

# **PARTS MANUAL**

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## **YARDMASTER**

**HR45-25, HR45-31, HR45-40LS,  
HR45-40S, HR45-36L, HR45H  
(A227)**

CUSTOMER EDITION

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# ***HYSTER***



**SECTIONS**

<b>1</b>	<b>FRAME</b>
<b>2</b>	<b>L/LS FRAME</b>
<b>3</b>	<b>SINGLE FIXED CABIN</b>
<b>4</b>	<b>SINGLE SLIDING CABIN</b>
<b>5</b>	<b>DEMARAIS CABIN</b>
<b>6</b>	<b>DENIZET CABIN</b>
<b>7</b>	<b>ENGINE(S)</b>
<b>8</b>	<b>ELECTRICAL SYSTEM</b>
<b>9</b>	<b>TRANSMISSION</b>
<b>10</b>	<b>DRIVE AXLE</b>
<b>11</b>	<b>STEERING SYSTEM</b>
<b>12</b>	<b>BRAKE SYSTEM</b>
<b>13</b>	<b>HYDRAULIC SYSTEM</b>
<b>14</b>	<b>BOOM</b>
<b>15</b>	<b>L/LS BOOM</b>
<b>16</b>	<b>WINCH</b>
<b>17</b>	<b>CONTAINER HANDLER B665</b>
<b>18</b>	<b>CONTAINER HANDLER A672</b>
<b>19</b>	<b>STABILIZER</b>

This Parts Manual is divided into 22 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.



<b>20</b>	<b>LOAD MOMENT LIMITER</b>	
<b>21</b>	<b>OPTIONS</b>	
<b>22</b>	<b>NUMERICAL INDEX</b>	

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**ABBREVIATIONS QUICK REFERENCE SHEET**

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

<b>TERM</b>	<b>DEFINITION</b>	<b>TERM</b>	<b>DEFINITION</b>
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.

The image shows a composite of several pages from a Hyster parts manual, illustrating its layout and navigation. Callouts 1 through 10 point to specific features:

- 1:** Points to the 'SECTIONS' table in the lower-left page.
- 2:** Points to the 'MAST-TWO STAGE LIMITED SLIP' section in the 'SECTIONS' table.
- 3:** Points to the 'TABLE OF CONTENTS' page at the top.
- 4:** Points to the 'DESCRIPTION' and 'PAGE' columns in the 'TABLE OF CONTENTS'.
- 5:** Points to the 'SECTION 11 NUMERICAL INDEX' table.
- 6:** Points to the 'ITEM' column in the 'TRANSMISSION HOUSING' table.
- 7:** Points to the 'TRANSMISSION HOUSING' title and key.
- 8:** Points to the 'DESCRIPTION' column in the 'TRANSMISSION HOUSING' table.
- 9:** Points to the 'QTY' column in the 'TRANSMISSION HOUSING' table.
- 10:** Points to the 'KEY' section of the 'TRANSMISSION HOUSING' table.

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CARRIAGE	
THREE STAGE FULL	
TWO STAGE FULL FR	
TWO STAGE LIMITED	
CONTROL VALVE	
COUNTERWEIGHT	
DASH DISPLAY	
DC-DC CONVERTER	

**SECTION 11 NUMERICAL INDEX**

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138	5-9	31	5-17	42	8	16481	6-25	3	16882	6-7	28	
139	5-9	32	7-13	8			6-25	4	16883	9-7	8	
12921	3-12	10	1-3	6			6-25	53	16883	6-25	5	
14269	5-5	8	15176	1-3	6		6-26	65	16982	7-5	25	
			1-4	45			10-3	16		8-5	24	
			5-9	16			6-26	48		9-5	19	
			5-13	23			6-11	3	16989	6-25	10	
			5-13	23			16484	6-11	9	17051	7-5	19
			5-13	23			6-11	9		8-5	13	
			5-13	23			6-13	101		9-5	13	
			5-13	23			34	6-25	7	17081	6-25	6
			5-13	23			10	6-25	8	17151	3-9	24
			5-13	23			11	6-25	11	17151	3-11	26
			5-13	23			21	6-25	20	17775	6-25	22
			5-13	23			27	9-7	7			

**TRANSMISSION HOUSING (S/N G160-2628)**

ITEM	PART NO.	DESCRIPTION	A	B	QTY
1	2022547	Transmission	1	1	1
2	2023329	Transmission	2	2	2
3	2094270	Case	4	4	4
4	2023418	Bearing Cap	1	1	1
5	206426	Washer	2	2	2
6	293692	Capscrew	4	4	4
7	2021390	Cover	2	2	2
8	1371856	Colter Pin	4	4	4
9	2021329	O-Ring	1	1	1
10	2021915	Plug	4	4	4
11	2021675	Housing	22	22	22
12	2021336	Pin	39	39	39
13	287880	Capscrew	1	1	1
14	292692	Lockwasher	1	1	1
15	2021345	Hydraulic Pump (w/ Figure 6-6)	8	8	8
16	214364	Gasket	8	8	8
17	285418	Capscrew	1	1	1
18	2021388	Washer	1	1	1
19	2021389	Temperature Switch	9	9	9
20	2021383	Breather	9	9	9
21	292515	Dipstick	2	2	2
22	139692	Capscrew	3	3	3
23	232527	Nut	3	2	2
24	292531	Capscrew	4	4	4
25	292683	Lockwasher	4	4	4
26	293637	Capscrew	1	1	1
	296420	Washer	1	1	1
	996403	Transmission Kit (Include Item 7)			
	996405	Transmission Kit (Include Item 14)			

**SECTIONS**

1	ELEC
2	ST
3	ST
4	BRAKE/ACCEL
5	HYD
6	MAST-TWO STAGE LI
7	MAST-THREE STAGE
8	MAST-TWO STAGE
9	MAST-TWO STAGE
10	NI
11	NI

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 book pages to the corresponding tab.

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See Service Manual for service procedures  
3-15

HP990135

## 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 22-1 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:

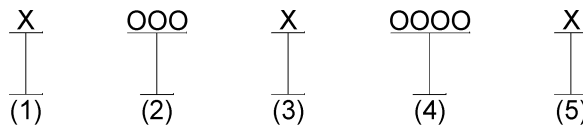
- ⇒ **D/B 3/00**  
Indicates that a change occurred sometime within that month for the item affected.
- D/B 3/00** ⇒  
Indicates that a change occurred sometime within that month for the item affected.
- D/B 3/00** ⇔ **D/B 4/00**  
Indicates a range of production dates of the item affected.

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

### ORDERING PARTS:

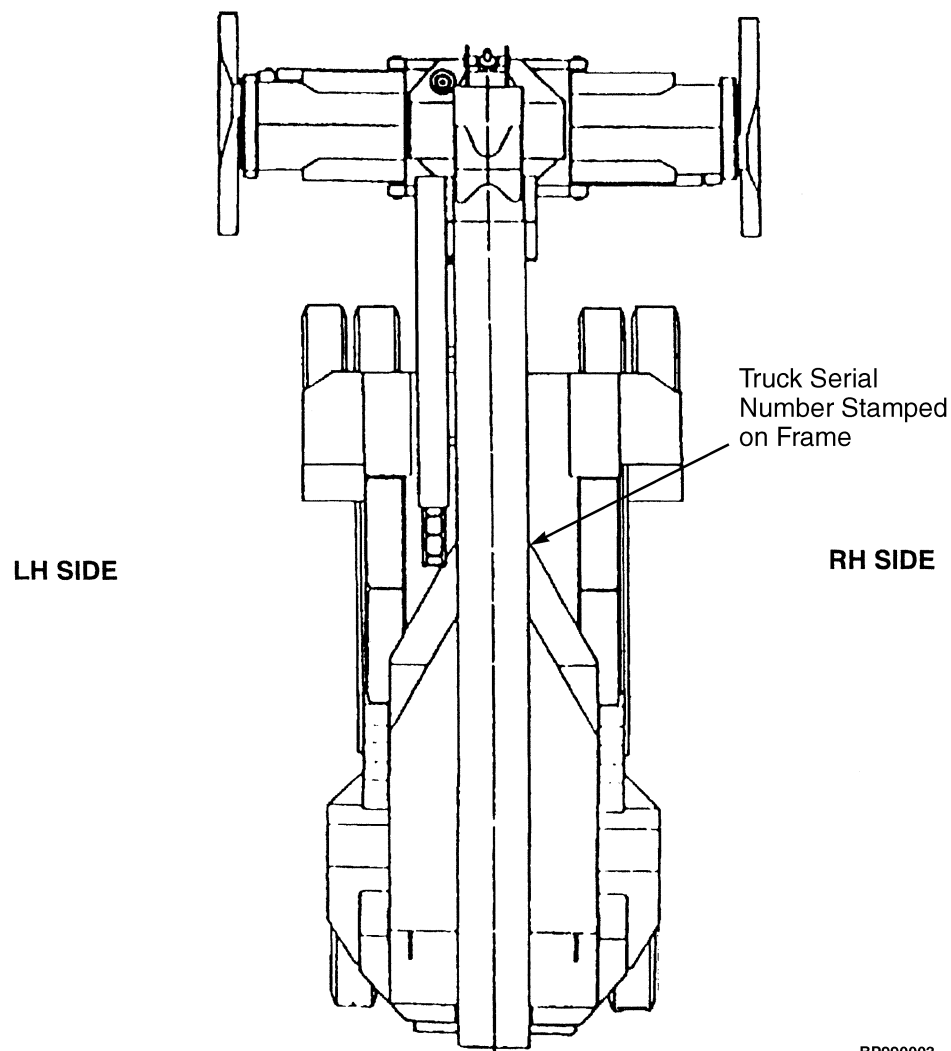
When ordering replacement parts, give the unit serial number, part number, name of part and quantity required.

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.



BP990003

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

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**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.

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<b>PUBLICATION</b>	<b>HYSTER PART NUMBER</b>
<b>Operating Manual</b> .....	1470228
<b>Service Manual (Complete)</b> .....	1470227
<b>Parts Manual</b> .....	1470226



**1**

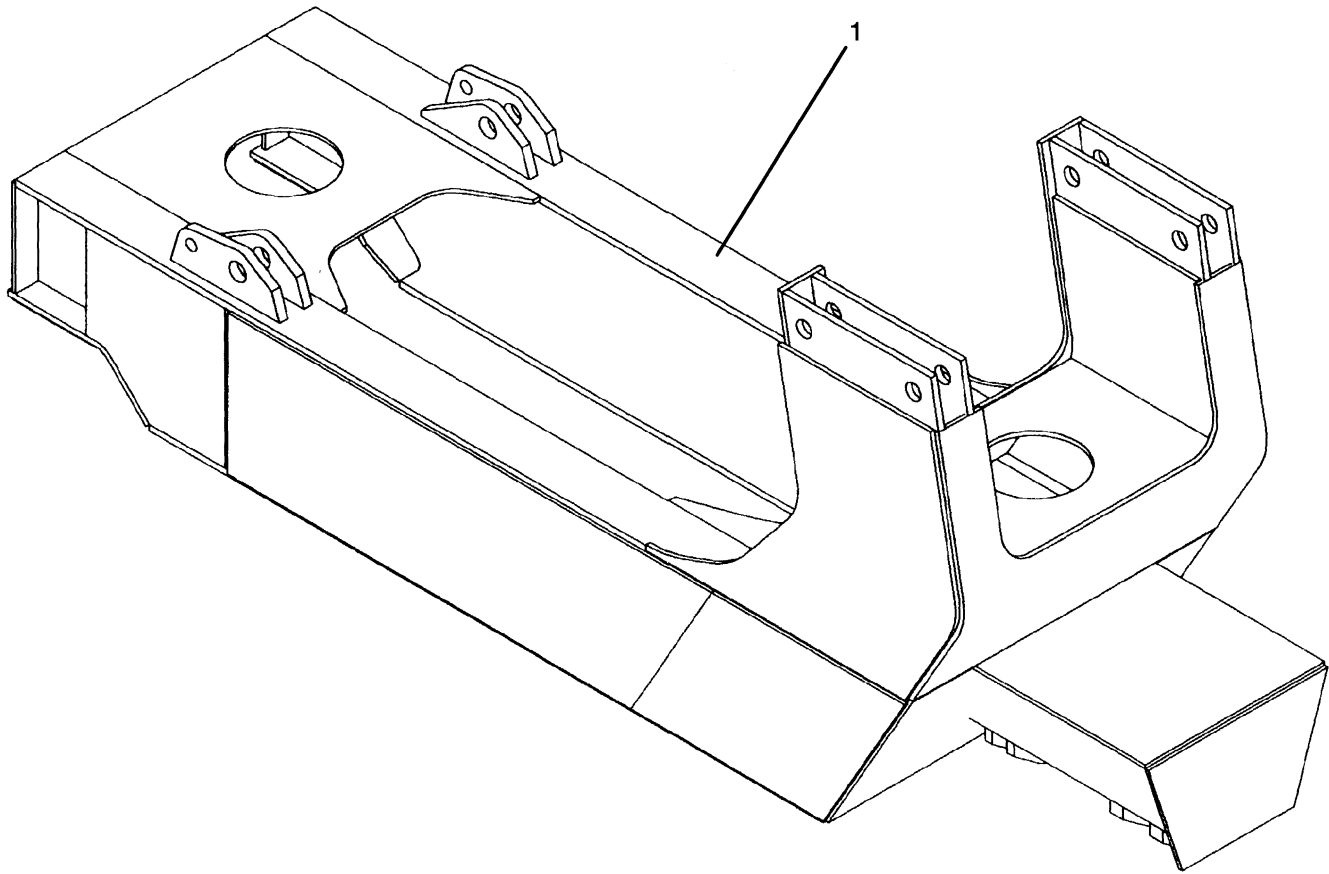
**FRAME**



**SECTION 1**  
**FRAME**

DESCRIPTION	PAGE
CAB DOOR	
LEFT HAND .....	1-8
RIGHT HAND.....	1-10
CHASSIS BOX	
LEFT HAND	
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COUNTERWEIGHT .....	1-3
FRAME	
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LABELS.....	1-14
LIMIT SWITCH	
27 DEGREES	
HR45-31, HR45-40S .....	1-16
HR45-25, HR45-31, HR45-40S .....	1-12

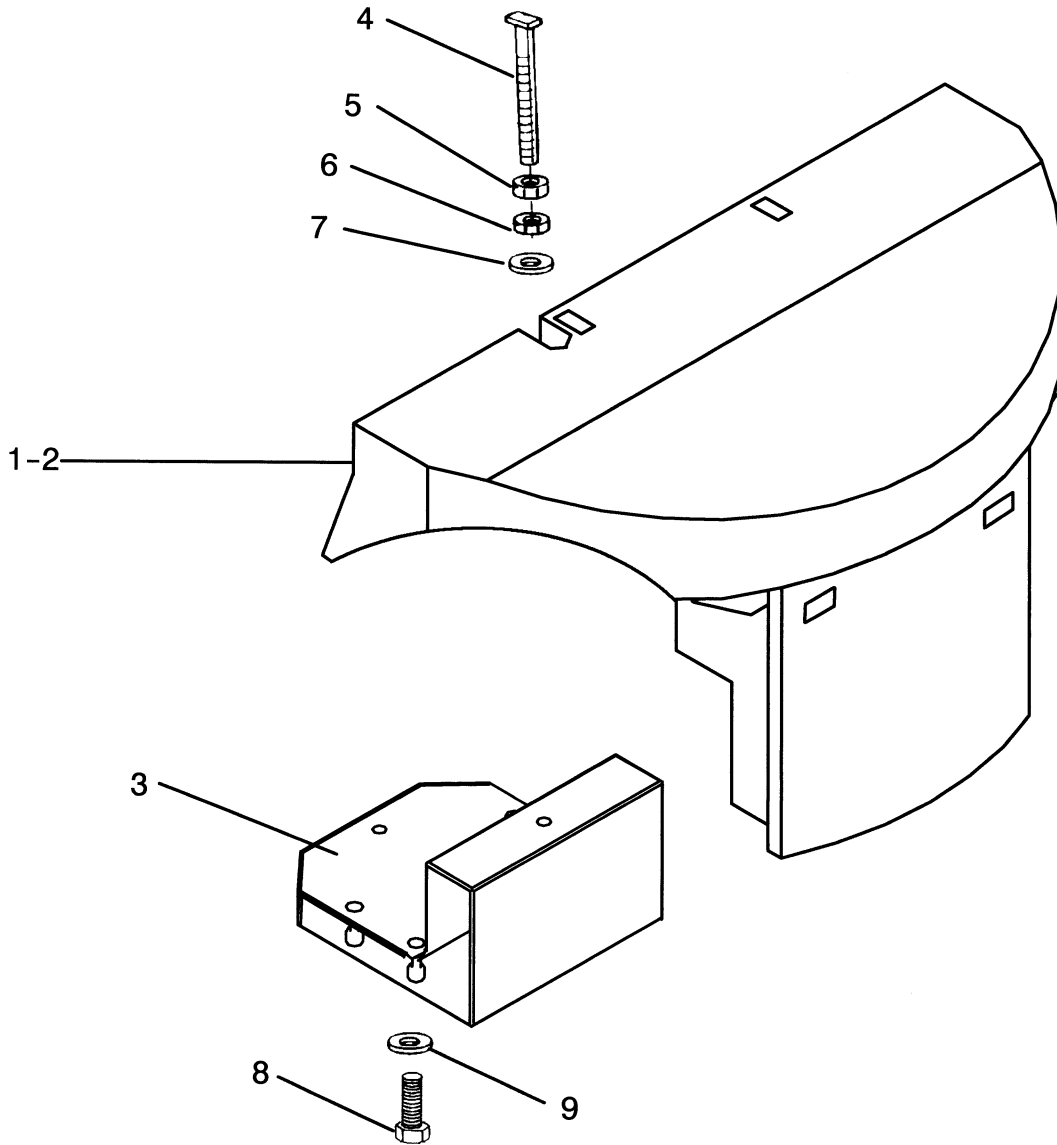
## FRAME (Figure 1-1) HR45-25, HR45-31, HR45-40S



HP120599

ITEM	PART NO.	DESCRIPTION	QTY
1	1468878	Frame .....	1
1	1488109	Frame (RS) .....	1

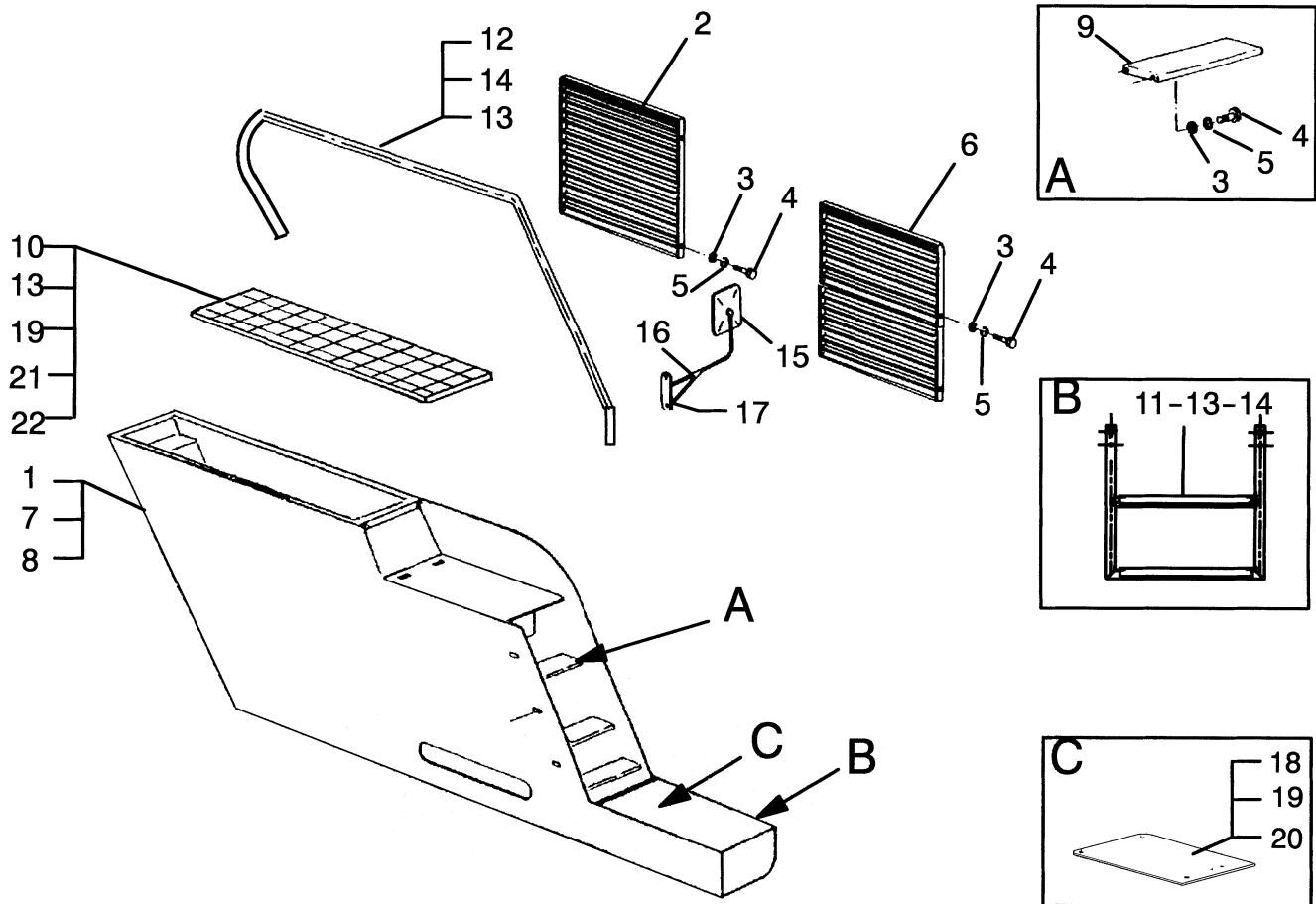
**COUNTERWEIGHT (Figure 1-2)**



HP120600

ITEM	PART NO.	DESCRIPTION	QTY
1	1468953	Counterweight (HR45-25).....	1
1	1471912	Counterweight (HR45-31, HR45-36L, HR45-40LS).....	1
2	1471913	Counterweight (HR45-40S) .....	1
3	1468954	Counterweight (HR45H) .....	1
4	1468955	Bolt .....	4
5	1468956	Nut .....	4
6	1468957	Nut .....	4
7	1468958	Washer .....	4
8	1468959	Capscrew.....	4
9	1468960	Washer .....	4

## CHASSIS BOX (Figure 1-3) LEFT HAND HR45-25, HR45-31, HR45-40S



HP120601

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