

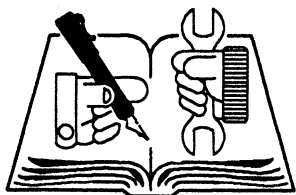
PARTS MANUAL

CHALLENGER

H40-50-60XL

H2.00-2.50-3.00XL

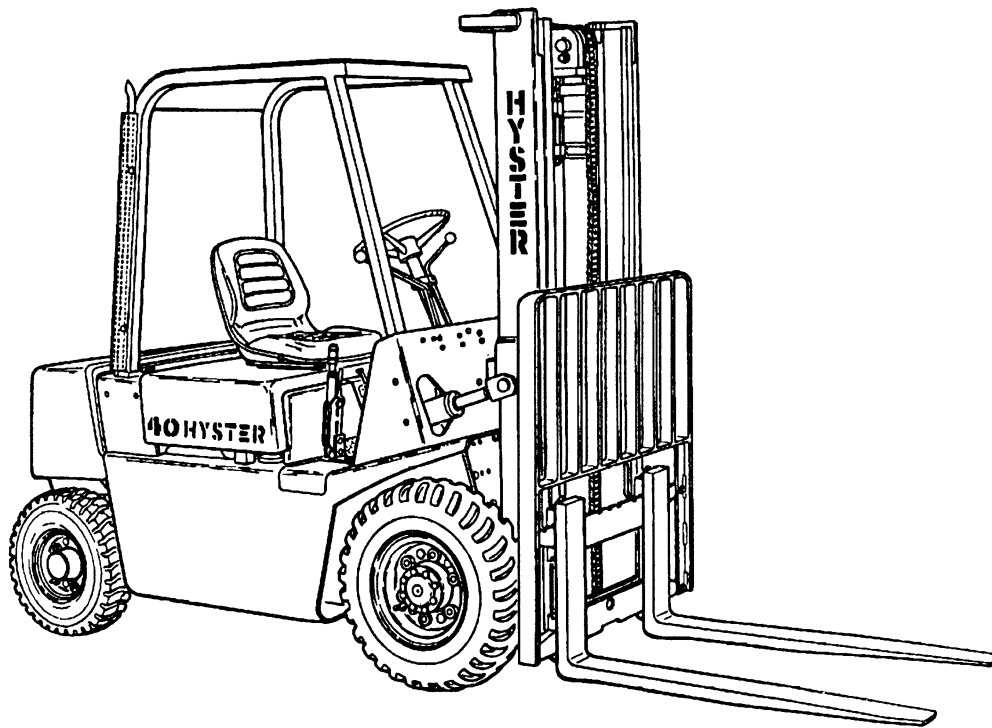
(B177)



Hyster Easy Language Program

CUSTOMER EDITION

INDEX-ILLUSTRATED



REF	ITEM	PAGE
1	FRAME _____	1A04
2	ENGINE _____	1B02
3	FUEL _____	1D02
4	ELECTRICAL _____	1F02
5	TRANSMISSION _____	2A04
6	STEERING _____	2C02
7	BRAKE _____	2D02
8	HYDRAULIC _____	2E02
9	UPRIGHT-VISTA TWO-STAGE _____	3A02
10	UPRIGHT-VISTA THREE-STAGE _____	3B02
11	UPRIGHT-VISTA FREE-LIFT _____	3D02
12	OPTIONAL _____	4A04
13	INDEX-NUMERICAL _____	F02

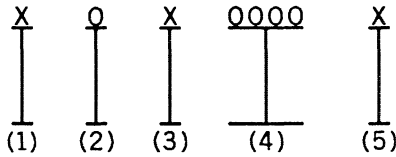
⚠ WARNING IMPROPER REPAIRS OR REPAIR PROCEDURES CAN CAUSE PERSONAL INJURY OR PROPERTY DAMAGE. FOLLOW THE REPAIR PROCEDURES IN THE SERVICE MANUAL FOR THIS UNIT. TO OBTAIN THE SERVICE MANUAL OR REPAIR SERVICES - CONTACT YOUR HYSTER LIFT TRUCK DEALER.

INDEX-MASTER

DESCRIPTION	PAGE NO.
ALTERNATOR-----	1F11-1F12, 1F14
AXLE-DRIVE-----	2B08
AXLE-STEERING-----	2C04
BLOCK-CYLINDER DIESEL-----	1B06
BLOCK-CYLINDER GASOLINE LPG-----	1C03
BRAKE-----	2D06
CAB-----	4A13-4A14
CAMSHAFT/VALVES DIESEL-----	1B10
CAMSHAFT/VALVES GASOLINE LPG-----	1C06
CARBURETOR GASOLINE-----	1D08
CARBURETOR LPG-----	1D04
CARRIAGE SIDE-SHIFT-----	4A06
CARRIAGE VISTA FREE-LIFT-----	3E01
CARRIAGE VISTA THREE-STAGE-----	3C01
CARRIAGE VISTA TWO-STAGE-----	3A10
CLUTCH-FORWARD/REVERSE-----	2B01-2B02
CONVERTER LPG-----	1D13
CONVERTER-TORQUE-----	2A08
COOLING DIESEL-----	1B05
COOLING GASOLINE LPG-----	1C02
COUNTERWEIGHT-----	1A07
COWL/PLATES-FLOOR-----	1A05
CRANKCASE/PAN-OIL DIESEL-----	1B08
CRANKCASE/PAN-OIL GASOLINE LPG-----	1C07
CRANKSHAFT/PISTON/FLYWHEEL DIESEL-----	1B09
CRANKSHAFT/PISTON/FLYWHEEL GASOLINE LPG-----	1C05
CYLINDER-LIFT VISTA FREE-LIFT-----	3D13-3D14
CYLINDER-LIFT VISTA THREE-STAGE-----	3B13-3B14
CYLINDER-LIFT VISTA TWO-STAGE-----	3A09
CYLINDER-MASTER-----	2D07-2D08
CYLINDER SIDE-SHIFT-----	4B14
CYLINDER-STEERING-----	2C06
CYLINDER-TILT-----	2E08
DECALS/PAINT-----	1A09-1A10
DIFFERENTIAL-----	2B04
DISTRIBUTOR-----	1F09
ELECTRICAL-----	1F03-1F05, 1F07-1F08
EXHAUST DIESEL-----	1B04
EXHAUST GASOLINE LPG-----	1B03
EXTENSION-LOAD BACKREST-----	1A07
EXTINGUISHER-FIRE-----	4B11
EYE-LIFT-----	4B10
FILTER-AIR-----	1D11
FILTER-FUEL-----	1D11
FILTER-LOCK-OFF-----	1D13
FLYWHEEL DIESEL-----	1B09
FLYWHEEL GASOLINE LPG-----	1C05
FORK-----	4B12-4B13
FUEL DIESEL GASOLINE-----	1D07
FUEL LPG-----	1D05-1D06
GEAR-TIMING-----	1B11
GLASS-----	4B16
GOVERNOR GASOLINE LPG-----	1D09
HEAD-CYLINDER DIESEL-----	1B07
HEAD-CYLINDER GASOLINE LPG-----	1C04
HEATER-----	4B01-4B02
HOOD/LINKAGE-----	1A06
HOSE-HEADER-----	4A07-4A12
HYDRAULIC-----	2E03-2E06

INDEX-MASTER

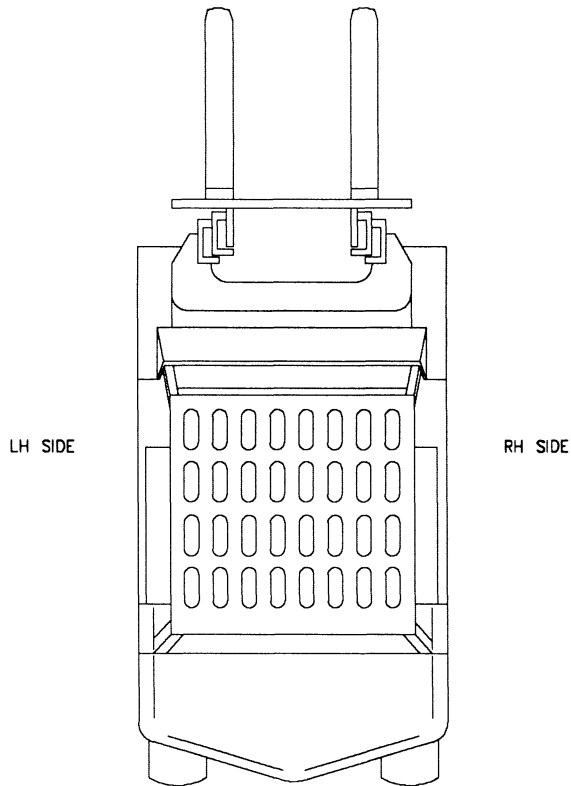
DESCRIPTION	PAGE NO.
INDEX-NUMERICAL	F02
INJECTION-FUEL	1D12
KIT-LPG CONVERSION	4B11
LIFT VISTA FREE-LIFT	3D09-3D12
LIFT VISTA THREE-STAGE	3B09-3B12
LIFT VISTA TWO-STAGE	3A07-3A08
LIGHT-STROBE	4B15
LIGHTS	4C01-4C04
LINER-SOUND	4B06
LINKAGE-BRAKE	2D03
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LINKAGE HOOD	1A06
LINKAGE PEDAL	2D04
LINKAGE-THROTTLE	1E01-1E02
MANIFOLD DIESEL	1B12
MANIFOLD GASOLINE LPG	1C08
MOUNT-ENGINE	1B05
PAINT	1A09-1A10
PAN-OIL DIESEL	1B08
PAN-OIL GASOLINE LPG	1C07
PANEL-INSTRUMENT	1G01-1G02
PEDAL/LINKAGE	2D04
PEDAL-MONOTROL	1E03
PISTON DIESEL	1B09
PISTON GASOLINE LPG	1C05
PLATES-FLOOR	1A05
PUMP-FUEL	1D10
PUMP-HAND	2C05
PUMP-HYDRAULIC	2E07
PUMP-OIL DIESEL	1C01
PUMP-OIL/FILTER-OIL GASOLINE LPG	1C09
PUMP-WATER DIESEL	1B13
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STEERING	2C03
TIRE/WHEEL	4B07-4B08
TRANSMISSION	2A11-2A12
UPRIGHT VISTA FREE-LIFT	3D03-3D06
UPRIGHT VISTA THREE-STAGE	3B03-3B08
UPRIGHT VISTA TWO-STAGE	3A03-3A06
VALVE-FLOW	2E13
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VALVE THREE FUNCTION	2E14
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VALVE/ATTACHING PARTS FOUR FUNCTION	2F01-2F02
VALVE/ATTACHING PARTS THREE FUNCTION	2E11-2E12
VALVE/ATTACHING PARTS TWO FUNCTION	2E09
VALVES DIESEL	1B10
VALVES GASOLINE LPG	1C06
WHEEL	4B07-4B08
WINDOW	4B03-4B04
WIPER	4B05

IDENTIFICATION-UNIT**UNIT S/N**

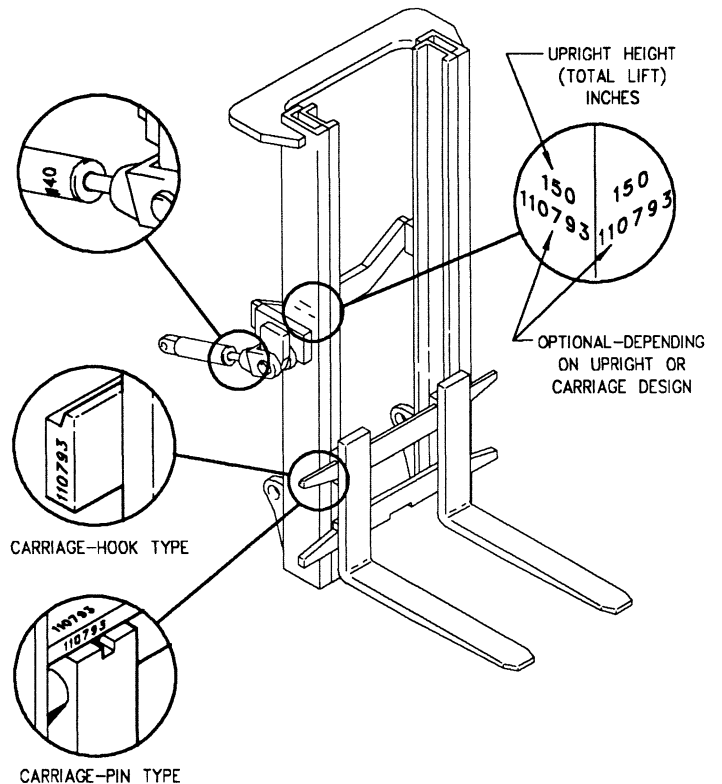
- (1) & (2) THE FIRST LETTER AND NUMBER DENOTE THE DESIGN SERIES AND MODEL OF THE UNIT
- (3) THE SECOND LETTER DENOTES THE PLANT AT WHICH THE UNIT WAS MANUFACTURED
- (4) THE NUMBER SERIES DENOTES THE SERIAL NUMBER OF THE UNIT
- (5) THE FINAL LETTER DENOTES THE YEAR OF MANUFACTURE STARTING WITH "A" IN 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**

- UPRIGHT GROUP NUMBERS AND TOTAL LIFT HEIGHTS ARE STAMPED ON THE RIGHT HAND OUTER UPRIGHT APPROXIMATELY FOUR FEET FROM THE BOTTOM OF THE LOAD ARM. THE GROUP NUMBERS INCLUDE THE INNER AND OUTER UPRIGHTS, LIFT CYLINDER, LIFT CHAINS AND BLEEDER HOSES OR PIPES.
- 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. LOAD ARM PART NUMBER, CAPACITY RATING, PLANT CODE LETTER AND DATE OF MANUFACTURE IS STAMPED APPROXIMATELY SIX INCHES BELOW THE TOP RH SIDE OF LOAD ARMS. 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.

INDEX-MASTER

DESCRIPTION	PART NO.
ALTERNATOR	2807-2813
AXLE-DRIVE	2C14
AXLE-STEERING	2C08
BLOCK-CYLINDER DIESEL	1C07
BLOCK-CYLINDER GASOLINE LPG 4-1216	1C04
BLOCK-CYLINDER GASOLINE LPG 4-18	1C13-1C14
BRAKE	2C09
BRAKE-PARR	2C08
CAKSHAF/VALVES DIESEL	1B11
CAKSHAF/VALVES GASOLINE LPG 4-1216	1E11-1E14
CARBURETOR	2C01
CARRIAGE FOUR-STAGE	2C01
CARRIAGE SIDE-SHIFT	2C08
CARRIAGE VISTA FOUR-STAGE	2C08
CARRIAGE VISTA FREE-LIFT	2C08

NUMERICAL INDEX

PART NO	PAGE NO	REF NO	PART NO	PAGE NO	REF NO	PART NO	PAGE NO	REF NO	PART NO	PAGE NO	REF NO
128	2E08	11	12822	1803	33	14388	4A10	9	15004	1F10	23
	1F08	11	12822	1C12	23	14488	1E01	21		1F10	23
	4A09	10	12838	3A09	10	14505	3A05	38		1F12	24
	1F08	10	12840	4B08	18		3A07	31		2D07	3
							3A08	64		2E01	8

CYLINDER

LAST USED ON PENDING B/N PER ECM 90020 (SEE PAGE A03)

KEY

A-12 INCH
B-13 INCH
C-14 INCH ROTATING
D-15 INCH ROTATING

REF NO	HYSTER PART NO	NAME OF PART	A	B	C	D
1	8531862	CYLINDER				
2	8533969	CYLINDER				
3	8533987	CYLINDER				
4	8533895	CYLINDER				
5	2885358	SHELL				
6	2885361	SPACER				
7	2885274	SPACER				
8	2885225	O-RING				
9	2885238	O-RING				

INDEX-ILLUSTRATED

REF	ITEM	PAGE
1	FRAME	1A04
2	ENGINE	1B02
3	FUEL	1002
4	ELECTRICAL	1F02
5	TRANSMISSION	2A04
6	STEERING	2C02
7	BRAKE	2D02
8	HYDRAULIC	2E02
9	UPRIGHT-VISTA TWO-STAGE	3A02
10	UPRIGHT-VISTA THREE-STAGE	3B02
11	UPRIGHT-VISTA FREE-LIFT	3D02
12	OPTIONAL	4A04
13	INDEX-NUMERICAL	F02

WARNING IMPROPER REPAIRS OR REPAIR PROCEDURES CAN CAUSE PERSONAL INJURY OR PROPERTY DAMAGE. FOLLOW THE REPAIR PROCEDURES IN THE SERVICE MANUAL FOR THIS UNIT. TO OBTAIN THE SERVICE MANUAL OR REPAIR SERVICES - CONTACT YOUR HYSTER LIFT TRUCK DEALER.

8177
USE HYSTER **Approved** PARTS... it pays
06/28/80

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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. LINE UP THE BLACK ARROW CONTAINING THE APPROPRIATE REFERENCE NUMBER, WITH THE BLACK TAB ON THE DIVISION INDEX PAGE WITH THE SAME REFERENCE NUMBER. 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 PAGE 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 SIMILAR 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. INDENT NUMBERS ARE USED TO INDICATE ASSEMBLIES AND SUBPARTS OF ASSEMBLIES. NUMBER 1 IS THE MAJOR ASSEMBLY. PART DESCRIPTIONS WHICH ARE INDENTED UNDER 2, 3, OR 4 ARE SUB-PARTS OF THE MAJOR ASSEMBLY SHOWN ABOVE.
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 MOST CURRENT PARTS INFORMATION TO BE INCORPORATED INTO THE PARTS MANUAL. CONTACT YOUR LOCAL HYSTER DEALER 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 HYSTER DEALER

FIRE PRECAUTION

TO AVOID FIRES, OPERATORS SHOULD BE INSTRUCTED TO REFUEL TRUCKS IN WELL LIGHTED AREAS OUTSIDE OF BUILDINGS. REPAIRS AND ADJUSTMENTS SHOULD BE MADE ON ONLY THOSE TRUCKS WHICH HAVE BEEN TAKEN TO A GARAGE OR MAINTENANCE SHOP.

STORAGE OF TRUCK

A VEHICLE PLACED IN STORAGE FOR ANY LENGTH OF TIME SHOULD HAVE ALL OF THE FUEL DRAINED FROM IT AND THE ENGINE OPERATED UNTIL IT RUNS OUT OF FUEL. EARLY FAILURE OF THE FUEL PUMP WILL RESULT IF THE VEHICLE IS STORED FOR A RELATIVELY LONG PERIOD WITH FUEL IN THE SYSTEM. GASOLINE WILL EVAPORATE AND LEAVE A STICKY GUM DEPOSIT IN THE FUEL PUMP VALVES AND IN THE CARBURETOR. DIESEL FUEL WILL LEAVE A WAXY SUBSTANCE THAT WILL PLUG THE ENTIRE SYSTEM.

OPERATION AND MAINTENANCE TIPS

THE FOLLOWING TIPS WILL HELP INCREASE TRUCK LIFE AND CONTRIBUTE TO THE REDUCTION OF EXPENSIVE DOWNTIME

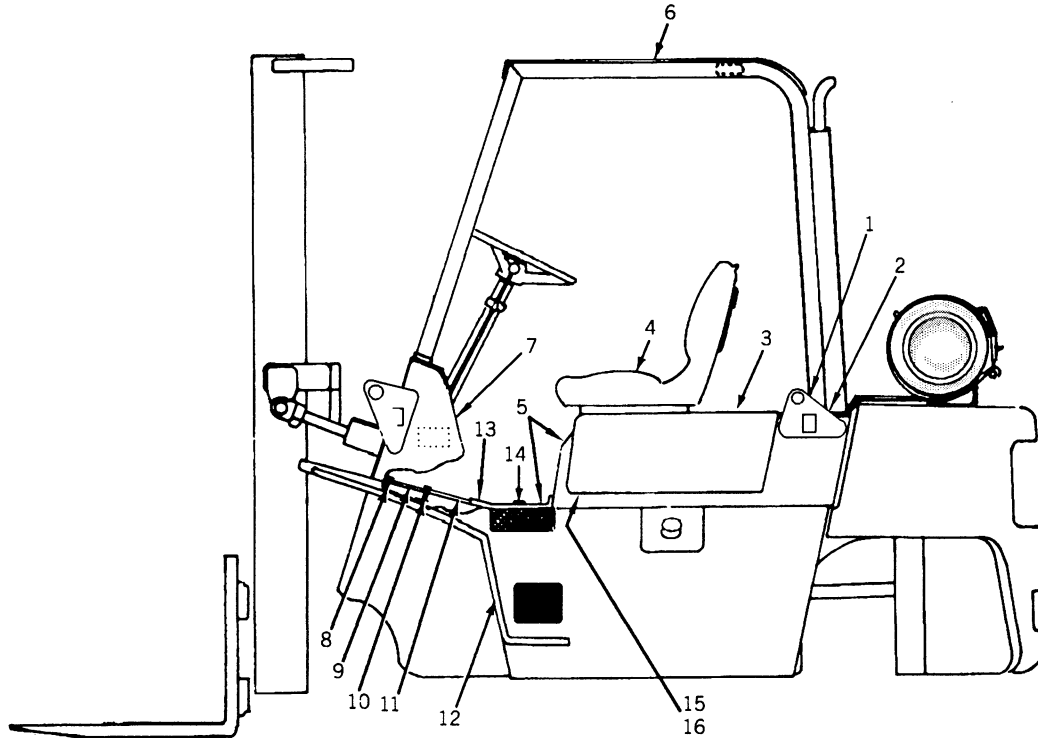
1. CHECK LUBRICATING AND HYDRAULIC OILS AND ENGINE COOLANT AT THE BEGINNING OF EACH WORK SHIFT. USE ONLY RECOMMENDED OILS.
2. DON'T WORK TRUCK UNTIL ENGINE AND HYDRAULIC OILS ARE WARM.
3. DON'T LET ENGINE IDLE FOR EXTENDED PERIODS.
4. DON'T OPERATE TRUCK WITH FAULTY ENGINE GOVERNOR OR WITH HIGH HYDRAULIC PRESSURE. HAVE QUALIFIED PERSONNEL MAKE THESE CHECKS.
5. MAKE SURE THE AIR CLEANERS AND OIL FILTERS ARE SERVICED CORRECTLY. ALL CONNECTIONS MUST BE TIGHT WITH NO LEAKS IN THE SYSTEM.
6. DO NOT OPERATE TRUCK WITH ANY RED WARNING LIGHTS ON.
7. DO NOT ADD COOLANT TO AN OVERHEATED ENGINE.
8. AFTER WORKING TRUCK, LET ENGINE IDLE A FEW MINUTES BEFORE STOPPING.
9. FILL FUEL TANK AT THE END OF THE SHIFT, WHEN THE TRUCK IS WARM.
10. DO NOT REVERSE DIRECTION OF TRAVEL WHEN TRUCK IS TRAVELING ABOVE ENGINE IDLE SPEEDS.
11. REPAIR MINOR DEFECTS IMMEDIATELY.
12. DO NOT DOWNSHIFT TRUCKS AT VEHICLE SPEEDS THAT EXCEEDS THE LOW GEAR AT GOVERNED ENGINE RPM.
13. ADHERE TO LUBRICATION AND MAINTENANCE RECOMMENDATIONS.



FRAME

COUNTERWEIGHT	1A07
COWL/PLATES-FLOOR	1A05
DECALS/PAINT	1A09-1A10
EXTENSION-LOAD BACKREST	1A07
HOOD/LINKAGE	1A06
SEAT	1A08

COWL/PLATES-FLOOR



REF NO	HYSTER PART NO	NAME OF PART				QTY
		1	2	3	4	
1	\$ 1303637					11
2	292528					4
2	292683					4
2	216877					2
3					1
						SEE 1A06
4					1
						SEE 1A08
5	1320917					1
5	* 1324253					2
6	1320619					1
7	308112					1
7	308111					1
8	329067					4
9	1324510					1

REF NO	HYSTER PART NO	NAME OF PART				QTY
		1	2	3	4	
10	177590					1
10	320157					2
10	137122					1
10	15212					3
11	313815					1
12	& 329051					1
12	& 329052					1
13	1320724					1
14	329067					4
15	* 364926					1
16	* 246788					6

* LOW NOISE
 \$ STANDARD EXHAUST
 & WIDE WHEEL

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