

PARTS MANUAL

ELECTRIC

**N25XMDR3, N30XMR3,
N40XMR3 (C470)
N50XMA3 (C471)**

CUSTOMER EDITION

HYSTER

SECTIONS

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This Parts Manual is divided into 11 major sections which are listed above. Quick reference to these sections can be made by placing the right thumb on the tab of the desired section, bending the book back and thumbing the pages to the corresponding tab.

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ABBREVIATIONS QUICK REFERENCE SHEET

Listed below are abbreviations used in parts manuals to denote the following expressions:

TERM	DEFINITION	TERM	DEFINITION
Amp	Amperes	FRE	Freezer Environment
AR	As Required	in.	inches
BDI	Battery Discharge Indicators	LPG	Liquefied Petroleum Gas
BWI	Brush Wear Indicator	MAP	Manifold Absolute Pressure
CE	Communicator End	mm	millimeters
CRE	Corrosive Environment	MSTS	Microprocessor Spark Timing System
D/B	Date Break	NPT	National Pipe Threads
dbA	Decibel "A" Scale	O/S	Oversize
DE	Drive End	PTO	Power Take Off
ECH	Empty Container Handler	RPM	Revolutions per Minute
ECH-3	Empty Container Handler - 3 High Stacking	S/N	Serial Number
ECH-4	Empty Container Handler - 4 High Stacking	TMM	Truck Management Module
ECH-5	Empty Container Handler - 5 High Stacking	UL Type D	Diesel-Powered Safety Rating
ECH-6	Empty Container Handler - 6 High Stacking	UL Type DS	Diesel-Powered Safety Rating
ECH-7	Empty Container Handler - 7 High Stacking	UL Type E	Battery-Powered Safety Rating
ECM	Electronic Control Module	UL Type EE	Battery-Powered Safety Rating
ECN	Engineering Change Notice	UL Type ES	Battery-Powered Safety Rating
EEPROM	Electrically Erasable Programmable Read Only Memory	UL Type G	Gasoline-Powered Safety Rating
EPROM	Electrically Programmable Read Only Memory	UL Type GS	Gasoline-Powered Safety Rating
		UL Type LP	Gas-Powered Safety Rating
		UL Type LPS	LP Gas-Powered Safety Rating
		U/S	Undersize
		UL	Underwriters Laboratory
		V	Volts

HOW TO USE THE ILLUSTRATED PARTS MANUAL

This parts manual describes and illustrates assemblies, subassemblies, and detail parts needed for service replacement.

The different constructions are indicated by keys and footnotes. The callouts correspond to descriptions found on the next page.

HYSTER UNIT CODE D001 NORTH AMERICA 06/2001

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SECTIONS

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7	MAST-TWO STAGE
8	MAST-THREE STAGE
9	MAST-TWO STAGE
10	
11	

TRANSMISSION HOUSING
⇒ S/N D001H-2628

KEY:
A: Diesel
B: Gasoline and LPG

ITEM	PART NO.	DESCRIPTION	QTY
	2022547	Transmission	1
	2023329	Transmission	1
	2021670	Case	2
1	2023418	Bearing Cap	4
2	296426	Washer	4
3	293582	Bolt	2
4	2021390	Cover	2
5	1371656	Collet Pin	4
6	2021329	O-Ring	1
7	2021915	Plug	4
8	2021675	Housing	22
9	2021336	Pin	39
10	287860	Bolt	1
11	292682	Lockwasher	1
12	292682	Hydraulic Pump	8
13	2021345	Figure 5-3	8
14	214364	Gasket	1
15	296418	Bolt	1
16	2021388	Washer	1
17	2021388	Temperature Switch	1
18	2021389	Breather	9
19	2021383	Dipstick	9
20	292515	Bolt	2
21	136892	Nut	3
22	292527	Bolt	2
23	292531	Capscrew	4
24	292683	Lockwasher	4
25	293637	Bolt	1
26	296420	Washer	1
	996403	Transmission Kit (includes item 7)	1
	996405	Transmission Kit (includes item 14)	1

This Parts Manual is divided into 11 major sections which are listed above. Quick reference can be made by placing the right thumb on the tab of the desired section, bending the pages to the corresponding tab.

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HP990004

HOW TO FIND THE DESIRED PART NUMBER

WHEN THE PART NUMBER AND THE NEXT HIGHER ASSEMBLY IS NOT KNOWN:

1. Determine the function and application of the part required. Turn to the Sections Page. Choose the general area of reference most likely to include the part.
2. Turn to the section you chose. Use the Section Table of Contents to determine the assembly which would normally contain the part required. Then locate the part on the assembly breakdown page.

WHEN THE PART NUMBER IS NOT KNOWN AND THE NEXT HIGHER ASSEMBLY IS KNOWN:

3. Determine the assembly the required part is used on. Turn to the Table of Contents on Page i.
4. Locate the assembly the required part is used on and turn to the page indicated for that assembly. Then locate the part on the assembly breakdown page.

WHEN THE PART NUMBER IS KNOWN:

5. Use the Numerical Index on Page 11-1 to find the part number. Turn to the page listed and locate the part as indicated by the item number.

GENERAL:

The assembly breakdowns include part numbers, descriptions, quantities required, keys and footnotes to help in selecting correct parts.

6. Five periods in the PART NO. column (.) indicate that the part is either *Not Serviced Separately* or there is a reference to another figure. A figure reference is denoted by a pointing hand followed by a figure number in the DESCRIPTION column (⇒ Figure 10)
7. Keys are used to show two or more similar assemblies, RH and LH assembly parts, etc. Select the appropriate key, "A", "B", "C", "D", or "E" and the corresponding quantity column to find the required parts. Two periods in the QTY column (..) indicate that the part is not used for that assembly.
8. Indented descriptions under the DESCRIPTION column are used to indicate assemblies and subparts of assemblies. In the example on the

previous page, *BEARING CAP* (Item 2) is a subpart of the major assembly *CASE*.

9. Quantities shown are for one assembly. The quantities of the subpart *BEARING CAP* are indicated as two and two. This means two per *CASE* assembly.
10. Serial number breaks identify the most current parts information and are shown as follows:
 - ⇒ **S/N D001H-2628**
Indicates last serial number affected.
 - S/N D001H-2629** ⇒
Indicates the first serial number affected.
 - S/N D001H-1553 ⇔ S/N D001H-3291**
Indicates a range of serial numbers affected.

ECN numbers for pending serial numbers are shown to allow for the inclusion of the most current parts information and are identified as follows:

- ⇒ **S/N Pending Per ECN 63243**
Indicates a pending serial number for last unit affected.
- S/N Pending Per ECN 63243** ⇒
Indicates a pending serial number for first unit affected.

Date breaks are used to indicate when a change occurred but a subsequent serial number break was not recorded. This is an arbitrary date usually based on the ECN release and are identified as follows:

- ⇒ **D/B 3/00**
Indicates that a change occurred sometime within that month for the item affected.
- D/B 3/00** ⇒
Indicates that a change occurred sometime within that month for the item affected.
- D/B 3/00 ⇔ D/B 4/00**
Indicates a range of production dates of the item affected.

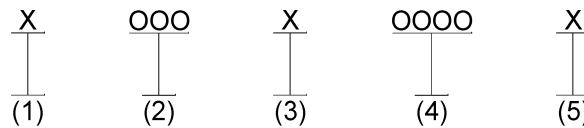
Contact your local dealer for Hyster lift trucks for serial number information for items with a ECN or a date break.

ORDERING PARTS:

When ordering replacement parts, give the unit serial number, part number, name of part and quantity required.

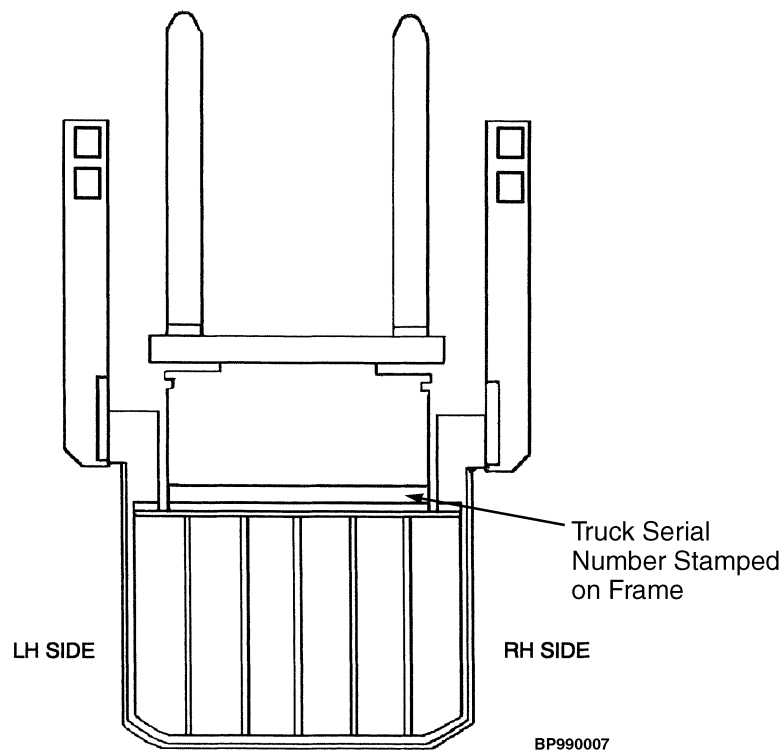
For any further information on parts, service, or ordering, consult your local dealer for Hyster lift trucks.

IDENTIFICATION OF TRUCK SERIAL NUMBERS



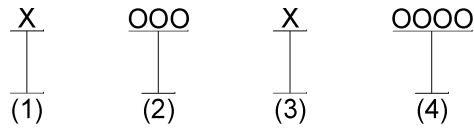
- (1) and (2) The first letter and three numbers indicate the truck unit code.
- (3) The second letter indicates the plant of manufacture.
- (4) The four or five digit number indicates the production sequence number of the truck.
- (5) The final letter indicates the year of manufacture starting with "A" in 1957 and 1980.
The letters "I", "O", and "Q" will not be used.

For pending serial numbers contact your local dealer for Hyster lift trucks.



Parts referred to in this book as right or left hand parts are in accordance with the illustration above.

IDENTIFICATION OF ATTACHMENT AND SIDE-SHIFT CARRIAGE SERIAL NUMBERS

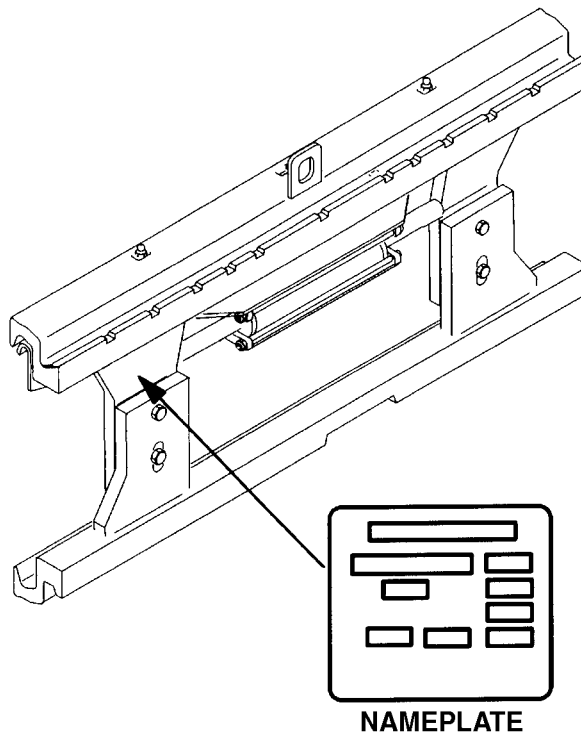


(1) and (2) The first letter and three numbers indicate the attachment unit code.

(3) The second letter indicates the plant of manufacture.

(4) The four or five digit number indicates the production sequence number.

For pending production sequence numbers contact your local dealer for Hyster lift trucks.



HP990003

Side-shift carriages and attachments have nameplates. Use the serial number found on the nameplate to identify the attachment.

Always refer to the group, serial, or part number when ordering service parts.

Modifications of attachments and side-shift carriages by SPED (Special Products Engineering Department) are identified by a model prefix code beginning with the letter "S". Contact your dealer for Hyster lift trucks for information on these assemblies.

PUBLICATIONS

Every new lift truck is provided with an OPERATING MANUAL. This manual has information that the operator must know for inspection and operation of the lift truck.

SERVICE MAINTENANCE MANUALS, which provide service and overhaul procedures, and PARTS MANUALS with complete replacement part identification, are available at a nominal fee from your Hyster dealer to assist users in effectively maintaining Hyster lift trucks in a safe, useful condition. See the list below for information on ordering specific publications for this model lift truck.

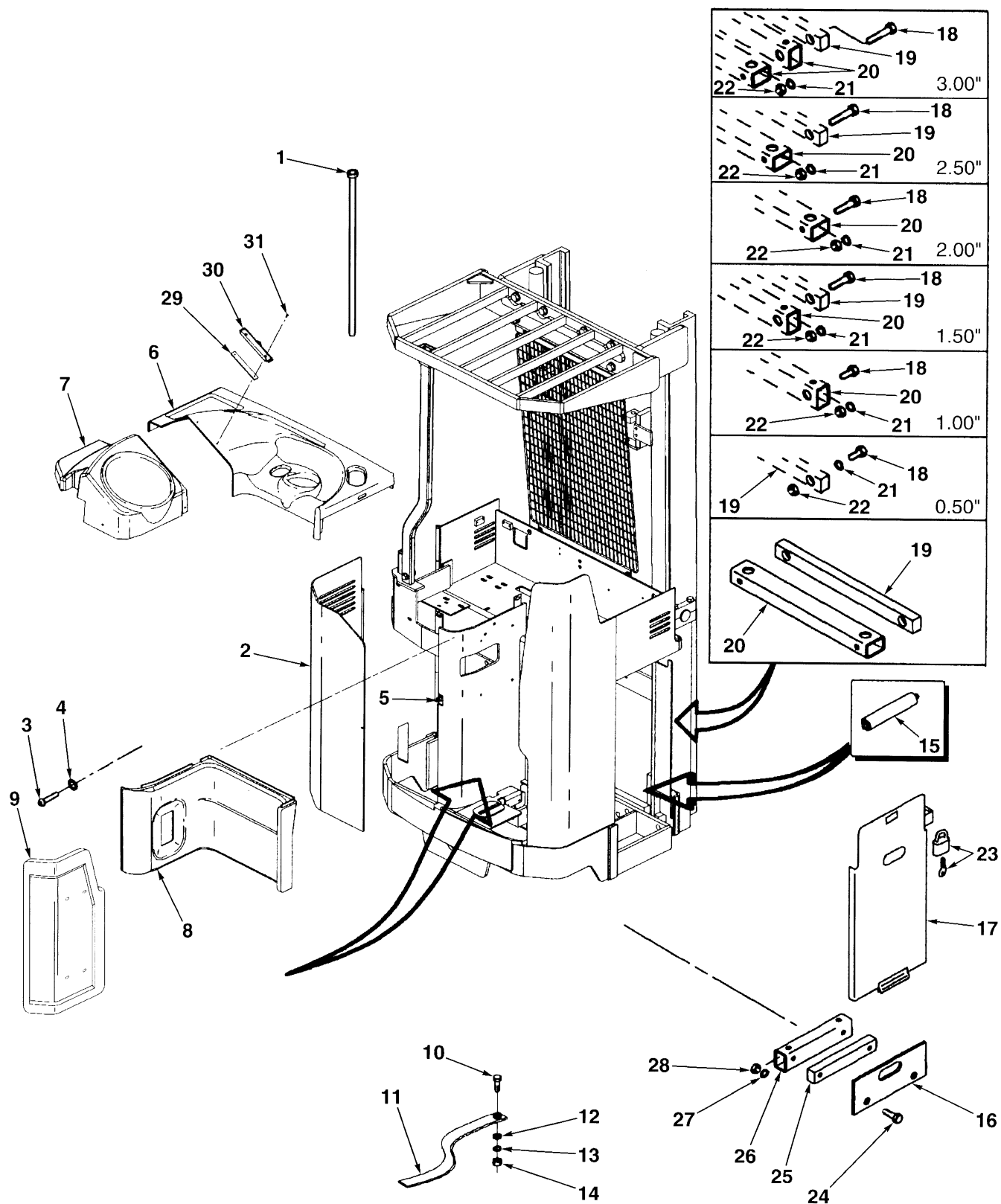
PUBLICATION	HYSTER PART NUMBER
Operating Manual	1487036
Service Manual (Complete)	1496168
Parts Manual	1487038

1	FRAME	
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SECTION 1
FRAME

DESCRIPTION	PAGE
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HOOD AND COVERS	1-2
OPERATOR GUARD	1-6

HOOD AND COVERS (Figure 1-1)



HP120031

HOOD AND COVERS

ITEM	PART NO.	DESCRIPTION	QTY
1	2310970	Hinge (Standard)	1
1	2306030	Hinge (Freezer).....	1
2	1457027	Frame (Door)	1
3	17178	Capscrew.....	1
4	2034638	Washer	1
5	249668	Nut	1
6	1457257	Cover (12 in. Battery Compartment)	1
6	1457258	Cover (14 in. Battery Compartment)	1
6	1455970	Cover (16 in. Battery Compartment)	1
	16712	Screw	8
	15152	Lockwasher	8
	2031173	Clip	4
7	1455985	Cover	1
	18731	Capscrew	3
	18515	Washer	3
8	1474896	Cushion	1
	18460	Capscrew	2
	15154	Lockwasher	2
	15127	Washer	2
	2035767	Clipnut	2
9	1468017	Cushion	1
	1474743	Rivet	4
10	a 18497	Capscrew.....	1
11	a 216895	Static Strap	1
12	a 18515	Washer	2
13	a 15155	Lockwasher.....	1
14	a 15055	Nut	1
15	2303911	Roller (12 in. Battery Compartment)	5
15	368022	Roller (14 in. Battery Compartment)	5
15	2302952	Roller (16 in. Battery Compartment)	6
16	2305895	Cover (12 in. Battery Compartment)	2
16	2303689	Cover (14 in. Battery Compartment)	2
17	2306123	Plate (12 in. Battery Compartment)	2
17	2303803	Plate (14 in. Battery Compartment)	2
17	2302926	Plate (16 in. Battery Compartment)	2
17	2303359	Plate (16 in. Battery Compartment)	2
18	b 18497	Capscrew (0.5 and 1 in. Spacer).....	2
18	b 18508	Capscrew (1.5 and 2 in. Spacer).....	2
18	b 18513	Capscrew (2.5 and 3 in. Spacer).....	2
19	b 2306205	Spacer (0.5, 1.5, and 2.5 in. Spacer).....	1
20	b 2306243	Tube (Except 0.5 in. Spacer)	1
21	15155	Lockwasher.....	2
22	15055	Nut	2
23	a 2305060	Padlock	2
24	d 16836	Capscrew (Except 3 in. Spacer).....	2
24	d 18498	Capscrew (3 in. Spacer).....	4
25	d 2309538	Tube	1
25	d 2309538	Tube	2
26	d 2302703	Spacer	1
26	d 2302703	Spacer	2
27	15055	Nut	2

HOOD AND COVERS

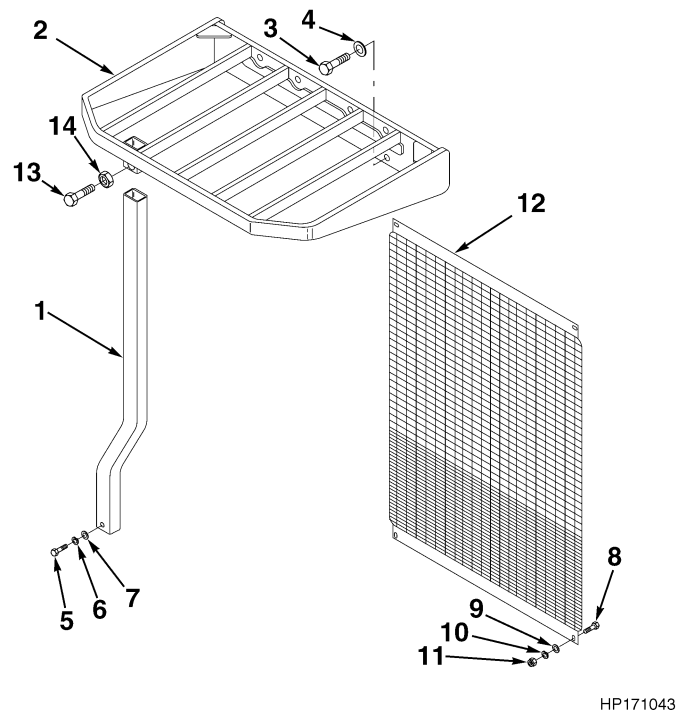
ITEM	PART NO.	DESCRIPTION	QTY
27	15055	Nut	4
28	15155	Lockwasher.....	2
28	15155	Lockwasher.....	4
29	2036141	Plate	1
30	2306899	Clip	1
31	244272	Screw.....	2
	c 1463849	Grease.....	AR
	c 1465075	Plate	1

FOOTNOTES:

- a "EE" Construction
- b Front to Back
- c Not Illustrated
- d Side to Side

[illegible]

OPERATOR GUARD (Figure 1-2)



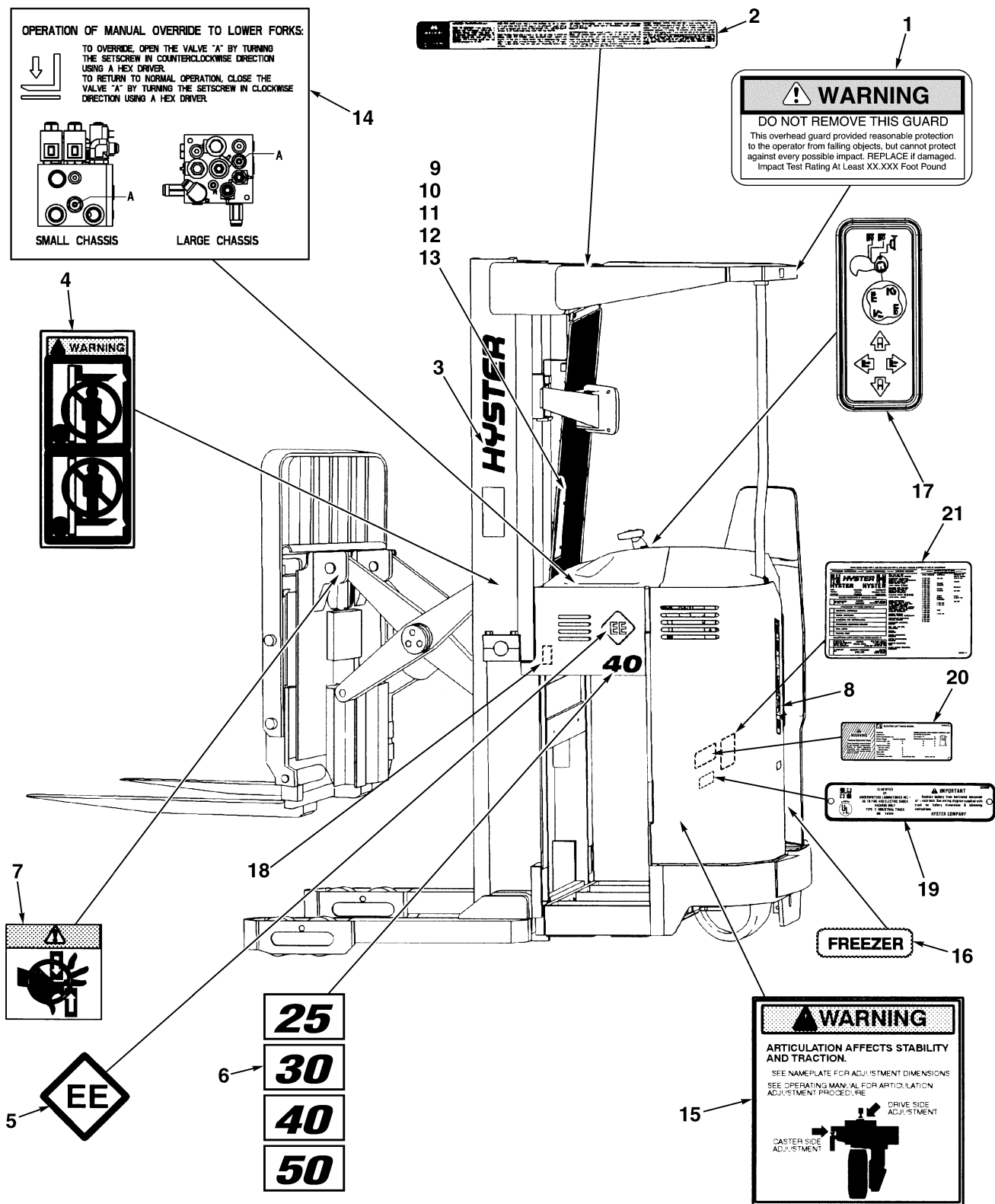
OPERATOR GUARD

ITEM	PART NO.	DESCRIPTION	QTY
1	c 1457422	Post.....	1
1	a 1457423	Post.....	1
2	1476608	Overhead Guard (12.50 in. Battery Compartment)	1
2	1476609	Overhead Guard (14.60 in. Battery Compartment)	1
2	1476610	Overhead Guard (16.60 in. Battery Compartment)	1
3	221623	Capscrew.....	6
4	221775	Washer	6
5	18744	Capscrew.....	1
6	15160	Lockwasher.....	1
7	221775	Washer	1
8	18465	Capscrew.....	3
8	b 1369419	Stud	3
9	15127	Washer	3
9	c 197068	Washer	3
10	15154	Lockwasher.....	3
11	15054	Nut	4
11	c 15113	Nut	3
12	c 1488388	Wire Guard	1
12	a 1488389	Wire Guard	1
13	220953	Screw.....	1
14	15000	Nut	1
	d 1477479	Bracket (Three and Four Stage)	1
	d 1511681	Bracket (Two Stage).....	2

FOOTNOTES:

- a** 101 in. Lift Height to Top of Forks
b 95 in., 101 in. and Above, Lift Height to Top of Forks
c 95 in., 102 in. and Above, Lift Height to Top of Forks
d Not Illustrated

DECAL AND PLATE LOCATION (Figure 1-3)



HP260017

DECAL AND PLATE LOCATION

ITEM	PART NO.	DESCRIPTION	QTY
1	1339843	Label (Overhead Guard).....	1
2	1490573	Label (Operator Warning)	1
2	2045293	Label (Operator Warning)	1
3	2306018	Label (Hyster) (Yellow).....	2
4	2308468	Label (Fork Warning)	2
5	196927	Label (Type EE)	2
6	2304112	Label (Model 25).....	2
6	2311746	Label (Model 30).....	2
6	2310136	Label (Model 40).....	2
6	2309084	Label (Model 50).....	2
7	2305689	Label (Pinch Warning)	2
8	2305417	Label (Hyster)	1
9	335991	Cover	1
10	1453702	Operator Manual.....	1
11	335989	Base (Cover).....	1
12	2307400	Rivet.....	8
13	2308076	Mounting Strip	2
14	2054268	Label (Nonpowered Lowering).....	1
15	2305811	Label (Articulation Warning)	1
16	275661	Label (Freezer)	1
16	1490805	Label (Cooler).....	1
17	1490574	Label (Hydraulic Function).....	1
18	2054269	Label (Battery Notice).....	1
19	1494689	Plate (UL Type E)	1
19	2013649	Plate (UL Type EE)	1
20	.....	Nameplate (See Local Dealer)	1
20	389688	Cover	1
21	389692	Label (US Patents and Trademarks).....	1

[illegible]

2

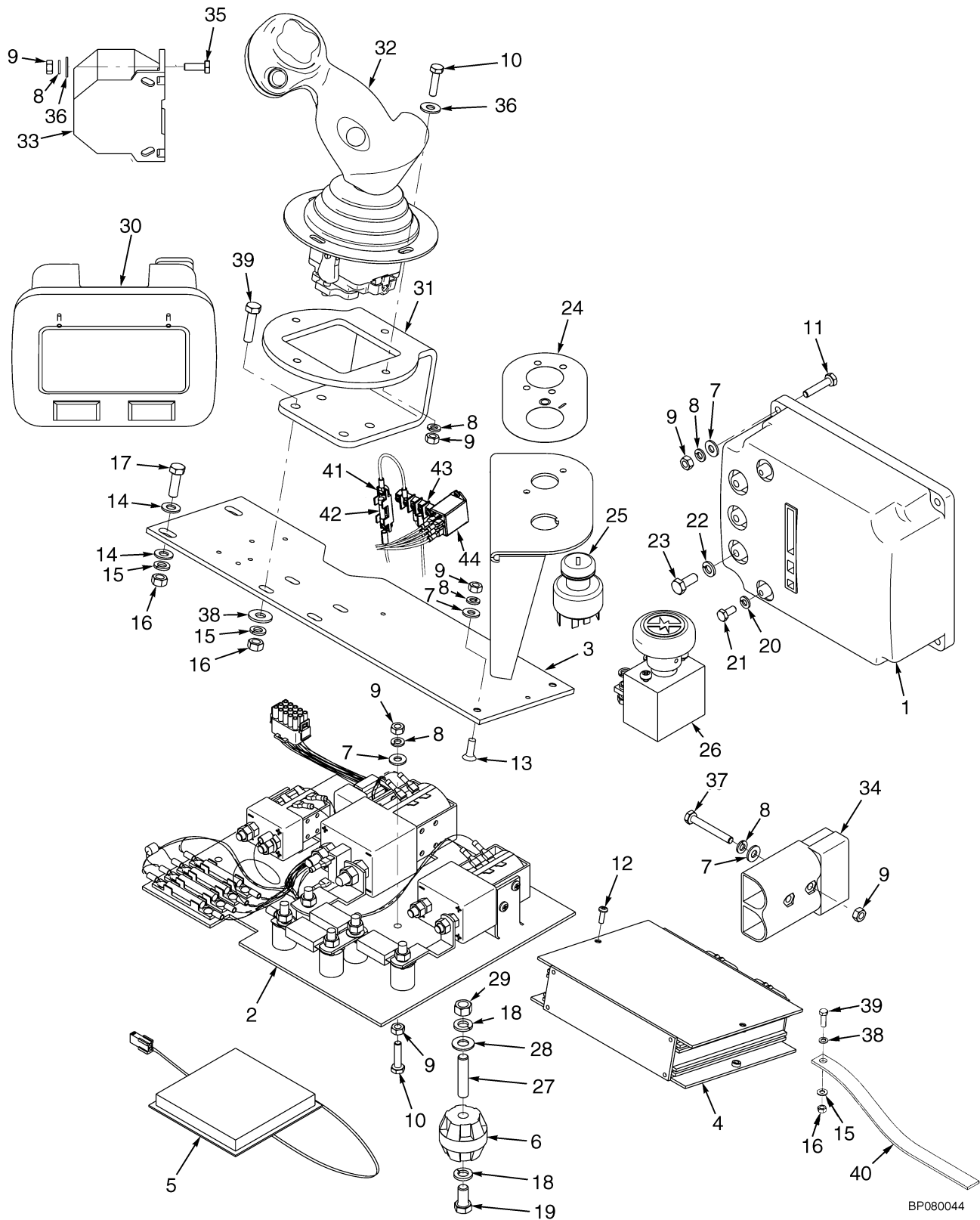
ELECTRICAL SYSTEM

SECTION 2

ELECTRICAL SYSTEM

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ELECTRICAL ARRANGEMENT (Figure 2-1)



BP080044

ELECTRICAL ARRANGEMENT

ITEM	PART NO.	DESCRIPTION	QTY
1	2050277	Controller (24 Volt).....	1
1	2050278	Controller (36 Volt).....	1
1	2050332	Motor (24/36 Volt).....	1
1	2050339	Label.....	1
1	2046634	Controller (36 Volt).....	1
1	2046635	Motor	1
2	1460317	Contactor Panel ("E" Construction)	1
2	1456883	Contactor Panel ("EE" Construction)	1
3	1460429	Plate	1
4	2053453	Main Interface Board (MIB) (GK w/Separate Lift/Lower)	1
4	2054307	Main Interface Board (MIB) (GK w/Weight Sensing)	1
4	2054407	Main Interface Board (MIB) (ZCF Factor Transmission)	1
5	2032026	Switch Assembly (☞ Figure 5-4)	1
6	325819	Insulator.....	1
7	15127	Washer	9
8	15154	Lockwasher.....	9
9	15054	Nut	7
10	18465	Capscrew.....	4
11	18466	Capscrew.....	2
12	220473	Screw.....	2
13	220735	Screw.....	2
14	18515	Washer	6
15	15155	Lockwasher.....	4
16	15055	Nut	3
17	18497	Capscrew.....	3
18	15156	Lockwasher.....	4
19	16597	Capscrew.....	1
20	15127	Washer	2
20	15154	Lockwasher.....	2
21	292501	Capscrew.....	2
22	15155	Lockwasher.....	3
22	18515	Washer	3
23	136681	Capscrew.....	3
24	2035714	Label.....	1
25	379902	Ignition Switch	1
	1337197	Key	1
26	1452588	Stop Switch.....	1
27	2038970	Stud	1
28	15134	Washer	1
29	16526	Nut	1
30	1486376	Control Panel (Standard).....	1
30	1486377	Control Panel (Freezer)	1
31	1486538	Bracket.....	1
32	1490633	Control Handle (C471).....	1
32	1490631	Control Handle (C470).....	1
33	1483422	Horn.....	1
34	.....	Battery Connector Assembly (☞ Figure 2-9)	1
35	16709	Screw.....	2
36	197068	Washer	4
37	18471	Capscrew.....	2
38	15175	Washer	4

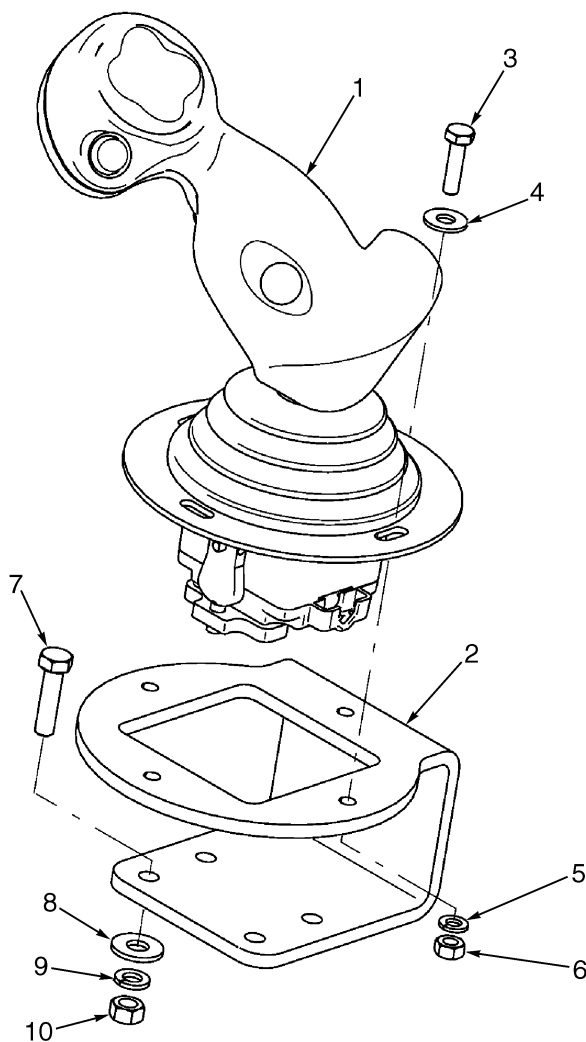
ELECTRICAL ARRANGEMENT

ITEM	PART NO.	DESCRIPTION	QTY
39	18498	Capscrew.....	4
40	216895	Static Strap	1
41	2303157	Fuse Block.....	1
42	1374793	Fuse (10 Amp).....	1
43	2302545	Terminal Block	1
44	1307687	Relay.....	2
a	1490652	Wire Harness (Main).....	1
a	1520480	Wire Harness (Hydraulic)	1
a	1517133	Grounding Wire	1
a	1498457	Cable (A2).....	1
a	1498456	Cable (A1).....	1
a	1512981	Power Cable (F1).....	1
a	2034871	Power Cable (A1-1)	1
a	2035700	Power Cable (PS1)	1
a	1498458	Power Cable (PM2).....	1
a	2044203	Power Cable	1
a	1498460	Power Cable (PS2)	1
a	1512982	Power Cable (F2).....	1
a	1456913	Power Cable	1
a	2044206	Power Cable	1

FOOTNOTES:

a Not Illustrated

[illegible]

MULTI-FUNCTION CONTROL HANDLE (Figure 2-2)

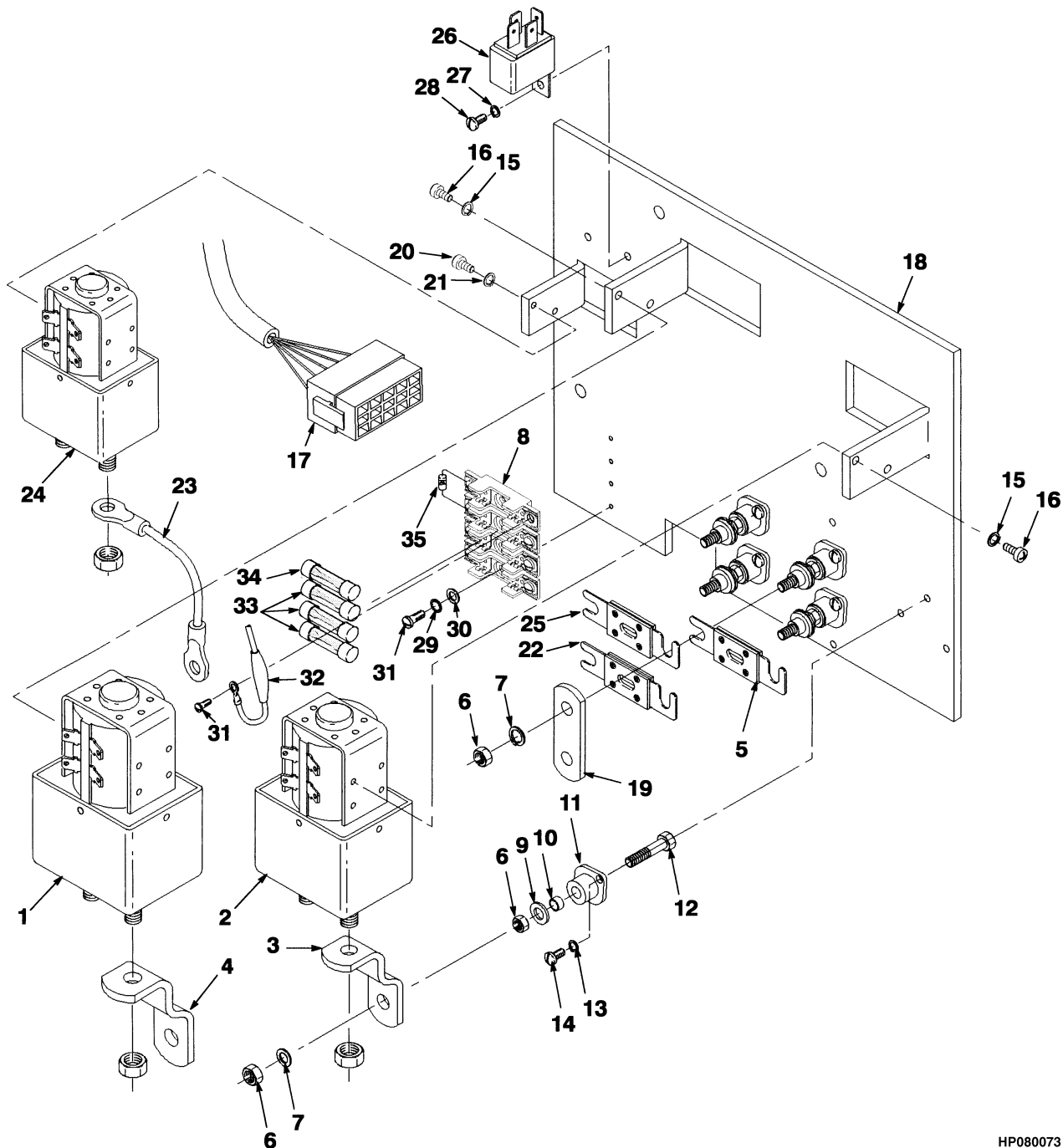
YP080230

MULTI-FUNCTION CONTROL HANDLE**KEY:****A: C470****B: C471**

ITEM	PART NO.	DESCRIPTION	QTY	
			A	B
	1490633	Control Handle.....	..	1
	1490631	Control Handle.....	1	..
1	1524665	Housing Top Half	1	1
1	1524666	Horn Switch.....	1	1
1	1524667	Quad Power Cable	1	1
1	1524669	Quad Button	1	1
1	1524670	Button.....	3	1
1	1524671	Third Function Switch.....	2	0
	a 1519599	Set Screw	2	2
	a 1519601	Plunger	1	1
	a 1519602	Cam.....	1	1
2	2042912	Bracket.....	1	1
3	18465	Capscrew.....	4	4
4	197068	Washer	4	4
5	15154	Lockwasher.....	4	4
6	15054	Nut	4	4
7	18498	Capscrew.....	4	4
8	15175	Washer	4	4
9	15155	Lockwasher.....	4	4
10	15055	Nut	4	4

FOOTNOTES:**a** Included in Handle Service Kit 1506737

CONTACTOR PANEL (Figure 2-3) "E" CONSTRUCTION

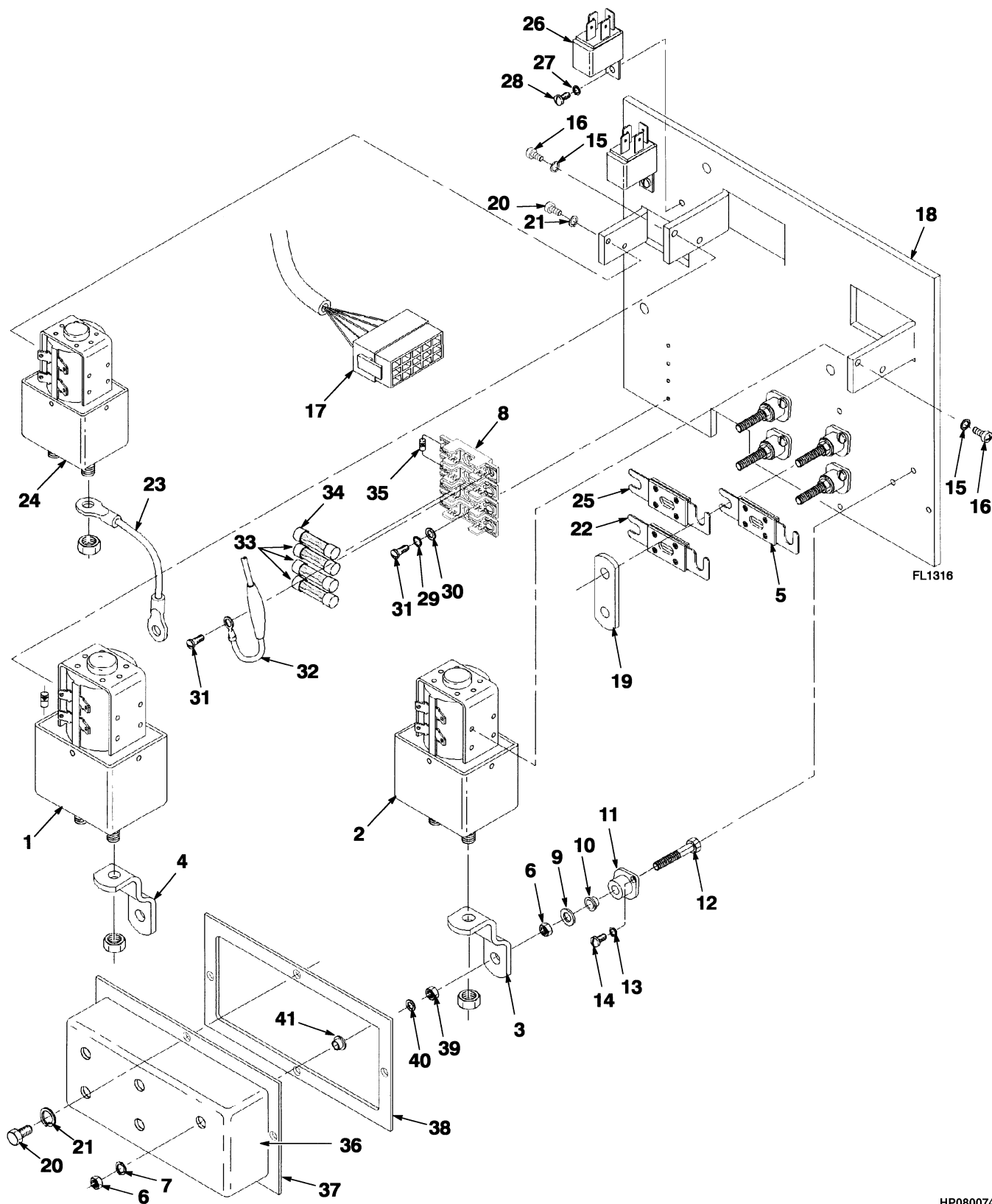


HP080073

**CONTACTOR PANEL
"E" CONSTRUCTION**

ITEM	PART NO.	DESCRIPTION	QTY
	1460317	Contacteur Panel ("E" Construction)	1
1	1460319	Contacteur (☞ Figure 2-7)	1
2	1456869	Contacteur (☞ Figure 2-6)	1
3	1456858	Link.....	1
4	1456860	Link.....	1
5	325809	Fuse (325 Amp).....	1
6	2305577	Nut.....	10
7	1356204	Lockwasher	5
8	1356217	Fuse Holder (2-Way)	2
9	2303287	Washer	5
10	2304976	Spacer	5
11	2306501	Terminal Post.....	5
12	1456088	Screw	5
13	2305855	Washer	10
14	302020	Screw	10
15	2304170	Washer	4
16	2303821	Screw	4
17	1490652	Wire Harness (Main)	1
18	1458454	Base Plate	1
19	2035285	Link.....	1
20	2303801	Screw	2
21	2303249	Lockwasher	2
22	1383567	Fuse (100 Amp).....	1
23	1460650	Cable	1
24	383931	Contacteur (☞ Figure 2-5)	1
25	1331362	Fuse (400 Amp).....	1
26	1456084	Relay	1
27	2304572	Washer	1
28	2304498	Screw	1
29	1356209	Lockwasher	4
30	2307803	Washer	4
31	2302461	Screw	4
32	2038016	Diode	1
33	1374793	Fuse (10 Amp).....	3
34	1456086	Fuse (1 Amp).....	1
35	1456864	Diode	1

CONTACTOR PANEL (Figure 2-4) "EE" CONSTRUCTION

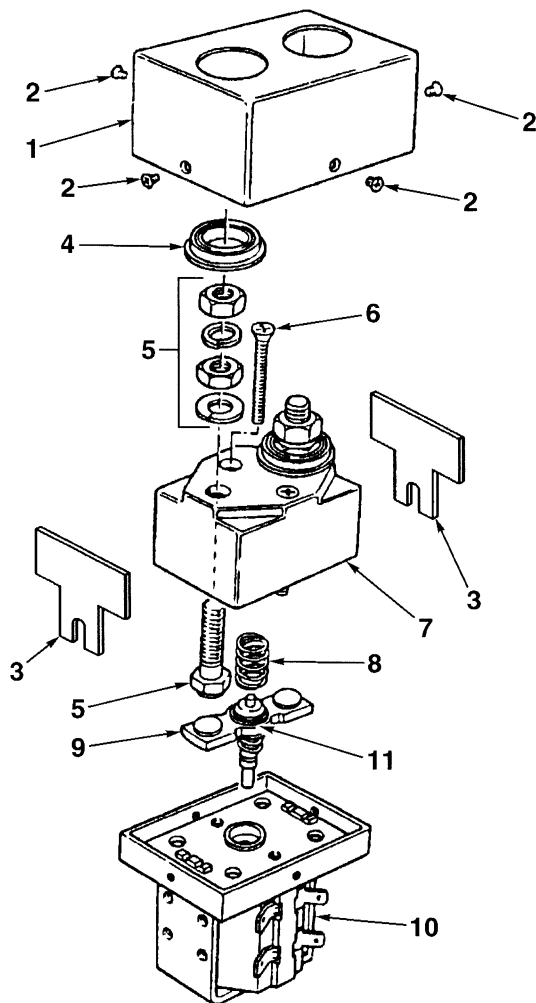


HP080074

**CONTACTOR PANEL
"EE" CONSTRUCTION**

ITEM	PART NO.	DESCRIPTION	QTY
	1456883	Contacteur Panel ("EE" Construction)	1
1	1456859	Contacteur (☞ Figure 2-7)	1
2	1456857	Contacteur (☞ Figure 2-6)	1
3	1456858	Link.....	1
4	1456860	Link.....	1
5	325809	Fuse (325 Amp).....	1
6	2305577	Nut.....	10
7	1356204	Lockwasher	5
8	1356217	Fuse Holder (2-Way)	2
9	2303287	Washer	5
10	2304976	Spacer	5
11	2306501	Terminal Post.....	5
12	1456090	Bolt	5
13	2305855	Washer	10
14	302020	Screw	10
15	2304170	Washer	4
16	2303821	Screw	4
17	1490652	Wire Harness (Main)	1
18	1458454	Base Plate	1
19	2035285	Link.....	1
20	2303801	Screw	6
21	2303249	Lockwasher	6
22	1383567	Fuse (100 Amp).....	1
23	2310443	Cable	1
24	2311848	Contacteur (☞ Figure 2-5)	1
25	1331362	Fuse (400 Amp).....	1
26	1456084	Relay	2
27	2304572	Washer	2
28	2304498	Screw	2
29	1356209	Lockwasher	4
30	2307803	Washer	4
31	2302461	Screw	4
32	2038016	Diode	1
33	1374793	Fuse (10 Amp).....	3
34	1456086	Fuse (1 Amp).....	1
35	1456864	Diode	1
36	2305916	Insulator (Wall)	2
37	2303207	Fuse Box (Enclosure).....	1
38	2309309	Insulator (Floor)	1
39	2309360	Nut.....	5
40	2309425	Terminal Insulator	5
41	2303615	Spacer	5

POWER STEER CONTACTOR (Figure 2-5)

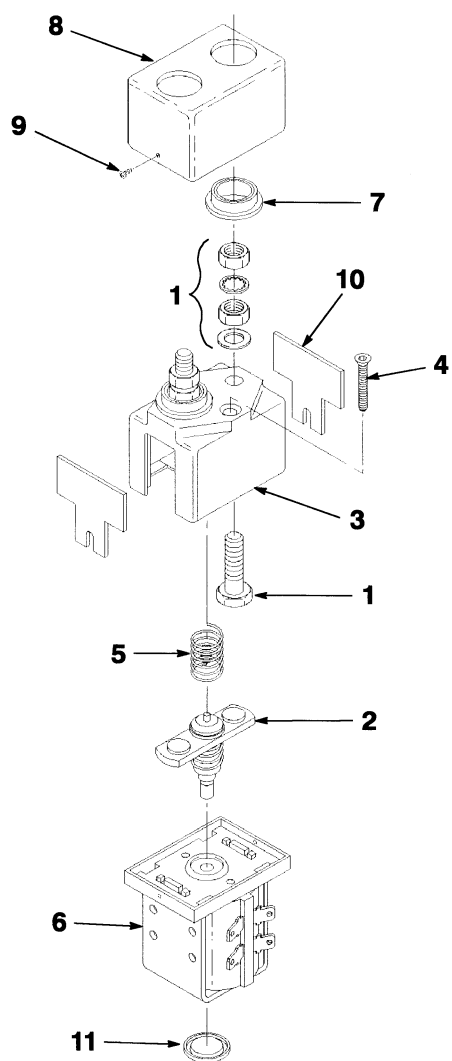


HP080075

POWER STEER CONTACTOR**KEY:****A: "E" Construction****B: "EE" Construction**

ITEM	PART NO.	DESCRIPTION	QTY	
			A	B
	2311848	Contactor	..	1
	383931	Contactor	1	..
1	2310577	Shroud.....	..	1
2	2304652	Screw	..	4
3	2307023	Shield	..	2
4	2311972	Insulator.....	..	2
5	378547	Contact (Fixed).....	2	2
6	379522	Screw	2	2
7	384398	Cover.....	1	1
8	379523	Spring.....	..	1
8	383985	Spring.....	1	..
9	383984	Contact (Moving)	1	1
10	1374238	Coil and Frame	1	..
10	2310134	Coil and Frame	..	1
11	379524	Insulator.....	1	..
	1345908	Contactor Kit (Includes Items 5, 9)	1	1

TRACTION CONTACTOR (Figure 2-6)

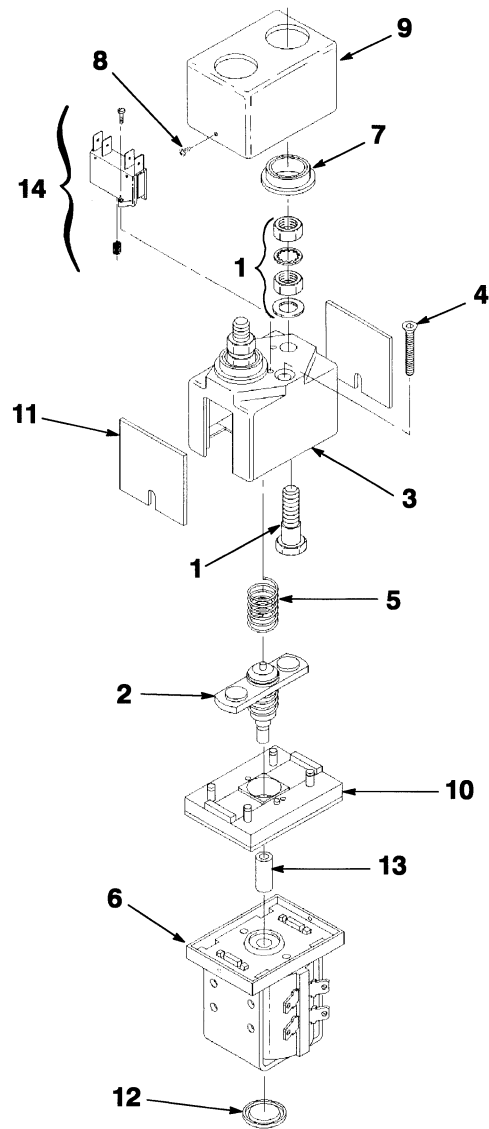


HP080076

TRACTION CONTACTOR**KEY:****A: "E" Construction****B: "EE" Construction**

ITEM	PART NO.	DESCRIPTION	QTY	
			A	B
	1456857	Contactor	..	1
	1456869	Contactor	1	..
1	1330698	Contact (Fixed)	2	2
2	1315469	Contact (Moving)	1	1
3	1315470	Cover	1	1
4	1314299	Screw	2	2
5	383973	Spring	1	1
6	1315550	Coil and Frame	1	..
6	1456866	Coil and Frame	..	1
7	2311972	Insulator	..	2
8	2310238	Shroud	..	1
9	2304652	Screw	..	2
10	2307977	Shield	..	2
11	1454122	End Cap	1	1
	996309	Contactor Kit (Includes Items 1-2, 5)	1	1

LIFT CONTACTOR (Figure 2-7)

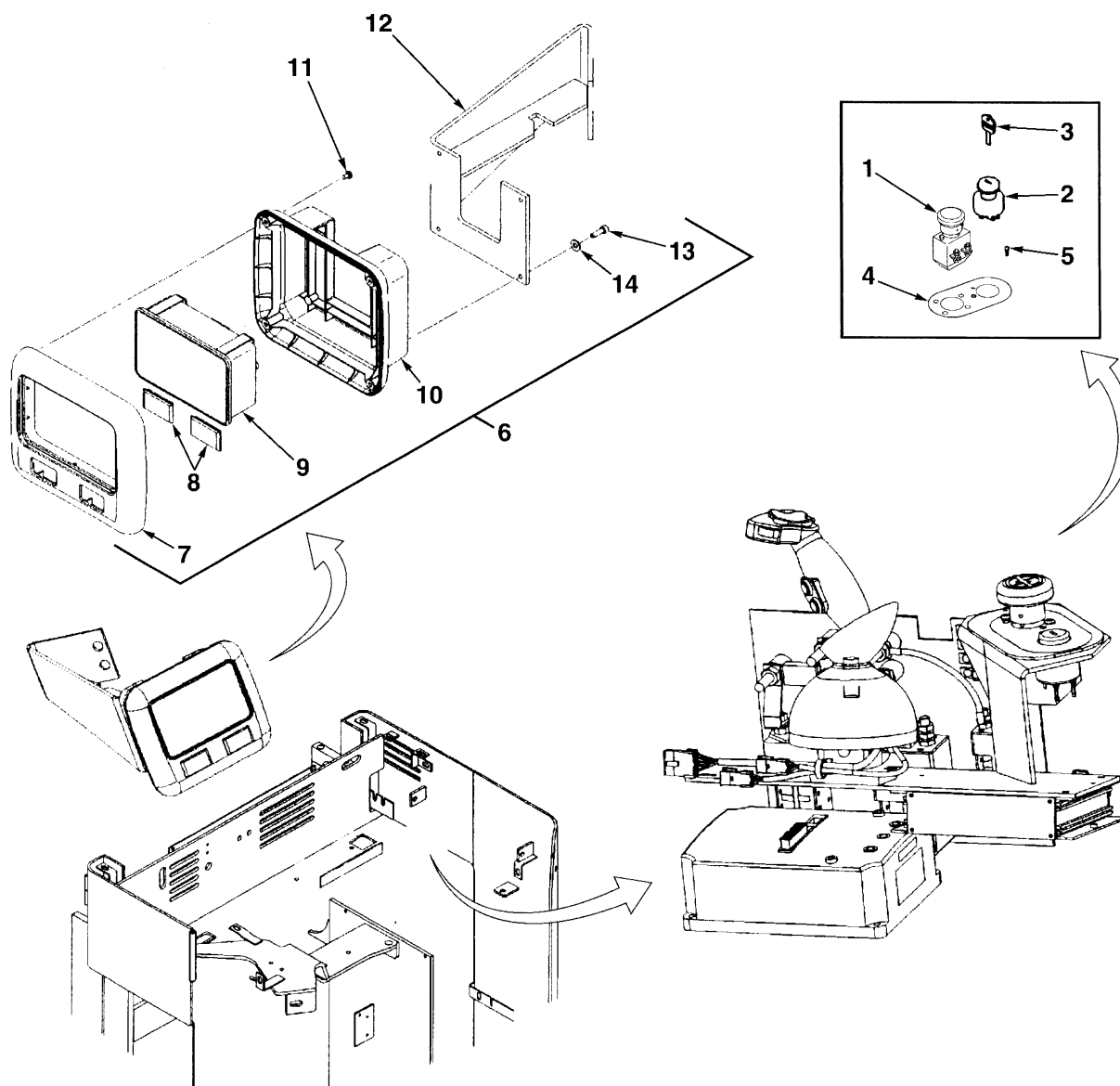


HP080077

LIFT CONTACTOR**KEY:****A: "E" Construction****B: "EE" Construction**

ITEM	PART NO.	DESCRIPTION	QTY	
			A	B
	1456859	Contactactor	..	1
	1460319	Contactactor	1	..
1	2034484	Contactactor (Fixed).....	2	2
2	2035396	Contactactor (Moving).....	1	1
3	1458450	Cover.....	1	..
3	2034483	Cover.....	..	1
4	383977	Screw	2	2
5	1458451	Return Spring	1	..
5	2304334	Spring.....	..	1
6	1460748	Coil and Frame	1	..
6	2306344	Coil and Frame	..	1
7	2305096	Insulator.....	..	2
8	2304652	Screw	..	2
9	2302583	Shroud.....	..	1
10	383981	Base	1	1
11	1456865	Shield	..	2
12	2034488	End Cap	1	1
13	383979	Plunger	1	..
14	2310691	Contactactor Kit.....	1	..
14	2052148	Contact (Auxiliary).....	1	..
14	2052149	Spring and Plunger Assembly.....	1	..
14	2052150	Screw	2	..
	383983	Contactactor Kit (Includes Items 1-2)	1	1

ELECTRICAL COMPONENTS (Figure 2-8)



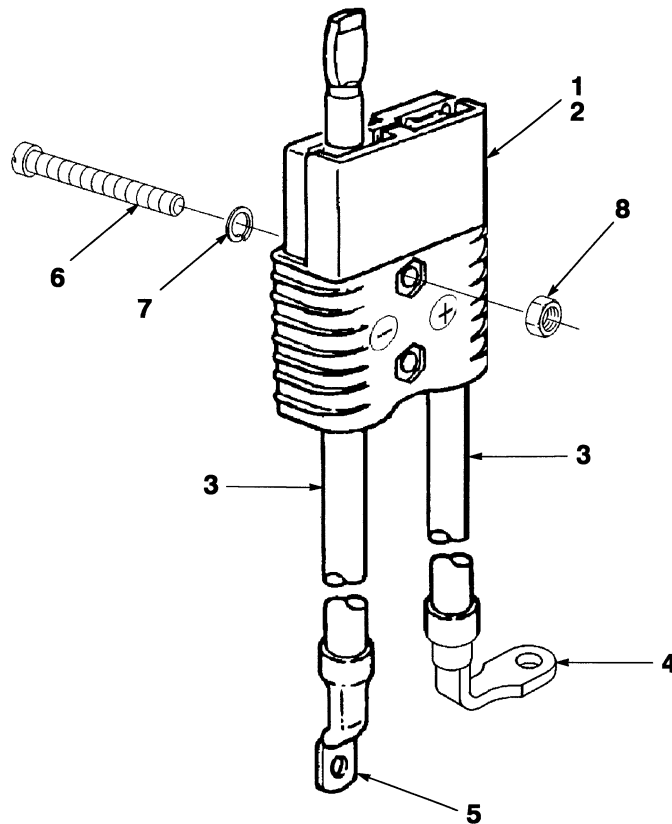
HP080078

ELECTRICAL COMPONENTS

ITEM	PART NO.	DESCRIPTION	QTY
1	1452588	Stop Switch.....	1
2	379902	Ignition Switch	1
3	1337197	Key	1
4	2035714	Label	1
5	1457017	Screw	1
6	1456661	Control Display	1
6	a 1456664	Control Display	1
7	1456650	Cover (Control Panel).....	1
8	374046	Plug	2
9	1483668	Dash Display	1
9	a 1483669	Dash Display	1
10	1456651	Cover	1
11	16711	Screw	4
12	1486352	Bracket	1
13	17943	Capscrew	4
13	18460	Capscrew	4
14	197067	Washer	4
14	15154	Lockwasher	4
	b 1457988	Cover (Dash Display)	1

FOOTNOTES:**a** Freezer**b** Not Illustrated

BATTERY CONNECTOR (Figure 2-9)



HP080083

KEY:

A: 24 Volt

B: 36 Volt

ITEM	PART NO.	DESCRIPTION	QTY	
			A	B
1	1497754	Battery Connector Assembly (12.5 in.) (Red)	1	..
1	1497755	Battery Connector Assembly (14.6 in.) (Red)	1	..
1	1497756	Battery Connector Assembly (16.6 in.) (Red)	1	..
1	1497757	Battery Connector Assembly (14.6 in.) (Gray)	..	1
1	1497758	Battery Connector Assembly (Gray).....	..	1
2	266277	Battery Connector (Red).....	1	..
2	195293	Battery Connector (Gray).....	..	1
3	2302912	Cable	AR	AR
4	2035538	Terminal.....	1	1
5	2308995	Terminal.....	1	1
5	2311302	Terminal (EE)	1	1
6	220363	Capscrew	2	2
6	18471	Capscrew (EE)	2	2
7	15154	Lockwasher	2	2
7	a 15127	Washer	2	2
8	2308286	Nut.....	2	2
	a 1479485	Clip	1	1

FOOTNOTES:

a Not Illustrated

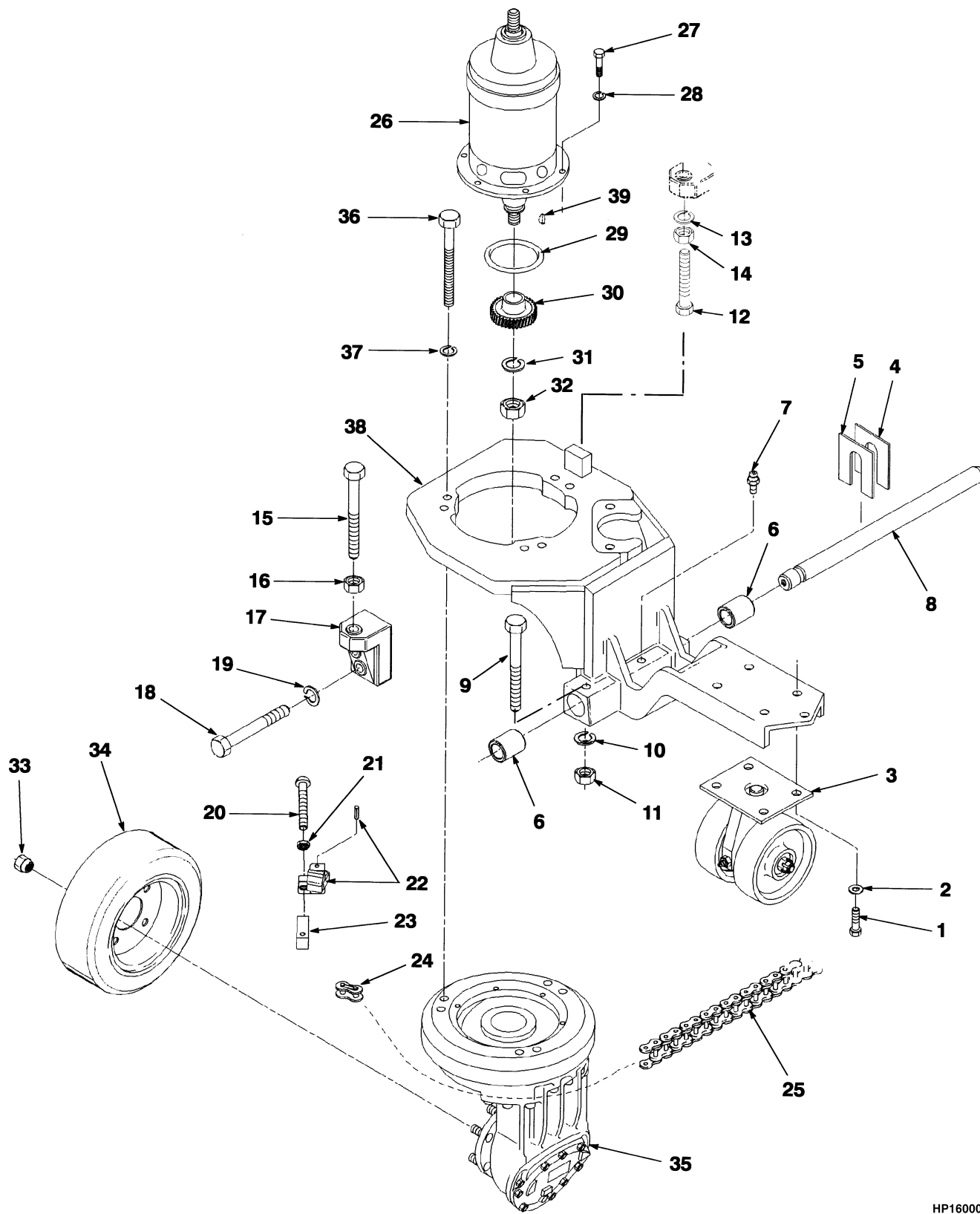
3	DRIVE UNIT
---	------------

SECTION 3

DRIVE UNIT

DESCRIPTION	PAGE
CASTER WHEEL	3-4
DRIVE UNIT	
S/N C470N-01789Z⇒, S/N C471N-01512Z⇒.....	3-8
⇒S/N C470N-01789Z, ⇒S/N C471N-01512Z.....	3-6
MASTER DRIVE UNIT	3-2
TRACTION MOTOR	
S/N C470N-01789Z⇒ (C470), S/N C471N-01512Z⇒ (C471).....	3-12
⇒S/N C470N-01789Z (C470), ⇒S/N C471N-01512Z (C471).....	3-10

MASTER DRIVE UNIT (Figure 3-1)



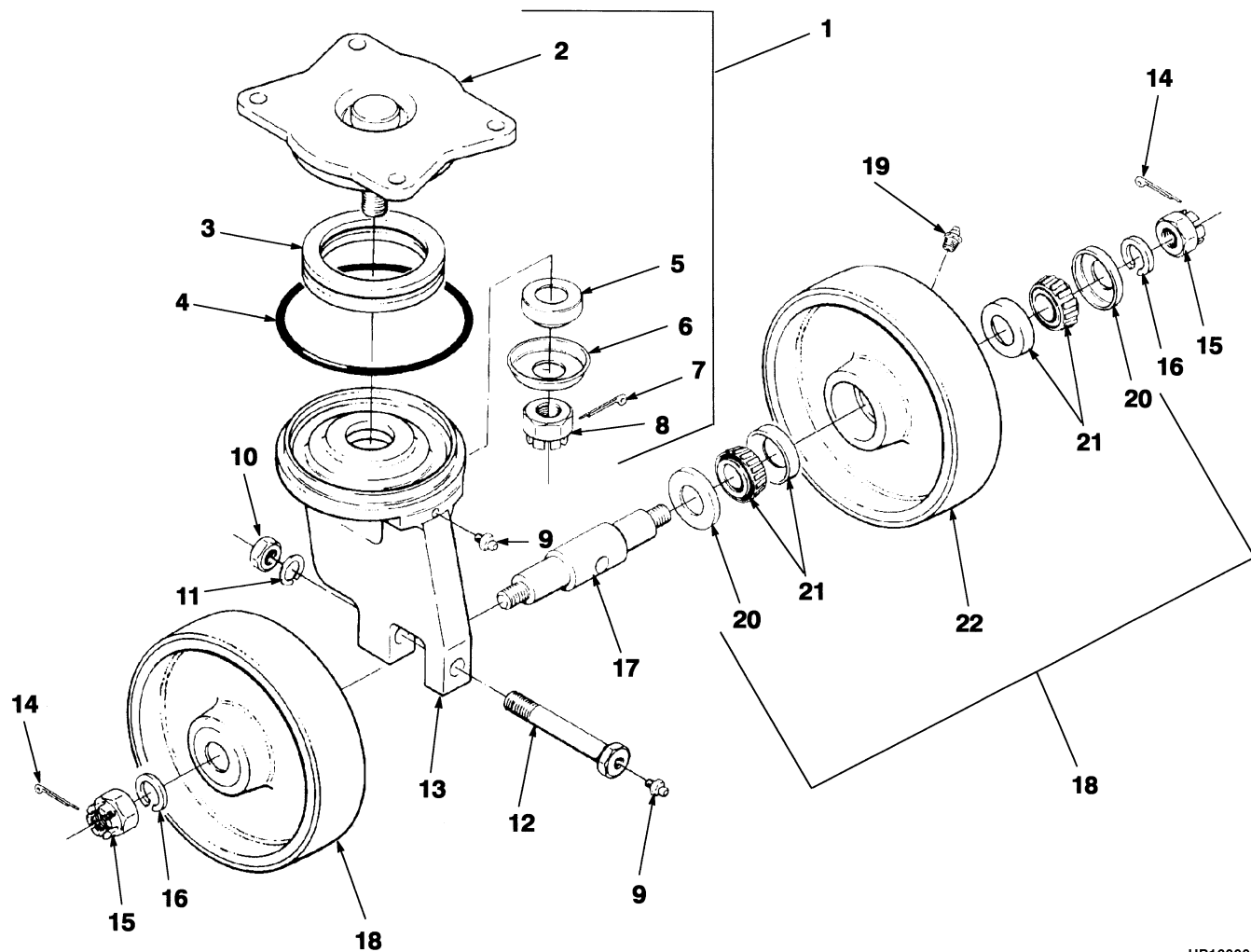
HP160007

MASTER DRIVE UNIT

ITEM	PART NO.	DESCRIPTION	QTY
1	16830	Capscrew.....	4
2	15158	Lockwasher.....	9
3	1329073	Caster (☞ Figure 3-2)	1
4	374595	Spacer	1
5	1303726	Spacer	1
6	1335872	Bushing.....	2
7	16001	Lube Fitting	1
8	365151	Shaft	1
9	221520	Capscrew.....	1
10	15156	Lockwasher.....	3
11	15056	Nut	3
12	1523495	Screw.....	1
13	15158	Lockwasher.....	1
14	15058	Nut	1
15	1523495	Screw.....	1
16	15058	Nut	1
17	2306045	Stop (Articulating)	1
18	16085	Capscrew.....	2
19	15158	Lockwasher.....	2
20	2307468	Screw.....	1
21	15001	Nut	1
22	2307281	Chain Anchor	1
22	310253	Pin	1
23	2309281	Adjuster	1
24	2045470	Link	1
25	2305010	Chain	1
26	.....	Traction Motor (☞ Figure 3-5, ☞ Figure 3-6)	1
27	136749	Capscrew.....	3
28	292681	Lockwasher.....	3
29	15872	O-Ring	1
30	2307596	Pinion (Supplied with Drive Unit)	1
31	292687	Lockwasher.....	1
32	296137	Nut	1
33	2021593	Lug Bolt	5
34	b 2305886	Wheel Assembly	1
34	a 2040522	Wheel Assembly	1
34	2311467	Wheel	1
34	2302012	Tire (Rubber)	1
34	2305493	Tire (Poly)	1
35	.....	Drive Unit (☞ Figure 3-3, ☞ Figure 3-4)	1
36	292529	Capscrew.....	6
37	292683	Lockwasher.....	6
38	360269	Axle (Articulating)	1
39	385865	Key.....	1
	264134	Sealant	AR

FOOTNOTES:**a** Poly Tire**b** Rubber Tire

CASTER WHEEL (Figure 3-2)

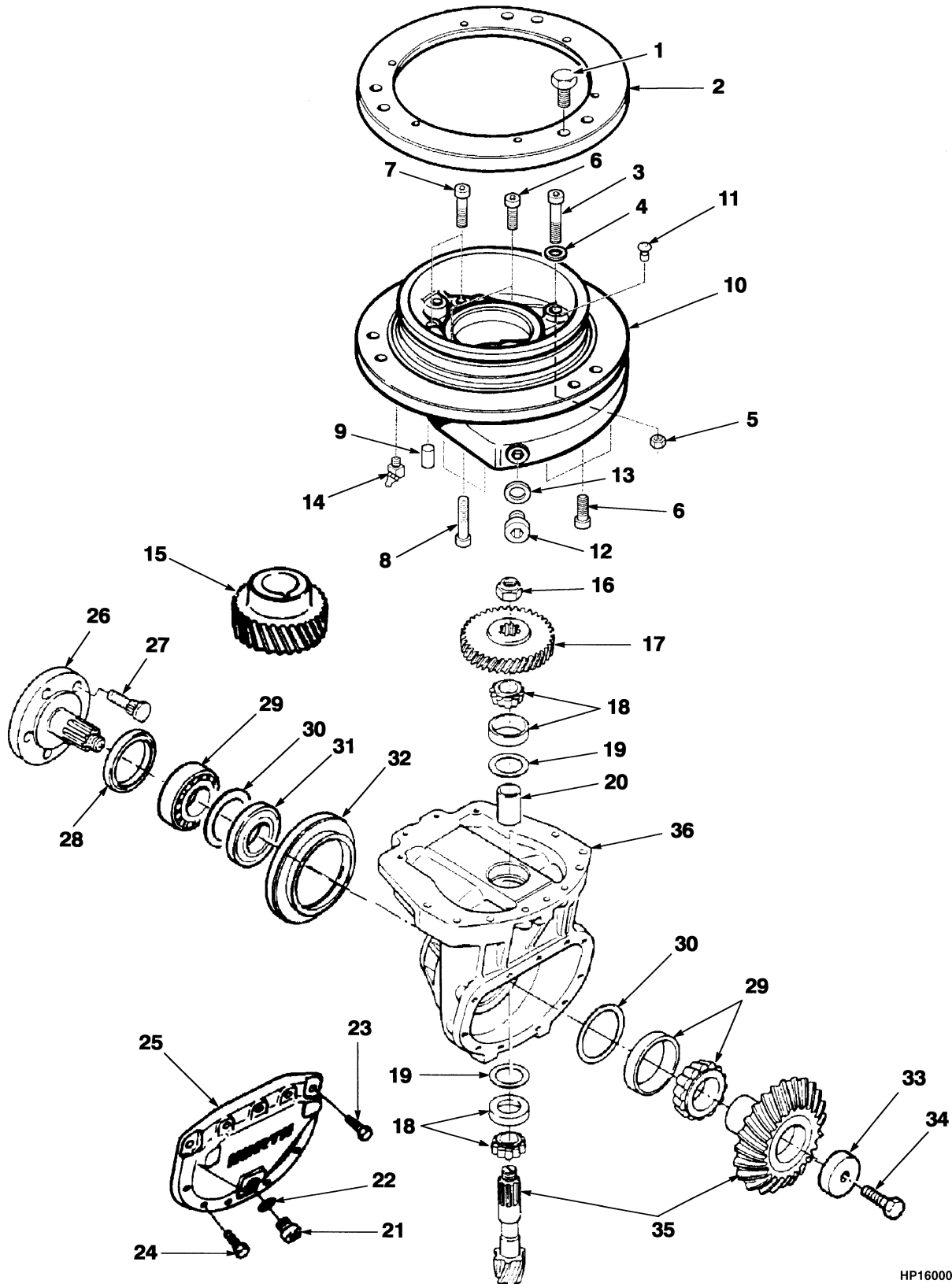


HP160008

CASTER WHEEL

ITEM	PART NO.	DESCRIPTION	QTY
	1329073	Caster	1
1	1330242	Caster Swivel	1
2	1329434	Swivel Plate.....	1
3	389572	Bearing.....	1
4	15878	O-Ring.....	1
5	2021802	Bearing.....	1
6	389627	Cover.....	1
7	15245	Cotter Pin	1
8	1357720	Nut	1
9	389628	Lube Fitting.....	2
10	389574	Nut.....	1
11	292685	Lockwasher	1
12	388296	Bolt	1
13	1329436	Fork	1
14	15235	Pin	2
15	1357209	Nut.....	2
16	292687	Lockwasher	2
17	389632	Axle Shaft	1
18	389630	Wheel	2
19	389628	Lube Fitting	1
20	389635	Washer	2
21	389631	Bearing Set	2
22	1300306	Wheel	1

DRIVE UNIT (Figure 3-3) (⇒S/N C470N-01789Z, ⇒S/N C471N-01512Z)



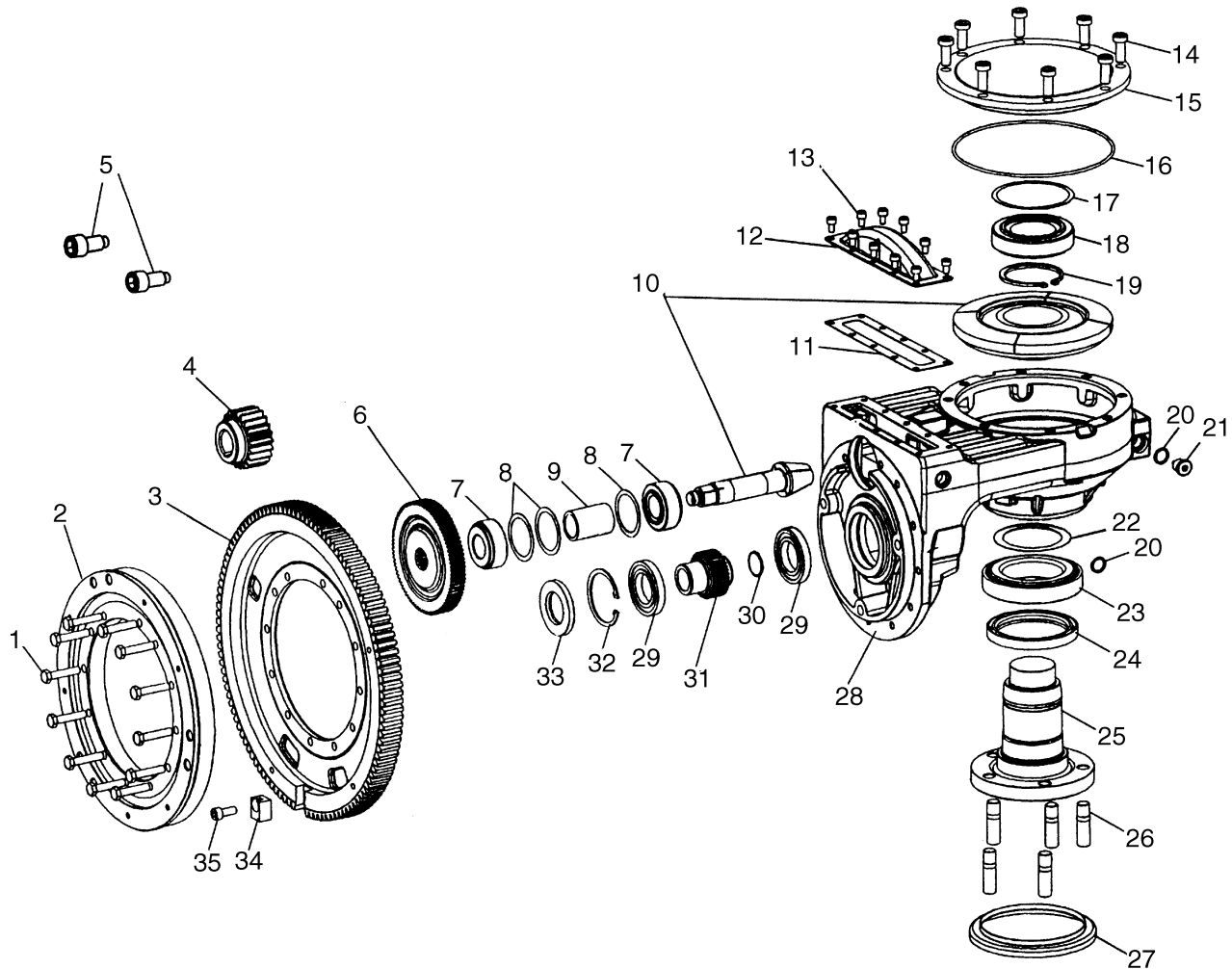
HP160009

DRIVE UNIT

(⇒S/N C470N-01789Z, ⇒S/N C471N-01512Z)

ITEM	PART NO.	DESCRIPTION	QTY
	2310628	Drive Unit.....	1
1	296015	Capscrew	2
2	380721	Ring.....	1
3	296020	Capscrew	2
4	380713	Washer	2
5	239503	Nut.....	2
6	296012	Capscrew	5
7	296015	Capscrew	2
8	296030	Capscrew	6
9	2302385	Pin	2
10	371863	Housing (Upper).....	1
11	380719	Breather	1
12	318707	Plug (Oil Fill)	1
13	318709	Seal Ring	1
14	1327534	Lube Fitting	2
15	2307596	Pinion	1
16	371014	Nut.....	1
17	2304927	Gear	1
18	2304693	Bearing.....	2
19	2307254	Shim (0.004 in.).....	AR
19	2302695	Shim (0.006 in.).....	AR
19	2310139	Shim (0.012 in.).....	AR
19	2303227	Shim (0.020 in.).....	AR
20	2306459	Spacer	1
21	2303121	Plug (Oil Drain).....	1
22	318709	Seal Ring.....	1
23	2302907	Capscrew	2
24	292501	Capscrew	9
25	371856	Cover.....	1
26	2304967	Shaft.....	1
27	354119	Wheel Stud.....	5
28	2302353	Sealing Ring.....	1
29	2304787	Bearing.....	2
30	368438	Shim (0.004 in.).....	AR
30	368439	Shim (0.006 in.).....	AR
30	368440	Shim (0.012 in.).....	AR
30	368441	Shim (0.020 in.).....	AR
31	2309452	Ring.....	1
32	2310390	Shield	1
33	2308812	Disk	1
34	2302911	Screw	1
35	2308483	Gear Set.....	1
36	2311762	Housing (Lower).....	1

DRIVE UNIT (Figure 3-4) (S/N C470N-01789Z⇒, S/N C471N-01512Z⇒)



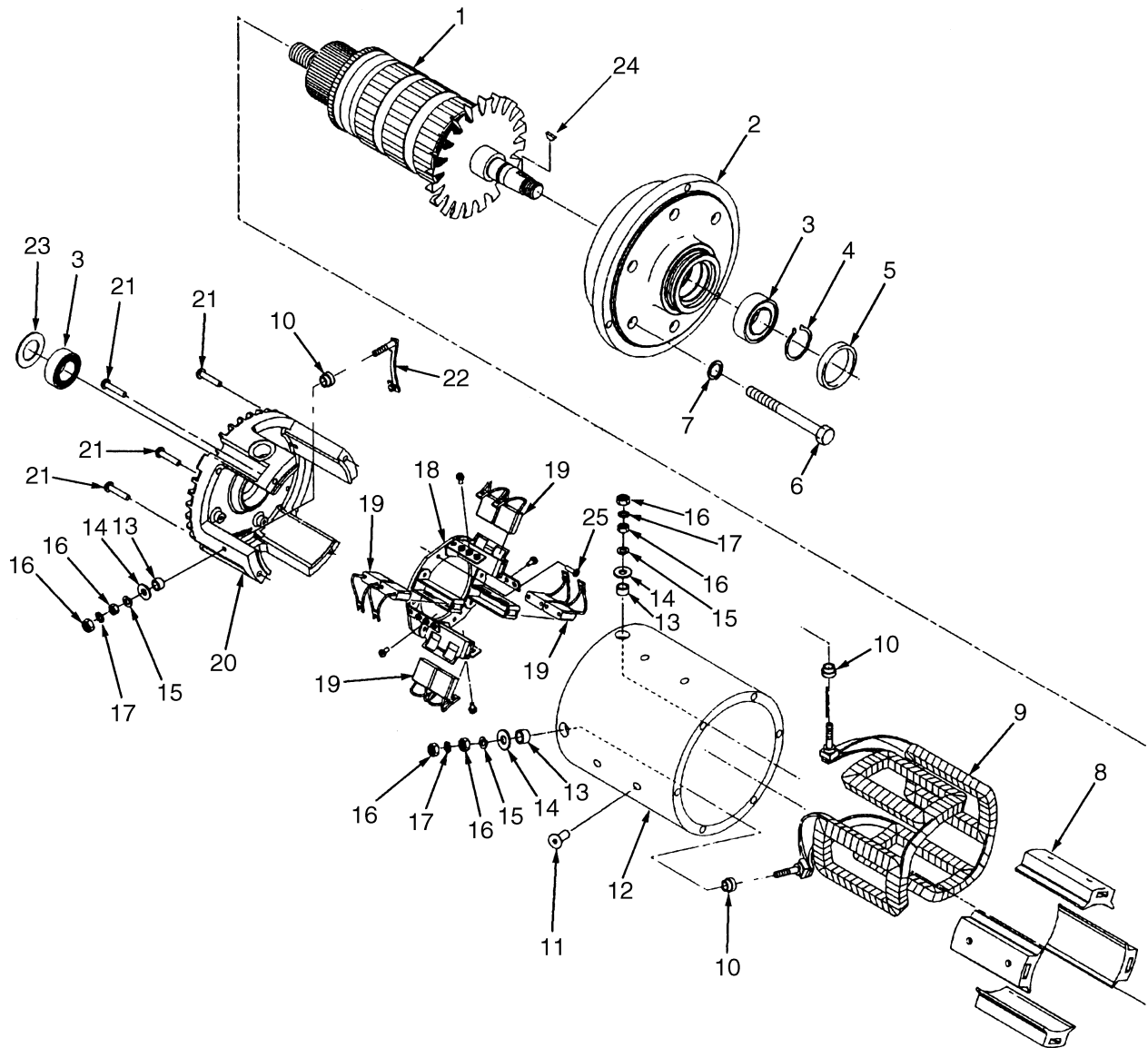
BP160011

DRIVE UNIT
(S/N C470N-01789Z⇒, S/N C471N-01512Z⇒)

ITEM	PART NO.	DESCRIPTION	QTY
	1496180	Drive Unit (24 Volt).....	1
	1496181	Drive Unit (36 Volt).....	1
1	1507379	Screw	12
2	1507378	Bearing	1
3	1507380	Steering Gear	1
4	1507381	Pinion	1
5	1507384	Bolt	2
6	.....	Helical Gear	1
7	.....	Roller Bearing	2
8	.....	Ring	2
9	.....	Tube	1
10	.....	Bevel Gear	1
11	1507369	Gasket	1
12	1507370	Cover	1
13	.....	Capscrew	10
14	.....	Capscrew	8
15	.....	Bearing Cover	1
16	1507332	O-Ring	1
17	.....	Shim	1
18	.....	Roller Bearing	1
19	.....	Retaining Ring	1
20	1507372	Ring	2
21	1507373	Plug	1
22	.....	Ring	1
23	.....	Roller Bearing	1
24	.....	Seal	1
25	.....	Wheel	1
26	1507340	Wheel Bolt	5
27	.....	Protector	1
28	.....	Housing	1
29	1475930	Ball Bearing	2
30	1475931	Seal	1
31	1507376	Pinion	1
32	1507349	Retaining Ring	1
33	1507365	Seal	1
34	1507382	Stop	1
35	1507383	Capscrew	1
	a 318707	Plug	1
	a 292683	Lockwasher	6
	a 292530	Capscrew	6
	a 1510574	Proximity Switch	1

FOOTNOTES:**a** Not Illustrated

TRACTION MOTOR (Figure 3-5) (⇒S/N C470N-01789Z (C470), ⇒S/N C471N-01512Z (C471))



HP081224

TRACTION MOTOR

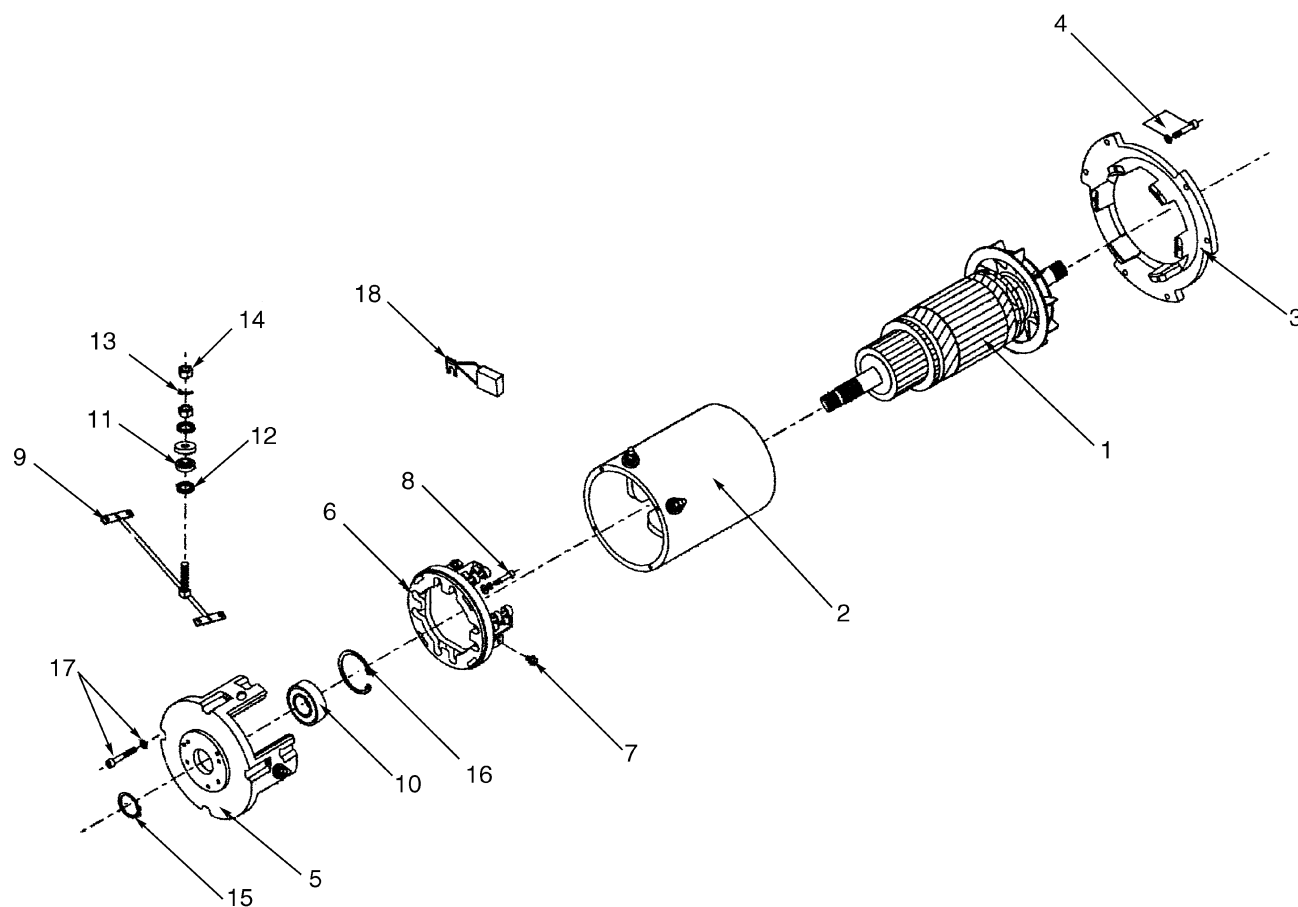
(⇒S/N C470N-01789Z (C470), ⇒S/N C471N-01512Z (C471))

ITEM	PART NO.	DESCRIPTION	QTY
	2034926	Traction Motor.....	1
1	2037463	Armature	1
2	2035515	Pinion End Head	1
3	2035480	Bearing	2
4	2035482	Retaining Ring.....	1
5	1195878	Seal	1
6	16782	Capscrew	6
7	15155	Lockwasher	6
8	1326866	Pole Piece	4
9	2036134	Field Coil Kit	1
10	2035486	Terminal Insulator	4
11	17151	Capscrew	8
12	2035518	Field Ring	1
13	2302673	Insulator.....	4
14	2307351	Washer	4
15	15905	Lockwasher	4
16	2309525	Nut.....	4
17	2311684	Lockwasher	4
18	2050275	Holder and Ring Assembly.....	1
19	1326867	Brush.....	8
19	2034306	Brush Kit.....	1
19	1389598	Brush Spring	8
20	2037462	Commutator End Head.....	1
21	2306090	Screw	4
22	2035516	Terminal Assembly	2
23	2037461	Washer	1
24	2037465	Key (with Chamfer).....	1
25	2309528	Screw	4
	a 2037464	Screw	12

FOOTNOTES:

a Not illustrated

TRACTION MOTOR (Figure 3-6) (S/N C470N-01789Z⇒ (C470), S/N C471N-01512Z⇒ (C471))



BP160002

TRACTION MOTOR

(S/N C470N-01789Z⇒ (C470), S/N C471N-01512Z⇒ (C471))

ITEM	PART NO.	DESCRIPTION	QTY
	2040896	Traction Motor.....	1
1	1508110	Armature	1
2	1504376	Frame	1
3	1504305	Bearing	1
4	1504307	Screw	6
4	1504308	Spring Washer.....	6
5	1508111	Bearing	1
6	1502097	Brush Holder	1
7	1502098	Screw	8
8	1502099	Screw	2
8	1502100	Washer	2
8	1502101	Lockwasher	2
9	1504311	Brush.....	2
10	1508112	Bearing	1
11	1504310	Flange	4
12	1504362	Spring Washer.....	4
13	1504363	Spring Washer.....	2
14	1504364	Nut.....	2
15	1502162	Lock Ring	1
16	1504365	Lock Ring	1
17	1502111	Screw	4
18	1502113	Brush.....	8
	ab 1517133	Grounding Wire	1
	b 1494618	Nut.....	2
	b 1502095	Washer (Spring)	4
	b 1301727	Clamp	2
	b 293780	Lockwasher.....	6
	b 296012	Capscrew.....	6

FOOTNOTES:

- a** Drive Motor to Axle
b Not Illustrated

[illegible]

4

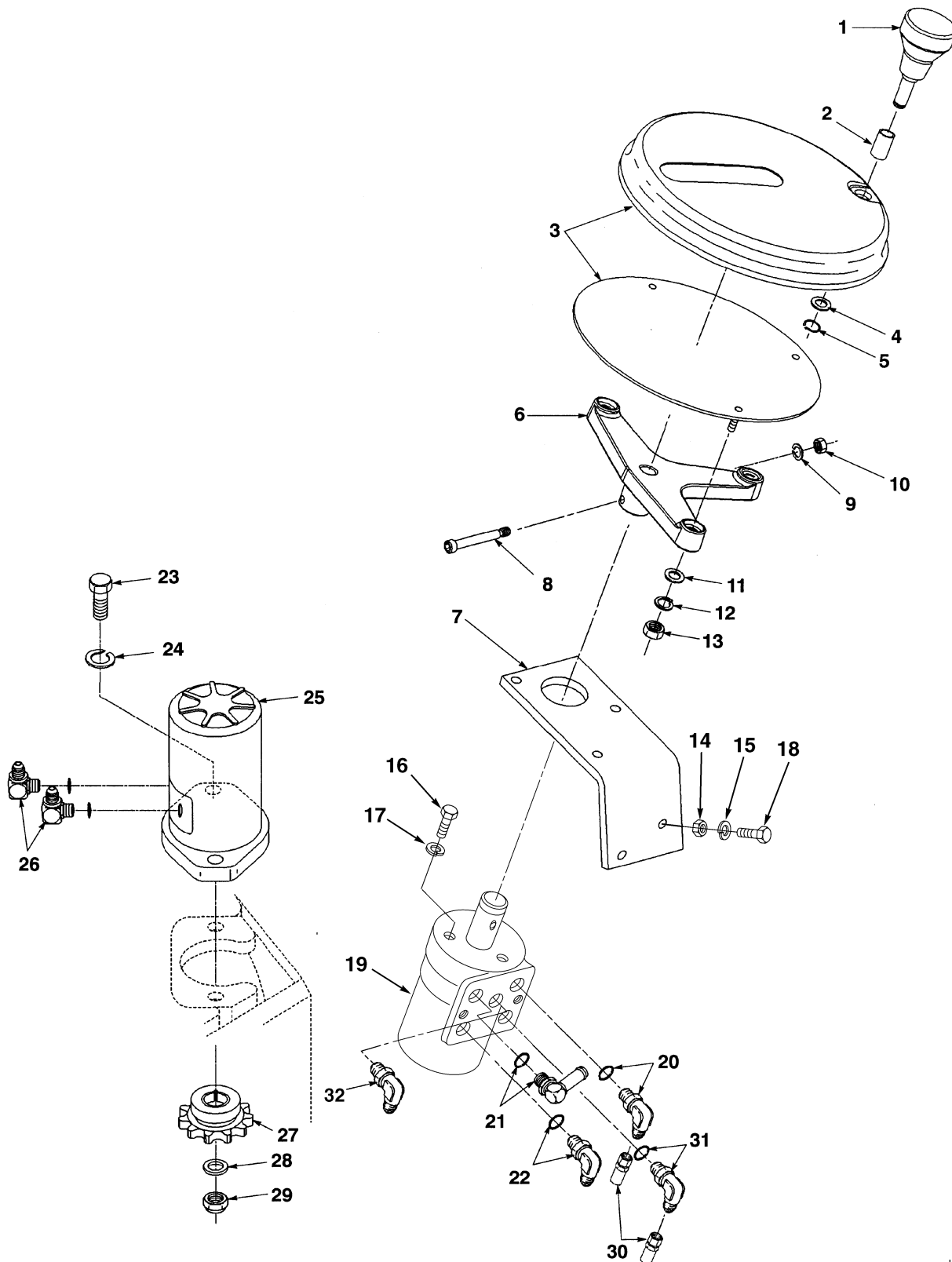
STEERING SYSTEM

SECTION 4

STEERING SYSTEM

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POWER STEER ARRANGEMENT (Figure 4-1) (⇒S/N C470N-01789Z, ⇒S/N C471N-01512Z)



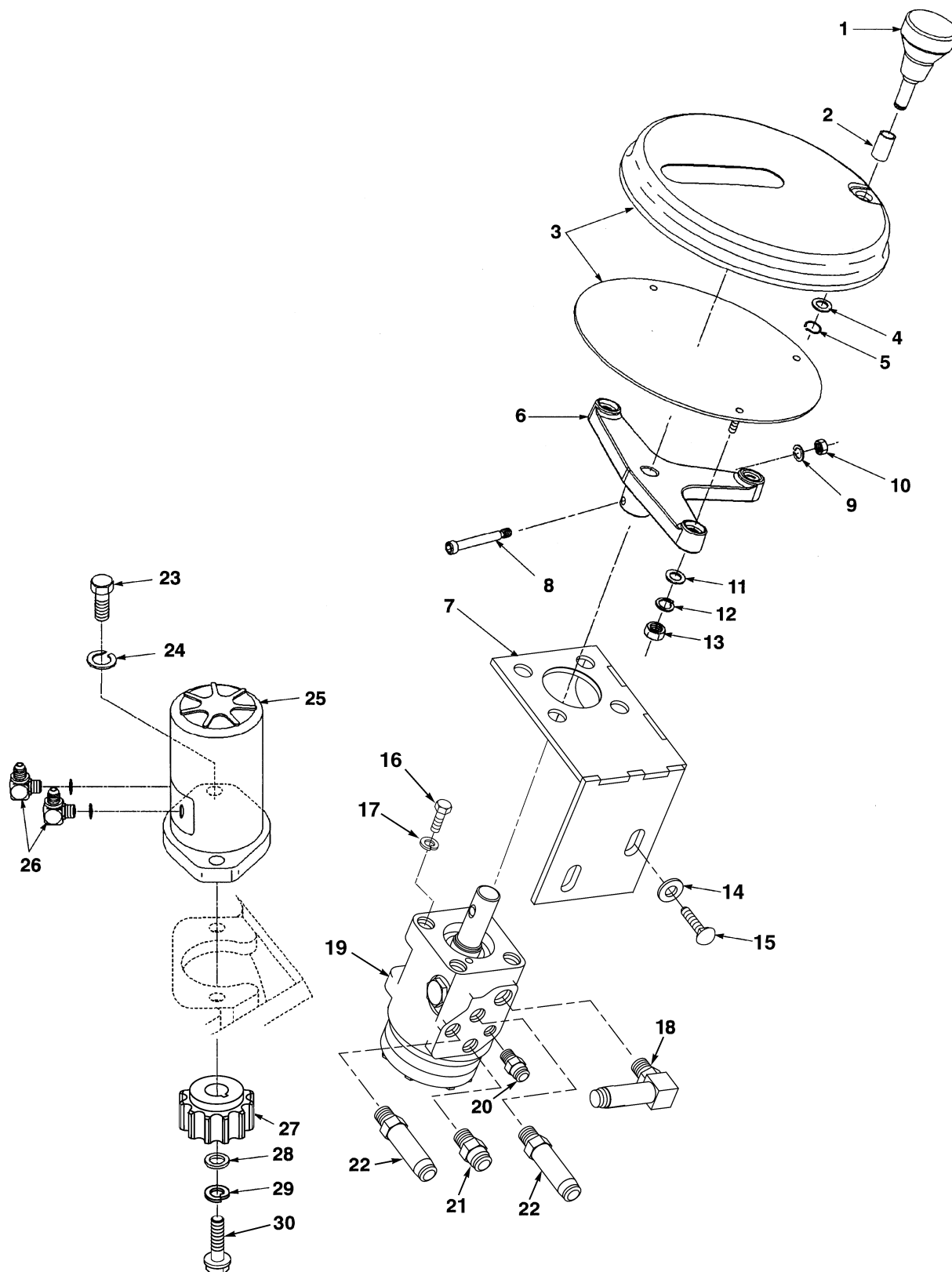
HP220396

POWER STEER ARRANGEMENT

(⇒S/N C470N-01789Z, ⇒S/N C471N-01512Z)

ITEM	PART NO.	DESCRIPTION	QTY
1	1457139	Knob	1
2	2045473	Bushing.....	1
3	1457137	Steering Pad	1
4	15135	Washer	1
5	190930	Snap Ring	1
6	1486469	Steering Control Spoke	1
7	1483516	Bracket.....	1
8	2303164	Screw.....	1
9	15154	Lockwasher.....	1
10	15054	Nut	1
11	18515	Washer	2
12	15155	Lockwasher.....	2
13	15055	Nut	2
14	15056	Nut	2
15	15156	Lockwasher.....	1
16	16085	Capscrew.....	3
17	15156	Lockwasher.....	5
18	376203	Capscrew.....	3
19	2042519	Steer Control Unit (⇒ Figure 4-3)	1
20	16549	Fitting.....	1
21	16547	Fitting.....	1
22	16540	Fitting.....	2
23	16330	Capscrew.....	2
24	177949	Lockwasher.....	2
25	2047133	Steer Pump (⇒ Figure 4-6)	1
26	222400	Fitting.....	2
26	16485	O-Ring	1
27	380699	Sprocket.....	1
28	221777	Washer	1
29	17422	Nut	1
30	1510655	Hose Assembly (Med-High Pressure)	2
31	16556	Fitting.....	1
32	110178	Fitting.....	1

POWER STEER ARRANGEMENT (Figure 4-2) (S/N C470N-01789Z⇒, S/N C471N-01512Z⇒)



HP220157

POWER STEER ARRANGEMENT

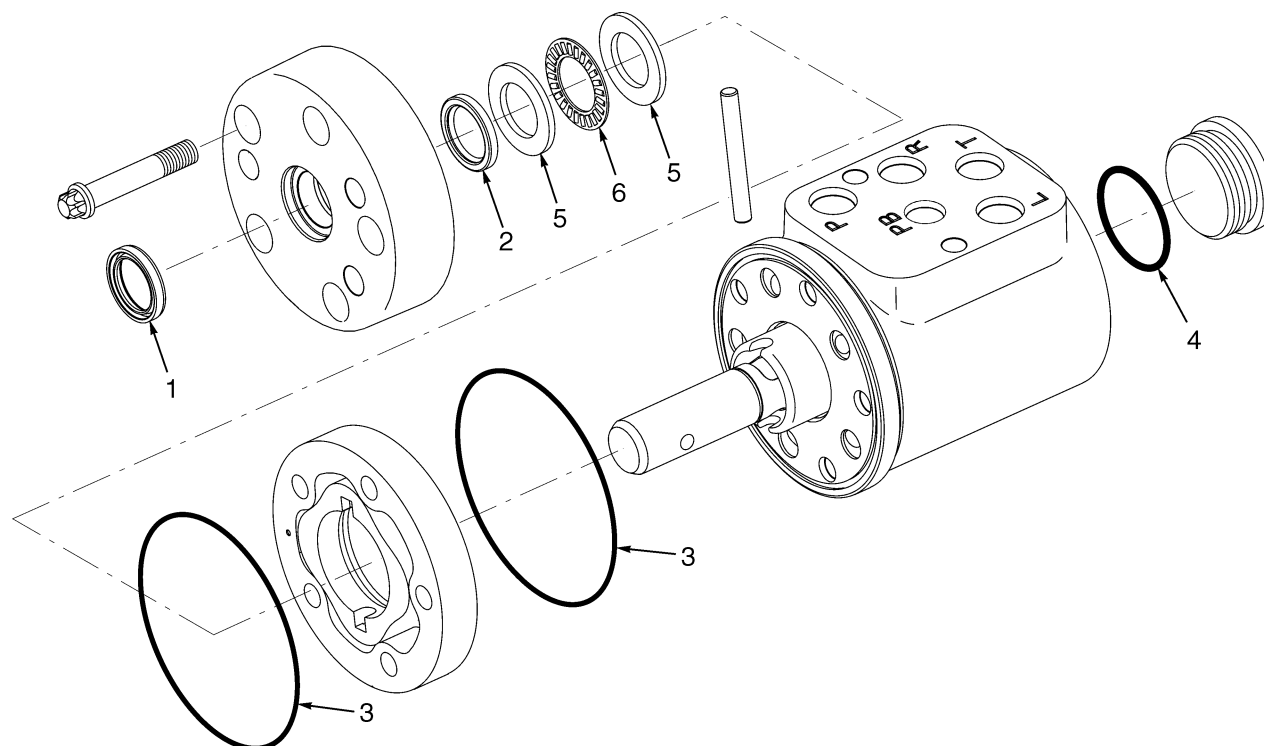
(S/N C470N-01789Z⇒, S/N C471N-01512Z⇒)

ITEM	PART NO.	DESCRIPTION	QTY
1	1457139	Knob	1
2	2045473	Bushing.....	1
3	1457137	Steering Pad	1
4	15135	Washer	1
5	190930	Snap Ring.....	1
6	1486469	Steering Control Spoke	1
7	1520860	Bracket.....	1
7	a 2052836	Plate	1
8	2303164	Screw.....	1
9	15154	Lockwasher.....	1
10	15054	Nut	1
11	18515	Washer	2
12	15155	Lockwasher.....	2
13	15055	Nut	2
14	15176	Washer	2
15	18202	Capscrew.....	2
16	292514	Capscrew.....	4
17	292682	Lockwasher.....	4
18	110178	Fitting.....	1
19	1520858	Steer Control Unit Assembly (☞ Figure 4-4)	1
20	16538	Fitting.....	1
21	16540	Fitting.....	1
21	2046287	Hose	1
22	16549	Fitting.....	2
22	2055310	Hose Assembly.....	1
23	16330	Capscrew.....	2
24	177949	Lockwasher.....	2
25	1502638	Steer Motor Assembly (☞ Figure 4-6)	1
26	222400	Fitting.....	2
26	16485	O-Ring	1
27	1507381	Pinion.....	1
28	2305087	Washer	1
29	292681	Lockwasher.....	1
30	136681	Capscrew.....	1

FOOTNOTES:**a** Not Illustrated

STEER CONTROL UNIT (Figure 4-3)

(⇒S/N C470N-01789Z, ⇒S/N C471N-01512Z)

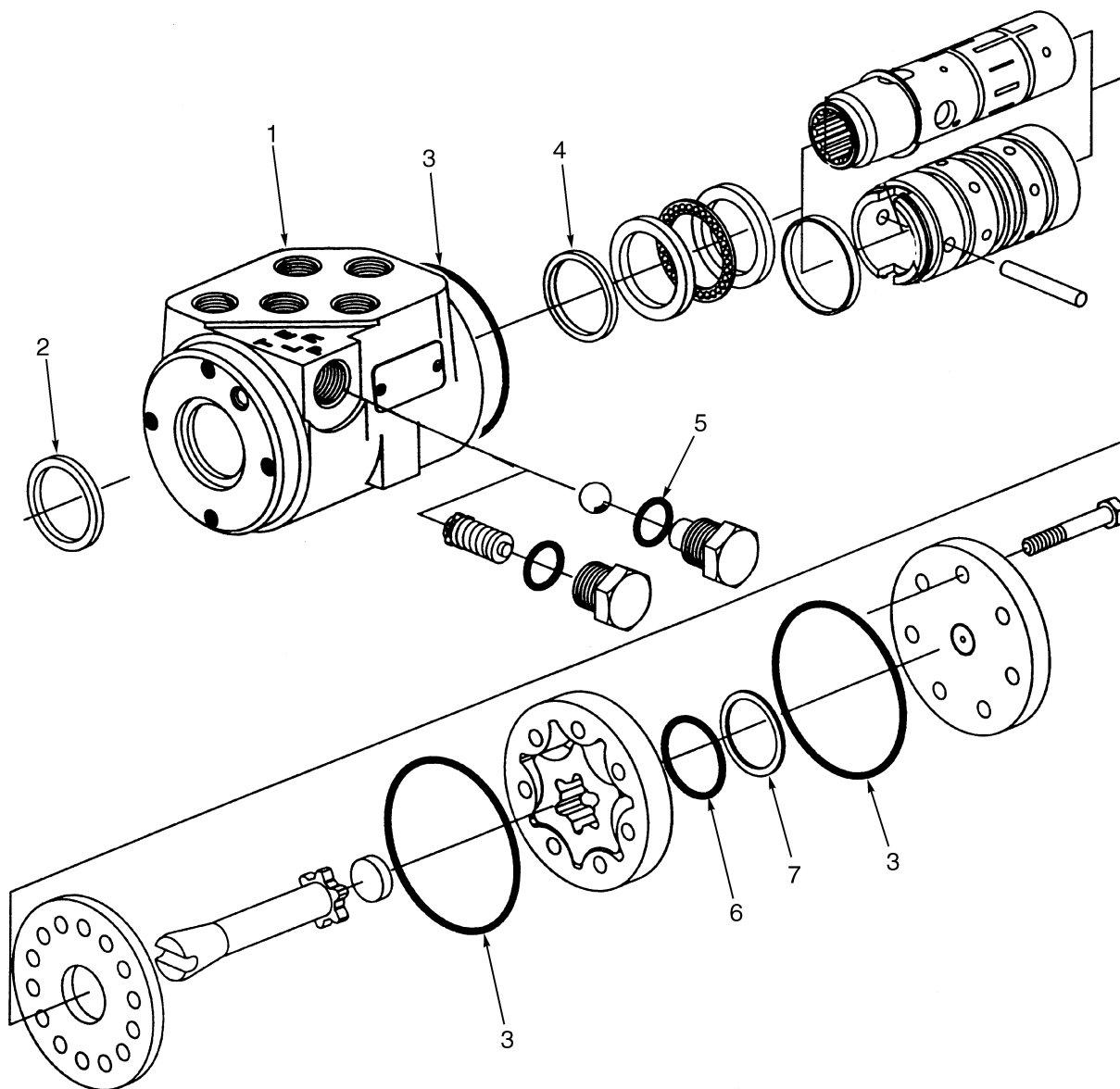


YP220389

ITEM	PART NO.	DESCRIPTION	QTY
	2042519	Steer Control Unit	1
1	.....	Dust Seal	1
2	.....	Pressure Seal	1
3	.....	O-Ring	2
4	.....	O-Ring	1
5	.....	Thrust Race	2
6	.....	Thrust Bearing	1
	1503278	Bearing Kit (Includes Items 5-6)	1
	1503279	Seal Kit (Includes Items 1-4)	1

[illegible]

STEER CONTROL UNIT (Figure 4-4) (S/N C470N-01789Z⇒, S/N C471N-01512Z⇒)



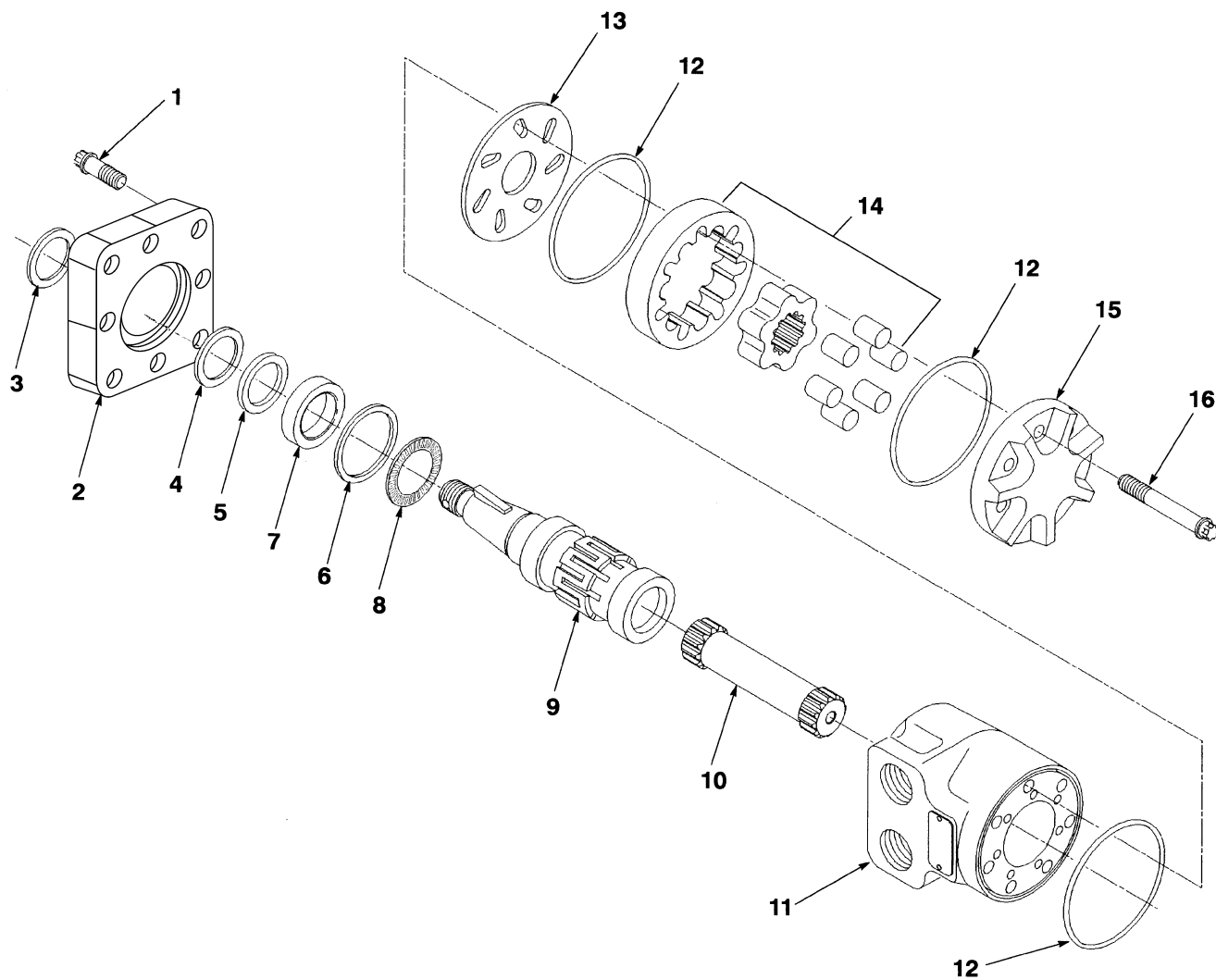
BP220020

STEER CONTROL UNIT

(S/N C470N-01789Z⇒, S/N C471N-01512Z⇒)

ITEM	PART NO.	DESCRIPTION	QTY
	1520858	Steer Control Unit Assembly.....	1
1	2053376	Steer Control Unit.....	1
2	.....	Dust Seal	1
3	.....	O-Ring Seal	3
4	.....	Seal.....	1
5	.....	O-Ring Seal	2
6	.....	O-Ring.....	1
7	.....	Seal.....	1
	342725	Seal Kit (Includes Items 2-7)	1

HYDRAULIC STEER MOTOR (Figure 4-5) (S/N C470N-1789Z⇒, S/N C471N-1512Z⇒)



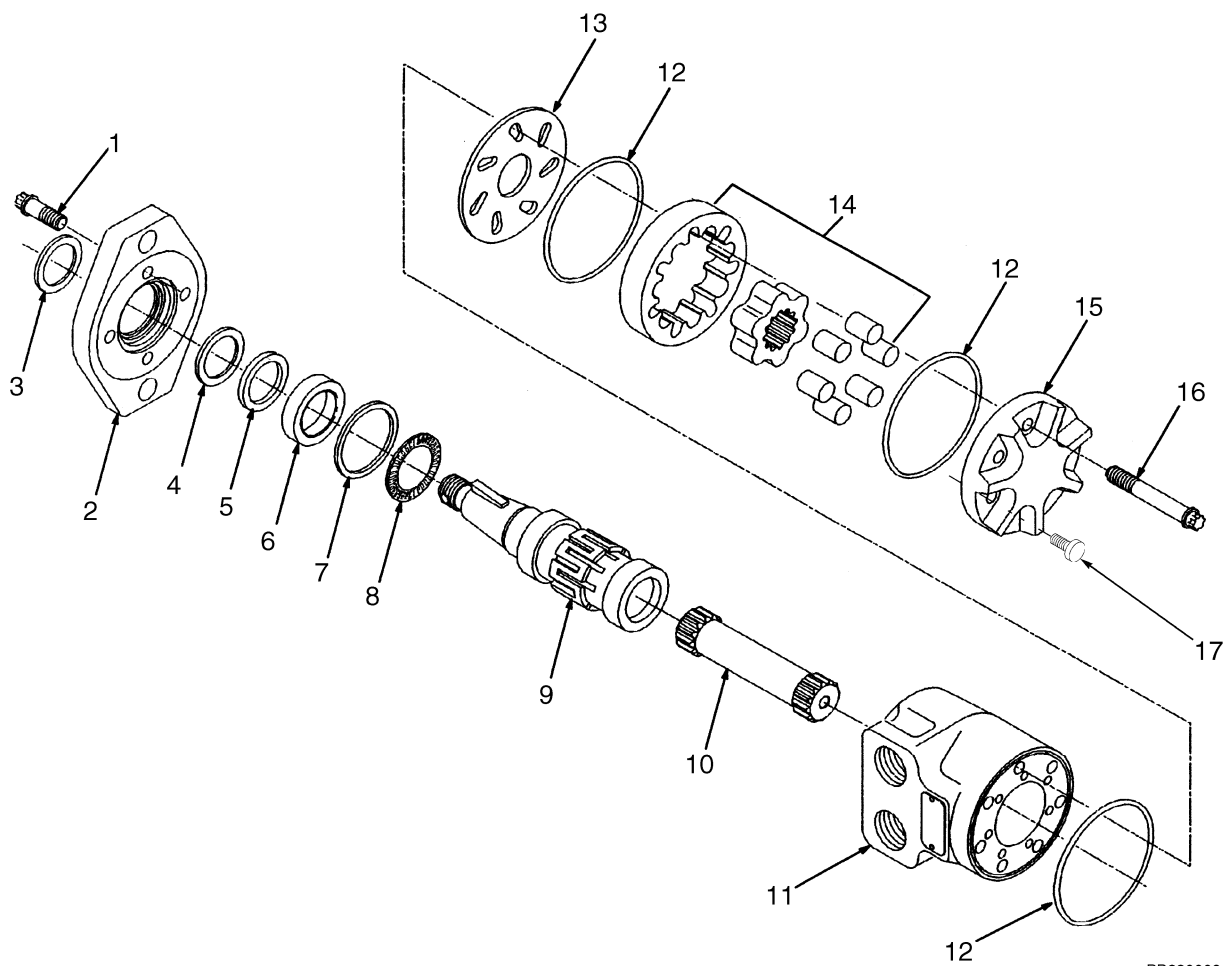
BP150005

HYDRAULIC STEER MOTOR
(S/N C470N-1789Z⇒, S/N C471N-1512Z⇒)

ITEM	PART NO.	DESCRIPTION	QTY
	1502640	Hydraulic Steer Motor	1
1	2307241	Screw	4
2	2049629	Flange	1
3	2309310	Seal	1
4	2049630	Washer	1
5	2307574	Seal	1
6	2049631	Seal	1
7	2305959	Bearing	1
8	2304353	Needle Bearing	1
9	2049632	Shaft	1
10	2305510	Drive	1
11	2049633	Housing	1
12	2311711	Seal	3
13	2309765	Plate	1
14	2049634	Geroler Subassembly	1
15	2049635	End Cap	1
16	2049636	Capscrew	7
	a 2049637	Nameplate	1
	a 2049638	Rivet	2
	a 2049639	Poppet	2
	a 2050867	Key	1

FOOTNOTES:**a** Not Illustrated

HYDRAULIC STEER MOTOR (Figure 4-6) (⇒S/N C470N-1789Z, ⇒S/N C471N-1512Z)



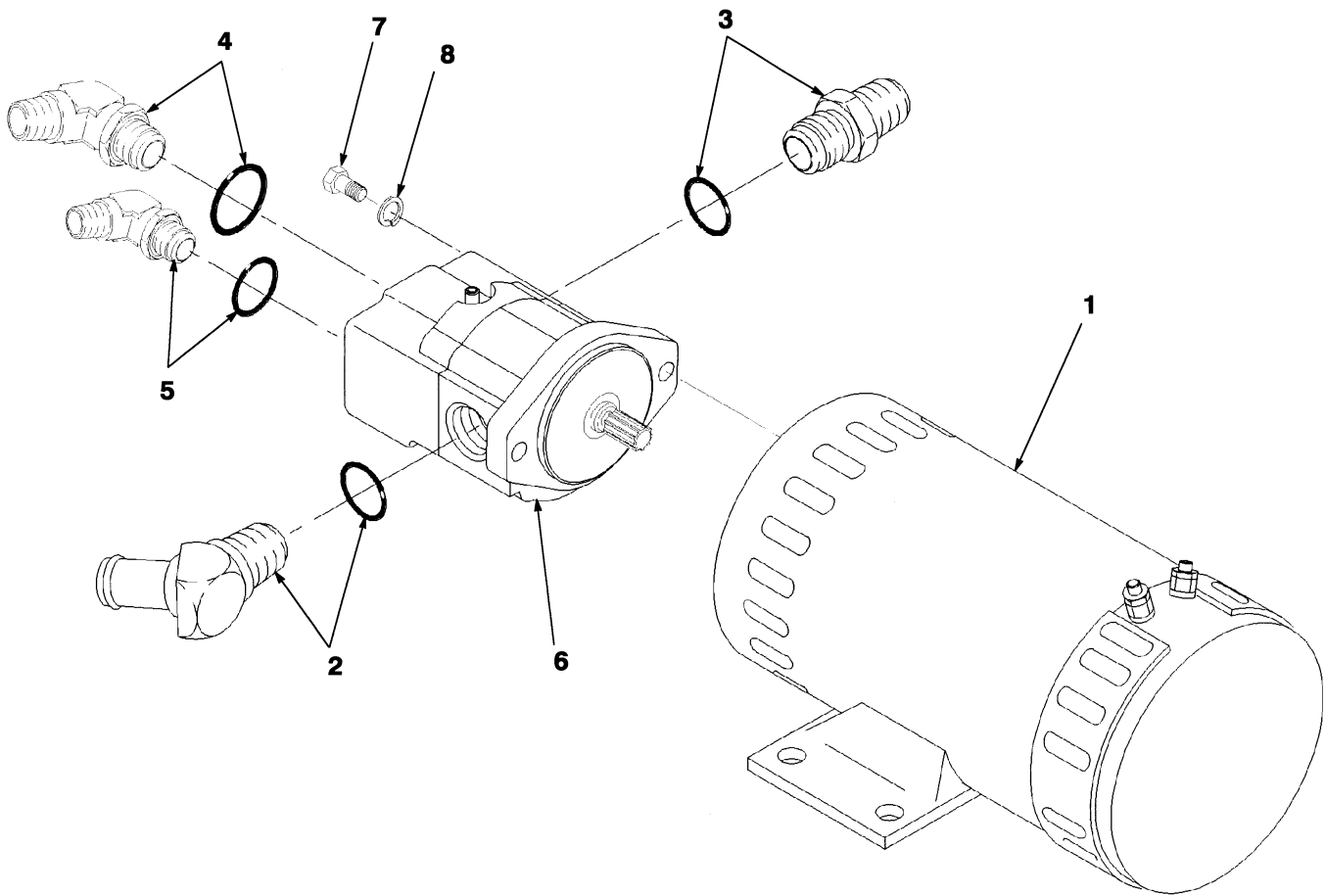
PB220008

HYDRAULIC STEER MOTOR

(⇒S/N C470N-1789Z, ⇒S/N C471N-1512Z)

ITEM	PART NO.	DESCRIPTION	QTY
	2047133	Steer Pump.....	1
1	2307241	Screw	4
2	2304993	Mounting Flange.....	1
3	2309310	Seal	1
4	2309903	Washer	1
5	2307574	Seal	1
6	2307384	Seal	1
7	2305959	Bearing	1
8	2304353	Needle Bearing	1
9	2048454	Woodruff Key (for Tapered Shaft)	1
10	2048455	Housing	1
11	2305510	Drive	1
12	2311711	Seal	3
13	2309765	Plate	1
14	2302574	Gerotor Set.....	1
15	2303998	End Cap	1
16	2308606	Screw	7
17	222442	Fitting.....	1

STEER AND AUXILIARY PUMP AND MOTOR (Figure 4-7)

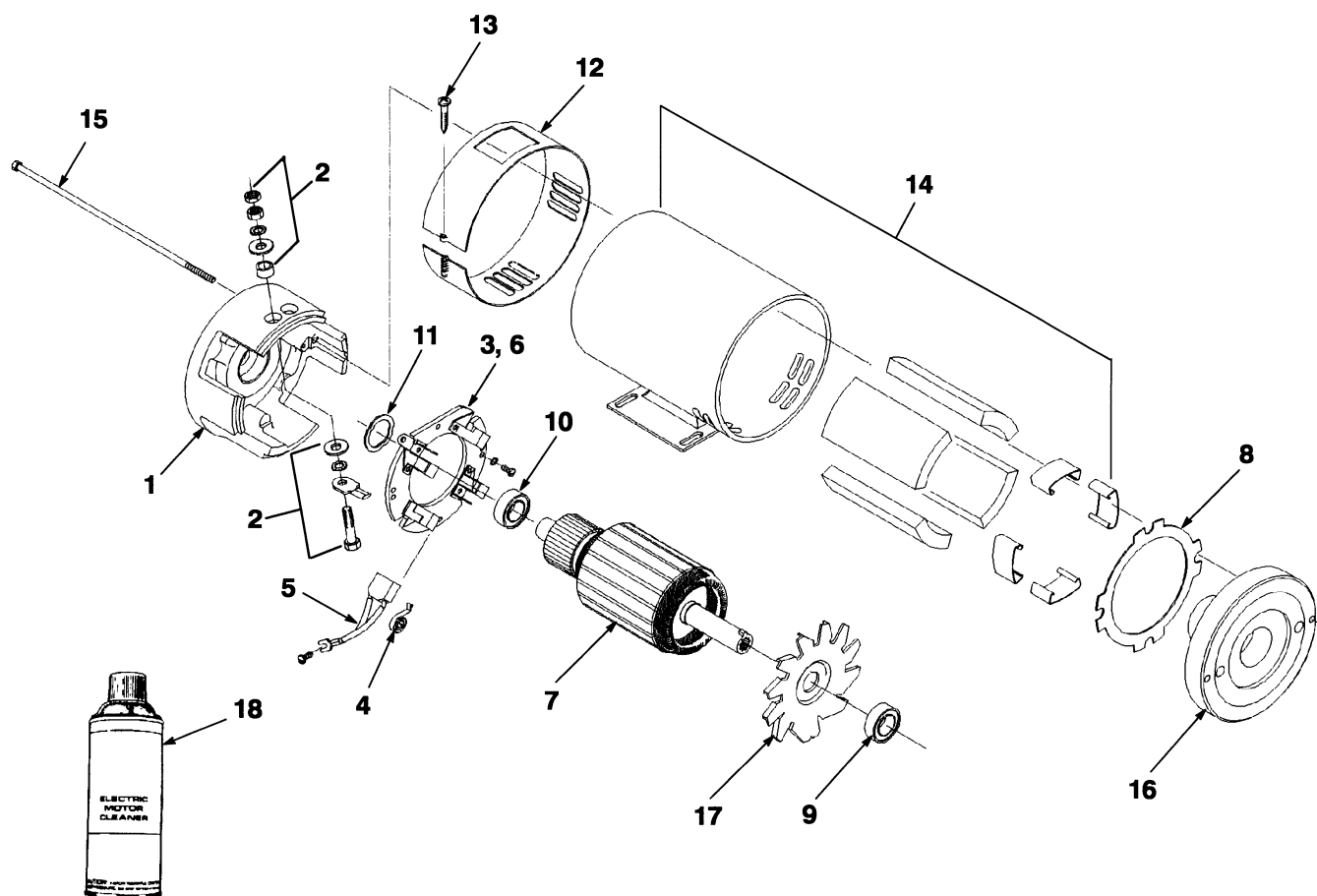


HP220032

STEER AND AUXILIARY PUMP AND MOTOR

ITEM	PART NO.	DESCRIPTION	QTY
1	.....	Steer and Auxiliary Motor ("E" Construction) (☞ Figure 4-8)	1
1	.....	Steer and Auxiliary Motor ("EE" Construction) (☞ Figure 4-9)	1
2	141908	Fitting.....	1
	16487	O-Ring	1
3	110174	Fitting.....	2
	16484	O-Ring	1
4	110174	Fitting.....	2
	16484	O-Ring	1
5	16556	Fitting.....	1
	16481	O-Ring	1
6	2034303	Gear Pump Assembly (☞ Figure 4-10)	1
7	16634	Capscrew.....	2
8	15156	Lockwasher.....	2

STEER AND AUXILIARY MOTOR (Figure 4-8) "E" CONSTRUCTION



HP220033

**STEER AND AUXILIARY MOTOR
"E" CONSTRUCTION****KEY:****A: 24 Volt****B: 36 Volt**

ITEM	PART NO.	DESCRIPTION	QTY	
			A	B
	1457325	Steer and Auxiliary Motor	1	..
	1457327	Steer and Auxiliary Motor	..	1
1	2306159	Commutator Head Assembly	1	1
2	2309850	Terminal Stud Kit.....	2	2
3	2305219	Brush Ring Assembly.....	1	1
4	286082	Brush Spring.....	4	4
5	2307487	Brush	4	4
6	2303924	Brush Ring.....	1	1
7	1459651	Armature	1	..
7	2308646	Armature	..	1
8	2305717	Retaining Ring	1	1
9	2310199	Bearing.....	1	1
10	97847	Ball Bearing.....	1	1
11	286097	Washer	1	1
12	1459648	Cover.....	1	..
12	1459649	Cover.....	..	1
13	2307172	Screw	1	1
14	1459650	Stator.....	1	1
15	2310343	Bolt.....	2	2
16	2305594	Cover.....	1	1
17	2305122	Fan	1	1
18	3002339	Motor Cleaner.....	AR	AR

This exploded view diagram illustrates the components of a vacuum cleaner motor assembly. The parts are numbered as follows:

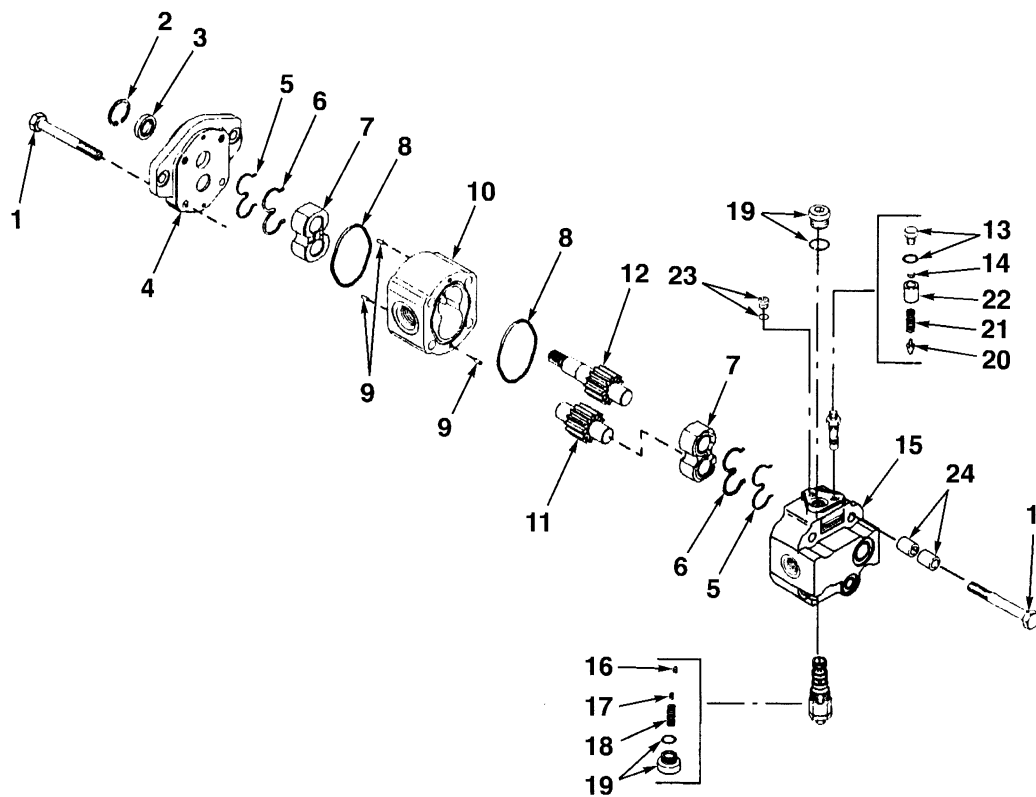
- 1:** Motor housing (main body)
- 2:** Motor housing (top cover)
- 3:** Motor housing (bottom cover)
- 4:** Motor housing (bottom cover - internal part)
- 5:** Motor housing (bottom cover - internal part)
- 6:** Motor housing (bottom cover - internal part)
- 7:** Motor housing (bottom cover - internal part)
- 8:** Motor housing (bottom cover - internal part)
- 9:** Motor housing (bottom cover - internal part)
- 10:** Motor housing (bottom cover - internal part)
- 11:** Motor housing (bottom cover - internal part)
- 12:** Motor housing (bottom cover - internal part)
- 13:** Motor housing (bottom cover - internal part)
- 14:** Motor housing (bottom cover - internal part)
- 15:** Motor housing (bottom cover - internal part)
- 16:** Motor housing (bottom cover - internal part)
- 17:** Motor housing (bottom cover - internal part)
- 18:** Motor housing (bottom cover - internal part)

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**STEER AND AUXILIARY MOTOR
"EE" CONSTRUCTION****KEY:****A: 24 Volt****B: 36 Volt**

ITEM	PART NO.	DESCRIPTION	QTY	
			A	B
	1457326	Steer and Auxiliary Motor	1	..
	1457328	Steer and Auxiliary Motor	..	1
1	2305818	Cover	1	1
2	2309850	Terminal Stud Kit	2	2
3	2305219	Brush Ring Assembly	1	1
4	2307487	Brush.....	4	4
5	2303924	Brush Ring	1	1
6	286082	Brush Spring	4	4
7	1460143	Armature.....	1	..
7	2304048	Armature.....	..	1
8	2310199	Bearing	1	1
9	97847	Ball Bearing.....	1	1
10	286097	Washer	1	1
11	1460145	Cover.....	1	1
12	1460146	Cover.....	1	1
13	1460147	Stator.....	1	1
14	2305770	Bolt	2	2
15	2305594	Cover.....	1	1
16	2306143	Fan	1	1
17	2306708	Cover.....	1	1
18	3002339	Motor Cleaner.....	AR	AR

STEER AND AUXILIARY PUMP (Figure 4-10)



HP220035

STEER AND AUXILIARY PUMP

ITEM	PART NO.	DESCRIPTION	QTY
	2034303	Gear Pump Assembly.....	1
1	1457795	Bolt	4
2	2303239	Retaining Ring	1
3	1371741	Seal	1
4	2308872	Flange	1
5	1371744	Back-Up Ring	2
6	1371743	Seal	2
7	.....	Bushing	2
8	2052235	O-Ring	2
9	2309481	Pin	4
10	.....	Pump Body.....	1
11	.....	Idler Gear	1
12	.....	Drive Gear	1
13	.....	Plug	1
14	1457801	Screw	1
15	.....	End Cover	1
16	1457797	Plug	2
17	1457798	Plug	1
18	.....	Spring	1
19	.....	Spring Cap	2
20	1457799	Poppet	1
21	1457801	Screw	1
22	1457800	Spacer	1
23	.....	Plug	2
24	1463485	Sleeve.....	2
	ab 1460539	O-Ring	2
	1376427	Flange Kit (Includes Items 2-4, 9).....	1
	1457794	Load Sense Kit (Includes Items 13, 18-19, 21, 23)	1
	1371746	Seal Kit (Includes Items 2-3, 5-6, 8)	1

FOOTNOTES:**a** Included in Seal Kit 1371746**b** Not Illustrated

[illegible]

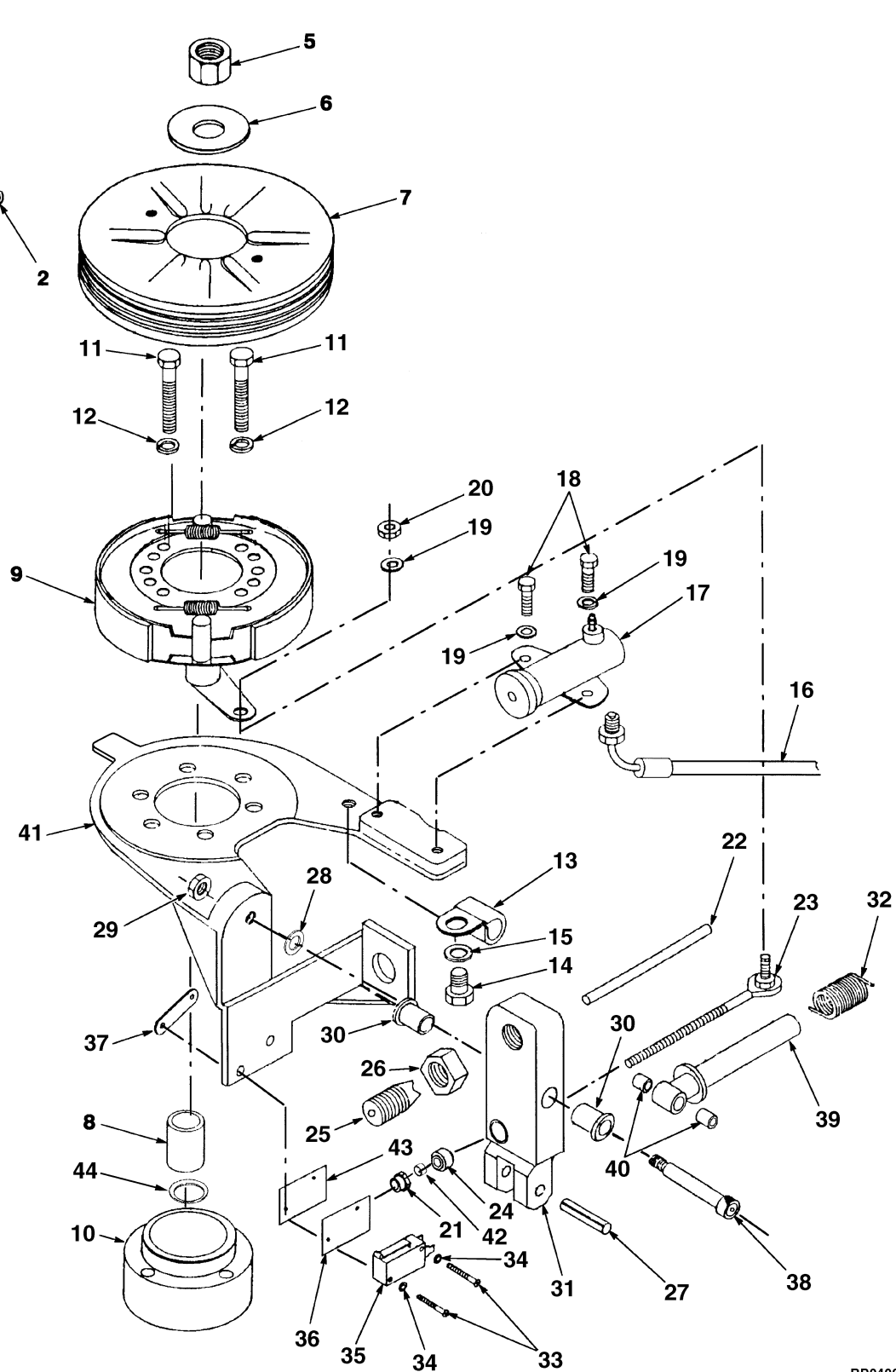
5

BRAKE/ACCELERATOR SYSTEM

SECTION 5
BRAKE/ACCELERATOR SYSTEM

DESCRIPTION	PAGE
BRAKE	5-5
BRAKE PEDAL AND OPERATOR SENSING SWITCH	5-8
BRAKE SYSTEM.....	5-2
MASTER CYLINDER	5-10
SLAVE CYLINDER	5-6

BRAKE SYSTEM (Figure 5-1)



BP040010

BRAKE SYSTEM

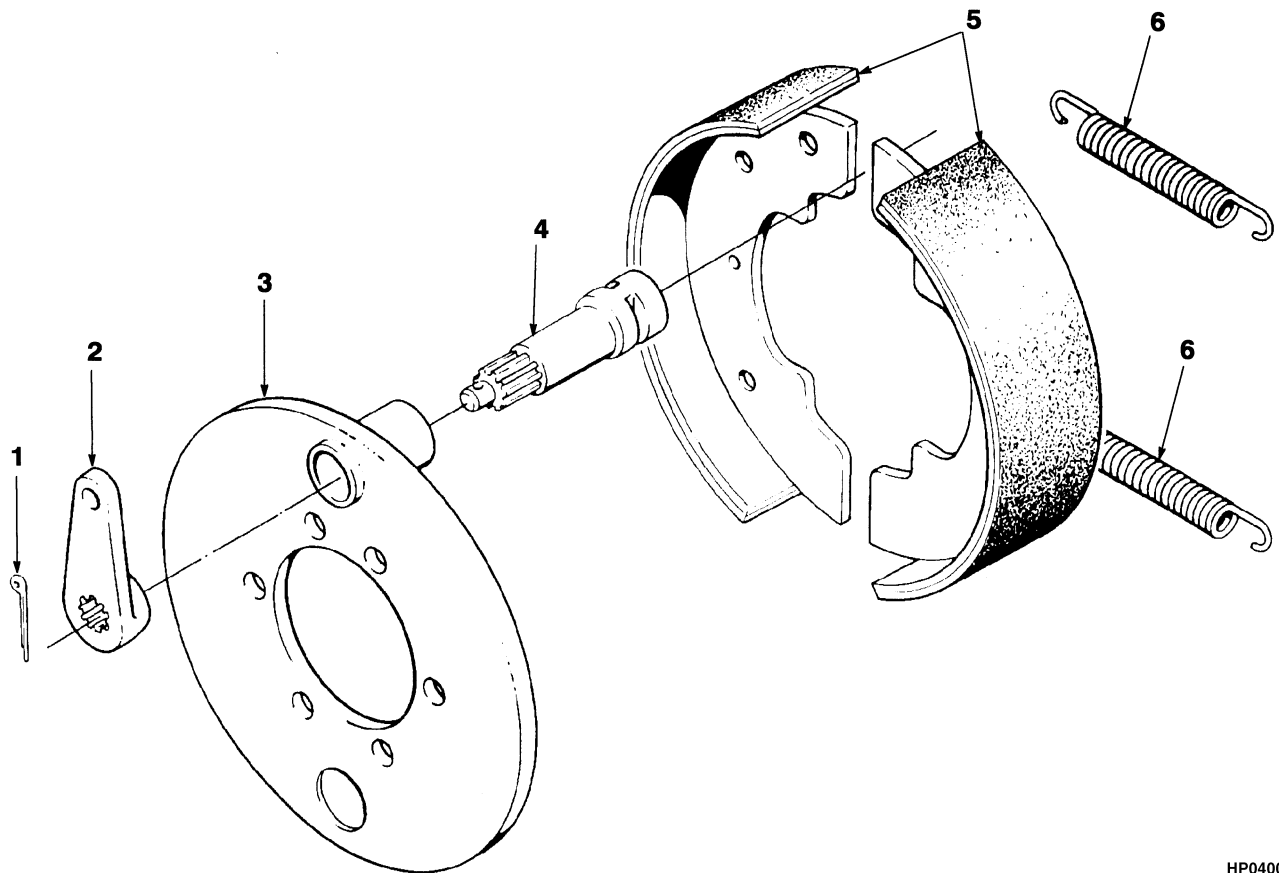
ITEM	PART NO.	DESCRIPTION	QTY
	2046444	Drive Brake	1
1	2308077	Hose	1
2	137852	Strap Clamp.....	3
3	2305052	Reservoir	1
3	15054	Nut	1
3	15154	Lockwasher.....	1
3	16729	Screw.....	1
3	218006	Nut	1
4	2035168	Clamp	1
5	221357	Nut	1
6	221777	Washer	1
7	2308342	Brake Drum.....	1
8	1513858	Spacer	1
8	2034912	Spacer (36 Volt)	1
9	2309129	Brake Assembly (☞ Figure 5-2)	1
10	2034913	Spacer	1
11	2035524	Capscrew.....	4
12	177946	Washer	2
13	2303739	Clamp	2
14	15156	Lockwasher.....	1
15	16372	Capscrew.....	1
16	2304627	Hose	1
16	2308077	Hose (With Fittings)	1
17	a 2303558	Slave Cylinder (☞ Figure 5-3)	1
18	a 16378	Capscrew.....	2
19	a 15154	Lockwasher.....	3
20	a 15024	Nut	1
21	a 15106	Nut	1
22	a 2310435	Push Rod.....	1
23	a 2309466	Actuation Rod	1
24	a 2302281	Bearing	1
25	a 221059	Screw	6
26	a 15019	Nut	4
27	a 2309200	Pin	2
28	a 221767	Washer	1
29	a 15001	Nut	1
30	a 2310707	Bushing.....	2
31	a 2305066	Control Bar	1
32	a 2303729	Spring	1
33	a 220277	Screw.....	2
34	a 18419	Lockwasher.....	2
35	a 2047826	Switch Assembly (With connector)	1
36	a 374160	Insulator.....	1
37	a 2309196	Plate	1
38	a 2309315	Bolt	1
39	a 2311112	Guide	1
40	2305803	Bushing	2
41	a 1517473	Bracket.....	1
42	a 2305879	Tube	1

BRAKE SYSTEM

ITEM	PART NO.	DESCRIPTION	QTY
43	a 2311041	Spacer	1
44	15155	Lockwasher.....	2

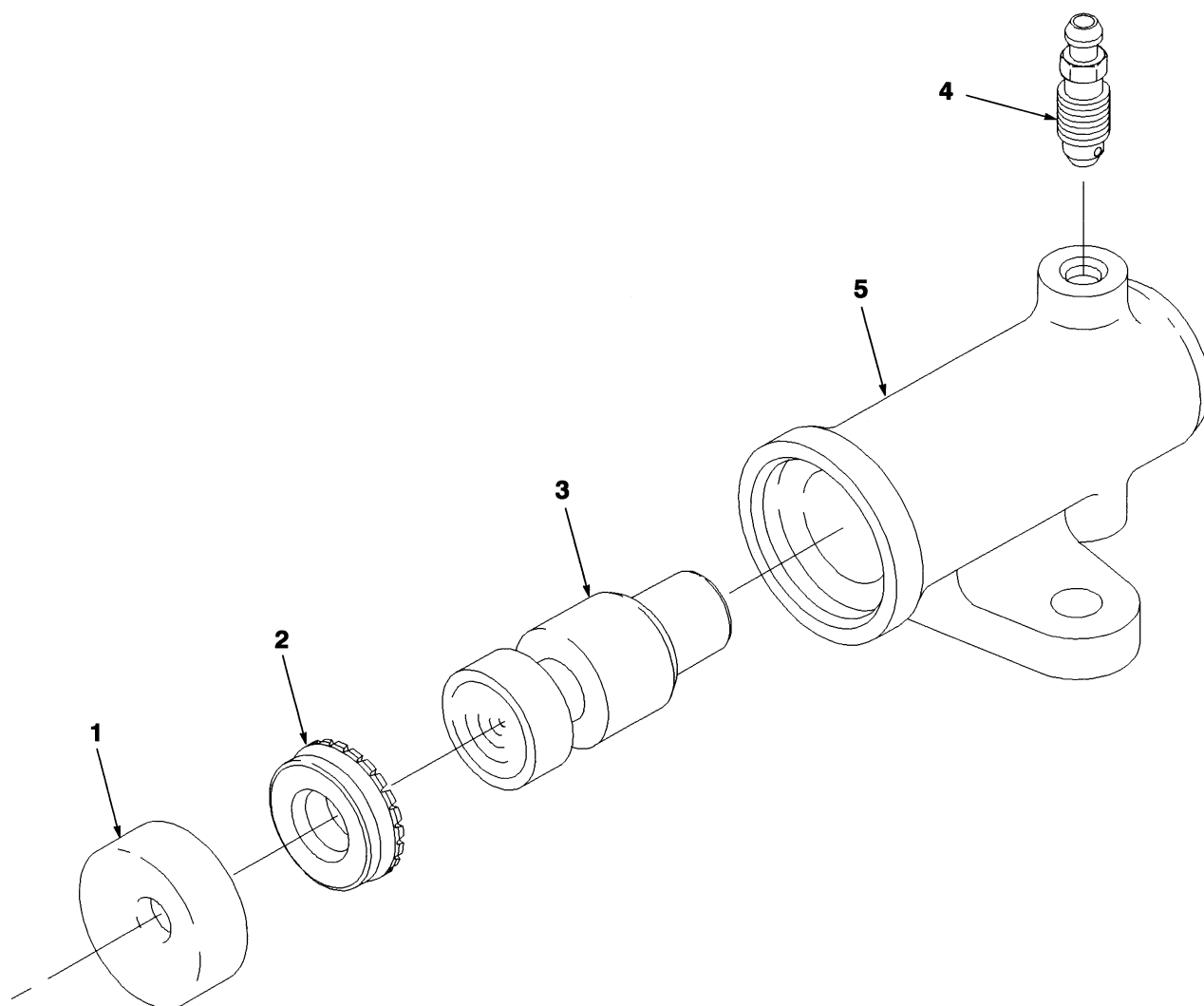
FOOTNOTES:

a Included in Drive Brake Assembly

BRAKE (Figure 5-2)

HP040037

ITEM	PART NO.	DESCRIPTION	QTY
	2309129	Brake Assembly	1
1	1308529	Clip	1
2	380766	Lever.....	1
3	1308526	Backing Plate	1
4	1308527	Camshaft.....	1
5	1327196	Shoe and Lining	2
6	1308531	Spring.....	2

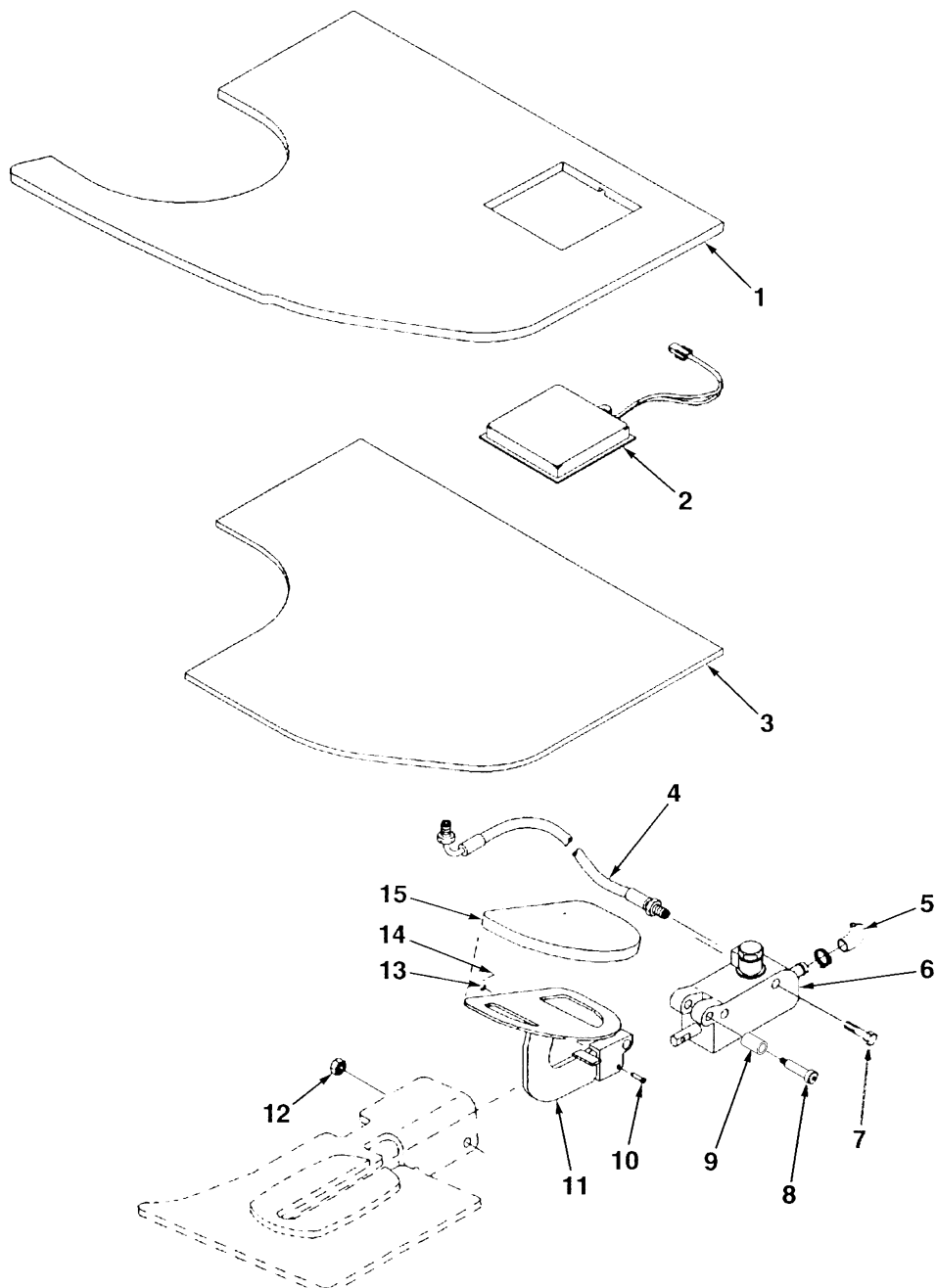
SLAVE CYLINDER (Figure 5-3)

HP040038

SLAVE CYLINDER

ITEM	PART NO.	DESCRIPTION	QTY
	2303558	Slave Cylinder.....	1
1	2307827	Boot (Rubber).....	1
2	2056297	Cup.....	1
3	2056299	Piston	1
4	28320	Bleed Screw	1
5	2056298	Casting	1
	2304598	Repair Kit (Includes Items 1-3)	1

BRAKE PEDAL AND OPERATOR SENSING SWITCH (Figure 5-4)



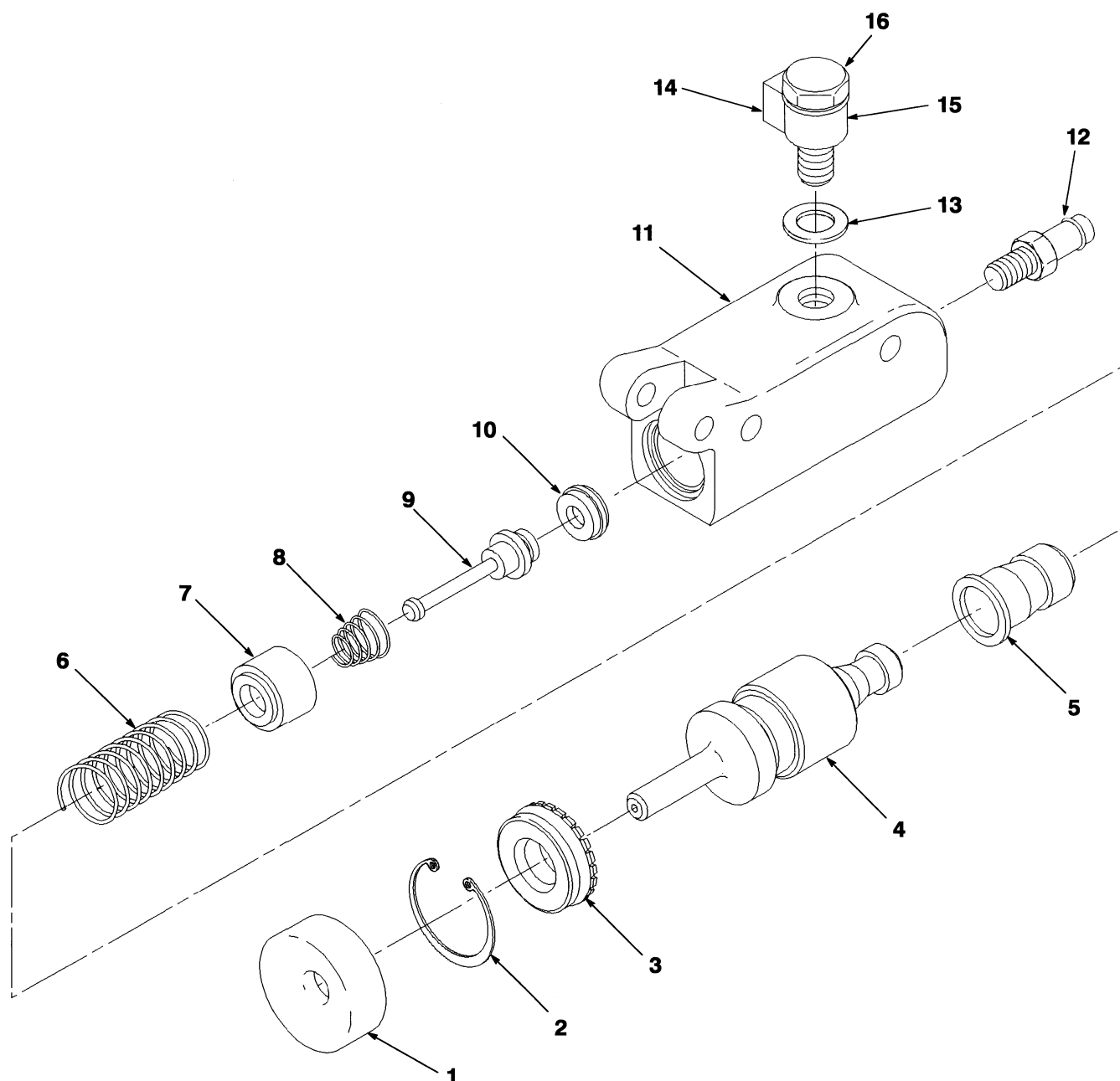
HP040339

BRAKE PEDAL AND OPERATOR SENSING SWITCH**KEY:****A: Before 6/02****B: After 6/02**

ITEM	PART NO.	DESCRIPTION	QTY	
			A	B
1	1460427	Floormat	1	1
2	2032026	Switch Assembly.....	1	1
3	1498078	Floor Mat	1	1
3	1473819	Floorplate.....	1	1
4	2304627	Hose	1	1
5	2308077	Hose	1	1
6	1457172	Brake Assembly (☞ Figure 5-5)	1	1
6	2305783	Master Cylinder (☞ Figure 5-5)	1	1
7	18513	Capscrew.....	2	..
7	15155	Lockwasher	2	..
7	136704	Capscrew.....	..	2
7	292681	Lockwasher	..	2
8	1463593	Bolt	1	1
8	320157	Washer	1	1
8	302399	Nut	1	1
9	1463586	Bushing.....	1	1
10	372650	Rod End Pin	1	1
11	1457122	Brake Pedal	1	1
12	15055	Nut	2	..
13	15172	Washer	1	1
14	15200	Cotter Pin.....	1	1
15	1457180	Pad	1	1
	a 2046308	Clip (Wire).....	1	1

FOOTNOTES:**a** Not Illustrated

MASTER CYLINDER (Figure 5-5)



HP040041

MASTER CYLINDER

ITEM	PART NO.	DESCRIPTION	QTY
	1457172	Brake Assembly	1
	2305783	Master Cylinder	1
1	2307827	Boot.....	1
2	.....	Retaining Ring.....	1
3	2307966	Cup.....	1
4	.....	Piston	1
5	2302762	Retainer.....	1
6	2307220	Spring.....	1
7	2309066	Valve Retainer	1
8	2304625	Spring.....	1
9	2306376	Valve Stem	1
10	2302554	Seal	1
11	.....	Cylinder Body	1
12	2304468	Connector.....	1
13	3032404	Gasket	1
14	111404	Fitting.....	1
15	2310334	Gasket	1
16	2311007	Bolt	1
	2303804	Repair Kit (Includes Items 2, 4)	1

[illegible]

6

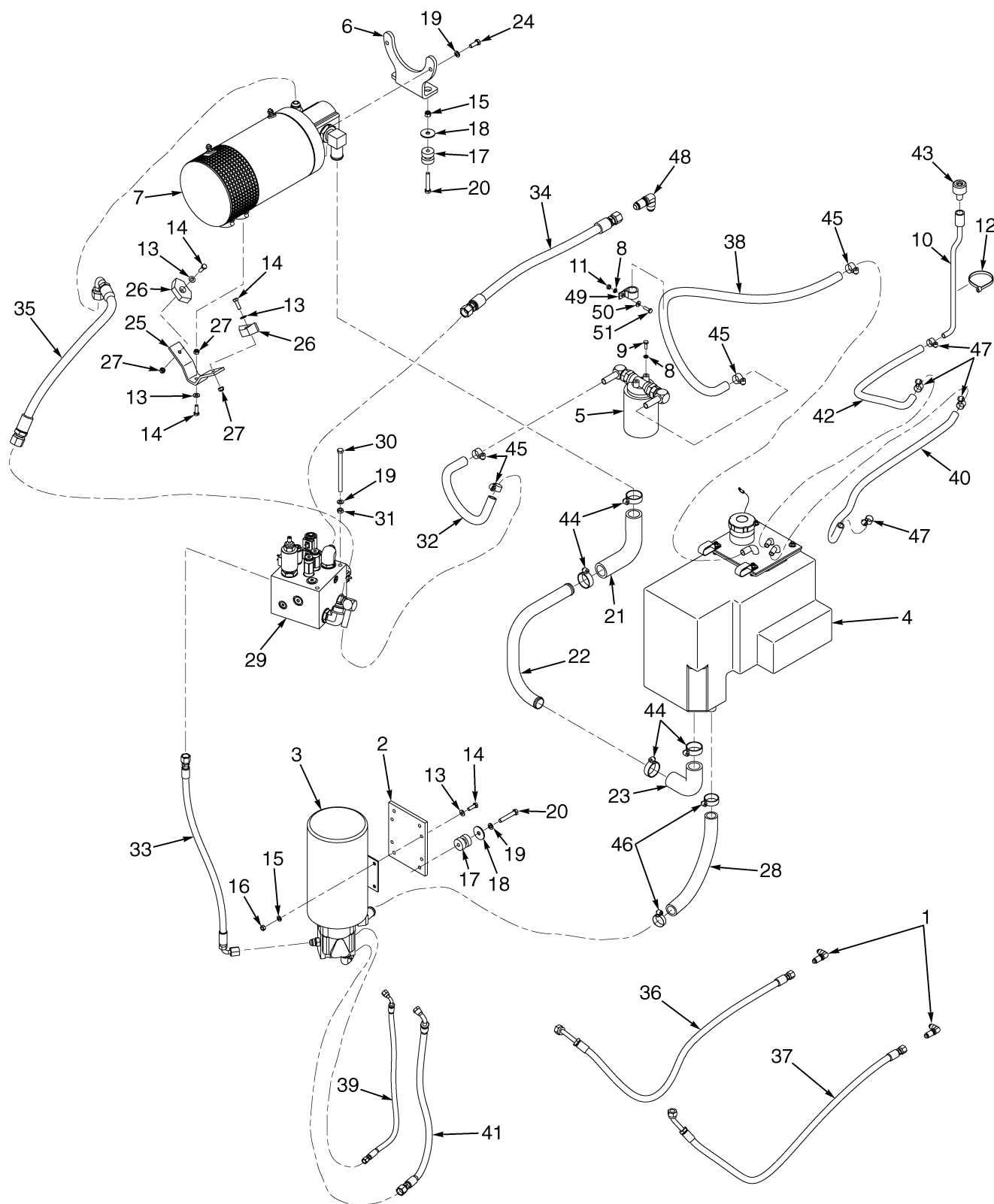
HYDRAULIC SYSTEM

SECTION 6

HYDRAULIC SYSTEM

DESCRIPTION	PAGE
DOUBLE REACH HYDRAULICS	6-20
HYDRAULIC CONTROL VALVE	
D/B 05/2002⇒	6-8
⇒D/B 05/2002	6-6
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HYDRAULIC SYSTEM (Figure 6-1)



HP150524

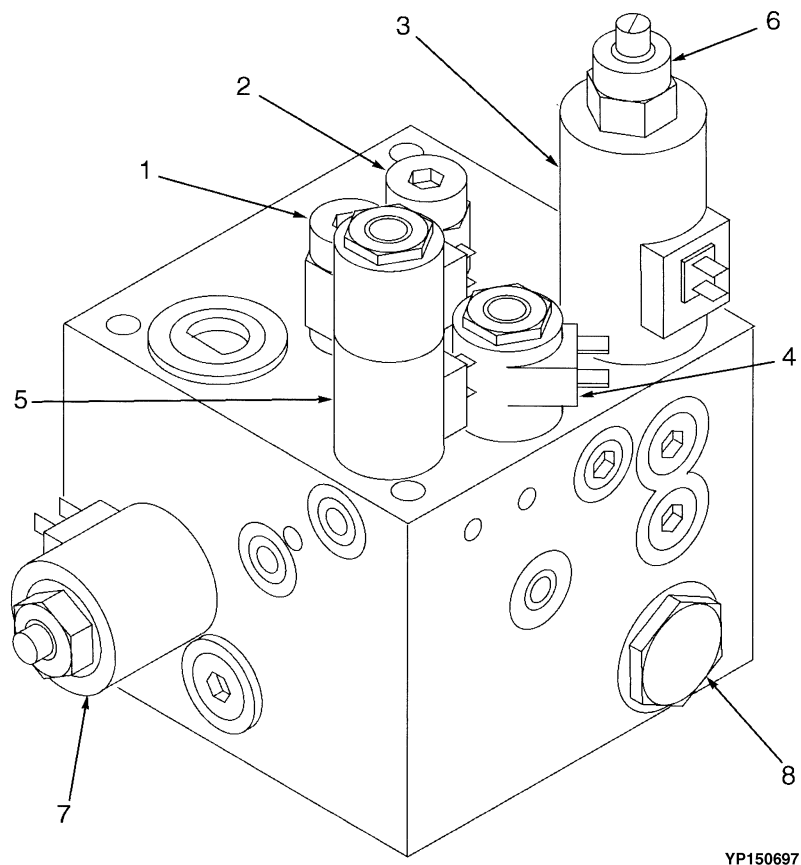
HYDRAULIC SYSTEM

ITEM	PART NO.	DESCRIPTION	QTY
1	16457	Fitting.....	2
2	1457251	Plate	1
3	.....	Hydraulic Pump and Motor Assembly (☞ Figure 6-5)	1
4	1457031	Hydraulic Tank Assembly (12.5 in. Battery Compartment) (☞ Figure 6-4)	1
	173247	Clamp	1
4	1457032	Hydraulic Tank Assembly (14.6/16.6 in. Battery Compartment) (☞ Figure 6-4)	1
	2304746	Clamp	2
5	1457029	Oil Filter Assembly.....	1
5	2302067	Filter Head.....	1
5	2310104	Filter Element	1
6	1464525	Bracket.....	1
7	1457202	Lift Pump and Motor (24 Volt - E)	1
7	1457203	Lift Pump and Motor (24 Volt - EE)	1
7	1457204	Lift Pump and Motor (36 Volt - E)	1
7	1457205	Lift Pump and Motor (36 Volt - EE)	1
7	15156	Lockwasher	1
7	15156	Lockwasher	1
7	16805	Capscrew	1
7	16805	Capscrew	1
8	15154	Lockwasher.....	4
9	18460	Capscrew.....	2
10	2035149	Tube	1
11	15054	Nut	1
12	2033612	Tie-Down	2
13	18515	Washer	3
14	18497	Capscrew.....	3
15	15155	Lockwasher.....	4
16	15055	Nut	4
17	2310430	Isolator.....	2
18	1371287	Washer	2
19	15156	Lockwasher.....	2
20	16379	Capscrew.....	2
21	1457333	Elbow.....	1
22	1457335	Tube	1
23	2307976	Hose	1
24	16634	Capscrew.....	2
25	1506111	Bracket.....	1
26	355327	Bumper	2
27	15114	Nut	3
28	375988	Hose	AR
29	2043243	Hydraulic Control Valve (☞ Figure 6-2)	1
29	2052692	Hydraulic Control Valve (☞ Figure 6-3)	1
30	18552	Capscrew.....	2
31	15056	Nut	2
32	2014915	Hose	1
33	2047194	Hose	1
34	2308384	Hose Assembly.....	1
34	1488072	Hose Assembly.....	1
34	1488073	Hose Assembly.....	1
34	1488195	Hose Assembly.....	1
35	2046445	Hose	1

HYDRAULIC SYSTEM

ITEM	PART NO.	DESCRIPTION	QTY
36	1488197	Hose Assembly.....	1
37	1488193	Hose Assembly.....	1
38	280313	Hose	1
39	1488070	Hose Assembly.....	1
40	110279	Hose	1
41	2045878	Hose Assembly.....	1
42	1460674	Hose	1
43	121452	Breather.....	1
44	119236	Clamp	4
45	130845	Clamp	8
46	127045	Clamp	2
47	130845	Clamp	8
48	16459	Fitting.....	1
49	198678	Clamp	1
50	15127	Washer	1
51	18462	Capscrew.....	1

[illegible]

HYDRAULIC CONTROL VALVE (Figure 6-2)
(⇒D/B 05/2002)

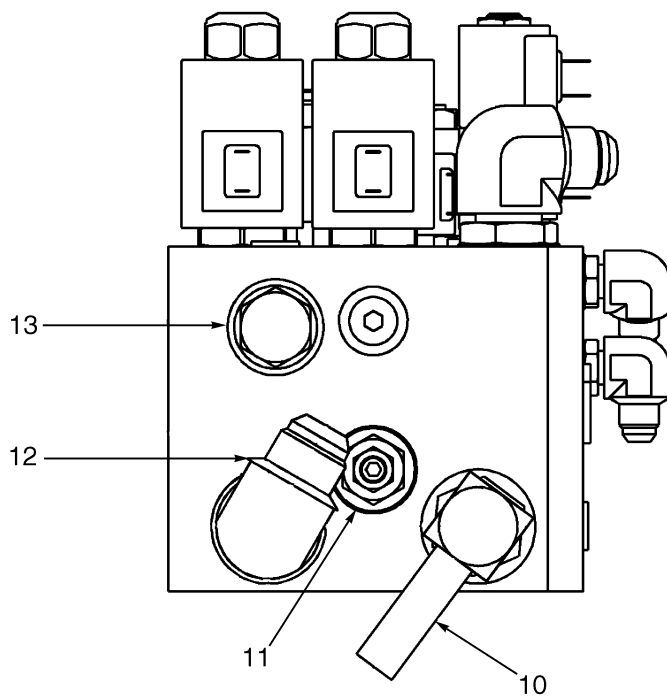
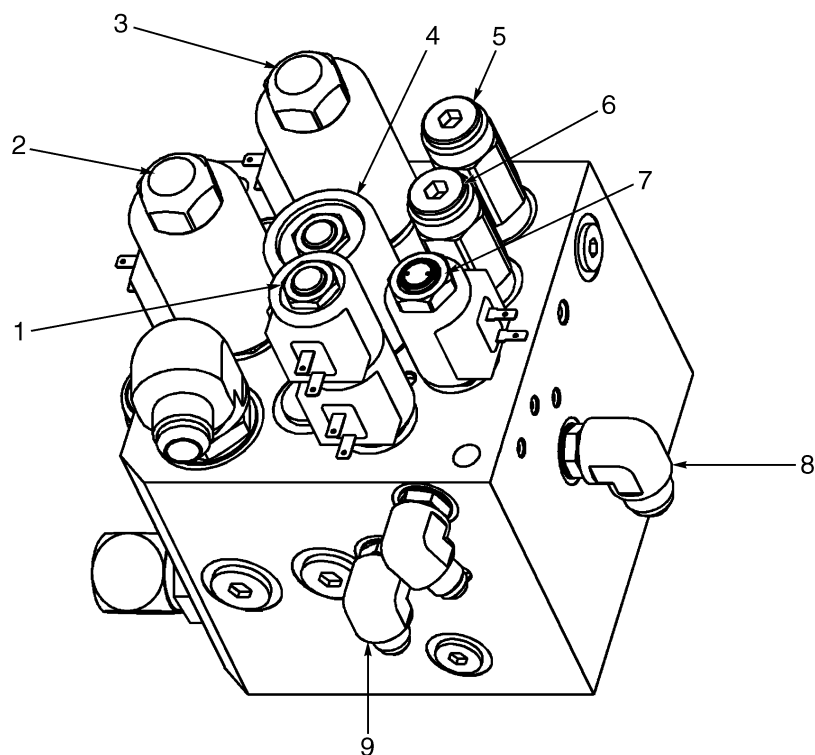
YP150697

HYDRAULIC CONTROL VALVE
(⇒D/B 05/2002)

ITEM	PART NO.	DESCRIPTION	QTY
	2043243	Hydraulic Control Valve	1
1	1498194	Relief Valve (Auxiliary)	1
2	1498193	Relief Valve (Lift and Lower).....	1
3	1498253	Proportional Valve (Lift and Lower)	1
3	1496175	Coil (24 Volt).....	1
4	1498195	Proportion Control (Auxiliary)	1
4	1498196	Coil	1
5	1522320	Directional Control Valve	1
6	1499813	Cap.....	1
7	1498254	Check Valve.....	1
7	2045620	Coil (24 Volt).....	2
8	1498192	Check Valve.....	1
a	2047855	Flow Valve	1

FOOTNOTES:**a** Not illustrated

HYDRAULIC CONTROL VALVE (Figure 6-3) (D/B 05/2002⇒)



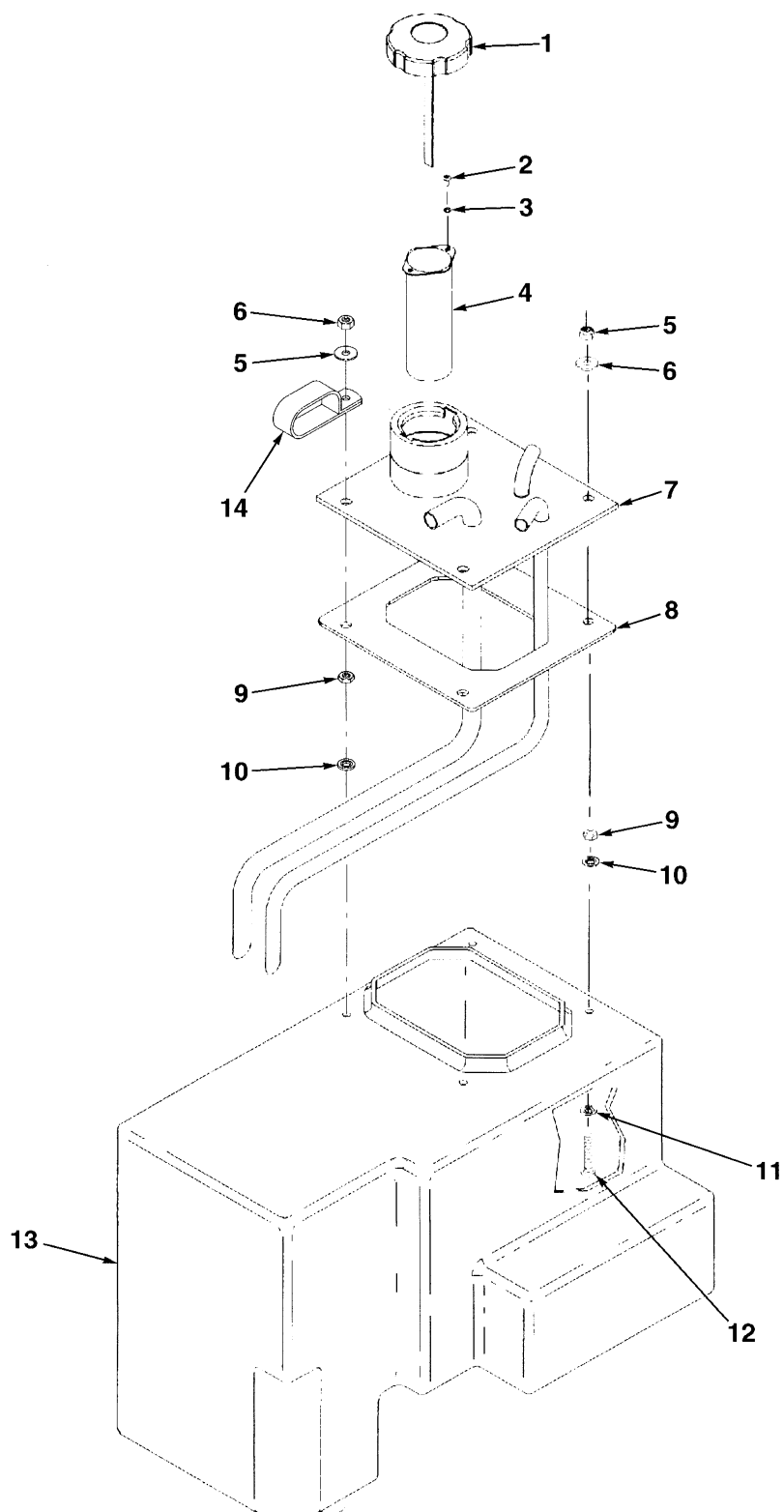
HP140005

HYDRAULIC CONTROL VALVE
(D/B 05/2002⇒)

ITEM	PART NO.	DESCRIPTION	QTY
	2052692	Hydraulic Control Valve	1
1	1522320	Directional Control Valve	1
2	1524151	Proportional Valve	1
3	2045618	Flow Valve	1
4	1335543	Solenoid Valve.....	1
5	2045615	Relief Valve	1
6	1524152	Relief Valve	1
7	1498195	Proportion Control (Auxiliary).....	1
8	96521	Fitting.....	1
9	16558	Fitting.....	2
10	2307204	Fitting.....	1
11	1524150	Needle Valve	1
12	16561	Fitting.....	1
13	1524149	Check Valve.....	1
	a 15156	Lockwasher	2
	a 18552	Capscrew	2
	a 15056	Nut.....	2
	a 15134	Washer	2
	a 1520646	Relay Bracket	1

FOOTNOTES:**a** Not Illustrated

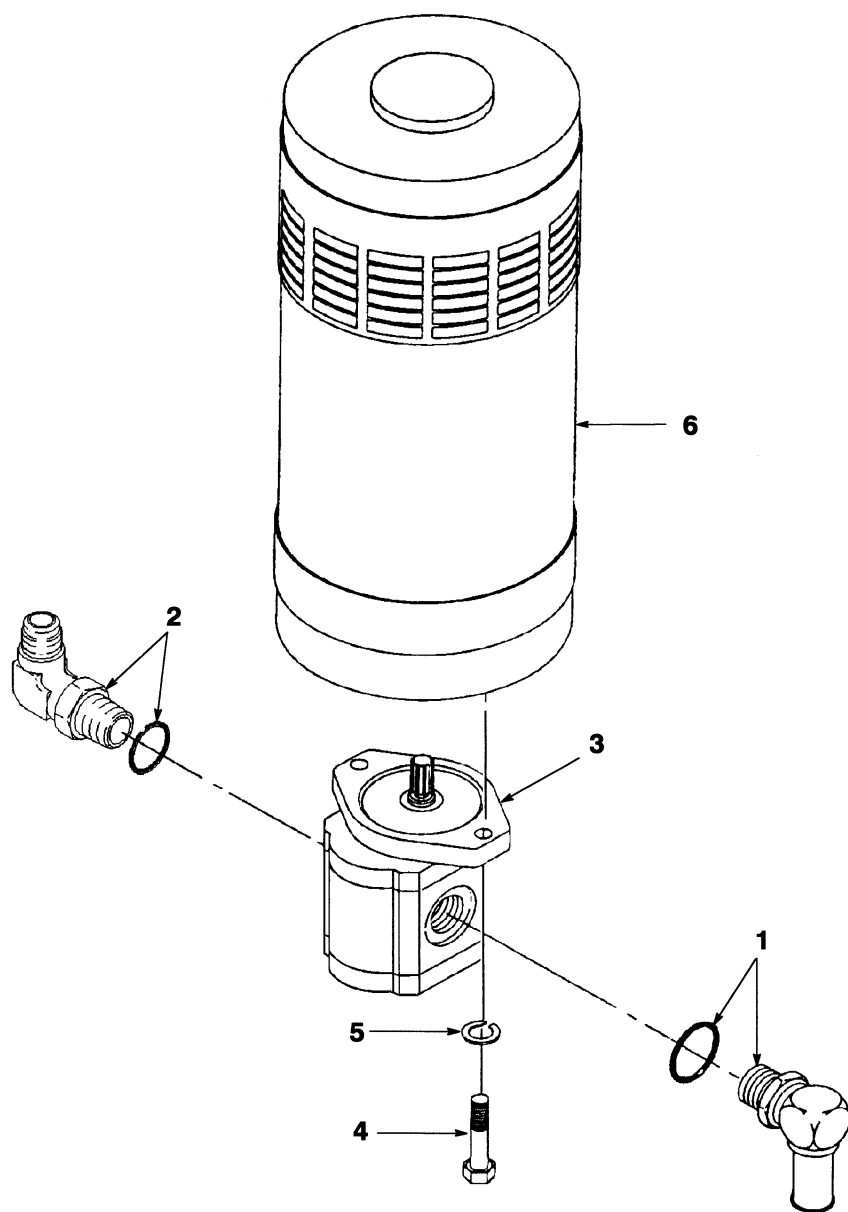
HYDRAULIC TANK ASSEMBLY (Figure 6-4)



HP150061

HYDRAULIC TANK ASSEMBLY**KEY:****A: 12.5 in. Battery Compartment****B: 14.6 and 16.6 in. Battery Compartment**

ITEM	PART NO.	DESCRIPTION	QTY	
			A	B
	1457031	Hydraulic Tank Assembly.....	1	..
	1457032	Hydraulic Tank Assembly.....	..	1
1	1458183	Cap.....	1	1
2	220283	Screw	2	2
3	15151	Lockwasher	2	2
4	2035150	Strainer.....	1	1
5	15113	Nut.....	4	4
6	197068	Washer	4	4
7	1457033	Cover.....	1	1
8	1457041	Gasket.....	1	1
9	15000	Nut.....	4	4
10	1454517	Seal	4	4
11	15127	Washer	4	4
12	220361	Screw	4	4
13	1456440	Hydraulic Tank.....	1	..
13	1456443	Hydraulic Tank.....	..	1
14	173247	Clamp.....	2	..
14	2304746	Clamp.....	..	2

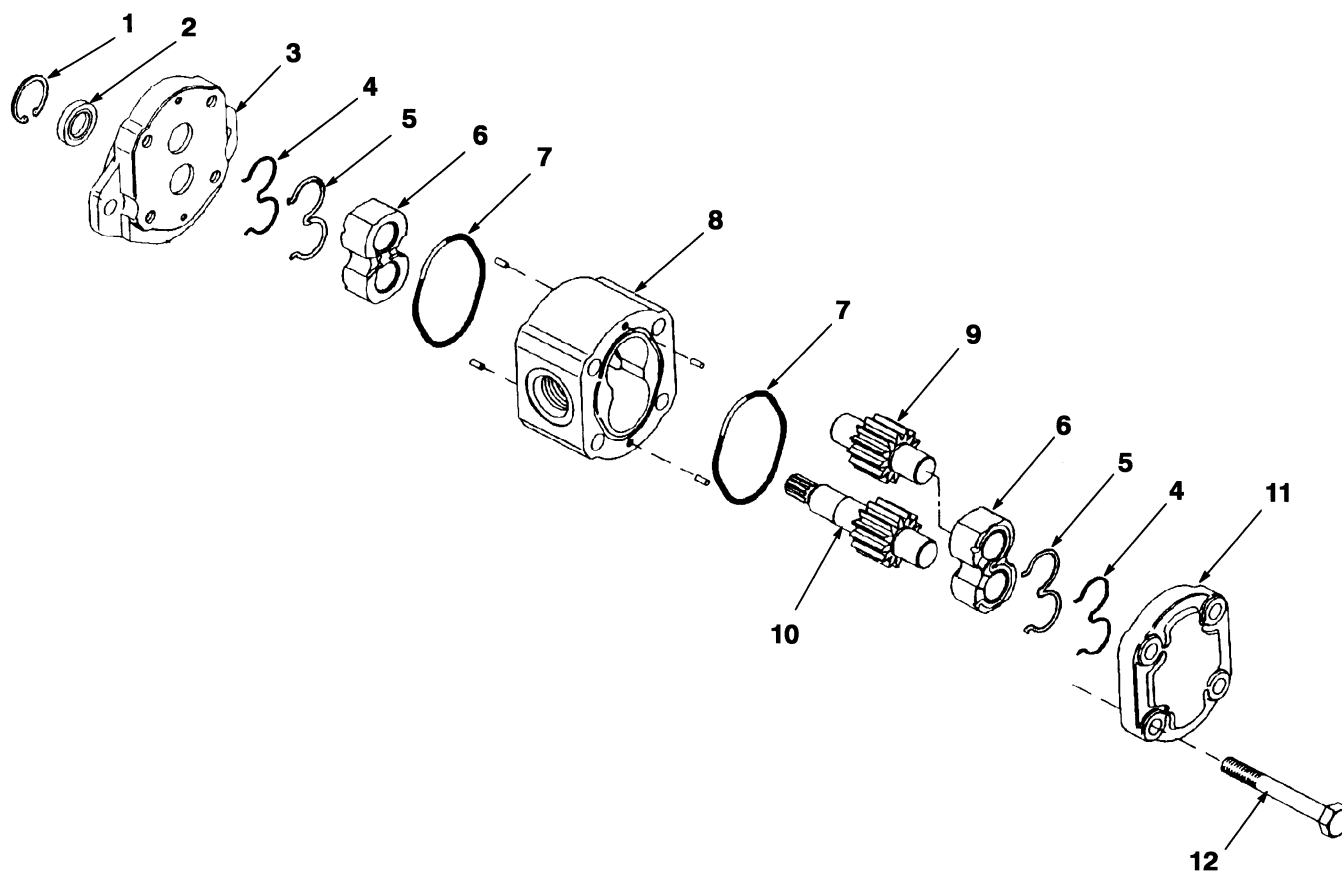
HYDRAULIC PUMP AND MOTOR (Figure 6-5)

HP150062

HYDRAULIC PUMP AND MOTOR**KEY:****A: 24 Volt****B: 36 Volt**

ITEM	PART NO.	DESCRIPTION	QTY	
			A	B
	1457202	Lift Pump and Motor ("E")	1	..
	1457203	Lift Pump and Motor ("EE")	1	..
	1457204	Lift Pump and Motor ("E")	..	1
	1457205	Lift Pump and Motor ("EE")	..	1
1	1350273	Fitting	1	1
1	16486	O-Ring	1	1
2	111331	Fitting	1	..
2	16485	O-Ring	1	..
2	16561	Fitting	..	1
2	16486	O-Ring	..	1
3	.....	Hydraulic Pump (☞ Figure 6-6)	1	1
4	16634	Capscrew	2	2
5	15156	Lockwasher	2	2
6	.....	Hydraulic Motor (☞ Figure 6-7)	1	1

HYDRAULIC PUMP (Figure 6-6)



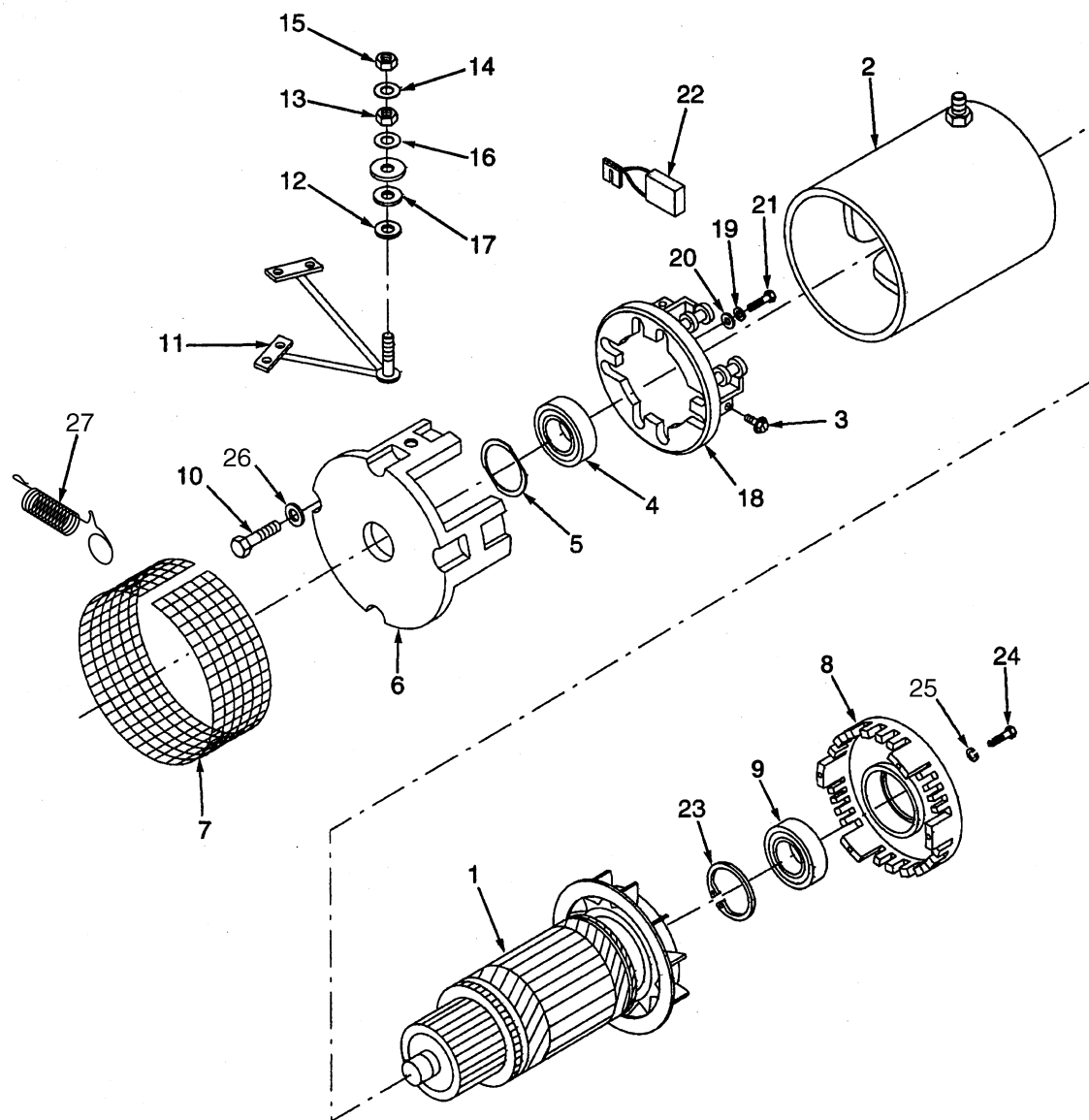
HP150063

HYDRAULIC PUMP**KEY:****A: 24 Volt****B: 36 Volt**

ITEM	PART NO.	DESCRIPTION	QTY	
			A	B
	2041866	Hydraulic Pump	1	..
	2041868	Hydraulic Pump	..	1
1	2303239	Retaining Ring	1	1
2	1371741	Seal	1	1
3	2308872	Flange	1	1
4	1371744	Back-Up Ring	4	4
5	1371743	Seal	4	4
6	.....	Bushing	2	2
7	2052235	O-Ring	2	2
8	.....	Pump Body	1	1
9	.....	Idler Gear	1	1
10	.....	Drive Gear	1	1
11	1376425	Cover	1	1
12	2310978	Bolt	4	..
12	2308497	Bolt	..	4
	ab 1460539	O-Ring	2	2
	1371746	Seal Kit (Includes Items 1-2, 4-5, 7)	1	1

FOOTNOTES:**a** Included in Seal Kit 1371746**b** Not Illustrated

HYDRAULIC MOTOR (Figure 6-7)



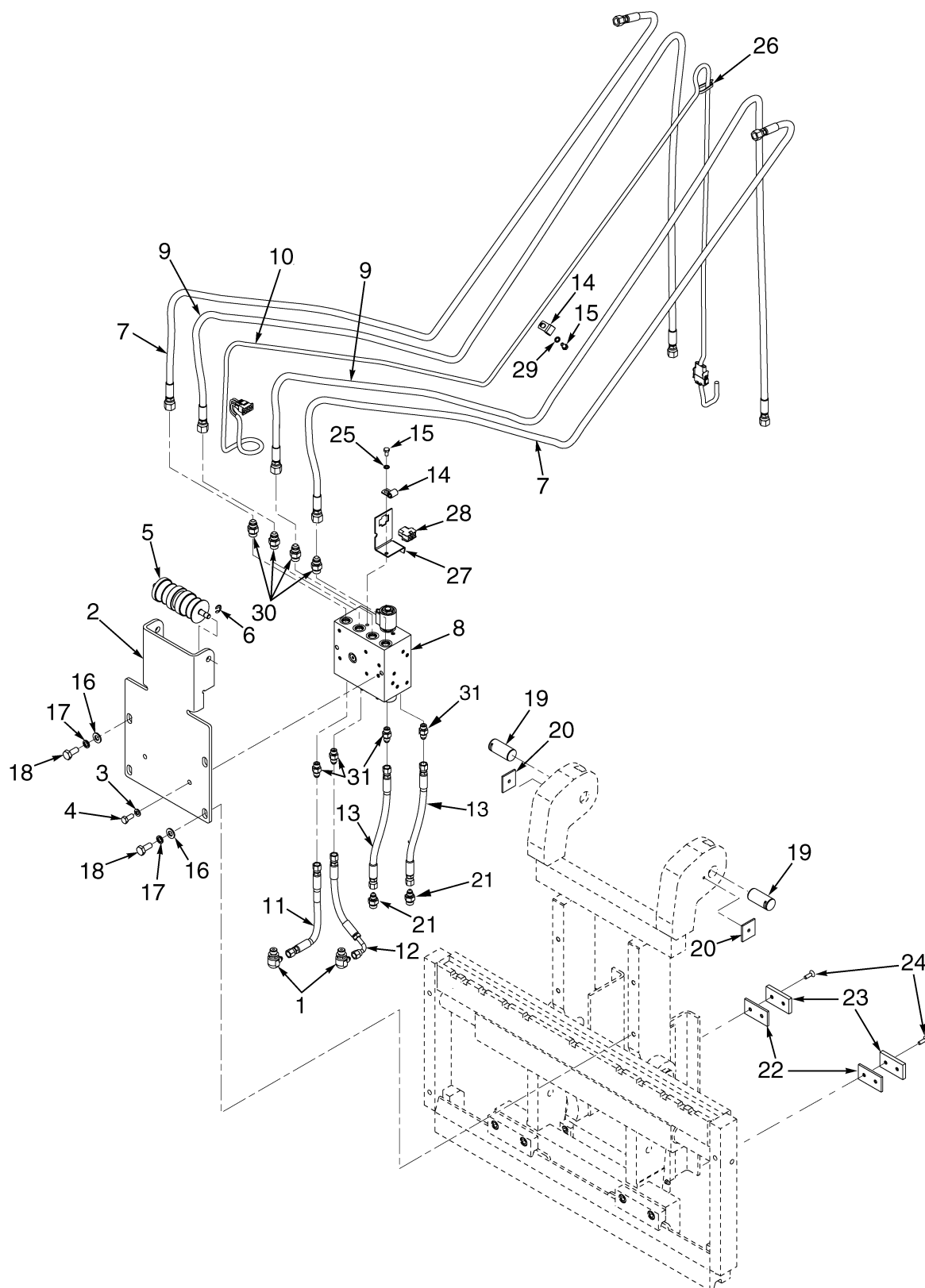
BP150001

HYDRAULIC MOTOR**KEY:****A: 24 Volt****B: 36 Volt**

ITEM	PART NO.	DESCRIPTION	QTY	
			A	B
	2045530	Hydraulic Motor.....	1	..
	2045531	Hydraulic Motor.....	..	1
1	1502172	Armature (With Fan)	1	..
1	1502118	Armature (With Fan)	..	1
2	1502173	Frame	1	..
2	1502169	Frame	1	1
3	1502098	Screw	8	8
4	1502103	Ball Bearing	1	1
5	1502110	Washer	1	1
6	1502096	Bearing	1	1
7	1502114	Cover	1	1
8	1502091	Bearing	1	1
9	1502092	Ball Bearing	1	1
10	1502111	Screw	4	4
11	1502102	Connection	1	1
12	1502105	Washer (Tooth)	1	1
13	1494610	Nut	1	1
14	1502106	Lockwasher	1	1
15	292654	Nut	1	1
16	1502108	Disc (Spring)	1	1
17	1502104	Bushing	2	2
18	1502097	Brush Holder	1	1
19	1502101	Lockwasher	4	4
20	1502100	Washer	4	4
21	1502099	Screw	4	4
22	1502113	Brush	8	8
23	1502093	Lockring	1	1
24	1502094	Screw	6	6
25	1502095	Washer (Spring)	6	6
26	1502095	Washer (Spring)	4	4
27	1502115	Spring Cover	2	2
	a 1495583	Cover (Drive End)	1	1
	b 1495584	Cover (CE)	1	1
	b 1499928	Cover (CE)	1	1
	b 2303700	Nut	2	2
	b 220361	Screw	2	2
	1500740	Enclosed Band Kit ("EE")	1	1

FOOTNOTES:**a** Not Illustrated**b** Not Illustrated/Included in Enclosure Band Kit 1500740

SINGLE REACH HYDRAULICS (Figure 6-8)

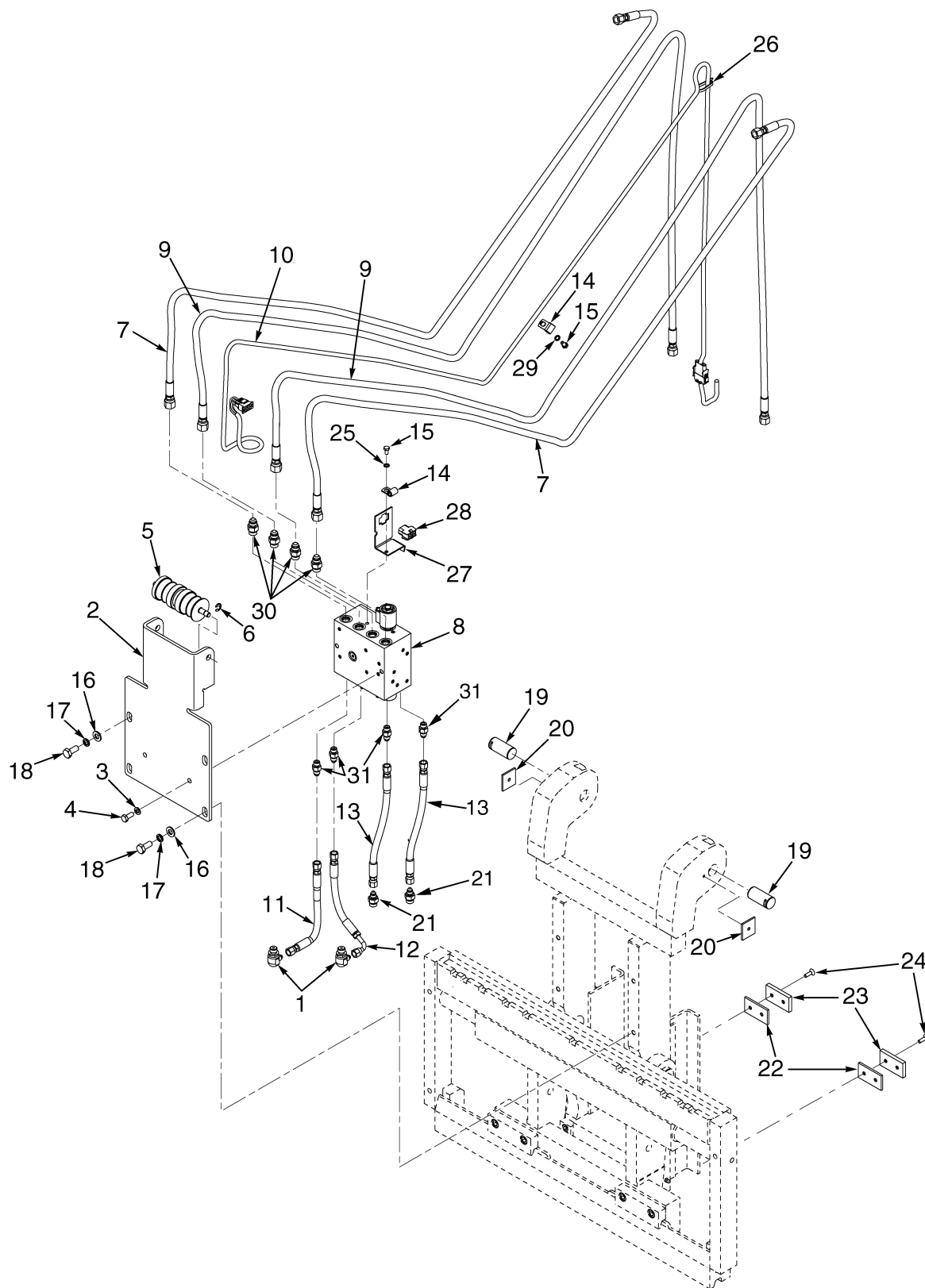


BP170024

SINGLE REACH HYDRAULICS

ITEM	PART NO.	DESCRIPTION	QTY
1	201766	Fitting (O-Ring).....	2
2	1479540	Cover	1
3	292681	Lockwasher	8
4	136681	Capscrew	2
5	1487212	Sheave	1
6	12898	Snap Ring.....	2
7	1487927	Hose Assembly	1
8	1476815	Valve Assembly (With Side-Shift)	1
8	1476620	Valve Assembly (Without Side-Shift)	1
8	2045616	Counterbalance.....	1
8	2047108	Cartridge Valve	3
8	1322441	Solenoid Coil.....	1
8	1335546	Plug.....	2
8	2047106	Plug.....	18
8	2046612	Amp Wire Seal (6 Circuit)	1
9	1487928	Hose Assembly	2
10	1487933	Cable Assembly	1
11	1491705	Hose Assembly	1
12	2304717	Hose	1
13	1491705	Hose Assembly	2
14	2304805	Clamp	6
15	287817	Capscrew	8
16	296420	Washer	4
17	293781	Washer	4
18	287854	Capscrew	4
19	1492291	Pin	2
20	1495599	Plate	2
21	17753	Fitting (O-Ring).....	2
22	2306246	Shim	AR
23	2311976	Stop (Poly).....	2
24	296216	Capscrew	4
25	296379	Washer	4
26	2046614	Wire Tie	1
27	1498180	Bracket	1
28	2311932	Cap.....	2
29	296379	Washer	2
30	16540	Fitting (O-Ring).....	4
31	16538	Fitting (O-Ring).....	2

DOUBLE REACH HYDRAULICS (Figure 6-9)



BP170024

DOUBLE REACH HYDRAULICS

ITEM	PART NO.	DESCRIPTION	QTY
1	201766	Fitting (O-Ring)	2
2	1479540	Cover	1
3	292681	Lockwasher	8
4	136681	Capscrew	2
5	1487212	Sheave	1
6	12898	Snap Ring	2
7	1490559	Hose Assembly	1
8	1476815	Valve Assembly (With Side-Shift)	1
8	1476620	Valve Assembly (Without Side-Shift)	1
8	2045616	Counterbalance	1
8	2047108	Cartridge Valve	3
8	1335546	Plug	2
8	2047106	Plug	18
9	1490560	Hose Assembly	2
10	1490409	Wire Assembly	1
11	2304717	Hose	1
12	1491705	Hose Assembly	1
13	2304717	Hose	2
14	2304805	Clamp	6
15	292501	Capscrew	8
16	296420	Washer	4
17	292680	Lockwasher	4
18	287854	Capscrew	4
19	1492291	Pin	2
20	1495599	Plate	2
20	293601	Capscrew	2
20	292680	Lockwasher	2
21	17753	Fitting (O-Ring)	2
22	2306246	Shim	AR
23	2311976	Stop (Polyurethane)	2
23	1497736	Spacer	1
24	296216	Capscrew	4
25	296379	Washer	4
26	2046614	Wire Tie	1
27	1498180	Bracket	1
28	2311932	Cap	2
29	296379	Washer	2
30	16540	Fitting (O-Ring)	4
31	16538	Fitting (O-Ring)	2

[illegible]

7

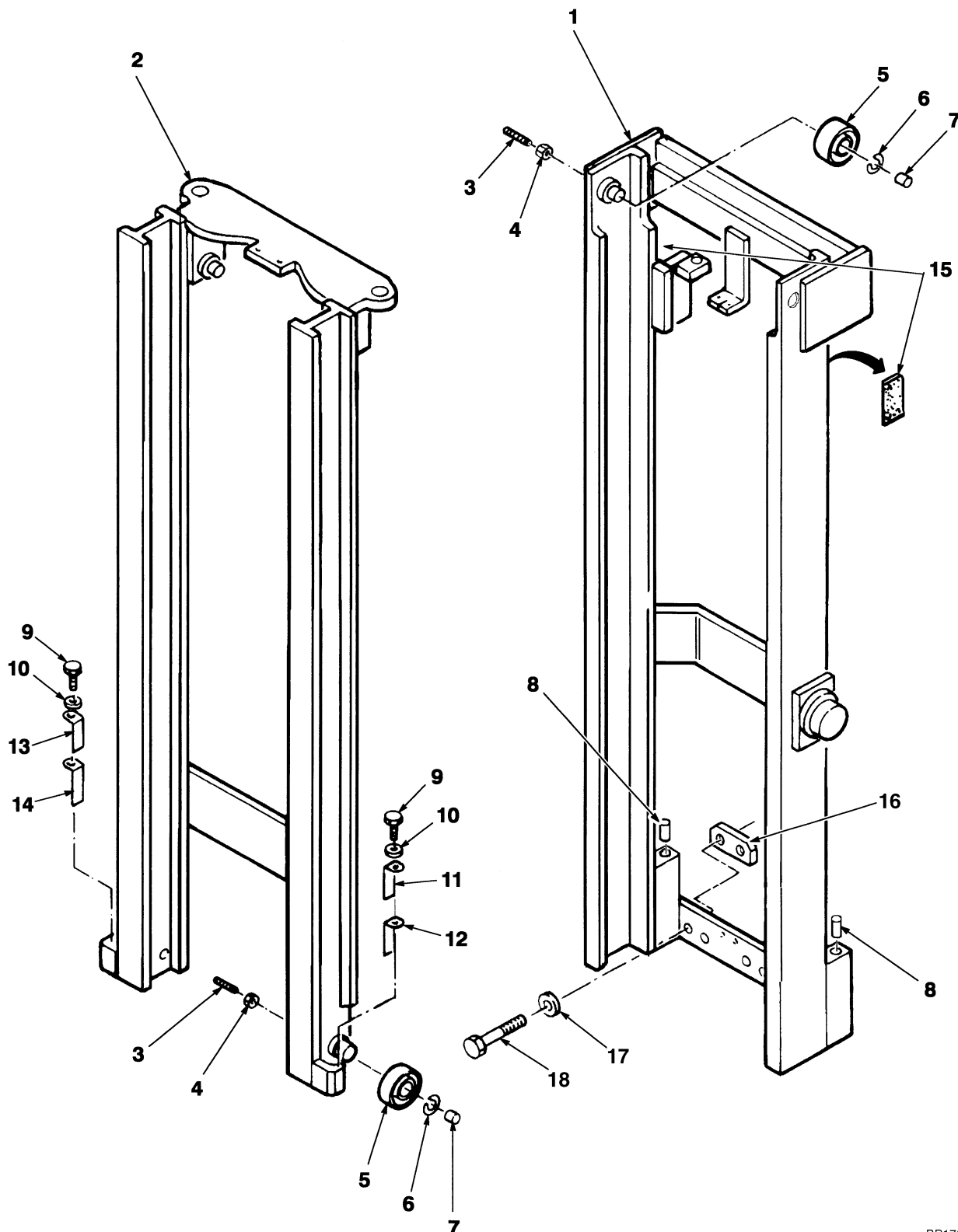
MAST-TWO STAGE LIMITED FREE-LIFT

SECTION 7

MAST-TWO STAGE LIMITED FREE-LIFT

DESCRIPTION	PAGE
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UPRIGHTS (Figure 7-1) LIMITED FREE-LIFT/STRADDLE N30XMR3, N35XMR3, N40XMR3, N25XMDR3 STANDARD/N50XMA2



BP170022

UPRIGHTS
LIMITED FREE-LIFT/STRADDLE
N30XMR3, N35XMR3, N40XMR3, N25XMDR3 STANDARD/N50XMA2

ITEM	DESCRIPTION 1 2 3 4	LIFT HEIGHT TO BOTTOM OF FORKS		
		2413 mm (95.0 in.)	2565 mm (101.0 in.)	2718 mm (107.0 in.)
	Mast Group Number	B566 3670	B566 3924	B566 4229
1	Outer Mast	a 2047098	a 2047099	2047100
2	Inner Mast	a 2047101	a 2047102	2047103

ITEM	PART NO.	DESCRIPTION	QTY
1	c	Outer Mast.....	1
2	c	Inner Mast.....	1
3	2310824	Screw.....	4
4	296131	Nut	2
5	2309514	Load Roller	4
6	2311941	Snap Ring (Straddle)	4
6	131358	Snap Ring (External)	4
7	2310773	Wear Plug	4
8	2304346	Pin	2
9	292513	Capscrew.....	2
10	296420	Washer	2
11	2311479	Wear Strip (LH).....	1
12	2302118	Shim (LH)	1
13	2308939	Shim (RH).....	1
14	2304397	Wear Strip (RH)	1
15	1493527	Cushion	6
16	2308522	Plate	2
17	296426	Washer	4
18	221638	Capscrew.....	4
	b 292501	Capscrew.....	8

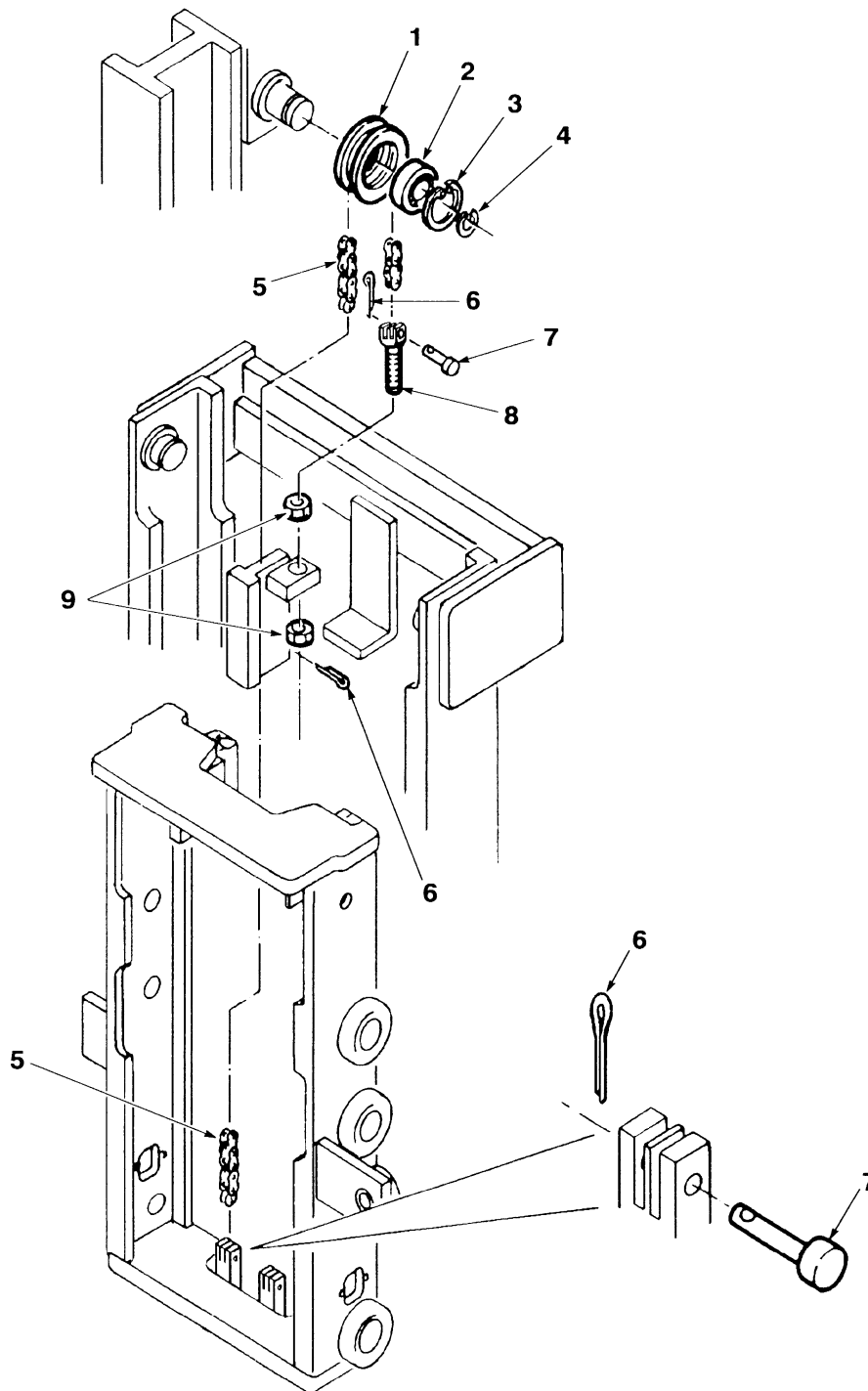
FOOTNOTES:

- a** Also used on Straddle
b Not Illustrated
c Refer to Table

CHAINS, PINS, AND ANCHORS (Figure 7-2)

TWO STAGE LIMITED FREE-LIFT

N30XMR3, N35XMR3, N40XMR3, N25XMDR3 STANDARD



HP171293

CHAINS, PINS, AND ANCHORS
TWO STAGE LIMITED FREE-LIFT
N30XMR3, N35XMR3, N40XMR3, N25XMDR3 STANDARD

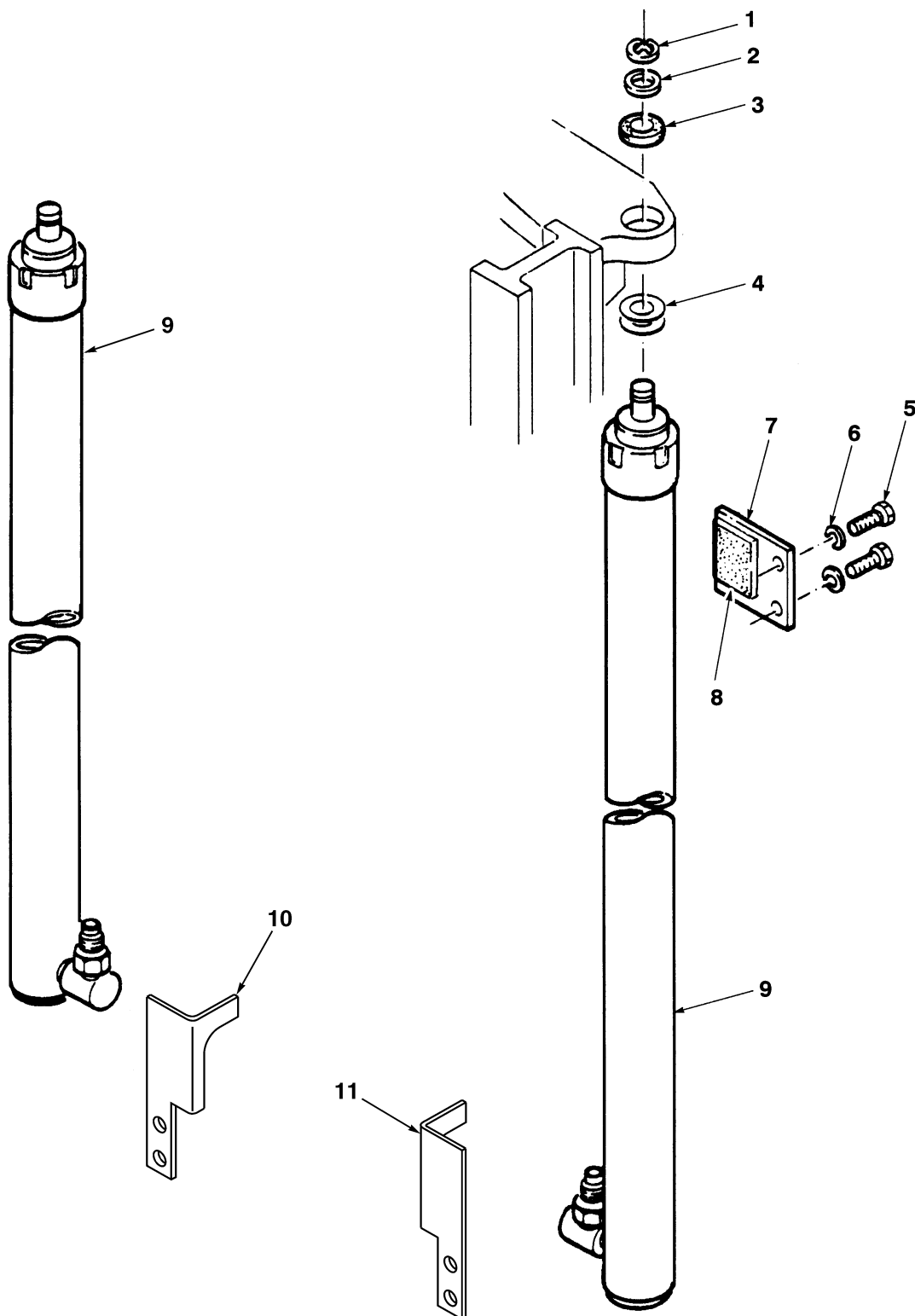
ITEM	DESCRIPTION	LIFT HEIGHT TO BOTTOM OF FORKS		
		2413 mm (95.0 in.)	2565 mm (101.0 in.)	2718 mm (107.0 in.)
	1 2 3 4 Mast Group Number	B566 3670	B566 3924	B566 4229
5	Chain	336391	129358	214446

ITEM	PART NO.	DESCRIPTION	QTY
1	1477534	Chain Sheave	2
2	1375907	Ball Bearing	2
3	2309976	Retaining Ring	2
4	58901	Snap Ring	4
5	b	Chain	2
6	15212	Cotter Pin	6
7	1514866	Pin	2
8	1369357	Chain Anchor	2
9	136687	Nut	2
	a 292680	Lockwasher	10
	a 1479605	Clamp	1
	a 292502	Capscrew	2
	a 320156	Washer	10

FOOTNOTES:

- a** Not Illustrated
b Refer to Table

CYLINDER INSTALLATION (Figure 7-3) TWO STAGE LIMITED FREE-LIFT

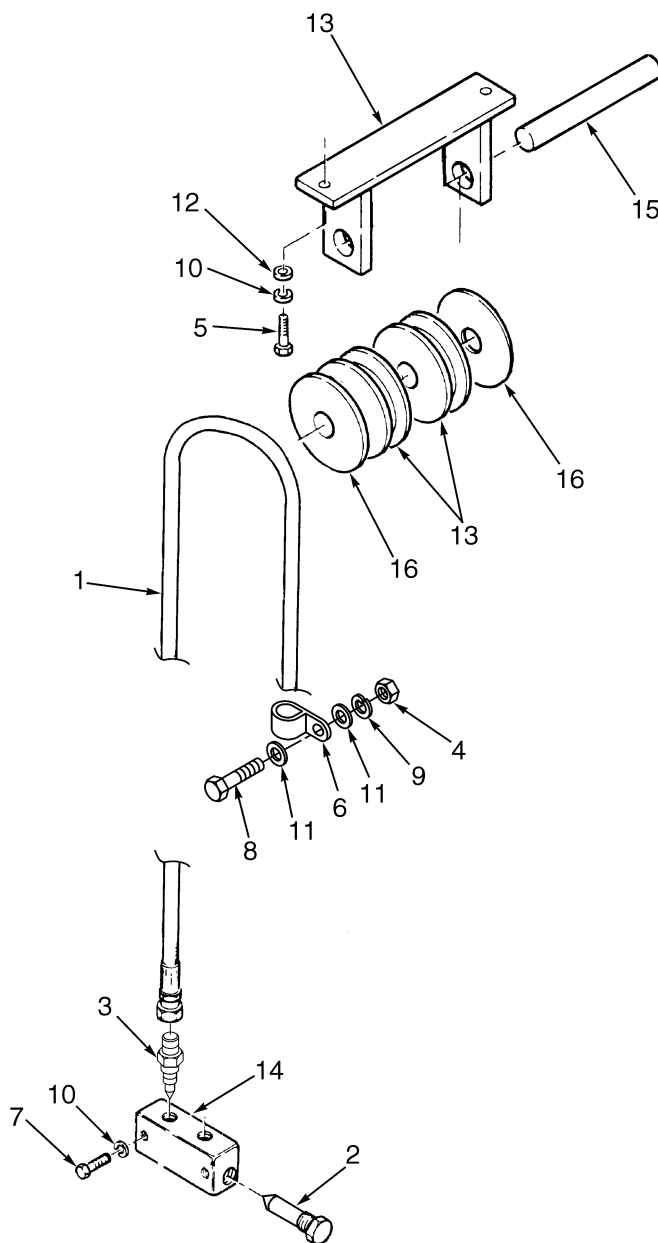


BP170013

**CYLINDER INSTALLATION
TWO STAGE LIMITED FREE-LIFT**

ITEM	PART NO.	DESCRIPTION	QTY
1	297649	Ring	2
2	320157	Washer	2
3	320158	Washer	4
4	2306942	Shim	2
5	287854	Capscrew.....	4
6	2311241	Lockwasher.....	4
7	2308943	Retainer	2
8	2308557	Cushion	8
9	.....	Main Lift Cylinder (☞ Figure 7-5)	2
10	1476961	Plate (RH).....	1
11	1476963	Plate (LH)	1

HOSE TAKE UP GROUP (Figure 7-4) STRADDLE N50XMA3



BP170035

HOSE TAKE UP GROUP STRADDLE N50XMA3

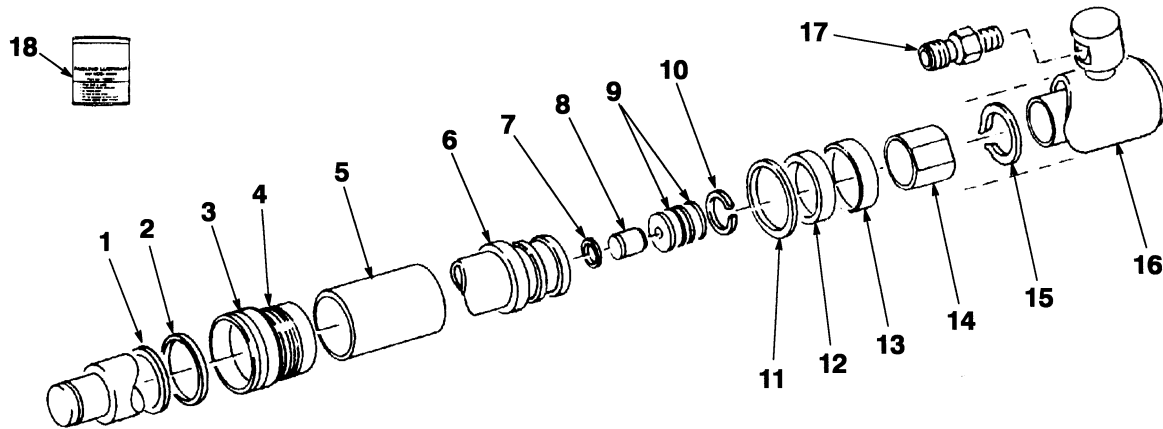
ITEM	DESCRIPTION	LIFT HEIGHT TO BOTTOM OF FORKS		
		3734 mm (147 in.)	3988 mm (157 in.)	4293 mm (169 in.)
	1 2 3 4 Mast Group Number	B566 3734	B566 3988	B566 4293
1	Header Hose (126 in.)	1511203	1511208	1511213

ITEM	PART NO.	DESCRIPTION	QTY
1	b	Header Hose (126 in.)	2
2	14595	Fitting	2
3	17233	Fitting	2
	16484	O-Ring	2
4	136687	Nut	2
5	136749	Capscrew	2
6	166285	Clamp	2
7	214364	Capscrew	2
8	292501	Capscrew	2
9	292680	Lockwasher	2
10	292681	Lockwasher	4
11	320156	Washer	2
12	320157	Washer	4
13	1489961	Bracket	1
14	2310431	Manifold	1
15	1483268	Shaft	1
	296167	Capscrew (Shaft)	2
16	1497914	Spacer	2
	a 2034909	Sheave (Pulley)	2

FOOTNOTES:

- a** Not illustrated
b Refer to Table

MAIN LIFT CYLINDER (Figure 7-5)
TWO STAGE LIMITED FREE-LIFT
N30XMR3, N35XMR3, N40XMR3, N25XMDR3 STANDARD



HP170084

**MAIN LIFT CYLINDER
TWO STAGE LIMITED FREE-LIFT
N30XMR3, N35XMR3, N40XMR3, N25XMDR3 STANDARD**

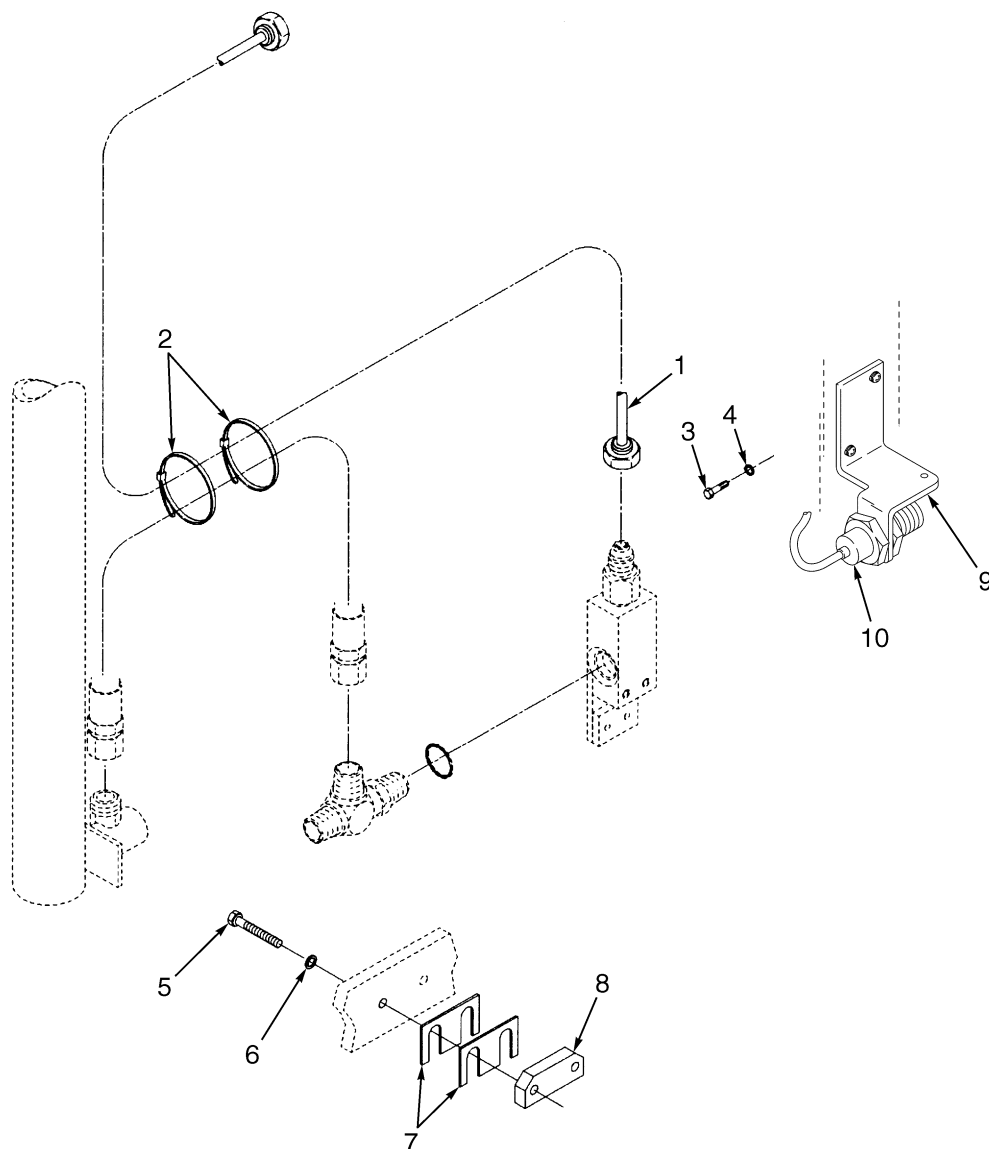
ITEM	DESCRIPTION 1 2 3 4	LIFT HEIGHT TO BOTTOM OF FORKS		
		2413 mm (95.0 in.)	2565 mm (101.0 in.)	2718 mm (107.0 in.)
	Mast Group Number	B566 3670	B566 3924	B566 4229
	Cylinder Group Number	8606501	8606506	8606512
	Lift Cylinder	2046577	2046578	2046579
5	Spacer	2045544	2047104	2047104
6	Rod	2046288	2046581	2046290
16	Tube	2044278	2044279	2044280

ITEM	PART NO.	DESCRIPTION	QTY
	a	Lift Cylinder.....	1
1	2305540	Wiper Ring.....	1
2	334156	Seal.....	1
3	2304638	Gland.....	1
4	59229	O-Ring.....	1
5	a	Spacer.....	1
6	a	Rod.....	1
7	265787	O-Ring.....	1
8	297530	Check Valve.....	1
9	386682	Shim (0.020 in.).....	AR
9	386683	Shim (0.007 in.).....	AR
9	386684	Shim (0.005 in.).....	AR
10	187388	Snap Ring.....	1
11	335012	Back-Up Ring.....	1
12	334156	Seal.....	1
13	1356751	Wear Ring.....	1
14	1310339	Piston.....	1
15	58916	Snap Ring.....	1
16	a	Tube.....	1
17	2307856	Velocity Fuse.....	1
	2304902	Seal Kit (Includes Items 1-2, 4, 7, 11-13).....	1

FOOTNOTES:

a Refer to Table

LIFT LIMIT SWITCH (Figure 7-6) TWO STAGE LIMITED FREE-LIFT

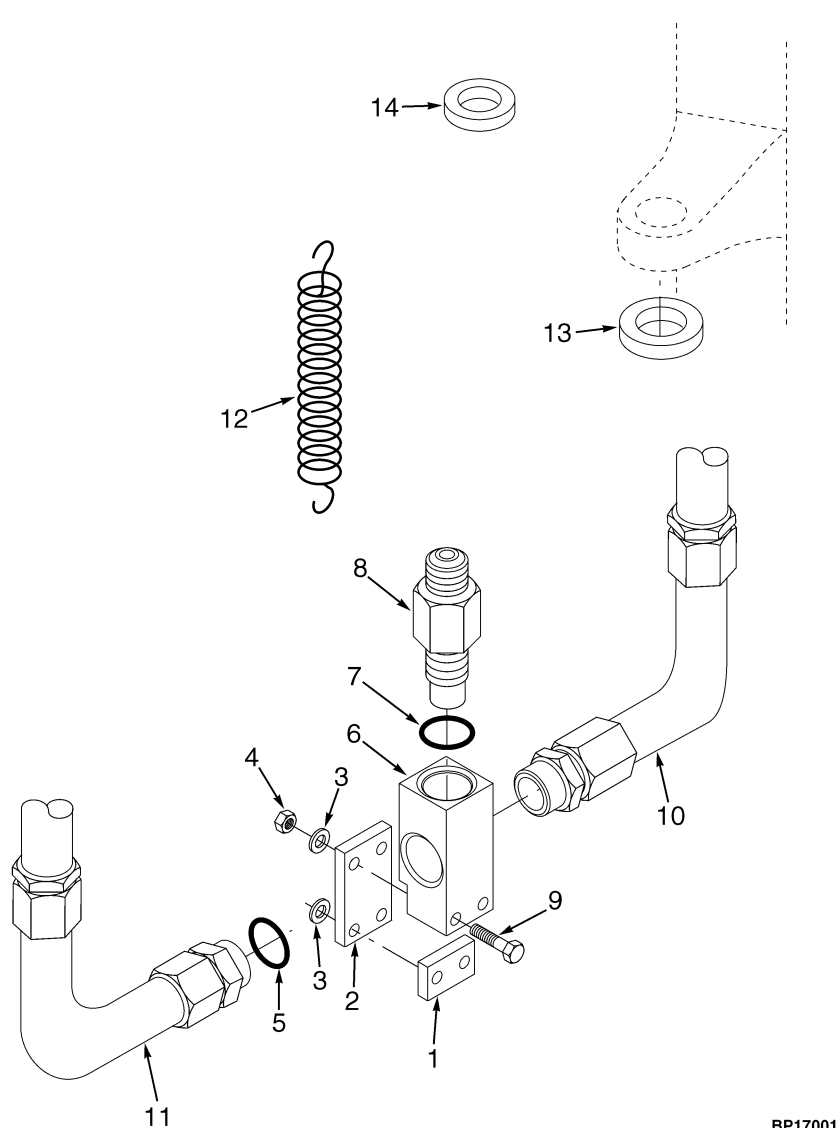


YP081222

**LIFT LIMIT SWITCH
TWO STAGE LIMITED FREE-LIFT**

ITEM	PART NO.	DESCRIPTION	QTY
1	1498826	Tube	1
2	2303234	Strap Clamp.....	2
3	16724	Screw.....	2
3	186493	Screw.....	2
4	15152	Lockwasher.....	2
4	197067	Washer	2
5	221638	Capscrew.....	4
6	221775	Washer	4
7	2311676	Shim	4
8	2308522	Plate	2
9	1489880	Bracket.....	1
10	1494337	Proximity Sensor.....	1

FREE LIFT CYLINDER (Figure 7-7) TWO STAGE LIMITED FREE-LIFT



BP170015

**FREE LIFT CYLINDER
TWO STAGE LIMITED FREE-LIFT**

ITEM	PART NO.	DESCRIPTION	QTY
1	2306904	Spacer	1
2	2307423	Bracket.....	1
3	320158	Washer	4
4	239503	Nut	2
5	16485	O-Ring	2
6	1488878	Manifold Block	1
7	16485	O-Ring	2
8	2309766	Control Valve (Lowering)	1
9	292509	Capscrew.....	4
10	1510408	Hose Assembly.....	1
10	14586	Fitting.....	1
11	1488079	Hose Assembly.....	1
11	14603	Fitting.....	1
12	2034907	Spring	1
13	320157	Washer	2
14	297649	Ring	2

[illegible]

8

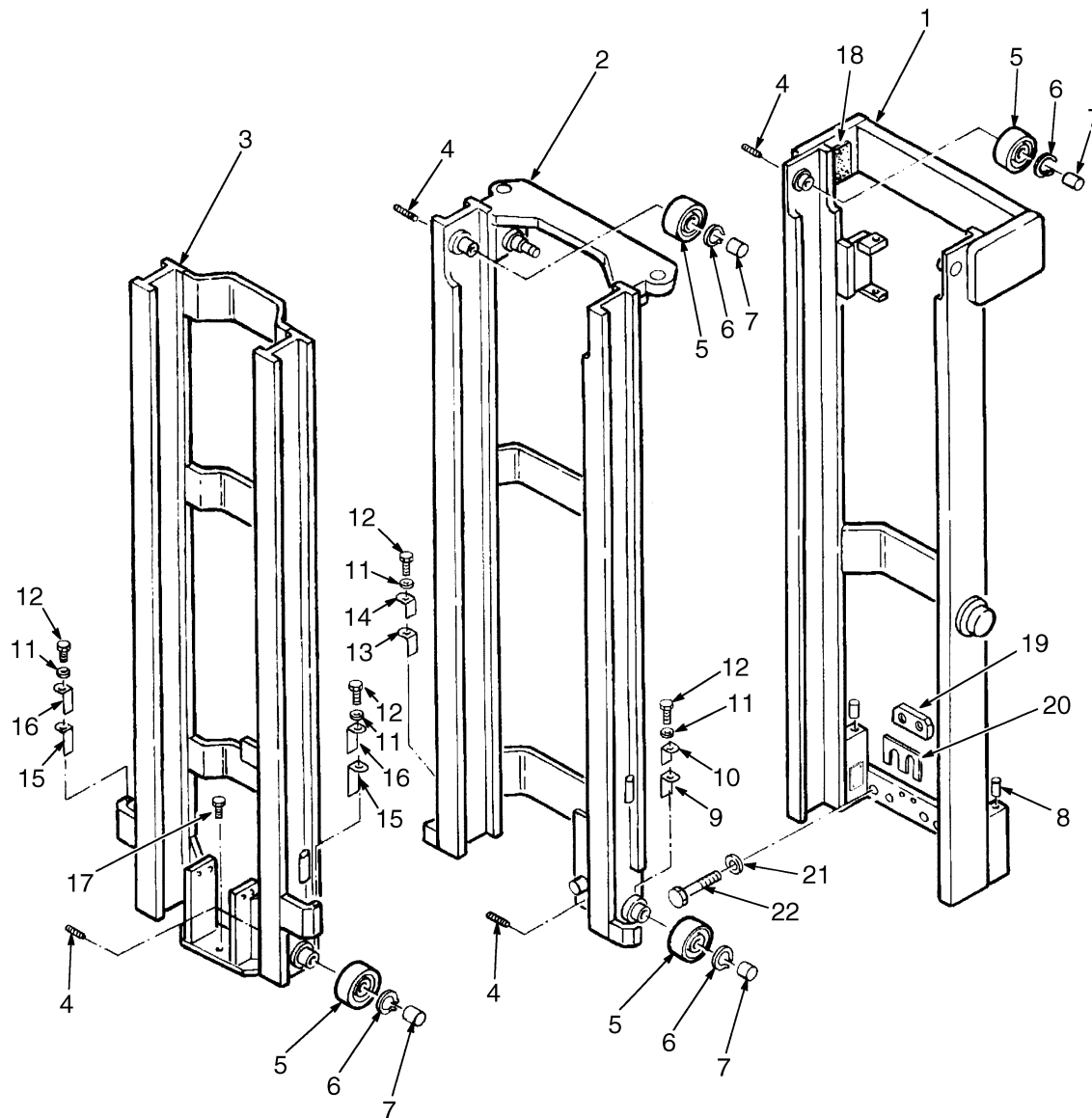
MAST-THREE STAGE FULL FREE-LIFT

SECTION 8

MAST-THREE STAGE FULL FREE-LIFT

DESCRIPTION	PAGE
CHAINS, PINS, AND ANCHORS	
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TWO AND THREE STAGE	
N30XMR3, N35XMR3, N40XMR3, N25XMDR3 STANDARD	8-4
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MAIN LIFT CYLINDER	
THREE STAGE FULL FREE-LIFT	
N30XMR3, N35XMR3, N40XMR3, N25XMDR3 STANDARD	8-12
OUTER, INTERMEDIATE, AND INNER	
THREE STAGE FULL FREE-LIFT	
N30XMR3, N35XMR3, N40XMR3, N25XMDR3 STANDARD	8-2

OUTER, INTERMEDIATE, AND INNER (Figure 8-1) THREE STAGE FULL FREE-LIFT N30XMR3, N35XMR3, N40XMR3, N25XMDR3 STANDARD



HP170380

**OUTER, INTERMEDIATE, AND INNER
THREE STAGE FULL FREE-LIFT
N30XMR3, N35XMR3, N40XMR3, N25XMDR3 STANDARD**

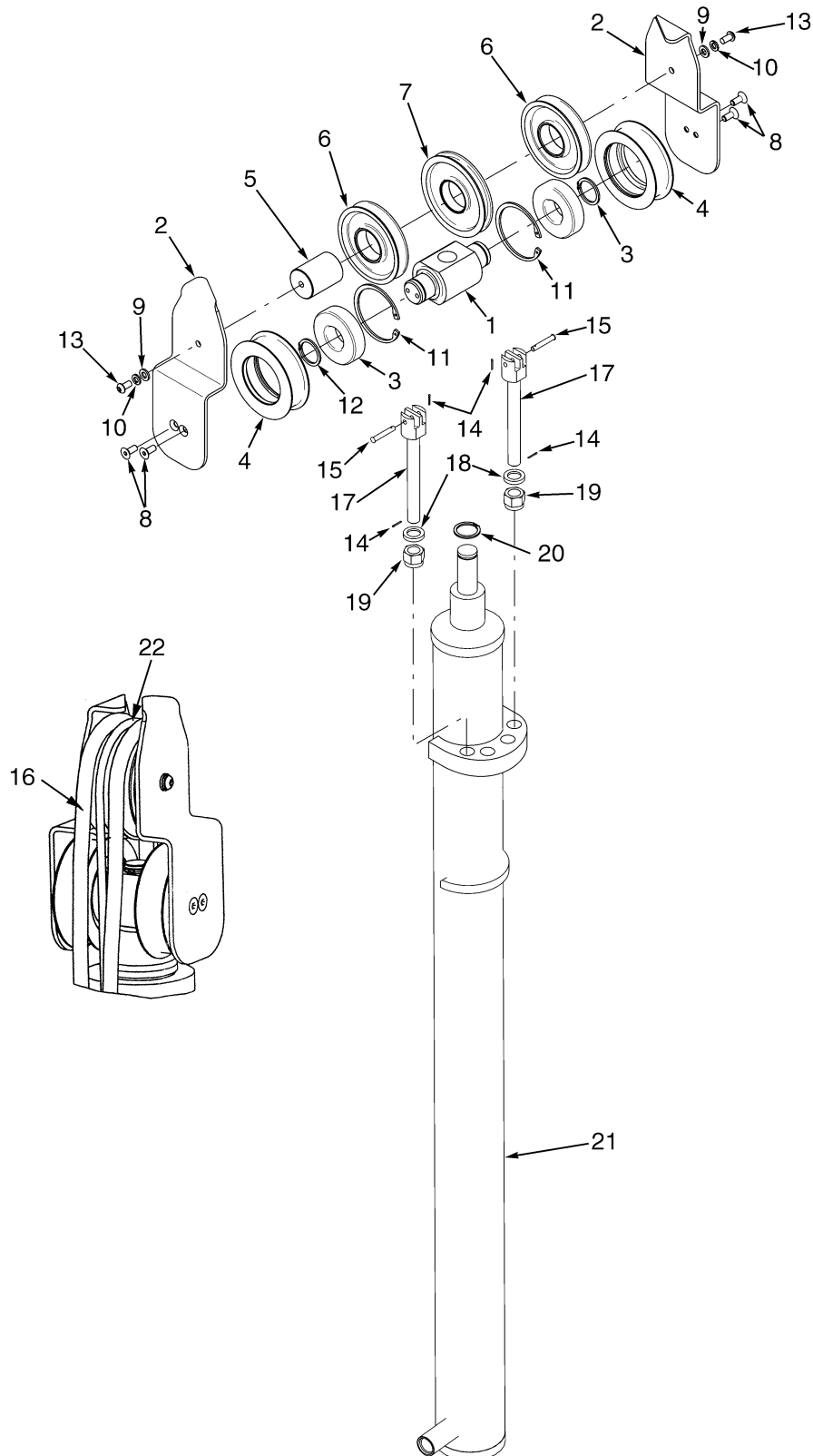
ITEM	DESCRIPTION	LIFT HEIGHT TO BOTTOM OF FORKS					
		5385 mm (212.0 in.)	6147 mm (242.0 in.)	6375 mm (251.0 in.)	6909 mm (272.0 in.)	7290 mm (287.0 in.)	7671 mm (302.0 in.)
	1 2 3 4 Mast Group Number	B567 5321	B567 6083	B567 6312	B567 6845	B567 7226	B567 7607
1	Outer Mast	8507700	8507710	8507713	8507720	8507725	8507730
2	Intermediate Mast	2041891	2041901	2041904	2041911	2041916	2041921
3	Inner Mast	2041932	2041942	2041945	2041952	2041957	2041962

ITEM	PART NO.	DESCRIPTION	QTY
1	a	Outer Mast.....	1
2	a	Intermediate Mast.....	1
3	a	Inner Mast.....	1
4	2310824	Screw.....	8
5	2309514	Load Roller	8
6	2311941	Snap Ring.....	4
7	2310773	Wear Plug.....	8
8	2304346	Pin	2
9	2302118	Shim (LH)	1
10	2311479	Wear Strip (LH).....	1
11	296420	Washer	4
12	292513	Capscrew.....	4
13	2308939	Shim (RH).....	1
14	2304397	Wear Strip (RH)	1
15	2308709	Shim	2
16	2305104	Wear Plate	2
17	2311528	Screw.....	1
18	2308557	Cushion	8
19	2308522	Plate	2
20	2311676	Shim	4
21	296426	Washer	4
22	221638	Capscrew.....	4

FOOTNOTES:

a Refer to Table

HEADER HOSE (Figure 8-2) TWO AND THREE STAGE N30XMR3, N35XMR3, N40XMR3, N25XMDR3 STANDARD



BP170023

HEADER HOSE

TWO AND THREE STAGE

N30XMR3, N35XMR3, N40XMR3, N25XMDR3 STANDARD

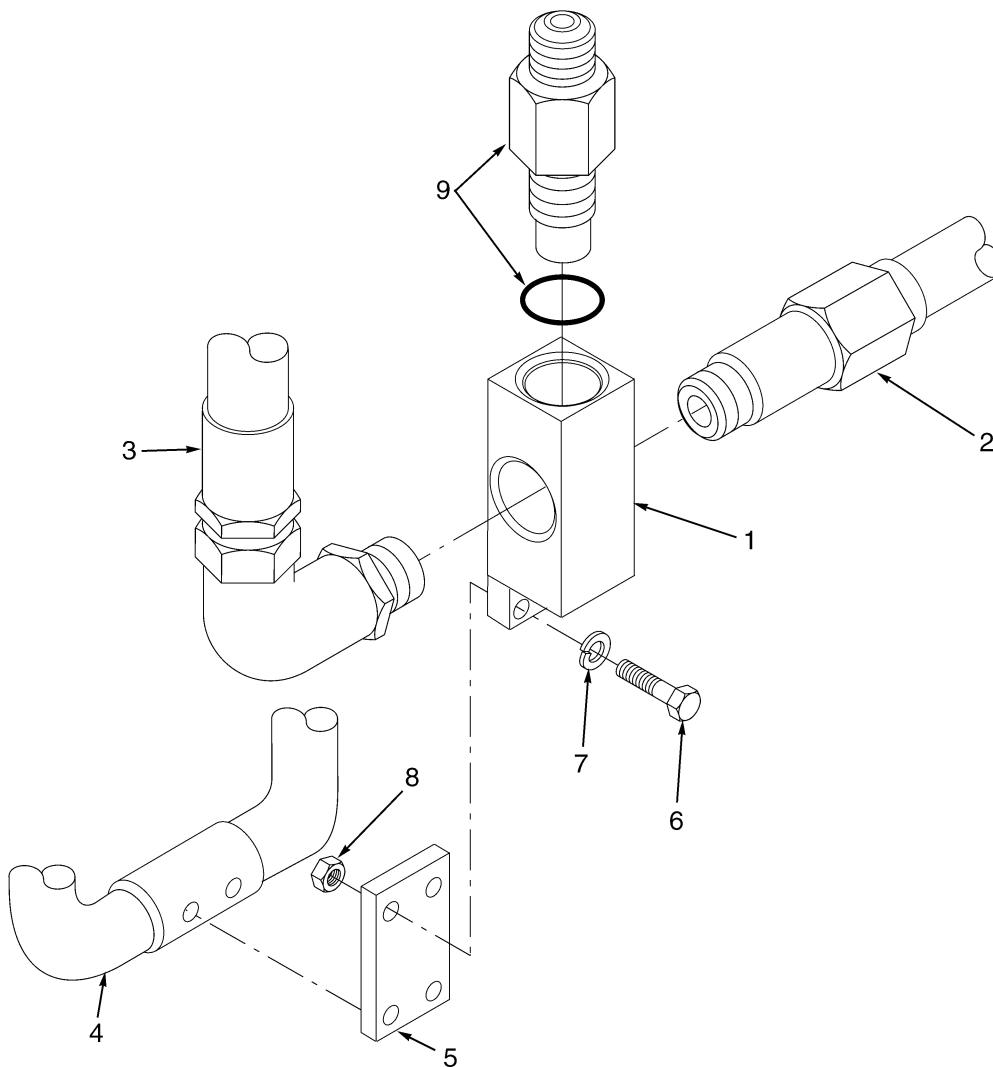
ITEM	DESCRIPTION	LIFT HEIGHT TO BOTTOM OF FORKS					
		5385 mm (212.0 in.)	6147 mm (242.0 in.)	6375 mm (251.0 in.)	6909 mm (272.0 in.)	7290 mm (287.0 in.)	7671 mm (302.0 in.)
	1 2 3 4 Mast Group Number	B567 5321	B567 6083	B567 6312	B567 6845	B567 7226	B567 7607
16	Hose Assembly	1488274	1488284	1488287	1488294	1488299	1488304
22	Cable Assembly	1488565	1488575	1488578	1488585	1488590	1488595

ITEM	PART NO.	DESCRIPTION	QTY
1	1477533	Bracket.....	1
2	1477535	Guard.....	2
3	1375907	Ball Bearing	2
4	1477534	Chain Sheave	2
5	1477536	Sheave.....	1
6	2034909	Sheave.....	2
7	2034908	Sheave.....	1
8	296225	Screw.....	4
9	320157	Washer	2
10	292681	Lockwasher.....	2
11	58922	Snap Ring.....	2
12	304526	Snap Ring.....	1
13	296165	Capscrew.....	2
14	15212	Cotter Pin.....	4
15	2303049	Pin	2
16	a	Hose Assembly.....	2
17	1369357	Chain Anchor	2
18	297649	Ring	2
19	161003	Nut	2
20	2309976	Retaining Ring	1
21		Free-Lift Cylinder (☞ Figure 8-7)	1
22	a	Cable Assembly.....	1

FOOTNOTES:

a Refer to Table

FREE-LIFT MANIFOLD (Figure 8-3)
THREE STAGE FULL FREE-LIFT
N30XMR3, N35XMR3, N40XMR3, N25XMDR3 STANDARD

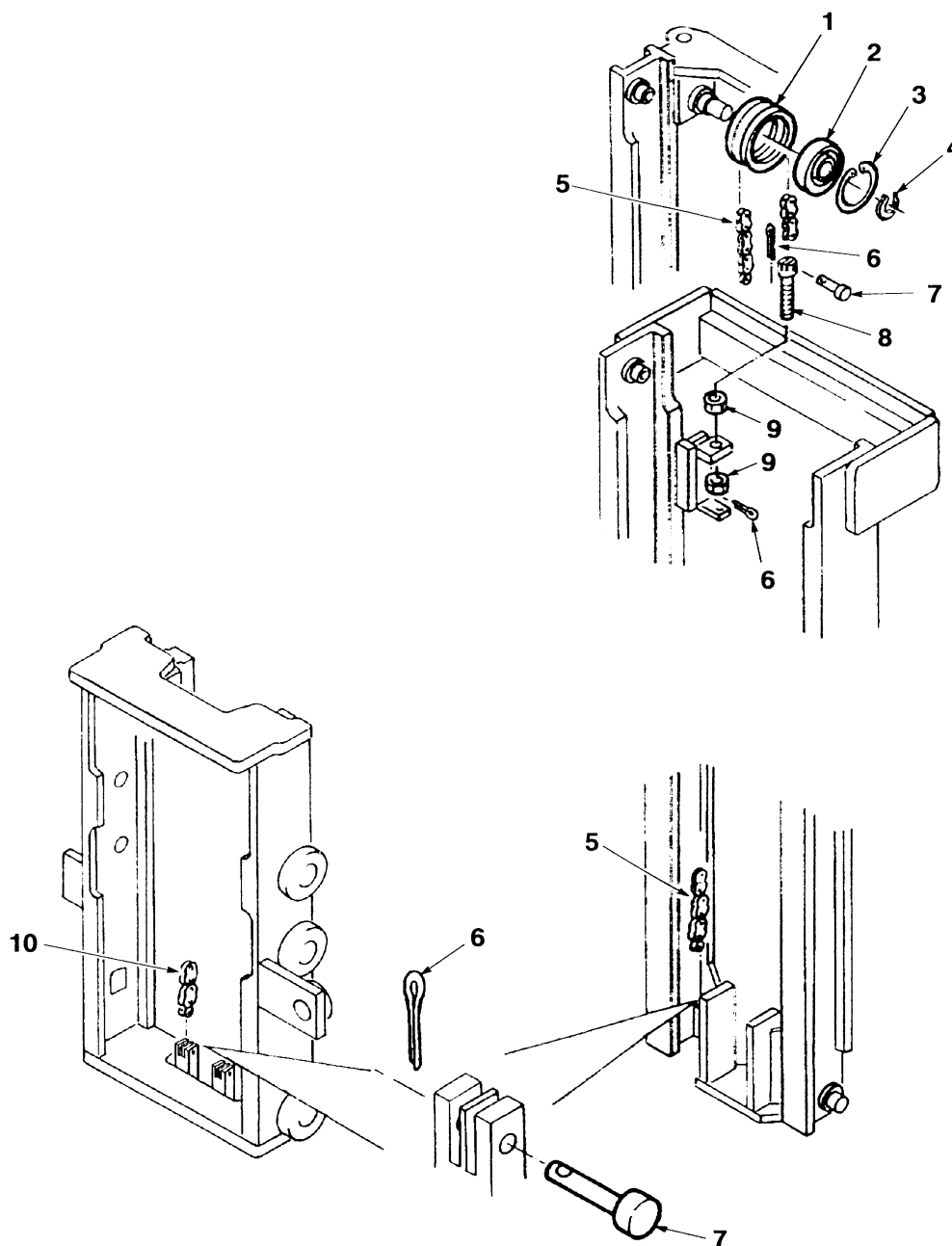


BP170014

**FREE-LIFT MANIFOLD
THREE STAGE FULL FREE-LIFT
N30XMR3, N35XMR3, N40XMR3, N25XMDR3 STANDARD**

ITEM	PART NO.	DESCRIPTION	QTY
1	1500830	Manifold	1
2	201783	Fitting	1
3	1488723	Hose	1
4	14586	Fitting	1
5	2307423	Bracket.....	1
6	292508	Capscrew.....	2
7	292681	Lockwasher.....	10
8	239503	Nut	2
9	16561	Fitting.....	1

CHAINS, PINS, AND ANCHORS (Figure 8-4) THREE STAGE FULL FREE-LIFT



HP171294

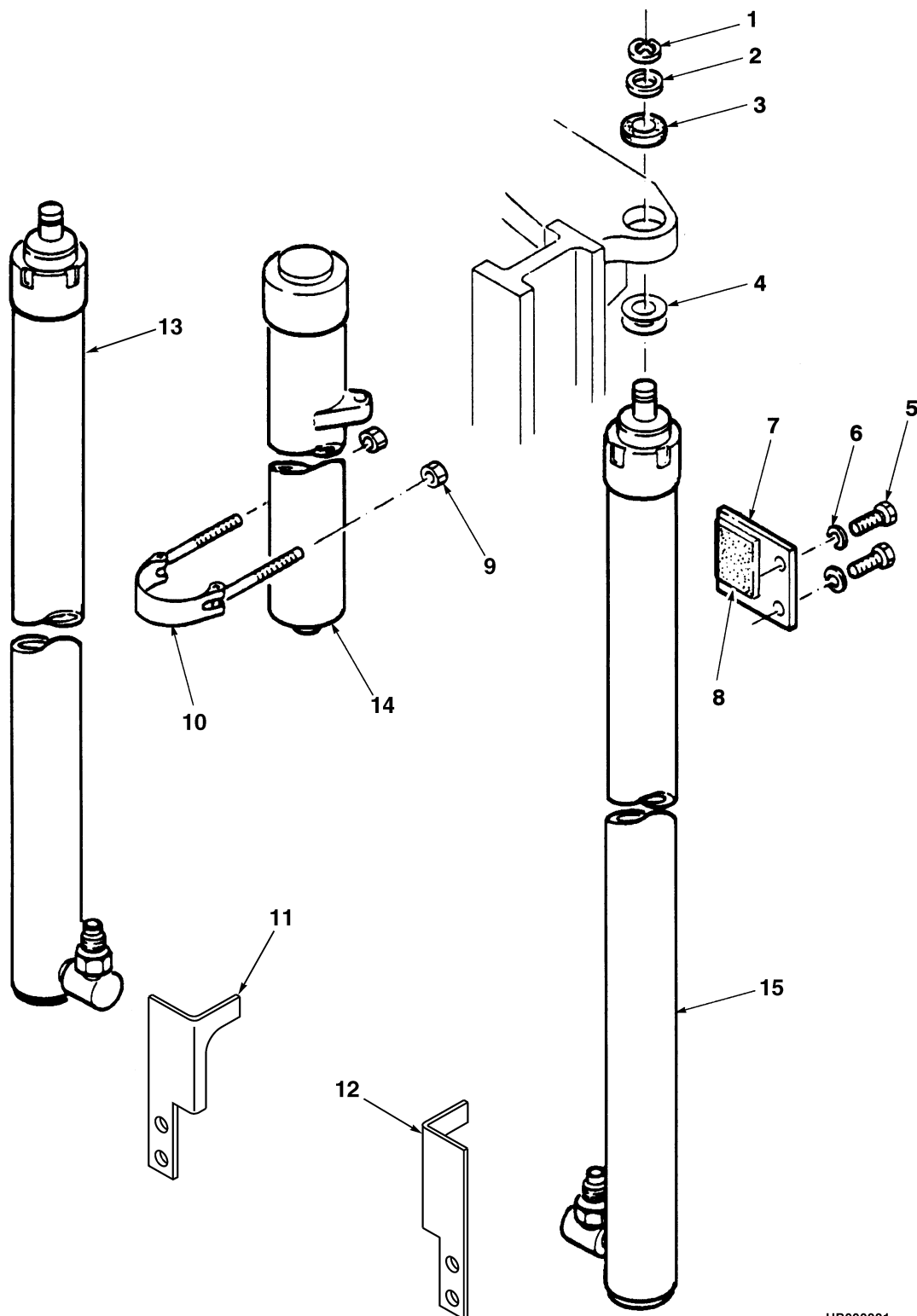
**CHAINS, PINS, AND ANCHORS
THREE STAGE FULL FREE-LIFT**

ITEM	DESCRIPTION 1 2 3 4	LIFT HEIGHT TO BOTTOM OF FORKS					
		5385 mm (212.0 in.)	6147 mm (242.0 in.)	6375 mm (251.0 in.)	6909 mm (272.0 in.)	7290 mm (287.0 in.)	7671 mm (302.0 in.)
	Mast Group Number	B567 5321	B567 6083	B567 6312	B567 6845	B567 7226	B567 7607
5	Chain	1374541	2305926	2302007	2310542	2302409	2310326
10	Chain	88431	2302509	317731	2306918	317733	2307711

ITEM	PART NO.	DESCRIPTION	QTY
1	2305090	Sheave.....	2
2	1375907	Ball Bearing	2
3	2309976	Retaining Ring	2
4	1374797	Snap Ring.....	2
5	a	Chain	1
6	15212	Cotter Pin.....	6
7	2303049	Pin	4
8	2306269	Chain Anchor	2
9	292600	Nut	4
10	a	Chain	2

FOOTNOTES:**a** Refer to Table

CYLINDER INSTALLATION (Figure 8-5) THREE STAGE FULL FREE-LIFT



HP000221

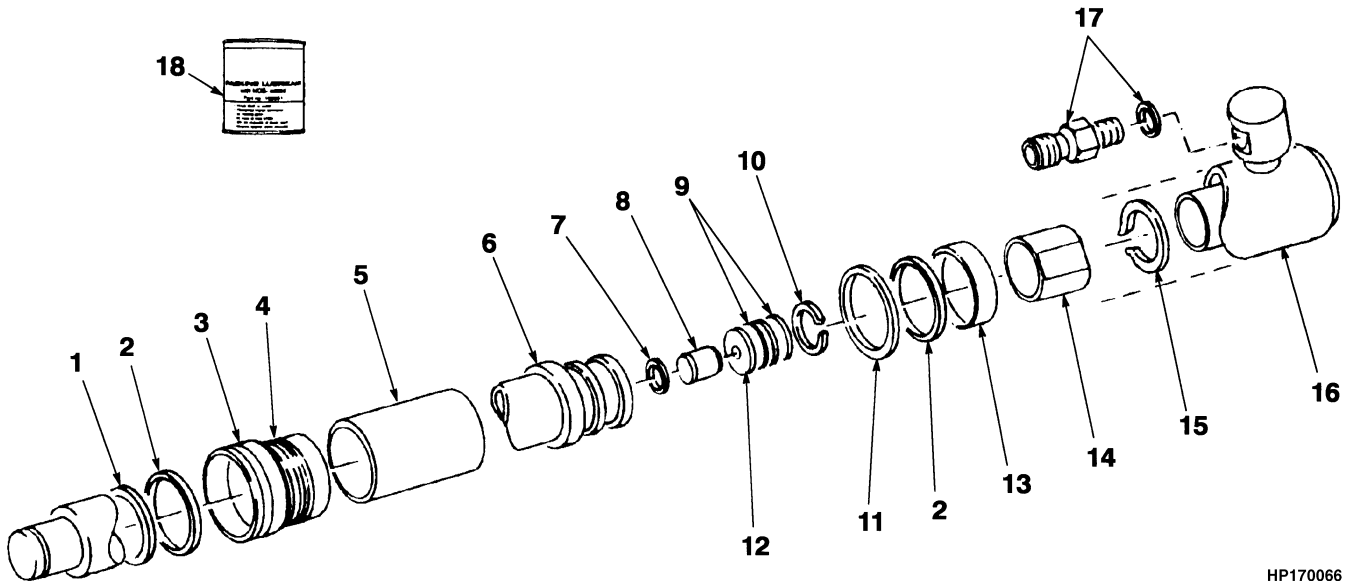
**CYLINDER INSTALLATION
THREE STAGE FULL FREE-LIFT**

ITEM	PART NO.	DESCRIPTION	QTY
1	248212	Snap Ring	1
2	2310075	Washer	2
3	2311159	Bushing	2
4	2306942	Shim	2
5	287854	Capscrew	4
6	2311241	Lockwasher	4
7	2308943	Retainer	2
8	2308557	Cushion	8
9	15107	Nut	2
10	2305173	Clamp	1
11	2304231	Plate (RH)	1
12	2305992	Plate (LH)	1
13	.....	Main Lift Cylinder (LH) (☞ Figure 8-6)	1
14	.....	Free Lift Cylinder (☞ Figure 8-7)	1
15	.....	Main Lift Cylinder (RH) (☞ Figure 8-6)	1

MAIN LIFT CYLINDER (Figure 8-6)

THREE STAGE FULL FREE-LIFT

N30XMR3, N35XMR3, N40XMR3, N25XMDR3 STANDARD



HP170066

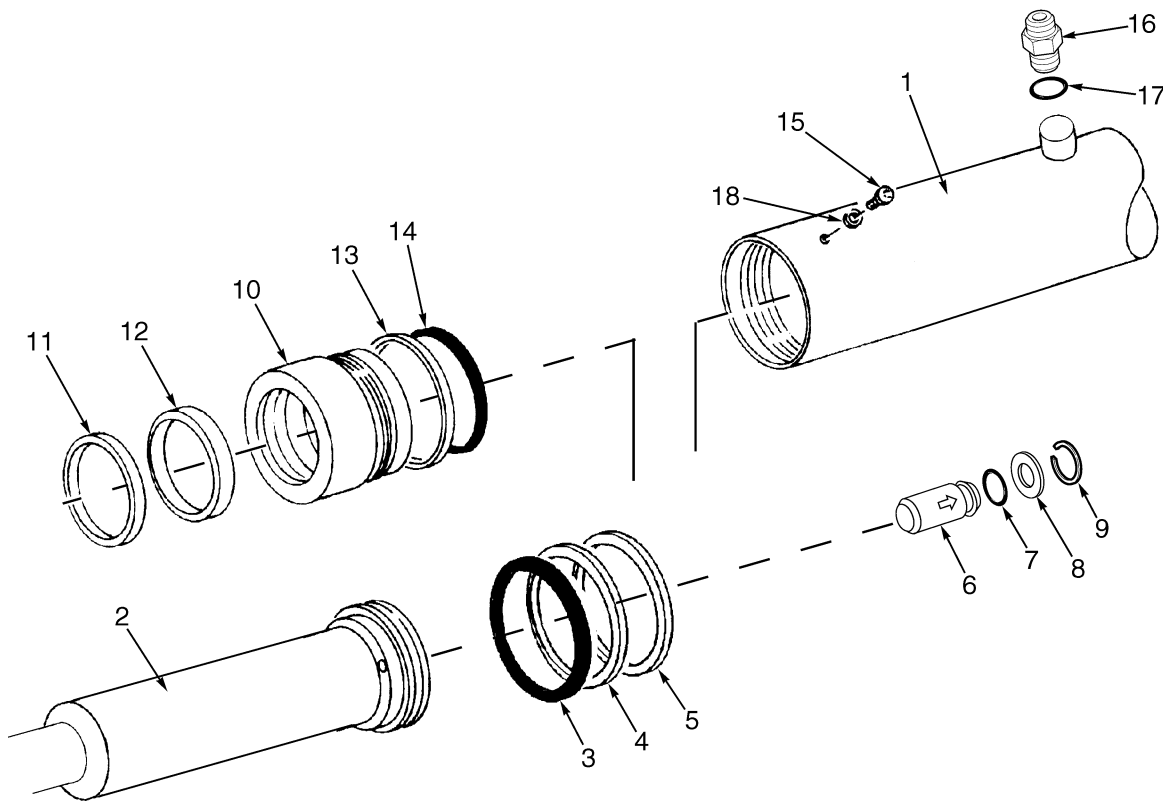
ITEM	DESCRIPTION	LIFT HEIGHT TO BOTTOM OF FORKS			
		5385 mm (212.0 in.)	6147 mm (242.0 in.)	6375 mm (251.0 in.)	6909 mm (272.0 in.)
	Mast	B567	B567	B567	B567
	Group Number	5321	6083	6312	6845
	Cylinder	8605836	8605862	8605865	8605874
	Group Number				
	Lift Cylinder	2044250	2044245	2044246	2044247
5	Spacer	2046875	2310113	2310113	2310840
6	Rod	2044310	2044292	2044293	2044294
16	Tube	2044278	2044280	2044281	2044282

ITEM	PART NO.	DESCRIPTION	QTY
	b	Lift Cylinder.....	1
1	1319668	Wiper Ring.....	1
1	1310370	Wiper Ring.....	1
2	334156	Seal	1
3	1355713	Gland.....	1
3	1355409	Gland.....	1
4	59229	O-Ring	1
5	b	Spacer	1
6	b	Rod.....	1
7	39348	O-Ring	1
8	257913	Check Valve.....	1
9	386682	Shim (0.020 in.)	AR
9	386683	Shim (0.007 in.)	AR
9	386684	Shim (0.005 in.)	AR
10	187388	Snap Ring.....	1
11	335012	Back-Up Ring	1

**MAIN LIFT CYLINDER
THREE STAGE FULL FREE-LIFT
N30XMR3, N35XMR3, N40XMR3, N25XMDR3 STANDARD**

ITEM	PART NO.	DESCRIPTION	QTY
12	297531	Washer	1
13	1356751	Wear Ring	1
14	1310339	Piston	1
15	58916	Snap Ring.....	1
16	b	Tube.....	1
17	2307856	Velocity Fuse	1
17	16485	O-Ring.....	1
18	186061	Packing Lubricant	AR
19	a 1356748	Piston Ring.....	1
	1355714	Seal Kit (Includes Items 0-2, 4-7, 11, 13, 16)	1
	1355838	Seal Kit (Includes Items 0-1, 5-6, 16)	1

FOOTNOTES:**a** Not Illustrated**b** Refer to Table

FREE-LIFT CYLINDER (Figure 8-7)

BP150033

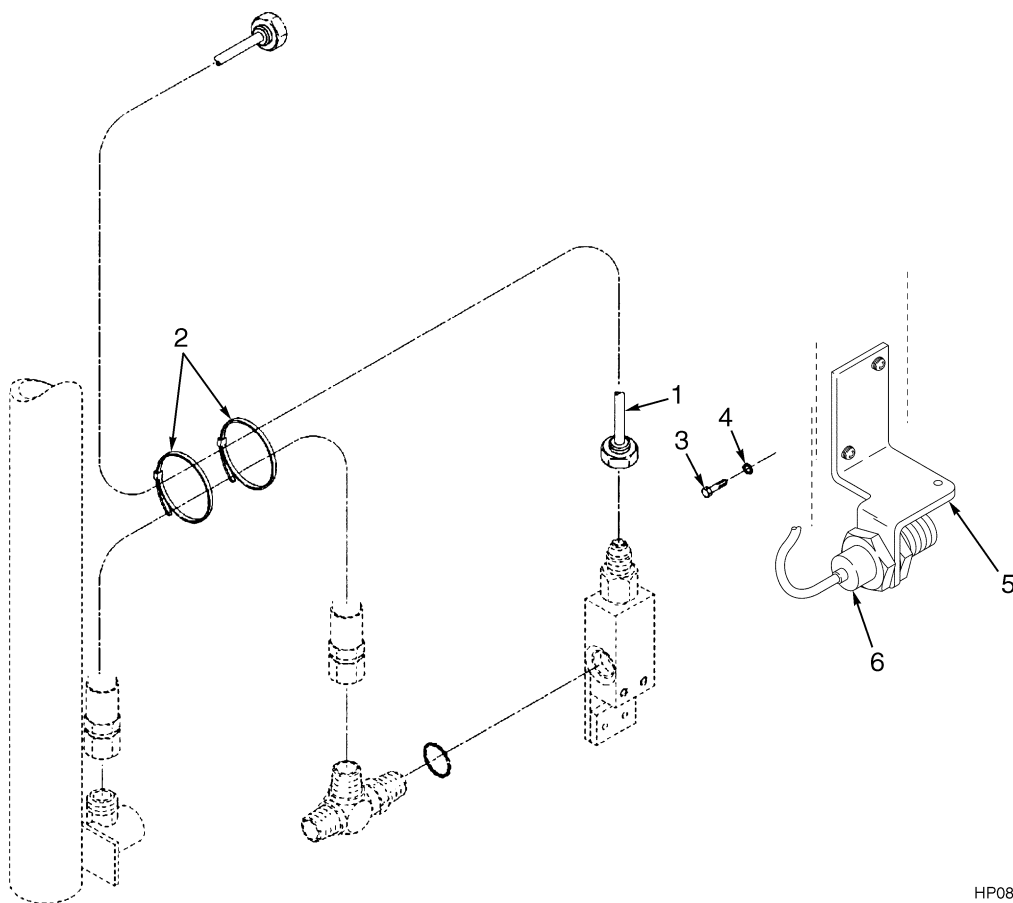
ITEM	DESCRIPTION	LIFT HEIGHT TO BOTTOM OF FORKS			
		5385 mm (212.0 in.)	6147 mm (242.0 in.)	6375 mm (251.0 in.)	6909 mm (272.0 in.)
	Mast Group Number	B567 5321	B567 6083	B567 6312	B567 6845
	Cylinder Group Number	8605913	8605925	8605928	8605937
	Lift Cylinder	2047049	2047050	2044241	2047051
1	Tube	2044271	2044273	2044274	2044275
2	Rod Assembly	2044264	2044266	2044267	2044268

ITEM	PART NO.	DESCRIPTION	QTY
	a	Lift Cylinder.....	1
1	a	Tube.....	1
2	a	Rod Assembly	1
3	637565	Back-Up Ring	1
4	309062	Seal	1
5	636941	Wear Ring	1
6	257913	Check Valve.....	1
7	190580	O-Ring	1
8	297531	Washer	1
9	187388	Snap Ring.....	1
10	1356661	Gland.....	1
11	2013099	Wiper.....	1
12	1358970	Seal	1

ITEM	PART NO.	DESCRIPTION	QTY
13	164840	Back-Up Ring	1
14	15880	O-Ring	1
15	1361302	Screw	1
16	2309712	Velocity Fuse	1
17	16486	O-Ring.....	1
18	190887	Seal	1
	1356662	Seal Kit (Includes Items 3-5, 7, 11-14, 18)	1

FOOTNOTES:**a** Refer to Table

LIFT LIMIT SWITCH (Figure 8-8) THREE STAGE FULL FREE-LIFT

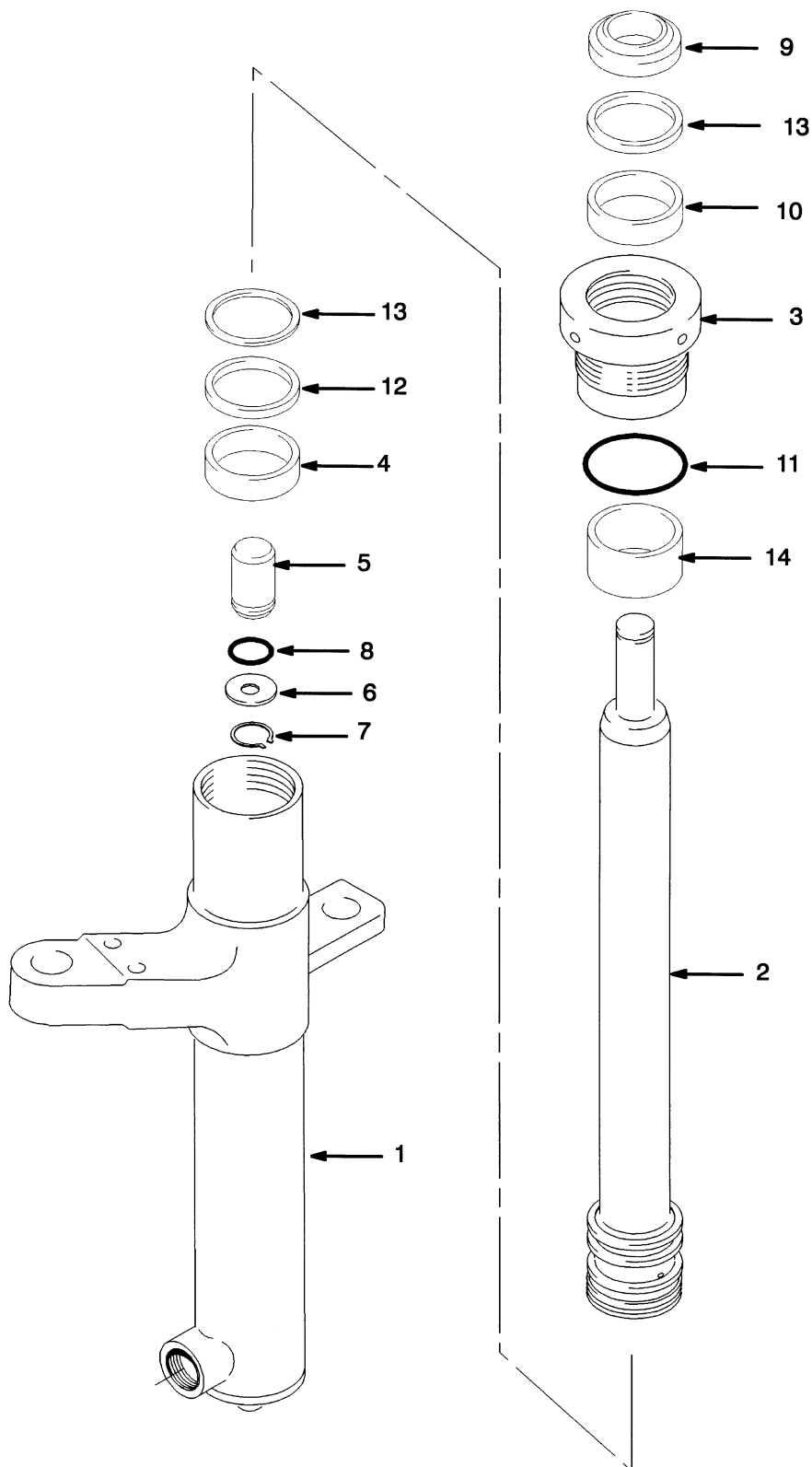


ITEM	PART NO.	DESCRIPTION	QTY
1	1490097	Tube	1
2	137852	Strap Clamp.....	2
3	16724	Screw.....	2
3	186493	Screw.....	2
4	15152	Lockwasher.....	2
4	197067	Washer	2
5	1489880	Bracket.....	1
6	1494337	Proximity Sensor.....	1

SECTION 9 CARRIAGE

DESCRIPTION	PAGE
CARRIAGE	
INNER FRAME	9-8
SCISSOR	
24 IN. REACH	9-4
42 IN. REACH	9-6
STRADDLE	
N5XMA	9-2
INTEGRAL SIDE-SHIFT ASSEMBLY	9-16
INTEGRAL TILT ASSEMBLY	9-13
REACH CYLINDER	
24 IN. AND 42 IN. REACH	9-11

CARRIAGE (Figure 9-1) STRADDLE N5XMA



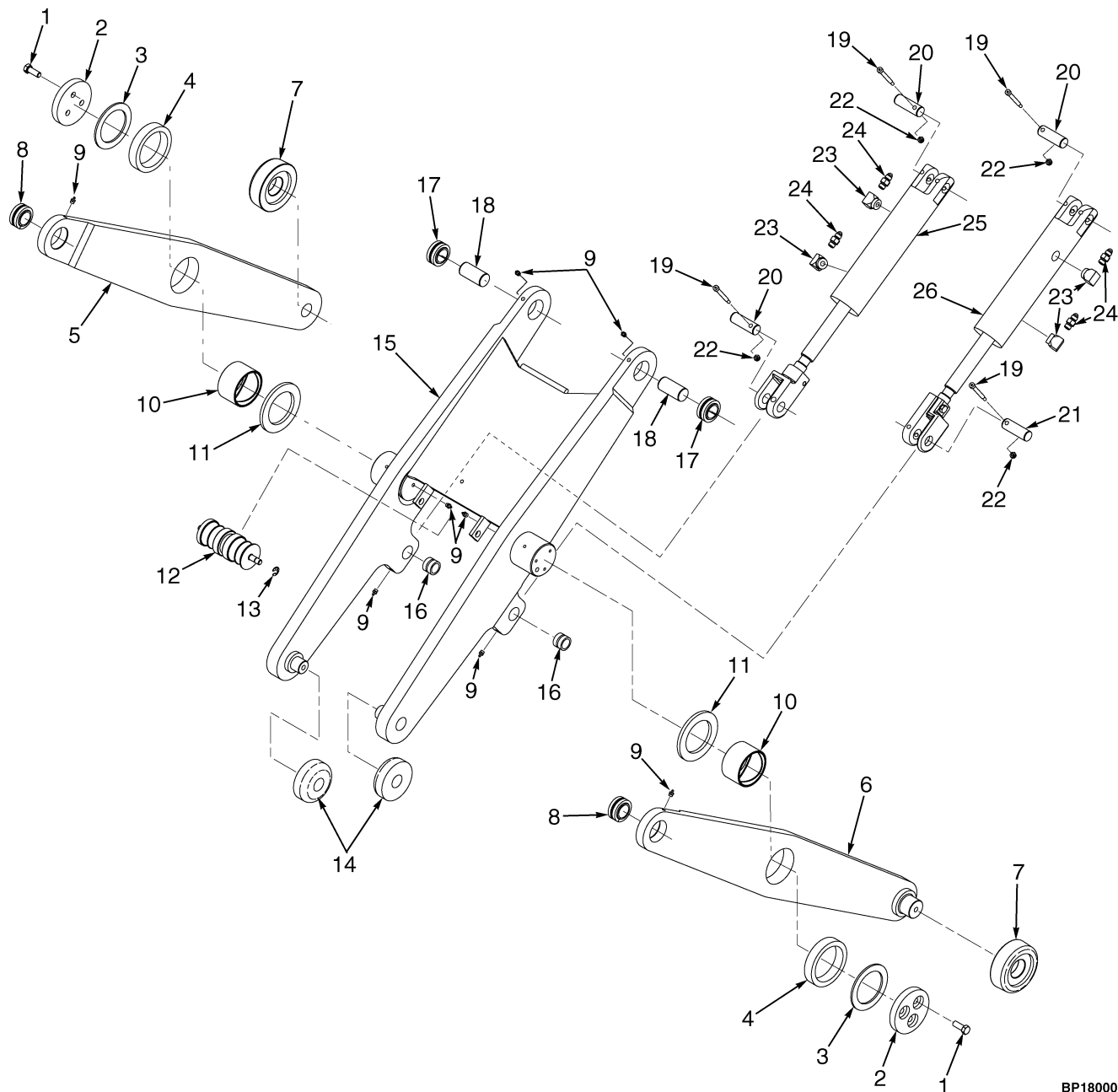
YP170030

**CARRIAGE
STRADDLE
N5XMA**

ITEM	PART NO.	DESCRIPTION	QTY
1	2045926	Carriage (Three Stage).....	1
1	1497958	Carriage (Two Stage).....	1
2	2310824	Screw.....	2
3	296131	Nut	2
4	2306062	Stud	2
5	2309614	Thrust Roller (2.9 in.)	AR
5	2306981	Thrust Roller	AR
5	2309266	Thrust Roller (3.0 in.)	AR
5	2305275	Thrust Roller (3.1 in.)	AR
5	1374546	Thrust Roller	AR
5	1374547	Thrust Roller	AR
6	2308542	Washer	2
7	213100	Snap Ring.....	2
8	2305757	Lube Fitting	4
9	2309514	Load Roller	4
10	2311941	Snap Ring.....	4
11	2310773	Wear Plug	2
12	2302887	Shim (0.047 in.)	AR
12	2305581	Shim (0.030 in.)	AR
12	2311502	Shim (0.015 in.)	AR
12	2306377	Shim (0.125 in.)	AR
12	2306093	Shim (0.311 in.)	AR
12	2306324	Shim (0.020 in.)	AR
13	2310327	Roller Assembly.....	2
14	292683	Lockwasher.....	4
	a 246001	Capscrew.....	4
	a 2302624	Cotter Pin.....	2
	a 198209	Snap Ring.....	2
	a 1497941	Chain Anchor.....	2

FOOTNOTES:**a** Not Illustrated

CARRIAGE (Figure 9-2) SCISSOR 24 IN. REACH



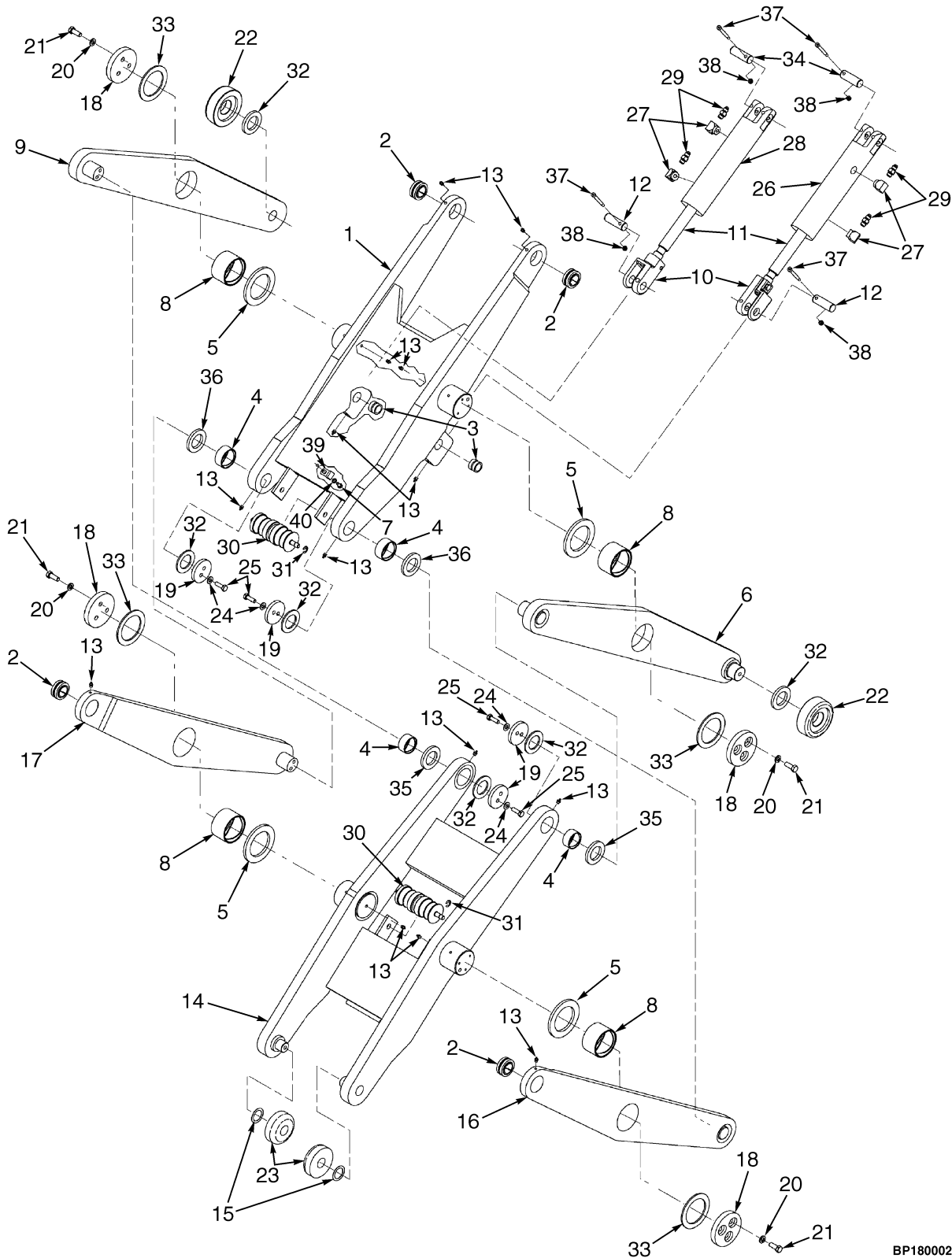
BP180000

**CARRIAGE
SCISSOR
24 IN. REACH**

ITEM	PART NO.	DESCRIPTION	QTY
1	16805	Capscrew.....	6
1	15156	Lockwasher	6
2	1486693	Cap	2
3	2043580	Washer	2
4	2310710	Washer	2
5	1492292	Arm Assembly (RH)	1
6	1487222	Arm Assembly (LH)	1
7	1476621	Bearing	2
7	2307226	Shim (0.050 in.)	2
8	1374536	Bushing.....	2
9	16041	Lube Fitting	6
10	1500857	Bushing.....	2
11	2306236	Washer	2
12	1487212	Sheave.....	1
13	12898	Snap Ring	2
14	2302771	Load Bearing	2
14	2306542	Shim (0.020 in.)	2
15	1479750	Support.....	1
16	2303858	Bushing.....	2
17	2311504	Bushing.....	2
18	1492291	Pin	2
19	1495154	Bolt	4
20	1480379	Pin	2
21	2310385	Pin	2
22	230882	Nut	4
23	366989	O-Ring Fitting	4
24	16538	Fitting.....	4
25	.....	Reach Cylinder (RH) (☞ Figure 9-5)	1
26	.....	Reach Cylinder (LH) (☞ Figure 9-5)	1
	a 292508	Capscrew.....	2

FOOTNOTES:**a** Not Illustrated

CARRIAGE (Figure 9-3) SCISSOR 42 IN. REACH

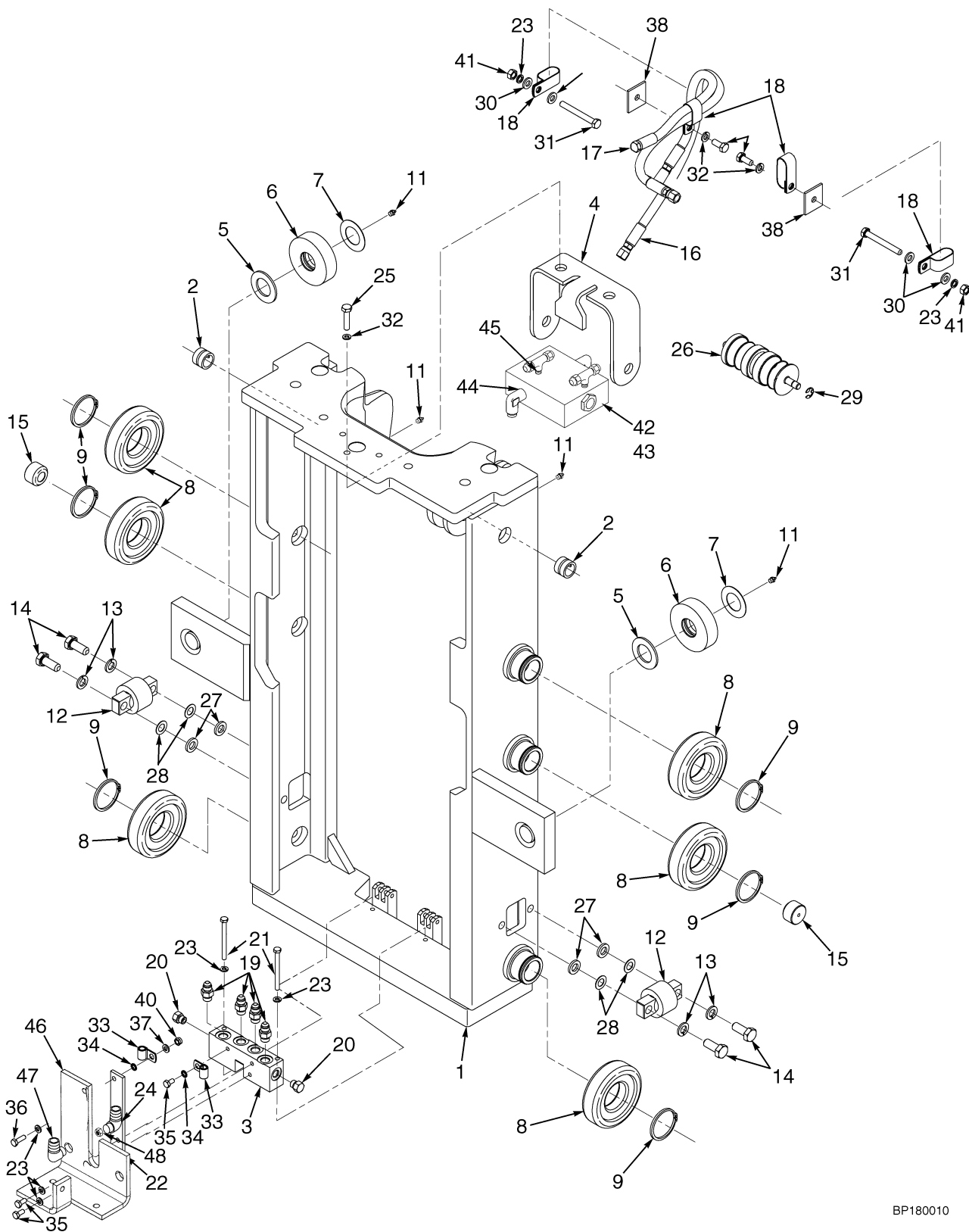


BP180002

**CARRIAGE
SCISSOR
42 IN. REACH**

ITEM	PART NO.	DESCRIPTION	QTY
1	1482557	Support (Rear).....	1
2	1374536	Bushing.....	1
3	2303858	Bushing.....	2
4	1501192	Bushing.....	2
5	2306236	Washer	4
6	1490364	Arm (LH) (Rear).....	1
7	287817	Capscrew.....	1
8	1500857	Bushing.....	1
9	1490362	Arm (RH) (Rear)	1
10	1491789	Rod End.....	2
11	292508	Capscrew.....	2
	292681	Lockwasher.....	2
12	2310385	Pin	2
13	16041	Lube Fitting	18
14	1483725	Support (Front)	1
15	2304451	Shim (0.020 in.)	AR
16	1490360	Arm (LH) (Front)	1
17	1490358	Arm (RH) (Front).....	1
18	1486693	Cap	4
19	2304641	End Cap (Center)	4
20	15156	Lockwasher.....	12
21	16805	Capscrew.....	12
22	1476621	Bearing	2
23	2302771	Load Bearing	2
24	18515	Washer	8
25	18497	Capscrew.....	8
26	.....	Reach Cylinder (LH) (☞ Figure 9-5)	1
27	366989	O-Ring Fitting	4
28	.....	Reach Cylinder (RH) (☞ Figure 9-5)	1
29	16538	Fitting.....	4
30	1487212	Sheave.....	1
31	12898	Snap Ring.....	6
32	2307829	Shim (0.060 in.)	4
33	2043580	Washer	4
34	1480379	Pin	2
35	2307599	Washer	4
36	2307779	Washer	4
37	1495154	Bolt	4
38	230882	Nut	4
39	2304805	Clamp	2
40	296379	Washer	1

CARRIAGE (Figure 9-4) INNER FRAME



BP180010

**CARRIAGE
INNER FRAME**

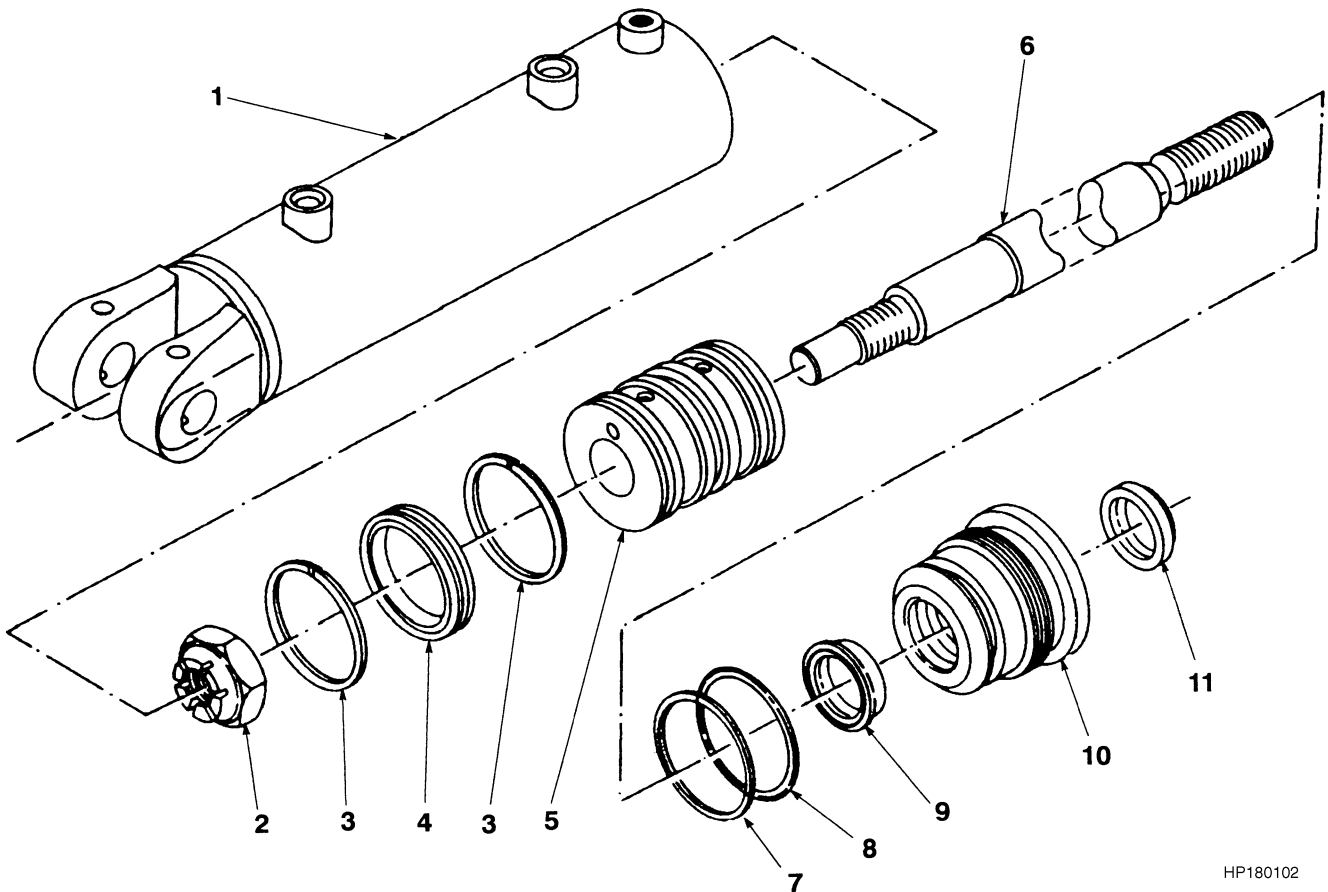
ITEM	PART NO.	DESCRIPTION	QTY
1	1479089	Rear Frame.....	1
2	1476622	Bushing.....	2
3	1479251	Valve	1
4	1502990	Bracket.....	1
5	2308558	Spacer	2
6	2305275	Thrust Roller (3.1 in).....	1
6	2309266	Thrust Roller (3.0 in).....	2
6	2309614	Thrust Roller (2.9 in).....	4
7	2308542	Washer	2
8	2309514	Load Roller	6
9	2311941	Snap Ring	6
10	2044514	Snap Ring	2
11	16041	Lube Fitting	12
12	2310327	Roller Assembly.....	2
13	292683	Lockwasher.....	4
14	292527	Capscrew.....	4
15	2310773	Wear Plug	2
15	296130	Nut	2
16	2048271	Hose Assembly.....	2
17	2047808	Hose Assembly.....	2
18	110322	Clamp	4
19	16539	Fitting.....	4
20	14591	Fitting.....	4
21	292507	Capscrew.....	2
22	1517512	Bracket.....	1
23	292680	Lockwasher.....	13
24	16456	Fitting.....	2
25	132861	Capscrew.....	2
26	1487212	Sheave.....	2
27	2306377	Shim (0.125 in.)	2
28	2305581	Shim (0.030 in.)	2
29	12898	Snap Ring	2
30	320157	Washer	4
31	136703	Capscrew.....	2
32	292681	Lockwasher.....	10
33	2304805	Clamp	4
34	296379	Washer	2
35	287817	Capscrew.....	7
36	292501	Capscrew.....	7
37	320156	Washer	1
38	1495182	Plate	2
39	136681	Capscrew.....	2
40	316834	Nut	1
41	239503	Nut	2
42	1502991	Check Valve	1
43	2046919	Valve Block.....	1
44	16556	Fitting.....	2
45	16574	Fitting.....	2
46	1483263	Bracket.....	1
47	16988	Fitting.....	2

CARRIAGE INNER FRAME

ITEM	PART NO.	DESCRIPTION	QTY
48	14759	Fitting.....	2
	a 373301	Strap Clamp.....	2

FOOTNOTES:

a Not illustrated

REACH CYLINDER (Figure 9-5)
24 IN. AND 42 IN. REACH

HP180102

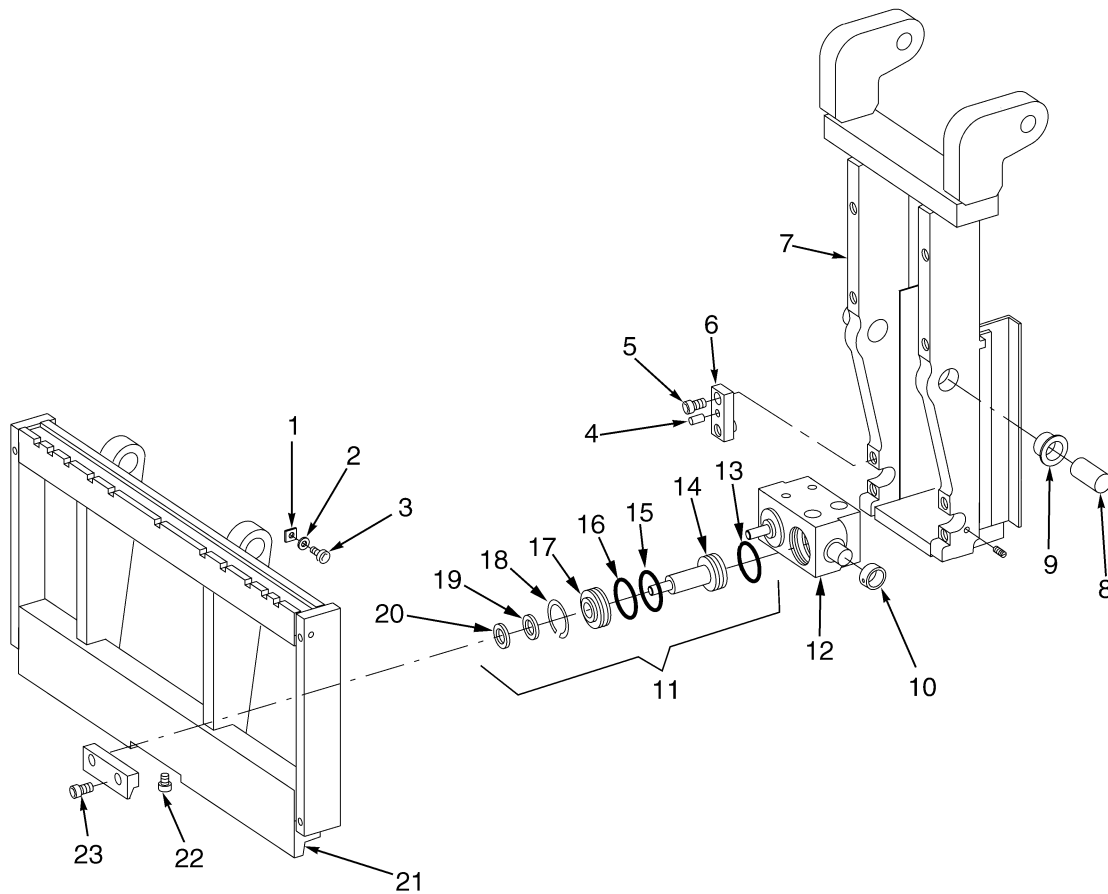
ITEM	PART NO.	DESCRIPTION	QTY
	a 2043577	Cylinder Assembly (RH)	1
	a 2043574	Cylinder Assembly (LH)	1
	b 2051146	Cylinder Assembly (LH)	1
	b 2051147	Cylinder Assembly (RH)	1
1	a 2043578	Tube (LH)	1
1	a 2043579	Tube (RH)	1
1	b 2044943	Tube (LH)	1
1	b 2044945	Tube (RH)	1
2	2306366	Nut	1
3	2302662	Piston Ring	2
4	2304041	Seal Assembly (Packing)	1
5	2046247	Piston	1
6	2046248	Rod	1
7	153919	Back-Up Ring	1
8	55407	O-Ring	2
9	1381093	Seal	1
10	2302348	Gland	1

**REACH CYLINDER
24 IN. AND 42 IN. REACH**

ITEM	PART NO.	DESCRIPTION	QTY
11	1351186	Wiper Ring.....	1
	2302265	Packing Kit (Includes Items 4, 7-9, 11)	1

FOOTNOTES:

- a** 24 in. Reach
b 42 in. Reach

INTEGRAL TILT ASSEMBLY (Figure 9-6)

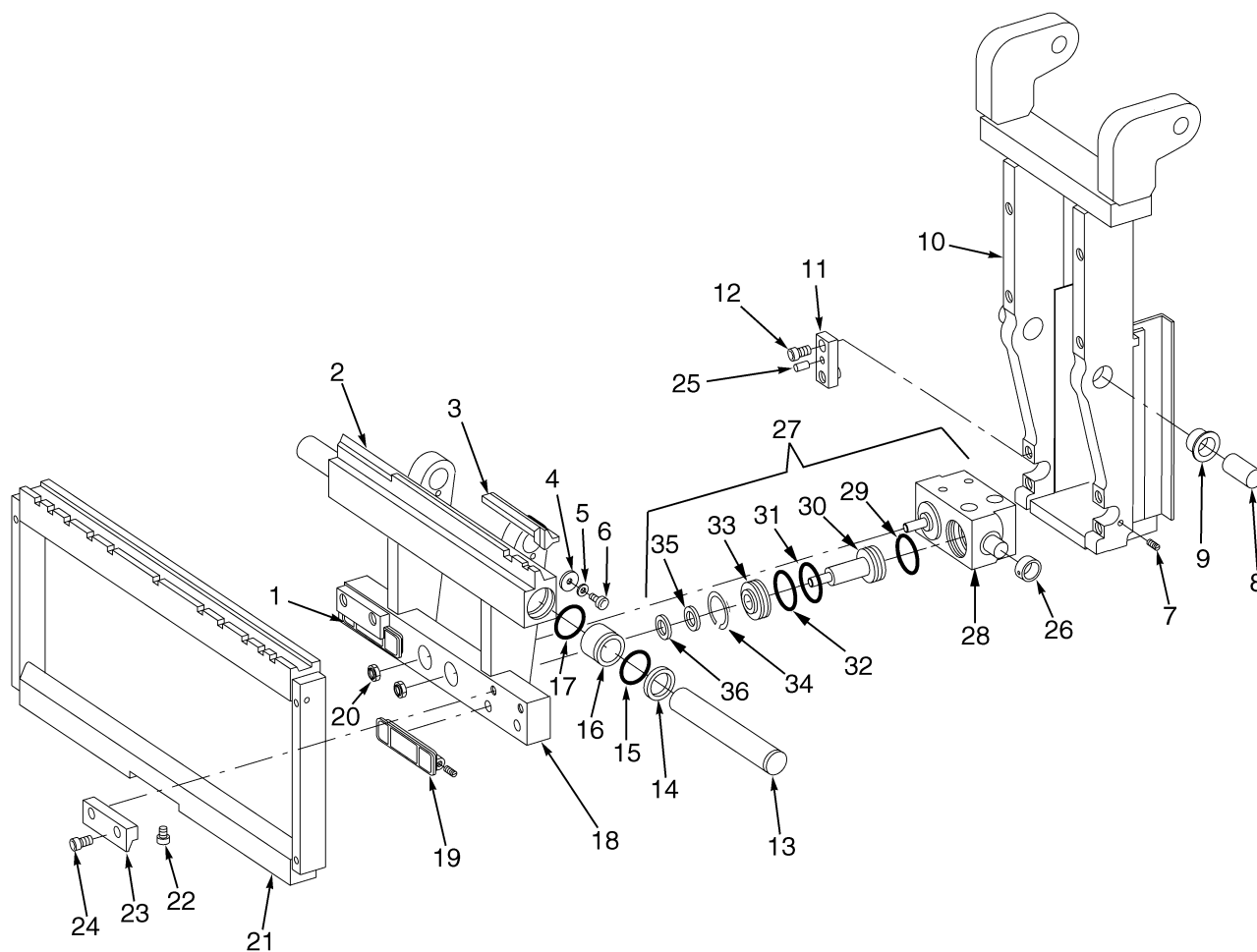
YP171192

INTEGRAL TILT ASSEMBLY

ITEM	PART NO.	DESCRIPTION	QTY
	1476619	Integral Tilt Assembly (Single Reach).....	1
	1491573	Integral Tilt Assembly (Double Reach)	1
1	1495883	Washer	2
2	1495879	Washer	2
3	1495878	Screw	2
4	1495873	Screw	2
5	1495874	Screw	2
6	1495884	Hook.....	2
7	1495929	Tilt Frame	1
8	1495890	Shaft.....	2
9	1495882	Bushing	2
10	1495871	Bushing	2
11	1495900	Cylinder	1
12	1518883	Housing.....	2
13	1514225	Wear Band	2
14	1513981	Piston and Rod Assembly	2
15	1514222	O-Ring.....	2
16	1514223	Back-Up Ring.....	2
17	1513982	Gland	2
18	1518881	Snap Ring	2
19	1514226	Seal.....	2
20	1514224	Wiper.....	2
21	1495929	Tilt Frame	1
22	1495872	Screw	1
23	1495876	Screw	2
	1518884	Seal Kit (Includes Items 13, 15-16, 19-20)	1

[illegible]

INTEGRAL SIDE-SHIFT ASSEMBLY (Figure 9-7)



HP171122

INTEGRAL SIDE-SHIFT ASSEMBLY

ITEM	PART NO.	DESCRIPTION	QTY
	1476618	Integral Tilt Assembly (with Side-Shift) (Single Reach)	1
	1491572	Integral Tilt Assembly (with Side-Shift) (Double Reach)	1
1	1495896	Pad	1
2	1495893	Pad	1
3	1495894	Pad	1
4	1495883	Washer	2
5	1495879	Washer	2
6	1495878	Screw	2
7	1495878	Screw	2
8	1495890	Shaft	2
9	1495882	Bushing	2
10	1495892	Frame (Single Reach)	1
10	1496018	Frame (Double Reach)	1
11	1495884	Hook	2
12	1495874	Screw	4
13	1495897	Rod	2
14	1495901	Ring	2
15	1495921	Snap Ring	2
16	1495898	Bushing	2
17	1495880	Seal	2
18	1495891	Frame	1
19	1495895	Pad	1
20	1495875	Nut	2
21	1495885	Frame	1
22	1495872	Screw	1
23	1495899	Hook	2
24	1495876	Screw	4
25	1495873	Screw	2
26	1495871	Bushing	2
27	1495900	Cylinder	1
28	1518883	Housing	1
29	1514225	Wear Band	2
30	1513981	Piston and Rod Assembly	2
31	1514222	O-Ring	2
32	1514223	Back-Up Ring	2
33	1513982	Gland	2
34	1518881	Snap Ring	2
35	1514226	Seal	2
36	1514224	Wiper	2
	1518884	Seal Kit (Includes Items 29, 31-32, 35-36)	1

[illegible]

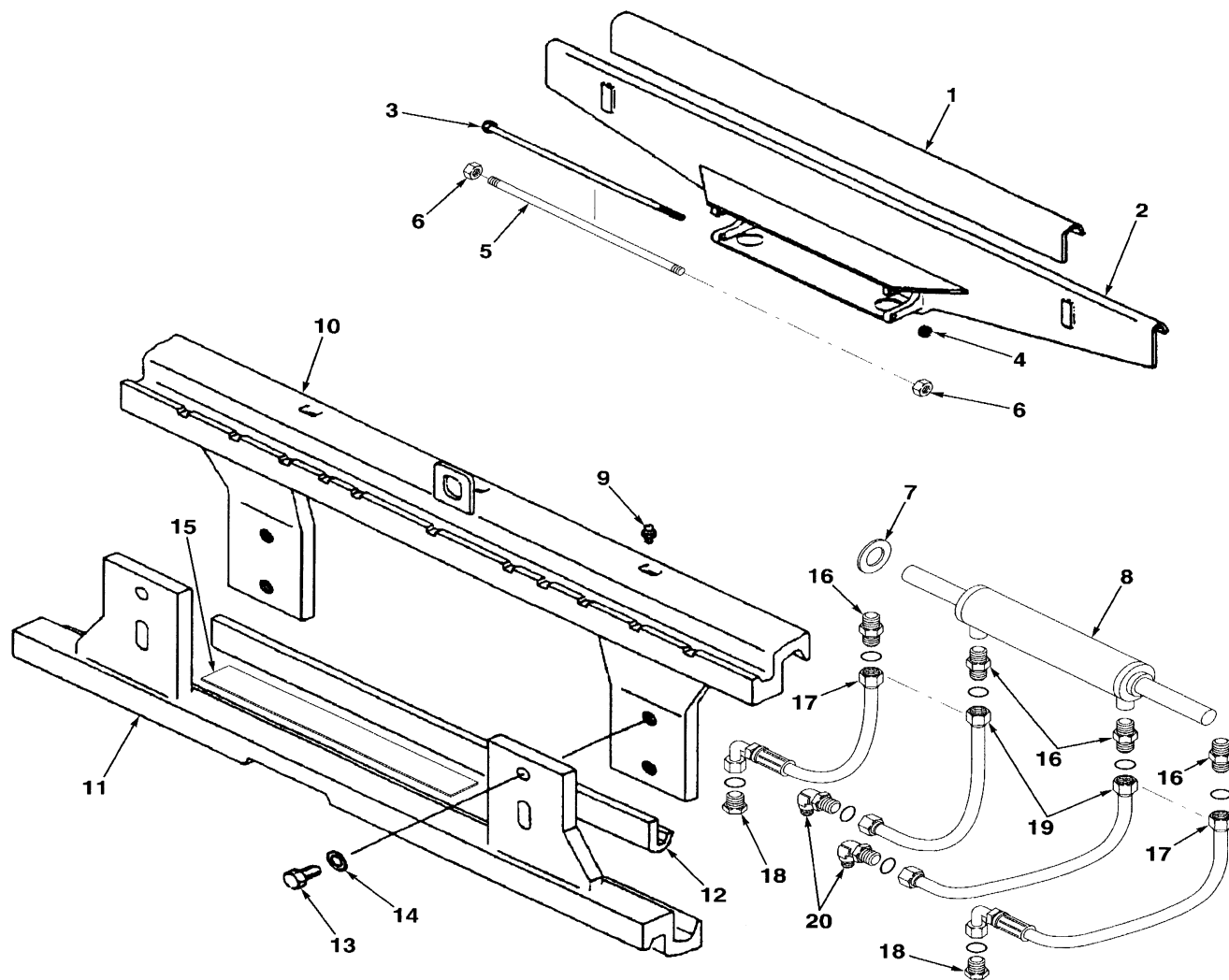
10	OPTIONS	
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SECTION 10

OPTIONS

DESCRIPTION	PAGE
BACK UP ALARM	10-12
BACKREST	10-7
BATTERY TRAY	10-16
FORKS	
HOOK TYPE	10-6
LIGHT AND FAN ASSEMBLY	10-10
MAST MOUNTED HEADLIGHTS	10-8
REAR WORKING LIGHT	10-9
SIDE-SHIFT ASSEMBLY	
N50XMA3.....	10-2
SIDE-SHIFT CYLINDER ASSEMBLY	10-4
TANDEM LOAD WHEEL	10-14

SIDE-SHIFT ASSEMBLY (Figure 10-1) N50XMA3



HP180045

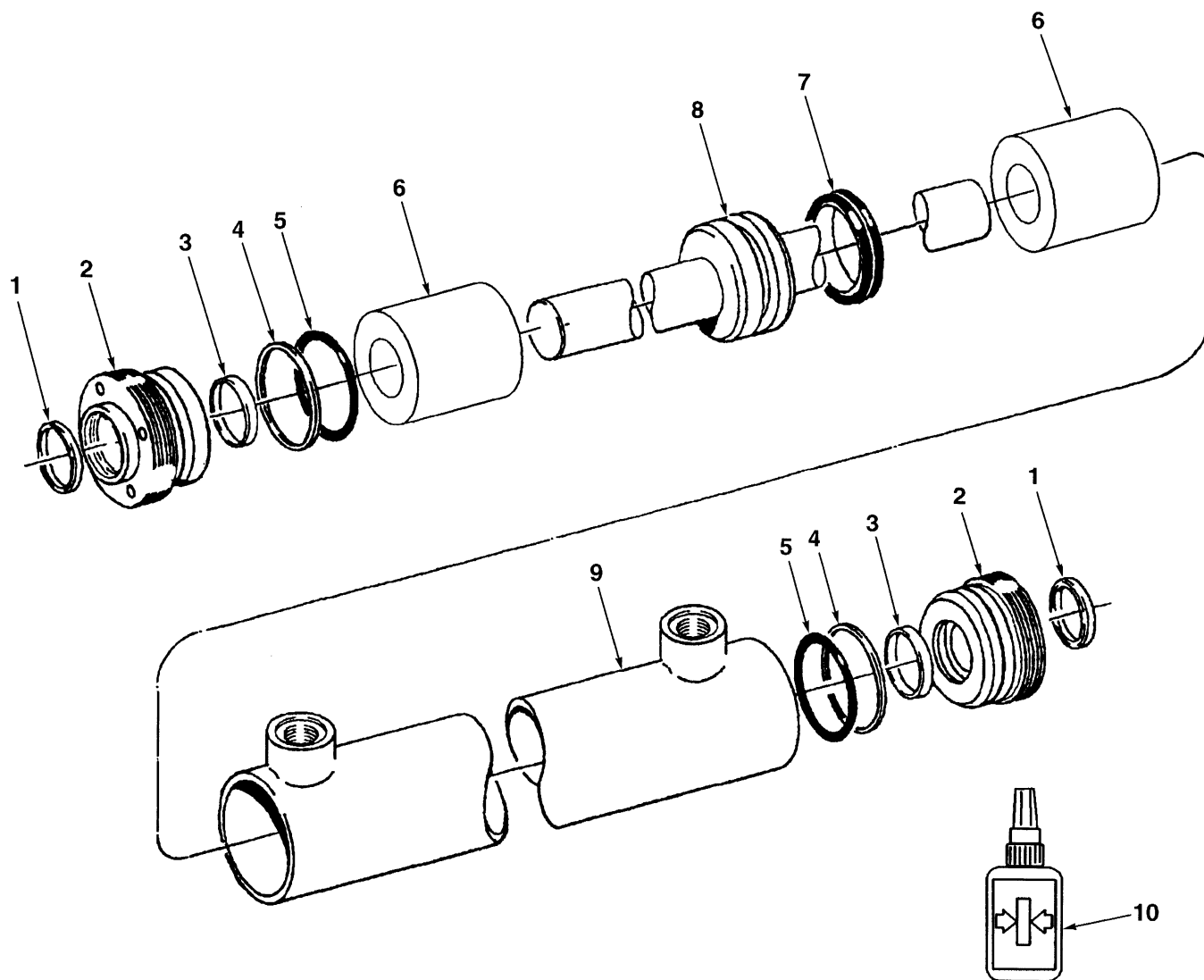
**SIDE-SHIFT ASSEMBLY
N50XMA3**

ITEM	PART NO.	DESCRIPTION	QTY
	1399036	Side-Shift Assembly.....	1
1	1396455	Bearing (Top).....	1
2	1399001	Support.....	1
3	1371289	Capscrew	2
4	313828	Nut.....	2
5	1358809	Rod (Optional)	2
6	313828	Nut (Optional).....	4
7	1358821	Shim (0.020 in.).....	AR
8	2310560	Side-Shift Cylinder (☞ Figure 10-2)	1
9	16041	Lube Fitting.....	3
11	1378050	Apron (Bottom).....	1
12	1378060	Bearing (Bottom)	1
13	293704	Capscrew	4
14	296431	Washer	4
15	139426	Fitting.....	AR
16	16538	Fitting.....	2
16	16481	O-Ring	1
17	b 2303113	Hose	2
18	b 1470907	Adapter	2
19	a 2306077	Hose	2
20	a 2311818	Fitting.....	2
20	a 16481	O-Ring	1

FOOTNOTES:

- a** Three Stage Full Free-Lift
b Two Stage Limited Free-Lift

SIDE-SHIFT CYLINDER ASSEMBLY (Figure 10-2)

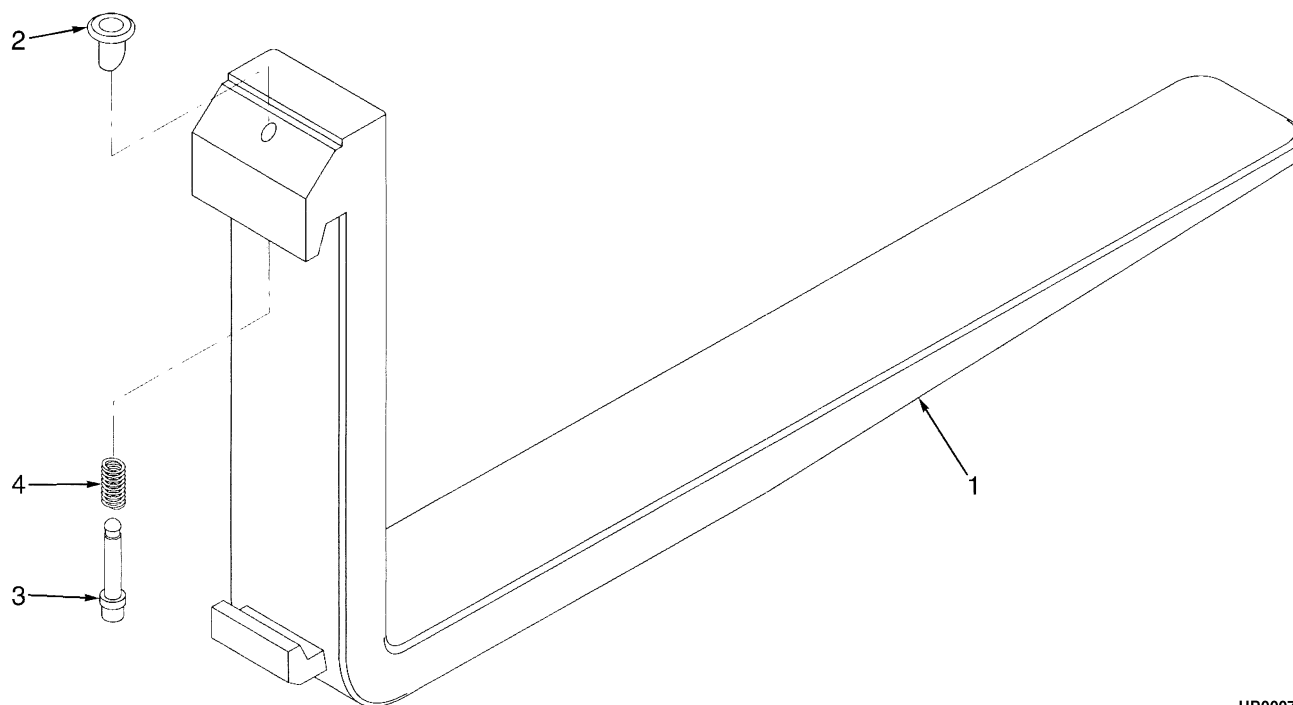


HP180046

SIDE-SHIFT CYLINDER ASSEMBLY

ITEM	PART NO.	DESCRIPTION	QTY
	2310560	Side-Shift Cylinder	1
1	636851	Wiper Ring.....	2
2	2310768	Gland.....	2
3	1383037	Seal	2
4	153919	Back-Up Ring	2
5	55407	O-Ring	2
6	2303300	Spacer	2
7	2306755	Seal	1
8	2309719	Rod.....	1
9	2311471	Tube.....	1
10	383789	Thread Sealer.....	AR
	2311624	Seal Kit (Includes Items 1, 3-5, 7)	1

FORKS (Figure 10-3) HOOK TYPE



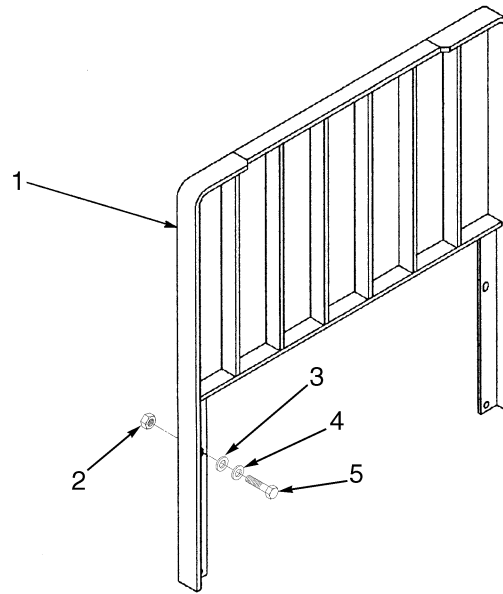
HP000720

ITEM	PART NO.	DESCRIPTION	QTY
1	a 384211	Fork (36 in.)	2
1	b 1334303	Fork (36 in.)	2
1	a 384213	Fork (42 in.)	2
1	b 1334304	Fork (42 in.)	2
1	a 384214	Fork (48 in.)	2
1	b 1334306	Fork (48 in.)	2
2	1477163	Knob	1
3	1477164	Pin	1
4	1477165	Spring	1

FOOTNOTES:

a 1-1/2 X 4 in. (40mm X 100mm)

b 1.75 X 4 in. (45mm X 100mm)

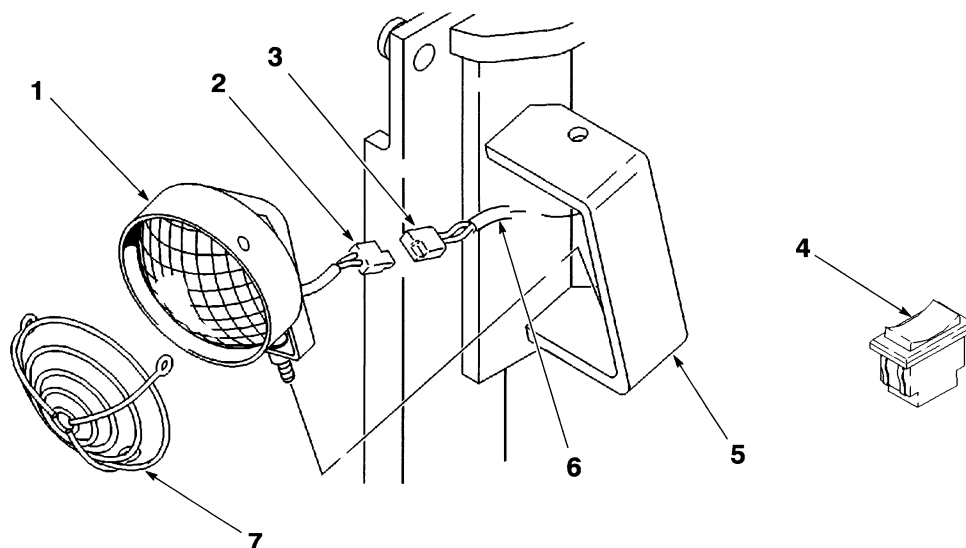
BACKREST (Figure 10-4)

HP260007

ITEM	PART NO.	DESCRIPTION	QTY
1	b 1482373	Backrest.....	1
1	a 2013771	Load Backrest Extension.....	1
2	300937	Nut	4
3	b 15135	Washer	4
3	a 221771	Washer	4
4	b 15158	Lockwasher.....	4
4	a 296423	Washer	4
5	b 16829	Capscrew.....	4
5	a 1343990	Capscrew.....	4

FOOTNOTES:**a** Used on 34 in.**b** Used on 48 in.

MAST MOUNTED HEADLIGHTS (Figure 10-5)

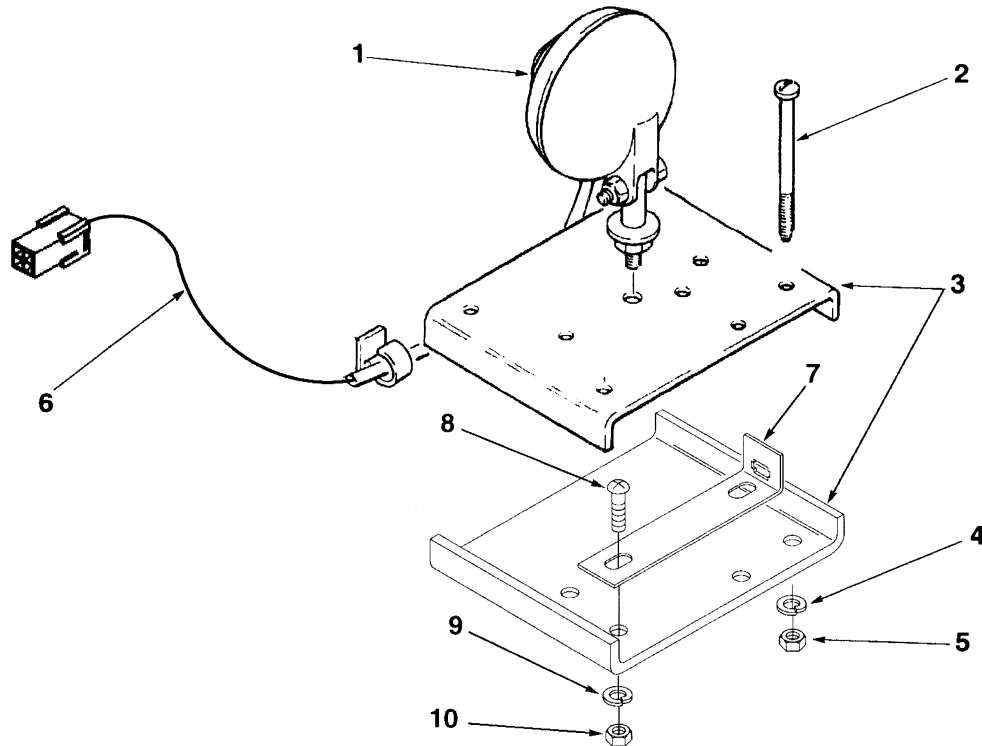


HP000721

ITEM	PART NO.	DESCRIPTION	QTY
1	2310192	Headlight (24 Volt)	1
1	2307345	Headlight (36 Volt)	1
2	2307413	Connector (Male)	2
3	2308118	Connector (Female)	1
4	1303711	Light Switch	1
5	1459053	Guard.....	1
6	1497778	Wire Harness.....	1
7	1374799	Guard.....	2
a	16723	Screw.....	4
a	15152	Lockwasher.....	4
a	15052	Nut	4
a	2034482	Tubing	AR
a	2033612	Tie-Down	6
a	1495887	Cable	AR
a	381413	Socket.....	2
a	2047819	Amp Interface Seal	1
a	2047820	Wire Seal	2

FOOTNOTES:

a Not Illustrated

REAR WORKING LIGHT (Figure 10-6)

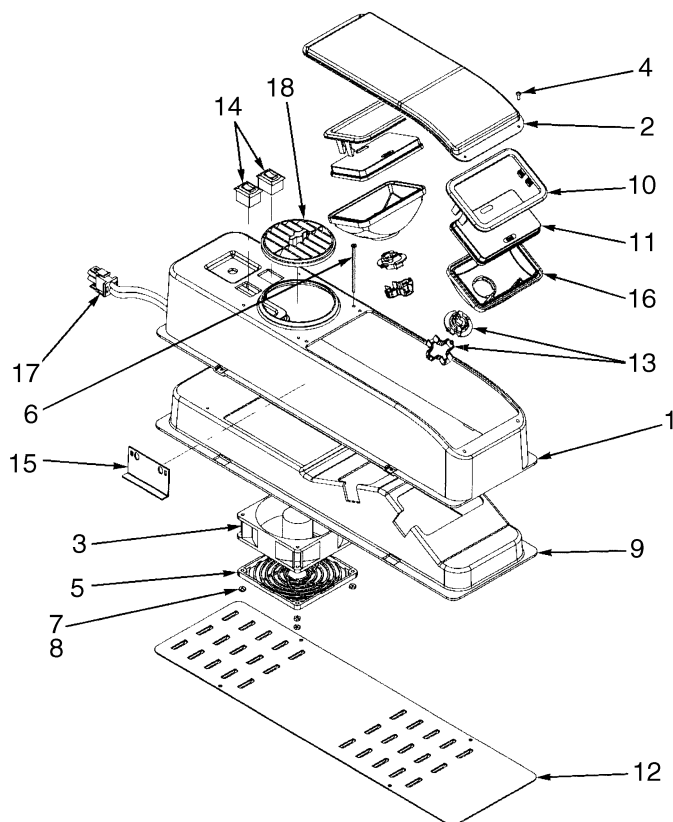
HP081063

ITEM	PART NO.	DESCRIPTION	QTY
1	2308040	Work Light (24 Volt)	1
1	2303781	Work Light (36 Volt)	1
2	16723	Screw.....	2
3	2044494	Bracket.....	2
4	15152	Lockwasher.....	2
5	15052	Nut	2
6	1303711	Light Switch	1
7	1498268	Bracket.....	1
8	18473	Capscrew.....	4
9	15154	Lockwasher.....	4
10	15054	Nut	4
	a 1374799	Guard.....	1
	a 1301727	Clamp	2
	a 1498322	Wire Harness.....	1
	a 2033612	Tie-Down	3
	a 2308118	Connector (Female).....	1
	a 1305672	Contact	2
	a 2034482	Tubing	AR
	a 381413	Socket.....	4
	a 2047819	Amp Interface Seal	1
	a 2047820	Wire Seal	2

FOOTNOTES:

a Not Illustrated

LIGHT AND FAN ASSEMBLY (Figure 10-7)



BP000017

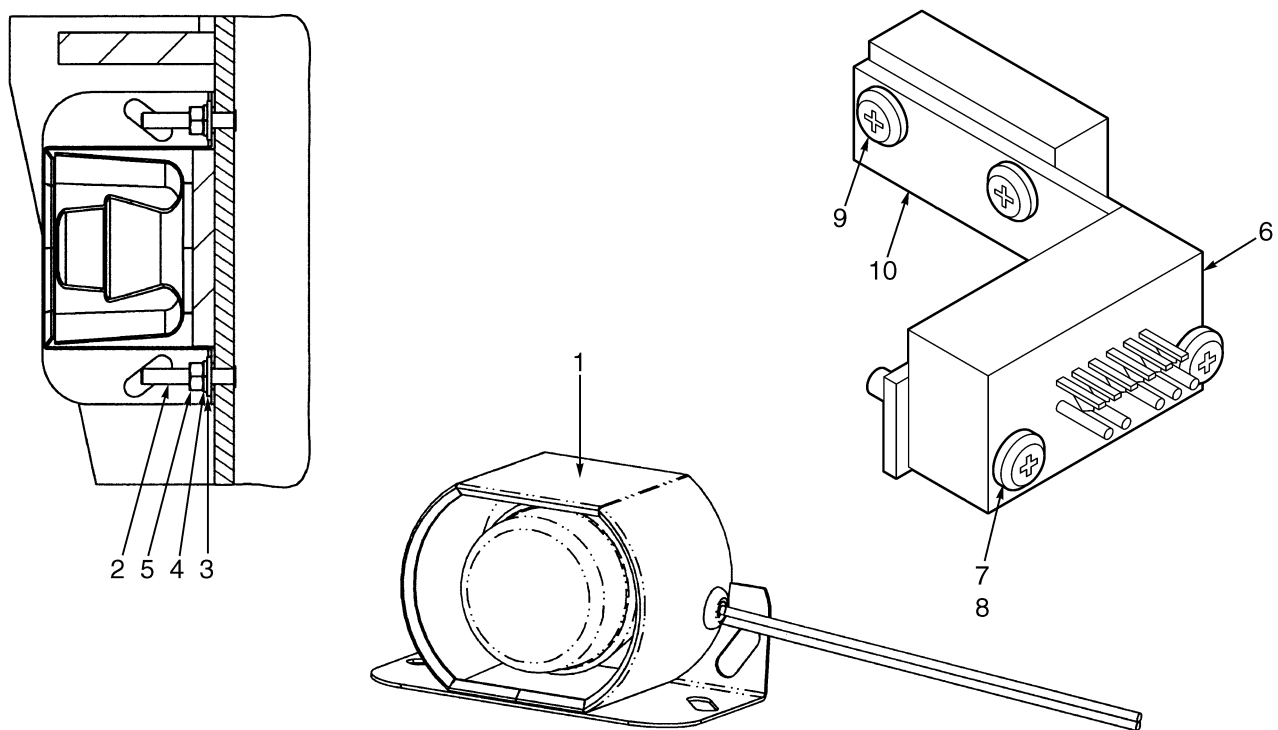
LIGHT AND FAN ASSEMBLY

ITEM	PART NO.	DESCRIPTION	QTY
	2036504	Light and Fan	1
1	.....	Housing	1
2	1363016	Flood Lens.....	2
3	1464085	Fan (12 Volt)	1
4	.....	Screw.....	5
5	.....	Fan Guard.....	1
6	.....	Screw.....	4
7	.....	Washer	4
8	.....	Nut	4
9	.....	Lamp Holder	1
10	1364444	Bezel.....	2
11	2045594	Lens	2
12	.....	Plate	1
13	1302258	Bulb	2
14	1464093	Fan Switch	1
14	1464094	Light Switch	1
15	1471697	Hardware Kit	1
15	1486513	Bracket (Short)	1
15	1486515	Bracket (Long)	2
16	2309223	Lamp.....	2
17	1463849	Grease.....	AR
18	.....	Louver Fan.....	1
	a 1464067	Switching Circuit Converter	1
	a 2033612	Tie-Down	3
	a 1500283	Wire Harness (Light and Fan).....	1

FOOTNOTES:

a Not Illustrated

BACK UP ALARM (Figure 10-8)

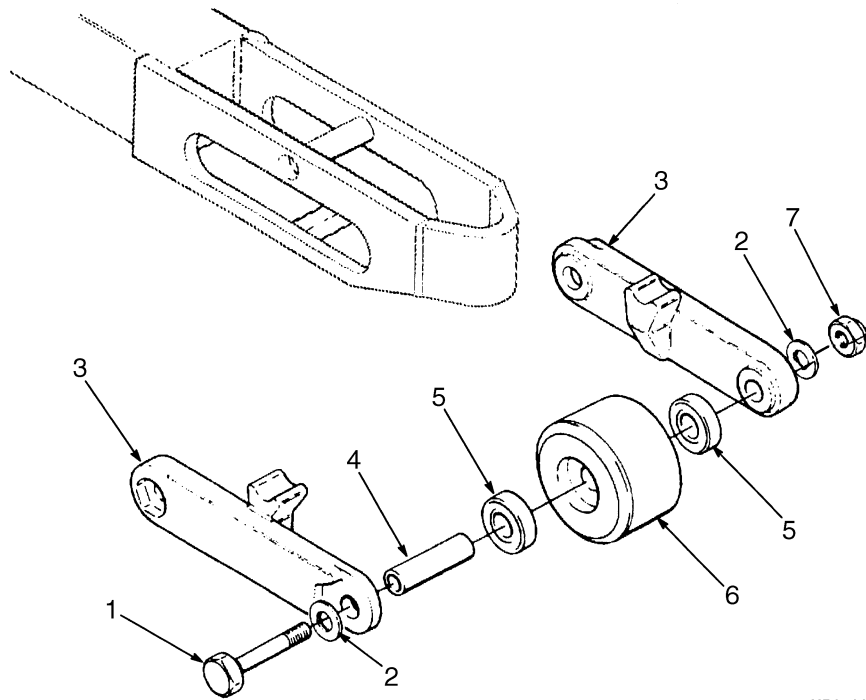


BP000042

BACK UP ALARM

ITEM	PART NO.	DESCRIPTION	QTY
1	2055339	Audible Alarm	1
2	2037819	Stud	2
3	2041014	Washer	2
4	15154	Lockwasher.....	2
5	15054	Nut	2
6	2052700	Module Accessory Driver.....	1
7	16724	Screw.....	2
8	15052	Nut	2
9	16720	Screw.....	2
10	2037679	Bracket.....	1

TANDEM LOAD WHEEL (Figure 10-9)

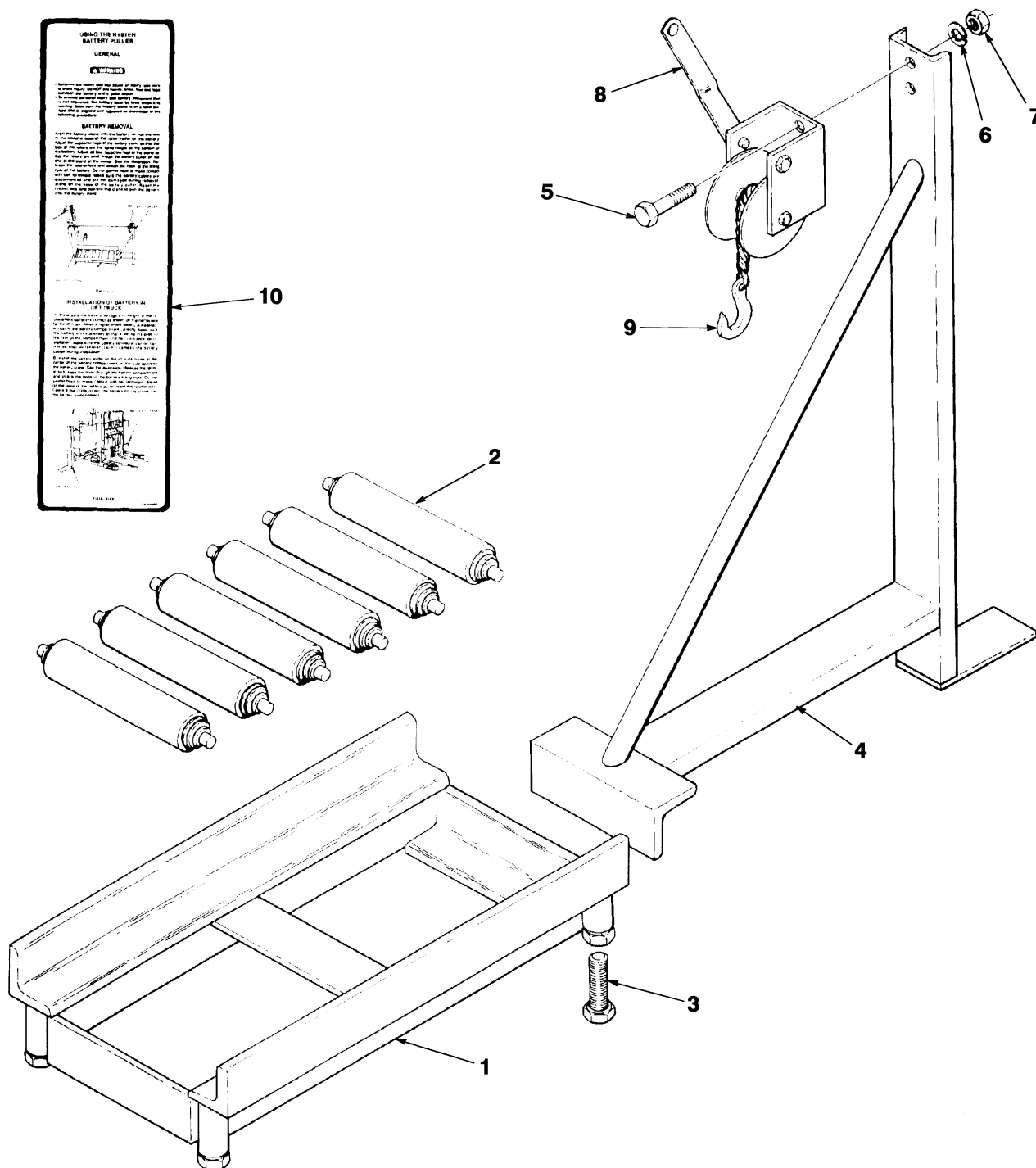


KEY:
A: Standard
B: Freezer

ITEM	PART NO.	DESCRIPTION	QTY	
			A	B
1	2305196	Capscrew (5X4 in.)	4	4
1	389608	Capscrew (5X3 in.)	4	4
2	15146	Washer	8	8
3	360121	Bracket.....	4	4
4	2304696	Sleeve (5X4 in.)	5	..
4	374563	Sleeve (5X3 in.)	5	..
4	2035528	Sleeve (5X4 in.)	..	5
4	2304676	Sleeve (5X3 in.)	..	5
5	194723	Bearing	8	8
6	2306047	Load Wheel (5X4 in.)(Durometer Rating 92)	4	..
6	2306047	Load Wheel (5X4 in.)(Durometer Rating 92)	..	4
6	2305605	Load Wheel (5X3 in.)(Durometer Rating 97)	4	..
6	2305605	Load Wheel (5X3 in.)(Durometer Rating 97)	..	4
7	222673	Nut	4	4

[illegible]

BATTERY TRAY (Figure 10-10)



HP000056

BATTERY TRAY

ITEM	PART NO.	DESCRIPTION	QTY
1	387978	Battery Tray.....	1
2	368022	Roller	6
3	15783	Capscrew.....	4
4	386845	Bracket.....	1
5	16597	Capscrew.....	2
6	15156	Lockwasher.....	2
7	15056	Nut	2
8	387980	Winch.....	1
9	387985	Rope Assembly.....	1
10	1300689	Label (Battery Puller).....	1

[illegible]

SECTION 11
NUMERICAL INDEX

PART NO.	PG	ITEM	PART NO.	PG	ITEM	PART NO.	PG	ITEM	PART NO.	PG	ITEM
12898	6-19	6		1-7	9		6-3	7		7-15	7
	6-21	6		2-3	7		6-3	19		8-13	17
	9-5	13		2-3	20		6-9	14	16486	6-13	1
	9-7	31		2-20	7		6-13	5		6-13	2
	9-9	29		6-4	50		9-5	1		8-15	17
14586	7-15	10		6-11	11		9-7	20	16487	4-15	2
	8-7	4	15134	2-3	28		10-17	6	16526	2-3	29
14591	9-9	20		6-9	17	15158	3-3	2	16538	4-5	20
14595	7-9	2	15135	4-3	4		3-3	13		6-19	31
14603	7-15	11		4-5	4		3-3	19		6-21	31
14759	9-9	48		10-7	3		10-7	4		9-5	24
15000	1-7	14	15146	10-14	2	15160	1-7	6		9-7	29
	6-11	9	15151	6-11	3	15172	5-9	13		10-3	16
15001	3-3	21	15152	1-3	6	15175	2-3	38	16539	9-9	19
	5-3	29		7-13	4		2-7	8	16540	4-3	22
15019	5-3	26		8-16	4	15176	4-5	14		4-5	21
15024	5-3	20		10-8	9	15200	5-9	14		6-19	30
15052	10-8	10		10-9	4	15212	7-5	6		6-21	30
	10-9	5	15154	1-3	8		8-5	14	16547	4-3	21
	10-13	8		1-7	10		8-9	6	16549	4-3	20
15054	1-7	11		2-3	8	15235	3-5	14		4-5	22
	2-3	9		2-3	20	15245	3-5	7	16556	4-3	31
	2-7	6		2-7	5	15783	10-17	3		4-15	5
	4-3	10		2-19	14	15872	3-3	29		9-9	44
	4-5	10		2-20	7	15878	3-5	4	16558	6-9	9
	5-3	3		4-3	9	15880	8-15	14	16561	6-9	12
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	10-9	10		5-3	3	16001	3-3	7		8-7	9
	10-13	5		5-3	19	16041	9-5	9	16574	9-9	45
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15058	3-3	14		6-3	15		10-3	20	16782	3-11	6
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15106	5-3	21		3-3	10		4-15	4		6-3	7
15107	8-11	9		4-3	15		7-9	3		9-5	1
15113	1-7	11		4-3	17	16485	4-3	26		9-7	21
	6-11	5		4-15	8		4-5	26	16829	10-7	5
15114	6-3	27		5-3	14		6-13	2	16830	3-3	1
15127	1-3	8		6-3	7		7-15	5	16836	1-3	24

NUMERICAL INDEX (Continued)

PART NO.	PG	ITEM	PART NO.	PG	ITEM	PART NO.	PG	ITEM	PART NO.	PG	ITEM
16988	9-9	47	59229	7-11	4		8-14	9	230882	9-5	22
17151	3-11	11		8-12	4	190580	8-14	7		9-7	38
17178	1-3	3	88431	8-9	10	190887	8-15	18	239503	3-7	5
17233	7-9	3	96521	6-9	8	190930	4-3	5		7-15	4
17422	4-3	29	97847	4-17	10		4-5	5		8-7	8
17753	6-19	21		4-19	9	194723	10-14	5		9-9	41
	6-21	21	110174	4-15	3	195293	2-20	2	244272	1-4	31
17943	2-19	13		4-15	4	196927	1-9	5	246001	9-3	15
18202	4-5	15	110178	4-3	32	197067	2-19	14	248212	8-11	1
18419	5-3	34		4-5	18		7-13	4	249668	1-3	5
18460	1-3	8	110279	6-4	40		8-16	4	257913	8-12	8
	2-19	13	110322	9-9	18	197068	1-7	9		8-14	6
	6-3	9	111331	6-13	2		2-3	36	264134	3-3	39
18462	6-4	51	111404	5-11	14		2-7	4	265787	7-11	7
18465	1-7	8	119236	6-4	44		6-11	6	266277	2-20	2
	2-3	10	121452	6-4	43	198209	9-3	17	275661	1-9	16
	2-7	3	127045	6-4	46	198678	6-4	49	280313	6-4	38
18466	2-3	11	129358	7-5	5	201766	6-19	1	286082	4-17	4
18471	2-3	37	130845	6-4	45		6-21	1		4-19	6
	2-20	6		6-4	47	201783	8-7	2	286097	4-17	11
18473	10-9	8	131358	7-3	6	213100	9-3	7		4-19	10
18497	1-3	10	132861	9-9	25	214364	7-9	7	287817	6-19	15
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	9-7	25		6-21	4	218006	5-3	3		6-21	18
18498	1-3	24		9-9	39	220277	5-3	33		7-7	5
	2-3	39	136687	7-5	9	220283	6-11	2		8-11	5
	2-7	7		7-9	4	220361	6-11	12	292501	2-3	21
18508	1-3	18	136703	9-9	31		6-17	32		3-7	24
18513	1-3	18	136704	5-9	7	220363	2-20	6		6-21	15
	5-9	7	136749	3-3	27	220473	2-3	12		7-3	19
18515	1-3	7		7-9	5	220735	2-3	13		7-9	8
	1-3	12	137852	5-3	2	220953	1-7	13		9-9	36
	2-3	14		8-16	2	221059	5-3	25	292502	7-5	12
	2-3	22	139426	10-3	15	221357	5-3	5	292507	9-9	21
	4-3	11	141908	4-15	2	221520	3-3	9	292508	8-7	6
	4-5	11	153919	9-11	7	221623	1-7	3		9-5	26
	6-3	13		10-5	4	221638	7-3	18		9-7	11
	9-7	24	161003	8-5	19		7-13	5	292509	7-15	9
18552	6-3	30	164840	8-14	13		8-3	22	292513	7-3	9
	6-9	15	166285	7-9	6	221767	5-3	28		8-3	12
18731	1-3	7	173247	6-3	4	221771	10-7	3	292514	4-5	16
18744	1-7	5		6-11	14	221775	1-7	4	292527	9-9	14
28320	5-7	4	177946	5-3	12		1-7	7	292529	3-3	36
39348	8-12	7	177949	4-3	24		7-13	6	292530	3-9	38
55407	9-11	8		4-5	24	221777	4-3	28	292600	8-9	9
	10-5	5	186061	8-13	18		5-3	6	292654	6-17	15
58901	7-5	4	186493	7-13	3	222400	4-3	26	292680	6-21	17
58916	7-11	15		8-16	3		4-5	26		6-21	20
	8-13	15	187388	7-11	10	222442	4-13	17		7-5	10
58922	8-5	11		8-12	10	222673	10-14	7		7-9	9

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PART NO.	PG	ITEM	PART NO.	PG	ITEM	PART NO.	PG	ITEM	PART NO.	PG	ITEM
292681	9-9	23	297530	7-11	8	368022	1-3	15	387978	10-17	1
	3-3	28	297531	8-12	12		10-17	2	387980	10-17	8
	4-5	29		8-14	8	368438	3-7	30	387985	10-17	9
	5-9	7	297649	7-7	1	368439	3-7	30	388296	3-5	12
	6-19	3		7-15	14	368440	3-7	30	389572	3-5	3
	6-21	3		8-5	18	368441	3-7	30	389574	3-5	10
	7-9	10	300937	10-7	2	371014	3-7	16	389608	10-14	1
	8-5	10	302020	2-9	14	371856	3-7	25	389627	3-5	6
	8-7	7		2-11	14	371863	3-7	10	389628	3-5	9
	9-7	11	302399	5-9	8	372650	5-9	10		3-5	19
292682	9-9	32	304526	8-5	12	373301	9-10	49	389630	3-5	18
	4-5	17	309062	8-14	4	374046	2-19	8	389631	3-5	21
292683	3-3	37	310253	3-3	22	374160	5-3	36	389632	3-5	17
	3-9	37	313828	10-3	4	374563	10-14	4	389635	3-5	20
	9-3	14		10-3	6	374595	3-3	4	389688	1-9	20
	9-9	13	316834	9-9	40	375988	6-3	28	389692	1-9	21
292685	3-5	11	317731	8-9	10	376203	4-3	18	636851	10-5	1
292687	3-3	31	317733	8-9	10	378547	2-13	5	636941	8-14	5
	3-5	16	318707	3-7	12	379522	2-13	6	637565	8-14	3
293601	6-21	20		3-9	36	379523	2-13	8	996309	2-15	12
293704	10-3	13	318709	3-7	13	379524	2-13	11	1195878	3-11	5
293780	3-13	23		3-7	22	379902	2-3	25	1300306	3-5	22
293781	6-19	17	320156	7-5	13		2-19	2	1300689	10-17	10
296012	3-7	6		7-9	11	380699	4-3	27	1301727	3-13	22
	3-13	24		9-9	37	380713	3-7	4		10-9	12
296015	3-7	1	320157	5-9	8	380719	3-7	11	1302258	10-11	13
	3-7	7		7-7	2	380721	3-7	2	1303711	10-8	4
296020	3-7	3		7-9	12	380766	5-5	2		10-9	6
296030	3-7	8		7-15	13	381413	10-8	14	1303726	3-3	5
296130	9-9	15		8-5	9		10-9	18	1305672	10-9	16
296131	7-3	4		9-9	30	383789	10-5	10	1307687	2-4	44
	9-3	3	320158	7-7	3	383931	2-9	24	1308526	5-5	3
296137	3-3	32		7-15	3		2-13		1308527	5-5	4
296165	8-5	13	325809	2-9	5	383973	2-15	5	1308529	5-5	1
296167	7-9	15		2-11	5	383977	2-17	4	1308531	5-5	6
296216	6-19	24	325819	2-3	6	383979	2-17	13	1310339	7-11	14
	6-21	24	334156	7-11	2	383981	2-17	10		8-13	14
296225	8-5	8		7-11	12	383983	2-17	15	1310370	8-12	1
296379	6-19	25		8-12	2	383984	2-13	9	1314299	2-15	4
	6-19	29	335012	7-11	11	383985	2-13	8	1315469	2-15	2
	6-21	25		8-12	11	384211	10-6	1	1315470	2-15	3
	6-21	29	335989	1-9	11	384213	10-6	1	1315550	2-15	6
	9-7	40	335991	1-9	9	384214	10-6	1	1319668	8-12	1
	9-9	34	336391	7-5	5	384398	2-13	7	1322441	6-19	8
296420	6-19	16	342725	4-9	8	385865	3-3	39	1326866	3-11	8
	6-21	16	354119	3-7	27	386682	7-11	9	1326867	3-11	19
	7-3	10	355327	6-3	26		8-12	9	1327196	5-5	5
	8-3	11	360121	10-14	3	386683	7-11	9	1327534	3-7	14
296423	10-7	4	360269	3-3	38		8-12	9	1329073	3-3	3
296426	7-3	17	365151	3-3	8	386684	7-11	9		3-5	
	8-3	21	366989	9-5	23		8-12	9	1329434	3-5	2
296431	10-3	14		9-7	27	386845	10-17	4	1329436	3-5	13

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PART NO.	PG	ITEM	PART NO.	PG	ITEM	PART NO.	PG	ITEM	PART NO.	PG	ITEM
1330242	3-5	1	1371746	4-21	28	1456859	2-11	1	1457798	4-21	17
1330698	2-15	1		6-15	14		2-17		1457799	4-21	20
1331362	2-9	25	1374238	2-13	10	1456860	2-9	4	1457800	4-21	22
	2-11	25	1374536	9-5	8		2-11	4	1457801	4-21	14
1334303	10-6	1		9-7	2	1456864	2-9	35		4-21	21
1334304	10-6	1	1374541	8-9	5		2-11	35	1457988	2-19	15
1334306	10-6	1	1374546	9-3	5	1456865	2-17	11	1458183	6-11	1
1335543	6-9	4	1374547	9-3	5	1456866	2-15	6	1458450	2-17	3
1335546	6-19	8	1374793	2-4	42	1456869	2-9	2	1458451	2-17	5
	6-21	8		2-9	33		2-15		1458454	2-9	18
1335872	3-3	6		2-11	33	1456883	2-3	2		2-11	18
1337197	2-3	25	1374797	8-9	4		2-11		1459053	10-8	5
	2-19	3	1374799	10-8	7	1456913	2-4	48	1459648	4-17	12
1339843	1-9	1		10-9	11	1457017	2-19	5	1459649	4-17	12
1343990	10-7	5	1375907	7-5	2	1457027	1-3	2	1459650	4-17	14
1345908	2-13	12		8-5	3	1457029	6-3	5	1459651	4-17	7
1350273	6-13	1		8-9	2	1457031	6-3	4	1460143	4-19	7
1351186	9-11	11	1376425	6-15	11		6-11		1460145	4-19	11
1355409	8-12	3	1376427	4-21	26	1457032	6-3	4	1460146	4-19	12
1355713	8-12	3	1378050	10-3	11		6-11		1460147	4-19	13
1355714	8-13	20	1378060	10-3	12	1457033	6-11	7	1460317	2-3	2
1355838	8-13	21	1381093	9-11	9	1457041	6-11	8		2-9	
1356204	2-9	7	1383037	10-5	3	1457122	5-9	11	1460319	2-9	1
	2-11	7	1383567	2-9	22	1457137	4-3	3		2-17	
1356209	2-9	29		2-11	22		4-5	3	1460427	5-9	1
	2-11	29	1389598	3-11	19	1457139	4-3	1	1460429	2-3	3
1356217	2-9	8	1396455	10-3	1		4-5	1	1460539	4-21	25
	2-11	8	1399001	10-3	2	1457172	5-9	6		6-15	13
1356661	8-14	10	1399036	10-3			5-11		1460650	2-9	23
1356662	8-15	19	1452588	2-3	26	1457180	5-9	15	1460674	6-4	42
1356748	8-13	19		2-19	1	1457202	6-3	7	1460748	2-17	6
1356751	7-11	13	1453702	1-9	10		6-13		1463485	4-21	24
	8-13	13	1454122	2-15	11	1457203	6-3	7	1463586	5-9	9
1357209	3-5	15	1454517	6-11	10		6-13		1463593	5-9	8
1357720	3-5	8	1455970	1-3	6	1457204	6-3	7	1463849	1-4	32
1358809	10-3	5	1455985	1-3	7		6-13			10-11	17
1358821	10-3	7	1456084	2-9	26	1457205	6-3	7	1464067	10-11	19
1358970	8-14	12		2-11	26		6-13		1464085	10-11	3
1361302	8-15	15	1456086	2-9	34	1457251	6-3	2	1464093	10-11	14
1363016	10-11	2		2-11	34	1457257	1-3	6	1464094	10-11	14
1364444	10-11	10	1456088	2-9	12	1457258	1-3	6	1464525	6-3	6
1369357	7-5	8	1456090	2-11	12	1457325	4-17		1465075	1-4	33
	8-5	17	1456440	6-11	13	1457326	4-19		1468017	1-3	9
1369419	1-7	8	1456443	6-11	13	1457327	4-17		1470907	10-3	18
1371287	6-3	18	1456650	2-19	7	1457328	4-19		1471697	10-11	15
1371289	10-3	3	1456651	2-19	10	1457333	6-3	21	1473819	5-9	3
1371741	4-21	3	1456661	2-19	6	1457335	6-3	22	1474743	1-3	9
	6-15	2	1456664	2-19	6	1457422	1-7	1	1474896	1-3	8
1371743	4-21	6	1456857	2-11	2	1457423	1-7	1	1475930	3-9	29
	6-15	5		2-15		1457794	4-21	27	1475931	3-9	30
1371744	4-21	5	1456858	2-9	3	1457795	4-21	1	1476608	1-7	2
	6-15	4		2-11	3	1457797	4-21	16	1476609	1-7	2

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PART NO.	PG	ITEM	PART NO.	PG	ITEM	PART NO.	PG	ITEM	PART NO.	PG	ITEM
1476610	1-7	2		9-7	30	1491705	6-19	11	1495895	9-17	19
1476618	9-17			9-9	26		6-19	13	1495896	9-17	1
1476619	9-14		1487222	9-5	6		6-21	12	1495897	9-17	13
1476620	6-19	8	1487927	6-19	7	1491789	9-7	10	1495898	9-17	16
	6-21	8	1487928	6-19	9	1492291	6-19	19	1495899	9-17	23
1476621	9-5	7	1487933	6-19	10		6-21	19	1495900	9-14	11
	9-7	22	1488070	6-4	39		9-5	18		9-17	27
1476622	9-9	2	1488072	6-3	34	1492292	9-5	5	1495901	9-17	14
1476815	6-19	8	1488073	6-3	34	1493527	7-3	15	1495921	9-17	15
	6-21	8	1488079	7-15	11	1494337	7-13	10	1495929	9-14	7
1476961	7-7	10	1488193	6-4	37		8-16	6		9-14	21
1476963	7-7	11	1488195	6-3	34	1494610	6-17	13	1496018	9-17	10
1477163	10-6	2	1488197	6-3	36	1494618	3-13	20	1496175	6-7	3
1477164	10-6	3	1488274	8-5	16	1494689	1-9	19	1496180	3-9	
1477165	10-6	4	1488284	8-5	16	1495154	9-5	19	1496181	3-9	
1477479	1-7	15	1488287	8-5	16		9-7	37	1497736	6-21	23
1477533	8-5	1	1488294	8-5	16	1495182	9-9	38	1497754	2-20	1
1477534	7-5	1	1488299	8-5	16	1495583	6-17	28	1497755	2-20	1
	8-5	4	1488304	8-5	16	1495584	6-17	29	1497756	2-20	1
1477535	8-5	2	1488388	1-7	12	1495599	6-19	20	1497757	2-20	1
1477536	8-5	5	1488389	1-7	12		6-21	20	1497758	2-20	1
1479089	9-9	1	1488565	8-5	22	1495871	9-14	10	1497778	10-8	6
1479251	9-9	3	1488575	8-5	22		9-17	26	1497914	7-9	16
1479485	2-20	9	1488578	8-5	22	1495872	9-14	22	1497941	9-3	18
1479540	6-19	2	1488585	8-5	22		9-17	22	1497958	9-3	1
	6-21	2	1488590	8-5	22	1495873	9-14	4	1498078	5-9	3
1479605	7-5	11	1488595	8-5	22		9-17	25	1498180	6-19	27
1479750	9-5	15	1488723	8-7	3	1495874	9-14	5		6-21	27
1480379	9-5	20	1488878	7-15	6		9-17	12	1498192	6-7	8
	9-7	34	1489880	7-13	9	1495875	9-17	20	1498193	6-7	2
1482373	10-7	1		8-16	5	1495876	9-14	23	1498194	6-7	1
1482557	9-7	1	1489961	7-9	13		9-17	24	1498195	6-7	4
1483263	9-9	46	1490097	8-16	1	1495878	9-14	3		6-9	7
1483268	7-9	15	1490358	9-7	17		9-17	6	1498196	6-7	4
1483422	2-3	33	1490360	9-7	16		9-17	7	1498253	6-7	3
1483516	4-3	7	1490362	9-7	9	1495879	9-14	2	1498254	6-7	7
1483668	2-19	9	1490364	9-7	6		9-17	5	1498268	10-9	7
1483669	2-19	9	1490409	6-21	10	1495880	9-17	17	1498322	10-9	13
1483725	9-7	14	1490559	6-21	7	1495882	9-14	9	1498456	2-4	48
1486352	2-19	12	1490560	6-21	9		9-17	9	1498457	2-4	48
1486376	2-3	30	1490573	1-9	2	1495883	9-14	1	1498458	2-4	48
1486377	2-3	30	1490574	1-9	17		9-17	4	1498460	2-4	48
1486469	4-3	6	1490631	2-3	32	1495884	9-14	6	1498826	7-13	1
	4-5	6		2-7			9-17	11	1499813	6-7	6
1486513	10-11	15	1490633	2-3	32	1495885	9-17	21	1499928	6-17	30
1486515	10-11	15		2-7		1495887	10-8	13	1500283	10-11	21
1486538	2-3	31	1490652	2-4	45	1495890	9-14	8	1500740	6-17	33
1486693	9-5	2		2-9	17		9-17	8	1500830	8-7	1
	9-7	18		2-11	17	1495891	9-17	18	1500857	9-5	10
1487212	6-19	5	1490805	1-9	16	1495892	9-17	10		9-7	8
	6-21	5	1491572	9-17		1495893	9-17	2	1501192	9-7	4
	9-5	12	1491573	9-14		1495894	9-17	3	1502091	6-17	8

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1502093	6-17	23	1507340	3-9	26	1518884	9-14	24	2034913	5-3	10
1502094	6-17	24	1507349	3-9	32		9-17	37	2034926	3-11	
1502095	3-13	21	1507365	3-9	33	1519599	2-7	1	2035149	6-3	10
	6-17	25	1507369	3-9	11	1519601	2-7	1	2035150	6-11	4
	6-17	26	1507370	3-9	12	1519602	2-7	1	2035168	5-3	4
1502096	6-17	6	1507372	3-9	20	1520480	2-4	46	2035285	2-9	19
1502097	3-13	6	1507373	3-9	21	1520646	6-9	18		2-11	19
	6-17	18	1507376	3-9	31	1520858	4-5	19	2035396	2-17	2
1502098	3-13	7	1507378	3-9	2		4-9		2035480	3-11	3
	6-17	3	1507379	3-9	1	1520860	4-5	7	2035482	3-11	4
1502099	3-13	8	1507380	3-9	3	1522320	6-7	5	2035486	3-11	10
	6-17	21	1507381	3-9	4		6-9	1	2035515	3-11	2
1502100	3-13	8		4-5	27	1523495	3-3	12	2035516	3-11	22
	6-17	20	1507382	3-9	34		3-3	15	2035518	3-11	12
1502101	3-13	8	1507383	3-9	35	1524149	6-9	13	2035524	5-3	11
	6-17	19	1507384	3-9	5	1524150	6-9	11	2035528	10-14	4
1502102	6-17	11	1508110	3-13	1	1524151	6-9	2	2035538	2-20	4
1502103	6-17	4	1508111	3-13	5	1524152	6-9	6	2035700	2-4	48
1502104	6-17	17	1508112	3-13	10	1524665	2-7	1	2035714	2-3	24
1502105	6-17	12	1510408	7-15	10	1524666	2-7	1		2-19	4
1502106	6-17	14	1510574	3-9	39	1524667	2-7	1	2035767	1-3	8
1502108	6-17	16	1510655	4-3	30	1524669	2-7	1	2036134	3-11	9
1502110	6-17	5	1511203	7-9	1	1524670	2-7	1	2036141	1-4	29
1502111	3-13	17	1511208	7-9	1	1524671	2-7	1	2036504	10-11	
	6-17	10	1511213	7-9	1	2013099	8-14	11	2037461	3-11	23
1502113	3-13	18	1511681	1-7	16	2013649	1-9	19	2037462	3-11	20
	6-17	22	1512981	2-4	48	2013771	10-7	1	2037463	3-11	1
1502114	6-17	7	1512982	2-4	48	2014915	6-3	32	2037464	3-11	26
1502115	6-17	27	1513858	5-3	8	2021593	3-3	33	2037465	3-11	24
1502118	6-17	1	1513981	9-14	14	2021802	3-5	5	2037679	10-13	10
1502162	3-13	15		9-17	30	2031173	1-3	6	2037819	10-13	2
1502169	6-17	2	1513982	9-14	17	2032026	2-3	5	2038016	2-9	32
1502172	6-17	1		9-17	33		5-9	2		2-11	32
1502173	6-17	2	1514222	9-14	15	2033612	6-3	12	2038970	2-3	27
1502638	4-5	25		9-17	31		10-8	12	2040522	3-3	34
1502640	4-11		1514223	9-14	16		10-9	14	2040896	3-13	
1502990	9-9	4		9-17	32		10-11	20	2041014	10-13	3
1502991	9-9	42	1514224	9-14	20	2034303	4-15	6	2041866	6-15	
1503278	4-6	7		9-17	36		4-21		2041868	6-15	
1503279	4-6	8	1514225	9-14	13	2034306	3-11	19	2041891	8-3	2
1504305	3-13	3		9-17	29	2034482	10-8	11	2041901	8-3	2
1504307	3-13	4	1514226	9-14	19		10-9	17	2041904	8-3	2
1504308	3-13	4		9-17	35	2034483	2-17	3	2041911	8-3	2
1504310	3-13	11	1514866	7-5	7	2034484	2-17	1	2041916	8-3	2
1504311	3-13	9	1517133	2-4	47	2034488	2-17	12	2041921	8-3	2
1504362	3-13	12		3-13	19	2034638	1-3	4	2041932	8-3	3
1504363	3-13	13	1517473	5-3	41	2034871	2-4	48	2041942	8-3	3
1504364	3-13	14	1517512	9-9	22	2034907	7-15	12	2041945	8-3	3
1504365	3-13	16	1518881	9-14	18	2034908	8-5	7	2041952	8-3	3
1504376	3-13	2		9-17	34	2034909	7-9	17	2041957	8-3	3
1506111	6-3	25	1518883	9-14	12		8-5	6	2041962	8-3	3

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PART NO.	PG	ITEM	PART NO.	PG	ITEM	PART NO.	PG	ITEM	PART NO.	PG	ITEM
2042519	4-3	19	2045618	6-9	3	2049631	4-11	6	2302554	5-11	10
	4-6		2045620	6-7	7	2049632	4-11	9	2302574	4-13	14
2042912	2-7	2	2045878	6-4	41	2049633	4-11	11	2302583	2-17	9
2043243	6-3	29	2045926	9-3	1	2049634	4-11	14	2302624	9-3	16
	6-7		2046247	9-11	5	2049635	4-11	15	2302662	9-11	3
2043574	9-11		2046248	9-11	6	2049636	4-11	16	2302673	3-11	13
2043577	9-11		2046287	4-5	21	2049637	4-11	17	2302695	3-7	19
2043578	9-11	1	2046288	7-11	6	2049638	4-11	18	2302703	1-3	26
2043579	9-11	1	2046290	7-11	6	2049639	4-11	19		1-3	26
2043580	9-5	3	2046308	5-9	16	2050275	3-11	18	2302762	5-11	5
	9-7	33	2046444	5-3		2050277	2-3	1	2302771	9-5	14
2044203	2-4	48	2046445	6-3	35	2050278	2-3	1		9-7	23
2044206	2-4	48	2046577	7-11		2050332	2-3	1	2302887	9-3	12
2044241	8-14		2046578	7-11		2050339	2-3	1	2302907	3-7	23
2044245	8-12		2046579	7-11		2050867	4-11	20	2302911	3-7	34
2044246	8-12		2046581	7-11	6	2051146	9-11		2302912	2-20	3
2044247	8-12		2046612	6-19	8	2051147	9-11		2302926	1-3	17
2044250	8-12		2046614	6-19	26	2052148	2-17	14	2302952	1-3	15
2044264	8-14	2		6-21	26	2052149	2-17	14	2303049	8-5	15
2044266	8-14	2	2046634	2-3	1	2052150	2-17	14		8-9	7
2044267	8-14	2	2046635	2-3	1	2052235	4-21	8	2303113	10-3	17
2044268	8-14	2	2046875	8-12	5		6-15	7	2303121	3-7	21
2044271	8-14	1	2046919	9-9	43	2052692	6-3	29	2303157	2-4	41
2044273	8-14	1	2047049	8-14			6-9		2303164	4-3	8
2044274	8-14	1	2047050	8-14		2052700	10-13	6		4-5	8
2044275	8-14	1	2047051	8-14		2052836	4-5	7	2303207	2-11	37
2044278	7-11	16	2047098	7-3	1	2053376	4-9	1	2303227	3-7	19
	8-13	16	2047099	7-3	1	2053453	2-3	4	2303234	7-13	2
2044279	7-11	16	2047100	7-3	1	2054268	1-9	14	2303239	4-21	2
2044280	7-11	16	2047101	7-3	2	2054269	1-9	18		6-15	1
	8-13	16	2047102	7-3	2	2054307	2-3	4	2303249	2-9	21
2044281	8-13	16	2047103	7-3	2	2054407	2-3	4		2-11	21
2044282	8-13	16	2047104	7-11	5	2055310	4-5	22	2303287	2-9	9
2044292	8-12	6	2047106	6-19	8	2055339	10-13	1		2-11	9
2044293	8-12	6		6-21	8	2056297	5-7	2	2303300	10-5	6
2044294	8-12	6	2047108	6-19	8	2056298	5-7	5	2303359	1-3	17
2044310	8-12	6		6-21	8	2056299	5-7	3	2303558	5-3	17
2044494	10-9	3	2047133	4-3	25	2302007	8-9	5		5-7	
2044514	9-9	10		4-13		2302012	3-3	34	2303615	2-11	41
2044943	9-11	1	2047194	6-3	33	2302067	6-3	5	2303689	1-3	16
2044945	9-11	1	2047808	9-9	17	2302118	7-3	12	2303700	6-17	31
2045293	1-9	2	2047819	10-8	15		8-3	9	2303729	5-3	32
2045470	3-3	24		10-9	19	2302265	9-12	13	2303739	5-3	13
2045473	4-3	2	2047820	10-8	16	2302281	5-3	24	2303781	10-9	1
	4-5	2		10-9	20	2302348	9-11	10	2303801	2-9	20
2045530	6-17		2047826	5-3	35	2302353	3-7	28		2-11	20
2045531	6-17		2047855	6-7	9	2302385	3-7	9	2303803	1-3	17
2045544	7-11	5	2048271	9-9	16	2302409	8-9	5	2303804	5-11	17
2045594	10-11	11	2048454	4-13	9	2302461	2-9	31	2303821	2-9	16
2045615	6-9	5	2048455	4-13	10		2-11	31		2-11	16
2045616	6-19	8	2049629	4-11	2	2302509	8-9	10	2303858	9-5	16
	6-21	8	2049630	4-11	4	2302545	2-4	43		9-7	3

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PART NO.	PG	ITEM	PART NO.	PG	ITEM	PART NO.	PG	ITEM	PART NO.	PG	ITEM
2303911	1-3	15	2305052	5-3	3	2306077	10-3	19	2307596	3-3	30
2303924	4-17	6	2305060	1-3	23	2306090	3-11	21		3-7	15
	4-19	5	2305066	5-3	31	2306093	9-3	12	2307599	9-7	35
2303998	4-13	15	2305087	4-5	28	2306123	1-3	17	2307711	8-9	10
2304041	9-11	4	2305090	8-9	1	2306143	4-19	16	2307779	9-7	36
2304048	4-19	7	2305096	2-17	7	2306159	4-17	1	2307803	2-9	30
2304112	1-9	6	2305104	8-3	16	2306205	1-3	19		2-11	30
2304170	2-9	15	2305122	4-17	17	2306236	9-5	11	2307827	5-7	1
	2-11	15	2305173	8-11	10		9-7	5		5-11	1
2304231	8-11	11	2305196	10-14	1	2306243	1-3	20	2307829	9-7	32
2304334	2-17	5	2305219	4-17	3	2306246	6-19	22	2307856	7-11	17
2304346	7-3	8		4-19	3		6-21	22		8-13	17
	8-3	8	2305275	9-3	5	2306269	8-9	8	2307966	5-11	3
2304353	4-11	8		9-9	6	2306324	9-3	12	2307976	6-3	23
	4-13	8	2305417	1-9	8	2306344	2-17	6	2307977	2-15	10
2304397	7-3	14	2305493	3-3	34	2306366	9-11	2	2308040	10-9	1
	8-3	14	2305510	4-11	10	2306376	5-11	9	2308076	1-9	13
2304451	9-7	15		4-13	11	2306377	9-3	12	2308077	5-3	1
2304468	5-11	12	2305540	7-11	1		9-9	27		5-3	16
2304498	2-9	28	2305577	2-9	6	2306459	3-7	20		5-9	5
	2-11	28		2-11	6	2306501	2-9	11	2308118	10-8	3
2304572	2-9	27	2305581	9-3	12		2-11	11		10-9	15
	2-11	27		9-9	28	2306542	9-5	14	2308286	2-20	8
2304598	5-7	6	2305594	4-17	16	2306708	4-19	17	2308342	5-3	7
2304625	5-11	8		4-19	15	2306755	10-5	7	2308384	6-3	34
2304627	5-3	16	2305605	10-14	6	2306899	1-4	30	2308468	1-9	4
	5-9	4		10-14	6	2306904	7-15	1	2308483	3-7	35
2304638	7-11	3	2305689	1-9	7	2306918	8-9	10	2308497	6-15	12
2304641	9-7	19	2305717	4-17	8	2306942	7-7	4	2308522	7-3	16
2304652	2-13	2	2305757	9-3	8		8-11	4		7-13	8
	2-15	9	2305770	4-19	14	2306981	9-3	5		8-3	19
	2-17	8	2305783	5-9	6	2307023	2-13	3	2308542	9-3	6
2304676	10-14	4		5-11		2307172	4-17	13		9-9	7
2304693	3-7	18	2305803	5-3	40	2307204	6-9	10	2308557	7-7	8
2304696	10-14	4	2305811	1-9	15	2307220	5-11	6		8-3	18
2304717	6-19	12	2305818	4-19	1	2307226	9-5	7		8-11	8
	6-21	11	2305855	2-9	13	2307241	4-11	1	2308558	9-9	5
	6-21	13		2-11	13		4-13	1	2308606	4-13	16
2304746	6-3	4	2305879	5-3	42	2307254	3-7	19	2308646	4-17	7
	6-11	14	2305886	3-3	34	2307281	3-3	22	2308709	8-3	15
2304787	3-7	29	2305895	1-3	16	2307345	10-8	1	2308812	3-7	33
2304805	6-19	14	2305916	2-11	36	2307351	3-11	14	2308872	4-21	4
	6-21	14	2305926	8-9	5	2307384	4-13	6		6-15	3
	9-7	39	2305959	4-11	7	2307400	1-9	12	2308939	7-3	13
	9-9	33		4-13	7	2307413	10-8	2		8-3	13
2304902	7-11	19	2305992	8-11	12	2307423	7-15	2	2308943	7-7	7
2304927	3-7	17	2306018	1-9	3		8-7	5		8-11	7
2304967	3-7	26	2306030	1-3	1	2307468	3-3	20	2308995	2-20	5
2304976	2-9	10	2306045	3-3	17	2307487	4-17	5	2309066	5-11	7
	2-11	10	2306047	10-14	6		4-19	4	2309084	1-9	6
2304993	4-13	2		10-14	6	2307574	4-11	5	2309129	5-3	9
2305010	3-3	25	2306062	9-3	4		4-13	5		5-5	

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PART NO.	PG	ITEM	PART NO.	PG	ITEM	PART NO.	PG	ITEM	PART NO.	PG	ITEM
2309196	5-3	37		4-19	2	2310628	3-7			8-3	20
2309200	5-3	27	2309903	4-13	4	2310691	2-17	14	2311684	3-11	17
2309223	10-11	16	2309976	7-5	3	2310707	5-3	30	2311711	4-11	12
2309266	9-3	5		8-5	20	2310710	9-5	4		4-13	12
	9-9	6		8-9	3	2310768	10-5	2	2311746	1-9	6
2309281	3-3	23	2310075	8-11	2	2310773	7-3	7	2311762	3-7	36
2309309	2-11	38	2310104	6-3	5		8-3	7	2311818	10-3	20
2309310	4-11	3	2310113	8-12	5		9-3	11	2311848	2-11	24
	4-13	3	2310134	2-13	10		9-9	15		2-13	
2309315	5-3	38	2310136	1-9	6	2310824	7-3	3	2311932	6-19	28
2309360	2-11	39	2310139	3-7	19		8-3	4		6-21	28
2309425	2-11	40	2310192	10-8	1		9-3	2	2311941	7-3	6
2309452	3-7	31	2310199	4-17	9	2310840	8-12	5		8-3	6
2309466	5-3	23		4-19	8	2310970	1-3	1		9-3	10
2309481	4-21	9	2310238	2-15	8	2310978	6-15	12		9-9	9
2309514	7-3	5	2310326	8-9	5	2311007	5-11	16	2311972	2-13	4
	8-3	5	2310327	9-3	13	2311041	5-3	43		2-15	7
	9-3	9		9-9	12	2311112	5-3	39	2311976	6-19	23
	9-9	8	2310334	5-11	15	2311159	8-11	3		6-21	23
2309525	3-11	16	2310343	4-17	15	2311241	7-7	6	3002339	4-17	18
2309528	3-11	25	2310385	9-5	21		8-11	6		4-19	18
2309538	1-3	25		9-7	12	2311302	2-20	5	3032404	5-11	13
	1-3	25	2310390	3-7	32	2311467	3-3	34	8507700	8-3	1
2309614	9-3	5	2310430	6-3	17	2311471	10-5	9	8507710	8-3	1
	9-9	6	2310431	7-9	14	2311479	7-3	11	8507713	8-3	1
2309712	8-15	16	2310435	5-3	22		8-3	10	8507720	8-3	1
2309719	10-5	8	2310443	2-11	23	2311502	9-3	12	8507725	8-3	1
2309765	4-11	13	2310542	8-9	5	2311504	9-5	17	8507730	8-3	1
	4-13	13	2310560	10-3	8	2311528	8-3	17			
2309766	7-15	8		10-5		2311624	10-5	11			
2309850	4-17	2	2310577	2-13	1	2311676	7-13	7			

This image shows a full page of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page, typical of notebook paper or lined paper used for writing. There are no margins, text, or other markings present.

