

PARTS MANUAL

CHALLENGER

**H1050EH, H800E, H880E,
H970E
(D117)**

CUSTOMER EDITION

HYSTER

SECTIONS

1	FRAME
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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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FRAME

ELECTRICAL SYSTEM

BRAKE/ACC

MAST-TWO STAGE

MAST-THREE STAGE

MAST-TWO STAGE

TRANSMISSION HOUSING
⇒ S/N D001H-2628

KEY:
A: Diesel
B: Gasoline and LPG

ITEM	PART NO.	DESCRIPTION	QTY	
			A	B
		Transmission	1	1
	2022547	Transmission	1	1
	2023229	Transmission	2	2
	2021670	Case	4	4
	2023418	Case	4	4
1	2021670	Bearing Cap	1	1
2	296426	Washer	2	2
3	296426	Washer	2	2
4	296426	Washer	4	4
5	2021380	Bolt	1	1
6	1371655	Coil Spring	2	2
7	2021329	Coil Spring	4	4
8	2021915	Coil Spring	1	1
9	2021675	O-Ring	4	4
10	2021336	Plug	4	4
11	287860	Housing	22	22
12	292682	Pin	39	39
13	292682	Bolt	1	1
14	2021345	Lockwasher	1	1
15	214364	Hydraulic Pump	1	1
16	296418	gasket Figure 5-3	8	8
17	2021388	Bolt	1	1
18	2021389	Washer	8	8
19	2021383	Temperature Switch	1	1
20	292515	Breather	1	1
21	136692	Breather	9	9
22	292527	Dipstick	9	9
23	292531	Bolt	2	2
24	292683	Nut	3	3
25	293637	Bolt	3	2
26	296420	Washer	4	4
	996403	Transmission Kit (Includes Item 7)	1	1
	996405	Transmission Kit (Includes Item 14)	1	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.

See Service Manual for service procedures

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5-15

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 13-1 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:

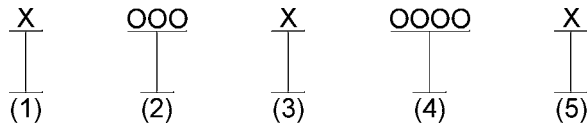
- ⇒ **D/B 3/00**
Indicates that a change occurred sometime within that month for the item affected.
- D/B 3/00** ⇒
Indicates that a change occurred sometime within that month for the item affected.
- D/B 3/00** ⇔ **D/B 4/00**
Indicates a range of production dates of the item affected.

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

ORDERING PARTS:

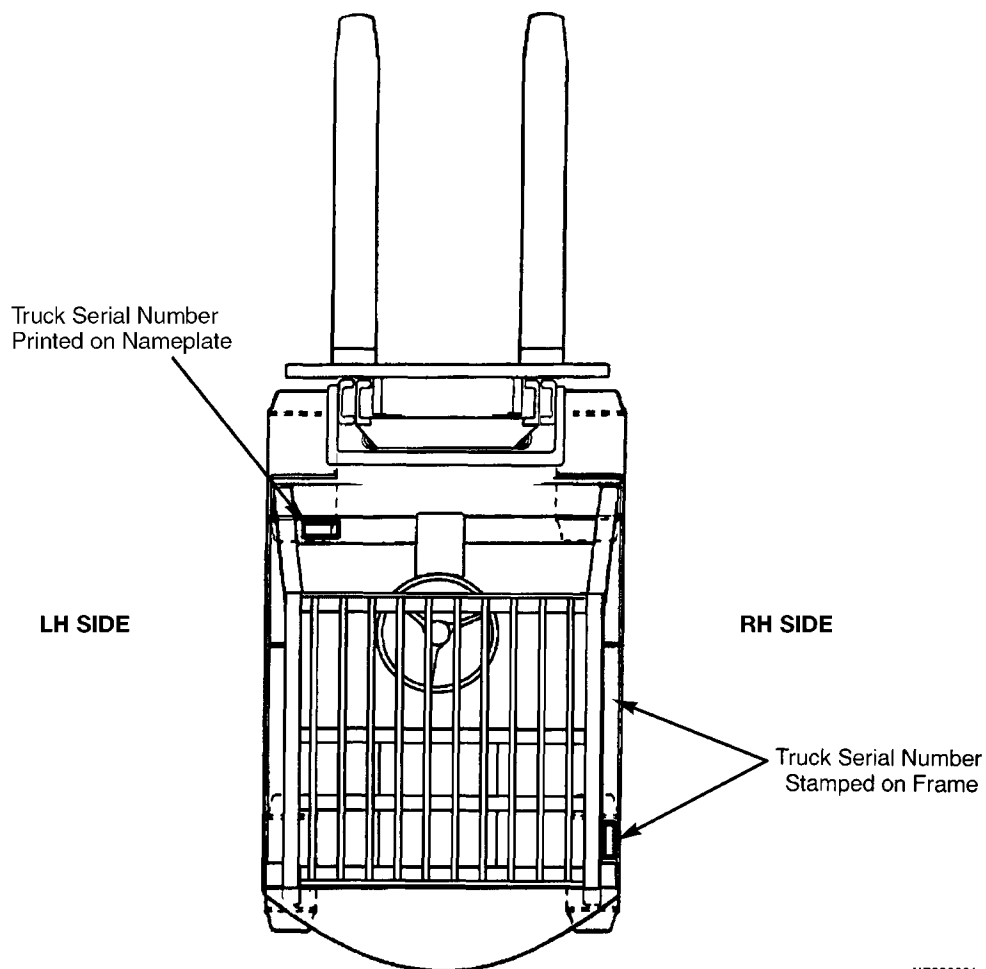
When ordering replacement parts, give the unit serial number, part number, name of part and quantity required.

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.

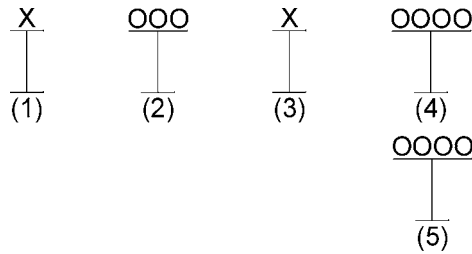
For pending serial numbers contact your local dealer for Hyster lift trucks.



HP990001

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

IDENTIFICATION OF MAST SERIAL NUMBERS



- (1) and (2) The first letter and number indicates the mast 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 mast.
- (5) Carriage travel in millimeters stamped just below the serial number.

Mast Group identification consists of mast unit code (1) and (2) plus carriage travel (5).

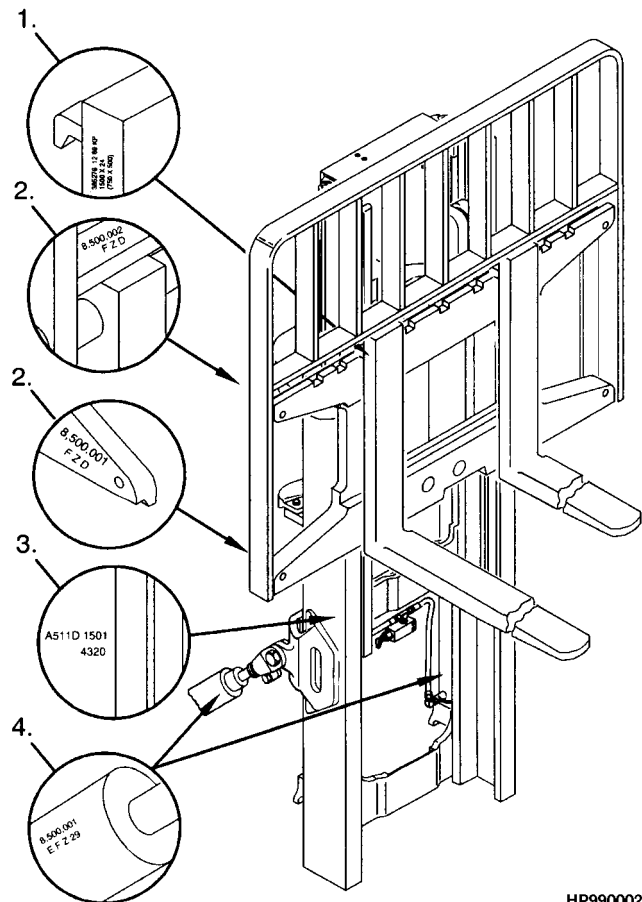
For pending production sequence numbers contact your local dealer for Hyster lift trucks.

LIFT EQUIPMENT IDENTIFICATION

1. Fork part number, capacity rating, plant code letter, and date of manufacture are stamped approximately six inches below the top of most forks.
2. The carriage group number is stamped on the right hand side of the top crossmember (pin type) or on the back of the right hand end of the bottom crossmember (hook type). A date code has two letters in line with or below the carriage group number.
3. The mast identification number has a unit code, a letter indicating the plant of manufacture, and a serial number. Underneath the production sequence number is a four digit number that indicates the carriage travel in millimeters.
4. Tilt and lift cylinder group numbers are stamped on the cylinder shell.

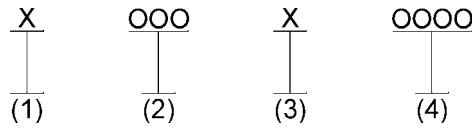
Always refer to the group, serial, or part number when ordering service parts.

Modification of masts and 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.



HP990002

IDENTIFICATION OF ATTACHMENT AND SIDE-SHIFT CARRIAGE SERIAL NUMBERS

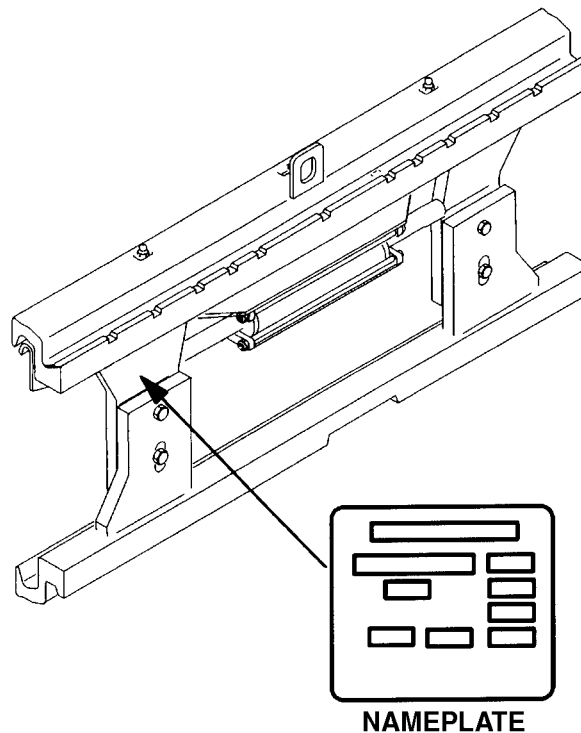


(1) and (2) The first letter and three numbers indicate the attachment unit code.

(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	897974
Service Manual (Complete)	1453783
Parts Manual	1454515

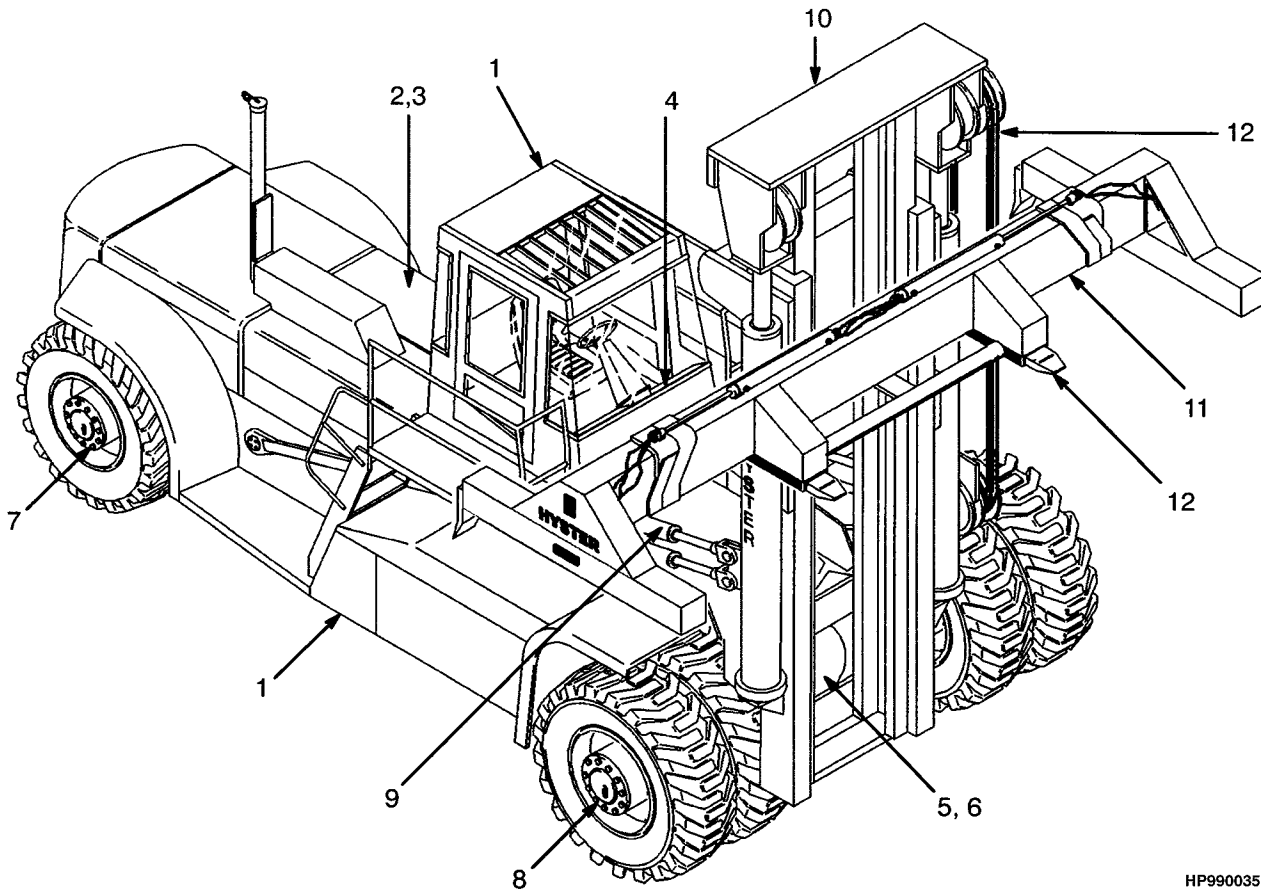
1

FRAME

SECTION 1
FRAME

DESCRIPTION	PAGE
COUNTERWEIGHTS	1-38
DOOR RETAINERS	
CENTER AND LEFT MOUNTED CAB	1-15
FLOOR PLATES AND COVERS	1-18
GENERAL TRUCK	1-2
HEATER	1-26
HEATER CONTROL	1-28
HOODS	
⇒S/N D117E-1581	1-30
S/N D117E-1582⇒	1-34
LABELS	1-40
NOISE BARRIER	
ACOUSTIC PANEL	1-24
NOISE BARRIERS	1-22
OPERATOR COMPARTMENT	
SHEET 1 OF 3	1-4
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SHEET 3 OF 3	1-12
SEAT ASSEMBLY	
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SUSPENSION SEAT	
GRAMMER HIGH BACK	
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S/N PENDING PER ECN 99782⇒	1-46
SHEET 2 OF 2	
S/N PENDING PER ECN 99782⇒	1-50
WINDSHIELD WASHER	1-16

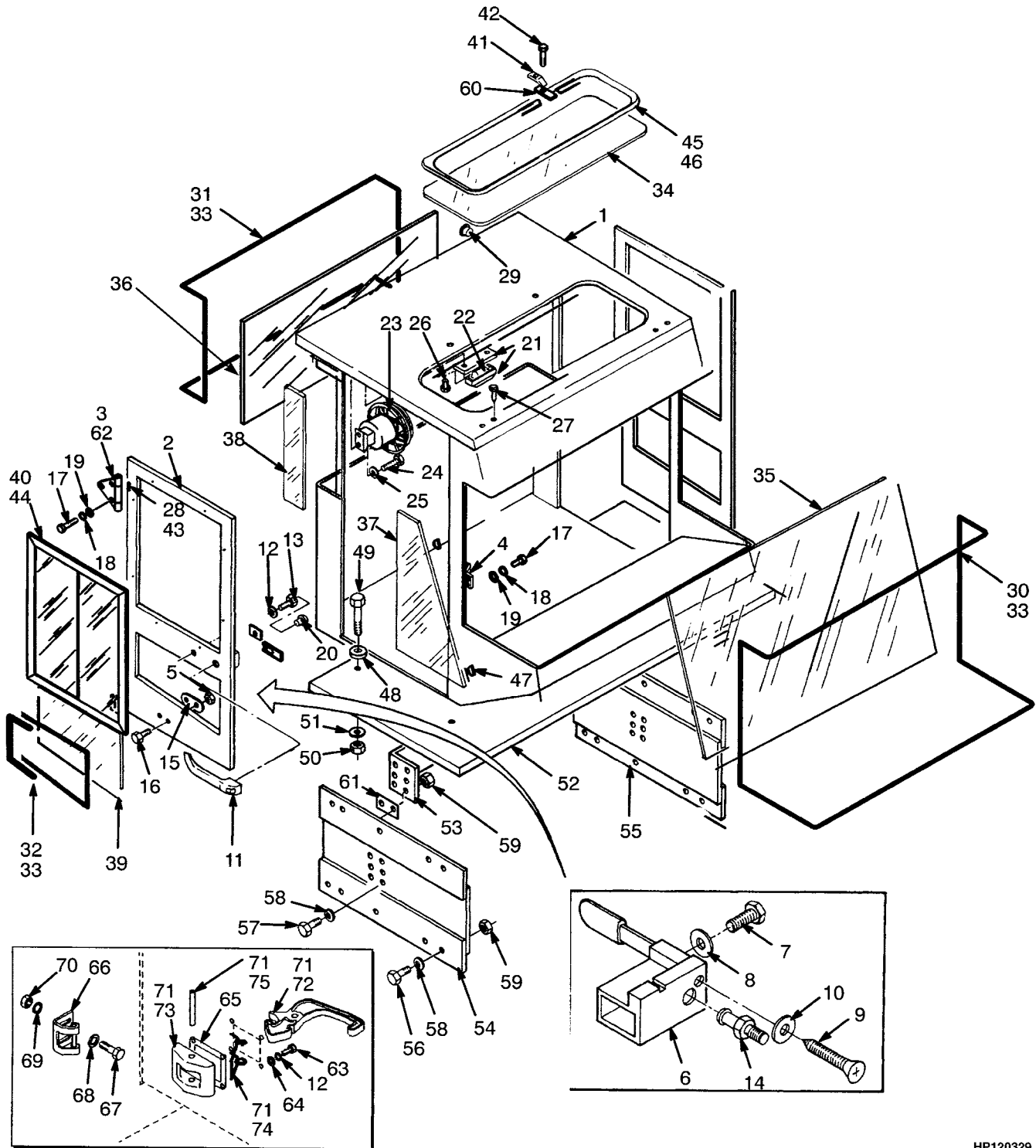
GENERAL TRUCK (Figure 1-1)



HP990035

ITEM	PART NO.	DESCRIPTION	QTY
1	FRAME (☞ Figure 1-2)	1
2	ENGINES (☞ Figure 2-1)	1
3	FUEL SYSYTEM (☞ Figure 3-1)	1
4	ELECTRICAL SYSTEM (☞ Figure 4-1)	1
5	TRANSMISSION (☞ Figure 5-1)	1
6	DRIVE AXLE (☞ Figure 6-1)	1
7	STEERING SYSTEM (☞ Figure 7-2)	1
8	BRAKE SYSTEM (☞ Figure 8-2)	1
9	HYDRAULIC SYSTEM (☞ Figure 9-1)	1
10	MAST-TWOSTAGE LIMITED FREE-LIFT (☞ Figure 10-1)	1
11	ATTACHMENTS (☞ Figure 11-1)	1
12	OPTIONS (☞ Figure 12-2)	1
13	NUMERICAL INDEX	1

OPERATOR COMPARTMENT (Figure 1-2) SHEET 1 OF 3



HP120329

**OPERATOR COMPARTMENT
SHEET 1 OF 3**

KEY:

A: ⇒ S/N D117E-1586

B: S/N D117E-1587 ⇒

ITEM	PART NO.	DESCRIPTION	QTY	
			A	B
1	376582	Compartment.....	1	..
1	1380623	Compartment.....	..	1
2	1300995	Door (LH).....	1	..
2	1300996	Door (RH).....	1	..
2	1377726	Door (LH).....	..	1
2	1377727	Door (RH).....	..	1
3	1300978	Hinge (LH).....	2	..
3	1300979	Hinge (RH).....	2	..
4	1300980	Striker Plate.....	2	2
5	302399	Nut.....	4	..
6	1309824	Door Handle (LH).....	1	1
6	1312450	Door Handle (RH).....	1	1
7	302248	Screw.....	4	4
8	292679	Lockwasher.....	4	4
9	296464	Screw.....	4	4
10	296396	Washer.....	4	4
11	1319177	Door Handle.....	2	2
11	1360777	Key.....	1	1
12	292680	Lockwasher.....	2	10
13	302256	Screw.....	2	2
14	365344	Bolt.....	2	2
15	3047418	Plate.....	2	..
16	353144	Capscrew.....	4	..
17	1301705	Capscrew.....	16	4
18	1301707	Washer.....	16	4
19	1301706	Lockwasher.....	16	4
20	309666	Plug.....	2	2
21	1301254	Dome Light.....	1	1
22	1307051	Bulb.....	2	2
23	1312226	Fan Assembly.....	1	1
23	181045	Connector.....	1	1
23	134810	Terminal.....	1	1
23	1301783	Connector.....	1	1
24	16750	Screw.....	4	4
25	15152	Lockwasher.....	4	4
26	1301284	Screw.....	2	2
27	1307737	Fastener.....	4	4
28	288394	Adhesive.....	AR	AR
29	1311217	Plug.....	2	2
30	1346426	Seal (Front Window).....	1	1
31	376064	Seal (Rear Window).....	1	1
32	376867	Seal (Door Window).....	1	1
32	376868	Seal (Door Window).....	1	1
33	376922	Lock Strip.....	AR	AR
34	1463773	Window (Top).....	1	1
35	1346424	Glass (Front).....	1	1

OPERATOR COMPARTMENT SHEET 1 OF 3

ITEM	PART NO.	DESCRIPTION	QTY	
			A	B
36	1301372	Glass (Rear)	1	1
37	1346425	Glass (Front Quarter)	2	2
38	1301374	Glass (Rear Quarter)	2	2
39	1301375	Glass (Door)	2	2
40	1375984	Window (RH)	1	1
40	1377702	Latch.....	1	1
40	1377703	Glass (Sliding)	1	1
40	1377704	Glass (Stationary)	1	1
40	1377271	Screw	4	4
40	1375985	Window (LH)	1	1
40	1377702	Latch.....	1	1
40	1377703	Glass (Sliding)	1	1
40	1377704	Glass (Stationary)	1	1
40	1377271	Screw	4	4
41	1301184	Plate	3	3
42	302244	Screw.....	3	3
43	265817	Rivet.....	16	16
44	3047334	Adhesive	AR	AR
45	365337	Primer	AR	AR
46	280472	Sealant	AR	AR
47	376840	Spacer (Glass Installation)	2	2
48	c 129962	Mount.....	4	4
48	1393706	Mount.....	..	4
49	c 292535	Capscrew.....	4	4
49	292537	Capscrew.....	..	4
50	216877	Nut	8	8
51	d 284521	Washer	4	4
51	300939	Washer .....	..	4
52	1310008	Platform (Standard Mast)	1	1
52	816239	Platform (Wide Mast)	1	1
53	1305869	Crossmember	1	1
53	376064	Seal .....	..	1
54	1305868	Support (RH)	1	1
55	1305867	Support (LH)	1	1
56	16085	Capscrew.....	13	13
57	18589	Capscrew.....	19	19
58	15158	Lockwasher.....	32	32
59	221711	Nut	32	32
60	1342660	Strip	3	3
61	815661	Shim (0.0393 in.)	AR	AR
61	815662	Shim (0.0786 in.)	AR	AR
62	1301700	Bushing (Brass)	4	4
63	292500	Capscrew.....	..	8
64	320156	Washer .....	..	8
65	1369496	Seal .....	..	2
66	a 1393748	Striker Plate .....	..	2
66	b 1393748	Striker Plate .....	..	6
67	b 292513	Capscrew.....	..	8
67	a 292513	Capscrew.....	..	4
68	b 320159	Washer .....	..	8
68	a 320159	Washer .....	..	4

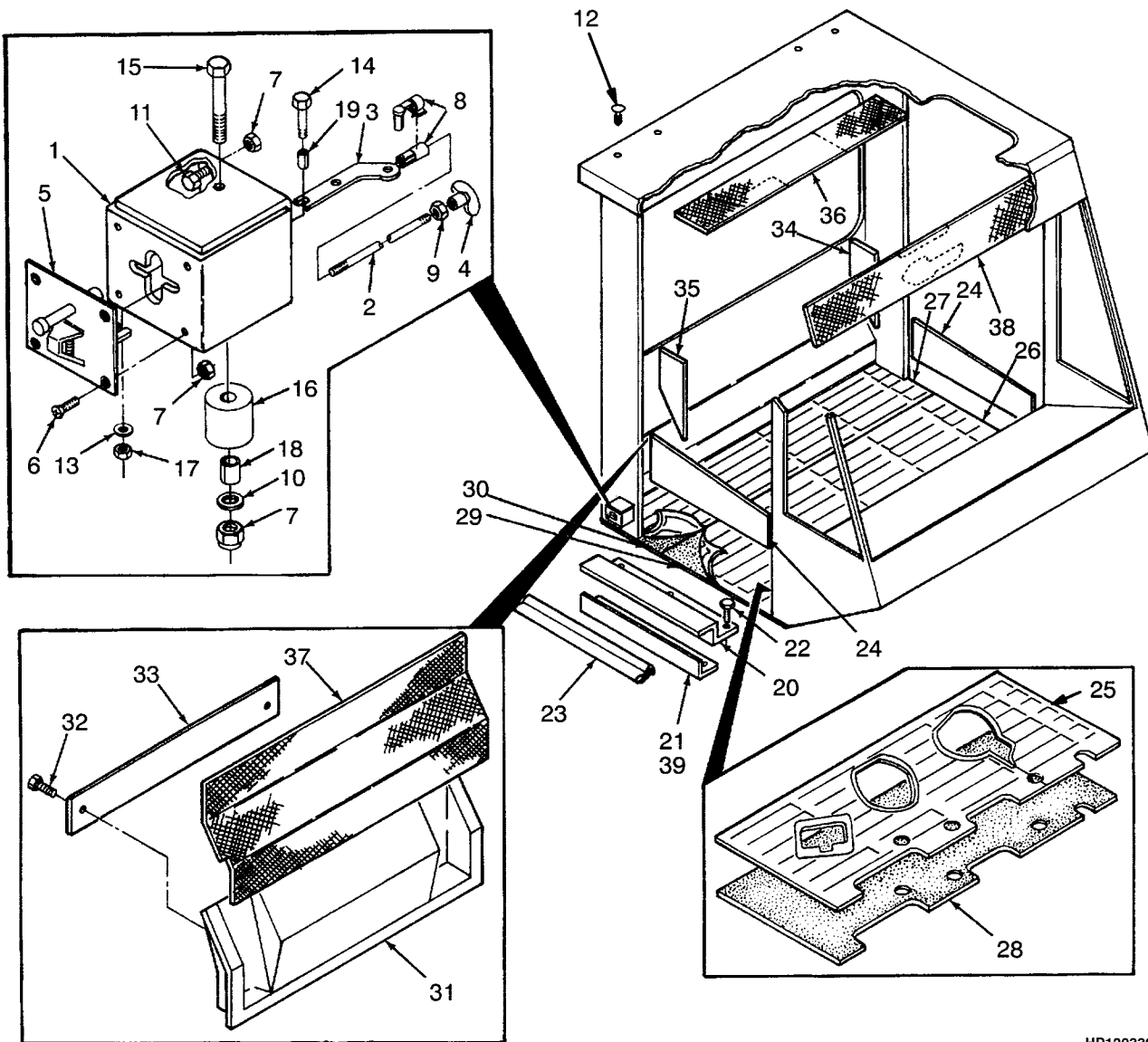
**OPERATOR COMPARTMENT
SHEET 1 OF 3**

ITEM	PART NO.	DESCRIPTION	QTY	
			A	B
69	b 292682	Lockwasher.....	..	8
69	a 292682	Lockwasher.....	..	4
70	b 136692	Nut.....	..	8
70	a 136692	Nut.....	..	4
71	1374428	Latch Assembly.....	..	2
72	1356943	Latch.....	..	1
73	1356948	Bracket.....	..	1
74	1358734	Spring.....	..	1
75	226774	Pin.....	..	1

FOOTNOTES:

- a** Center Mounted Cab
- b** Left Mounted Cab
- c** ⇒ S/N D117E-1521
- d** ⇒ S/N D117E-1545

OPERATOR COMPARTMENT (Figure 1-3) SHEET 2 OF 3



HP120330

**OPERATOR COMPARTMENT
SHEET 2 OF 3**

KEY:

A: ⇒ S/N D117E-1586

B: S/N D117E-1587 ⇒

ITEM	PART NO.	DESCRIPTION	QTY	
			A	B
1	376972	Bracket.....	2	..
2	376971	Link	2	..
3	376968	Link	2	..
4	3047329	Knob	2	..
5	3047417	Retainer	2	..
6	296472	Screw.....	8	..
7	302399	Nut	16	..
8	3047330	Rod End.....	2	..
9	292668	Nut	4	..
10	320156	Washer	2	..
11	292501	Capscrew.....	6	..
12	1307737	Fastener.....	4	..
13	320155	Washer	2	..
14	302248	Screw.....	2	..
15	292505	Capscrew.....	2	..
16	376970	Spacer	2	..
17	302398	Locknut	2	..
18	1301026	Spacer	2	..
19	1301027	Spacer	2	..
20	376918	Bracket.....	2	2
21	1325576	Bracket.....	2	2
22	309637	Screw.....	12	12
23	300088	Seal (Door)	AR	AR
24	1377730	Liner (RH)	1	1
24	1377731	Liner (LH).....	1	1
25	1390686	Floormat (Front, C290)	1	1
25	a 1458200	Floormat (Front)	1	1
25	b 1471762	Floormat (Front)	1	1
25	a 1476894	Floormat (Front, C325)	1	1
25	b 1508217	Floormat (Front)	1	1
26	1355026	Floormat (Rear)	1	1
27	1390684	Floormat (C325)	1	1
28	1390685	Barrier (Front, C290).....	1	1
28	a 1458199	Barrier	1	1
28	b 1471763	Barrier	1	1
28	a 1476893	Barrier (C325).....	1	1
28	b 1508218	Barrier	1	1
29	1355025	Barrier (Rear).....	1	1
30	1390682	Barrier (C325).....	1	1
31	1342664	Liner	2	2
32	329067	Screw.....	2	2
33	1301297	Plate	1	1
34	1301263	Liner (Lower RH)	1	1
35	1301264	Liner (Lower LH)	1	1
36	1301309	Liner (Top Rear).....	1	1
37	1301554	Liner (Lower Center).....	1	1

OPERATOR COMPARTMENT SHEET 2 OF 3

ITEM	PART NO.	DESCRIPTION	QTY	
			A	B
38	1301265	Liner (Top Front)	1	1
39	288394	Adhesive	AR	AR

FOOTNOTES:

- a** ⇒ S/N D117E-1750
- b** S/N D117E-1751 ⇒

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