

PARTS MANUAL

CHALLENGER

H70-110XL

H90XLS

(H3.50-5.00XL)

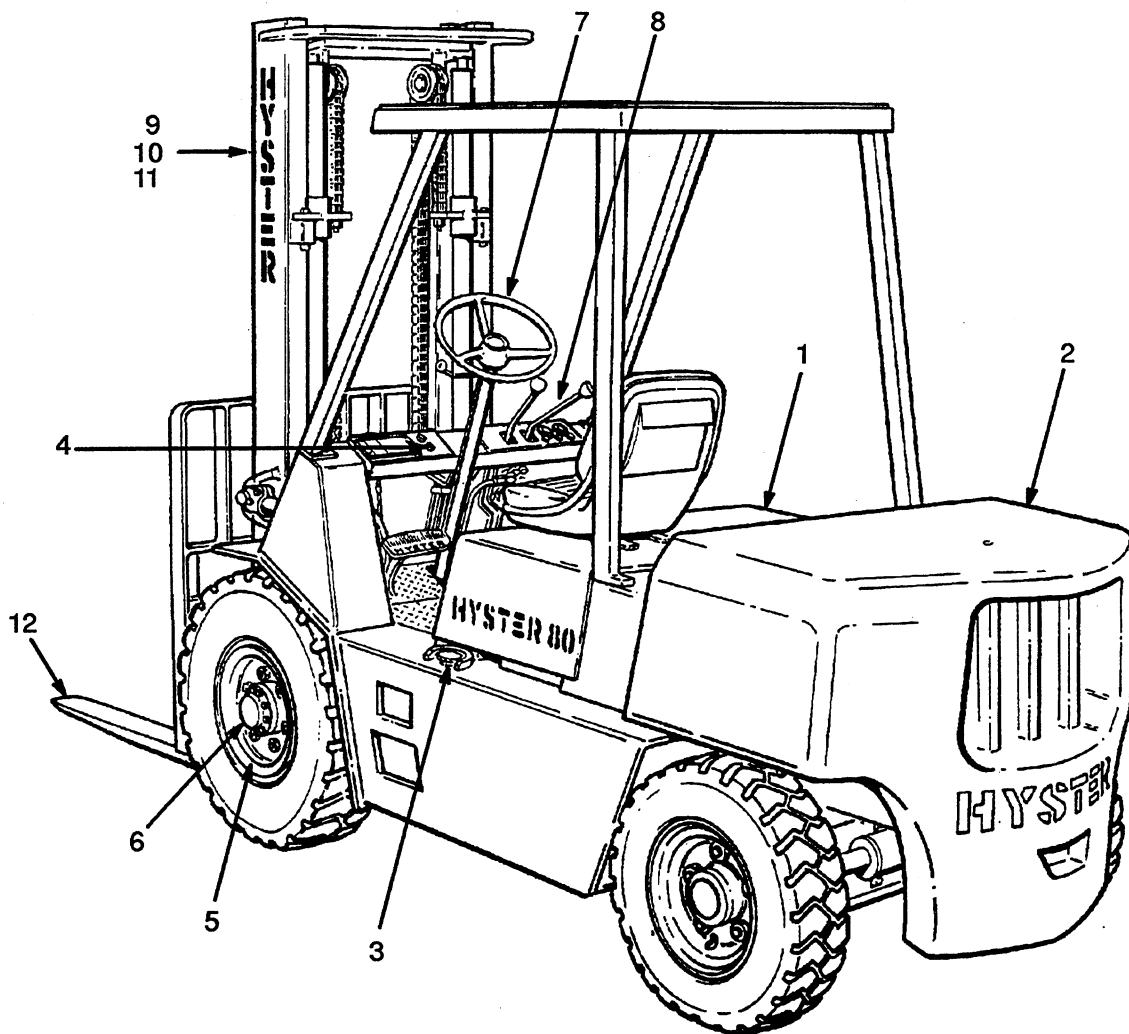
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(F5)

CUSTOMER EDITION

HYSTER

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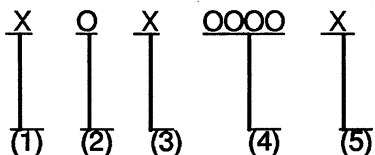
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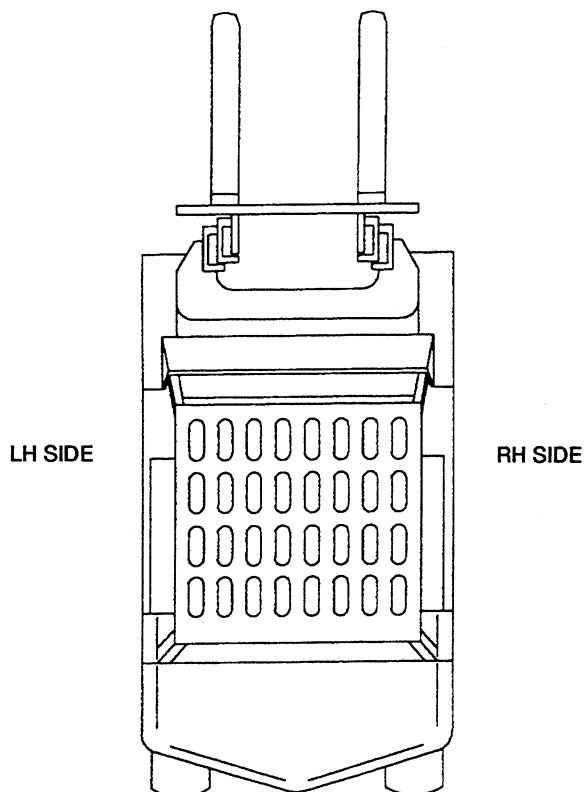
IDENTIFICATION - UNIT UNIT S/N



- (1) & (2) The first letter and number denote the design series and model of the unit
- (3) The second letter denotes the Plant at which the unit was manufactured
- (4) The number series denotes the serial number of the unit
- (5) The final letter denotes the year of manufacture starting with "A" in 1957 and 1980 The letters "I", "O", and "Q" will not be used

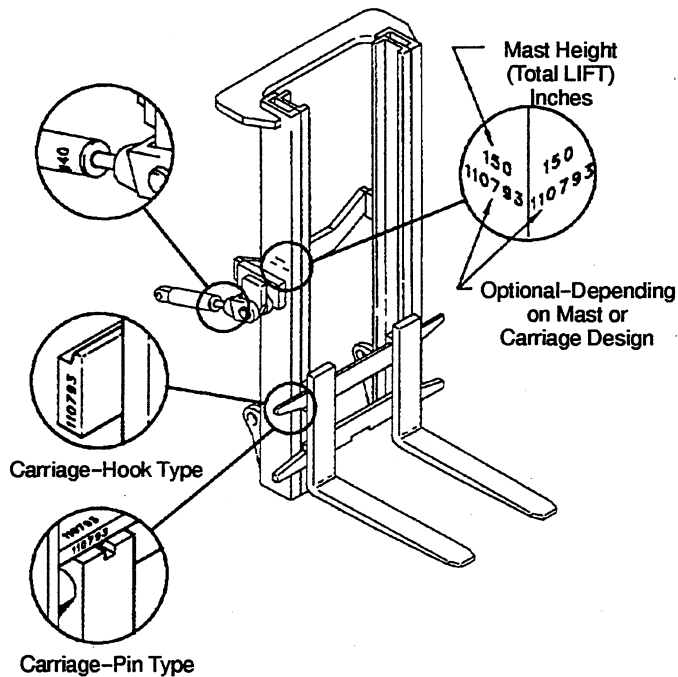
For pending serial numbers contact your local Hyster Dealer

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



LIFT EQUIPMENT IDENTIFICATION

1. Mast group numbers and total lift heights are stamped on the right hand outer mast approximately four feet from the bottom of the fork. The group numbers include the inner and outer masts, lift cylinder, lift chain and bleeder hoses or pipes.
2. The carriage and tilt cylinder numbers are located as shown. Lift cylinder numbers are stamped on the cylinder shell near the bleeder screw or on the chain anchor. Fork part number, capacity rating, plant code letter and date of manufacture are stamped approximately six inches below the top RH side of forks. Always refer to these group and part numbers when ordering service parts.



HOW TO USE THE ILLUSTRATED PARTS MANUAL

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

It also includes all parts peculiar to trucks built in overseas plants. These parts are indicated by keys, symbols and footnotes.

Page 2
SERIAL CODE CM
INDEX-MASTER

DESCRIPTION	PAGE
Accelerator	18-28
Accumulator	14-25
Asse-Drive	42-43
Asse-Steering	42-43
Brake	
Brake-Park, Lever Actuated	
Brake-Park, Steel Actuated	
Carriage Side-Drive	
Carriage Mast Two-Stage Full Free Lift	
Carriage Mast Two-Stage Limited Free Lift	

Page 3
SERIAL CODE CM
INDEX-NUMERICAL

PART NO.	FIGURE NO.	REF. NO.	PART NO.	FIGURE NO.	REF. NO.	PART NO.	FIGURE NO.	REF. NO.
36282	43	1	370128	42	11	373226	11	14
36288	46	1				373207	82	14
36291	47	2	370251	43	11	373207	82	14
362615	46	1	370251	43	11	373207	82	14
362616	54	1	370251	43	11	373207	82	14
362618	30	2	370251	43	11	373207	82	14
362619	47	2	370251	43	11	373207	82	14
362642	48	8	370251	43	11	373207	82	14
362643	42	8	370251	43	11	373207	82	14
362658	43	8	370251	43	11	373207	82	14
362659	30	2	370251	43	11	373207	82	14

Page 4
SERIAL CODE CM
SEAT
LAST USED ON PENDING S/N PER ECN 96020

Page 1
SERIAL CODE FS
ILLUSTRATED CONTENTS

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5	TRANSMISSION	189
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9	MAST-VISTA TWO-STAGE LIMITED FREE LIFT	269
10	MAST-VISTA THREE-STAGE FULL FREE LIFT	285
11	MAST-VISTA TWO-STAGE FULL FREE LIFT	307
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Page 5
SERIAL CODE FS
KEY

A-Without Seat Actuated Park Brake And Without Operator Restraint
 B-With Seat Actuated Park Brake And Without Operator Restraint
 C-Without Seat Actuated Park Brake And With Operator Restraint
 D-With Seat Actuated Park Brake And With Operator Restraint

REF. PART NO.	NAME OF PART	A	B	C	D	REF. PART NO.
1	364911 Chevrolet Seat	1	1	1	1	10
1	362824 Fabric Seat	1	1	1	1	12
2	362634 Suspension Seat	1	1	1	1	13
2	374371 Suspension Seat	1	1	1	1	14
2	1349227 Suspension Seat	1	1	1	1	15
3	325261 Cushion	1	1	1	1	15
4	325394 Spring-Coil	2	2	2	2	15
5	325363 Spring-Torsion	1	1	1	1	15
6	325363 Absorber-Shock	1	1	1	1	15
7	325376 Fan-Seat	1	1	1	1	15
8	325359 Splacke-Adj.	1	1	1	1	15
9	325352 Knob-Lever	1	1	1	1	15

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

1. USE: Determine the function and application of the part required. Turn to the Illustrated Index page immediately behind the front cover, and select the most appropriate area.
2. Use the Division Index to determine the assembly which would normally contain the part required. Proceed then to 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 Master Index page immediately following the Illustrated Index.
4. Locate the assembly the required part is used on and turn to the page indicated for that assembly. Proceed then to locate the part on the assembly breakdown page.

WHEN THE PART NUMBER IS KNOWN;

5. Use the Numerical Index to find the part number. Turn to the figure listed and locate the part as indicated by the reference number.

GENERAL:

The Assembly Breakdowns include part numbers, description, quantities required, keys and footnotes to help in selecting the correct parts.

6. Keys are used to show effective serial numbers for two or more similiar assemblies, RH and LH assembly parts, etc. Select the appropriate key, "A", "B", "C", or "D" and the corresponding quantity column to find the required parts.
7. Indented descriptions under "Name of Part" are used to indicate subparts of assemblies. A major assembly is not indented. Parts under the first, second, or third indent are sub-parts of the major assembly shown above them.
8. Quantities shown are for one assembly. Note that two assemblies are shown, but the quantities of the subparts are indicated as three and three. This means three per assembly.
9. Engineering Change Notice (ECN) numbers for pending serial numbers are shown to allow for the inclusion of the most current parts information. Contact your local Dealer for Hyster Lift Trucks for serial number information listed by ECN number.

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.

Figure 1. PUBLICATIONS

Every new lift truck is provided with at least three publications. These publications are the PARTS MANUAL, the OPERATING MANUAL, and the section of the SERVICE MANUAL called Periodic Maintenance.

The OPERATING MANUAL must always be available

on every lift truck. This manual has information that the operator must know for inspection and operation of the lift truck. The section Periodic Maintenance has a recommended schedule of service intervals and the procedures for servicing the lift truck.

PUBLICATION	HYSTER PART NUMBER
Operating Manual	
English (U.S.)	897364
English (Non-U.S.)	897360
Spanish	853621
French	853619
German	853620
Dutch	853622
Italian	853623
Portugese	853625
Service Manual (complete)	897135
The Frame (100 SRM 345)	897126
GM Engine (600 SRM 104)	599805
The Perkins Engine 4.236, 4.2482 (600 SRM 105)	910150
Perkins Diesel Engines - 1000 Series (600 SRM 412)	897341
Gasoline Fuel System (900 SRM 347)	897128
The LPG System (900 SRM 348)	897129
The Oil Clutch System (1200 SRM 334)	897116
The Manual Transmission (1300 SRM 335)	897117
The Single-Speed Powershift Transmission - Description and Operation (1300 SRM 336)	897118
Repairs (1300 SRM 337)	897119
Speed Reducer and Differential (1300 SRM 346)	897127
The Drive Axle (1400 SRM 361)	897180
The Steering Control Unit (1600 SRM 54)	910076
The Steering Axle (1600 SRM 326)	897108
The Brake System (1800 SRM 338)	897120
Hydraulic System (1900 SRM 333)	897115
Hydraulic Gear Pumps (1900 SRM 97)	910091
The Hydraulic Pump Drive Assembly (1900 SRM 339)	897121
The Main Control Valve (2000 SRM 77)	899782
The Tilt Cylinders (2100 SRM 103)	910102
The Alternator (2200 SRM 2)	899784
The Starter (2200 SRM 106)	910110
The High Energy Ignition System (2200 SRM 107)	897122
Electronic Engine Control	
Description and Operation (2200 SRM 473)	897435
Troubleshooting and Repair (2200 SRM 468)	897420
Electrical Gauges, Meters and Senders (2200 SRM 143)	910110
The Mast (4000 SRM 340)	897123
Lift Cylinders (4000 SRM 135)	910119

CONTINUED ON NEXT PAGE

PUBLICATIONS

CONTINUED FROM PRIOR PAGE

Service Manual (complete), continued	897135
Periodic Maintenance (8000 SRM 341)	897123
Capacities and Specifications (8000 SRM 342)	897124
Diagrams (8000 SRM 343)	897084
Diagrams (with Electronic Engine Control) (8000 SRM 494)	897471
Inch (SAE) and Metric Fasteners (8000 SRM 231)	910442
Parts Manual	852111
Operator Training Program	
Operator Training Kit Complete	
Slide Format with Carry Case	582802
1/2" VHS Format with Carry Case	852165
"Safety is an Attitude" (1/2" VHS)	852690
"Safety Rules" Playing Cards	852695
Sold Alone Kit Catalog	852505
Guide For Users Of Industrial Lift Trucks	852930

Figure 2. SERVICE REPAIR KITS

Brake Overhaul Kit	996026
Cooling System Kit	996018
Steer Axle Repair Kit	996024
Tune-Up Kit (HEI)	996015
Tune-Up Kit (HEI)	996106

FRAME

COUNTERWEIGHT 13

EXTENSION-LOAD BACKREST 16

FLOORPLATES/FENDERS 10

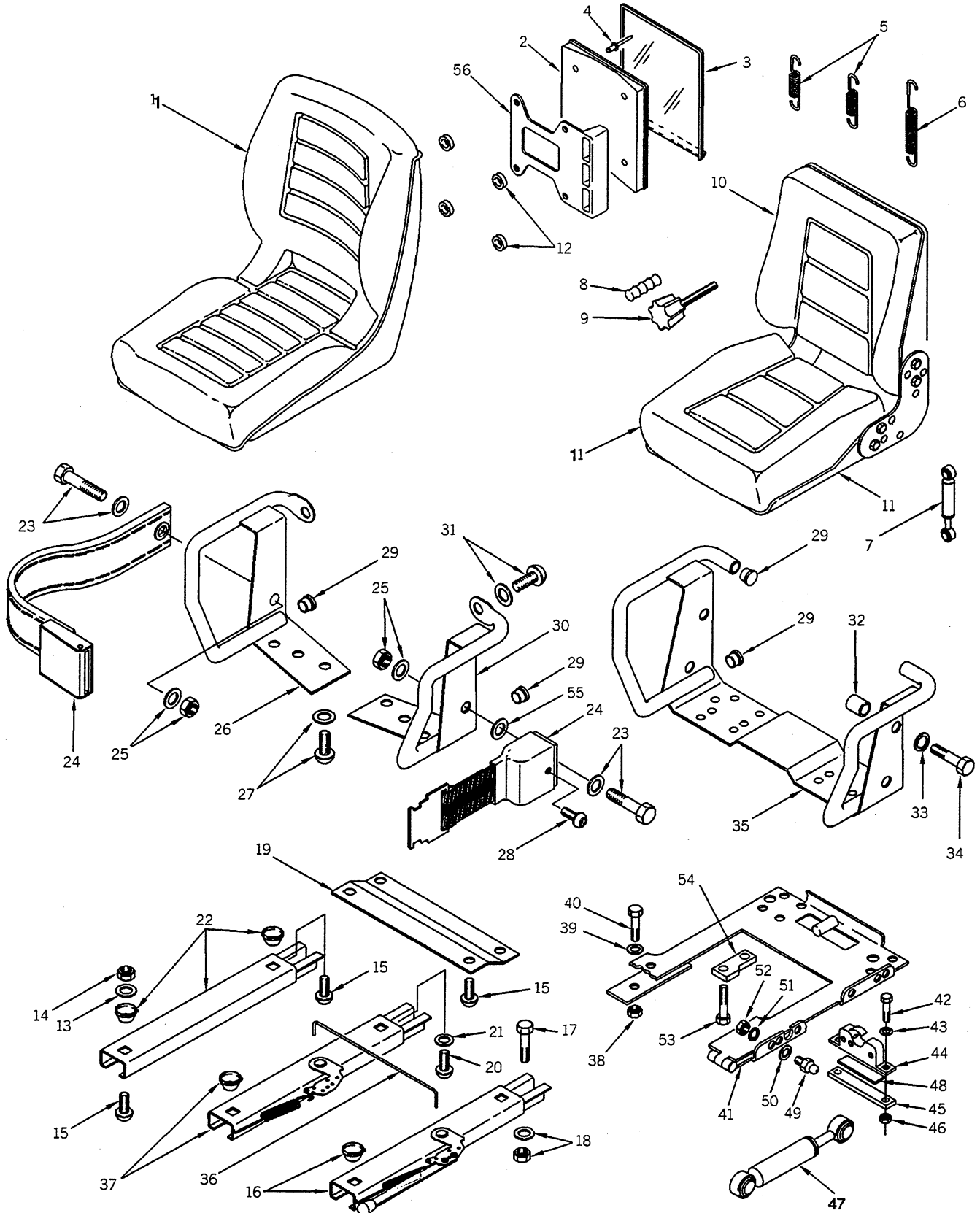
GUARD-OVERHEAD 12

HOOD/LINKAGE 8

LABELS/PAINT 14

SEAT 6

Figure 3. SEAT

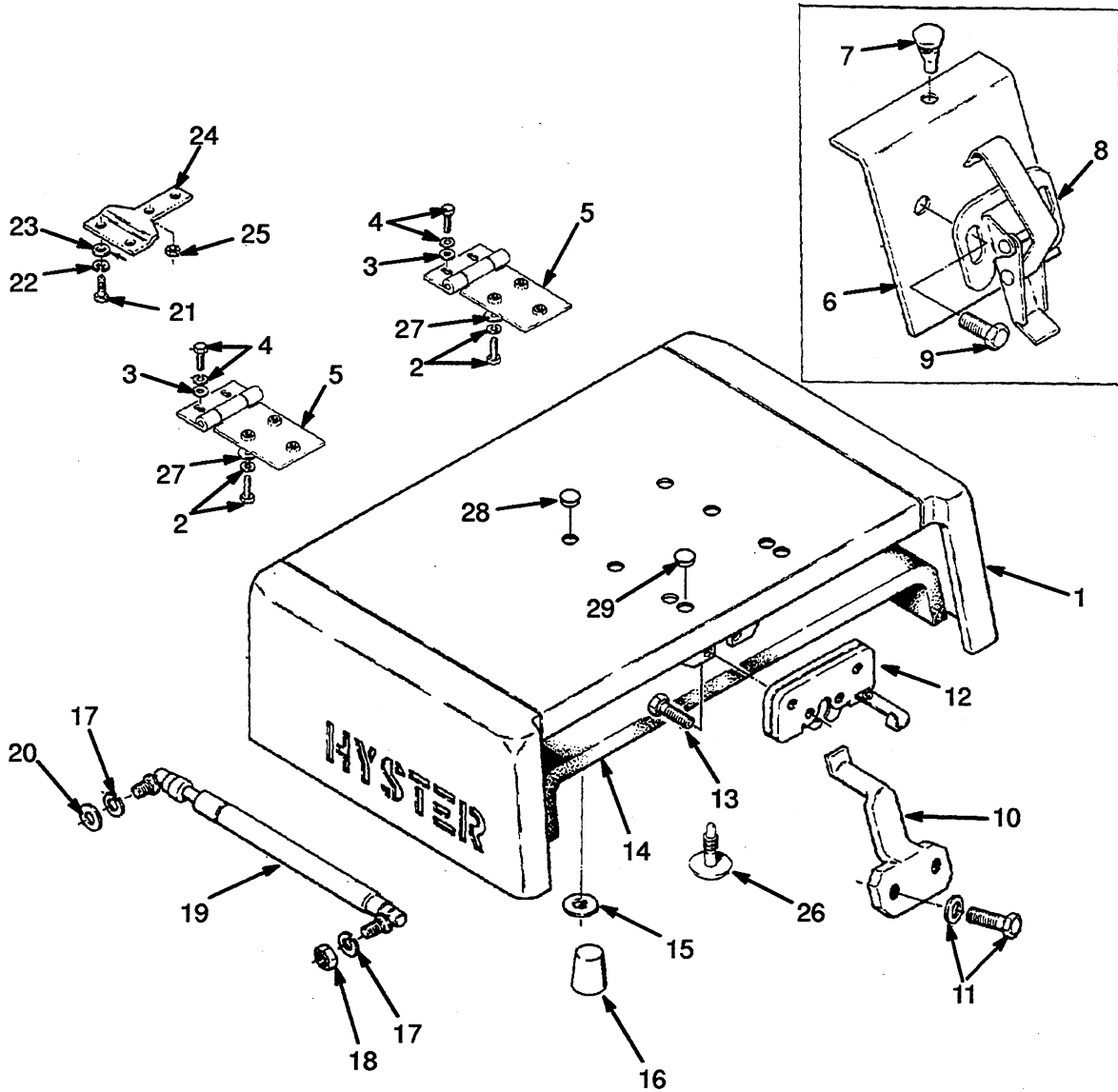


SEAT

KEY
A: Standard
B: Suspension

REF	PART NO.	NAME OF PART	QTY		REF	PART NO.	NAME OF PART	QTY	
			A	B				A	B
1	377901	Seat	1	..	31	% 379198	Washer	2	..
1	1345826	Seat	1	..	32	% 364848	Spacer	2	..
2	335988	Base - Information	1	..	33	% 379675	Washer	2	..
2	335989	Base - Information	1	..	34	% 379674	Capscrew	2	..
3	335991	Cover - Information	1	1	35	% 364847	Restraint	1	..
4	187727	Rivet	4	..	36	+1300107	Rod	1	1
4	222030	Rivet	4	..	37	+ 383116	Rail	1	1
5	326364	Spring - Coil	2	..	37	\$\$1300108	Rail - Seat	1	1
6	326363	Spring - Tension	1	..	37@@@+204114	Spacer	4	..	
7	326978	Absorber - Shock	1	..	38	\$\$ 145639	Locknut	8	8
8	326362	Knob - Lever	1	..	39	\$\$ 15175	Washer	4	4
9	326365	Spindle - Adj	1	..	40	\$\$ 16836	Capscrew	4	4
10	326361	Cushion - Back	1	..	41	\$\$1314359	Kit - Seat Hinge	1	1
11	326360	Cushion - Seat	1	..	42@\$&	293603	Capscrew	4	4
12	335347	Bar	2	..	42&&&	221418	Capscrew	4	4
12	1326337	Spacer	1	..	43@\$&	320156	Washer	4	4
13	* 221733	Flatwasher	4	..	43&&&	15127	Washer	2	2
13	% 221733	Flatwasher	2	..	44	\$\$1304957	Latch	1	1
14	145639	Locknut	4	..	45	\$\$1346321	Plate	1	1
15	? 18731	Capscrew	4	..	46@\$&	313805	Nut	4	4
15	\$\$ 18728	Capscrew	4	..	46&&&	251099	Locknut	4	4
15	18727	Capscrew	4	..	47	\$\$ 364976	Spring - Gas	1	..
16	? 335553	Rail	1	1	47	\$\$ 380320	Spring - Gas	1	..
16	\$\$ 383116	Rail	1	1	48	\$\$ 364940	Shim
16@@	204114	Spacer	4	..	49	\$\$ 379190	Stud - Ball	2	2
17	16374	Capscrew	4	4	50	\$\$ 320157	Washer	2	2
18	? 15175	Washer	4	4	51	\$\$ 292681	Lockwasher	2	2
18	\$\$\$ 15175	Washer	4	4	52	\$\$ 329069	Nut	2	2
18	145639	Locknut	4	4	53	\$\$ 309637	Screw	2	2
19	353731	Plate	2	..	54	\$\$ 306187	Bumper	2	2
20	186261	Capscrew	4	..	55	\$\$* 379183	Spacer	2	..
21	15155	Lockwasher	4	..	55	\$\$ 379183	Spacer	4	..
22	# 335556	Rail - Seat	1	1	56	\$\$ 381954	Bumper	1	1
22@@#	204114	Spacer	4	..		&	LPG		
23	% 379199	Capscrew	2	2		\$\$	Gasoline Diesel		
23	% 379697	Washer	2	2		@@	Not Used On Suspension Seat		
24	% 364843	Belt	1	1		*	Without Operator Restraint		
25	% 379697	Washer	2	2		%	With Operator Restraint First Used On		
25	% 379698	Nut	2	2			S/N F5A-1731 & F5D-1501		
26	% 364807	Restraint - R.H.	1	..		#	Last Used On S/N F5A-7696		
27	% 18727	Capscrew	4	..		+	First Used On S/N F5A-7697 & F5D-1501		
27	% 18515	Washer	4	..		@	Last Used On S/N F5A-7171		
28	% 379650	Screw	1	1		&&	First Used On S/N F5A-7172 & F5D-1501		
29	% 364854	Plug	2	4		?	Last Used On S/N F5A-3604		
30	% 364808	Restraint - L.H.	1	..		\$	First Used On S/N F5A-3605 & F5D-1501		

Figure 4. HOOD



HOOD

KEY

A - Without Operator Restraint

B - With Operator Restraint

First Used On S/N F5A-1731 & F5D-1501

REF	PART NO.	NAME OF PART	QTY		REF	PART NO.	NAME OF PART	QTY	
			A	B				A	B
1	# 364864	Hood	1	1	17	292681	Lockwasher	2	2
1	\$%1303640	Hood	1	1	18	303117	Nut	1	1
1	@1304974	Hood	1	1	19	353021	Spring - Gas	1	1
2	136681	Capscrew	6	6	20	320157	Washer	2	2
2	292681	Lockwasher	6	6	21	@ 287854	Capscrew	4	4
3	320157	Washer	4	4	22	@ 292682	Lockwasher	4	4
4	292681	Lockwasher	4	4	23	@ 320159	Washer	4	4
4	287851	Capscrew	4	4	24	@1328885	Plate - Hood Mounting	2	2
4	@ 136749	Capscrew	4	4	25	@ 239503	Nut	4	4
5	@1331039	Hinge	2	2	26	@1304971	Fastener	13	13
6	309768	Bracket	1	..	27	1300117	Washer	6	6
7	309698	Bumper	1	..	28	+*1307737	Plug	4	4
8	313864	Latch	1	..	29	+1338175	Plug	4	4
9	309637	Screw	2	..		#	Last Used On S/N F5A-7171		
10	364861	Striker		1		@	LPG:First Used On S/N F5A-8160 & F5D-1501		
11	302334	Capscrew		2		\$	LPG: Used On S/N F5A-7172 Thru F5A-8159		
11	320160	Washer		2		%	Gas & DSL:First Used On S/N F5A-7172 & F5D-1501		
12	364857	Latch		1		*	LPG		
13	199563	Capscrew		4		+	Gasoline And Diesel		
14	@1327870	Liner - Hood	1	1					
14	353191	Tape	AR	AR					
15	246788	Washer	13	13					
16	1320610	Bumper	2	2					