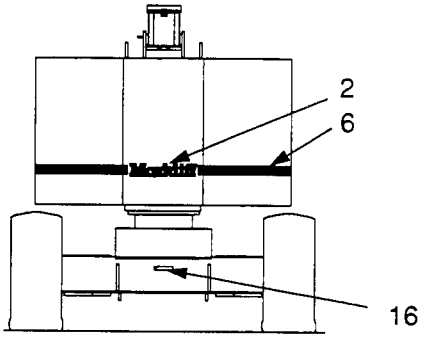
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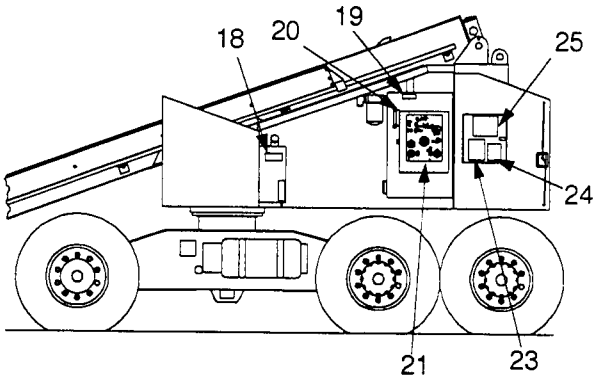
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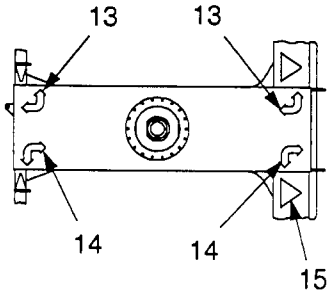
DECALS & PAINT

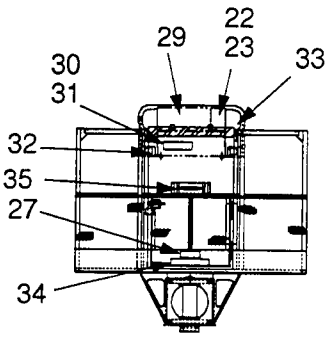
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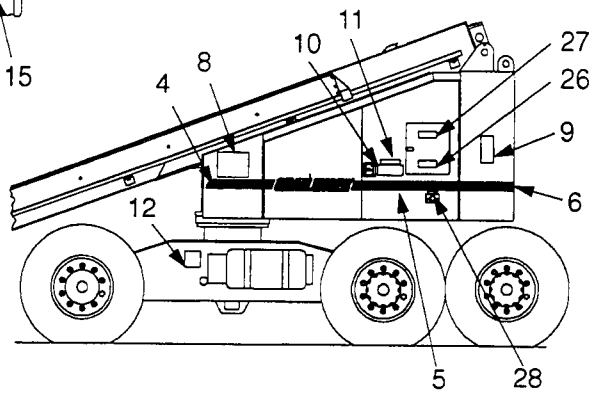








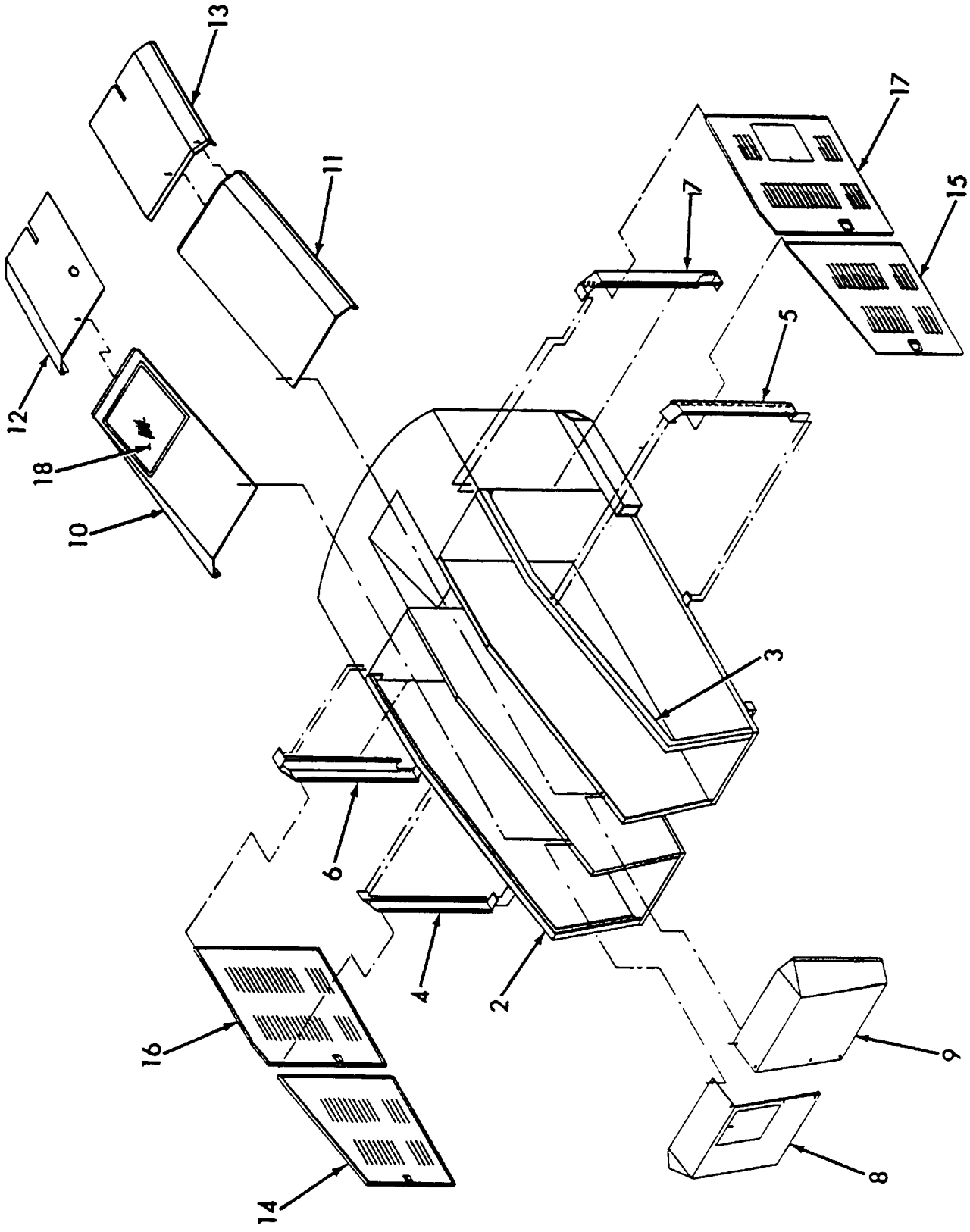




Ref.	Part No.	Description	Qty	Remarks
1		Decal Set	Ref.	
2	181927-1	Decal, Marklift	1	
3	131927-2	Decal, Marklift	1	
4	181928	Decal, Round Stripe	1	
5	181929-1	Decal, Stripe	2	
6	181929-2	Decal, Stripe	4	
7	181970	Decal, CH100C	1	
8	12400-571	Decal, Pride/Flag	2	
9	12400-223	Decal, Danger	2	
10	20419	Decal, Danger - Keep Clear	2	
11	180710	Decal, Not Electrical Insulated	2	
12	20508	Decal, Transportation	2	
13	182710	Decal, Direction Arrow	2	
14	182709	Decal, Direction Arrow	2	
15	20462	Decal, Forward Arrow	2	
16	20661	Decal, ANSI A92 Plate	1	
17	12260-701	Decal, Fan Warning	1	
18	2020	Decal, Gas/Petr.	1	
19	2017	Decal, Hydraulic Fluid	1	
20	359A8291	Decal	1	
21	182817	Decal, Circuit Panel, Lower	1	
22	185702	Decal, Circuit Breaker - 110 VAC	1	
23	181109	Decal, Danger	1	
24	181102	Decal, Danger	1	
25	20860	Decal, Generator Check & Operation	1	
26	20495	Decal, Emergency Control	1	
27	181322	Decal, Load Capacity	2	
28	185707	Decal, Power - 110 VAC	1	
29	182820	Decal, Operating Instructions	1	
30	182818	Decal, Control Panel	1	
31	182819	Decal, Control Panel	1	
32	22386	Decal, "D" - Ring	2	
33	160137	Tape, Warning	22'	
34	22385	Detail, Caution	1	
35	130820	Decal, Operation & Safety	1	

SHEET METAL

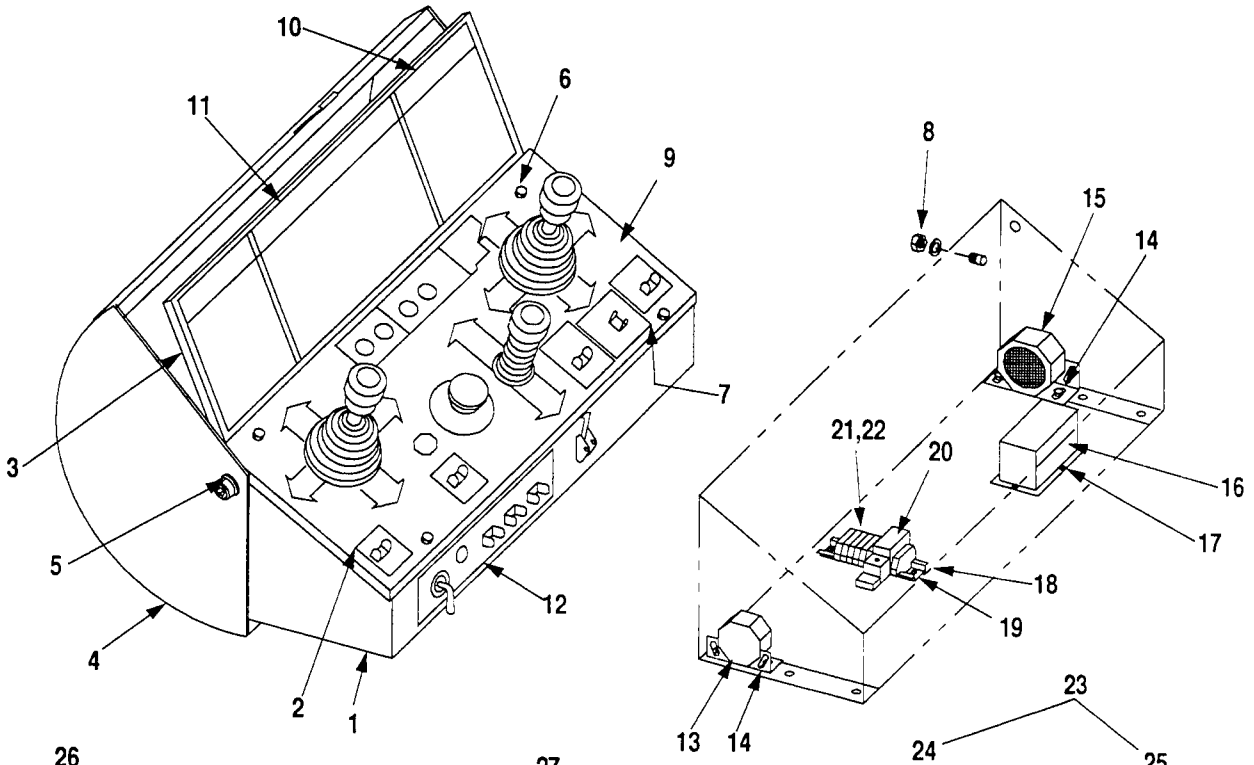
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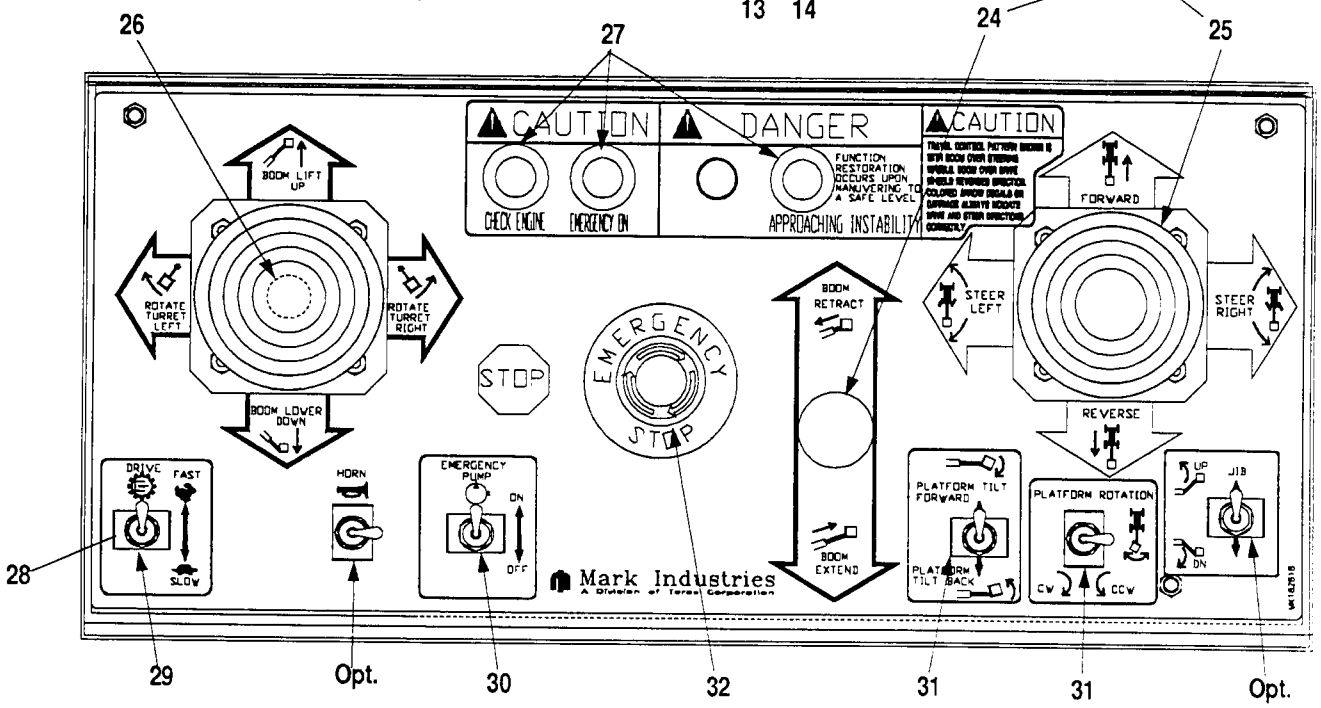


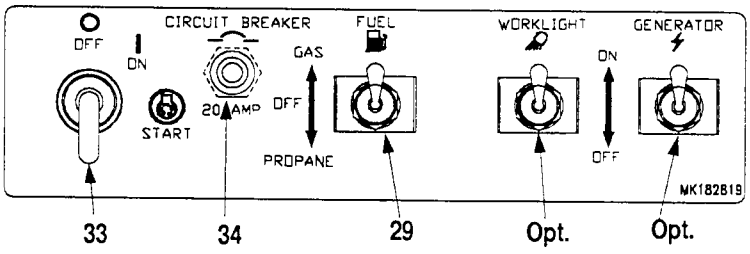
Ref.	Part No.	Description	Qty	Remarks
1	22009	Kit, Sheet Metal	REF.	
2	22336	Rail, Frame (Left)	1	
3	22337	Rail, Frame (Right)	1	
4	22338	Support, MID (Left)	1	
5	22339	Support, Mid (Right)	1	
6	22340	Support, Front (Left)	1	
7	22341	Support, Front (Right)	1	
8	22342	Cover, Nose (Left)	1	
9	22343	Cover, Nose (Right)	1	
10	22344	Cover, Mid (Left)	1	
11	22345	Cover, Mid (Right)	1	
12	22346	Cover, Top (Left)	1	
13	22347	Cover, Top (Right)	1	
14	22348	Door, Rear (Left)	1	
15	22349	Door, Rear (Right)	1	
16	22350	Door, Front (Left)	1	
17	22351	Door, Front (Right)	1	
18	22352	Screen	1	

AERIAL CONTROL BOX

Mark Industries



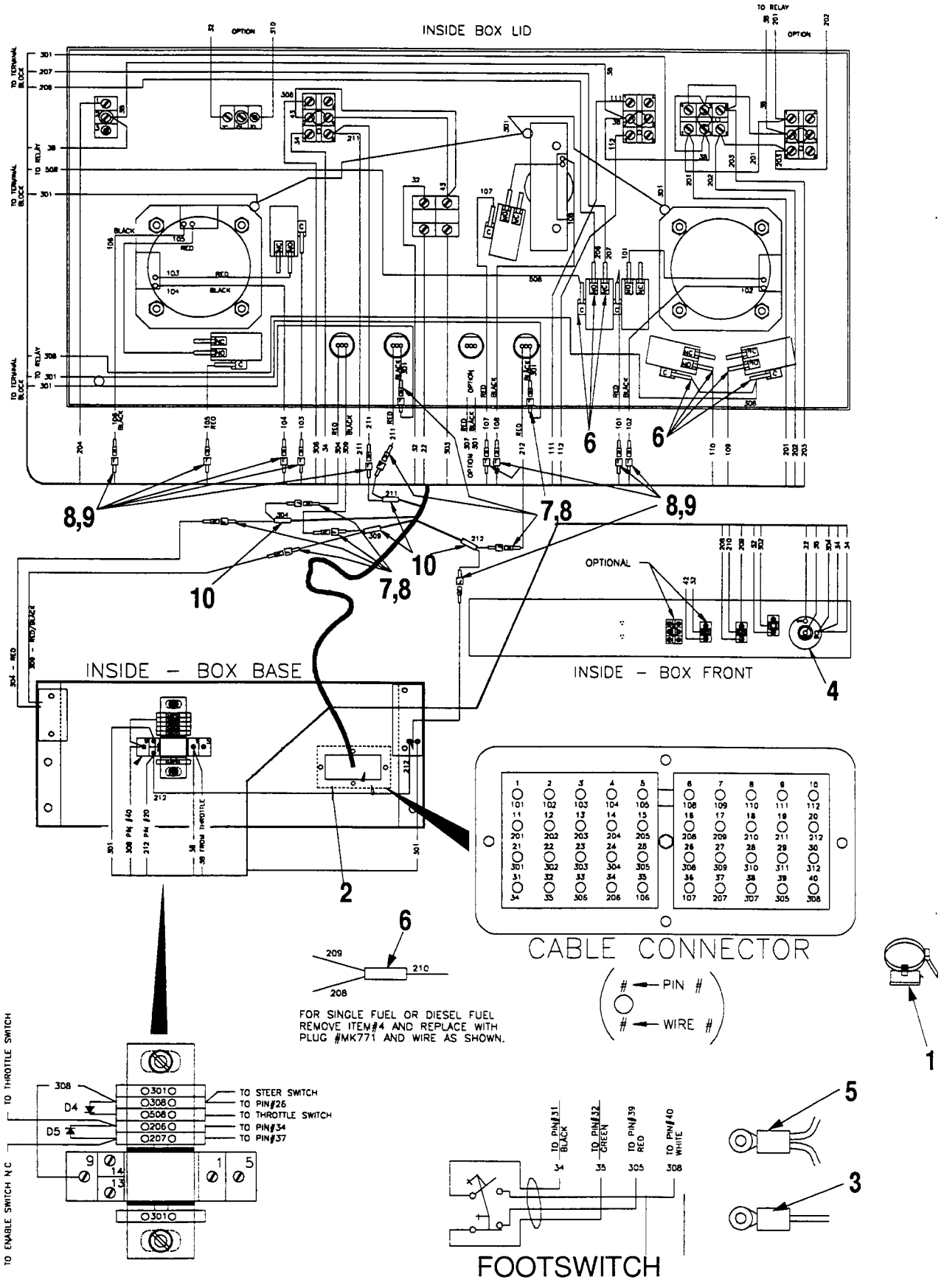




Ref.	Part No.	Description	Qty	Remarks
	212007	Aerial Control Box Ass'y	1	Incl. Items 1 thru 34 &
1	212005	Box	1	1 thru 11, Page 2.14
2	212100	Lid, Box	1	
3	212088	Plate, Back	1	
4	211087	Cover	1	
5	1203-21	Shoulder Screw, 3/8 x 1/2 - 5/16C x 1/2	2	
	511 2057	Loctite	AR	
6	311 1956	Machine Screw, 1/4C x 1/2	4	
	A126739	Cage Nut, 1/4 J-Type	4	
7	12258-60	Rubber, Adhesive Back - 1/8" x 1/2"	1	
8	1205-13	Nut, 1/4C	3	
	1210-14	Lockwasher	3	
9	182818	Decal, Box (Top)	1	
10	181109	Decal, Danger, High Voltage Distance	1	
11	182820	Decal, Operation Instructions	1	
12	182819	Decal, Box (Front)	1	
13	441 6637	Alarm, Engine	1	
14	1205-13	Nut, 1/4C	4	
15	441 6838	Alarm, Stability	1	
16	70803	Connector, Receptacle	1	
17	1233-10	Machine Screw, #8-32 x 3/4	4	
	1210-5	Lockwasher, #8	4	
18	70580	Rail, Low Profile	1	
19	1233-5	Machine Screw, 1/4C x 1/2	2	
	1205-23	Locknut, 1/4C	2	
20	70459	Relay	1	
	70460	Base	1	
	70462	Clip, Relay Hold-Down	2	
21	441 6839	Terminal Block, Gray	4	
22	441 6840	Terminal Block, Y/G	2	
	441 6841	Cover, End	2	
23	70775	Electronic Control Kit	1	Incl. 24,25,26 & Controllers
24	70823	Joystick, Boom Extend	1	
25	70824	Joystick, Drive/Steer	1	
26	70825	Joystick, Lift/Rotate	1	
27	70781	Light, Red	3	
28	70783	Guard, Switch	AR	
29	20482	Switch, Toggle (SPDT)	3	
30	441 6827	Switch, Toggle (DPDT)	1	
31	20481	Switch, Toggle (DPDT)	2	
32	70645	Emergency Stop Mushroom	1	
	441 6845	Block, Contact	1	
33	70595	Switch, Ignition	1	
34	20562	Circuit Breaker	1	
	70785	Boot	1	

AERIAL CONTROL BOX

Mark Industries



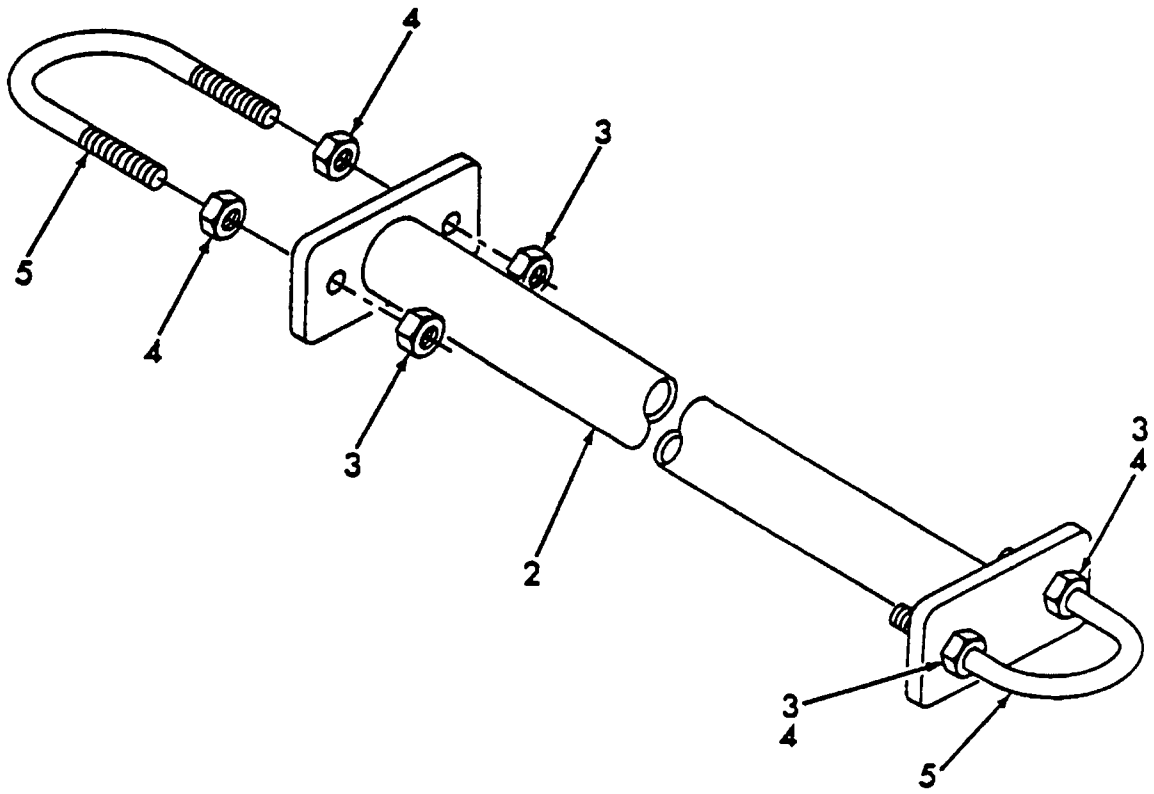
Ref.	Part No.	Description	Qty	Remarks
1	256	Tie, Plastic	30	
2	16214	Pad, Tie	10	
3	70149	Terminal, Ring (Pink)	13	
4	117M	Terminal, Ring (Blue)	8	
5	117	Terminal, Ring	8	
6	70782	Terminal, Female Disconnect	7	
7	70501	Terminal, Male Disconnect	8	
8	66356	Terminal, Female Disconnect	18	
9	66357	Terminal, Male Disconnect	10	
10	70068	Connector, Butt	5	
11	12241-3	Sealant, Silicone	AR	

CABLE PIN CONNECTORS

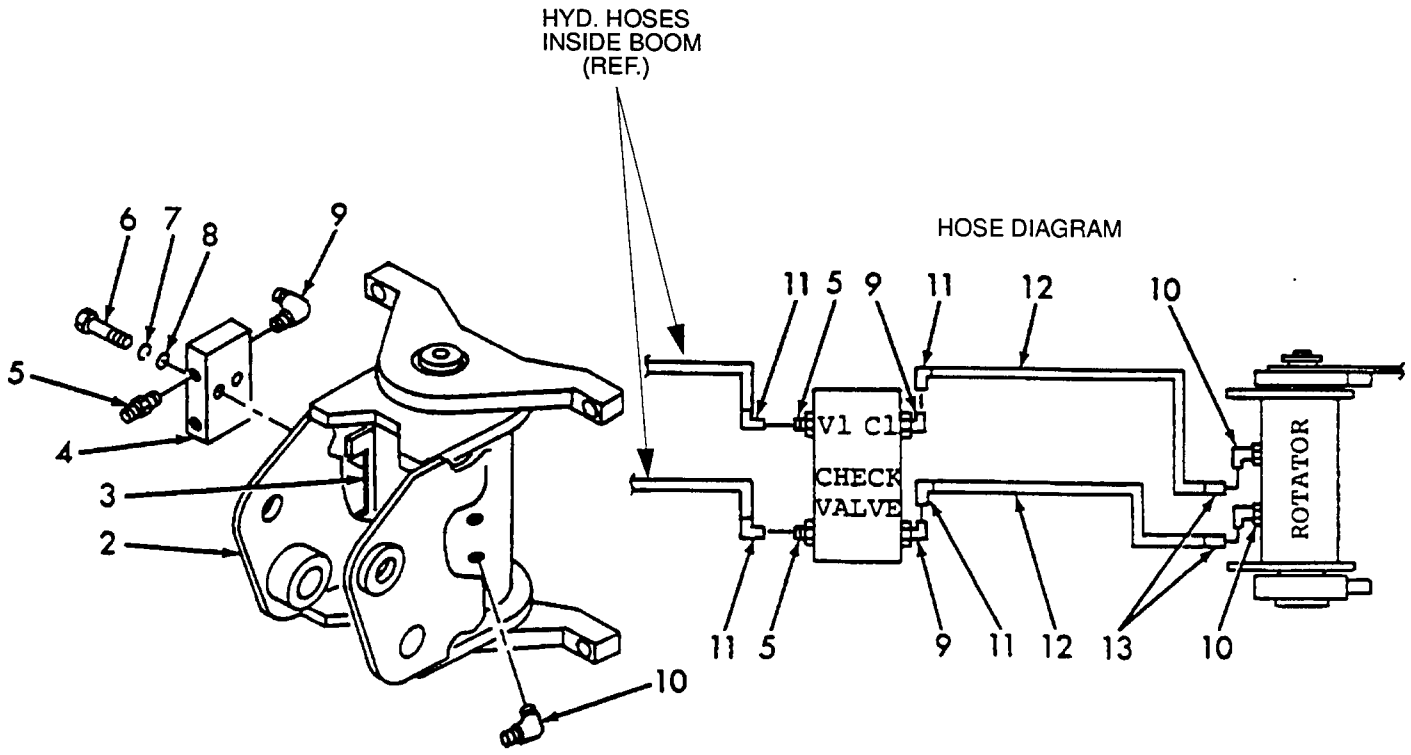
PIN #	WIRE #	COLOR
1	101	BLACK
2	102	BROWN
3	103	YELLOW
4	104	ORANGE
5	105	BLUE
6	106	YELLOW
7	108	ORANGE
8	110	BLUE
9	111	RED
10	112	BLACK
11	201	BLACK
12	202	BROWN
13	203	YELLOW
14	204	ORANGE
15	205	BLUE
16	206	YELLOW
17	208	ORANGE
18	210	BLUE
19	211	RED
20	212	BLACK
21	301	BLACK
22	302	BROWN
23	303	YELLOW2
24	304	ORANGE
25	305	BLUE
26	308	YELLOW
27	309	ORANGE
28	310	BLUE
29	311	RED
30	3312	BLACK
31	34	BLACK
32	35	GREEN
33	305	RED
34	208	RED
35	106	RED
36	107	BROWN
37	207	BROWN
38	307	BROWN
39	305	RED
40	308	WHITE

SLIDE BAR ASSEMBLY

Mark Industries



Ref.	Part No.	Description	Qty	Remarks
1	24088	Assembly, Slide Bar	REF.	
2	24167	Weldment, Slide Bar	1	
3	61318	Nut, Hex Lock	4	
4	60703	Hex Nut	4	
5	160017	U-Bolt	2	



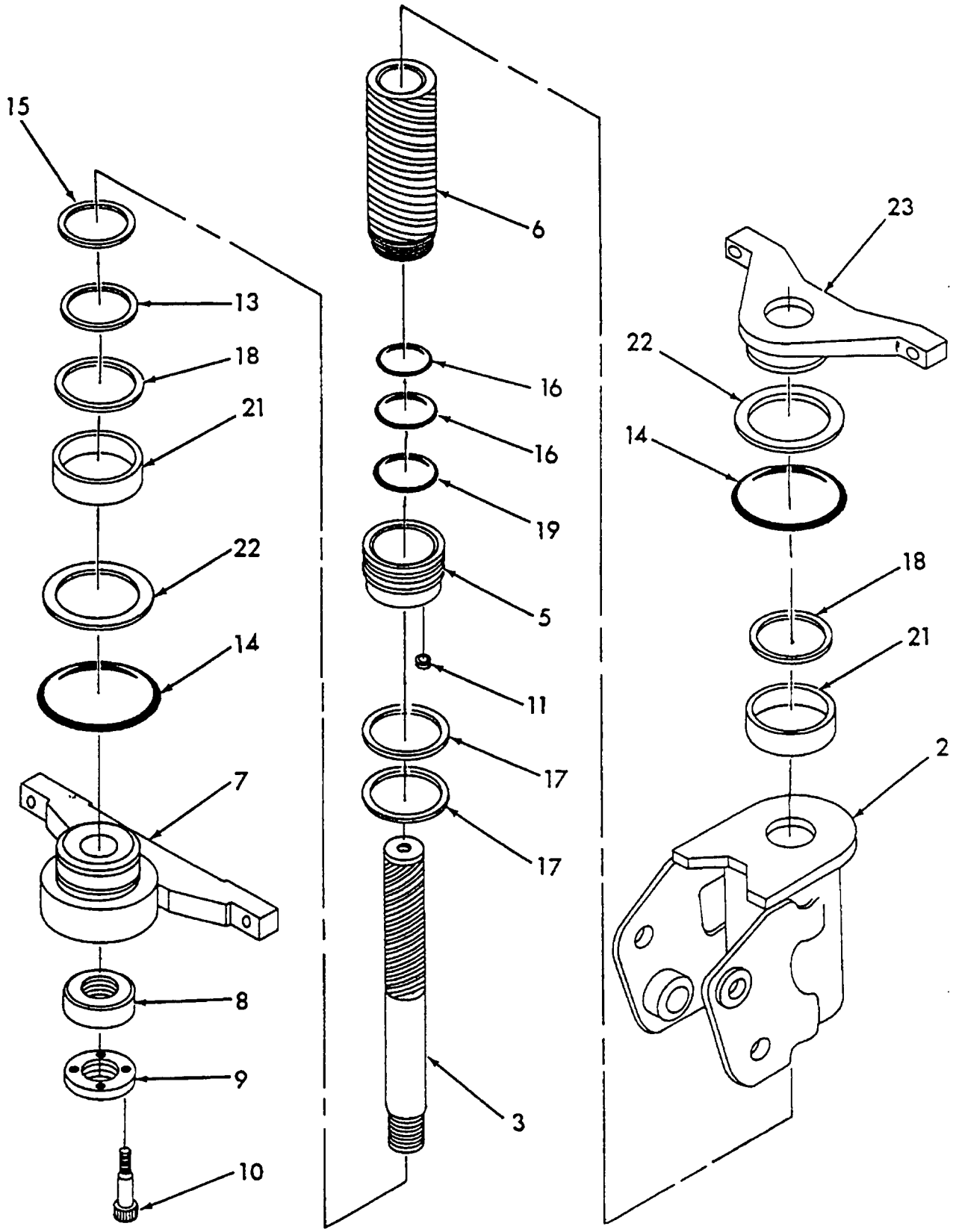
Ref.	Part No.	Description	Qty	Remarks
1	24444	Assembly, Platform Rotator	REF.	
2	81094	Rotator, Platform	1	See Page 2.18 for Details
3	23197	Bracket, Check Valve	1	
4	20351	Check Valve	1	
5	80004-05	Connector, Straight Thread	2	
6	60360	Capscrew	2	
7	63302	Lockwasher	2	
8	63402	Flat Washer	2	

Models CH100C

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PLATFORM ROTATOR

Mark Industries



PLATFORM ROTATOR

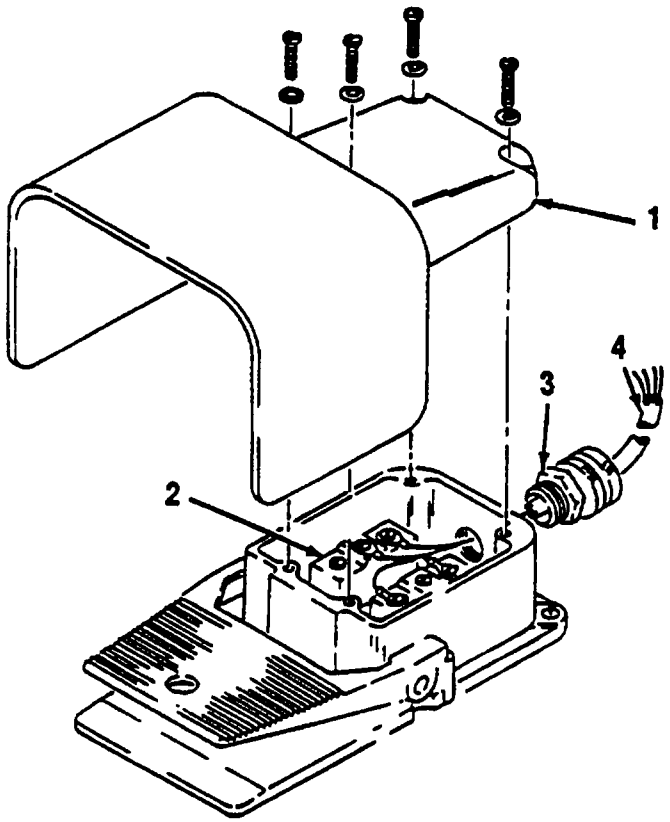
Ref.	Part No.	Description	Qty	Remarks
1	81094	Rotator, Platform	REF.	
2		Assembly, Housing	1	
3	67764	Assembly, Shaft	1	
4	67766	Sub-Assembly, Piston & Sleeve	1	
5		Piston	1	
6		Sleeve	1	
7	67767	Weldment, End Cap	1	
8		Nut	1	
9		Locknut	1	
10		Capscrew	4	
11		Setscrew	2	
12	67770	Kit, Seal	1	
13		Seal, End Cap (O-Ring)	1	
14		Seal, Excluder (O-Ring)	2	
15		B/U Ring, End Cap	1	
16		Packing, Rod (Polypak)	2	
17		Packing, Piston (Polypak)	2	
18		Packing, Shaft & Cap (Polypak)	2	
19		Seal, Piston (O-Ring)	1	
20	67771	Kit, Bearing	1	
21		Bearing	2	
22		Bearing, Thrust	2	
23		End, Cap Foot	1	

Models CH100C

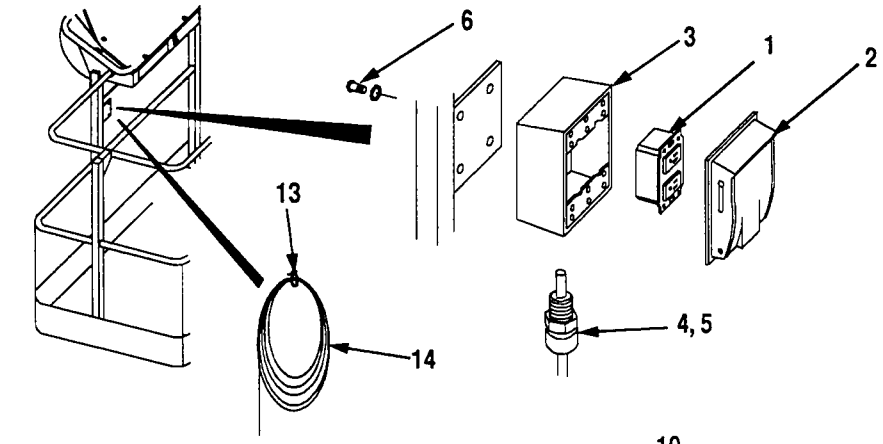
Issued 7-94

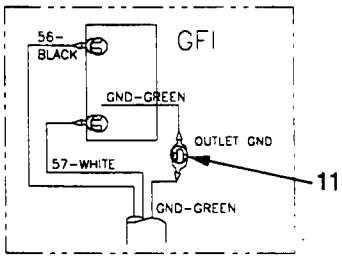
FOOT SWITCH

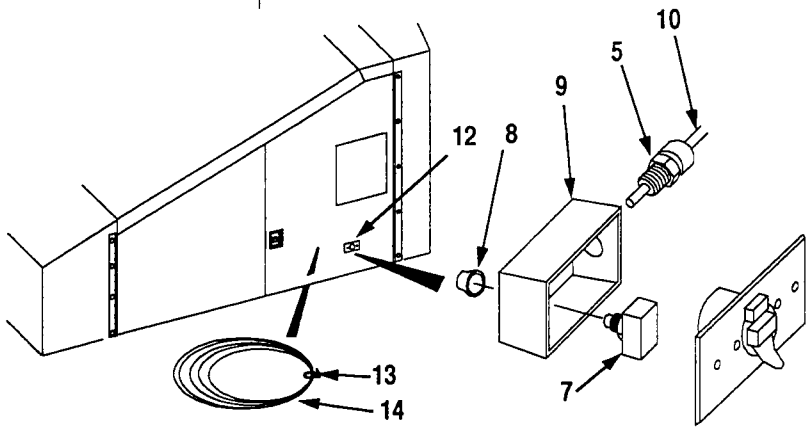
Mark Industries

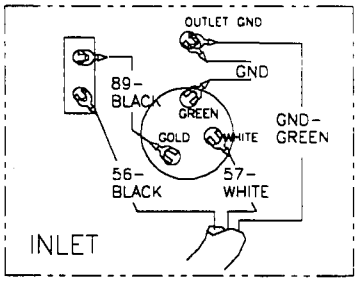


Ref.	Part No.	Description	Qty	Remarks
1	70212	Footswitch	1	Incl. Item 2
2	66336	Microswitch	2	
3	2511	Relief, Strain	1	
4	70187	Cable, SJO 18/4	1	





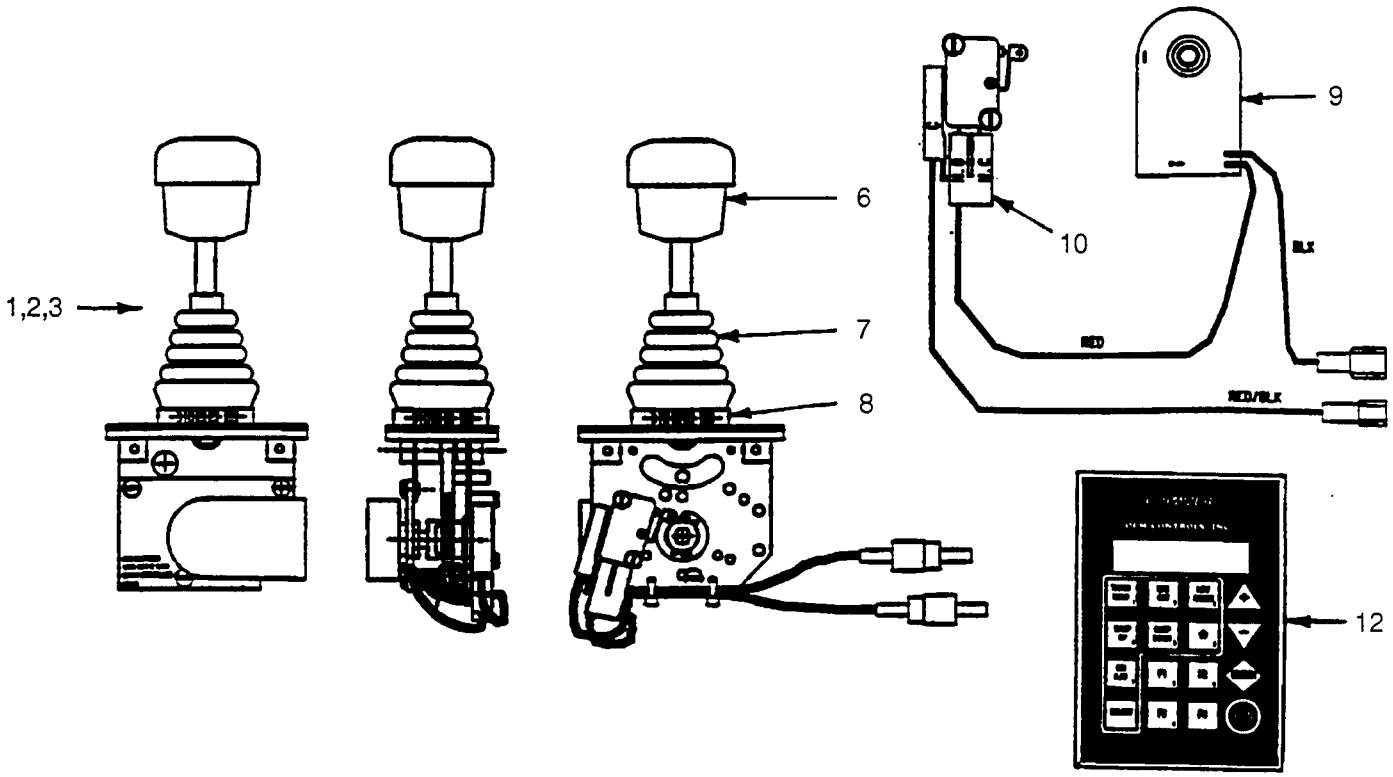




Ref.	Part No.	Description	Qty	Remarks
	212162-1	Platform Wiring - 110 Volt	Opt.	Incl. Items 1 thru 11
	212162-2	Platform Wiring - 220 Volt	Opt.	Incl. Items 12 thru 14
1	70391	Receptacle, GFI	1	
2	70392	Cover, Receptacle	1	
3	70262	Box	1	
4	70119	Inlet w/Gasket	1	
5	2806	Strain Relief	2	
6	61720	Screw, #10-24 x 5/8 Self-Tapping	4	
7	441 4026	Circuit Breaker, 20A	1	
8	442 2399	Boot	1	
9	212133	Outlet Box	1	
10	70769	Cable, 12/3	Ref.	
11	117C	Terminal	11	
12	902	Cover, Door	1	
13	1222-202	Tie, Plastic	2	
14	70423	Cable, TUV 12/3	Ref.	

JOYSTICK

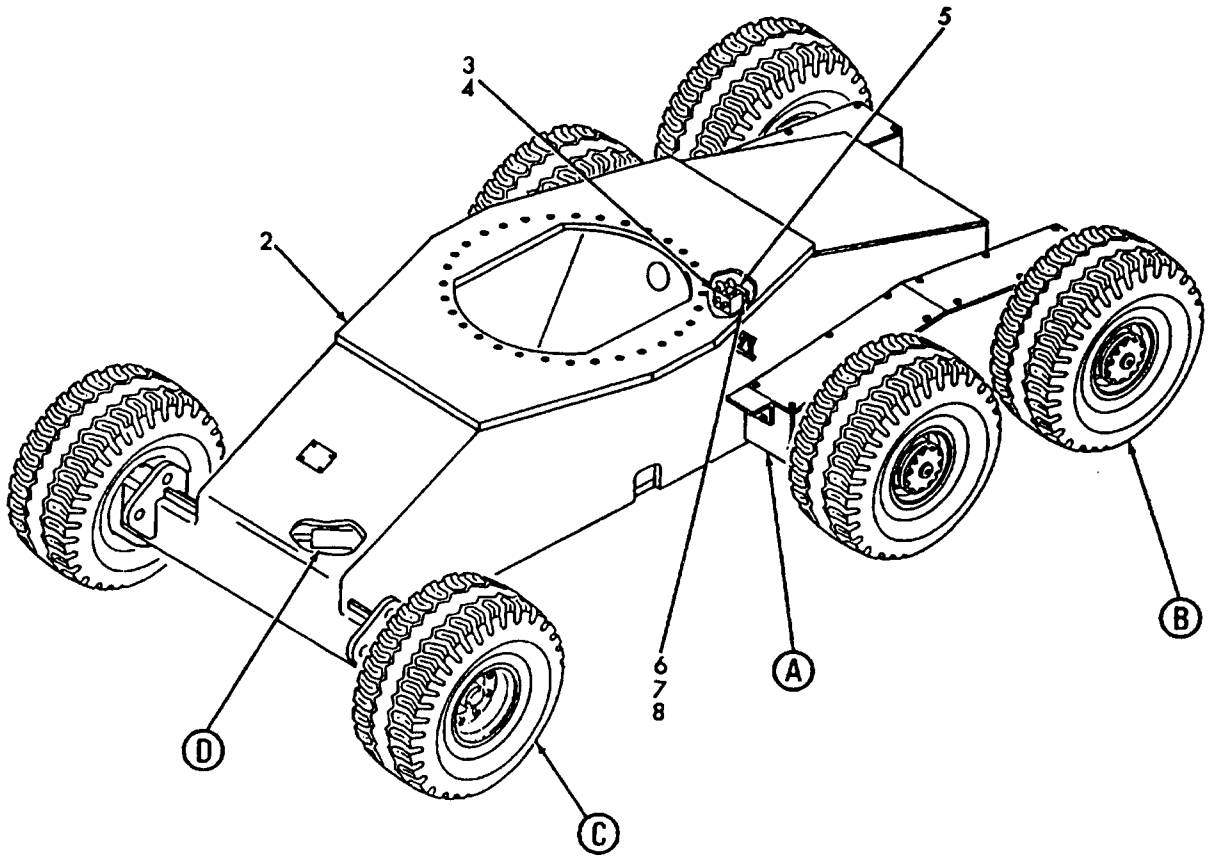
Mark Industries



Ref.	Part No.	Description	Qty	Remarks
	70775	Electronic Control System	Ref.	Incl. Items 1 thru 5
1	70823	Joystick, Boom Extend (Single Axlis-Shown)	1	
2	70824	Joystick, Drive/Steer (Dual Axis)	1	Incl. Serviceable Items 6-11
3	70825	Joystick, Lift/Rotate (Dual Axis)	1	
4	70826	Controller, Drive / Boom Extend	1	Shown Page 4.20
5	70827	Controller, Boom Raise / Turret Rotate	1	Shown Page 4.20
6	600114	Knob	AR	
7	67496	Boot, Single Axis	AR	
		Boot, Dual Axis		
8	67495	Clamp, Single Axis	AR	
		Clamp, Dual Axis		
9		DigiSensor w/Wires	AR	
10	67486	Microswitch	AR	
11		Centering Spring, Dual Axis	AR	
12	212187	Optimizer Kit	Ref.	Contact Distributor

SECTION 3 "BASE ASSEMBLY" CONTAINS:

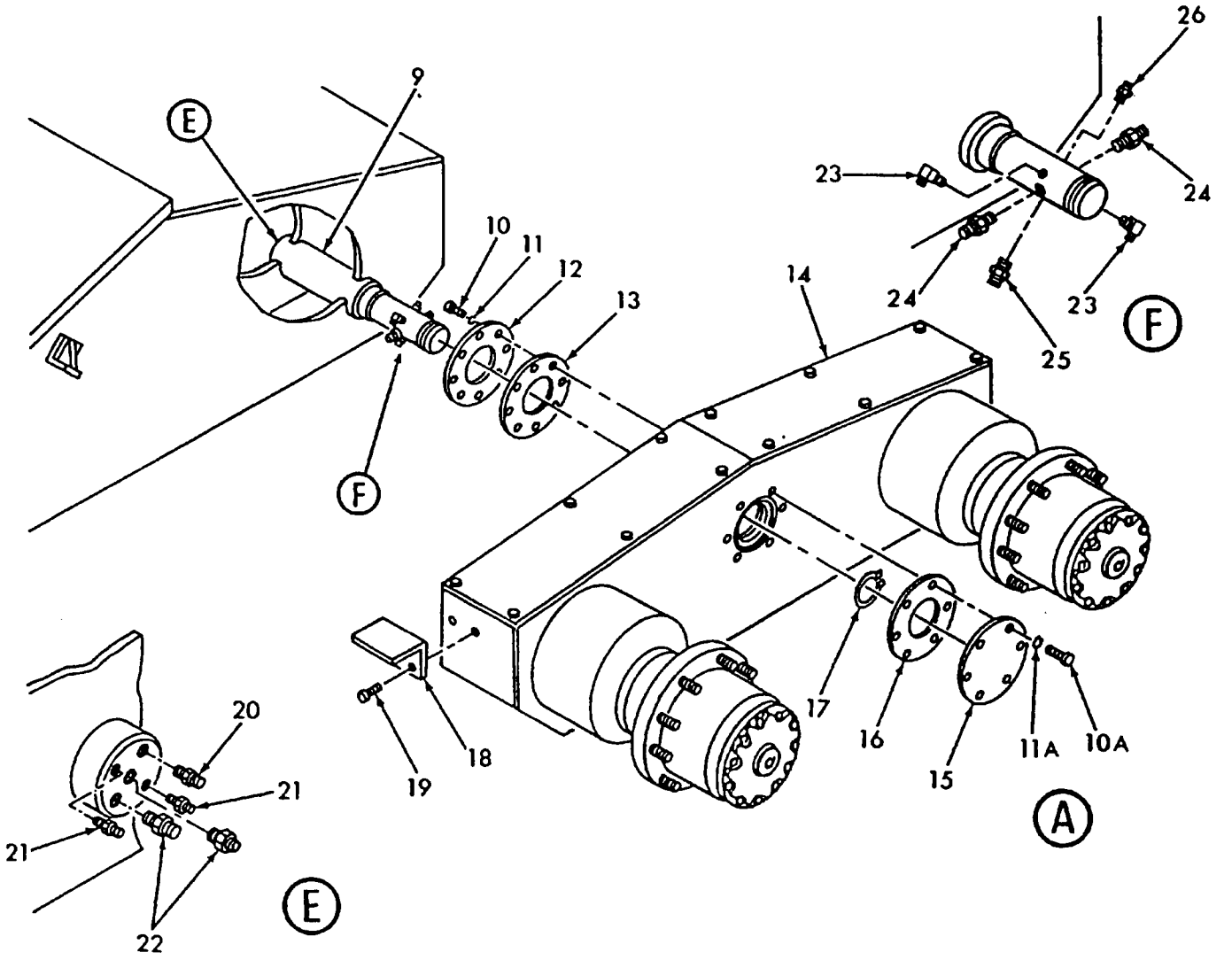
PAGE	TITLE
3.1	BASE ASSEMBLY
3.10	BASE HYDRAULICS
3.11	WHEEL HUB
3.12	TORQUE HUB
3.14	DRIVE MOTOR
3.16	PARKING BRAKE
3.18	STEERING CYLINDER
3.20	TIRE & RIM
3.21	TIRE ROD ASSEMBLY



Ref.	Part No.	Description	Qty	Remarks
1	24499	Assembly, Base	REF.	
2	24498	Weldment, Base	1	
3		Base Hydraulics	1	See Page 3.10 for Details
4		Not Used		(used prior to CH100C)
5		Not Used		(used prior to CH100C)
6		Assembly, Drive/Brake Valve	1	See Page 3.10 for Details
7	60356	Capscrew	2	
8	63303	Lockwasher	2	

BASE ASSEMBLY (CH100C)

Mark Industries



BASE ASSEMBLY (CH100C)

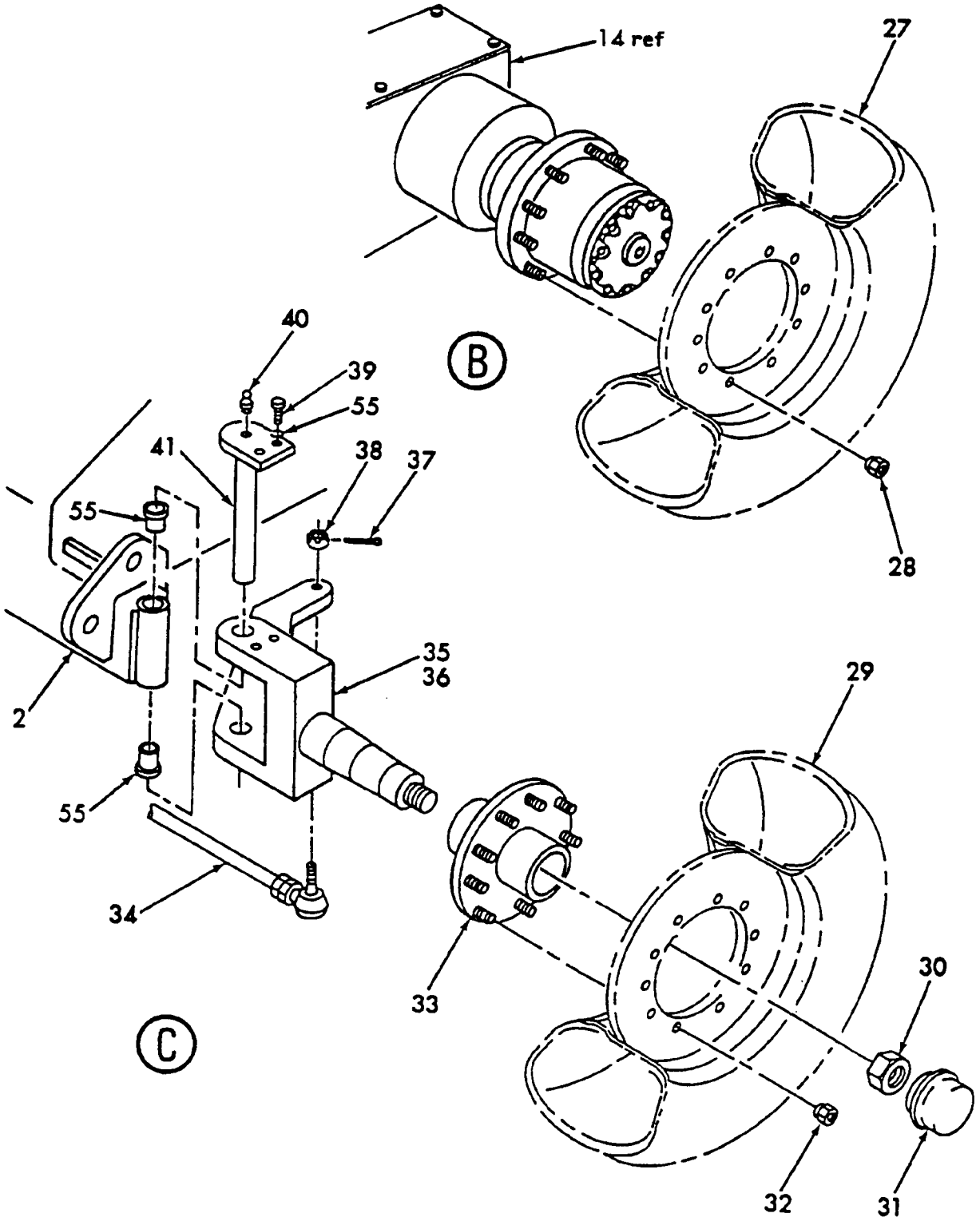
Models CH100C

Issued 7-94

Ref.	Part No.	Description	Qty	Remarks
9	22090	Pivot, Beam (welded in place)	Ref.	
10	60309	Capscrew	12	
10A	60322	Capscrew	12	
11	63301	Lockwasher	16	
11A	63302	Lockwasher	12	
12	21644	Retainer, Seal	2	
13	21645	Bearing, Seal	2	
14	21628	Assembly, Walking Beam	2	See Page 3.8 for Details
15	21632	Cover, Walking Beam	2	
16	21121	Bearing, Seal	2	
17	21642	Ring, Retaining	2	
18	21654	Stop, Walking Beam	2	
19	60601	Capscrew	4	
20	80004-03	Connector, Straight Thread	2	
21	51008	Connector, Male	4	
22	80004-21	Connector, Male	4	
23	51007	Elbow, Male	4	
24	80004-21	Connector, Male	4	
25	80012-21	Connector, Straight Thread	2	
26	80012-13	Connector, Straight Thread	2	

BASE ASSEMBLY (CH100C)

Mark Industries



BASE ASSEMBLY (CH100C)

Models CH100C

Issued 7-94

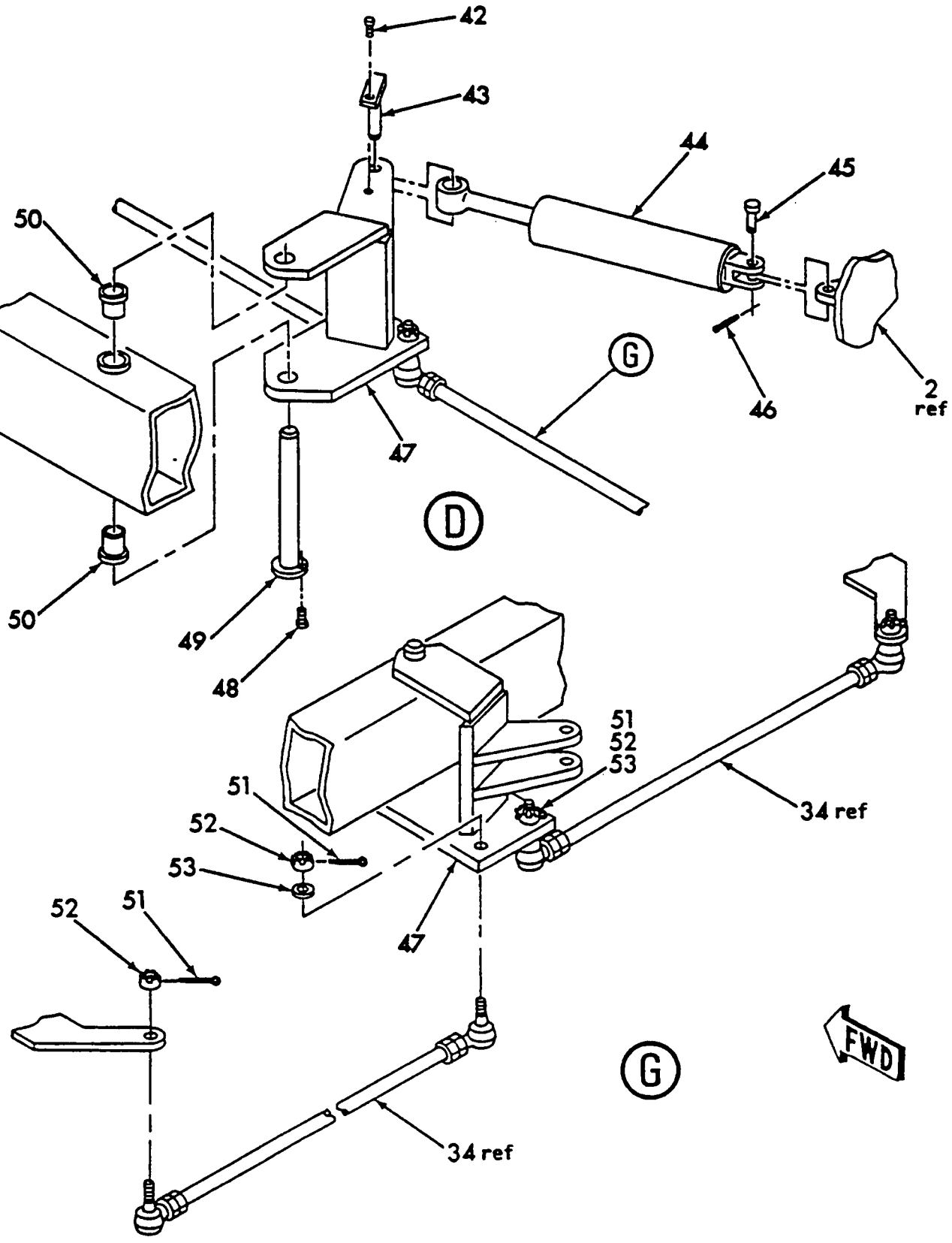
Ref.	Part No.	Description	Qty	Remarks
27	22094	Assembly, Tire & Rim	4	See Page 3.16 for Details
28	65117	Nut, Ball	40	
29	22094	Assembly, Tire & Rim	2	See Page 3.16 for Details
30	61004	Nut, Steering Yoke	2	
31	21799	Cap, Dust	2	
32	6517	Nut, Ball	20	
33	22039	Hub, Steering	2	
34	24157	Assembly, Tie Rod	2	See Page 3.21 for Details
35	22042	Yoke, Steering (L.H.)	1	
36	22041	Yoke, Steering (R.H.)	1	
37	64310	Pin, Cotter	4	
38	16101	Locknut	4	
39	60610	Capscrew	4	
40	65103	Fitting, Grease	2	
41	23984	Pin, King	2	

Models CH100C

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BASE ASSEMBLY (CH100C)

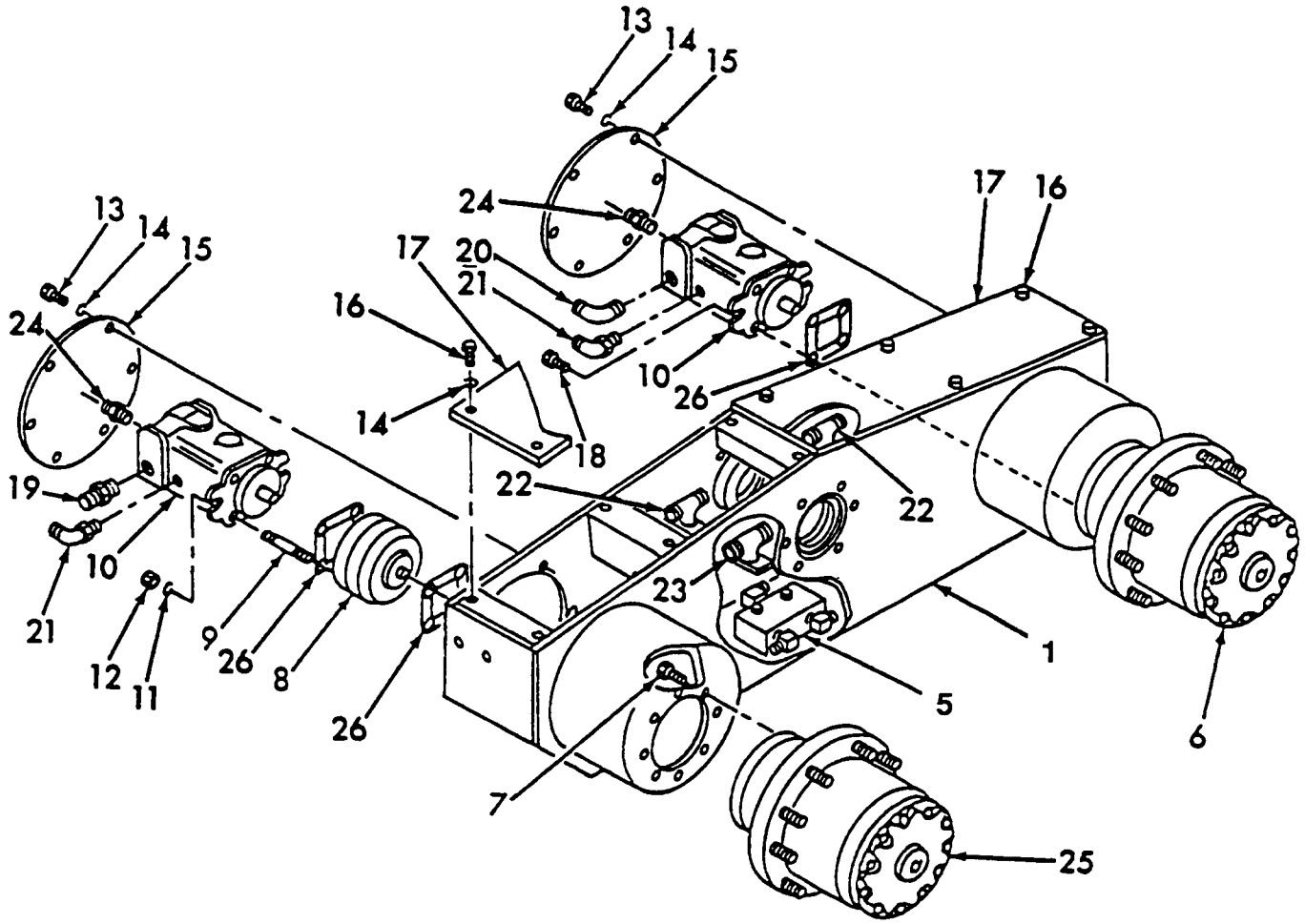
Mark Industries

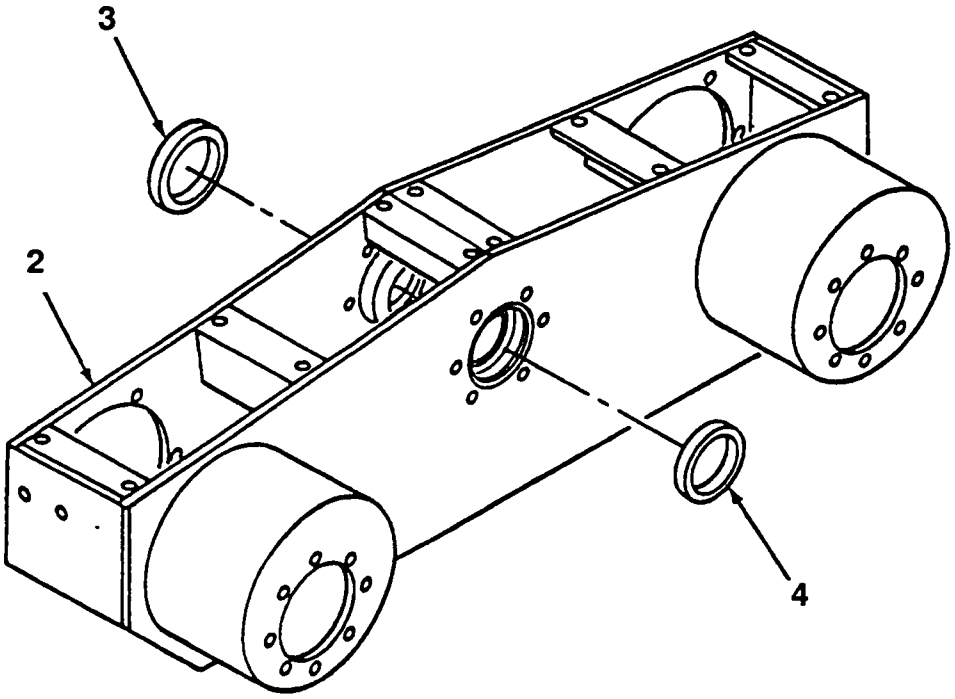


Ref.	Part No.	Description	Qty	Remarks
42	60607	Capscrew	1	
43	22214	Pin, Steering Cylinder	1	
44	22212	Assembly, Steering Cylinder	1	See Page 3.14 for Details
45		Pin, Clevis	1	
46	64310	Pin, Cotter	1	
47	22043	Weldment, Steering Arm	1	
48	655949	Capscrew	2	
49	22045	Pin, Steering Arm	1	
50	21098	Bushing, Steering Arm Pin	2	
51	64310	Pin, Cotter	4	
52	16101	Locknut	4	
53	63432	Flatwasher	2	
54	63305	Lockwasher	4	
55	23983	Bushing	4	

WALKING BEAM ASSEMBLY

Mark Industries





WALKING BEAM ASSEMBLY

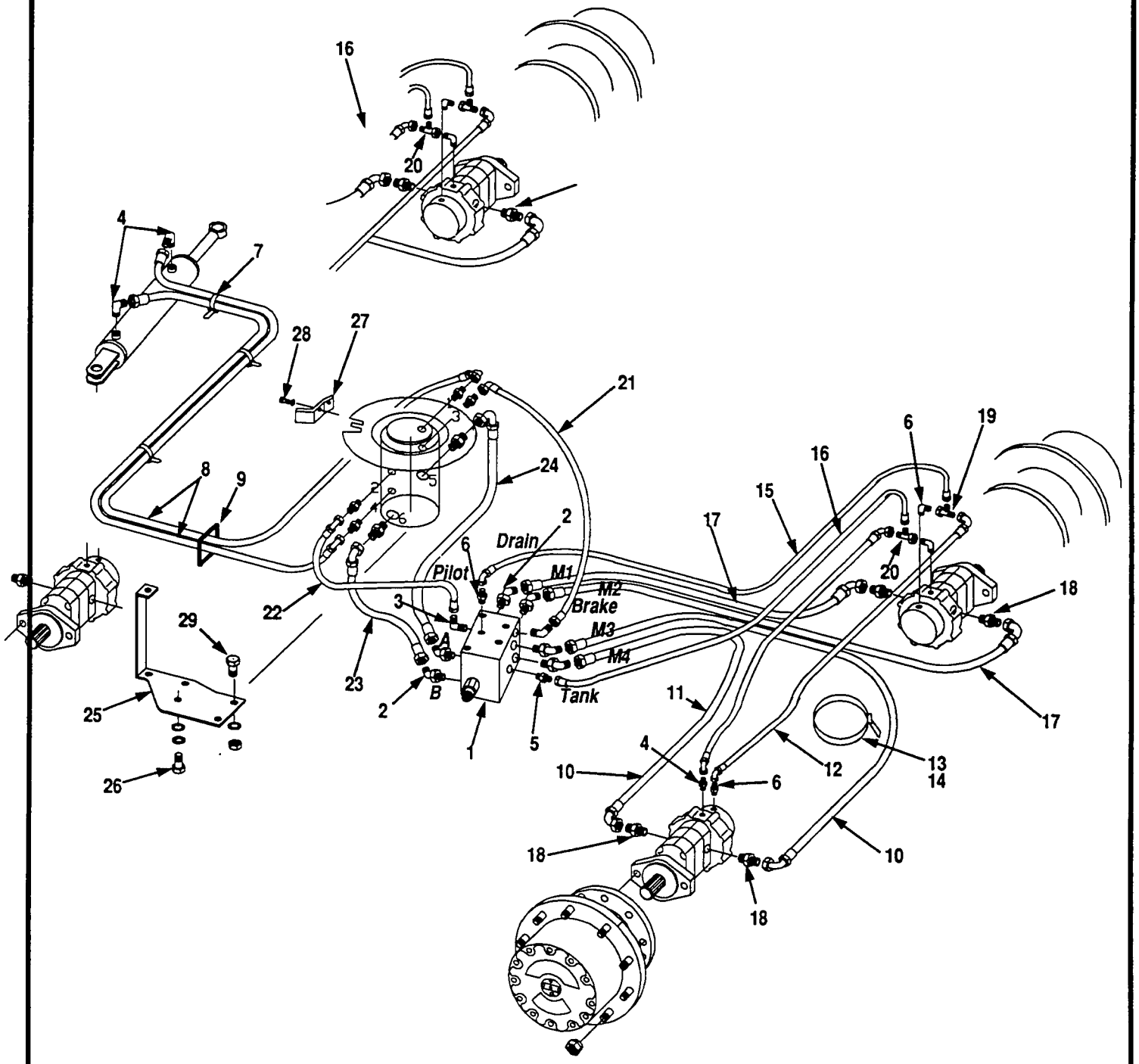
Models CH100C

Issued 7-94

Ref.	Part No.	Description	Qty	Remarks
	21628	Assembly, Walking Beam	Ref.	
1	21883	Sub-Assembly, Walking Beam	1	Incl. items 2 thru 4
2	21627	Weldment, Walking Beam	1	
3	21640	Bearing	1	
4	21641	Bearing	1	
5	22579	Assembly, Flow Divider	1	See Page 3.11 for Details
	60317	Capscrew	2	
	63319	Lockwasher, Split	2	
6	210730	Hub, Torque	4	See Page 3.12 for Details
7	60604	Capscrew	16	
8	21659	Assembly, Brake	1	
9	63633	Rod, Threaded	4	
10	23526	Assembly, Drive Motor (with internal shift)	2	
11	63305	Lockwasher, Split	4	
12	60705	Hex Nut	4	
13	60322	Capscrew	12	
14	63302	Lockwasher, Split	24	
15	21631	Cover	2	
16	60322	Capscrew	4	
17	21639	Cover	2	
18	60602	Capscrew	4	
19	80004-21	Connector, Straight Thread	2	
20	80012-21	Elbow, Straight Thread	2	
21	80012-13	Elbow, Straight Thread	2	
22	80035-03	Tee, Bulkhead Branch	2	
23	80035-06	Tee, Bulkhead Branch	1	
24	80004-03	Connector, Straight Thread	2	
25	24201	Hub, Torque (with steel spindle)	4	See Page 3.12 for Details
26	66847	Gasket	3	

BASE HYDRAULICS

Mark Industries



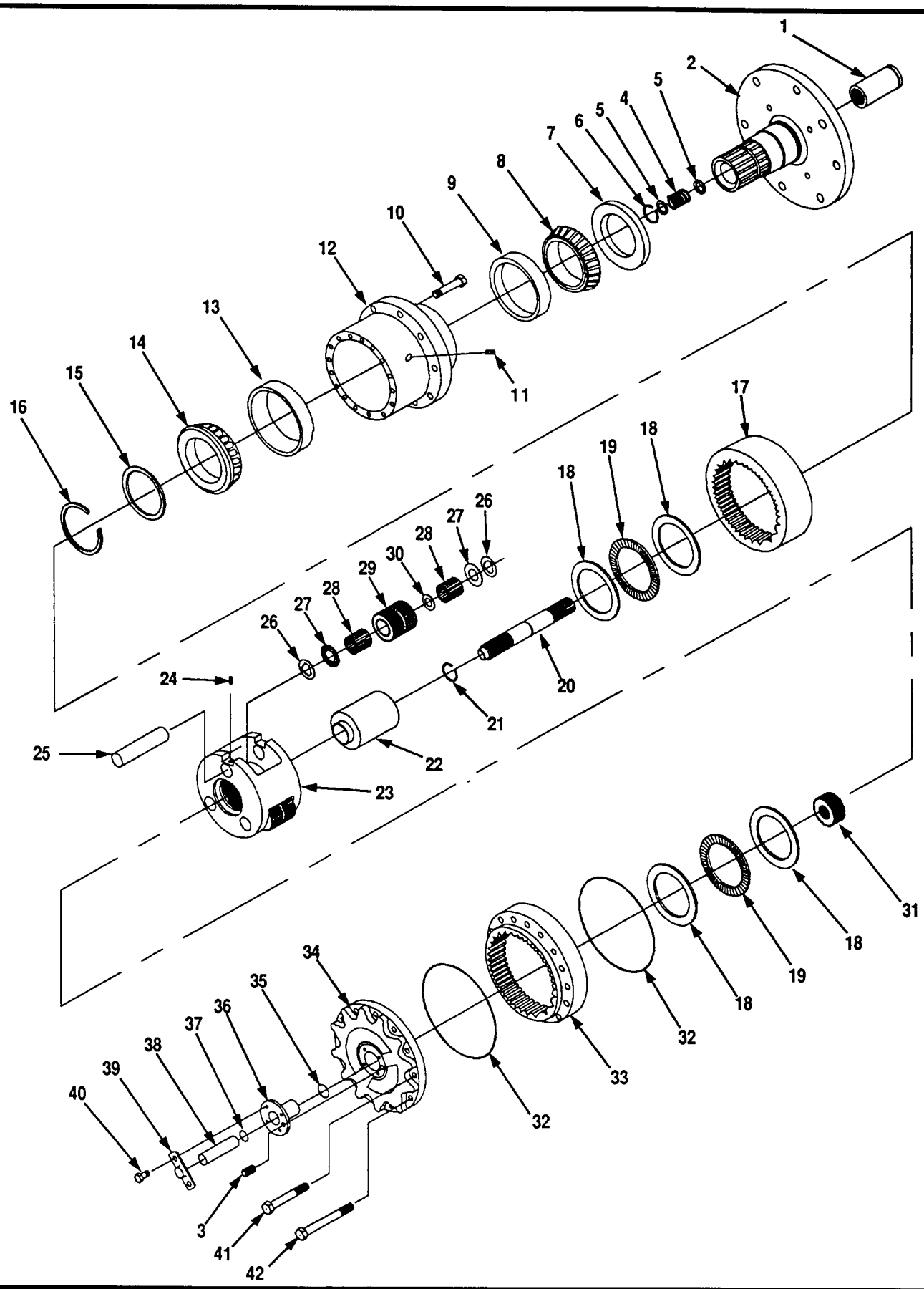
Ref.	Part No.	Description	Qty	Remarks
	212044	Lower Hydraulic Assembly	1	Incl. Items 1 thru 29
1	81445	Valve, Ground Drive	1	See Section 4
2	1219-663	Adapter	6	
3	1219-982	Adapter	1	
4	12019-548	Adapter	5	
5	1219-959	Adapter	1	
6	1219-776	Adapter	3	
7	1222-184	Tie Wrap	4	
8	212059-96	Hose	2	
9	12182-15	Trimlock	4	
10	212062-65	Hose	2	
11	212059-54	Hose	1	
12	212061-52	Hose	1	
13	200B2007-28	Clamp	1	
14	1205-36	Nut	1	
	1209-4	Flatwasher	1	
15	212061-58	Hose	1	
16	212060-54	Hose	1	
17	212062-78	Hose	2	
18	1219-389	Adapter	4	
19	12019-112	Tee	1	
20	12019-453	Tee	1	
21	212059-36	Hose	1	
22	212061-22	Hose	1	
23	212062-22	Hose	1	
24	212062-28	Hose	1	
25	212009	Bracket, Ground Drive Valve	1	
26	1200-59	Capscrew, 3/8C x 1	3	
	1210-20	Lockwasher	3	
	1209-4	Flatwasher	3	
27	212008	Plate, Rotary Manifold	1	
28	1200-59	Capscrew, 3/8C x 1	2	
	1209-4	Flatwasher	2	
29	1200-61	Capscrew, 3/8C x 1-1/4	3	
	1210-20	Lockwasher	3	
	1209-4	Flatwasher	3	
	1205-36	Nut, 3/8C	3	

Models CH100C

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TORQUE HUB

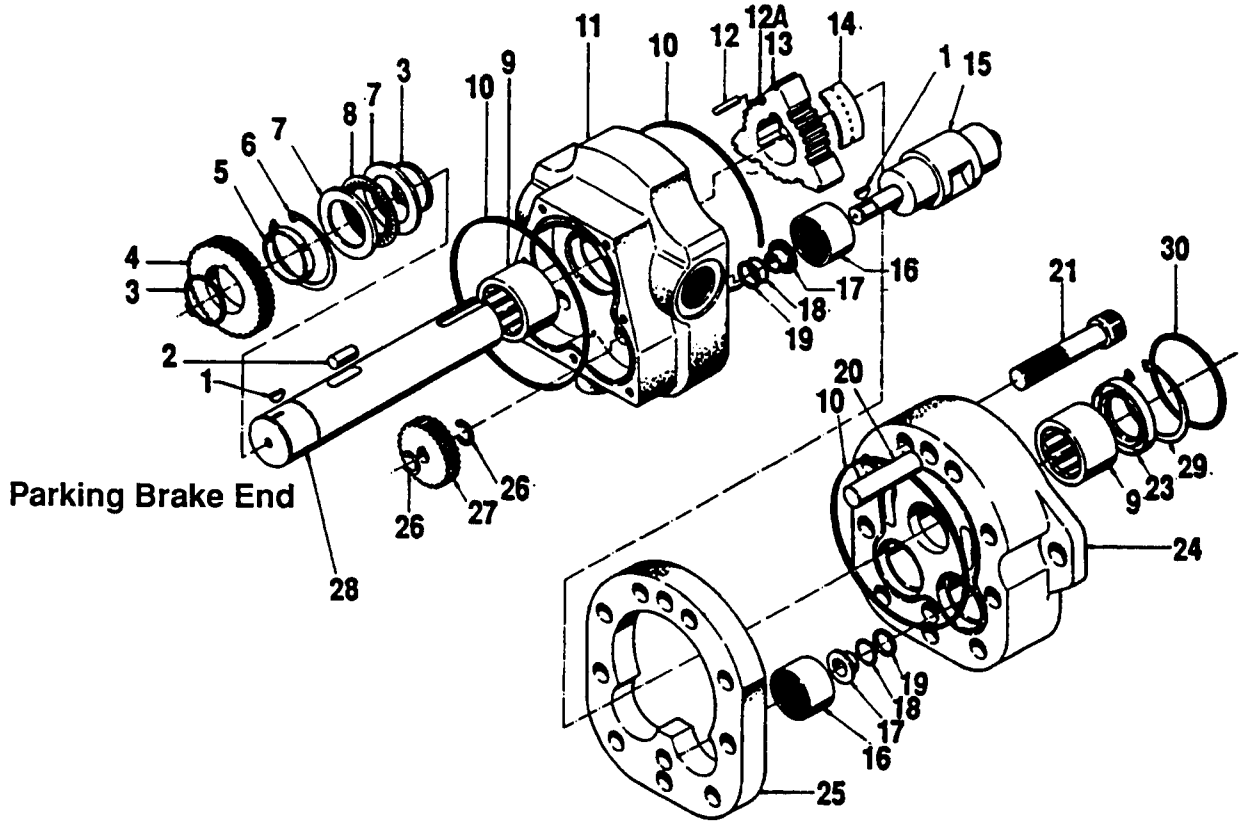
Mark Industries



Ref.	Part No.	Description	Qty	Remarks
	210730	Torque Hub	1	Incl. Items 1 thru 43
	67870	Kit, Seal	1	Incl. Items w/Asterisk *
1	67881	Coupling	1	
2	69500	Spindle	1	
3	68287	Plug, Pipe, 1/8 NPTF	1	
4	68293	Spring	1	
5	67892	Washer, Thrust	2	
6	66524	Ring, Retaining	1	
7	66399	Seal	1	*
8	67920	Cone, Bearing	1	
9	67912	Cup, Bearing	1	
10	67884	Stud	10	
11	68286	Plug, Pipe, 3/8 NPTF	2	
12	68302	Hub	1	
13	67913	Cup, Bearing	1	
14	67921	Cone, Bearing	1	
15	67903	Washer, Thrust	1	
16	66516	Ring, Retaining	1	*
17	68290	Gear, Internal	1	
18	66436	Washer, Thrust	4	
19	66437	Bearing, Thrust	2	
20	68292	Shaft, Input	1	
21	67889	Ring, Retaining	1	
22	67905	Spacer, Input	1	
23	66429	Carrier	1	
24	66433	Pin, Roll	3	
25	66431	Shaft, Planet	3	
26	66430	Washer, Thrust	6	
27	66434	Washer, Thrust	6	
28	66423	Roller, Needle	84	
29	66432	Gear, Cluster	3	
30	67904	Spacer	3	
31	68289	Sun Gear, Input	1	
32	66397	O-Ring	2	*
33	68291	Gear, Ring	1	
34	66724	Cover	1	
35	66439	O-Ring	5	*
36	66341	Cap, Cover	1	
37	66438	O-Ring	5	*
38	66230	Rod, disconnect	1	
39	66115	Cap, Disconnect	1	
40	67928	Bolt, 1/4C x 3/4	4	
41	67929	Bolt	8	
42	67930	Bolt, Shoulder	4	
43	67905	Spacer, Thrust	1	

DRIVE MOTOR

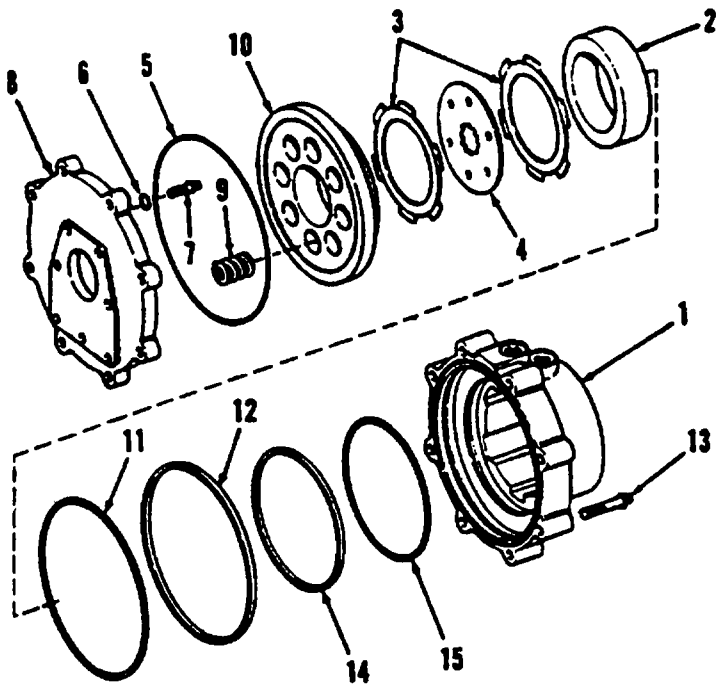
Mark Industries



Ref.	Part No.	Description	Qty	Remarks
	81393	Hydraulic Motor w/Brake	2	Incl. Items 1 thru 31 & Items 1 thru 15 Page 3.16
	69683	Motor only	1	Incl. Items 1 thru 31
	69684	Kit, Seal	1	Incl. Items w/Asterisk *
1	69685	Key, Woodruff	3	
2	69686	Pin, Drive	1	
3	69687	Ring, Retaining	2	
4	69688	Gear, Drive	1	
5	69689	Washer, Spacer	1	
6	69690	Ring, Retaining	1	
7	69691	Race, Bearing	2	
8	69692	Bearing, Thrust	1	
9	69693	Bearing, Needle	2	
10	69694	Oil Seal	3	*
11	69695	Cap, Rear End	1	
12	69696	Roller, Tip Seal	3	
12A	69697	Roller, Body Seal	18	
13	69698	Rotor	1	
14	69699	Plate, Seal	3	
15	69700	Valve, Abutment	2	
16	69701	Bearing, Needle	4	
17	69702	Bearing, Step	4	
18	69703	O-Ring	4	*
19	69704	Ring, Back-Up	4	*
20	69705	Pin, Dowel	2	
21	69706	Capscrew	9	
23	69707	Seal, Shaft	1	*
24	69708	Cap, Front End	1	
25	69709	Housing, Displacement	1	
26	69710	Ring, Retaining	4	
27	69711	Pinion, Gear	2	
28	69712	Shaft, Splined (13T)	1	
29	69713	Ring, Retaining	1	*
30	69714	O-Ring	1	
31	69715	Cap, Front Sealing	1	Not Shown

PARKING BRAKE

Mark Industries

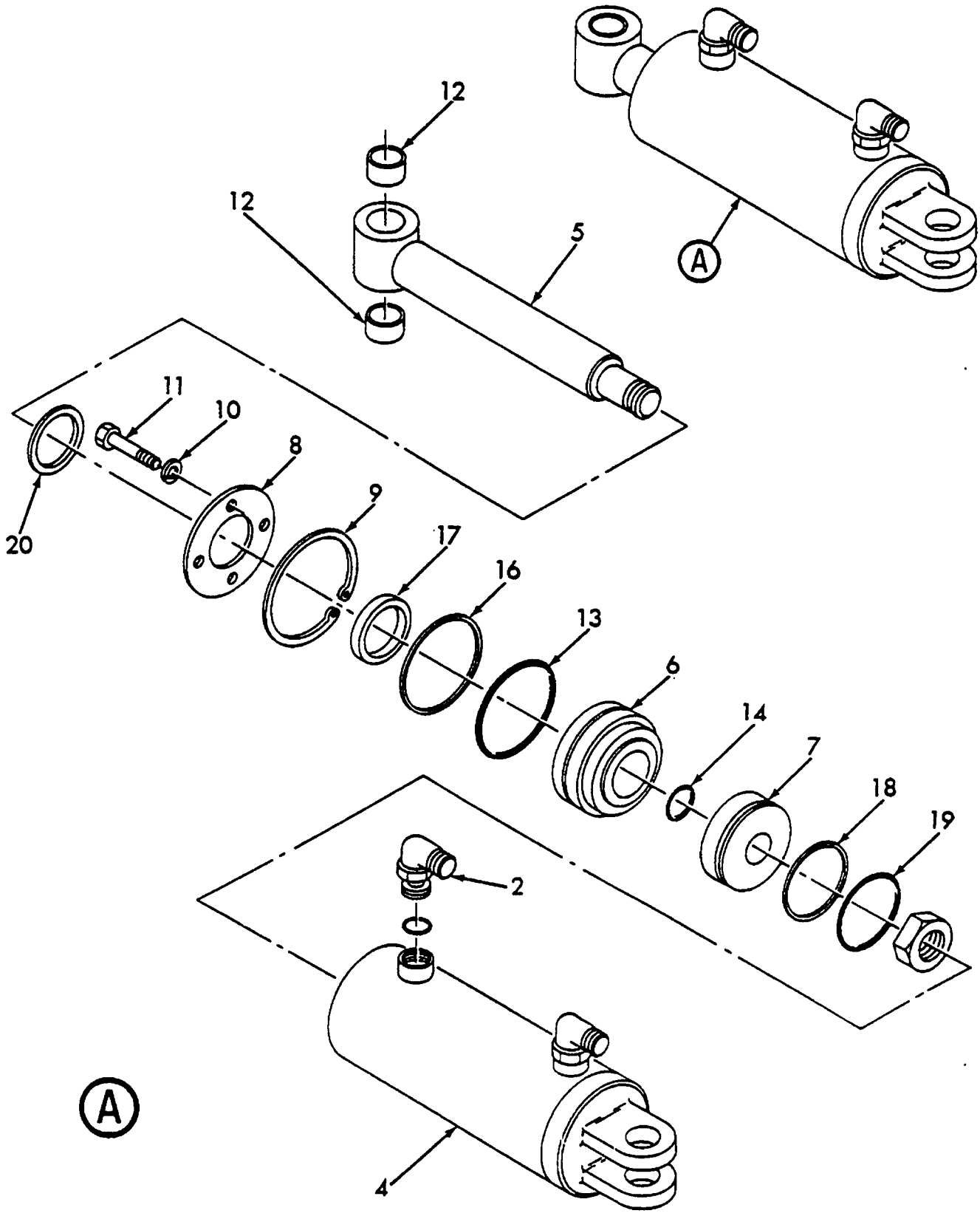


Ref.	Part No.	Description	Qty	Remarks
	69731	Brake, Parking	2	Incl. Items 1 thru 15
	68134	Kit, Seal	1	
1	69716	Housing	1	
2	69717	Ring, Spacer	1	
3	69718	Disc, Friction	5	
4	69719	Driver, Plate	4	
5	69720	O-Ring	1	
6	69721	Washer, Brass	7	
7	69722	Capscrew, Socket Head	7	
8	69723	Plate, Adapter	1	
9	69724	Spring, Die	8	
10	69725	Plate, Pressure	1	
11	69726	Ring, Back-Up	1	
12	69727	O-Ring	1	
13	69728	Capscrew, Socket Head	8	
14	69729	O-Ring	1	
15	69730	Ring, Back-Up	1	

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STEERING CYLINDER

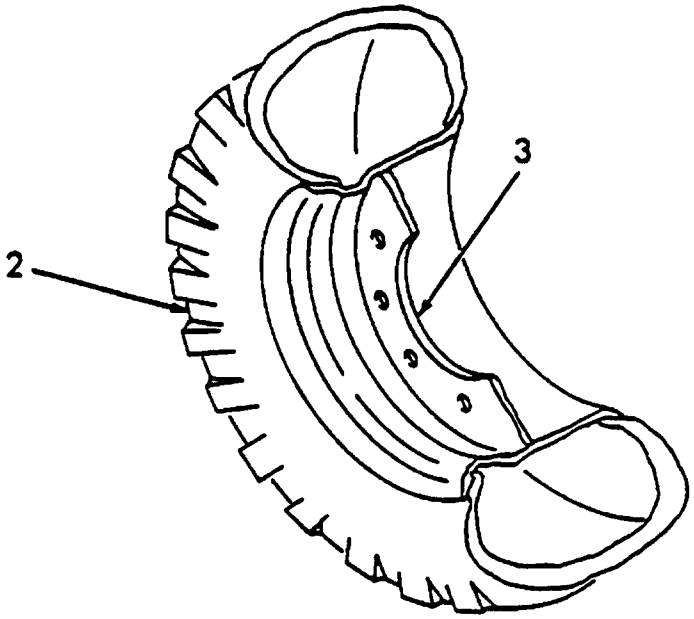
Mark Industries



Ref.	Part No.	Description	Qty	Remarks
1	22212	Assembly, Steering Cylinder	REF.	
2	800012-03	Elbow, Straight Thread	2	
3	22119	Cylinder, Steering	1	
4		Barrel	1	
5		Rod	1	
6		Head	1	
7		Piston	1	
8		Plate, Head	1	
9		Ring, Snap	1	
10		Lockwasher	4	
11		Capscrew	4	
12		Bushing	2	
13	66361	Kit, Seal	1	
14	66041	O-Ring, Static	1	
15		O-Ring, Head	1	
16		B/U Ring, Head	1	
17		Seal, Rod (Polypak)	1	
18		Ring, Servon	1	
19		O-Ring	1	
20		Wiper, Rod	1	

TIRE & RIM ASSEMBLY

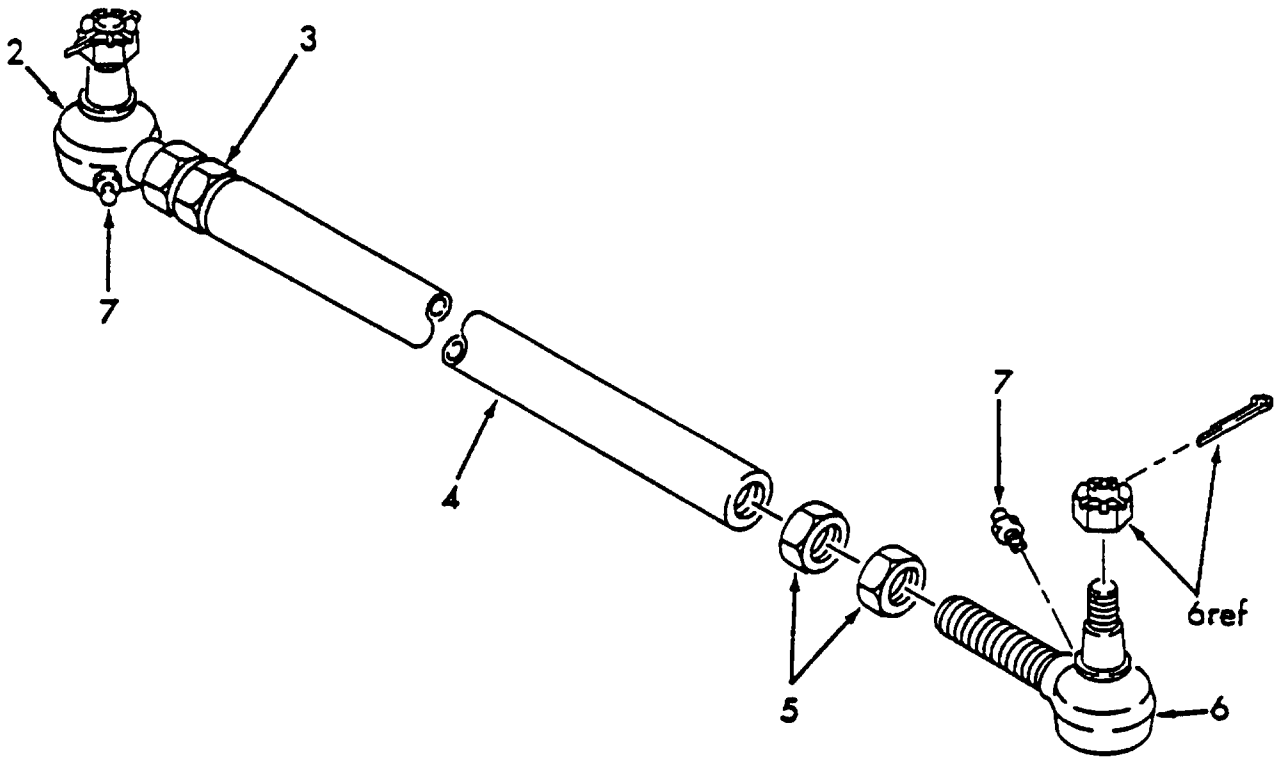
Mark Industries



Ref.	Part No.	Description	Qty	Remarks
1	22094	Assembly, Tire & Rim	REF.	
2	66570	Tire	1	
3	66569	Rim	1	

TIE ROD ASSEMBLY

Models CH100C
Issued 7-94



Ref.	Part No.	Description	Qty	Remarks
1	24157	Assembly, Tie Rod	REF.	
2	20569	End, Tie Rod	1	
3	20567	Nut, Hex Jam (Left Hand Thread)	2	
4	27410	Tube, Round	1	
5	20566	Nut, Hex Jam (Right Hand Thread)	2	
6	20568	End, Tie Rod	1	
7	65103	Fitting, Grease	2	

NOTES

Mark Industries

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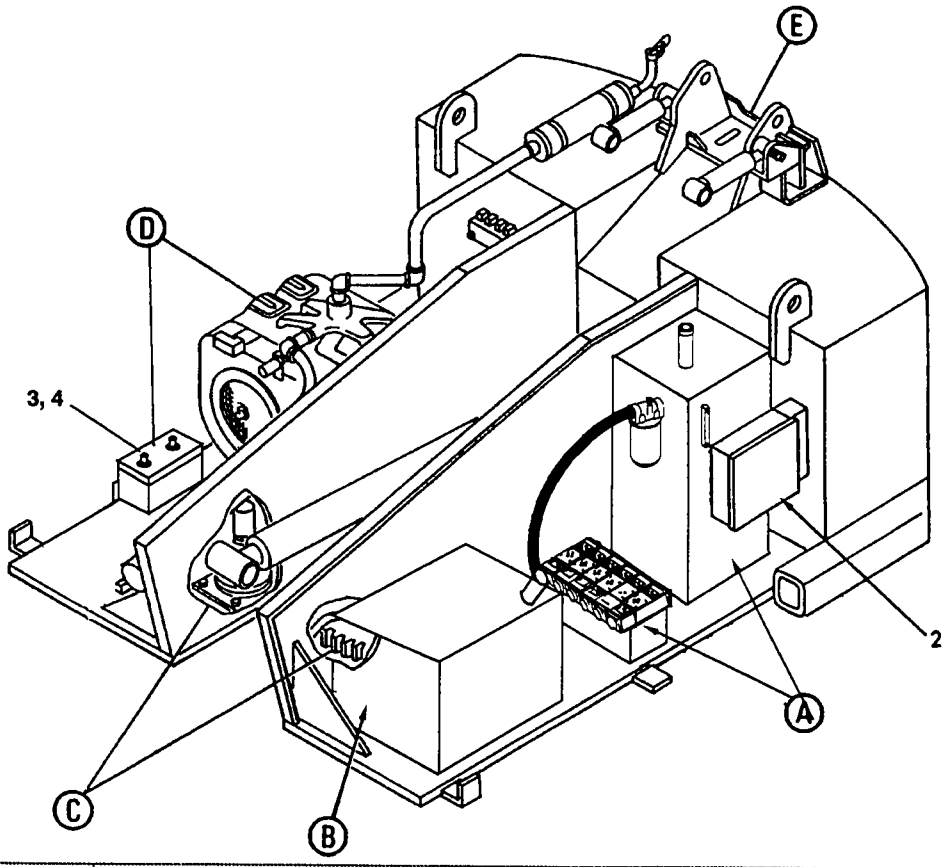
SECTION 4 "TURRET ASSEMBLY" CONTAINS:

PAGE	TITLE
4.2	TURRET ASSEMBLY
4.7	ENGINE - FORD
4.10	AIR CLEANER - FORD
4.11	FUEL TANK - FORD
4.12	ENGINE - LP GAS (FORD)
4.14	LP FUEL SYSTEM
4.16	BATTERY ASSEMBLY - FORD
4.17	ENGINE CONTROL PANEL - FORD
4.19	ENGINE, DIESEL (DEUTZ)
4.24	FUEL TANK - DIESEL ENGINE (DEUTZ)
4.25	BATTERY ASSEMBLY - DETTZ
4.26	ENGINE CONTROL PANEL - DEUTZ
4.28	TURRET ROTATION GEAR BOX
4.30	ROTATION GEAR BOX BRAKE
4.32	ROTATION MOTOR
4.34	TURRET WIRING
4.36	GROUND CONTROL BOX
4.38	TURRET HYDRAULICS
4.40	TURRET HYDRAULICS
4.42	MAIN PUMP
4.44	MAIN PUMP CONTROL
4.45	EMERGENCY PUMP/MOTOR
4.46	MAIN VALVE
4.48	FUNCTION VALVE
4.50	HYDRAULIC RESERVOIR & FILTER
4.52	ROTARY MANIFOLD
4.54	MASTER LEVELING CYLINDER
4.56	TORQUE HUB

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TURRET (CH100C)

Mark Industries

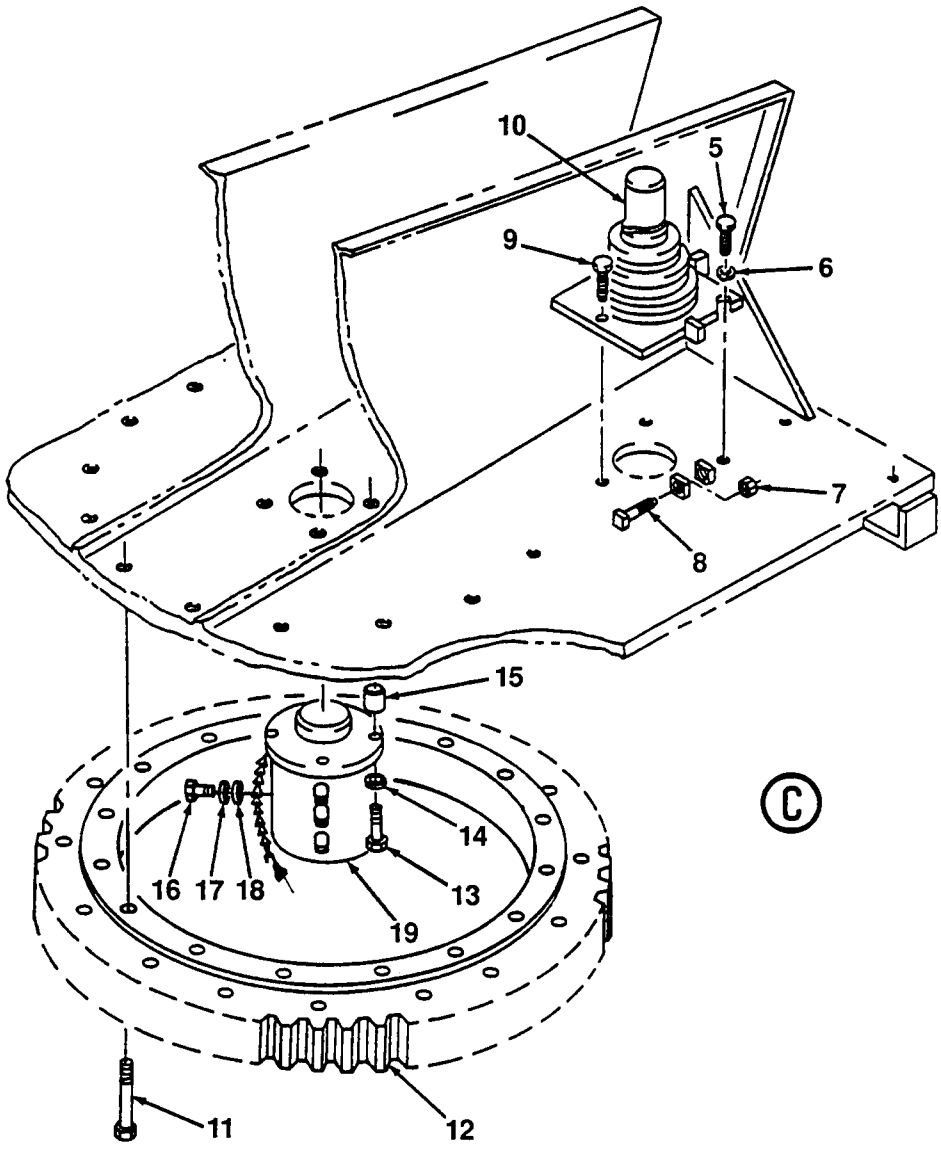


Ref.	Part No.	Description	Qty	Remarks
	24485	Assembly, Turret	REF.	
1	24482	Weldment, Turret	1	
A		Turret Hydraulics	REF.	See Page 4.38 for Details
B		Fuel Tank, Gasoline (Ford)	REF.	See Page 4.11 for Details
B		Fuel Tank, Diesel (Deutz)	REF.	See Page 4.24 for Details
C		Detail "C"	REF.	See Page 4.3 for Details
D		Engine, Gasoline (Ford)	REF.	See Page 4.7 for Details
D		Engine, Diesel (Deutz)	REF.	See Page 4.19 for Details
E		Detail "E"	REF.	See Page 4.4 for Details
2	211983	Assembly, Ground Control Box	1	See Page 4.36 for Details
3		Kit, Battery Cable	REF.	See Detail "D"
4	21244	Battery, 12 Volt	1	
5	60637	Capscrew	2	
6	22169	Washer, Gearbox	2	
7	60910	Jam Nut	2	
8	62222	Screw, Set Cup Point	2	
9	60601	Capscrew	1	
10	22789	Assembly, Rotation Gearbox	1	See Page 4.28 for Details
11	60604	Capscrew	16	
12	22021	Ring, Slewing	1	
13	60511	Capscrew	4	

TURRET ASSEMBLY (CH100C)

Models CH100C

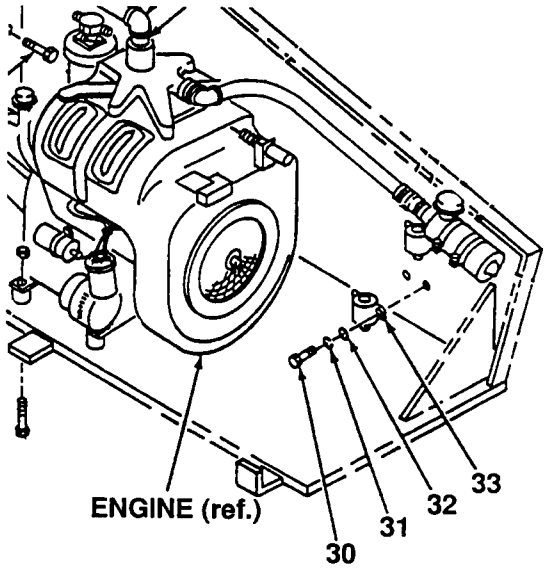
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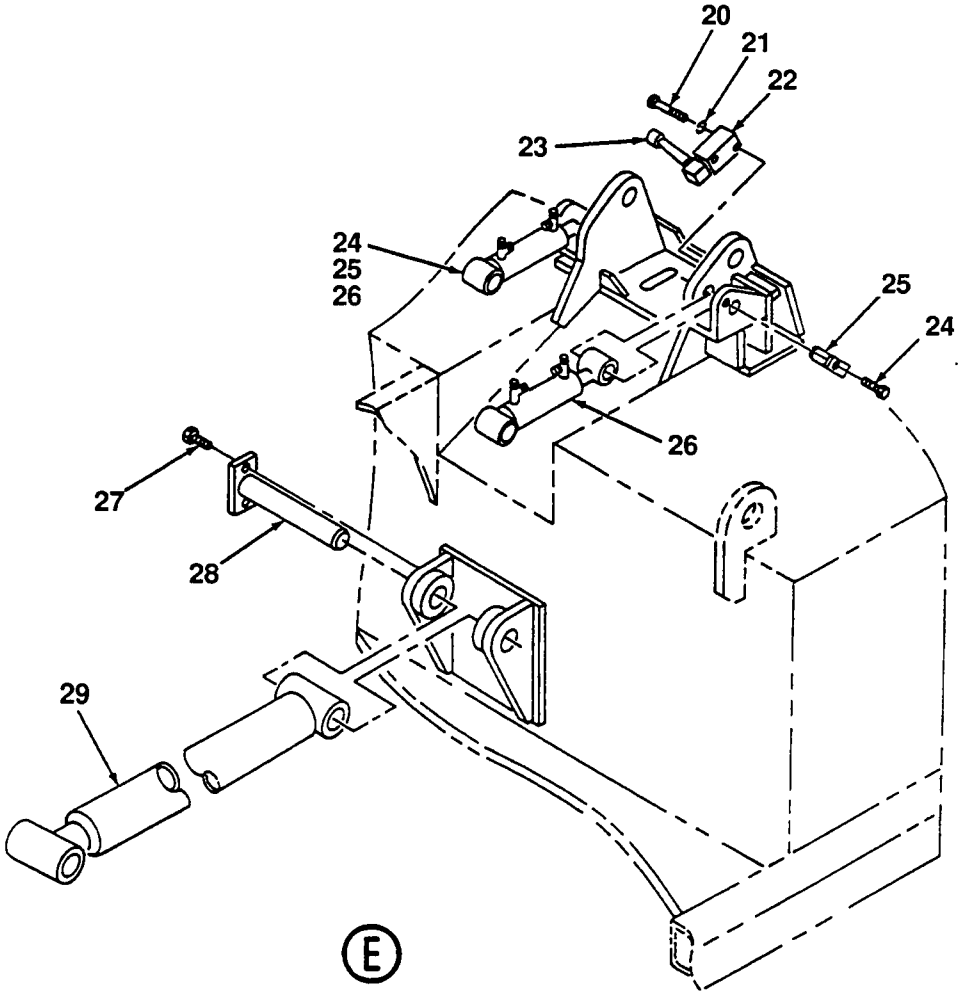


Ref.	Part No.	Description	Qty	Remarks
14	63302	Lockwasher	4	
15	20445	Spacer, Manifold	4	
16	60612	Capscrew	2	
17	63303	Lockwasher	2	
18	63403	Flat Washer	2	
19	21898	Manifold, Rotary	1	See Page 4.52 for Details

TURRET ASSEMBLY (CH100C)

Mark Industries

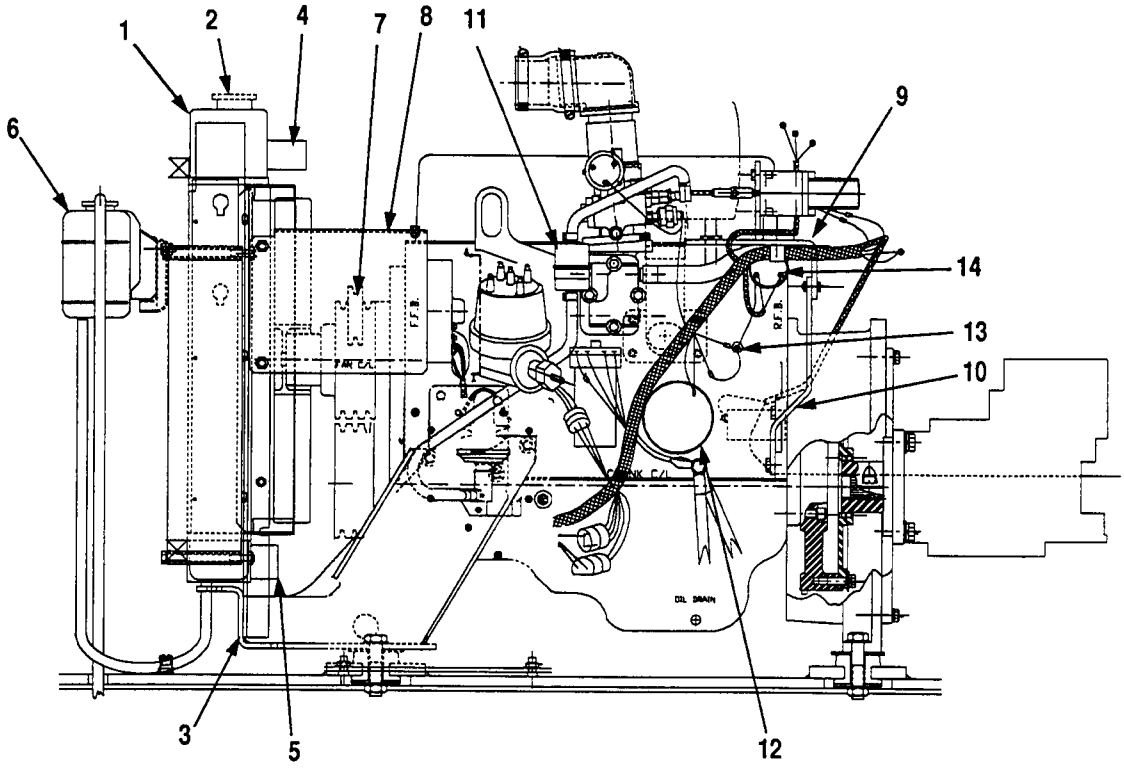




Ref.	Part No.	Description	Qty	Remarks
20	62704	Screw, Machine	2	
21	63313	Lockwasher	2	
22	70107	Limit Switch	1	
23	70031	Arm, Lever	1	
24	60607	Capscrew	2	
25	21337	Pin, Master Leveling Cylinder	2	
26	21084	Assembly, Master Leveling Cylinder	2	See Page 4.54 for Details
27	60618	Capscrew	2	
28	22046	Pin, Lift Cylinder	1	
29	24056	Assembly, Lift Cylinder	1	See Page 5.14 for Details
30	60318	Capscrew	4	
31	63301	Lockwasher	4	
32	63401	Flat Washer	4	
33	70209	Relay, Solenoid	2	

NOTES

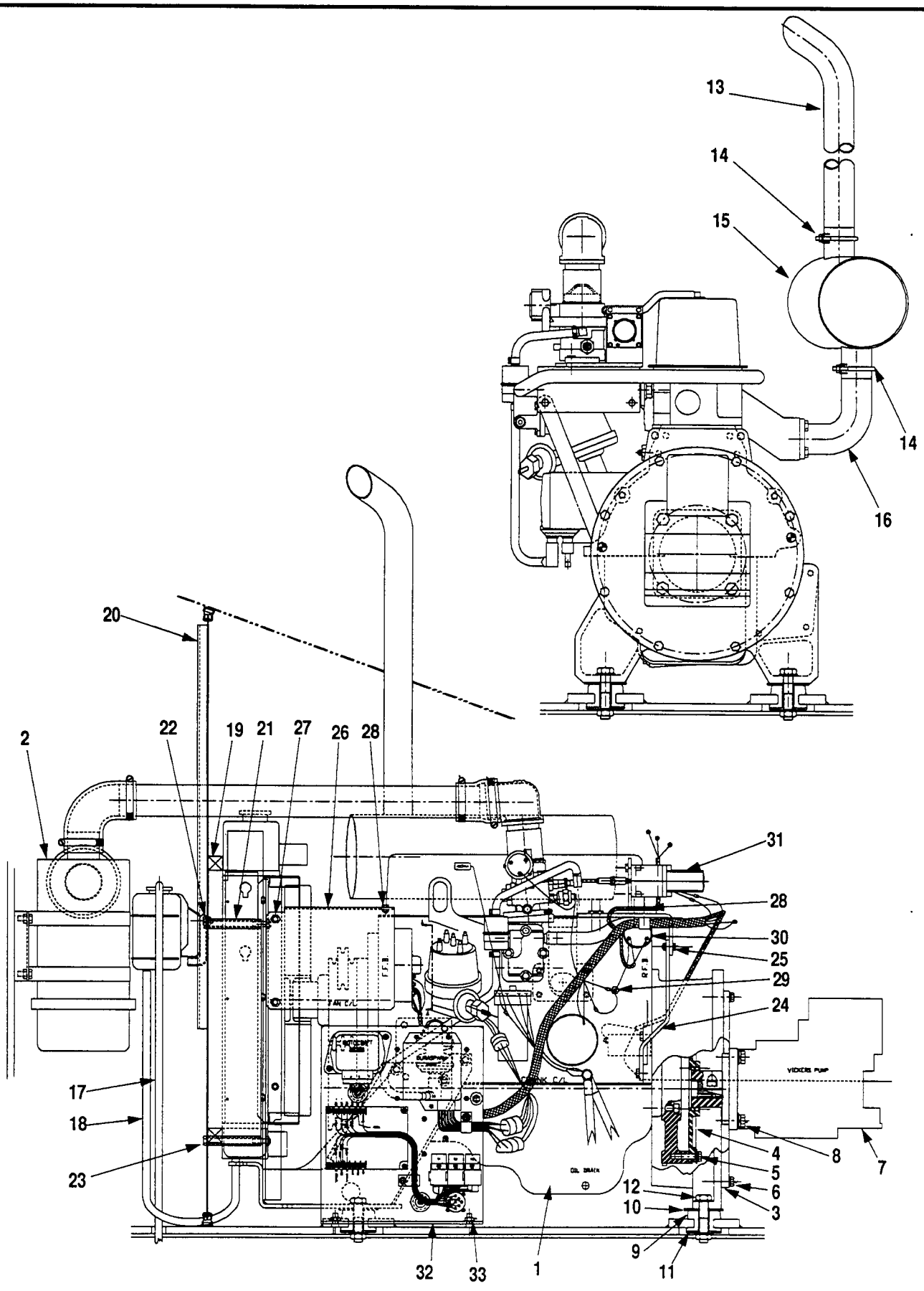
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Ref.	Part No.	Description	Qty	Remarks
1	69776	Radiator	1	
2	69777	Cap, Radiator	1	
3	212083	Bracket, Radiator Support	1	
4	69778	Hose, Upper	1	
5	69779	Hose, Lower	1	
6	69780	Tank, Recovery	1	
7	69783	Belt, Fan	1	
8	212039	Cover, Alternator	1	
9	212072	Bracket, Governor Mounting	1	
10	212052	Support, Governor Bracket	1	
11	69781	Filter, Fuel (Gasoline)	1	
12	69782	Filter, Oil	1	
13	160676	Temperature Switch	1	
	1219-214	Bushing	1	
14	U441 6822	Switch, Oil Pressure	1	

ENGINE (FORD)

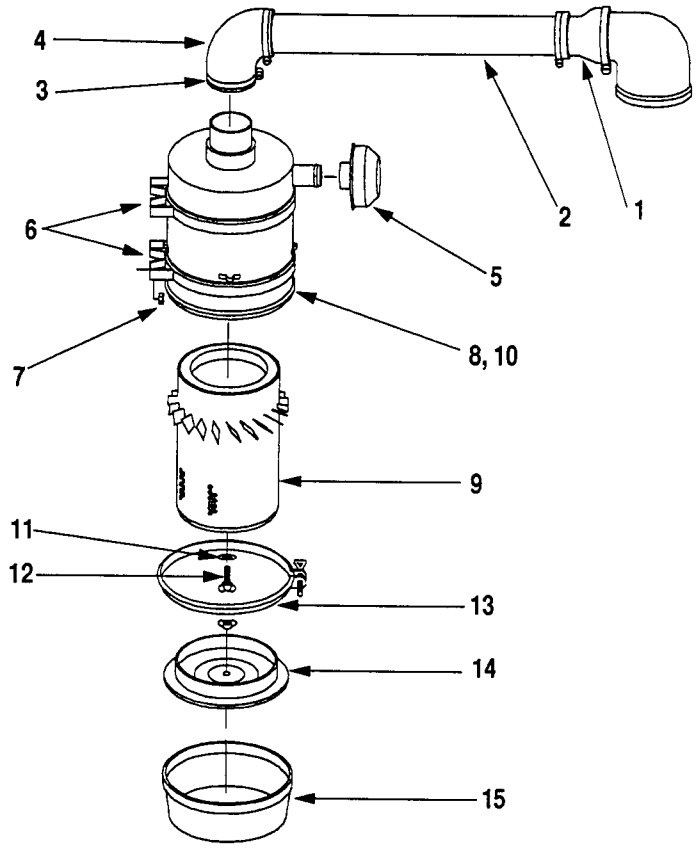
Mark Industries



Ref.	Part No.	Description	Qty	Remarks
	212082	Engine Assembly	Ref.	Incl. Items 1 thru 33
1	160678	Engine	Ref	See Ford for Parts & Service
2		Air Cleaner	Ref.	See Page 4.10
3	212069	Cover, Flywheel	1	
4	211989	Flywheel Coupling	1	
5	1200-61	Capscrew, 3/8C x 1-1/4	8	
	1210-20	Lockwasher	8	
	1209-4	Flatwasher	8	
6	1200-61	Capscrew, 3/8C x 1-1/4	8	
	1210-20	Lockwasher	8	
7	81442	Pump	1	See Page 4.42
8	1200-98	Capscrew, 1/2C x 1-1/4	4	
	1210-27	Lockwasher	4	
	1209-6	Flatwasher	4	
9	160672	Bushing, Motor Mount	4	
10	160673	Washer	4	
11	160674	Washer	4	
12	1200-156	Capscrew, 5/8C x 3	4	
	1209-8	Flatwasher	8	
	1205-90	Locknut, 5/8C	4	
13	212071	Pipe, Exhaust Stack	1	
14	16230	Clamp, 2"	2	
15	160668	Muffler	1	
16	160669	Tube, Exhaust	1	
17	180091-5.41	Hose, Washer	1	(65")
18	180091-2.08	Hose, Washer	1	(25")
19	12148-20	Gasket, Foam	4	1"x1"
20	212037	Baffle Plate Ass'y	1	
21	212058	Baffle Spacer	2	
22	1200-29	Capscrew, 5/16C x 3/4	2	
	1205-34	Locknut, 5/16C	2	
23	1200-45	Capscrew, 3/8C x 4-1/2	4	
	1205-45	Locknut, 3/8C	4	
24	212052	Bracket, Support	1	
25	1200-7	Capscrew, 1/4C x 1-1/2	2	
	1205-21	Locknut, 1/4C	2	
26	212039	Cover, Alternator	1	
27	1200-59	Capscrew, 3/8C x 1	2	
	1205-45	Locknut, 3/8C	2	
28	1200-1	Capscrew, 1/4C x 3/4	3	
	1205-21	Locknut, 1/4C	3	
29		Switch, Water Temperature	1	See Page 4.7
30		Switch, Oil Pressure	1	See Page 4.7
31	160670	Solenoid, Governor	2	
32	212099	Control Panel	1	See Page 4.17
33	1205-45	Locknut, 3/8C	2	
	1209-4	Flatwasher	2	

AIR CLEANER (FORD ENGINE)

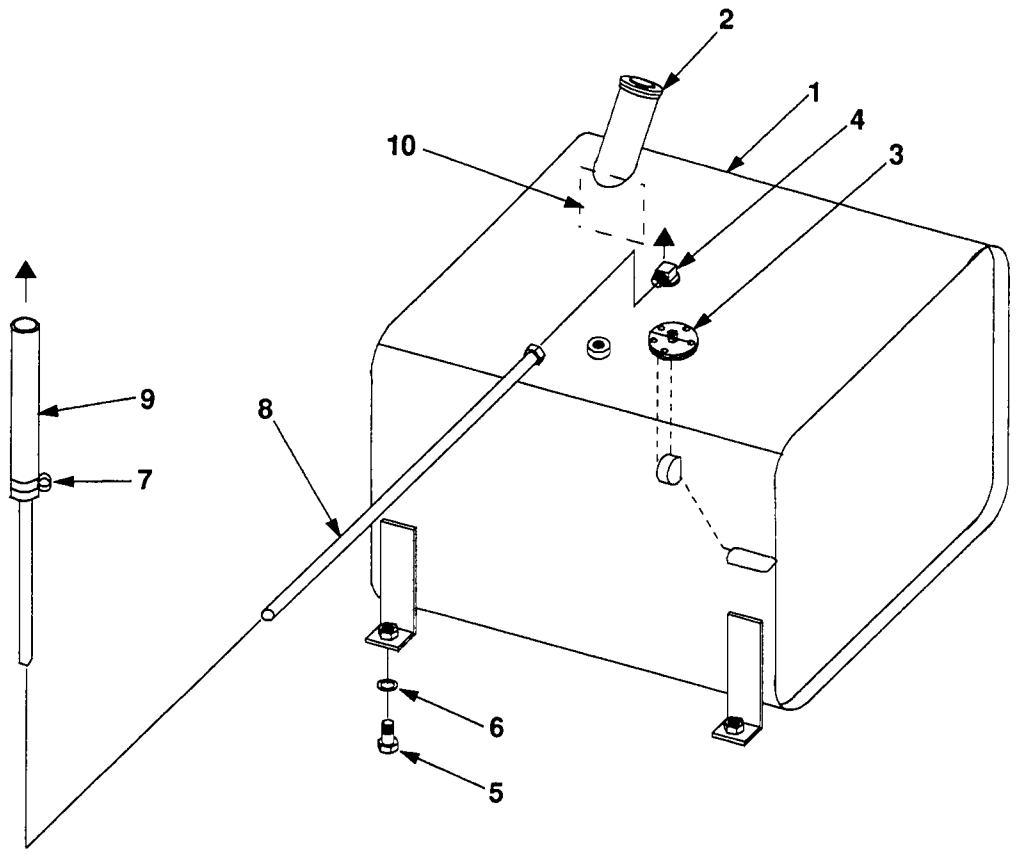
Mark Industries



Ref.	Part No.	Description	Qty	Remarks
1		Hose	Ref.	Part of Engine
2	212010	Tube	1	
3	65435	Clamp	2	
4	1243-68	Elbow	1	
5	160083	Hood, Air Cleaner	1	
6	65412	Band, Mounting	2	
7	1205-45	Locknut, 3/8C	4	
8	160082	Air Cleaner	1	Incl. Items 9 thru 15
9	1243-75	Element	1	
10	29347	Decal	1	
11	29348	Gasket, Washer	1	
12	29349	Screw, Thumb	1	
13	29350	Clamp Ass'y	1	
14	29351	Baffle Ass'y	1	
15	29352	Cup Ass'y	1	

FUEL TANK
(FORD ENGINE)

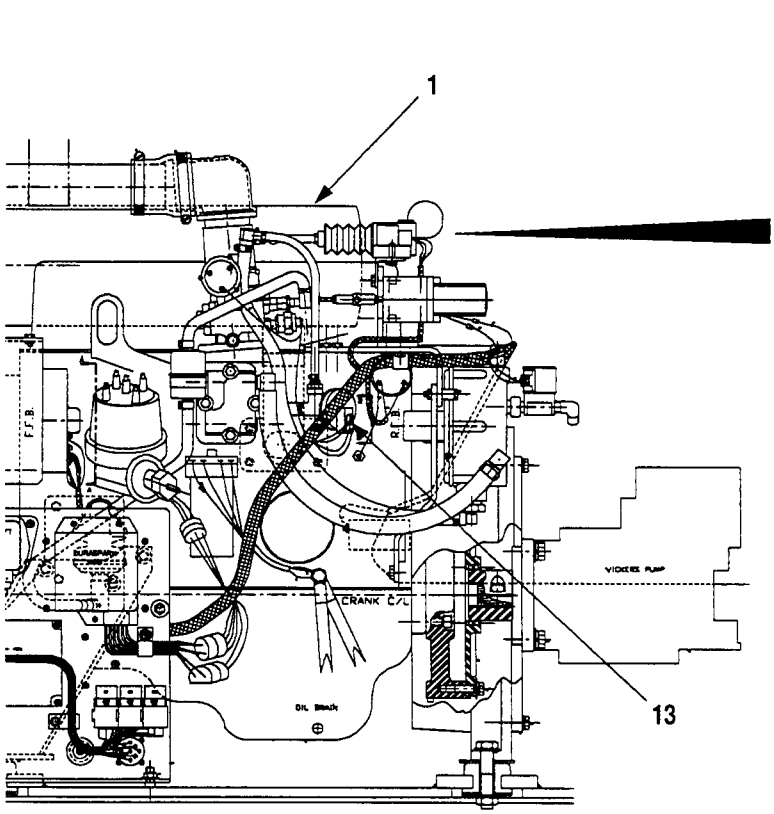
Models CH100C
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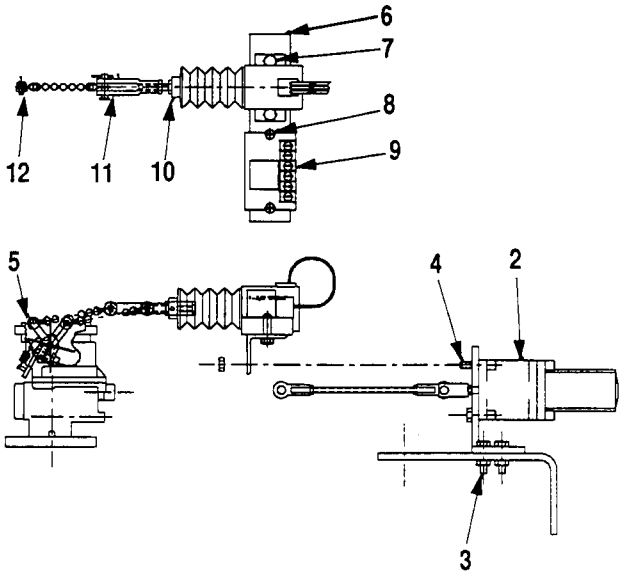


Ref.	Part No.	Description	Qty	Remarks
	212089	Fuel Tank Assembly (Ford Engine)	1	Incl. Items 1 thru 10
1	211929	Tank, Fuel	1	40 Gal.
2	69763	Cap	1	
3	69764	Sender, Fuel	1	
4	69765	Tube	1	
5	1200-61	Capscrew, 3/8C x 1-1/4	4	
6	1209-89	Flatwasher	4	
7	1240-100	Clamp	2	
8	212090	Tube	1	
	200B2007-2	Clamp	4	
	1205-45	Locknut, 3/8	4	
	1209-4	Flatwasher, 3/8	4	
9	160091-.63	Hose	1	
10	181829	Decal, Gas Fuel	1	

ENGINE - LP/GAS
(FORD ENGINE)

Mark Industries





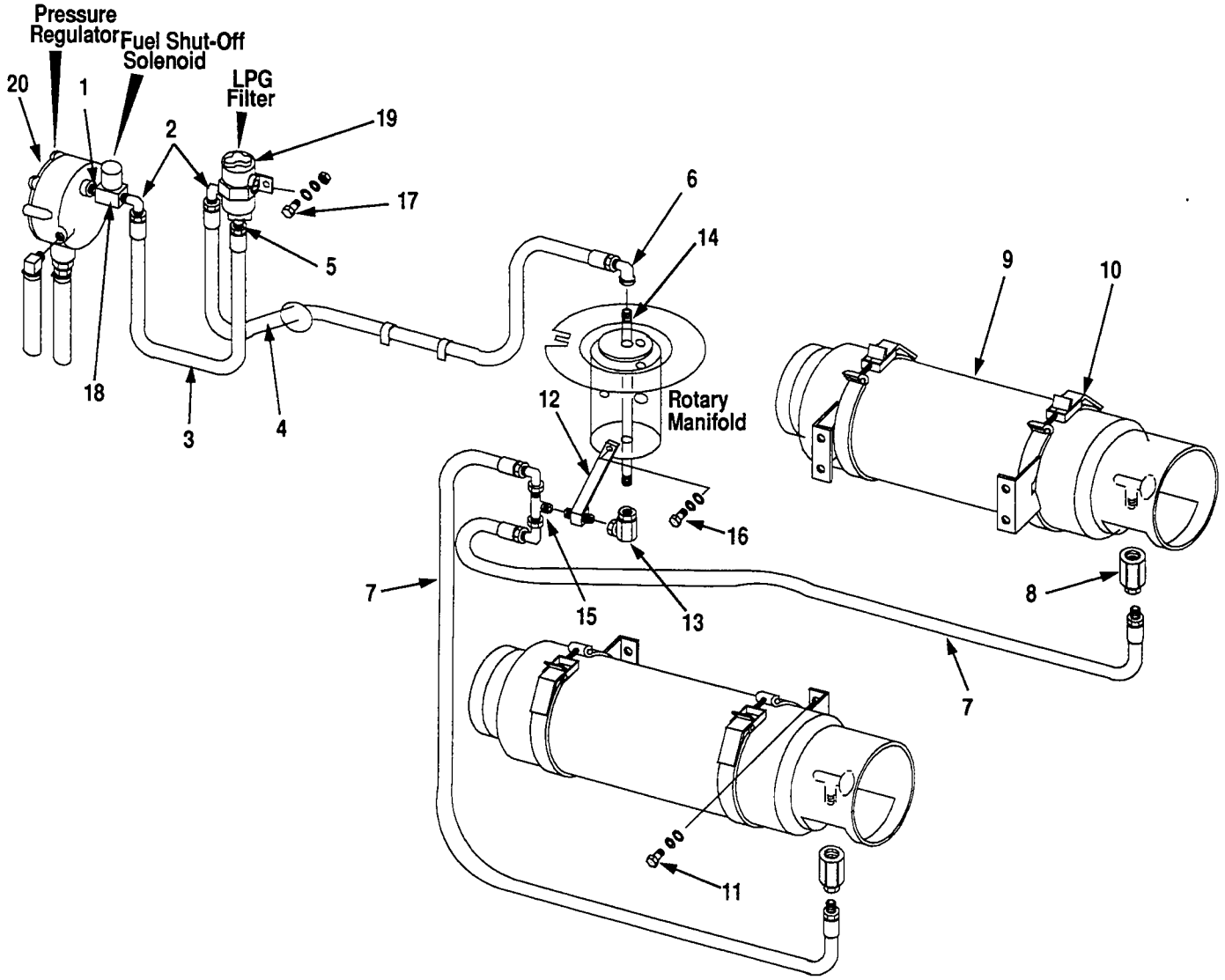
The parts listed below are applicable to the LP/Gas engine only. Refer to the Gas engine for all other parts.

Ref.	Part No.	Description	Qty	Remarks
	212081	Engine Assembly	Ref.	Incl. Items 1 thru 13 and 1thru 33 Page 4.9A
1	160679	Engine, LP/Gas	1	See Ford for Parts & Service
2	70855	Governor, Solenoid	1	
	70856	Kit, Bracket	1	
3	1200-3	Capscrew, 1/4C x 1	2	
	1205-21	Locknut, 1/4C	2	
4	62014	Capscrew, 1/4C x 1	2	
5	160671	Lever, Spring Loaded	1	
6	212053	Bracket, Choke Mounting	1	
7	1200-1	Capscrew, 1/4C x 3/4	2	
	1205-21	Locknut, 1/4C	2	
8	1233-2	Screw, #10 x 1-1/4 Round Head	2	
	1210-7	Lockwasher	2	
	1205-6	Nut, #10	2	
9	70505	Module, Relay	1	
10	70504	Solenoid, Choke	1	
11	160675	Chain w/Clevis	1	
12	61913	Capscrew, #10 x 3/8 Socket Head	1	
	61243	Locknut, #10	1	
13	69784	Vacuum Switch, 3 Terminal	1	

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LP FUEL SYSTEM

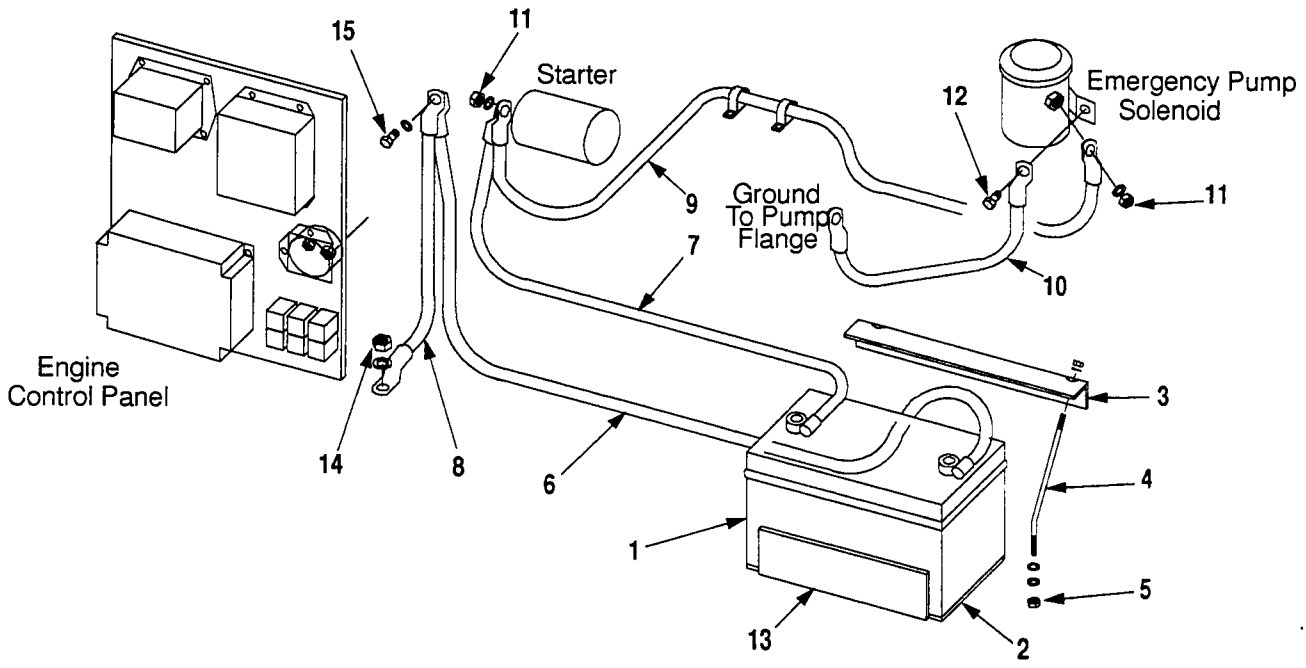
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Ref.	Part No.	Description	Qty	Remarks
	212158	LP Fuel System	1	Incl. Items 1 thru 17
1	1219-512	Nipple, 1/4 NPT	1	
2	1219-351	Elbow	2	
3	212156-32	Hose	1	
4	212156-44	Hose	1	
5	1219-559	Adapter	1	
6	16506	Elbow, Female	1	
7	212157-38	Hose	2	
8	65141	Socket, Female	2	
9	65937	Tank, Propane	2	
10	65463	Bracket, Mounting (2 piece)	2	
11	1200-95	Capscrew, 1/2C x 1	8	
	1210-26	Lockwasher	8	
	1209-6	Flatwasher	8	
12	21896	Bracket, LPG Swivel	1	
13	20815	Swivel, LPG	1	
14	65391	Nipple	1	
15	80029-07	Tee	1	
16	1200-335	Capscrew, 3/8C x 1/2	2	
	1210-20	Lockwasher	2	
	1209-4	Flatwasher	2	
17	1200-1	Capscrew, 1/4C x 3/4	2	
	1209-2	Flatwasher	2	
	1210-14	Lockwasher	2	
	1205-13	Nut, 1/4C	2	
18	69771	Filter, Fuel	1	
	69772	Element, Filter	1	
19	69773	Solenoid Valve, Fuel Shut-Off	1	
20	69774	Pressure Regulator	1	
	69775	Kit, Repair	1	

BATTERY ASSEMBLY
(FORD ENGINE)

Mark Industries

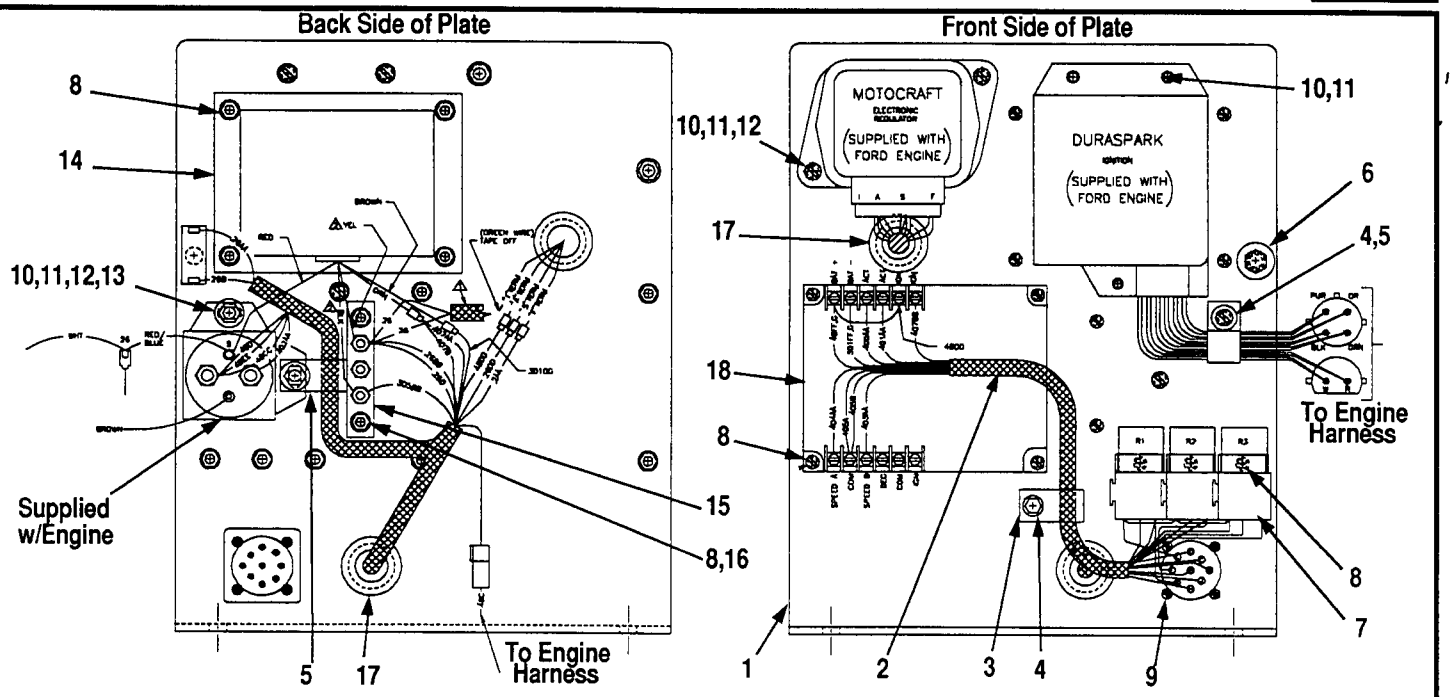


Ref.	Part No.	Description	Qty	Remarks
	212066	Battery Installation	1	Incl. Items 1 thru 15
1	1223-824	Battery	1	
2	706 8846	Plate, Masonite, Battery Isolation	1	
3	708 2203	Hold Down, Battery	1	
4	707 4375	Rod, Battery Hold-Down	2	
5	1205-34	Locknut, 5/16C	4	
	1209-3	Flatwasher	4	
6	70798	Cable, Battery (+)	1	
7	70797	Cable, Battery (-)	1	
8	70799	Cable, Engine Ground	1	
9	70800	Cable, Starter	1	
10	70851	Cable, Emergency Pump	1	
11	1205-199	Nut, 5/16C Brass	2	
	1210-17	Lockwasher	2	
12	1200-309	Capscrew, 1/4C x 1/2	1	
13	212210	Plate, Masonite	1	
14	1205-170	Nut, 3/8C Brass	1	
	1210-77	Washer, 7/16 Ext. Tooth	1	
	1210-20	Lockwasher, 3/8	1	
15	1200-57	Capscrew, 3/8C x 3/4	1	
	1210-20	Lockwasher	1	

ENGINE CONTROL PANEL (FORD ENGINE)

Models CH100C

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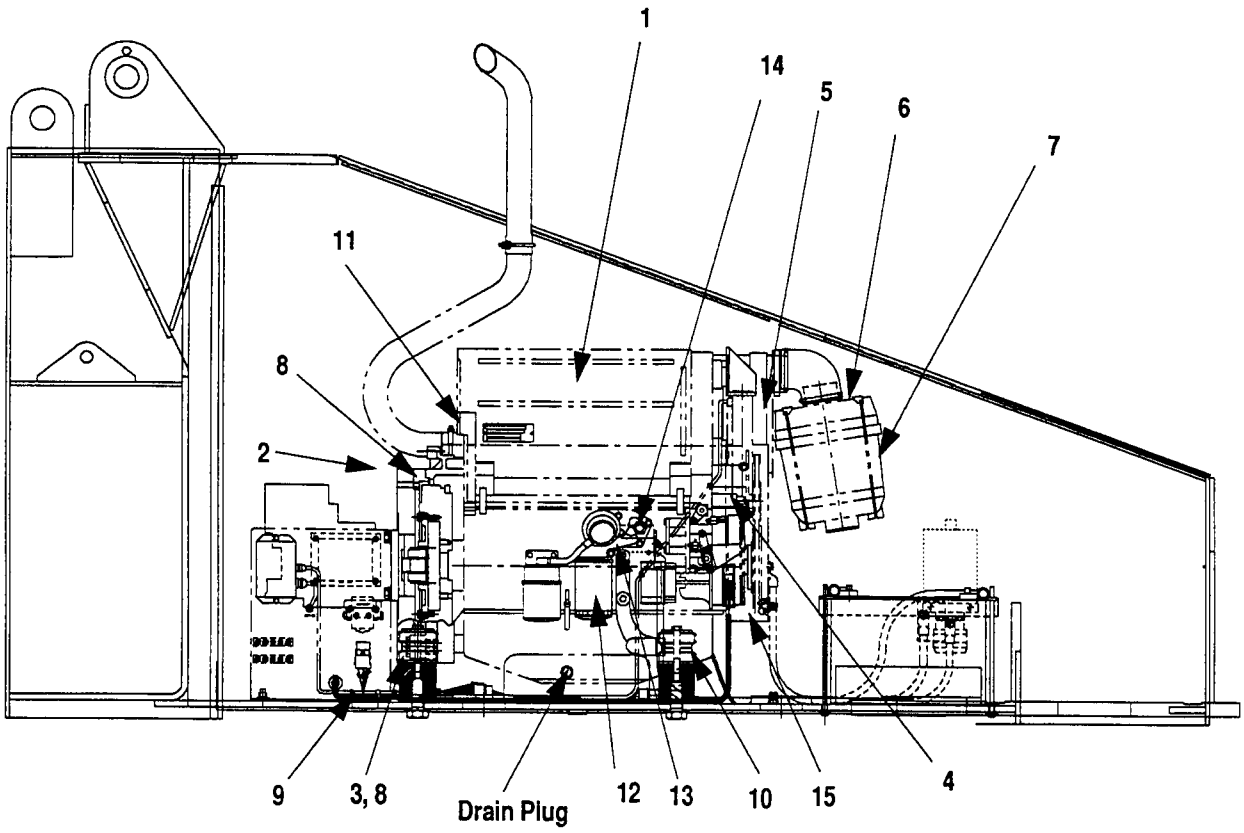


Ref.	Part No.	Description	Qty	Remarks
	212099	Engine Control Panel Ass'y	1	Incl. Items 1 thru 18
1	212028	Plate	1	
2	212106	Harness, Control Panel	1	
3	200B2007-4	Clamp, 1/2"	1	
4	1200-57	Capscrew, 3/8C x 3/4	1	
	1209-4	Flatwasher, 3/8	1	
	1210-20	Lockwasher, 3/8	1	
	1205-36	Nut, 3/8C	1	
5	200B2007-3	Clamp, 3/8"	2	
6	441 4026	Circuit Breaker (20A)	1	
	442 2399	Boot	1	
7	441 6828	Relay	3	
8	1202-6	Machine Screw, #10-24 x 3/4	13	
	1210-7	Lockwasher, #10	13	
	1205-5	Nut, #10-24	13	
9	1233-22	Machine Screw, #5-40 x 1/2	4	
	1230-11	Keps, #5-40	4	
10	1202-15	Machine Screw, 1/4C x 3/4	7	
11	1210-14	Lockwasher, 1/4	7	
12	1205-13	Nut, 1/4C	4	
13	1209-2	Flatwasher, 1/4	3	
14	70793	Starter Lockout	1	
15	7099	Block, Terminal	1	
16	1223-428	Eyelet, #10	2	
17	1221-13	Grommet	2	
18	70854	Controller	1	

NOTES

Mark Industries

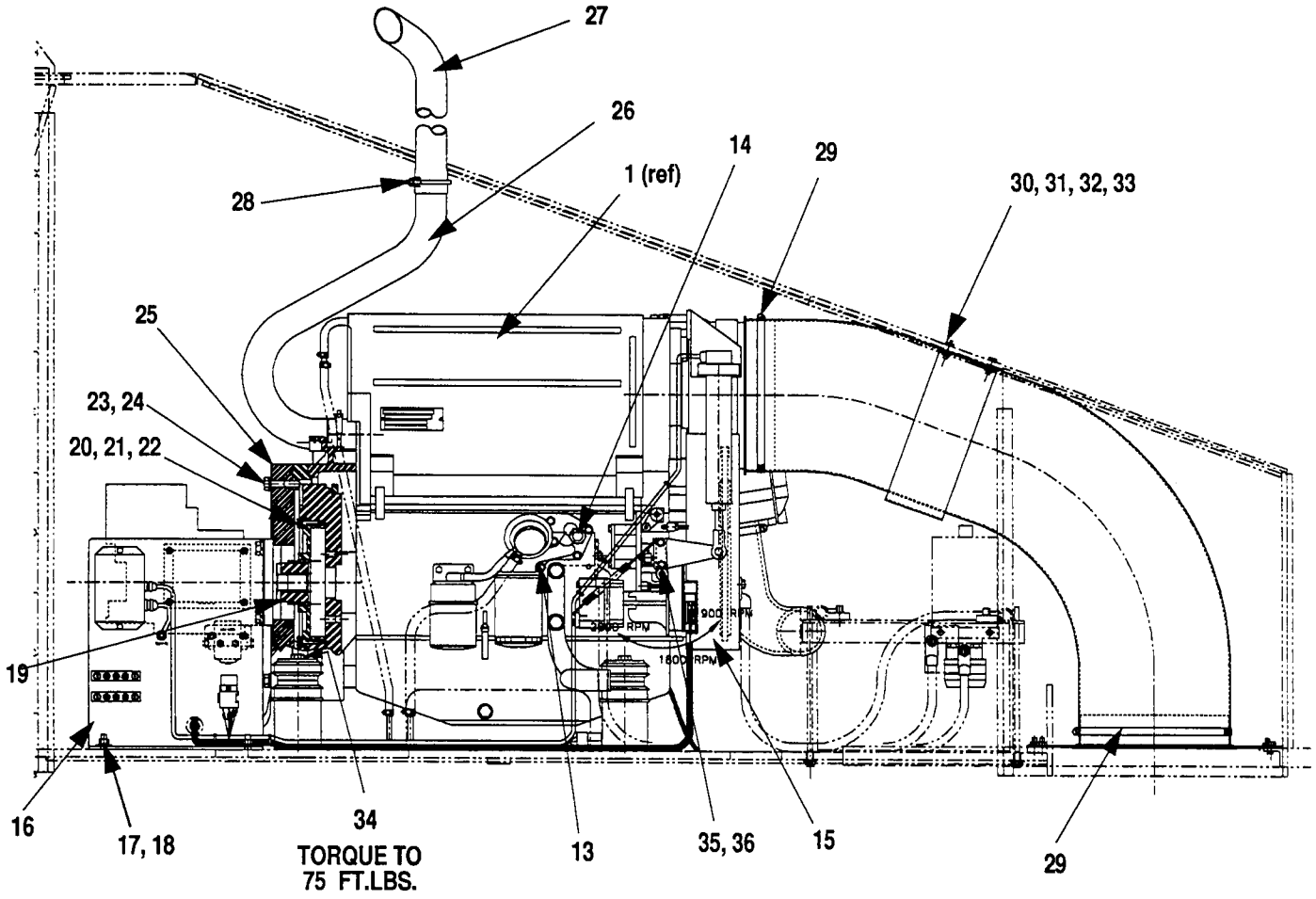
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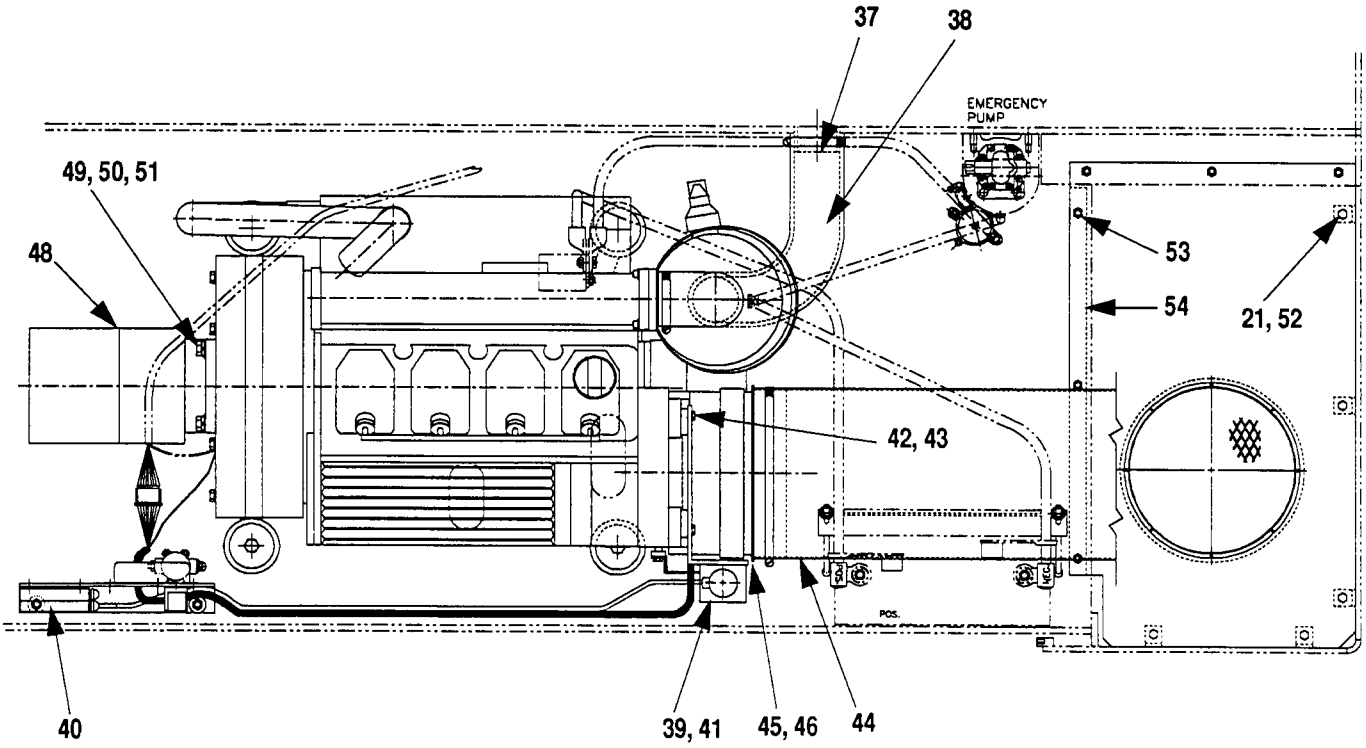


Ref.	Part No.	Description	Qty	Remarks
	212180	Engine Assembly, Deutz	Ref.	Incl. items 1 thru 54
1	212298	Engine, Deutz	1	See Deutz for Parts & Service
2	68785	Starter, 12 Volt	Ref.	
3	68786	Flywheel	Ref.	
4	68787	Solenoid, Shutdown	Ref.	
5	68788	Ring, Air Guide	Ref.	
6	68789	Service Indicator	Ref.	
7	160631	Assembly, Air Cleaner (dry type)	Ref.	
	68724	Element, Replacement	Ref.	
8	68790	Housing, Adapter	Ref.	
9	68791	Harness, Wiring	Ref.	
10	68792	Mount, Engine	Ref.	
11	68793	Muffler, Manifold	Ref.	
12	68794	Filter, Oil	Ref.	
13	68795	Switch, Oil Temp.	Ref.	

ENGINE, DIESEL (DEUTZ)

Mark Industries

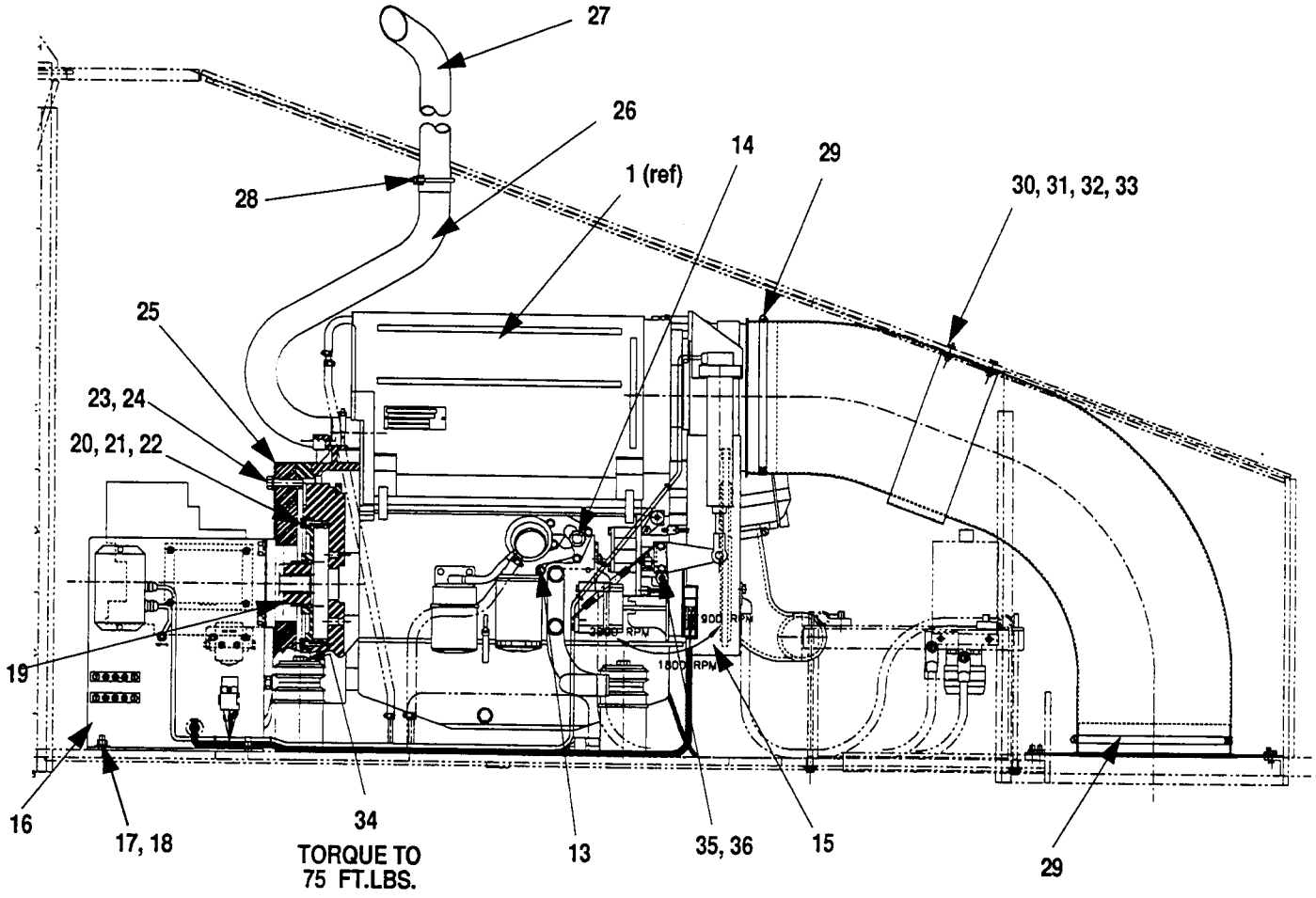


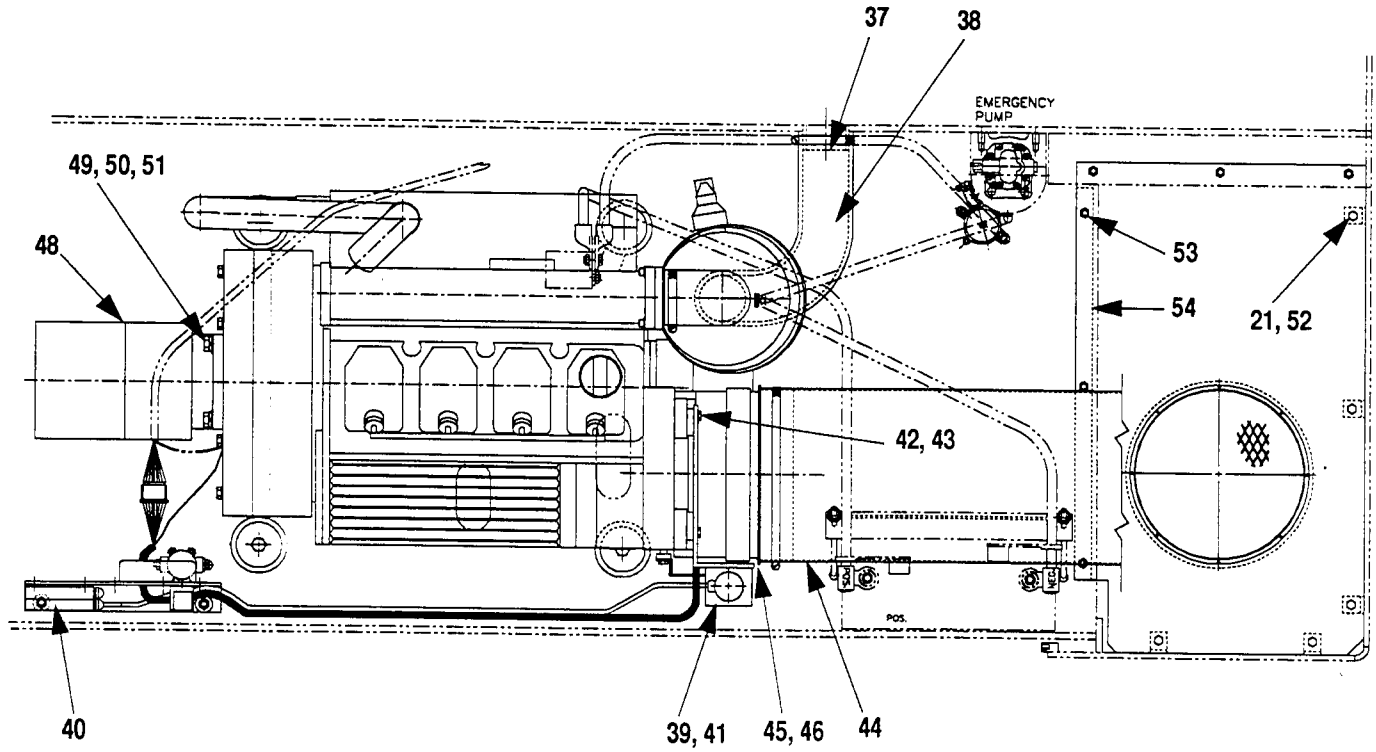


Ref.	Part No.	Description	Qty	Remarks
14	600370	Switch, Oil Pressure	Ref.	
13	68795	Switch, Oil Temp	Ref.	
15	160588	Guard, Fan Belt	Ref.	
16	212146	Control Panel (for Deutz Engine)	1	See Page 4.26
17	1205-45	Locknut, 3/8C	2	
18	1209-4	Flatwasher, 3/8	2	
19	212107	Flywheel Coupling	1	
20	071 408 40	Capscrew, Hex Head M8 x 30	Ref.	
21	1210-17	Lockwasher, 5/16	Ref.	
22	1209-3	Flatwasher	Ref.	
23	071 310 20	Capscrew, Hex Head M10 x 50	8	
24	085 310 18	Lockwasher, 10mm	8	
25	212103	Plate, Pump Mounting	1	
26	212117	Tube, Exhaust (Lower)	1	
27	212116	Tube, Exhaust (Upper)	1	
28	16230	Clamp, 2"	1	
29	160682	Clamp, Hose	2	
30	1209-2	Flatwasher, 1/4	4	
31	1205-23	Locknut, 1/4C	4	
32	1200-3	Capscrew, 1/4C x 1	4	
33	212171	Hanger	1	
34	1200-116	Capscrew, 1/2-13 x 3-1/2	4	
35	071 406 16	Capscrew, M6 x 10	Ref.	
36	065 306 12	Lockwasher	Ref.	
37	16318	Clamp, Hose	2	
38	160255-13	Hose	Ref.	
39	70829	Actuator, Throttle	Ref.	
40	70830	Controller, Throttle	Ref.	
41	70831	Hardware, Mounting	Ref.	
42	071 406 16	Capscrew, M8 x 16	Ref.	
43	085 306 16	Lockwasher, M8	Ref.	
44	160543	Duct, Air Flex	1	
45	210792	Duct, Engine	1	
46	1211-24	Screw, #6 x 3/8	8	
47	212168	Baffle Assembly	1	
48	81442	Pump	1	See Page 4.42
49	1200-96	Capscrew, 1/5-13 x 1-1/4	4	
50	1209-6	Flatwasher, 1/2	4	

ENGINE, DIESEL
(DEUTZ)

Mark Industries

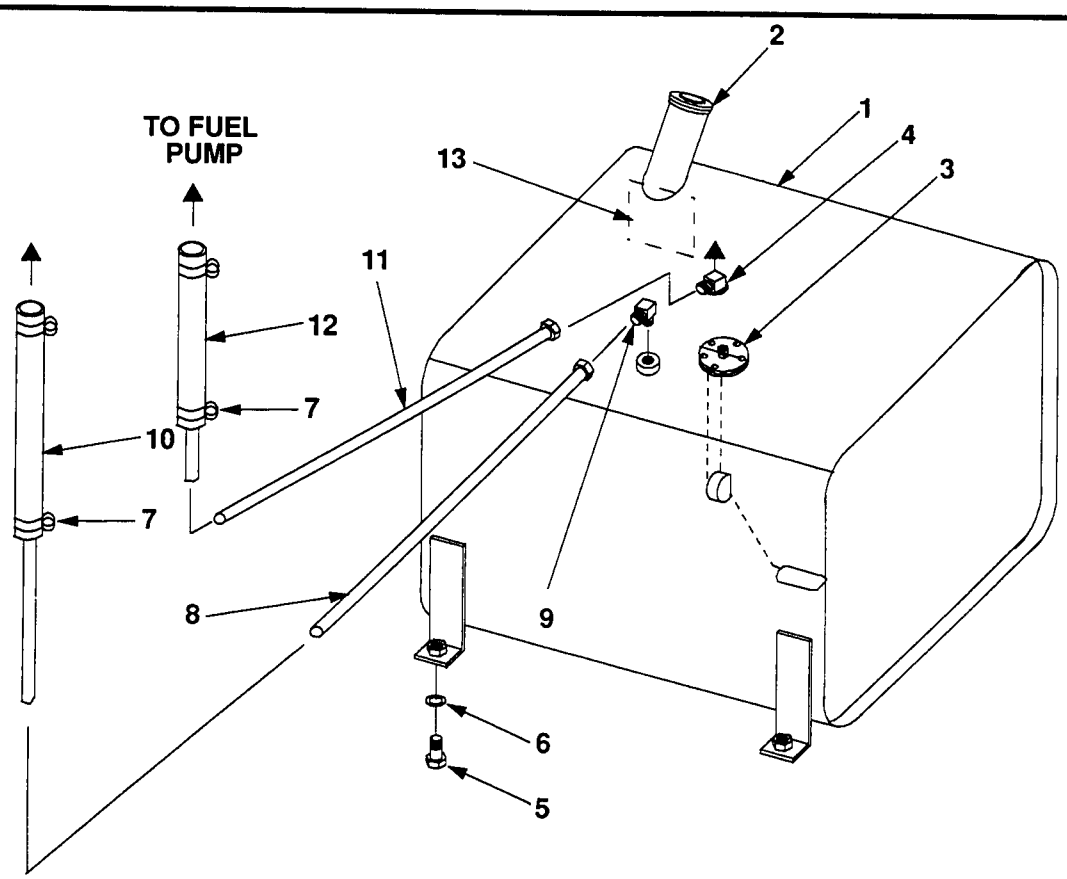




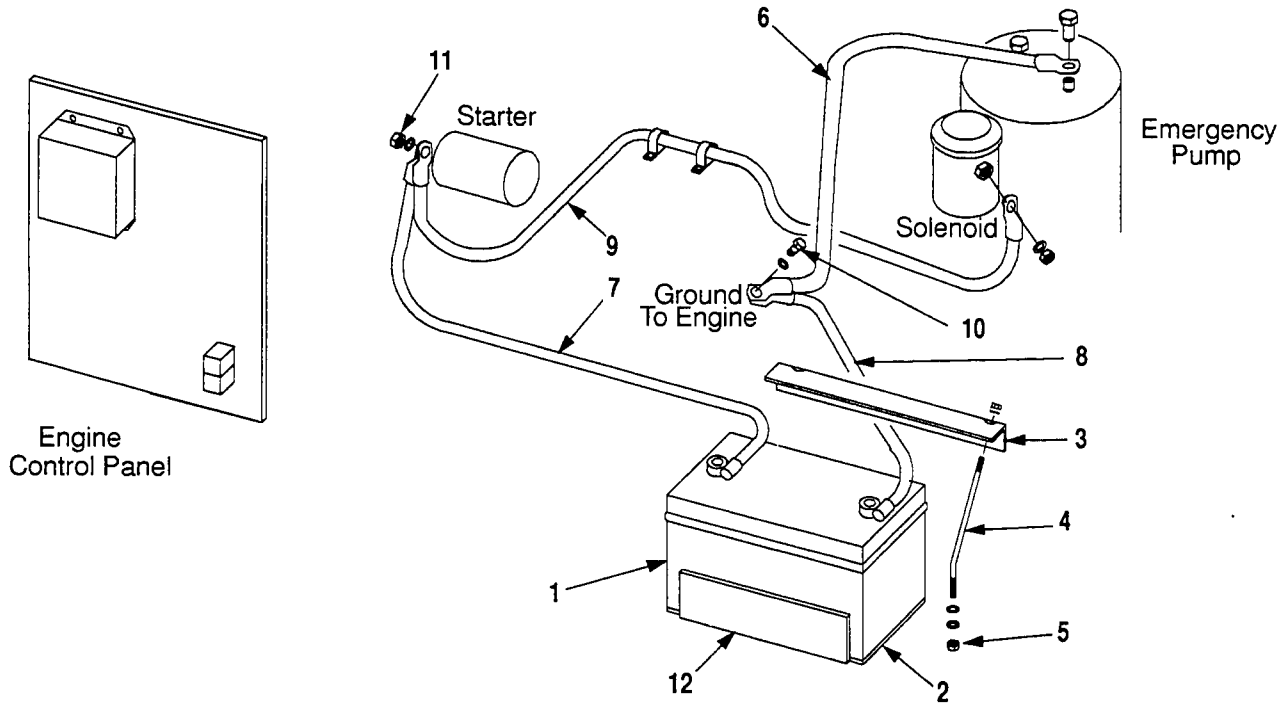
Ref.	Part No.	Description	Qty	Remarks
51	1210-27	Lockwasher, 1/2	4	
52	1200-319	Capscrew, 5/16C x 1/2	5	
53	1205-34	Locknut, 5/16C	6	
54	212166	Spacer	1	

FUEL TANK, DIESEL (DEUTZ ENGINE)

Mark Industries



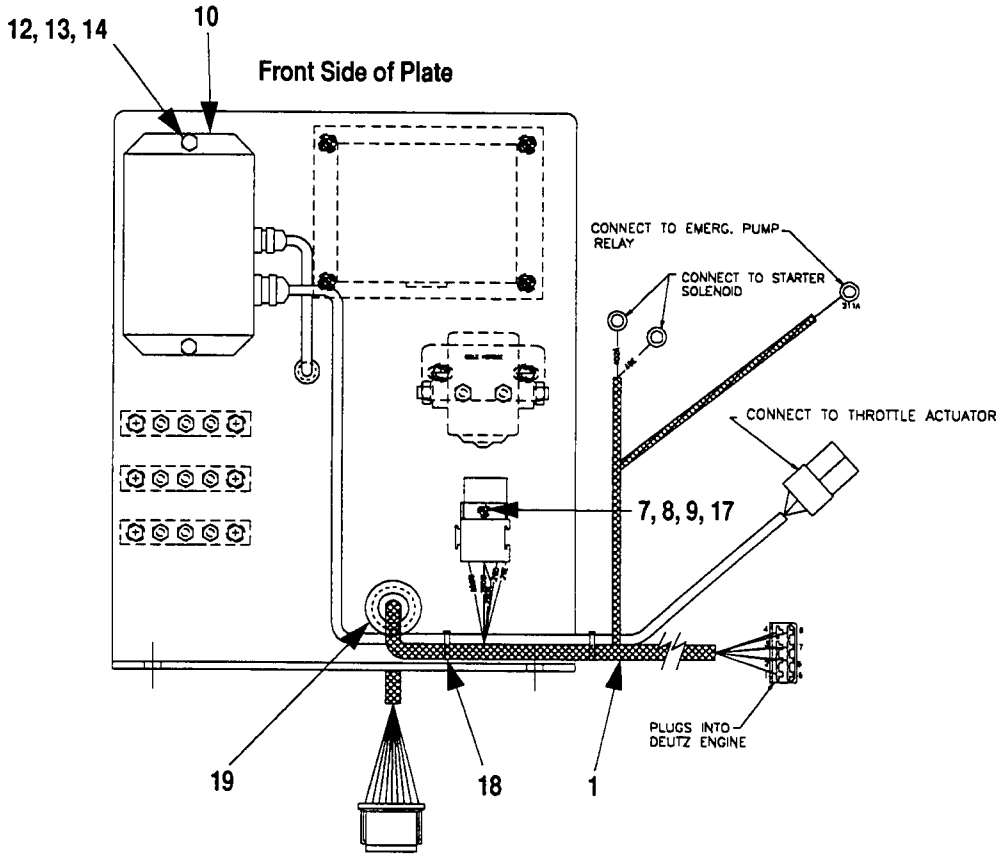
Ref.	Part No.	Description	Qty	Remarks
	212181	Fuel Tank Assembly (Deutz Engine)	1	Incl. Items 1 thru 13
1	211929	Tank, Fuel	1	40 Gal.
2	69763	Cap	1	
3	69764	Sender, Fuel	1	
4	69765	Tube	1	
5	1200-61	Capscrew, 3/8C x 1-1/4	4	
6	1209-89	Flatwasher	4	
7	1240-100	Clamp	4	
8	212164	Tube, .31 OD (return line)	1	
	200B2007-2	Clamp	4	
	1205-45	Locknut, 3/8	2	
	1209-4	Flatwasher, 3/8	2	
9	1219-904	Adapter, 90°	1	
10	160091-.63	Hose, .31 ID x 24" (return)	1	
11	212163	Tube, .375 OD (supply line)	1	
	1219-559	Adapter	1	
	200B2007-2	Clamp	4	
	1205-45	Locknut, 3/8	2	
	1209-4	Flatwasher, 3/8	2	
12	12301-20	Hose, .38 ID x 20" (supply)	1	
13	181830	Decal, Diesel Fuel	1	

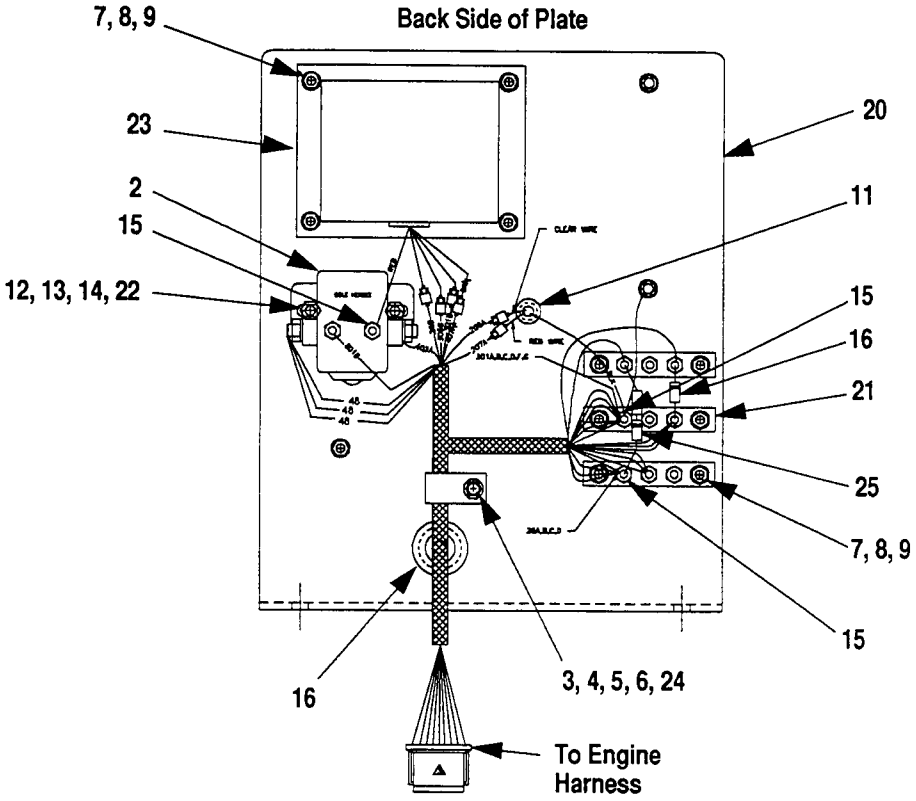


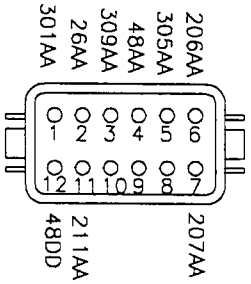
Ref.	Part No.	Description	Qty	Remarks
	212174	Battery Installation (Deutz Engine)	1	Incl. Items 1 thru 12
1	1223-824	Battery	1	
2	706 8846	Plate, Masonite, Battery Isolation	1	
3	708 2203	Hold Down, Battery	1	
4	707 4375	Rod, Battery Hold-Down	2	
5	1205-32	Locknut, 5/16C	4	
	1209-3	Flatwasher	4	
6	70835	Cable, Battery, Emergency Pump	1	
7	70836	Cable, Battery (+)	1	
8	70833	Cable, Engine Ground	1	
9	70834	Cable, Starter	1	
10	1200-366	Capscrew, M10 x 30	1	
	08531018	Lockwasher, M10	1	
11	1205-170	Nut, 3/8C Brass	1	
	1210-20	Lockwasher, 3/8	1	
12	212210	Plate, Masonite	1	

ENGINE CONTROL PANEL (DEUTZ ENGINE)

Mark Industries







ENGINE CONTROL PANEL (DEUTZ ENGINE)

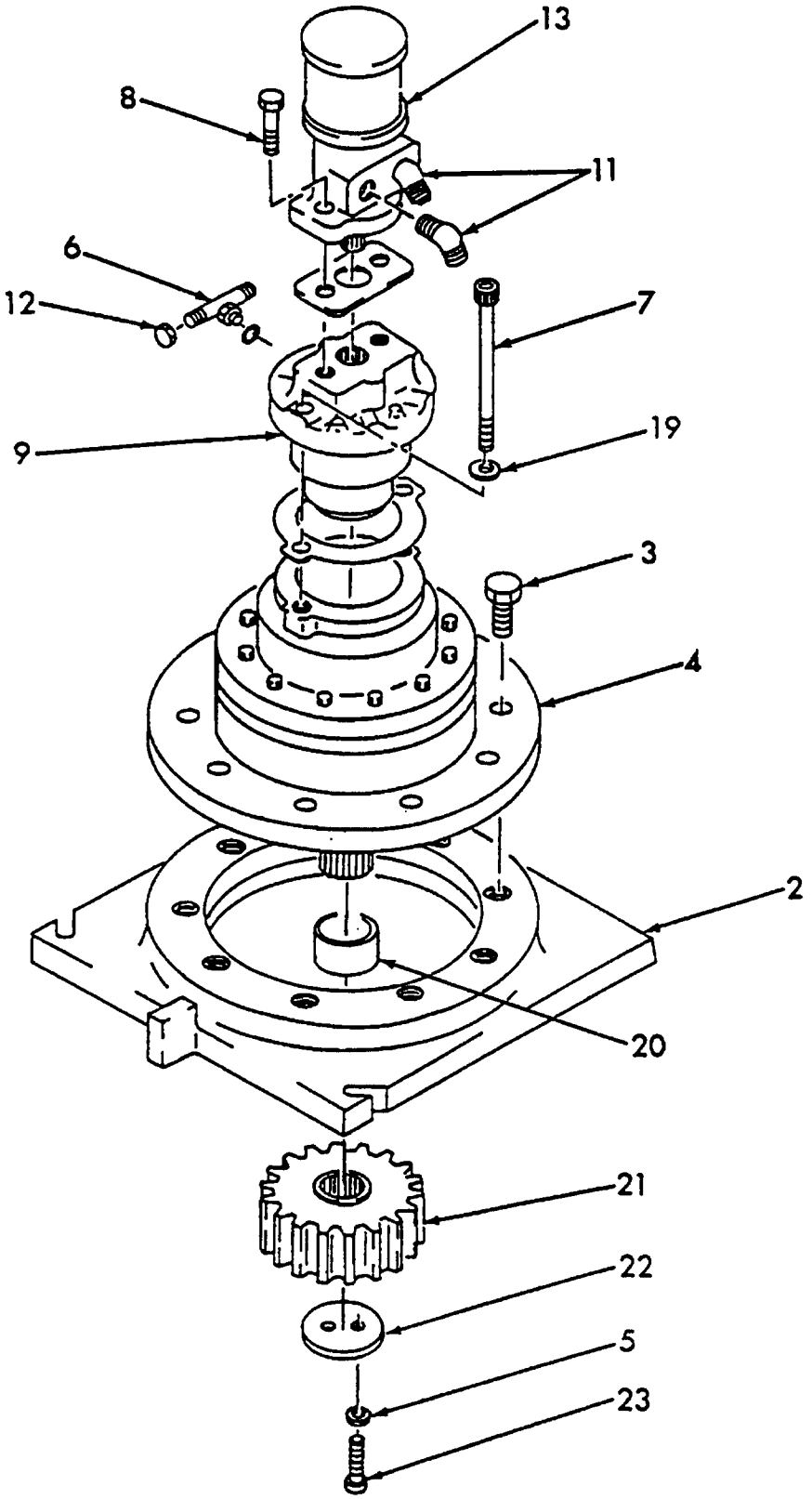
Models CH100C

Issued 7-94

Ref.	Part No.	Description	Qty	Remarks
	212146	Engine Control Panel Ass'y (Deutz Engine)	1	Incl. Items 1 thru 25
1	212159	Harness, Control Panel	1	
2	70209	Relay	1	
3	1200-57	Capscrew, 3/8C x 3/4	1	
4	1209-4	Flatwasher, 3/8	1	
5	1210-20	Lockwasher, 3/8	1	
6	1205-36	Nut, 3/8C	1	
7	1202-6	Machine Screw, #10-24 x 3/4	8	
8	1210-7	Lockwasher, #10	8	
9	1205-5	Nut, #10-24	8	
10	70830	Governor	Ref.	Part of Engine
11	1221-78	Grommet	1	
12	1202-15	Machine Screw, 1/4C x 3/4	4	
13	1210-14	Lockwasher, 1/4	4	
14	1205-13	Nut, 1/4C	4	
15	1223-428	Eyelet, #10	3	
16	70842	Diode Assembly	1	
17	441 6828	Relay	1	
18	1222-184	Tie, Cable	4	
19	1221-61	Grommet	1	
20	212161	Plate	1	
21	7099	Block, Terminal	3	
22	1209-2	Flatwasher, 1/4	3	
23	70793	Starter Lockout	1	
24	200B2007-4	Clamp, 1/2"	1	
25	70843	Diode/Resistor Assembly	1	

TURRET ROTATION GEARBOX

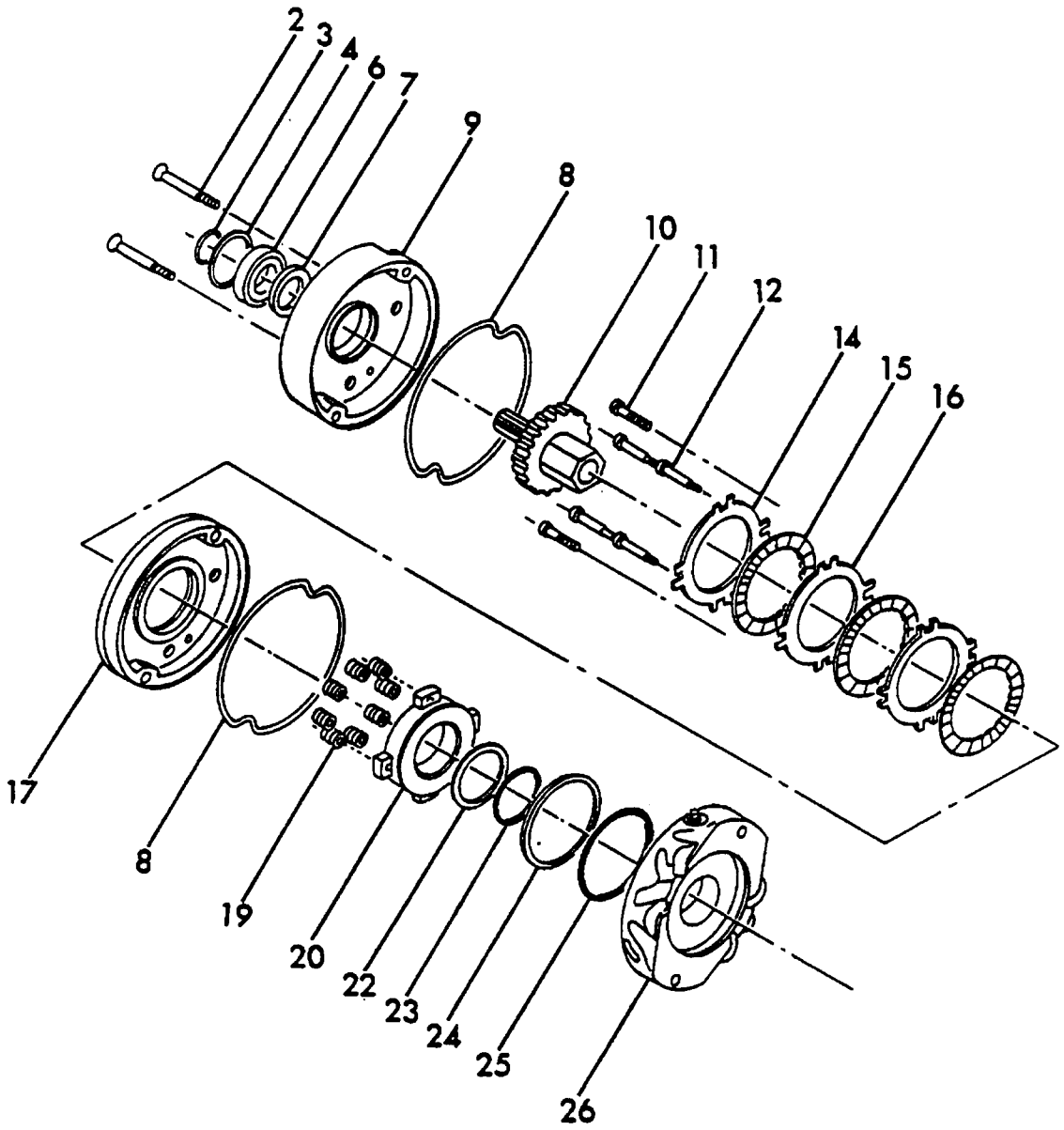
Mark Industries



Ref.	Part No.	Description	Qty	Remarks
1	22789	Assembly, Rotation Gearbox	REF.	
2	22998	Weldment, Mounting Plate	1	
3	60602	Capscrew	9	
4	22830	Hub, Torque	1	See Sect. 4, Page 4.56
5	63303	Lockwasher	2	
6	80036-03	Tee, Straight Thread Branch	1	
7	61940	Capscrew	2	
8	60622	Capscrew	2	
9	22831	Brake	1	See Page 4.30 for Details
10	67688	Kit, Seal (For 81275)	1	
11	80018-13	Elbow, 45 Degree Straight Thread	2	
12	80059-03	Cap	1	
13	81275	Motor, Hydraulic	1	See Page 4.32 for Details
14	67150	Kit, Seal (For 22831)	1	
15	67644	Kit, Lining (For 22831)	1	
16	67650	Kit, Spring (For 22831)	1	
17	67657	Kit, Bearing (For 22831)	1	
18	67660	Piston (For 22831)	1	
19	63305	Lockwasher	2	
20	22099	Spacer, Pinion	1	
21	22828	Pinion	1	
22	22829	Retainer, Pinion	1	
23	61919	Capscrew	2	

TURRET ROTATION GEARBOX BRAKE

Mark Industries

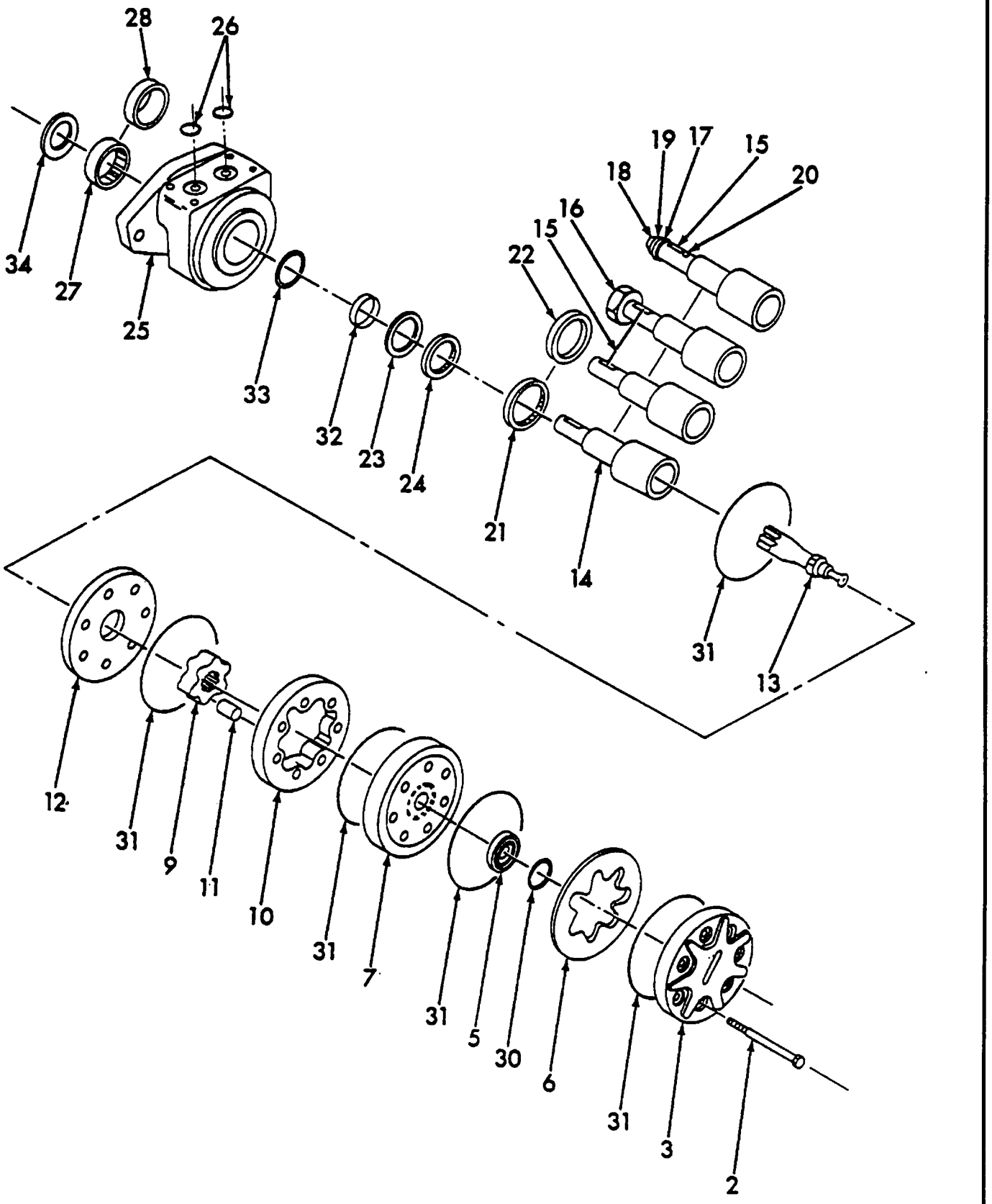


TURRET ROTATION GEARBOX BRAKE

Ref.	Part No.	Description	Qty	Remarks
1	22831	Brake, Rotation Gearbox	REF.	
2		Screw, Flat head Socket Cap	2	
3		Ring, Retaining	1	
4		Ring, Snap	1	
5	67657	Kit, Bearing	1	
6		Bearing	1	
7		Seal, Oil	1	
8		Seal, Case	2	
9		Plate, Cover	1	
10		Assembly, Spline Shaft	1	
11		Screw, Socket Head Cap	2	
12		Bolt, Socket Head Shoulder	4	
13	67644	Kit, Lining	1	
*8		Seal, Case	2	
14		Disc, Primary	1	
15		Disc, Rotor	3	
16		Disc, Stator	2	
17		Plate, Spring	1	
18	67650	Kit, Spring	1	
*8		Seal, Case	2	
19		Spring (Red)	4	
		Spring (Blue)	2	
20	67660	Piston	1	
21	67150	Kit, Seal		
*7		Seal, Oil	1	
*8		Seal, Case	2	
22		Ring, Back-Up (I.D.)	1	
23		O-Ring (I.D.)	1	
24		Ring, Back-Up (O.D.)	1	
25		O-Ring (O.D.)	1	
26		Plate, Pressure	1	

TURRET ROTATION GEARBOX MOTOR

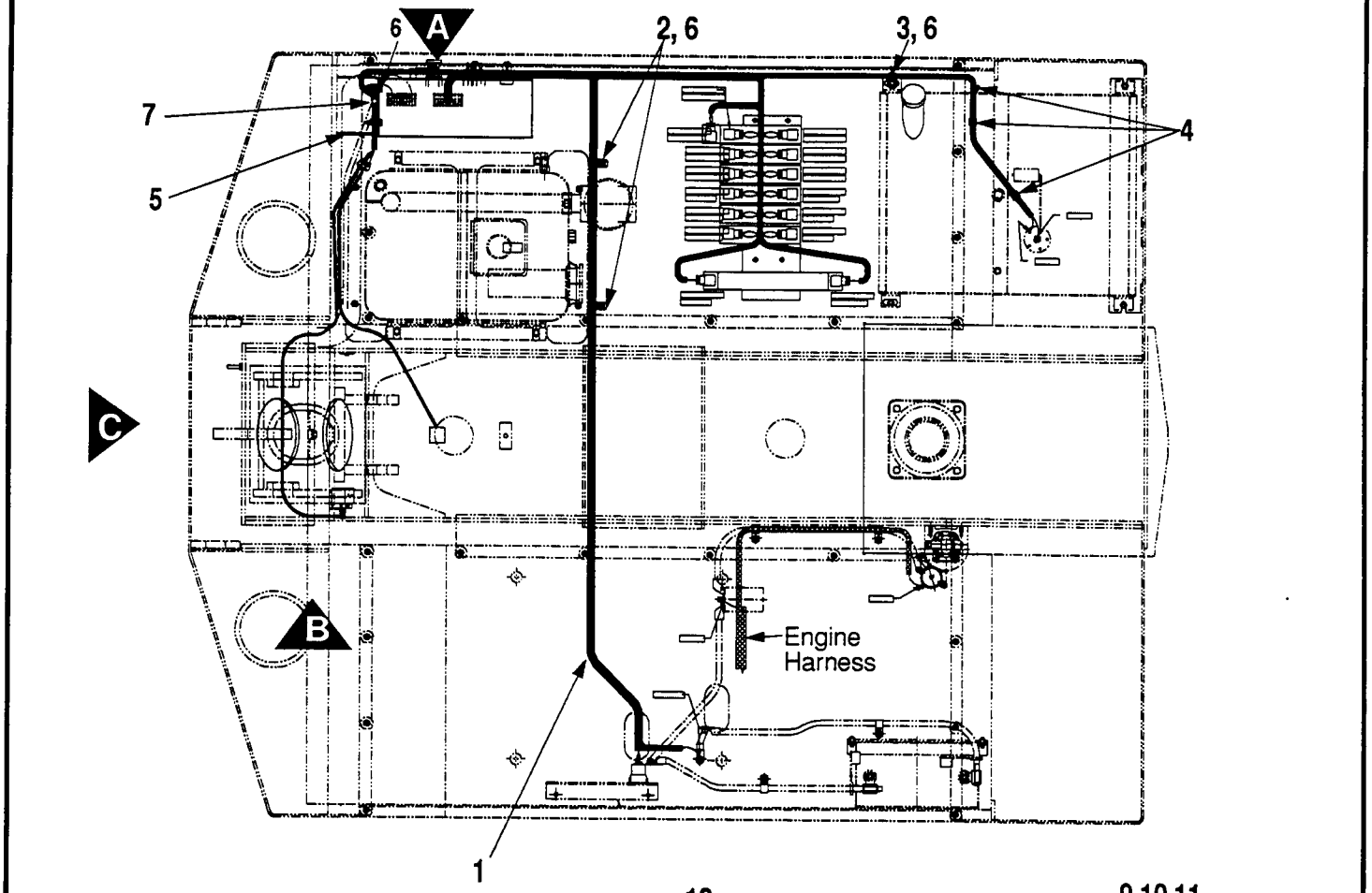
Mark Industries

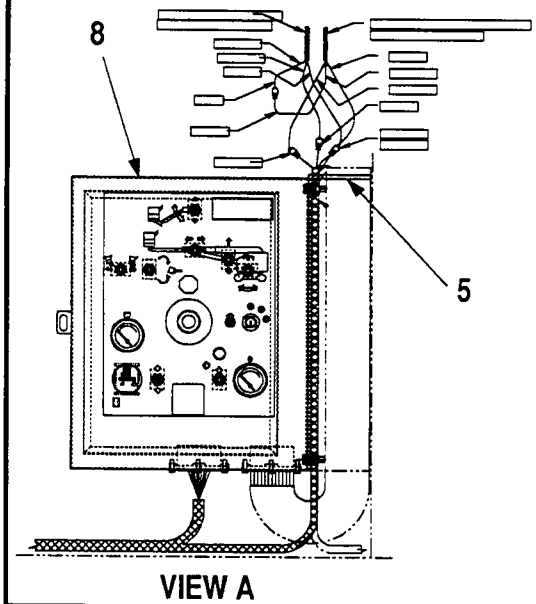


Ref.	Part No.	Description	Qty	Remarks
1	81275	Motor, Rotation Gearbox Hydraulic	REF.	
2		Bolt, Special	5	
3		Cover, End	1	
4		Assembly, Commutator & Ring (Matched Set)	1	
5		Commutator	1	
6		Ring, Commutator	1	
7		Manifold	1	
8		Set, Rotor (Matched Set)	1	
9		Rotor	1	
10		Stator		
11		Vane	7	
12		Plate, Wear	1	
13	67691	Link, Drive	1	
14	67699	Shaft, Coupling	1	
15		Key	1	
16		Nut	1	
17		Washer	1	
18		Bolt	1	
19		Lockwasher	1	
20		Ring, Retainer	1	
21		Bearing, Inner	1	
22		Bushing, Inner	1	
23		Thrust Washer		
24		Thrust Bearing	1	
25		Housing	1	
26		O-Ring	2	
27		Bearing, Outer	1	
28		Bushing, Outer	1	
29	67688	Kit, Seal	1	
30		Ring, Commutator Seal	1	
31		Ring, Seal	5	
32		Seal	1	
33		Ring, Back-Up	1	
34		Seal, Dirt & Water	1	

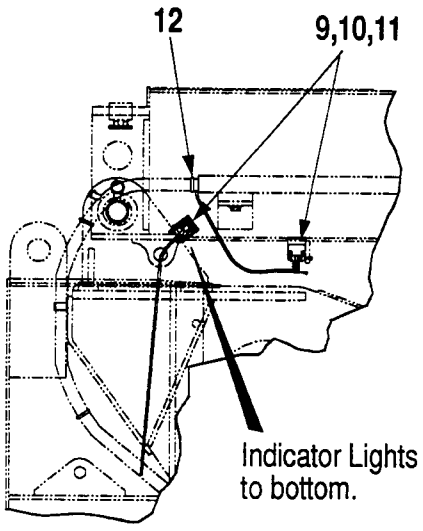
TURRET WIRING

Mark Industries

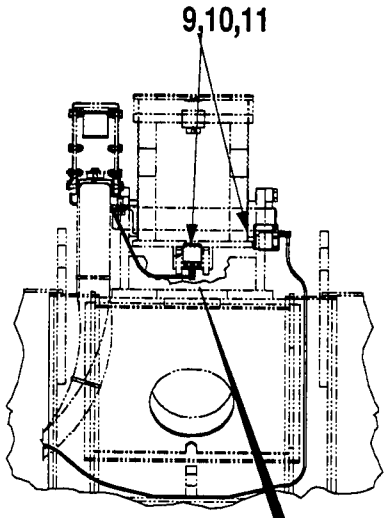




VIEW A



VIEW B

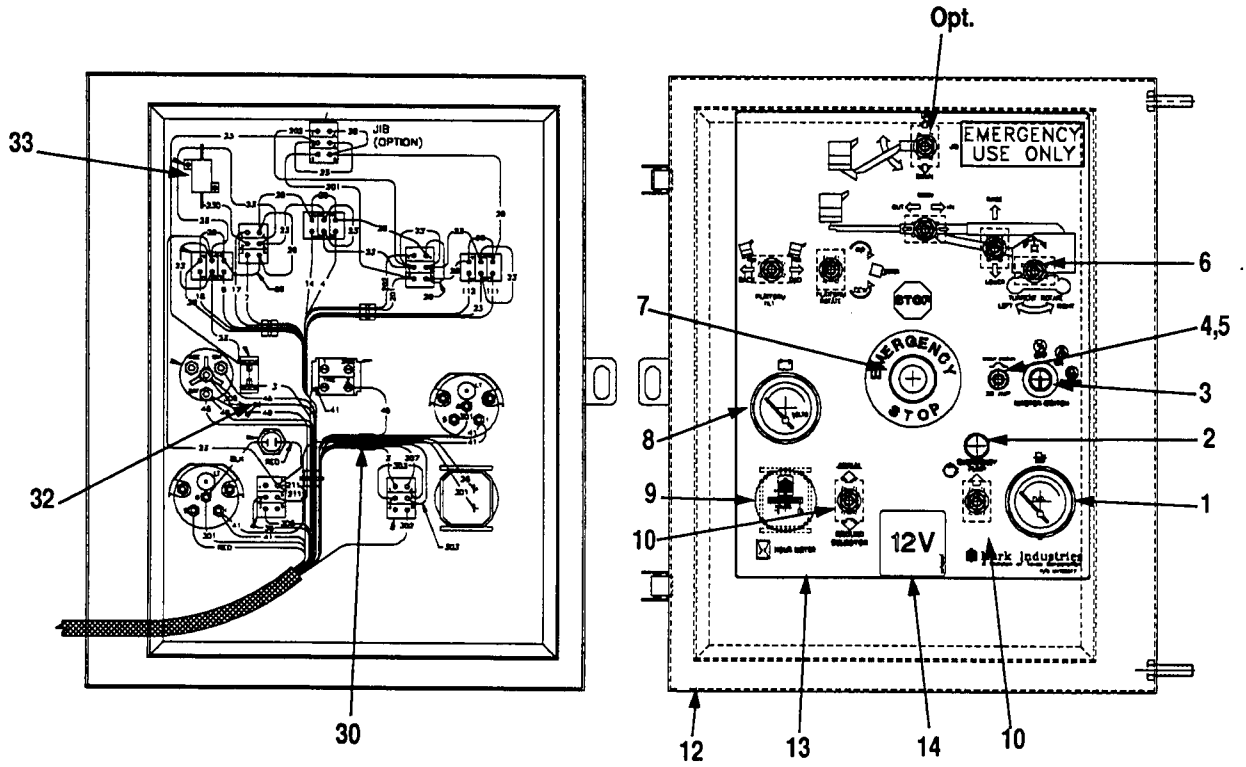


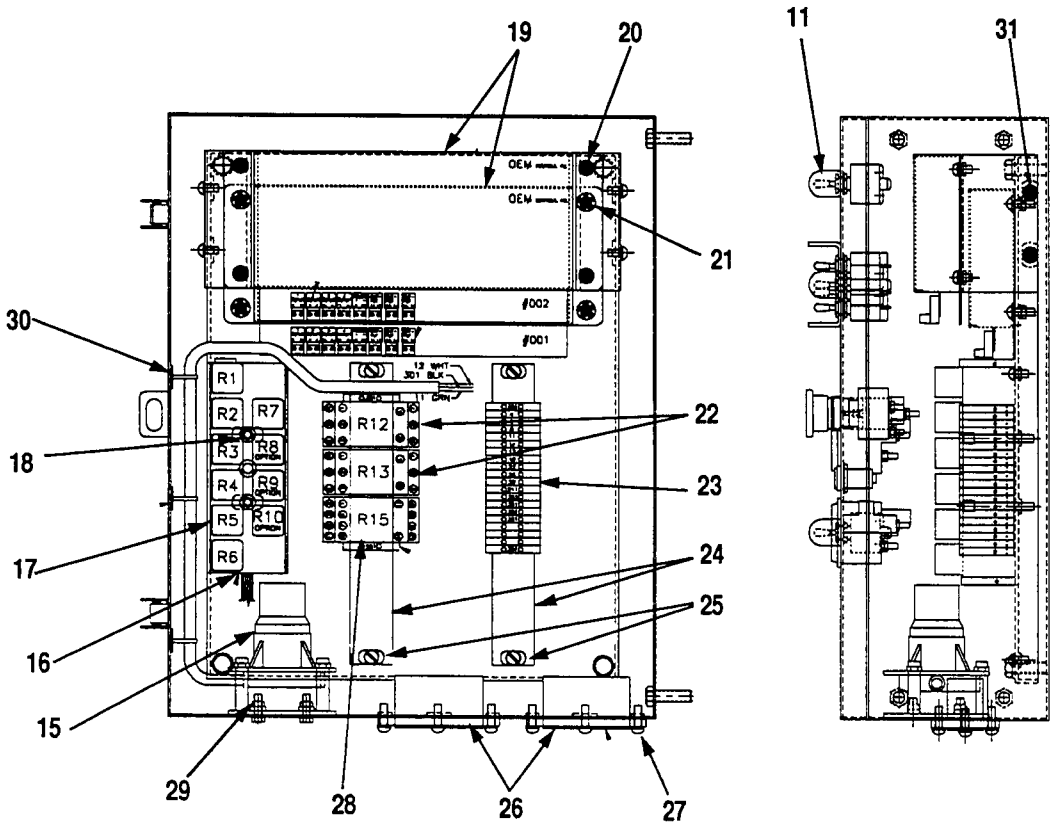
VEW C

Ref.	Part No.	Description	Qty	Remarks
	212131	Turret Wiring Assembly	1	Incl. Items 1 thru 12
1	212101	Wire Harness, Turret	1	
2	200B2007-6	Clamp, 3/4"	2	
3	200B2007-4	Clamp, 1/2"	1	
4	16214	Pad, Tie	3	
	256	Tie, Cable	3	
5	12177-4	Trim, Flexible	1	
6	1205-36	Nut, 3/8C	7	
	1210-20	Lockwasher, 3/8	7	
	1209-4	Flatwasher, 3/8	7	
7	200B2007-56	Clamp, Double, 1/2"	2	
8	211983	Ground Control Box Ass'y	1	See Page 4.36
9	441 6834	Switch, Proximity	2	
10	441 6835	Cable w/Connector	2	
11	310 1507	Capscrew, #10-24C x 2 Socket Head	4	
	331 1000	Flatwasher, #10	4	
	340 1504	Locknut, #10-24C	4	
12	1222-202	Tie, Plastic	3	

GROUND CONTROL BOX

Mark Industries



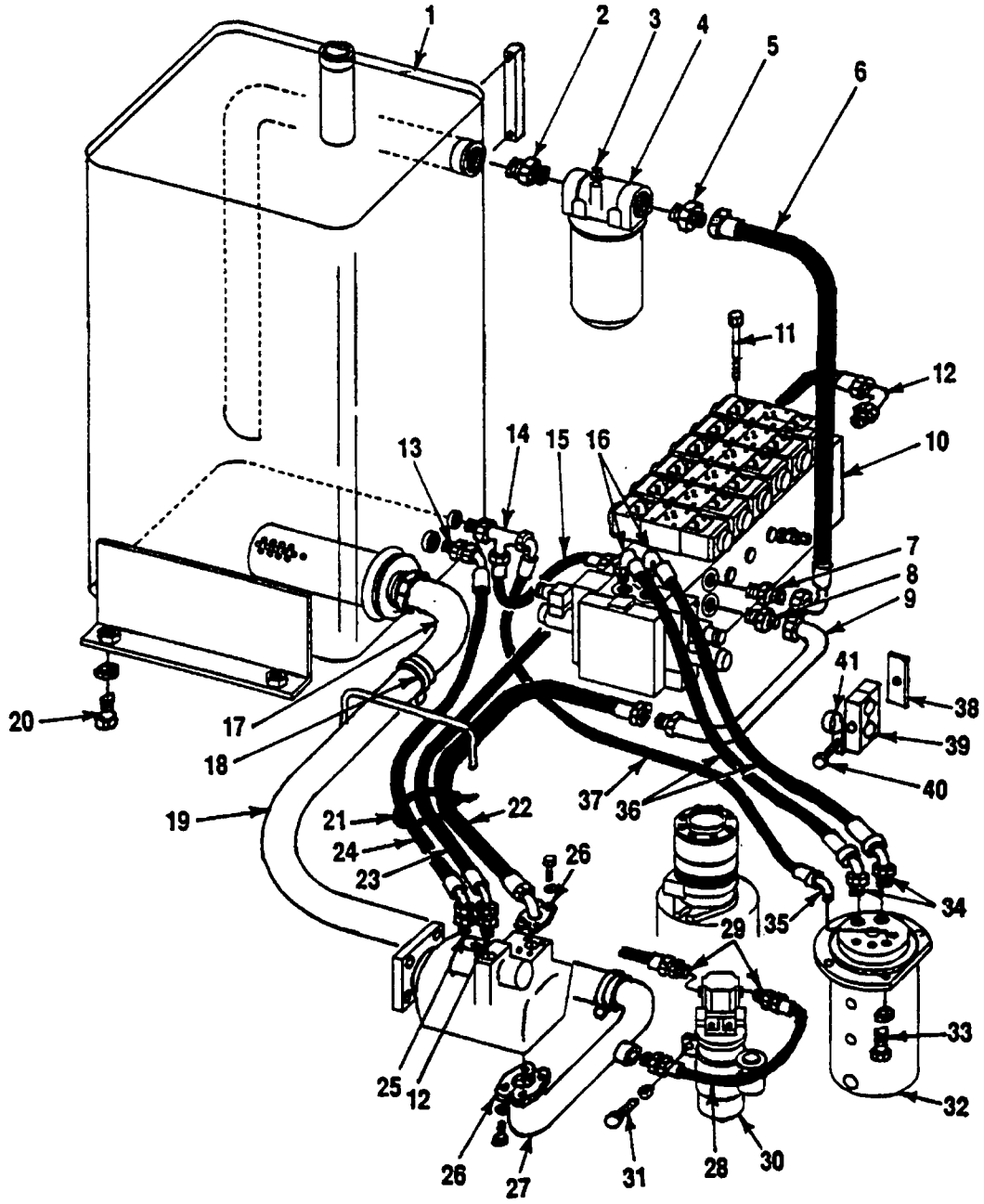


Mark Industries GROUND CONTROL BOX

Ref.	Part No.	Description	Qty	Remarks
	211983	Ground Control Box Ass'y	1	Incl. Items 1 thru 33
1	21219	Gauge, Fuel	1	
2	70781	Light, Indicator	1	
3	2717	Switch, Ignition	1	
	66961	Key, For Above	1	
4	441 4026	Circuit Breaker, 20 Amp	1	
5	442 2399	Boot, Circuit Breaker	1	
6	20481	Switch, Toggle	5	
7	70645	Switch, Emergency	1	
8	420 2852	Voltmeter	1	
9	20571	Hourmeter	1	
10	441 6827	Switch, Toggle	2	
11	70783	Guard, Switch	7	
12	70790	Enclosure	1	
13	182817	Decal, Control	1	
14	180724	Decal, 12V	1	
15	441 6836	Sensor, Slope	1	
16	441 6829	Base, Relay	1	
17	441 6828	Relay	6	
	70814	Connector	24	
18	1203-166	Capscrew, 1/4C x 2 Socket Head	2	
19	70826	Controller -Drive / Boom Extend	1	
	70827	Controller - Boom Raise / Turret Rotate	1	] Part of 70775 Kit
20	1202-4	Machine Screw, #10-24 x 1/2	4	
	1210-7	Lockwasher, #10	4	
21	1202-6	Machine Screw, #10-24 x 3/4	4	
	1209-1	Flatwasher	4	
	1210-7	Lockwasher	4	
	1205-5	Nut, #10	4	
22	441 6831	Relay	2	
	441 6832	Spring, Retainer	2	
	441 6833	Base	2	
23	441 6839	Block, Terminal (Gray)	15	
	441 6840	Block, Terminal (Y/G)	7	
24	70580	Rail, Low Profile (20" lg.)	1	
25	1202-4	Machine Screw, #10-24 x 1/2	8	
26	70803	Connector, Receptacle	2	
	70792	Base		
27	1233-10	Machine Screw, #8-32 x 3/4	8	
	1210-5	Lockwasher, #8	8	
28	70791	Relay	1	
	441 6832	Spring, Retainer	1	
	70792	Base	1	
29	1205-23	Locknut, 1/4C	4	
30	256	Tie, Plastic	35	
	16214	Pad, Tie	7	
31	1202-4	Machine Screw, #10-24 x 1/2	4	
	1210-14	Lockwasher, 1/4	4	
32	70479	Diode	5	
33	70828	Resistor	1	

TURRET HYDRAULICS

Mark Industries

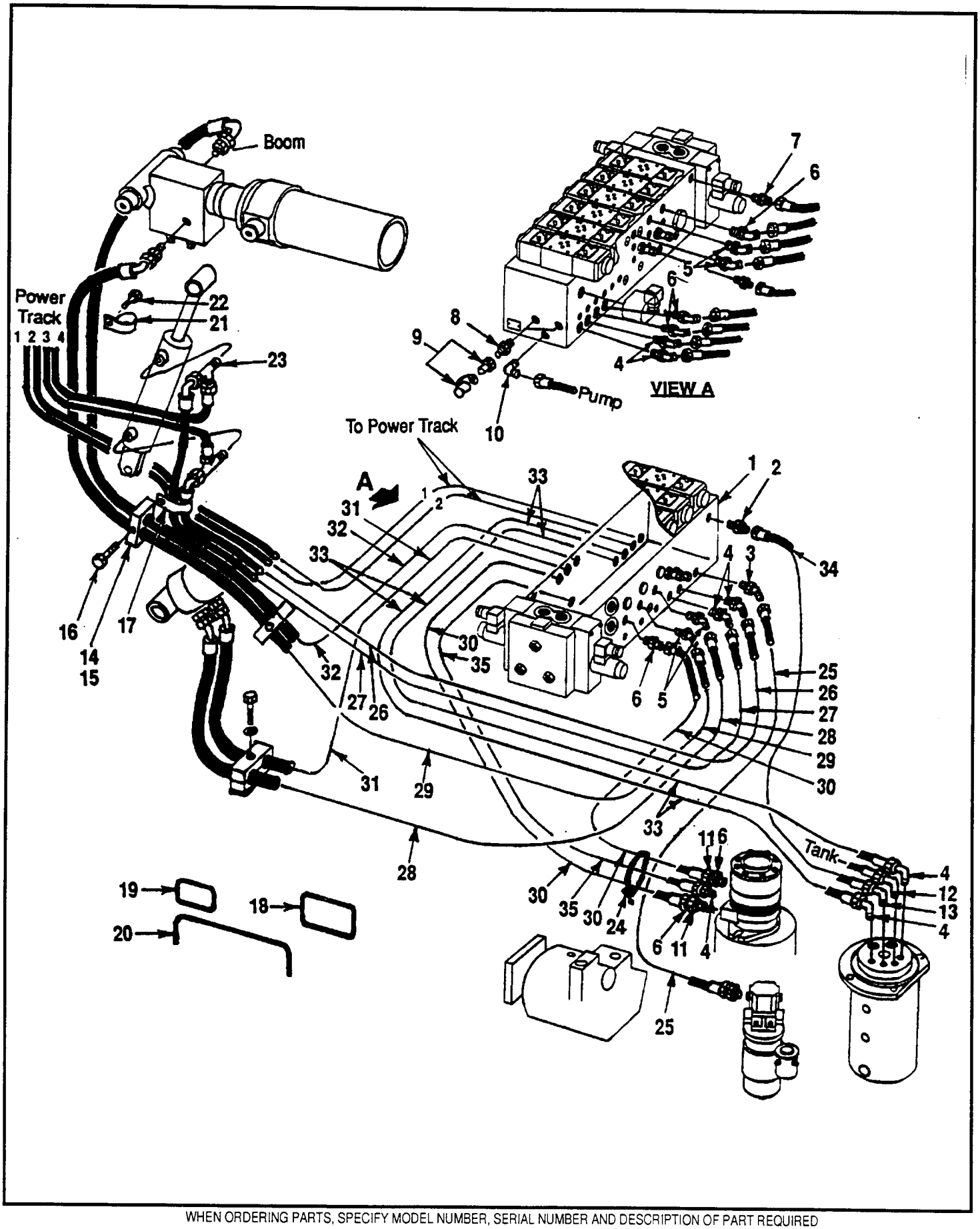


Ref.	Part No.	Description	Qty	Remarks
		Turret Hydraulic Ass'y	1	Incl. Items Pages 4.38-4.41
1	212012	Hydraulic Tank	Ref.	See Page 4.50 for Details
2	363 0205	Adapter	1	
3	81448	Filter	1	See Page 4.50 for Details
4	430 3022	Drain Cock	1	
5	12019-153	Adapter	1	
6	709 5097-39	Hose	1	
7	1219-386	Adapter	1	

Ref.	Part No.	Description	Qty	Remarks
8	1219-282	Adapter	1	
9	707 4525	Tube	1	
10	81443	Valve	1	See Page 4.46
11	316 2346	Capscrew, 3/8C x	4	
	1209-89	Flatwasher	4	
	1205-194	Locknut, 3/8C	4	
12	1219-776	Adapter	2	
13	12019-447	Adapter	7	
14	1219-693	Tee	1	
15	212097-15	Hose	1	
16	1219-389	Adapter	2	
17	363 0403	Beaded Insert	1	
18	378 0301	Clamp	2	
19	12368-51	Hose	1	
20	1200-100	Capscrew	4	
	1209-6	Flatwasher	4	
21	1222-202	Tie, Plastic	7	
22	212094-75	Hose	1	
23	212094-95	Hose	1	
24	212095-64	Hose	1	
25	1219-441	Adapter	1	
26	1219-665	Split Flange Clamp Half	2	
	460 4112	O-Ring	2	
	1200-61	Capscrew	4	
	1210-20	Lockwasher	4	
27	212065	Tube	1	
	460 4115	Seal	1	
	1200-100	Capscrew	4	
	1210-26	Lockwasher	4	
28	212096-16	Hose	1	
29	1219-795	Adapter	2	
30	20384	Pump, Emergency	1	See Page 4.45
31	1200-59	Capscrew	2	
	1209-46	Flatwasher	2	
	1209-89	Flatwasher, 3/8"	2	
32	21898	Rotary Manifold	1	See Page 4.52
33	1200-33	Capscrew	4	
	1209-46	Flatwasher	4	
34	1219-663	Adapter	2	
35	12019-248	Adapter	1	
36	212062-42	Hose	2	
37	212097-59	Hose	1	
38	1240-155	Plate, Cover	1	
39	365 0215	Clamp Half	2	
40	200B2007-11	Clamp	1	
41	1200-51	Capscrew	1	
	1209-24	Flatwasher	1	
	340 2113	Locknut	1	

TURRET HYDRAULICS

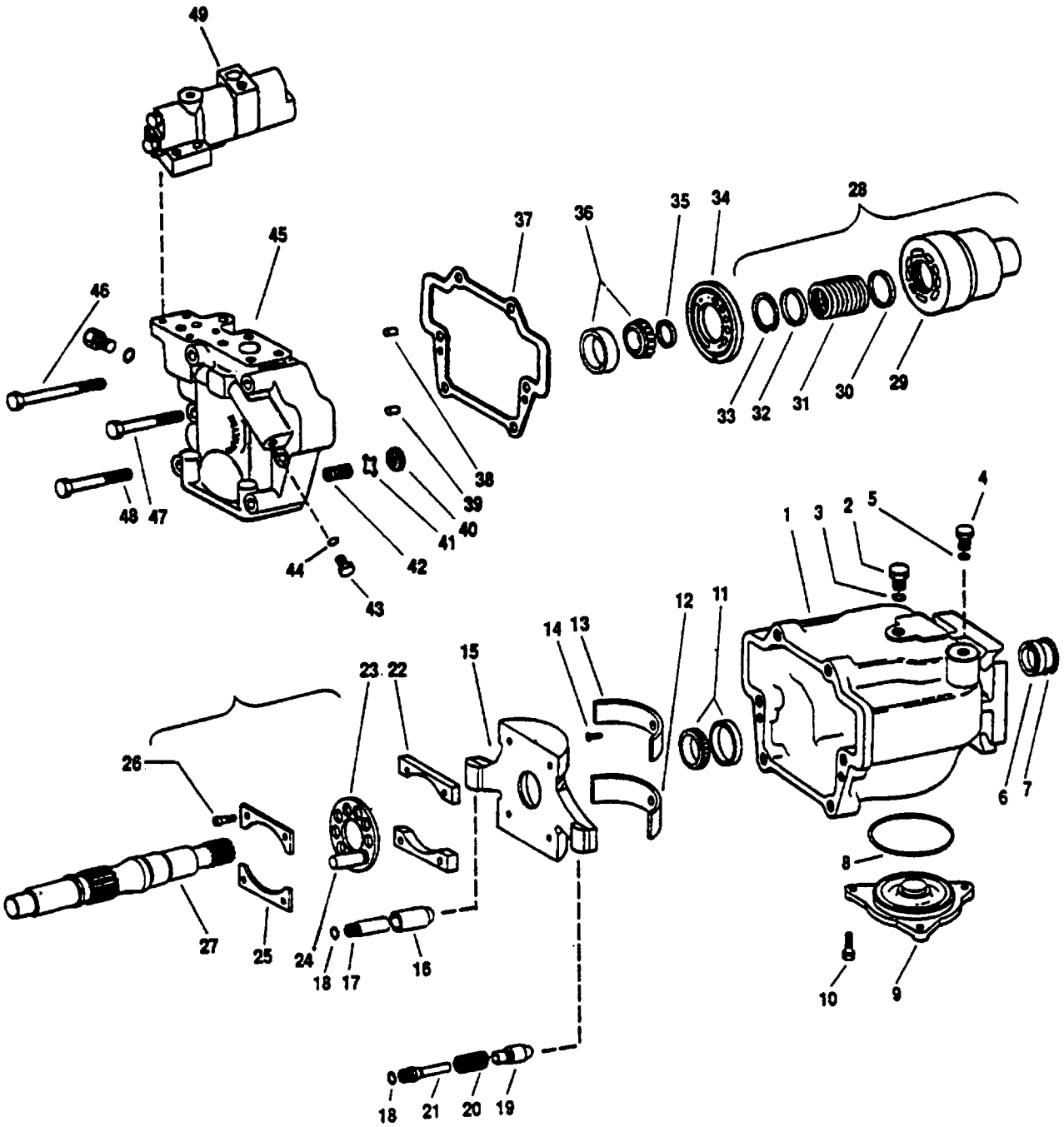
Mark Industries



Ref.	Part No.	Description	Qty	Remarks
1	81443	Valve	REF.	See Page 4.46
2	1219-959	Adapter	2	
3	1219-982	Adapter	1	
4	80018-03	Adapter	7	
5	12019-447	Adapter	7	
6	12019-205	Adapter	6	
7	1219-605	Adapter	1	
8	375 5201	Adapter	2	
9	12019-557	Coupling	2	
	12019-558	Cap, Dust	2	
10	1219-776	Adapter	2	
11	375 0701	Adapter	2	
12	12019-248	Adapter	1	
13	362 1255	Adapter	1	
14	1240-213	Clamp, Half	6	
15	1240-154	Plate, Cover	3	
16	1200-39	Capscrew	3	
17	200B2007-9	Clamp	2	
18	12169-25	Trimloc, 3/8 x 25"	1	
19	12169-17	Trimloc, 3/8" x 17"	1	
20	12182-20	Trimloc, 1/4" x 20"	2	
21	200B2007-15	Clamp	1	
22	1205-194	Locknut, 3/8C	1	
	1209-4	Flatwasher, 3/8	1	
23	12019-427	Tee	2	
24	1222-184	Tie, Plastic	3	
25	212094-92	Hose	1	
26	212059-87	Hose	1	
27	212059-104	Hose	1	
28	212092-76	Hose	1	
29	212093-112	Hose	1	
30	212059-36	Hose	2	
31	212093-93	Hose	1	
32	212092-50	Hose	1	
33	212060-66	Hose	2	
34	212059-57	Hose	1	
35	212059-38	Hose	1	

MAIN PUMP

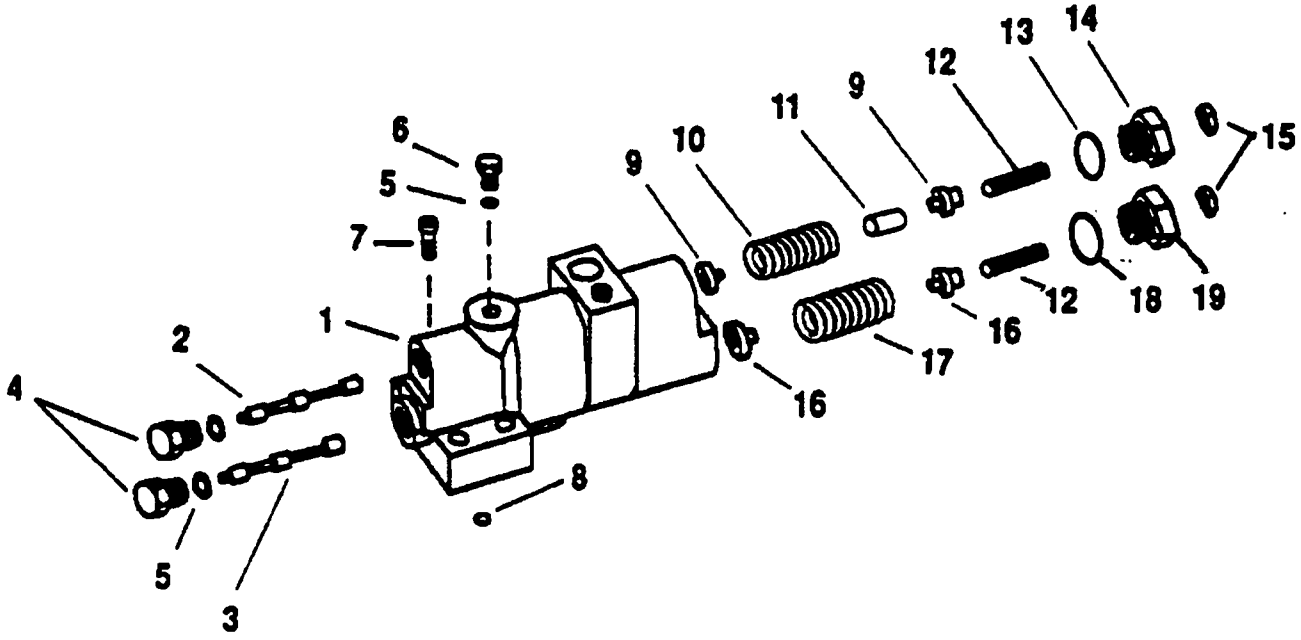
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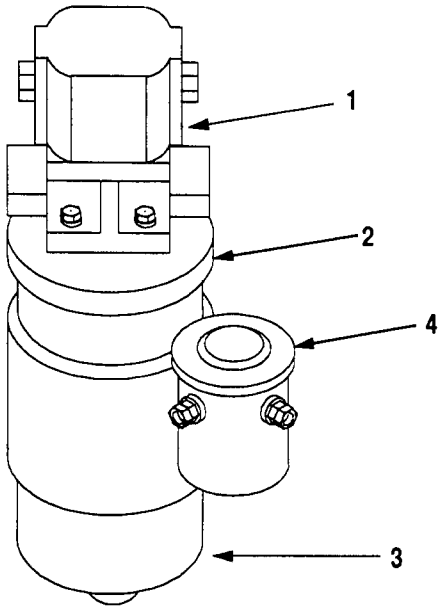
Ref.	Part No.	Description	Qty	Remarks
	81442	Pump, Complete	1	Incl. Items 1 thru 49
	69501	Kit, Seal	1	Incl. Items marked * .
	69502	Kit, Bearing	1	Incl. Items marked ^
	69521	Kit, Rotating Group	1	Incl. Items marked +
1	N.S.S.	Housing	1	
2	69503	Plug	1	
3	69504	O-Ring	1	*
4	69505	Plug	1	
5	69506	O-Ring	1	*
6	69507	Shaft Seal	2	
7	69508	Retaining Ring	2	
8	69509	O-Ring	1	*
9	69510	Cover	1	
10	69511	Screw	3	
11		Bearing	1	^
12		Saddle Bearing	1	^
13		Saddle Bearing	1	^
14		Screw	1	^
15	69512	Yoke	1	
16	69513	Control Piston	1	
17	69514	Control Rod	1	
18	69515	O-Ring	2	*
19	69516	Bias Piston	1	
20	69517	Spring	1	
21	69518	Bias Rod	1	
22	69519	Spacer	2	
23		Shoe Cage	1	+
24		Piston Kit	1	+
25		Limiter	2	+
26		Screw	4	+
27	69520	Shaft	1	
28		Rotating Group	1	+ See Kit Above
29		Cylinder Block	1	+
30		Spring Guide	1	+
31		Spring	1	+
32		Spring Guide	1	+
33		Retaining Ring	1	+
34	69522	Valve Plate	1	
35	69523	Shaft Spacer Kit	1	
36		Bearing	1	^
37	69524	Gasket	1	*
38	69525	Pin	2	
39	69526	Pin	1	
40	69527	Seat	1	
41	69528	Poppet	1	
42	69529	Spring	1	
43	69530	Plug	2	
44	69531	O-Ring	2	*
45	69532	Valve Block	1	
46	69533	Capscrew	1	
47	69534	Capscrew	1	
48	69535	Capscrew	4	
49	69536	Load Sensing & Pressure Compensator Control	1	See Page 4.44

MAIN PUMP CONTROL

Mark Industries



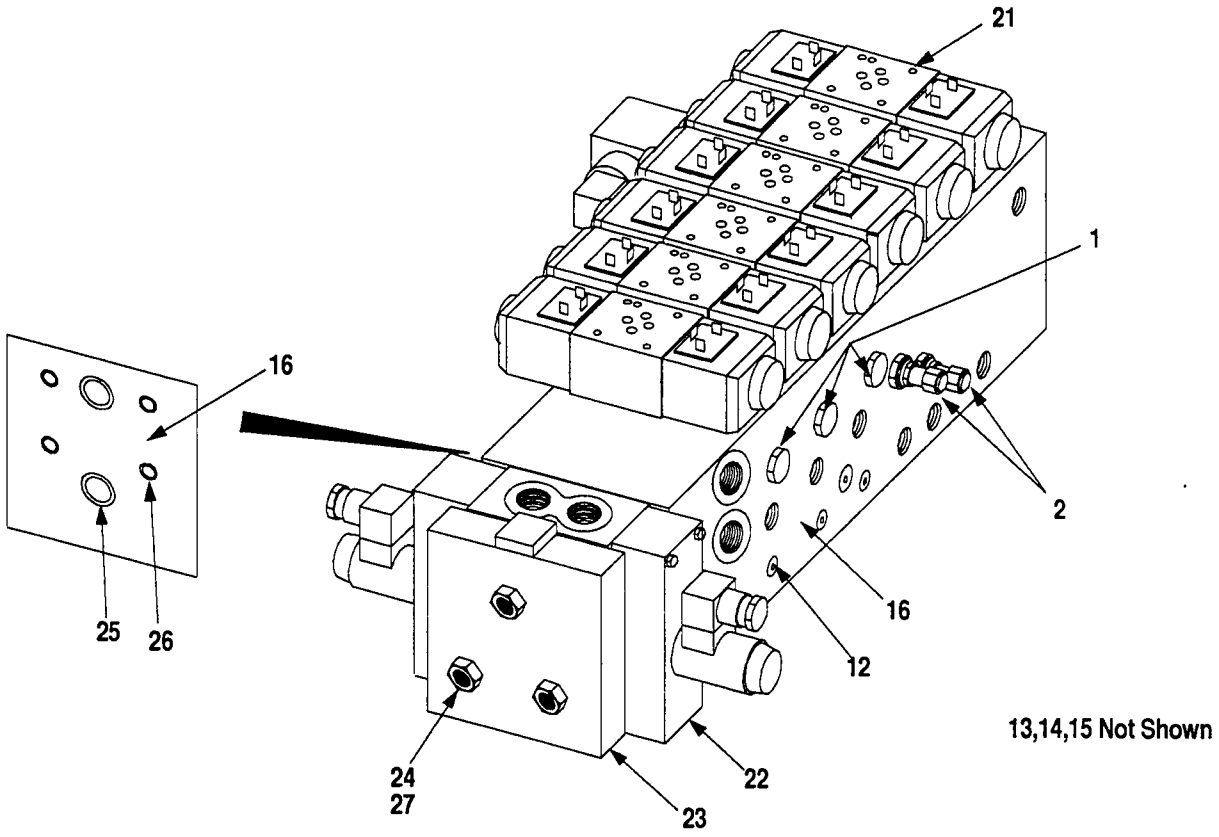
Ref.	Part No.	Description	Qty	Remarks
	69536	Load Sense & Pressure Compensator Control	1	Incl. Items 1 thru 19
				Items w/Asterisk * Included
1	N.S.S.	Body	1	in Seal Kit on Page 4.43
2	69538	Load Sense Spool	1	
3	69539	Pressure Limiter Spool	1	
4	69540	Plug	2	
5	69541	O-Ring	3	*
6	69542	Plug	1	
7	69543	Capscrew	4	
8	69544	O-Ring	3	*
9	69545	Spring Guide	2	
10	69546	Spring	1	
11	69547	Pin Spring Stop	1	
12	69548	Adjusting Screw	2	
13	69549	O-Ring	1	*
14	69550	Plug	1	
15	69551	Nut	2	
16	69552	Spring Guide	2	
17	69553	Control Spring	1	
18	69554	O-Ring	1	*
19	69555	Plug	1	



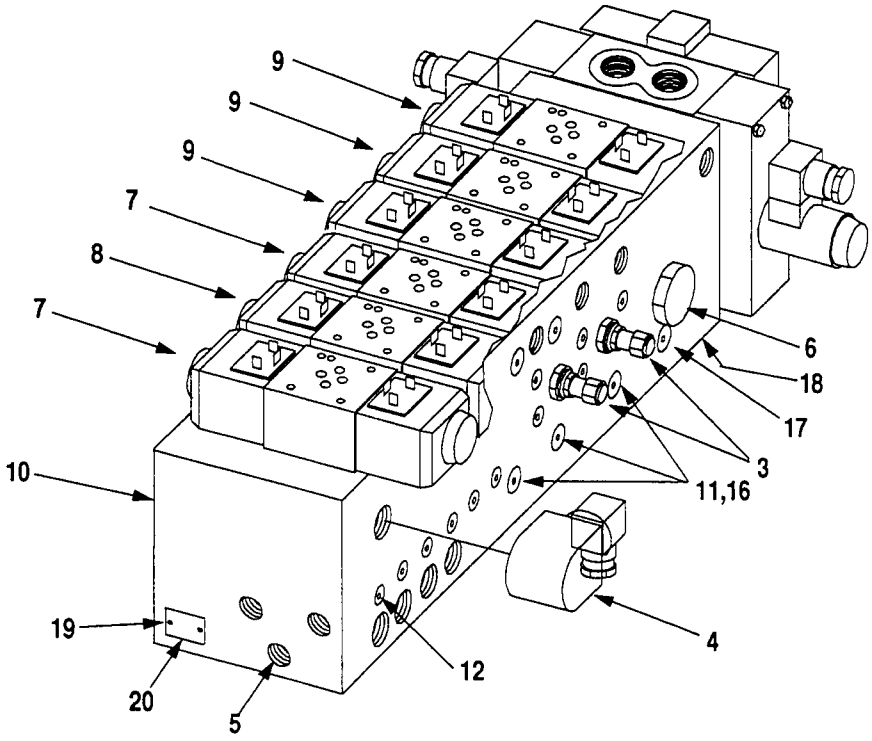
Ref.	Part No.	Description	Qty	Remarks
	20384	Emergency Pump / Motor Complete	1	Incl. Items 1 Thru 3
1	66402	Pump	1	
	67935	Kit, Seal	1	
2	68129	Plate, Adapter	1	
3	66780	Motor	1	
4	68510	Relay	1	

MAIN VALVE

Mark Industries



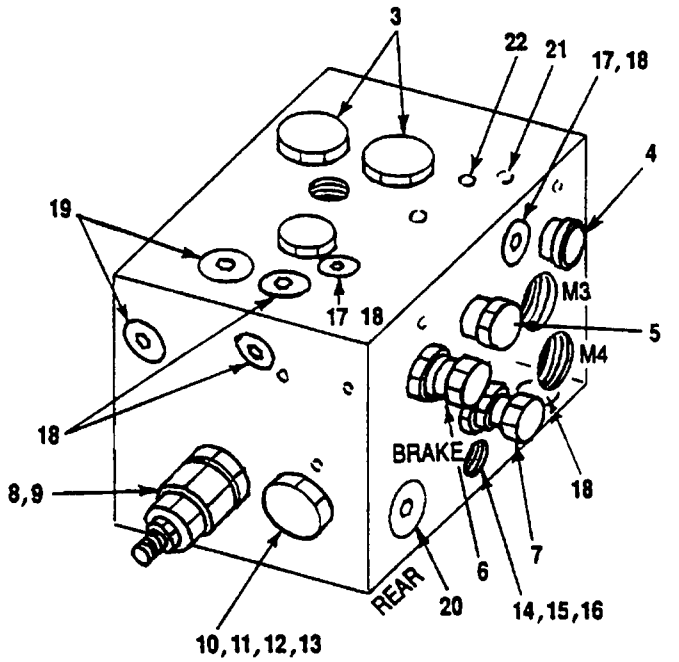
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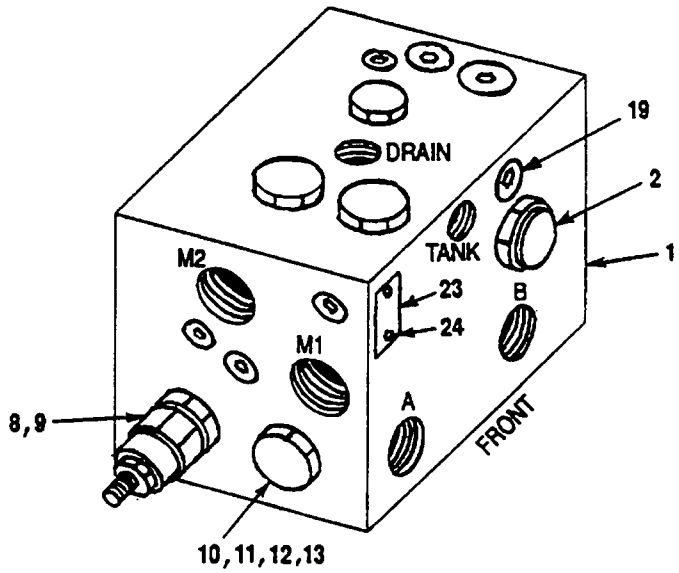


Ref.	Part No.	Description	Qty	Remarks
	81443	Main Valve, Complete	1	Incl. Items 1 thru 27
1	69556	Valve, Differential Pressure Sensing	3	
2	69557	Valve, Counterballance	2	
3	69558	Valve, Relief	2	
4	69559	Valve, Solenoid	1	
5	69560	Plug, Orifice, .020	1	
6	69561	Valve, Check	1	
7	69562	Valve, Solenoid	2	
8	69563	Valve, Solenoid	1	
9	69564	Valve, Solenoid	3	
	69565	Coil only - For Items 7,8,9	AR	
10	69566	Manifold	1	
11	69567	Plug, Orifice, .031	3	
12	69568	Check, Sensing	15	
13	69569	Plug, Expander	3	
14	69570	Plug, Expander	52	
15	69571	Plug, Expander	1	
16		Plug	11	SAE -6
17		Plug	10	SAE -8
18		Plug	1	SAE -10
19		Rivet	2	
20		Nameplate	1	
21	69572	Kit, Bolt	6	
22	69573	Valve, Solenoid	1	
	69834	Coil only	2	
23	69574	Cover	1	
24	69575	Rod, Tie	3	
25	69576	O-Ring	2	
26	69577	O-Ring	5	
27	69578	Nut	3	

FUNCTION VALVE

Mark Industries

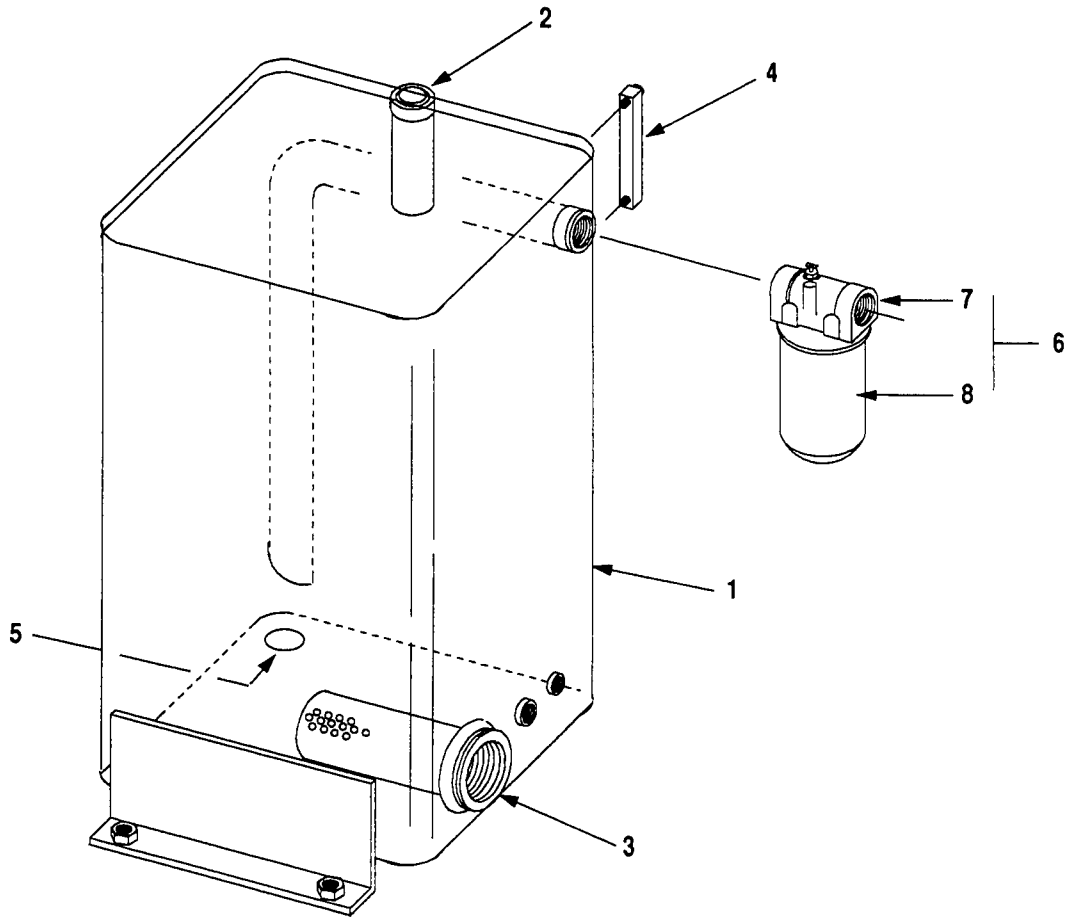




Ref.	Part No.	Description	Qty	Remarks
	81445	Propel Valve, Complete	1	Incl. Items 1 thru 24
1	69585	Manifold	1	
2	69579	Flow Divider/Combiner Valve	1	
3	69580	Differential Pressure Sensing Valve	2	
4	69581	Differential Pressure Sensing Valve	2	
5	69587	Pilot Operated Directional Valve	1	
6	69584	Relief Valve	1	
7	69594	Check Valve	1	
8	69582	Relief Valve	2	
9	69586	Pilot Piston	1	
10	69561	Check Valve	2	
11	69588	Ball	1	
12	69589	Seat	1	
13	69590	O-Ring	1	
14	69591	Orifice Disc	1	
15	69592	Spring	1	
16	69593	Setscrew	1	
17	69567	Orifice Plug, .031	4	
18		Plug, SAE-6	8	
19		Plug, SAE-8	3	
20		Plug, SAE-10	1	
21	69569	Plug, Expander	1	
22	69570	Plug, Expander	10	
23		Nameplate	1	
24		Rivet	2	

HYDRAULIC RESERVOIR & FILTER

Mark Industries

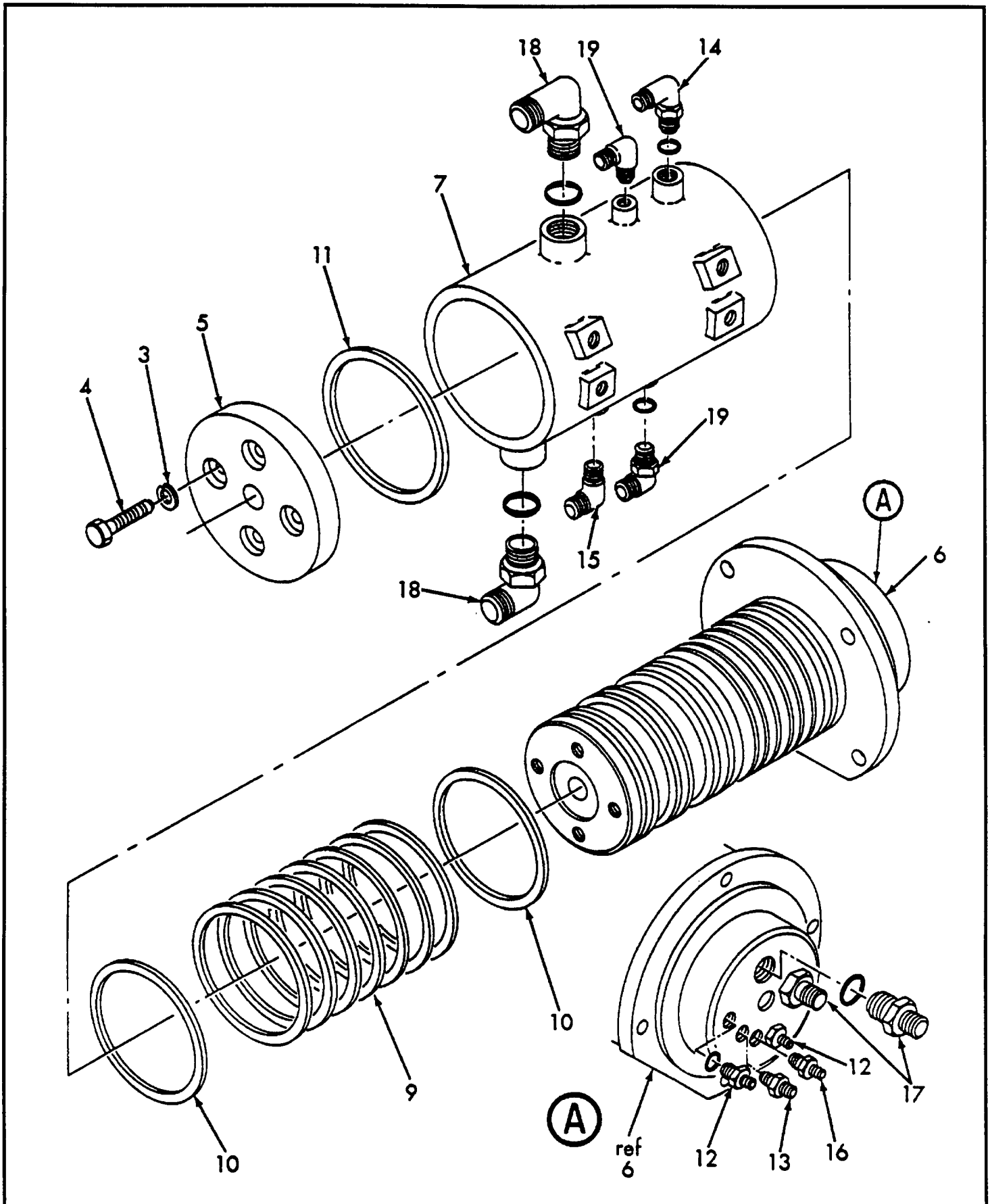


Ref.	Part No.	Description	Qty	Remarks
1	212012	Hydraulic Tank, Complete	1	Incl. Items 2 thru 5
2	69766	Cap, Fill/Breather	1	
3	69767	Strainer, Suction	1	
4	69768	Gauge, Sight	1	
5	69769	Magnetic Plug w/O-Ring	1	
	69770	O-Ring	1	
6	81448	Filter, Complete	1	Incl. Items 7 & 8
7	69620	Head	1	
8	69621	Cartridge, Spin-On	1	

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ROTARY MANIFOLD

Mark Industries



ROTARY MANIFOLD

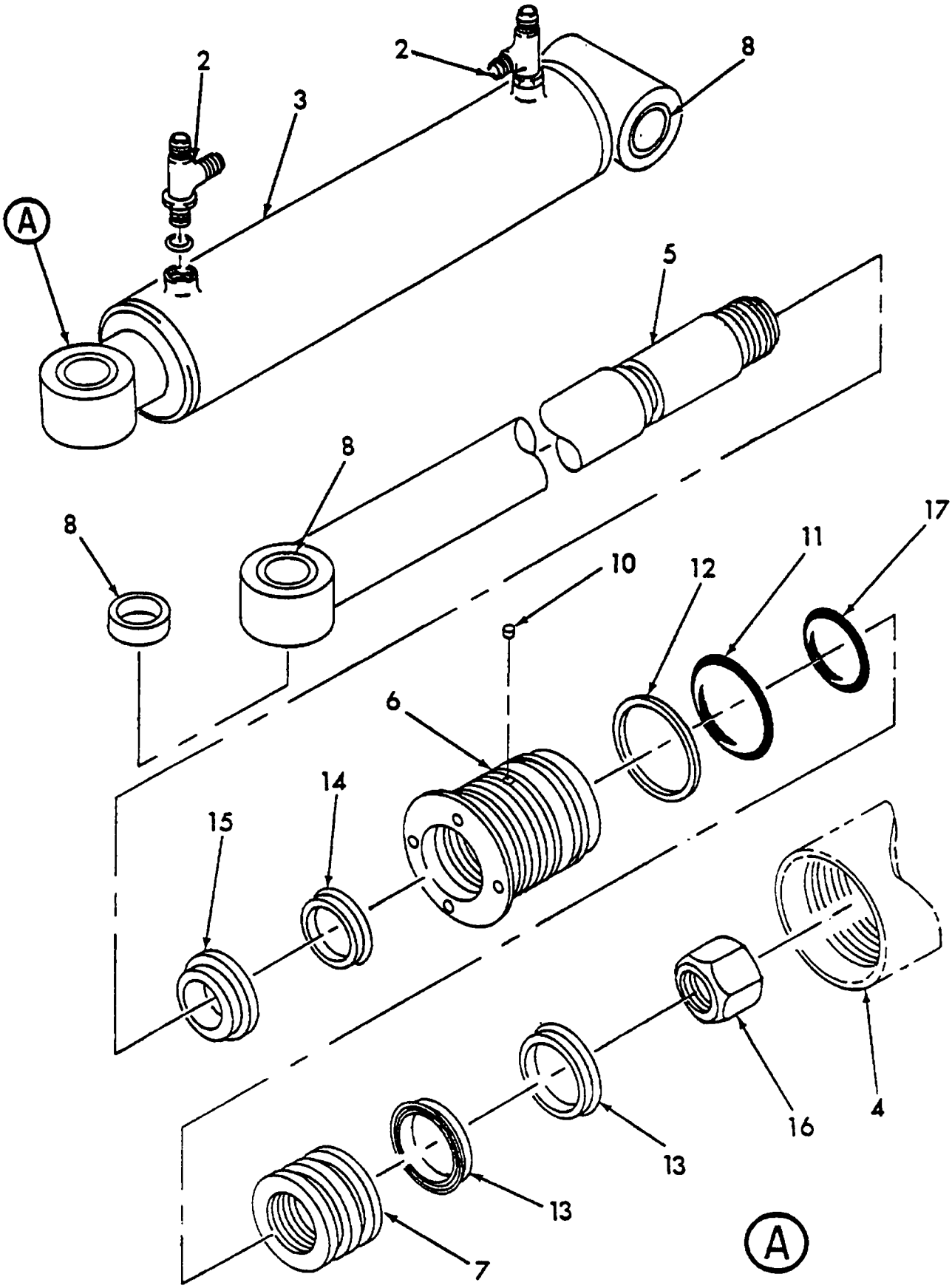
Ref.	Part No.	Description	Qty	Remarks
1	21898	Assembly, Rotary Manifold	REF.	
2	24132	Manifold, Rotary (TH)	1	
3		Lockwasher	4	
4		Capscrew	4	
5		Retainer, Spool	1	
6		Assembly, Swivel Spool	1	
7		Housing	1	
8	67817	Kit, Seal	1	
9		Ring, Glyd	7	
10		Ring, D.C. Glyd	2	
11		Ring, Wear	1	
12	80004-03	Connector, Male	2	
13	80001-03	Connector, Male	1	
14	80008-08	Elbow, Male	1	
15	80008-03	Elbow, Male	1	
16	80001-08	Connector, Male	1	
17	80004-18	Connector, Male	2	
18	80012-18	Elbow, Male	2	
19	80012-03	Elbow, Male	2	

Models CH100C

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MASTER LEVELING CYLINDER

Mark Industries



MASTER LEVELING CYLINDER

Models CH100C

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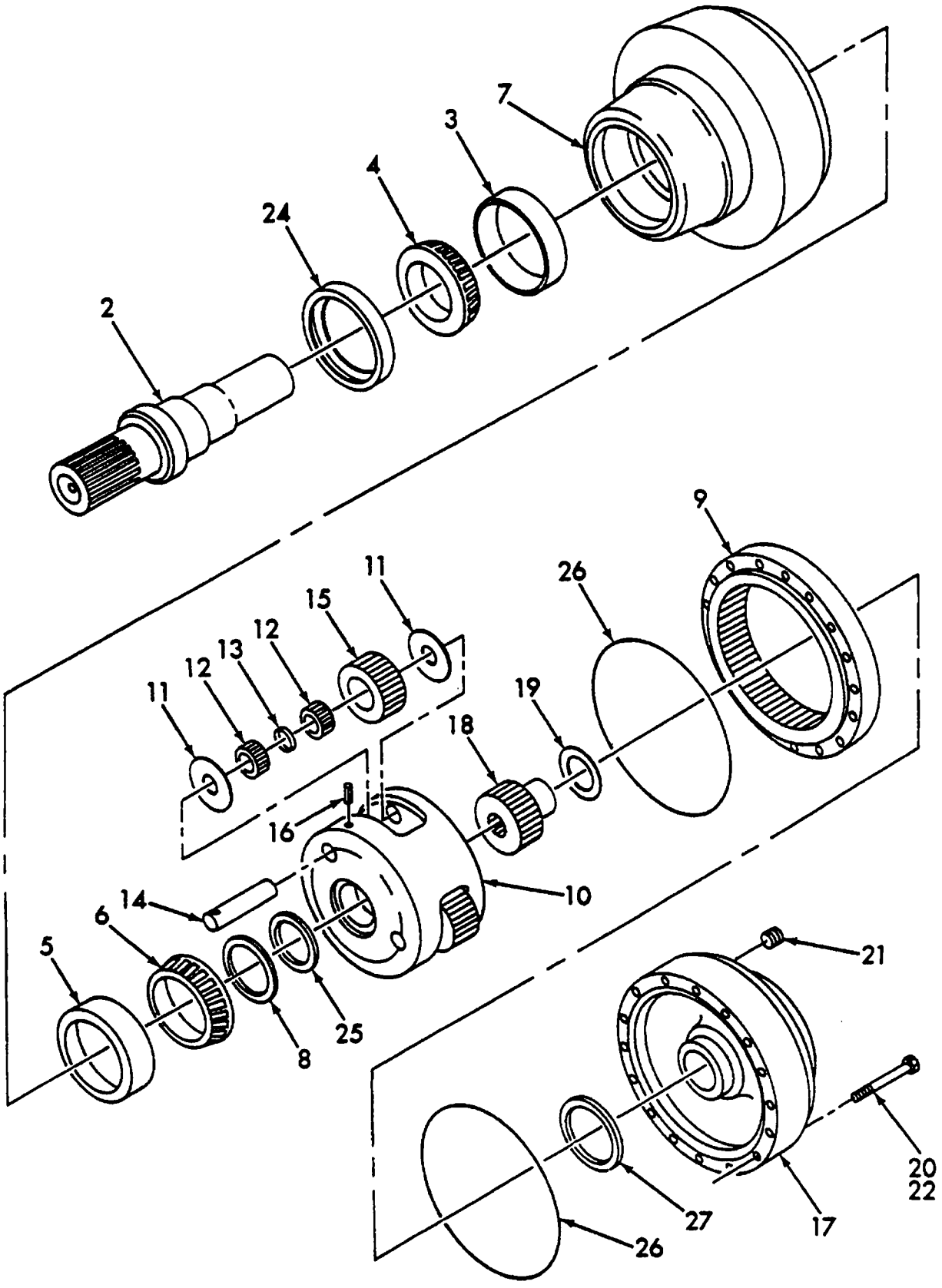
Ref.	Part No.	Description	Qty	Remarks
1	21084	Assembly, Master Leveling Cylinder	REF.	
2	80033-03	Tee, Straight Thread Run	2	
3	21111	Cylinder, Master Leveling	1	
4		Barrel	1	
5		Rod	1	
6		Nut, Gland	1	
7		Piston	1	
8	67671	Bushing	4	
9	66044	Kit, Seal	1	
10		Pellet, Lock	1	
11		O-Ring, Gland Nut	1	
12		B/U Ring, Gland Nut	1	
13		Seal, Piaton (Polypak)	1	
14		Seal, Rod (Polypak)	1	
15		Wiper, Rod	1	
16		Nut, Rod	1	
17		O-Ring, Static	1	

Models CH100C

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TORQUE HUB

Mark Industries



TORQUE HUB

Ref.	Part No.	Description	Qty	Remarks
1	22830	Hub, Torque	REF.	
2	67877	Shaft, Output	1	
3	67917	Cup, Bearing	1	
4	67924	Cone, Bearing	1	
5	67915	Cup, Bearing	1	
6	67923	Cone, Bearing	1	
7		Hub	1	
8	67911	Spacer	1	
9		Gear, Ring	1	
10		Carrier	1	
11	67898	Thrust Washer	6	
12	67918	Roller, Needle	96	
13	67907	Spacer	3	
14		Shaft, Planet	3	
15		Gear, Planet	3	
16		Pin, Roll	3	
17		Cover	1	
18		Gear, Input	1	
19	67899	Thrust Washer	1	
20	67931	Bolt	8	
21		Plug, Pipe	1	
22	67932	Bolt, Shoulder	4	
23	67871	Kit, Seal	1	
24	66508	Seal, Shaft	1	
25		Ring, Retaining	1	
26		O-Ring	2	
27		Thrust Washer	1	

NOTES

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SECTION 5 "BOOM ASSEMBLY" CONTAINS:

PAGE	TITLE
5.2	BOOM ASSEMBLY
5.6	OUTER INTERMEDIATE BOOM ASSEMBLY
5.10	INNER/INTERMEDIATE BOOM ASSEMBLY
5.14	INNER BOOM SUB-ASSEMBLY
5.18	BOOM LIFT CYLINDER
5.20	BOOM EXTEND CYLINDER
5.22	OUTSIDE BOOM EXTEND CYLINDER
5.25	SLAVE LEVELING CYLINDER
5.28	CABLE SHEAVE ASSEMBLY
5.29	POWER TRACK SUPPORT ROLLER
5.30	POWER TRACK

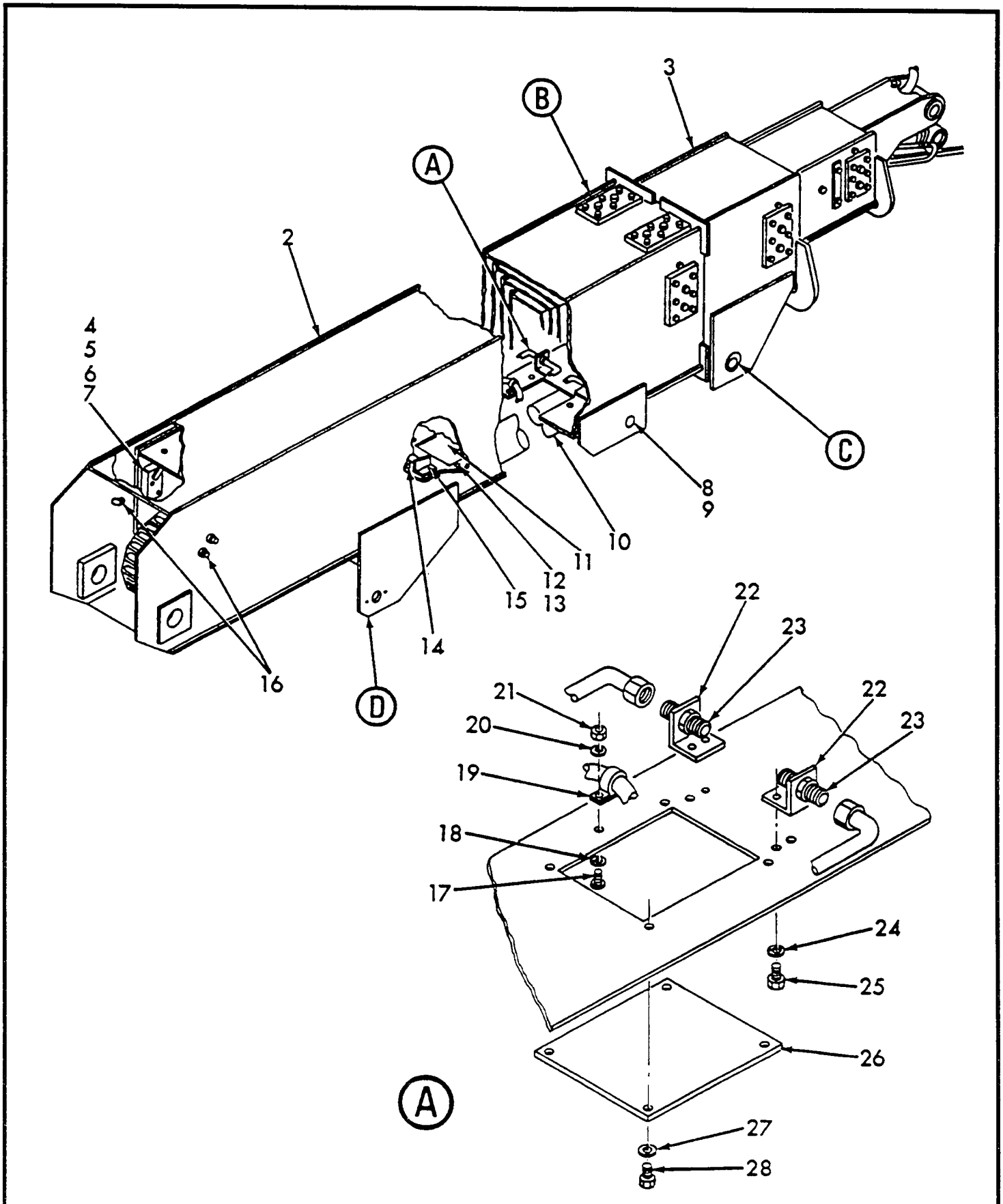
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Models CH100C

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BOOM ASSEMBLY (CH100C)

Mark Industries



BOOM ASSEMBLY (CH100C)

Models CH100C

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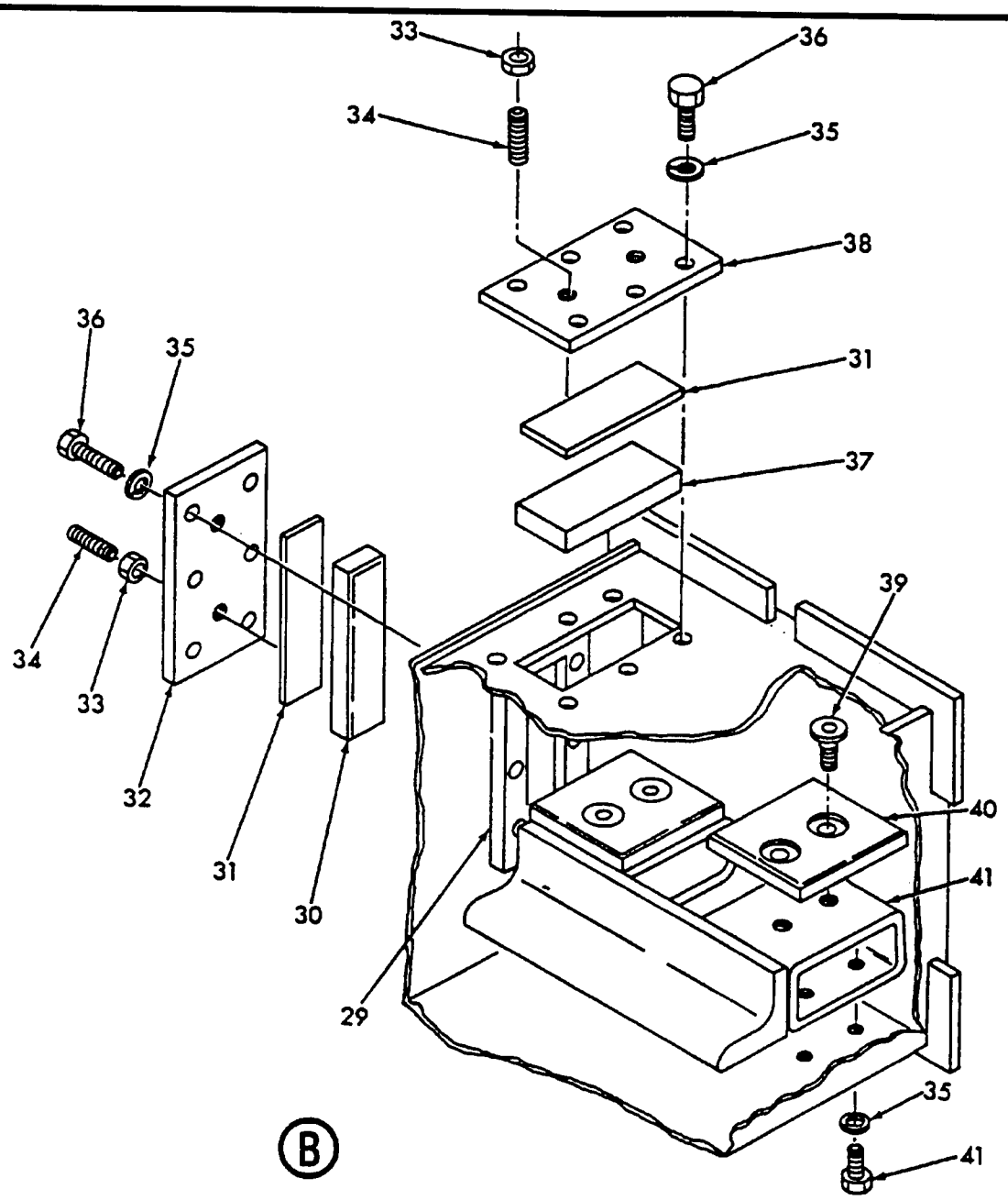
Ref.	Part No.	Description	Qty	Remarks
1	24310	Assembly, Final Boom	REF.	
2	24072	Machining, Outer Boom	1	
3	24311	Assembly, Outer/Intermediate Boom	1	See Page 5.6 for Details
4	70107	Switch, Limit	1	
5	70032	Lever, Switch	1	
6	62704	Screw, Machined Slotted	2	
7	63313	Lockwasher	2	
8	24228	Pin, Trunnion	2	
9	62221	Setscrew	2	
10	24328	Assembly, Outside Boom Extension Cylinder	1	See Page 5.22 for Details
11	22121	Plate, Access Cover	1	
12	63303	Lockwasher	4	
13	60408	Capscrew	4	
14	24401	Assembly, Power Track	1	
15	60625	Capscrew	4	
16	80011-03	Elbow, Bulkhead Union	4	
17	60534	Capscrew	1	
18	63301	Lockwasher	1	
19	16268	Clamp, Hose	1	
20	63401	Flatwasher	1	
21	60701	Nut, Hex	1	
22	22207	Bracket, Bulkhead Fitting	2	
23	80045-06	Union, Bulkhead	2	
24	63302	Lockwasher	4	
25	60603	Capscrew	4	
26	24480	Plate, Access Cover	1	
27	63303	Lockwasher	4	
28	60408	Capscrew	4	

Models CH100C

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BOOM ASSEMBLY (CH100C)

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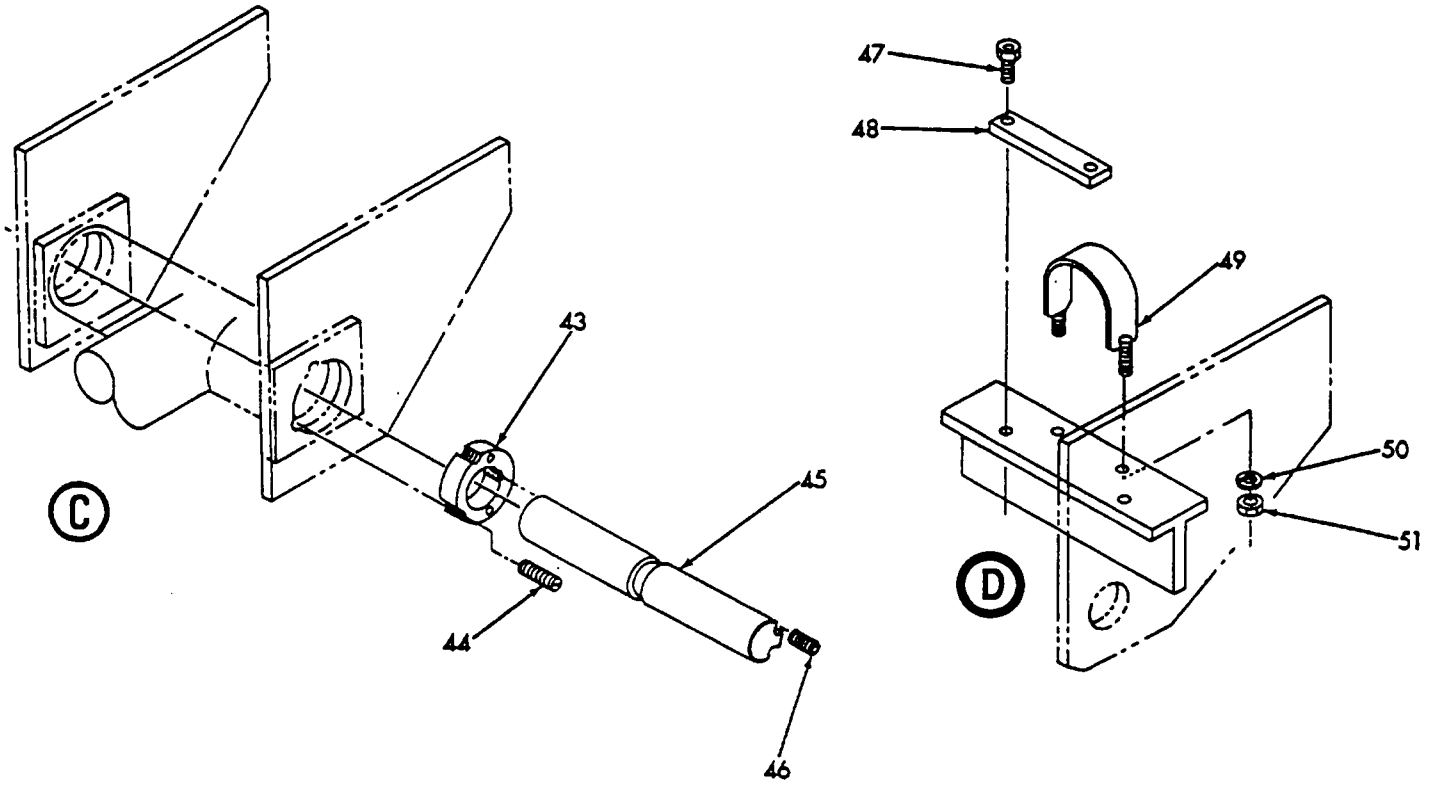


Ref.	Part No.	Description	Qty	Remarks
29	31358	Retainer	2	
30	23170	Wear Pad	2	
31	20453	Plate, Pressure Pad	4	
32	21321	Plate, Cover	2	
33	61101	Nut, Jam	8	
34	62204	Set Screw	8	
35	63303	Lockwasher	24	
36	60325	Capscrew	24	

BOOM ASSEMBLY (CH100C)

Models CH100C

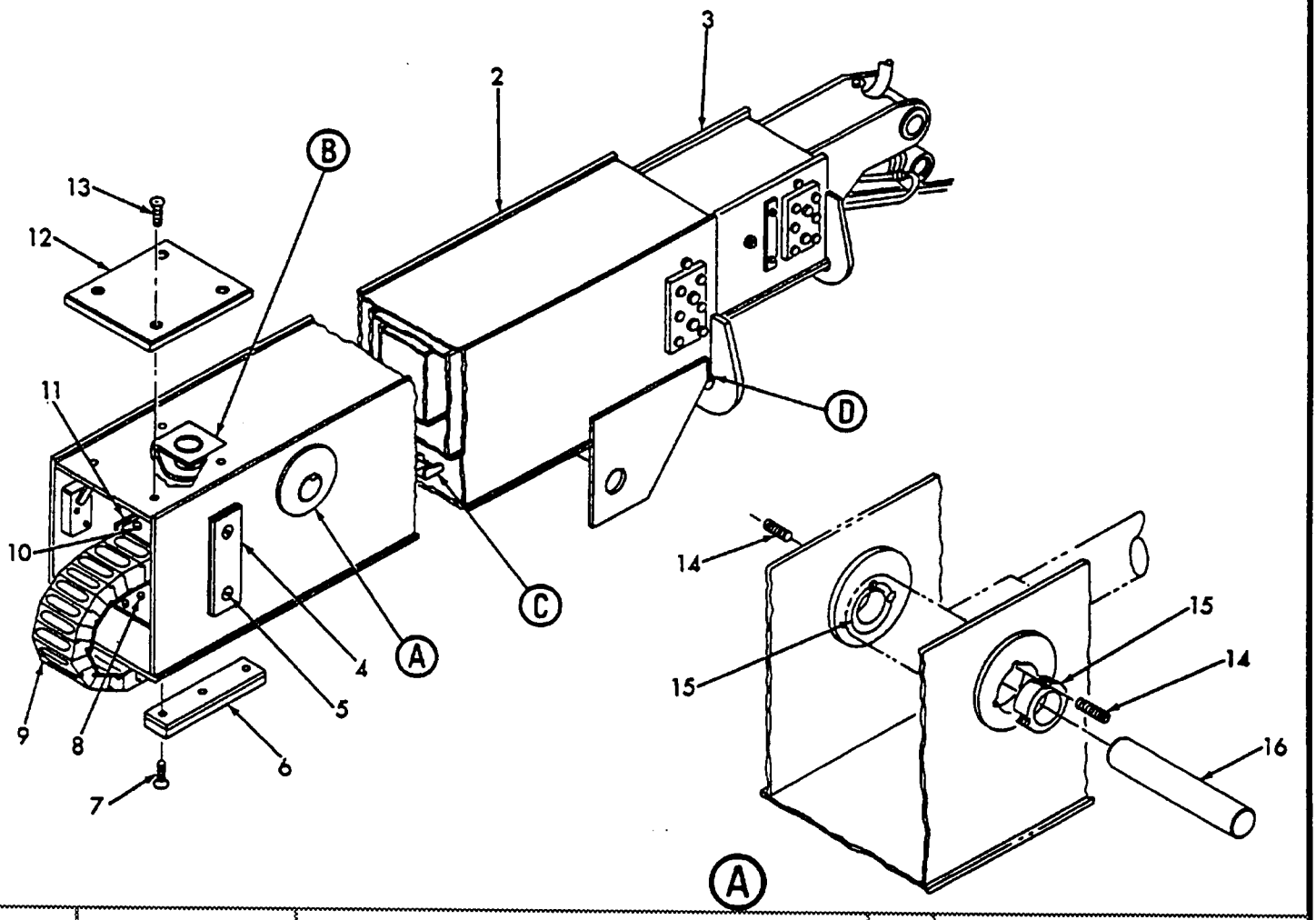
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Ref.	Part No.	Description	Qty	Remarks
37	24242	Pad, Wear	2	
38	22171	Plate, Cover	2	
39	61805	Capscrew, Flate Socket Head	4	
40	24225	Wear Pad	2	
41	24226	Bracket, Wear Pad	2	
42	60416	Capscrew	4	
43	24454	Bushing, Eccentric	2	
44	62229	Set Screw	4	
45	24227	Pin, Anchor	1	
46	62229	Set Screw	2	
47	61821	Capscrew	2	
48	22125	Wear Pad, Outside Extension Cylinder	1	
49	24402	Clamp, Outside Extension Cylinder	1	
50	63303	Lockwasher	2	
51	60703	Hex Nut	2	

OUTER / INTERMEDIATE BOOM ASSEMBLY

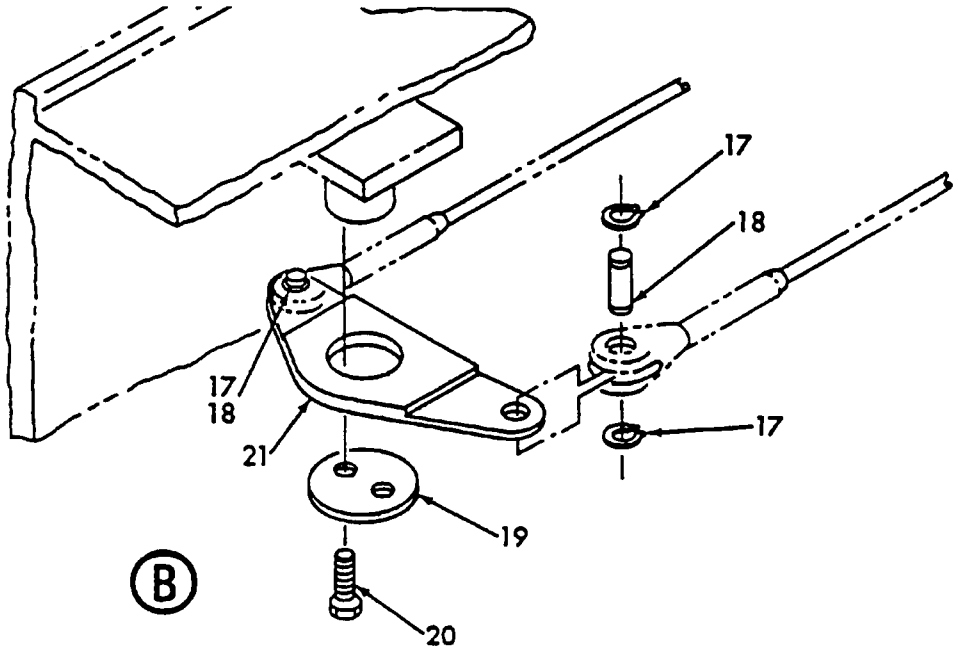
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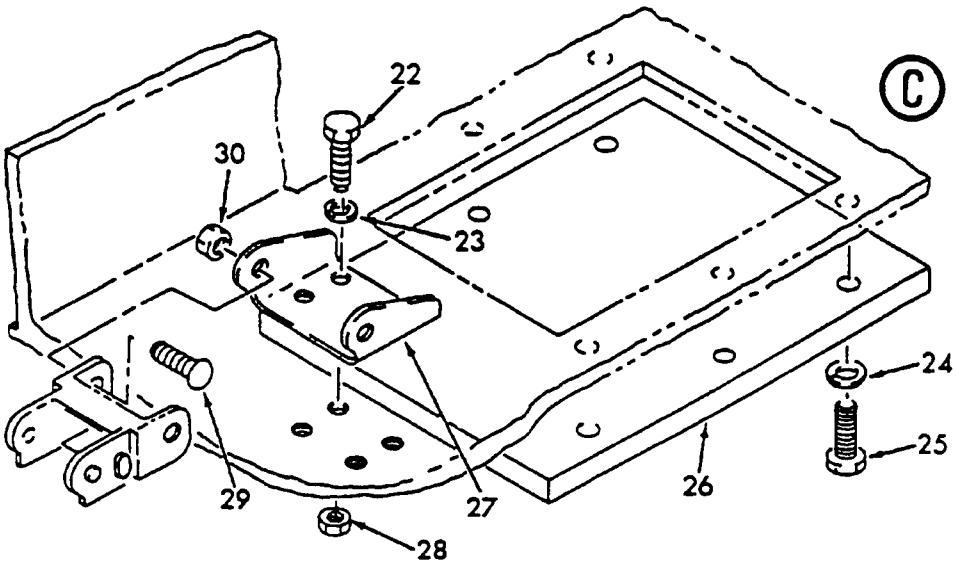


Ref.	Part No.	Description	Qty	Remarks
1	24311	Sub-Assembly, Outer/Intermediate Boom	REF.	
2	24074	Machining, Outer/Intermediate Boom	1	
3	24312	Sub-Assembly, Inner/Intermediate Boom	1	See Page 5.10 for Details
4	24241	Wear Pad	2	
5	61801	Capscrew	4	
6	24240	Wear Pad	2	
7	61805	Capscrew	6	
8	60607	Capscrew	4	
9	24401	Assembly, Power Track	1	See Page 5.30 for Details
10	60625	Capscrew	1	
11	22031	Bracket, Power Track	1	
12	24239	Wear Pad	1	
13	61827	Capscrew	4	
14	62229	Set Screw	4	
15	21353	Bushing, Eccentric	2	
16	23213	Pin, Boom Extension	1	
17	65082	Snap Ring	4	
18	22703	Pin	2	
19	22593	Retainer	1	

OUTER / INTERMEDIATE BOOM ASSEMBLY

Models CH100C
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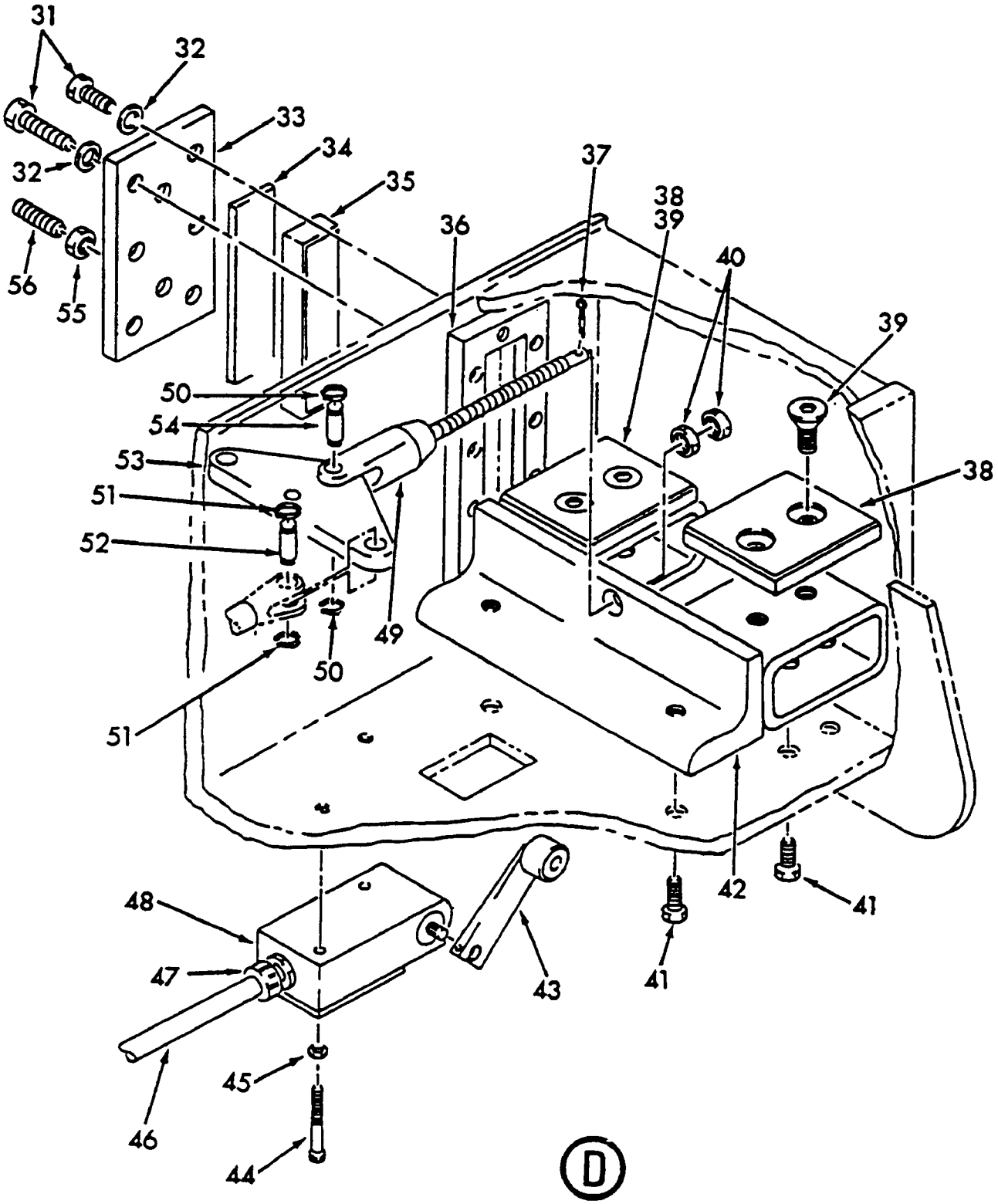
Ref.	Part No.	Description	Qty	Remarks
20	60603	Capscrew	2	
21	24229	Lever, Extension Cable	1	
22	60644	Capscrew	4	
23	63301	Lockwasher	4	
24	63302	Lockwasher	6	
25	60367	Capscrew	6	
26	24230	Plate, Cover	1	
27	23894	Bracket, Stationary (Power Track)	1	
28	60701	Hex Nut	4	
29	61931	Capscrew	2	
30	61322	Locknut	2	

Models CH100C

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OUTER / INTERMEDIATE BOOM ASSEMBLY

Mark Industries



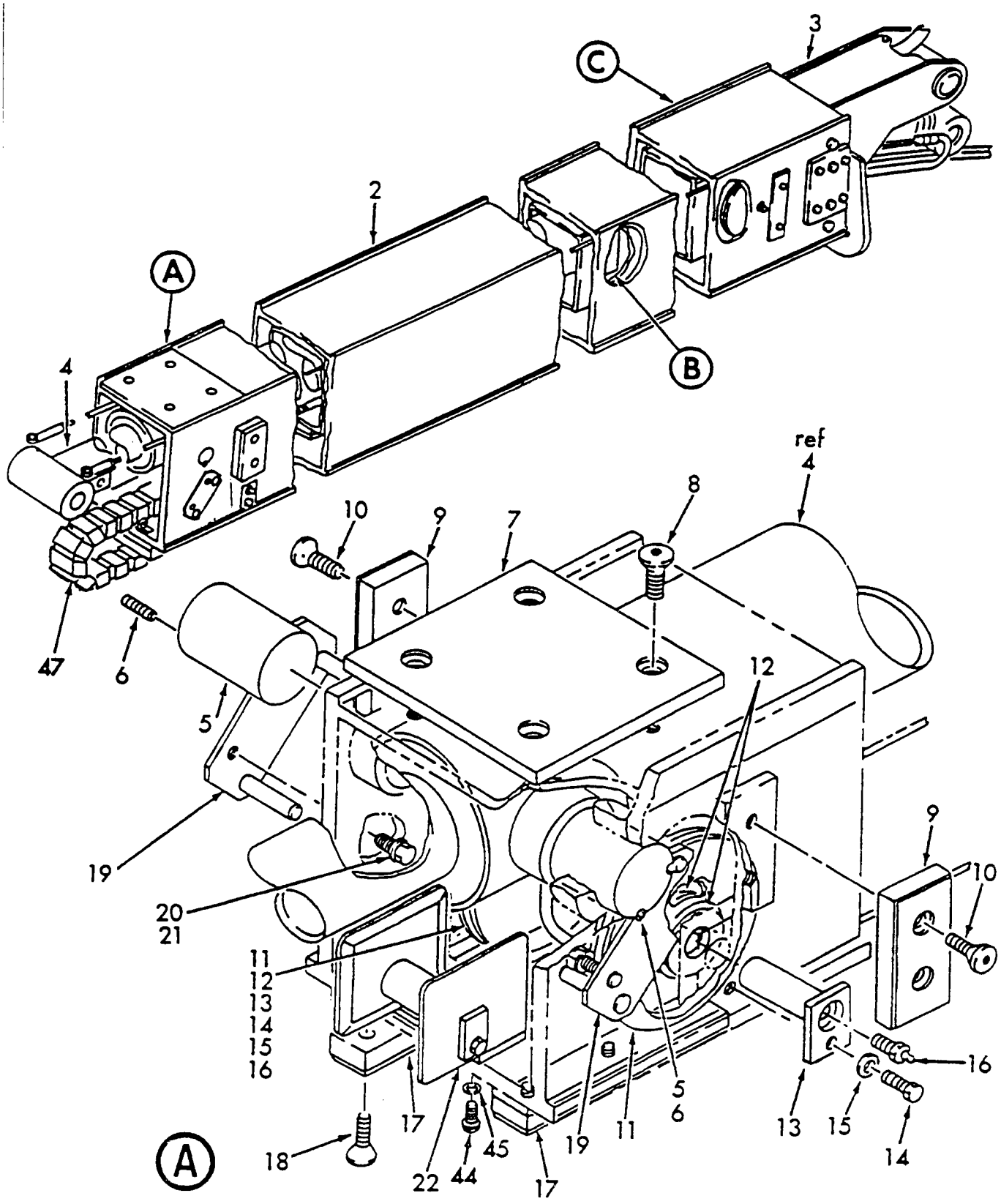
Ref.	Part No.	Description	Qty	Remarks
31	60325	Capscrew	16	
32	63303	Lockwasher	16	
33	21321	Plate, Wear Pad Cover	2	
34	20453	Plate, Pad Pressure	2	
35	23170	Wear Pad	2	
36	21358	Retainer, Wear Pad	2	
37	64301	Pin, Cotter	1	
38	24392	Wear Pad	2	
39	61806	Capscrew, Flat Socket Head	4	
40	60910	Jam Nut	2	
41	60607	Set Screw	6	
42	24224	Bracket, Boom End	1	
43	70148	Lever, Arm	1	
44	62704	Screw, Machine	2	
45	63313	Lockwasher	2	
46	2768	Cable, Electrical (25')	1	
47	2806	Relief, Strain	1	
48	70107	Switch, Limit	1	
49	22710	Clevis	1	
50	65076	Snap Ring	2	
51	65082	Snap RIng	4	
52	22703	Pin	2	
53	24238	Lever, Retraction Cable	1	
54	22708	Pin	1	
55	61101	Jam Nut	4	
56	62204	Set Screw	4	
57	60617	Capscrew	4	

Models CH100C

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INNER / INTERMEDIATE BOOM SUB-ASSEMBLY

Mark Industries



INNER / INTERMEDIATE BOOM SUB-ASSEMBLY

Models CH100C
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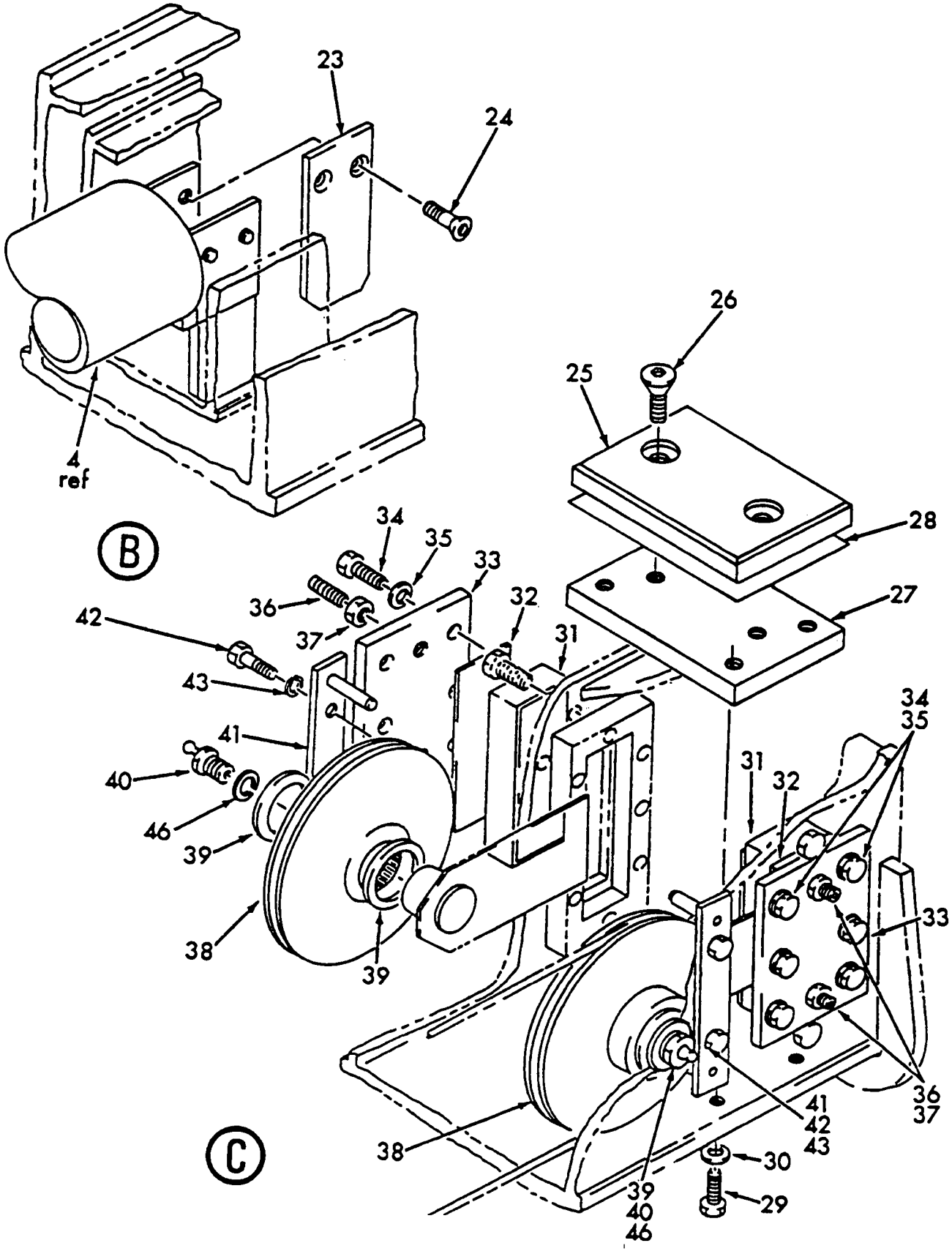
Ref.	Part No.	Description	Qty	Remarks
1	24312	Sub-Assembly, Inner/Intermediate Boom	REF.	
2	24076	Machining, Intermediate Boom	1	
3	24313	Sub-Assembly, Inner Boom	1	See Page 5.14 for Details
4	24329	Assembly, Boom Extension Cylinder	1	See Page 5.20 for Details
5	24231	Pin, Trunnion	2	
6	62229	Set Screw	3	
7	23204	Wear Pad	1	
8	61822	Capscrew, Flat Socket Head	4	
9	22567	Wear Pad	2	
10	61801	Capscrew, Flat Socket Head	4	
11	24222	Assembly, Cable Sheave	2	See Page 5.28 for Details
12	65534	Washer, Thrust	4	
13	24221	Pin, Cable Sheave	2	
14	60553	Capscrew	2	
15	63302	Lockwasher	2	
16	65103	Fitting, Grease	2	
17	24223	Wear Pad	2	
18	61805	Capscrew, Flat Socket Head	4	
19	24474	Weldment, Cable Keeper	2	
20	60527	Capscrew	4	
21	63302	Lockwasher	4	
22	24510	Assembly, Power Track Support Roller	1	See Page 5.29 for Details

Models CH100C

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INNER / INTERMEDIATE BOOM SUB-ASSEMBLY

Mark Industries

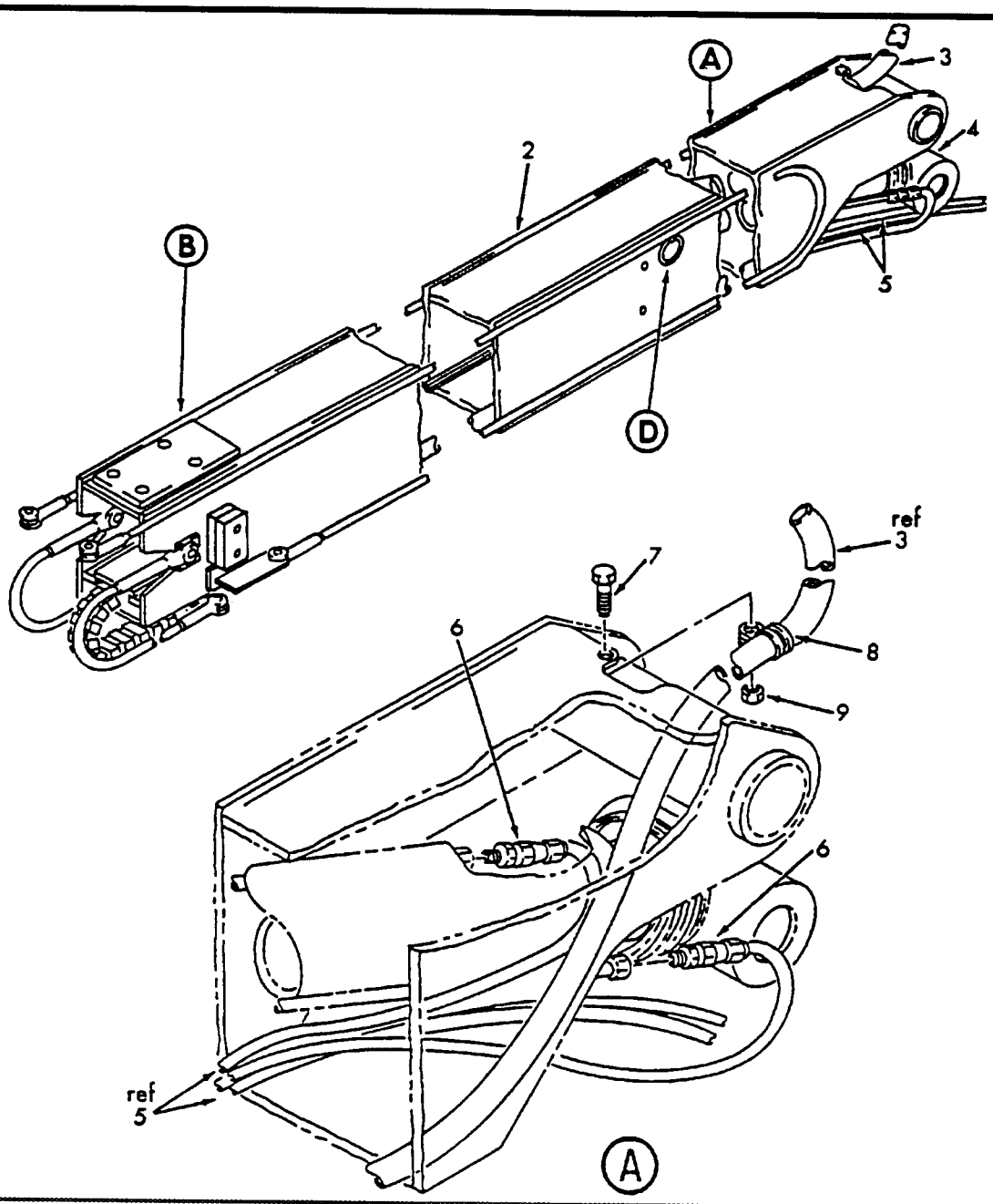


INNER / INTERMEDIATE BOOM SUB-ASSEMBLY

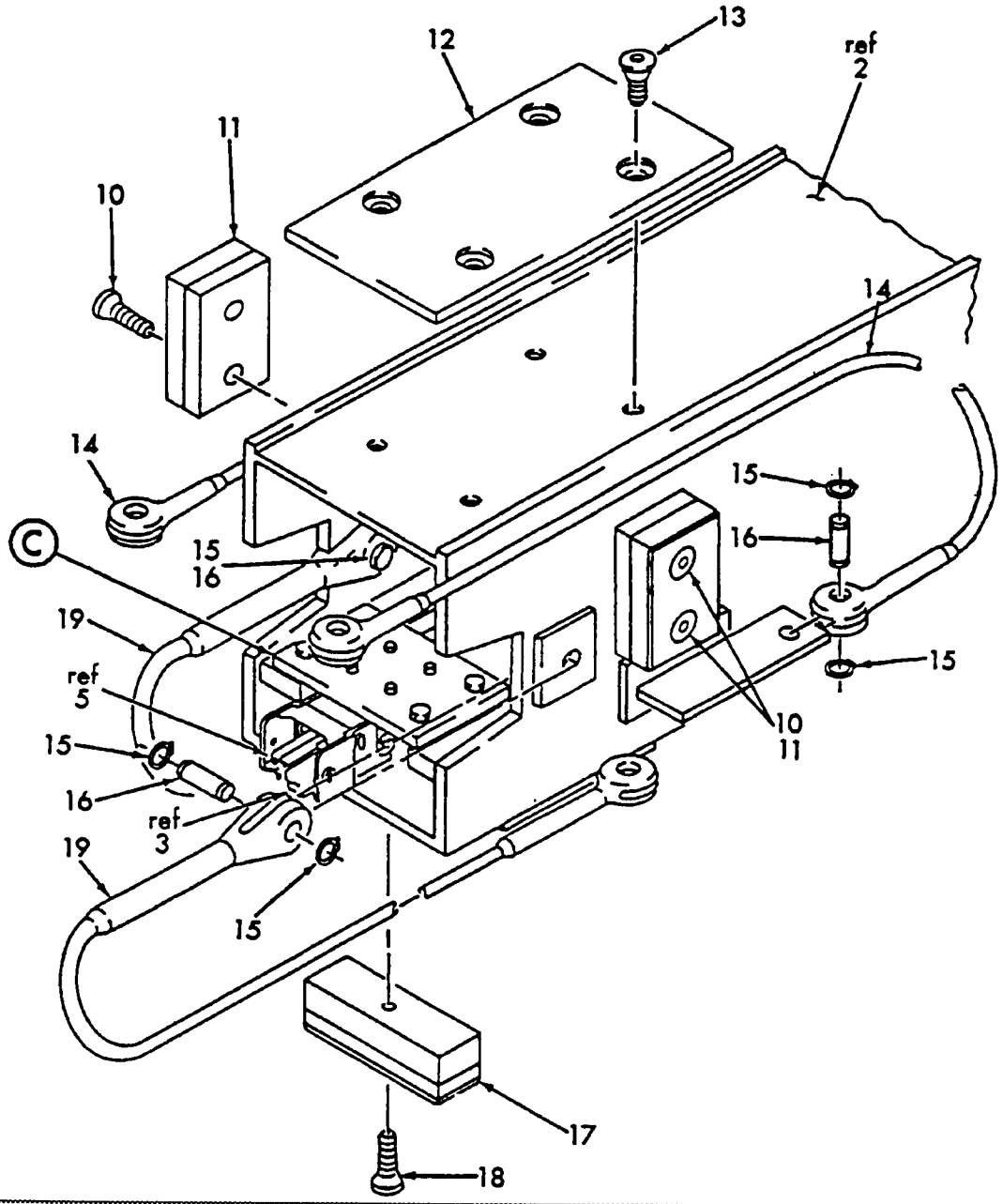
Ref.	Part No.	Description	Qty	Remarks
23	24400	Wear Pad	2	
24	21805	Capscrew, Flat Socket Head	4	
25	23206	Wear Pad	1	
26	61801	Capscrew, Flat Socket Head	2	
27	23207	Support, Wear Pad	1	
28	23620	Shim	1	
29	60325	Capscrew	4	
30	63303	Lockwasher	4	
31	23200	Wear Pad	2	
32	20453	Plate, Pad Pressure	2	
33	21321	Plate, Wear Pad Cover	2	
34	60451	Capscrew	12	
35	63303	Lockwasher	12	
36	62204	Set Screw	4	
37	61101	Jam Nut	4	
38	24222	Assembly, Cable Sheave	2	See Page 5.28 for Details
39	65534	Washer, Thrust	4	
40	65103	Fitting, Grease	2	
41	24474	Weldment, Cable Keeper	2	
42	60527	Capscrew	4	
43	63302	Lockwasher	4	
44	61931	Capscrew, Button Head Socket	4	
45	63302	Lockwasher	4	
46	65076	Snap Ring	2	
47	24401	Assembly, Power Track	1	See Page 5.30 for Details

INNER BOOM SUB-ASSEMBLY

Mark Industries



Ref.	Part No.	Description	Qty	Remarks
1	24313	Assembly, Inner Boom Sub-Assembly	REF.	
2	24078	Machining, Inner Boom	1	
3	20802	Cable, Electric (150')	1	
4	21094	Assembly, Slave Leveling Cylinder	1	See Page 5.25 for Details
5	2568	Hose, Hydraulic (150')	1	
6	2562	Fitting, Straight Swivel	2	
7	60309	Capscrew	1	
8	16268	Clamp, Hose	1	
9	60711	Hex Nut	1	
10	61805	Capscrew, Flat Socket Head	4	



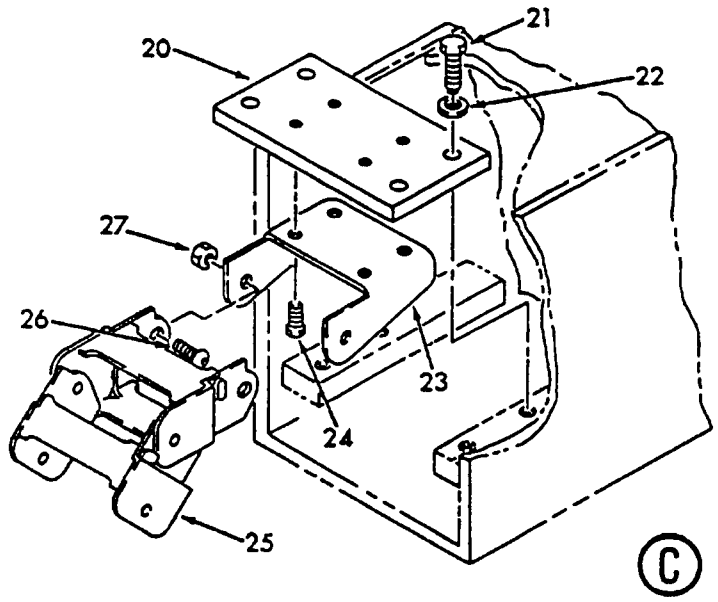
Ref.	Part No.	Description	Qty	Remarks
11	22569	Wear Pad	2	
12	23203	Wear Pad	1	
13	61822	Capscrew, Flat Socket Head	4	
14	24399	Cable, Extension	2	
15	65082	Snap Ring	8	
16	22703	Pin, Cable	4	
17	23083	Wear Pad	1	
18	60403	Capscrew, Flat Socket Head	1	
19	24398	Cable, Retraction	2	

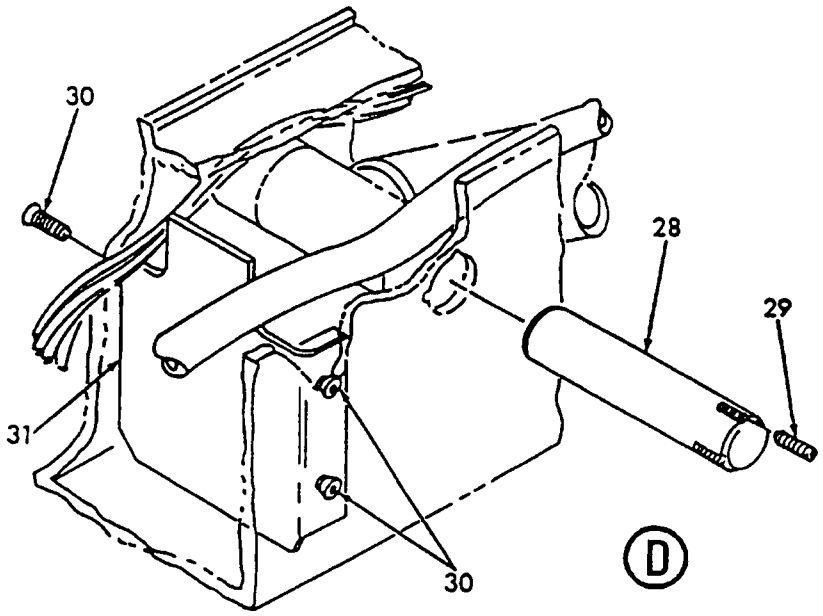
Models CH100C

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INNER BOOM SUB-ASSEMBLY

Mark Industries



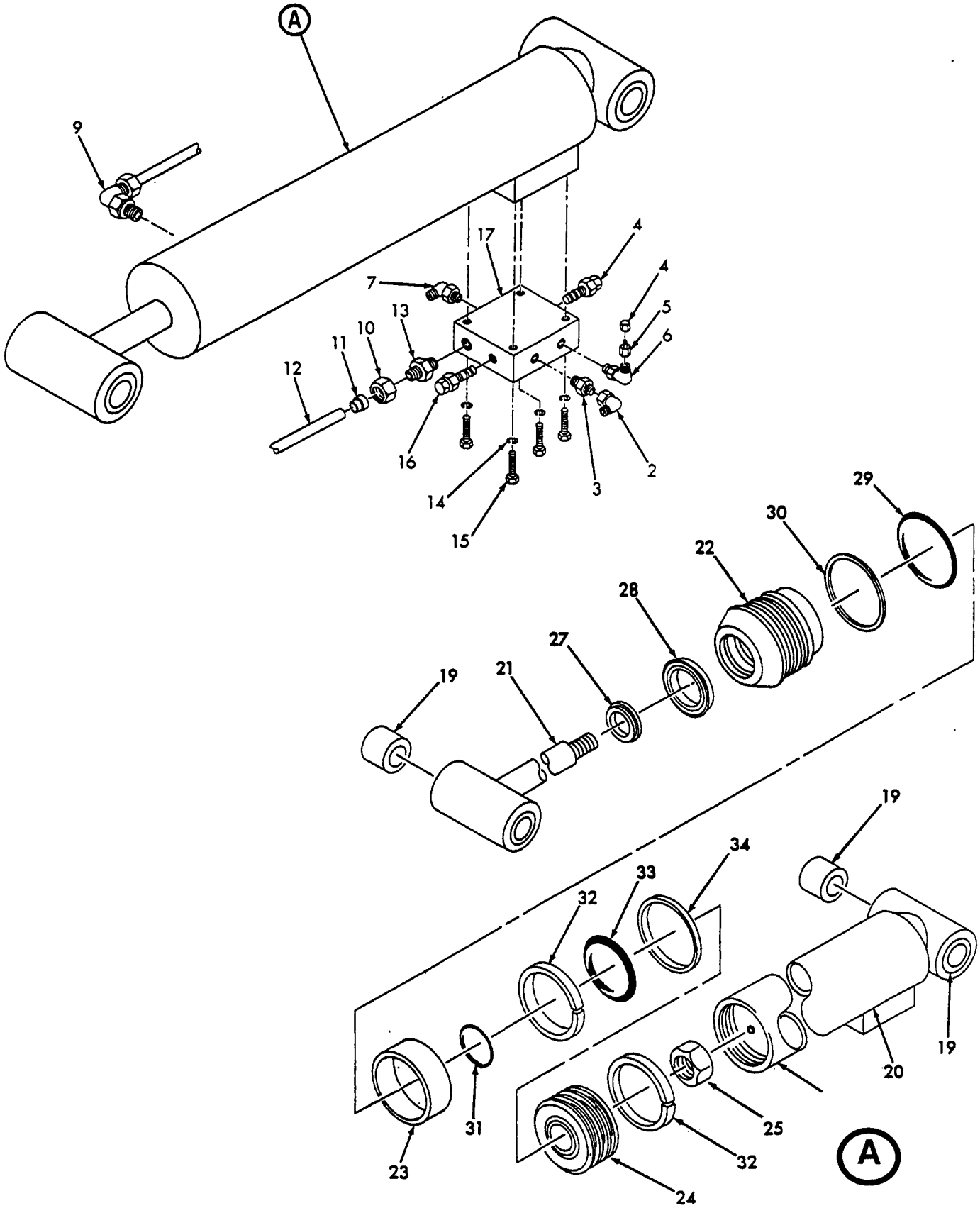


Ref.	Part No.	Description	Qty	Remarks
20	22730	Plate, Power Track Mounting	1	
21	60322	Capscrew	4	
22	63302	Lockwasher	4	
23	23895	Bracket, Movable Power Track	1	
24	60543	Capscrew	4	
25	23824	Track, Power	159	(159 pieces)
26	61931	Capscrew, Button Head Socket	2	
27	61322	Locknut	2	
28	23218	Pin, Slave Leveling Cylinder	1	
29	62229	Set Screw	2	
30	61822	Capscrew	4	
31	23214	Plate, Bulkhead	1	

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BOOM LIFT CYLINDER

Mark Industries

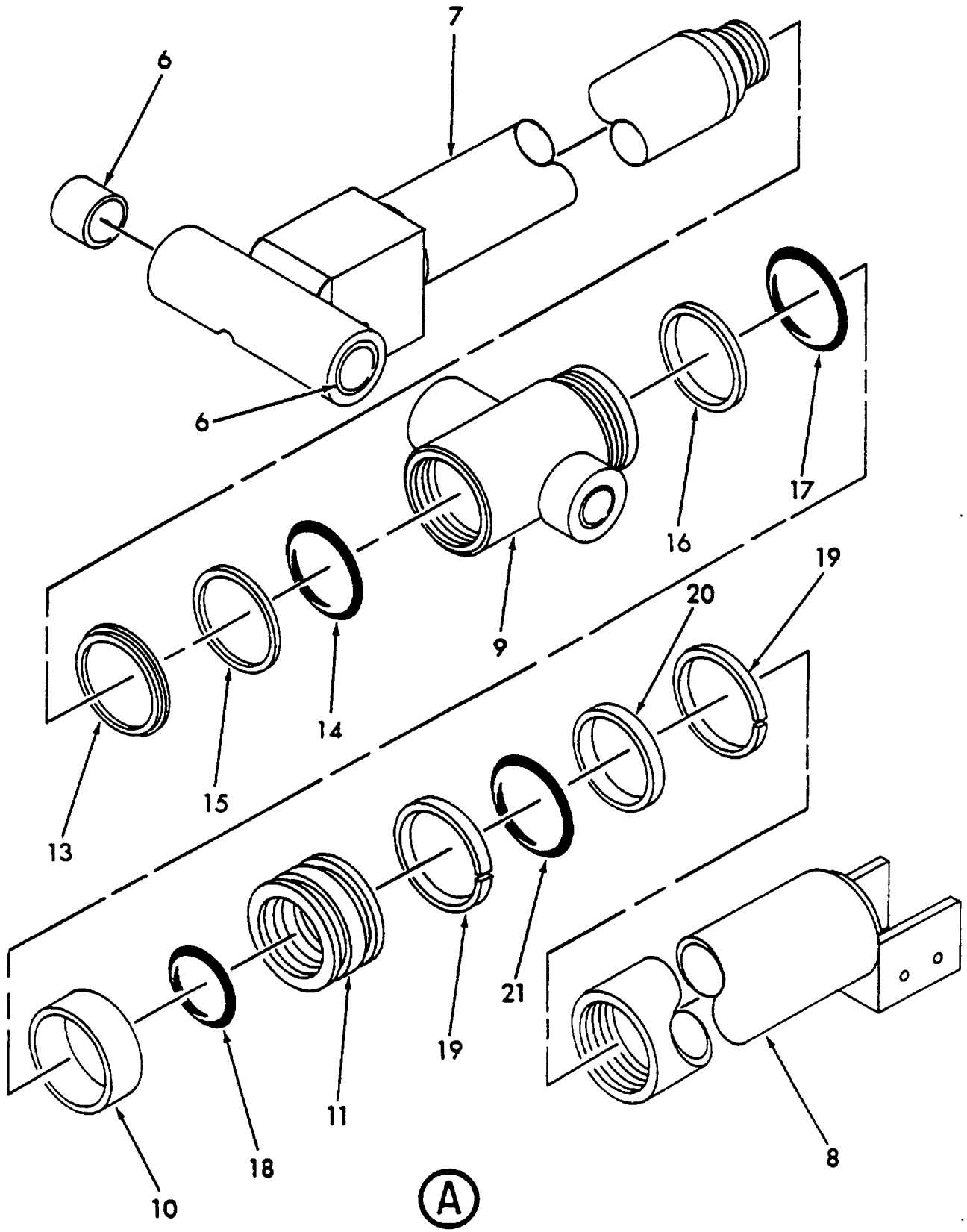


BOOM LIFT CYLINDER

Ref.	Part No.	Description	Qty	Remarks
1	24056	Assembly, Lift Cylinder	REF.	
2	80015-06	Elbow, Swivel Nut	1	
3	80004-11	Connector, Straight Thread	1	
4	20348	Orifice, Bleed Down	1	
5	80060-05	Nut	1	
6	50900	Elbow, Straight Thread	1	
7	80012-11	Elbow, Straight Thread	1	
8	24094	Sub-Assembly, Lift Cylinder	1	
9	80012-18	Elbow, Straight Thread	1	
10	80060-08	Nut	2	
11	80062-08	Sleeve	2	
12	26379	Tubing, Hydraulic	1	
13	80004-19	Connector, Straight Thread	1	
14	63302	Lockwasher	4	
15	61943	Screw, Round Socket Head	4	
16	81006	Cartridge, Overcenter	2	
17	21445	Block, Boom Cylinder Valve	1	
18	24043	Cylinder, Lift	1	
19		Bushing	4	
20		Barrel	1	
21		Rod	1	
22		Nut, Gland	1	
23		Tube, Stop	1	
24		Piston	1	
25		Nut, Rod	1	
26	67776	Kit, Seal	1	
27		Wiper, Rod	1	
28		Seal, Rod	1	
29		O-Ring, Head	1	
30		B/U Ring, Head	1	
31		O-Ring, Static	1	
32		Ring, Wear	2	
33		O-Ring, Piston	1	
34		Ring, Glyd	1	

BOOM EXTEND CYLINDER

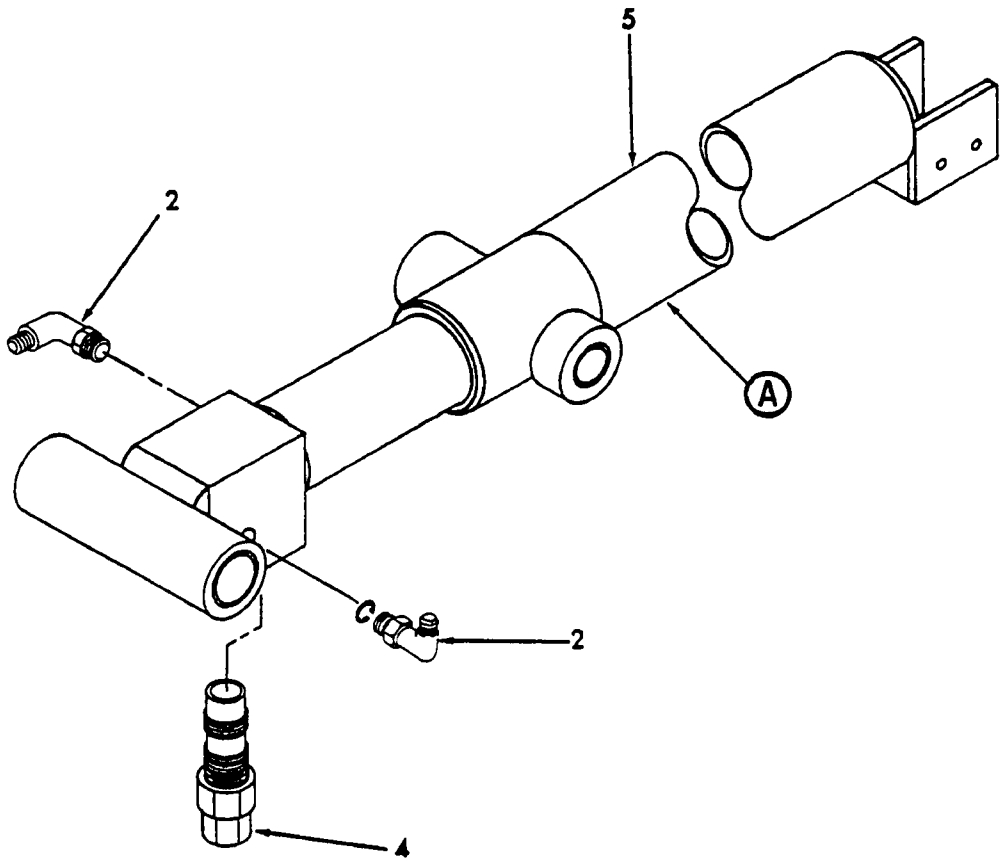
Mark Industries



BOOM EXTEND CYLINDER

Models CH100C

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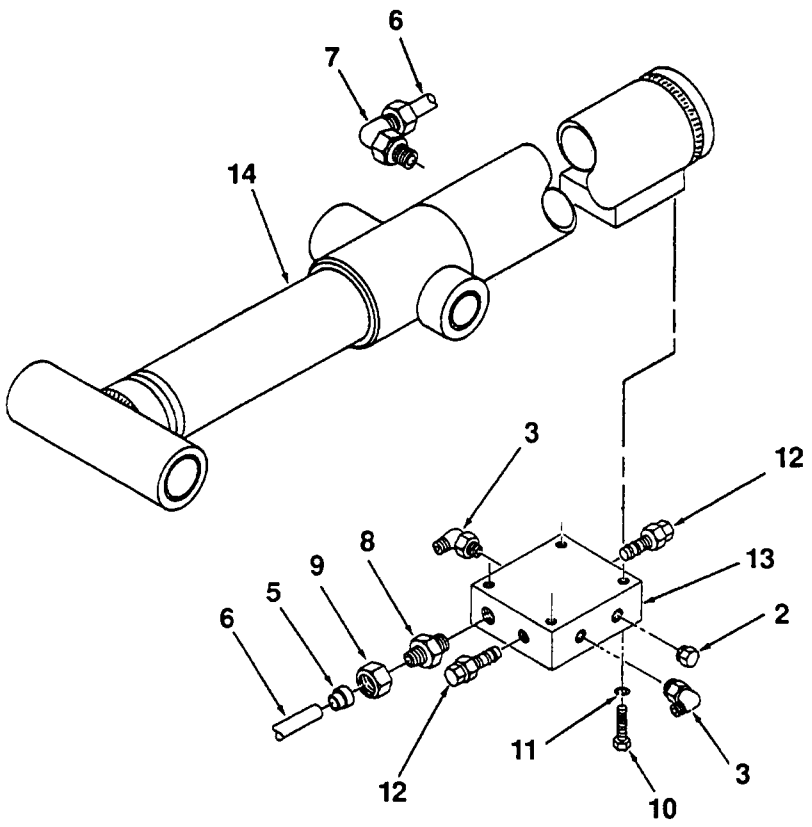
Ref.	Part No.	Description	Qty	Remarks
1	24329	Assembly, Boom Extend Cylinder	Ref.	
2	80012-11	Elbow, Straight Thread	2	
3	24326	Sub-Assembly, Boom Extend Cylinder	1	
4	81006	Cartridge, Over Center	2	
5	24325	Cylinder, Boom Extend	1	
6	67948	Bushing, D.U.	2	
7		Rod	1	
8		Barrel	1	
9		Head	1	
10		Tube, Stop	1	
11		Piston	1	
12	67131	Kit Seal	1	Inspect Cyl. for Vendor
13		Wiper, Rod	1	
14		O-Ring	1	
15		Seal, Step	1	
16		Back-Up Ring, Head	1	
17		O-Ring, Head	1	
18		O-Ring, Static	1	
19		Ring, Wear	2	
20		Seal, Piston	1	
21		Ring, Glyd	1	

Models CH100C

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OUTSIDE BOOM EXTEND CYLINDER

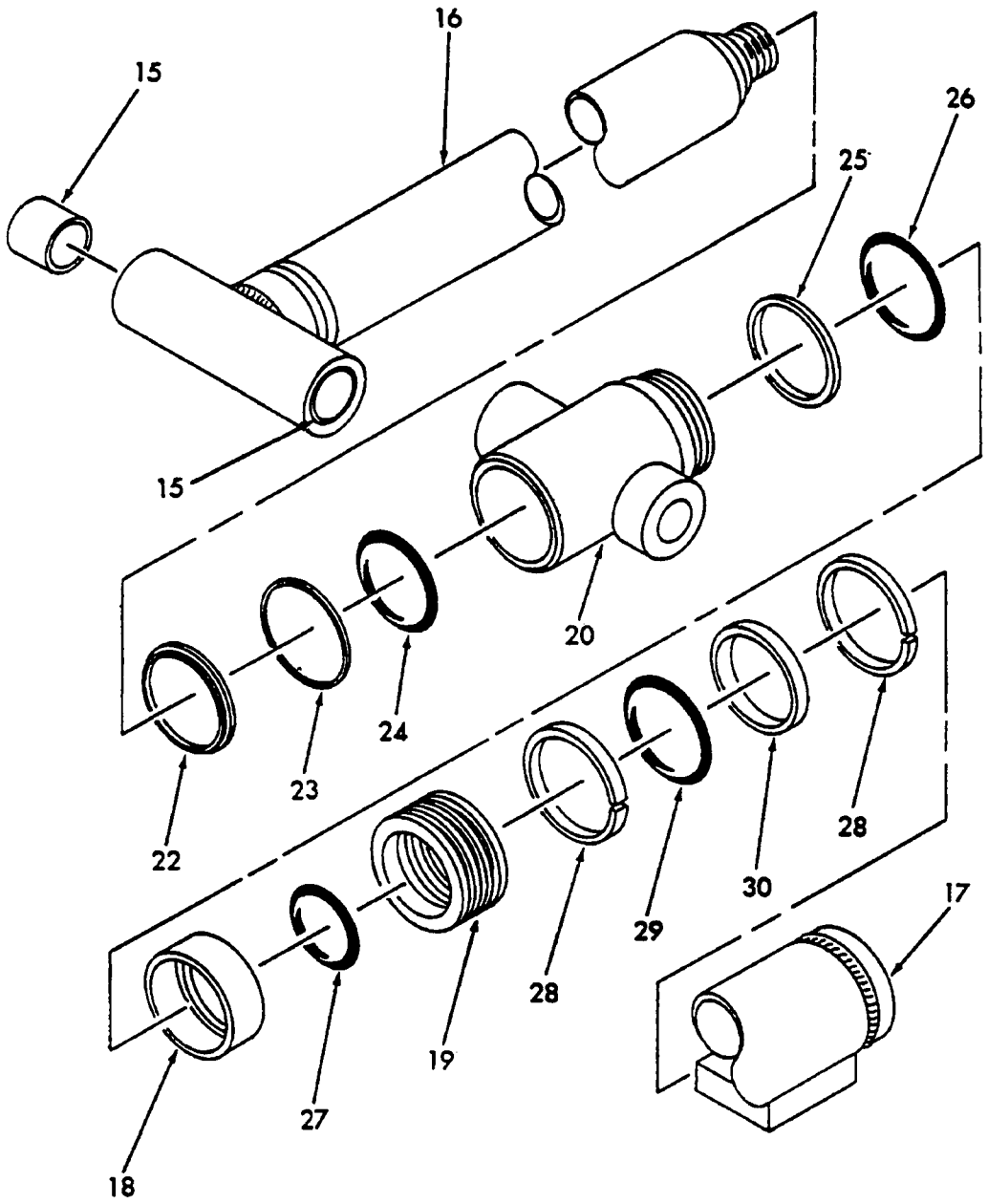
Mark Industries



Ref.	Part No.	Description	Qty	Remarks
1	24328	Assembly, Outside Boom Extension Cylinder	Ref.	
2	80050-03	Plug, Hex Head Straight Thread	1	
3	80012-11	Elbow, Straight Thread	2	
4	24327	Sub-Assembly, Outside Extension Cylinder	1	
5	80062-08	Sleeve	2	
6	27735	Tubing, Hydraulic	1	
7	80012-19	Elbow, Straight Thread	1	
8	80004-19	Connector, Straight Thread	1	
9	80060-06	Nut	2	
10	61820	Capscrew	4	
11	63302	Lockwasher	4	
12	81006	Cartridge, Overcenter	2	
13	21445	Valve Block, Boom Cylinder	1	
14	24323	Cylinder, Outside Extension	1	
15		Bushing	2	
16		Rod	1	
17		Barrel	1	
18		Tube, Stop	1	
19		Piston	1	
20		Head	1	
21	67131	Kit, Seal	1	
22		Wiper, Rod	1	

OUTSIDE BOOM EXTEND CYLINDER

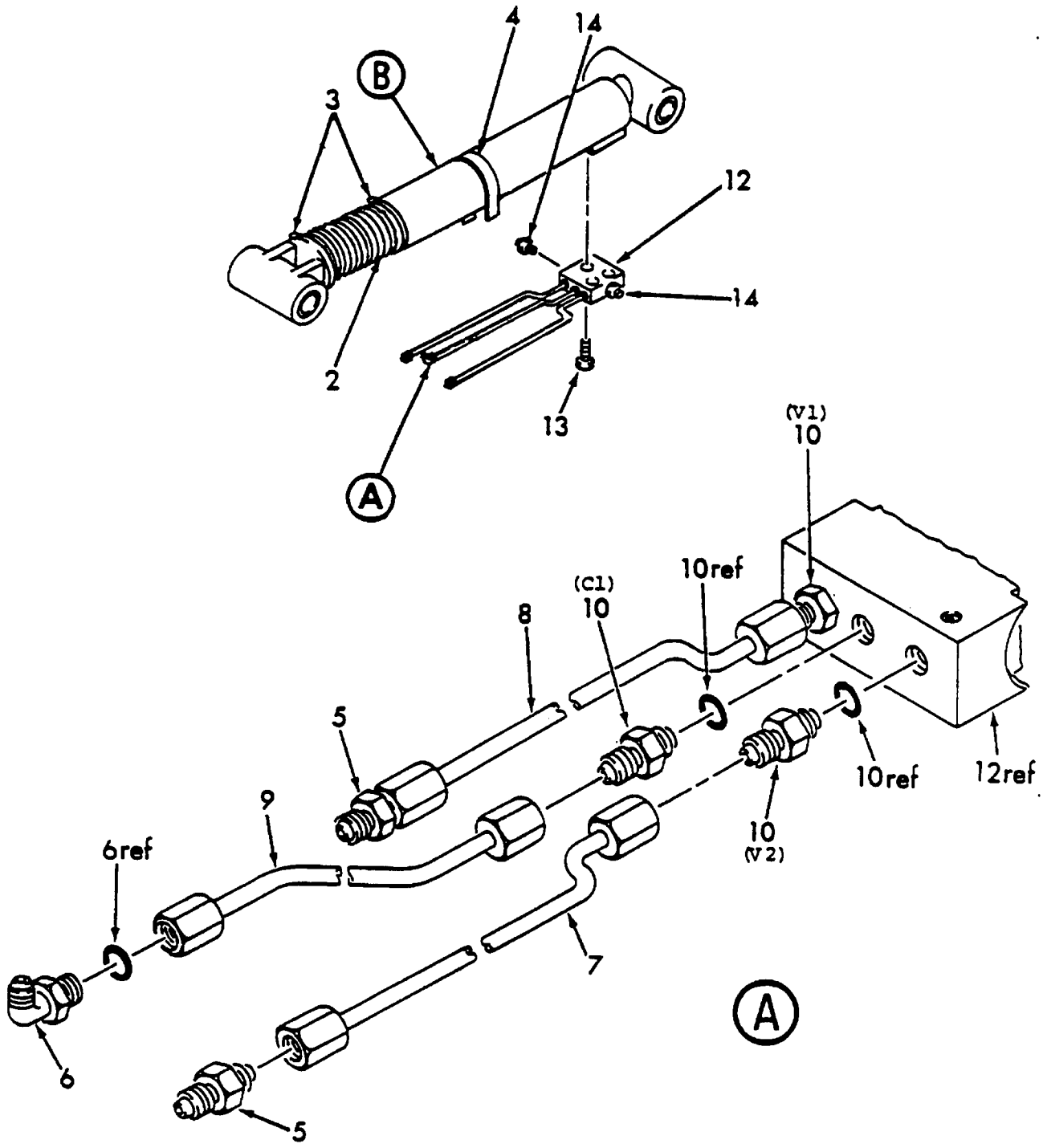
Models CH100C
Issued 7-94



Ref.	Part No.	Description	Qty	Remarks
23		Seal, Step	1	
24		O-Ring	1	
25		Back-Up Ring, Head	1	
26		O-Ring, Head	1	
27		O-Ring, Static	1	
28		Ring, Wear	2	
29		Seal, Piston	1	
30		Ring, Glyd	1	

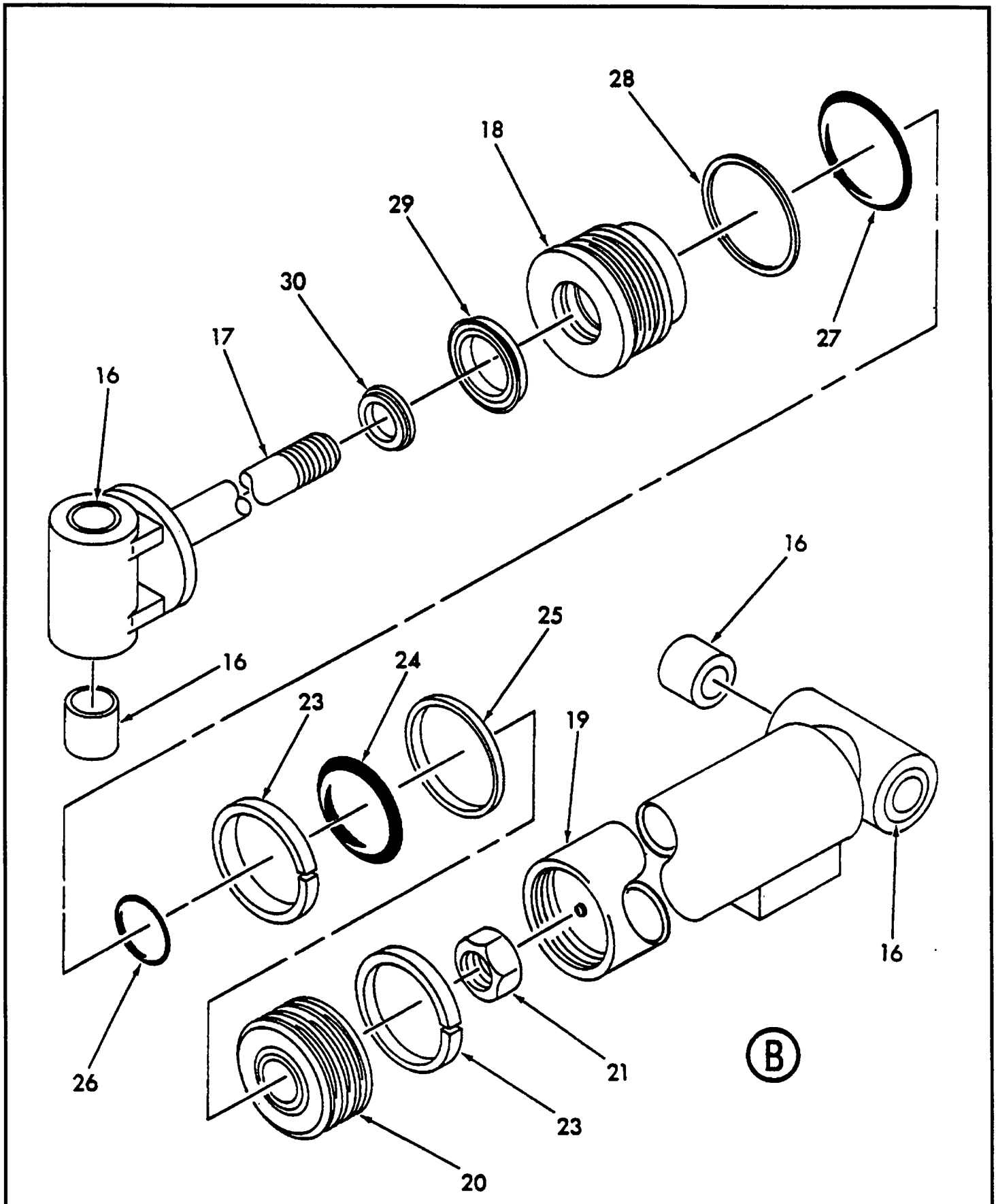
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(V2)
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SLAVE LEVELING CYLINDER

Mark Industries



SLAVE LEVELING CYLINDER

Models CH100C

Issued 7-94

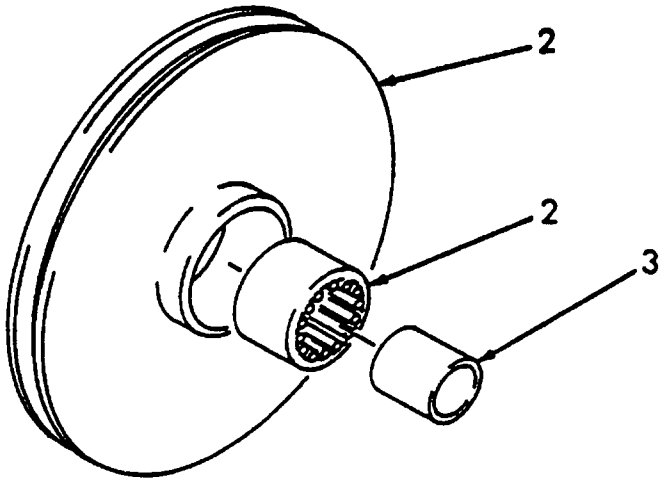
Ref.	Part No.	Description	Qty	Remarks
1	21094	Assembly, Slave Leveling Cylinder	REF.	
2	21388	Tubing, Convoluted	1	
3	16318	Clamp	2	
4	16206	Strap	1	
5	80042-03	Connector, Union	2	
6	80012-03	Elbow, Straight Thread	1	
7	21094-8	Assembly, Tube	1	
8	21094-9	Assembly, Tube	1	
9	21094-10	Assembly, Tube	1	
10	80004-03	Connector, Straight Thread (V1, V2, C1)	3	
11	21263	Sub-Assembly, Slave Leveling Cylinder	1	
12	21447	Block, Manifold	1	
13	61903	Capscrew	3	
14	21267	Cartridge, Overcenter	2	
15	21197	Cylinder, Slave Leveling	1	
16		Bushing	4	
17		Rod	1	
18		Nut, Gland	1	
19		Barrel	1	
20		Piston	1	
21		Nut	1	
22	67040	Kit, Seal (SE) (S Piston Ring)	REF.	
23		Ring, SLYD	2	
24		O-Ring, B/U	1	
25		Ring, GLYD	1	
26		O-Ring, Static	1	
27		O-Ring, Gland Nut	1	
28		B/U Ring, Gland Nut	1	
29		Seal, Rod (Polypak)	1	
30		Wiper, Rod	1	

Models CH100C

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CABLE SHEAVE ASSEMBLY

Mark Industries

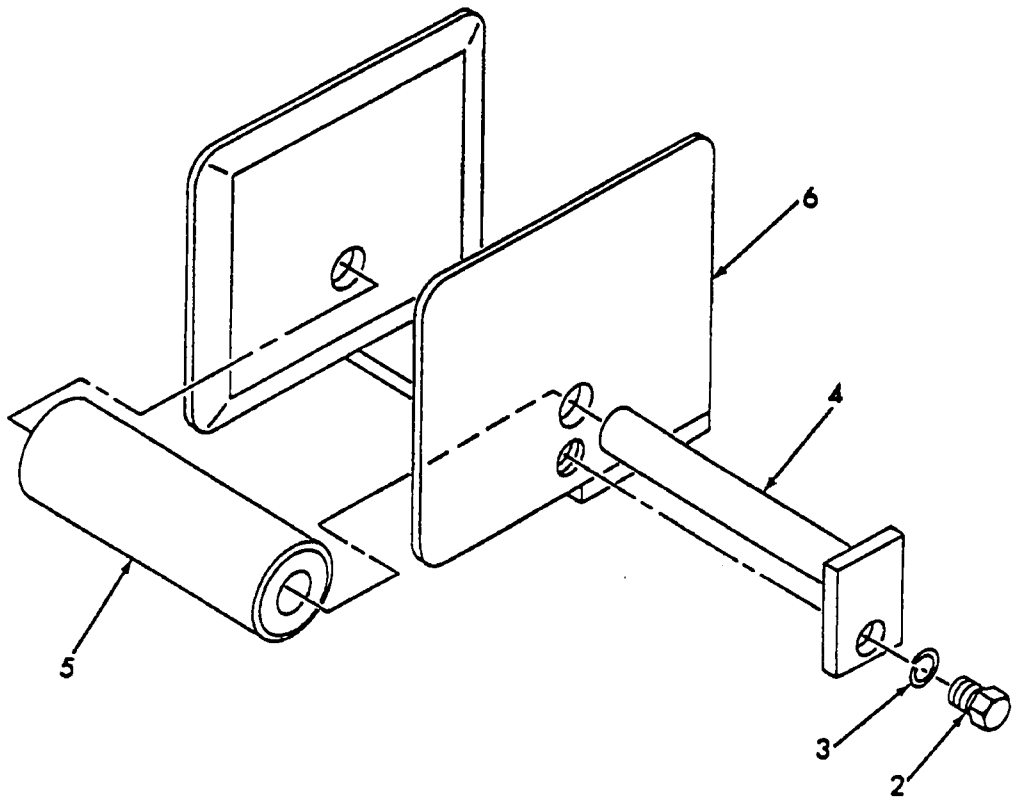


Ref.	Part No.	Description	Qty	Remarks
1	24222	Assembly, Cable Sheave	REF.	
2	65064	Assembly, Outer Ring & Roller	1	
3	65063	Ring, Inner	1	

POWER TRACK SUPPORT ROLLER ASSEMBLY

Models CH100C

Issued 7-94



Ref.	Part No.	Description	Qty	Remarks
1	24510	Assembly, Powertrack Support Roller	REF.	
2	60324	Capscrew	1	
3	63302	Lockwasher	1	
4	22716	Pin, Powertrack Roller	1	
5	24508	Roller, Powertrack	1	
6	24509	Weldment, Roller Bracket	1	

NOTES

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