

HYSTER KARRY KRANE MANUAL

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INDEX

SECTION A	Service and Operating Instructions	➔
SECTION B	Frame and Body Parts	➔
SECTION C	Power Unit	➔
SECTION D	Fuel System	➔
SECTION E	Electrical Equipment	➔
SECTION F	Clutch and Linkage	➔
SECTION G	Transmission and Power Train	➔
SECTION H	Brakes and Linkage	➔
SECTION J	Hydraulic System	➔
SECTION K	Steering and Linkage	➔
SECTION N	Hoist Mechanism	➔
SECTION P	Optional Equipment	➔
SECTION Q	Numerical Index	➔

USE HYSTER APPROV

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UNIT IDENTIFICATION

UNIT SERIAL NO.

X	O	X	0000	X
(1)	(2)	(3)	(4)	(5)

- (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. The letters "I", "O", and "Q" will not be used.

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 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 speed at governed engine R.P.M.
13. Adhere to lubrication and maintenance recommendations.

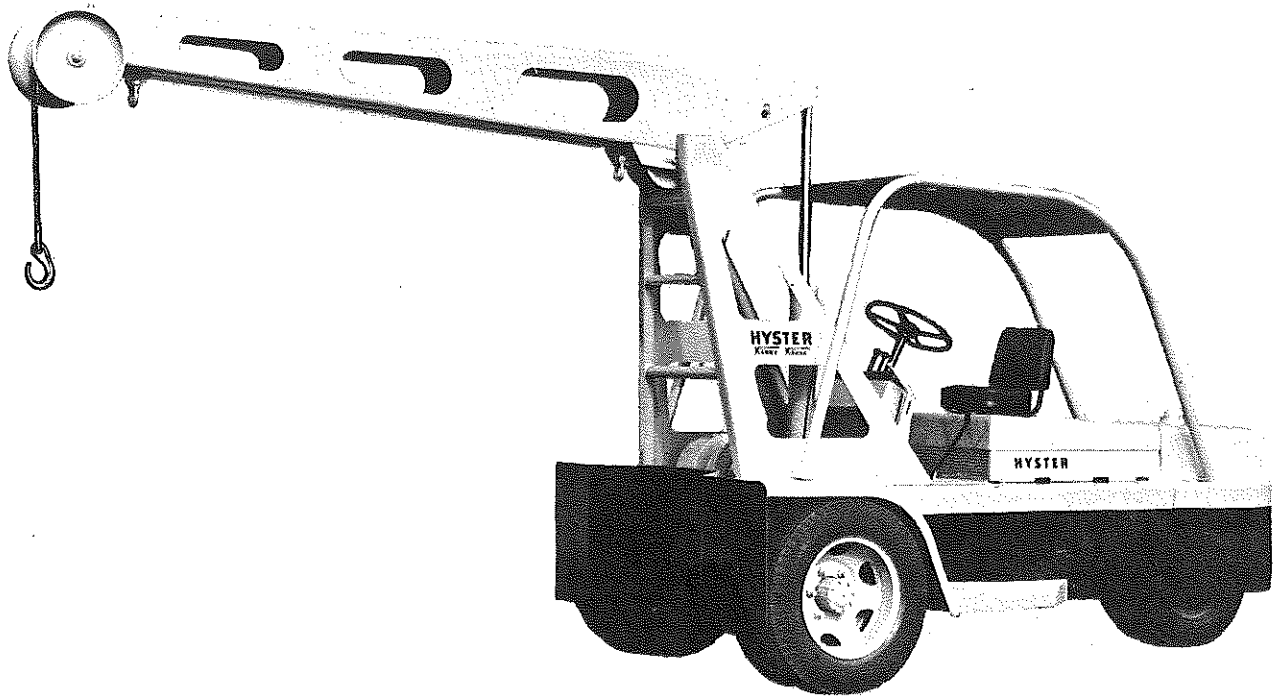
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Section A

SERVICE AND OPERATING INSTRUCTIONS

INDEX

BOOM LOAD HANDLING CAPACITY	A7
CAPACITY CHART	A7
DRIVING THE KARRY KRANE	A5
HOW TO USE YOUR MANUAL	A1
LUBRICATION INSTRUCTIONS	A11
OPERATING INSTRUCTIONS	A5
PREPARING KARRY KRANE FOR SERVICE	A3
SAFETY RULES	A14
SERVICING INSTRUCTIONS	A9
SPECIFICATIONS	A8



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How To Use The Illustrated Parts Manual

This Parts Book describes and illustrates assemblies, sub-assemblies 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

REVISION No. 3
10/66

1 → INDEX

2 → Service and Operating Instructions

7 → INDEX

NUMERICAL INDEX

Part No.	Page	Part No.	Page	Part No.	Page	Part No.	Page
138	G5	15162	D2	16188	C1	16830	G
139	G5	15164	K3	16190	D4	16831	F
141	G14	15174	C1	16261	K3	16833	F
142	G16	15175	K4	16271	G1	16836	F
150	D1	15176	F2	16378	G1	16886	F
152	P1	15178	P2	16397	P1	16905	G
153	P1	15200	R4	16481	G2	16949	F
5347	0	15211	G5	16483	G8	16974	F
9455	01	15212	G14	16484	K1	16980	P1
9902	G18	15223	P1	16485	P3	16982	P1
9987	C18	15229	P1	16486	G1	16983	P1
999	C1	15271	G17	16487	P1	16989	K1
999	D4	15279	P4	16487	G1	16992	K1
999	G1	15303	D4	16487	G1	17043	K1
						17155	G16
						17158	G10
						17170	G13
						17176	B1
						17216	G2
						17223	K1
						17234	G16
						17267	G1
						17301	G1
						17307	G1
						17366	G1
						17405	K4
						17412	P2
						17418	K4
						17419	K4
						17423	G2
						17426	D1
						17458	K4
						17509	P1
						17513	P1
						17537	P1
						17636	K4
						17667	G1
						17785	P1
						18087	P1
						18202	E4
						18357	G4
						18459	E2
						18466	G5
						18466	G1
						18467	G18
						18467	P2
						18905	C2
						18910	D2
						18915	E4
						18935	E4
						18937	K1
						19457	K1
						19457	G4
						19458	B1
						19458	P2
						19458	E1
						19458	P4
						22	R2
						22	G14
						22	K1
						22	K3
						22	K1
						53039	G12
						53059	G12
						53129	F2
						53129	D1
						53135	G16
						53163	C1
						53166	K5
						53168	G18
						53169	G17
						53170	G17
						53171	G17
						53172	G17
						53173	G17
						53174	G17

LEVELING BLADE HYDRAULIC SYSTEM

KEY
A- FOR FRONT UNIT.
R- FOR REAR UNIT.

REF. HYSTER NO.	HYSTER PART NO.	NAME OF PART	QTY.
1	2	3	4
1	16562	ELBOW	1
1	16487	O-RING	1
2	16589	LOCKNUT	1
2	139622	HOSE	1
3	14513	ELBOW	1
4	14732	CONNECTOR	1
5	139621	TUBE	2
6	139623	HOSE-VALVE TO REAR UNIT	2
7	15028	VALVE-CONTROL	1
8	16809	CAPSCREW-1/2 UNF X 4 1/2	1
9	15158	NUT-1/2 UNF	1
9	139624	LOCKWASHER-1/2	1
10	147516	HOSE	4
11	145437	TUBE	4
11	16397	PLATE-CLAMP	1
12	139750	CAPSCREW-1/2 UNF X 1 3/4	1
12	147510	NUT-1/2 UNF	1
13	16571	HOSE	1
13	16487	ELBOW-45	1
14	16589	O-RING	1
14	16589	LOCKNUT	1
15	147499	CYLINDER ASSEMBLY	1
15	139636	HOSE	1
16	14920	CLAMP	1
16	139750	CAPSCREW-1/2 UNF X 1	1
17	147016	NUT-1/2 UNF	1
18	147517	PLATE	1
19	139625	TUBE	1
20	139716	FITTING-NUT	1
21	17785	FITTING-REDUCER	1
21	16974	TEE	1
21	16983	O-RING	1
22	16990	LOCKNUT	1
22	17043	LOCKNUT	1

REF. HYSTER NO.	HYSTER PART NO.	NAME OF PART	QTY.
1	2	3	4
25	17509	CONNECTOR	1
26	139620	TUBE	1
27	17513	CONNECTOR	1
28	152717	HOSE	1
29	105869	CLAMP	1
29	15028	CAPSCREW-1/2 UNF X 1	1
29	15158	NUT-1/2 UNF	1
30	16969	LOCKWASHER-1/2	1
30	16983	ELBOW	1
31	16980	O-RING	1
31	169819	LOCKNUT	1
32	16934	BLOCK	1
32	16936	GASKET	1
33	15146	CAPSCREW-1/8 UNC X 1 3/4	1
33	152	LOCKWASHER-1/8	1
34	153	ROD END	2
35	15223	ROD-400 END	2
36	48324	COTTER-1/4 X 1	2
37	15028	NUT-1/2 UNF	2
38	139413	ROD-CENTRAL	2
39	152090	REARING-PISTON BLOCK	2
40	15027	ROD	1
41	152086	NUT-1/16 UNF	1
42	14754	HANDLE-TAPERED	2
43	15045	CAPSCREW-5/16 UNC X 1 1/4	2
43	15918	NUT-5/16 UNC	2
43	16760	LOCKWASHER	2
43	15919	CAPSCREW-5/16 UNC X 1 1/4	2
44	139633	LOCKWASHER	2

When The Part Number Is Not Known

1. USE: Determine the function and application of the part required. Turn to the index page immediately behind the front cover and select the most appropriate section.
2. Line up the black arrow with the black tab on

the index page of the selected section. Use the section 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 Known

3. Use the numerical index (section Q) to find the part number. Turn to the page listed and locate the required part in the assembly breakdown.

GENERAL: The assembly breakdowns include part numbers, description, quantities required, keys and footnotes to help in selecting the correct parts.

4. Keys are used to show effective serial numbers, two or more similar assemblies. Select the appropriate key, "A," "B," "C" or "D" and find the required part in the corresponding column.
5. Indent numbers are used to indicate assemblies and sub-parts of assemblies. Number 1 is the major assembly. Part descriptions which are indented under 2, 3 or 4 are sub-parts of that major assembly shown above.
6. Quantities shown are for one assembly. Note that two assemblies are shown, but the quan-

ties of the sub-parts are indicated as one. This means one per assembly.

7. The revision number and date on the index page, indicates the latest printing of the manual.

DEALERS NOTE: When supplements are issued to up-date the manuals, the index page with the latest revision number and date are included with the supplement. Be sure the index pages are added to the manuals in your possession.

ORDERING PARTS:

When ordering replacement parts, give the truck serial number, manual form number (and revision number, if any), part number, name of part and quantity required. In ordering engine parts, also include the engine number.

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

PREPARING KARRY KRANE FOR SERVICE

RADIATOR

The radiator is located at the rear of the truck under the hood. Drain cock on bottom of radiator.

Fill the radiator with clean, soft water and rust inhibitor. Never use water containing lime or other mineral matter. Under no circumstances should cold water be poured into the radiator when the engine is hot. Use only non-evaporating anti-freeze.

FUEL TANK

The filler tube is located on the left side of the truck. Make sure of the type of engine installed in the truck, then fill the tank with the proper fuel.

CAUTION: Never fill the tank while the engine is running or when an open flame is near. Keep the funnel or gasoline hose spout in contact with the metal of the tank when filling to avoid the possibility of an electric spark igniting the fuel.

ENGINE OIL

Bayonet oil gauge is located on the right side of the engine.

Be sure that the lubricating oil in the crankcase is up to the full mark on the bayonet gauge. Refer to the Capacity Chart. When testing the oil level, the bayonet gauge should be withdrawn and wiped clean; then inserted all the way and withdrawn for a true reading. The oil level can not be checked while the engine is running.

OIL TANK, HYDRAULIC SYSTEM

The hydraulic oil filler tube and bayonet gauge are located on the right side of the truck under the hood.

With the boom in the raised position, check the oil level with the bayonet gauge. The oil level should be on the full mark on the gauge.

CAUTION: Never operate the engine without oil in the hydraulic system. A few revolutions without oil may damage the hydraulic pump.

TRANSMISSION

Oil level and filler plug on left side of transmission case. Oil must be maintained at the filler plug level.

SPEED REDUCER AND DIFFERENTIAL

Oil level and filler plug is located on the left side of the speed reducer.

Oil must be maintained at filler plug level.

BATTERY

The battery is located under hood behind radiator. Be sure water level is $\frac{1}{2}$ -inch above separators and plates. Use pure distilled water only. Secure loose terminal. Specific gravity of a fully charged battery is 1.250 to 1.275.

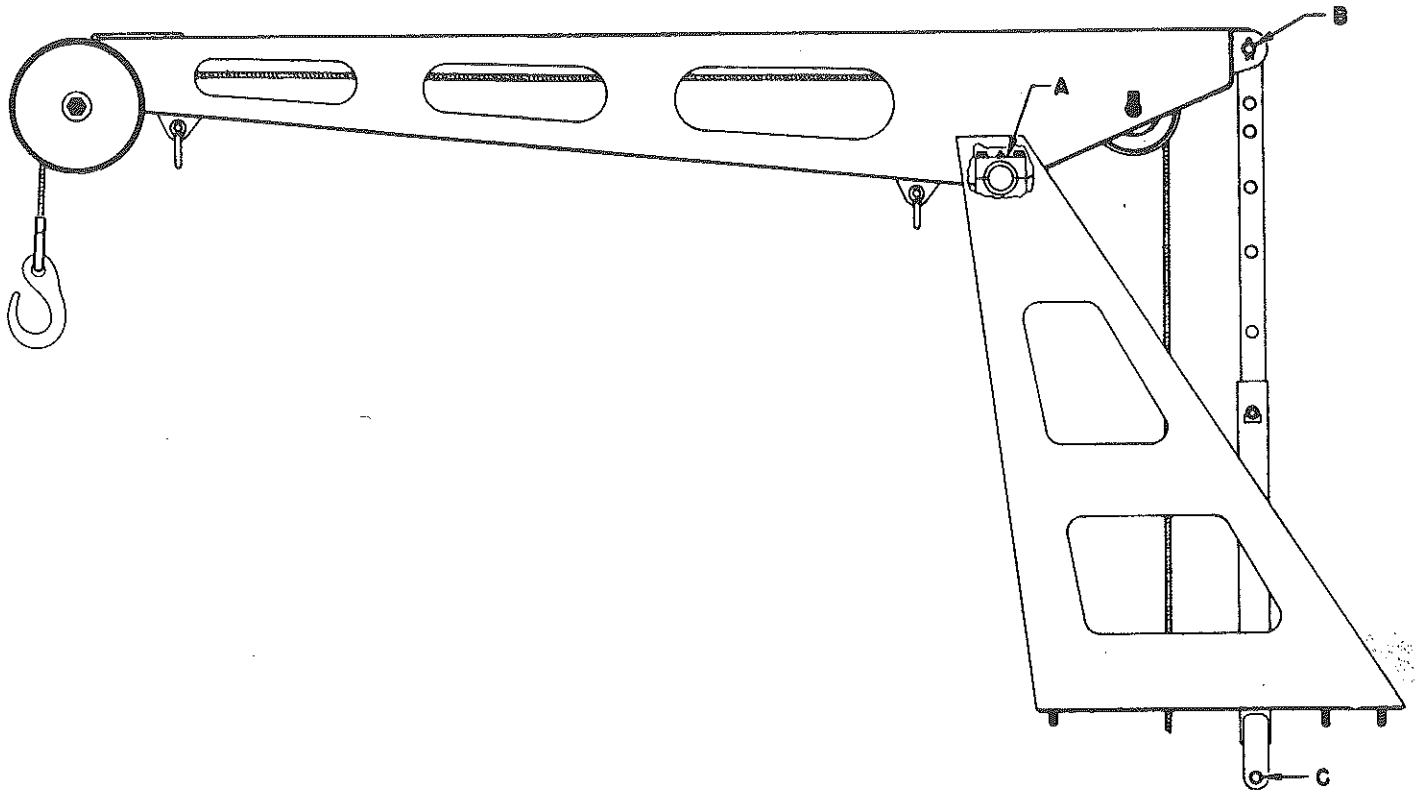
HYDRAULIC BRAKE MASTER CYLINDER

The master cylinder is located on forward wall near hoist unit. The fluid level should be within $\frac{3}{8}$ -inch from the bottom of the filler neck.

TIRES

Check tire pressure. Inflate to 100 PSI.

BOOM INSTALLATION



1. Remove the two capscrews from each hanger block at the top of the "A" frame and remove caps (A).
2. Raise pivot end of boom to a position over the hanger blocks and lower until stub shafts rest in blocks. Replace caps and tighten capscrews securely. Lubricate both caps.
3. Attach rod end of topping cylinder or boom adjusting bar at rear end of boom (B) and lower end (C) to the holes provided on frame. Connect the hydraulic lines to the cylinder.
4. Reeve cable through sheaves on boom and insert in groove in hoist clutch drum. Fasten securely with cable clamp provided for cable.
5. See instructions on boom adjustment for boom positioning using hoist clutch.

OPERATING INSTRUCTIONS

INDICATOR AND CONTROL IDENTIFICATION

NOTE: Before operating the truck, the operator should familiarize himself with the panel indicators, gauges and controls. He should get the feel of the foot pedals and hydraulic levers by operating the truck in a safe area before actually working the truck.

A. Instrument Panel

The instrument panel contains the ammeter, oil gauge, hour meter, temperature gauge, fuel gauge, choke control button and ignition switch.

B. Instrument Location

1. The "AMP" gauge (ammeter) is located to the far left on the instrument panel. Its purpose is to indicate the amount of current charge or discharge in the electrical circuit.
2. The "OIL" gauge is located on the left side and ahead of the steering column. Its purpose is to indicate engine oil pressure.
3. The "HOUR METER" registers the total operating hours of the engine. It is located directly ahead of the steering column.
4. Engine temperature is indicated by the "TEMP" gauge, located to the right and ahead of the steering column.
5. The fuel level in the tank is indicated by the "FUEL" gauge. The gauge is located on the extreme right of the panel.
6. The gasoline engine choke button or diesel engine stop button is located to the left of the steering column, below the "OIL" gauge.
7. The diesel engine cold starting aid heater switch, button type, is located to the extreme left of the plate.
8. The ignition switch is to the right of the steering column below the "TEMP" and "FUEL" gauges.

C. Control Lever Location

1. Refer to line drawing, page A4, for layout of transmission shift levers. These levers are located to the left of the driver seat.
2. The forward-reverse lever is the second lever from the left of the seat. Refer to the line drawing on page A4 for the operating positions.
3. The line control lever and the boom control lever are located to the right of the driver compartment near the front cowling. The shifting patterns of these levers are shown on page A4.

D. Foot Pedal Location

1. CLUTCH pedal is located to the left of the steering column on the toe board. The clutch is controlled with the operator's left foot and can be used for inching.

2. BRAKE pedal is located to the right of the steering column and is operated with the right foot.
3. ACCELERATOR pedal is located to the extreme right of the toe board. The operator regulates engine speed with the right foot.

DRIVING THE KARRY KRANE

A. Starting the Engine

1. Set hand brake lever (pull back).
2. Put control levers in neutral.
3. Insert the ignition switch key.
4. *Gasoline Engine:* Pull out the choke control button.
Diesel Engine: Push in the stop control button.
5. Turn ignition switch key to extreme right to start engine (remove pressure from key the instant engine starts).
Gasoline Engine: As engine warms up, gradually push in choke button.
Diesel Engine: If engine fails to start at low temperature, approximate $+10^{\circ}$ or colder, use the cold starting aid.
6. Check gauges and warning lights. If a malfunction is indicated, the defect should be repaired before truck is placed into service. If normal operation is indicated, allow the engine to run from two to five minutes (or longer in extremely cold temperatures) to allow the engine oil and hydraulic oil to warm and circulate freely. Fast operation of the hydraulic pumps with extremely cold oil in the hydraulic system will starve the pumps, causing costly damage.

B. Stopping the Engine

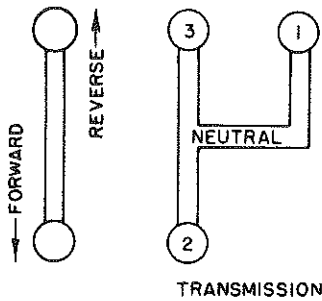
1. *Gasoline Engine:* Turn the ignition key counterclockwise.
2. *Diesel Engine:* Pull the stop button out, and hold until the engine stops. Turn key counterclockwise to turn the gauges off.

C. Cold Starting Aid—Diesel Engine

To employ the starting aid proceed as follows:

1. Push the stop control button in.
2. Depress the heater switch for 15 seconds, then engage the starter.
3. If engine does not start after 15 seconds of cranking, stop cranking and depress the heater switch for 5 seconds, then engage the starter again.

D. Direction of Travel



1. *Forward Motion*—Push the clutch pedal in and move the shifter lever into the forward position. Engage clutch smoothly.
2. *Backward Motion*—Push the clutch pedal in and move the shifter lever into the reverse position. Engage clutch smoothly.

E. Low Speed

Disengage clutch. Select first gear as shown in range shift pattern. Accelerate engine slightly and engage clutch slowly, at the same time release the hand brake.

F. To Shift to Higher Speed

As the truck gains speed, declutch and move the range shift lever into the next higher gear. Engage clutch smoothly.

G. To Shift to Lower Speed

A change to a lower speed gear should be made before the engine starts to labor and before the machine speed is greatly reduced, as when climbing an incline. A shift to low gear should also be made when descending an incline that will require excessive use of the brakes. Declutch and move the range shift lever into the neutral position. Accelerate the engine while shifting. Retain the engine speed while engaging the clutch.

H. Reversing the Direction of Travel

Declutch, stop the truck and move directional control lever into the opposite position.

CAUTION Never "ride" the clutch pedal. Remove foot from clutch pedal except when changing gears or starting and stopping the truck.

I. Parking Truck—With Engine Running

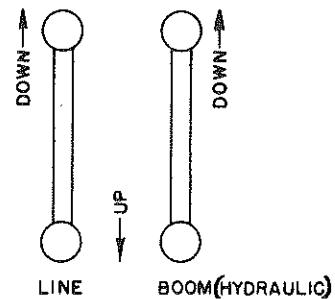
In order to provide proper lubrication for the forward and reverse drive gears when the truck is parked with the engine running, use the following procedure:

1. Shift the high and low lever to the neutral position.
2. Engage the forward or reverse gear.

LOAD HANDLING WITH THE KARRY KRANE

NOTE: This truck is designed to handle loads as shown in the Boom Load Handling Capacity Chart, page A7.

A. Hoisting Operation



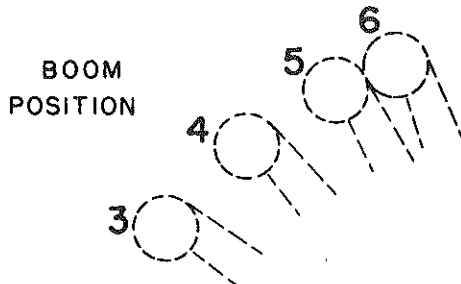
1. *To Hoist Load*—Accelerate engine and pull hand-lever back in hoisting position. Accelerate engine to required hoisting speed.
2. *To Lower Load*—Accelerate engine and push hand-lever to forward position. Accelerate engine to required lowering speed.
Note: Lowering speeds are twice hoisting speed, requiring slower engine operation during the lowering cycle.

B. Boom Topping

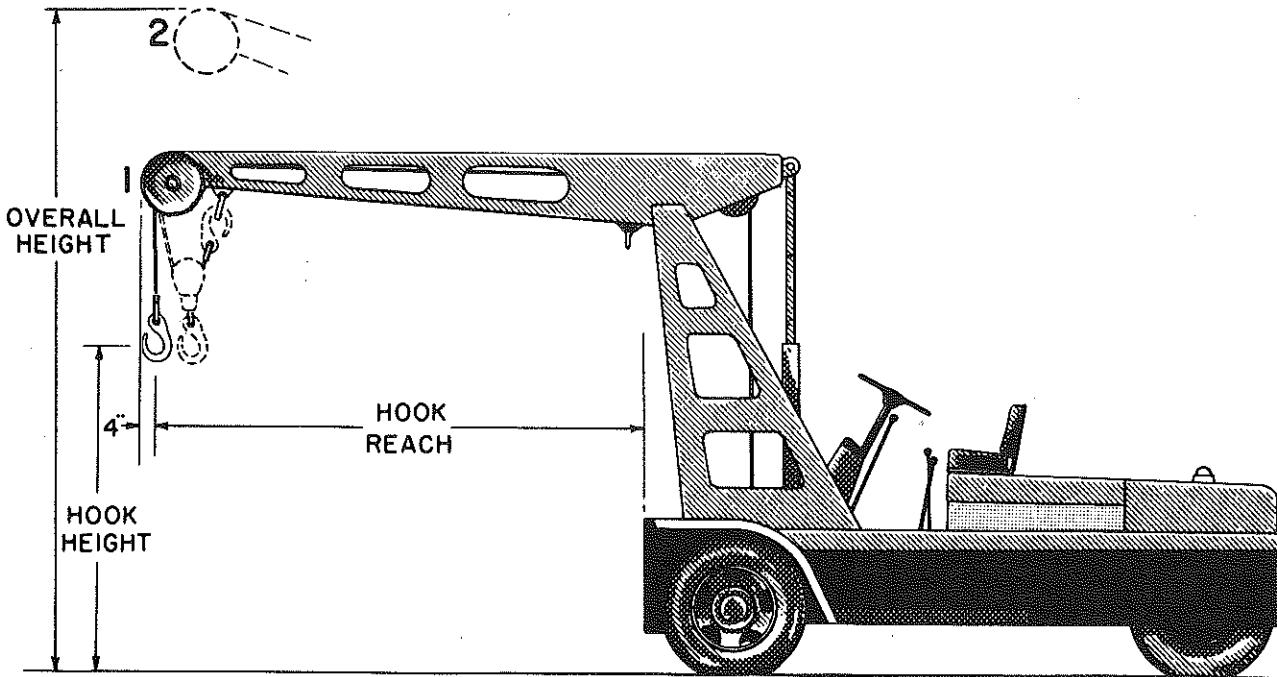
1. *Manual Topping*—Attach cable hook to clevis at rear of boom. With engine idling pull hoist lever and tighten cable just enough to relieve pressure from adjusting bar lock pin. Remove lock pin and adjust boom to desired position, using the hoisting mechanism. Replace adjusting lock pin and detach cable hook from clevis.
2. *Hydraulic Topping*—When truck is equipped with a hydraulic boom topping cylinder, boom position can easily be changed to provide maximum lifting capacity. The boom topping lever is located to the right of the hoisting lever. Pull levers back to raise boom and push lever forward to lower.

BOOM LOAD HANDLING CAPACITY CHART

Boom Length	Boom Position	SINGLE LINE			TWO PART LINE			9'8" OVERALL HEIGHT BOOM HORIZONTAL			10'8" OVERALL HEIGHT BOOM HORIZONTAL		
		Hook Reach (Inches)	Capacity (Lbs.)		Hook Reach (Inches)	Capacity (Lbs.)		Overall Height (Inches)	Hook Height (Inches)		Overall Height (Inches)	Hook Height (Inches)	
			Std. Cntwt.	Extra Cntwt.		Std. Cntwt.	Extra Cntwt.		Single Line	Two Part Line		Single Line	Two Part Line
9'	1	108	4000	4400	100	4300	4700	116	93	74	128	105	86
	2	100	4300	4700	93	4650	5050	148	125	102	160	137	114
	3	84	5000	5450	78	5350	5800	175	152	126	187	164	138
	4	66	6000	6000	61	6400	7000	193	170	142	205	182	154
	5	46	6000	6000	42	8200	8900	205	182	153	217	194	165
	6	33	6000	6000	30	10000	10000	210	187	158	222	199	170
10'	1	120	3650	4000	112	3900	4250	116	93	74	128	105	86
	2	112	3900	4250	105	4150	4550	151	128	106	163	140	118
	3	94	4600	5000	88	4900	5300	181	158	133	193	170	145
	4	74	5500	6000	69	5800	6300	201	178	150	213	190	162
	5	52	6000	6000	48	7500	8200	215	192	163	227	204	175
	6	37	6000	6000	34	9250	10000	221	198	168	233	210	180
12'	1	144	3150	3500	136	3300	3600	116	93	74	128	105	86
	2	134	3300	3650	127	3500	3800	158	135	113	170	147	125
	3	114	3850	4200	108	4050	4450	194	171	146	206	183	158
	4	91	4700	5150	86	5000	5400	218	195	168	230	207	180
	5	65	6000	6000	61	6450	7000	235	212	184	247	224	196
	6	48	6000	6000	45	8000	8750	243	220	190	255	232	202



The capacity limit of the truck is determined by the weight of the counterweight at the back of the truck. *NEVER, UNDER ANY CIRCUMSTANCES, attempt to operate the truck with any load which takes enough weight from the back wheels to either raise the back of the truck or make steering uncertain.* Any load which is of a size and weight to do this is a dangerous overload.



SPECIFICATIONS

ENGINE:	F-163	Four-203
1. Number of Cylinders	4	4
2. Bore—Inches	3.4375	3.6
Millimeters	87.3	91.4
3. Stroke—Inches	4.375	5.0
Millimeters	111.1	127
4. Displacement—Cubic Inch	162	203
Liters	2.65	3.33
5. Approx. Weights—Pounds	490	520
6. Horsepower—Bare Engine	52.5	63
@ Engine RPM	2600	2600
7. Idling RPM	550 - 600	550
8. Governed RPM	2600	2600
9. Thermostat	182°F.	194°F.
10. Valve Clearance (Hot):		
Intake—Inches	.014	.010
Millimeters	.35	.25
Exhaust—Inches	.017	.010
Millimeters	.45	.25
11. Timing		
a. No. 1 Spark Plug at	20° BTDC	
@ Engine RPM	600	
b. Injection Into No. 1		23° BTC
starts at		Zero
@ Engine RPM		1764
c. Injection Pressure—PSI		120
Atmospheres		120
d. Firing Order	1-3-4-2	1-3-4-2
12. Spark Plugs		
a. Make	Champion	
b. Heat Range	UD16	
c. Size—Millimeters	18	
Gap—Inches	.025	
Millimeters	.64	
13. Distributor		
a. Points Opening—Inches	.018	
Millimeters	.46	
b. Cam Angle—Degrees	31 - 34	
14. Compression		
a. Ratio	7.5:1	17.4:1
b. Normal PSI	160	450
@ Engine RPM	150	Cranking
c. Maximum PSI Variation		
Between Cylinders	10	25
Oil Pressure		
a. Normal PSI	20 - 30	50 - 65
@ Engine RPM	2000	2000
b. Minimum PSI	25	30
@ Engine RPM	1500	600 (Hot)
16. Minimum Cranking RPM	150	140

ELECTRICAL SYSTEM:

1. Voltage 12
2. Polarity Neg. Grd.

3. Generator Output:

	4.203	F-163
a. Amperes	36.5	29
@ Engine RPM	2600	2400
b. Voltage	14	14
@ Engine RPM	2600	2400

STEERING:

1. Pressure PSI 1075-1175
 @ RPM 2400
2. Approx. Lock to Lock Turns
 on Steering Wheel 4
3. Steering Time—Seconds 4½-5
 @ Engine RPM Idle

POWER TOPPING:

1. Hydraulic PSI 1750
 Engine RPM Governed
2. No. Seconds to Raise Boom 13.5 - 15
 @ Engine RPM Governed
3. No. Seconds to Lower Boom 16 - 18
 @ Engine RPM Governed

TIRES:

1. Size—Drive Wheels 700x20—10 Ply
2. Size—Steering Wheels 900x15—12 Ply
3. Inflated PSI—All Tires 100

BRAKES:

1. Shoe to Drum Clearance—Inch .005-.010
 Millimeters .127-254
2. Free Pedal—Inch 1/4-1/2
 Millimeters 8.35-12.7

SERVICING INSTRUCTIONS

FAN BELT ADJUSTMENT

The tension of the fan belt should be examined periodically. The proper tension is obtained when the belt can be depressed approximately one-half inch on center of the section between the crankshaft pulley and the water pump pulley. To adjust the belt loosen the generator mounting capscrews and generator brace capscrew, then move generator in or out as required. After adjustment has been made, be sure to tighten the capscrew. When belt becomes oil-soaked or worn until it "bottoms" on the pulleys, it should be replaced to prevent slipping.

GOVERNOR ADJUSTMENT

This governor operates on the principle of centrifugal weights or "flyballs." In operation the force developed by the revolving weights is opposed or balanced by a spring. The spring is adjusted to the proper tension to control the engine speed. Adjustment should not be attempted except by qualified mechanic.

BRAKE PEDAL ADJUSTMENT

When brake control system is in release position, foot brake pedal should have $\frac{1}{4}$ " to $\frac{1}{2}$ " free travel before pressure stroke starts. This free travel is required to prevent blocking of by-pass port in master cylinder, and is obtained by altering the length of the master cylinder push rod. Make certain that foot brake lever return spring returns the lever to the limit of its travel when foot is removed from brake pedal.

FOOT BRAKE ADJUSTMENT

1. Jack up front wheels.
2. Remove covers from adjusting holes (two holes per brake).
3. Using screwdriver or adjusting tool turn adjustment as follows:
For upper adjusting screw pull tool handle up.
For lower adjusting screw pull tool handle down.
4. Adjust each shoe until there is a decided drag on drum, then back off to free drag.
5. Perform adjustment on each adjusting screw. Replace covers when completed.

HAND BRAKE ADJUSTMENT

Hand brake adjustments are made by tightening or loosening the knob on the upper end of the hand brake lever. Any adjustment should be made with the brake lever in the full release position.

BLEEDING THE BRAKE LINES

Any air inside the hydraulic system must be removed. Whenever a line has been disconnected, the system must be bled at both wheels.

Air in the system will cause a springy action of the brake pedal.

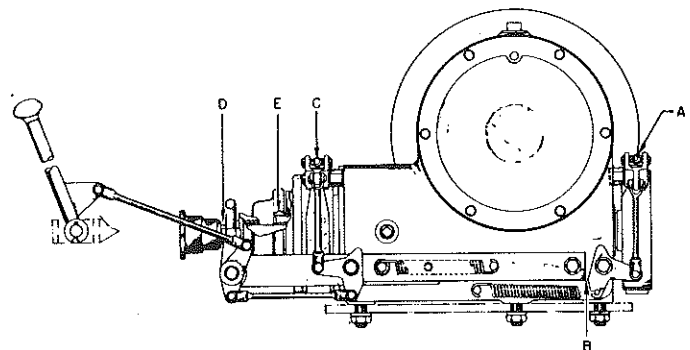
Be sure that master cylinder is kept at least half full of brake fluid during the entire bleeding operation.

1. The bleeder connection is accessible from the front of the truck between the main frame and the brake backing plate.
2. Attach bleed hose to the bleeder connection. Pour a small amount of brake fluid into a clean container such as a pint jar and submerge the end of the bleeder tube in the fluid.
3. Unscrew the bleeder connection three-quarters of a turn and depress the brake pedal by hand, allowing the pedal to return slowly. Pumping the brake pedal forces the fluid out into the glass jar and carries with it any air that is trapped in the system.
4. When air bubbles cease to appear, close the bleeder connection. Do not reuse the fluid that has been withdrawn.
5. Repeat operation for other wheel.

DRIVE CLUTCH ADJUSTMENT

The correct clearance, or free travel, of the clutch pedal is from 1" to $1\frac{1}{2}$ " free movement before the clutch starts to disengage. The pedal should be checked occasionally and adjusted whenever free travel has been reduced to less than 1". This adjustment is made by shortening link between pedal and throwout fork crank.

HOIST CLUTCH ADJUSTMENT

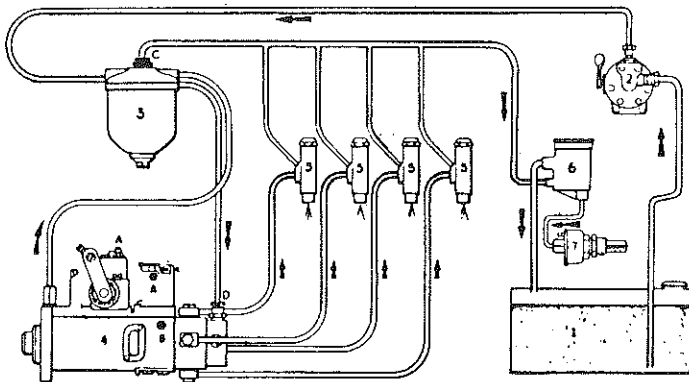


The following method of hoist clutch adjustment is recommended for the most satisfactory operation:

1. Insure all linkage to be free without any unnecessary friction or binding. Particular attention should be given to the sliding bar.

2. Adjust the worm brake (A) so there is 1/32" to 1/16" clearance between the sliding bar and worm brake actuating crank at (B). The spring hooked to the crank is to apply force to the brake band. If the sliding bar is engaging the crank when in a neutral position, the worm brake will slip causing load slippage.
3. Adjust the hoist clutch band (C) so there is approximately 1/4" clearance between the clutch cone and the "U" joint companion flange (D) when control lever is pulled all of the way back. The spring hooked to the sliding bar is used to keep the bar back against the hoist clutch band crank to insure a neutral position when not engaged.
4. Adjust the lowering disc clutch (E) until the sliding cone assembly will engage the clutch finger rollers on the flat section of the cone with a reasonably hard force applied to the control lever. Rollers should have about 1/8" clearance from the shoulder on the back end of the cone to allow a wear reserve. It is important that the clutch not be adjusted too tight. If the clutch engages when the rollers are still on the steep portion of the engaging cone, the lowering lever effort will be excessive. To make this adjustment, pull the clutch lock pin out and rotate the fingers clockwise to tighten, and counterclockwise to loosen.
5. Check to be certain the worm brake is disengaged when hoisting or lowering.

PRIMING (BLEEDING) THE DIESEL FUEL SYSTEM



A Typical Fuel System

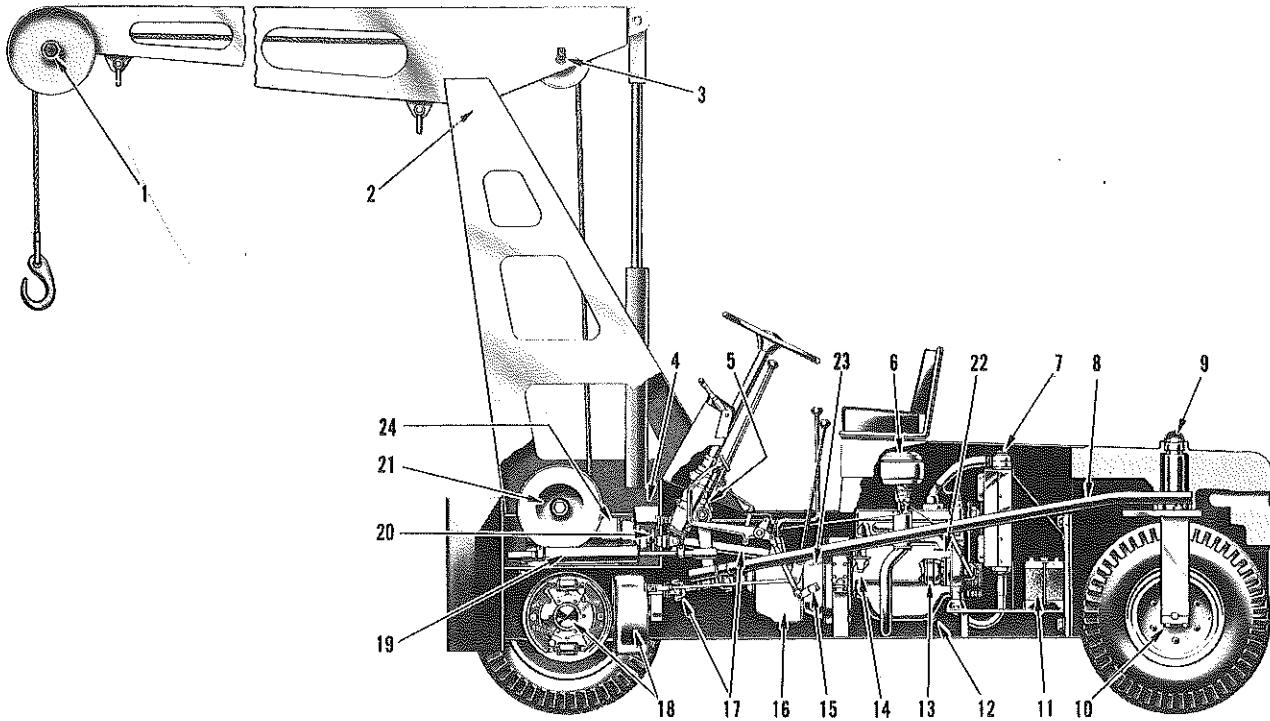
1. Fuel Tank
2. Fuel Lift Pump
3. Filter
4. Fuel Injection Pump
5. Injector
6. Cold Start Fuel Reservoir
7. Cold Start Aid

In the case of a new engine or an engine which has been standing idle for any length of time, it is important that the fuel system be "bled." A typical fuel system is shown below:

To bleed the system proceed as follows:

1. Loosen the air vent screw (A) on top of the governor housing.
2. Loosen one of the two hydraulic head locking screws (B) on the side of the fuel pump body.
3. Operate the priming lever of the fuel feed pump (2), and when fuel, free from air bubbles, issues from each venting point, tighten the screws in the following order:
 - a. Filter cover vent screw (C).
 - b. Head locking screw (B).
 - c. Governor vent screw (A).
4. Loosen the pipe union nut (C) at the pump inlet, operate the priming device, and retighten when fuel, free from air bubbles, issues from around the threads.
5. Loosen 2 of the high pressure pipe unions (D) at the injectors (5).
6. Set the engine speed control in the fully open position and insure that the "stop" control is in the "run" position.
7. Turn the engine until fuel oil, free from air bubbles, issues from both fuel pipes.
8. Tighten the unions on the fuel pipes, and the engine is ready for starting.

LUBRICATION INSTRUCTIONS



CAPACITY CHART (U.S. Measures)

UNIT	CAPACITY	TYPE		
Cooling System	10 Quarts	Winter: Water and Ethylene Glycol Base Anti-Freeze With Rust Inhibitors and Anti-Foaming Qualities. Summer: Water With Rust Inhibitors.		
Gasoline Engine and Filter	5 Quarts	SAE No.	API Classification	Temperature
		30	MS	60°F. and above
		20W	MS	32°F. to 60°F.
Diesel Engine and Filter	7.5 Quarts	30	DM	80°F. and above
		20/20W	DM	30°F. to 80°F.
		10W	DM	30°F. and below
Fuel Tank	9.5 Gallons	Gasoline; Regular (86 Octane or better) Diesel: No. 2D diesel fuel		
Differential and Speed Reducer	16 Pounds	SAE 140 AP		
Transmission	6 Pounds	SAE 90 AP		
Hoist Unit	14 Pounds	SAE 90 AP		
Brake Master Cylinder	½ Pint	SAE 70 R3		
Steering Gear	2 Pounds	SAE 140 AP		
Hydraulic Tank	2 Gallons	SAE 10W A.P.I. Classification "MS" U.S. Military Spec. Mil-L8704A		

GENERAL**GREASE FITTINGS**

Use a pressure grease gun and multi-purpose chassis grease. Force a small amount of new grease through fitting. Wipe off excess.

BEARINGS - HAND PACKING

Use short fiber wheel bearing grease. To repack, first wash with clean solvent to remove dirt and old grease. Pack with clean grease, forcing it completely around cage and balls or rollers.

GENERAL LUBRICATION

Use SAE 30 engine oil except where noted. General lubrication pertains to parts such as rod ends, small bushings, and hinges that do not have grease fittings. Wipe these clean and add a few drops of oil. Wipe off excess.

FLUSHING

Drain old oil from the case and replace drain plug. Fill with flushing oil to level plug or level mark. Run gears or engine at half throttle with no load for five minutes. Drain the flushing oil immediately and fill the case with new oil as required.

CAUTION

Excessive lubrication is wasteful and is often as damaging as lack of lubrication. Analyze each lubrication point to determine the amount of lubrication necessary. Keep the machine clean. Wipe off all excess lubricant to prevent accumulation of dirt.

**MAINTENANCE AND LUBRICATION
KARRY KRANE**

NOTE: The lubrication chart has been outlined in two systems. On an hourly basis for trucks operating more than 8 hours per day, and on a period basis for trucks operating eight hours or less per day.

Numbers refer to the location of lubrication points on the unit.

EVERY 8 HOURS OR DAILY

12. * ENGINE
Check level and add oil if necessary.
7. * RADIATOR:
Check and add coolant if necessary.

EVERY 50 HOURS OR WEEKLY

13. * HYDRAULIC SYSTEM:
Check oil level. Add oil if necessary. Add oil only when the boom is in the raised position.
16. * TRANSMISSION:
Check level and add oil if necessary. Do not over-fill.
18. DIFFERENTIAL AND SPEED REDUCER
Check and add oil if necessary. Do not over-fill.
4. * BRAKE MASTER CYLINDER:
Check oil level and keep reservoir full.

EVERY 100 HOURS OR TWO WEEKS

Perform 50-hour services plus the following:

12. * ENGINE:
Drain and refill crankcase with new engine oil. Change filter every second oil change.
6. AIR CLEANER:
Service paper element when power loss is noted or as indicated by visual inspection. Tap element gently on a smooth surface. Remove remaining dust with air (30 PSI max.). Wash diesel engine filter element in water and non-sudsing detergent. Allow to dry before installing. After 10 servicings, discard element.
21. HOIST UNIT:
Check and add oil at the level plug if necessary.
11. BATTERY:
Water level should be maintained 1/2-inch above the plates. Use distilled water only. If terminals are corroded, clean with a mild soda solution. Do not allow soda to get inside of battery. After cable terminals are securely tightened, coat with heavy grease.

22. ALTERNATOR:

Lubricate if equipped with fittings.

1. Front Boom Sheave: Two fittings, one on each side.
2. Rear Boom Sheave: Two fittings, one on each side.
3. Boom Pivot: Two fittings, one on each end.
8. Drag Link: Two fittings, one on the top of the rear support and one on the bottom at the back.
19. Steering Booster: Two fittings, one on each end.
17. Propeller Shaft: Three fittings, one on each each universal joint and one on the slip joint.
15. Clutch Throwout Shaft: Two fittings, one at each end.
20. D. P. T. O. Shaft: Two fittings, one on each end.

GREASE FITTINGS:

23. Clutch Release Bearing: One fitting. To locate, remove bell housing cover.
24. Hoist Clutch: Two fittings, one on the top of the rear support and one on the bottom at the back.

GENERAL LUBRICATION:

- A. All rod end pins.
- B. Throttle linkage.
- C. Foot pedals.
- D. Hand brake cable.
- E. Hinges.
- F. Clutch linkage bushings.

EVERY 500 HOURS OR THREE MONTHS**5. * STEERING GEAR HOUSING:**

Fill plug is located on top of the housing. Fill until oil is at fill plug height.

13. * HYDRAULIC SYSTEM:

Drain and flush hydraulic tank. Refill with specified oil.

14. * FUEL SYSTEM:

Remove filter bowl from fuel pump (gasoline) or lift pump (diesel) and flush out sediment. Remove any accumulated dirt from the screen over the sediment bowl.

EVERY 1000 HOURS OR SIX MONTHS

Perform 500-hour service plus the following:

23. DISTRIBUTOR:

Add four drops of SAE 10 to felt wick and place one drop on breaker arm pivot. Place a small amount of distributor cam grease on breaker cam. Wipe off excess. Add SAE 20 oil through hinge cap oiler until cap is filled.

7. * RADIATOR:

Drain the radiator and flush with fresh water to remove dust and other foreign deposits. To completely drain the cooling system, open the drain cocks on the bottom tank of the radiator and on the sides of the cylinder block. Chemical mixtures should not be used to attempt to stop radiator leaks. Use only non-evaporating anti-freeze fluid in winter. During cold weather cover the lower portion of the radiator sufficiently to maintain 160° to 180° F.

EVERY 2000 HOURS OR YEARLY**16. * TRANSMISSION**

Drain and flush. Add new oil to filler plug level.

18. * DIFFERENTIAL AND SPEED REDUCER

Drain and flush. Add new oil to filler plug level.

10. REAR WHEEL BEARINGS:

Hand pack two bearings per wheel.

9. STEERING TRUNNION:

Hand pack two bearings.

21. HOIST UNIT

Drain and flush. Add new oil to plug level

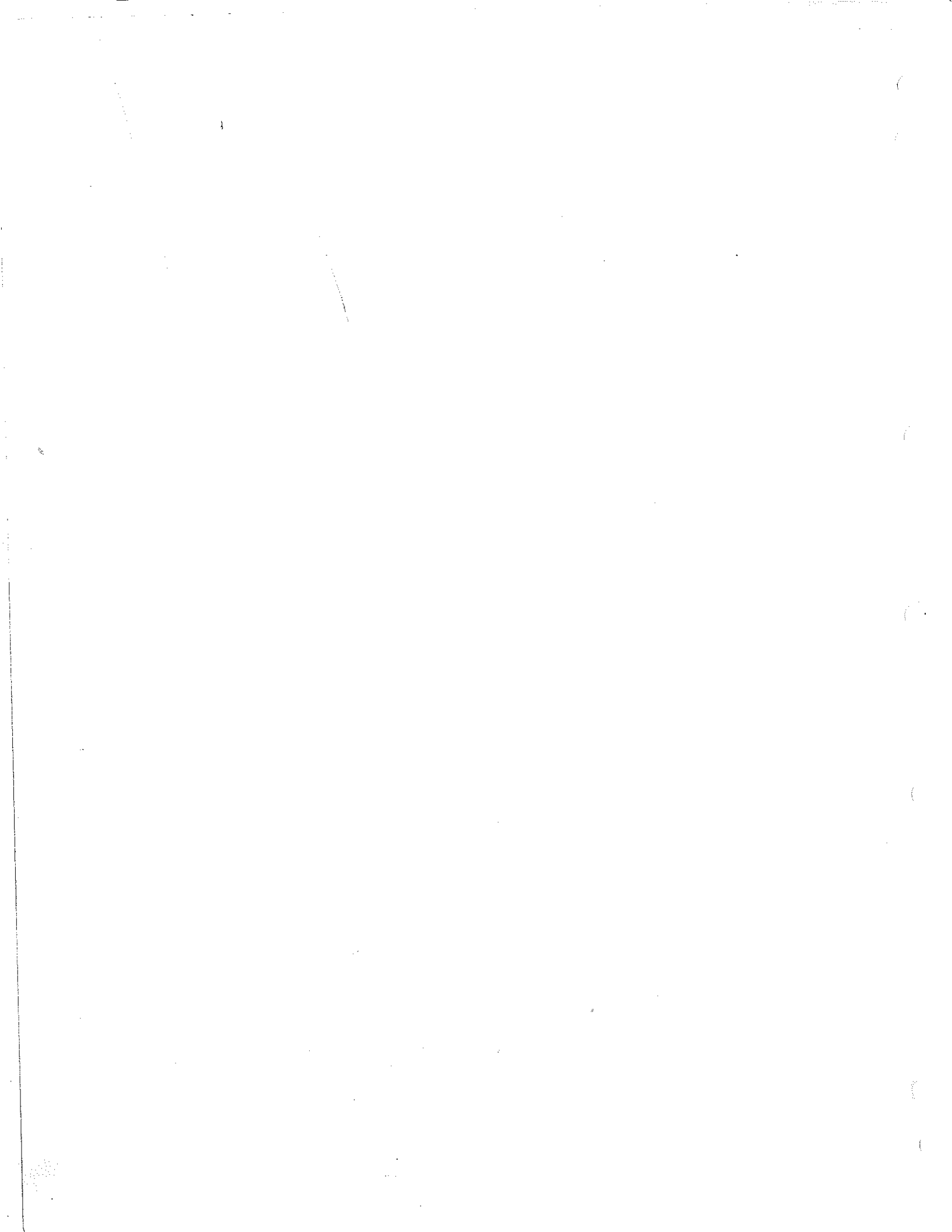
* See Capacity Chart

NOTE: Under extreme dusty or muddy conditions it might be necessary to increase lubrication frequency.

SAFETY RULES

FOR MOBILE YARD CRANE OPERATORS

1. Operator must be trained and qualified.
2. Do not side-pull or side-load boom.
3. Do not load crane above rated capacity.
4. Do not fill fuel tank while engine is running.
5. Report damage or faulty operation immediately -- do not operate until corrected.
6. While operating crane:
 - Never attempt to operate the crane with any load which takes enough weight from the back wheels either to raise the back of the truck or make steering uncertain.
 - Do not lower boom with loads in excess of lowest rated capacity.
 - Keep the load upgrade on grades of 10% or more.
 - Avoid bumps, holes, slick spots and loose materials that may cause the crane to swerve or tip.
 - Travel slowly around corners.
 - Do not turn on an incline.
 - Avoid sudden starts or stops.
 - Watch clearances, especially with respect to the boom, load and tail swing.
 - Always keep the boom, the load, and all parts of the crane away from electrical lines and equipment.
 - Do not hoist, lower or travel while anyone is on or near the load or hook. Do not carry loads over people.
 - When traveling with a load keep the load as low as possible. Snub load to reduce swinging.
 - When traveling without load, lash the hook so that it cannot swing freely.
 - Do not pull hook over the boom roller unless the pattern arch hook specified in the Hyster parts manual is used.
 - Shut off engine, put crane in gear, lower the load to the ground, and set parking brake when leaving crane. Block wheels when on incline or working on the crane.
7. Drive carefully, observe traffic rules, keep a proper lookout, and be in full control of the crane at all times. Be completely familiar with the operating procedures contained in this manual.



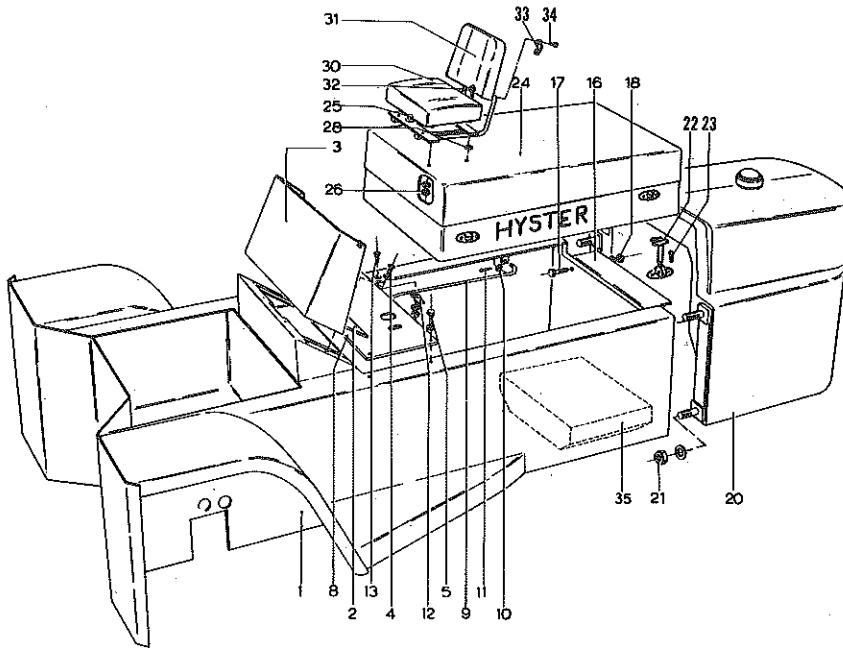
Section B

FRAME AND BODY PARTS

INDEX

BOOM AND "A" FRAME	B2
FRAME AND COWLING	B1
MANUAL TOPPING BAR	B3
OVERHEAD GUARD	B3
SEAT	B1

FRAME AND COWLING



KEY
 A-FOR B11L AND B11D KARRY KRANES ONLY.
 B-FOR B11E KARRY KRANES ONLY.
 C-FOR B11A, B11G AND B11H KARRY KRANES ONLY.

REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.		
			A	B	C
1	.....	FRAME-MAIN	1	1	1
2	107847	PLATE-FLOOR, FRONT	1	1	1
3	69245 A	GUARD-TOE	1	..	..
	982034	GUARD-TOE	..	1	..
4	986232	GUARD-TOE	..	1	1
	15565	CAPSCREW-3/8 UNC X 1/2	6	6	6
5	15156	LOCKWASHER-3/8	6	6	6
	15525	CAPSCREW-3/8 UNC X 3/4	4	4	4
8	15134	WASHER-3/8	4	4	4
	107848	PLATE-FLOOR, REAR	1	1	1
9	107859	BAR-HOOD PROP	2	..	..
	983461	BAR-HOOD PROP	..	2	2
10	18515	WASHER-5/16	2	2	2
11	15211	COTTER-3/32 X 1/2	2	2	2
12	107860	SPRING	2	2	2
13	16354	CAPSCREW-1/4 UNF X 3/4	4	4	4
	15154	LOCKWASHER-1/4	4	4	4
16	15004	NUT-1/4 UNF	4	4	4
	107861	GUARD-MUD	1	..	..
17	980421	GUARD-MUD	..	1	1
	15528	CAPSCREW-3/8 UNF X 2	4	4	4
18	15006	NUT-3/8 UNF	4	4	4
	15156	LOCKWASHER-3/8	4	4	4
20	109958 A	COUNTERWEIGHT	1	..	..
	981210	COUNTERWEIGHT	..	1	..
21	15023	NUT-JAM, 1 1/4 UNC	4	4	4
	15168	LOCKWASHER-1 1/4	4	4	4
22	2009-B	HOOK-HOOD 215976	4	4	4
23	16712	SCREW-NO. 10 UNF X 3/8	8	8	8
23	15152	LOCKWASHER-3/8	8	8	8
24	107849 W	HOOD	1	..	..
	#120951 W	HOOD	1	..	..
	982035 W	HOOD	..	1	..
	985808 W	HOOD-GAS ENGINE	..	1	1
	985778 W	HOOD-DIESEL ENGINE	..	1	1

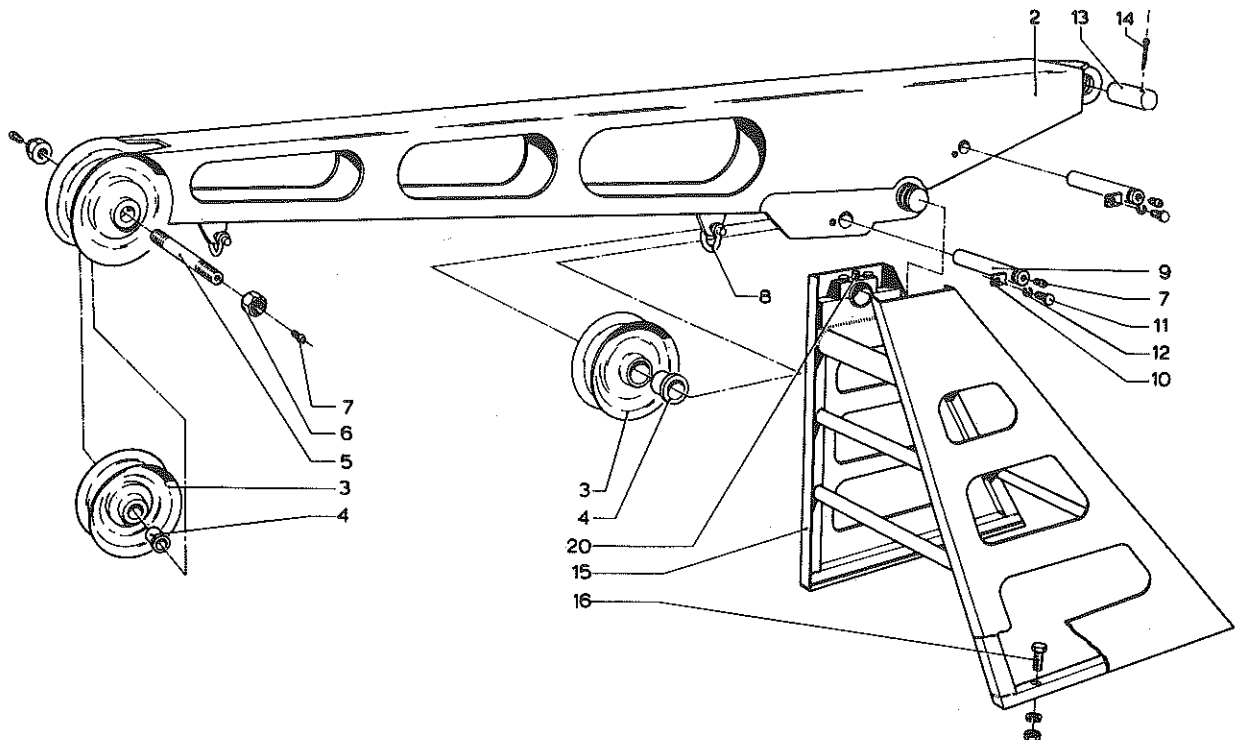
REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.		
			A	B	C
25	#233126 A	RAIL SET-W/ADJUSTERS	1	1	1
	#233164 A	SEAT ADJUSTER-L.H.	1	1	1
	#233161 A	SEAT ADJUSTER-R.H.	1	1	1
	#233163	SPRING-CATCH	1	1	1
26	#233162	BOLT-SEAT FRAME TO ADJ.	4	4	4
	#15005	NUT-5/16 UNF	4	4	4
	#16775	LOCKWASHER-5/16	4	4	4
	15158	LOCKWASHER-1/2	1	..	..
28	15515	CAPSCREW-1/2 UNF X 3/4	1	..	..
	#234	WASHER	4	4	4
30	48309AC	SEAT	1	..	..
	#109983 A	SEAT	1	1	1
31	62011AB	CUSHION-SEAT	1	1	1
	#233156	CUSHION-SEAT	1	1	1
	62012	CUSHION-BACK	1	1	1
	#233157	CUSHION-BACK	1	1	1
32	62010	FRAME-SEAT	1	1	1
	#233155	FRAME-SEAT	1	1	1
33	#233159	SLEEVE-STUD, FRONT	2	2	2
	#233158	CLIP-SPECIAL	2	2	2
34	16658	SCREW-#10 X 1 1/4	4	4	4
	15172	WASHER-1/4	4	4	4
35	#16709	SCREW-1/4 UNC X 3/4	4	4	4
	#233160	NUT-ACORN, BACK	2	2	2
	108095	COUNTERWEIGHT-OPTIONAL	1	..	..
	981848	COUNTERWEIGHT-OPTIONAL	..	1	1

#FIRST USED ON SERIAL NO. B11L-1606, B11A-1501 AND B11E-1616.

□LAST USED ON SERIAL NO. B11E-2135.

@FIRST USED ON SERIAL NO. B11E-2136 AND B11A-1501.

BOOM AND A-FRAME



REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.
2	111843 W	BOOM-9FT.	1
	111860 W	BOOM-10FT.	1
	111861 W	BOOM-12FT.	1
3	11650 B	ROLLER	2
4	11648 B	BUSHING	4
5	107901	PIN	1
6	15111	NUT-LOCK, 1-1/4 UNF	2
7	16001	GREASE FITTING-1/8	4
8	27018	SHACKLE	2
9	111859	PIN	1
	107900	PIN	1
10	61643	KEEPER	1
11	15508	CAPSCREW-3/8 UNF X 1	1
12	15156	LOCKWASHER-3/8	1
13	107899	PIN	1
14	15255	COTTER-1/4 X 2	2
15	109728 W	A-FRAME, 7FT. 8IN.	1
	*981174 W	A-FRAME, 7FT. 8IN.	1
	109713 W	A-FRAME, 8FT. 8IN.	1
	*981175 W	A-FRAME, 8FT. 8IN.	1
	111888 W	A-FRAME, 9FT. 8IN.	1
	*981176 W	A-FRAME, 9FT. 8IN.	1
	111889 W	A-FRAME, 10FT. 8IN.	1
*981177 W	A-FRAME, 10FT. 8IN.	1	

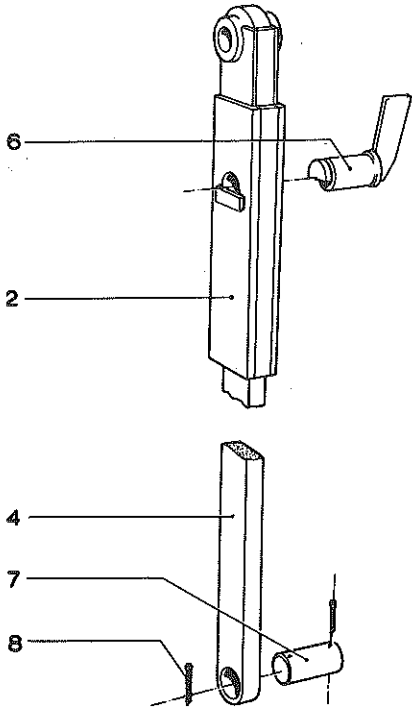
REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.
16	16800	CAPSCREW-3/4 UNF X 2	2
	16802	CAPSCREW-3/4 UNF X 2 1/2	4
	15162	LOCKWASHER-3/4	6
20	15012	NUT-3/4 UNF	6
	15537	CAPSCREW-3/4 UNF X 3 1/2	4
	15162	LOCKWASHER-3/4	4
	16001	GREASE FITTING	2

*FOR B11E, B11A, B11G AND B11H KARRY KRANES ONLY.

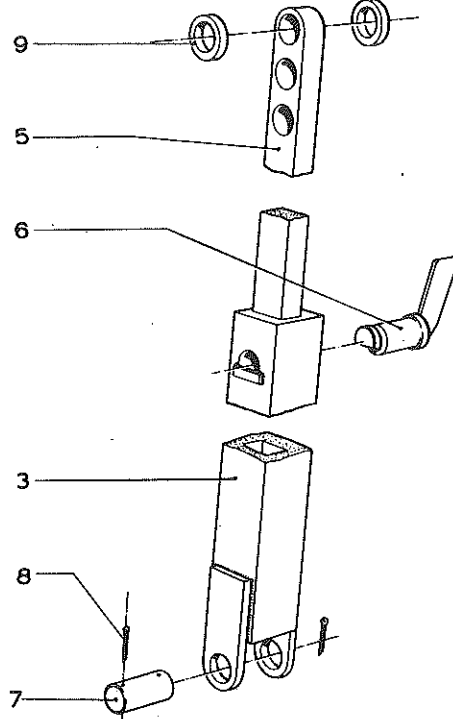
@LAST USED ON SERIAL NO. B11E-1667 AND B11L-1693.

MANUAL TOPPING BAR

MANUAL TOPPING 7'8" and 8'8"



MANUAL TOPPING 9'8" and 10'8"



REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.
2	109702 W	SLEEVE-7FT. 8IN. AND 8FT. 8IN. A-FRAME	1
3	108145 W	SLEEVE-9FT. 8IN. A-FRAME	1
	107904 W	SLEEVE-10FT. 8IN. A-FRAME	1
4	109706 W	BAR-7FT. 8IN. A-FRAME	1
	109710 W	BAR-8FT. 8IN. A-FRAME	1
5	107910 W	BAR-9FT. 8IN. AND 10FT. 8IN. A-FRAME	1

REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.
6	107908 W	PIN-LOCK	1
7	32300	PIN-7FT. 8IN. AND 8FT. 8IN. A-FRAME	1
	107899	PIN-9FT. 8IN. AND 10FT. 8IN. A-FRAME	1
8	15255	COTTER	2
9	28232	SPACER	2

OVERHEAD GUARD



REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.
1	108176 A	OVERHEAD GUARD	1
	140566	OVERHEAD GUARD CONNECTOR	1
	140558	CONNECTOR	4

REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.
2	15538	CAPSCREW-1/2 UNC X 1 1/4	16
	15158	LOCKWASHER-1/2	16
3	15058	NUT-1/2 UNC	8

Section C

POWER UNIT

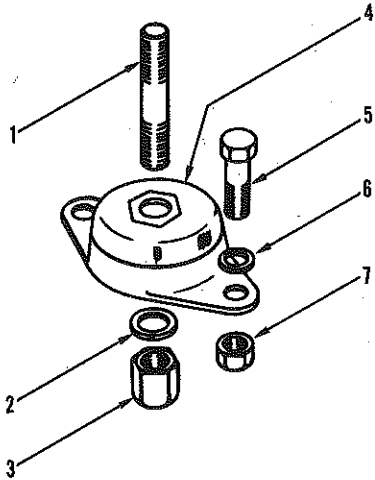
INDEX

CAMSHAFT (Gas Engine)	C10
CAMSHAFT AND TIMING GEARS (4-203 Diesel)	C27
CAMSHAFT AND TIMING GEARS (P-4 Diesel)	C37
COLD STARTING EQUIPMENT (4-203 Diesel)	C26
COLD STARTING EQUIPMENT (P-4 Diesel)	C39
COOLING SYSTEM (Gas Engine)	C4
COOLING SYSTEM (4-203 Diesel)	C16
COOLING SYSTEM (P-4 Diesel)	C29
CRANKSHAFT (Gas Engine)	C7
CRANKSHAFT (4-203 Diesel)	C20
CRANKSHAFT (P-4 Diesel)	C32
CYLINDER BLOCK (Gas Engine)	C5
CYLINDER BLOCK (4-203 Diesel)	C19
CYLINDER BLOCK (P-4 Diesel)	C31
CYLINDER HEAD (Gas Engine)	C5
CYLINDER HEAD (4-203 Diesel)	C21
CYLINDER HEAD (P-4 Diesel)	C33
CYLINDER HEAD COVER AND ROCKER SHAFT (4-203 Diesel) ...	C22
CYLINDER HEAD COVER AND ROCKER SHAFT (P-4 Diesel)	C34
DRIVE HYDRAULIC PUMP (4-203 Diesel)	C28
DRIVE FUEL AND OIL PUMP (P-4 Diesel)	C38
ENGINE MOUNTS (Gas Engine)	C1-C2
ENGINE MOUNTS (4-203 Diesel)	C18
ENGINE MOUNTS (P-4 Diesel)	C41
EXHAUST SYSTEM (Gas Engine)	C2&C15
EXHAUST SYSTEM (4-203 Diesel)	C18
EXHAUST SYSTEM (P-4 Diesel)	C40
FLYWHEEL (Gas Engine)	C7
FLYWHEEL (4-203 Diesel)	C20
FLYWHEEL AND HOUSING (P-4 Diesel)	C31
FLYWHEEL HOUSING (Gas Engine)	C5
GEAR COVER (Gas Engine)	C11
GOVERNOR (Gas Engine)	C8
GOVERNOR DRIVE AND LINKAGE (Gas Engine)	C9
MANIFOLD (Gas Engine)	C14
MANIFOLD-INTAKE (4-203 Diesel)	C26
MANIFOLD-INTAKE (P-4 Diesel)	C39
MANIFOLD-EXHAUST (4-203 Diesel)	C21
MANIFOLD-EXHAUST (P-4 Diesel)	C33
OIL FILTER-ENGINE (Gas Engine)	C15
OIL FILTER-ENGINE (4-203 Diesel)	C25
OIL FILTER AND LINES (P-4 Diesel)	C36
OIL PAN (Gas Engine)	C12
OIL PAN (4-203 Diesel)	C23
OIL PAN (P-4 Diesel)	C35
OIL PIPING (4-203 Diesel)	C24
OIL PUMP (Gas Engine)	C13
OIL PUMP (4-203 Diesel)	C23
OIL PUMP (P-4 Diesel)	C35
VALVES (Gas Engine)	C10
VALVES (4-203 Diesel)	C21
VALVES (P-4 Diesel)	C33
WATER PUMP (Gas Engine)	C3
WATER PUMP (4-203 Diesel)	C17
WATER PUMP (P-4 Diesel)	C30

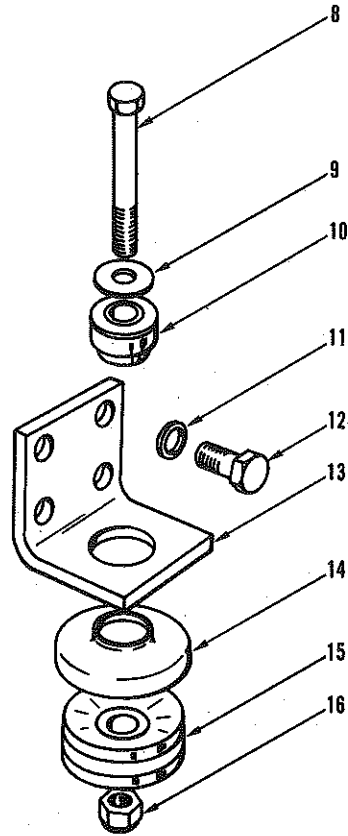
USE HYSTER APPROVED PARTS... it pays

ENGINE MOUNTS

FOR B11L AND B11D GAS KARRY KRANES ONLY



FAN END



TRANSMISSION END

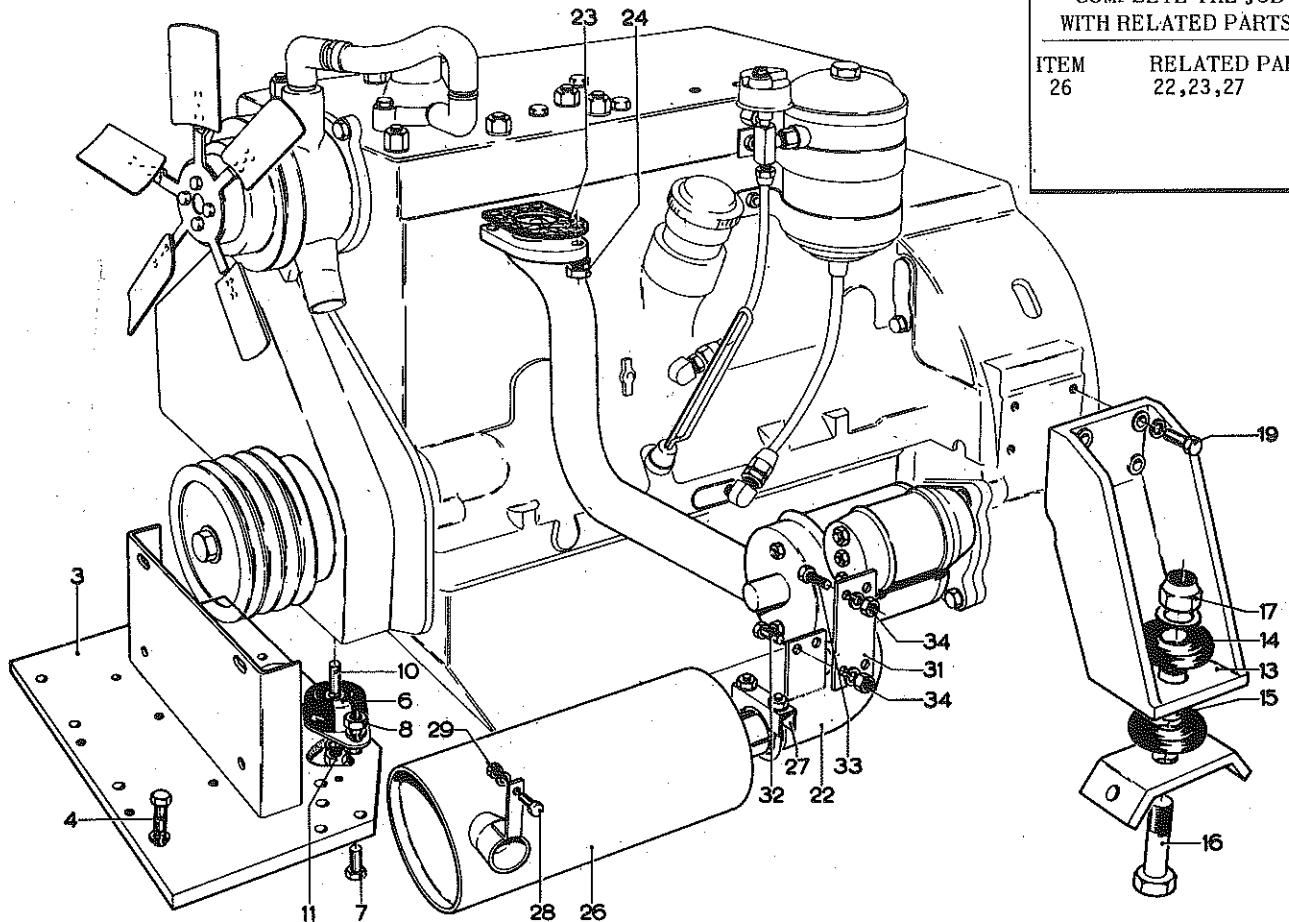
REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.
1	*107148	STUD	2
2	* 15160	LOCKWASHER-5/8	2
3	* 37258	NUT-5/8, SPECIAL	2
4	*107147	MOUNT-RUBBER	2
5	* 15509	CAPSCREW-1/2 UNF X 1 1/2	4
6	* 15158	LOCKWASHER-1/2	4
7	* 15008	NUT-1/2 UNF	4
8	18226	CAPSCREW-7/16 UNF X 3 1/4	2
9	15177	WASHER-7/16	2
10	100429	MOUNT	2

REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.
11	15156	LOCKWASHER-3/8	8
12	15529	CAPSCREW-3/8 UNC X 1	8
13	108104	PLATE-ENGINE MOUNT	2
14	100696	CUP-ENGINE MOUNT	2
15	100428	MOUNT	2
16	15108	NUT	2

*DUAL REAR ENGINE MOUNTS FIRST USED ON SERIAL NO. B11L-1600.

EXHAUST SYSTEM AND ENGINE MOUNTS

FOR B11E, B11A, B11G AND B11H GAS CARRY KRANES ONLY



COMPLETE THE JOB
WITH RELATED PARTS

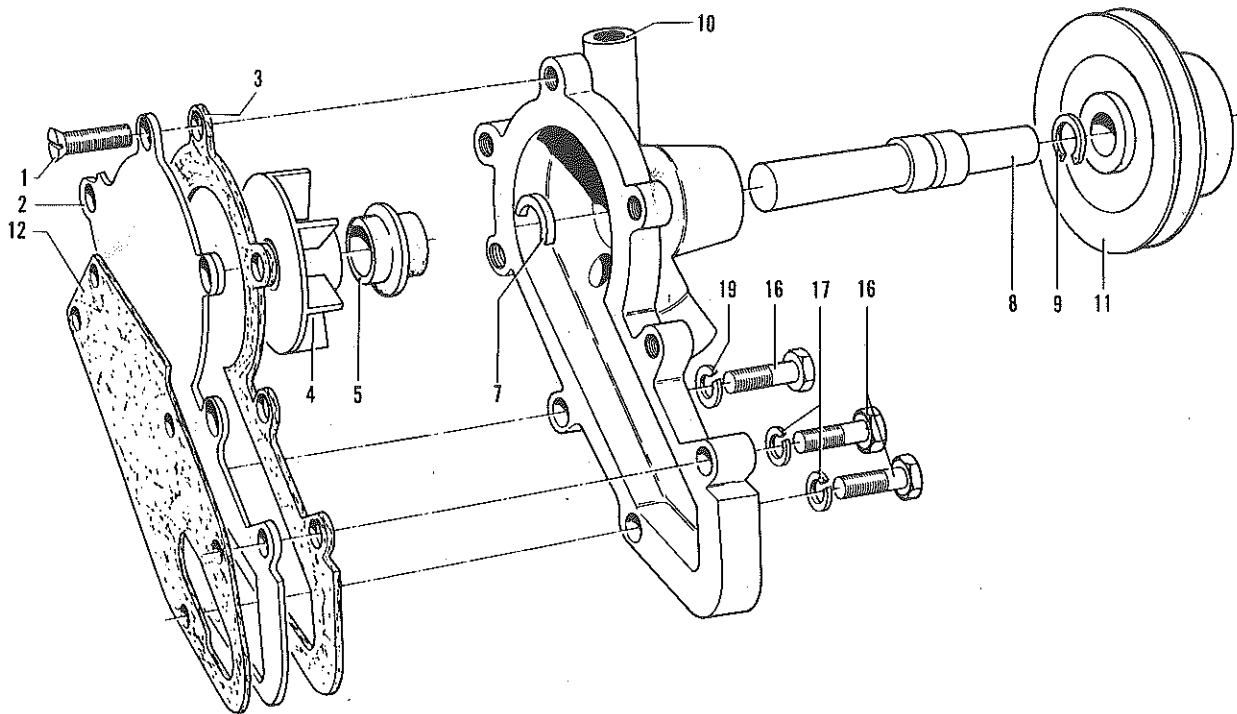
ITEM	RELATED PART
26	22,23,27

REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.
3	982015 W	BRACKET-ENGINE AND RADIATOR	1
4	15522	CAPSCREW-3/4 UNF X 2	8
	15162	LOCKWASHER-3/4	8
6	107147	MOUNT-RUBBER	2
7	15509	CAPSCREW-1/2 UNF X 1 1/2	4
8	15008	NUT-1/2 UNF	4
	15158	LOCKWASHER-1/2	4
10	107148	STUD-ENGINE MOUNT	2
11	37258	NUT-LOCK, 5/8 UNF	2
	15160	LOCKWASHER-5/8	2
13	982021	BRACKET-ENGINE MOUNT	2
14	992412	PAD-RUBBER	4
15	982041	SPACER	2
16	15597	CAPSCREW-5/8 UNF X 3 1/4	2
17	17405	NUT-LOCK, 5/8 UNF	2
	15180	LOCKWASHER-5/8	2

REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.
19	25062	CAPSCREW-3/8 UNC X 1 1/4	8
	15156	LOCKWASHER-3/8	8
22	980427 W	PIPE-EXHAUST	1
23	108961	GASKET	1
24	16526	NUT-3/8 UNC, BRASS	3
	15156	LOCKWASHER-3/8	3
24	.....	STUD-SEE PAGE C14	3
26	980430	MUFFLER	1
27	30370	CLAMP-EXHAUST PIPE	1
28	16354	MACH. SCREW-1/4 UNF X 3/4	1
29	15004	NUT-1/4 UNF	1
	15154	LOCKWASHER-1/4	1
31	980227	PLATE-SPRING	1
32	15585	CAPSCREW-1/4 UNF X 1/2	2
33	15586	CAPSCREW-1/4 UNF X 3/4	2
34	15004	NUT-1/4 UNF	4
	15154	LOCKWASHER-1/4	4

WATER PUMP

GAS ENGINE



REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.
	169245	WATER PUMP	1
1	109333	SCREW-COVER TO BODY	4
2	109334	COVER-WATER PUMP	1
3	*109335	GASKET-WATER PUMP	1
4	.....	IMPELLER	1
5	{ *142354	SEAL	1
	{ *142352	GASKET	1
7	*109336	RING-BEARING SEAT	1
8	.....	SHAFT-BEARING	1
9	*142355	RETAINER	1
10	{ 161748	BODY	1
	{ 109286	PLUG-3/8 PIPE	1

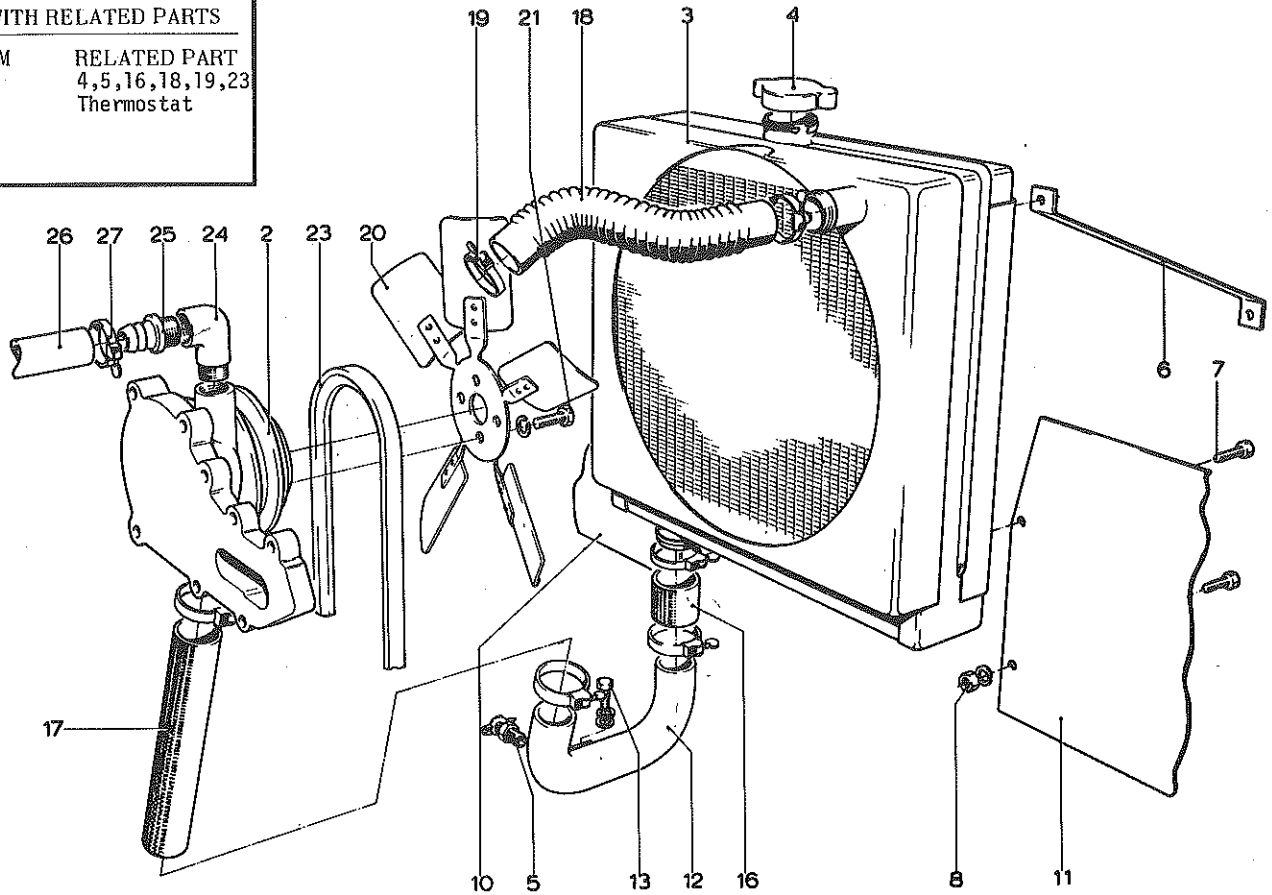
REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.
11	109317	HUB-FAN	1
12	*□109313	GASKET-PUMP TO BLOCK	1
16	109315	CAPSCREW-3/8 UNC X 2 1/8	4
17	15156	LOCKWASHER-3/8	3
19	109165	WASHER-COPPER, 3/8	1
*INCLUDED IN WATER PUMP REPAIR KIT 161647.			
□INCLUDED IN FRONT END GASKET SET, SEE PG. C6.			

COOLING SYSTEM

FOR GAS ENGINE

COMPLETE THE JOB
WITH RELATED PARTS

ITEM	RELATED PART
3	4,5,16,18,19,23 Thermostat



KEY

A-FOR B11L AND B11D GAS KARRY KRANES ONLY.

B-FOR B11E, B11A, B11G AND B11H GAS KARRY KRANES ONLY, ILLUSTRATED.

REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.	
			A	B
2	.....	WATER PUMP-SEE PAGE C3	1	1
3	107962 A	RADIATOR	1	..
	980045	RADIATOR	..	1
4	106483	CAP-RADIATOR, 7 P.S.I.	1	1
5	12815	COCK-DRAIN, 1/4	1	1
6	107963	BRACKET-RADIATOR	2	..
	980059	BRACKET-RADIATOR	..	2
7	15518	CAPSCREW-3/8 UNF X 7/8	6	6
8	15006	NUT-3/8 UNF	6	6
	15156	LOCKWASHER-3/8	6	6
10	107964	PLATE-SHROUD, R.H.	1	..
	981196	PLATE-SHROUD, R.H.	..	1
11	107965	PLATE-SHROUD, L.H.	1	..
	980051	PLATE-SHROUD, L.H.	..	1
12	107966 A	PIPE-RADIATOR	1	..
	982026 W	PIPE-RADIATOR	..	1
13	15518	CAPSCREW-3/8 UNF X 7/8	..	1
	15156	LOCKWASHER-3/8	..	1
	15134	WASHER-3/8	..	1

REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.	
			A	B
16	70823	HOSE-RADIATOR, LOWER	1	..
	57130	HOSE-RADIATOR, LOWER	..	1
17	70823	HOSE-RADIATOR	1	..
	982032	HOSE-RADIATOR	..	1
18	98322	HOSE-RADIATOR	1	..
	980112	HOSE-RADIATOR	..	1
19	18994	CLAMP-HOSE	.6	.6
20	107190	FAN	1	1
21	15556	CAPSCREW-5/16 UNC X 5/8	4	4
	15155	LOCKWASHER-5/16	4	4
23	118135	BELT-FAN	1	1
24	15345	ELBOW-STREET, 3/8	1	1
25	108956	NIPPLE-3/8 X 1 1/4	2	2
26	109311	HOSE-PUMP TO WATER OUT. EL.	1	1
27	130845	CLAMP-HOSE	2	2
	137877	KIT-WATER CONDITIONER, BOX OF 12		

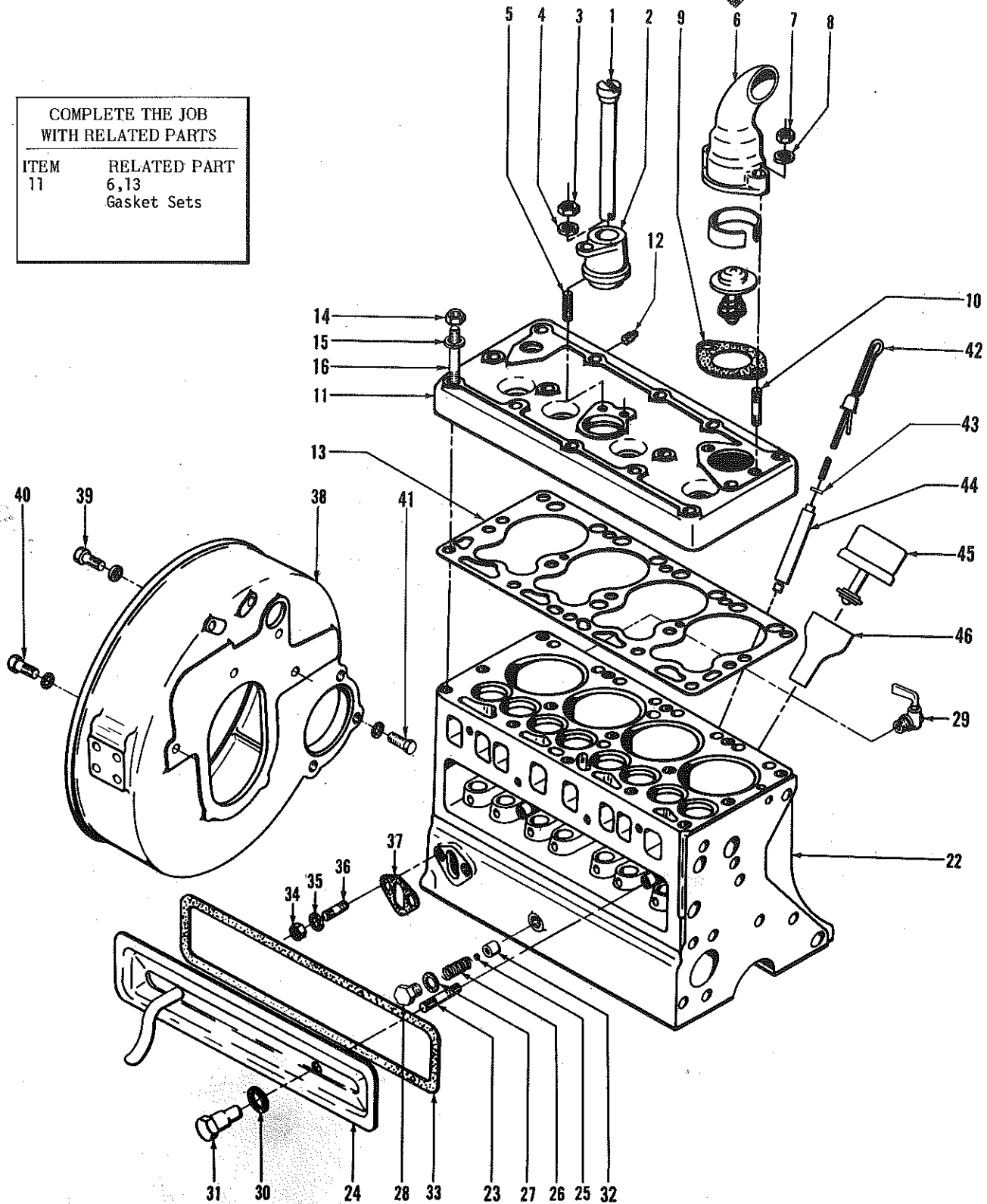
CYLINDER BLOCK

GAS ENGINE

PARTS SERVICE GRAM	
Item	Gram
6	A-B-22

COMPLETE THE JOB
WITH RELATED PARTS

ITEM	RELATED PART
11	6,13 Gasket Sets



CYLINDER BLOCK

GAS ENGINE

KEY

A-FOR F-162 ENGINE.

B-FOR F-163 ENGINE.

C-FOR F-163 ENGINE FIRST USED ON ENGINE SERIAL NO. 11038.

REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.		
			A	B	C
1	180964	ENGINE-SERVICE	1	1	1
1	109326	SHAFT-DIST. DRIVE	1	..	..
	142357	SHAFT-DIST. DRIVE	..	1	1
2	109324	ADAPTER-DISTRIBUTOR	1	..	..
3	15056	NUT-3/8 UNC	1	..	..
	142358	NUT	..	1	..
4	15176	LOCKWASHER-3/8	1	1	..
5	109325	STUD	1	..	..
	130232	STUD	..	1	1
6	108976	ELBOW-WATER OUTLET	1	1	1
	123806	PLUG-3/8 PIPE	..	1	1
	109322	THERMOSTAT-160 DEGREE	1	1	1
	145668	THERMOSTAT-180 DEGREE	1	1	1
7	109323	ADAPTER-THERMOSTAT	1	1	1
	15055	NUT-5/16 UNC	2	2	2
8	15155	LOCKWASHER-5/16	2	2	2
9	109321	GASKET-WATER OUTLET	1	1	1
10	155165	STUD	2	2	2
	109173	HEAD-CYLINDER	1	..	..
11	168056	HEAD-CYLINDER	..	1	1
	142373	HEAD-CYLINDER	..	1	1
	167954	SCREW	..	1	1
	15962	PLUG	..	2	2
12	123695	HEAD-CYLINDER, L.P.G.	1	..	..
	109165	WASHER-COPPER	2	..	..
13	16870	CPSCR.-3/8 UNC X 1/2 PLUG	2	..	..
	15962	PLUG	3	3	3
14	109176	GASKET-CYLINDER HEAD	1	1	1
15	109175	NUT-CYLINDER HEAD	15	..	..
16	235628	WASHER	15	..	..
	235623	WASHER	..	15	15
17	109174	STUD	15	..	..
	240293	CAPSCREW	..	13	13
	154999	CAPSCREW-SPECIAL	..	2	2
	15613	PLUG-AIR CLEANER HOLE	2	..	2
	109163	WASHER-COPPER PLUG SEAL	2	..	2
	108971	CRANKCASE	1	..	..
	183956	CRANKCASE	..	1	1
	18535	PLUG-GEN. BRACKET HOLE	1	1	1
	109165	WASHER-COPPER PLUG SEAL	1	1	1
	123824	STUD-GENERATOR BRACKET	4	4	4
22	.....	STUD-OIL FILTER, SEE PAGE C13	4	4	4
	109168	PLUG-1 1/8 CYL. CORE	1	1	1
23	109169	PLUG-1 3/8 CORE SIDES	2	2	1
	109172	PLUG-1 1/2 CAMSFT.BUSH.	1	1	1
24	108955	PLUG-1/4 PIPE CRKC. OIL HEADER & CROSS DRILL	3	3	3
	15306	PLUG-1/8 PIPE OIL PRESS	2	2	..
25	86013	PLUG-1/8 PIPE OIL PRESS	..	..	2
	233302	STUD	2	..	2
26	109230	STUD	..	2	..
	233297	BAFFLE	1	1	1
27	214831	BAFFLE-CENTER	1	1	1
	183364	COVER-VLV. TAP. CHAMBER	1	1	1
28	200614	WASHER	1	1	1
29	109262	SPRING	1	1	1
	109265	GASKET	1	1	1
	109264	PLUG	1	1	1
	12815	COCK-DRAIN	1	1	1

REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.		
			A	B	C
30	109240	GASKET	2	2	2
31	108953	NUT-VALVE COVER	2	2	2
32	109241	GASKET	1	1	1
33	15055	NUT-5/16 UNC	2	2	2
34	15155	LOCKWASHER-5/16	2	2	2
35	123823	STUD	2	2	..
36	51814	GASKET-FUEL PUMP MOUNTING	1	1	1
	200214	COVER-FUEL PUMP HOLE, L.P.G. ENGINE ONLY	1	1	..
37	151488	GASKET-FUEL PUMP MOUNTING	..	..	1
	145949	COVER-FUEL PUMP HOLE, L.P.G. ENGINE ONLY	..	1	1
38	109270	HOUSING-FLYWHEEL	1	1	1
	109273	PIN-TIMING POINTER	1	1	1
39	234714	POINTER-TIMING	..	..	1
	15154	LOCKWASHER-1/4	..	..	2
40	15054	NUT-1/4 UNC	..	..	2
	144609	FELT-TIMING COVER HOLE	1	1	1
41	18535	SCREW-3/8 UNC X 5/8	1	1	1
	15156	LOCKWASHER-3/8	1	1	1
42	109271	CAPSCREW-7/16 UNC X 1 1/8	3	3	3
	15917	LOCKWASHER-7/16	3	3	2
43	109272	CAPSCREW-7/16 UNC X 1 1/2	2	2	..
	160431	CAPSCREW-7/16 UNC X 1 1/4	..	2	2
44	145954	DOWEL-RING HSG. TO CRKCASE	..	..	2
	160431	CAPSCREW	..	..	3
45	15917	LOCKWASHER-7/16	2	2	3
	25062	CAPSCREW-3/8 UNC X 1 1/4	3	3	3
46	15156	LOCKWASHER-3/8	3	3	3
	142366	ROD-OIL GAUGE	1	1	..
47	150052	ROD-OIL GAUGE	..	..	1
	174876	ROD-OIL GAUGE	..	..	1
48	109259	FELT	1	..	..
	233291	SUPPORT-OIL GAUGE	1	1	1
49	150053	SUPPORT-OIL GAUGE	..	..	1
	167474	SUPPORT-OIL GAUGE	..	..	1
50	109256	CAP-OIL FILLER	1	1	1
	109257	TUBE-OIL FILLER	1	1	..
51	150051	TUBE-OIL FILLER	..	..	1
	109249	VALVE GRIND GASKET SET	1	1	..
52	159678	TOP OVERHAUL GASKET SET	1	1	1
	159680	FRONT END GASKET SET	1	1	1

INCLUDES STUDS, PLUGS, CAMSHAFT BUSHINGS, MAIN BEARINGS AND CAPS, VALVE GUIDES AND SEATS, AND BAFFLES.

WHEN REPLACING F162 ENGINES WITH F163 ENGINES, FUEL PUMP 144752, DISTRIBUTOR 137705, AND DISTRIBUTOR CLAMP 137870 MUST BE USED. WHEN REPLACING F163 ENGINES PRIOR TO ENGINE SERIAL NO. 12596, FUEL PUMP 144752 MUST BE USED.
NOTE-INCLUDE CORRECT MOUNTING GASKET AND HARDWARE FOR NEW FUEL PUMP AND DISTRIBUTOR.

INCLUDED IN TOP OVERHAUL GASKET SET.

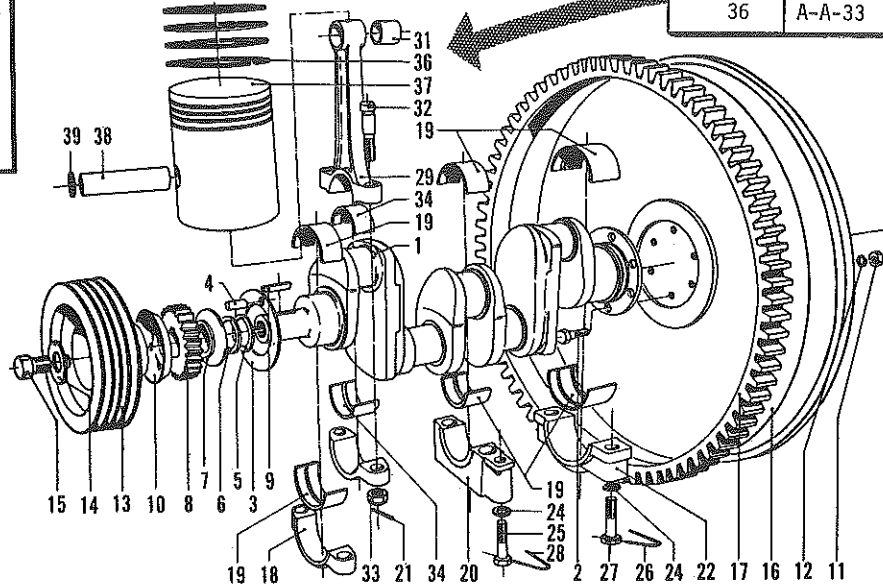
FIRST USED ON ENGINE NO. 63573.

CRANKSHAFT, PISTONS AND FLYWHEEL

GAS ENGINE

PARTS SERVICE GRAM	
Item	Gram
36	A-A-33

COMPLETE THE JOB WITH RELATED PARTS	
ITEM	RELATED PART
1	8,19 Gasket Sets
29	34
37	36



KEY
 A-FOR F-162 ENGINE.
 B-FOR F-163 ENGINE.
 C-FOR F-163 ENGINE FIRST USED ON ENGINE SERIAL NO. 11038.

REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.			REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.		
			A	B	C				A	B	C
1	109179	CRANKSHAFT	1	..	..	19	135721	MAIN BEARING SET-STD.	1	..	..
	177592	CRANKSHAFT	..	1	1		135722	MAIN BEARING SET-.010 US	1	..	..
2	109186	BEARING-CRKSFT. PILOT	..	1	1	135723	MAIN BEARING SET-.020 US	1	..	..
	109267	BOLT-FLYWHEEL TO CRANK	6	6	6	135724	MAIN BEARING SET-.030 US	1	..	..
3	109181	WASHER-THRUST	2	..	..	142493	MAIN BEARING SET-STD.	..	1	1	
4	109182	PIN-5/32 X 1/2	3	..	..	142494	MAIN BEARING SET-.002 US	..	1	1	
5	109183	SHIM-THRUST, .002	8	..	..	142495	MAIN BEARING SET-.010 US	..	1	1	
6	109184	SHIM-THRUST, .008	8	..	..	142496	MAIN BEARING SET-.020 US	..	1	1	
7	109180	PLATE-THRUST	1	..	..	150049	MAIN BEARING SET-.030 US	..	1	1	
8	233363	GEAR-TIMING, STD.	1	1	1	20	.....	CAP-MAIN BEARING, CENTER	1	1	1
	165127	GEAR-TIMING, .001 OS	1	1	1	233370	DOWEL	2	2	2	
	128023	GEAR-TIMING, .002 OS	1	1	1	21	15212	COTTER-3/32 X 3/4	8	8	8
	165128	GEAR-TIMING, .003 OS	1	1	1	22	.....	CAP-MAIN BEARING, REAR	1	1	1
	165131	GEAR-TIMING, .001 US	1	1	1	24	233370	DOWEL	2	2	2
9	142361	KEY	1	..	..	24	79915	WASHER-1/2	6	..	..
	109185	THROWER-OIL	1	1	1	25	15917	LOCKWASHER-7/16	..	..	5
	17158	NUT-3/8 UNF	6	6	6	25	109152	CPSCR.-FRONT & REAR CAPS	4	..	..
12	15920	LOCKWASHER-3/8	6	6	6	26	142491	CPSCR.-FRONT & REAR CAPS	..	4	4
13	108975	PULLEY-CRANKSHAFT	1	1	1	26	.....	LOCKWIRE	2	..	..
14	78702	WASHER	1	1	1	27	109153	CAPSCREW-CENTER CAP	2	..	..
15	109194	CAPSCREW	1	1	1	27	142492	CAPSCREW-CENTER CAP	..	2	2
16	109266 A	FLYWHEEL	1	1	1	28	.....	LOCKWIRE	2	..	..
17	109269	RING GEAR-112 TEETH	1	1	1	29	184379	CONNECTING ROD-1 & 3 CYL.	2	..	..
18	.....	CAP-FRONT MAIN BEARING	1	1	1		184380	CONNECTING ROD-2 & 4 CYL.	2	..	..
	233376	DOWEL	..	2	2	138289	CONNECTING ROD-1 & 3 CYL.	..	2	2	
						138289	CONNECTING ROD	..	..	4	
						138290	CONNECTING ROD-2 & 4 CYL.	..	2	2	
						31	109206	BUSHING-PISTON PIN	1	1	1
						32	109197	BOLT-CONNECTING ROD	2	2	2
						33	79930	NUT-3/8 UNF, SLOTTED	2	2	2
						34	109201	BRG.SET-CONN.ROD, STD.	1	..	..
							135726	BRG.SET-CONN.ROD, .010 US	1	..	..
							135727	BRG.SET-CONN.ROD, .020 US	1	..	..
							135728	BRG.SET-CONN.ROD, .030 US	1	..	..
							142367	BRG.SET-CONN.ROD, STD.	..	1	1
							142368	BRG.SET-CONN.ROD, .005 US	..	1	1
							142369	BRG.SET-CONN.ROD, .010 US	..	1	1
							142370	BRG.SET-CONN.ROD, .020 US	..	1	1

CRANKSHAFT, PISTONS AND FLYWHEEL

GAS ENGINE

REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.			
			A	B	C	
36	#*109253 A	RING SET-PISTON, STANDARD	1	1	1	
	175734	RING SET-PISTON, STANDARD	..	..	1
	#*128621	RING SET-PISTON, .020 OS	1	1	1	
	175735	RING SET-PISTON, .020 OS	..	..	1
	#*128622	RING SET-PISTON, .030 OS	1	1	1	
	175736	RING SET-PISTON, .030 OS	..	..	1
	#*128623	RING SET-PISTON, .040 OS	1	1	1	
	175737	RING SET-PISTON, .040 OS	..	..	1
	175559	RING SET-PISTON, .060 OS	..	..	1
	#□ 79920	RING SET-PISTON, STANDARD	1	1	1	
	#□ 129438	RING SET-PISTON, .020 OS	1	1	1	
	#□ 159151	RING SET-PISTON, .030 OS	1	1	1	
	#□ 129439	RING SET-PISTON, .040 OS	1	1	1	
	#*142487	PISTON AND PIN-STANDARD	4	4	4	
	175729	PISTON AND PIN-STANDARD	..	..	4
	#□ 202980	PISTON AND PIN-STANDARD	4	4	4	
	#□ 129436	PISTON AND PIN-.020 OS	4	4	4	
	37	175730	PISTON AND PIN-.020 OS	4
		#□ 159150	PISTON AND PIN-.030 OS	4	4	4
		175731	PISTON AND PIN-.030 OS	4
#□ 129437		PISTON AND PIN-.040 OS	4	4	4	
175732		PISTON AND PIN-.040 OS	..	..	4
175733		PISTON AND PIN-.060 OS	..	..	4

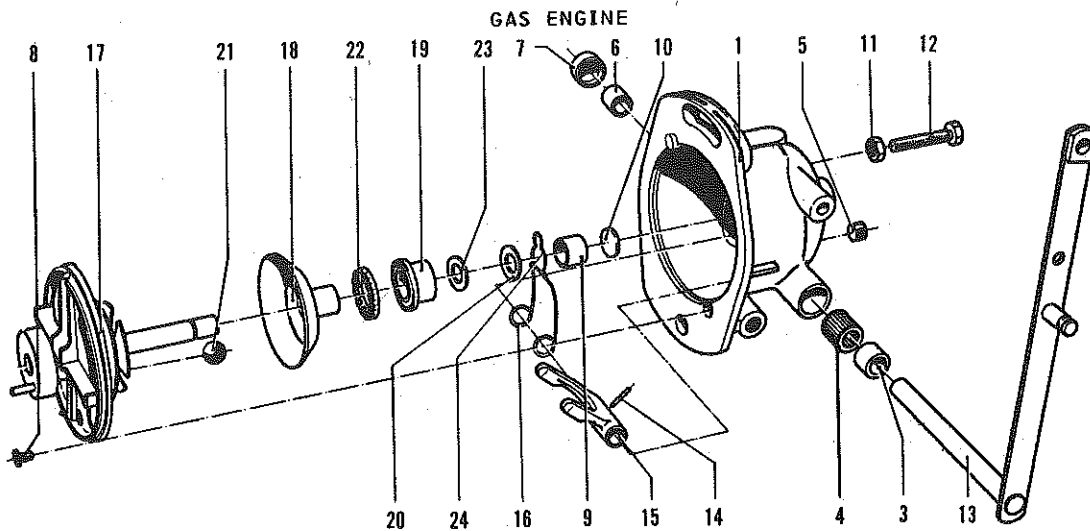
REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.		
			A	B	C
38	109204	PIN-PISTON, STD.	1	..	..
	128625	PIN-PISTON, .005 OS	1	..	..
	142488	PIN-PISTON, STD.	..	1	1
39	142489	PIN-PISTON, .005 OS	..	1	1
	109205	RING-RETAINING	2	..	..
	142490	RING-RETAINING	..	2	2

*THESE PISTONS HAVE 1/4 OIL RING GROOVES, USE RINGS MARKED * TO SERVICE.

□THESE PISTONS HAVE 5/32 OIL RING GROOVES, USE RINGS MARKED □ TO SERVICE.

#LAST USED ON ENGINE NO. 63572.

GOVERNOR



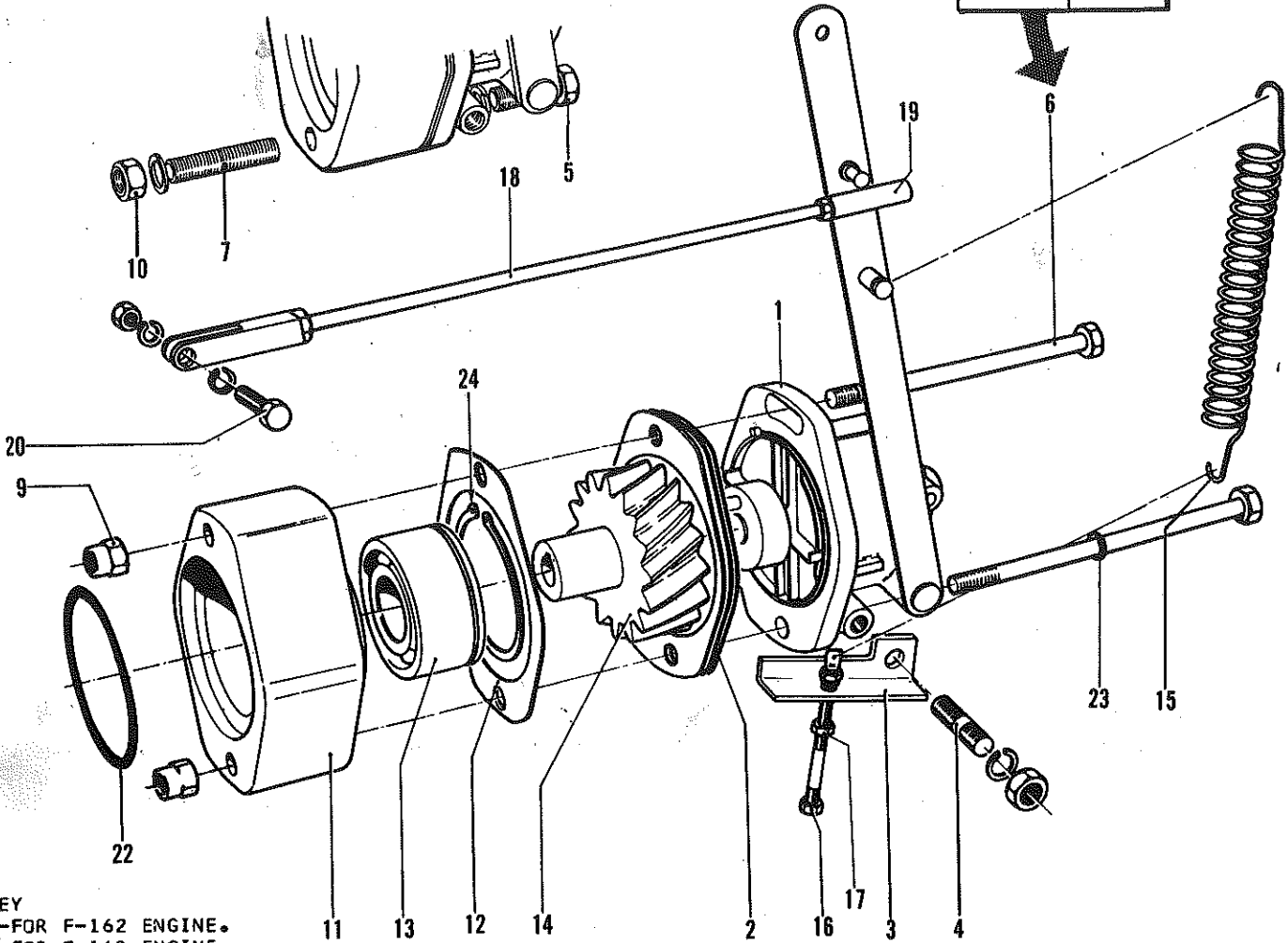
REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.		
			1	2	3
1	234936 A	GOVERNOR	1		
	108950 A	BODY AND LEVER	1		
	108935	BODY	1		
	108933	SEAL-OIL	1		
	108934	BEARING-NEEDLE	1		
	108936	PLUG-PIPE	1		
	108937	BUSHING-LEVER SHAFT	1		
	108938	PLUG	1		
	109306	SCREW	1		
	109302	BUSHING-DRIVE SHAFT	1		
	108927	PLATE-THRUST	1		
	108928	LOCKNUT-ADJUSTING SCREW	1		
108929	SCREW-ADJUSTING	1			

REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.		
			1	2	3
13	108952	LEVER	1		
14	108930	PIN-FORK	1		
15	108931	FORK	1		
16	108932	SPRING-BUMPER	1		
17	108951 A	SHAFT AND BASE	1		
18	109250	RACE-UPPER	1		
19	109268	BASE-FORK	1		
20	109298	WASHER			AR
21	109314	BALL-5/8	4		
22	108924	BEARING-THRUST	1		
23	108925	WASHER	1		
24	108926	CLIP	1		

GOVERNOR DRIVE AND LINKAGE

GAS ENGINE

PARTS SERVICE GRAM	
Item	Gram
6	J-A-24



KEY
 A-FOR F-162 ENGINE.
 B-FOR F-163 ENGINE.
 C-FOR F-163 ENGINE FIRST USED ON ENGINE SERIAL NO. 11038.

REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.		
			A	B	C
1	.....	GOVERNOR-SEE PAGE C8	1	1	1
2	57105	GASKET-GOV. TO GEAR COVER	1	1	1
3	109296	ANCHOR-GOVERNOR SPRING	1	1	..
	.....	ANCHOR-GOVERNOR SPRING	..	..	1
4	108969	STUD-ANCHOR TO GOVERNOR	1	1	1
	15154	LOCKWASHER-1/4	1	1	1
	15054	NUT-1/4 UNC	1	1	1
5	16828	CAPSCREW-3/8 UNC X 1 1/4	1	1	..
	15920	LOCKWASHER-3/8	1	1	1
	109299	CAPSCREW-3/8 UNC X 4 5/8	1	1	..
6	150830	SCREW-3/8 UNC X 4 3/8	..	..	2
	109294	PLATE-GOVERNOR GASKET	1	1	1
	109295	GASKET-GOVERNOR PLATE	1	1	1
7	109300	STUD-PUMP TO GEAR COVER	1	1	1
	*109299	CAPSCREW-3/8 UNC	1	1	..
9	15115	NUT-LOCK, 3/8 UNC	2	2	2
10	15920	LOCKWASHER-3/8	1	1	2
	15056	NUT-3/8 UNC	1	1	1
11	109301	ADAPTER-HYDRAULIC PUMP	1	1	1
12	#109293	GASKET-HYD. PUMP ADAPTER TO FRONT END PLATE	1	1	1
13	124691	BEARING-BALL	1	1	1
14	109304	GEAR-HYDRAULIC PUMP	1	..	..
	*133996	GEAR-HYDRAULIC PUMP	1	1	1

REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.		
			A	B	C
15	109305	SPRING-GOVERNOR	1	1	1
16	108943	SCREW-GOV. SPRING ADJ.	1	1	1
17	108954	NUT-DRILLED	2	2	2
	56733	WIRE-GOVERNOR SEAL	2	2	..
18	108974	ROD-GOVERNOR TO CARB.	1	1	1
19	66707	BALL JOINT	1	1	1
	109309	SCREW-YOKE END	1	1	1
20	15918	LOCKWASHER-5/16	1	1	1
	15154	LOCKWASHER-1/4	1	1	1
	15004	NUT-1/4 UNF	2	2	2
22	15880	O-RING	1	1	1
	15920	LOCKWASHER-3/8	1	1	..
23	109165	WASHER	..	..	2
	11195	SNAP RING	1	1	1

*FIRST USED ON SERIAL NO. B11L-1693, B11E-1776 AND B11A-1501.

▣LAST USED ON ENGINE NO. 265162.

#INCLUDED IN FRONT END GASKET SET, SEE PG. C6.

HYSTER COMPANY
 PORTLAND, OREGON

O-RING- *LATE MODEL PART # 39369 (THIN)

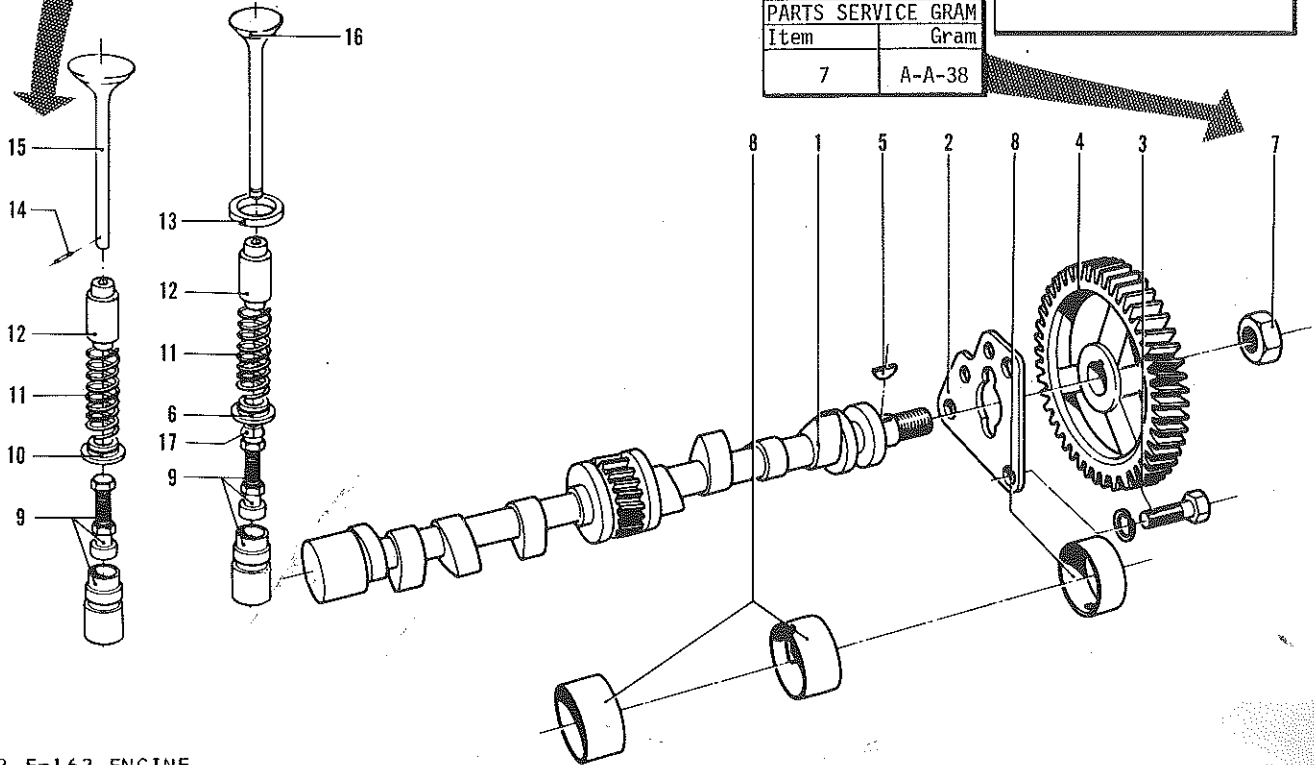
CAMSHAFT, TIMING GEAR AND VALVES

GAS ENGINE

PARTS SERVICE GRAM	
Item	Gram
15	A-A-36

COMPLETE THE JOB WITH RELATED PARTS	
ITEM	RELATED PART
1	4,5,8 Gasket Sets
15,16	9,11,12,13

PARTS SERVICE GRAM	
Item	Gram
7	A-A-38



KEY
 A-FOR F-162 ENGINE.
 B-FOR F-163 ENGINE.
 C-FOR F-163 ENGINE FIRST USED ON ENGINE SERIAL NO. 11038.

REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.		
			A	B	C
1	171060	CAMSHAFT	1	..	..
	142362	CAMSHAFT	..	1	..
	146255	CAMSHAFT	..	1	1
2	109208	PLATE-THRUST	1	1	1
	78688	CAPSCREW-5/16 UNC X 5/8	2	2	2
3	15918	LOCKWASHER-5/16	2	2	2
	109211	GEAR-TIMING, STD.	1	..	..
4	*110740	GEAR-TIMING, STD.	1	..	..
	*128614	GEAR-TIMING, .002 OS	1	..	..
	*128615	GEAR-TIMING, .002 US	1	..	..
	133981	GEAR-TIMING, STD.	..	1	..
	133982	GEAR-TIMING, .002 OS	..	1	..
	133983	GEAR-TIMING, .002 US	..	1	..
	233346	GEAR-TIMING, STD.	..	..	1
	165066	GEAR-TIMING, .001 OS	..	..	1
	128021	GEAR-TIMING, .002 OS	..	..	1
	165067	GEAR-TIMING, .003 OS	..	..	1
5	165123	GEAR-TIMING, .001 US	..	..	1
	128022	GEAR-TIMING, .002 US	..	..	1
	165124	GEAR-TIMING, .003 US	..	..	1
5	9033	KEY	1	1	1
6	142394	ROTD COIL-EXHAUST VALVE	..	4	4
7	127464	NUT	1	..	..
	161248	NUT	..	1	1

REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.		
			A	B	C
8	109210A	BUSHING SET-CAMSHAFT	1	1	1
	78033	VALVE TAPPET-STANDARD	8	8	8
	124192	VALVE TAPPET-.001 OS	8	8	8
	124194	VALVE TAPPET-.003 OS	8	8	8
9	124196	VALVE TAPPET-.005 OS	8	8	8
	148812	VALVE TAPPET-.008 OS	8	8	8
	148813	VALVE TAPPET-.010 OS	8	8	8
	148814	VALVE TAPPET-.015 OS	8	8	8
	109234	RETAINER-VALVE SPRING	8	..	..
10	142392	RETAINER-VALVE SPRING	..	4	4
	109233	SPRING-VALVE	8	8	8
11	109233	SPRING-VALVE	8	8	8
	151751	GUIDE-VALVE STEM	8	8	8
12	109231	INSERT-EXH. VLV., .010 OS	4	..	..
	145957	INSERT-EXH. VLV., .010 OS	..	4	4
	157375	INSERT-EXH. VLV., .020 OS	..	4	4
13	109235	LOCK-RETAINER	8	..	..
	109229	VALVE-INTAKE	4	..	..
14	142389	VALVE-INTAKE	..	4	4
	109230	VALVE-EXHAUST	4	..	..
	145955	VALVE-EXHAUST	..	4	4
15	156075	VALVE-EXHAUST, STELLITE	..	4	4
	142393	LOCK-RETAINER	..	16	16

*FIRST USED ON SERIAL NO. B11L-1693.

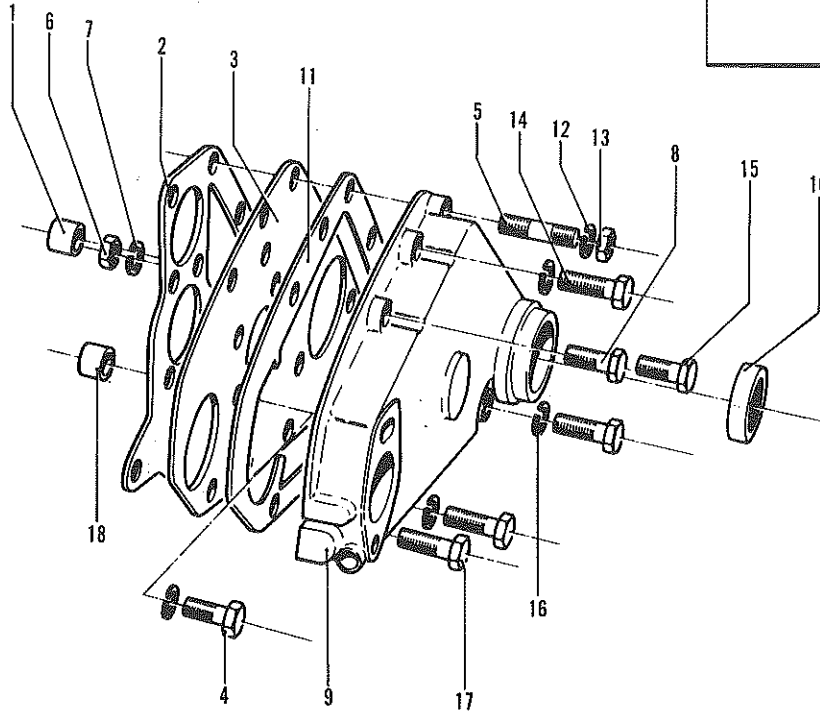
▣FIRST USED ON ENGINE SERIAL NO. 12596.

GEAR COVER

GAS ENGINE

COMPLETE THE JOB
WITH RELATED PARTS

ITEM	RELATED PART
9	2,4,8,10,11,14, 15,17



KEY

A-FOR F-162 ENGINE.
 B-FOR F-163 ENGINE.
 C-FOR F-163 ENGINE FIRST USED ON ENGINE SERIAL NO. 11038.

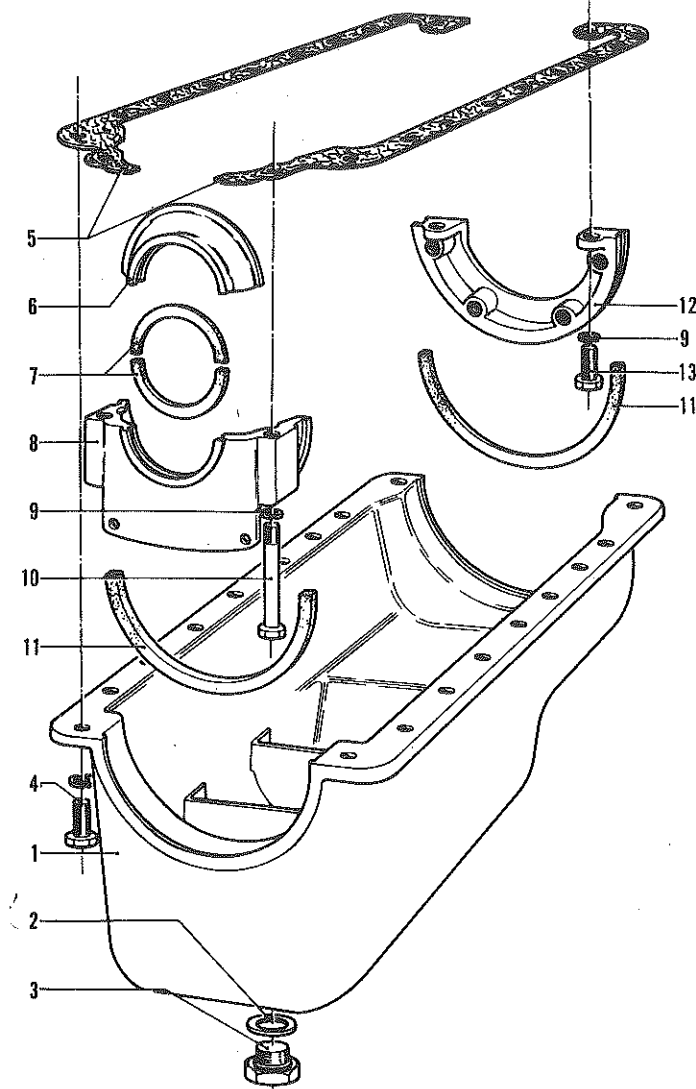
REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.		
			A	B	C
1	109217	DOWEL-RING	1	1	1
2	*122239	GASKET	1	1	2
	109228	GASKET	1	..	..
3	109157	PLATE-END	1	..	..
	142375	PLATE-END	..	1	1
	16836	CAPSCREW-5/16 UNC X 3/4	1	..	..
	16597	CAPSCREW-END PLATE TO CRANKCASE	..	..	1
4	200960	CAPSCREW-7/16 UNC X 1	1	1	1
	200962	CAPSCREW-3/8 UNC X 3/4	1	1	1
	15155	LOCKWASHER-5/16	1	1	..
	15920	LOCKWASHER-3/8	1	1	1
	15157	LOCKWASHER-7/16	1	1	1
5	233308	STUD	3	..	..
	88363	STUD	..	1	1
	109165	WASHER-3/8	..	..	1

REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.		
			A	B	C
6	15057	NUT-7/16 UNC	1	1	1
7	15917	LOCKWASHER-7/16	1	1	1
8	109221	SCREW-DOWEL	1	1	..
9	184101	COVER-GEAR	1	1	1
10	*109224	SEAL-OIL	1	1	1
11	*109223	GASKET-COVER TO PLATE	1	1	1
12	15905	LOCKWASHER-3/8	6	6	7
13	15056	NUT-3/8 UNC	5	5	4
14	109218	CAPSCREW-3/8 UNC X 1 1/8	3	4	4
15	18558	CAPSCREW-7/16 UNC X 1 1/2	1	1	1
16	109165	WASHER-COPPER, 3/8	2	2	2
17	16376	CAPSCREW-3/8 UNC X 2	3	3	3
18	109225	DOWEL-RING	1	1	..
	200277	DOWEL-RING	..	..	1

*INCLUDED IN FRONT END GASKET SET, SEE PG. C6.

OIL PAN, GASKET AND FILLER BLOCKS

GAS ENGINE



COMPLETE THE JOB
WITH RELATED PARTS

ITEM	RELATED PART
1	Gasket Sets

KEY

- A-FOR F-162 ENGINE.
- B-FOR F-163 ENGINE.
- C-FOR F-163 ENGINE FIRST USED ON ENGINE SERIAL NO. 11038.

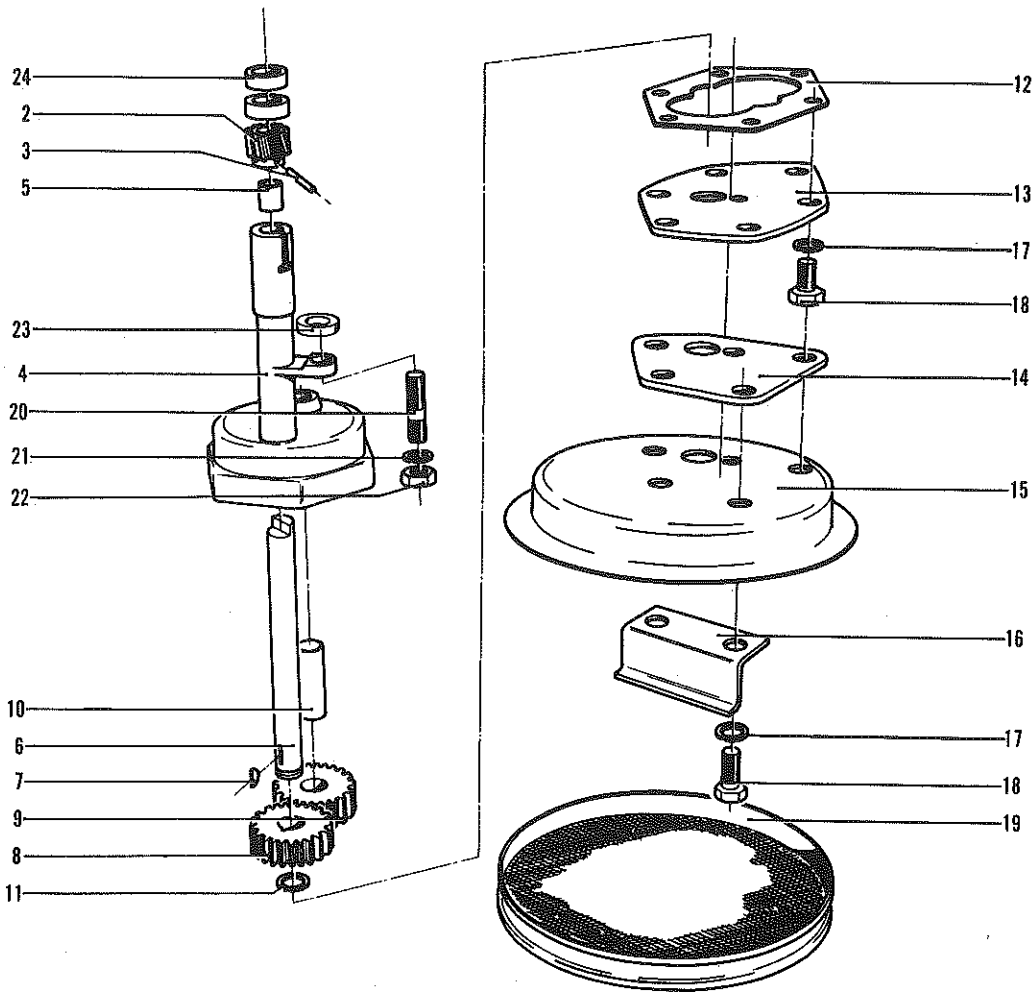
REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.		
			A	B	C
1	109242 A	OIL PAN	1	1	1
2	*109245	GASKET-DRAIN PLUG	1	1	1
3	109244	PLUG-DRAIN	1	1	1
4	16836	CAPSCREW-5/16 UNC X 3/4	14	14	14
	15155	LOCKWASHER-5/16	14	14	14
5	109243	GASKET-OIL PAN	2	..	..
	*142364	GASKET-OIL PAN	..	2	2
6	109159	GUARD-OIL	1	..	..
	181074	GUARD-OIL	..	1	1
	109160	FELT-OIL GUARD	1	..	1
7	*109158	SEAL-FILLER BLOCK	2	2	1

REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.		
			A	B	C
8	234704	BLOCK-FILLER, REAR	1	..	..
	142372	BLOCK-FILLER, REAR	..	1	1
9	15155	LOCKWASHER-5/16	4	4	4
10	109161	CAPSCREW-5/16 UNC X 2 5/8	2	2	2
11	*109155	GASKET-FILLER BLOCK	2	2	2
12	109154	BLOCK-FILLER, FRONT	1	1	1
13	14519	CAPSCREW-5/16 UNC X 7/8	2	2	2
	159683	OIL PAN GASKET SET	1	1	1

*INCLUDED IN OIL PAN GASKET SET.

OIL PUMP

GAS ENGINE



KEY
 A-FOR F-162 ENGINE.
 B-FOR F-163 ENGINE.
 C-FOR F-163 ENGINE FIRST USED ON ENGINE SERIAL NO. 11038.

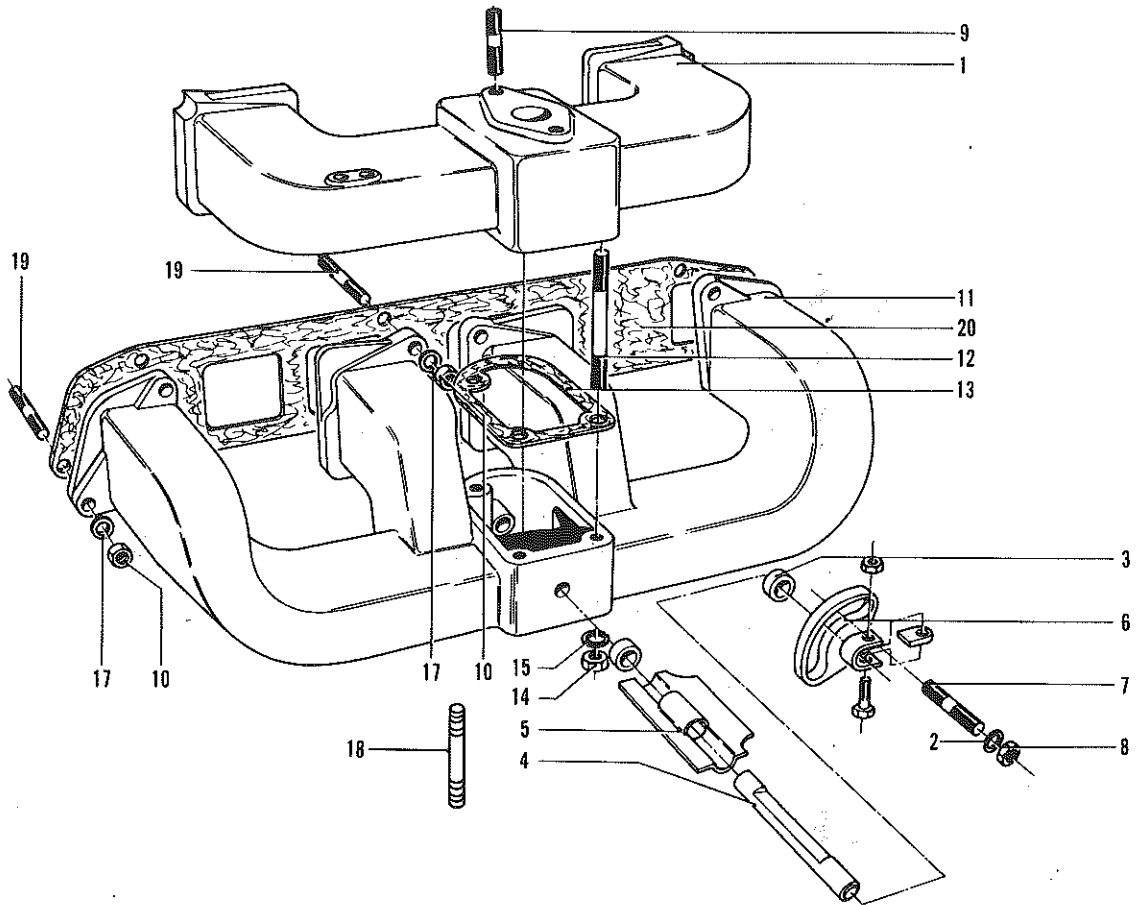
REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.		
			1	2	3 4
	109246	A OIL PUMP	1	1	1
2	*142379	GEAR	1	1	1
3	* 19870	ROLL PIN-3/16 X 7/8	1	1	1
4	109247 A	BODY	1	1	1
5	109252	BUSHING	1	1	1
6	142378	SHAFT-DRIVE	1	1	1
7	* 790	KEY	1	1	1
8	*142380	GEAR-DRIVE	1	1	1
9	*142381	GEAR-IDLER	1	1	1
10	142382	STUD	1	1	1
11	*142383	RING-SNAP	1	1	1
12	*142384	GASKET	1	1	1
13	125588	COVER	1	1	1

REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.		
			1	2	3 4
14	*142385	GASKET	1	1	1
15	109177	FRAME-OIL STRAINER	1	1	1
16	109226	SPACER	1	1	1
17	15154	LOCKWASHER-1/4	6	6	6
18	16378	CAPSCREW-1/4 UNC X 5/8	6	6	6
19	109170	SCREEN	1	1	1
20	88363	STUD	1	1	1
21	15156	LOCKWASHER-3/8	1	1	1
22	15056	NUT-3/8 UNC	1	1	1
23	78696	SPACER-TO MAIN BRG. CAP	1	..	..
24	109251	BUSHING	1	1	1

*INCLUDED IN REPAIR KIT 160441.

INTAKE AND EXHAUST MANIFOLD

GAS ENGINE



KEY
 A-FOR F-162 AND F-163 ENGINES.
 B-FOR F-163 ENGINE FIRST USED ON ENGINE SERIAL NO. 63563.

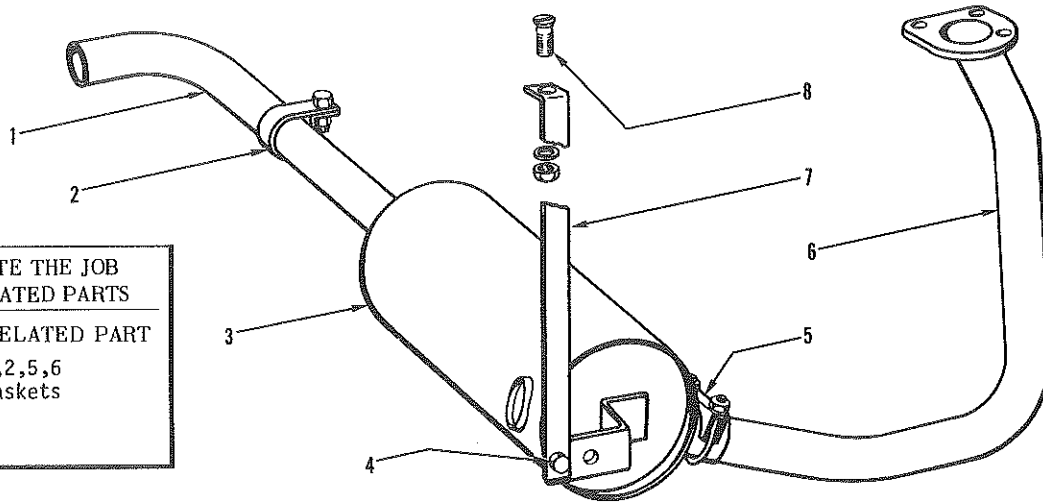
REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.	
			A	B
1	108958	MANIFOLD-INTAKE	1	..
	147785	MANIFOLD-INTAKE AND EXHAUST	..	1
	109282	SCREW-PLUGGING	2	2
	108970	GASKET-SCREW	2	2
2	108955	PLUG-PIPE, 1/8	1	1
	233318	WASHER-1/4	1	..
3	108964	BUSHING-HEAT CONTROL VALVE	2	..
4	108966	SHAFT-HEATER VALVE	1	..
5	108965	VALVE-HEATER	1	..
6	108967	SECTOR-HEATER VALVE	1	..
7	109297	STUD	1	..
8	15054	NUT-1/4 UNC	1	..
9	130077	STUD-CARB. TO MANIFOLD	2	2
10	16526	NUT-3/8 UNC	7	6

REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.	
			A	B
11	108959	MANIFOLD-EXHAUST	1	..
12	108960	STUD-EXHAUST TO INTAKE	3	..
13	108961	GASKET	1	..
14	16526	NUT-3/8 UNC	3	..
15	15920	LOCK WASHER-3/8	3	..
	127448	WASHER-3/8	3	2
17	109277	WASHER-3/8	..	5
	123824	STUD-PIPE TO MANIFOLD	1	1
19	88363	STUD	7	6
	170073	SCREW	..	1
	109277	WASHER-3/8	..	4
20	*109278	GASKET-MOUNTING	1	1

*INCLUDED IN TOP OVERHAUL GASKET SET, SEE PAGE C6.

EXHAUST SYSTEM

FOR B111 AND B11D GAS KARRY KRANES ONLY

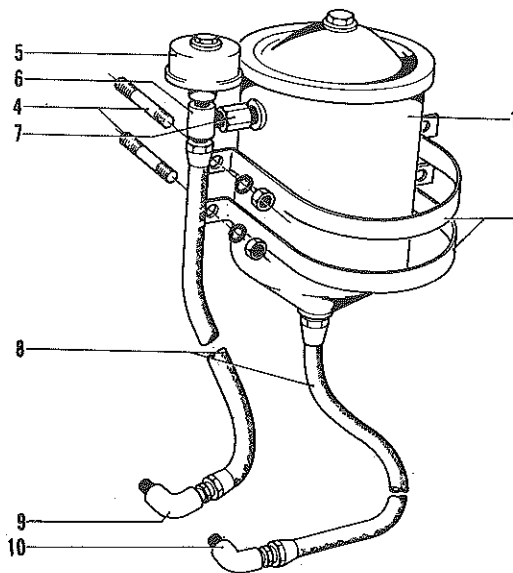


COMPLETE THE JOB WITH RELATED PARTS	
ITEM	RELATED PART
3	1,2,5,6 Gaskets

REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.	REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.
1	108113	PIPE-EXHAUST	1	5	30370	CLAMP-PIPE	1
	38738	CLAMP-PIPE	1	6	108108 W	PIPE-EXHAUST	1
2	123426	CLAMP-PIPE	1	7	108112	BRACKET-MUFFLER	1
3	108111	MUFFLER	1		16512	MACHINE SCREW-3/8 UNF X 1	1
	15513	CAPSCREW-3/8 UNF X 3/4	1	8	15156	LOCKWASHER-3/8	1
4	15156	LOCKWASHER-3/8	1		15006	NUT-3/8 UNF	1
	15006	NUT-3/8 UNF	1				

ENGINE OIL FILTER

GAS ENGINE



COMPLETE THE JOB WITH RELATED PARTS	
ITEM	RELATED PART
Element	Gaskets and Seals

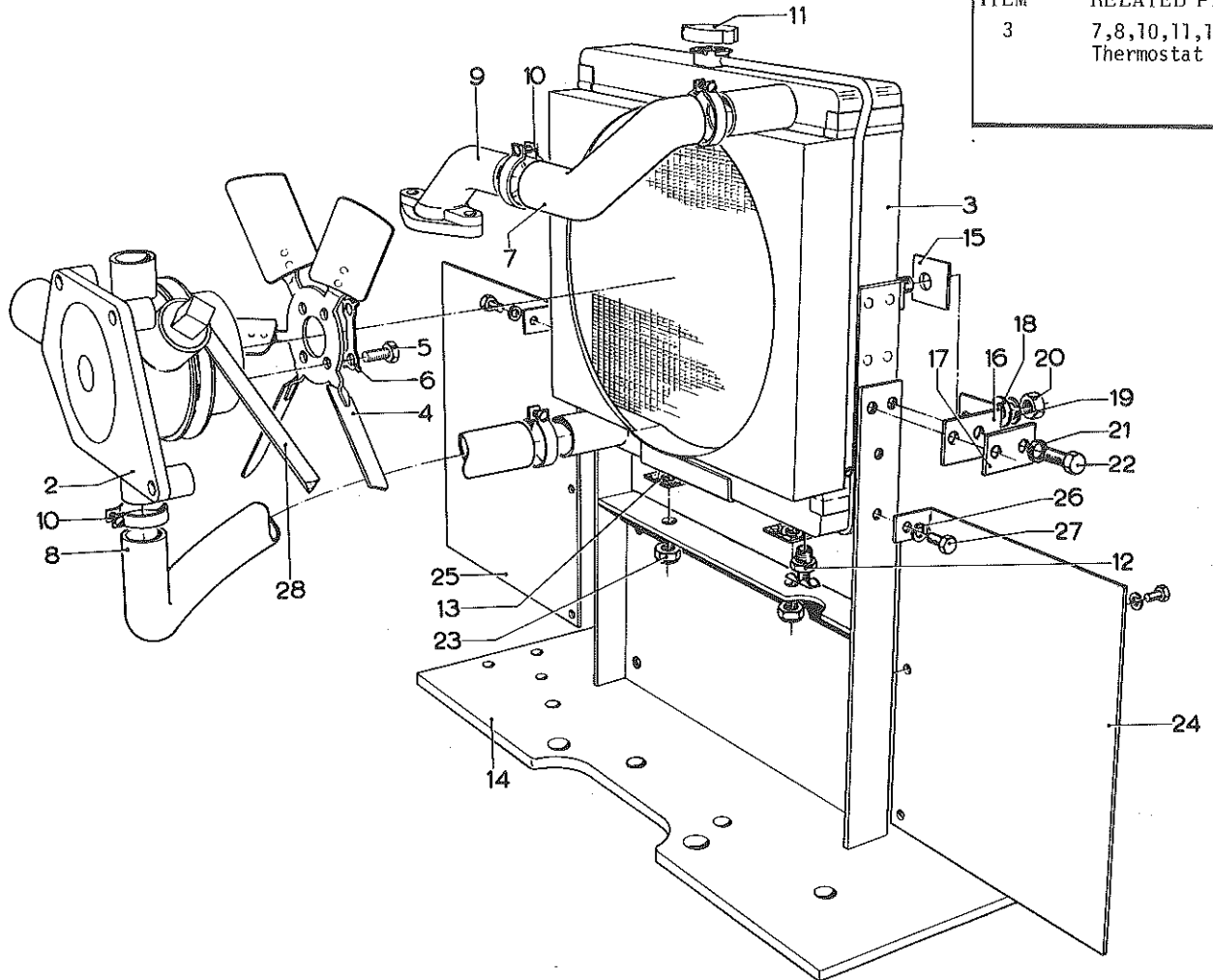
REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.	REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.
1	69623 A	FILTER-ENGINE OIL	1	5	.....	SENDER-OIL PRESSURE, SEE PG. E3	1
	60518	ELEMENT-FILTER	1	6	16199	TEE-MALE	1
	105625	GASKET-COVER	1	7	69607	RESTRICTOR	1
3	200547	STRAP-MOUNTING	2	8	107141	HOSE	2
	123823	STUD-MOUNTING	4	9	16159	ELBOW-MALE	1
4	15155	LOCKWASHER-5/16	4	10	46944	ELBOW-MALE	1
	15055	NUT-5/16 UNC	4				

COOLING SYSTEM

FOR 4-203 DIESEL ENGINE

COMPLETE THE JOB
WITH RELATED PARTS

ITEM	RELATED PART
3	7,8,10,11,12,28 Thermostat

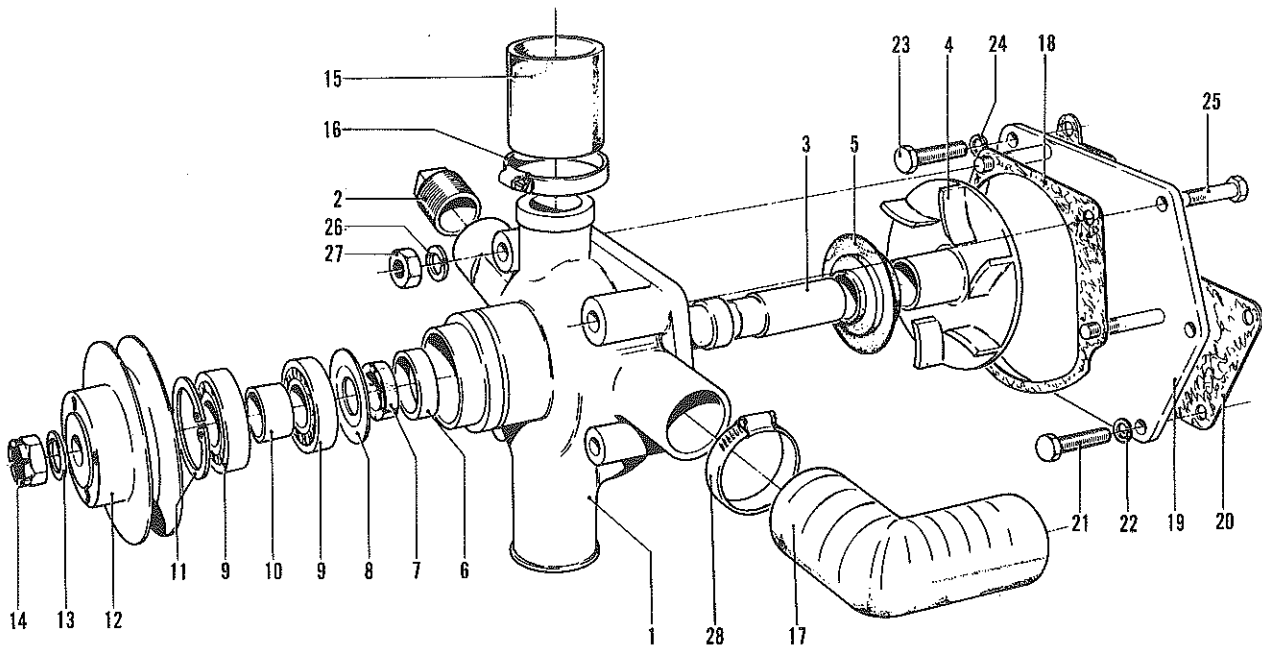


REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.
2	.....	WATER PUMP-SEE PAGE C17	1
3	982071	RADIATOR	1
4	980617	FAN-15 INCH	1
5	16818	CAPSCREW-5/16 UNF X 3/4	4
6	992536	WASHER-TAB	2
7	98322	HOSE-RADIATOR, UPPER	1
8	982031	HOSE-RADIATOR, LOWER	1
9	990943	ELBOW-WATER OUTLET	1
10	18994	CLAMP-HOSE	4
11	106483	CAP-RADIATOR	1
12	12815	COCK-DRAIN	1
13	990768	PAD-RUBBER	2
14	982016 W	BRACKET-RADIATOR MOUNT	1
15	984056	PLATE	2

REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.
16	984055	STRAP-FLEXIBLE	2
17	984057	PLATE	2
18	15135	WASHER-1/2	2
19	15158	LOCKWASHER-1/2	2
20	15058	NUT-1/2 UNC	2
21	15156	LOCKWASHER-3/8	4
22	15623	CAPSCREW-3/8 UNC X 5/8	4
23	17430	NUT-LOCK, 1/2 UNC	2
24	982022	PLATE-SHROUD, L.H.	1
25	982023	PLATE-SHROUD, R.H.	1
26	15154	LOCKWASHER-1/4	6
27	15585	CAPSCREW-1/4 UNF X 1/2	6
28	79853	BELT-FAN	1
	137877	KIT-WATER CONDITIONER, BOX OF 12.	

WATER PUMP

4-203 DIESEL ENGINE



REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.
	151312	WATER PUMP	1
1	982323	BODY-WATER PUMP	1
2	168696	PLUG-BODY	1
3	984468	SHAFT	1
4	982330	IMPELLER	1
5	985506	SEAL-REAR	1
	*125830	SEAL-REAR	1
6	992004	HOUSING-FRONT SEAL	1
7	148496	SEAL-FRONT	1
8	982329	PLATE-FRONT SEAL RETAINING	1
9	124667	BEARING	2
10	982327	SPACER-BEARING	1
11	982328	SNAP RING	1
12	984469	PULLEY-WATER PUMP	1
13	992633	WASHER-NUT	1
14	983331	NUT-PULLEY	1
15	982333	HOSE-BY-PASS	1
16	992839	CLAMP-HOSE	2

REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.
17	982332	HOSE-TO CYL. BLOCK INLET	1
18	982322	GASKET-PUMP TO MOUNT PLATE	1
19	982319 A	PLATE-WATER PUMP MOUNTING	1
20	982321	GASKET-PLATE TO COVER	1
21	985599	CAPSCREW-PLATE TO COVER	2
22	992642	WASHER	2
23	983573	CAPSCREW	2
24	15156	LOCKWASHER-3/8	2
25	983332	CAPSCREW-PLATE TO BODY	1
26	15156	LOCKWASHER-3/8	3
27	17158	NUT-3/8 UNF	3
28	980667	CLAMP-HOSE	2
	985301 A	REPAIR KIT-WATER PUMP W/BRGS.	1

*FIRST USED ON SERIAL NO. 2610964.

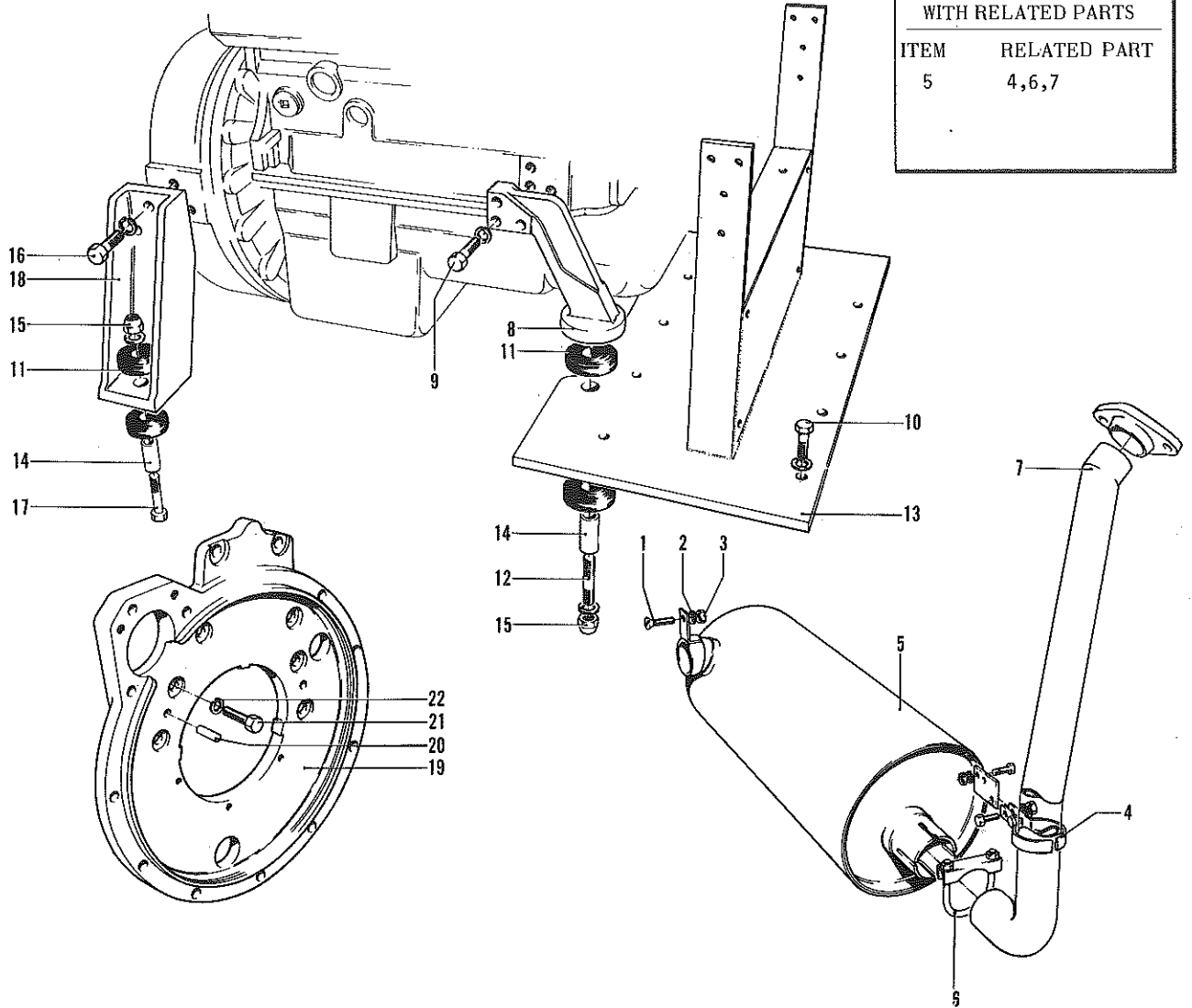
□INCLUDED IN TOP OVERHAUL GASKET SET, SEE PAGE C19.

EXHAUST SYSTEM, ENGINE MOUNTS AND ADAPTOR PLATE

FOR 4-203 DIESEL ENGINE

COMPLETE THE JOB
WITH RELATED PARTS

ITEM	RELATED PART
5	4,6,7



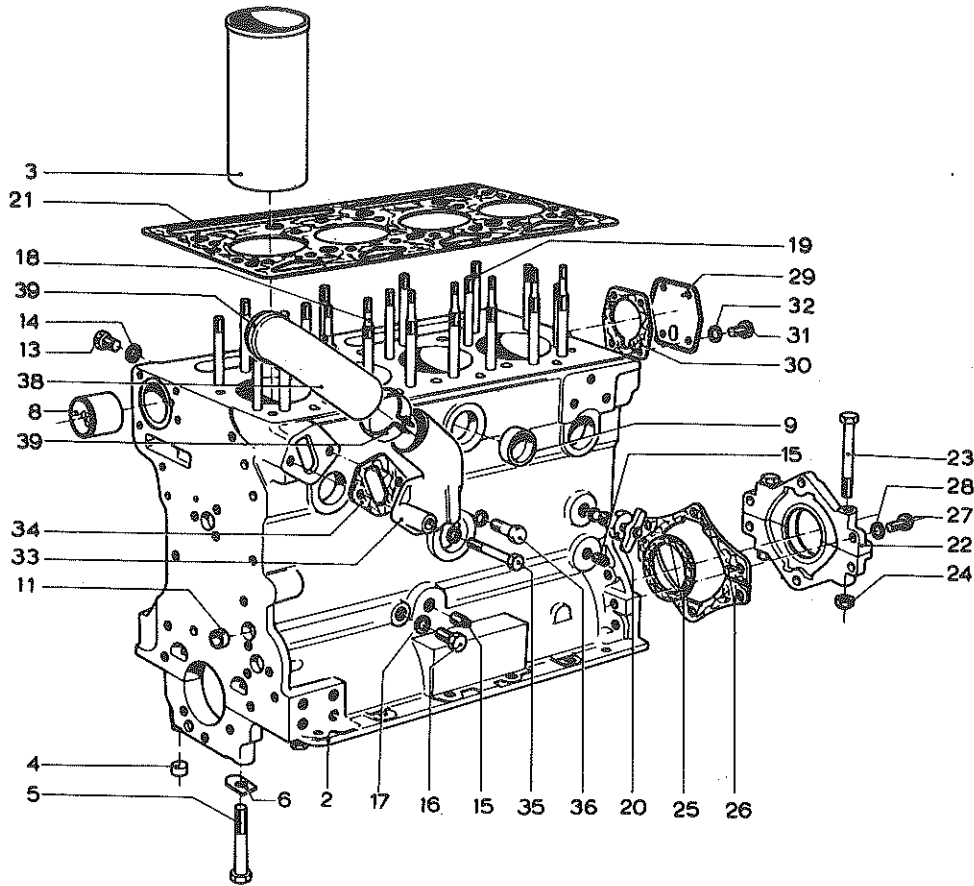
REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.
1	16354	CAPSCREW-1/4 UNF X 3/4	1
2	15154	LOCKWASHER-1/4	1
3	15004	NUT-1/4 UNF	1
4	982060 A	CLAMP-PIPE	1
	984724	PLATE	1
4	15586	CAPSCREW-1/4 UNF X 3/4	2
	15154	LOCKWASHER-1/4	2
	15004	NUT-1/4 UNF	2
5	980430	MUFFLER	1
6	30370	CLAMP	1
7	982043 W	PIPE EXHAUST	1
8	982058	BRACKET-ENGINE MOUNT	2
9	15574	CAPSCREW-1/2 UNF X 1 3/4	3
	15158	LOCKWASHER-1/2	3
	15516	CAPSCREW-1/2 UNF X 2	3
	15927	LOCKWASHER-1/2	3
10	15522	CAPSCREW-3/4 UNF X 2	8
	15162	LOCKWASHER-3/4	8

REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.
11	992412	PAD-RUBBER	8
12	985391	STUD-5/8 X 3 3/4	2
13	982016 W	BRACKET-ENGINE AND RADIATOR	1
14	982041	SPACER	4
15	17405	NUT-LOCK, 5/8 UNF-THIN	4
	15180	WASHER-5/8	4
16	15505	CAPSCREW-5/8 UNC X 1 1/2	6
	15160	LOCKWASHER-5/8	6
17	15597	CAPSCREW-5/8 UNF X 3 1/4	2
18	982003	BRACKET-ENGINE MOUNT	2
19	986121	PLATE-FLYWHEEL HOUSING ADAPTOR	1
	*986438	PLATE-FLYWHEEL HOUSING ADAPTOR	1
20	990666	DOWEL	2
21	99773	CAPSCREW	8
22	15156	LOCKWASHER-3/8	8

*FIRST USED ON ENGINE SERIAL NO. 2614408.

CYLINDER BLOCK

4-203 DIESEL ENGINE



REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.
	986256 A	ENGINE	1
2	151304	CYLINDER BLOCK	1
	15307	PLUG-DRAIN	1
	149679	PLUG	1
3	985564	LINER-CYLINDER	4
4	990332	THIMBLE	10
5	983264	CAPSCREW	10
6	980736	WASHER-TAB	10
	985646	WASHER-SHIM	10
8	982221	BUSHING-CAMSHAFT	1
9	980727	PLUG-WATER JACKET	9
11	990343	PLUG-PRESSURE RAIL	2
13	982209	PLUG	1
14	15155	LOCKWASHER-5/16	1
15	15347	PLUG-DRAIN COCK	1
16	18536	PLUG-EXHAUSTER	1
17	992642	WASHER	1
18	984321	STUD-LONG	8
	*986439	STUD-LONG	8
	985072	STUD-SHORT	10
	* 99589	STUD-SHORT	10
19	985187	STUD	10
	*133543	STUD	10
	985148	GRIP RING	2
20	982211	COCK-DRAIN	1
21	*986419	GASKET-CYLINDER HEAD	1
22	168063	COVER-OIL SEAL	1
23	992999	BOLT	2
24	980910	NUT	2
25	992374	SEAL-CRANK SHAFT	2

REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.
26	992947	GASKET	2
	#133545	GASKET	2
27	983268	CAPSCREW	6
28	15918	LOCKWASHER-5/16	6
29	982238	COVER-CAMSHAFT END	1
30	#982239	GASKET-COVER	1
31	16663	CAPSCREW-5/16 UNF X 5/8	4
32	15155	LOCKWASHER-5/16	6
33	982241	CONNECTION-WATER INLET	1
34	#982240	GASKET-INLET	1
35	18511	CAPSCREW-5/16 UNF X 2	1
36	16691	CAPSCREW-5/16 UNF X 7/8	1
	15155	LOCKWASHER-5/16	2
38	982332	HOSE-FROM WATER PUMP OUTLET	1
39	990597	CLAMP	2
	148182	GASKET SET-BOTTOM OVERHAUL	1
	148183	GASKET SET-TOP OVERHAUL	1

*FIRST USED ON ENGINE NO. 2606694.

#FIRST USED ON ENGINE NO. 2084905.

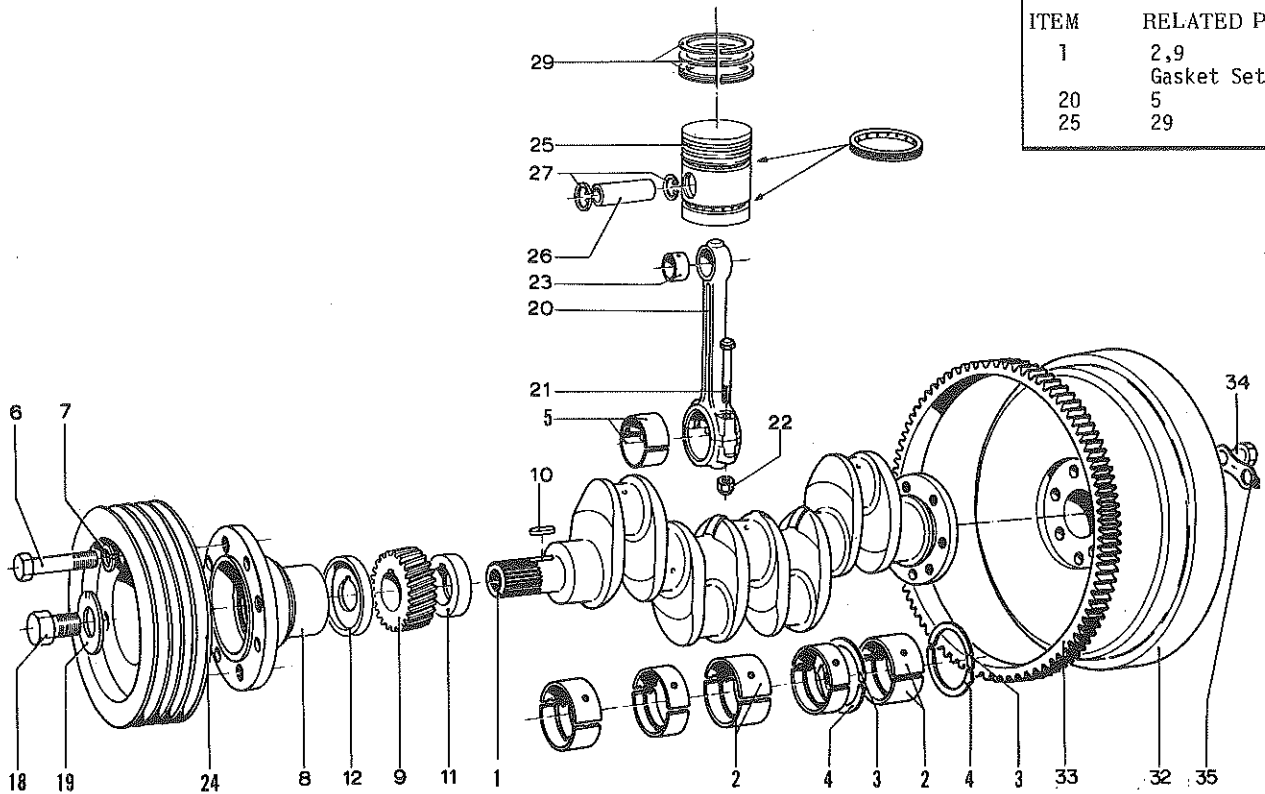
#INCLUDED IN BOTTOM OVERHAUL GASKET SET.

%INCLUDED IN TOP OVERHAUL GASKET SET.

CRANKSHAFT, PISTONS AND FLYWHEEL

4-203 DIESEL ENGINE

COMPLETE THE JOB WITH RELATED PARTS	
ITEM	RELATED PART
1	2,9 Gasket Sets
20	5
25	29



REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.
1	159825	CRANKSHAFT	1
2	985559 A	MAIN BEARING SET-STANDARD	1
	985560 A	MAIN BEARING SET-.010 US	1
	985561 A	MAIN BEARING SET-.020 US	1
	985562 A	MAIN BEARING SET-.030 US	1
3	159828	THRUST WASHER-TOP, STANDARD	1
	130843	THRUST WASHER-TOP, .007 OS	AR
4	130292	THRUST WASHER-BOTTOM, STANDARD	2
	130844	THRUST WASHER-BOTTOM, .007 OS	2
	166183	BEARING-CONN. ROD, STANDARD	4
5	166184	BEARING-CONN. ROD, .010 US	4
	166185	BEARING-CONN. ROD, .020 US	4
	166186	BEARING-CONN. ROD, .030 US	4
	6	15554	CAPSCREW-5/16 UNF X 1	4
7	15155	LOCKWASHER-5/16	4
8	985115	ADAPTER-PULLEY	1
9	982269	GEAR-CRANKSHAFT	1
10	982271	KEY	1
11	982268	SPACER	1
12	985210	FLANGE-OIL THROWER	1

REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.
18	985512	CAPSCREW	1
19	985213	WASHER-TAB	1
20	992988 A	CONNECTING ROD	4
21	980701	BOLT-ROD TO CAP	2
22	176140	NUT	2
23	990409	BUSHING	1
24	982024	PULLEY-CRANKSHAFT	1
25	178439	PISTON-STANDARD	4
26	.....	PIN-PISTON	1
27	990417	RING-RETAINING	2
29	162582	RING SET-PISTON, FOR NEW LINERS	4
	986402-A	RING SET-PISTON } WORN	1
	*986418 A	RING SET-PISTON } LINERS	1
32	147306	FLYWHEEL	1
33	147299	RING-STARTER	1
34	37562	CAPSCREW	6
35	980735	WASHER-TAB	3

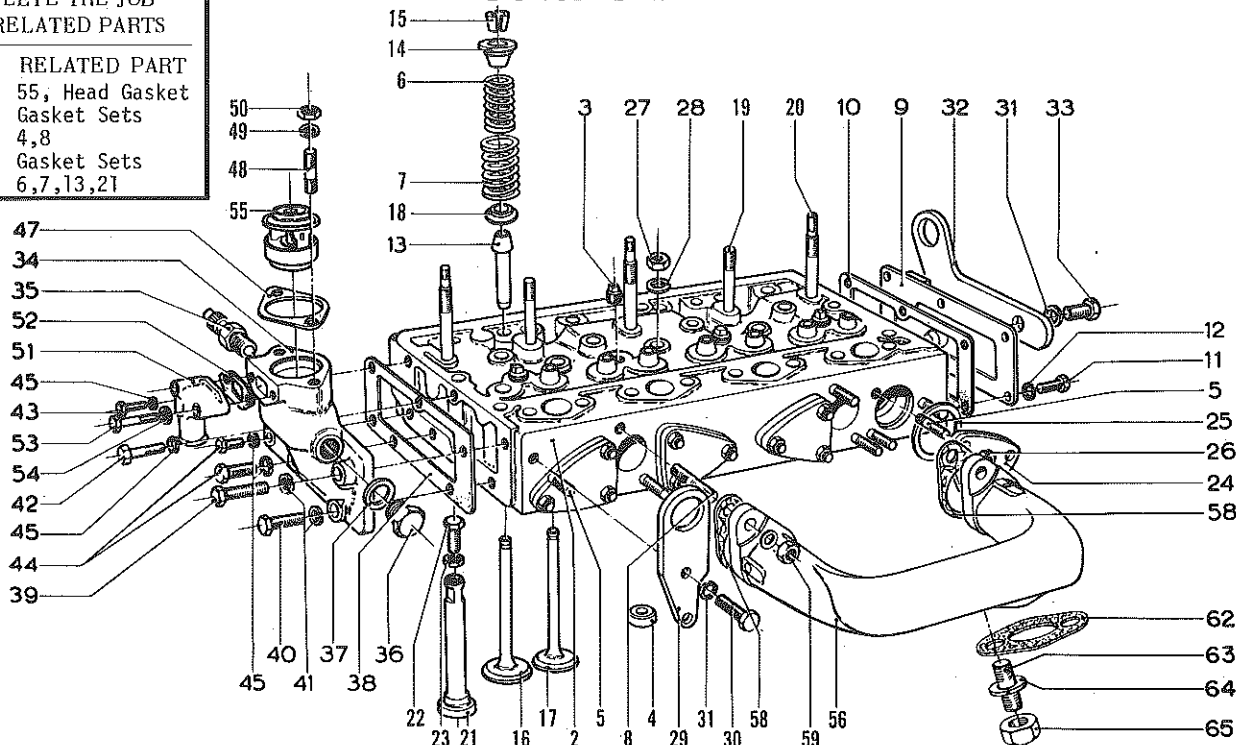
*FIRST USED ON ENGINE NO. 2606630.

CYLINDER HEAD

4-203 DIESEL ENGINE

COMPLETE THE JOB WITH RELATED PARTS

ITEM.	RELATED PART
2	55, Head Gasket Gasket Sets
3	4,8 Gasket Sets
16,17	6,7,13,21



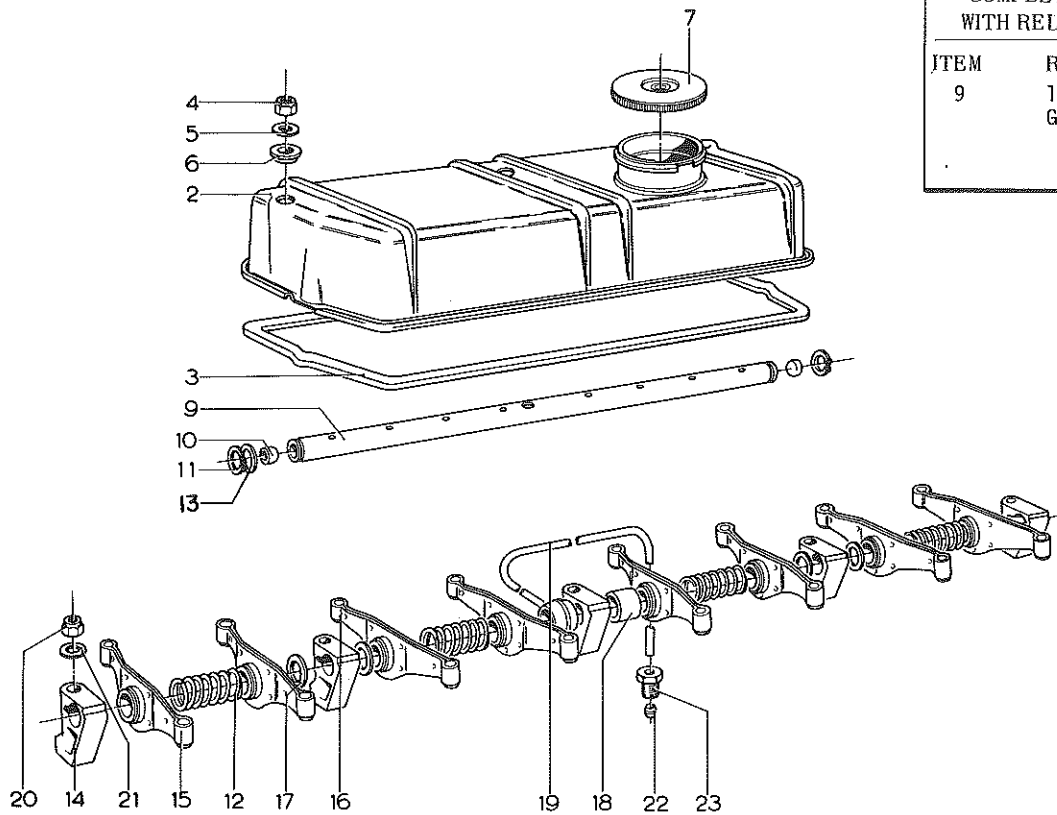
REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.
	170896	CYLINDER HEAD	1
2	152178	INSERT-IN TAKE VALVE	4
	152179	INSERT-EXHAUST VALVE	4
3	980726	PLUG-WATER JACKET	4
4	982343	PLUG-WATER PORT	3
5	983273	STUD-COMBUSTION CHAMBER CAP	12
	985588	STUD-COMBUSTION CHAMBER CAP	12
6	990357	SPRING-VALVE, INNER	8
7	990356	SPRING-VALVE, OUTER	8
8	983276	STUD-HEAD TO EXHAUST MANIFOLD	4
	983770	STUD-HEAD TO EXHAUST MANIFOLD	4
9	982344	COVER-REAR	1
	145584	COVER-REAR	1
10	983248	GASKET-COVER	1
11	984581	CAPSCREW	1
	983283	SETSCREW	4
12	15154	LOCKWASHER-1/4	6
13	985145	GUIDE-INLET AND EXHAUST VALVE	8
	990355	GUIDE-VALVE	8
14	990358	CAP-VALVE SPRING RETAINING	8
15	990359	KEEPER-CAP RETAINING, PAIRS	8
16	170901	VALVE-INLET	4
17	170902	VALVE-EXHAUST	4
18	985146	WASHER-VALVE SPRING LOCATING	8
	992525	WASHER-VALVE SPRING LOCATING	8
19	983274	STUD-SHORT } ROCKER SHAFT	2
20	983275	STUD-LONG } BRACKET	3
21	980751	TAPPET	8
22	980748	SCREW-TAPPET ADJUSTING	8
23	992829	LOCKNUT-TAPPET	8
24	984067 A	CAP-COMBUSTION CHAMBER	4
25	986083	GASKET-CAP	4
26	17158	NUT	12
27	17159	NUT-HEAD RETAINING	19
28	992632	WASHER	1
29	985595	PLATE-LIFTING, FRONT	1
30	16696	CAPSCREW-3/8 UNF X 7/8	2
31	15156	LOCKWASHER-3/8	3
	990379	PLATE-LIFTING, REAR	1
32	145581	PLATE	1
	145582	BRACKET	1

REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.
33	983280	CAPSCREW	1
	16372	CAPSCREW-3/8 UNF X 1/2	1
34	985639	BODY-CYLINDER HEAD WATER OUTLET	1
35	.....	SENDER-WATER TEMPERATURE	1
	16116	FITTING-SENDER	1
36	992025	PLUG	1
37	992647	WASHER-PLUG	1
38	990373	GASKET-WATER OUTLET	1
39	983281	CAPSCREW-LONG	1
40	99773	CAPSCREW-SHORT	1
41	101985	WASHER	2
42	985147	CAPSCREW-TOP	1
43	983283	CAPSCREW-TOP	1
44	984581	CAPSCREW-BOTTOM	2
45	15154	WASHER	4
47	991441	GASKET	1
48	991440	STUD-OUTLET CONNECTION	2
	16814	CAPSCREW-3/8 UNF X 1 1/2	2
49	15156	LOCKWASHER-3/8	2
50	17158	NUT-3/8 UNF	2
51	982348	CONNECTION-WATER OUTLET	1
52	982349	GASKET	1
53	983285	CAPSCREW-WATER OUTLET	2
54	15155	WASHER	2
55	151570	THERMOSTAT	1
56	982183	MANIFOLD-EXHAUST	1
58	991427	GASKET-MANIFOLD	2
59	165870	NUT	4
	992629	WASHER	4
62	991431	GASKET-OUTLET FLANGE	1
63	983287	STUD-FLANGE	2
64	992630	WASHER	2
65	983288	NUT	2

*FIRST USED ON ENGINE SERIAL NO. 2621850.
 □LAST USED ON ENGINE SERIAL NO. 2621849.
 #FIRST USED ON ENGINE SERIAL NO. 2619020.
 @FIRST USED ON ENGINE NO. 203U16031.
 %FIRST USED ON ENGINE SERIAL NO. 203U15986.
 &INCLUDED IN TOP OVERHAUL GASKET SET, SEE PAGE C19.

CYLINDER HEAD COVER AND ROCKER SHAFT

4-203 DIESEL ENGINE



COMPLETE THE JOB
WITH RELATED PARTS

ITEM	RELATED PART
9	12,15,16 Gasket Sets

REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.
2	982337 A	COVER-CYLINDER HEAD	1
3	*982340	GASKET	1
4	983344	NUT	3
5	983255	WASHER	3
6	981633	WASHER-RUBBER	3
7	982341	CAP-FILLER	1
9	983296 A	ROCKER SHAFT	1
	992370	SHAFT-ROCKER	1
10	990429	PLUG-END	2
11	990438	SNAP RING	2
12	991461	SPRING	4
13	990430	SHIM	AR
14	992368	BRACKET-SHAFT	5

REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.
15	980744	LEVER-ROCKER, R.H.	4
16	980743	LEVER-ROCKER, L.H.	4
17	991462	SPACER-SHORT	4
18	991463	SPACER-LONG	1
19	982309	PIPE-OIL FEED	1
20	983623	NUT	5
21	992630	WASHER	5
22	51455	SLEEVE	1
23	982201	NUT	1

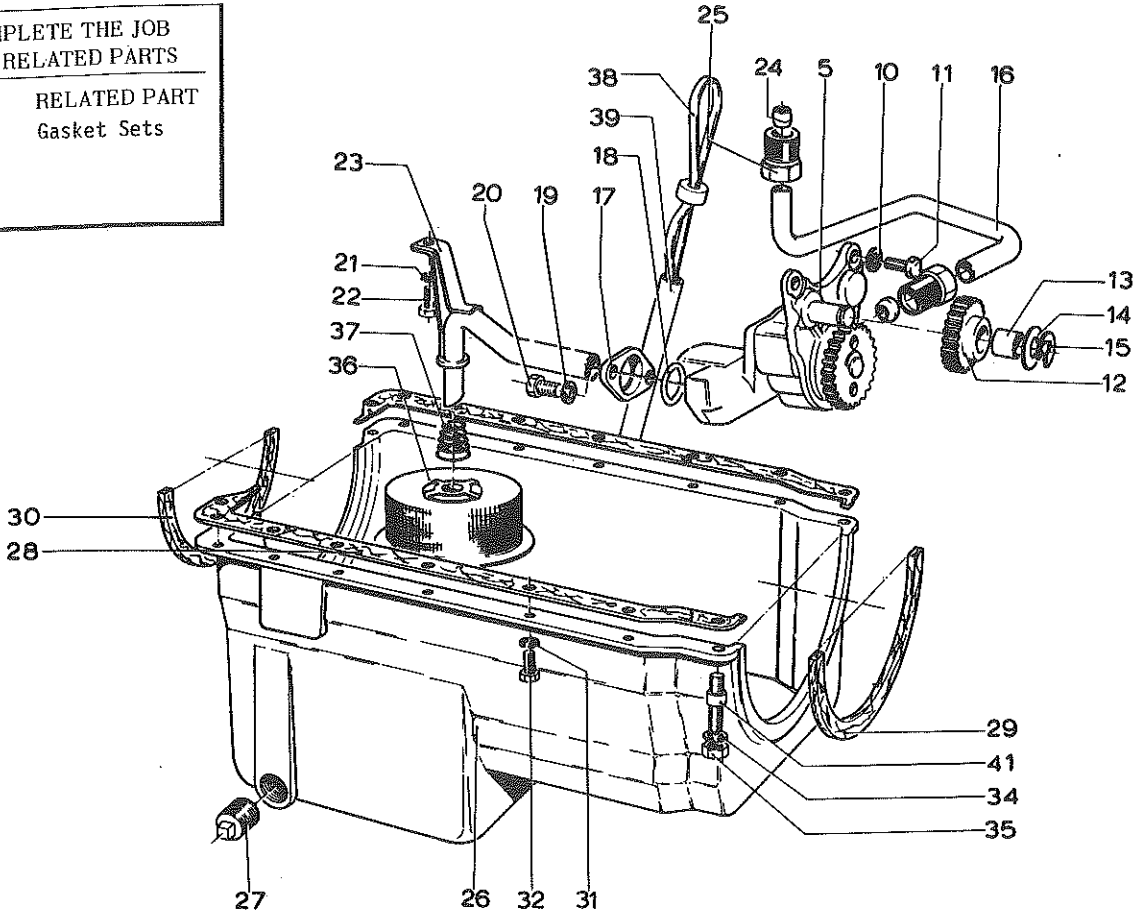
*INCLUDED IN TOP OVERHAUL GASKET SET, SEE PAGE C19.

OIL PAN AND PUMP

4-203 DIESEL ENGINE

COMPLETE THE JOB
WITH RELATED PARTS

ITEM	RELATED PART
26	Gasket Sets



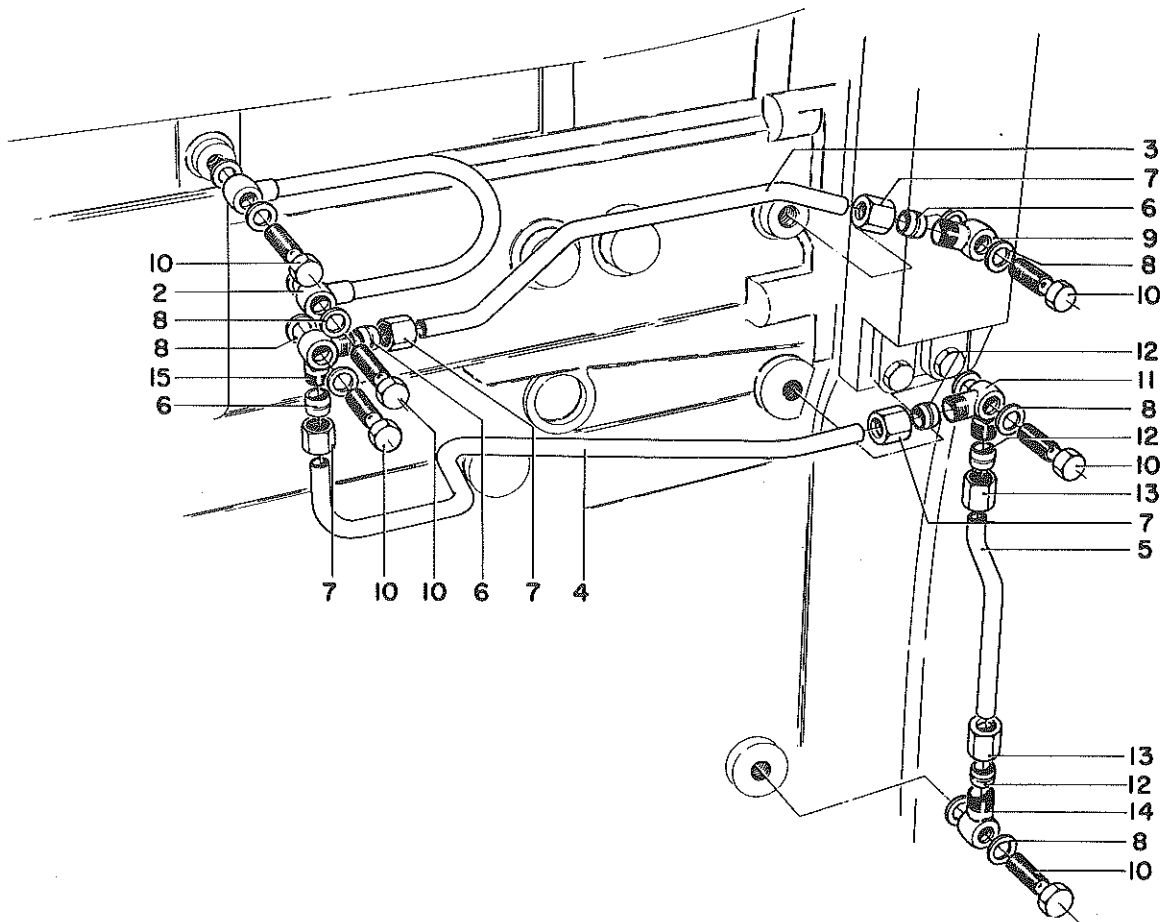
REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.
5	168338	PUMP-OIL	1
	167826	PLUNGER	1
	167825	SPRING	1
	982286	CAP	1
	982287	PIN	1
	152612	O-RING	1
10	15918	LOCKWASHER-5/16	3
11	16818	CAPSCREW-5/16 UNF X 3/4	3
12	983326	GEAR-IDLER	1
13	982291	BUSHING	1
14	983327	WASHER	1
15	982292	CLIP-RETAINER	1
16	984102	PIPE-DELIVERY	1
17	982298	FLANGE-SUCTION PIPE	1
18	982299	SEAL	1
19	15155	LOCKWASHER-5/16	2
20	16818	CAPSCREW-5/16 UNF X 3/4	2
21	15154	LOCKWASHER-1/4	1
22	18858	CAPSCREW-1/4 UNF X 1/2	1
23	982168 A	PIPE-SUCTION	1

REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.
24	982302	SLEEVE	2
25	984336	NUT	2
26	982171	SUMP-OIL	1
27	15303	PLUG-DRAIN	1
28	*982314	GASKET	2
29	*982317	GASKET-FRONT	1
30	*152611	GASKET-REAR	1
31	15155	LOCKWASHER-5/16	14
32	16818	CAPSCREW-5/16 UNF X 3/4	14
34	15155	LOCKWASHER-5/16	2
35	15005	NUT-5/16 UNF	2
36	982315	STRAINER-OIL SUMP	1
37	982316	SPRING	1
38	982178 A	DIPSTICK-OIL	1
39	984106	TUBE-DIPSTICK	1
	985154	WASHER	1
41	983308	STUD	2

*INCLUDED IN BOTTOM OVERHAUL GASKET SET, SEE PAGE C19.

LUBE OIL PIPING

4-203 DIESEL ENGINE



REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.
2	171673	PIPE-CAMSHAFT CHAMBER TO HEAD	1
3	982237	PIPE-CHAMBER TO NO. 1 BEARING	1
4	982233	PIPE-IDLER GEAR TO CHAMBER	1
5	982230	PIPE-PRESSURE RAIL TO IDLER GEAR	1
6	51455	SLEEVE	4
7	16193	NUT	4
8	992645	WASHER-SEAL	12

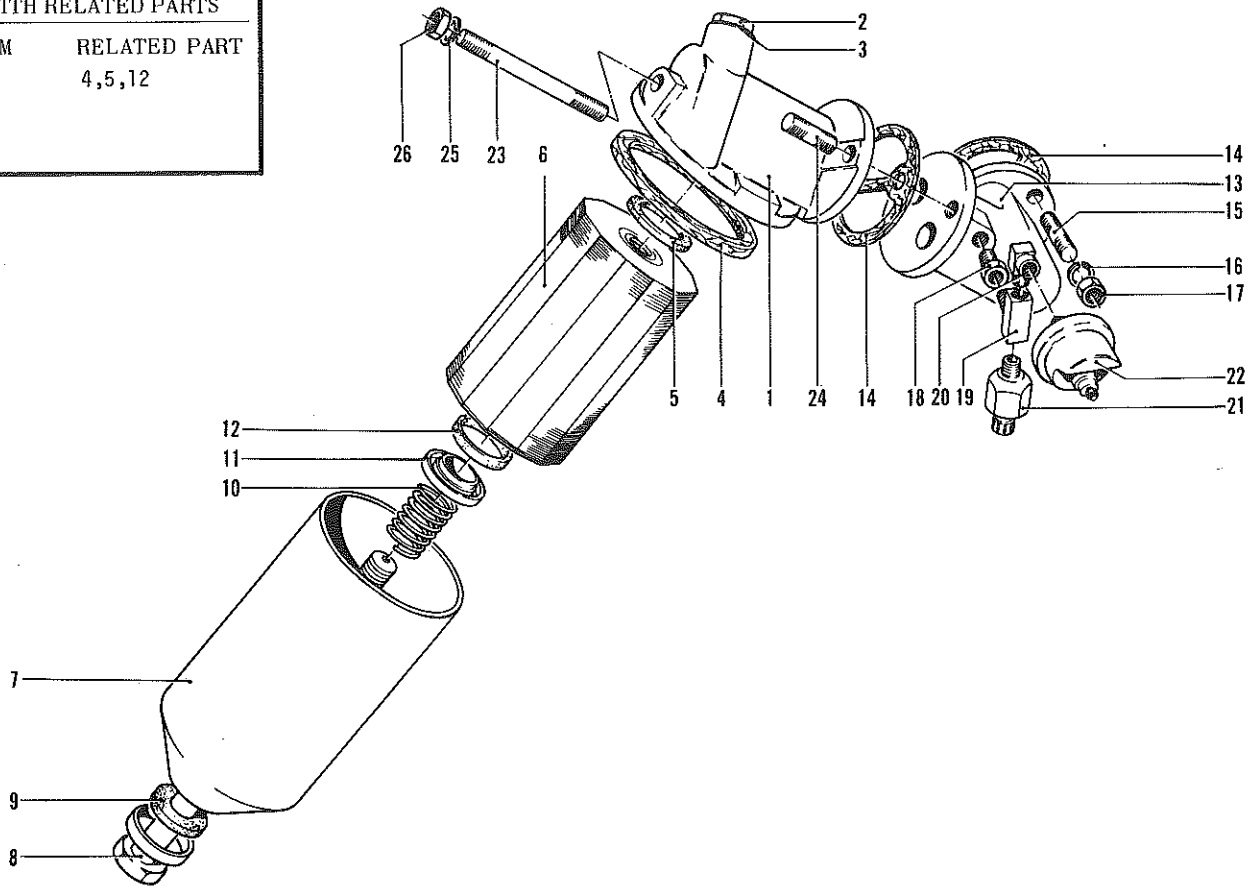
REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.
9	982236	FITTING	1
10	983319	BOLT	5
11	982234	CONNECTOR	1
12	16114	SLEEVE	2
13	16118	NUT	2
14	982231	FITTING	1
15	982235	CONNECTOR	1

LUBE OIL FILTER

4-203 DIESEL ENGINE

COMPLETE THE JOB
WITH RELATED PARTS

ITEM	RELATED PART
6	4,5,12



REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.
	982318 A	FILTER	1
1	983556 A	COVER	1
2	983557	PLUG-RELIEF VALVE	1
3	983558	WASHER	1
	983559	SPRING	1
4	983560	BALL	1
	983561	GASKET-COVER	1
5	983563	SEAL-ELEMENT, TOP	1
6	985233	ELEMENT	1
7	983564 A	CONTAINER	1
8	983566	BOLT	1
9	983567	WASHER-SEAL	1
10	983477	SPRING-PRESSURE	1
11	983569	RETAINER-ELEMENT	1
12	983563	SEAL-ELEMENT, LOWER	1
13	*982181	ADAPTER	1
14	□982182	GASKET	2

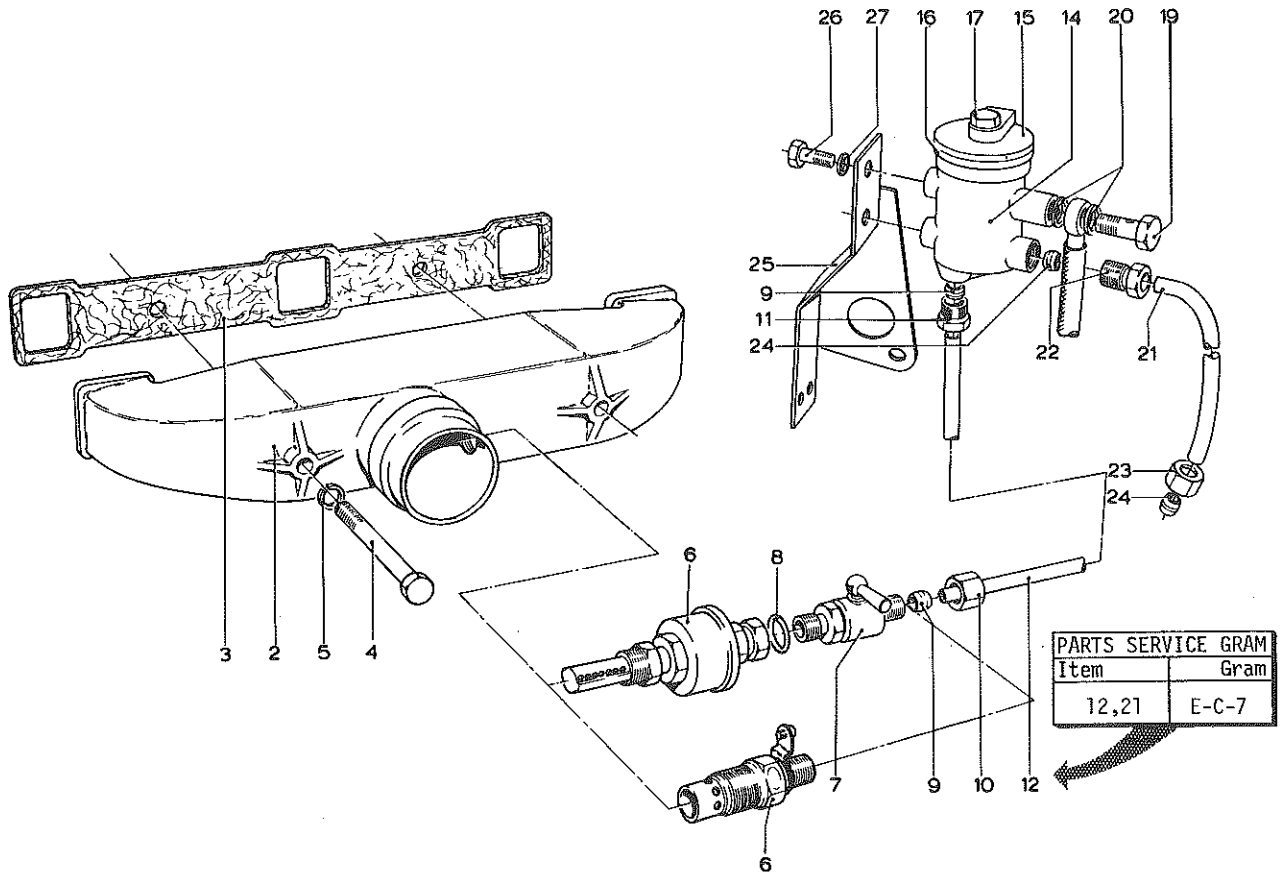
REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.
15	*983273	STUD	2
16	* 15156	LOCKWASHER-3/8	2
17	* 17158	NUT-3/8 UNF	2
18	* 16187	BUSHING	1
19	* 16199	TEE-1/8 PIPE	1
20	* 16151	ELBOW	1
21	.....	SENDER-HOUR METER	1
22	.....	SENDER-OIL PRESSURE	1
23	983570	STUD-FILTER TO ADAPTER, 5	1
24	983571	STUD-FILTER TO ADAPTER, 1 3/16	1
25	15156	LOCKWASHER-3/8	2
26	17158	NUT-3/8 UNF	2

*LAST USED ON SERIAL NO. B11E-2135.

□INCLUDED IN BOTTOM OVERHAUL GASKET SET, SEE PAGE C19.

INTAKE MANIFOLD AND COLD STARTING EQUIPMENT

4-203 DIESEL ENGINE



REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.
2	*982184	MANIFOLD-INTAKE	1
	985514	MANIFOLD-INTAKE	1
3	&991475	GASKET	1
4	18571	CAPSCREW	2
5	985075	WASHER	2
6	*982335	HEATER-COLD STARTING	1
	986104	HEATER-COLD STARTING	1
7	*982336	COCK-COLD STARTING	1
8	*980685	WASHER-COCK	1
9	* 51455	SLEEVE	2
	@#152608	SLEEVE	2
10	* 16193	NUT	1
	@#152609	NUT	1
11	*982201	NUT	1
	@#152621	NUT	1
	*982199	PIPE-COLD STARTING	1
12	985516 A	PIPE-COLD STARTING	1
	#168345	PIPE-COLD STARTING	1
14	158114	CONTAINER-COLD STARTING	1
	□158760	CONTAINER	1
	148474	CAP-CONTAINER	1
15	□158115	CAP-CONTAINER	1
	□158116	SCREW-CAP RETAINING	3
	148475	WASHER	1
16	982197	GASKET-CAP	1
17	982198	VALVE-CHECK	1
	983791	COVER-DUST	1

REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.
19	982951	BOLT-FITTING	1
20	79803	WASHER	2
21	982200	PIPE-LEAK-OFF, NO. 1 ATOMISER	1
	#168349	PIPE-LEAK-OFF, NO. 1 ATOMISER	1
22	982201	CONNECTION	1
	@#152621	NUT	1
23	152609	NUT	1
24	51455	SLEEVE	2
	@#152608	SLEEVE	2
25	982194	BRACKET-CONTAINER	1
26	18858	CAPSCREW	2
27	15154	WASHER	2

*LAST USED ON ENGINE NO. 2602577.

□FIRST USED ON ENGINE NO. 203U2007.

#FIRST USED ON ENGINE NO. 203U6597.

@INCLUDED WITH 168349 LEAK-OFF PIPE.

□INCLUDED WITH 168345 COLD STARTING PIPE.

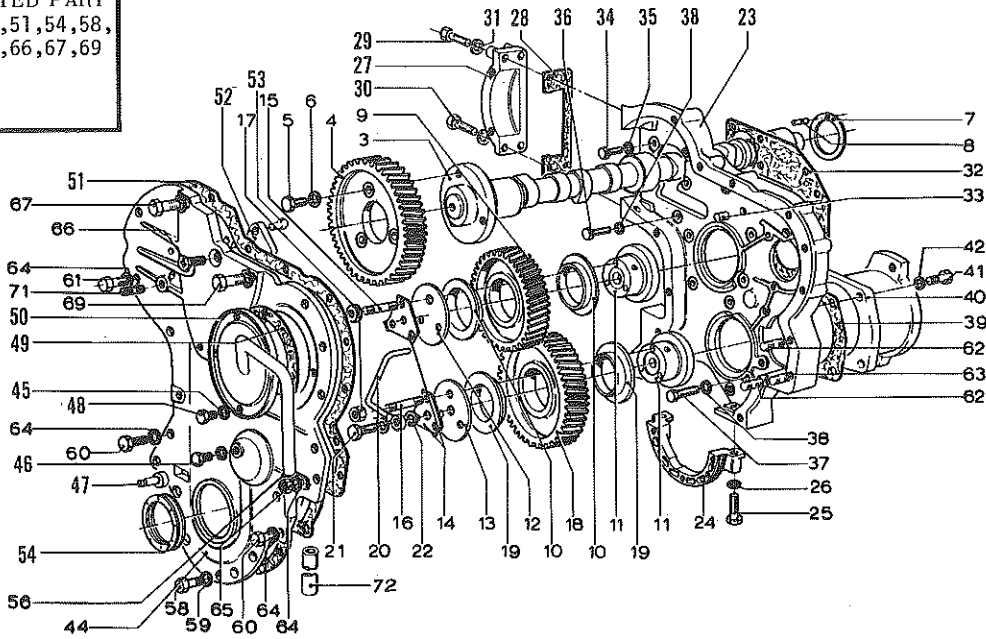
&INCLUDED IN TOP OVERHAUL GASKET SET, SEE PAGE C19.

TIMING GEAR

4-203 DIESEL ENGINE

COMPLETE THE JOB
WITH RELATED PARTS

ITEM	RELATED PART
44	46,48,51,54,58, 60,61,66,67,69



REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.
3	982217	CAMSHAFT	1
4	982218	GEAR-CAMSHAFT	1
5	16818	CAPSCREW-5/16 UNF X 3/4	3
6	15155	LOCKWASHER-5/16	3
7	982219	PLATE-CAMSHAFT THRUST	1
8	982220	PIN-LOCATING	1
9	983483 A	GEAR-IDLER, W/BUSHINGS-UPPER	1
10	983484	BUSHING	2
11	982222	HUB-IDLER GEAR	2
12	982226	PLATE-RETAINING, UPPER	1
13	982225	PLATE-RETAINING, LOWER	1
14	983553	WASHER-TAB	2
15	983301	STUD-PLATE, UPPER	3
16	983300	STUD-PLATE, LOWER	3
17	17158	NUT-3/8 UNF	6
18	985149 A	GEAR-IDLER, W/BUSHINGS	1
19	983484	BUSHING	2
20	982227 A	PIPE-IDLER GEAR OIL	1
21	983321	BOLT-FITTING	1
22	983322	WASHER	2
23	982157	HOUSING-TIMING GEAR	1
24	982247	COVER-BOTTOM	1
25	983305	CAPSCREW	2
26	15155	LOCKWASHER-5/16	2
27	982245	COVER-POWER TAKE-OFF	1
28	982246	GASKET	1
29	985616	CAPSCREW	2
30	986092	CAPSCREW	2
31	992641	WASHER	4
32	982243	GASKET-HOUSING TO CYL. BLOCK	1
33	982244	DOWEL	2
34	983956	CAPSCREW-HOUSING TO CYL. BLOCK	4
35	15918	LOCKWASHER-5/16	4
	133546	SHIM	4

REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.
36	16691	CAPSCREW-5/16 UNF X 7/8, HOUSING TO CYLINDER BLOCK	10
37	983311	CAPSCREW	1
38	15155	LOCKWASHER-5/16	11
39	172267	GASKET-HYD. PUMP DRIVE ADAPTOR	1
40	.....	ADAPTOR-HYD. PUMP, SEE PAGE C28	1
41	.....	CAPSCREW-SEE PAGE C28	4
42	.....	LOCKWASHER-SEE PAGE C28	4
	985150 A	COVER-TIMING GEAR	1
	*151241	COVER-TIMING GEAR	1
44	982250	COVER-TIMING GEAR	1
	985207	COVER-TIMING GEAR	1
	a	COVER-TIMING GEAR	1
	a 985599	STUD-TIMING GEAR HOUSING	1
45	983313	WASHER	5
46	982259	CAPSCREW-FRONT COVER PLUG	5
47	985208	PIN-TIMING	1
	983313	WASHER-TIMING PIN	1
48	982259	CAPSCREW	4
49	982265	GASKET	1
	985612	COVER-INJECTION PUMP GEAR	1
50	#992025	PLUG-COVER	1
	986475	WASHER-PLUG SEAL	1
51	982251	GASKET-FRONT COVER TO HOUSING	1
52	*985613	PLATE-CAMSHAFT THRUST	1
53	*990520	RIVET	2
54	985117	SEAL-OIL	1
	982266	SEAL-OIL	1
56	985190	CLIP-PIPE	1
58	15553	CAPSCREW-5/16 UNC X 3/4	5
59	985299	WASHER	5
60	983555	CAPSCREW	6

TIMING GEAR

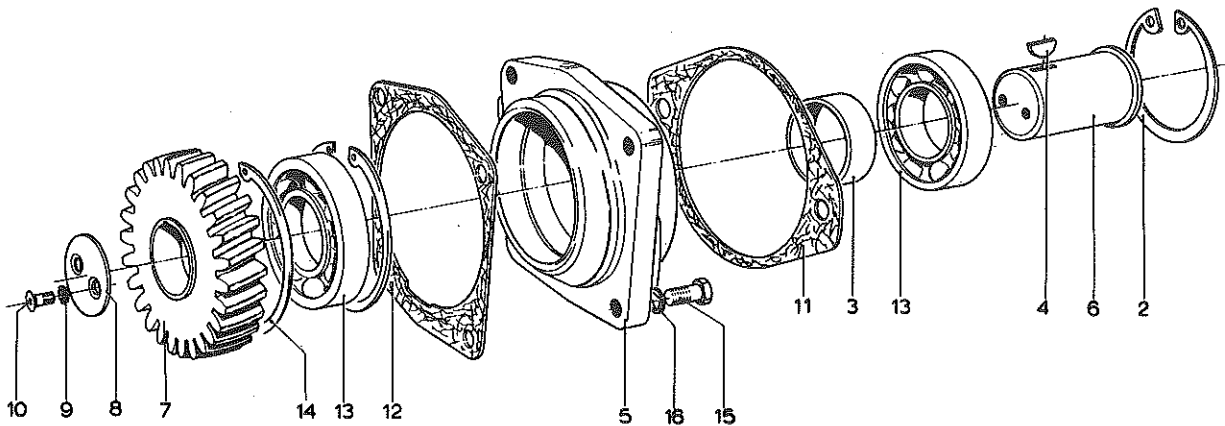
4-203 DIESEL ENGINE

REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.	
			1	2
61	985616	CAPSCREW	1	
62	985640	STUD-HOUSING TO COVER	2	
63	983316	STUD	1	
64	15155	LOCKWASHER-5/16	10	
65	15005	NUT-5/16 UNF	3	
66	983554	CAPSCREW	1	
67	983573	CAPSCREW-WATER PUMP MOUNT	2	
	15156	LOCKWASHER-3/8	2	
69	985599	CAPSCREW-WATER PUMP MOUNT	2	
	992642	WASHER	2	
71	984017	STUD-GENERATOR ADJUSTING LINK	1	
72	127854	HOSE	1	
	130845	CLAMP	1	
	0982258	PLUG-CAMSHAFT THRUST--NOT ILL.	1	

REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.	
			1	2
		*FIRST USED ON ENGINE SERIAL NO. 2602591.		
		#FOR ENGINE NO. 2601788 TO 2602590 INCL.		
		#FIRST USED ON ENGINE SERIAL NO. 2625791		
		%FIRST USED ON ENGINE SERIAL NO. 2601788.		
		@FIRST USED ON ENGINE SERIAL NO. 2611773.		
		&INCLUDED IN BOTTOM OVERHAUL GASKET SET, SEE PAGE C19.		

DRIVE - HYDRAULIC PUMP

4-203 DIESEL ENGINE



KEY

A--LAST USED ON SERIAL NO. B11E-2135.

B--FIRST USED ON SERIAL NO. B11A-1501 AND B11E-2136.

REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.	
			A	B
2	984564	SNAP RING	1	..
	986408	SNAP RING	..	1
3	984562	SPACER-BEARING	1	..
4	990628	KEY	1	..
	9477	KEY	..	1
5	984556	ADAPTER-PUMP DRIVE	1	..
	986403	ADAPTER-PUMP DRIVE	..	1
6	984558	SHAFT	1	..
	986407	SHAFT	..	1
7	984559	GEAR	1	..
	986404	GEAR	..	1

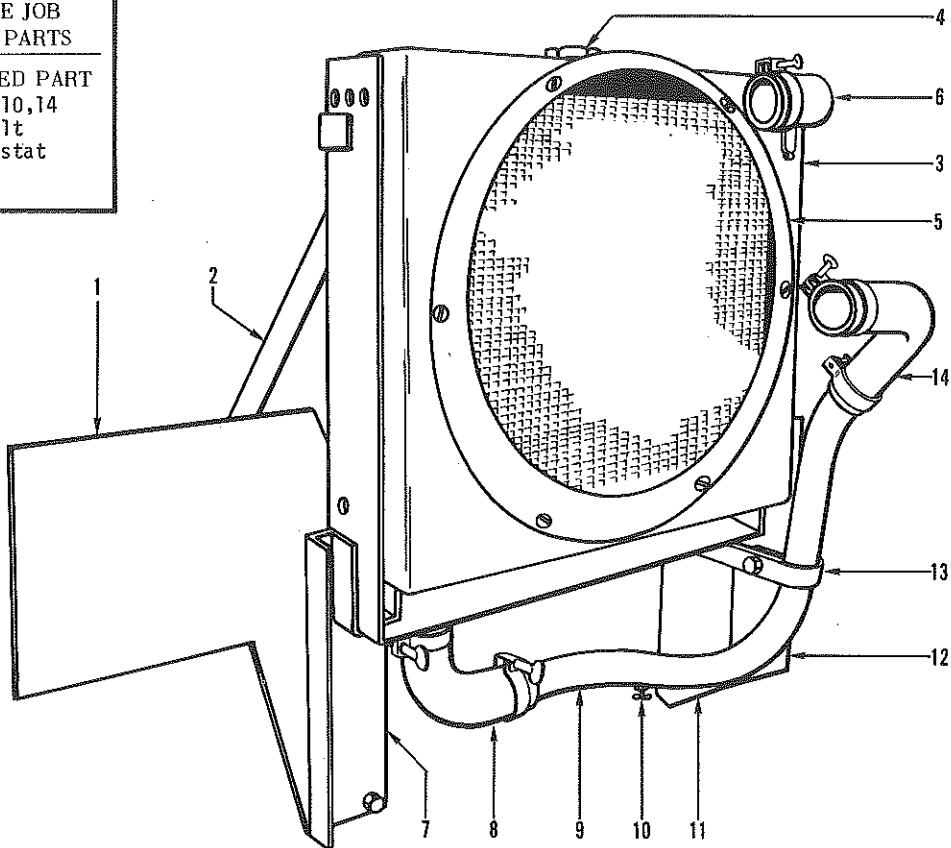
REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.	
			A	B
8	985152	PLATE-CLAMPING	1	1
9	15914	LOCKWASHER-1/4	2	2
10	985153	CAPSCREW	2	2
11	984557	GASKET-PUMP TO ADAPTER	1	..
	986409	GASKET-PUMP TO ADAPTER	..	1
12	172267	GASKET-ADAPTER TO HOUSING	1	1
13	984563	BEARING	1	..
	43207	BEARING	..	1
14	986406	SNAP RING	..	2
15	982158	CAPSCREW-ADAPTER TO HOUSING	4	4
16	15155	LOCKWASHER	4	4

COOLING SYSTEM

FOR P-4 DIESEL ENGINE

COMPLETE THE JOB
WITH RELATED PARTS

ITEM	RELATED PART
3	4,6,8,10,14 Fan Belt Thermostat

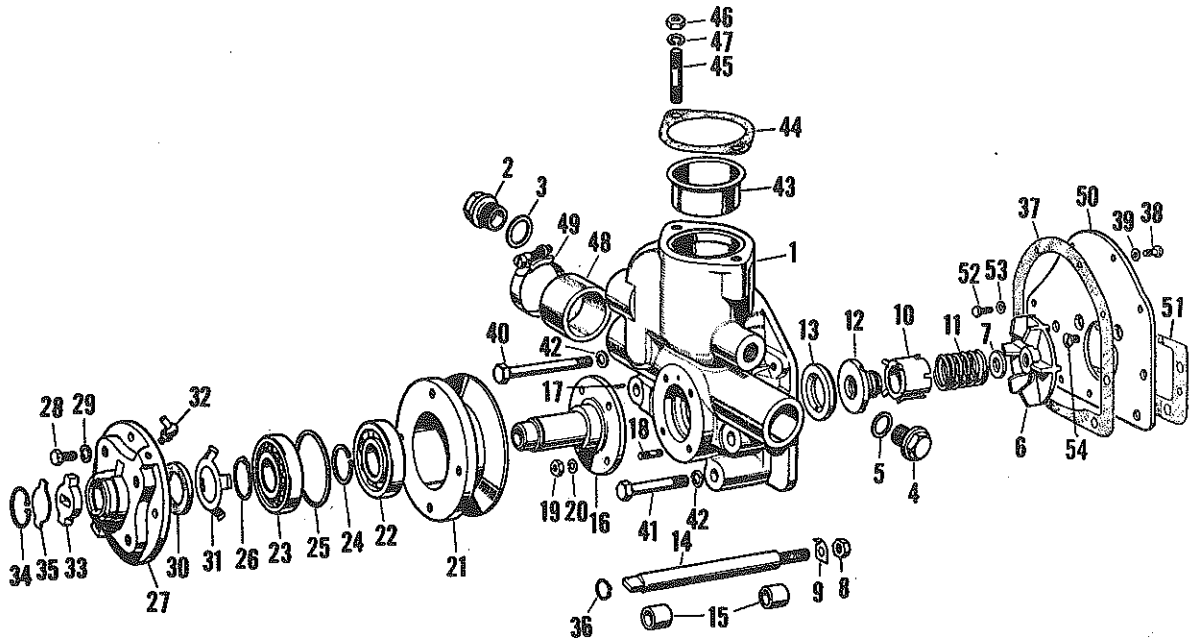


REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.
		1 2 3 4	
1	981196	PLATE-SHROUD, R.H.	1
	980047	BRACKET-RADIATOR	2
2	15518	CAPSCREW-3/8 UNF X 7/8	4
	15156	LOCKWASHER-3/8	4
	15006	NUT-3/8 UNF	4
3	980045	A RADIATOR	1
4	106483	CAP-RADIATOR, 7LB.	1
	980046	RING-RADIATOR	1
5	16712	MACHINE SCREW-10/32 UNF X 3/8	6
	15002	NUT-10/32 UNF	6
	15152	LOCKWASHER-10/32	6
6	980055	ELBOW-RUBBER	1
	18994	CLAMP-HOSE	2
	980048	PLATE-ANGLE, R.H.	1
7	15518	CAPSCREW-3/8 UNF X 7/8	2
	15156	LOCKWASHER-3/8	2
	15006	NUT-3/8 UNF	2
8	980274	ELBOW-RUBBER	1
	18994	CLAMP-HOSE	2

REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.
		1 2 3 4	
9	980052	PIPE	1
10	12815	COCK-DRAIN	1
	980049	PLATE-ANGLE, L.H.	1
	15518	CAPSCREW-3/8 UNF X 7/8	1
11	15508	CAPSCREW-3/8 UNF X 1	1
	15156	LOCKWASHER-3/8	2
	15006	NUT-3/8 UNF	2
12	980051	PLATE-SHROUD, L.H.	1
	109783	GROMMET	1
	980635	CLAMP	1
13	15586	CAPSCREW-1/4 UNF X 3/4	1
	15154	LOCKWASHER-1/4	1
	15004	NUT-1/4 UNF	1
14	980054	ELBOW-RUBBER	1
	18999	CLAMP-HOSE	2
	137877	KIT-WATER CONDITIONER, BOX OF 12	2

WATER PUMP

P-4 DIESEL ENGINE



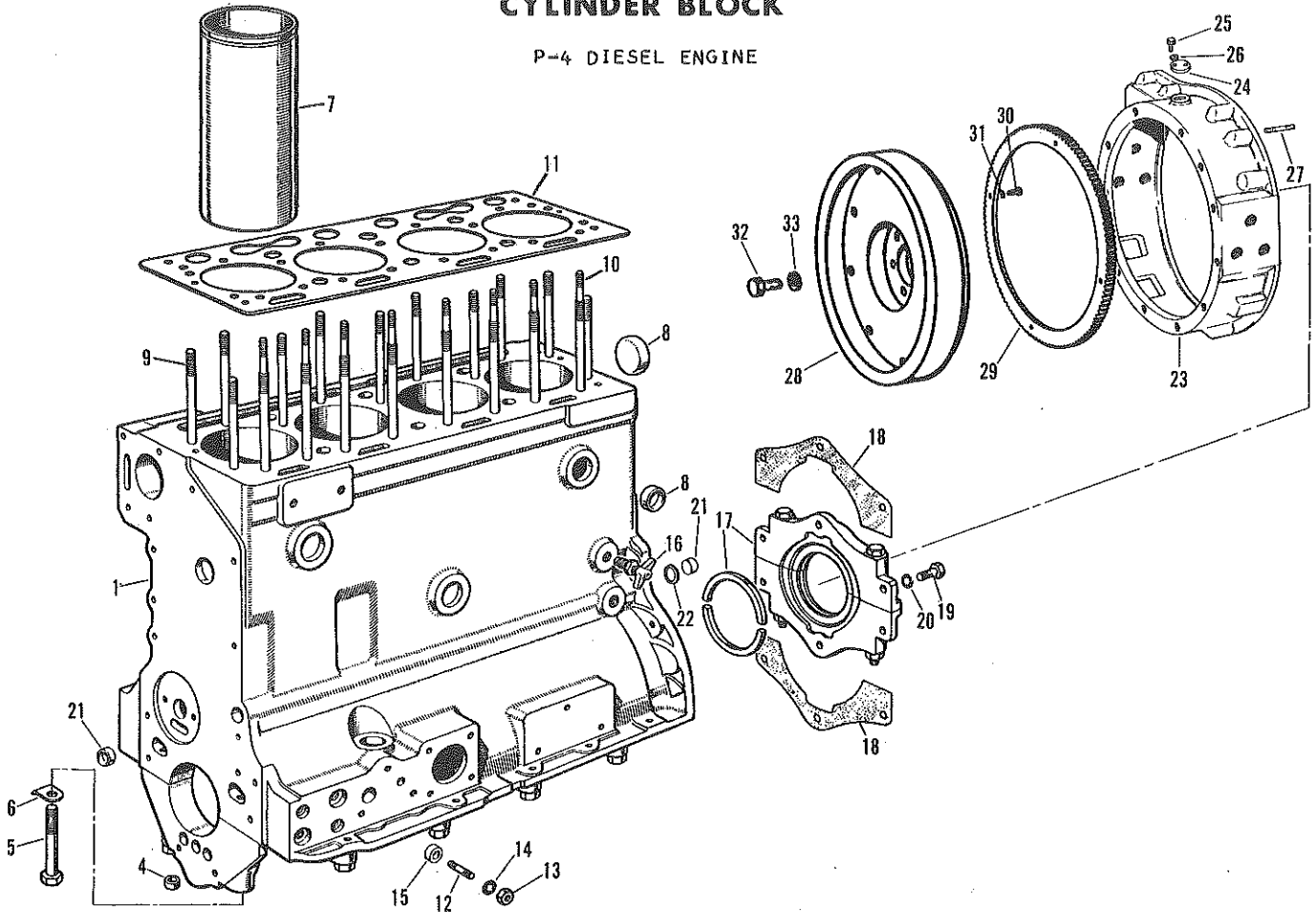
REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.
1	980631 A	WATER PUMP	1
	991804	BODY-WATER PUMP	1
2	991705	PLUG-HEATER	1
3	992648	WASHER-PLUG	1
4	.....	SENDER UNIT-WATER TEMPERATURE	1
5	992647	WASHER	2
6	991659	IMPELLOR	1
7	991805	SPACER	1
	991671	SHIM	AR
8	992599	NUT-IMPELLOR	1
9	992527	WASHER	1
10	991674	TUBE-DRIVING	1
11	991673	SPRING	1
12	991669	SEAL	1
13	991668	PAD-THRUST, CARBON	1
14	991672	SHAFT-WATER PUMP	1
15	991653	BUSHING-SHAFT	2
16	991806	BRACKET-PULLEY SUPPORT	1
17	991807	DOWEL	1
18	991808	STUD	4
19	992602	NUT	4
20	992636	WASHER-SPRING	4
	.....	LOCKWIRE	2
21	980615	PULLEY-WATER PUMP	1
22	991650	BEARING-BALL	1
23	991651	BEARING-ROLLER	1
24	991810	SPACER-INNER	1
25	991811	SPACER-OUTER	1
26	990693	SNAP RING	1
27	991812	END COVER-PULLEY	1
	980616	SCREW-PULLEY END COVER	4

REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.
28	992568	CAPSCREW-COVER TO PULLEY	4
29	992636	LOCKWASHER	4
30	991670	SEAL	1
31	991814	RETAINER	1
32	991815	NIPPLE-GREASE	1
33	991654	CONNECTION-BAKELITE	1
34	991657	SNAP RING-COVER PLATE	1
35	991816	COVER PLATE-PULLEY	1
36	991456	SNAP RING	1
37	991817	GASKET-BODY TO MOUNTING	1
38	992705	CAPSCREW	3
39	992637	LOCKWASHER	3
40	992575	CAPSCREW-LONG	1
41	992571	CAPSCREW-SHORT	2
42	992640	WASHER-COPPER	3
43	981635	THERMOSTAT	1
	*151570	THERMOSTAT	1
44	991441	GASKET-OUTLET CONNECTION	1
45	991887	STUD-OUTLET	2
46	992599	NUT	2
47	992637	LOCKWASHER	2
48	991818	HOSE	1
49	980667	CLAMP-HOSE	2
50	991820	PLATE-WATER PUMP MOUNTING	1
51	990373	GASKET-PLATE TO HEAD	1
52	992557	CAPSCREW-PLATE TO HEAD	3
53	.....	WASHER	3
54	992585	SCREW-PLATE TO HEAD	2
	980252	BELT-GENERATOR & WATER PUMP	1

*FIRST USED ON ENGINE SERIAL NO. 203U8911.

CYLINDER BLOCK

P-4 DIESEL ENGINE



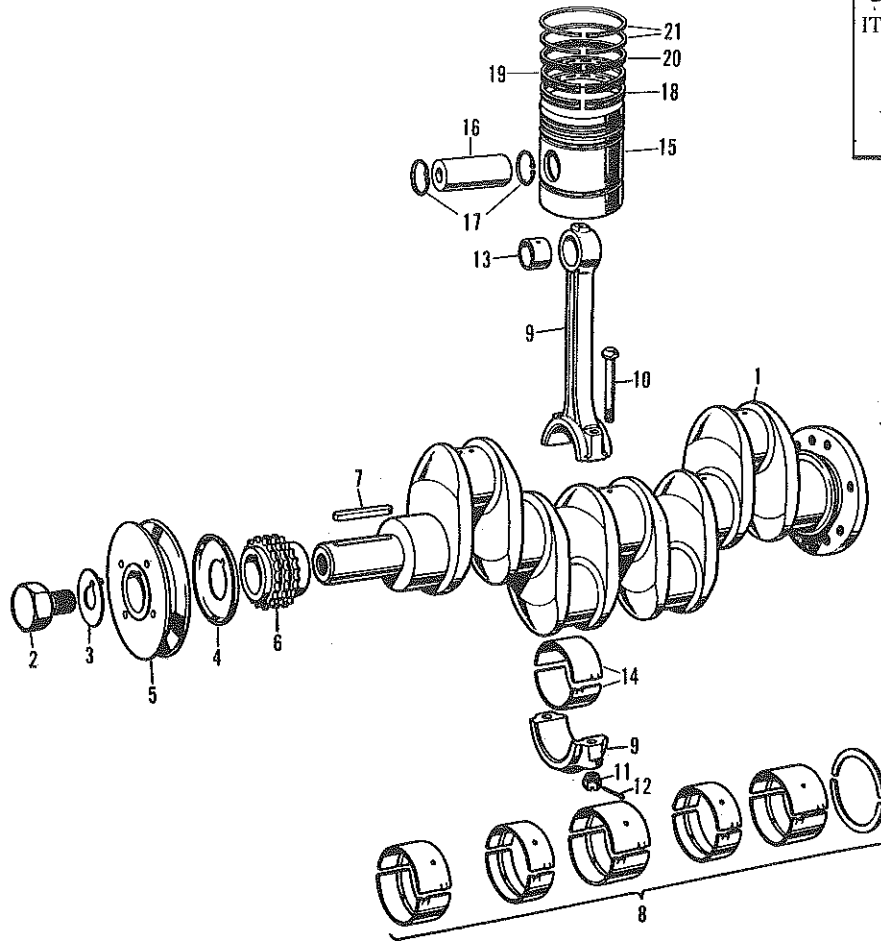
REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.
	992447 A	ENGINE-COMplete	1
1	980808 A	CYLINDER BLOCK-WITH BRG. CAPS	1
	990335	PLUG-CAMSHAFT END	1
	990330	DOWEL-MAIN BEARING, TOP	5
	990331	DOWEL-MAIN BEARING, BOTTOM	4
4	990332	THIMBLE-BEARING CAP	10
5	980730	CAPSCREW-BEARING CAP	10
6	*980736	WASHER-TAB	10
7	990333	LINER-CYLINDER	4
8	980727	PLUG-WATER JACKET	7
9	990336	STUD-CYLINDER HEAD, SHORT	11
	990337	STUD-CYL. HEAD & ATOMISER, LONG	8
10	992531	NUT-CYLINDER HEAD	19
	992632	WASHER-CYLIND HEAD NUT	19
11	991419	GASKET-CYLINDER HEAD	1
12	991420	STUD-FRONT ENGINE BRACKET	8
13	992600	NUT-BRACKET	8
14	992639	WASHER	8
15	990332	THIMBLE-BRACKET	4
16	990339	DRAIN COCK-1/4	1
17	992372 A	COVER-CRANKSHAFT, REAR END	1
	992374	SEAL-OIL	2
	990341	BOLT-COVER	2
	992690	NUT	2
18	980717	GASKET-CRANKSHAFT REAR COVER	2
19	992566	CAPSCREW-REAR END COVER TO BLK.	6
20	992657	LOCKWASHER	6
21	990343	PLUG-PRESSURE RAIL, FRONT & REAR	2
22	992643	WASHER-PLUG	1

REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.
	991214	HOUSING-FLYWHEEL	1
	992016	PLATE-FLYWHEEL HOUSING ADAPTER	1
23	992017	STUD-ADAPTER TO BLOCK, TOP	2
	992018	STUD-ADAPTER TO BLK., MIDDLE TOP	2
	992720	CAPSCREW-ADAPTER TO FLY. HOUSING	4
	992637	WASHER	6
24	991215	COVER-TIMING HOLE	1
25	15551	CAPSCREW-1/4 UNC X 1/2	2
26	15154	LOCKWASHER-1/4	2
	990667	STUD	1
27	992508	CAPSCREW-CLUTCH TO FLYWHEEL	8
	992637	WASHER-CLUTCH TO FLYWHEEL	8
	992209	FLYWHEEL	1
28	124672	BEARING-PILOT	1
	45642	SNAP RING	1
29	990663	GEAR-RING, 122 TEETH	1
30	980774	CAPSCREW	4
31	992636	WASHER	4
32	980775	CAPSCREW-FLYWHEEL TO CRANKSHAFT	6
	.....	LOCKWIRE	4
33	992633	WASHER	6
	991422	BODY-BREATHER	1
	991423	PLUG-BREATHER BODY	1
	990346	GASKET-BREATHER BODY	NOT ILL. 1
	990511	STUD	4
	992598	NUT	4
	992653	WASHER	4
	148191	GASKET SET-BOTTOM OVERHAUL	1
	148190	GASKET SET-TOP OVERHAUL	1

*LAST USED ON ENGINE SERIAL NO. 2624981.
 #FOR COMPLETE OVERHAUL SET INCLUDE SETS 148191, 148190 AND GASKET 991468-PAGE C34.

CRANKSHAFT AND PISTONS

P-4 DIESEL ENGINE

COMPLETE THE JOB
WITH RELATED PARTS

ITEM	RELATED PART
1	6,8 Gasket Sets
9	14
15	18,19,20,21

REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.
1	980711	CRANKSHAFT	1
2	.....	DOG-STARTING	1
3	.....	WASHER	1
4	990385	FLANGE-OIL BAFFLE	1
5	980602	FLANGE-CRANKSHAFT PULLEY	1
	980060	PULLEY-CRANKSHAFT	1
5	992539	CAPSCREW-5/16 BSF X 7/8	4
	15918	LOCKWASHER-5/16	4
6	990386	SPROCKET-CRANKSHAFT	1
7	991932	KEY-SPROCKET	1
8	986126 A	MAIN BRG. SET-STANDARD	1
	991445 A	MAIN BRG. SET-.010 U.S.	1
	991446 A	MAIN BRG. SET-.020 U.S.	1
	991447 A	MAIN BRG. SET-.030 U.S.	1
9	138578	MAIN BRG. SET-UNBORED	1
9	990407 A	CONNECTING ROD	4
10	980701	BOLT	2
11	980719	NUT	2

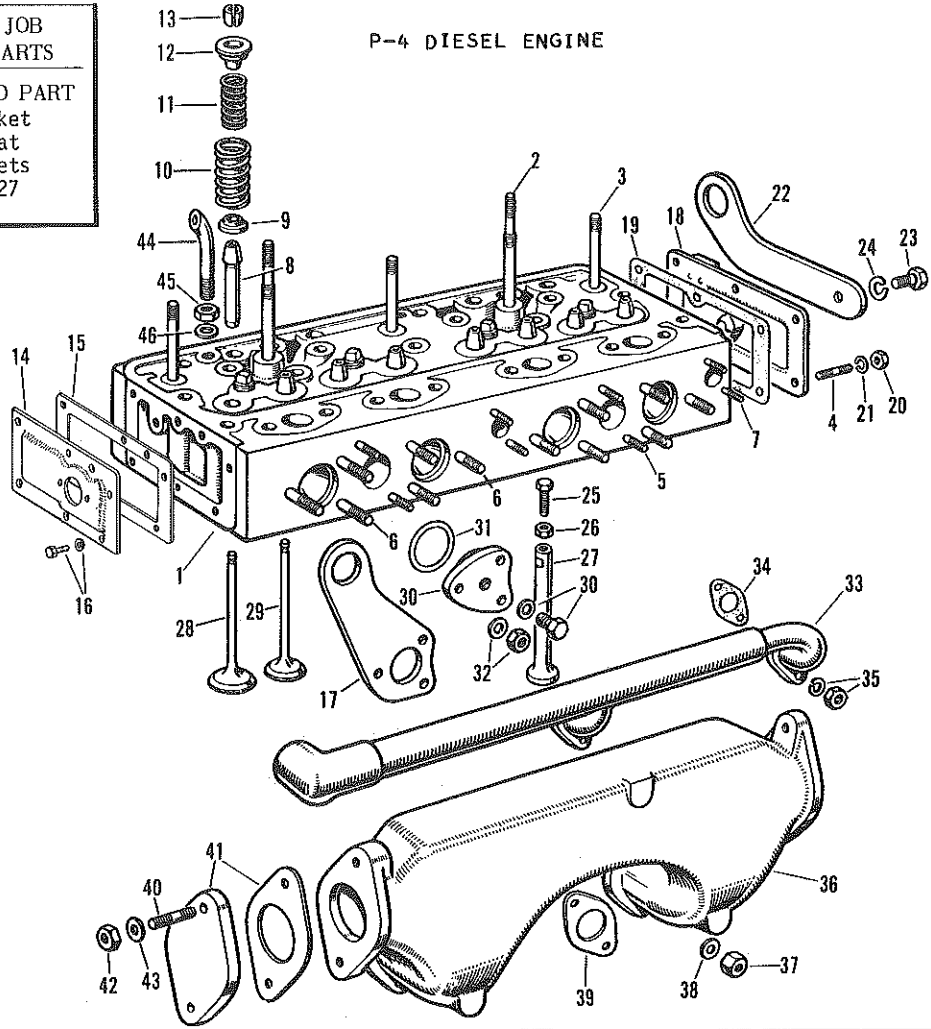
REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.
12	992685	COTTER	2
13	990409	BUSHING	1
14	990410 A	CONN. ROD BRG. STANDARD	2
	990411 A	CONN. ROD BEARING-.010 U.S.	8
	990412 A	CONN. ROD BEARING-.020 U.S.	8
15	990413 A	CONN. ROD BEARING-.030 U.S.	8
	990415 A	PISTON-STANDARD	4
15	991929	PISTON-.030 O.S.	4
16	990416	PIN-PISTON	1
17	990417	SNAP RING	2
18	990421	RING-SLOTTED SCRAPER, STD.	4
	991888	RING-SLOTTED SCRAPER, .030 O.S.	4
19	991453	RING-SCRAPER, STD.	4
	991889	RING-SCRAPER, .030 O.S.	4
	990419	RING-LAMINATED COMP., STD.	16
20	991890	RING-LAMINATED COMP., .030 O.S.	16
	990418	RING-COMPRESSION, STD.	8
21	991891	RING-COMPRESSION, .030 O.S.	8

CYLINDER HEAD AND MANIFOLDS

P-4 DIESEL ENGINE

COMPLETE THE JOB
WITH RELATED PARTS

ITEM	RELATED PART
1	Head Gasket
	Thermostat
	Gasket Sets
28,29	8,10,11,27

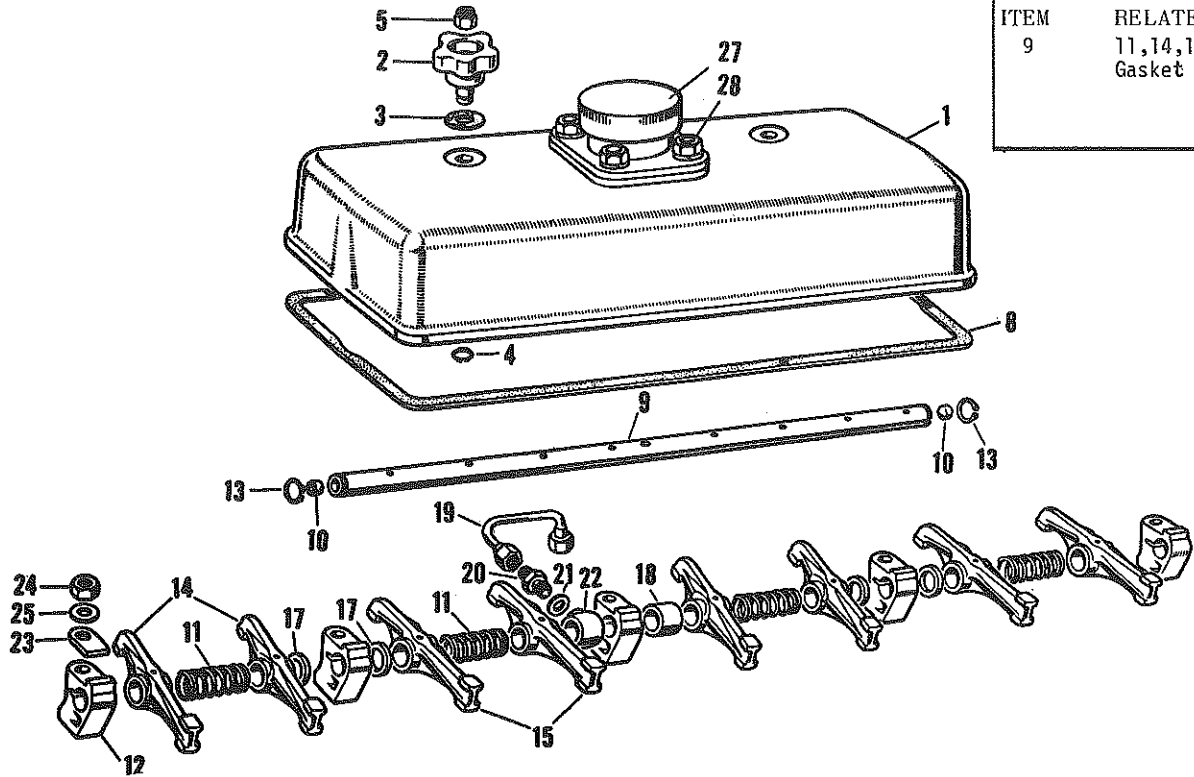


REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.
1	980801 A	CYLINDER HEAD	1
	980713 A	CYLINDER HEAD	1
2	992364	STUD-ROCKER SHAFT, LONG	2
3	992363	STUD-ROCKER SHAFT, SHORT	3
4	990376	STUD-COVER PLATE, 1/4 X 7/8	5
	991435	STUD-COVER, 1/4 X 1 1/16	1
5	990347	STUD-EXHAUST MANIFOLD	4
6	990364	STUD-COMB. CAP, FRONT	3
	990365	STUD-COMBUSTION CAP	9
7	991434	STUD-WATER INLET MANIFOLD	4
8	990355	GUIDE-VALVE	8
9	992525	WASHER-SPRING LOCATING	8
10	990356	SPRING-VALVE, OUTER	8
11	990357	SPRING-VALVE, INNER	8
12	990358	CAP-VALVE SPRINGS	8
13	990359 A	KEEPER-VALVE	8 PR
14	991436	PLATE-WATER PUMP MOUNTING	1
15	990373	GASKET-PLATE TO HEAD	1
	992585	CAPSCREW	2
16	992557	CAPSCREW	3
	992628	WASHER	3
17	990378	PLATE-ENGINE LIFTING, FRONT	1
18	990374	PLATE-REAR COVER	1
19	990375	GASKET-COVER	1
20	992597	NUT	6
21	992635	WASHER	6
22	990379	PLATE-ENGINE LIFTING, REAR	1
23	990380	CAPSCREW	1
24	992637	WASHER	1

REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.
25	980748	SCREW-TAPPET ADJUSTING	8
26	980745	NUT-LOCK	8
27	980751	TAPPET	8
28	990353	VALVE-INLET	4
29	990354	VALVE-EXHAUST	4
	990360 A	CAP-COMBUSTION CHAMBER	4
30	990361	CAP	1
	990362	PLUG	1
	992645	WASHER-PLUG	1
31	986083	GASKET-COMBUSTION CHAMBER COVER	4
32	992599	NUT-CAP	12
	992631	WASHER	12
33	981824 A	MANIFOLD-WATER INLET	1
34	991433	GASKET	2
35	992597	NUT	4
	992635	WASHER	4
36	991426	MANIFOLD-EXHAUST	1
37	992530	NUT	4
38	992629	WASHER	4
39	991427	GASKET-MANIFOLD TO HEAD	2
40	980600	STUD-OUTLET FLANGE	2
41	991431	GASKET-OUTLET FLANGE	1
	991428	FLANGE-EXHAUST OUTLET, NOT ILL.	1
42	992687	NUT	2
43	992630	WASHER	2
44	991479	STAND PIPE-CYL. HEAD BREATHER	1
45	992695	NUT-LOCK	1
46	992696	WASHER	1

CYLINDER HEAD COVER AND ROCKER SHAFT

P-4 DIESEL ENGINE



COMPLETE THE JOB
WITH RELATED PARTS

ITEM	RELATED PART
9	11,14,15 Gasket Sets

REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.
1	991454 A	COVER-CYLINDER HEAD	1
	991455	COVER-CYLINDER HEAD	1
2	992532	NUT-HAND	2
3	992658	WASHER	2
4	991456	SNAP RING	2
5	992608	NUT	2
8	991458	GASKET-CYLINDER HEAD COVER	1
9	980812 A	ROCKER SHAFT	1
	991460	SHAFT-ROCKER	1
10	990429	PLUG-ROCKER SHAFT END	2
11	991461	SPRING-ROCKER SHAFT	4
12	992368	BRACKET-ROCKER SHAFT	5
13	990438	SNAP RING-ROCKER SHAFT	2
14	990434 A	LEVER-ROCKER, R.H.	4
	990436	BUSHING	1
15	990435 A	LEVER-ROCKER, L.H.	4
	990436	BUSHING	1
17	991462	SPACER-SHORT	4
	990430	SHIM-ROCKER SHAFT	AR

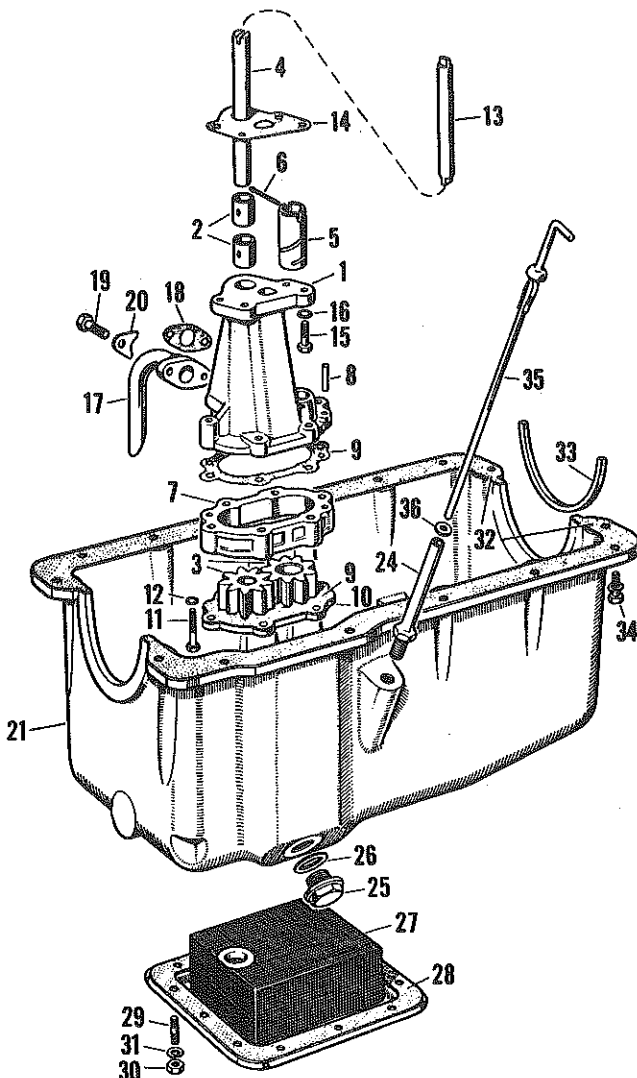
REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.
18	991463	SPACER-LONG	1
	991464	PIPE	1
19	990096	NUT	2
	990095	NIPPLE-PIPE	2
20	101628	UNION-OIL PIPE	2
21	101985	WASHER-OIL PIPE UNION	1
22	990441	CONNECTION-OIL PIPE	1
23	992367	PLATE-ROCKER SHAFT BRACKET RET.	5
24	992520	NUT-BRACKET	5
25	992788	WASHER	5
27	991465 A	OIL FILLER BODY	1
	991466	BODY-FILLER	1
27	991467	STRAINER	1
	990580	CAP-FILLER	1
28	990581	GASKET-CAP	1
	991468	GASKET-FILLER BODY TO HEAD COVER	1
28	990577	STUD	4
	992598	NUT	4
28	992636	WASHER	4

OIL PAN AND PUMP

P-4 DIESEL ENGINE

COMPLETE THE JOB
WITH RELATED PARTS

ITEM	RELATED PART
21	Gasket Sets

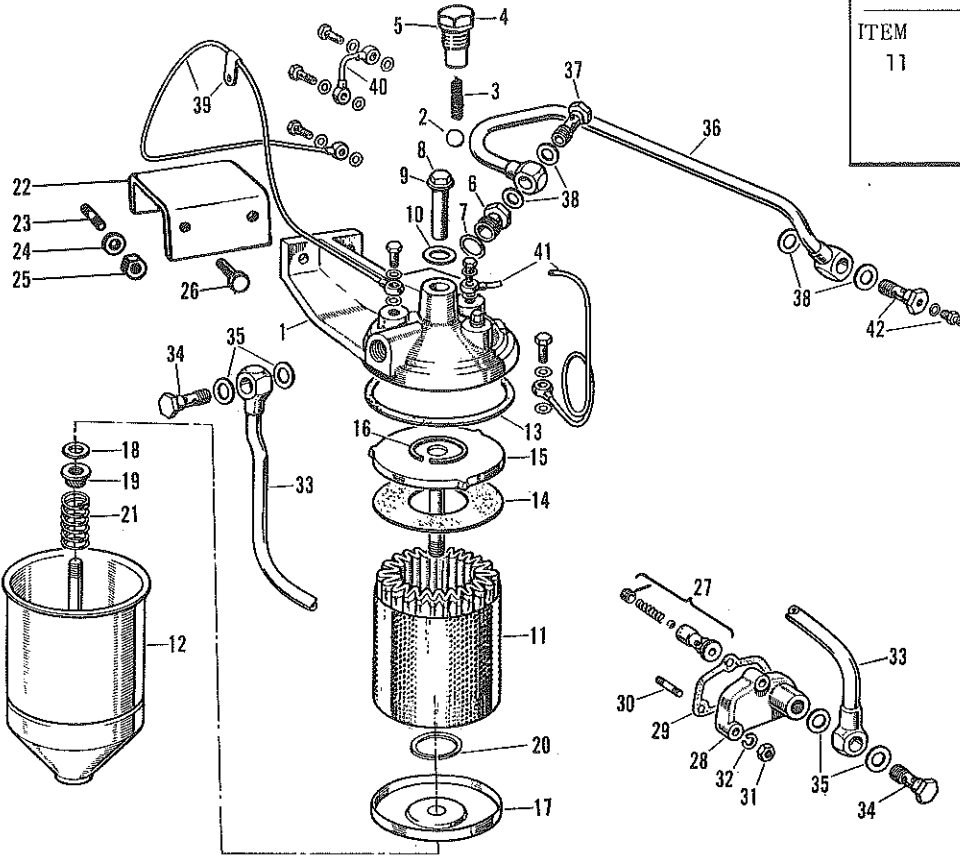


REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.
1	991488 A	OIL PUMP	1
	991489 A	BODY-OIL PUMP	1
2	990555	BUSHING	2
3	991491 A	GEARS-MATCHED PAIR	1
	990632	KEY-DRIVER GEAR	1
4	991492	SHAFT-DRIVER GEAR	1
5	991493	SHAFT-IDLER GEAR	1
6	992702	COTTER	1
7	991494	HOUSING-GEAR	1
8	991495	DOWEL-HOUSING	2
9	990561	GASKET-GEAR HOUSING	2
10	990562	COVER-PUMP BOTTOM	1
11	992559	CAPSCREW-COVER	6
12	980611	WASHER	6
13	990563	SHAFT-PUMP DRIVE, INTERMEDIATE	1
14	990564	GASKET-PUMP TO BLOCK	1
	992584	CAPSCREW-PUMP TO BLOCK	1
15	991496	STUD-PUMP TO BLOCK	1
	992598	NUT-STUD	1
16	992657	WASHER	4
17	991497	PIPE-SUCTION	1

REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.
18	990566	GASKET-PIPE TO PUMP	1
19	992703	CAPSCREW	2
20	992680	WASHER	2
21	980614	PAN-OIL	1
24	980613 A	TUBE-DIPSTICK	1
25	991915	PLUG-DRAIN, 3/4 BSP	1
26	992522	WASHER-PLUG	1
27	991500	STRAINER-OIL PAN, W/COVER	1
28	991501	GASKET-STRAINER	1
29	991502	STUD	12
30	992597	NUT	12
31	992635	WASHER	12
32	991499	GASKET-PAN, SIDES, PAIR	1
33	990571	GASKET-PAN, FRONT & REAR	2
	992584	CAPSCREW-PAN TO BLOCK	14
34	991496	STUD-PAN TO BLOCK	1
	992598	NUT-STUD	1
	992636	WASHER	15
35	980612 A	BAYONET GAUGE	1
36	990573	WASHER-DIPSTICK	1

LUBRICATING OIL FILTER AND LINES

P-4 DIESEL ENGINE



COMPLETE THE JOB WITH RELATED PARTS	
ITEM	RELATED PART
11	13,14,18

REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.
1	990324	FILTER-OIL	1
	991934 A	HEAD	1
2	991935	BALL-RELIEF VALVE	1
3	991936	SPRING-RELIEF VALVE	1
4	991937	PLUG-RELIEF VALVE	1
5	992697	WASHER-PLUG	1
6	992698	SCREW-HEAD	1
7	992699	WASHER	1
8	991938	BOLT-HEAD TO CONTAINER	1
9	992700	WASHER-BOLT, STEEL	1
10	992701	WASHER-BOLT, RUBBER	1
11	990325	ELEMENT-OIL FILTER	1
12	991939	CONTAINER-ELEMENT	1
13	991940	GASKET-HEAD TO CONTAINER	1
14	991941	GASKET-ELEMENT, TOP	1
15	991942	PLATE-PRESSURE, ELEMENT TOP	1
16	991943	CLIP-PLATE RETAINING, TOP	1
17	991944	PLATE-ELEMENT SUPPORT, BOTTOM	1
18	991945	SEAL-SUPPORT PLATE	1
19	991946	PLATE-SEALING	1
20	991947	CLIP-SEALING PLATE RETAINING	1
21	991948	SPRING-SUPPORT	1
22	991528	BRACKET-FILTER	1
23	991529	STUD-BRACKET	2
24	992599	NUT	2
25	992637	WASHER	2
26	980609	BOLT-FILTER TO BRACKET	2
	992599	NUT	2
	992637	WASHER	2

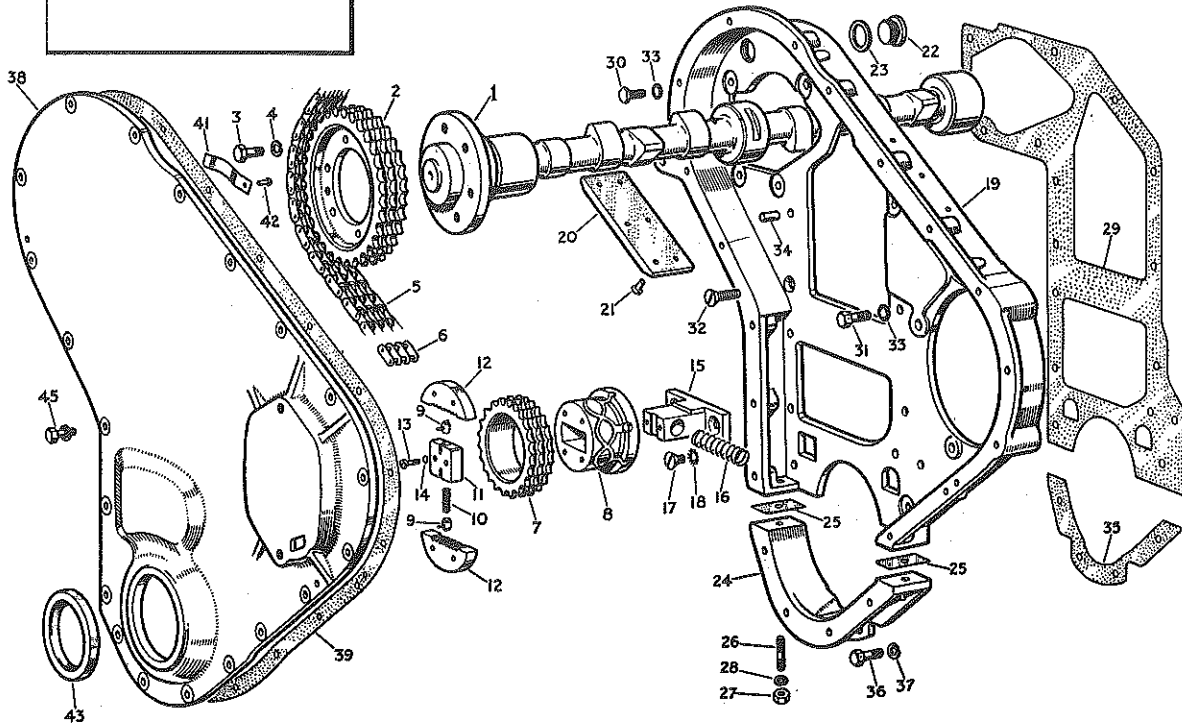
REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.
	990521 A	RELIEF VALVE	1
	990522	BODY	1
27	990523	BALL	1
	990524	SPRING	1
	990525	PLUG-ADJUSTING	1
	990526	PIN-PLUG	1
	990527	HOUSING-OIL PIPE ADAPTER	1
	990528	GASKET-HOUSING	1
	990529	STUD	3
	992598	NUT	3
	992636	WASHER	3
	991482	PIPE-RELIEF VALVE TO FILTER	1
	990531	BOLT-FITTING	2
	990673	WASHER	4
	991483	PIPE-FILTER TO PRESSURE RAIL	1
	990548	BOLT-FITTING	2
	990673	WASHER	4
	991481	PIPE-FILTER TO #2 CAMSHAFT BRG.	1
	990442	BOLT-FITTING	1
39	990551	BOLT-FITTING	1
	992523	WASHER	4
	991485	CLIP-PIPE	1
	991486	PIPE-CAM. BRG. TO CYL. HEAD	1
40	990551	BOLT-FITTING	1
	992523	WASHER	2
	991487	PIPE-FILTER TO FUEL PUMP DRIVE	1
41	990442	BOLT-FITTING	1
	990551	BOLT-FITTING	1
	992523	WASHER	4
	101628	CONNECTION-PRESSURE GAUGE	1
42	992688	WASHER	1
	990096	NUT	1
	990095	NIPPLE	1

COMPLETE THE JOB
WITH RELATED PARTS

ITEM	RELATED PART
38	39,43,45

TIMING GEAR

P-4 DIESEL ENGINE

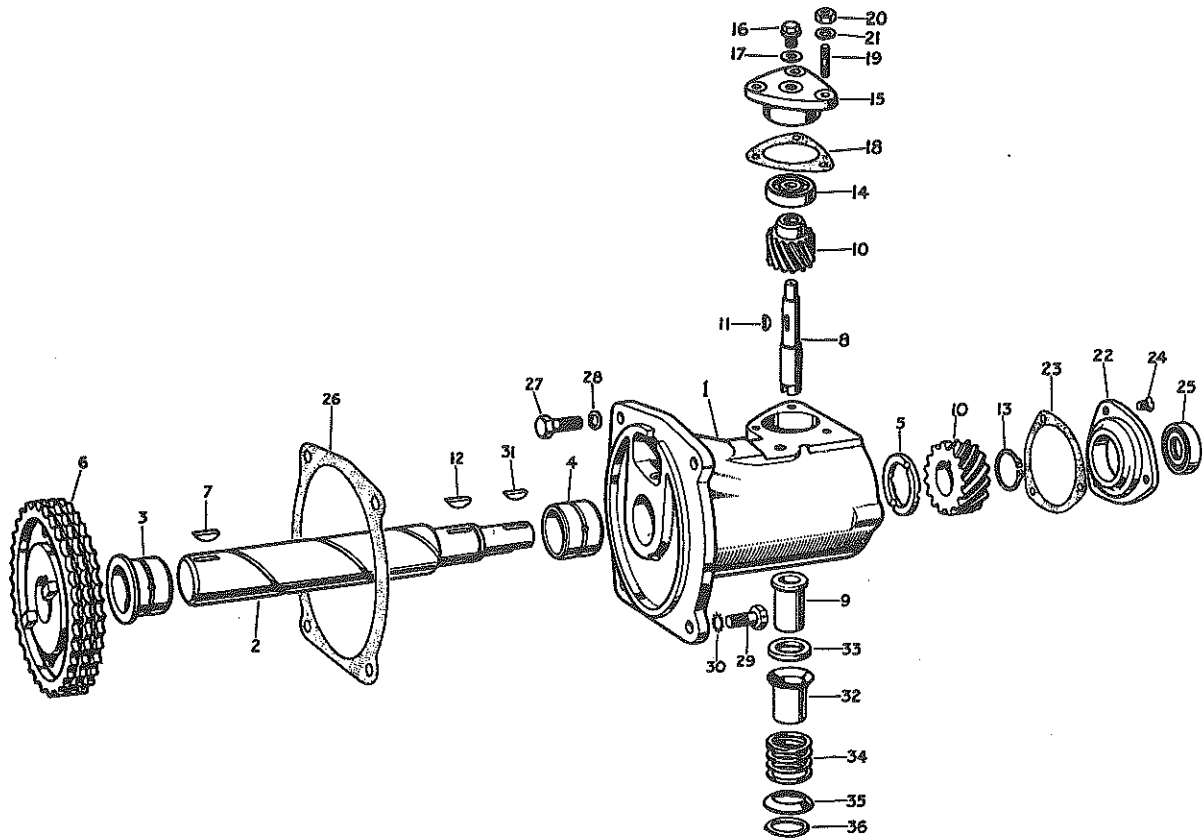


REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.
1	991480	CAMSHAFT-WITH INTEGRAL HUB	1
2	990489	SPROCKET-CAMSHAFT	1
	980813	HUB-CAMSHAFT SPROCKET	1
3	990628	KEY-SPROCKET HUB	1
	980803	CAPSCREW-SPROCKET TO HUB	6
4	.....	LOCKWIRE	1
	992541	CAPSCREW-SPROCKET TO CAMSHAFT	3
5	.....	LOCKWIRE	1
	992636	WASHER	3
6	990491 A	CHAIN-TIMING	1
7	990492	LINK-TIMING CHAIN CONNECTING	1
	990494	TENSIONER-TIMING CHAIN	1
8	990495	TENSIONER-NOT ILLUSTRATED	1
	990496	SPROCKET-TENSIONER	1
9	990497	BODY-TENSIONER	1
	990498	RATCHET SET-TENSIONER	1
10	990499	PLUNGER-TENSIONER, PAIR	1
11	990500	SPRING-PLUNGER	1
12	990501	PLATE-PLUNGER HOUSING	1
13	990502	PLATE-PLUNGER RETAINING	1
14	992591	SCREW	6
15	992664	WASHER	6
16	990503	SHAFT-TENSIONER BODY SUPPORT	1
17	990504	SPRING-SUPPORT SHAFT	1
18	992586	SCREW-TENSIONER	2
19	992655	LOCKWASHER	2
	991753	HOUSING-TIMING GEAR	1
	980767	HOUSING-TIMING GEAR	1

REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.
20	992509	PAD-REACTION	1
21	990510	RIVET-PAD TO CASE	6
22	990344	PLUG-HOUSING	1
23	992726	WASHER-PLUG	1
24	990507	COVER-HOUSING, BOTTOM	1
25	980769	GASKET-BOTTOM COVER TO HOUSING	2
26	990511	STUD-BOTTOM COVER	2
27	992598	NUT	2
28	992636	WASHER	2
29	990512	GASKET-HOUSING TO BLOCK	1
30	992561	CAPSCREW-HOUSING, THIN HEAD	7
31	992562	CAPSCREW-HOUSING	6
32	992587	SCREW-TIMING CASE TO BLOCK	1
33	992657	WASHER	13
34	990513	DOWEL-HOUSING	2
35	990514	GASKET-BOTTOM COVER TO BRG. CAP	1
36	992563	CAPSCREW-COVER TO BRG. CAP	4
37	992636	WASHER	4
38	991754 A	COVER-TIMING CASE, FRONT	1
	991755	COVER-TIMING CASE	1
39	990517	GASKET-FRONT COVER	1
41	990519	SPRING-CAMSHAFT THRUST	1
42	990520	RIVET-THRUST SPRING TO COVER	1
43	990518	SEAL-OIL	1
45	992722	CAPSCREW-FRONT COVER	20
	992635	WASHER	20

FUEL AND OIL PUMP DRIVE

P-4 DIESEL ENGINE



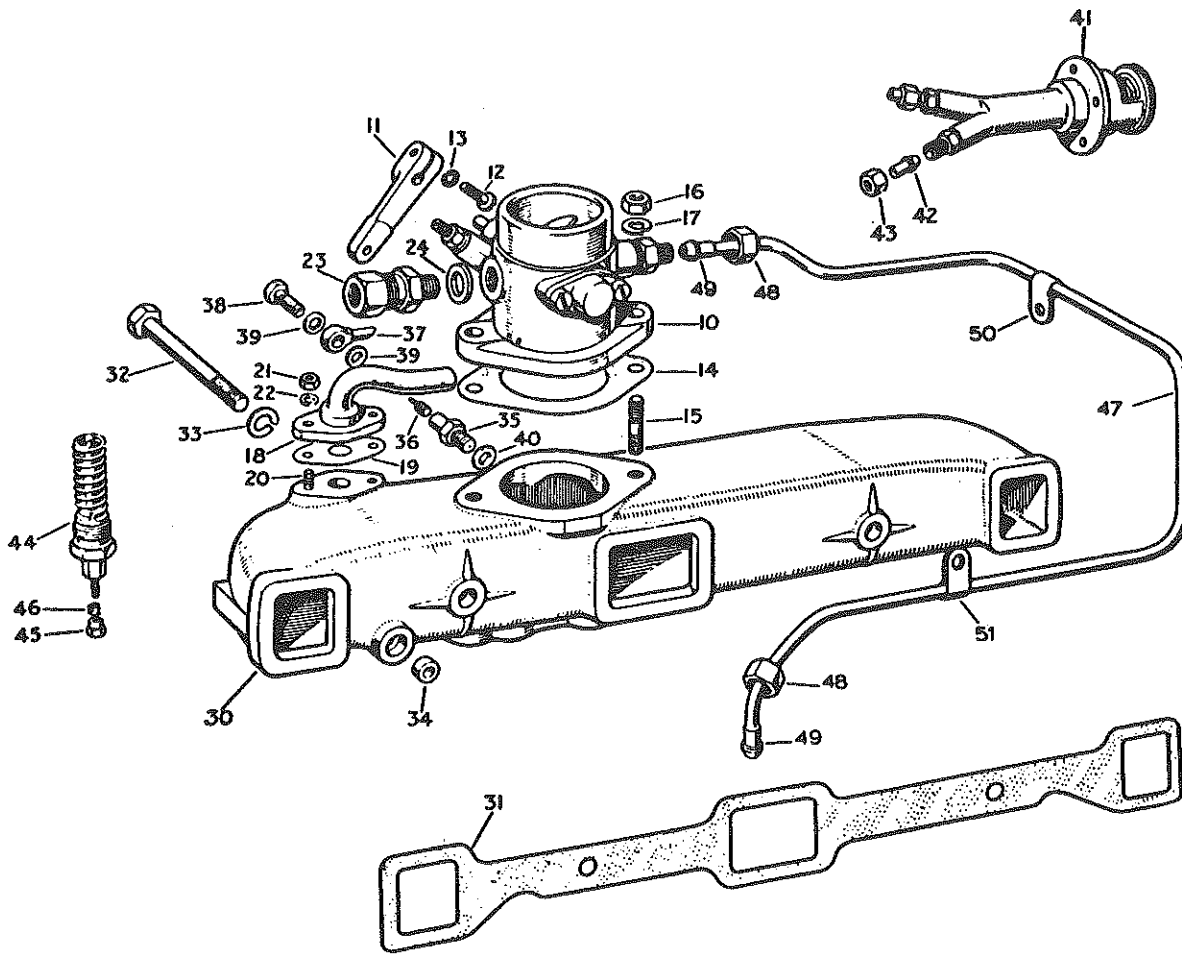
REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.
1	990620 A	DRIVE-FUEL AND OIL HOUSING-WITH BUSHINGS	1
2	990623	SHAFT-DRIVE	1
3	990624	BUSHING-FLANGED	1
4	991914	BUSHING	1
5	990626	SPACER	1
6	990627	SPROCKET-DRIVE	1
7	990628	KEY	1
8	990629	SHAFT-OIL PUMP DRIVE, TOP	1
9	990630	BUSHING	1
10	980802	GEARS-MATCHED PAIR	1
11	28269	KEY	1
12	7882	KEY	1
13	990633	SNAP RING	1
14	990634	BEARING	1
15	991515	COVER-TOP	1
16	991516	PLUG-COVER	1
17	101985	WASHER	1
18	990636	GASKET-COVER	1
19	990637	STUD-COVER	3
20	992598	NUT	3

REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.
21	992636	WASHER	3
22	990638	COVER-END	1
23	990639	GASKET	1
24	992585	MACHINE SCREW	3
25	990640	SEAL-OIL	1
26	990642	GASKET-HOUSING	1
27	992570	CAPSCREW	2
28	992788	WASHER	2
29	992569	CAPSCREW	2
30	992637	LOCKWASHER	2
31	990601	KEY-COUPLING	1
32	990643	SLEEVE	1
33	990644	PACKING-SLEEVE, TOP	1
34	990645	SPRING	1
35	990646	COLLAR	1
36	990647	PACKING-SLEEVE, BOTTOM	1
	991517	HALF COUP.-FUEL PUMP DR.	1
	990600	DISC-FUEL PUMP COUPLING	1
	992662	WASHER-COUPLING	2
	990563	SHAFT-OILPUMP DRIVE	1

NOT
ILL.

INTAKE MANIFOLD AND COLD STARTING EQUIPMENT

P-4 DIESEL ENGINE

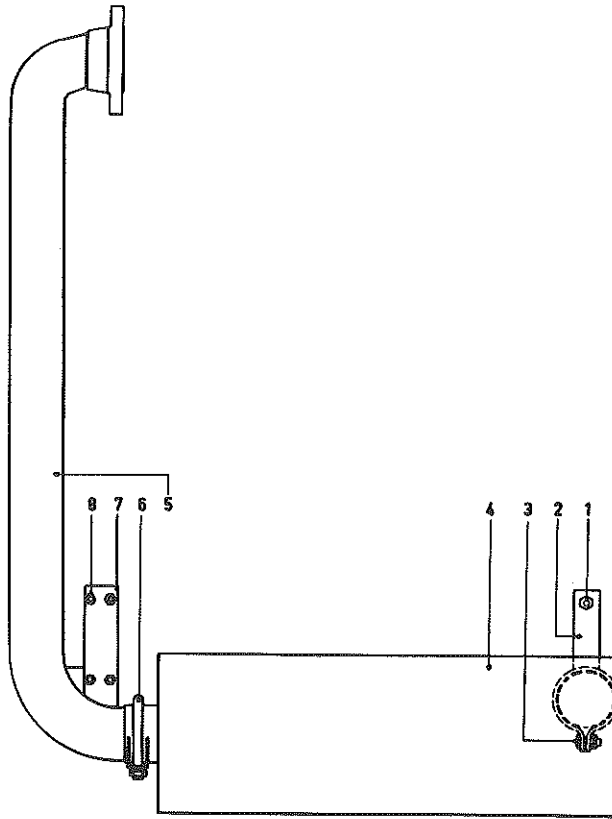


REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.
10	980254	VENTURI	1
11	.....	LEVER-VENTURI CONTROL	1
14	991470	GASKET-VENTURI	1
15	991429	STUD-VENTURI	2
16	992599	NUT-VENTURI	2
17	992637	LOCKWASHER	2
18	991476	PIPE-BREATHER	1
19	980606	GASKET-PIPE	1
20	990377	STUD	2
21	992597	NUT-STUD	2
22	992635	WASHER	2
23	991478	CONNECTION-PIPE TO VENTURI	1
24	992694	WASHER-CONNECTION	1
30	980603	MANIFOLD-INTAKE	1
	991705	PLUG-MANIFOLD	1
	992648	WASHER-PLUG	1
	980604	FLANGE-VENTURI OPENING BLANKING	1
	991470	GASKET-FLANGE	1
	992572	CAPSCREW-FLANGE	2
	992637	LOCKWASHER	2
31	991475	GASKET-MANIFOLD	1

REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.
32	992692	CAPSCREW-MANIFOLD TO CYL. HEAD	2
33	992638	WASHER	2
34	992535	WASHER-CORK, MAN. TO BREATHER	1
35	980800	ATOMISER-COLD STARTING	1
	990468	BODY-ATOMISER	1
36	990469	VAPORISER-ATOMISER	1
37	990470	CONNECTION-BANJO	1
38	991471	BOLT-BANJO CONNECTION	1
39	992633	WASHER	2
40	992693	WASHER-ATOMISER BODY	1
41	980756 A	PUMP-HAND INJECTOR	1
42	981020	NIPPLE-CONNECTION	1
43	.....	NUT-PIPE	1
44	990321 A	PLUG-HEATER, INTAKE MANIFOLD	1
45	992625	NUT-HEATER	1
46	992678	WASHER	1
47	980607	PIPE-VENTURI TO GOVERNOR	1
48	992607	NUT-UNION	2
49	990459	NIPPLE-UNION	2
50	991472	CLIP-PIPE	1
51	991473	CLIP-PIPE	1

EXHAUST SYSTEM

FOR P-4 DIESEL ENGINE



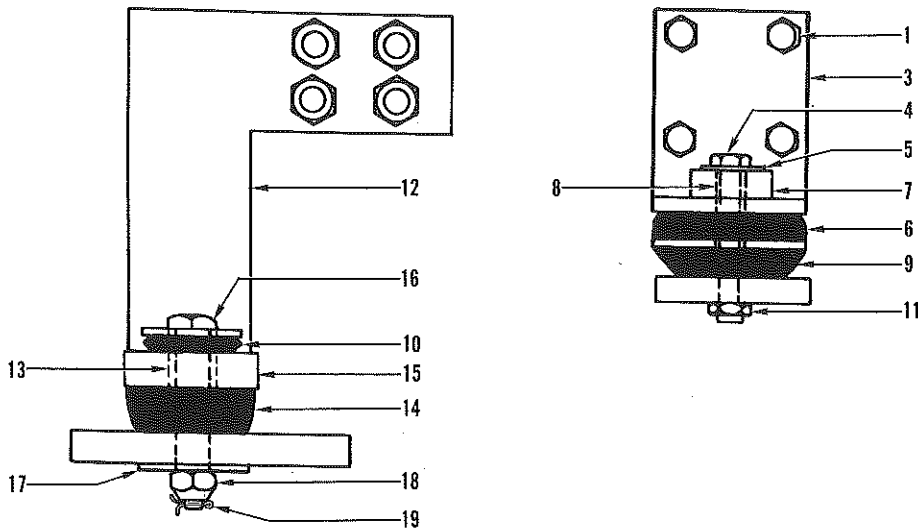
COMPLETE THE JOB WITH RELATED PARTS	
ITEM	RELATED PART
4	5,6 Gaskets

REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.
1	15004	NUT-1/4 UNF	1
	15154	LOCKWASHER-1/4	1
	16354	CAPSCREW-1/4 UNF X 3/4	1
2	980238 W	BRACKET-MUFFLER	1
3	15004	NUT-1/4 UNF	1
	15154	LOCKWASHER-1/4	1
	15586	CAPSCREW-1/4 UNF X 3/4	1

REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.
4	992421	MUFFLER	1
5	980223 W	PIPE-EXHAUST	1
6	30370	CLAMP	1
7	980227	PLATE-SPRING	2
8	15585	CAPSCREW-1/4 UNF X 1/2	4
	15004	NUT-1/4 UNF	4
	15154	LOCKWASHER-1/4	4

ENGINE MOUNTS

FOR P-4 DIESEL ENGINE



REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.
1	15158	LOCKWASHER-1/2	8
	15502	CAPSCREW-1/2 UNC X 1	8
3	980116	PLATE-ENGINE MOUNT	2
4	18226	CAPSCREW-7/16 UNF X 3 1/4	2
5	15177	WASHER, 7/16	2
6	100696	CUP-ENGINE MOUNT	2
7	100429	MOUNT-FRONT UPPER	2
8	108105	SPACER	2
9	100428	MOUNT-LOWER	2
10	992412	PAD-UPPER	2

REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.
11	15108	NUT-ELASTIC STOP, 7/16 UNF	2
12	992409	BRACKET-L.H.	1
	992410	BRACKET-R.H.	1
13	992413	BUSHING	2
14	992431	PAD-LOWER	2
15	992411	PLATE-ENGINE SUPPORT	1
16	980258	CAPSCREW	2
17	103776	WASHER	4
18	21340	NUT-CASTELLATED, 1/2 UNF	2
19	15224	COTTER-1/8 X 1 1/4	2

Section D

FUEL SYSTEM

INDEX

AIR FILTER (Gas)	D3-D4
AIR FILTER (4-203 Diesel).	D5-D6
AIR FILTER (P-4 Diesel)	D7
CARBURETOR	D1-D2
CARBURETOR-L.P.G.	D23
FILTER-L.P.G.	D23
FUEL FEED PUMP (P-4 Diesel)	D18
FUEL INJECTION EQUIPMENT (P-4 Diesel).	D17
FUEL INJECTION PUMP (4-203 Diesel)	D13-D16
FUEL INJECTION SYSTEM (4-203 Diesel)	D12
FUEL OIL FILTER (4-203 Diesel)	D10-D11
FUEL PUMP	D8
FUEL TANK	D9
LIFT PUMP AND PRE-FILTER (4-203 Diesel)	D19
L.P.G. EQUIPMENT	D21
MAGNETIC LOCK-OFF VALVE-L.P.G.	D25
REGULATOR-L.P.G.	D24
SECONDARY FILTER (P-4 Diesel)	D20
THROTTLE LINKAGE	D8

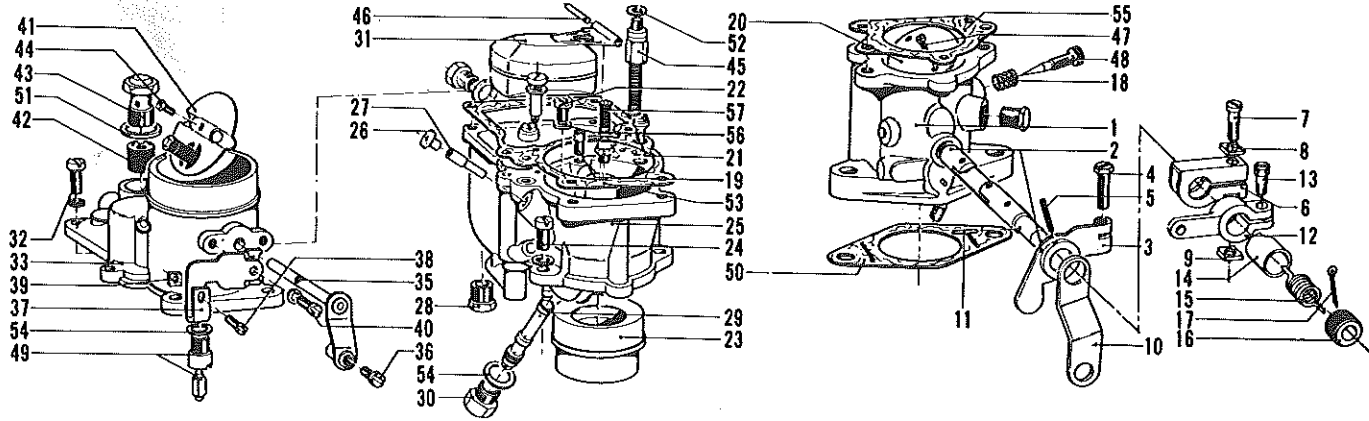
CARBURETOR

FOR GAS ENGINE

LAST USED ON SERIAL NO. B11L-2920 AND B11H-1580

COMPLETE THE JOB
WITH RELATED PARTS

ITEM	RELATED PART
42	Air Filter
	Clamps
	Inlet Boot
	Fuel Filter



REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.
	56749 A	CARBURETOR <i>163 286</i>	1
1	168653	BODY-THROTTLE	1
2	56777	SHAFT-THROTTLE	1
3	138561	LEVER-STOP	1
4	50562	SCREW-#8 UNF X 5/8	1
5	132618	PIN-STOP LEVER	1
6	56774	STOP-FLOAT LEVER	1
7	97451	SCREW	1
8	56781	WASHER	1
9	56772	NUT	1
10	56773	LEVER-FLOATING	1
11	141001	PIN-THROTTLE SHAFT	1
12	97446	LEVER	1
13	56036	SCREW-#10 UNC X 9/16	1
14	56779	BUSHING-DRIVER SHAFT	1
15	56242	SPRING	1
16	56238	RETAINER-SPRING	1
17	56239	COTTER	1
18	56756	SPRING	1
19	56754	JET-HELL VENT	1
20	138651	PLATE-THROTTLE	1
21	56761	JET-IDLE	1
22	56819	JET-MAIN	1
23	56768	VENTURI	1
24	56767	SCREW & LOCKWASHER	2
25	56765 A	BOWL-FUEL	1
26	56028	PLUG-JET	1
27	56763	JET-ACCELERATOR	1
28	56014	PLUG-DRAIN, 1/8	1
29	56769	JET-DISCHARGE	1
30	50553	PLUG-JET, 3/8	1
31	56013	FLOAT	1
32	56754	SCREW & LOCKWASHER	6
33	140964	BODY-AIR INTAKE	1
	140965	PLUG-CHANNEL, 1/8	2

REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.
35	56082	LEVER AND SHAFT	1
36	97450	SCREW-#8 UNF X 7/16	1
37	138650	BRACKET-CHOKE CABLE	1
38	56092	SCREW-#6 UNC X 1/2	1
39	18994	NUT-#6 UNC	1
40	56759	SCREW & LOCKWASHER	1
41	56075	PLATE-CHOKE	1
42	56753	FILTER-FUEL	1
43	56010	HEAD-FILTER	1
44	* 56076	SCREW-#6 UNC X 5/16	1
45	* 56002	PISTON-VACUUM	1
46	* 56168	AXLE-FLOAT	1
47	* 50552	SCREW-THROTTLE PLATE	2
48	* 56755	NEEDLE-IDLE ADJUSTING	1
49	* 175351	VALVE AND SEAT	1
50	** 56057	GASKET-MOUNTING	1
51	□ 56752	WASHER-SEAL	1
52	□ 56185	WASHER-SEAL	1
53	□ 56012	GASKET-INTAKE BODY TO BOWL	1
54	□ 50268	WASHER-PLUG	1
55	□ 56031	GASKET-BOWL TO THROTTLE BODY	1
56	□ 56182	WASHER-JET	1
57	56762	VALVE-POWER JET	1
	15056	NUT-3/8 UNC	2
	15156	LOCKWASHER-3/8	2

*INCLUDED IN CARBURETOR REPAIR KIT 124140.

□INCLUDED IN CARBURETOR GASKET KIT 56425A.

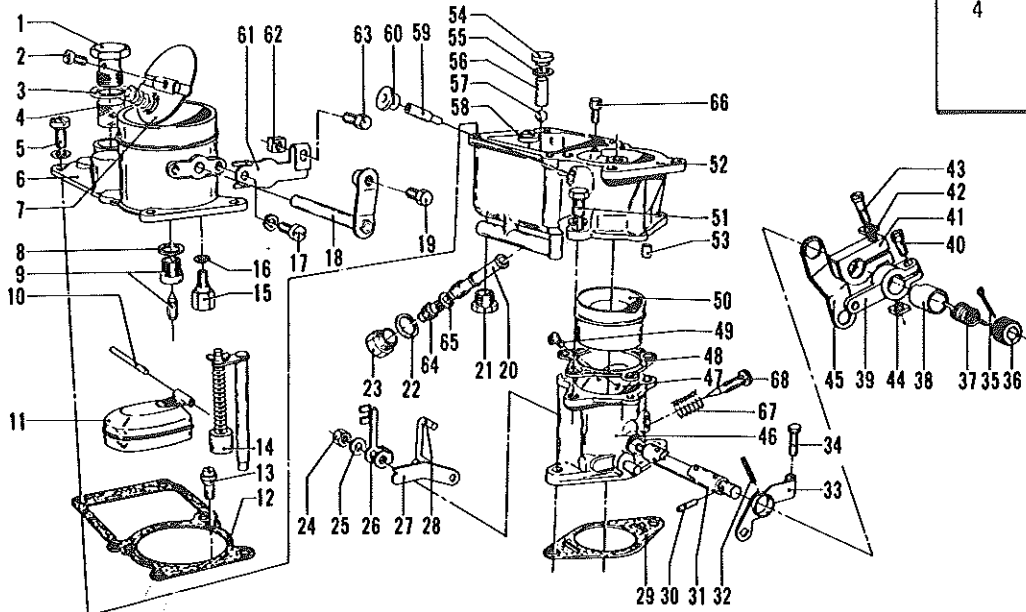
#INCLUDED IN TOP OVERHAUL GASKET SET, SEE PAGE C6.

NOTE-REPAIR KIT INCLUDES GASKET KIT.

CARBURETOR

FOR GAS ENGINE

FIRST USED ON SERIAL NO. B11D-1501 AND B11E-2441



COMPLETE THE JOB WITH RELATED PARTS	
ITEM	RELATED PART
4	Air Filter
	Clamps
	Inlet Boot
	Fuel Filter

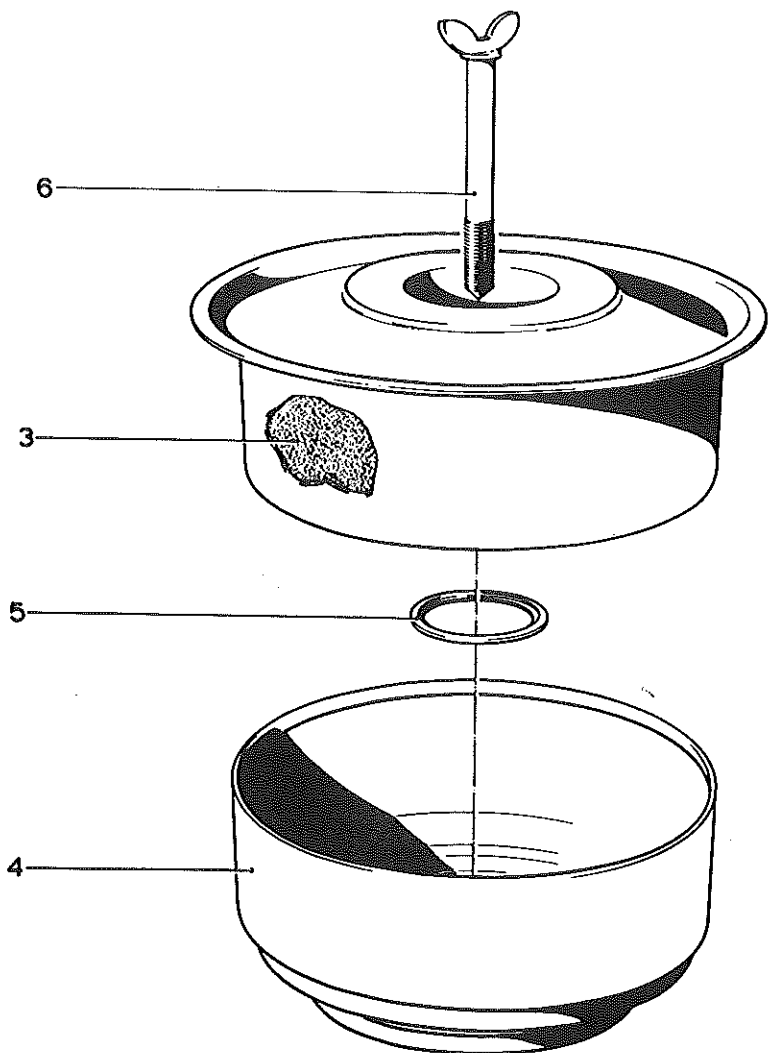
REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.	REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.
	163286	CARBURETOR	1	37	164382	SPRING-RETURN	1
1	56010	HEAD-FILTER	1	38	56779	BUSHING-DRIVER	1
2	* 56076	SCREW-CHOKE PLATE	1	39	97446	LEVER-CLAMP	1
3	□* 56752	WASHER-FILTER HEAD	1	40	56036	SCREW-#10 UNF	1
4	56753	ELEMENT-FILTER	1	41	56774	STOP-FLOAT LEVER	1
5	56754	SCREW & LOCKWASHER-#10 UNF	6	42	56781	WASHER	1
6	140964	INTAKE-AIR	1	43	97451	SCREW-#10 UNF	1
7	56075	PLATE-CHOKE	1	44	56772	NUT-#10 UNF	1
8	□* 50268	WASHER	1	45	.....	LEVER-FLOATING	1
9	*170800	VALVE AND SEAT	1	46	170796	BODY-THROTTLE	1
10	* 56168	AXLE-FLOAT	1	47	138651	PLATE-THROTTLE	1
11	170788	FLOAT	1	48	□* 56031	GASKET-BOWL	1
12	□* 56012	GASKET-INTAKE	1	49	* 50552	SCREW-THROTTLE PLATE	1
13	56761	JET-IDLE	1	50	56768	VENTURI	1
	170798	PUMP	1	51	56767	SCREW AND LOCKWASHER	2
14	*170799	PISTON-PUMP	1		170789	BOWL-FUEL	1
	.....	WASHER	1	52	.....	SPRING	1
15	166328	PLUG-VACUUM	1		.....	PLUG-LEAD SHOT	1
16	□* 56185	WASHER-PLUG	1	53	.....	BUSHING-RESTRICTION	1
17	56759	SCREW AND LOCKWASHER	1	54	170795	VENT-WELL	1
18	56082	SHAFT AND LEVER	1	55	* 218279	WASHER-RETAINER	1
19	97450	SCREW-#8 UNF	1	56	170792	WEIGHT-CHECK VALVE	1
20	169002	JET-DISCHARGE	1	57	* 56140	BALL-1/8	1
21	56014	PLUG-BOWL DRAIN	1	58	* 56015	VALVE-CHECK	1
22	□* 50268	WASHER-DISCHARGE JET PLUG	1	59	164375	JET-ACCELERATOR	1
23	127768	PLUG-DISCHARGE JET	1	60	56028	PLUG-ACCELERATOR JET	1
24	50564	NUT-#8 UNF	1	61	138650	BRACKET	1
25	144243	LOCKWASHER-#8	1	62	15049	NUT-#6 UNC	1
26	141021	LEVER-PUMP	1	63	56092	SCREW-#6 UNC	1
	56589	CLIP-RETAINING	1	64	170797	JET-MAIN	1
27	56020	LEVER-PUMP	1	65	□* 56758	WASHER-MAIN JET	1
28	56018	ROD-CONNECTING	1	66	50553	PLUG	1
29	*235751	GASKET-FLANGE	1	67	56756	SPRING	1
30	164380	SHAFT AND LEVER-THROTTLE	1	68	* 56755	NEEDLE-IDLE ADJUSTING	1
	141001	PIN-RETAINING	1		15056	NUT-3/8 UNC	2
31	.....	SHAFT	1		15156	LOCKWASHER-3/8	2
32	.....	PIN-STOP LEVER	1			NOT ILLUSTRATED	2
33	138561	LEVER	1				
34	50562	SCREW-#8 UNF	1				
35	56239	PIN-COTTER	1				
36	56238	RETAINER	1				

*INCLUDED IN REPAIR KIT 170801.

□INCLUDED IN GASKET KIT 56425 A.

AIR FILTER

LAST USED ON SERIAL NO. B11L-2090 AND B11E-2135
FOR GAS ENGINE



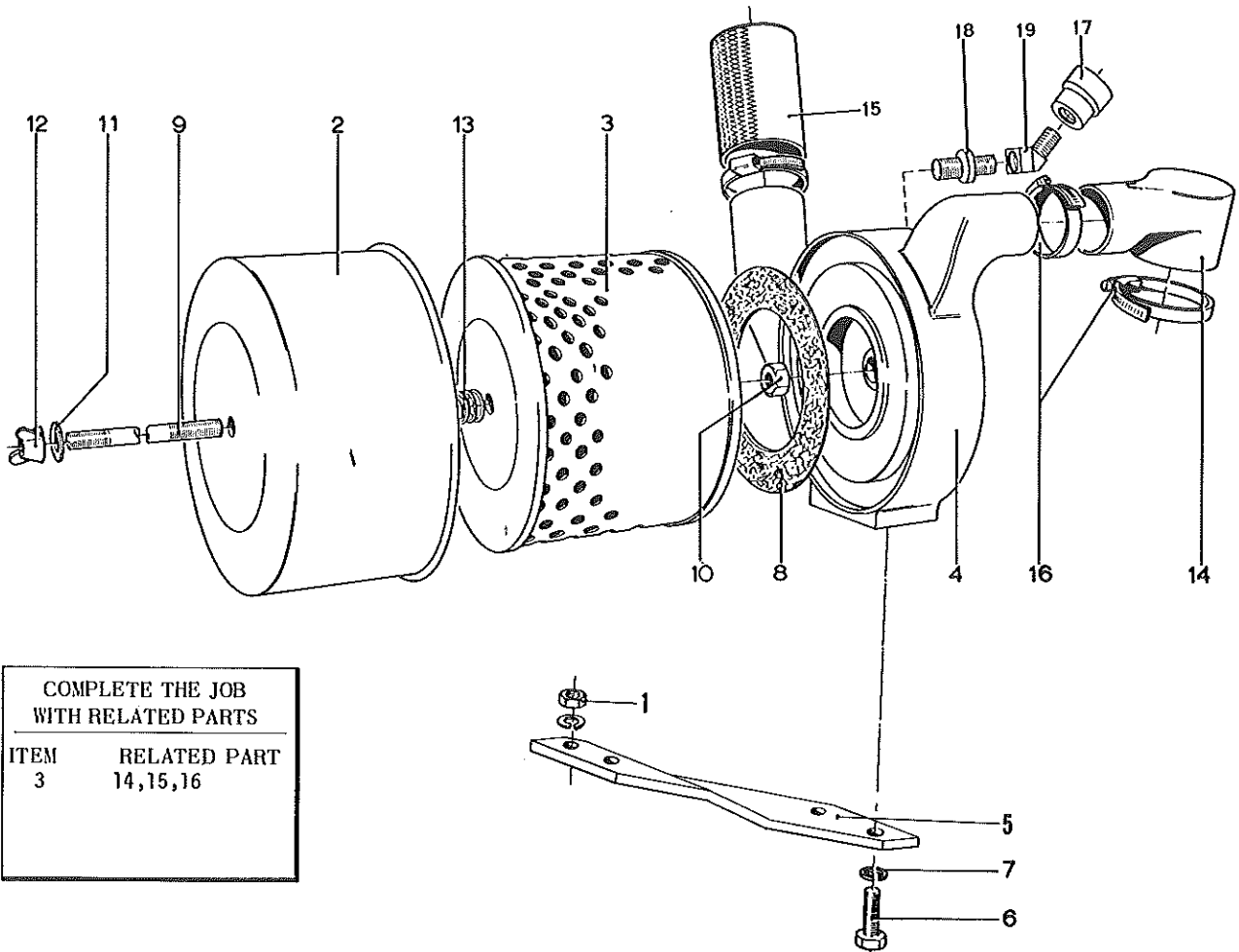
REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.
	108100 A	AIR CLEANER	1
3	109482	FILTER	1
4	67302	OIL CUP	1

REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.
5	67305	GASKET	1
6	67306	BOLT-WING	1

AIR FILTER - DRY TYPE

FOR GAS ENGINE

FIRST USED ON SERIAL NO. 811L-2091, 811D-1501, 811A-1501 & 811E-2136



COMPLETE THE JOB
WITH RELATED PARTS

ITEM	RELATED PART
3	14,15,16

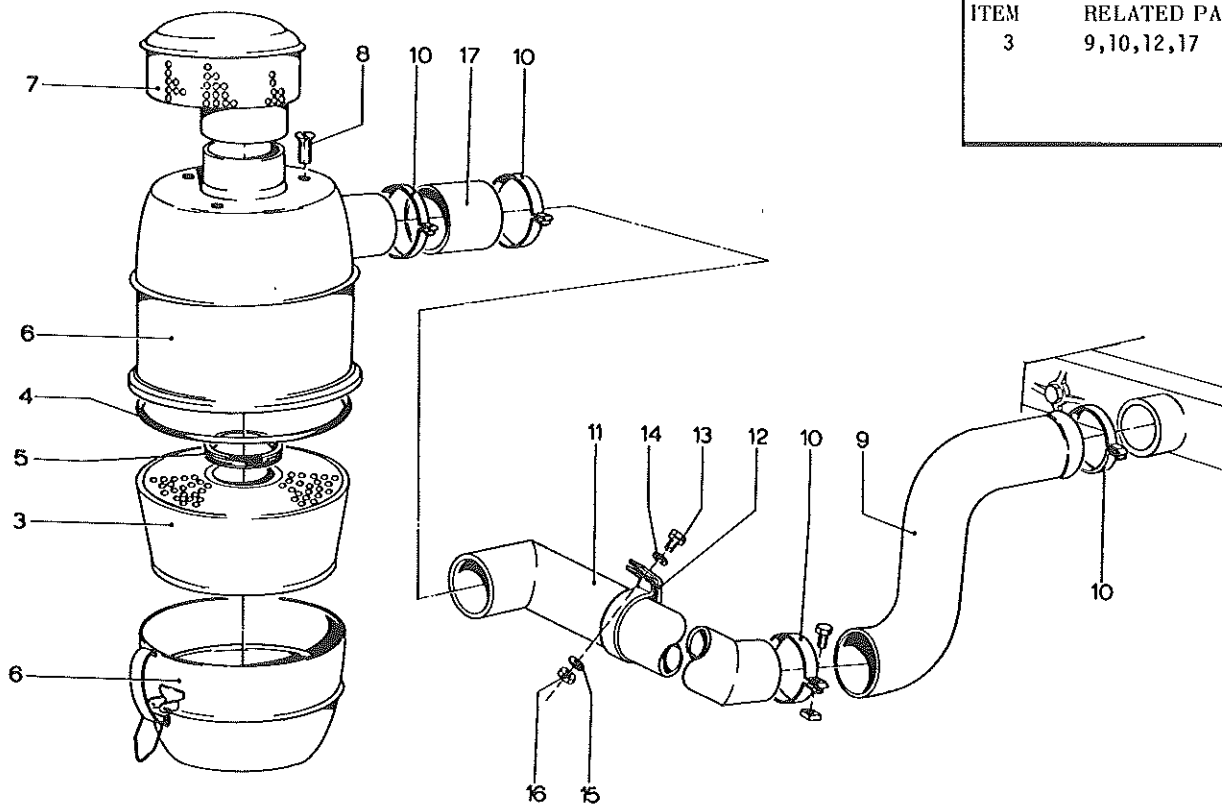
REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.
1	15056	NUT-3/8 UNF	2
	15156	LOCKWASHER-3/8	2
2	131128	COVER	1
3	118643	ELEMENT	1
4	120736	ADAPTER	1
	162270	ADAPTER	1
5	120950	BRACKET	1
	144603	BRACKET	1
6	15529	CAPSCREW-3/8 UNC X.1	2
7	15156	LOCKWASHER-3/8	2
8	118896	GASKET	1
9	120737	STUD	1
	154831	STUD	1
10	15000	NUT-JAM, 1/4 UNC	1
11	15176	WASHER-1/4	1
	15132	WASHER-7/32	1
12	119234	NUT-WING	1
	77200	NUT-WING	1
13	120657	SPRING	1
14	111105	BOOT-AIR INLET	1
	147784	BOOT-AIR INLET	1
15	120953	HOSE	1
16	112989	CLAMP-HOSE	2
	115696	CLAMP-HOSE	1

REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.
17	156478	INDICATOR-RESTRICTION	1
18	141259	ADAPTER	1
19	12821	ELBOW-STREET, 45 DEGREE	1
	113009	HOSE BOOT	1
	104105	SLEEVE TO	1
	112989	CLAMP CARBURETOR	8
*FOR L.P.G. ONLY, NOT ILLUSTRATED.			
□LAST USED ON SERIAL NO. 811L-2317 AND 811A-1560.			
#FIRST USED ON ENGINE SERIAL NO. 12596.			
%FIRST USED ON SERIAL NO. 811H-1506, 811G-1541 AND 811E-2327.			
@FIRST USED ON SERIAL NO. 811L-2896, 811G-1605 AND 811E-2327.			
**FIRST USED ON ENGINE SERIAL NO. 63563.			

AIR FILTER

FOR 4-203 DIESEL ENGINE
 LAST USED ON SERIAL NO. B11E-2135

COMPLETE THE JOB WITH RELATED PARTS	
ITEM	RELATED PART
3	9,10,12,17



REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.
3	982678 A	AIR CLEANER	1
	984509	ELEMENT-W/RINGS	1
4	984511	RING-OUTER	1
5	984510	RING-INNER	1
6	984508	CONTAINER	1
7	982700 W	CAP-RAIN	1
8	.16357	CAPSCREW-3/8 UNF X 3/4	3
9	981879	BOOT	1

REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.
10	18994	CLAMP	4
11	983616 W	PIPE-AIR INLET	1
12	982707	CLAMP	1
13	16367	CAPSCREW-1/4 UNF X 1	1
14	15127	WASHER-1/4	1
15	15154	LOCKWASHER-1/4	1
16	15004	NUT-1/4 UNF	1
17	982706	HOSE	1

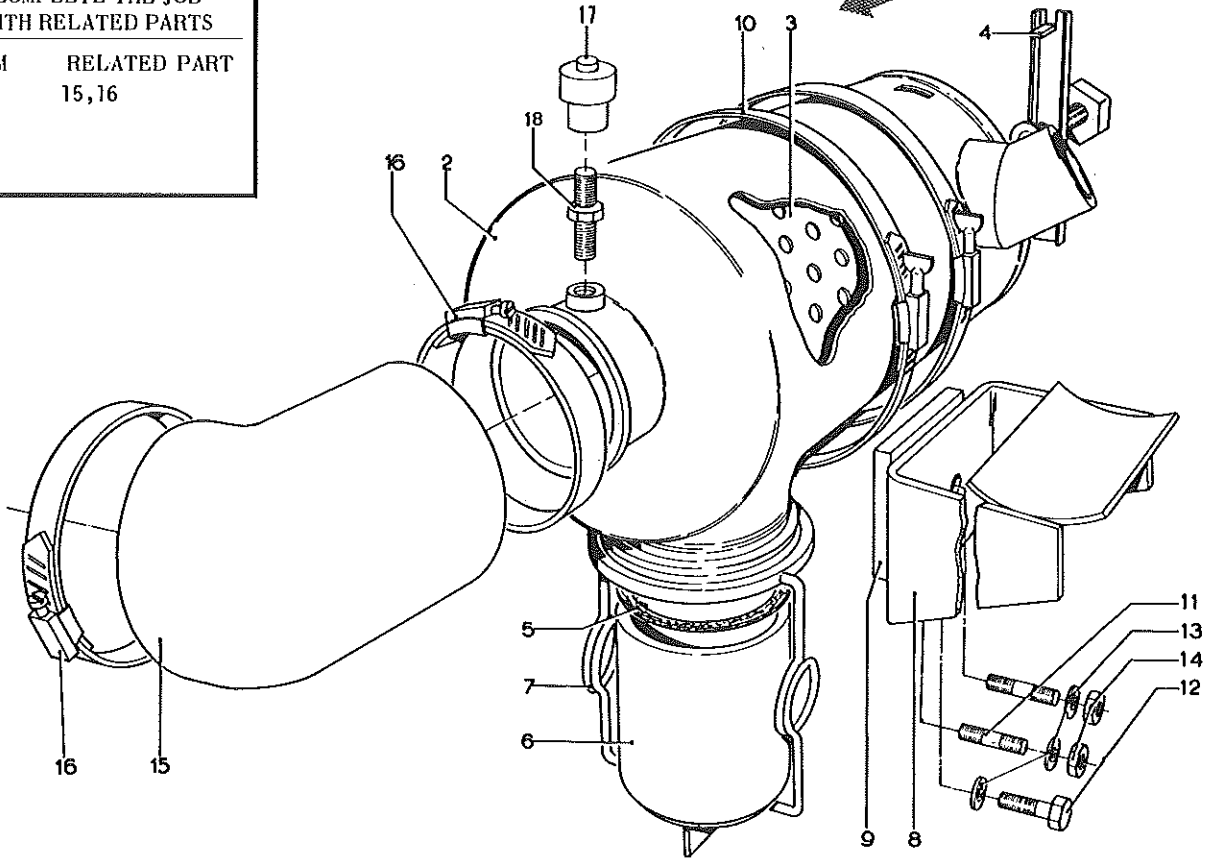
AIR FILTER

FOR 4-203 DIESEL ENGINE

FIRST USED ON SERIAL NO. 811A-1501 AND 811E-2136

PARTS SERVICE GRAM	
Item	Gram
3	E-D-9

COMPLETE THE JOB WITH RELATED PARTS	
ITEM	RELATED PART
3	15,16



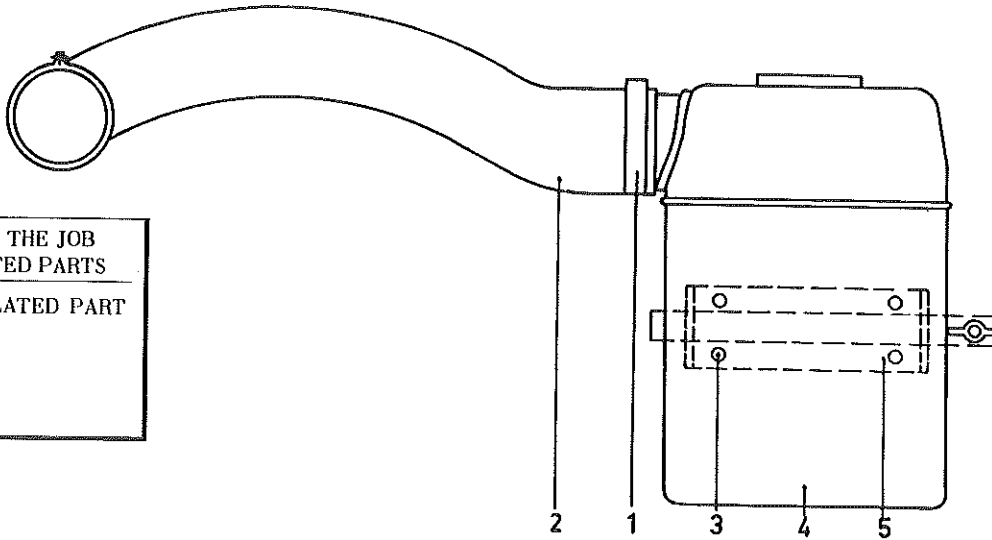
REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.
2	985776 A	AIR CLEANER	1
	*162751	AIR CLEANER	1
3	234719	ELEMENT-FILTER	1
4	234718	BAR-RETAINER	1
5	234721	GASKET-DUST JAR	1
6	234720	JAR-DUST	1
7	234722	BAIL	1
8	985773 W	BRACKET-AIR CLEANER	1
	*162752	BRACKET-AIR CLEANER	1
9	985772	PLATE-SPACER	1
10	18995	CLAMP	2

REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.
11	985707	STUD	2
12	15600	CAPSCREW-5/16 UNF X 5/8	1
13	15155	LOCKWASHER-5/16	3
14	15005	NUT-5/16 UNF	2
15	104099	BOOT-AIR INTAKE	1
16	112989	CLAMP	2
17	*156478	INDICATOR-RESTRICTION	1
18	*141259	ADAPTER	1

*FIRST USED ON SERIAL NO. 811L-2896 & 811G-1605.

AIR FILTER

FOR P-4 DIESEL ENGINE



COMPLETE THE JOB
WITH RELATED PARTS

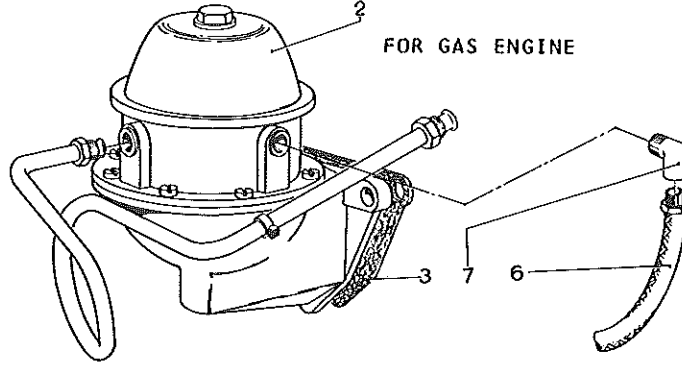
ITEM	RELATED PART
4	2,1

REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.
1	18994	CLAMP	2
2	980271	HOSE-AIR CLEANER TO ENGINE	1
3	16354	CAPSCREW-1/4 UNF X 3/4	4
	15004	NUT-1/4 UNF	4
	15154	LOCKWASHER-1/4	4

REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.
4	992422 A	AIR CLEANER	1
5	980261 A	BRACKET	1

FUEL PUMP

FOR GAS ENGINE



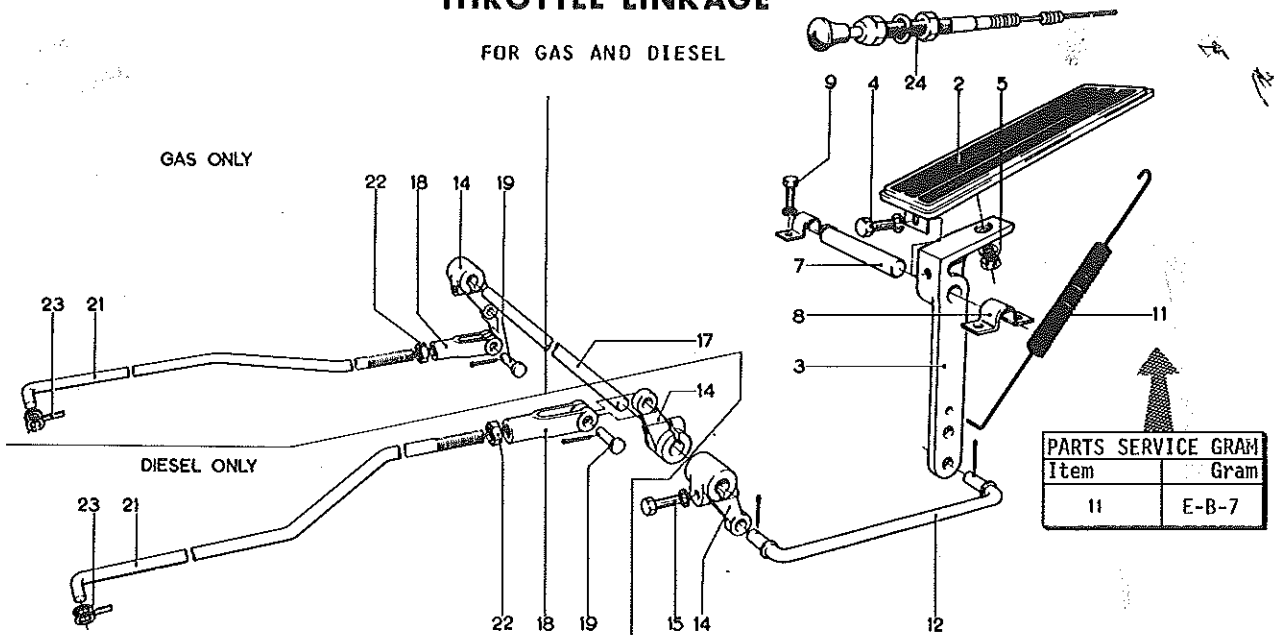
COMPLETE THE JOB WITH RELATED PARTS	
ITEM	RELATED PART
2	6 Fuel Filter Fuel Lines

REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.
2	108920 A	FUEL PUMP	1
	*144752	FUEL PUMP	1
	# 51814	GASKET	1
3	*145950	GASKET	1
	# 146984	GASKET	1
6	120725	TUBE-PUMP TO CARBURETOR	2
7	16185	FITTING-FUEL LINE TO CARB.	1
	108922 A	KIT-REPAIR	1
	108923 A	KIT-DIAPHRAGM	1

REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.
	*146982	KIT-REPAIR	1
	*146983	KIT-DIAPHRAGM	1
	15155	LOCKWASHER-5/16	2
	15055	NUT-5/16 UNC	2
		MOUNTING-NOT ILL.	2
		*FIRST USED ON ENGINE SERIAL NO. 12596.	
		#FIRST USED ON ENGINE SERIAL NO. 11038.	
		#INCLUDED IN OIL PAN GASKET SET, SEE PAGE C10.	

THROTTLE LINKAGE

FOR GAS AND DIESEL

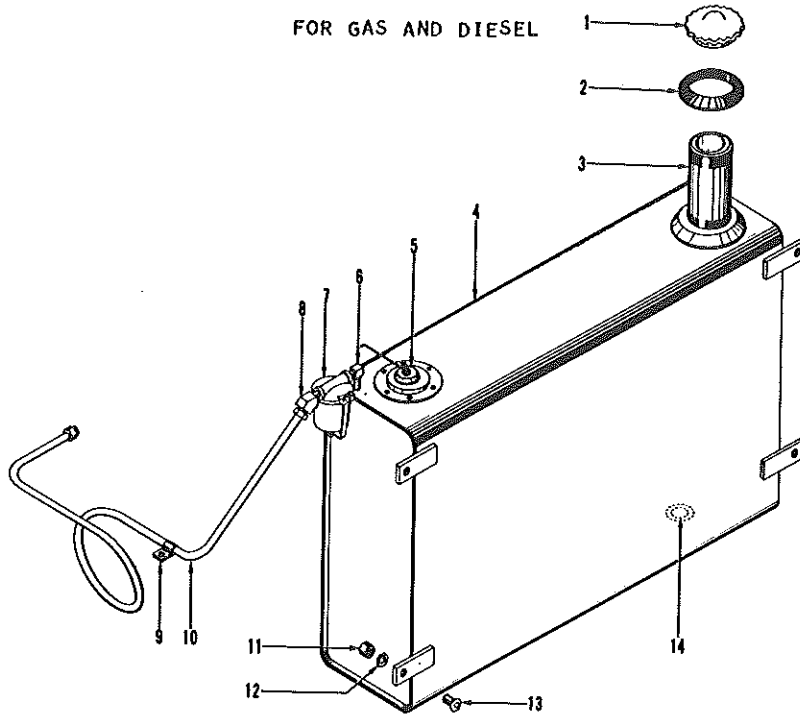


REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.
2	66958	PEDAL-THROTTLE	1
3	108812	LEVER-THROTTLE PEDAL	1
4	15551	CAPSCREW-1/4 UNC X 1/2	1
5	15004	NUT-1/4 UNC	1
	15154	LOCKWASHER-1/4	2
7	66956	PIN	1
8	69037	ANCHOR-THROTTLE PEDAL	2
9	15551	CAPSCREW-1/4 UNC X 1/2	4
	15154	LOCKWASHER-1/4	4
11	26770	SPRING	1
12	108045	LINK-THROTTLE	1
	15211	PIN-COTTER	2
14	13429	CRANK	2
15	15578	CAPSCREW-1/4 UNC X 1	2
	15154	LOCKWASHER-1/4	2
17	108046	SHAFT	1

REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.
18	125	ROD-END	1
19	126	PIN-ROD END	1
	15200	COTTER	1
	108047	LINK-THROTTLE, FOR GAS ENGINE	1
21	982038	LINK-THROTTLE, FOR 4-203 DIESEL	1
	980410	LINK-THROTTLE, FOR P-4 DIESEL	1
22	15004	NUT-1/4 UNF	1
23	100267	CLIP-CLEVIS, FOR GAS ENGINE	1
	100262	CLIP-CLEVIS, FOR DIESEL ENGINE	1
	108147	CONTROL-CHOKE, FOR GAS ENGINE	1
24	983459	CONTROL-STOP, FOR 4-203 DIESEL	1
	980401	CONTROL-STOP, FOR P-4 DIESEL	1
	132806	BRACKET	1
	132807	SPRING	1
	132808	BRACKET	1
		NOT ILLUSTRATED-ON CARBURETOR	1

FUEL SYSTEM

FOR GAS AND DIESEL



KEY
 A-FOR B11L AND B11D GAS KARRY KRANES ONLY, ILLUSTRATED.
 B-FOR B11A, B11E, B11G AND B11H GAS KARRY KRANES ONLY.
 C-FOR B11A, B11E, B11G AND B11H DIESEL KARRY KRANES ONLY.

REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.		
			A	B	C
1	160773 A	CAP-GAS	1	1	..
	157704	CAP-DIESEL	..	..	1
	67353	GASKET-CAP	1	1	1
2	61843	WASHER-RUBBER	1	1	1
	69455	PIPE-FILLER	1	1	1
4	*107952 W	TANK-FUEL	1	1	1
	986233	TANK-FUEL	..	1	1
	982054 W	TANK-FUEL	..	1	1
	980102 W	TANK-FUEL, FOR P-4 DIESEL	..	..	1
	981721	STRAP-MOUNTING	..	4	4
	981722	FELT	..	2	2
	15528	CAPSCREW-3/8 UNF X 2	..	2	2
	15156	LOCKWASHER-3/8	..	2	2
	15006	NUT-3/8 UNF	..	2	2
	*107958	SENDER-FUEL LEVER, 6 VOLT	1	1	1
* 76577	SENDER-FUEL LEVEL, 12 VOLT	1	1	1	
5	981959	SENDER-FUEL LEVEL	..	1	1
	\$150772	SENDER-FUEL LEVEL	1	1	1
	8169767	SENDER-FUEL LEVEL	1	1	1
	69395	GASKET	1	1	1
	981964	GASKET	..	1	1
	\$150774	GASKET	1	1	1
	16708	SCREW-#10 X 1/2	6	6	6
	15152	LOCKWASHER-3/16	6	6	6
	14368	ELBOW-5/16 T X 1/8 P	1	..	..
	# 16151	ELBOW-1/8 P X 1/8 P	1	..	..
6	17736	ELBOW-1/8 P X 1/4	..	1	..
	* 14369	ELBOW-5/16 T X 1/4 P	..	1	1
	17314	ELBOW-1/4-1/4 NPT } FOR	..	..	1
	16151	ELBOW-1/8-1/8 NPT } P-4	..	..	1
	992465	NIPPLE-TANK RETURN } DIESEL	..	..	1
	# 61974AC	FILTER-FUEL	1	1	..
	#202466	MAGNET	1	1	..
	# 56459	GASKET-BOWL	1	1	..
	#201571	KIT-FILTER, INCLUDES ELEMENT AND GASKET	1	1	..
	#126453	SPRING	1	1	..
#201572	RETAINER-BOWL	1	1	..	

REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.			
			A	B	C	
8	16164	ELBOW-45, 5/16 T X 1/8 P	1	1	..	
9	108511	CLAMP	1	1	..	
	107959	A TUBE-FUEL LINE	1	..	..
	#117870	TUBE-FUEL LINE	1	1	..	
	**145462	TUBE-FUEL LINE	1	1	..	
	985892	A LINE-TANK TO PUMP	..	..	1
	985814	A LINE-LEAK-OFF TO TANK	4-	..	1	
	14368	ELBOW	203	..	1	
	980108	A LINE-LEAK-OFF TO TANK	..	..	1
	980106	A LINE-TANK TO PREFILT.	..	..	1
	992438	A LINE-FILT. TO PUMP	..	..	1
10	992439	A LINE-LIFT PUMP-FILTER	..	..	1
	980363	CLAMP-FUEL LINE	..	..	1
	11	15006	NUT-3/8 UNF	4	4	4
	12	15156	LOCKWASHER-3/8	4	4	4
		15176	WASHER-3/8	..	4	4
	13	16353	CAPSCREW-3/8 UNF X 1	4	4	4
	14	15314	PLUG-3/8 P	1	1	1

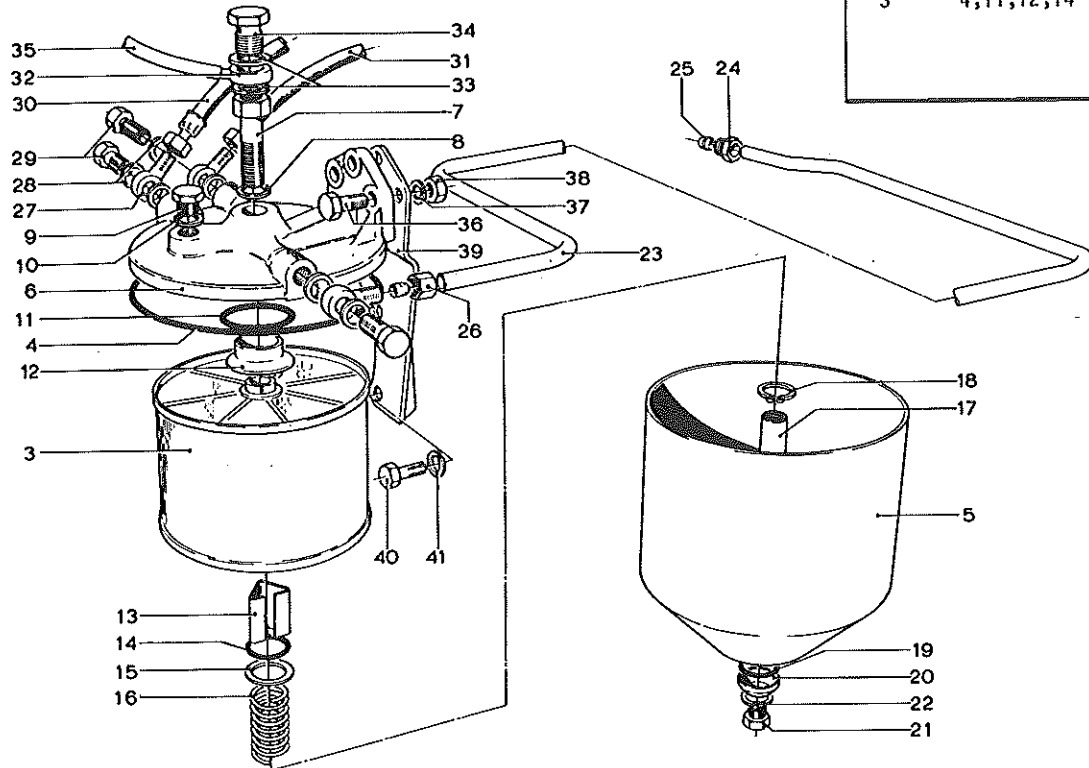
*LAST USED ON SERIAL NO. B11E-1775.
 #USED FROM SERIAL NO. B11E-1776 TO B11E-2135.
 #FIRST USED ON SERIAL NO. B11L-1886 AND B11E-1826.
 %LAST USED ON GAS MODEL ON SERIAL NO. B11E-1825.
 @FIRST USED ON SERIAL NO. B11E-2136 AND B11A-1501.
 &FIRST USED ON SERIAL NO. B110-1507.
 \$FIRST USED ON SERIAL NO. B11L-2754 & B11G-1556.
 **FIRST USED ON ENGINE NO. 145445.

FUEL OIL FILTER AND LINES

FOR 4-203 DIESEL ENGINE
LAST USED ON ENGINE NO. 2601107

COMPLETE THE JOB
WITH RELATED PARTS

ITEM	RELATED PART
3	4,11,12,14



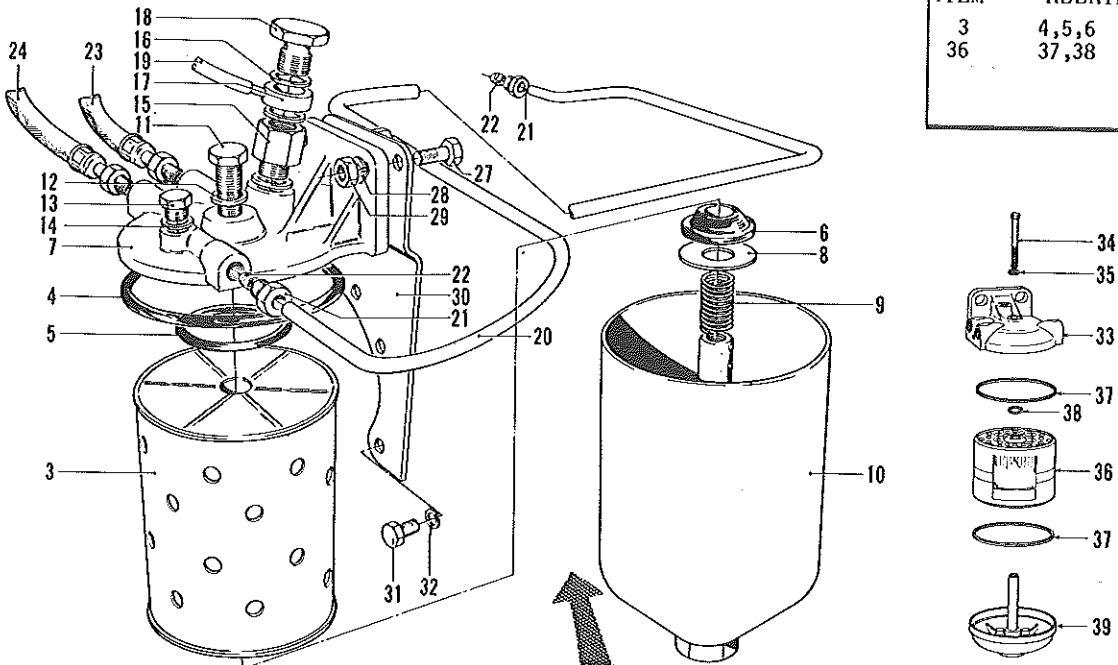
REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.
	983499 A	FILTER-FUEL	1
3	992248	ELEMENT-W/SEAL	1
4	992244	SEAL-COVER	1
5	984642	HOUSING-FILTER	1
6	985519	COVER-FILTER	1
7	985520	BOLT-FILTER AND VALVE	1
8	984646	WASHER-BOLT	1
9	985521	PLUG-CLOSING	1
10	992772	WASHER-PLUG	1
11	984270	SEAL-COLLAR	1
12	985255	COLLAR-SEALING	1
13	984648	SLEEVE-LOCATING	1
14	984650	RING-SEAL, LOWER	1
15	984649	WASHER-FLAT	1
16	984651	SPRING	1
17	984647	BOLT-CENTER	1
18	984654	SNAP RING	1
19	984652	SEAL-BASE CUP	1
20	984653	CUP-BASE	1
21	984644	PLUG-BOLT	1

REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.
22	984645	WASHER-PLUG	1
23	982190 A	PIPE-LIFT PUMP TO FILTER	1
24	983342	NUT	1
25	16177	SLEEVE	2
26	983349	NUT	1
27	982377	FITTING-FUEL PIPE	3
28	992651	WASHER	6
29	992011	BOLT-FITTING	3
30	984814	LINE-FUEL, FILTER TO INJ. PUMP	1
31	984813	LINE-FUEL, INJ. PUMP RET.-FILT.	1
32	982379	CONNECTION	1
33	983348	WASHER	2
34	983346	BOLT	1
35	982193	TUBE-OVERFLOW TO NO. 1 ATOMIZER	1
36	985157	CAPSCREW-FILTER TO BRACKET	3
37	992635	WASHER	3
38	984314	NUT	3
39	984660	BRACKET-FILTER SUPPORT	1
40	982158	CAPSCREW-BRACKET TO TIMING CASE	3
41	992636	LOCKWASHER	3

FUEL OIL FILTER AND LINES

FOR 4-203 DIESEL ENGINE
FIRST USED ON ENGINE NO. 2601108

COMPLETE THE JOB WITH RELATED PARTS	
ITEM	RELATED PART
3	4,5,6
36	37,38



PARTS SERVICE GRAM	
Item	Gram
20	E-C-7

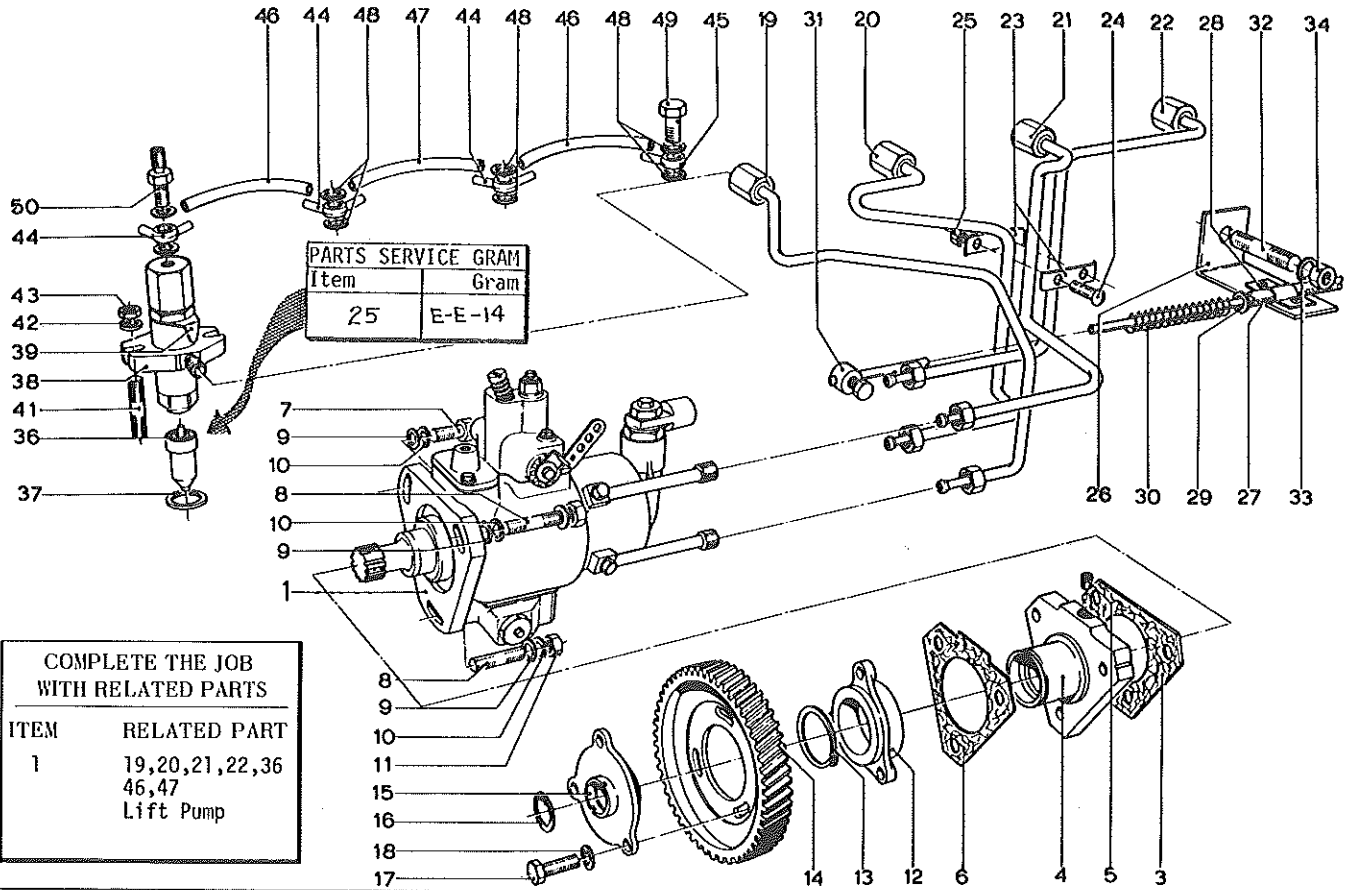
REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.
	985224	A FILTER	1
3	985220	ELEMENT	1
4	983561	GASKET-COVER	1
5	985276	SEAL-ELEMENT, TOP	1
6	985266	SEAL-ELEMENT, BOTTOM	1
7	985267	COVER-FILTER	1
8	985275	WASHER	1
9	985274	SPRING-ELEMENT	1
10	985271	SHELL	1
11	985273	BOLT-COVER	1
12	985265	WASHER-BOLT	1
13	985270	PLUG-VALVE	1
14	985269	GASKET-PLUG	1
15	985228	VALVE-NON-RETURN	1
16	983348	WASHER-VALVE	3
17	982236	FITTING	1
18	177511	BOLT	1
19	984588	TUBE-OVERFLOW TO NO. 4 ATOMISER	1
20	*985217	A PIPE-LIFT PUMP TO FILTER	1
	985221	A PIPE-LIFT PUMP TO FILTER	1
	#167943	PIPE-LIFT PUMP TO FILTER	1
21	985222	NUT	2
	#158186	NUT	2
22	16114	SLEEVE	2
	#158187	SLEEVE	2

REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.
23	985593	LINE-FILTER TO INJECTION PUMP	1
	%168347	PIPE-FILTER TO INJECTION PUMP	1
	#168342	PIPE-FILTER TO INJECTION PUMP	1
	*168348	LINE-INJ. PUMP RETURN TO FILTER	1
24	986069	A PIPE-INJ. PUMP RETURN TO FILTER	1
	#168343	PIPE-INJ. PUMP RETURN TO FILTER	1
27	* 99773	CAPSCREW	2
	985225	STUD	2
28	15156	LOCKWASHER-3/8	2
29	17158	NUT-3/8 UNF	2
30	*985215	BRACKET-FILTER	1
31	*982158	CAPSCREW	3
32	*992636	WASHER	3
33	99772	A FILTER-FUEL OIL	1
	124215	COVER	1
34	124216	BOLT-CENTER	1
35	984645	WASHER-BOLT	1
36	124217	ELEMENT-FILTER	1
37	124218	RING-SEAL	2
38	124239	RING-SEAL	1
39	124219	BASE	1

*LAST USED ON ENGINE NO. 2607831.
 %FIRST USED ON ENGINE NO. 2607832.
 #FIRST USED ON ENGINE NO. 203U6597.
 %FIRST USED ON ENGINE NO. 2612220.
 @FIRST USED ON ENGINE NO. 203U15660.
 &FIRST USED ON ENGINE NO. 203U36474.

FUEL INJECTION SYSTEM

FOR 4-203 DIESEL ENGINE



REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.
1	.....	FUEL INJ. PUMP-SEE PG. D13 & D15	1
3	982352	GASKET	1
4	982353	CARRIER	1
5	173255	PLUG	1
6	982355	GASKET-CARRIER TO HOUSING	1
7	18756	CAPSCREW-5/16 UNC X 1 3/4	1
8	983337	STUD	2
9	.....	WASHER	3
10	15155	LOCKWASHER-5/16	3
11	992597	NUT	2
12	982356	HUB-DRIVE GEAR	1
13	982357	SNAP RING	1
14	982358	GEAR-DRIVE	1
15	985610	ADAPTER-DRIVE GEAR	1
16	982360	SNAP RING	1
17	16825	CAPSCREW-5/16 UNF X 1	3
18	15155	LOCKWASHER-5/16	3
19	982365 A	PIPE-INJ. NO. 1, W/NUTS & SLVS.	1
	*985606 A	PIPE-INJ. NO. 1, W/NUTS & SLVS.	1
20	982367 A	PIPE-INJ. NO. 2, W/NUTS & SLVS.	1
	*985607 A	PIPE-INJ. NO. 2, W/NUTS & SLVS.	1
21	982368 A	PIPE-INJ. NO. 3, W/NUTS & SLVS.	1
	*985608 A	PIPE-INJ. NO. 3, W/NUTS & SLVS.	1
22	982370 A	PIPE-INJ. NO. 4, W/NUTS & SLVS.	1
	*985609 A	PIPE-INJ. NO. 4, W/NUTS & SLVS.	1
23	991838	CLIP-NO. 2,3 & 4 PIPES	2
24	16773	SETSCREW-3/8 UNC X 1 1/2	2
25	983993	NUT	2
26	982202	BRACKET-STOP CONTROL CABLE	1

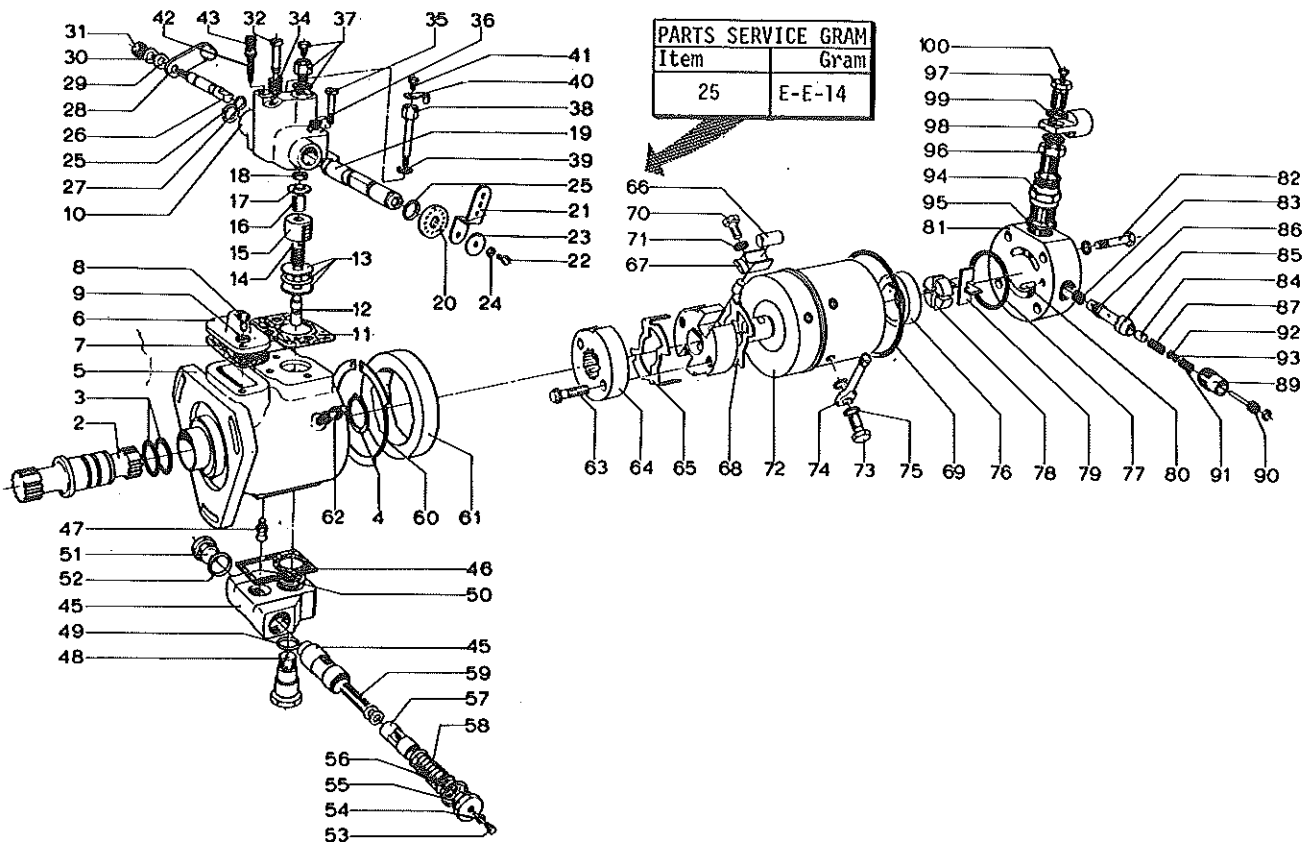
REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.
27	983459	CABLE-STOP CONTROL	1
28	991854	CLIP-W/SCREWS AND NUTS	1
29	981868	WASHER	1
30	981869	SPRING	1
31	991741	NIPPLE	1
32	982156	STUD-TO CYLINDER BLOCK	1
33	15156	LOCKWASHER-3/8	1
34	15006	NUT-3/8 UNF	1
36	168931	ATOMISER	4
	983480	NOZZLE-INJECTION	1
37	#990615	WASHER-SEATING	1
38	168932	HOLDER-NOZZLE	1
39	983481	WASHER	1
41	984321	STUD-ATOMIZER	8
42	992630	WASHER	8
43	17158	NUT-3/8 UNF	8
44	@152609	CONNECTION	2
45	@152608	CONNECTION	2
46	@148502	PIPE-LEAK-OFF	1
47	@133605	PIPE-LEAK-OFF, CENTER	1
48	985567	WASHER	8
49	983340	BOLT	3
50	983575	BOLT-LEAK-OFF CONNECTION	1

*FIRST USED ON ENGINE NO. 2604417.
 @INCLUDED IN BOTTOM OVERHAUL GASKET SET, SEE PAGE C19.
 #INCLUDED IN TOP OVERHAUL GASKET SET, SEE PAGE C19.
 @FIRST USED ON ENGINE NO. 203U36474.

FUEL INJECTION PUMP

FOR 4-203 DIESEL ENGINE

USED ON SERIAL NO. 811E-1791 TO 811E-1860



REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.
	983334 A	FUEL INJECTION PUMP	1
2	984293	SHAFT-DRIVE	1
3	984222	SEAL-DRIVE SHAFT	1
4	985289	SNAP RING	1
5	.....	HOUSING-PUMP	1
6	984301	COVER-ADJUSTING HOLE	1
7	984261	GASKET-COVER	1
8	984262	SCREW-COVER	2
9	984217	WASHER	2
10	984311	HOUSING-CONTROL	1
11	984244	GASKET-HOUSING CONTROL	1
12	984292	VALVE-METERING	1
13	984213	WASHER-DAMPER	1
	984215	WASHER-SEALING	1
	984285	WASHER-FLOATING	1
14	984288	SPRING-METERING VALVE	1
15	984232	RACK-METERING VALVE	1
16	984239	SPRING-IDLING	1
17	984241	WASHER-SHUT OFF	1
18	984242	NUT-METERING VALVE	1
19	984246	PINION-METERING VALVE	1
20	984235	PLATE-VERNIER	1
21	984312	ARM-THROTTLE	1

REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.
22	984229	SCREW-LOCKING PLATE	1
23	984279	WASHER-PLAIN	1
24	984217	LOCKWASHER	1
25	984208	SEAL-PINION	2
26	984302	SHAFT-SHUT OFF	1
27	984221	SEAL-SPINDLE	1
28	984245	LEVER-SHUT OFF	1
29	983704	WASHER-PLAIN	1
30	984217	LOCKWASHER	1
31	984243	NUT	1
32	984227	SCREW-IDLE ADJUSTING	1
	984220	SEAL-IDLING SCREW	1
34	984240	SPRING-IDLING SCREW	1
35	984226	SCREW-CONTROL HOUSING, SHORT	1
36	984214	WASHER	1
37	984259 A	VENT SCREW	1
	984260	WASHER-VENT SCREW	1
38	985287	SCREW-CONTROL HOUSING	1
39	984214	WASHER	1
40	984234	PLATE-LOCKING	1
41	984225	SCREW-LOCKING PLATE	1
42	984228	SCREW-MAXIMUM ADJUSTING	1
	984220	SEAL-ADJUSTING SCREW	1

FUEL INJECTION PUMP

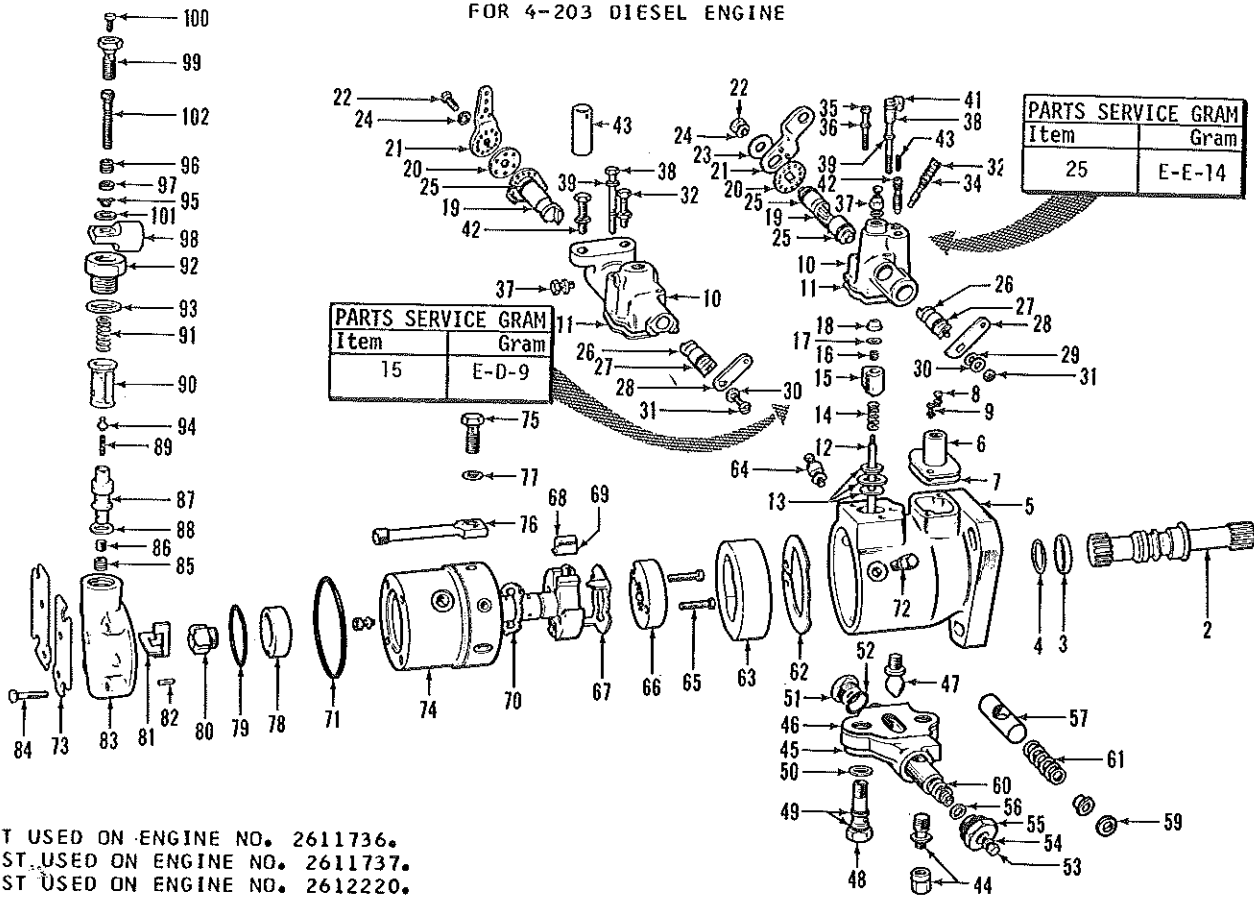
FOR 4-203 DIESEL ENGINE

USED ON SERIAL NO. 811E-1791 TO 811E-1860

REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.	REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.
43	982351	PLUG-RUBBER	1	71	984252	WASHER	2
45	984304 A	HOUSING AND PISTON	1	72	984294 A	DISTRIBUTOR HEAD AND ROTOR	1
46	984267	GASKET-HOUSING	1	73	984236	BOLT FUEL CONNECTION	4
47	984297	SCREW-CAM ADVANCE	1	74	984230	BANJO-LONG	4
48	984237	STUD-HEAD LOCATING	1	75	984254	WASHER-BANJO	8
49	984270	SEAL-STUD	2	76	984223	LINER	1
50	984268	WASHER-STUD	1	77	984218	SEAL	1
51	984295	PLUG-PISTON	1	78	984247	ROTOR	1
52	984271	SEAL-PLUG	2	79	984480	BLADE	2
53	984278	SCREW	1	80	984204	PIN-LOCATING	1
54	992669	WASHER-STOP SCREW	1	81	984203	END-PLATE	1
55	984296	CAP-PISTON SPRING	1	82	984205	SCREW-FIXING END PLATE	4
56	984272	SHIM-0.1 MM	AR	83	984206	SPRING-PISTON RETAINING	1
	984275	SHIM-0.2 MM	AR	84	984209	PISTON-REGULATING VALVE	1
	984003	SHIM-0.5 MM	AR	85	984303	SLEEVE-REGULATING VALVE	1
	984273	SHIM-1.0 MM	AR	86	984207	SEAL-SLEEVE INNER	1
	984274	SHIM-2.0 MM	AR	87	984210	SPRING-REGULATING	1
57	984298	PLUNGER	1	88	984208	SEAL-SLEEVE OUTER	1
58	984269	SPRING-PISTON OUTER	1	89	984309	PLUG-REGULATING VALVE	1
59	984299	SPRING-PLUNGER	1	90	984307	SCREW-ADJUSTING	1
60	984238	RING-TIMING	1	91	984308	SPRING-ADJUSTING	1
61	984258	CAM-RING	1	92	984220	SEAL-WASHER	1
62	984249 A	VENT SCREW	1	93	984287	WASHER-ADJUSTING SPRING	1
63	984257	SCREW-DRIVE PLATE	2	94	984264	NIPPLE-UNION	1
64	984290	PLATE-DRIVE	1	95	161665	WASHER-INLET	2
65	984233	PLATE-ADJUSTING TOP	1	96	984263	UNION-BANJO BOLT	1
66	984231	ROLLER	2	97	984306	BOLT-BANJO	1
67	984256	SHOE-CAM ROLLER	2	98	984305	BANJO-INLET	1
68	984255	PLATE-ADJUSTING BOTTOM	1	99	984280	WASHER-BANJO BOLT	2
69	984219	SEAL-DISTRIBUTOR HEAD	1	100	984251	SCREW-VENT	1
70	984224	SCREW-HEAD LOCKING	1				

FUEL INJECTION PUMP

FOR 4-203 DIESEL ENGINE



KEY
 A-LAST USED ON ENGINE NO. 2611736.
 B-FIRST USED ON ENGINE NO. 2611737.
 C-FIRST USED ON ENGINE NO. 2612220.
 D-FIRST USED ON ENGINE NO. 203U12892, ILLUSTRATED.

REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.			
			A	B	C	D
	985695	A FUEL INJECTION PUMP	1	..	..	..
	141759	FUEL INJECTION PUMP	..	1	..	..
	142594	FUEL INJECTION PUMP	..	..	1	..
	175190	FUEL INJECTION PUMP	..	..	..	1
2	985624	SHAFT-DRIVE	1	..	..	..
	135449	SHAFT-DRIVE	..	1	1	1
3	*	SEAL-DRIVE SHAFT	2	2	2	..
	169406	SEAL-DRIVE SHAFT	..	..	..	1
4	985289	SNAP RING	1	1	1	1
	.....	HOUSING-PUMP	1	1	1	1
5	985627	STUD-HOUSING	1	1	1	..
	985628	NUT-CAP	1	1	1	..
	.....	WASHER-CAP NUT	1	1	1	..
6	984484	COVER-ADJUSTING	1	1	1	1
7	*	GASKET-COVER	1	1	1	..
	*984261	GASKET-COVER	..	..	..	1
8	984262	CAPSCREW	2	2	2	2
9	984217	LOCKWASHER	2	2	2	2
	985286	HOUSING-CONTROL	1	..	..	..
10	135457	HOUSING-CONTROL	..	1	1	..
	174592	HOUSING-CONTROL	..	..	..	1
11	*984244	GASKET-HOUSING	1	..	..	..
	135458	GASKET-HOUSING	..	1	1	1
	984292	VALVE-METERING	1	1	1	1
12	135450	VALVE-METERING, OS	..	1	1	1
	135454	SLEEVE-VALVE	..	1	1	..
	984285	WASHER-TOP	1	..	..	..
	135451	WASHER-TOP	..	1	1	1
13	985557	WASHER-SEAL, BOTTOM	1	..	..	..
	135453	WASHER-SEAL, BOTTOM	..	1	1	1
	984213	WASHER-DAMPER, CENTER	1	..	..	..
	135452	WASHER-DAMPER, CENTER	..	1	1	1

REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.			
			A	B	C	D
14	984240	SPRING-METERING VLV.	1	..	..	..
	135455	SPRING-METERING VLV.	..	1	1	1
	984232	RACK-METERING VALVE	1	..	..	..
15	135454	SLEEVE-METERING VLV.	..	1	1	..
	174591	SLEEVE-METERING VLV.	..	..	..	1
16	984239	SPRING-IDLING	1	1	1	1
17	984241	WASHER-SHUT-OFF	1	..	..	..
	135456	WASHER-SHUT-OFF	..	1	1	1
18	984242	NUT-METERING VALVE	1	..	..	1
19	984483	PINION-METERING VLV.	1	..	..	..
	162414	SHAFT-THROTTLE	..	1	1	1
20	984235	PLATE-VERNIER	1	..	..	..
	162415	PLATE-VERNIER	..	..	1	1
21	984312	ARM-THROTTLE	1	..	..	..
	135461	ARM-THROTTLE	..	1	1	1
22	984229	SCREW-LOCKING PLATE	1	..	..	..
	135463	SCREW-LOCKING PLATE	..	1	1	1
23	984279	WASHER	1	..	..	..
24	984217	LOCKWASHER	1	1	1	..
	15154	LOCKWASHER-1/4	..	..	..	1
25	*	SEAL-PINION	1	1	..	..
	*174010	SEAL-PINION	..	..	3	3
26	984482	SHAFT-SHUT-OFF	1	..	..	..
	135465	SHAFT-SHUT-OFF	..	1	1	1
	984221	SEAL-SHAFT	1	..	..	..
27	135466	SEAL-SHAFT	..	1	1	..
	174595	SEAL-SHAFT	..	..	..	1

FUEL INJECTION PUMP

FOR 4-203 DIESEL ENGINE

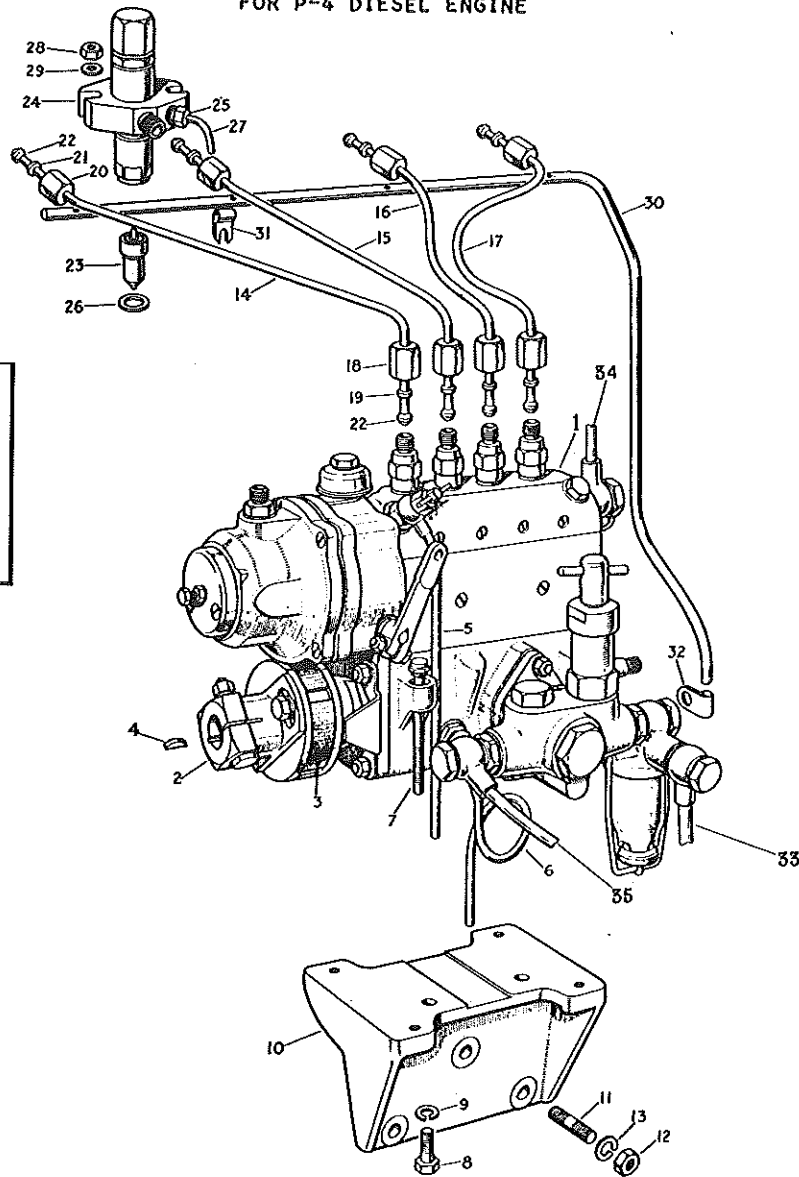
REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.				REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.			
			A	B	C	D				A	B	C	D
28	984245	LEVER-SHUT-OFF	1	..	..	..	60	984269	SPRING-PISTON, OUTER	1	1	1	1
	135467	LEVER-SHUT-OFF	..	1	1	..		135472	SPRING-PISTON, INNER	..	1	..	..
	174596	LEVER-SHUT-OFF	..	..	..	1		984299	SPRING-PLUNGER	1	1	1	1
29	983704	WASHER	1	..	..	..	984284	WASHER	1	1	1	1	
30	984217	LOCKWASHER	1	1	1	1	62	984238	RING-TIMING	1	..	..	..
31	984243	NUT	1	..	..	..		161670	RING-TIMING	..	1	1	1
	134969	CAPSCREW	..	1	1	1	63	984258	RING-CAM	1	1	1	1
32	984227	SCREW-IDLE ADJUSTING	1	..	..	..	64	984249	VENT SCREW-HEAD	1	..	..	..
	135468	SCREW-IDLE ADJUSTING	..	1	1	1		134915	VENT SCREW-HEAD	..	1	1	1
	984243	NUT-IDLE SCREW	..	1	1	..	65	984257	SCREW-DRIVE PLATE	2	2	2	2
	161678	NUT-IDLE SCREW	..	..	..	1	66	985553	PLATE-DRIVE	1	1	1	1
34	*985288	SEAL-SCREW	1	..	..	..	67	984233	PLATE-ADJUSTING, TOP	1	1	1	1
	984240	SPRING-IDLE SCREW	1	..	..	..	68	984231	ROLLER-CAM	2	2	2	2
35	984226	SCREW-CONTROL HSG.	1	..	..	..	69	984256	SHOE-CAM ROLLER	2	2	2	2
36	.....	WASHER	1	..	..	..	70	984255	PLATE-ADJ., BOTTOM	1	1	1	1
37	284259	VENT SCREW	2	..	..	..	71	*	SEAL-DIST. HEAD	1	1	1	..
	174593	VENT SCREW	..	..	..	1		*984219	SEAL-DIST. HEAD	..	..	..	1
	.....	WASHER	2	..	..	..	984224	CPSCR.-HEAD LOCKING	1	1	1	1	
38	174594	WASHER	..	..	..	1	72	*	WASHER	2	2	2	..
	985287	SCREW-CONTROL HSG.	1	..	..	..		*984252	WASHER	..	..	..	2
39	135459	SCREW-CONTROL HSG.	..	1	1	2	73	145694	PLATE-CLAMPING	..	..	..	2
	.....	WASHER	1	1	1	..		984294	DIST. HEAD AND ROTOR	1	1	1	1
40	173998	WASHER	..	..	..	2	74	984248	SCREW-PLUGGING	1	1	1	1
	984225	SCREW-PLATE	1	..	..	..		.....	WASHER	1	1	1	1
41	984234	PLATE-LOCKING	1	..	..	..	75	984236	BOLT-FUEL CONNECTION	4	4	4	4
42	984228	SCREW-ADJ.,HIGH IDLE	1	..	..	..	76	984230	FITTING-LONG	4	4	..	..
	135469	SCREW-ADJ.,HIGH IDLE	..	1	1	1	145696	FITTING	..	..	4	4	
43	984243	NUT	..	1	1	..	77	.....	WASHER-FUEL CONN.	8	8	8	..
	161678	NUT	..	..	..	1		174590	WASHER-FUEL CONN.	..	..	..	8
	*985288	SEAL-SCREW	1	..	..	..	78	984223	LINER	1	1	..	..
135470	SLEEVE-LOCKING	..	1	1	1	145695		LINER	..	..	1	1	
44	982351	PLUG-RUBBER	1	..	..	..	79	*984218	SEAL	1	1	1	1
	985627	STUD-HOUSING	1	1	1	1	80	984247	ROTOR	1	1	1	1
	985628	NUT-CAP	1	1	1	1	81	984480	BLADE	2	2	..	..
*	WASHER	1	1	1	..	984300		BLADE	..	..	2	2	
45	*985629	WASHER	..	..	..	1	82	984204	PIN-LOCATING	1	1	1	1
46	985625	HOUSING AND PISTON	1	1	1	1	83	985523	PLATE-END	1	..	..	..
	*	GASKET-HOUSING	1	1	1	..		174588	PLATE-END	..	1	1	1
47	*985626	GASKET-HOUSING	..	..	..	1	84	182943	CAPSCREW-END PLATE	4	4	4	4
48	985630	SCREW-CAM ADVANCE	1	1	1	1	85	984206	SPRING-PISTON RET.	1	1	1	1
49	984237	STUD-HEAD LOCATING	1	1	1	..	86	986209	PISTON-REGULATING	1	1	1	..
	174598	STUD-HEAD LOCATING	..	..	..	1		169391	PISTON-REGULATING	..	..	..	1
50	.....	SEAL-STUD	2	2	2	..	87	984473	SLEEVE-PISTON	1	1	1	1
	169405	SEAL-STUD	..	..	..	2	88	*	WASHER-SLEEVE	1	1	1	..
51	984268	WASHER	1	1	1	1		*985281	WASHER-SLEEVE	..	..	..	1
52	985551	PLUG-PISTON	1	..	..	..	89	984210	SPRING-REGULATING	1	1	1	1
	135473	PLUG-PISTON	..	1	1	1	90	984477	FILTER	1	1	1	1
53	*	SEAL-PLUG	2	2	2	..	91	984474	SPRING-SLEEVE RET.	1	1	1	1
	*984271	SEAL-PLUG	..	..	..	1	92	984476	CONNECTION-FUEL	1	1	..	1
54	984278	SCREW-STOP	1	1	1	1		985702	CONNECTION-FUEL	..	..	1	..
55	*985631	WASHER-STOP SCREW	1	1	1	..	93	*	WASHER-CONNECTION	1	1	1	..
	174597	WASHER-STOP SCREW	..	..	..	1		*161665	WASHER-CONNECTION	..	..	..	1
56	985556	CAP-PISTON SPRING	1	..	..	..	94	985283	PLUG-SLEEVE	1	1	1	1
	135474	CAP-PISTON	..	1	1	1	95	985285	SPRING-TORSION	1	1	1	1
57	*	SEAL-CAP	..	1	1	..	96	985284	SPRING-ADJ. SCREW	1	1	1	1
	*984271	SEAL-CAP	..	..	..	1	97	*985282	WASHER-PLUG	1	1	1	1
	984275	SHIM-0.2 MM	AR	AR	AR	..	98	984487	FITTING-CONNECTION	1	1	..	1
	169399	SHIM-0.2 MM	..	..	..	AR	99	984306	BOLT-FITTING	1	1	..	1
	984003	SHIM-0.5 MM	AR	AR	AR	..	100	984251	CAPSCREW-VENT	1	1	..	1
	169402	SHIM-0.5 MM	..	..	..	AR	101	*	WASHER-FITTING	2	2	..	..
	984273	SHIM-1.0 MM	AR	AR	AR	..		*984280	WASHER-FITTING	..	..	..	2
	169403	SHIM-1.0 MM	..	..	..	AR	102	984478	SCREW-ADJUSTING	1	1	1	1
984274	SHIM-2.0 MM	AR	AR	AR	..								
169404	SHIM-2.0 MM	..	..	..	AR								
59	984298	PLUNGER-PISTON	1	1	1	1							
59	986412	SHIM-PLUNGER SPRING	AR	AR	AR	AR							

*INCLUDED IN GASKET KIT NO. 174020.

†LAST USED ON ENGINE NO. 2612219.

FUEL INJECTION EQUIPMENT

FOR P-4 DIESEL ENGINE



COMPLETE THE JOB
WITH RELATED PARTS

ITEM	RELATED PART
1	14,15,16,17,23 27,30 Fuel Filters

REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.
1	991504 A	PUMP-FUEL INJECTION	1
2	991517	HALF COUPLING-FUEL PUMP DRIVE	1
3	990600	DISC-FUEL PUMP COUPLING	1
	992662	WASHER-COUPLING	2
4	990601	KEY	1
5	990598	PIPE-PUMP AIR VENT	1
6	991505	PIPE-PUMP CAMSHAFT CHAMBER DRAIN	1
7	990602	CAPSCREW-INJECTION PUMP	4
8	992582	CAPSCREW-PUMP LOCATING	2
9	980681	LOCKWASHER	2
10	991506	BRACKET-FUEL INJECTION PUMP	1
11	991830	STUD-BRACKET	3
12	992599	NUT-STUD	3
13	992637	WASHER	3
14	991507 A	PIPE SET-PUMP TO ATOMISERS	1
	991508	PIPE-NO. 1 CYL.	1
15	991509	PIPE-NO. 2 CYL.	1
16	991510	PIPE-NO. 3 CYL.	1
17	991511	PIPE-NO. 4 CYL.	1
18	992612	NUT-PUMP END	4

REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.
19	992668	WASHER-PUMP END	4
20	992611	NUT-NOZZLE END	4
21	992667	WASHER-NOZZLE END	4
22	990608	NIPPLE-PIPE	8
23	980689 A	ATOMISER-FUEL INJECTION	4
	991513	NOZZLE-ATOMISER	1
24	992053	HOLDER-ATOMISER	1
25	.....	NUT-UNION	1
26	990615	WASHER-COPPER	1
27	980694	PIPE-LEAK OFF	1
28	17158	NUT	8
29	992630	WASHER	8
30	991953	PIPE-MAIN LEAK OFF	1
31	990618	CLIP	2
32	990619	CLIP	1
33	992437 A	FUEL LINE-FROM FUEL TANK	1
34	992439 A	FUEL LINE-FROM SECONDARY FILTER	1
35	992438 A	FUEL LINE-LIFT PUMP-SEC. FILTER	1
	991573 A	CABLE-ENGINE SHUT-OFF, NOT ILL.	1

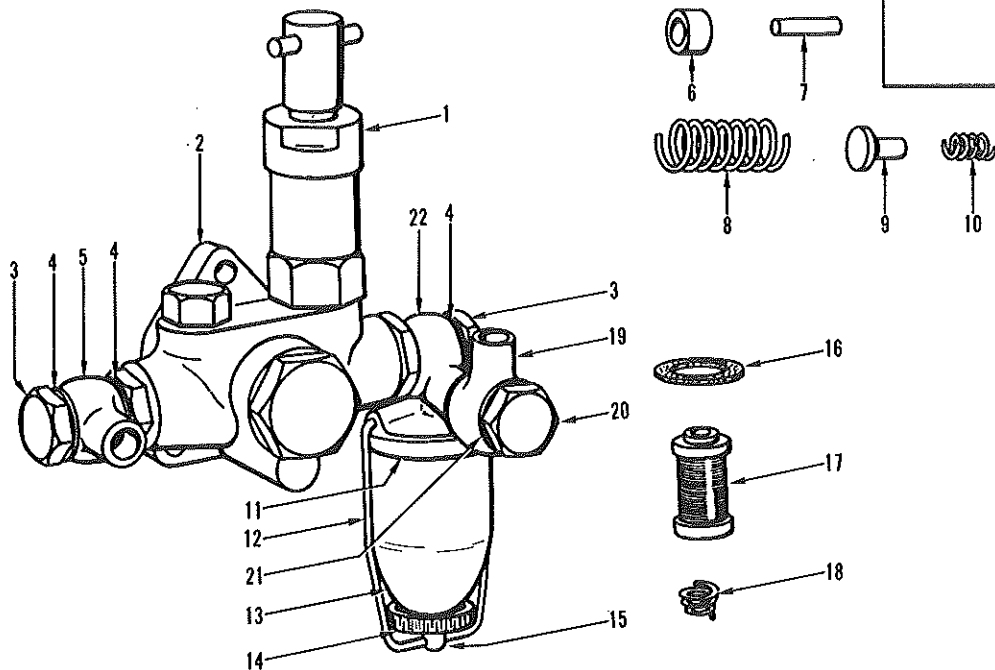
HYSTER COMPANY
PORTLAND, OREGON

FUEL FEED PUMP AND PRE-FILTER

FOR P-4 DIESEL ENGINE

COMPLETE THE JOB
WITH RELATED PARTS

ITEM	RELATED PART
2	11 Fuel Lines



REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.
1	992349 A	HAND PRIMER	1
2	980126	GASKET-PUMP TO INJECTION PUMP	1
	992337 A	PUMP-FUEL FEED	1
3	992340	BOLT-FITTING	2
4	992775	WASHER	4
5	992358	CONNECTION	1
6	992338	ROLLER-TAPPET	1
7	992339	PIN-ROLLER	1
8	992341	SPRING-PLUNGER	1
9	992342	VALVE	1
10	992343	SPRING-VALVE	1
11	992344 A	PRE-FILTER	1

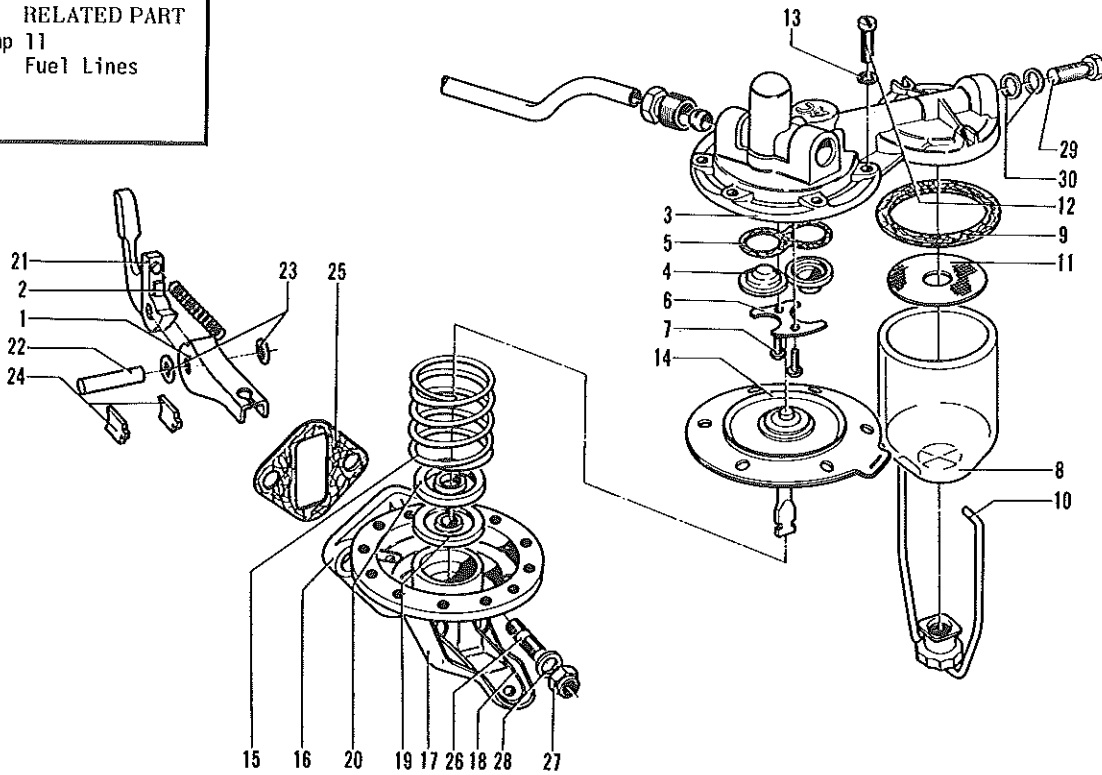
REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.
12	992781	CLIP-SPRING	1
13	992348	BOWL-FILTER	1
14	992782	NUT-BOWL	1
15	992783	SCREW-CLIP	1
16	992780	GASKET-BOWL	1
17	992346	ELEMENT-FILTER	1
18	992347	SPRING	1
19	992867	CONNECTION	1
20	992340	BOLT-FITTING	1
21	992775	WASHER	2
22	980424	HOLDER-FILTER	1

LIFT PUMP AND PRE-FILTER

FOR 4-203 DIESEL ENGINE

COMPLETE THE JOB
WITH RELATED PARTS

ITEM	RELATED PART
Lift Pump 11	Fuel Lines



KEY
A—LAST USED ON ENGINE SERIAL NO. 2609349.
B—FIRST USED ON ENGINE SERIAL NO. 2609350.

REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.	
			A	B
	982361 A	LIFT PUMP	1	..
	986444	LIFT PUMP	..	1
1	□983589	LEVER-DIAPHRAGM	1	..
	□124222	LEVER-DIAPHRAGM	..	1
2	□983591	SPRING-RETURN	1	1
3	983576 A	HOUSING AND BOWL	1	..
	151159	HOUSING AND BOWL	..	1
	983577	HOUSING-VALVE	1	..
4	*	VALVE-FUEL	2	2
5	*983579	GASKET-VALVE	1	..
	*	GASKET-VALVE	..	2
6	983580	PLATE-RETAINING	1	..
7	16716	SCREW-#6 UNC X 3/8	2	..
8	990319	BOWL-SEDIMENT	1	1
9	*	GASKET-BOWL	1	1
10	983583	STIRRUP-BOWL	1	1
11	□ 56549	FILTER	1	..
12	983818	SCREW } HOUSING	6	6
13	983586	WASHER } TO BODY	6	6
14	*983587	DIAPHRAGM-LIFT PUMP	1	1
15	983588	SPRING-RETURN	1	1
16	983595	BODY-LEVER	1	..
	136396	BODY-LEVER	..	1
17	148518	LEVER-PRIMING	1	1
18	148519	SPRING-RETURN	1	1
19	□983596	SEAL	1	1

REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.	
			A	B
20	□983597	RETAINER	1	1
21	983590	ARM-ROCKER	1	1
22	□983592	PIN-PIVOT	2	1
23	*983593	WASHER	2	2
24	□986473	RETAINER-PIN	2	..
	□	RETAINER-PIN	..	2
25	*#158905	GASKET-PUMP TO BLOCK	1	1
26	99686	STUD	..	2
27	984383	NUT	2	2
28	15155	WASHER-5/16	2	2
29	982951	BOLT-FITTING	1	1
30	79803	WASHER	2	2
	985214 A	DIAPHRAGM KIT	1	..
	986166 A	DIAPHRAGM KIT	..	1
	985522 A	MAJOR REPAIR KIT	1	..
	986167 A	MAJOR REPAIR KIT	..	1

*INCLUDED IN DIAPHRAGM KIT.

□INCLUDED IN MAJOR REPAIR KIT.

#INCLUDED IN BOTTOM OVERHAUL GASKET SET, SEE PAGE C19.

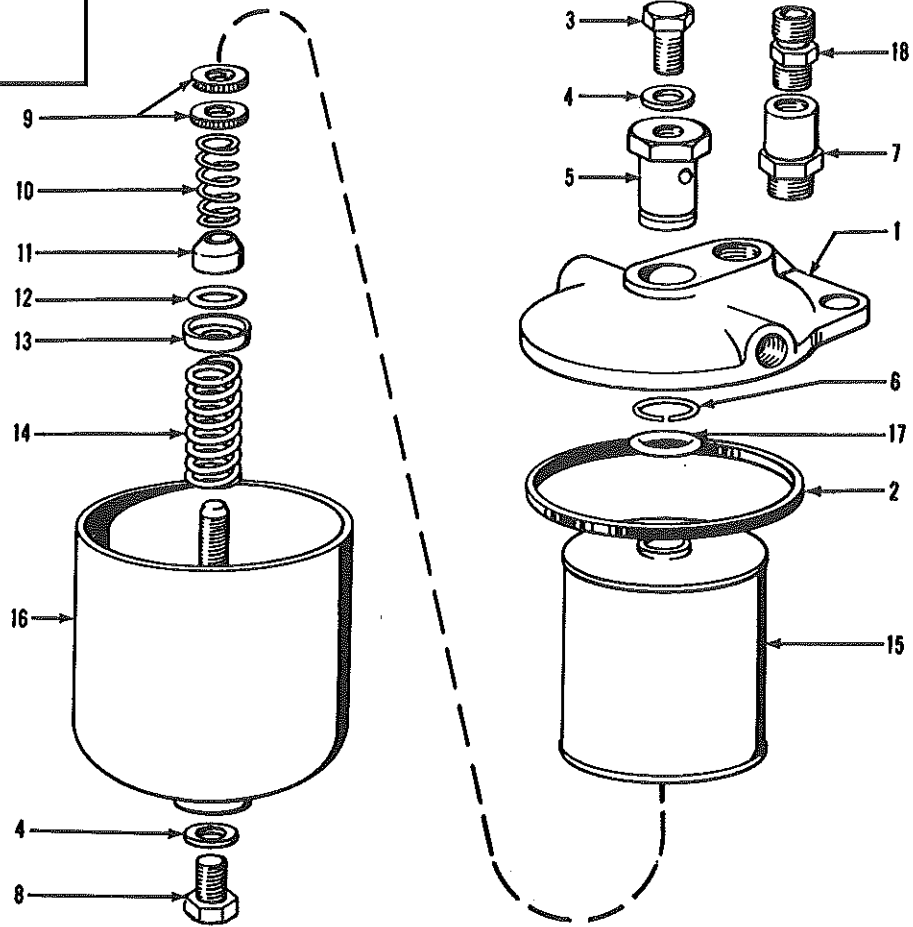
NOTE-MAJOR KIT INCLUDES DIAPHRAGM KIT.

SECONDARY FILTER

FOR P-4 DIESEL ENGINE

COMPLETE THE JOB
WITH RELATED PARTS

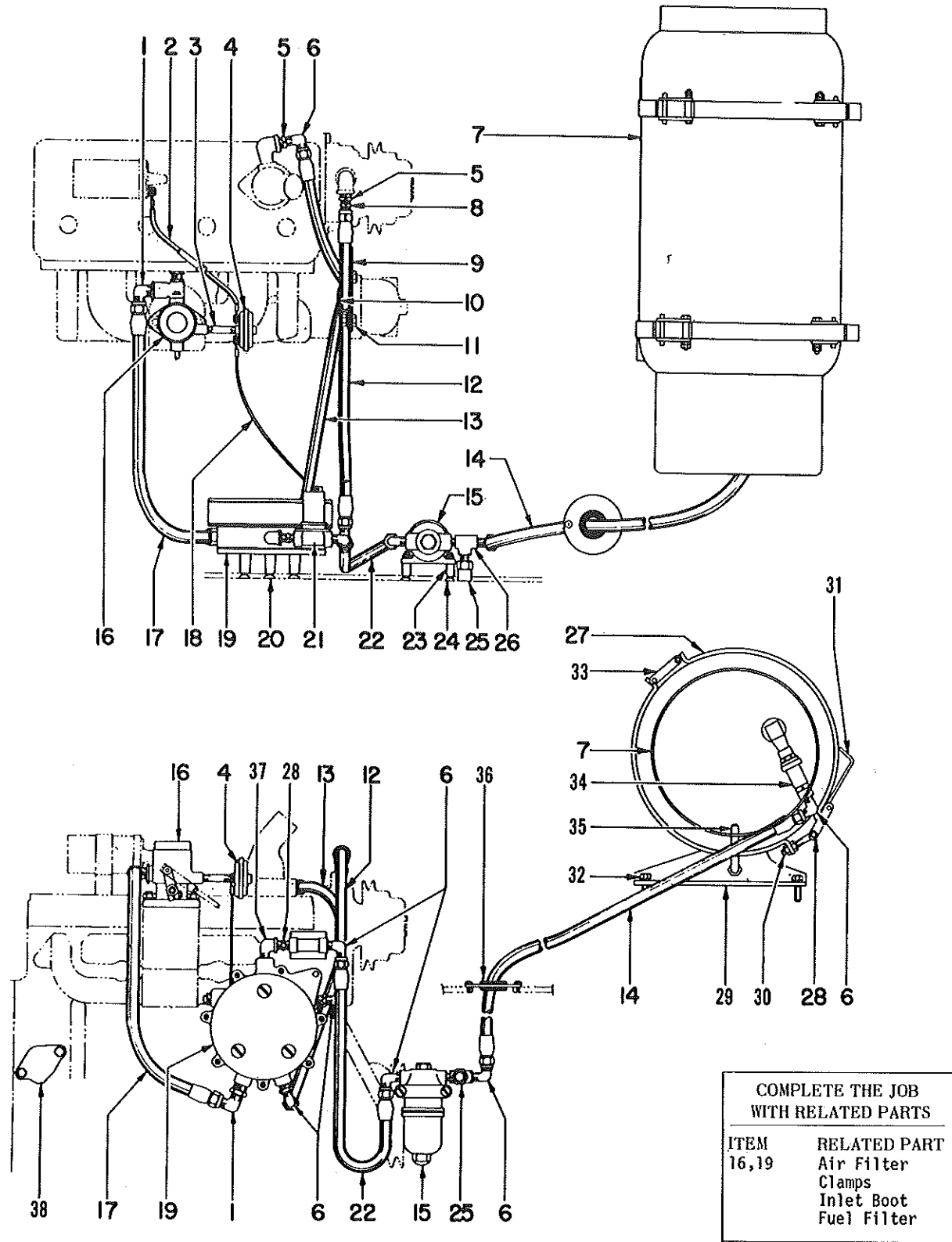
ITEM	RELATED PART
15	2,12,17



REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.
	991314 A	FUEL FILTER-SECONDARY	1
1	992243	COVER-HOUSING	1
2	992244	GASKET-COVER	1
3	992771	PLUG-VENT	1
4	992772	GASKET	2
5	992773	NUT-COVER	1
6	992774	WIRE-RETAINER	1
7	992245	RELIEF VALVE-PRESSURE	1
8	992768	PLUG-DRAIN	1
9	992736	NUT	2

REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.
10	992769	SPRING-UPPER	1
11	992246	COLLAR-SPACING	1
12	992247	RING-RUBBER	1
13	992737	WASHER	1
14	992770	SPRING-LOWER	1
15	992248	ELEMENT-FILTER	1
16	992249	HOUSING-FILTER	1
17	992767	GASKET-FILTER	1
18	991845	UNION	3

L. P. G. EQUIPMENT



L. P. G. EQUIPMENT

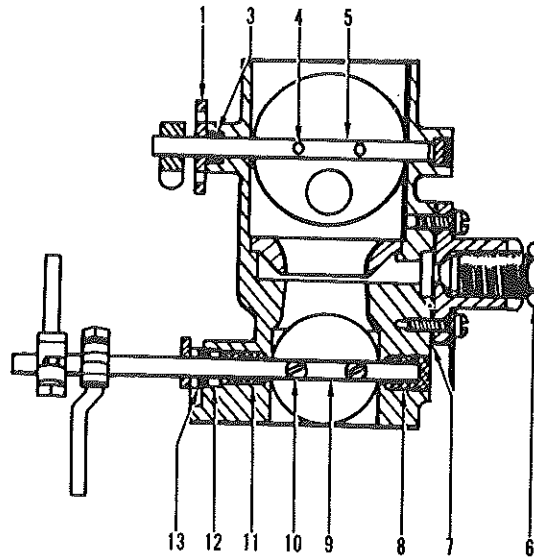
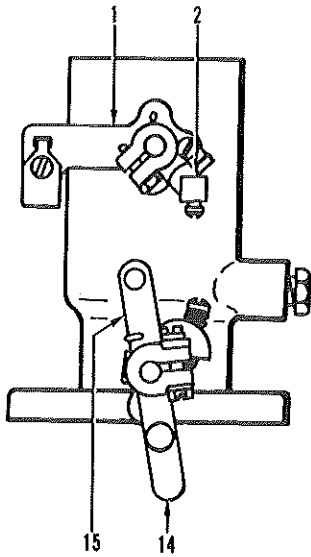
REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.	REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.
1	105326	ELBOW-3/8 P X 1/2 T	2	26	105324	TEE-1/4 P	1
2	120636	WIRE-IGNITION	1		146157	BRACKET	1
	109780	LOOM	2	27	□147410	BRACKET	1
3	19623	NIPPLE-1/8 P X 4 1/4	1		#108536 W	STRAP-UPPER	2
	15378	ELBOW-STREET, 1/8 P	1		#108293	LINK	8
4	101810	SWITCH-VACUUM	1	28	# 15746	CAPSCREW-1/4 UNF X 1 3/4	4
	56893	DIAPHRAGM	1		# 15024	NUT-JAM, 1/4 UNF	8
5	63108	BUSHING-3/8 X 1/4	2	29	#108569 W	SUPPORT-TANK	1
6	14358	ELBOW-1/4 P X 3/8 T	7		#108294 W	BOLT-TEE	2
	172654	L.P.G. TANK-33 1/2 LB. CAPACITY	1	30	□147291	FORK	2
	144798	L.P.G. TANK-43 1/2 LB. CAPACITY	1		# 15056	NUT-3/8 UNC	4
	56942 A	GAUGE-FUEL	1		□147294	NUT-ADJUSTING	2
7	200170	RELIEF VALVE	1	31	#108290	ARM-LEVER	2
	15448	ELBOW	1		□147288	ARM-LEVER	2
	200172	CAP-RAIN, RELIEF VALVE	1		□147295	CAPSCREW-1/4 UNF X 3	2
	233908	VALVE-SHUT-OFF	1	32	□147296	NUT-LOCK, 1/4 UNF	2
8	105317	CONNECTOR-1/4 P X 3/8 T	1		25062	CAPSCREW-3/8 UNC X 1 1/4	4
9	108830	PLATE	1		15155	LOCKWASHER-3/8	4
10	63169	CLAMP-DOUBLE HOSE	1	33	16271	NIPPLE-1/4 PIPE	1
	15525	CAPSCREW-3/8 UNC X 3/4	2		56879 A	DISCONNECT FITTING	1
11	15155	LOCKWASHER-3/8	2	34	101811	FEMALE END	1
	15056	NUT-3/8 UNC	2		56878	MALE END-COMES WITH TANK	1
12	106776	HOSE-TO WATER PUMP	1	35	110631	PIN-TANK LOCATING	1
13	108824	HOSE-TO WATER OUTLET	1		15056	NUT-3/8 UNC	2
14	101804	HOSE-TO TANK	1		108831	PLATE	1
15	.....	FILTER-SEE PAGE D23	1	36	94351	GROMMET	1
16	.....	CARBURETOR-SEE PAGE D23	1		12886	CAPSCREW-1/4 UNF X 3/4	2
17	106358 A	HOSE-TO CARBURETOR	1		15154	LOCKWASHER-1/4	2
18	108826	WIRE-SWITCH TO SOLENOID	1	37	17314	ELBOW-STREET, 1/4 P	1
19	.....	L.P.G. REGULATOR-SEE PAGE D24	1	38	200214	COVER-FUEL PUMP HOLE	1
20	15757	CAPSCREW-3/8 UNC X 1 1/4	3		*145949	COVER-FUEL PUMP HOLE	1
21	.....	VALVE-MAG. LOCK-OFF, SEE PAGE D25	1				
22	107612	HOSE-LOCK-OFF VALVE TO FILTER	1				
23	105950	SPACER	2				
	16530	MACHINE SCREW-5/16 UNC X 1 3/4	2				
24	15155	LOCKWASHER-5/16	2				
	15001	NUT-5/16 UNC	2				
25	101809	VALVE-RELIEF	1				

*FIRST USED ON ENGINE SERIAL NO. 12596.

#LAST USED ON SERIAL NO. BILL-2758.

□FOR U.K. TANK MOUNTING.

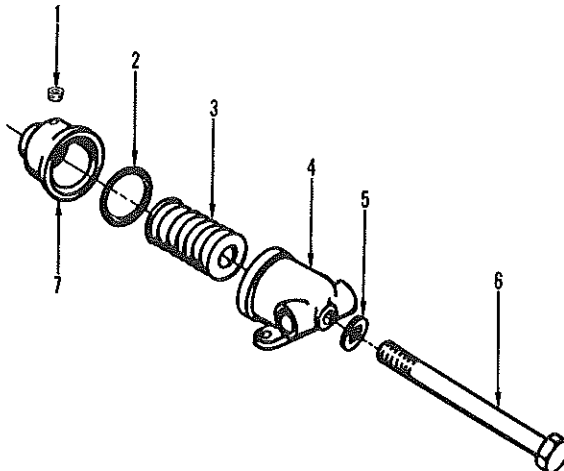
L. P. G. CARBURETOR



REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.
	108822 A	CARBURETOR	1
1	56784	BRACKET-CHOKE	1
2	56899	SWIVEL-CHOKE	1
3	109365	PACKING-CHOKE SHAFT	1
4	109347	SCREW-NO. 6-32 X 1/4	2
5	56785	SHAFT-CHOKE	1
6	232122	SCREW-FUEL ADJUSTING	1
7	232121	GASKET-FUEL INLET HOUSING	1
8	232120	BUSHING-THROTTLE SHAFT	1
9	56898	SHAFT-THROTTLE	1

REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.
10	56787	SCREW-NO. 4-40 X 1/4	2
11	232119	BUSHING-THROTTLE SHAFT	1
12	232118	PACKING-THROTTLE SHAFT	1
13	232117	RETAINER-THROTTLE SHAFT PACK.	1
14	56897	LEVER-THROTTLE	1
15	56900	LEVER-GOVERNOR	1
	56057	GASKET	1
	15056	NUT-3/8 UNC	2
	15156	LOCKWASHER-3/8	2
		MOUNTING-NOT ILLUSTRATED	2

L. P. G. FILTER

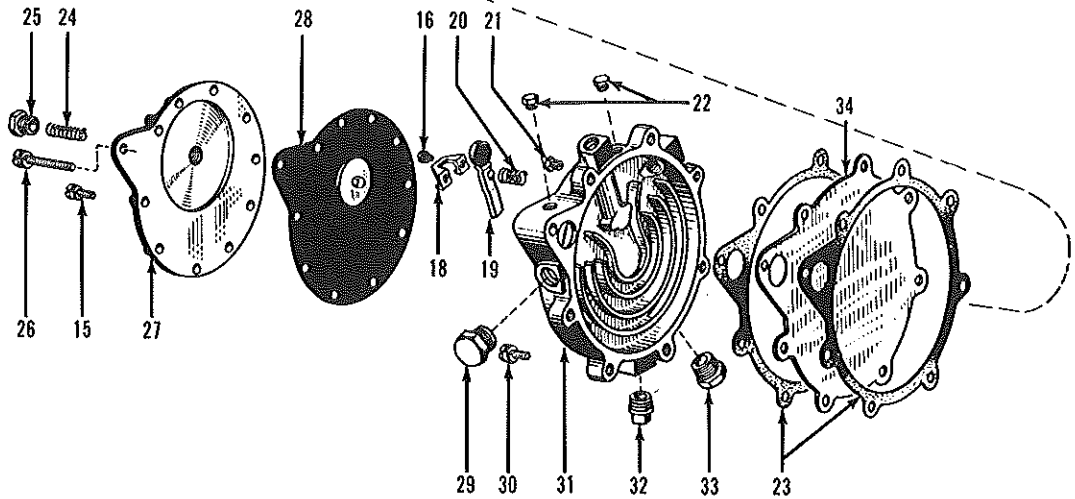
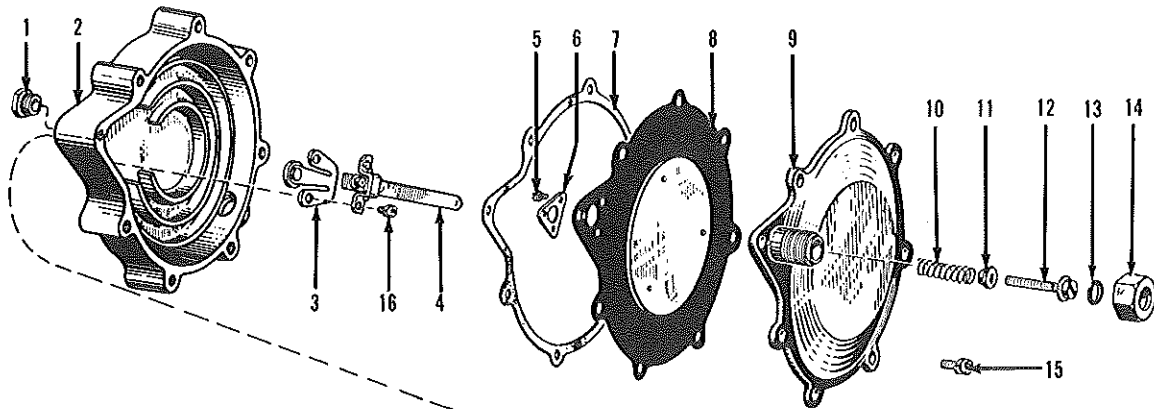


REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.
	101789 A	FILTER-L.P.G.	1
1	14349	PLUG-1/8 PIPE	1
2	*	GASKET-BODY	1
3	*	FILTER	1
4	56675	COVER	1

REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.
5	*	GASKET-COVER SCREW	1
6	56671	SCREW-9/16 UNF X 5	1
7	56677	BASE	1

*INCLUDED IN FILTER REPAIR KIT 56698.

L. P. G. REGULATOR

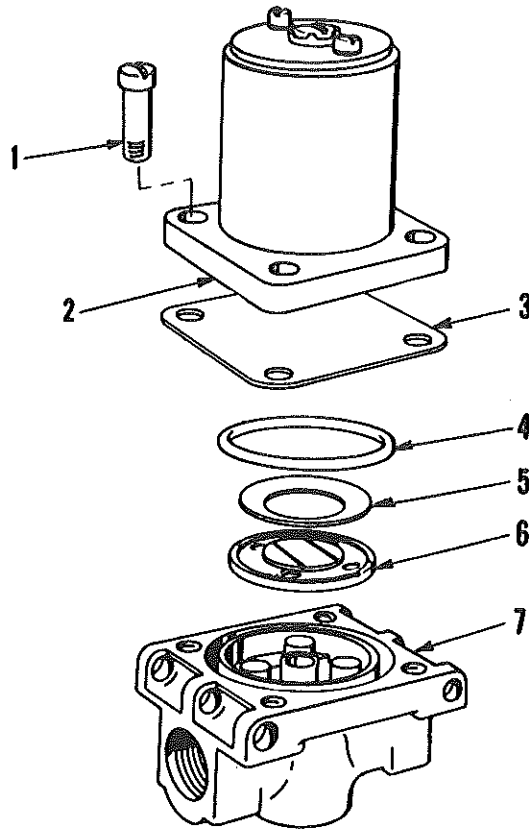


REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.
	101791 A	REGULATOR-L.P.G.	1
1	56728	SEAT-SECONDARY VALVE	1
2	56701	BODY-SECONDARY	1
3	* 56724	LEVER } SECONDARY	1
4	* 56722	LEVER } VALVE	1
5	* 56702	SCREW-#6 UNC X 1/4	3
6	56730	PLATE-SEALING	1
7	* 56710	GASKET	1
8	* 56732	DIAPHRAGM-SECONDARY	1
9	56718	COVER-SECONDARY	1
10	* 56713	SPRING-BLUE	1
	232115	SPRING-RED } SECONDARY VALVE	1
	56891	SPRING-GREEN	1
11	56714	RETAINER-SPRING	1
12	56703	SCREW-IDLE ADJUSTING	1
13	* 56709	GASKET-SEAL	1
14	56726	CAP-SCREW	1
15	.....	SCREW WITH LOCKWASHER-#12-24 X 5/8	18
16	.....	SCREW WITH LOCKWASHER-#8 UNC X 5/16	4

REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.
18	* 56721	BRACKET-LEVER	1
19	* 56723	LEVER-PRIMARY	1
20	* 56712	SPRING-LEVER	1
21	* 56727	SEAT-PRIMARY VALVE	1
22	14349	PLUG-1/8 NPT	2
23	* 56708	GASKET-WATER JACKET	2
24	* 56711	SPRING-DIAPHRAGM	1
25	56725	CAP-SPRING RETAINER	1
26	56707	SCREW WITH LOCKWASHER-#12-24 X 2 1/8	1
27	232116	COVER-PRIMARY	1
28	* 56731	DIAPHRAGM-PRIMARY	1
29	15457	BUSHING-3/8 X 1/4	2
30	56706	SCREW WITH LOCKWASHER-#12-24 X 1	7
31	56700	BODY-PRIMARY	1
32	15302	PLUG-3/8 NPT	2
33	56716	BUSHING-1/2 X 3/8	1
34	56729	PLATE-BAFFLE	1

*INCLUDED IN REPAIR KIT 232114A.

MAGNETIC LOCK-OFF VALVE



KEY
 A-FOR 6-VOLT SYSTEM ONLY.
 B-FOR 12-VOLT SYSTEM ONLY.

REF. NO.	HYSTER PART NO.	NAME OF PART				QTY.	
		1	2	3	4	A	B
	101808AB	MAGNETIC	LOCK-OFF	VALVE			1 ..
	121037 A	MAGNETIC	LOCK-OFF	VALVE			.. 1
1	200819	SCREW					4 4
2	202404	ELECTROMAGNET-6 VOLT					1 ..
	134401	ELECTROMAGNET-12 VOLT					.. 1

REF. NO.	HYSTER PART NO.	NAME OF PART				QTY.	
		1	2	3	4	A	B
3	202405	DIAPHRAGM	SEAL				1 1
4	202406	O-RING					1 1
5	233151	SPRING-ARMATURE					1 1
6	233152	ARMATURE					1 1
7	.....	BODY					1 1

Section E

ELECTRICAL EQUIPMENT

INDEX

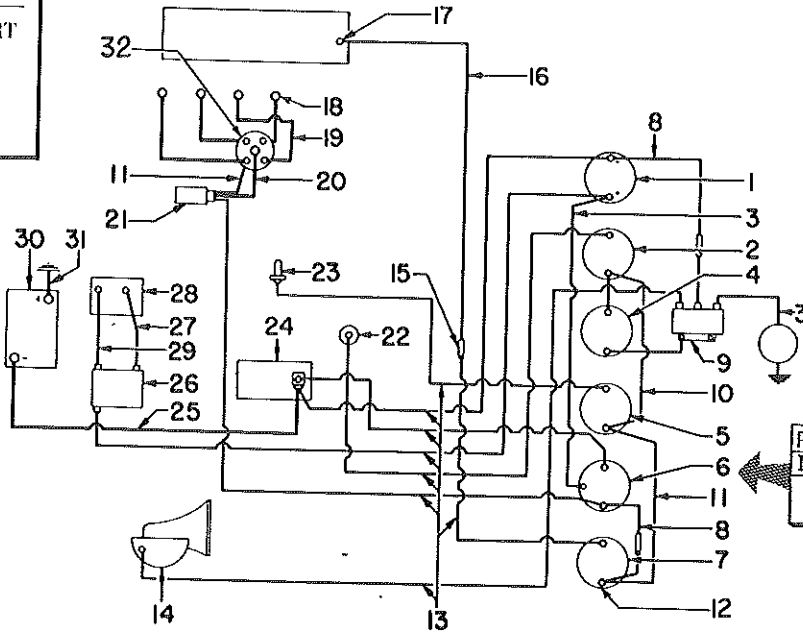
DISTRIBUTOR	E7
ELECTRICAL SYSTEM (Gas)	E1-E3
ELECTRICAL SYSTEM (4-203 Diesel)	E4-E5
ELECTRICAL SYSTEM (P-4 Diesel)	E6
GENERATOR (Gas And 4-203 Diesel)	E8-E9
GENERATOR (P-4 Diesel)	E10
STARTER MOTOR (Gas Engine)	E12-E13
STARTER MOTOR (4-203 Diesel)	E15-E17
STARTER MOTOR (P-4 Diesel)	E14

ELECTRICAL SYSTEM - 6 VOLT

FOR GAS ENGINES WITH GENERATORS

LAST USED ON SERIAL NO. 811L-2091 AND 811E-2135

COMPLETE THE JOB WITH RELATED PARTS	
ITEM	RELATED PART
17	7
18	19
26	13,28,30
30	25,26,28,31



PARTS SERVICE GRAM	
Item	Gram
6	F-C-8R3

KEY
 A-FOR 811L AND 811D GAS KARRY KRANES ONLY, ILLUSTRATED.
 B-FOR 811E, 811A, 811G AND 811H GAS KARRY KRANES ONLY.

REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.	
			A	B
1	126368	AMMETER	1	..
	981953	AMMETER	..	1
2	27788	GAUGE-OIL PRESSURE	1	..
	981982	GAUGE-OIL PRESSURE	..	1
3	69308 A	WIRE	2	2
4	69299 A	HOUR METER	1	1
5	202064	GAUGE-WATER TEMPERATURE	1	..
	981980	GAUGE-WATER TEMPERATURE	..	1
6	181332	SWITCH-IGNITION AND START	1	1
	181333	KEY-IGNITION	1	1
7	68032	GAUGE-FUEL	1	..
	981979	GAUGE-FUEL	..	1
8	69305	WIRE	2	1
9	10531	RELAY-HORN	1	..
10	100848 A	WIRE	1	1
11	69309 A	WIRE	2	2
12	15002	NUT-NO. 10-32	11	11
	15152	LOCKWASHER-NO. 10	11	11
13	108148	HARNES-WIRING	1	..
	982072	HARNES-WIRING	..	1
14	2033 B	HORN-6 VOLT	1	..
	101210	BRACKET-HORN	1	..
15	981411	HORN-6 VOLT	..	1
	42958	CONNECTOR	1	..
16	108151 A	WIRE	1	..
	107958	SENDER-FUEL GAUGE	1	..
17	981959	SENDER-FUEL GAUGE	..	1
	69395	GASKET	1	1

REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.	
			A	B
18	123872	SPARK PLUG	4	4
19	106039 A	IGNITION WIRE SET	1	1
20	69312 A	WIRE-DIST TO COIL	1	1
21	109832 A	COIL	1	1
	22060	COIL	1	1
22	109833	BRACKET-COIL	1	1
	27785	SENDER-OIL PRESSURE	1	..
23	981877	SENDER-OIL PRESSURE	..	1
	202065	SENDER-WATER TEMPERATURE	1	..
24	981978	SENDER-WATER TEMPERATURE	..	1
	.....	STARTING MOTOR-SEE PAGE E12	1	1
25	108152 A	CABLE-BATTERY	1	..
	982074	CABLE-BATTERY	..	1
26	55638	REGULATOR-VOLTAGE	1	1
27	108149 A	WIRE-GEN. TO VOLTAGE REG.	1	..
28	.....	GENERATOR-SEE PAGE E8	1	1
29	108150 A	WIRE-GEN. TO VOLTAGE REG.	1	..
	132405	BATTERY	1	..
30	10510	BATTERY	..	1
	66141	CLAMP-HOLD DOWN	1	1
31	69302	STUD-CLAMP	2	2
	15175	WASHER-5/16	2	2
32	17443	NUT-WING, 5/16 UNC	2	2
	61835	STRAP-GROUND	1	..
32	982073	CABLE-BATTERY	..	1
	.....	DISTRIBUTOR-SEE PAGE E7	1	1

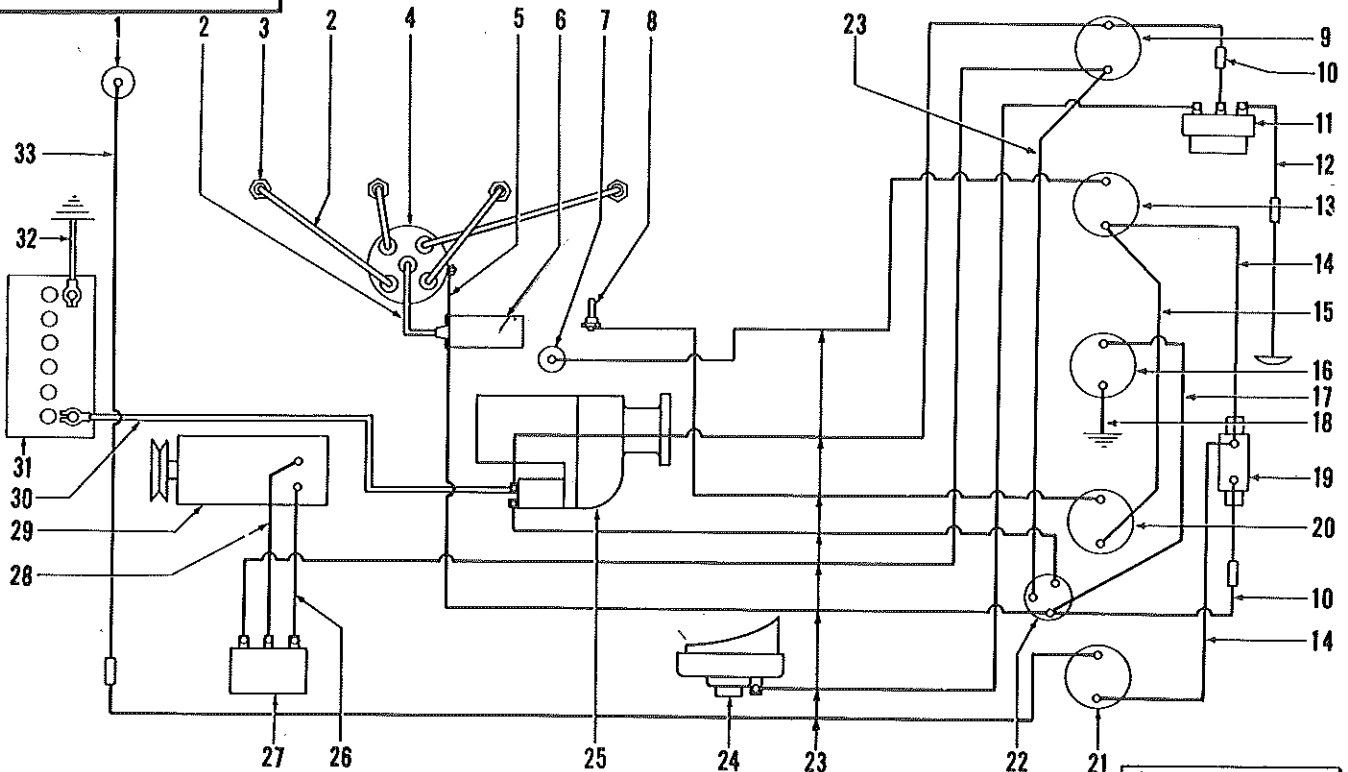
COMPLETE THE JOB WITH RELATED PARTS

ITEM	RELATED PART
1	21
3	2
27	23,29,31
31	27,29,30,32

ELECTRICAL SYSTEM - 12 VOLT

FOR GAS ENGINES WITH GENERATORS

FIRST USED ON SERIAL NO B11L-2092, B11A-1501 AND B11E-2136



PARTS SERVICE GRAM	
Item	Gram
22	F-C-8R3

KEY
 A-FOR B11L AND B11D GAS KARRY KRANES ONLY, ILLUSTRATED.
 B-FOR B11A, B11E, B11H AND B11G GAS KARRY KRANES ONLY.

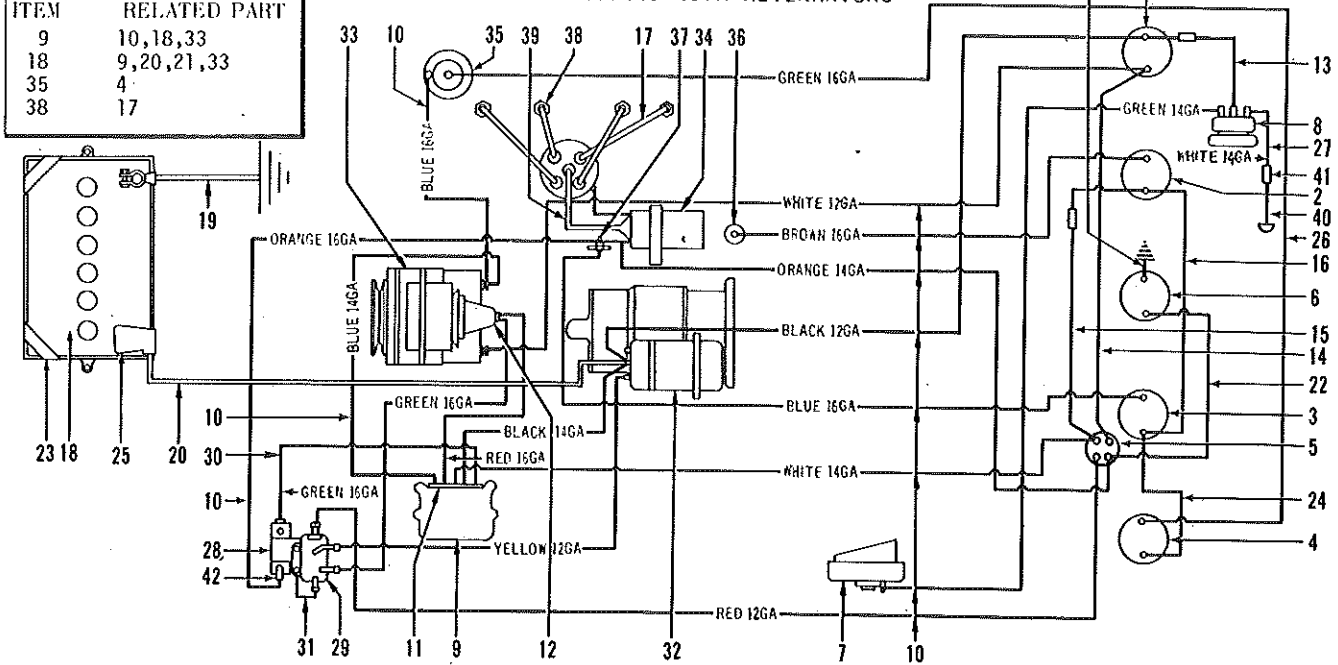
REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.	
			A	B
1	76577	SENDER UNIT-FUEL LEVEL	1	1
2	106039 A	IGNITION WIRE SET	1	1
	88928	WIRE-COIL TO DISTRIBUTOR	1	1
3	123872	SPARK PLUG	4	4
4	.....	DISTRIBUTOR-SEE PAGE E7	1	1
5	69309 A	WIRE-SECONDARY	1	1
6	122174 A	COIL	1	1
7	111556	SENDER UNIT-OIL PRESSURE	1	1
8	111558	SENDER UNIT-WATER TEMPERATURE	1	1
	15358	BUSHING-PIPE, 1/2 X 3/8 -	1	1
9	126368	AMMETER	1	1
	120636 A	WIRE	2	1
10	53124	FUSE-10 AMP	2	1
	69308	WIRE-AMMETER TO IGN. SWITCH	..	1
11	103739	RELAY-HORN	1	..
12	100848 A	WIRE-TO HORN BUTTON WIRE	1	..
13	111555	GAUGE-OIL PRESSURE	1	1
14	28284	WIRE	2	2
15	100848 A	WIRE	1	1
16	119379	HOUR METER	1	1
17	120131	WIRE	1	..
	119990	WIRE	..	1
18	119990	WIRE	1	..
	119405	WIRE	..	1
19	111562	VOLTAGE REGULATOR-GAUGE	1	1
20	111557	GAUGE-WATER TEMPERATURE	1	1
21	111559	GAUGE-FUEL	1	1

REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.	
			A	B
22	181332	SWITCH-IGNITION AND START	1	1
	181333	KEY-IGNITION	1	1
23	108148	HARNES-WIRING	1	..
	986235	HARNES-WIRING	..	1
24	103738	HORN	1	..
	101210	BRACKET	1	..
	88626	HORN	..	1
25	88603	BRACKET	..	1
	.....	STARTING MOTOR-SEE PAGE E13	1	1
26	108149 A	WIRE	1	..
27	118614	REGULATOR-VOLTAGE	1	1
28	108150 A	WIRE	1	..
29	.....	GENERATOR-SEE PAGE E9	1	1
	88993	CABLE-BATTERY	1	..
30	986236	CABLE-BATTERY	..	1
	111767	PROTECTOR	1	1
31	109783	GROMMET-CABLE	1	1
	111766	BOOT-ON STARTER	1	1
32	146938	BATTERY	1	1
	177894	BATT.-DRY CHARGED FOR EXPORT	1	1
33	120640	CLAMP-HOLD DOWN	1	1
	69302	STUD-BATTERY CLAMP	2	..
33	11095	STUD-BATTERY CLAMP	..	2
	61835	STRAP-GROUND	1	..
33	112946	STRAP-GROUND	..	1
	108151 A	WIRE-TO FUEL SENDER	1	..

COMPLETE THE JOB WITH RELATED PARTS	
ITEM	RELATED PART
9	10,18,33
18	9,20,21,33
35	4
38	17

ELECTRICAL SYSTEM - 12 VOLT

FOR GAS ENGINES WITH ALTERNATORS



KEY
 A-FOR B11L AND B11D GAS KARRY KRANES ONLY.
 B-FOR B11A, B11E, B11G AND B11H GAS KARRY KRANES ONLY.

REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.	
			A	B
1	169758	AMMETER	1	1
2	150777	GAUGE-OIL PRESSURE	1	1
	#169759	GAUGE-OIL PRESSURE	1	1
3	169779	GAUGE-WATER TEMPERATURE	1	1
4	78186	GAUGE-FUEL	1	1
	#169775	GAUGE-FUEL	1	1
5	181332	SWITCH-IGNITION AND START	1	1
	181333	KEY-IGNITION	1	1
6	119379 A	METER-HOUR	1	1
	103738	HORN	1	1
7	88626	HORN	1	1
	101210	BRACKET	1	1
8	103739	RELAY-HORN	1	1
9	126361	REGULATOR-VOLTAGE	1	1
10	149450	HARNES-WIRING	1	1
	#169799	HARNES-WIRING	1	1
	149627	HARNES-WIRING	1	1
	#169796	HARNES-WIRING	1	1
11	126380	CONNECTOR	1	1
12	126381	CONNECTOR	1	1
13	121190	WIRE	1	1
	53124	FUSE-10 AMP.	1	1
14	69308	WIRE	1	1
15	120636	WIRE	1	1
	53124	FUSE-10 AMP	1	1
16	100848 A	WIRE	1	1
	107153 A	WIRE-1 AND 4 PLUG	2	2
17	107154 A	WIRE-2 AND 3 PLUG	2	2
	110709	NIPPLE-DISTRIBUTOR END	4	4
	55924	BOOT-SPARK PLUG END	4	4
18	146938	BATTERY	1	1
	138707	BATTERY	1	1
19	61835	CABLE-BATTERY	1	1
	112946	CABLE-BATTERY	1	1
20	88993	CABLE-BATTERY	1	1
	986236	CABLE-BATTERY	1	1
21	120131	WIRE	1	1
	119405	WIRE	1	1
22	119990	WIRE	1	1

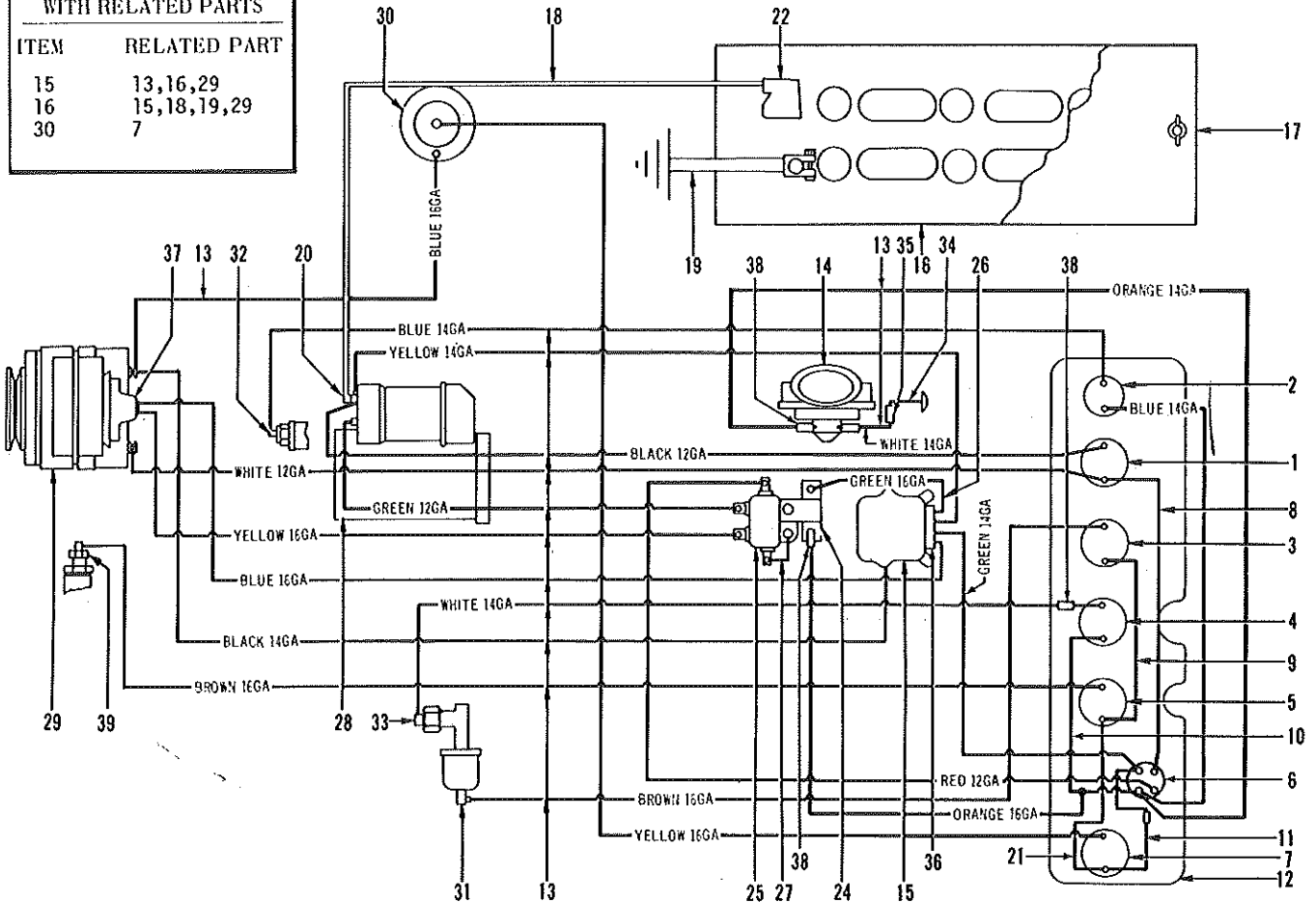
REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.	
			A	B
	985964	BRACKET-BATTERY	1	1
	120640	CLAMP-HOLD DOWN	1	1
	69302	STUD-BATTERY CLAMP	2	2
	15588	CAPSCREW-1/4 UNF X 1 1/2	4	4
23	15175	WASHER-5/16	2	2
	18515	WASHER-5/16	2	2
	17443	NUT-WING, 5/16 UNC	2	2
	16690	NUT-WING, 5/16 UNF	2	2
	11096	SPACER-RUBBER	4	4
	11095	LINK-5/16	2	2
24	69309	WIRE	1	1
25	111769	PROTECTOR-BATTERY TERMINAL	1	1
	*157065	PROTECTOR-BATTERY TERMINAL	1	1
26	108151 A	WIRE	1	1
27	175210	WIRE	1	1
28	#169793	RESISTOR	1	1
29	#144223	RELAY	1	1
30	#169794	WIRE	1	1
31	#167775	WIRE	1	1
32	.....	STARTER-SEE PAGE E13	1	1
33	.....	ALTERNATOR-SEE PAGE E11	1	1
34	122174 A	COIL	1	1
35	.....	SENDER-FUEL LEVEL-SEE PG. 09	1	1
36	150775	SENDER-OIL PRESSURE	1	1
	#169776	SENDER-OIL PRESSURE	1	1
37	77328	SENDER-WATER TEMPERATURE	1	1
	15358	BUSHING	1	1
38	123872	SPARK PLUG	4	4
39	69312 A	WIRE-DISTRIBUTOR TO COIL	1	1
	68047	NIPPLE-DISTRIBUTOR END	1	1
40	178115	WIRE	1	1
	175210	WIRE	1	1
41	129889	CONNECTOR	1	1
42	121384	CONNECTOR	1	3

*NOT ILLUSTRATED.
 #FIRST USED ON SERIAL NO. B11D-1501, B11G-1630 AND B11H-1561.
 #FIRST USED ON SERIAL NO. B11D-1507, B11H-1555 AND B11E-2394.

ELECTRICAL SYSTEM - 12 VOLT

FOR DIESEL ENGINES WITH ALTERNATORS

COMPLETE THE JOB WITH RELATED PARTS	
ITEM	RELATED PART
15	13,16,29
16	15,18,19,29
30	7



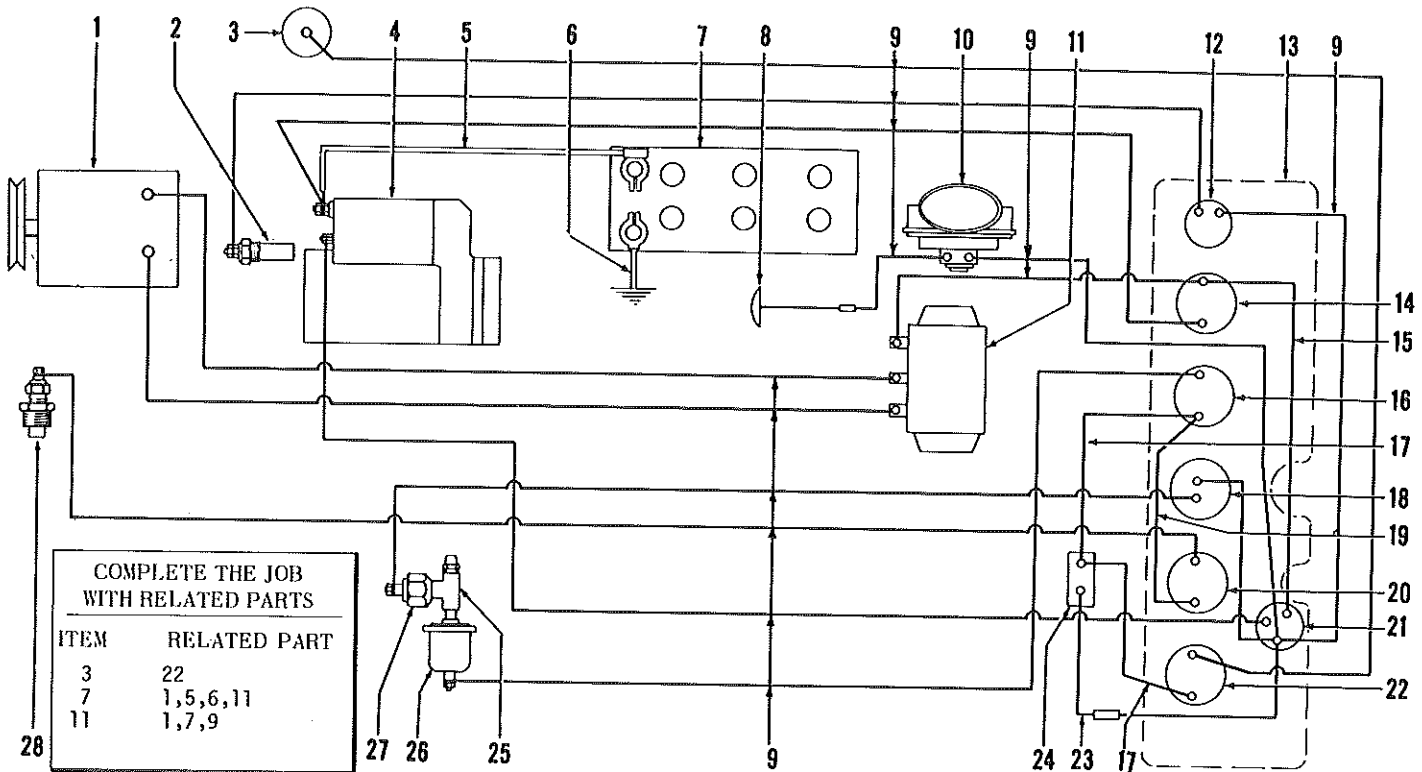
REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.
1	169758	AMMETER	1
2	982991	SWITCH-HEATER	1
3	78187	GAUGE-OIL PRESSURE	1
	#169759	GAUGE-OIL PRESSURE	1
4	119379	HOURMETER	1
5	169779	GAUGE-WATER TEMPERATURE	1
6	181332	SWITCH-IGNITION AND START	1
	181333	KEY-IGNITION	1
7	78186	GAUGE-FUEL	1
	#169775	GAUGE-FUEL	1
8	69308	A WIRE	1
9	100848	A WIRE	1
10	119990	WIRE	1
11	121861	A WIRE	1
	53124	FUSE-10 AMP	1
12	982059	PANEL-INSTRUMENT	1
13	149628	HARNES-WIRING	1
	*169797	HARNES-WIRING	1
14	88626	HORN-12 VOLT	1
15	126361	REGULATOR	1
16	78763	A BATTERY-12 VOLT	1
	99248	BATTERY-12 V., FOR SERIES B11E	1
	805027	COVER-BATTERY	1
	981165	LINK-BATTERY	2
	15175	WASHER	4
	17443	NUT-WING-5/16 UNC	2
	805026	PLATE	1
	15608	CAPSCREW-5/16 UNC X 1 1/2	4
	11096	SPACER-RUBBER	4

REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.
18	982068	CABLE-BATTERY-POSITIVE	1
19	103745	STRAP-BATTERY-GROUND	1
20	111766	BOOT	1
21	69309	WIRE	1
22	111770	PROTECTOR-BATTERY TERMINAL	1
23	157065	PROTECTOR-NOT SHOWN	1
24	*169793	RESISTOR	1
25	*144223	RELAY	1
26	*169794	WIRE	1
27	*167765	WIRE	1
28	.....	STARTER-SEE PAGE E16	1
29	.....	ALTERNATOR-SEE PAGE E11	1
30	.....	SENDER-FUEL LEVEL-SEE PAGE D9	1
31	77326	SENDER-OIL PRESSURE	1
	#169776	SENDER-OIL PRESSURE	1
32	.....	HEATER-THERMOSTART-SEE PAGE C30	1
33	981878	SWITCH-HOURMETER	1
34	175210	WIRE	1
35	129889	CONNECTOR	1
36	126380	CONNECTOR	1
37	126381	CONNECTOR	1
38	121384	CONNECTOR	4
39	77328	SENDER-WATER TEMPERATURE	1

*FIRST USED ON SERIAL NO. B11G-1630, B11D-1501 AND B11H-1561.
 □FOR SERIES B11E USE 805027 COVER AND 805026 PLATE W/78763A BATTERY.
 #FIRST USED ON SERIAL NO. B11D-1507, B11H-1555 AND B11E-2394.

ELECTRICAL SYSTEM - 12 VOLT

FOR 4-203 DIESEL ENGINES WITH GENERATORS



KEY

A—LAST USED ON SERIAL NO B11E-2135.

B—FIRST USED ON SERIAL NO. B11A-1501 AND B11E-2136.

REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.	
			A	B
1	.....	GENERATOR—SEE PAGE E8	1	1
2	982335	HEATER—THERMOSTAT	1	..
	*986104	HEATER—THERMOSTAT	..	1
3	981959	SENDER—FUEL LEVEL	1	..
	76577	SENDER—FUEL LEVEL	..	1
4	.....	STARTING MOTOR—SEE PAGE E14	1	1
5	982068	CABLE—BATTERY	1	1
6	982069	CABLE—BATTERY	1	..
	103745	STRAP—BATTERY, GROUND	..	1
	□ 78763 A	BATTERY—12 VOLT	1	1
	992482	BATT.—12 V., FOR SERIES B11E	1	1
7	805027	COVER—BATTERY	1	1
	981165	LINK—HOLD DOWN	2	2
	805026	PLATE—BOTTOM	1	1
	11096	SPACER—RUBBER	4	4
8	.....	BUTTON—HORN, SEE PAGE K5	1	1
9	982067	HARNES—WIRING	1	..
	986239	HARNES—WIRING	..	1
10	980305	HORN—12 VOLT	1	..
	88626	HORN—12 VOLT	..	1
11	103880	REGULATOR—VOLTAGE	1	..
	118614	REGULATOR—VOLTAGE	..	1
12	982991	SWITCH—HEATER	1	1
13	982059	PANEL—INSTRUMENT	1	1
14	981953	AMMETER	1	..
	126368	AMMETER	..	1
15	69308 A	WIRE	1	1

REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.	
			A	B
16	981952	GAUGE—OIL PRESSURE	1	..
	79999	GAUGE—OIL PRESSURE	..	1
17	28284 A	WIRE	..	2
18	119379	METER—HOUR	1	1
19	100848 A	WIRE	1	1
20	981951	GAUGE—WATER TEMPERATURE	1	..
	111557	GAUGE—WATER TEMPERATURE	..	1
21	181332	SWITCH—IGNITION AND START	1	1
	181333	KEY—IGNITION	1	1
22	981948	GAUGE—FUEL	1	..
	111559	GAUGE—FUEL	..	1
23	120636 A	WIRE	..	1
	53124	FUSE—10 AMP.	..	1
24	111562	VOLTAGE REGULATOR	..	1
25	16186	TEE	..	1
	28584	ADAPTER	..	1
26	981877	SENDER—OIL PRESSURE	1	..
	73587	SENDER—OIL PRESSURE	..	1
27	981878	SENDER—HOUR METER	1	1
	981875	SENDER—WATER TEMPERATURE	1	..
28	111558	SENDER—WATER TEMPERATURE	..	1
	16116	ADAPTER	..	1

*FIRST USED ON ENGINE NO 2602578.

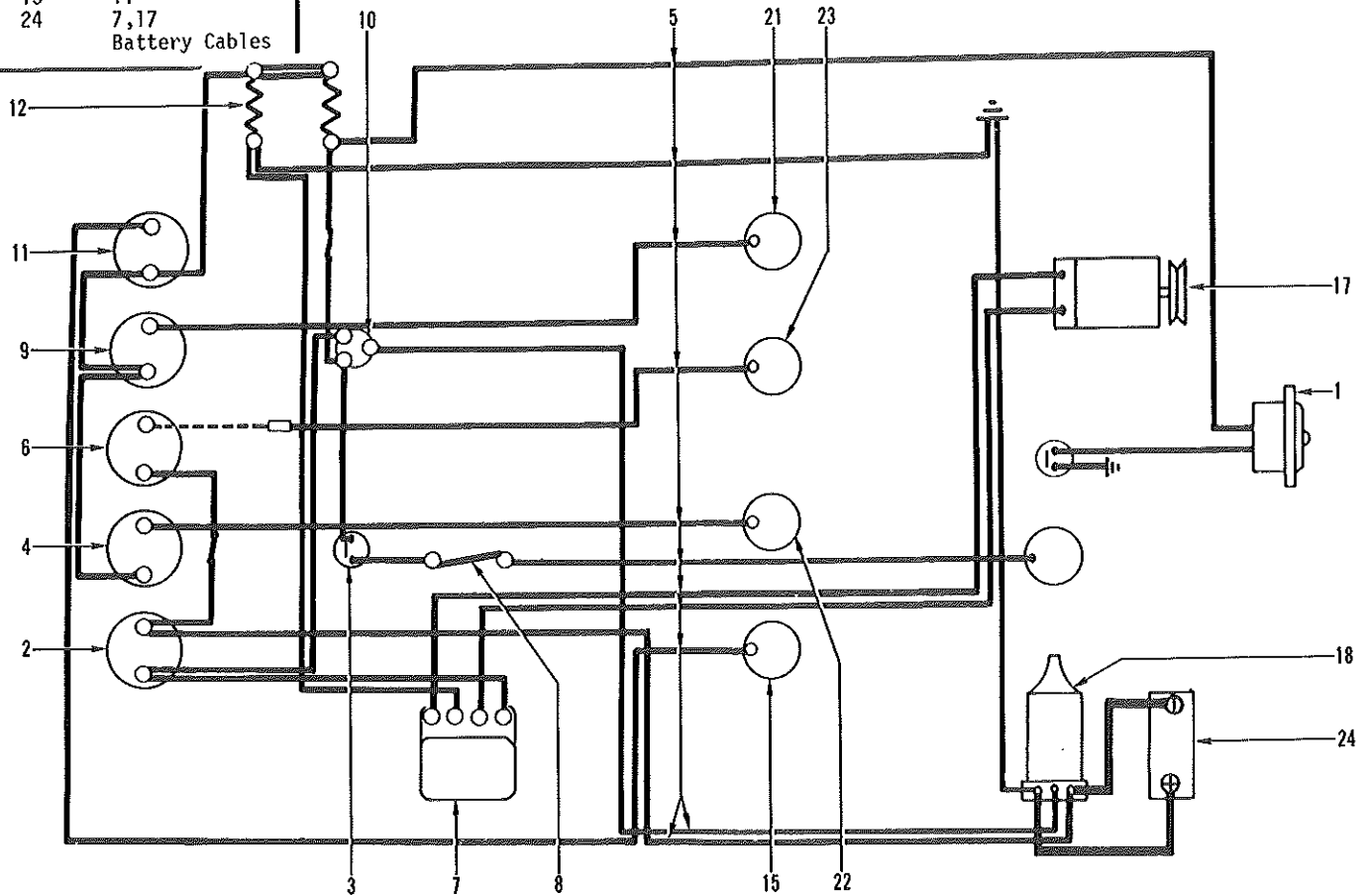
□FOR SERIES B11E USE 805027 COVER AND 805026 PLATE W/78763A BATTERY.

COMPLETE THE JOB
WITH RELATED PARTS

ITEM	RELATED PART
7	5,17,24
15	11
24	7,17 Battery Cables

ELECTRICAL SYSTEM

FOR P-4 DIESEL ENGINES WITH GENERATORS



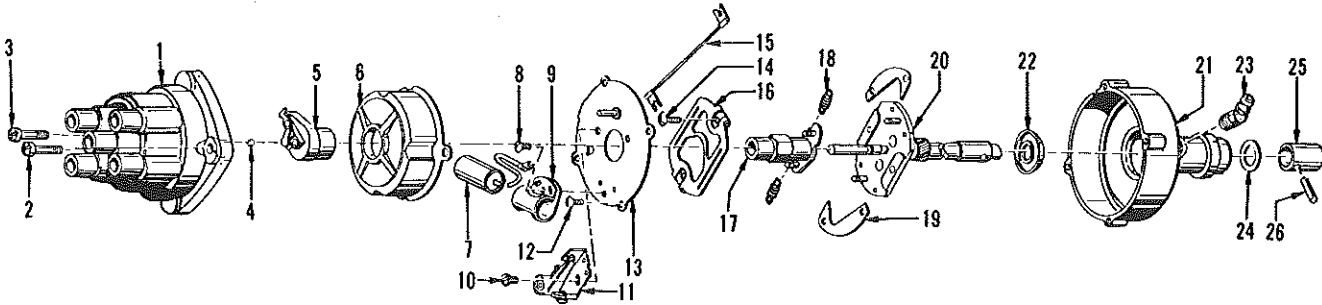
REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.
1	980305	HORN	1
2	126368	AMMETER	1
3	990134	SWITCH-HEATER	1
4	27788	GAUGE-ENGINE OIL PRESSURE	1
5	980466 A	WIRING-COMLETE	1
6	103750 A	HOUR METER	1
7	991520 A	VOLTAGE REGULATOR	1
8	990136 A	FUSE BOX-HEATER	1
9	202064	GAUGE-WATER TEMPERATURE	1
10	181332	SWITCH-IGNITION AND START	1
	181333	KEY-IGNITION	1
11	68032	GAUGE-FUEL	1
12	103734	VOLTAGE DIVIDER	1

REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.
15	.....	SENDER-FUEL, SEE PAGE 09	1
	69395	GASKET	1
17	991518	GENERATOR	1
18	991396	STARTER MOTOR	1
21	202065	SENDING UNIT-WATER TEMPERATURE	1
22	27785	OIL PRESSURE UNIT	1
23	103752 A	PRESSURE SWITCH	1
	992482	BATTERY	1
	992466 W	BRACKET-BATTERY, TOP	1
24	992467 W	BRACKET-BATTERY, BOTTOM	1
	42269	LINK-5/16 UNF X 9 1/2	1
	15175	WASHER-5/16	1
	15005	NUT-5/16 UNF	1

DISTRIBUTER

COMPLETE THE JOB
WITH RELATED PARTS

ITEM	RELATED PART
11	1,5,7



KEY
A-FOR F-162 GAS ENGINE.
B-FOR F-163 GAS ENGINE, ILLUSTRATED.

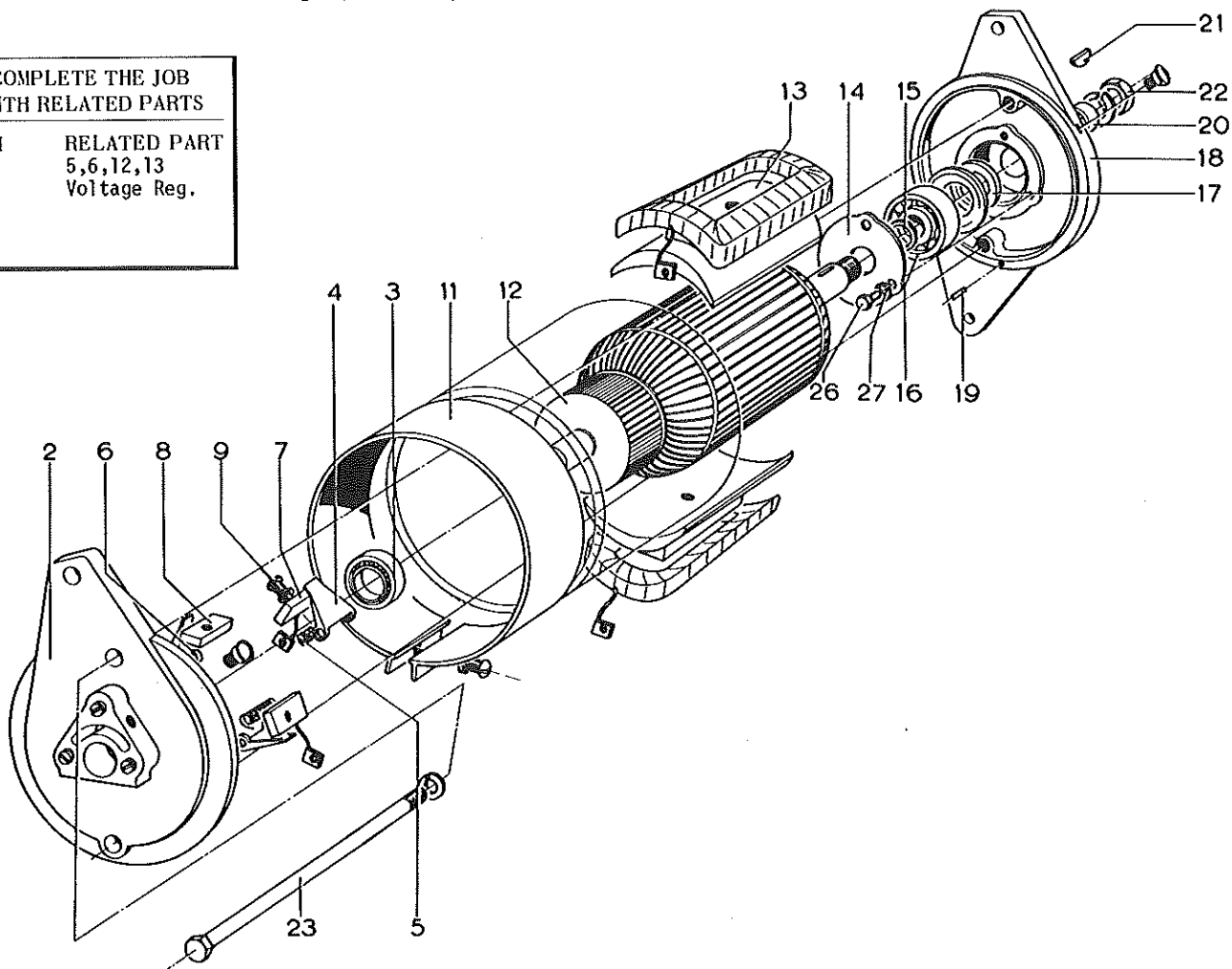
REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.	
			A	B
	142288	DISTRIBUTOR	1	••
	241474	DISTRIBUTOR <i>1354862</i>	••	1
1	202098	CAP <i>SLAC. DIST. ASSY</i>	1	••
	141085	CAP	••	1
2	146813	SCREW-#10 UNF	••	1
3	146812	SCREW-#8 UNC	••	1
4	167090	BUTTON-CARBON	••	1
5	55524	ROTOR-DISTRIBUTOR	1	••
	183958	ROTOR-DISTRIBUTOR	••	1
6	130898	COVER-HOUSING	1	••
	141082	COVER-HOUSING	••	1
7	55528	CONDENSER	1	1
8	162732	SCREW-CONDENSER BRACKET	••	1
9	152230	BRACKET-CONDENSER	••	1
10	162731	SCREW-POINT SET ADJUSTING	••	1
11	128821	BREAKER POINT SET	1	••
	132818	BREAKER POINT SET	••	1
12	16719	SCREW-BREAKER PLATE	••	3
13	155253	PLATE-BREAKER	1	••
14	16711	SCREW AND LOCKWASHER	••	2
15	141457	LEAD-PRIMARY	••	1
16	155252	PLATE-WEIGHT RETAINER	1	••
17	155240	CAM	1	1

REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.	
			A	B
18	167087	SPRING-WEIGHT	••	2
19	155239	WEIGHT-CENTRIFUGAL ADVANCE	2	2
20	142549	SHAFT-DISTRIBUTOR DRIVE	1	••
	141079	SHAFT-DISTRIBUTOR DRIVE	••	1
21	167088	HOUSING-DISTRIBUTOR	••	1
22	166216	SEAL-HOUSING	••	1
23	236248	FITTING-GREASE	••	1
	55884	WASHER-SHIM, .005	AR	AR
24	55885	WASHER-SHIM, .010	AR	AR
	55727	WASHER-SPACER	1	2
25	108941	COLLAR-COUPLING	1	••
	141077	COLLAR-COUPLING	••	1
26	142560	PIN-COLLAR RETAINER	1	••
	141078	PIN-COLLAR RETAINER	••	1
	15625	CPSCR.-1/4 UNC X 5/8	1	••
	55886	SPRING-CAP	2	••
	55930	WICK-FELT	1	••
	202067	CLAMP ARM-DISTRIBUTOR	1	••
	137870	CLAMP ARM-DISTRIBUTOR	••	1
	15154	LOCKWASHER-1/4	1	••
	15056	NUT-3/8 UNC	••	1
	15156	LOCKWASHER-3/8	••	1

GENERATOR

LAST USED ON SERIAL NO. B11L-2091 AND B11E-2135

COMPLETE THE JOB WITH RELATED PARTS	
ITEM	RELATED PART
7,8	5,6,12,13 Voltage Reg.



KEY

A-FOR 6 VOLT, 17 AMP. GENERATOR-GAS ENGINE.
 B-FOR 6 VOLT, 40 AMP. GENERATOR-GAS ENGINE.
 C-FOR 12 VOLT, GENERATOR-DIESEL ENGINE.

REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.		
			A	B	C
	55640AB	GENERATOR	1	..	..
	62895 A	GENERATOR	..	1	..
	103879 A	GENERATOR	..	..	1
2 {	55851	FRAME-C.E.	1	..	1
	55519	FRAME-C.E.	..	1	..
3	55518	BUSHING-C.E.	1	1	1
4	55668	ARM-BRUSH	3	3	3
5	55669	SPRING-MAIN BRUSH	1	1	1
6	55853	SPRING-THIRD BRUSH	1	1	1
7	55667	BRUSH-MAIN	2	2	2
8	55849	BRUSH-THIRD	1	1	1
9 {	202013	SCREW-BRUSH	3	3	3
	202014	WASHER-SCREW	3	3	3
11	202000	BAND-COVER	1	1	1
12 {	55665	ARMATURE	1	..	..
	55800	ARMATURE	..	1	..
	202001	ARMATURE	..	..	1
13 {	55854	FIELD COIL SET	1	..	..
	55809	FIELD COIL SET	..	1	..
14 {	202002	FIELD COIL SET	..	..	1
	202003	RETAINER-BEARING	1	1	1
	202004	GASKET-RETAINER	1	1	1
15	202005	SPACER-INSIDE	1	1	1

REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.		
			A	B	C
16	43203	BEARING-D.E.	1	1	1
17	55517	WASHER-FELT	1	1	1
18 {	55852	FRAME-D.E.	1	..	1
	202323	FRAME-D.E.	..	1	..
19	55894	PIN-DOWEL	1	1	1
20	202009	COLLAR	1	..	1
21	59184	KEY	1	1	1
22	55580	NUT-SHAFT	1	1	1
23 {	202011	BOLT-THRU	2	2	2
	202012	LOCKWASHER	2	2	2
26	986038	CAPSCREW-RETAINER	3	3	3
27	55972	LOCKWASHER	3	3	3
	69417	PULLEY	1	1	..
	107142	BRACKET-GENERATOR	1	1	..
	107144	STRAP-ADJUSTING	1	1	..
	107143	SPACER	1	1	..
	981317	PULLEY	..	..	1
	982921	SPACER-BRACKET	..	..	1
	982836	BRACKET-GENERATOR	..	..	1
	982922	STUD-3 3/4 LONG	..	..	1
	38942	STUD-1 1/4 LONG	..	..	1
	983663	SPACER-GENERATOR	..	..	1

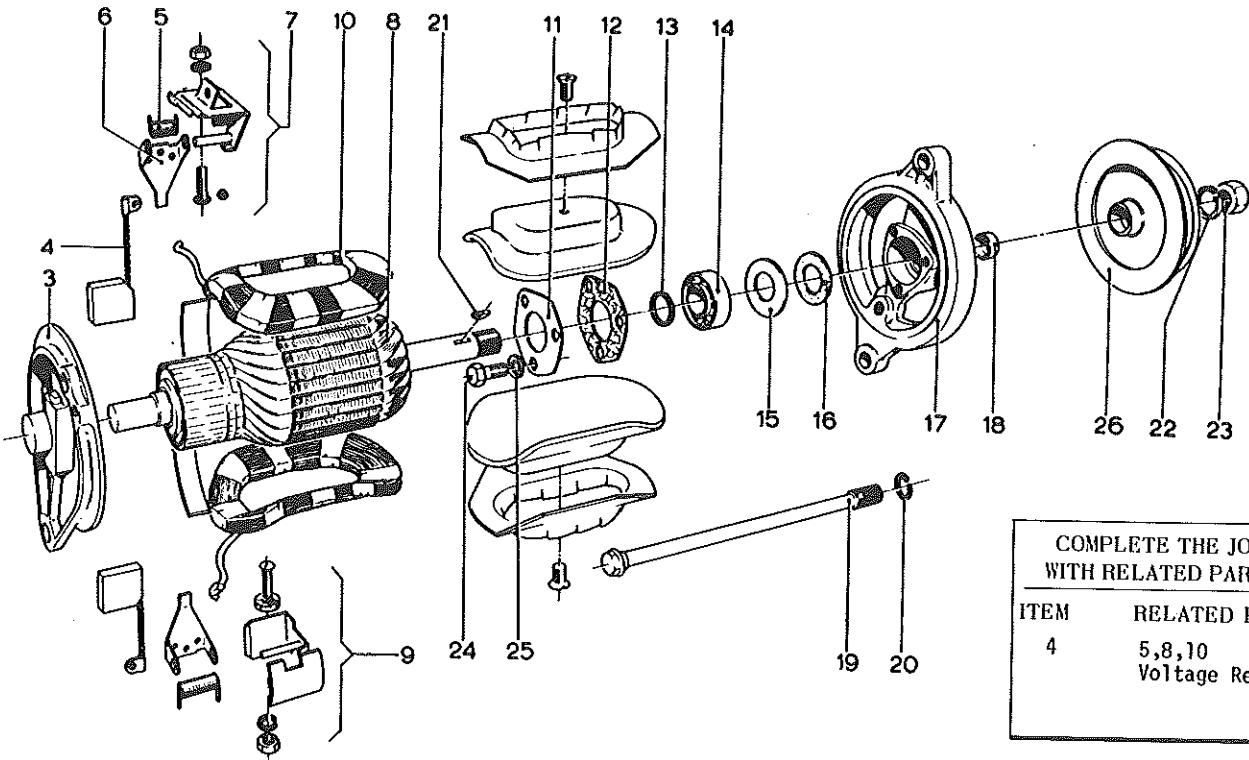
NOT
ILL.

HYSTER COMPANY
 PORTLAND, OREGON

GENERATOR - 12 VOLT

FOR GAS AND 4-203 DIESEL ENGINES

FIRST USED ON SERIAL NO. B11L-2092, B11D-1501, B11A-1501 & B11E-2136



COMPLETE THE JOB WITH RELATED PARTS

ITEM	RELATED PART
4	5,8,10 Voltage Reg.

KEY
 A-FOR STANDARD 10 AMP. GENERATOR.
 R-FOR OPTIONAL 20 AMP. GENERATOR.

REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.	
			A	B
	118609	A GENERATOR	1	..
	120117	A GENERATOR	..	1
3	236063	FRAME-C.E.	1	..
	235945	FRAME-C.E.	..	1
	235304	BEARING-C.E.	1	1
4	235947	BRUSH	2	2
5	202322	SPRING-BRUSH	2	2
6	55521	ARM-BRUSH	2	2
7	200175	GROUND BRUSH HOLDER SET	1	1
8	236062	ARMATURE	1	..
	235948	ARMATURE	..	1
9	200176	INSULATED BRUSH HOLDER SET	1	1
10	235949	FIELD COIL SET	1	1
11	202003	PLATE-BEARING RETAINER	1	1
12	202004	GASKET	1	1
13	202005	WASHER-SPACER	1	1
14	235950	BEARING-D.E.	1	1
15	55670	PLATE-RETAINER	1	1
16	55517	WASHER-FELT	1	1
17	55852	FRAME-D.E.	1	..
	55810	FRAME-D.E.	..	1

REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.	
			A	B
18	202009	COLLAR-SPACER	1	..
	202371	COLLAR-SPACER	..	1
19	202011	BOLT-THRU	2	2
20	202012	LOCKWASHER	2	2
21	59184	KEY	1	1
22	55579	LOCKWASHER	1	1
23	236064	NUT-SHAFT	1	..
	55580	NUT-SHAFT	..	1
24	986038	CAPSCREW	3	3
25	202014	LOCKWASHER	3	3
26	69417	SHEAVE-GENERATOR	1	1
	45512	FAN-GENERATOR	..	1
	*111106	BRACKET-GENERATOR	1	1
	*114321	BRACKET-GEN. ADJ.	1	1
	▣984062	BRACKET-GENERATOR	1	1
	▣985016	BRACKET-GEN. ADJ.	1	1

} NOT ILL.

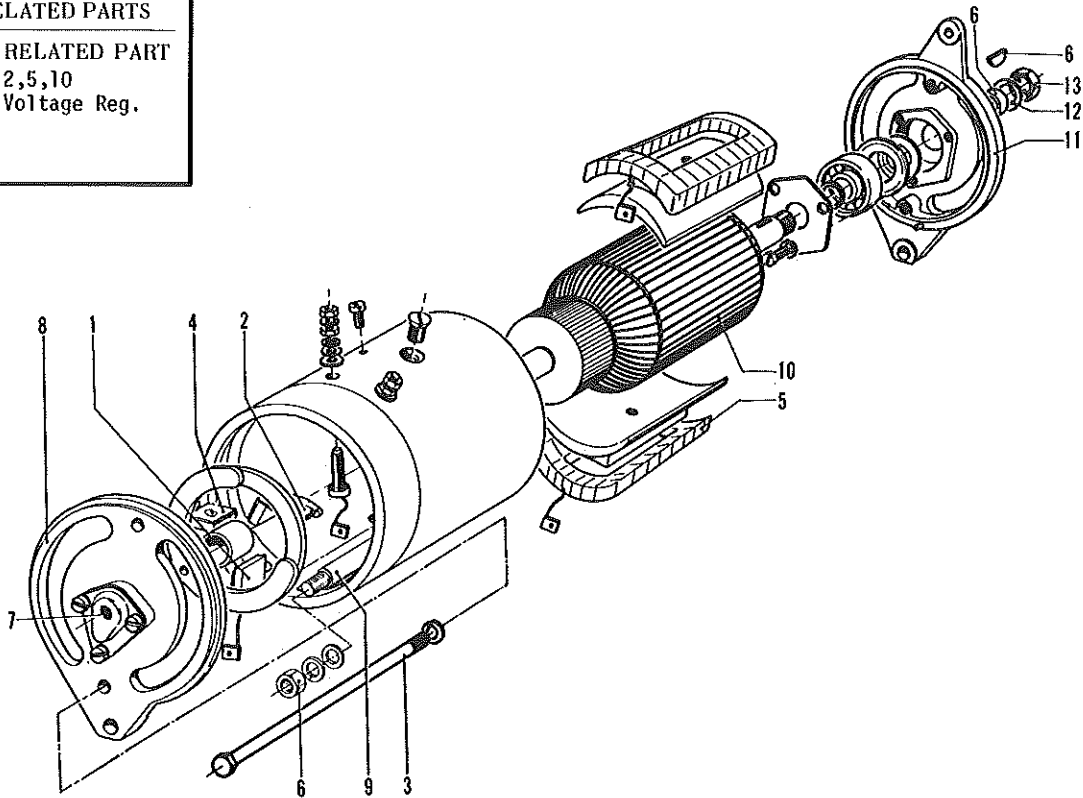
*FOR GAS ENGINE.
 ▣FOR DIESEL ENGINE.

GENERATOR

FOR P-4 DIESEL ENGINE

COMPLETE THE JOB
WITH RELATED PARTS

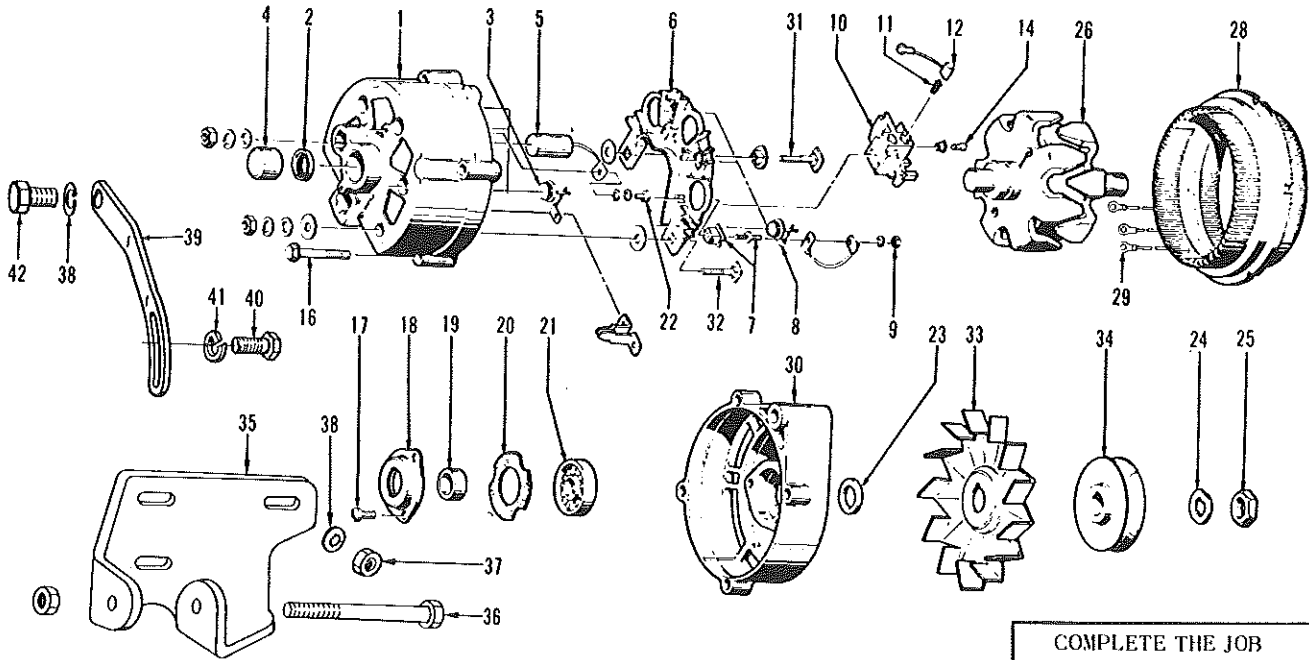
ITEM	RELATED PART
1	2,5,10 Voltage Reg.



REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.
	991518 A	GENERATOR	1
1	980785 A	BRUSH SET	1
2	980786 A	SPRING-BRUSH, SET	1
3	980787	BOLT-THROUGH	2
4	980788	COLLAR-THRUST	1
5	980789 A	COIL-FIELD, SET	1
6	980790 A	SUNDRY PARTS-SET	1
7	992237	OILER-RUBBER	1
	980791 A	HICK & SPRING-OILER	1
8	980792	BRACKET-COMMUTATOR END	1
	980793	BEARING-BUSH-COMMUTATOR END	1
9	980794 A	TERMINAL	1
10	980795	ARMATURE	1
11	980796	BRACKET-DRIVE END	1
	980797	BEARING-DRIVE END	1
12	980798	WASHER-SHAFT	1

REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.
13	980799	NUT-SHAFT	1
	980244	PULLEY-GENERATOR	1
	990777	BRACKET-MT. ON ENG.	1
	15511	CAPSCREW-1/2 UNF X 1	2
	15910	LOCKWASHER-1/2	2
	990779	SPACER-NOT ILLUSTRATED	1
	15621	CAPSCREW-5/16 UNF X 1 1/4	2
	15107	NUT-HEX, 5/16 UNF	2
	980243	LINK-GENERATOR ADJ., NOT ILL.	1
	14752	CAPSCREW-5/16 UNF X 2 1/2	1
	15155	LOCKWASHER-5/16	1
	15175	WASHER-5/16	1
	15005	NUT-HEX, 5/16 UNF	1
	992583	CAPSCREW-BSF	1
	15175	WASHER, 5/16	2
	15155	LOCKWASHER-5/16	1

ALTERNATOR



COMPLETE THE JOB
WITH RELATED PARTS

ITEM	RELATED PART
12	11,26,28 Voltage Reg.

KEY
A-FOR GAS ENGINE.
B-FOR DIESEL ENGINE.

REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.	
			A	B
	187458	ALTERNATOR	1	1
1	187459	FRAME-S.R.E.	1	1
2	169519	RETAINER	1	1
3	169517	DIODE-NEGATIVE, BLACK	3	3
4	169518	BEARING-S.R.E.	1	1
5	128840	CAPACITOR	1	1
	128839	SPRING-CAPACITOR	1	1
6	128844	SINK-HEAT	1	1
7	128846	TERMINAL PACKAGE	3	3
8	128845	DIODE-POSITIVE	3	3
9	169534	NUT-#8 UNC	3	3
	128842	LOCKWASHER	3	3
10	138559	HOLDER AND BRUSH	1	1
11	128848	SPRING-BRUSH	2	2
12	.....	BRUSH	2	2
14	128851	SCREW	2	2
	128842	LOCKWASHER	2	2
16	128852	BOLT-THRU	4	4
17	138554	SCREW	3	3
18	128831	RETAINER-BEARING	1	1
19	138553	COLLAR-INSIDE	1	1
20	202004	GASKET	1	1
21	190047	BEARING-D.E.	1	1
	16713	SCREW-NO. 8 X 3/4	1	1
	128842	LOCKWASHER	1	1
22	128841	WASHER-PLAIN	1	1
	154794	INSULATOR-SCREW	1	1
	152239	WASHER-INSULATOR	1	1

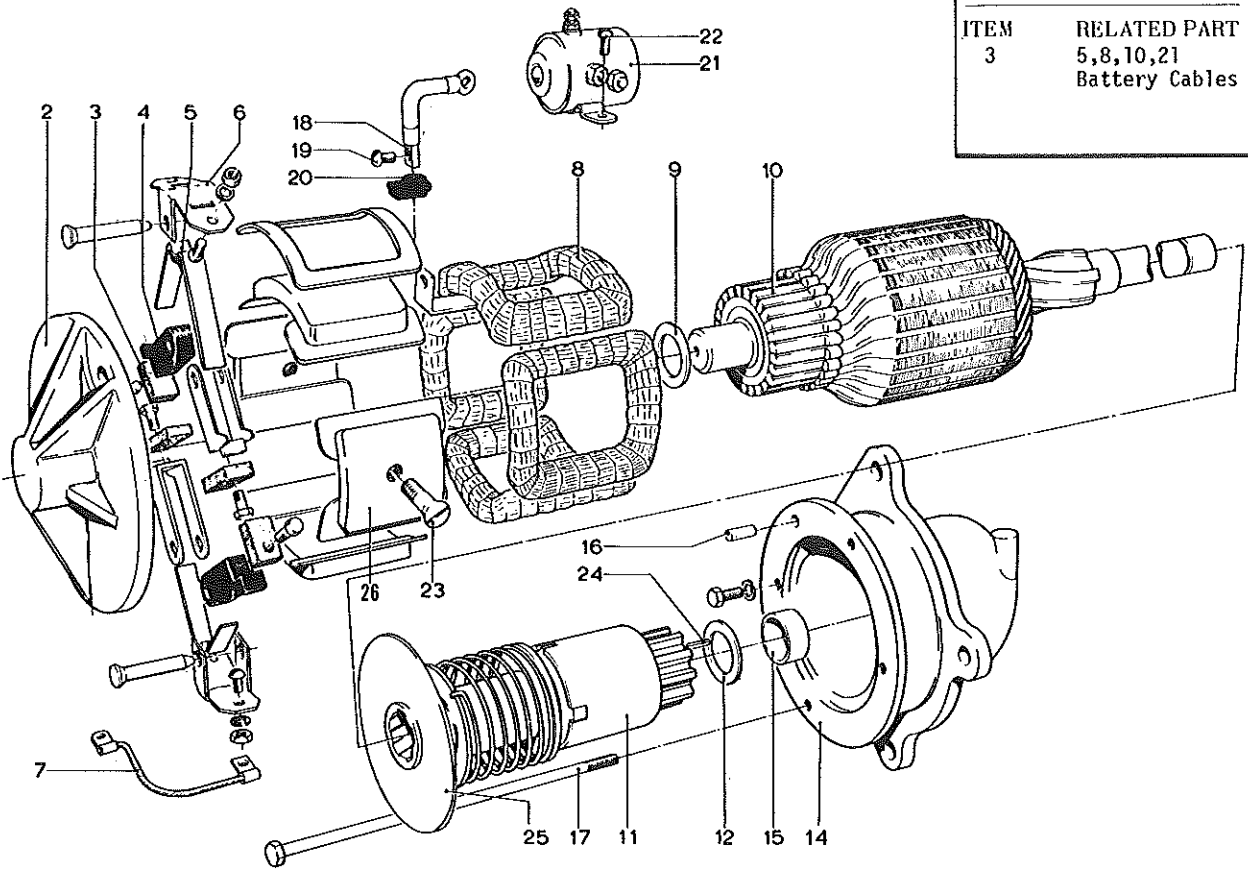
REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.	
			A	B
23	128834	COLLAR-OUTSIDE	1	1
24	128835	LOCKWASHER-D.E.	1	1
25	55580	NUT-SHAFT, D.E.	1	1
26	138555	ROTOR	1	1
28	152235	STATOR	1	1
29	154793	CLIP-STATOR LEAD TERM.	3	3
30	190047	FRAME-D.E.	1	1
31	152237	TERM. PACKAGE-GROUND	1	1
32	152238	TERM. PACKAGE-BATTERY	1	1
33	126358	FAN	1	1
34	135382	PULLEY	1	1
35	128415	BRACKET	1	1
	128418	BRACKET	1	1
36	145622	CAPSCREW	1	1
	43740	NUT-3/8 UNF	1	1
37	15056	NUT-3/8 UNC	3	3
38	15156	LOCKWASHER-3/8	4	4
39	128429	STRAP-ADJUSTING	1	1
	128421	STRAP-ADJUSTING	1	1
40	15639	CAPSCREW-5/16 UNC X 1	1	1
	15728	CAPSCREW-5/16 UNC X 7/8	1	1
41	15913	LOCKWASHER-5/16 INT/EXT.	1	1
42	15507	CAPSCREW-3/8 UNC X 7/8	1	1

STARTING MOTOR - 6 VOLT

FOR GAS ENGINE

COMPLETE THE JOB
WITH RELATED PARTS

ITEM	RELATED PART
3	5,8,10,21 Battery Cables



KEY
A-LAST USED ON SERIAL NO. 811L-2091 AND 811E-2090.
B-USED FROM 811E-2091 TO 811E-2135, ILLUSTRATED.

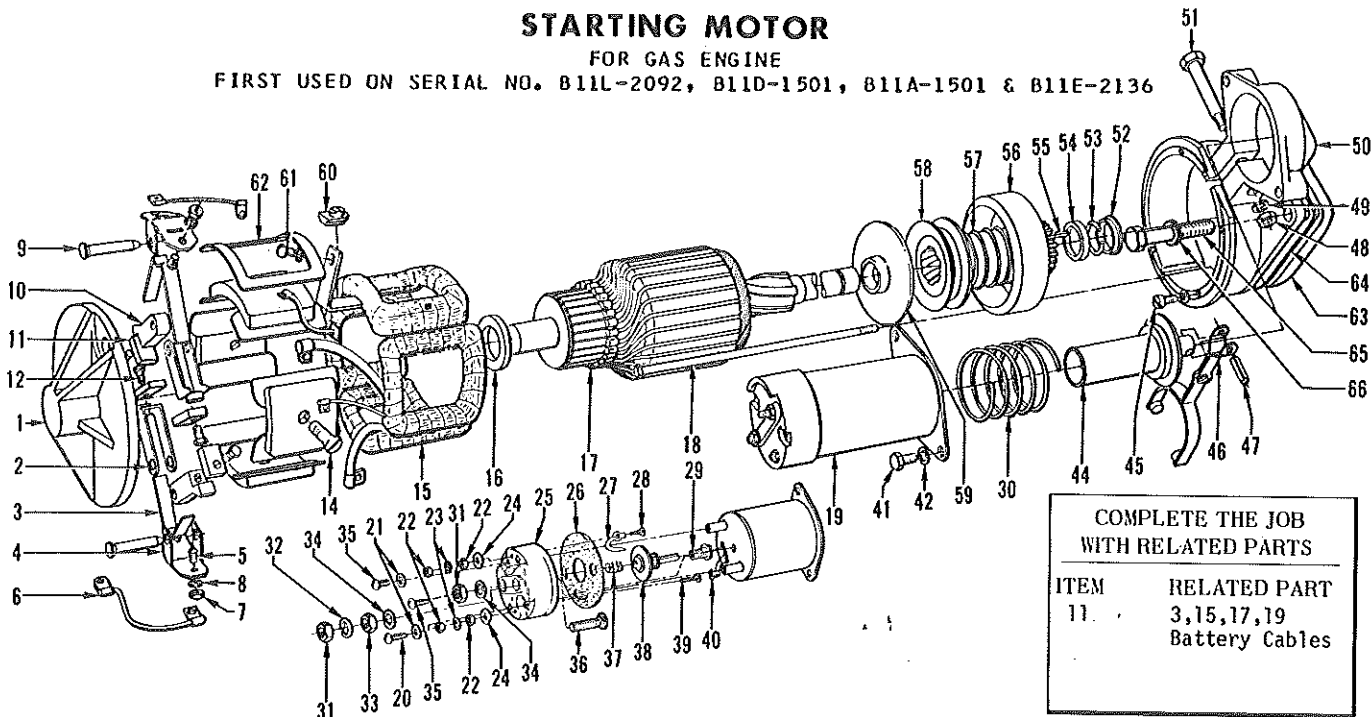
REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.	
			A	B
	202066 A	STARTER	1	..
	202066AB	STARTER	..	1
2	55586	FRAME-COMMUTATOR END	1	..
	236065	FRAME-COMMUTATOR END	..	1
3	55799	BRUSH	4	..
	236066	BRUSH	..	4
4	55542	HOLDER-BRUSH	4	..
	88572	HOLDER-BRUSH, GROUND	..	2
5	55541	SPRING-BRUSH	4	..
	236069	SPRING-BRUSH	..	4
6	236070	KIT-BRUSH HOLDER	..	4
	986154	LEAD-GROUND	..	2
7	202056	LEAD-GROUND	2	..
	202055	LEAD-BRUSH CONNECTOR	1	..
	55909	FIELD COIL-L.H.	1	..
8	55910	FIELD COIL-R.H.	1	..
	97322	COIL ASSEMBLY	..	1
9	55901	WASHER-SPACER	1	1
10	202050	ARMATURE	1	1
	108944 A	DRIVE-BENDIX	1	1
11	202052	SPRING-MESHING	1	1
	202053	SPRING-DRIVE	1	1
	202054	PLATE-DRIVE SPRING	2	2

REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.	
			A	B
12	108946	WASHER-THRUST	1	..
	202333	WASHER-THRUST	..	1
14	108945	HOUSING-DRIVE	1	..
	89540 A	HOUSING-DRIVE	..	1
15	55544	BUSHING	1	1
16	55894	PIN-DOWEL	..	1
17	55917	BOLT-THRU	2	..
	88567	BOLT-THRU	..	2
18	55919	CONNECTOR-SWITCH	1	..
	89539	CONNECTOR-SWITCH	..	1
19	986152	SCREW-FIELD LEAD ATTACHING	..	1
20	.....	GROMMET-RUBBER	..	1
21	55914	SWITCH-MAGNETIC	1	1
22	86879	SCREW-SWITCH	2	2
23	202059	SCREW-POLE SHOE	4	..
	.....	SCREW-POLE SHOE	..	4
24	55893	KEY-WOODRUFF	1	1
25	55892	PLATE-CENTER BEARING	1	1
	89541	BUSHING	1	1
26	202058	SHOE-POLE	4	..
	.....	SHOE-POLE	..	4

STARTING MOTOR

FOR GAS ENGINE

FIRST USED ON SERIAL NO. B11L-2092, B11D-1501, B11A-1501 & B11E-2136



REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.
	170237	STARTING MOTOR	1
1	236065	FRAME-C.E.	1
	55965	BUSHING-C.E.	1
	97492	PLUG-PIPE, C.E.	1
	137697	WICK	1
	97491	PLUG-END	1
2	88572	HOLDER-GROUND BRUSH	2
3	236069	SPRING-BRUSH	2
4	236070	SUPPORT KIT-BRUSH HOLDER	2
5	166825	SCREW-HOLDER RETAINING	2
6	166538	LEAD-GROUND	1
7	128436	NUT-#10 UNC	2
8	15165	LOCKWASHER-#12	2
9	164508	PIN-HOLDER PIVOT	1
10	236068	HOLDER-INSULATOR BRUSH	2
11	170607	BRUSH	4
12	16731	SCREW-BRUSH, #8 UNC X 5/8	4
	170608	SCREW-GROUND BRUSH	2
	168928	SCREW-INSULATING BRUSH	2
14	168665	SCREW-POLE SHOE	4
15	142740	COIL-FIELD	1
16	55901	WASHER-BRAKE, C.E.	1
	236084	ARMATURE	1
18	88567	BOLT-THROUGH	2
19	142554	GASKET-SOLENOID TO DRIVE HSG.	1
	132728	SOLENOID	1
20	166830	SCREW-COVER	2
21	166824	WASHER	2
22	15039	NUT-#8 UNF	4
23	15163	LOCKWASHER-#8	2
24	128841	WASHER	2
	166845	WASHER-RUBBER, SWITCH TERM.	1
25	166566	COVER	1
26	154221	GASKET-COVER	1
27	166655	CONTACT-BLADE	1
28	166572	STUD-RESISTOR TERMINAL	1
29	166557	STUD-MOTOR TERMINAL	1
30	236074	SPRING-PLUNGER	1
31	15056	NUT-3/8 UNC	2
32	15156	LOCKWASHER-3/8	1
33	15086	NUT-3/8 UNC	1
34	166829	WASHER	2
	166828	WASHER-RUBBER	2

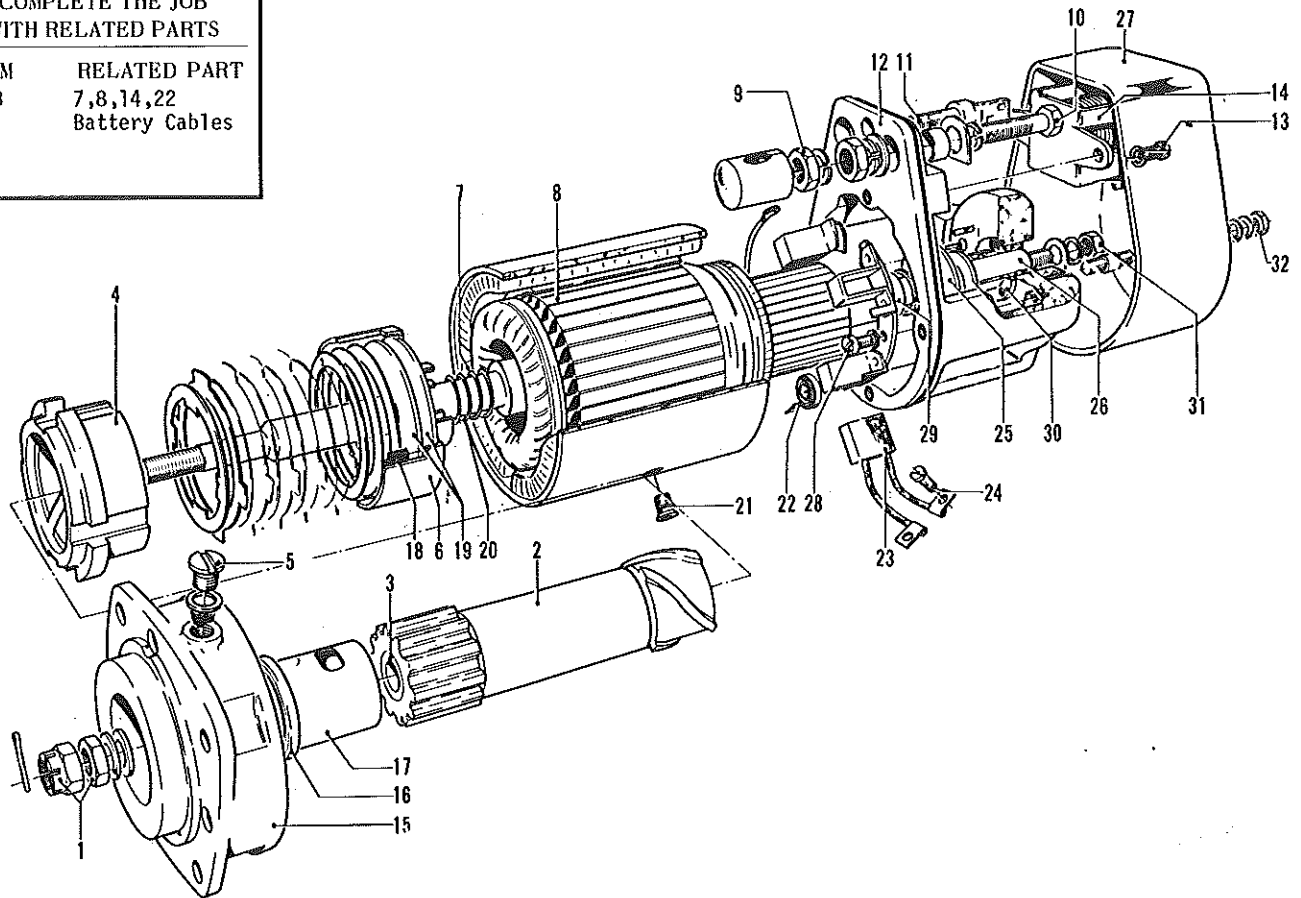
REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.
35	17946	SCREW-#10 UNF X 1	1
	166831	SPACER-1/32 THICK	AR
	166832	SPACER-1/16 THICK	AR
36	166643	STUD-BATTERY TERMINAL	1
37	166645	SPRING-RETURN	1
38	154222	CONTACT	1
39	166572	STUD-SWITCH TERMINAL	1
40	166558	CLIP-TERMINAL	1
	166567	CONNECTOR-TERMINAL ADAPTER	1
41	169308	CAPSCREW-SOLENOID MOUNTING	2
42	15154	LOCKWASHER-1/4	2
44	236075	PLUNGER-SOLENOID	1
	123672	BOOT-PLUNGER	1
45	79882	SCREW-BEARING PLATE	2
	55972	LOCKWASHER	2
46	130676	LEVER-SOLENOID ACTIVATING	1
47	19869	PIN-ROLL, 3/16 X 13/16	1
48	15055	NUT-5/16 UNC	1
49	15155	LOCKWASHER-5/16	1
50	127309	HOUSING-DRIVE	1
	55585	BUSHING	1
51	236078	CAPSCREW-LEVER PIVOT	1
52	172813	COLLAR-THRUST, D.E.	1
53	236081	RING-DRIVE RETAINING	1
54	236082	COLLAR-DRIVE STOP	1
55	55894	PIN-DOWEL, D.E.	1
56	77117	DRIVE	1
	166340	BUSHING-OILLESS	1
57	166336	SPRING	1
	55590	COLLAR	1
58	55588	BUSHING	1
	166479	LOCKWIRE	1
59	55969	PLATE-CENTER BEARING	1
	55970	BUSHING	1
60	55978	WASHER-CENTER BEARING	1
	151840	GROMMET-FIELD FRAME	1
61	164509	SCREW-FIELD LEAD	1
	15916	LOCKWASHER-INTERIOR, #10	1
62	151837	INSULATOR-FIELD COIL	4
63	111403	SPACER	1
65	15580	CAPSCREW-3/8 UNC X 1 1/2	3
	15156	LOCKWASHER-3/8	3
66	25062	CPSCR.-3/8 UNC X 1 1/4	MOUNTING
	15156	LOCKWASHER-3/8	NOT ILL. 3

STARTING MOTOR

FOR P-4 DIESEL ENGINE

COMPLETE THE JOB
WITH RELATED PARTS

ITEM	RELATED PART
23	7,8,14,22 Battery Cables

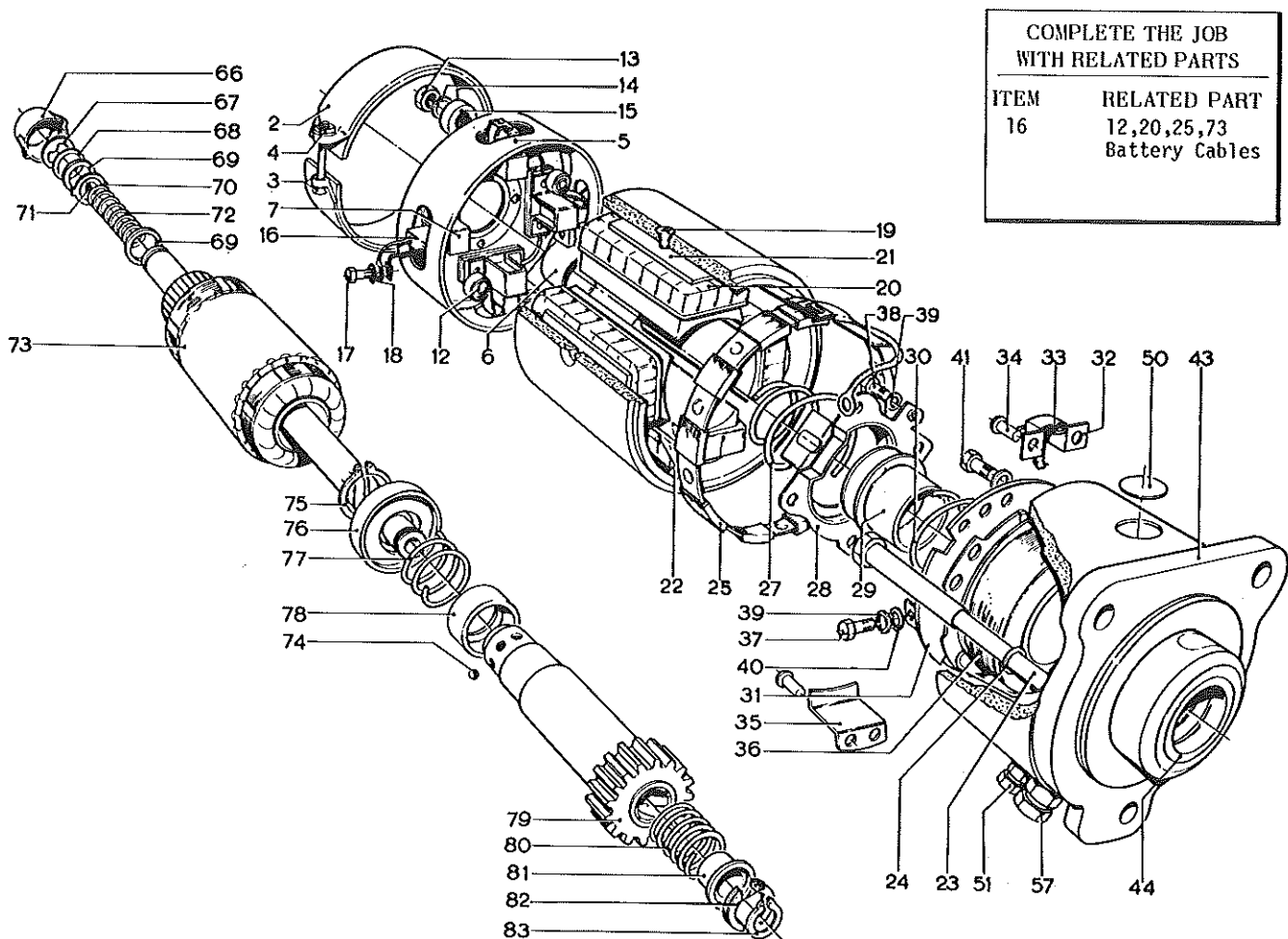


REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.
	991396 A	STARTING MOTOR	1
1	992757	NUT	1
	992758	NUT-CASTELATED	1
	992759	COTTER	1
2	992274 A	PINION	1
3	992275	BEARING	1
4	992280	RACE-CLUTCH, INNER	1
5	992764	PLUG-OIL	1
	992766	SPRING	1
6	992765	WASHER	1
	992279 A	CLUTCH	1
	992282	RACE-CLUTCH, OUTER	1
7	992289	RING-SPRING	1
	992284	SHIM-CLUTCH, 0.1 MM	AR
	992285	SHIM-CLUTCH, 3.15 MM	AR
8	992268	COIL SET-AUXILIARY	1
9	992271	ARMATURE	1
10	992749	NUT-TERMINAL	4
	15156	LOCKWASHER-3/8	4
11	992256	TERMINAL-NEGATIVE	1
12	992255	TERMINAL-POSITIVE	1
13	992260	END SHIELD-COMMUTATOR	1
13	992743	SCREW-SOLENOID SWITCH	2
	992744	WASHER	2

REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.
14	992253	SWITCH-SOLENOID	1
15	87340	SHIELD-DRIVE END, W/SEAL	1
16	992294	WICK-COTTON	1
17	992291	BEARING-DRIVE END	1
18	992281	SPRING-CLUTCH PRESSURE	4
19	992287	PLATE-CLUTCH, OUTER, BRASS	5
	992288	PLATE-CLUTCH, INNER, STEEL	5
20	992760	SPRING-PINION	1
	992776	SHIM-PINION SPRING	1
21	992752	SCREW-POLE	4
22	992266	SPRING-BRUSH	4
23	985091	BRUSH	4
24	992751	SCREW-BRUSH	4
25	992273	PLATE-TRIP	1
26	992278	PLUNGER-ARMATURE	1
27	992254	COVER-COMMUTATOR END	1
28	992750	SCREW-BRUSH BASE	3
	992762	LOCKWASHER	3
29	992272	BEARING-ARMATURE	1
30	992252	BEARING-COMMUTATOR END	1
31	992763	NUT-PLUNGER	1
	992761	WASHER-PLUNGER	1
32	992762	LOCKWASHER	1
	992748	NUT-END SHIELD	4

STARTING MOTOR

FOR 4-203 DIESEL ENGINE
LAST USED ON SERIAL NO. 811E-2135



REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.
	1 2 3 4		
	981833 A	STARTING MOTOR	1
2	986044 A	COVER BAND	1
3	986045	SCREW	1
4	983402	NUT	1
5	986066 A	SHIELD-C.E.	1
6	985069	BEARING	1
7	986046	BOX-BRUSH	4
	983435	RIVET	8
	986047	BUSHING-INSULATING	4
	986048	SPACER-BRUSH BOX	4
	986049	INSULATOR-BRUSH BOX	4
12	983445	SPRING-BRUSH	4
13	986050	NUT-TERMINAL	1
14	986056	LOCKWASHER	1
15	986052	SPACER-TERMINAL	1
16	986053	BRUSH SET	1
17	983448	SCREW	4
18	992746	WASHER	4
19	983403	SCREW-POLE	4
20	986054	COILS-FIELD	2
21	986055	INSULATOR-FIELD	8

REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.
	1 2 3 4		
22	983407	PIN-DOWEL	1
23	983397	BOLT-THRU	2
24	986056	LOCKWASHER	2
25	985254 A	RESISTOR	1
	983429 A	SOLENOID	1
28	983438	CONTACT-MOVING	1
29	136572	PLUNGER AND SPRING	1
30	983437	SPRING-RETURN	1
31	986059	PLATE AND FIXED CONTACTS	1
32	983432	TRIGGER AND GUIDE	1
33	983433	SPRING-TRIGGER	1
34	983435	RIVET	4
35	986027	STOP-MOVING CONTACT	1
36	983430	COIL	1
37	986060	SCREW	1
38	986043	SCREW	1
39	992746	LOCKWASHER	2
40	983401	WASHER	2
41	983441	SCREW	1
	983442	WASHER	1

STARTING MOTOR

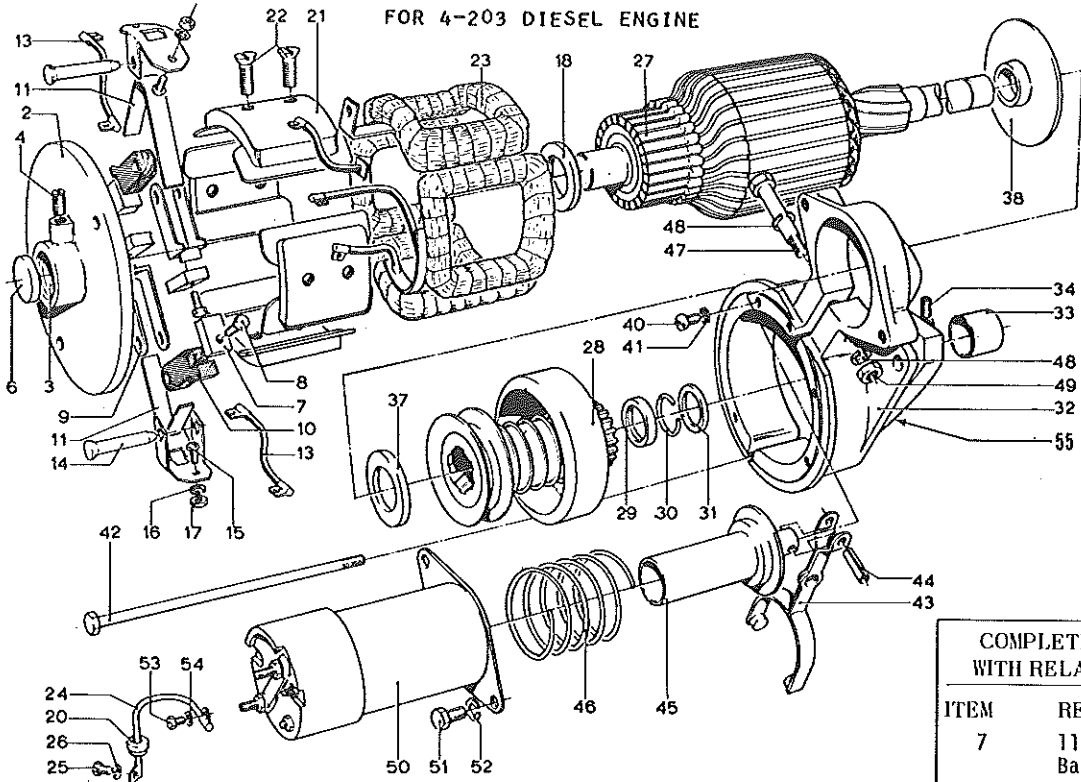
FOR 4-203 DIESEL ENGINE

LAST USED ON SERIAL NO. B11E-2135

REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.	REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.
43	983409 A	SHIELD-D.E.	1	66	983455 A	END CAP	1
	983411	PLUG-CORE	1	67	983454	CLIP	1
	983412	SPRING-OILER	1	68	983396	SHIM-.008	AR
	983462	PAD-FELT, WIDE	1		983682	SHIM-.012	AR
	983415	PAD-FELT, NARROW	1	69	983453	WASHER-THRUST	2
992294	WICK-COTTON	1	70	983452	WASHER	1	
44	983410	BEARING	1	71	983451	BALL-STEEL	1
50	983408	PLUG-CORE	1	72	983450	SPRING-SHAFT	1
	986061	TERMINAL-SMALL	1	73	138626	ARMATURE	1
51	983427	NUT	1	74	986064	BALL-STEEL	4
	992746	WASHER	1	75	983394	SNAP RING	1
	983401	WASHER	1	76	983393	COLLAR	1
57	983452	BUSHING	1	77	983392	SPRING-LOCKING	1
	983414	INSULATOR-INTERNAL	1	78	983391	COLLAR-LOCKING	1
57	986062	TERMINAL-LARGE	1	79	986065	PINION	1
	986050	NUT	1	80	983388	SPRING-PINION	1
	983398	LOCKWASHER	1	81	132872	SLEEVE KIT	1
	983420	WASHER	1		.....	SLEEVE	1
	983419	WASHER-INSULATING	1	82	.....	KEY	2
	983418	BUSHING	1	83	.....	SNAP RING	1
	983417	INSULATOR-INTERNAL	1	151318	SPACER	} NOT ILLUSTRATED	1
	983423	SCREW	1	985828	STUD		3
	992672	WASHER	1	15006	NUT-3/8 UNF		3

STARTING MOTOR

FOR 4-203 DIESEL ENGINE



COMPLETE THE JOB
WITH RELATED PARTS

ITEM	RELATED PART
7	11,23,27,50 Battery Cables

KEY
A-FOR SERIAL NO. B11E-2136 & B11A-1501 TO B11E-2225 & B11A-1614, ILL.
B-FIRST USED ON SERIAL NO. B11E-2226 & B11A-1615 & B11G-1501.

REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.	
			A	B
	88627 A	STARTING MOTOR	1	..
	136125	STARTING MOTOR	..	1
2	97344	FRAME-C.E.	1	1
3	55965	BUSHING-C.E.	1	1
4	.....	PLUG-PIPE	1	1
	137697	WICK	1	1
6	97491	PLUG END	1	1
7	97345	BRUSH	4	4
8	986159	SCREW-BRUSH	4	4
9	236067	HOLDER-BRUSH, GROUNDED	2	..
	88572	HOLDER-BRUSH, GROUNDED	..	2
10	236068	HOLDER-BRUSH, INSULATED	2	2
11	236069	SPRING-BRUSH	4	4
	236070	KIT-BRUSH SUPPORT HOLDER	2	2
13	.....	LEAD-GROUND	1	1
14	.....	PIN	1	1
15	.....	SCREW	2	2
16	.....	WASHER	2	2
17	.....	NUT	2	2
18	55901	WASHER-SPACER, C.E.	1	..
	202164	WASHER-SPACER C.E.	..	1
20	.....	GROMMET	1	1
21	.....	SHOE-POLE	1	1
22	986435	SCREW-POLE SHOE	8	8
23	97359	COIL-FIELD, SET	1	1
24	.....	CONNECTOR-FIELD TO SWITCH	1	1
25	.....	SCREW	1	1
26	.....	LOCKWASHER	1	1
27	97358	ARMATURE	1	1
28	97360	DRIVE	1	1
29	236082	RING-COLLAR STOP	1	1
30	236081	RING-PINION STOP	1	1
31	236080	WASHER-SPACER, D.E.	1	..
	137698	WASHER-THRUST	..	1
32	97352	HOUSING-DRIVE	1	..
	137699	HOUSING-DRIVE	..	1

REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.	
			A	B
33	97353	BUSHING	1	..
	55585	BUSHING	..	1
34	.....	PLUG-PIPE	1	..
	97496	WICK	1	..
37	55978	WASHER-CENTER BEARING	1	1
	131173	GASKET-CENTER BEARING	1	1
	97354	PLATE-CENTER BEARING	1	..
	123675	PLATE-CENTER BEARING	..	1
38	97355	BUSHING	1	..
	131172	BUSHING	..	1
	97356	SEAL	1	..
	131174	SEAL	..	1
40	133720	SCREW-CENTER BEARING PLATE	2	2
41	113719	LOCKWASHER	2	2
42	97361	BOLT-THRU	2	2
43	236076	LEVER-SHIFT	1	..
	130676	LEVER-SHIFT	..	1
44	19869	PIN-ROLL, 3/16 X 13/16	1	1
	236075	PLUNGER-SOLENOID	1	1
45	77121	BOOT	1	..
	123672	BOOT	..	1
46	88564	SPRING-PLUNGER RETURN	1	..
	236074	SPRING-PLUNGER RETURN	..	1
47	97349	SCREW-SHIFT LEVER	1	..
	236078	STUD-SHIFT LEVER	..	1
48	97351	LOCKWASHER	2	2
49	97350	NUT	1	1
50	132728	SWITCH-SOLENOID	1	1
51	15551	SCREW-SWITCH	2	2
52	236072	LOCKWASHER	2	..
	125796	LOCKWASHER	..	2
53	.....	SCREW-CONN. ATT. TO SCREW	1	1
54	15916	LOCKWASHER	1	1
	151318	SPACER	1	1
55	16376	CAPSCREW-HT, 3/8 UNC X 2	3	3
	15156	LOCKWASHER-3/8	3	3

Section F
CLUTCH AND LINKAGE
INDEX

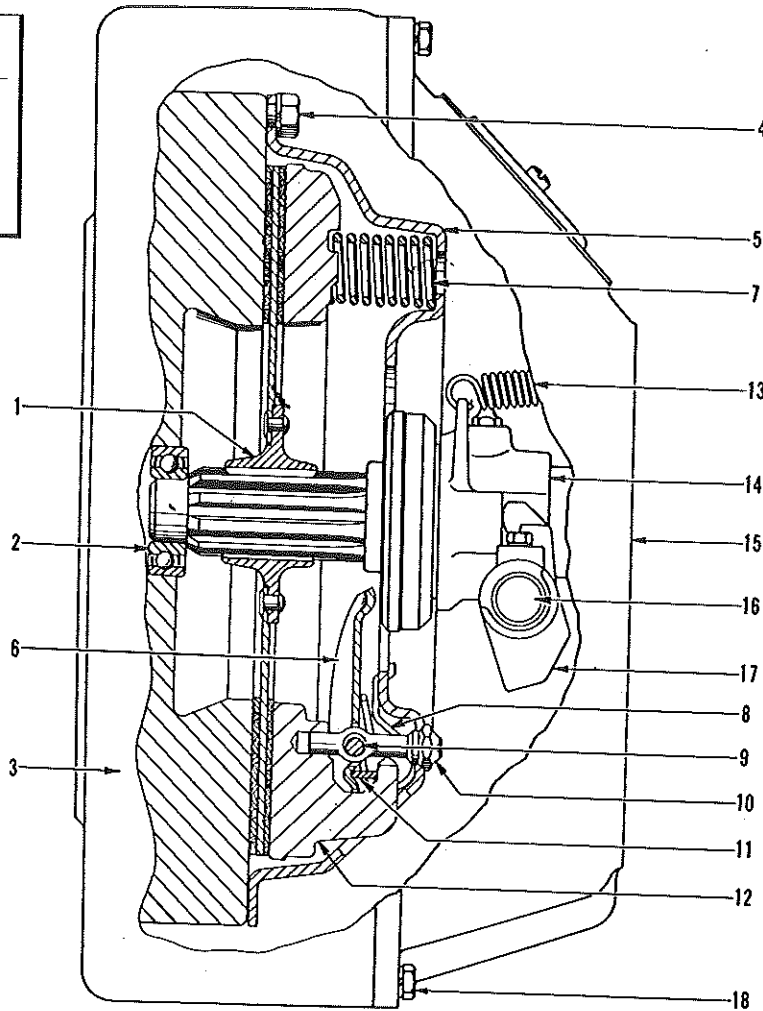
CLUTCH	F1
CLUTCH PEDAL LINKAGE	F2



CLUTCH

FOR GAS AND DIESEL ENGINES

COMPLETE THE JOB WITH RELATED PARTS	
ITEM	RELATED PART
5	1,2



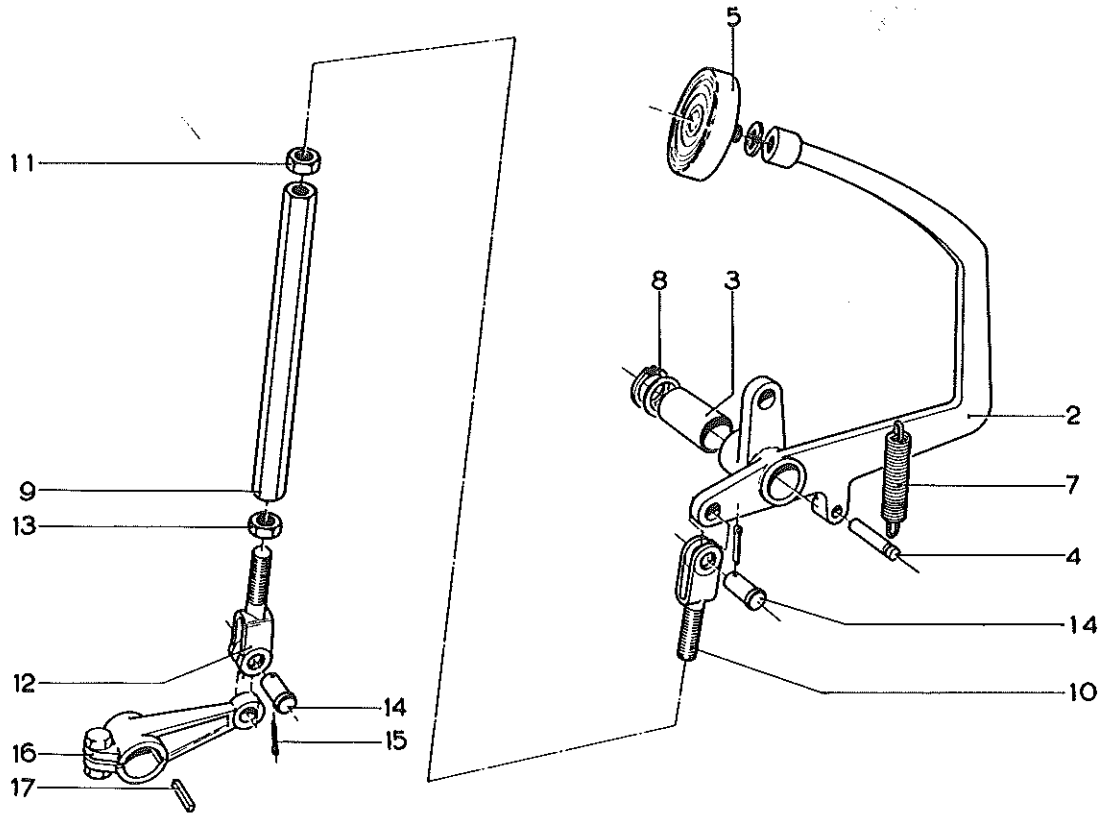
REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.
1	27850AB	PLATE-CLUTCH	1
1	54054 A	FACING SET-W/RIVETS	1
1	111690 A	PLATE-CLUTCH, W/FERAMIC LINING	1
1	54090 A	FACING SET, OPTIONAL FERAMIC	1
2	124631	BEARING	1
2	45642	SNAP RING	1
2	981902	PLATE-BEARING RETAINER	1
2	15551	CAPSCREW-1/4 UNC X 1/2	2
2	15154	LOCKWASHER-1/4	2
3	109270	HOUSING-FLYWHEEL	1
3	984951	HOUSING-FLYWHEEL	1
3	981871	HOUSING-FLYWHEEL	1
3	15568	CAPSCREW-3/8 UNC X 3/4, TOP	3
3	46698	CAPSCREW-3/8 UNC X 1 1/4	3
3	177947	LOCKWASHER-3/8	3
3	15580	CAPSCREW-3/8 UNC X 1 1/2	5
3	62656	STUD-3/8 UNF X 1 7/8	2
3	15006	NUT-3/8 UNF	2
3	15156	LOCKWASHER-3/8	10
4	63753	CAPSCREW-SPECIAL	8
4	66731	CAPSCREW-SPECIAL	8
4	15156	LOCKWASHER-3/8	8
5	54074 A	CLUTCH COVER	1
5	54053	COVER-CLUTCH	1
6	28425	LEVER-RELEASE	4

REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.
7	54023	SPRING	8
8	28888	SPRING-ANTI RATTLE	4
9	28424	P-IN-EYE BOLT	4
10	28423 A	EYE BOLT AND NUT	4
10	54050	EYE BOLT	4
10	54051	NUT	4
11	28425	STRUT-RELEASE LEVER	4
12	54078	PLATE-PRESSURE	1
13	100417	SPRING-CLUTCH RELEASE	1
14	100416AB	RELEASE SLEEVE AND BEARING	1
14	230303	BEARING	1
14	16001	GREASE FITTING	1
15	27932	HOUSING-CLUTCH	1
16	125526	SHAFT-THROUGHT, LONG	1
16	125525	SHAFT-THROUGHT, SHORT	1
17	71022	KEY	1
17	99169	YOKE-CLUTCH RELEASE	1
18	27936	LOCKSCREW	2
18	15529	CAPSCREW-3/8 UNC X 1	12
18	15156	LOCKWASHER-3/8	12

*LAST USED ON SERIAL NO. 811E-2135.

ØFOR DIESEL ENGINE ONLY.

CLUTCH LINKAGE



REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.
2	108032 A	LEVER-FOOT	1
3	53617	BUSHING	1
4	15951	PIN-GROOVE	1
5	69054	PAD-PEDAL	1
	15158	LOCKWASHER-1/2	1
7	64037	SPRING	1
8	58933	SNAP RING	1
	15133	WASHER-1	1
9	108035	TURNBUCKLE	1
10	108034	ROD END-L.H.	1

REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.
11	36850	NUT-JAM, 1/2 UNF-L.H.	1
12	43655	ROD END-R.H.	1
13	15008	NUT-1/2 UNF	1
14	153	PIN-ROD END	2
15	15222	COTTER-1/8 X 3/4	2
16	CRANK	1
	CPSCR.-3/8 UNF X 1 3/4	SEE PAGE G3
	LOCKWASHER-3/8	
	NUT-3/8 UNF	
17	KEY	1

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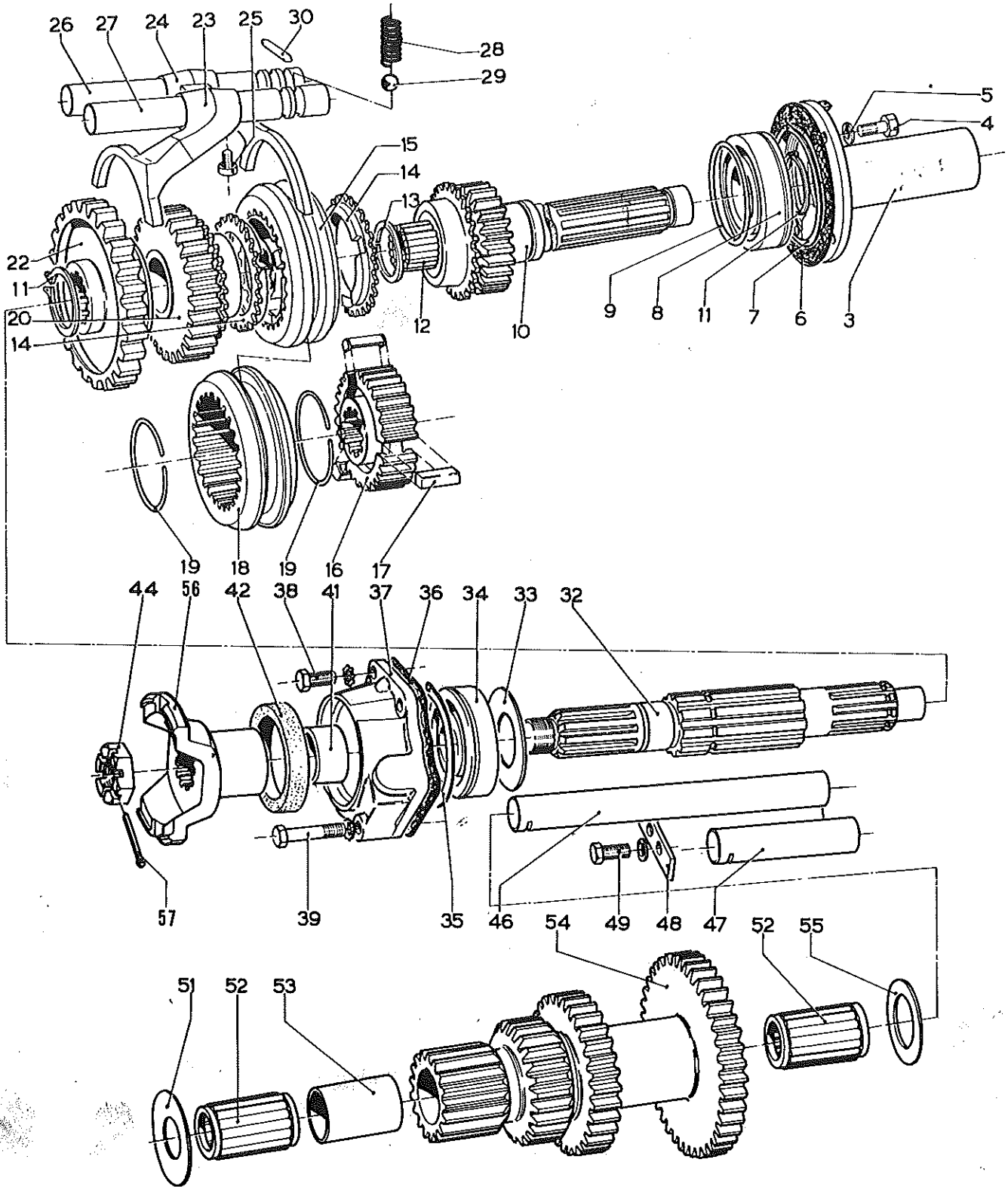
Section G

TRANSMISSION AND POWER TRAIN

INDEX

DIFFERENTIAL	G7
DRIVE AXLE	G8
DRIVE SHAFT	G5
LEVER-FORWARD AND REVERSE	G6
SPEED REDUCER	G4
TRANSMISSION HOUSING	G3
TRANSMISSION GEARS	G1

TRANSMISSION GEARS

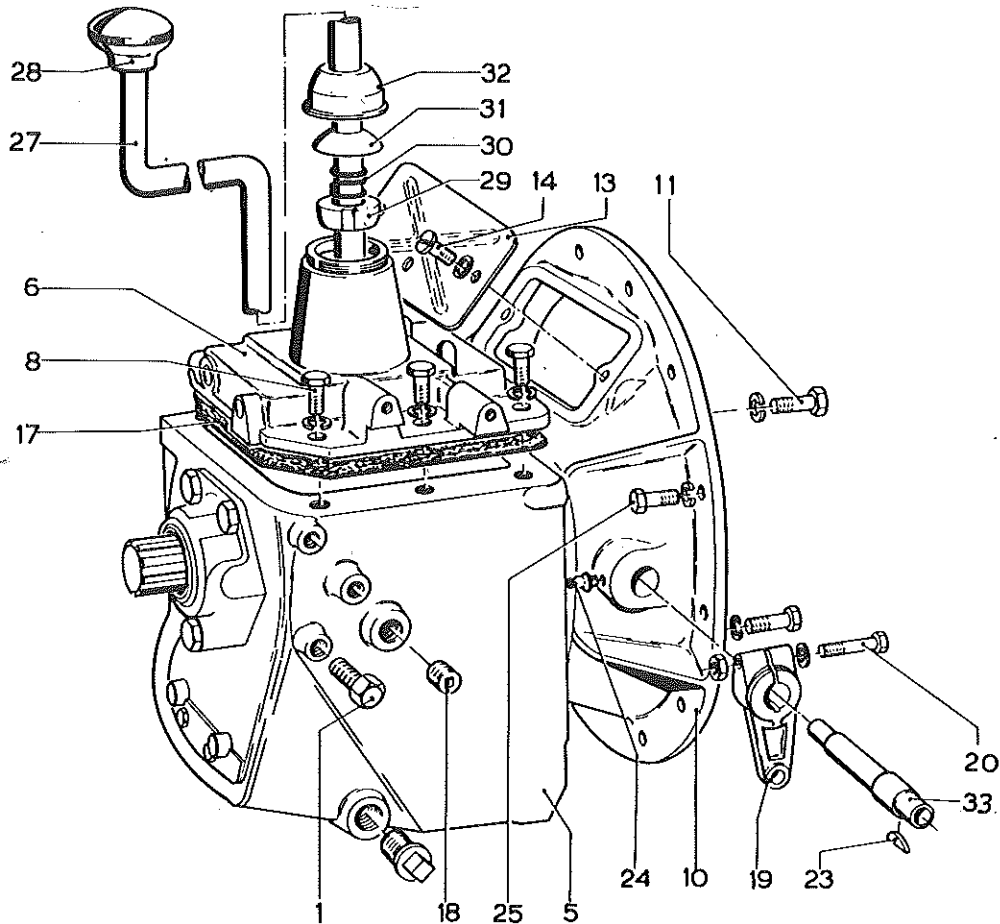


TRANSMISSION GEARS

REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.	REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.
	125531	TRANSMISSION	1	32	108901	SHAFT-MAIN	1
3	108890	RETAINER-BRG., MAIN DR. GEAR	1	33	108903	BAFFLE-OIL	1
4	15553	CAPSCREW-5/16 UNC X 3/4	4	34	124679	BEARING-BALL	1
5	15155	LOCKWASHER-5/16	4	35	167805	SNAP RING-BEARING	1
6	200137	GASKET	AR	36	200132	GASKET	AR
7	9109	SNAP RING-BEARING	1	37	108904	RETAINER-BEARING	1
8	165471	BEARING	1	38	15529	CAPSCREW-3/8 UNC X 1	4
9	108889	BAFFLE-OIL	1	39	16376	CAPSCREW-3/8 UNC X 2	1
10	108888	GEAR-MAIN DRIVE	1		15905	LOCKWASHER-3/8	5
	*200138	GEAR-MAIN DRIVE	1	41	200131	SPACER	1
11	*109597	SNAP RING-.094 THICK	2	42	53825	SEAL-OIL	1
12	53753	BEARING-ROLLER	16	44	53695	NUT-MAIN SHAFT	1
13	53688	SNAP RING-CLUTCH HUB	1	46	108907	SHAFT-COUNTER	1
14	53687	BLOCKING-RING-SYNCHRONIZER	2	47	108912	SHAFT-REVERSE IDLER	1
15	53685	SYNCHRONIZER	1	48	108911	PLATE-LOCK	1
16	53730	CLUTCH-HUB	1	49	15525	CAPSCREW-3/8 UNC X 3/4	2
17	53732	PLATE-SHIFTER	3		15156	LOCKWASHER-3/8	2
18	53731	CLUTCH-SLEEVE	1		108909	THRUST WASHER-COUNTERSHAFT	1
19	53733	SPRING-SYNCHRONIZER	2	51	*200133	THRUST WASHER-COUNTERSHAFT	1
	108896 A	GEAR-SECOND	1		108910	THRUST WASHER-COUNTERSHAFT	1
20	*200134 A	GEAR-SECOND	1	52	27965	BEARING-COUNTERSHAFT	2
	108897	BUSHING-GEAR	1	53	108908	SPACER-COUNTERSHAFT BEARING	1
22	108898	GEAR	1	54	108892	GEAR-COUNTERSHAFT	1
23	108894	SHIFT-FORK	1		*200865	GEAR-COUNTERSHAFT	1
24	108895	SHIFT-FORK	1	55	108891	WASHER-THRUST	1
25	134774	SCREW-LOCK-SHIFT FORK	2	56	108107	FLANGE-COMPANION	1
26	108899	SHIFT-RAIL	1	57	15225	COTTER-1/8 X 1 1/2	1
27	108900	SHIFT-RAIL	1				
28	27982	SPRING-POPPET	2				
29	21278	BALL-STEEL	2				
30	108887	PLUNGER-INTERLOCK	1				

*FIRST USED ON SERIAL NO. 811L-1788, 811E-1765 AND 811A-1501.

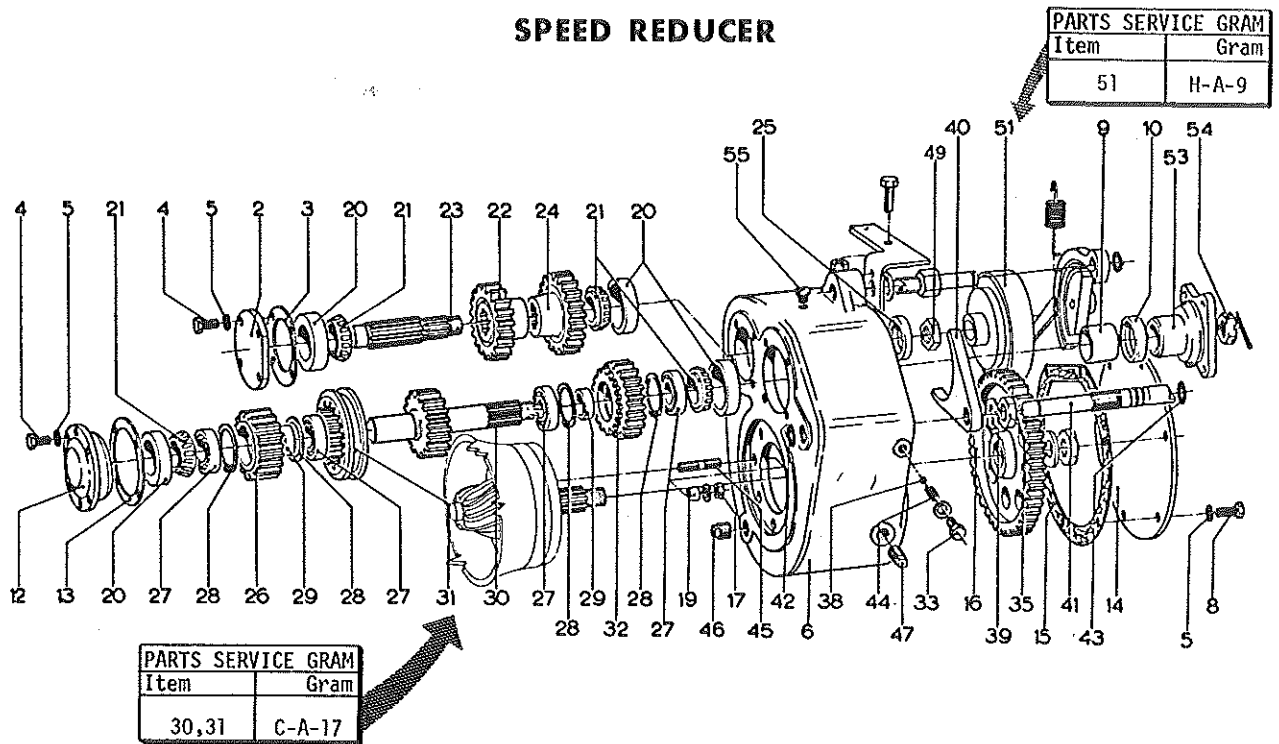
TRANSMISSION HOUSING



REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.
1	143228	CAPSCREW	3
5	108893	TRANSMISSION CASE	1
6	108886	HOUSING-CONTROL	1
	27975	PLUG-EXPANSION	4
	.....	PLUG-TAPER	1
8	165472	PLUG	1
	16598	CAPSCREW-3/8 UNC X 7/8	6
10	15905	LOCKWASHER-3/8	6
	27932	HOUSING-CLUTCH	1
11	15538	CAPSCREW-1/2 UNC X 1 1/4, CLUTCH HOUSING TO GEARBOX	6
	53502	LOCKWASHER-1/2	6
13	27933	COVER-CLUTCH HOUSING	1
	111793	SPACER	2
14	15556	CAPSCREW-5/16 UNC X 5/8	2
	18515	WASHER-PLAIN, 5/16	2
	15155	LOCKWASHER-5/16	2
17	108902	GASKET-CONTROL HOUSING	1
18	15304	PLUG-PIPE 3/4	1
	27948	PLUG-PIPE 3/4	1
19	27706 A	CRANK	1
20	15527	CAPSCREW-3/8 UNF X 1 3/4	1
	15006	NUT-3/8 UNF	1
	15156	LOCKWASHER-3/8	1

REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.
23	7882	KEY	1
24	16005	FITTING-GREASE	2
	15529	CAPSCREW-3/8 UNC X 1, CLUTCH TO HOUSING-GAS	12
25	25062	CAPSCREW-3/8 UNC X 1 1/4, CLUTCH TO HOUSING-DIESEL	12
	15156	LOCKWASHER-3/8	12
27	108885	LEVER-CONTROL	1
28	27991	KNOB-CONTROL LEVER	1
29	234559	BALL-FULCRUM	1
30	27989	SPRING-CONTROL LEVER	1
31	27990 B	WASHER-SPRING LEVER	1
32	27988 B	CAP-CONTROL HOUSING	1
	27976	PIN-CONTROL HOUSING	1
33	96949	SHAFT-THROWOUT, LONG	1
	96948	SHAFT-THROWOUT, SHORT	1
33	99169	YOKE-THROWOUT	1
	27936	LOCKSCREW	2
	.....	LOCKWIRE	2

SPEED REDUCER



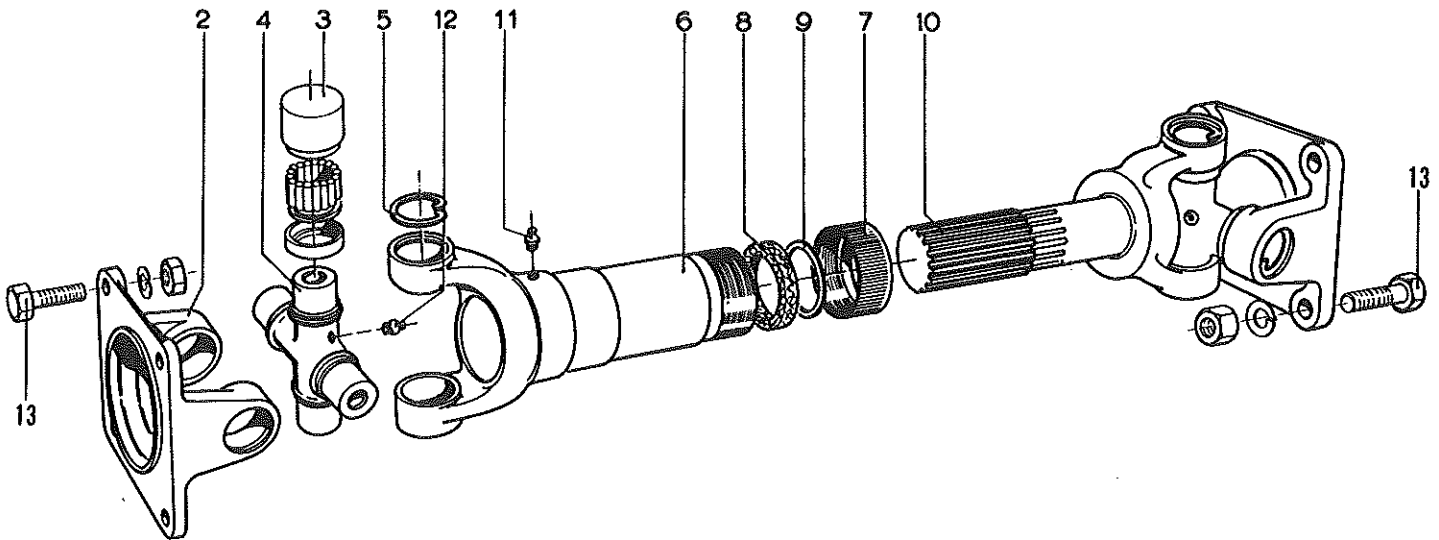
REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.
	980040 A	SPEED REDUCER	1
2	107933	PLATE-COVER	1
3	132484	SHIM-.005	1
	132485	SHIM-.007	1
4	132486	SHIM-.020	1
	15529	CAPSCREW-3/8 UNC X 1	8
5	15156	LOCKWASHER-3/8	14
6	107923	HOUSING	1
8	15507	CAPSCREW-3/8 UNC X 7/8	6
9	107942	SPACER	1
10	44503	SEAL-OIL	1
12	107929	BEARING	1
13	132480	SHIM	AR
	132481	SHIM	AR
	132482	SHIM	AR
14	107938	COVER	1
15	107937	GASKET	1
16	107936	GEAR	1
17	155481	NUT-7/16 UNF	8
19	155480	THIMBLE	8
20	230345	CUP-BEARING	4
21	230346	CONE-BEARING	4
22	107931	GEAR	1
23	107934	SHAFT-COUNTER	1
24	107939	GEAR	1
25	44503	SEAL-OIL	1
26	107925	GEAR	1
27	44307	BEARING	4
28	24702	RING-SNAP	4
29	107943	SPACER	2
30	107928	SHAFT-INPUT	1
	*170319	SHAFT-INPUT	1

REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.
31	107924	CLUTCH	1
	*170316	CLUTCH	1
32	107949	GEAR	1
33	15626	CAPSCREW-7/16 UNF X 3/4	1
	15157	LOCKWASHER-7/16	1
35	15036	NUT-JAM, 1 INCH	1
38	21278	BALL-STEEL, 3/8	1
39	15936	LOCKWASHER-1 INCH	1
40	107945	FORK-SHIFTER	1
41	107944	SHAFT-SHIFTER	1
42	100153	SEAL-OIL	1
43	100154	SEAL-OIL	1
44	105443	SPRING	1
45	155482	STUD	8
46	15303	PLUG-1/2	1
47	15304	PLUG	1
49	53695	NUT-SLOTTED	1
	15225	COTTER-1/8 X 1 1/2	1
51	163999	BRAKE DRUM W/HUB	1
53	107941	FLANGE	1
	15560	CAPSCREW-7/16 UNF X 1	4
54	15157	LOCKWASHER-7/16	4
	15007	NUT-7/16 UNF	4
55	53695	NUT-SLOTTED	1
	15225	COTTER-1/8 X 1 1/2	1
	16016	BREATHER	1

*FIRST USED ON SERIAL NO. 811D-1533, 811E-2406 AND 811H-1559.

DRIVE SHAFT

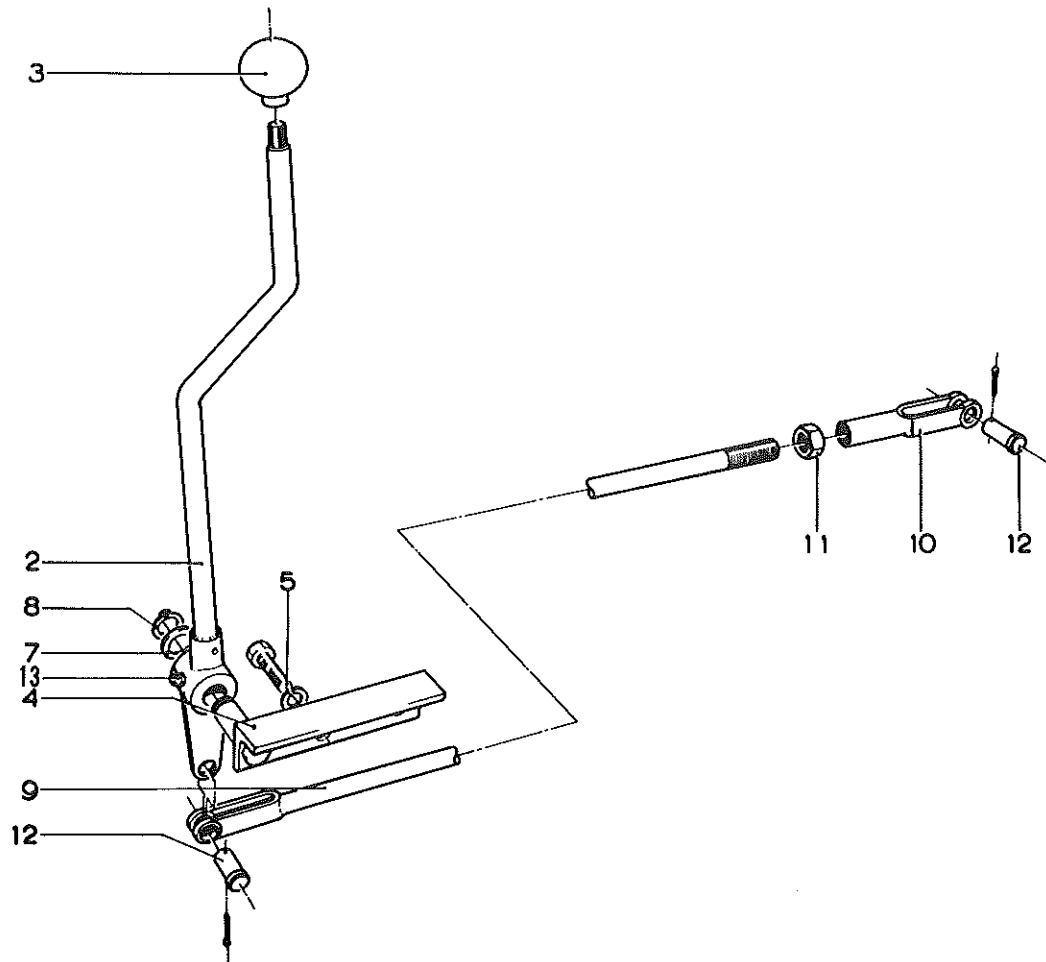
FOR GAS AND DIESEL ENGINES



REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.
	1 2 3 4		
	23464 A	DRIVE SHAFT	1
2	23465	YOKE-FLANGE	2
3	27418 A	CROSS AND BEARING	2
4	•••••	CROSS	2
5	158355	SNAP RING	8
6	23466	YOKE-SLEEVE	1
7	23468	CAP-DUST	1
8	23470	WASHER-CORK	1

REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.
	1 2 3 4		
9	23469	WASHER-STEEL	1
10	23598 A	SHAFT-SPLINED	1
11	16001	GREASE FITTING	1
12	13957	GREASE FITTING	2
13	15560	CAPSCREW-7/16 UNF X 1 1/4	8
	15157	LOCKWASHER-7/16	8
	15007	NUT-7/16 UNF	8

FORWARD AND REVERSE CONTROL LEVER

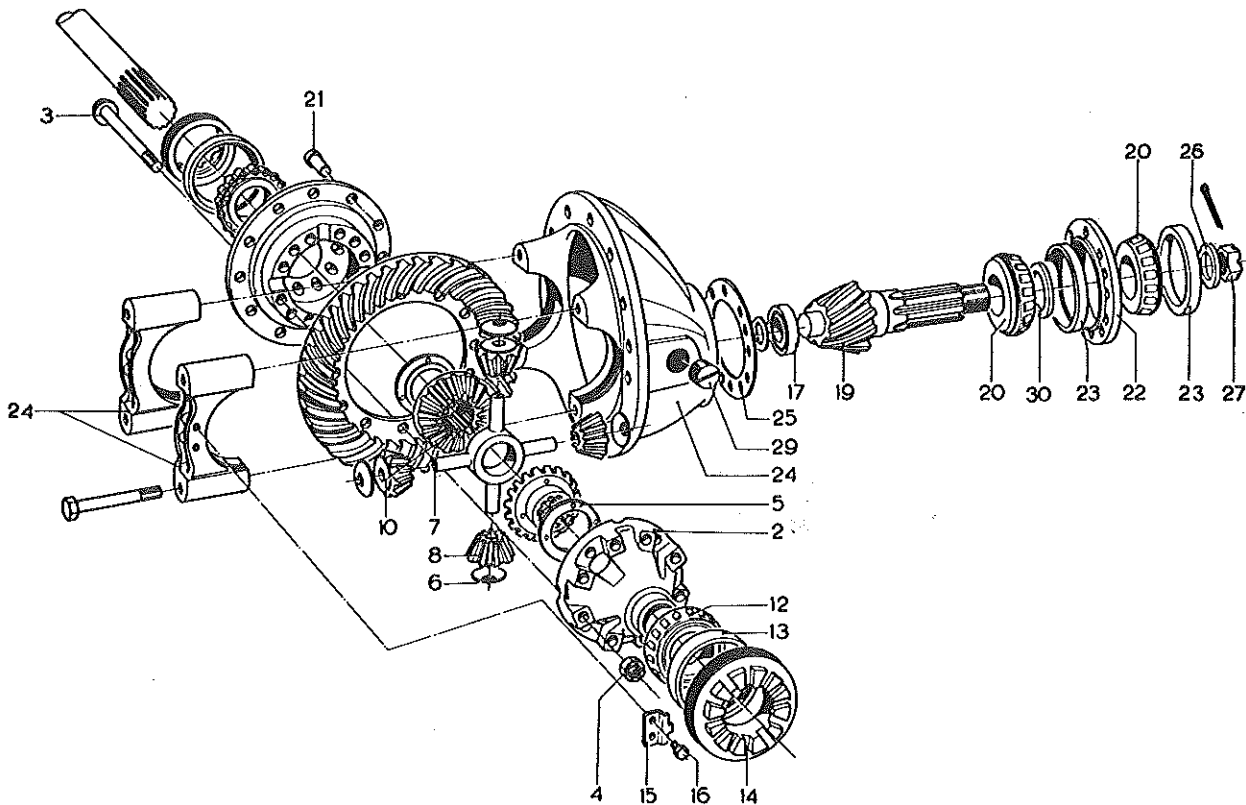


REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.
2	108030 W	LEVER-SHIFTER	1
	*981192	LEVER-SHIFTER	1
3	27991	KNOB	1
4	108036 W	BRACKET	1
5	15580	CAPSCREW-3/8 UNC X 1-1/4	2
	15156	LOCKWASHER-3/8	2
7	41086	WASHER	1
8	58933	RING-SNAP	1

REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.
9	108031	LINK	1
10	152	ROD END	1
11	15008	NUT-1/2 UNF	1
12	153	PIN-ROD END	2
	15222	COTTER-1/8 X 3/4	2
13	16005	GREASE FITTING	1

*FOR B11A AND B11E GAS AND DIESEL KARRY KRANES.

DIFFERENTIAL AND CARRIER



REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.
	53848AB	DIFFERENTIAL AND CARRIER	1
2	123632	DIFFERENTIAL	1
	*166892	DIFFERENTIAL	1
3	53872	CASE	1
	*166893	CASE	1
4	53868	BOLT-CASE	8
	*166895	BOLT-CASE	8
5	#202581	NUT	8
6	53871	WASHER-THRUST	2
7	53870	WASHER-THRUST	4
8	53860	SPIDER	1
10	53858	PINION	4
	53859	BUSHING	1
12	53866	GEAR-SIDE	2
13	230376	CONE-BEARING	2
14	30077	CUP-BEARING	2
15	53861	ADJUSTER-BEARING	2
16	53863	PLATE-LOCK	2
	* 86008	COTTER	2
17	53810	CAPSCREW-LOCK PLATE	2
	230377	BEARING	1
19	53885	SNAP RING	1
	*202723	BEARING	1
20	*202907	SNAP RING	1
21	□202725	DRIVE GEAR AND PINION-MATCHED	1
22	138744	CONE-BEARING	2
23	53867	RIVET-DRIVE GEAR	12
24	53852 A	CAGE-PINION BEARING	1
	138743	CUP-BEARING	2
24	53857	DIFFERENTIAL CARRIER-W/CAPS	1
	234038	DOWEL	4
	200110	CAPSCREW	4
	86007	WASHER	4

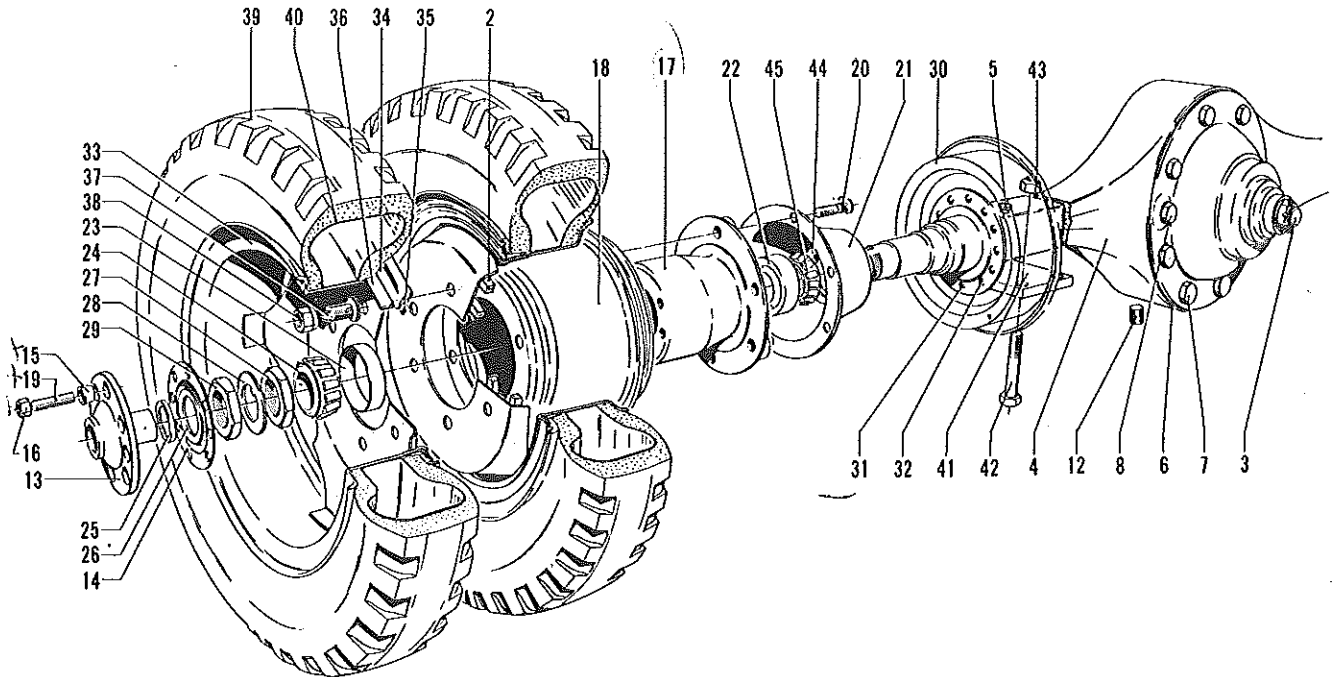
REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.
25	53853	SHIM-.003 THICK	AR
	53854	SHIM-.005 THICK	AR
	53855	SHIM-.010 THICK	AR
26	53851	WASHER-THRUST	1
	53849	NUT-SLOTTED	1
27	234045	WASHER	1
	15226	COTTER-1/8 X 1 3/4	1
29	15316	PLUG-FILLER	1
	53873	SPACER-.165 THICK	AR
	53874	SPACER-.166 THICK	AR
	53875	SPACER-.167 THICK	AR
	53876	SPACER-.168 THICK	AR
	53877	SPACER-.169 THICK	AR
	53878	SPACER-.170 THICK	AR
	53879	SPACER-.176 THICK	AR
	53880	SPACER-.180 THICK	AR
	53881	SPACER-.188 THICK	AR
	53882	SPACER-.194 THICK	AR
	53883	SPACER-.200 THICK	AR

*FIRST USED ON SERIAL NO. B11L-1968, B11L-1969 AND B11L-1976 UP, B11E-1811 AND B11A-1501.

□FOR KARRY KRANES PRIOR TO ABOVE SERIAL NOS. USE 202723 BEARING AND 125606 SNAP RING W/127589 DRIVE GEAR AND PINION.

#LAST USED ON SERIAL NO. B11L-1975 AND B11E-1810.

DRIVE AXLE



REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.
2	*110716	SPACER-HUB	2
	167957	DRIVE AXLE	1
3	.....	DIFFERENTIAL-SEE PAGE G7	1
	15626	CAPSCREW-7/16 UNF X 3/4	2
	158824	WASHER-COPPER	2
4	53895	HOUSING	1
5	21420	BREATHER	1
6	53896	GASKET	1
7	18557	CAPSCREW-7/16 UNC X 1 1/4	6
	18558	CAPSCREW-7/16 UNC X 1 1/2	2
8	134405	CAPSCREW-LONG	2
	15157	LOCKWASHER-7/16	10
12	15316	PLUG-DRAIN HOLE	1
13	53887	AXLE SHAFT	2
14	53888	GASKET	4
15	53890	DOWEL	16
16	15007	NUT-7/16 UNF	16
	127596	LOCKWASHER-7/16	16
17	170018	HUB AND DRUM	2
	#170023	HUB	2
18	53892	DRUM-BRAKE	2
	#170019	DRUM-BRAKE	2
19	53889	STUD-HUB & AXLE SHAFT	16
	#170022	STUD-HUB & AXLE SHAFT	16
	53891	STUD	12
20	#170020	STUD-WHEEL	12
	*141716	STUD-WHEEL	12
21	53901	SLINGER-OIL	2
	#170021	SLINGER-OIL	2
22	30162	CUP-BEARING	2

REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.
23	30077	CUP-BEARING	2
24	30085	CONE-BEARING	2
25	53903	SEAL-OIL	2
26	53904	WIPER	2
27	53907	NUT-ADJUSTING, WHEEL BEARING	2
28	53906	LOCKWASHER-WHEEL BEARING	2
29	53905	NUT-LOCK, WHEEL BEARING	2
30	.....	BRAKE-R.H., SEE PAGE H2	1
	.....	BRAKE-L.H., SEE PAGE H2	1
31	129866	BOLT-SHORT	4
	#129867	BOLT-LONG	8
32	88587	WASHER	12
	129868	NUT	12
33	.....	WHEEL	4
34	.....	RING-SIDE	1
35	.....	RING-SNAP	1
36	.....	RING-RIM	1
37	11287	NUT-WHEEL	12
38	11286	NUT-WHEEL	12
39	.....	TIRE	4
40	.....	TUBE	4
41	107920	PLATE-AXLE MOUNTING	2
42	16089	CAPSCREW-3/4 UNF X 7	8
43	43299	NUT-STOP, 3/4 UNF	8
44	53902	SEAL-OIL	2
45	30161	CONE-BEARING	2

*FOR USE WITH TIRE CHAINS.

#FIRST USED ON SERIAL NO. B11L-2879, B11G-1595.

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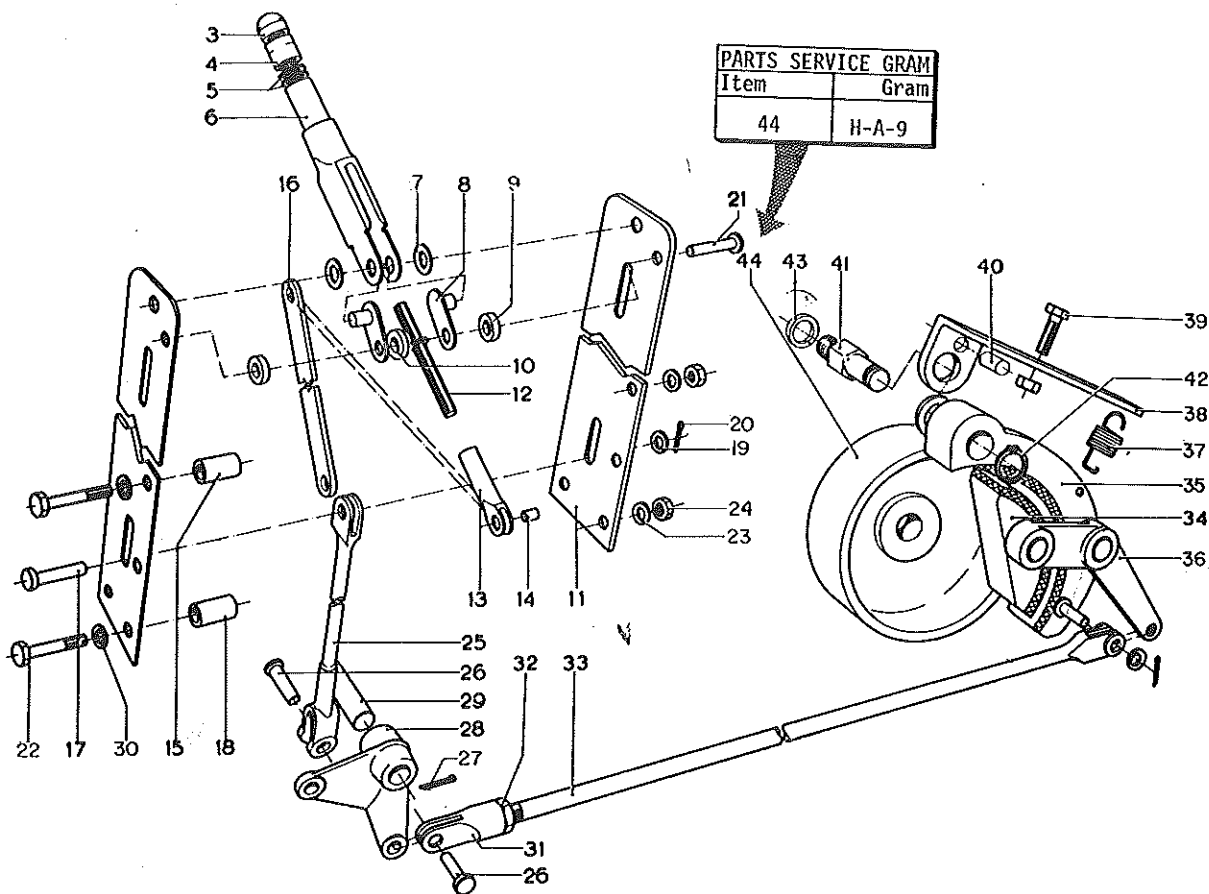
Section H

BRAKE AND LINKAGE

INDEX

BRAKE	H2
BRAKE CONTROLS	H3
MASTER CYLINDER	H3
HAND LEVER	H1
PARKING BRAKE	H1
WHEEL CYLINDER	H2

PARKING BRAKE



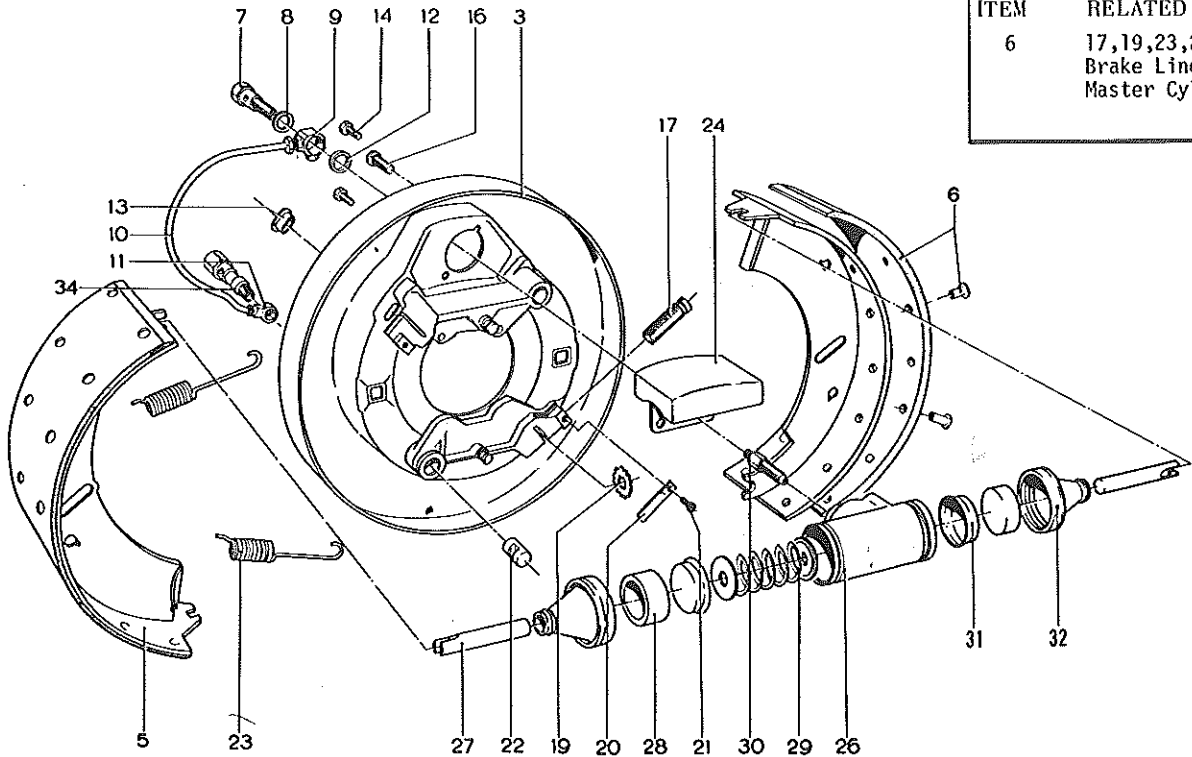
REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.
1	108048 A	LEVER	1
3	54867	KNOB-ADJUSTING, UPPER	1
4	54868	KNOB-ADJUSTING, LOWER	1
5	54866	WASHER-SPRING	2
6	54869	LEVER-BODY	1
7	54965	WASHER-SPRING	2
8	54889	PIVOT-BRACKET	2
9	54963	SPACER	2
10	54865	SPACER	1
11	54971	BRACKET	2
12	54870	SCREW-ADJUSTING	1
13	54860	TUBE-ADJUSTING	1
14	54871	PIN	1
15	54966	SPACER	1
16	54969	LINK	1
17	54964	PIN	1
18	54972	SPACER	3
19	18515	WASHER-5/16	1
20	15213	COTTER-3/32 X 1	1
21	54892	RIVET	2
22	15581	CAPSCREW-3/8 UNF X 2 1/4	3
23	15156	LOCKWASHER-3/8	3
24	15006	NUT-3/8 UNF	3
25	108049	LINK	1

REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.
26	142	PIN-ROD END	3
27	15212	COTTER-3/32 X 3/4	3
28	108050	CRANK	1
29	108051	PIN	1
	15222	COTTER-1/8 X 3/4	2
30	111705	SPACER	3
31	141	ROD END	1
32	15006	NUT-3/8 UNF	1
33	108052	LINK	1
	107947 A	BRAKE	1
34	53633 A	BRAKE SHOE-W/LINING, INNER	1
	54949	WASHER-SPRING	1
35	53634 A	BRAKE SHOE-W/LINING, OUTER	1
36	54948	LEVER-FORK	1
	53632	SNAP RING	2
37	60704	SPRING	1
38	107948	BRACKET	1
39	15508	CAPSCREW-3/8 UNF X 1	1
	15026	NUT-JAM, 3/8 UNF	1
40	19864	ROLL PIN	1
41	107946	STUD-SHOULDER	1
42	58929	SNAP RING	1
43	15907	LOCKWASHER-3/4	1
44	163999	BRAKE DRUM W/HUB	1

HYDRAULIC BRAKE

COMPLETE THE JOB
WITH RELATED PARTS

ITEM	RELATED PART
6	17,19,23,26 Brake Lines Master Cylinder



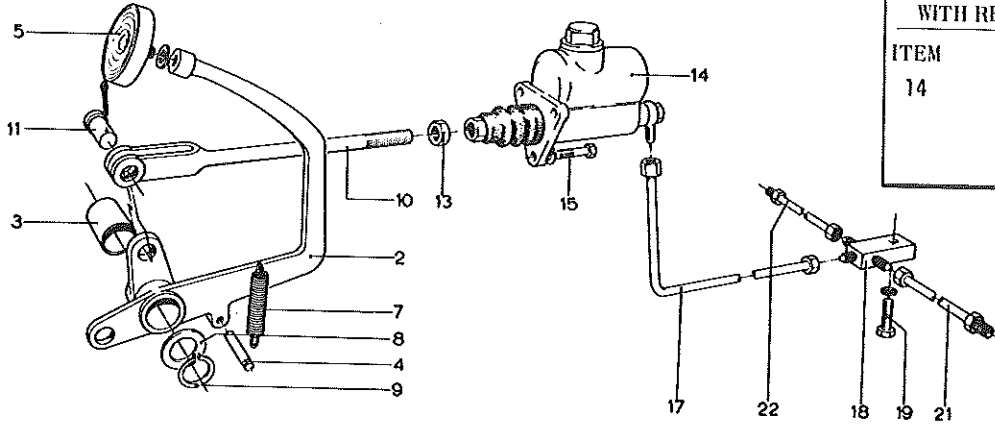
KEY
A-FOR RIGHT HAND BRAKE.
B-FOR LEFT HAND BRAKE.

REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.	
			A	B
	108979	A BRAKE	1	..
	108980	A BRAKE	..	1
3	108981	PLATE-BACKING	1	..
	108982	PLATE-BACKING	..	1
5	108983	A SHOE AND LINING	2	2
6	108984	A PACKAGE-LINING AND RIVET	1	1
7	54650	BOLT-FITTING	2	2
8	29343	GASKET-FITTING BOLT	2	2
9	54652	TUBE FITTING-CONNECTING	1	1
10	135036	TUBE	1	1
11	29341	TUBE FITTING-CONNECTING	1	1
12	29344	GASKET-FITTING	2	2
13	108986	COVER-ADJUSTING SLOT	2	2
14	135038	CAPSCREW-W/LOCKWASHER	4	4
16	108987	BOLT-SHOE GUIDE	2	2
	135039	PIN AND ADJUSTMENT	1	..
17	135035	PIN AND ADJUSTMENT	..	1
	108988	SCREW-ADJUSTING	1	..
	108989	SCREW-ADJUSTING	..	1

REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.	
			A	B
19	108990	WHEEL-STAR ADJUSTING	2	2
20	108991	LOCKSPRING-ADJUSTING	2	2
21	108992	SCREW-LOCKSPRING	2	2
22	108993	PIN-ANCHOR	2	2
23	108994	SPRING-BRAKE SHOE RETRACT.	4	4
24	108995	COVER-WHEEL CYLINDER	2	..
	108996	COVER-WHEEL CYLINDER	..	2
26	108997	A CYLINDER	2	2
27	108998	ROD-PUSH	2	2
28	54736	PISTON	2	2
29	54631	SPRING	1	1
30	54933	SCREW-BLEEDER	1	1
31	* 54737	CUP	2	2
32	* 54738	BOOT	2	2
34	108985	BOLT <i>N/A</i>	1	1

*INCLUDED IN REPAIR KIT 54049.

BRAKE CONTROLS



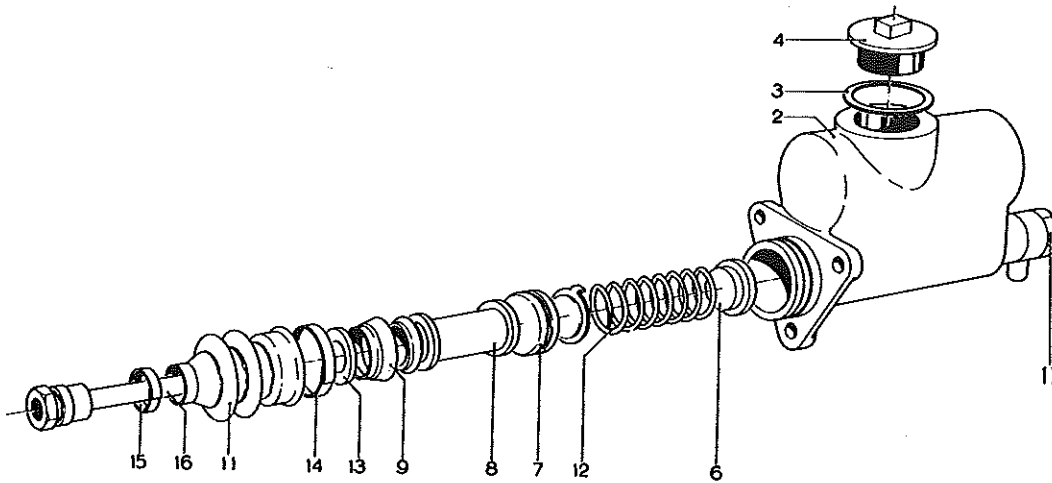
COMPLETE THE JOB
WITH RELATED PARTS

ITEM	RELATED PART
14	17,21,22 Wheel Cylinders

REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.
2	108032 A	LEVER-FOOT, W/BUSHING & PIN	1
3	53617	BUSHING	1
4	15951	PIN-GROOVE	1
5	69054	PAD-PEDAL	1
	15158	LOCKWASHER-1/2	1
7	64037	SPRING	1
8	15133	WASHER-1 INCH	1
9	58933	SNAP RING	1
10	108038	LINK	1
11	159	PIN-ROD END	1
	15223	COTTER-1/8 X 1	1

REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.
13	15007	NUT-7/16 UNF	1
14	.....	MASTER CYLINDER-SEE BELOW	1
15	15529	CAPSCREW-3/8 UNC X 1	3
	15156	LOCKWASHER-3/8	3
17	108040 A	TUBE-MASTER CYLINDER TO TEE	1
18	108041	TEE	1
19	15639	CAPSCREW-5/16 UNC X 1	1
	15155	LOCKWASHER-5/16	1
21	108043 A	TUBE-TO R.H. WHEEL CYLINDER	1
22	108042 A	TUBE-TO L.H. WHEEL CYLINDER	1

MASTER CYLINDER



REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.
	80651 A	MASTER CYLINDER	1
2	.....	HOUSING	1
3	54659	GASKET	1
4	236213	PLUG-FILLER	1
6	*	VALVE-CHECK	1
7	*	CUP-PRIMARY	1
8	*	PISTON	1
9	*	CUP-SECONDARY	1
	*	LOCKWIRE	1
11	*	BOOT	1
12	54656	SPRING-W/END	1

REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.
13	54530	PLATE-STOP	1
14	54658	STRAP-BOOT, LARGE	1
15	54529	STRAP-BOOT, SMALL	1
16	54527	ROD-PUSH	1
	29583	BOLT	1
17	29582	GASKET-OUTER	1
	54624	FITTING	1
	24092	GASKET-INNER	1

TUBE TO MASTER CYL.

*INCLUDED IN MASTER CYLINDER REPAIR KIT 54660A.

Section J

HYDRAULIC SYSTEM

INDEX

CONTROL VALVE	J4-J6
HYDRAULIC TOPPING SYSTEM	J1-J2
HYDRAULIC TOPPING CYLINDER	J7
TILT CONTROL VALVE	J3

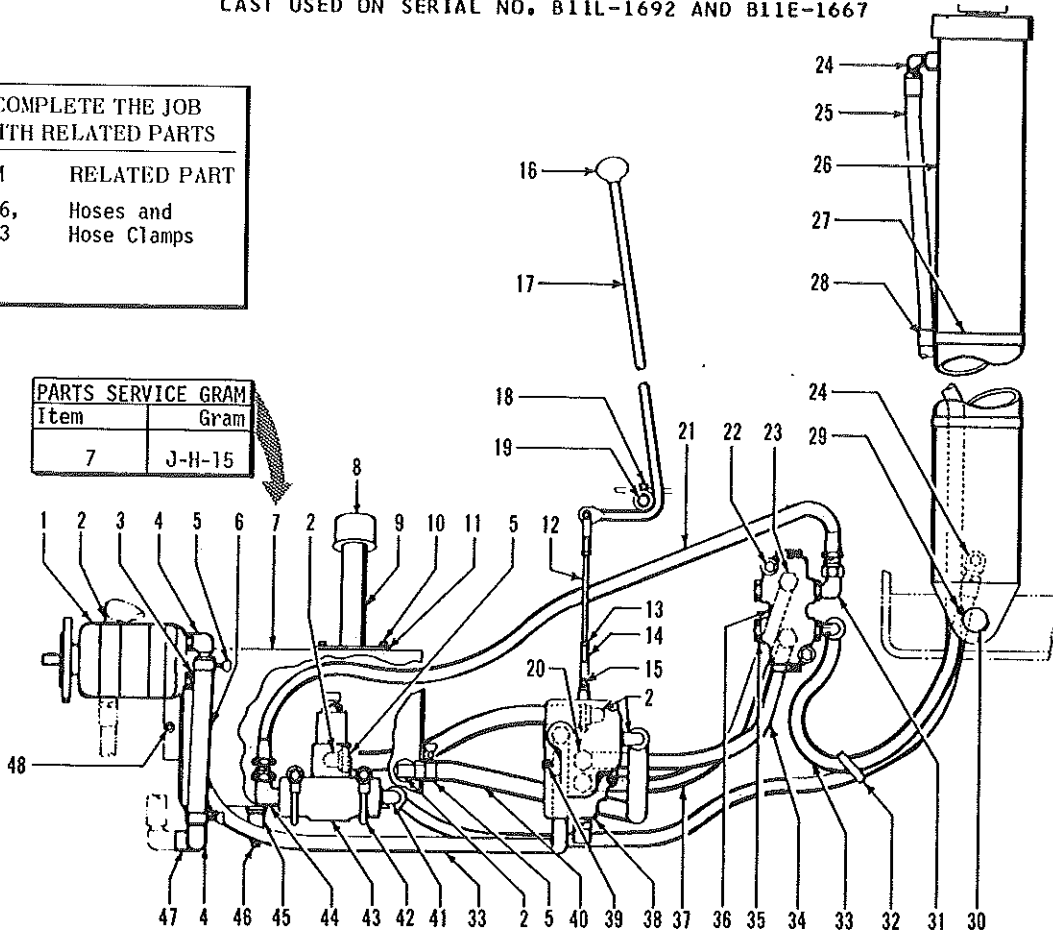
HYDRAULIC TOPPING SYSTEM

LAST USED ON SERIAL NO. B11L-1692 AND B11E-1667

COMPLETE THE JOB
WITH RELATED PARTS

ITEM	RELATED PART
26,36, 38,43	Hoses and Hose Clamps

PARTS SERVICE GRAM	
Item	Gram
7	J-H-15

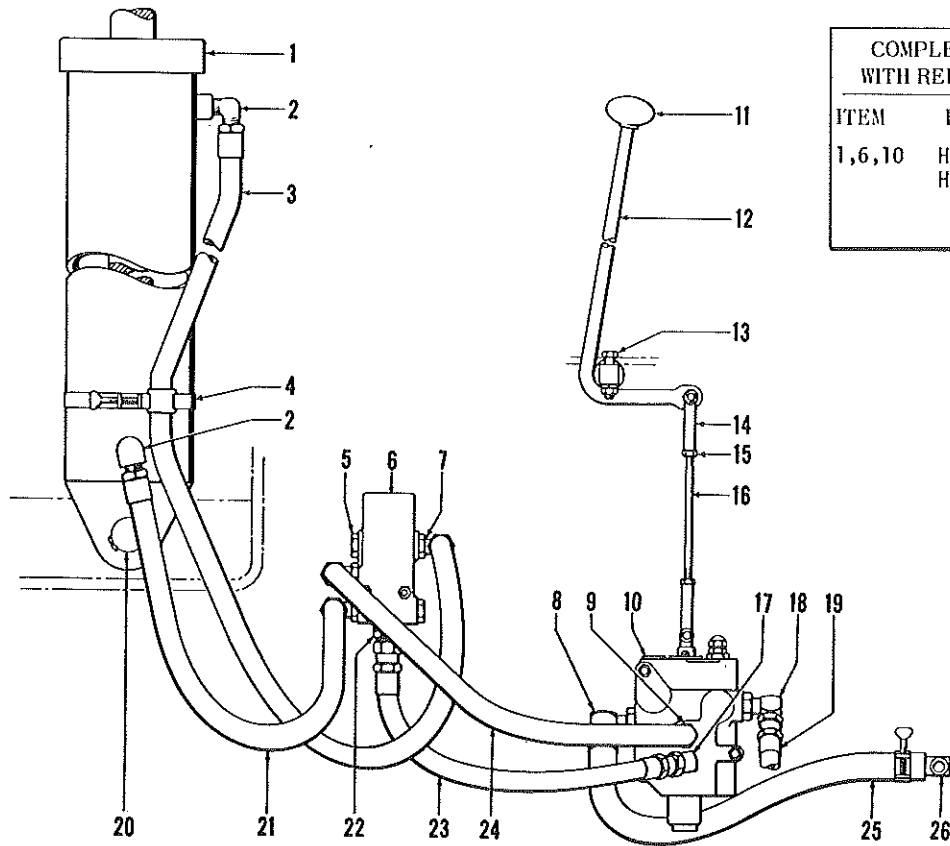


REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.
1	.....	PUMP-HYDRAULIC, SEE PAGE K8	1
2	1532	ELBOW	5
3	17300	ELBOW, 1/2 T X 3/4 P	1
4	16165	ELBOW, 3/4 NPT	1
5	18999	CLAMP	6
6	108062	HOSE-TANK TO PUMP	1
7	108118 W	TANK-HYDRAULIC	1
8	107461	CAP-BREATHER	1
9	108123 W	COVER-TANK	1
10	15583	CAPSCREW-5/16 UNF X 1/2	4
	15155	LOCKWASHER-5/16	4
11	61769	GASKET-TANK COVER	1
12	32024 A	LINK-ADJUSTABLE	1
	32024	ROD-LINK	1
13	15005	NUT-5/16 UNF	2
14	138	ROD END	2
15	139	PIN-ROD END	2
	15211	COTTER-3/32 X 1/2	2
16	27991	KNOB	1
17	108059 W	LEVER-TOPPING	1
	15527	CAPSCREW-3/8 UNF X 1 3/4	1
18	15156	LOCKWASHER-3/8	1
	15006	NUT-3/8 UNF	1
19	108061	BAR	1
	58929	SNAP RING	1
20	17302	CONNECTOR	2
21	111141	HOSE-TILT CONT. TO RELIEF VALVE	1
	16749	MACH. SCREW-5/16 UNC X 2 3/4	2
22	15155	LOCKWASHER-5/16	2
	15055	NUT-5/16 UNC	2

REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.
23	16541	CONNECTOR-3/4-16 X 1/2 TUBE	2
24	17309	ELBOW, 3/8 NPT X 1/2	2
25	111146	HOSE-TILT CONT. TO TOP. CYL.	1
26	.....	CYLINDER-TOPPING, SEE PAGE J7	1
27	18995	CLAMP	2
28	108066	CLIP-HOSE	2
29	15255	COTTER-1/4 X 2	2
30	32300	PIN	1
31	16559	ELBOW, 3/4-16 X 1/2 TUBE	2
32	18994	CLAMP	1
33	108064	HOSE-VALVE TO CYL. & PUMP TO V.	2
34	111143	HOSE-CONT. VALVE TO TILT CONT.	1
35	111145	PLUG	2
36	.....	VALVE-TILT CONTROL, SEE PAGE J3	1
37	111142	HOSE-CONT. VALVE TO TILT CONT.	1
38	.....	VALVE-CONTROL, SEE PAGE J4	1
	16058	MACHINE SCREW-3/4 UNF X 4	3
39	15156	LOCKWASHER-3/8	3
	15006	NUT-3/8 UNF	3
40	108063	HOSE-VALVE TO TANK	1
41	17324	ELBOW-1/2 NPT	1
42	38738	CLAMP	2
43	111269 A	VALVE-RELIEF	1
44	17306	ELBOW, 1/2 NPT-1/2 TUBE	1
45	15337	STREET ELBOW-45, 1/2	1
46	15303	PLUG-1/2	1
47	16060	ELBOW-3/4	1
	16353	CAPSCREW-3/8 UNF X 1	2
48	15156	LOCKWASHER-3/8	2
	15006	NUT-3/8 UNF	2

HYDRAULIC TOPPING SYSTEM

FIRST USED ON SERIAL NO. B11L-1693, B11D-1501 AND B11E-1668



COMPLETE THE JOB WITH RELATED PARTS	
ITEM	RELATED PART
1,6,10	Hose and Hose Clamps

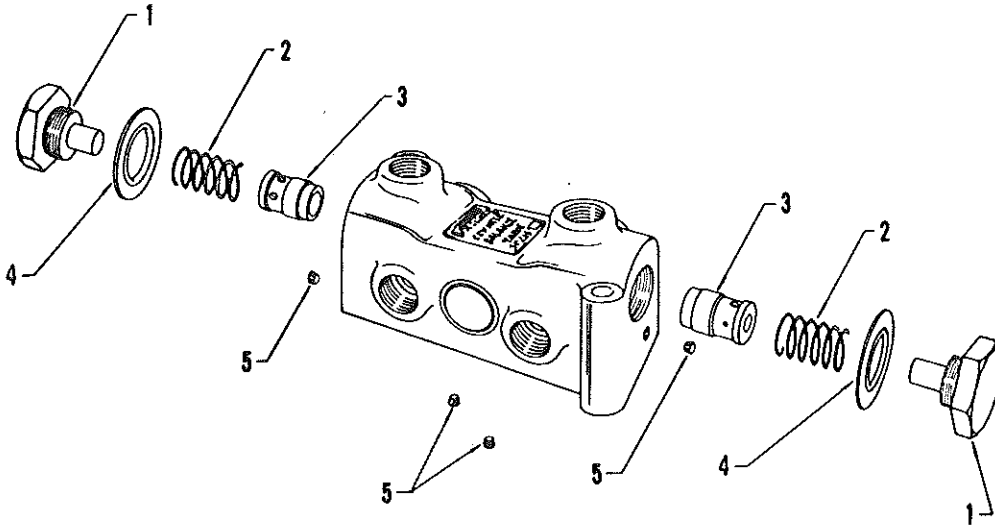
REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.
1	.....	CYLINDER-TOPPING, SEE PAGE J7	1
2	17309	ELBOW	2
3	111146	HOSE-CYL. TO TILT VALVE	1
4	18995	CLAMP-HOSE	2
	108066	CLIP-HOSE	2
5	14595	PLUG	2
	16484	O-RING	2
6	.....	VALVE-TILT CONTROL, SEE PAGE J3	1
	16908	MACH. SCREW-5/16 UNC X 2	2
	15155	LOCKWASHER-5/16	2
	15055	NUT-5/16 UNC	2
	16559	ELBOW	3
7	16586	NUT-LOCK	3
	16484	O-RING	3
	17775	ELBOW	1
8	10588	NUT-LOCK	1
	16486	O-RING	1
9	16541	CONNECTOR	1
	16484	O-RING	1
10	.....	VALVE-CONTROL, SEE PAGE J4	1
	16058	MACH. SCREW-3/8 UNF X 4	3
	15156	LOCKWASHER-3/8	3
	15006	NUT-3/8 UNF	3
11	27991	KNOB	1
12	108059 W	LEVER-TOPPING	1
	108061	BAR	1
13	58929	SNAP RING	1
	15527	CAPSCREW-3/8 UNF X 1 3/4	2
	15156	LOCKWASHER-3/8	2
	15006	NUT-3/8 UNF	2

REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.
14	32024 A	LINK	1
	138	ROD END	2
	139	PIN-ROD END	2
	15211	COTTER-3/8 X 1/2	2
15	15005	NUT-3/8 UNF	2
16	32024	LINK	1
	16568	ELBOW-45	1
17	16586	NUT-LOCK	1
	16484	O-RING	1
	16560	ELBOW	1
18	16587	NUT-LOCK	1
	16485	O-RING	1
19	116378	HOSE-TO FLOW CONTROL VALVE	1
20	32300	PIN	1
	15255	COTTER-1/4 X 2	2
21	111898	HOSE-TILT VALVE TO CYLINDER	1
22	16909	CONNECTOR	1
	16485	O-RING	1
23	111896	HOSE-CONTROL TO TILT VALVE	1
24	111897	HOSE-CONTROL TO TILT VALVE	1
25	108063	HOSE-VALVE TO TANK	1
	18999	CLAMP-HOSE	2
26	1532	ELBOW-HOSE TO TANK	1

TILT CONTROL VALVE

POWER STEERING

LAST USED ON SERIAL NO. B11L-1747 AND B11E-2090

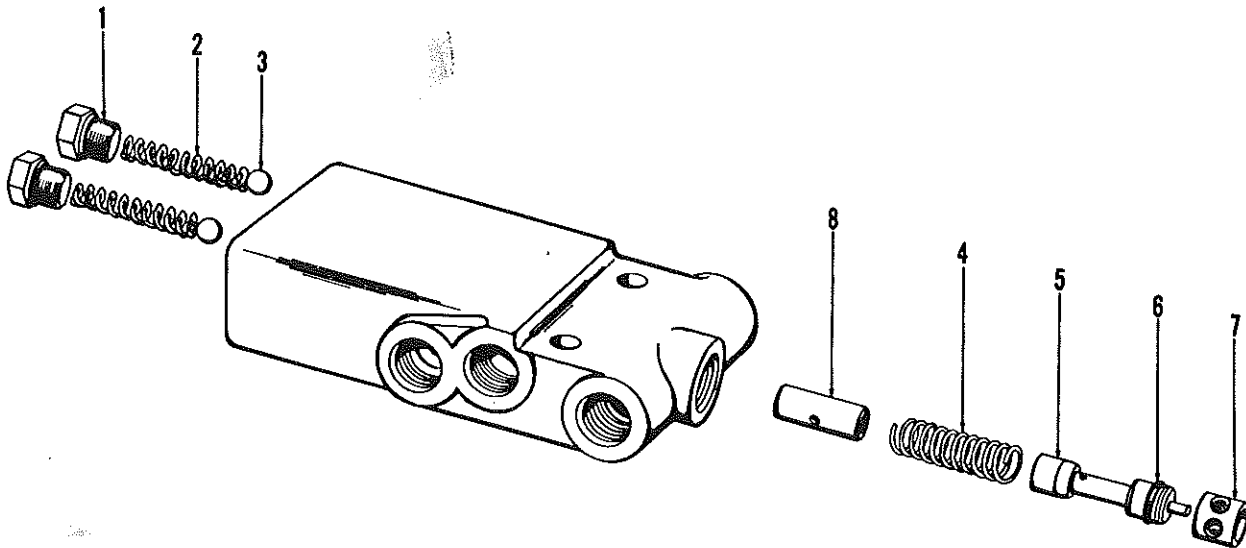


REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.
	110176	A CONTROL VALVE-TILT	1
1	232822	PLUG	2
	127656	O-RING	2
2	232823	SPRING	2

REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.
3	232821	SPOOL	2
4	232825	SEAL	2
5	232406	PLUG	4

TILT CONTROL VALVE

FIRST USED ON SERIAL NO. B11L-1748, B11D-1501, B11E-2091 & B11A-1501

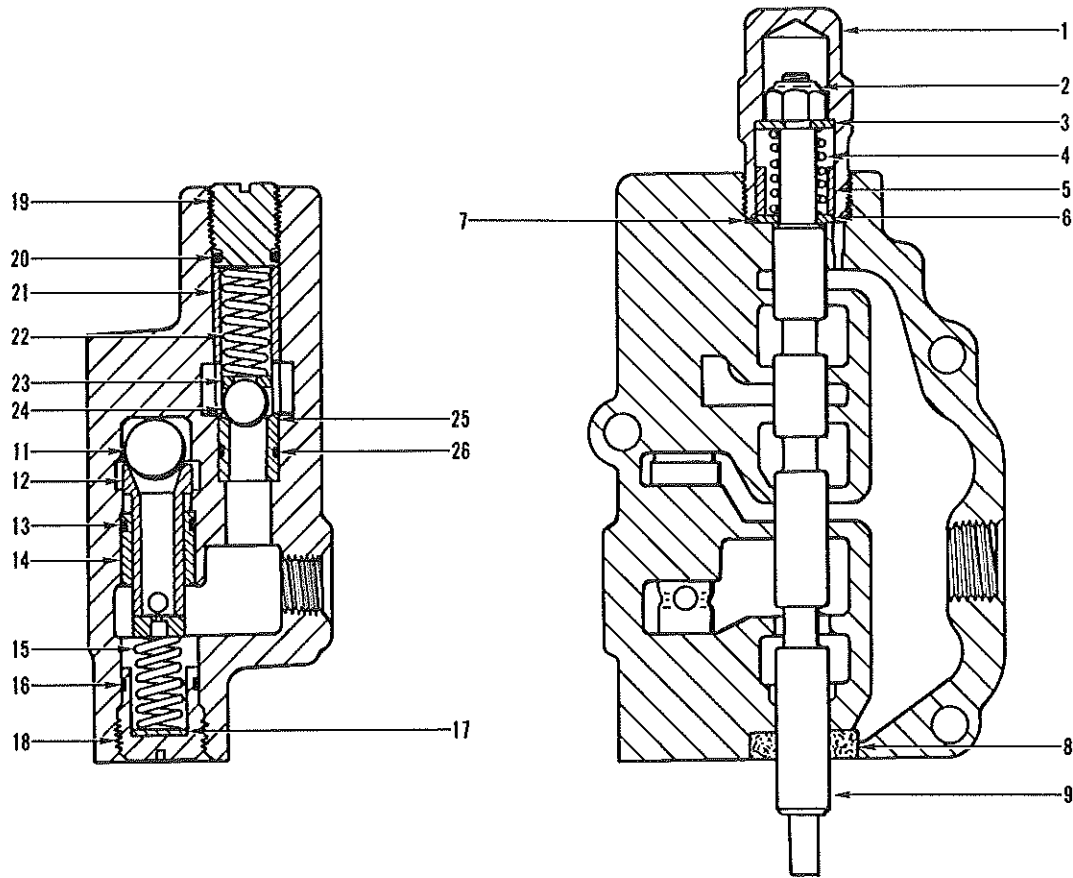


REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.
	87277	A TILT CONTROL VALVE	1
1	14592	PLUG	2
*	.....	O-RING	1
2	112468	SPRING	2
3	5586	BALL-STEEL	2
4	112465	SPRING	1
5	.....	SPOOL	1

REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.
6	*	O-RING	1
*	.....	RING-BACK-UP	2
7	112467	SPACER	1
8	125423	PIN-SPOOL STOP	1

*INCLUDED IN SEAL KIT 127296.

CONTROL VALVE

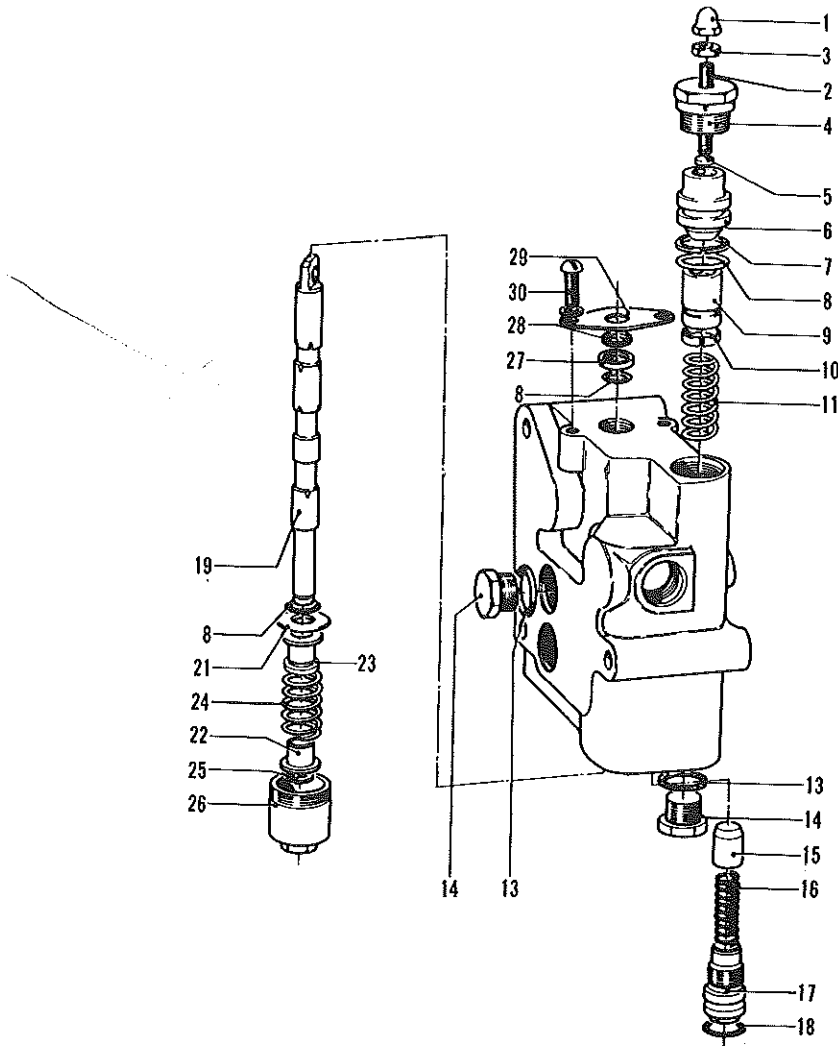


KEY
 A-LAST USED ON SERIAL NO. B11L-1692.
 B-FIRST USED ON SERIAL NO. B11L-1693 AND B11D-1501.

REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.		REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.	
			A	B				A	B
	108057	A CONTROL VALVE	1	..	14	57848	SLEEVE	1	1
	111902	A CONTROL VALVE	..	1	15	232357	SPRING-RELIEF	1	..
1	57806	CAP	1	1		57827	SPRING-RELIEF	..	1
2	57807	NUT-LOCK	1	1	16	60836	RING-SEALING	1	1
3	57808	WASHER	1	1	17	57830	SHIM-RELIEF	1	1
4	57809	SPRING-CENTERING	1	1	18	57829	CAP-RELIEF	1	1
5	57847	SPACER	1	1	19	57815	CAP-CHECK	1	1
6	57808	WASHER	1	1	20	104681	RING-SEALING	1	1
7	57811	GASKET-CAP	1	1	21	57857	SLEEVE-CHECK	1	1
8	57812	SEAL	1	1	22	57856	SPRING-CHECK	1	1
9	57858	SPOOL-D.A., WQRTE FIT	1	1	23	57855	FOLLOWER-BALL CHECK	1	1
11	57851	BALL-RELIEF	1	1	24	57854	BALL-CHECK	1	1
12	232356	PLUNGER-RELIEF	1	1	25	57852	SEAT-CHECK	1	1
13	100154	RING-SEALING	1	1	26	39348	RING-SEALING	1	1

CONTROL VALVE

LAST USED ON SERIAL NO. B11L-2032 AND B11E-1880

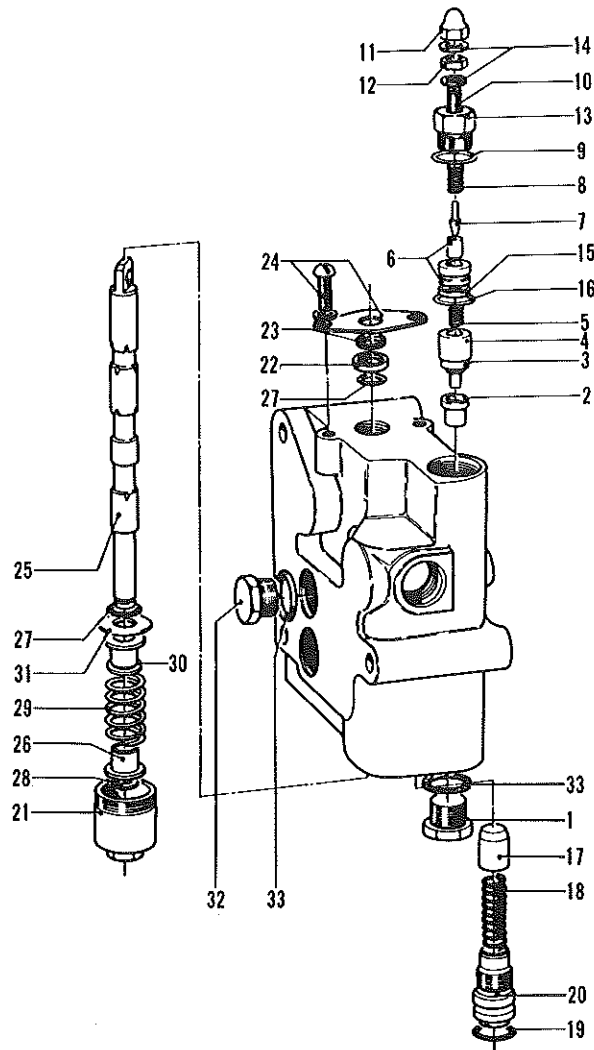


REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.
	114392	A CONTROL VALVE	
1	233503	NUT-ACORN	1
2	233500	SETSCREW	1
3	233502	NUT-JAM	1
4	233501	CAP	1
5	233499	INSERT-SEAT	1
6	233486	SEAT	1
7	233485	BACK-UP RING	1
8	57828	O-RING	3
9	233487	PLUNGER	1
10	233488	RING	1
11	233489	SPRING	1
13	16484	O-RING	2
14	14595	PLUG	2
15	233490	POPPET	1

REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.
16	233491	SPRING	1
17	233492	CAP	1
18	118389	O-RING	1
19	234545	SPOOL-D.A., BLACK FIT	1
21	233498	RETAINER-O-RING	1
22	233494	SPACER	2
23	234544	WASHER	1
24	200827	SPRING	1
25	233495	SNAP RING	1
26	233496	CAP-SPOOL	1
27	233506	RETAINER-SEAL	1
28	233505	WIPER	1
29	233508	PLATE-RETAINER	1
30	16382	SCREW-3/8 UNC X 1/2	2
	232460	LOCKWASHER	2

CONTROL VALVE

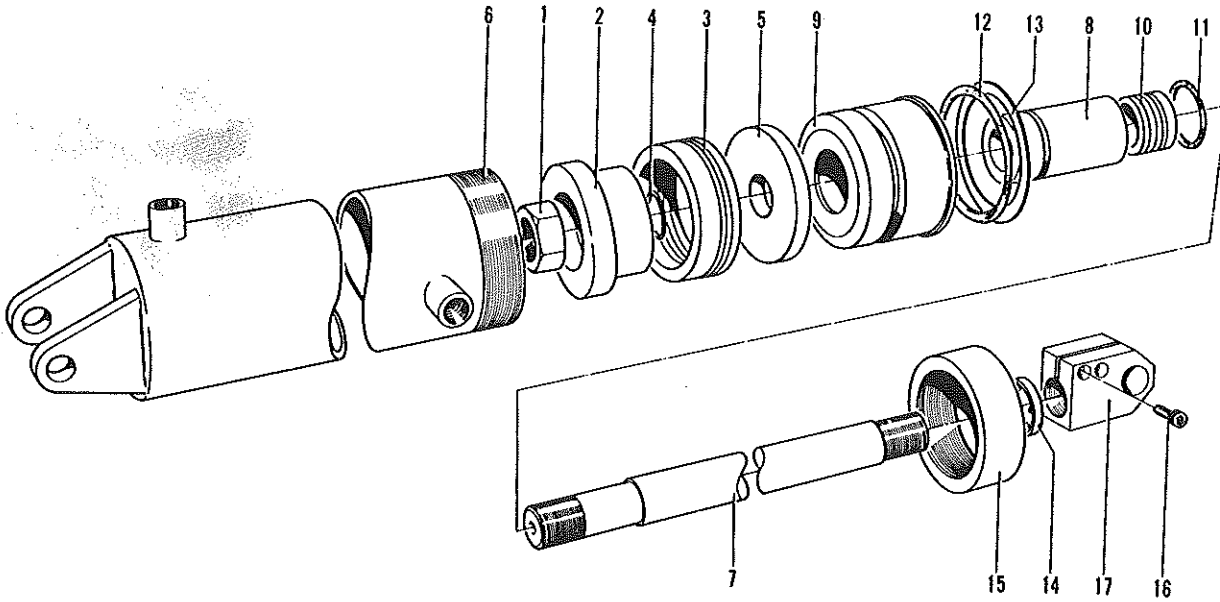
FIRST USED ON SERIAL NO. B11L-2033, B11D-1501, B11A-1501 & B11E-1881



REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.	REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.
	130826	CONTROL VALVE	1	18	233491	SPRING	1
1	86977	PLUG	1	19	153648	O-RING	1
2	*234812	SEAT	1	20	233492	CAP	1
3	{ 86974 A	POPPET	1	21	233496	CAP-SPOOL	1
	{ *	SCREEN	1	22	233506	RETAINER-SEAL	1
4	{ *	PLUNGER	1	23	233505	WIPER	1
5	*234814	SPRING	1	24	{ 233508	PLATE-RETAINER	1
6	* 86976	SEAT-PILOT	1		{ 232460	LOCKWASHER	2
7	*234820	PLUNGER-PILOT	1		{ 86973	SCREW	2
8	*234821	SPRING-PILOT	1	25	130767	SPOOL-D, BLACK FIT	1
9	234816	O-RING	1	26	233494	SPACER	2
10	{ 234811 A	VALVE	1	27	60836	O-RING	2
	{ 53169	SETSCREW	1	28	233495	SNAP RING	1
11	233503	NUT-ACORN	1	29	200827	SPRING	1
12	233502	NUT-JAM	1	30	234544	WASHER	1
13	234815	CAP	1	31	233498	RETAINER-O-RING	1
14	*234823	SEAL	2	32	86977	PLUG	1
15	*159858	BACK-UP RING	1	33	39348	O-RING	1
16	* 16484	O-RING	1				
17	236028	POPPET	1				

*INCLUDED IN RELIEF VALVE SERVICE KIT 123665.

HYDRAULIC TOPPING CYLINDER



REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.
	108068 A	CYLINDER-HYDRAULIC TOPPING	1
1	232328	NUT	1
2	82792	PISTON HALF	1
3	#134658	PACKING	1
4	# 55287	O-RING	1
5	82794	PISTON HALF	1
6	232329	CYLINDER SHELL	1
7	232330	PISTON ROD	1
8	232331	BUSHING	1
9	232332	RETAINER	1
10	232336	PACKING	1
11	61393	O-RING	1
12	16082	O-RING	1
13	232335	RING-BACK-UP	1
14	232971	WIPER RING	1
15	232337	CAP	1

REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.
16	* 46478	CAPSCREW-1/2 UNF X 1 3/4	2
	177949	LOCKWASHER-1/2	2
	□ 15536	CAPSCREW-1/2 UNF X 3 1/4	2
17	□ 15158	LOCKWASHER-1/2	2
	□ 15008	NUT-1/2 UNF	2
	* 79721	ROD END	1
	□ 79722	ROD END	1

*FOR 9 FT., 8 INCH A-FRAME

□FOR 10 FT., 8 INCH A-FRAME.

#INCLUDED IN PISTON SEAL KIT 149257.

%INCLUDED IN ROD SEAL KIT 149258.

SUBJECT: STEERING GEAR 132768

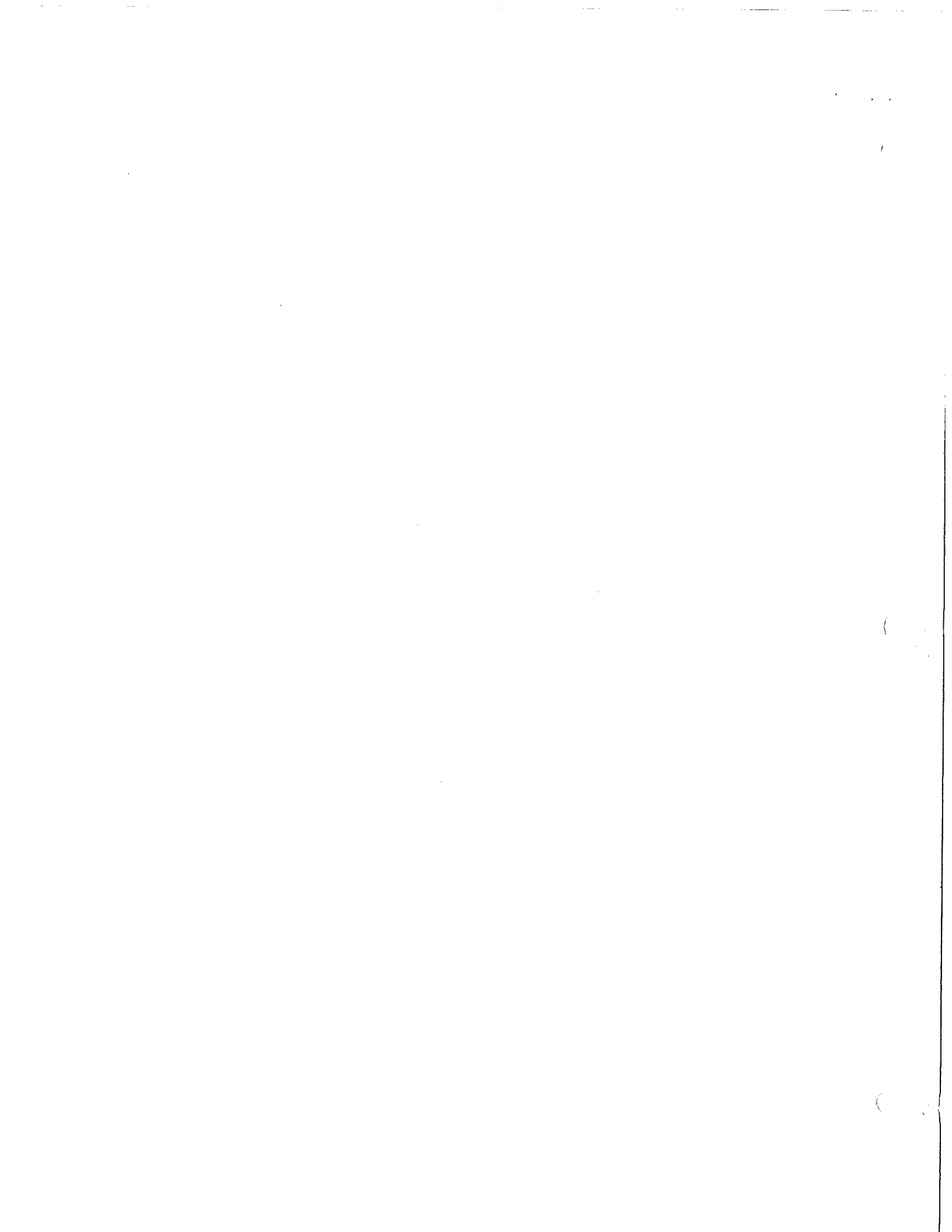
Steering gear 132768 is no longer available and is replaced by the new hydrostatic steering gear 259012 and the following related parts:

<u>Quantity</u>	<u>Partnumber</u>	<u>Description</u>
1	233253	Steering wheel
1	14189	Nut, steering wheel
1	259015	Bracket steering
1	18496	Capscrew 5/16 UNC
4	15155	Washer 5/16
4	16808	Capscrew 1/2 UNF
4	15158	Washer 1/2
4	15008	Nut 1/2 UNF
4	15135	Washer 1/2 UNF
1	259022	Shaft steering
2	259020	Bearing ball
1	37604	Snapping
2	12944	Snapping
1	221835	Washer 1/ and 1/8
1	221723	Nut 1/ and 1/8
1	15245	Pin
4	16558	O ring
1	171273	Hose assy
1	129683	Hose assy
1	259018	Hose assy
1	259019	Hose assy

Also drill four 17/32" dia. holes in the main frame hoist unit support plate - see drawing SK-5204 for mounting steering gear bracket 259015.

Steering gear 259012 consists of the following parts:

1	263390	Hydraguide unit
1	263381	Washer thrust 7/8
1	263392	Coupling
2	134801	Pin
2	134802	Retaining ring
1	199319	Contact ring
1	199320	Screw
1	263384	Cable assy
1	263385	Jacket-tube assy
1	14031	Clamp assy



<u>Quantity</u>	<u>Partnumber</u>	<u>Description</u>
1	14189	Nut 13/16
The hydraguide unit 263380 consists of the following parts:		
1	NSS	Housing assy
1	134762	Plug roll and pin assy
1	61141	Ball steel
1	228481	Plug and o-ring assy
1	192810	Shaft input
1	228184	Torsion bar assy
1	257065	Drive ring
1	228485	Drive link spacer
1	228486	Neddle roller
1	199171	Ring retainer
4	199172	Shim.010"
4	199173	Shim.005"
1	211890	Shim.0025"
1	241673	Shim.030"
1	199174	Washer thrust
1	134742	Bearing thrust
1	134743	Bearing race
1	199175	Washer wave
1	55260	Ball 5/16 dia.
1	199176	Spring-preload
1	199177	Spacer
1	228487	Drive link
1	228488	Spacer
1	228489	Rotor set
1	228490	Manifold
1	228491	Commutator Assy
1	263378	Cover-upper
1	199180	Ring seal
4	29223	Capscrew 5/16 UNC
1	228492	Seal kit
1	58916	Snapping
1	228493	Seal rotor
1	228494	Seal retainer
1	228493	Washer 3/16
1	228496	End cover assy
7	18520	Capscrew 5/16 UNC

Interchangeability

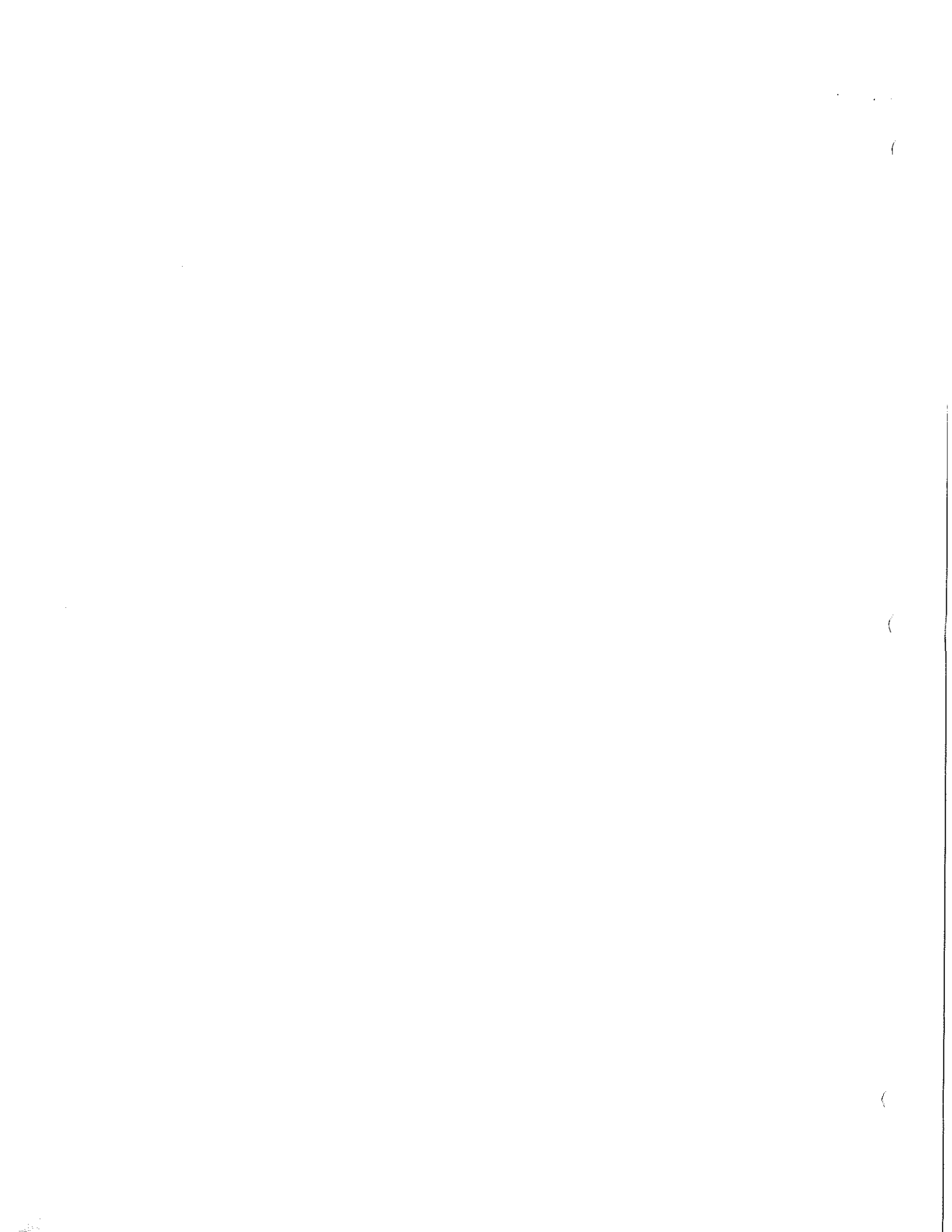
Parts of old steering gear 132768 and parts of the new steering gear 259012 are not interchangeable.

Parts Stock

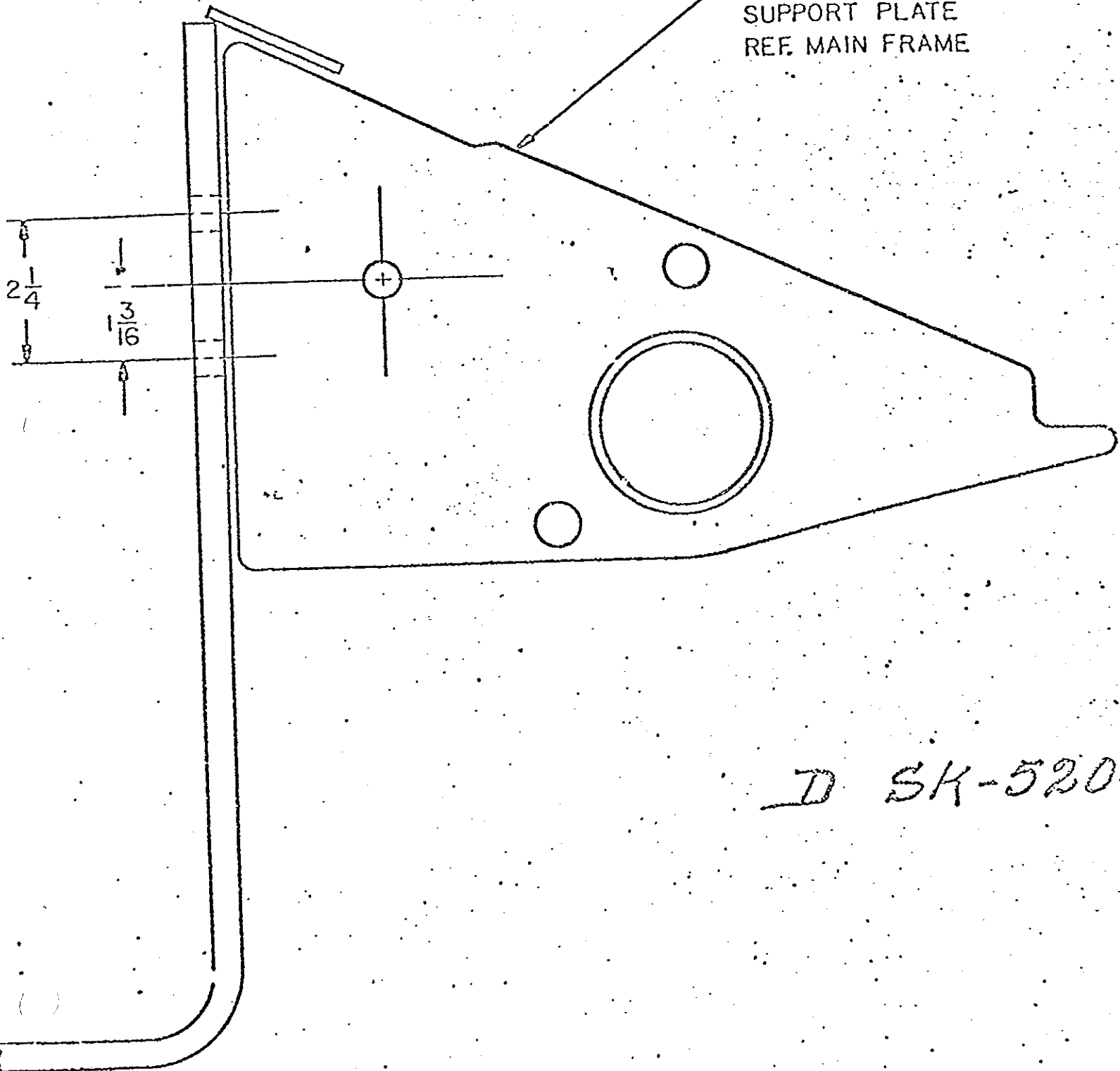
Not affected.

Effective serial number

B11E 2756U



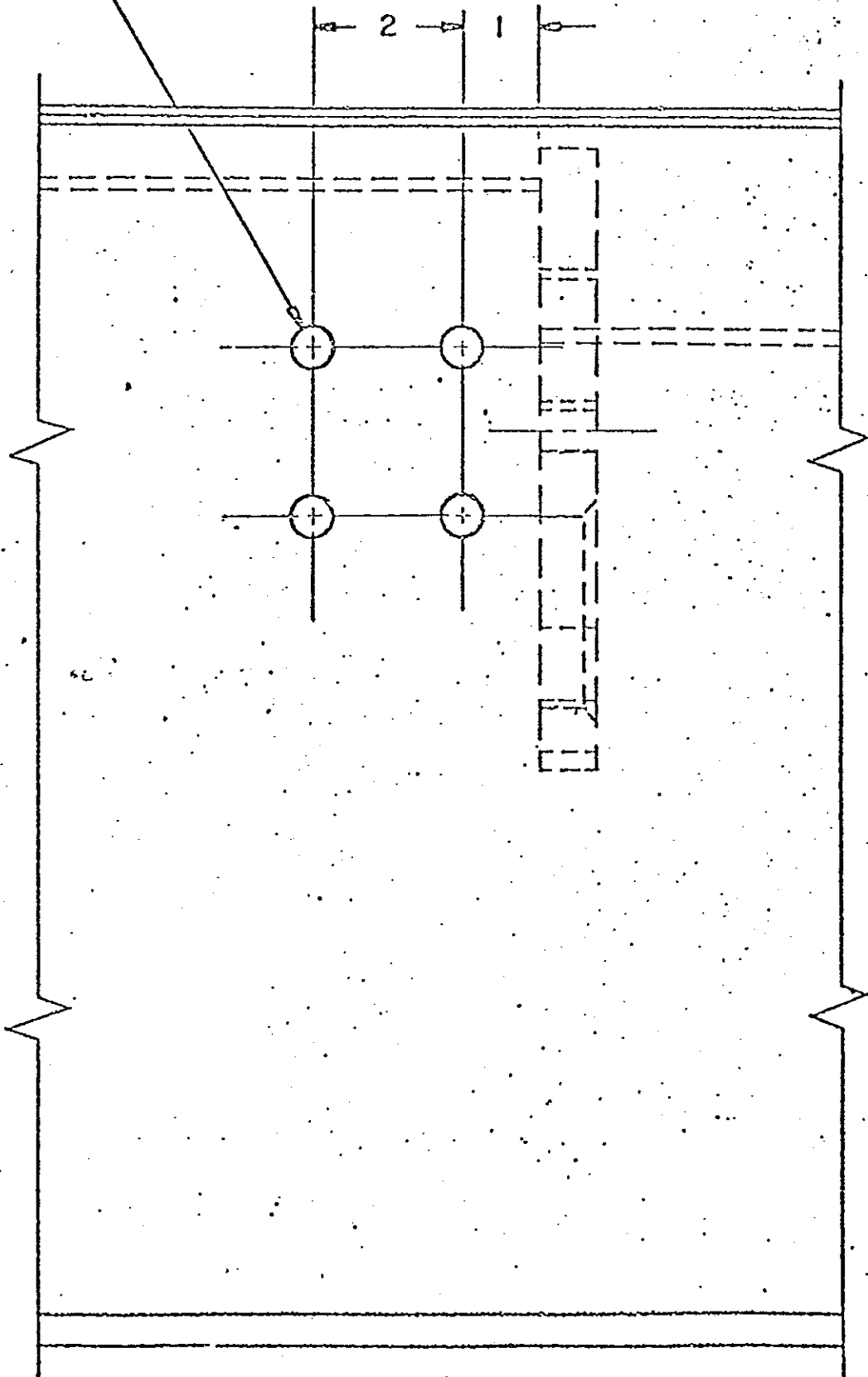
STEERING GEAR
SUPPORT PLATE
REF. MAIN FRAME

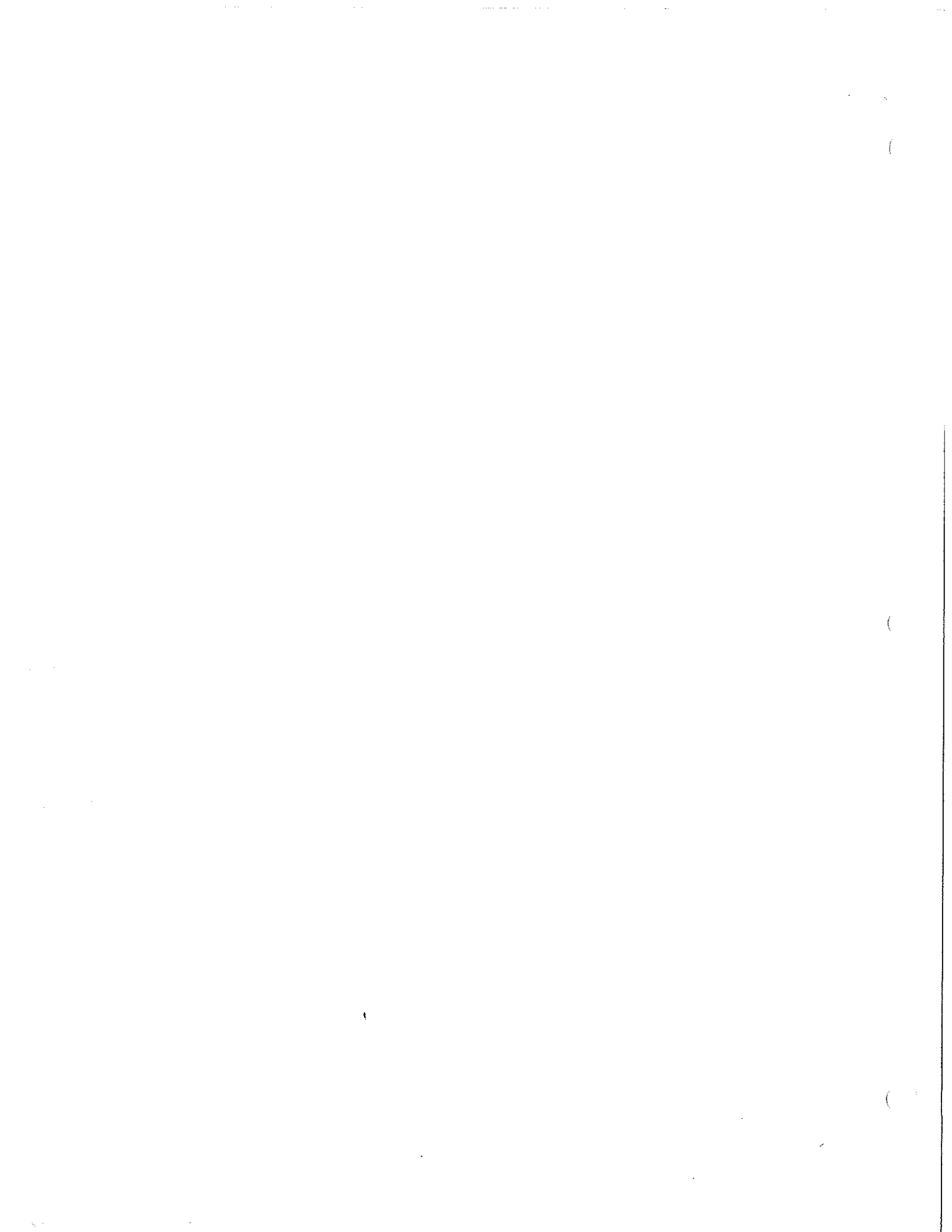


D SK-520



$\frac{17}{32}$ DIA. - 4 HOLES





Section K

STEERING AND LINKAGE

INDEX

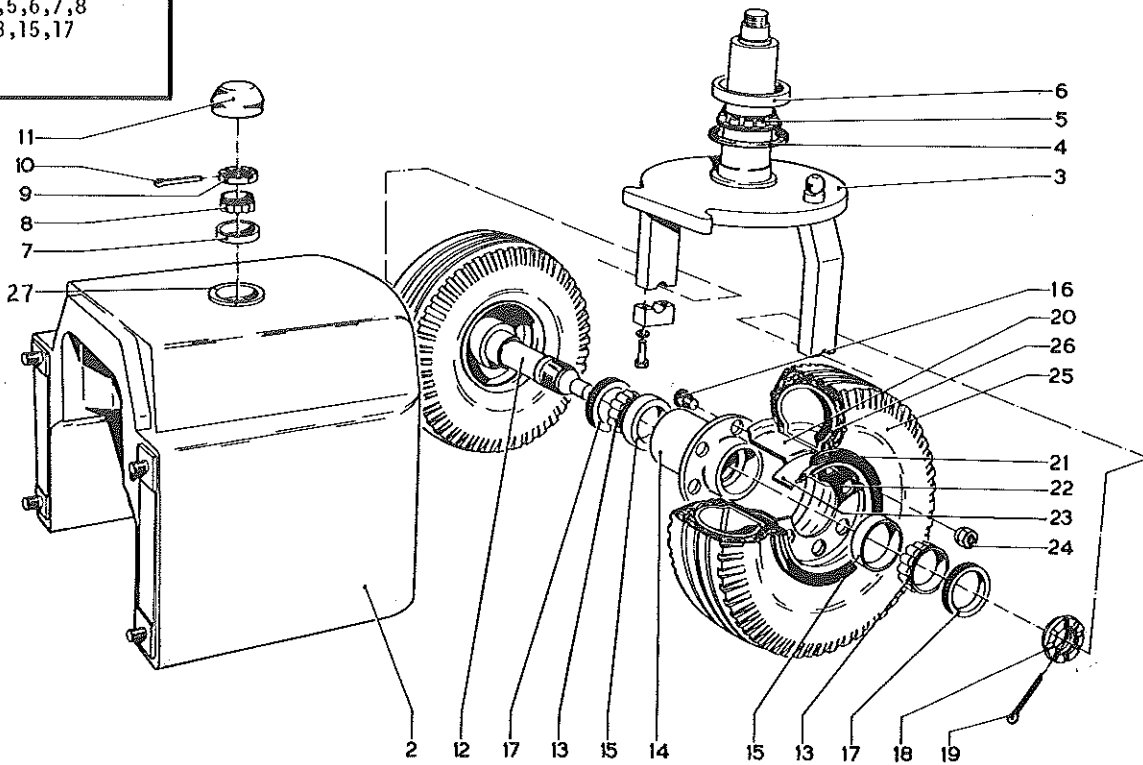
DRAG LINK	K13
FLOW DIVIDER	K7
PUMP	K8-K11
SOCKETS-STEERING CYLINDER	K12
STEERING CYLINDER	K12-K13
STEERING GEAR	K5
STEERING SYSTEM	K2-K3
TRUNNION	K1

USE HYSTER APPROVED PARTS... *it pays*

COMPLETE THE JOB
WITH RELATED PARTS

ITEM	RELATED PART
3	4,5,6,7,8
12	13,15,17

STEERING TRUNNION



KEY
A-FOR SINGLE STEERING WHEEL KARRY KRANES.
B-FOR DUAL STEERING WHEEL KARRY KRANES.

REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.	
			A	B
2	.....	COUNTERWEIGHT-SEE PAGE 81	1	1
3	108076 W	TRUNNION	1	..
	108467 W	TRUNNION	..	1
4	138940	BALL STUD-1 3/4	1	1
4	108085	RING-FELT	1	1
5	230350	CONE-BEARING	1	1
6	30203	CUP-BEARING	1	1
7	230349	CUP-BEARING	1	1
8	30188	CONE-BEARING	1	1
9	10149 B	NUT-SLOTTED	1	1
10	15248	COTTER-3/16 X 2 1/2	1	1
11	121139	CAP	1	1
12	108088	SHAFT-AXLE	1	..
	108472	SHAFT-AXLE	..	1
13	230352	CONE-BEARING	2	..
	230362	CONE-BEARING	..	4
14	108086 A	HUB-WHEEL	1	..
	108470 A	HUB-WHEEL	..	2

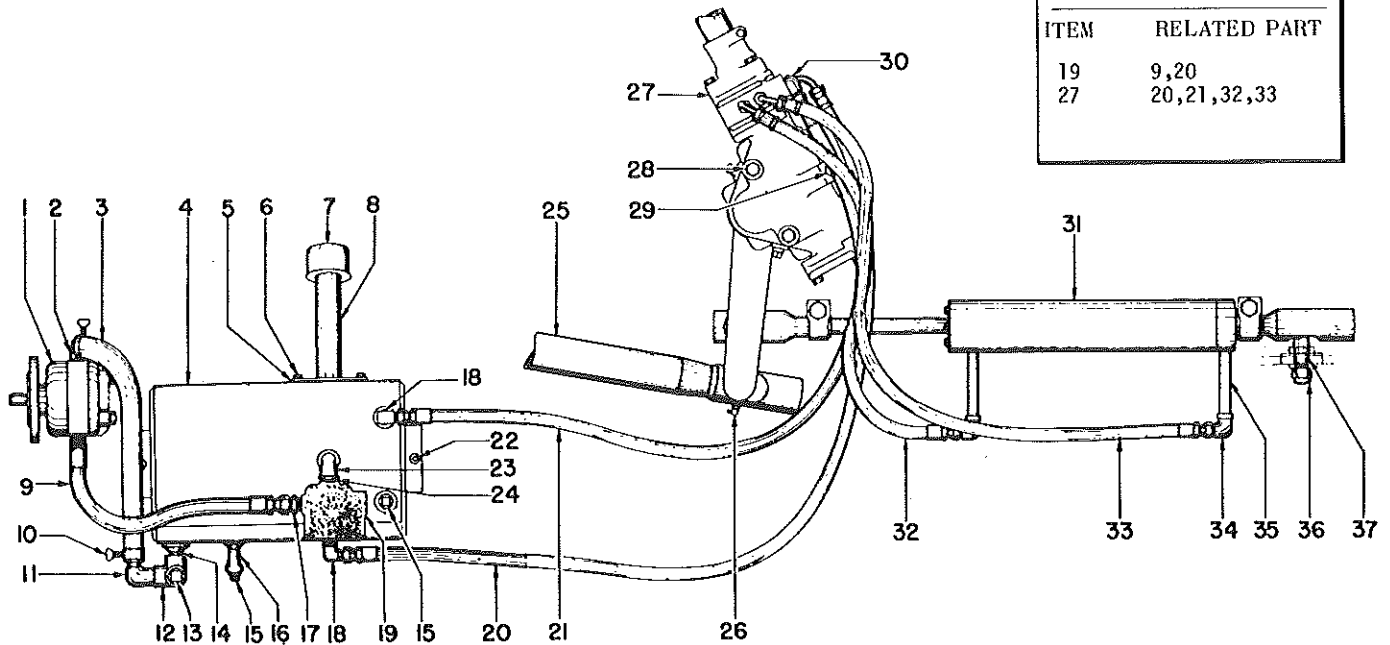
REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.		
			A	B	
15	230351	CUP-BEARING	2	..	
	29759	CUP-BEARING	..	4	
16	25723	BOLT	6	12	
17	44542	SEAL-OIL	2	..	
	44508	SEAL-OIL	..	4	
18	108089	NUT-SPECIAL	1	..	
	108473	NUT-SPECIAL	..	2	
19	15274	COTTER-3/8 X 3 1/2	1	2	
20	.....	WHEEL	1	2
21	RING-LOCK	} SEE PAGE P1	1	2
	RING-SNAP		..	2
23	.....	RING-RIM	..	2
24	11276	NUT-WHEEL	6	12	
25	TIRE	} SEE PAGE P1	1	2
	TUBE		1	2
27	109959	SLEEVE	1	1	

STEERING SYSTEM

LAST USED ON SERIAL NO. B11L-1692 AND B11E-1667

COMPLETE THE JOB
WITH RELATED PARTS

ITEM	RELATED PART
19	9,20
27	20,21,32,33

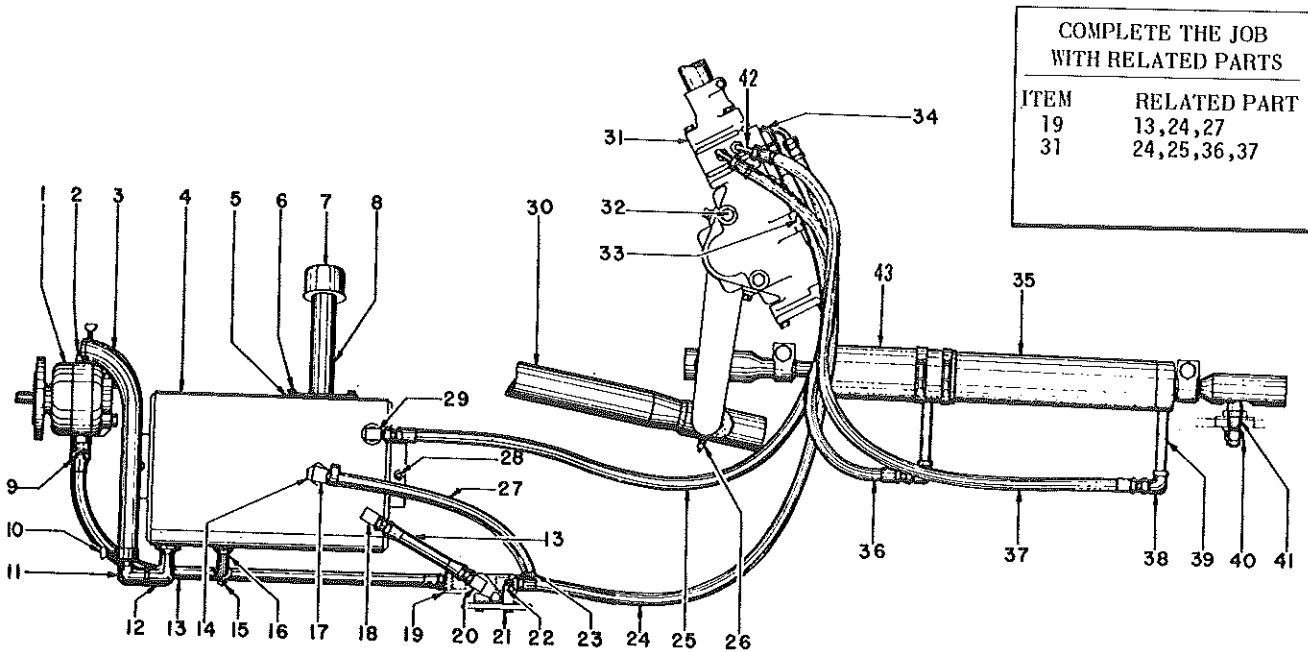


REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.
1	.....	PUMP-HYDRAULIC, SEE PAGE K8	1
2	1532	ELBOW-3/4 X 1/2 NPT	1
3	108117	HOSE-PUMP TO TANK	1
4	108118 W	TANK-HYDRAULIC	1
5	61769	GASKET	1
6	15583	CAPSCREW-5/16 UNF X 1/2	4
	15155	LOCKWASHER-5/16	4
7	107461	CAP-BREATHER	1
8	108123 W	COVER	1
9	108127	HOSE-HYD. PUMP TO FLOW DIVIDER	1
10	18999	CLAMP	2
11	16165	ELBOW-3/4 X 3/4 NPT	1
12	16060	ELBOW-SIDE OUTLET, 3/4	1
13	15304	PLUG-3/4	1
14	15384	NIPPLE-SHORT, 3/4	1
15	15303	PLUG-1/2	2
16	15337	STREET ELBOW-45, 1/2	1
17	16064	CONNECTOR-3/8 T X 1/2 P	1
18	16063	ELBOW-45	2
19	.....	FLOW DIVIDER-SEE PAGE K7	1
20	108133	HOSE-GEAR TO FLOW DIVIDER	1
21	108134	HOSE-GEAR TO TANK	1

REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.
22	16353	CAPSCREW-3/8 UNF X 1	2
	15006	NUT-3/8 UNF	2
	15156	LOCKWASHER-3/8	2
23	15338	STREET ELBOW-1/2	1
24	15334	CLOSE NIPPLE	1
25	.....	DRAG LINK-SEE PAGE K13	1
26	16015	GREASE FITTING-1/8	4
27	.....	STEERING GEAR-SEE PAGE K5	1
28	15547	CAPSCREW-1/2 X 1 1/2	2
	15158	LOCKWASHER-1/2	2
	15510	CAPSCREW-1/2 UNF X 2 1/4	1
29	15008	NUT-1/2 UNF	1
	15158	LOCKWASHER-1/2	1
30	24272	ELBOW-45	1
31	.....	CYLINDER-STEERING, SEE PAGE K12	1
32	108136	HOSE-GEAR TO CYLINDER, REAR	1
33	108135	HOSE-GEAR TO CYLINDER, FRONT	1
34	14373	ELBOW-3/8 T X 3/8 P	2
35	19634	LONG NIPPLE-3/8 X 5	2
36	43299	NUT-LOCK, 3/8 UNF	1
37	13781	STUD-BALL, 1 1/2	1

STEERING SYSTEM

FIRST USED ON SERIAL NO. B11L-1693, B11D-1501 AND B11E-1668



KEY
 A-FOR B11L AND B11D GAS KARRY KRANES.
 B-FOR B11A, B11E, B11G AND B11H GAS KARRY KRANES.
 C-FOR B11A, B11E, B11G AND B11H DIESEL KARRY KRANES.

REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.		
			A	B	C
1	.....	PUMP-SEE PAGE K10	1	1	1
	#	PUMP-SEE PAGE K11	..	1	1
	□ 12816	ELBOW-STREET, 3/4	..	1	..
	□ 16845	FITTING-HOSE, 45 DEGREE	..	1	1
	#986261 W	PIPE-PUMP INLET	..	1	..
2	# 15569	CAPSCREW-3/8 UNC X 2	..	2	..
	# 88835	PIPE-PUMP INLET	..	..	1
	# 15580	CAPSCREW-3/8 UNC X 1 1/2	..	..	2
	# 15156	LOCKWASHER-3/8	..	2	2
	# 14190	O-RING	..	1	1
	□111895	HOSE-TANK TO PUMP	..	1	..
	□980360	HOSE-TANK TO PUMP	..	..	1
3	111895	HOSE-TANK TO PUMP	..	..	1
	127606	HOSE TANK TO PUMP	..	1	..
	15339	FITTING 90 ST. ELL.-16	..	1	..
	#986258	HOSE-TANK TO PUMP	..	..	1
4	□108118 W	TANK-HYDRAULIC	1	1	1
	#986265	TANK-HYDRAULIC	..	1	1
5	61769	GASKET-TANK COVER	1	1	1
6	15583	CAPSCREW-5/16 UNF X 1/2	4	4	4
	15155	LOCKWASHER-5/16	4	4	4
7	107461	CAP-BREATHER	1	1	1
8	108123 W	COVER-TANK	1	1	1

REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.		
			A	B	C
	□ 17302	ELBOW-45 DEGREE	..	1	..
	× 17300	ELBOW	..	..	1
	□ 17306	ELBOW	..	..	1
9	17345	ELBOW-45 DEGREE	..	..	1
	#% 16569	ELBOW	1	1	..
	# 16560	ELBOW	..	1	..
	# 16485	O-RING	..	..	1
	# 16587	NUT-LOCK	..	1	1
10	18999	CLAMP-HOSE	5	5	5
11	□ 16798	ELBOW-1 INCH HOSE X 3/4 P	1	..	..
12	□ 17311	ELBOW-STREET, 3/4 P	1	1	1
	# 17121	ELBOW-HOSE	..	1	1
	□981096	HOSE-PUMP TO FLOW CONTROL	..	..	1
13	□111899	HOSE } PUMP TO	1	1	..
	# 66877	HOSE } FLOW	..	1	..
	#986259	HOSE } CONTROL	..	..	1
14	15358	BUSHING-1/2 X 3/8	1	1	1
15	15303	PLUG-3/4	1	1	1
16	15337	ELBOW-STREET, 45-1/2 P	1	1	1
17	102898	ELBOW-1/2 HOSE X 3/8 P	1	1	1
18	17306	ELBOW-1/2	1	1	1
19	.....	VALVE-FLOW CONTROL, SEE PAGE K7	1	1	1

STEERING SYSTEM

FIRST USED ON SERIAL NO. B11L-1693; B11D-1501 AND B11E-1668

REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.		
			A	B	C
20	16560	ELBOW	2	2	2
	16485	O-RING	2	2	2
	16587	NUT-LOCK	2	2	2
21	15681	CAPSCREW-1/4 UNF X 2	2	2	2
	15004	NUT-1/4 UNF	2	2	2
	15154	LOCKWASHER-1/4	2	2	2
22	16558	ELBOW	1	1	1
	16483	O-RING	1	1	1
	16585	NUT-LOCK	1	1	1
23	110178	ELBOW-1/2 HOSE X 3/8 T	1	1	1
24	110500	HOSE-FLOW CONTROL TO GEAR	1	1	1
25	162989	HOSE-GEAR TO TANK	1	1	1
26	16001	GREASE FITTING-1/8	4	4	4
27	110220	HOSE } FLOW CONTROL	1	..	..
	169234	HOSE } TO TANK	..	1	1
28	16353	CAPSCREW-3/8 UNF X 1	2	2	2
	15156	LOCKWASHER-3/8	2	2	2
	15006	NUT-3/8 UNF	2	2	2
29	16063	ELBOW-45, 3/8 T X 1/2 P	1	1	1
30	.....	DRAG LINK-SEE PAGE K13	1	1	1
31	.....	STEERING GEAR-SEE PAGE K5	1	1	1
	69090 A	BRACKET-STEERING COLUMN	1	1	1
	69089	BUSHING-RUBBER	1	1	1
	107054	PLATE	1	1	1
	15547	CAPSCREW-1/2 UNC X 1 1/2	2	2	2
32	15158	LOCKWASHER-1/2	2	2	2
	* 15505	CAPSCREW-5/8 UNC X 1 1/2	2	2	2
33	* 15160	LOCKWASHER-5/8	2	2	2
	15510	CAPSCREW-1/2 UNF X 2 1/4	1	1	1
	15158	LOCKWASHER-1/2	1	1	1
	15008	NUT-1/2 UNF	1	1	1

REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.		
			A	B	C
34	24272	ELBOW-45, 3/8 T X 3/8 P	1	1	1
35	.....	CYLINDER-SEE PAGE K12 OR K13	1	1	1
	108136	HOSE-GEAR TO CYL., REAR	1	1	1
37	108135	HOSE-GEAR TO CYL., FRONT	1	1	1
38	14373	ELBOW-3/8 T X 3/8 P	2	2	2
39	19634	NIPPLE-3/8 P X 5	2	..	2
	202683	ADAPTER	..	2	2
40	43299	NUT-LOCK, 3/8 UNF	1	1	1
41	13781	STUD-BALL, 1 1/2	1	1	1
42	143550	ELBOW	3	3	3
43	986277	PROTECTOR-CYLINDER ROD	..	1	1
	18998	CLAMPS	..	2	2

*FIRST USED ON SERIAL NO. B11L-1800 & B11E-1759.

□LAST USED ON SERIAL NO. B11E-2135 & B11A-1501.

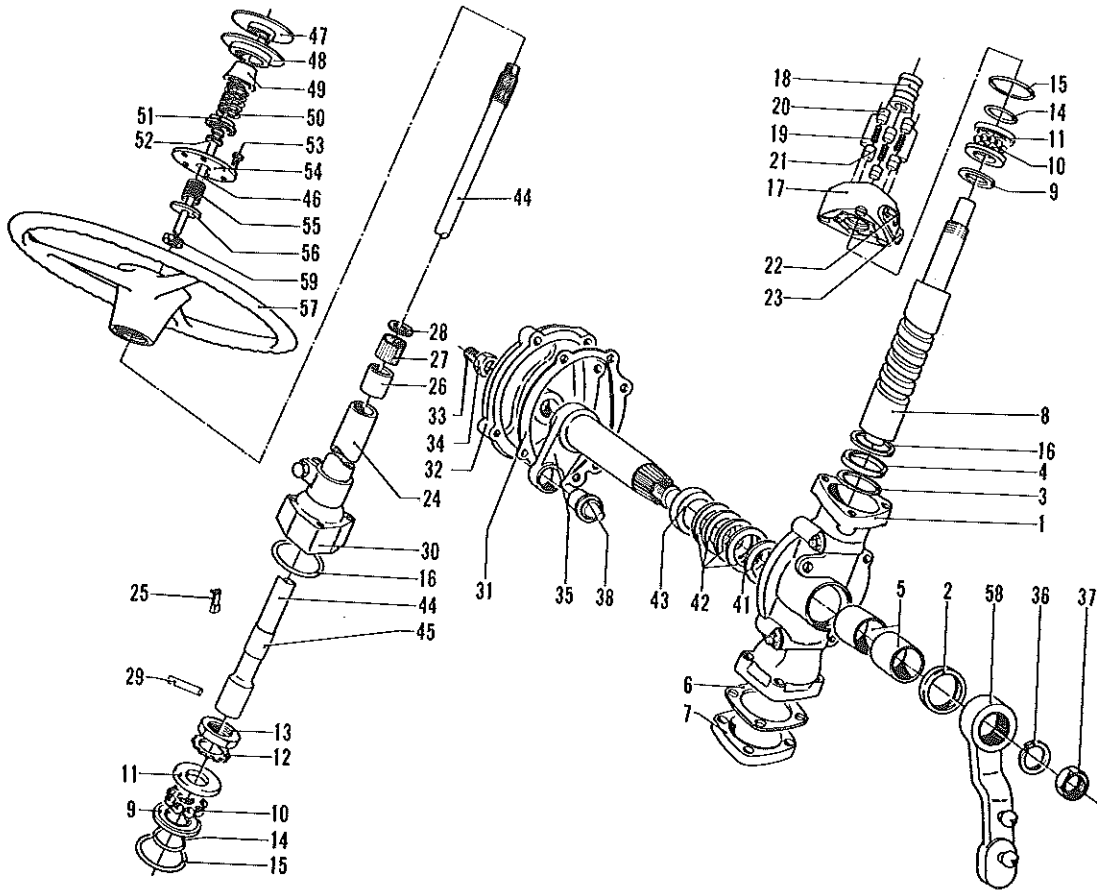
#FIRST USED ON SERIAL NO. B11A-1501 & B11E-2136.

ℵLAST USED ON SERIAL NO. B11E-1826.

∅FIRST USED ON SERIAL NO. B11L-1693 & B11E-1668.

&FIRST USED ON SERIAL NO. B11L-1881 AND B11A-1501.

STEERING GEAR



KEY
 A-LAST USED ON SERIAL NO. 109438.
 B-FOR SERIAL NO. 109439 TO B11L-1799 AND B11E-1758.
 C-FIRST USED ON SERIAL NO. B11L-1800, B11D-1501, B11E-1759 AND B11A-1501.

REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.		
			A	B	C
	108128 A	STEERING GEAR	1	..	..
	108128AB	STEERING GEAR	..	1	..
	132768	STEERING GEAR	..	..	1
1	109611 A	HOUSING	1	..	..
	109468 A	HOUSING	..	1	..
	202485 A	HOUSING*	..	..	1
2	109000	OIL SEAL	1	1	1
3	109470	RING-BEARING RET.	..	2	2
4	109469	BEARING-CAM	..	2	2
5	21737	BUSHING	2	..	..
	109465	BUSHING	..	2	2
6	14191	O-RING-LOWER COVER	1	..	..
	109467	GASKET-LOWER COVER	..	1	1
	109609	COVER-LOWER	1	..	..
	109466	COVER-LOWER	..	1	1
	134055	WASHER-PLAIN, 25164 X 11/16	..	4	4
7	15525	CAPSCREW-3/8 UNC X 3/4	..	4	4
	15302	PLUG-PIPE 3/8, SQUARE HEAD	..	4	4
8	109608	CAM AND SHAFT	1	1	1
9	*	RACE-BEARING	2	..	..
	108874	WASHER-THRUST	..	2	2

REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.		
			A	B	C
10	*	BALL & RETAINER	2	..	..
	108876	BEARING-THRUST	..	2	2
11	*	RACE-BEARING	2	..	..
	108875	RACE-BEARING	..	2	2
12	108873	LOCKWASHER-TONGUED	1	1	1
13	108872	NUT-JAM, 1	1	1	1
14	14190	O-RING	2	2	2
15	109607	O-RING	2	..	..
16	108877	O-RING	..	2	2
	14191	O-RING	2	2	2
17	146110	VALVE-	1	1	1
	125549	VALVE-	..	..	1
18	108879	SEAT	3	3	3
	108880	VALVE-CHECK	1	1	1
19	108882	SPRING	..	..	3
20	108883	PLUNGER-INACTIVE	2	2	2
21	108881	PLUNGER-CENTERING	6	6	6
22	143550	FITTING	3	3	3
23	202683	FITTING	1	1	1
24	108865	TUBE-JACKET	1	1	1
25	108866	BRUSH-CONTACT	1	1	1
26	108867	SLEEVE-BEARING	1	1	1
27	108868	ROLLER	1	1	1
28	108869	WASHER-RETAINING	1	1	1

STEERING GEAR

REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.		
			A	B	C
29	108871	ROLL PIN	1	1	1
30	108870	COVER-UPPER	1	1	1
	15696	CAPSCREW-3/8 UNC X 3-3/4 UPPER COVER	3	3	3
	16531	CAPSCREW-3/8 UNF X 1-7/8 UPPER COVER	1	1	1
31	15066	NUT-3/8 UNF	1	1	1
	134060	WASHER-PLAIN, 25/64 X 11/16	4	4	4
32	109480	GASKET-SIDE COVER	1	1	1
	134060	WASHER-PLAIN, 25/64 X 11/16	6	6	6
33	25062	CAPSCREW-3/8 UNC X 1-1/4, SIDE COVER	6	6	6
	109481 A	COVER-SIDE	1	1	1
34	27391	SCREW-ADJUSTING	1	1	1
35	27390	NUT-LOCK	1	1	1
36	109613 A	SHAFT-LEVER	1	..	..
	109479 A	SHAFT-LEVER	..	1	1
37	18427	LOCKWASHER-1-1/8	1	1	1
38	14095	NUT-1-1/8 UNF	1	1	1
	109612 A	BEARING	1	..	..
39	78288	BEARING	..	1	1
	233261	NUT	1	1	1
40	109478	WASHER-PRONGED	1	1	1
	136440	WASHER-THRUST	1	1	1
41	.....	WASHER-RETAINING	1	1	1
	.....	SHIM-.003	AR	AR	AR
42	.....	SHIM-.010	AR	AR	AR
	.....	SHIM-.020	AR	AR	AR

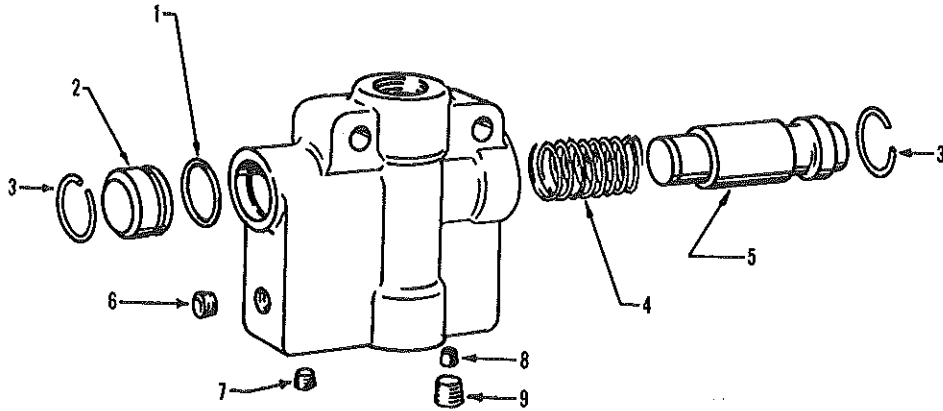
REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.		
			A	B	C
43	.....	WASHER-THRUST	1	1	1
44	108862	HUB AND TUBE	1	1	..
	200196	HUB AND TUBE	..	..	1
45	108863	RING-CONTACT	1	1	..
	200197	RING-CONTACT	..	..	1
46	108861	CABLE	1	..	..
	234397	CABLE	..	1	..
	200195	CABLE	..	..	1
47	134063	CABLE	..	..	1
	21760 A	HORN BUTTON	1	1	1
48	63596	COVER-RUBBER	1	1	1
	63597	BUTTON-HORN	1	1	1
49	21766	CUP-CONTACT	1	1	1
50	21765	SPRING-BUTTON	1	1	1
51	21764	CAP-CONTACT	1	1	1
52	22185	FERRULE	1	1	1
53	16655	WOOD SCREW- NO. 10 X 5/8	3	3	3
	21767	PLATE-BASE	1	1	1
54	21762	SPRING-CONTACT	1	1	1
55	21761	WASHER-CONTACT	1	1	1
56	22180	WHEEL-STEERING	1	1	1
57	108913	ARM	1	1	1
58	14027	NUT-WHEEL	1	1	1

*INCLUDED IN BEARING KIT 14156A.

□LAST USED ON SERIAL NO. B11L-2349, B11E-2186
AND B11A-1589.

FLOW DIVIDER

FOR TRUCKS WITH HYDRAULIC TOPPING
 LAST USED ON SERIAL NO. B11L-1692 AND B11E-1667



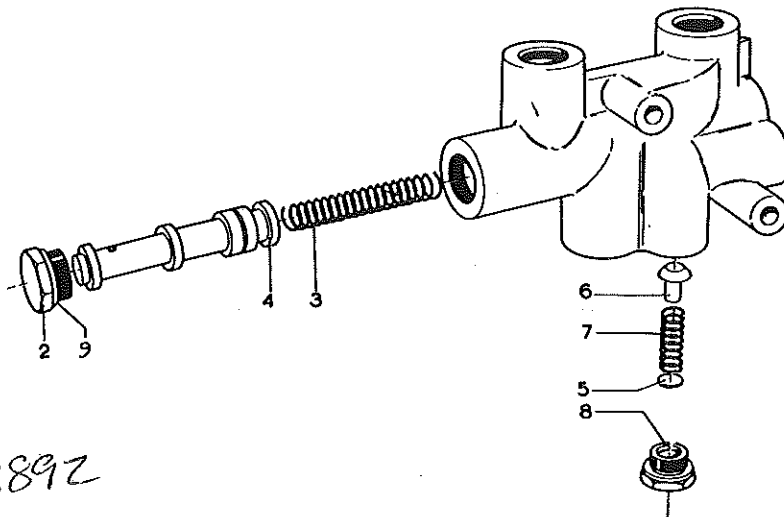
REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.
	108126 A	FLOW DIVIDER	1
1	232400	SEAL	1
2	232401	PLUG	1
3	232402	SNAP RING	2
4	232403	SPRING	1

REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.
5	232404	VALVE-CONTROL	1
6	232405	PLUG	1
7	232406	PLUG	1
8	232407	PLUG-RESTRICTION	1
9	232408	PLUG	1

EV 1110-10 -

FLOW DIVIDER

FOR TRUCKS WITH HYDRAULIC TOPPING
 FIRST USED ON SERIAL NO. B11L-1693, B11D-1501 AND B11E-1668



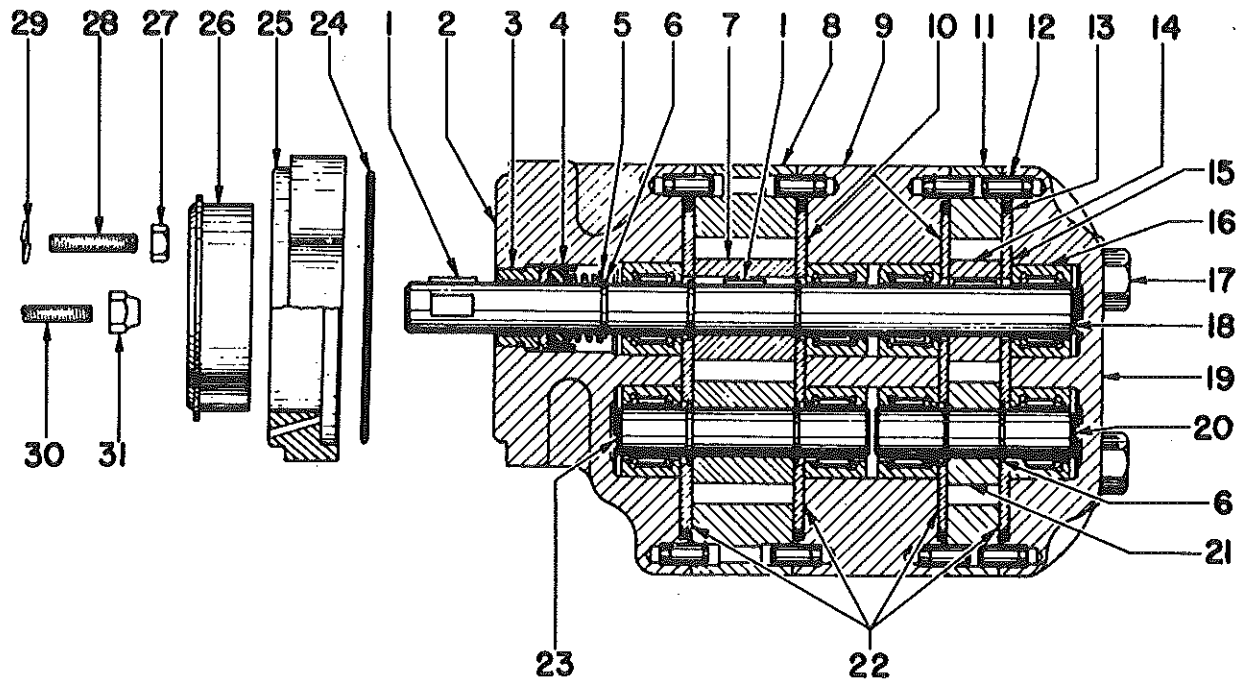
11892

REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.
	111892 A	FLOW DIVIDER	1
2	14595	PLUG	1
3	232794	SPRING	1
4	199153	PISTON	1
5	234612	SHIM	AR
5	234613	SHIM	AR

REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.
6	138693	POPPET-VALVE	1
7	234611	SPRING-VALVE	1
8	234540	PLUG	1
9	16484	O-RING	1
	15483	PLUG-NOT ILLUSTRATED	1

DUAL PUMP

FOR TRUCKS WITH HYDRAULIC TOPPING
LAST USED ON SERIAL NO. B11L-1692 AND B11E-1667

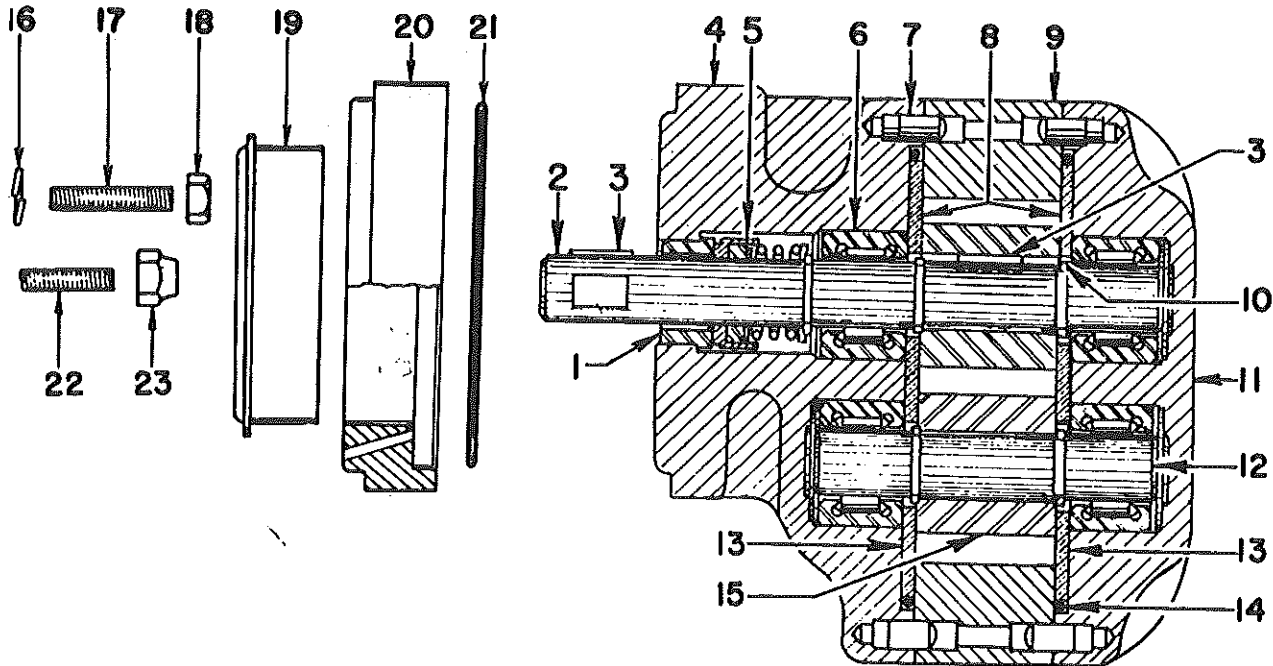


REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.
	108056	A PUMP	1
1	16528	KEY	3
2	57558	ADAPTER	1
3	55418	SEAL SEAT	2
4	28193 A	SEAL	1
5	55419	WASHER	1
6	41278	SNAP RING	7
7	55256	GEAR	2
8	57774	HOUSING	1
9	232363	BEARING PLATE	1
10	55247	WEAR PLATE	3
11	232364	HOUSING	1
12	55243	DOWEL	8
13	55244	SEAL RING	4
14	232365	GEAR	1
15	55246	WEAR PLATE	1
16	28203	BEARING	8

REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.
17	232366	CAPSCREW	4
	55038	WASHER	4
18	232367	DRIVE SHAFT	1
19	57685	COVER	1
20	232368	DRIVEN SHAFT	1
21	232369	GEAR	1
22	55296	GASKET-.002	AR
	55297	GASKET-.001	AR
23	232370	DRIVEN SHAFT	1
24	15880	O-RING	1
25	109301	ADAPTER	1
26	109303	BEARING	1
27	15056	NUT-3/8 UNC	1
28	109300	STUD	1
29	15920	LOCKWASHER-3/8	1
30	109299	CAPSCREW-3/8 UNC X 4 5/8	1
31	15115	NUT-LOCK, 3/8 UNC	1

PUMP

FOR TRUCKS WITH MANUAL TOPPING
 LAST USED ON SERIAL NO. B11L-1692 AND B11E-1667

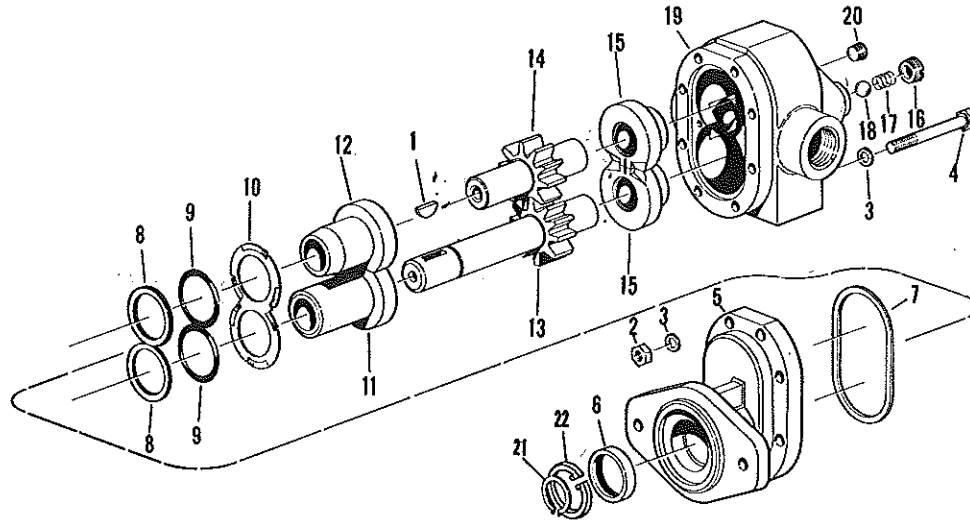


REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.
	69228 A	PUMP	1
1	55418	BUSHING	1
2	57557	SHAFT-DRIVE	1
3	16528	KEY	2
4	57558	HOUSING-END	1
5	28193 A	OIL SEAL	1
6	28203	BEARING-ROLLER	4
7	55243	DOWEL	4
8 {	55296	GASKET-.001	AR
	55297	GASKET-.002	AR
9	57774	HOUSING-PUMP	1
10	28199	SNAP RING	5
11 {	57559	HOUSING-END	1
	57560	CAPSCREW	4
	55038	LOCKWASHER	4

REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.
12	55417	SHAFT-DRIVEN	1
13	55247	PLATE-WEAR	2
14	55244	O-RING	2
15	55256	GEAR	2
16	15920	LOCKWASHER-3/8	1
17	109300	STUD-PUMP TO GEAR COVER	1
18	15056	NUT-3/8 UNC	1
19	109303	BEARING-BALL	1
20	109301	ADAPTER-PUMP	1
21	15880	O-RING	1
22	150830	SCREW-3/8 UNC X 4 5/8	1
23	15115	LOCKNUT-3/8 UNC	1

PUMP

FIRST USED ON SERIAL NO. B11L-1693, B110-1501 AND B11E-1668



KEY

A-FOR GAS ENGINES.
B-FOR DIESEL ENGINES.

REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.	
			A	B
	111890AB	PUMP*	1	..
	110171AB	PUMP	..	1
2	* 15006	NUT-3/8 UNF	8	8
3	* 235931	WASHER	16	16
4	* 17231	CAPSCREW-3/8 UNF X 3 1/2	8	8
5	232568	COVER	1	..
	202789	COVER	1	1
6	127599	SEAL-SHAFT	1	1
7	.....	SEAL-SHAFT	1	1
8	103471	WASHER-BACK-UP	2	2
9	55434	RING-SEAL	2	..
	.....	RING-SEAL	..	2
10	*	SPRING-BEARING	1	1
11	*	BEARING-COVER END	1	1
12	*	BEARING-COVER END	1	1
13	#	GEAR-DRIVE	1	1
14	#	GEAR-DRIVEN	1	1
15	*	BEARING-BODY END	2	2
16	232579	PLUG	1	1
17	* 232580	SPRING	1	1

REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.	
			A	B
18	* 55280	BALL	1	1
19	.....	BODY	1	1
20	15483	PLUG	1	1
21	58929	SNAP RING	1	..
22	58914	SNAP RING	1	1
23	110059	KEY	1	1
	233791	MAJOR REPAIR KIT	1	..
	233790	MINOR REPAIR KIT*	1	..
	233795	GEAR REPAIR KIT	..	1
	233792	GEAR REPAIR KIT	1	..
	233794	MAJOR REPAIR KIT	..	1
	233793	MINOR REPAIR KIT	..	1

*INCLUDED IN MAJOR REPAIR KIT.

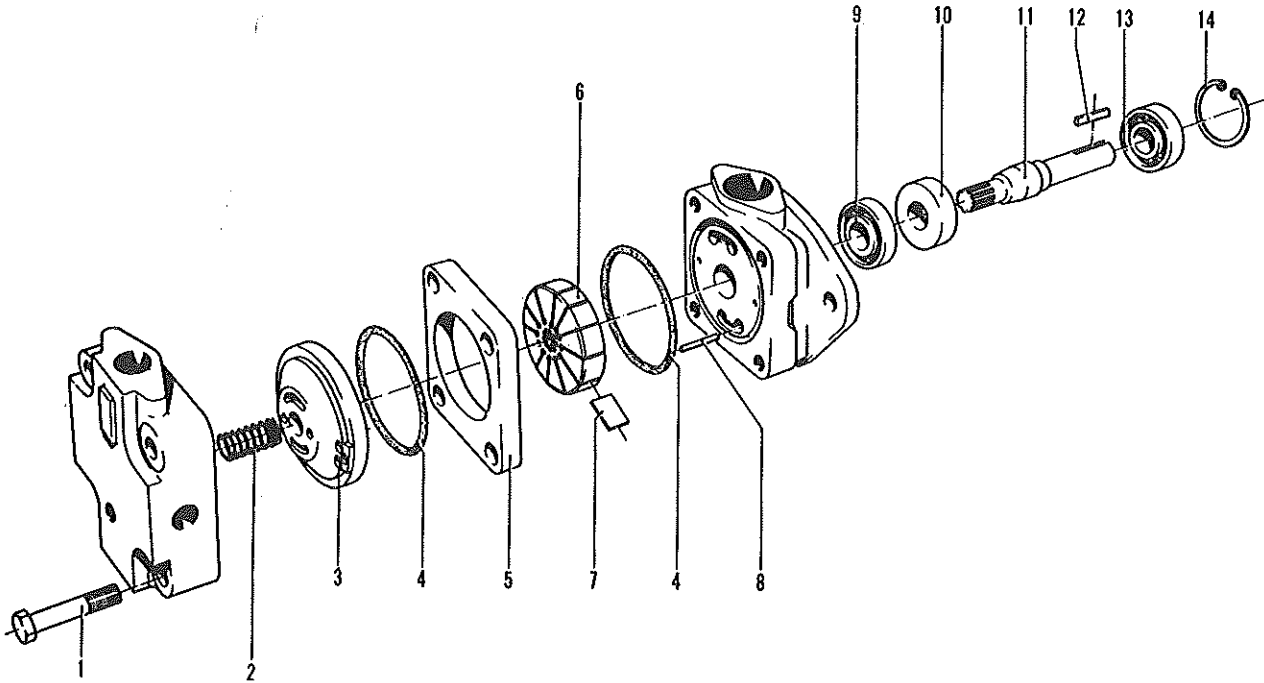
#INCLUDED IN MINOR REPAIR KIT.

#INCLUDED IN GEAR REPAIR KIT.

*FIRST USED ON SERIAL NO. B11E-1826.

PUMP

FIRST USED ON SERIAL NO. B11A-1501 AND B11E-2136

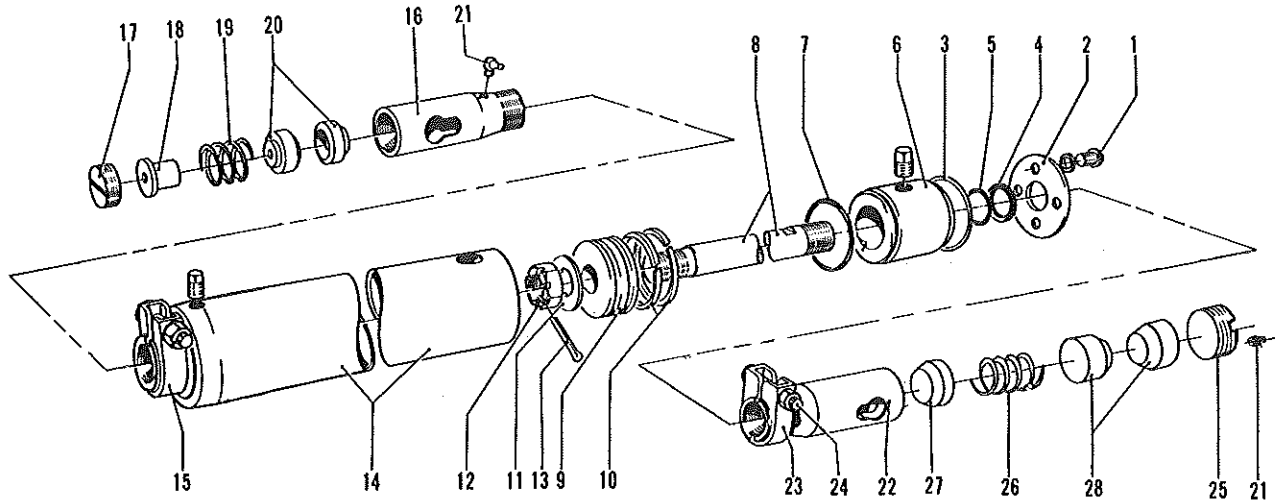


REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.
	116543 A	PUMP	1
1	57906	CAPSCREW-1/2 X 2 5/16	4
2	57519	SPRING	1
3	234077	PLATE	1
4	* 55468	SEAL-O-RING	2
5	*	RING	1
6	*	ROTOR	1
7	*232141 A	VANE KIT	1
8	57604	PIN-3/16 X 1 7/16	2

REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.
9	27721	BEARING-BALL	1
10	87041	SEAL-SHAFT	1
11	57527	SHAFT-DRIVE	1
12	110059	KEY	1
13	234075	BEARING-BALL	1
14	57529	SNAP RING	1

*INCLUDED IN CARTRIDGE KIT 87040A.

STEERING CYLINDER



KEY

A-LAST USED ON SERIAL NO. B11L-1880 AND B11E 1860.

B-FIRST USED ON SERIAL NO. B11L-1881, B11D-1501 AND B11E-1861.

REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.	
			A	B
	105751 A	STEERING CYLINDER	1	..
	113727 A	STEERING CYLINDER	..	1
1	16718	SCREW-1/4 UNC X 5/8	4	4
	15154	LOCKWASHER-1/4	4	4
2	14115	PLATE-END	1	..
	233895	PLATE-END	..	1
3	14114	RING-LOCK	1	..
	233897	RING-LOCK	..	1
4	* 14113	RING-WIPER	1	1
5	* 61056	O-RING-INNER	1	1
6	14111	BEARING-W/SEAL AND O-RING	1	..
	*	BEARING	..	1
7	* 46388	O-RING-OUTER	1	1
	*234590	RING-BACK-UP	..	1
8	14107 A	ROD-PISTON	1	..
	127916	ROD-PISTON	..	1
9	14108	PISTON	1	..
	234592	PISTON-W/POPPET	..	1
10	14109	RING-PISTON	2	..
	233896	RING-PISTON	..	2
11	14110	WASHER	1	..
12	24472	NUT-CASTLE	1	..
	43299	NUT-LOCK, 3/4 UNF	..	1
13	15224	COTTER-1/8 X 1 1/4	1	..
14	.....	SHELL-CYLINDER	1	1

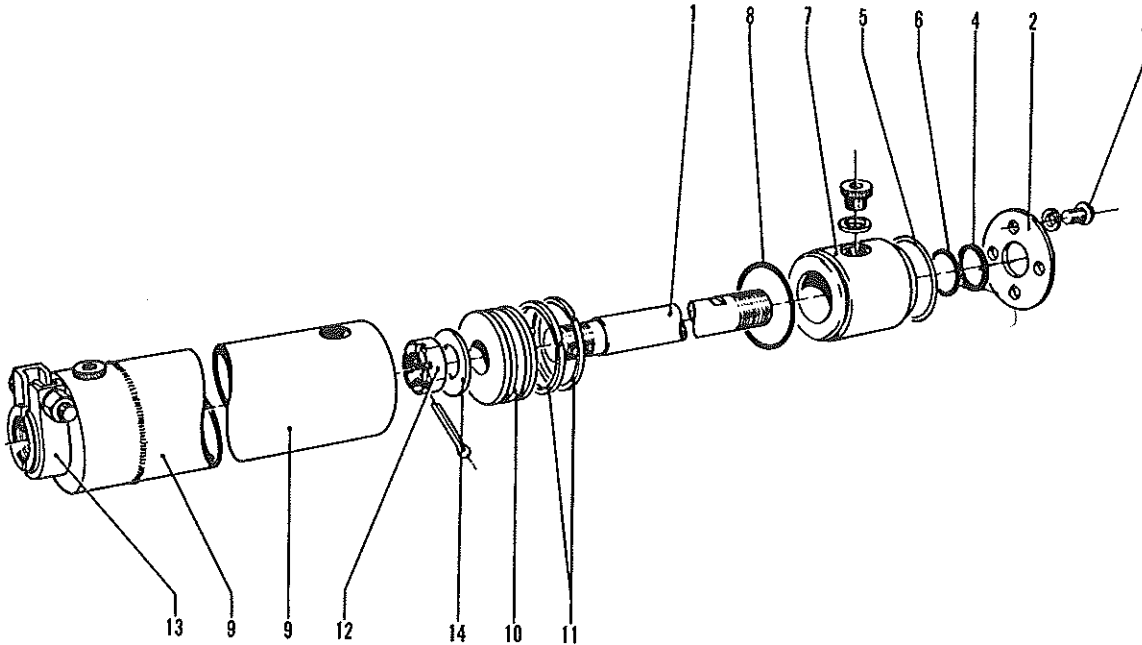
REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.	
			A	B
	234394 A	CLAMP	1	1
15	15543	CAPSCREW-5/8 UNF X 2 3/4	1	1
	15010	NUT-5/8 UNF	1	1
	15160	LOCKWASHER-5/8	1	1
16	108130 A	SOCKET	1	1
	17	14121 PLUG-ADJUSTING	1	1
	18	14118 PLUG	1	1
	19	14119 SPRING	1	1
	20	14120 SEAT-BALL	2	2
	21	16015 GREASE FITTING	2	2
	22	14123 SOCKET	1	1
23	14122	CLAMP	1	1
	14168	LOCK	1	1
	15517	CAPSCREW-1/2 UNF X 2 1/2	1	1
24	15008	NUT-1/2 UNF	1	1
	15158	LOCKWASHER-1/2	1	1
	15135	WASHER-1/2	1	1
25	129830	PLUG-ADJUSTING	1	1
26	129828	SPRING	1	1
27	129827	SEAT-SPRING	1	1
28	129829	SEAT-BALL	2	2

*INCLUDED IN BEARING SEAL KIT 200095.

□INCLUDED IN PISTON ROD 14107A.

STEERING CYLINDER

FIRST USED ON SERIAL NO. 811L-2178, 811D-1501, 811A-1501 & 811E-2136

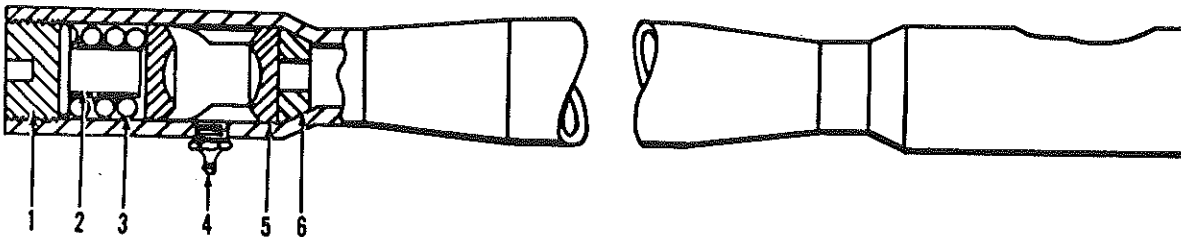


REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.
	88384 A	STEERING CYLINDER	
1	98192	ROD-PISTON	1
2	97398	PLATE-END	1
3	* 16718	MACHINE SCREW-1/4 X 5/8	4
	* 15154	LOCKWASHER-1/4	4
4	*	SEAL	1
5	* 99988	RING-LOCK	1
6	*	O-RING	1
7	97395	BEARING	1
8	*	O-RING	1

REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.
9	.....	SHELL	1
10	97393	PISTON	1
11	*	RING-PISTON	2
12	{ 24472	NUT-3/4 UNF	1
	{ 15224	COTTER-1/8 X 1 1/4	1
13	97394	CLAMP	1
14	15136	WASHER-3/4	2

*INCLUDED IN SEAL REPAIR KIT 98193.

DRAG LINK



REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.
	108132 A	DRAG LINK	
1	{ 127043	PLUG-END	2
	{ 174882	COTTER-7/32 X 2 3/4	2
2	127042	BUMPER-SPRING	2

REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.
3	200191	SPRING	2
4	16001	GREASE FITTING	2
5	200517	SEAT-BALL	4
6	200525	SEAT	2

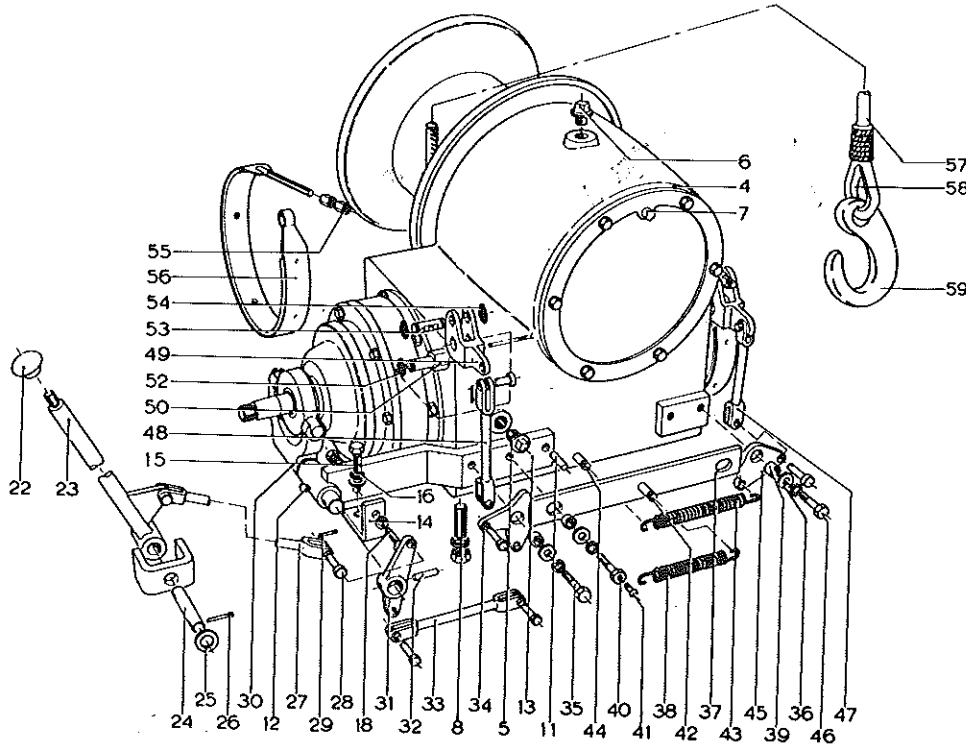
Section N

HOIST MECHANISM

INDEX

DRIVE SHAFT-HOIST UNIT	N3
HOIST CLUTCH . . . . .	.N4-N5
HOIST MECHANISM . . . . .	.N1-N2
POWER TAKE-OFF	N3

HOIST MECHANISM

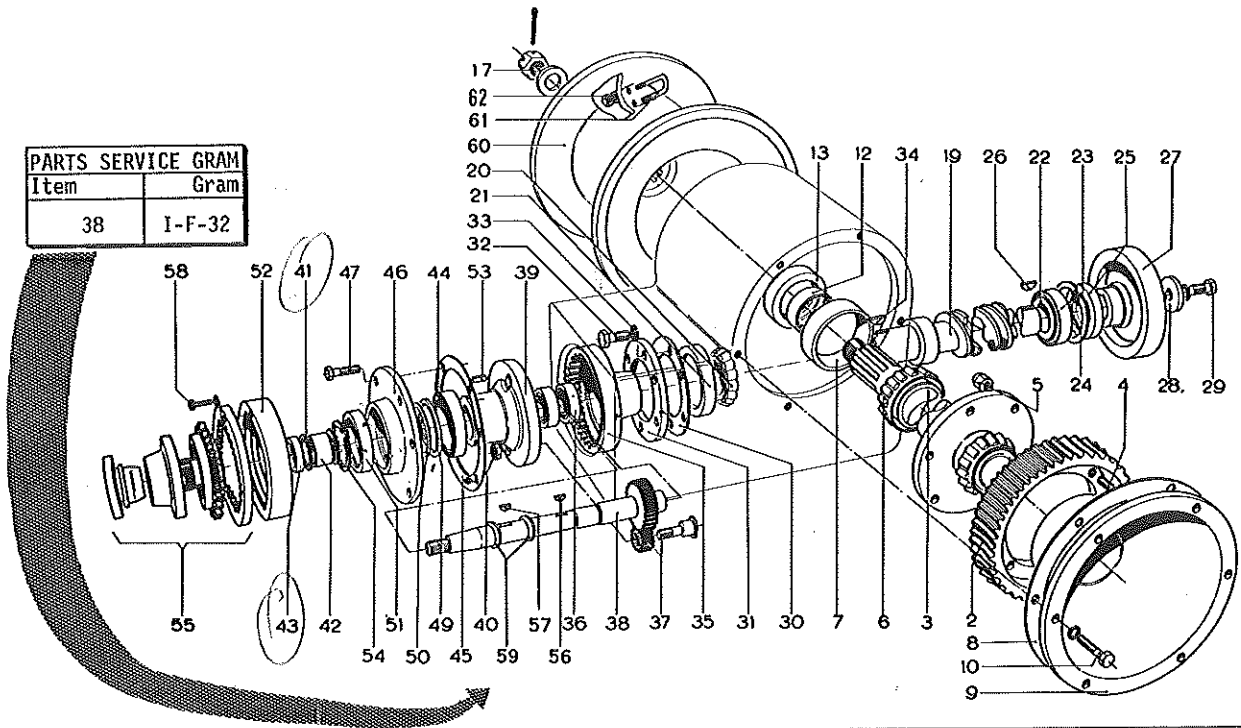


REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.
	166890	HOIST	1
4	107970 A	HOUSING	1
5	15304	PLUG-3/4	2
6	15308	PLUG-1 1/4	1
7	16016	BREATHER	1
8	107971	STUD	3
	15162	LOCKWASHER-3/4	3
	15012	NUT-3/4 UNF	3
11	80976	PIN-ROLL	3
12	16015	GREASE FITTING	2
13	107998 W	BRACKET	1
	*111328 A	BRACKET	1
14	45685	BUSHING	1
	111493	ANGLE	2
15	15514	CAPSCREW-1/2 UNF X 1 1/4	1
	15158	LOCKWASHER-1/2	1
	15178	WASHER-1/2	1
	15568	CAPSCREW-3/8 UNC X 1 3/4	1
18	15176	WASHER-3/8	1
	15156	LOCKWASHER-3/8	1
	15056	NUT-3/8 UNC	1
22	27991	KNOB	1
23	108008 W	LEVER	1
24	41532	PIN	1
25	15136	WASHER-3/4	1
26	15243	COTTER-3/16 X 1 1/4	2
27	108012	LINK	2
28	142	PIN-ROD END, 3/8	1
29	15212	COTTER-3/32 X 3/4	8
30	108005	YOKE	8
	*111506	YOKE	1
31	108006	CRANK	1
32	123488	GROOVE PIN-5/16 X 1 1/2	1

REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.
33	108007	LINK	1
34	108001	CRANK	1
35	15545	CAPSCREW-1/2 UNC X 2	1
36	15135	WASHER-1/2	1
37	108002	PLATE	4
38	110653	SPRING	1
39	111705	SPACER	1
40	108504	CAPSCREW-SPECIAL	3
41	16605	SCREW-DRIVE	1
42	16299	PIN-GROOVE	1
43	108004	SPRING	1
44	16056	PIN-GROOVE	1
45	111707	CRANK	1
46	15547	CAPSCREW-1/2 UNC X 1 1/2	2
47	111706	LINK	1
48	107997	LINK	1
49	107994	CRANK	1
50	107946	STUD	2
	15904	LOCKWASHER-3/4, SPECIAL	2
52	58929	SNAP RING	2
53	107995	PIN	2
54	58903	SNAP RING	2
55	107996	NUT-SPECIAL	4
56	107989 A	BAND-BRAKE	4
	108977 A	LINING-BRAKE BAND, W/RIVETS	2
57	68740 A	CABLE	2
	26783 B	CABLE-5/8 X 65 FEET	1
58	35959	THIMBLE	1
59	142510	HOOK	1

*FIRST USED ON SERIAL NO. 811L-1648 AND 811E-1626.

HOIST MECHANISM - CONTINUED



REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.
	166890	HOIST	1
2	107973	GEAR	1
3	107972	SHAFT	1
4	113729	CAPSCREW-SPECIAL	6
5	58311	NUT-LOCK, 1/2 UNF	6
6	230343	CONE-BEARING	2
7	30076	CUP-BEARING	2
8	107940	SHIM SET	1
9	107927	CARRIER-BEARING	1
10	25062	CAPSCREW-3/8 UNC X 1 1/4	6
	15156	LOCKWASHER-3/8	6
12	107921	SPACER	1
13	44504	SEAL-OIL	1
17	6466	NUT-FLANGED	1
	15257	COTTER-1/4 X 2 1/2	1
19	107974	WORMSHAFT	1
20	230347	CONE-BEARING	1
21	230348	CUP-BEARING	1
22	30279	CONE-BEARING	1
23	30208	CUP-BEARING	1
24	12896	SNAP-RING	1
25	8219	SEAL-OIL	1
26	32032	KEY-1/4 X 1 3/8	2
27	107975	DRUM	1
28	107976	PLATE-END	1
29	15532	CAPSCREW-3/8 X 1 1/4	2
	15156	LOCKWASHER-3/8	2
30	33793	SHIM SET	1
31	107977	PLATE	1
32	15740	CAPSCREW-7/16 UNC X 1 1/2	6
33	15157	LOCKWASHER-7/16	6
34	32032	KEY-1/4 X 1 3/8	2
35	107978	GEAR	1
36	44307	BEARING	2
37	107981 A	GEAR ASSEMBLY	2
38	107979	GEARSHAFT	1
	#169862	GEARSHAFT	1
39	107980	SPIDER	1
	*112896	SPIDER	1

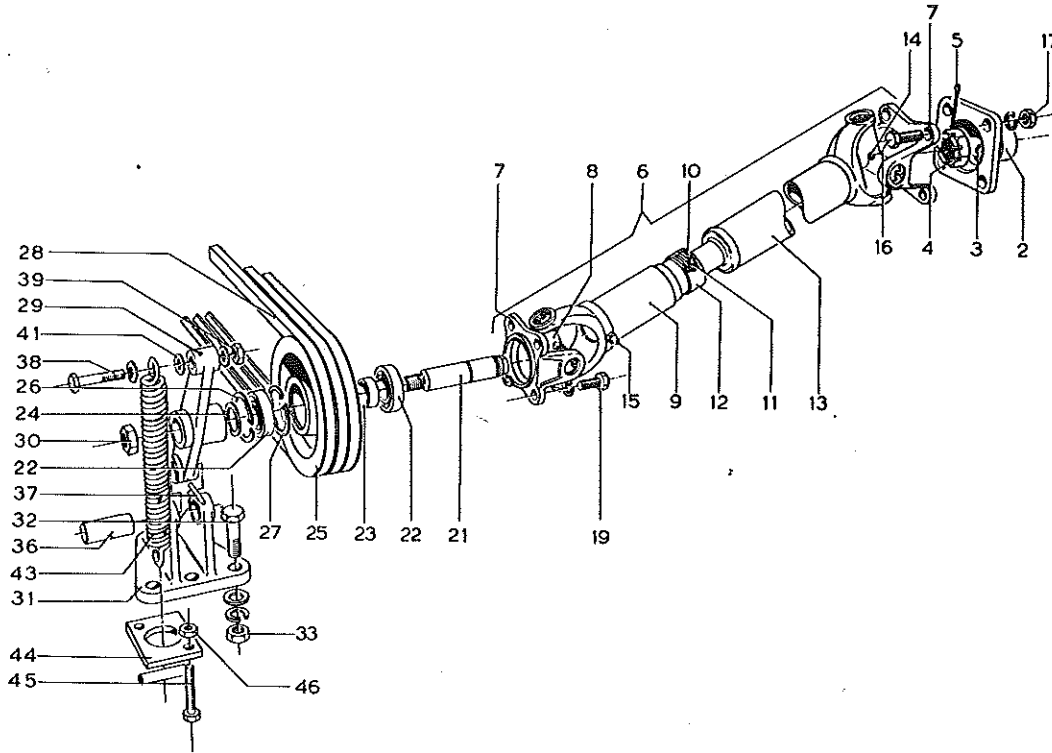
REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.
40	53163	NUT-5/8 UNF	2
41	58900	SNAP RING	2
42	59633	BEARING	1
43	44537	SEAL-OIL	1
44	124614	BEARING	1
	*124615	BEARING	1
45	107985	SHIM SET	1
46	110045	CARRIER-BEARING	1
47	15728	CAPSCREW-5/16 UNC X 7/8	6
	15155	LOCKWASHER-5/16	6
49	*112895	SPACER	1
50	108013	FELT-KEY STOP	1
	*15871	O-RING	1
51	44519	SEAL-OIL	1
52	110046	DRUM 112897A	1
	*112897 A	DRUM	1
53	8050	KEY-1/4 X 1 1/4	1
	*952	KEY-1/4 X 1	1
54	12942	SNAP RING-DRUM RETAINER	1
55	.....	HOIST CLUTCH-SEE PG. N4 OR N5	1
56	41577	KEY-5/16 X 1	1
57	13034	KEY-1/4 X 7/8	1
58	15639	CAPSCREW-5/16 UNC X 1	6
	15155	LOCKWASHER-5/16	6
59	#58907	SNAP RING	2
60	107926	DRUM	1
61	100361	BOLT-U	1
62	15006	NUT-3/8 UNF	2
	15156	LOCKWASHER-3/8	2

*FIRST USED ON SERIAL NO. B11L-1678 AND B11E-1616.

#FIRST USED ON SERIAL NO. B11L-1648 AND B11E-1626.

#FIRST USED ON SERIAL NO. B11D-1501 AND B11H-1572.

POWER TAKE-OFF FOR HOIST MECHANISM



REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.
2	108017	FLANGE	1
3	41577	KEY	1
4	6714	NUT-SLOTTED	1
5	15244	COTTER-3/16 X 1 1/2	1
6	108025 A	DRIVE SHAFT	1
7	53065	YOKE-FLANGE	2
8	53066 A	CROSS AND BEARING	2
	53068	SNAP RING	4
9	53070 A	YOKE-SLEEVE	1
10	25741	WASHER-CORK	1
11	25740	WASHER-STEEL	1
12	25739	CAP-DUST	1
13	53072	SHAFT	1
14	13957	GREASE FITTING	2
15	16001	GREASE FITTING	1
16	15508	CAPSCREW-3/8 UNF X 1	4
17	15006	NUT-3/8 UNF	4
	15156	LOCKWASHER-3/8	4
19	15507	CAPSCREW-3/8 UNC X 7/8	4
	15156	LOCKWASHER-3/8	4
21	108021	SHAFT	1
22	124629	BEARING-BALL	2
23	108500	SPACER	1
24	58928	SNAP RING	2
25	108022	SHEAVE	1
	*981190	SHEAVE	1
26	12941	SNAP RING	1
27	60066	SNAP RING	1
28	108024	V-BELT SET	1
29	108019	CRANK	1

REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.
30	17423	NUT-LOCK, 7/8 UNF	1
31	108018	BRACKET	1
	*980018	BRACKET	1
32	15527	CAPSCREW-3/8 UNF X 1 3/4	3
	* 15535	CAPSCREW-5/8 UNF X 2	3
	15006	NUT-3/8 UNF	3
	15134	WASHER-3/8	3
33	15156	LOCKWASHER-3/8	3
	* 15010	NUT-5/8 UNF	3
	* 15125	WASHER-5/8	3
	* 15160	LOCKWASHER-5/8	3
36	108020	PIN	1
37	19874	ROLL PIN-3/16 X 1 1/2	1
38	15503	CAPSCREW-1/2 UNF X 2 3/4	1
39	15008	NUT-1/2 UNF	1
	15158	LOCKWASHER-1/2	1
41	108003	SPACER	1
	15135	WASHER-1/2	1
43	108023	SPRING	1
44	□112567	BRACKET	1
	*981141 W	BRACKET	1
45	□ 16887	CAPSCREW-1/2 UNF X 2 1/4	2
	*981144	CAPSCREW-1/2 UNF X 3	2
46	15028	NUT-JAM, 1/2 UNF	2
	15135	WASHER-1/2	2

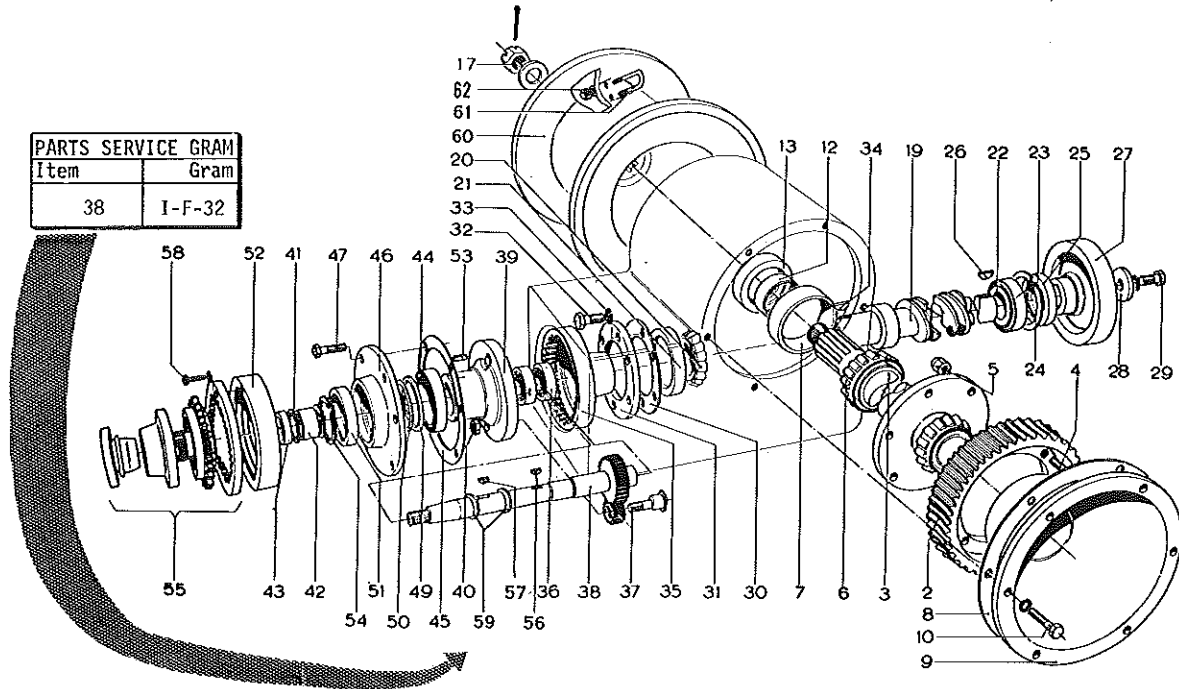
*FOR B11E AND B11A KARRY KRANES ONLY.

□FIRST USED ON SERIAL NO. B11L-1678.

HOIST MECHANISM - CONTINUED

(enclosed)

PARTS SERVICE GRAM	
Item	Gram
38	I-F-32



REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.
	166890	HOIST	1
2	107973	GEAR	1
3	107972	SHAFT	1
4	113729	CAPSCREW-SPECIAL	6
5	58311	NUT-LOCK, 1/2 UNF	6
6	230343	CONE-BEARING	2
7	30076	CUP-BEARING	2
8	107940	SHIM SET	1
9	107927	CARRIER-BEARING	1
10	25062	CAPSCREW-3/8 UNC X 1 1/4	6
	15156	LOCKWASHER-3/8	6
12	107921	SPACER	1
13	44504	SEAL-OIL	1
17	6466	NUT-FLANGED	1
	15257	COTTER-1/4 X 2 1/2	1
19	107974	WORMSHAFT	1
20	230347	CONE-BEARING	1
21	230348	CUP-BEARING	1
22	30279	CONE-BEARING	1
23	30208	CUP-BEARING	1
24	12896	SNAP-RING	1
25	8219	SEAL-OIL	1
26	32032	KEY-1/4 X 1 3/8	2
27	107975	DRUM	1
28	107976	PLATE-END	1
29	15532	CAPSCREW-3/8 X 1 1/4	2
	15156	LOCKWASHER-3/8	2
30	33793	SHIM SET	1
31	107977	PLATE	1
32	15740	CAPSCREW-7/16 UNC X 1 1/2	6
33	15157	LOCKWASHER-7/16	6
34	32032	KEY-1/4 X 1 3/8	2
35	107978	GEAR	1
36	44307	BEARING	2
37	107981 A	GEAR ASSEMBLY	2
38	107979	GEARSHAFT	1
	#169862	GEARSHAFT	1
39	107980	SPIDER	1
	*112896	SPIDER	1

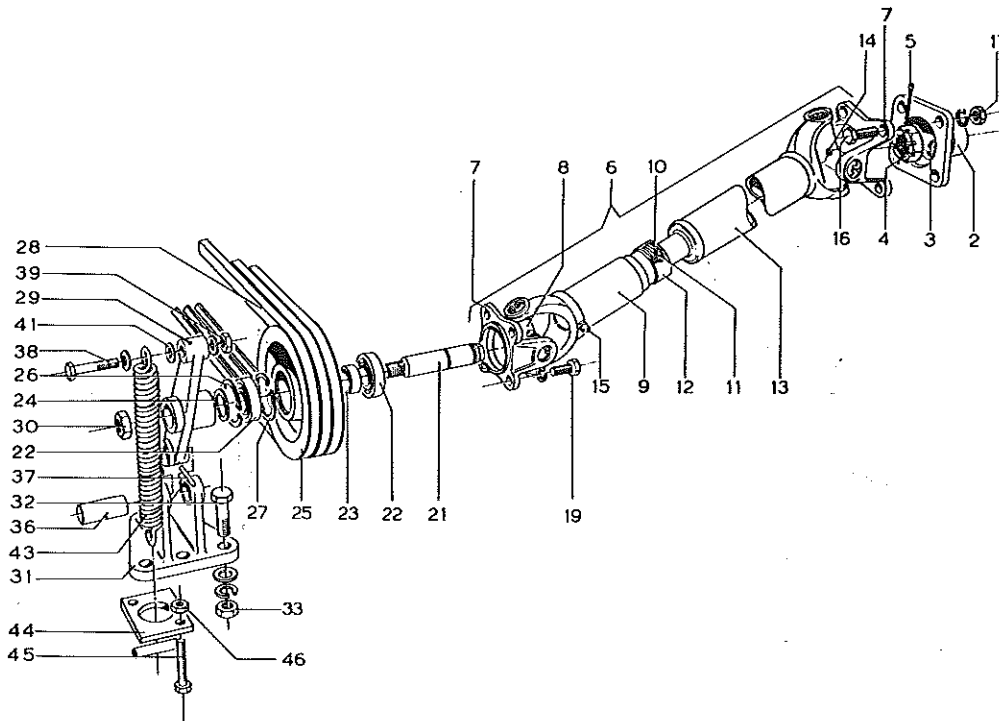
REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.
40	53163	NUT-5/8 UNF	2
41	58900	SNAP RING	2
42	59633	BEARING	1
43	44537	SEAL-OIL	1
44	124614	BEARING	1
	*124615	BEARING	1
45	107985	SHIM SET	1
46	110045	CARRIER-BEARING	1
47	15728	CAPSCREW-5/16 UNC X 7/8	6
	15155	LOCKWASHER-5/16	6
49	*112895	SPACER	1
50	108013	FELT-KEY STOP	1
	* 15871	O-RING	1
51	44519	SEAL-OIL	1
52	110046	DRUM	1
	*112897 A	DRUM	1
53	8050	KEY-1/4 X 1 1/4	1
	* 952	KEY-1/4 X 1	1
54	12942	SNAP RING-DRUM RETAINER	1
55	.....	HOIST CLUTCH-SEE PG. N4 OR N5	1
56	41577	KEY-5/16 X 1	1
57	13034	KEY-1/4 X 7/8	1
58	15639	CAPSCREW-5/16 UNC X 1	6
	15155	LOCKWASHER-5/16	6
59	# 58907	SNAP RING	2
60	107926	DRUM	1
61	100361	BOLT-U	1
62	15006	NUT-3/8 UNF	2
	15156	LOCKWASHER-3/8	2

*FIRST USED ON SERIAL NO. B11L-1678 AND B11E-1616.

□FIRST USED ON SERIAL NO. B11L-1648 AND B11E-1626.

#FIRST USED ON SERIAL NO. B11D-1501 AND B11H-1572.

POWER TAKE-OFF FOR HOIST MECHANISM



REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.
2	108017	FLANGE	1
3	41577	KEY	1
4	6714	NUT-SLOTTED	1
5	15244	COTTER-3/16 X 1 1/2	1
6	108025 A	DRIVE SHAFT	1
7	53065	YOKE-FLANGE	2
8	53066 A	CROSS AND BEARING	2
	53068	SNAP RING	4
9	53070 A	YOKE-SLEEVE	1
10	25741	WASHER-CORK	1
11	25740	WASHER-STEEL	1
12	25739	CAP-DUST	1
13	53072	SHAFT	1
14	13957	GREASE FITTING	2
15	16001	GREASE FITTING	1
16	15508	CAPSCREW-3/8 UNF X 1	4
17	15006	NUT-3/8 UNF	4
	15156	LOCKWASHER-3/8	4
19	15507	CAPSCREW-3/8 UNC X 7/8	4
	15156	LOCKWASHER-3/8	4
21	108021	SHAFT	1
22	124629	BEARING-BALL	2
23	108500	SPACER	1
24	58928	SNAP RING	2
25	108022	SHEAVE	1
	*981190	SHEAVE	1
26	12941	SNAP RING	1
27	60066	SNAP RING	1
28	108024	V-BELT SET	1
29	108019	CRANK	1

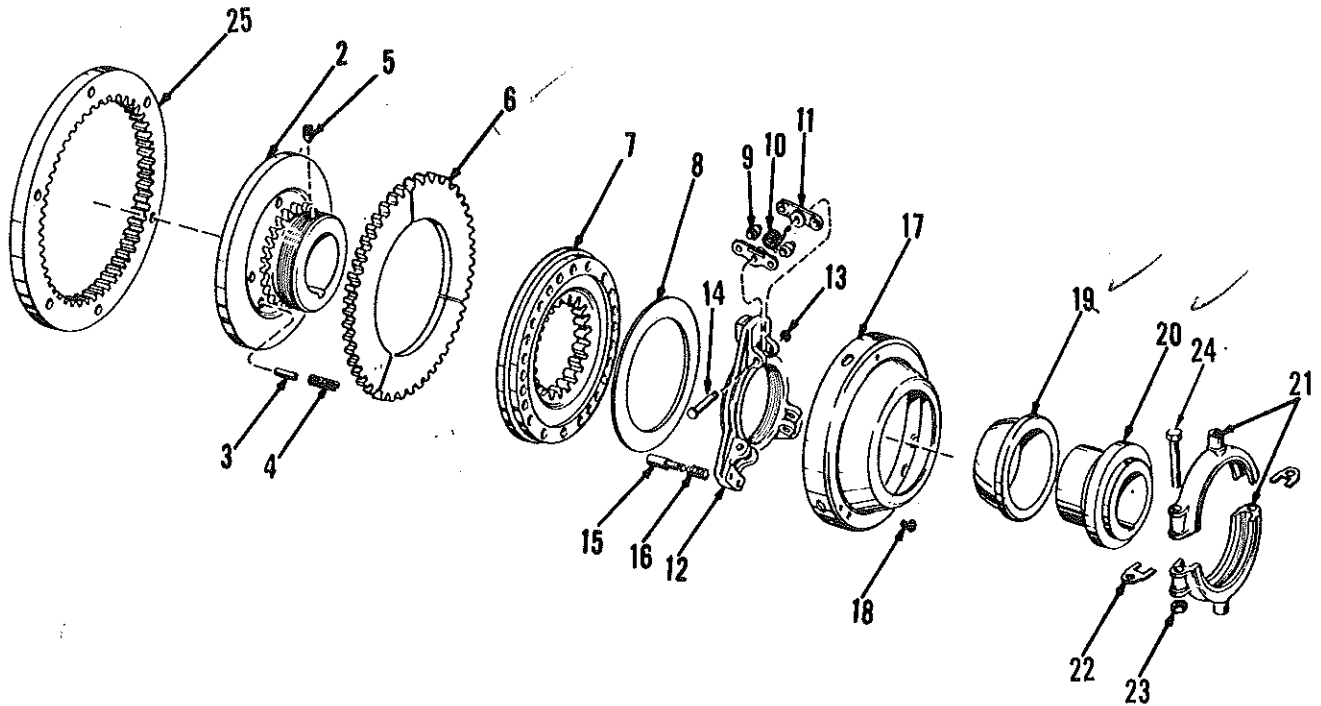
REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.
30	17423	NUT-LOCK, 7/8 UNF	1
31	108018	BRACKET	1
	*980018	BRACKET	1
32	15527	CAPSCREW-3/8 UNF X 1 3/4	3
	* 15535	CAPSCREW-5/8 UNF X 2	3
	15006	NUT-3/8 UNF	3
	15134	WASHER-3/8	3
33	15156	LOCKWASHER-3/8	3
	* 15010	NUT-5/8 UNF	3
	* 15125	WASHER-5/8	3
	* 15160	LOCKWASHER-5/8	3
36	108020	PIN	1
37	19874	ROLL PIN-3/16 X 1 1/2	1
38	15503	CAPSCREW-1/2 UNF X 2 3/4	1
39	15008	NUT-1/2 UNF	1
	15158	LOCKWASHER-1/2	1
41	108003	SPACER	1
	15135	WASHER-1/2	1
43	108023	SPRING	1
44	112567	BRACKET	1
	*981141	BRACKET	1
45	16887	CAPSCREW-1/2 UNF X 2 1/4	2
	*981144	CAPSCREW-1/2 UNF X 3	2
46	15028	NUT-JAM, 1/2 UNF	2
	15135	WASHER-1/2	2

*FOR B11E AND B11A KARRY KRANES ONLY.

□FIRST USED ON SERIAL NO. B11L-1678.

HOIST CLUTCH

LAST USED ON SERIAL NO. B11L-1647 AND B11E-1611

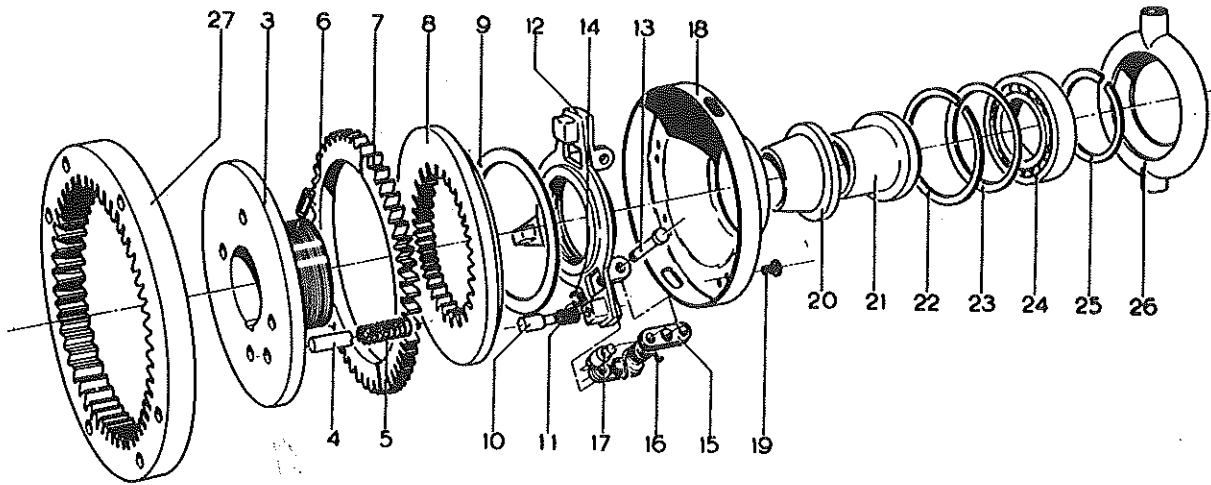


REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.
		1 2 3 4	
	111679 A	HOIST CLUTCH 107988AB	1
2	109483	PLATE-HUB AND BACK	1
3	109484	PIN-RELEASE SPRING	4
4	109485	SPRING-RELEASE	4
5	111299	SETSCREW-3/8 UNC X 5/8	1
6	109487	PLATE-DRIVING	1
7	109488	PLATE-FLOATING	1
8	109489	DISC-ROLLER	1
9	109490	YOKE	1
	109492	ROLLER	6
10	109493	SPRING-LEVER	3
11	109491	LEVER	6
12	109581	YOKE-ADJUSTING	1
13	33235	RING-RETAINING	3

REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.
		1 2 3 4	
14	109582	PIN-LEVER	3
15	109583	PIN-ADJUSTING LOCK	1
16	109584	SPRING-LOCK PIN	1
17	109585	COVER-CLUTCH	1
18	16705	MACH. SCREW-1/4 UNC X 1/2	3
19	109586 A	CONE	1
	109587	RING	1
20	109588 A	SLEEVE-CONE	1
21	109589AB	COLLAR	1
22	15026	NUT-JAM, 3/8 UNF	2
	38475	WASHER-COLLAR	4
23	15026	NUT-JAM, 3/8 UNF	2
	15905	LOCKWASHER-3/8	2
24	15528	CAPSCREW-3/8 UNF X 2	2
25	107987	RING-DRIVING	1

HOIST CLUTCH

FIRST USED ON SERIAL NO. B11L-1648, B11D-1501 AND B11E-1626

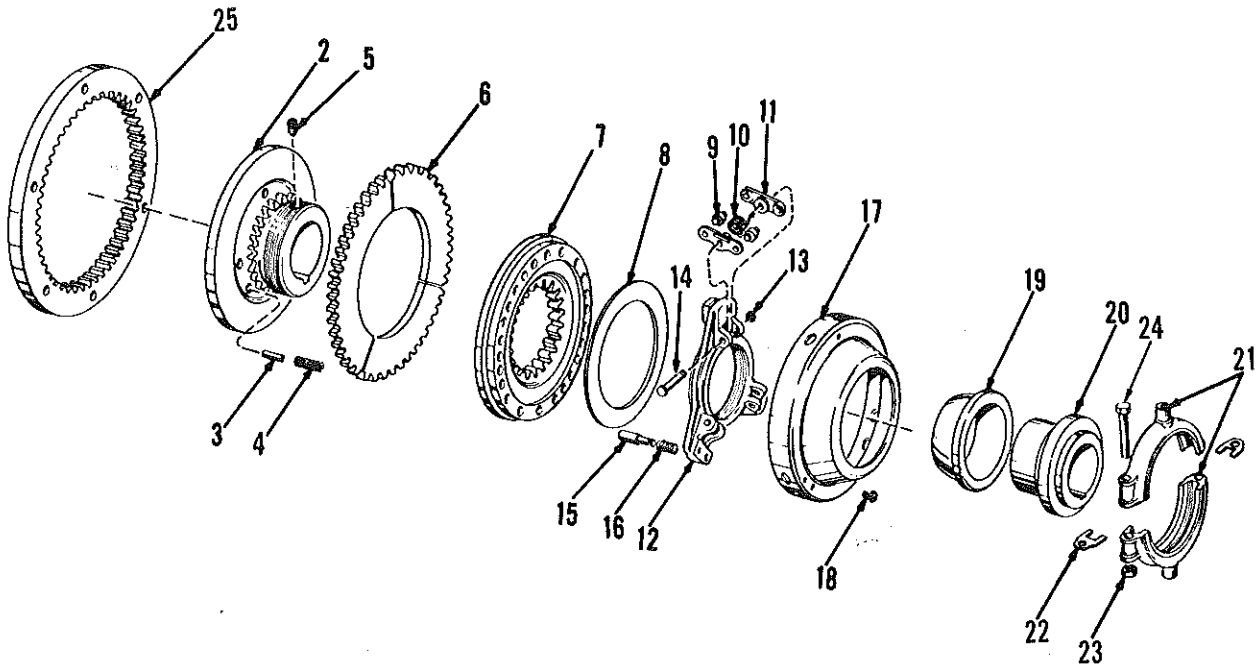


REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.
	111327 A	HOIST CLUTCH	1
3	109483	PLATE-HUB AND BACK	1
4	109484	PIN-RELEASE SPRING	4
5	109485	SPRING-RELEASE	4
6	16209	SCREW-SET, 3/8 UNC X 5/8	1
7	109487	PLATE-DRIVING	1
8	109488	PLATE-FLOATING	1
9	109489	ROLLER-DISC	1
10	109583	PIN-ADJUSTING LOCK	3
11	109584	SPRING-LOCK PIN	3
12	109581	YOKE-ADJUSTING	1
13	109582	PIN-LEVER	3
14	33235	RING-PIN RETAINING	3

REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.
15	109491	LEVER	6
16	109493	SPRING-LEVER	3
17	109492	ROLLER	6
18	109585	COVER-CLUTCH	1
19	16705	MACH. SCREW-1/4 UNC X 1/2	3
20	109587	RING	1
21	54091	SLEEVE	1
22	54093	RING-SNAP	1
23	54103	WASHER-CONE COLLAR	1
24	54099	BEARING	1
25	54104	RING-SNAP	1
26	54105	COLLAR-CONE	1
27	107987	RING-DRIVING	1

HOIST CLUTCH

LAST USED ON SERIAL NO. B11L-1647 AND B11E-1611

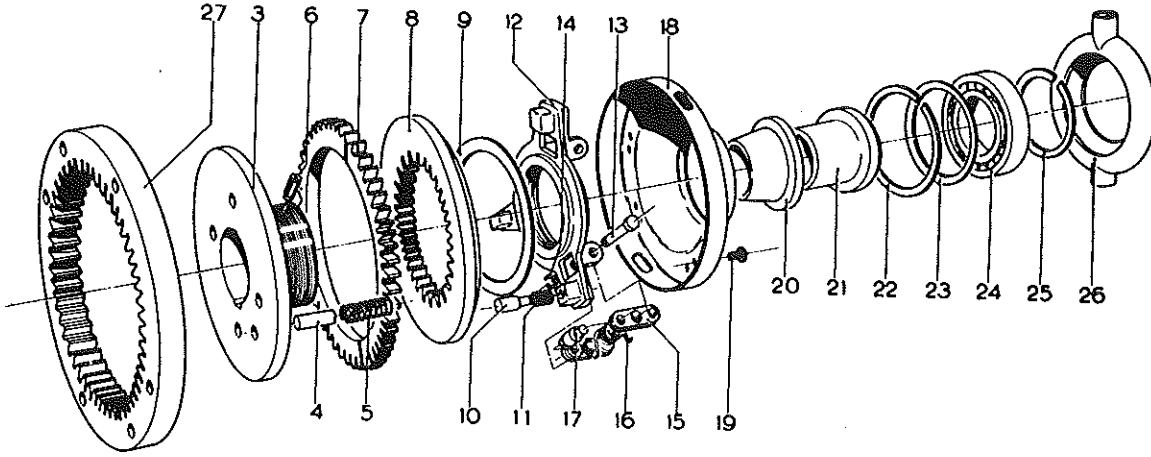


REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.
		1 2 3 4	
	111670 A	HOIST CLUTCH	1
2	109483	PLATE-HUB AND BACK	1
3	109484	PIN-RELEASE SPRING	4
4	109485	SPRING-RELEASE	4
5	111299	SETSCREW-3/8 UNC X 5/8	1
6	109487	PLATE-DRIVING	1
7	109488	PLATE-FLOATING	1
8	109489	DISC-ROLLER	1
9	109490	YOKE	1
	109492	ROLLER	6
10	109493	SPRING-LEVER	3
11	109491	LEVER	6
12	109581	YOKE-ADJUSTING	1
13	33235	RING-RETAINING	3

REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.
		1 2 3 4	
14	109582	PIN-LEVER	3
15	109583	PIN-ADJUSTING LOCK	1
16	109584	SPRING-LOCK PIN	1
17	109585	COVER-CLUTCH	1
18	16705	MACH. SCREW-1/4 UNC X 1/2	3
19	109586 A	CONE	1
	109587	RING	1
20	109588 A	SLEEVE-CONE	1
21	109589A8	COLLAR	1
22	15026	NUT-JAM, 3/8 UNF	2
	38475	WASHER-COLLAR	4
23	15026	NUT-JAM, 3/8 UNF	2
	15905	LOCKWASHER-3/8	2
24	15528	CAP SCREW-3/8 UNF X 2	2
25	107987	RING-DRIVING	1

HOIST CLUTCH

FIRST USED ON SERIAL NO. B11L-1648, B11D-1501 AND B11E-1626



REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.
	111327 A	HOIST CLUTCH	
3	109483	PLATE-HUB AND BACK	1
4	109484	PIN-RELEASE SPRING	1
5	109485	SPRING-RELEASE	4
6	16209	SCREW-SET, 3/8 UNC X 5/8	4
7	109487	PLATE-DRIVING	1
8	109488	PLATE-FLOATING	1
9	109489	ROLLER-DISC	1
10	109583	PIN-ADJUSTING LOCK	1
11	109584	SPRING-LOCK PIN	3
12	109581	YOKE-ADJUSTING	3
13	109582	PIN-LEVER	1
14	33235	RING-PIN RETAINING	3

REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.
15	109491	LEVER	6
16	109493	SPRING-LEVER	3
17	109492	ROLLER	6
18	109585	COVER-CLUTCH	1
19	16705	MACH. SCREW-1/4 UNC X 1/2	3
20	109587	RING	1
21	54091	SLEEVE	1
22	54093	RING-SNAP	1
23	54103	WASHER-CONE COLLAR	1
24	54099	BEARING	1
25	54104	RING-SNAP	1
26	54105	COLLAR-CONE	1
27	107987	RING-DRIVING	1

107027

Section P

OPTIONAL EQUIPMENT

INDEX

OPTIONAL ACCESSORIES	P2
TIRE AND WHEEL CHART	P1
TOWING HOOK	P2

TIRE AND WHEEL CHART

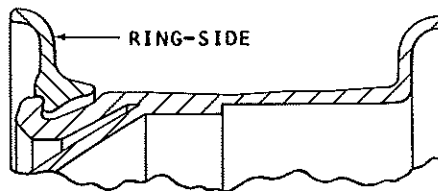
NAME OF PART	SINGLE STEERING WHEELS	DUAL STEERING WHEELS	DRIVE WHEELS	DRIVE WHEELS	
TIRE	9.00 X 15	7.50 X 15	7.00 X 20	7.50 X 20	
10 PLY	.....	11279	107918	.....
12 PLY	108093	.....	.....	.....
SOLID	.....	174213	.....	155757	
TUBE	108094	11280	107919	.....
WHEEL-TYPE 1 WHEEL-TYPE 1 RING-SIDE RING-SIDE	..... ..... ..... .....	..... 66293AB 107013	155754 □805077 □805066 155755	155754 *155756 155755	
WHEEL-TYPE 2 RING-SIDE RING-LOCK	..... ..... .....	□805078 □805068 □805069	..... ..... .....	..... ..... .....
WHEEL-TYPE 3 RING-SIDE RING-LOCK RING-SHOULDER	..... 155065 160653 153889 153890	*181379 □160644 □153888 □153889 #□153890	..... ..... ..... ..... .....	..... ..... ..... ..... .....
WHEEL-TYPE 3 RING-SIDE RING-LOCK RING-SHOULDER	..... ..... ..... .....	*980533AC *980541 *980542 *980540	*980553 *980556 *980557 *163944	..... ..... ..... .....

*FOR SERIES B11E KARRY KRANES ONLY.

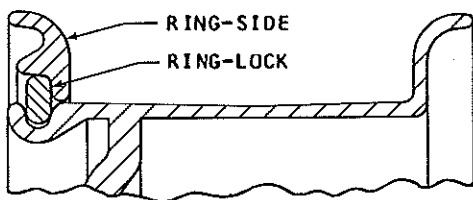
□FOR SERIES B11A KARRY KRANES ONLY.

#NOT NEEDED WHEN MOUNTING SOLID TIRES ON PNEUMATIC RIMS.

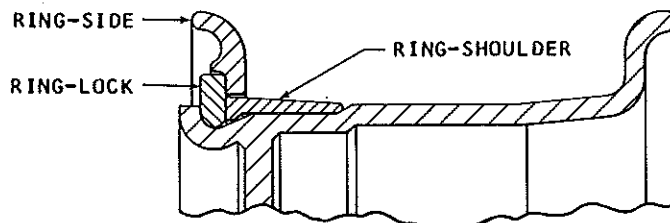
*FOR SOLID TIRES.



TYPE 1



TYPE 2



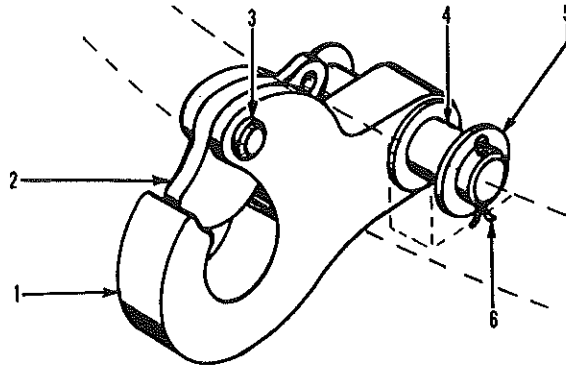
TYPE 3

OPTIONAL ACCESSORIES

REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.
	63899 A	GAS CAP-PROTECTO SEAL	1
	146184 A	KIT-FIRE EXTINGUISHER & BRACKET	1
	101984	SNATCH BLOCK	1

REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.
	40912 A	WHEEL SPINNER	1
	115323 A	KIT-LIFTING EYE	1
	110712 A	TIRE CHAIN MOUNTING KIT	1

TOWING HOOK



REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.
1 {	69457 A	TOWING HOOK	1
	69459 A	HOOK-TOWING	1
2	49101	LATCH	1
3 {	159	PIN-ROD END, 5/8	1
	15223	COTTER-1/8 X 1	1

REF. NO.	HYSTER PART NO.	NAME OF PART	QTY.
4	69464	PIN	1
5	15184	WASHER-1 1/8	2
6	15245	COTTER-3/16 X 1 3/4	2

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Section Q

NUMERICAL

INDEX

USE HYSTER APPROVED PARTS... *it pays*

NUMERICAL INDEX

PART NO.	PAGE	REF NO.	PART NO.	PAGE	REF NO.	PART NO.	PAGE	REF NO.	PART NO.	PAGE	REF NO.	PART NO.	PAGE	REF NO.
125	D8	18	14122	A K12	23	15168	B1	21	15526	C2	24	16005	G3	24
126	D8	19	14123	K12	22	15172	B1	34	15527	G3	20	16015	K2	26
138	J1	14	14156	A K6		15175	E1	30	15528	B1	17	16016	G4	55
139	J1	15	14168	K12	23	15176	C6	4	15529	C1	12	16056	N1	44
141	H1	31	14190	K3	2	15177	C1	9	15532	N2	29	16058	J1	39
142	H1	26	14191	K5	16	15178	N1	15	15535	N3	32	16060	J1	47
152	G6	10	14349	D23	1	15180	C2	17	15536	J7	16	16063	K2	18
153	F2	14	14358	D22	6	15184	P2	5	15537	B2		16064	K2	17
159	H3	11	14368	D9	6	15200	D8	19	15538	B3	2	16082	J7	12
234	B1	28	14369	D9	6	15211	B1	11	15543	K12	15	16089	G8	42
790	C13	7	14373	K2	34	15212	C7	21	15545	N1	35	16114	C24	12
952	N2	53	14519	C12	13	15213	H1	20	15547	K2	28	16116	C21	35
1532	J1	2	14592	J3	1	15222	F2	15	15551	C31	25	16118	C24	13
2009	B B1	22	14595	J2	5	15223	H3	11	15553	C27	58	16151	C25	20
2033	B B1	14	14752	E10		15224	C41	19	15554	C20	6	16159	C15	9
5586	J3	3	15000	D4	10	15225	G2	57	15556	C4	21	16164	D9	8
6466	N2	17	15001	D22	24	15226	G7	27	15560	G4	53	16165	J1	4
6714	N3	4	15002	C29	5	15243	N1	26	15565	B1	4	16177	D10	25
7882	C38	12	15004	B1	13	15244	N3	5	15568	F1	3	16185	D8	7
8050	N2	53	15005	B1	26	15245	P2	6	15569	G2	39	16186	E5	25
8219	N2	25	15006	B1	18	15248	K1	10	15574	C18	9	16187	C25	18
9033	C10	5	15007	G4	53	15255	B2	14	15578	D8	15	16193	C24	7
9109	G2	7	15008	C1	7	15257	N2	17	15580	E13	65	16199	C15	6
9477	C28	4	15010	K12	15	15274	K1	19	15581	H1	22	16209	N5	6
10149	B B1	9	15012	B2	16	15302	D24	32	15583	J1	10	16271	D22	33
10531	E1	9	15023	B1	21	15303	C23	27	15585	C2	32	16299	N1	42
10588	J2	8	15024	D22	28	15304	G3	18	15586	C2	33	16353	D9	13
11095	E2	31	15026	H1	39	15306	C6	22	15588	E3	23	16354	B1	13
11096	E3	23	15028	N3	46	15307	C19	2	15597	C2	16	16357	D5	8
11195	C9	24	15036	G4	35	15308	N1	6	15600	D6	12	16367	D5	13
11276	K1	24	15039	E11	9	15314	D9	14	15608	E4	17	16372	C21	33
11279	P1		15049	D1	39	15316	G7	29	15613	C6		16376	C11	17
11280	P1		15054	C6	38	15334	K2	24	15621	E10		16378	C13	18
11286	G8	38	15055	C6	34	15337	J1	45	15623	C16	22	16382	J5	30
11287	G8	37	15056	C6	3	15338	K2	23	15626	G4	33	16483	K4	22
11648	B B2	4	15057	C11	6	15339	K3	3	15639	E11	40	16484	J2	7
11650	B B2	3	15058	B3	3	15345	C4	24	15681	K4	21	16485	J2	22
12815	C4	5	15066	K6	30	15347	C19	15	15696	K6	30	16486	J2	8
12816	K3	2	15086	E13	33	15358	E2	8	15728	E11	40	16512	C15	8
12821	D4	19	15107	E10		15378	D22	3	15740	N2	32	16526	C14	10
12886	D22	36	15108	C1	16	15384	K2	14	15746	D22	28	16528	K8	1
12896	N2	24	15111	B2	6	15448	D22	7	15757	D22	20	16530	D22	24
12941	N3	26	15115	C9	9	15457	D24	29	15871	N2	50	16531	K6	30
12942	N2	54	15125	N3	33	15483	K10	20	15880	C9	22	16541	J1	23
13034	N2	57	15127	D5	14	15502	C41	1	15884	K8	13	16558	K4	22
13429	D8	14	15132	D4	11	15503	N3	38	15904	N1	50	16559	J1	31
13781	K2	37	15133	F2	8	15505	C18	16	15905	C11	12	16560	J2	18
13957	G5	12	15134	B1	5	15507	E11	42	15907	H1	43	16568	J2	17
14027	K6	59	15135	C16	18	15508	B2	11	15910	E10		16569	K3	9
14095	K6	37	15136	K13	14	15509	C1	5	15913	E11	41	16585	K4	22
14107	K12	8	15152	B1	23	15510	K2	29	15914	C28	9	16586	J2	7
14108	K12	9	15154	B1	13	15511	E10		15916	E13	61	16587	J2	18
14109	K12	10	15155	C4	21	15513	C15	4	15917	C6	40	16597	C11	4
14110	K12	11	15156	B1	4	15514	N1	15	15918	C9	20	16598	G3	8
14111	K12	6	15157	C11	4	15515	B1	26	15920	C7	12	16605	N1	41
14113	K12	4	15158	B1	26	15516	C18	9	15927	C18	9	16655	K6	53
14114	K12	3	15160	C1	2	15517	K12	24	15936	G4	39	16658	B1	34
14115	K12	2	15162	B2	16	15518	C4	7	15951	F2	4	16663	C19	31
14118	K12	18	15163	E13	23	15522	C2	4	15962	C6	12	16690	E3	23
14121	K12	17	15165	E13	8	15525	B1	5	16001	B2	20	16691	C19	36

NUMERICAL INDEX

PART NO.	PAGE	REF NO.	PART NO.	PAGE	REF NO.	PART NO.	PAGE	REF NO.	PART NO.	PAGE	REF NO.	PART NO.	PAGE	REF NO.
16705	N4	18	19634	K2	35	28423 A	F1	10	46944	C15	10	53882	G7	30
16708	D9	5	19864	H1	40	28424	F1	9	48309AC	B1		53883	G7	30
16709	B1	34	19869	E13	47	28425	F1	11	49101	P2	2	53885	G7	17
16711	E7	14	19874	N3	37	28426	F1	6	50268	D1	54	53887	G8	13
16712	B1	23	21278	G2	29	28584	E5	25	50552	D1	47	53888	G8	14
16713	E11	22	21340	C41	18	28888	F1	8	50553	D1	30	53889	G8	19
16716	D19	7	21420	G8	5	29341	H2	11	50562	D1	4	53890	G8	15
16718	K12	1	21737	K5	5	29343	H2	8	50564	O2	24	53891	G8	20
16719	E7	12	21760 A	K6	47	29344	H2	12	51455	C22	22	53892	G8	18
16731	E13	12	21761	K6	56	29582	H3	17	51814	C6	37	53895	G8	4
16749	J1	22	21762	K6	55	29583	H3	17	53065	N3	7	53901	G8	21
16773	D12	24	21764	K6	51	29759	K1	15	53066 A	N3	8	53902	G8	44
16775	B1	26	21765	K6	50	30076	N2	7	53068	N3	8	53903	G8	25
16798	K3	11	21766	K6	49	30077	G7	13	53070 A	N3	9	53904	G8	26
16800	B2	16	21767	K6	54	30085	G8	24	53072	N3	13	53905	G8	29
16802	B2	16	22060	E1	21	30161	G8	45	53124	E2	10	53906	G8	28
16814	C21	48	22180	K6	57	30162	G8	22	53169	J6	10	53907	G8	27
16818	C16	5	22185	K6	52	30188	K1	8	53502	G3	11	54023	F1	7
16825	D12	17	23464 A	G5		30203	K1	6	53617	F2	3	54049	H2	
16828	C9	5	23465	G5	2	30208	N2	23	53632	H1	36	54051	F1	10
16836	C11	4	23466	G5	6	30279	N2	22	53633 A	H1	34	54053	F1	5
16845	K3	2	23468	G5	7	30370	C2	27	53634 A	H1	35	54054 A	F1	1
16870	C6	11	23469	G5	9	32024	J1	12	53685 A	G2	15	54074 A	F1	5
16887	N3	45	23470	G5	8	32024 A	J1	12	53687	G2	14	54078	F1	12
16908	J2	6	23598 A	G5	10	32032	N2	26	53688	G2	13	54090 A	F1	1
16909	J2	22	24092	H3	17	32300	B3	7	53695	G2	44	54091	N5	21
17121	K3	12	24272	K2	30	33235	N4	13	53730	G2	16	54093	N5	22
17158	C7	11	24472	K12	12	33793	N2	30	53731	G2	18	54099	N5	24
17159	C21	27	24702	G4	28	35959	N1	58	53732	G2	17	54103	N5	23
17231	E11	36	25062	C2	19	36850	F2	11	53733	G2	19	54104	N5	25
17300	J1	3	25723	K1	16	37258	C1	3	53753	G2	12	54105	N5	26
17302	J1	20	25739	N3	12	37562	C20	34	53810	G7	16	54527	H3	16
17306	J1	44	25740	N3	11	38475	N4	22	53825	G2	42	54529	H3	15
17309	J1	24	25741	N3	10	38738	C15	1	53848AB	G7		54530	H3	13
17311	K3	12	26770	D8	11	38942	E8		53849	G7	27	54624	H3	17
17314	D9	6	26783 B	N1	57	39348	J4	26	53851	G7	26	54631	H2	29
17324	J1	41	27018	B2	8	40912 A	P2		53852 A	G7	22	54650	H2	7
17345	K3	9	27390	K6	34	41086	G6	7	53853	G7	25	54652	H2	9
17405	C2	17	27391	K6	33	41532	N1	24	53854	G7	25	54656	H3	12
17423	N3	30	27418 A	G5	3	41577	N2	56	53855	G7	25	54658	H3	14
17430	C16	23	27706 A	G3	19	42269	E6	24	53857	G7	24	54659	H3	3
17443	E1	30	27785	E1	22	42958	E1	15	53858	G7	8	54660 A	H3	
17491	E7		27788	E1	2	43203	E8	16	53859	G7	8	54736	H2	28
17736	D9	6	27850AB	F1	1	43207	C28	13	53860	G7	7	54737	H2	31
17775	J2	8	27932	F1	15	43299	G8	43	53861	G7	14	54738	H2	32
17946	E13	35	27933	G3	13	43655	F2	12	53863	G7	15	54860	H1	13
18226	C1	8	27936	F1	17	43740	E11	36	53866	G7	10	54865	H1	10
18427	K6	36	27975	G3	6	44307	G4	27	53867	G7	21	54866	H1	5
18511	C19	35	27976	G3	32	44503	G4	10	53868	G7	3	54867	H1	3
18515	B1	10	27982	G2	28	44504	N2	13	53870	G7	6	54868	H1	4
18535	C6	38	27988 B	G3	32	44508	K1	17	53871	G7	5	54869	H1	6
18536	C19	16	27989	G3	30	44519	N2	51	53873	G7	30	54870	H1	12
18557	G8	7	27990 B	G3	31	44537	N2	43	53874	G7	30	54871	H1	14
18558	C11	15	27991	G3	28	44542	K1	17	53875	G7	30	54889	H1	8
18571	C26	4	28193 A	K8	4	45512	E9	26	53876	G7	30	54892	H1	21
18756	D12	7	28199	K8	6	45642	C31	28	53877	G7	30	54933	H2	30
18858	C23	22	28203	K8	16	45685	N1	13	53878	G7	30	54948	H1	36
18994	C4	19	28232	B3	9	46388	K12	7	53879	G7	30	54949	H1	34
18995	D6	10	28269	C38	11	46478	J7	16	53880	G7	30	54963	H1	9
19623	D22	3	28284	E2	14	46698	F1	3	53881	G7	30	54964	H1	17

NUMERICAL INDEX

PART NO.	PAGE	REF NO.	PART NO.	PAGE	REF NO.	PART NO.	PAGE	REF NO.	PART NO.	PAGE	REF NO.	PART NO.	PAGE	REF NO.
54966	H1	15	55930	E7		56728	D24	1	57829	J4	18	69054	F2	5
54969	H1	16	55945	E7	6	56729	D24	34	57830	J4	17	69089	K4	31
54971	H1	11	55965	E13	1	56730	D24	6	57847	J4	5	69090 A	K4	31
54972	H1	18	55969	E13	59	56731	D24	28	57848	J4	14	69228 A	K9	
55038	K8	17	55970	E13	59	56732	D24	8	57851	J4	11	69245 A	B1	3
55243	K8	12	55972	E8	27	56733	C9	17	57852	J4	25	69302	E1	30
55246	K8	15	55978	E13	59	56749 A	D1		57854	J4	24	69305	E1	8
55247	K8	10	56002	D1	45	56752	D1	51	57855	J4	23	69308 A	E1	3
55256	K8	7	56010	D1	43	56753	D1	42	57856	J4	22	69309 A	E1	11
55280	K10	18	56012	D1	53	56754	D1	19	57857	J4	21	69312 A	E1	20
55287	J7	4	56013	D1	31	56755	D1	48	57858	J4	9	69395	D9	5
55296	K8	22	56014	D1	28	56756	D1	18	57906	K11	1	69417	E8	
55297	K8	22	56015	D2	58	56758	D2	65	58311	N2	5	69455	D9	3
55417	K9	12	56018	D2	28	56759	D1	40	58900	N2	41	69457 A	P2	1
55418	K8	3	56020	D2	27	56761	D1	21	58903	N1	54	69464	P2	4
55419	K8	5	56028	D1	26	56762	D1	57	58907	N2	59	69607	C15	7
55434	K10	9	56031	D1	55	56763	D1	27	58914	K10	22	69623 A	C15	1
55468	K11	4	56036	D1	13	56765 A	D1	25	58928	N3	24	70823	C4	16
55517	E8	17	56057	D1	50	56767	D1	24	58929	H1	42	71022	F1	16
55518	E8	3	56075	D1	41	56768	D1	23	58933	F2	8	73587	E5	26
55519	E8	2	56076	D1	44	56769	D1	29	59184	E8	21	76577	D9	5
55521	E9	6	56082	D1	35	56772	D1	9	59633	N2	42	77117	E13	56
55528	E7	7	56092	D1	38	56773	D1	10	60066	N3	27	77121	E17	45
55541	E12	5	56140	D2	57	56774	D1	6	60518	C15	1	77200	D4	12
55542	E12	4	56168	D1	46	56777	D1	2	60704	H1	37	77326	E4	31
55544	E12	15	56182	D1	56	56779	D1	14	60836	J4	16	77328	E3	37
55580	E8	22	56185	D1	52	56781	D1	8	60950	N2	40	78033	C10	9
55585	E13	50	56238	D1	16	56784	D23	1	61056	K12	5	78186	E3	4
55586	E12	2	56239	D1	17	56785	D23	5	61393	J7	11	78187	E4	3
55590	E13	58	56242	D1	15	56787	D23	10	61643	B2	10	78288	K6	38
55638	E1	26	56425 A	D1		56819	D1	22	61769	J1	11	78688	C10	3
55640AB	E8		56459	D9	7	56878	D22	34	61835	E1	31	78696	C13	23
55665	E8	12	56549	D19	11	56879 A	D22	34	61843	D9	2	78702	C7	14
55667	E8	7	56589	D2	26	56891	D24	10	61974AC	D9	7	78763	E4	16
55668	E8	4	56671	D23	6	56893	D22	4	62010	B1	32	79721	J7	17
55669	E8	5	56675	D23	4	56897	D23	14	62011AB	B1	30	79722	J7	17
55670	E9	15	56677	D23	7	56898	D23	9	62012	B1	31	79803	C26	20
55727	E7	24	56698	D23		56899	D23	2	62656	F1	3	79853	C16	28
55799	E12	3	56700	D24	31	56900	D23	15	62825 A	E8		79882	E13	45
55800	E8	12	56701	D24	2	56942 A	D22	7	63108	D22	5	79915	C7	24
55809	E8	13	56702	D24	5	57105	C9	2	63169	D22	10	79920	C8	36
55810	E9	17	56703	D24	12	57130	C4	16	63596	K6	47	79930	C7	33
55849	E8	8	56706	D24	30	57519	K11	2	63597	K6	48	79999	E5	16
55851	E8	2	56707	D24	26	57527	K11	11	63753	F1	4	80651 A	H3	
55852	E8	18	56708	D24	23	57529	K11	14	63899 A	P2		80976	N1	11
55853	E8	6	56709	D24	13	57557	K9	2	64037	F2	7	82792	J7	2
55854	E8	13	56710	D24	7	57558	K8	2	66141	E1	30	86007	G7	24
55881	E1	4	56711	D24	24	57559	K9	11	66731	F1	4	86008	G7	15
55884	E7	24	56712	D24	20	57560	K9	11	66877	K3	13	86013	C6	22
55885	E7	24	56713	D24	10	57604	K11	8	66923AB	P1		86879	E12	22
55886	E7		56714	D24	11	57685	K8	19	66956	D8	7	86973	J6	24
55892	E12	25	56716	D24	33	57774	K8	8	66958	D8	2	86974 A	J6	3
55894	E8	19	56718	D24	9	57806	J4	1	67302	D3	4	86976	J6	6
55901	E12	9	56721	D24	18	57807	J4	2	67305	D3	5	86977	J6	1
55909	E12	8	56722	D24	4	57808	J4	3	67306	D3	6	87040 A	K11	
55910	E12	8	56723	D24	19	57809	J4	4	67353	D9	1	87041	K11	10
55914	E12	21	56724	D24	3	57811	J4	7	68032	E1	7	87277 A	J3	
55917	E12	17	56725	D24	25	57812	J4	8	68047	E3	39	87340	E14	15
55919	E12	18	56726	D24	14	57815	J4	19	68740 A	N1	57	88363	C11	5
55924	E3	17	56727	D24	21	57827	J4	15	69037	D8	8	88384 A	K13	

NUMERICAL INDEX

PART NO.	PAGE	REF NO.	PART NO.	PAGE	REF NO.	PART NO.	PAGE	REF NO.	PART NO.	PAGE	REF NO.	PART NO.	PAGE	REF NO.
88567	E12	17	100848 A	E1	10	107908 W	B3	6	108003	N3	41	108113	C15	1
88572	E12	4	101210	E1	14	107910 W	B3	5	108004	N1	43	108117	K2	3
88587	G8	32	101628	C34	20	107918	P1		108005	N1	30	108118 W	J1	7
88603	E2	24	101789 A	D23		107919	P1		108006	N1	31	108123 W	J1	9
88626	E2	24	101791 A	D24		107920	G8	41	108007	N1	33	108126 A	K7	
88627 A	E17		101804	D22	14	107921	N2	12	108008 W	N1	23	108127	K2	9
88835	K3	2	101808AB	D25		107923	G4	6	108012	N1	27	108128 A	K5	
88928	E2	2	101809	D22	25	107924	G4	31	108013	N2	50	108128AB	K5	
88993	E2	30	101810	D22	4	107925	G4	26	108017	N3	2	108130 A	K12	16
89539	E12	18	101811	D22	34	107926	N2	60	108018	N3	31	108132 A	K13	
89540 A	E12	14	101984	P2		107927	N2	9	108019	N3	29	108133	K2	20
89541	E12	25	101985	C21	41	107928	G4	30	108020	N3	36	108134	K2	21
94351	D22	36	102898	K3	17	107929	G4	12	108021	N3	21	108135	K2	33
96948	G3	33	103471	K10	8	107931	G4	22	108022	N3	25	108136	K2	32
96949	G3	33	103734	E6	12	107933	G4	2	108023	N3	43	108145 W	B3	3
97322	E12	8	103738	E2	24	107934	G4	23	108024	N3	28	108147	D8	24
97344	E17	2	103739	E2	11	107936	G4	16	108025 A	N3	6	108148	E1	13
97345	E17	7	103745	E4	19	107937	G4	15	108030 W	G6	2	108149 A	E1	27
97349	E17	47	103750 A	E6	6	107938	G4	14	108031	G6	9	108150 A	E1	29
97350	E17	49	103752 A	E6	23	107939	G4	24	108032 A	F2	2	108151 A	E1	16
97351	E17	48	103776	C41	17	107940	N2	8	108034	F2	10	108152 A	E1	25
97352	E17	32	103879 A	E8		107941	G4		108035	F2	9	108176 A	B3	1
97353	E17	33	103880	E5	11	107942	G4	9	108036 W	G6	4	108290	D22	31
97354	E17	38	104099	D6	15	107943	G4	29	108038	H3	10	108293	D22	28
97355	E17	38	104105	D4		107944	G4	41	108040 A	H3	17	108294 W	D22	30
97356	E17	38	104681	J4	20	107945	G4	40	108041	H3	18	108467 W	K1	3
97358	E17	27	105317	D22	8	107946	H1	41	108042 A	H3	22	108470 A	K1	14
97359	E17	23	105324	D22	26	107947 A	H1	34	108043 A	H3	21	108472	K1	12
97360	E17	28	105326	D22	1	107948	H1	38	108045	D8	12	108473	K1	18
97361	E17	42	105443	G4	44	107949	G4	32	108046	D8	17	108500	N3	23
97393	K13	10	105625	C15	1	107952 W	D9	4	108047	D8		108504	N1	40
97394	K13	13	105751 A	K12		107958	D9	5	108048 A	H1		108511	D9	9
97395	K13	7	105950	D22	23	107959 A	D9	10	108049	H1	25	108536 W	D22	27
97398	K13	2	106039 A	E1	19	107962 A	C4	3	108050	H1	28	108569 W	D22	29
97446	D1	12	106358 A	D22	17	107963	C4	6	108051	H1	29	108812	D8	3
97450	D1	36	106483	C4	4	107964	C4	10	108052	H1	33	108822 A	D23	
97451	D1	7	106776	D22	12	107965	C4	11	108056 A	K8		108824	D22	13
97491	E13	1	107013	P1		107966 A	C4	12	108057 A	J4		108826	D22	18
97492	E13	1	107054	K4	31	107970 A	N1	4	108059 W	J1	17	108830	D22	9
97496	E17	34	107141	C15	8	107971	N1	8	108061	J1	19	108831	D22	36
98192	K13	1	107142	E8		107972	N2	3	108062	J1	6	108861	K6	46
98193	K13		107143	E8		107973	N2	2	108063	J1	40	108862	K6	44
98322	C4	18	107144	E8		107974	N2	19	108064	J1	33	108863	K6	45
99169	F1	17	107147	C1	4	107975	N2	27	108066	J1	28	108865	K5	24
99248	E4	16	107148	C1	1	107976	N2	28	108068 A	J7		108866	K5	25
99589	C19	19	107153 A	E3	17	107977	N2	31	108076 W	K1	3	108867	K5	26
99686	D19	26	107154 A	E3	17	107978	N2	35	108085	K1	4	108868	K5	27
99772 A	D11	33	107190	C4	20	107979	N2	38	108086 A	K1	14	108869	K5	28
99773	C18	21	107461	J1	8	107980	N2	39	108088	K1	12	108870	K6	30
99988	K13	5	107612	D22	22	107981 A	N2	37	108089	K1	18	108871	K6	29
100153	G4	42	107847	B1	2	107985	N2	45	108093	P1		108872	K5	13
100154	G4	43	107848	B1	8	107987	N4	25	108094	P1		108873	K5	12
100262	D8	23	107849 W	B1		107989 A	N1	56	108095	B1	35	108874	K5	9
100267	D8	23	107859	B1	9	107994	N1	49	108100 A	D3		108875	K5	11
100361	N2	61	107860	B1	12	107995	N1	53	108104	C1	13	108876	K5	10
100416AB	F1	14	107861	B1	16	107996	N1	55	108105	C41	8	108877	K5	15
100417	F1	13	107899	B2	13	107997	N1	48	108107	G2	56	108879	K5	17
100428	C1	15	107900	B2	9	107998 W	N1	13	108108 W	C15	6	108880	K5	18
100429	C1	10	107901	B2	5	108001	N1	34	108111	C15	3	108881	K5	21
100696	C1	14	107904 W	B3	3	108002	N1	37	108112	C15	7	108882	K5	19

NUMERICAL INDEX

PART NO.	PAGE	REF NO.	PART NO.	PAGE	REF NO.	PART NO.	PAGE	REF NO.	PART NO.	PAGE	REF NO.	PART NO.	PAGE	REF NO.
108885	G3	27	108959	C14	11	109186	C7	1	109298	C8	20	109611	A K5	1
108886	G3	6	108960	C14	12	109192	C7	9	109299	C9	6	109612	A K6	38
108887	G2	30	108961	C2	23	109194	C7	15	109300	C9	7	109613	A K6	35
108888	G2	10	108964	C14	3	109197	C7	32	109301	C9	11	109702	W B3	2
108889	G2	9	108965	C14	5	109201	C7	34	109302	C8	9	109706	W B3	4
108890	G2	3	108966	C14	4	109204	C8	38	109303	K8	26	109710	W B3	4
108891	G2	55	108967	C14	6	109205	C8	39	109304	C9	14	109713	W B2	15
108892	G2	54	108969	C9	4	109206	C7	31	109305	C9	15	109728	W B2	15
108893	G3	5	108970	C14	1	109208	C10	2	109306	C8	8	109780	D22	2
108894	G2	23	108971	A C6		109210	A C10	8	109309	C9	20	109783	C29	12
108895	G2	24	108974	C9	18	109211	C10	4	109311	C4	26	109832	A E1	21
108896	A G2	20	108975	C7	13	109217	C11	1	109313	C3	12	109833	E1	21
108897	G2	20	108976	C6	6	109218	C11	14	109314	C8	21	109958	A B1	20
108898	G2	22	108977	A N1	56	109221	C11	8	109315	C3	16	109983	A B1	30
108899	G2	26	108979	A H2		109223	C11	11	109317	C3	11	110045	N2	46
108900	G2	27	108980	A H2		109224	C11	10	109321	C6	9	110046	N2	52
108901	G2	32	108981	H2	3	109225	C11	18	109322	C6	6	110059	K10	23
108902	G3	17	108982	H2	3	109226	C13	16	109323	C6	6	110171AB	K10	
108903	G2	33	108983	A H2	5	109228	C11	2	109324	C6	2	110176	A J3	
108904	G2	37	108984	A H2	6	109229	C10	15	109326	C6	1	110178	K4	23
108907	G2	46	108985	H2	34	109230	C6	23	109333	C3	1	110220	K4	27
108908	G2	53	108986	H2	13	109231	C10	13	109334	C3	2	110500	K4	24
108909	G2		108987	H2	16	109233	C10	11	109335	C3	3	110631	D22	35
108910	G2	51	108988	H2	17	109234	C10	10	109336	C3	7	110653	N1	38
108911	G2	48	108989	H2	17	109235	C10	14	109347	D23	4	110709	E3	17
108912	G2	47	108990	H2	19	109240	C6	30	109365	D23	3	110712	A P2	
108913	K6	58	108991	H2	20	109241	C6	33	109465	K5	5	110716	G8	2
108920	A D8	2	108992	H2	21	109242	A C12	1	109466	K5	7	110740	C10	4
108922	A D8		108993	H2	22	109243	C12	5	109467	K5	6	111105	D4	14
108923	A D8		108994	H2	23	109244	C12	3	109468	A K5	1	111106	E9	
108924	C8	22	108995	H2	24	109245	C12	2	109469	K5	4	111141	J1	21
108925	C8	23	108996	H2	24	109246	A C13		109470	K5	3	111142	J1	37
108926	C8	24	108997	A H2	26	109247	A C13	4	109478	K6	38	111143	J1	34
108927	C8	10	108998	H2	27	109249	A C6		109479	A K6	35	111145	J1	35
108928	C8	11	109000	K5	2	109250	C8	18	109480	K6	31	111146	J1	25
108929	C8	12	109152	C7	25	109251	C13	24	109481	A K6	32	111269	A J1	43
108930	C8	14	109153	C7	27	109252	C13	5	109482	D3	3	111299	N4	5
108931	C8	15	109154	C12	12	109253	A C8		109483	N4	2	111327	A N5	
108932	C8	16	109155	C12	11	109256	C6	45	109484	N4	3	111328	A N1	13
108933	C8	3	109157	C11	3	109257	C6	46	109485	N4	4	111403	E13	63
108934	C8	4	109158	C12	7	109259	C6	43	109487	N4	6	111493	N1	14
108935	C8	1	109159	C12	6	109264	C6	28	109488	N4	7	111506	N1	30
108936	C8	5	109160	C12	6	109265	C6	27	109489	N4	8	111555	E2	13
108937	C8	6	109161	C12	10	109266	A C7	16	109490	N4	9	111556	E2	7
108938	C8	7	109163	C6		109267	C7	2	109491	N4	11	111557	E2	20
108939	E7	5	109165	C3	19	109268	C8	19	109492	N4	9	111558	E2	8
108940	E7	20	109168	C6	22	109269	C7	17	109493	N4	10	111559	E2	21
108941	E7	25	109169	C6	22	109270	C6	38	109581	N4	12	111562	E2	19
108943	C9	16	109170	C13	19	109271	C6	39	109582	N4	14	111670	A N4	
108944	A E12	11	109172	C6	22	109272	C6	40	109583	N4	15	111690	A F1	1
108945	E12	14	109173	C6	11	109273	C6	38	109584	N4	16	111705	H1	30
108946	E12	12	109174	C6	16	109277	C14	19	109585	N4	17	111706	N1	47
108950	A C8	1	109175	C6	14	109278	C14	20	109586	A N4	19	111707	N1	45
108951	A C8	17	109176	C6	13	109282	C14	1	109587	N4	19	111766	E2	30
108952	C8	13	109177	C13	15	109286	C3	10	109588	A N4	20	111767	E2	30
108953	C6	31	109179	C7	1	109293	C9	12	109589AB	N4	21	111769	E3	25
108954	C9	17	109180	C7	7	109294	C9	6	109597	G2	11	111770	E4	22
108955	C6	22	109181	C7	3	109295	C9	6	109607	K5	15	111793	G3	13
108956	C4	25	109182	C7	4	109296	C9	3	109608	K5	8	111843	W B2	2
108958	C14	1	109185	C7	10	109297	C14	7	109609	K5	7	111859	B2	9

NUMERICAL INDEX

PART NO.	PAGE	REF NO.	PART NO.	PAGE	REF NO.	PART NO.	PAGE	REF NO.	PART NO.	PAGE	REF NO.	PART NO.	PAGE	REF NO.
111861	W B2	2	122174	A E2	6	128022	C10	4	132484	G4	3	135724	C7	19
111888	W B2	15	122239	C11	2	128023	C7	8	132485	G4	3	135726	C7	34
111889	W B2	15	123426	C15	2	128024	C7	8	132486	G4	3	135727	C7	34
111890AB	K10		123488	N1	32	128415	E11	35	132618	D1	5	135728	C7	34
111892	A K7		123632	G7	2	128418	E11	35	132728	E13	19	136125	E17	
111895	K3	3	123665	J6		128421	E11	39	132768	K5		136396	D19	16
111896	J2	23	123672	E13	44	128429	E11	39	132806	D8		136440	K6	41
111897	J2	24	123675	E17	38	128436	E13	7	132807	D8		136572	E15	29
111898	J2	21	123695	C6	11	128614	C10	4	132808	D8		137697	E13	1
111899	K3	13	123806	C6	6	128615	C10	4	132818	E7	11	137698	E17	31
111902	A J4		123823	C6	36	128621	C8		132820	E7	5	137699	E17	32
112465	J3	4	123824	C6	5	128622	C8		132872	E16	81	137705	E7	
112467	J3	7	123872	E1	18	128623	C8	36	133543	C19	19	137870	E7	
112468	J3	2	124140	D1		128625	C8	38	133545	C19	26	137877	C4	
112567	N3	44	124192	C10	9	128821	E7	11	133546	C27	35	138289	C7	29
112895	N2	49	124194	C10	9	128831	E11	18	133605	D12	47	138290	C7	29
112896	N2	39	124196	C10	9	128834	E11	23	133720	E17	40	138550	P1	
112897	A N2	52	124215	D11	33	128835	E11	24	133981	C10	4	138553	E11	19
112946	E2	32	124216	D11	34	128836	E11	3	133982	C10	4	138554	E11	17
112989	D4	16	124217	D11	36	128837	E11	2	133983	C10	4	138555	E11	26
113009	D4		124218	D11	37	128838	E11	4	133996	C9	14	138559	E11	10
113719	E17	41	124219	D11	39	128839	E11	5	134055	K5	7	138561	D1	3
113727	A K12		124222	D19	1	128840	E11	5	134060	K6	32	138578	C32	8
113729	N2	4	124239	D11	38	128841	E11	22	134063	K6	46	138626	E16	73
114321	E9		124614	N2	44	128842	E11	22	134401	D25	2	138650	D1	37
114392	A J5		124615	N2	44	128844	E11	6	134405	G8	8	138651	D1	20
115323	A P2		124629	N3	22	128845	E11	8	134658	J7	3	138707	E3	18
115696	D4	16	124631	F1	2	128846	E11	7	134774	G2	25	138724	E11	
116378	J2	19	124667	C17	9	128848	E11	11	134915	D16	64	138743	G7	23
116543	A K11		124672	C31	28	128851	E11	14	134969	D16	31	138744	G7	20
117870	D9	10	124691	C9	13	128852	E11	16	135035	H2	17	138940	K1	3
117978	G8	6	125423	J3	8	129436	C8	37	135036	H2	10	139012	C9	19
118135	C4	23	125525	F1	16	129437	C8	37	135038	H2	14	140558	B3	1
118389	J5	18	125526	F1	16	129438	C8	36	135039	H2	17	140566	B3	1
118609	A E9		125531	G2		129439	C8	36	135382	E11	34	140964	D1	33
118614	E2	27	125549	K5	17	129827	K12	27	135449	D15	2	140965	D1	33
118643	D4	3	125588	C13	13	129828	K12	26	135450	D15	12	141001	D1	11
118896	D4	8	125796	E17	52	129829	K12	28	135451	D15	13	141021	D2	26
119234	D4	12	125830	C17	5	129830	K12	25	135452	D15	13	141074	K12	
119379	E2	16	126358	E11	33	129866	G8	31	135453	D15	13	141077	E7	25
119379	A E3	6	126361	E3	9	129867	G8	32	135454	D15	12	141078	E7	26
119405	E2	18	126368	E1	1	129868	G8	32	135455	D15	14	141079	E7	20
119990	E2	18	126380	E3	11	129889	E3	41	135456	D15	17	141082	E7	6
120117	A E9		126381	E3	12	130077	C14	9	135457	D15	10	141083	E7	23
120131	E2	17	126453	D9	7	130232	C6	5	135458	D15	11	141085	E7	1
120636	D22	2	127042	K13	2	130292	C20	4	135459	D16	38	141259	D4	18
120636	A E2	10	127043	K13	1	130676	E13	46	135461	D15	21	141457	E7	15
120640	E2	31	127296	J3		130767	J6	25	135463	D15	22	141716	G8	20
120657	D4	13	127306	E13	19	130826	J6		135465	D15	26	141759	D15	
120725	D8	6	127309	E13	50	130843	C20	3	135466	D15	27	142288	E7	
120736	D4	4	127448	C14	17	130844	C20	4	135467	D16	28	142352	C3	5
120737	D4	9	127464	C10	7	130845	C4	27	135468	D16	32	142354	C3	5
120950	D4	5	127596	G8	16	131128	D4	2	135469	D16	42	142355	C3	9
120951	W B1		127599	K10	6	131172	E17	38	135470	D16	43	142357	C6	1
120953	D4	15	127606	K3	3	131173	E17	37	135472	D16	60	142358	C6	3
121037	A D25		127656	J3	1	131174	E17	38	135473	D16	51	142361	C7	9
121139	K1	11	127768	D2	23	132405	E1	30	135474	D16	55	142362	C10	1
121190	E3	13	127854	C28	72	132480	G4	13	135721	C7	19	142364	C12	5
121384	E3	42	127916	K12	8	132481	G4	13	135722	C7	19	142366	C6	42
121861	A E4	11	128021	C10	4	132482	G4	13	135723	C7	19	142367	C7	34

NUMERICAL INDEX

PART NO.	PAGE	REF NO.	PART NO.	PAGE	REF NO.	PART NO.	PAGE	REF NO.	PART NO.	PAGE	REF NO.	PART NO.	PAGE	REF NO.
142369	C7	34	146982	D8		152237	E11	31	161678	D16	42	166895	G7	3
142370	C7	34	146983	D8		152238	E11	32	161748	C3	10	167087	E7	18
142372	C12	8	146984	D8	3	152239	E11	22	162270	D4	4	167089	E7	13
142373	C6	11	147288	D22	31	152608	C26	24	162414	D15	19	167090	E7	4
142375	C11	3	147291	D22	30	152609	C26	23	162415	D15	20	167474	C6	44
142376	C6	16	147294	D22	30	152611	C23	30	162582	C20		167597AB	G8	3
142378	C13	6	147295	D22	32	152612	C23	5	162731	E7	10	167765	E4	27
142379	C13	2	147296	D22	32	152621	C26	11	162732	E7	8	167775	E3	31
142380	C13	8	147299	C20	33	153648	J6	19	162751	D6	2	167805	G2	35
142381	C13	9	147306	C20	32	153888	P1		162752	D6	8	167825	C23	5
142382	C13	10	147410	D22	27	153889	P1		162989	K4	25	167826	C23	
142383	C13	11	147784	D4	14	153890	P1		163286	D2		167943	D11	20
142384	C13	12	147785	C14	1	154221	E13	26	163944	P1		167954	C6	11
142385	C13	14	148182	C19		154222	E13	38	163999	G4	51	168056	C6	11
142386	C13	3	148183	C19		154793	E11	29	164375	D2	59	168063	C19	22
142389	C10	15	148190	C31		154794	E11	22	164380	D2	30	168338	C23	
142392	C10	10	148191	C31		154831	D4	9	164382	D2	37	168342	D11	23
142393	C10	17	148474	C26	15	154999	C6	16	164508	E13	9	168343	D11	24
142394	C10	6	148475	C26	15	155065	P1		164509	E13	61	168345	C26	12
142487	C8	37	148496	C17	7	155165	C6	10	165066	C10	4	168347	D11	23
142488	C8	38	148502	D12	46	155239	E7	19	165067	C10	4	168348	D11	24
142489	C8	38	148518	D19	17	155240	E7	17	165123	C10	4	168349	C26	21
142490	C8	39	148519	D19	18	155480	G4	19	165124	C10	4	168653	D1	1
142491	C7	25	148812	C10	9	155481	G4	17	165127	C7	8	168665	E13	14
142492	C7	27	148813	C10	9	155482	G4	45	165128	C7	8	168696	C17	2
142493	C7	19	148814	C10	9	155754	P1		165131	C7	8	168804	E7	21
142494	C7	19	148966	G2	52	155755	P1		165132	C7	8	168807	E7	22
142495	C7	19	149257	J7		155756	P1		165470	G2	34	168928	E13	12
142496	C7	19	149258	J7		155757	P1		165471	G2	8	168931	D12	36
142510	N1	59	149450	E3	10	156075	C10	16	165472	G3	6	168932	D12	38
142594	D15		149627	E3	10	156478	D4	17	165870	C21	59	169002	D2	20
142740	E13	15	149628	E4	13	157065	E3	25	166183	C20	5	169234	K4	27
143550	K4	42	149679	C19	2	157375	C10	13	166184	C20	5	169245	C3	
144223	E3	29	150049	C7	19	157704	D9	1	166185	C20	5	169308	E13	41
144243	D2	25	150051	C6	46	158114	C26	14	166186	C20	5	169391	D16	86
144603	D4	5	150052	C6	42	158115	C26	15	166328	D2	15	169399	D16	56
144609	C6	38	150053	C6	44	158116	C26	15	166336	E13	57	169402	D16	56
144752	D8	2	150772	D9	5	158186	D11	21	166339	E13	58	169403	D16	56
144798	D22	7	150774	D9	5	158187	D11	22	166340	E13	56	169404	D16	56
145462	D9	10	150775	E3	36	158355	G5	5	166479	E13	58	169405	D16	49
145581	C21	32	150777	E3	2	158760	C26	14	166538	E13	6	169406	D15	3
145582	C21	32	150830	C9	6	158824	G8	3	166557	E13	29	169758	E3	1
145584	C21	9	151159	D19	3	158905	D19	25	166558	E13	40	169759	E3	2
145668	C6	6	151241	C27		159150	C8	37	166566	E13	25	169767	D9	5
145694	D16	73	151304	C19	2	159151	C8	36	166567	E13	40	169775	E3	4
145695	D16	78	151312	C17		159678	C6		166572	E13	28	169776	E3	36
145696	D16	76	151318	E16		159680	C6		166643	E13	36	169779	E3	3
145949	C6	37	151488	C6	37	159683	C12		166645	E13	37	169793	E3	28
145950	D8	3	151570	C21	55	159825	C20	1	166655	E13	27	169794	E3	30
145954	C6	40	151751	C10	12	159828	C20	3	166824	E13	21	169796	E3	10
145955	C10	16	151837	E13	62	159858	J6	15	166825	E13	5	169797	E4	13
145957	C10	13	151840	E13	60	160431	C6	40	166828	E13	34	169799	E3	10
146110	K5	17	152178	C21	2	160441	C13		166829	E13	34	169862	N2	38
146157	D22	27	152179	C21	2	160644	P1		166830	E13	20	170018	G8	17
146184 A	P2		152230	E7	9	160653	P1		166831	E13	35	170019	G8	18
146255	C10	1	152231	E7	16	160773 A	D9	1	166832	E13	35	170020	G8	20
146262	C6		152233	E11	30	161248	C10	7	166845	E13	24	170021	G8	21
146812	E7	3	152234	E11	27	161647	C3		166890	N1		170022	G8	19
146813	E7	2	152235	E11	28	161665	D13	95	166892	G7	2	170023	G8	17
146938	E2	31	152236	E11	1	161670	D16	62	166893	G7	2	170073	C14	19

NUMERICAL INDEX

PART NO.	PAGE	REF NO.	PART NO.	PAGE	REF NO.	PART NO.	PAGE	REF NO.	PART NO.	PAGE	REF NO.	PART NO.	PAGE	REF NO.
170316	G4	31	177949	J7	16	202056	E12	7	232363	K8	9	233489	J5	11
170319	G4	30	178115	E3	40	202058	E12	26	232364	K8	11	233490	J5	15
170607	E13	11	178439	C20	25	202059	E12	23	232365	K8	14	233491	J5	16
170608	E13	12	181074	C12	6	202064	E1	5	232366	K8	17	233492	J5	17
170788	D2	11	181332	E1	6	202065	E1	23	232367	K8	18	233494	J5	22
170789	D2	52	181333	E1	6	202066 A	E12		232368	K8	20	233495	J5	25
170792	D2	56	181379	P1		202066AB	E12		232369	K8	21	233496	J5	26
170793	D2	55	182943	D16	84	202067	E7		232370	K8	23	233498	J5	21
170795	D2	54	183364	C6	24	202098	E7	1	232400	K7	1	233499	J5	5
170796	D2	46	183956	C6		202164	E17	18	232401	K7	2	233500	J5	2
170797	D2	64	184101	C11	9	202322	E9	5	232402	K7	3	233501	J5	4
170798	D2	14	184379	C7	29	202323	E8	18	232403	K7	4	233502	J5	3
170799	D2	14	184380	C7	29	202333	E12	12	232404	K7	5	233503	J5	1
170800	D2	9	191762	C7	5	202358	E7	26	232405	K7	6	233505	J5	28
170801	D2		199571	G3	1	202371	E9	18	232406	J3	5	233506	J5	27
170896	C21	2	200095	K12		202404	D25	2	232407	K7	8	233508	J5	29
170901	C21	16	200110	G7	24	202405	D25	3	232408	K7	9	233790	K10	
170902	C21	17	200131	G2	41	202406	D25	4	232438	J7	5	233791	K10	
171060	C10	1	200132	G2	36	202466	D9	7	232460	J5	30	233792	K10	
171673	C24	2	200133	G2	51	202485 A	K5	1	232568	K10	5	233793	K10	
172267	C27	39	200134	G2	20	202581	G7	4	232579	K10	16	233794	K10	
172654	D22	7	200137	G2	6	202683	K4	39	232580	K10	17	233795	K10	
172813	E13	52	200138	G2	10	202723	G7	17	232793	K7	2	233895	K12	2
173255	D12	5	200170	D22	7	202725	G7	19	232794	K7	3	233896	K12	10
173998	D16	39	200172	D22	7	202789	K10	5	232797	K7	6	233897	K12	3
174010	D15	25	200175	E9	7	202907	G7	17	232798	K7	7	233908	D22	7
174020	D16		200176	E9	9	202980	C8	37	232799	K7	8	234008	K7	4
174213	P1		200191	K13	3	230303	F1	14	232800	K7		234009	K7	5
174588	D16	83	200195	K6	46	230343	N2	6	232821	J3	3	234038	G7	24
174591	D15	15	200196	K6	44	230345	G4	20	232822	J3	1	234045	G7	27
174592	D15	10	200197	K6	45	230346	G4	21	232823	J3	2	234075	K11	13
174593	D16	37	200214	C6	37	230347	N2	20	232825	J3	4	234077	K11	3
174594	D16	37	200277	C11	18	230348	N2	21	232971	J7	14	234394 A	K12	15
174595	D15	27	200517	K13	5	230349	K1	7	233126 A	B1	25	234397	K6	46
174596	D16	28	200525	K13	6	230350	K1	5	233151	D25	5	234544	J5	23
174597	D16	54	200547	C15	3	230351	K1	15	233152	D25	6	234545	J5	19
174598	D16	48	200614	C6	25	230352	K1	13	233155	B1	32	234559	G3	29
174851	D16	77	200819	D25	1	230362	K1	13	233156	B1	30	234590	K12	7
174876	C6	42	200827	J5	24	230376	G7	12	233157	B1	31	234592	K12	9
174882	K13	1	200865	G2	54	230377	G7	17	233158	B1	33	234594	K12	20
175190	D15		200960	C11	4	232114 A	D24		233159	B1	32	234595	K12	19
175210	E3	27	200962	C11	4	232115	D24	10	233160	B1	34	234704	C12	8
175351	D1	49	201571	D9	7	232116	D24	27	233161 A	B1	25	234714	C6	38
175559	C8	36	201572	D9	7	232117	D23	13	233162	B1	25	234718	D6	4
175728	C6	24	202000	E8	11	232118	D23	12	233163	B1	25	234719	D6	3
175729	C8	37	202001	E8	12	232119	D23	11	233164 A	B1	25	234720	D6	6
175730	C8	37	202002	E8	13	232120	D23	8	233261	K6	38	234721	D6	5
175731	C8	37	202003	E8	14	232121	D23	7	233291	C6	44	234722	D6	7
175732	C8	37	202004	E8	14	232122	D23	6	233297	C6	24	234811 A	J6	10
175733	C8	37	202005	E8	15	232141 A	K11	7	233302	C6	23	234812	J6	2
175734	C8		202009	E8	20	232328	J7	1	233308	C11	5	234814	J6	5
175735	C8		202011	E8	23	232329	J7	6	233318	C14	2	234815	J6	13
175736	C8		202012	E8	23	232330	J7	7	233346	C10	4	234816	J6	9
175737	C8	36	202013	E8	9	232331	J7	8	233363	C7	8	234820	J6	7
176140	C20	22	202014	E8	9	232332	J7	9	233370	C7	20	234821	J6	8
177511	D11	19	202050	E12	10	232335	J7	13	233376	C7	18	234823	J6	14
177592	C7	1	202052	E12	11	232336	J7	10	233485	J5	7	234936 A	C8	
177892	E1	30	202053	E12	11	232337	J7	15	233486	J5	6	235304	E9	3
177894	E2	31	202054	E12	11	232356	J4	12	233487	J5	9	235623	C6	15
177947	F1	3	202055	E12	7	232357	J4	15	233488	J5	10	235628	C6	15

NUMERICAL INDEX

PART NO.	PAGE	REF NO.	PART NO.	PAGE	REF NO.	PART NO.	PAGE	REF NO.	PART NO.	PAGE	REF NO.	PART NO.	PAGE	REF NO.
235931	K10	3	980252	C30		980767	C37	19	981953	E1	1	982225	C27	13
235945	E9	3	980254	C39	10	980769	C37	25	981959	D9	5	982226	C27	12
235947	E9	4	980258	C41	16	980774	C31	30	981964	D9	5	982227 A	C27	20
235948	E9	8	980261 A	D7	5	980775	C31	32	981978	E1	23	982230	C24	5
235949	E9	10	980271	D7	2	980785 A	E10	1	981979	E1	7	982231	C24	14
235950	E9	14	980274	C29	8	980786 A	E10	2	981980	E1	5	982233	C24	4
236028	J6	17	980305	E5	10	980787	E10	3	981982	E1	2	982234	C24	11
236062	E9	8	980360	K3	3	980788	E10	4	982003	C18	18	982235	C24	15
236063	E9		980363	D9	10	980789 A	E10	5	982015 W	C2	3	982236	C24	9
236064	E9	23	980401	D8	24	980790 A	E10	6	982016 W	C16	14	982237	C24	3
236065	E12	2	980410	D8	21	980791 A	E10	7	982021	C2	13	982238	C19	29
236066	E12	3	980421	B1	16	980792	E10	8	982022	C16	24	982239	C19	30
236067	E17	9	980424	D18	22	980793	E10	8	982023	C16	25	982240	C19	34
236068	E13	10	980427 W	C2	22	980794 A	E10	9	982024	C20	24	982241	C19	33
236069	E12	5	980430	C2	26	980795	E10	10	982026 W	C4	12	982243	C27	32
236070	E12	6	980466 A	E6	5	980796	E10	11	982031	C16	8	982244	C27	33
236072	E17	52	980533AC	P1		980797	E10	11	982032	C4	17	982245	C27	27
236074	E13	30	980540	P1		980798	E10	12	982034	B1	3	982246	C27	28
236075	E13	44	980541	P1		980799	E10	13	982035 W	B1	24	982247	C27	24
236076	E17	43	980542	P1		980800	C39	35	982038	D8	21	982250	C27	44
236078	E13	51	980553	P1		980801 A	C33	1	982041	C2	15	982251	C27	51
236080	E17	31	980556	P1		980802	C38	10	982043 W	C18	7	982258	C28	
236081	E13	53	980557	P1		980803	C37	2	982054 W	D9	4	982259	C27	48
236082	E13	54	980600	C33	40	980808 A	C31	1	982058	C18	8	982265	C27	49
236084	E13	17	980602	C32	5	980812 A	C34	9	982059	E4	12	982266	C27	54
236174	C6	26	980603	C39		980813	C37	2	982060 A	C18	4	982268	C20	11
236213	H3	4	980604	C39	30	980910	C19	24	982067	E5	9	982269	C20	9
284259 A	D16	37	980606	C39	19	981020	C39	42	982068	E4	18	982271	C20	10
805026	E4	17	980607	C39	47	981096	K3	13	982069	E5	6	982286	C23	5
805027	E4	17	980609	C36	26	981141 W	N3	44	982071	C16	3	982287	C23	5
805066	P1		980611	C35	12	981144	N3	45	982072	E1	13	982291	C23	13
805068	P1		980612 A	C35	35	981165	E4	17	982073	E1	31	982292	C23	15
805069	P1		980613 A	C35	24	981174 W	B2	15	982074	E1	25	982298	C23	17
805077	P1		980614	C35	21	981175 W	B2	15	982156	D12	32	982299	C23	18
805078	P1		980615	C30	21	981176 W	B2	15	982157	C27	23	982302	C23	24
980018	N3	31	980616	C30	27	981177 W	B2	15	982158	C28	15	982309	C22	19
980040 A	G4		980617	C16	4	981190	N3	25	982168 A	C23	23	982314	C23	28
980045	C4	3	980631 A	C30	1	981192	G6	2	982171	C23	26	982315	C23	36
980045 A	C29	3	980635	C29	13	981196	C4	10	982178 A	C23	38	982316	C23	37
980046	C29	5	980667	C17	28	981210	B1	20	982181	C25	13	982317	C23	29
980047	C29	2	980681	D17	9	981317	E8		982182	C25	14	982318 A	C25	
980048	C29	7	980685	C26	8	981411	E1	14	982183	C21	56	982319 A	C17	19
980049	C29	11	980689 A	D17	23	981633	C22	6	982184	C26	2	982321	C17	20
980051	C4	11	980694	D17	27	981635	C30	43	982190 A	D10	23	982322	C17	18
980052	C29	9	980701	C20	21	981721	D9	4	982193	D10	35	982323	C17	1
980054	C29	14	980711	C32	1	981722	D9	4	982194	C26	25	982327	C17	10
980055	C29	6	980713 A	C33	1	981824 A	C33	33	982197	C26	16	982328	C17	11
980059	C4	6	980717	C31	18	981833 A	E15		982198	C26	17	982329	C17	8
980060	C32	5	980719	C32	11	981848	B1	35	982199	C26	12	982330	C17	4
980102 W	D9	4	980726	C21	3	981868	D12	29	982200	C26	21	982332	C17	17
980106 A	D9	10	980727	C19	9	981869	D12	30	982201	C22	23	982333	C17	15
980108 A	D9	10	980730	C31	5	981871	F1	3	982202	D12	26	982335	C26	6
980112	C4	18	980735	C20	35	981875	E5	28	982209	C19	13	982336	C26	7
980116	C41	3	980736	C19	6	981877	E1	22	982211	C19	20	982337 A	C22	2
980126	D18	2	980743	C22	16	981878	E4	33	982217	C27	3	982340	C22	3
980223 W	C40	5	980744	C22	15	981879	D5	9	982218	C27	4	982341	C22	7
980227	C2	31	980745	C33	26	981902	F1	2	982219	C27	7	982343	C21	4
980238 W	C40	2	980748	C21	22	981948	E5	22	982220	C27	8	982344	C21	9
980243	E10		980751	C21	21	981951	E5	20	982221	C19	8	982348	C21	51
980244	E10		980756 A	C39	41	981952	E5	16	982222	C27	11	982349	C21	52

NUMERICAL INDEX

PART NO.	PAGE	REF NO.	PART NO.	PAGE	REF NO.	PART NO.	PAGE	REF NO.	PART NO.	PAGE	REF NO.	PART NO.	PAGE	REF NO.
982352	D12	3	983388	E16	80	983563	C25	12	984222	D13	3	984294	D16	74
982353	D12	4	983391	E16	78	983564	A C25	7	984223	D13	76	984294	A D13	72
982355	D12	6	983392	E16	77	983566	C25	8	984224	D13	70	984295	D13	51
982356	D12	12	983393	E16	76	983567	C25	9	984225	D13	41	984296	D13	55
982357	D12	13	983394	E16	75	983569	C25	11	984226	D13	35	984297	D13	47
982358	D12	14	983396	E16	68	983570	C25	23	984227	D13	32	984298	D13	57
982360	D12	16	983397	E15	23	983571	C25	24	984228	D13	42	984299	D13	59
982361	A D19		983398	E16		983573	C17	23	984229	D13	22	984300	D16	81
982365	A D12	19	983401	E15	40	983575	D12	50	984230	D13	74	984301	D13	6
982367	A D12	20	983402	E15	4	983576	A D19	3	984231	D13	66	984302	D13	26
982368	A D12	21	983403	E15	19	983577	D19	3	984232	D13	15	984303	D13	85
982370	A D12	22	983407	E15	22	983579	D19	5	984233	D13	65	984304	A D13	45
982377	D10	27	983408	E16	50	983580	D19	6	984234	D13	40	984305	D13	98
982379	D10	32	983409	A E16		983583	D19	10	984235	D13	20	984306	D13	97
982678	A D5	3	983410	E16	44	983586	D19	13	984236	D13	73	984307	D13	90
982700	W D5	7	983411	E16		983587	D19	14	984237	D13	48	984308	D13	91
982706	D5	17	983412	E16	43	983588	D19	15	984238	D13	60	984309	D13	89
982707	D5	12	983414	E16	51	983589	D19	1	984239	D13	16	984311	D13	10
982836	E8		983415	E16	43	983590	D19	21	984240	D13	34	984312	D13	21
982921	E8		983417	E16	57	983591	D19	2	984241	D13	17	984314	D10	38
982922	E8		983418	E16	57	983592	D19	22	984242	D13	18	984321	C19	18
982951	C26	19	983419	E16	57	983593	D19	23	984243	D13	31	984336	C23	25
982991	E4	2	983420	E16		983595	D19	16	984244	D13	11	984383	D19	27
983248	C21	10	983423	E16	57	983596	D19	19	984245	D13	28	984468	C17	3
983255	C22	5	983427	E16	51	983597	D19	20	984246	D13	19	984469	C17	12
983264	C19	5	983429	A E15	25	983616	W D5	11	984247	D13	78	984473	D16	87
983268	C19	27	983430	E15	36	983623	C22	20	984248	D16	74	984474	D16	91
983273	C21	5	983432	E15	32	983663	E8		984249	A D13	62	984476	D16	92
983274	C21	19	983433	E15	33	983682	E16	68	984251	D13	100	984477	D16	90
983275	C21	20	983435	E15	34	983704	D13	29	984252	D13	71	984478	D16	102
983276	C21	8	983437	E15	30	983770	C21	8	984254	D13	75	984480	D13	79
983280	C21	33	983438	E15	28	983791	C26	17	984255	D13	68	984482	D15	26
983281	C21	39	983441	E15	41	983818	D19	12	984256	D13	67	984483	D15	19
983283	C21	43	983442	E15	41	983956	C27	34	984257	D13	63	984484	D15	6
983285	C21	53	983445	E15	12	983993	D12	25	984258	D13	61	984487	D16	98
983287	C21	63	983448	E15	17	984003	D13	56	984259	A D13	37	984508	D5	6
983288	C21	65	983450	E16	72	984017	C28	71	984260	D13	37	984509	D5	3
983296	A C22	9	983451	E16	71	984055	C16	16	984261	D13	7	984510	D5	5
983300	C27	16	983452	E16	51	984056	C16	15	984262	D13	8	984511	D5	4
983301	C27	15	983453	E16	69	984057	C16	17	984263	D13	96	984556	C28	5
983305	C27	25	983454	E16	67	984062	E9		984264	D13	94	984557	C28	11
983308	C23	41	983455	A E16	66	984067	A C21	24	984267	D13	46	984558	C28	6
983311	C27	37	983459	D8	24	984102	C23	16	984268	D13	50	984559	C28	7
983313	C27	45	983461	B1	9	984106	C23	39	984269	D13	58	984562	C28	3
983316	C28	63	983462	E16	43	984203	D13	81	984270	D10	11	984563	C28	13
983319	C24	10	983477	C25	10	984204	D13	80	984271	D13	52	984564	C28	2
983321	C27	21	983480	D12	36	984205	D13	82	984272	D13	56	984581	C21	11
983322	C27	22	983481	D12	39	984206	D13	83	984273	D13	56	984642	D10	5
983326	C23	12	983483	A C27	9	984207	D13	86	984274	D13	56	984644	D10	21
983327	C23	14	983484	C27	19	984208	D13	87	984275	D13	56	984645	D10	22
983331	C17	14	983499	A D10		984209	D13	84	984278	D13	53	984646	D10	8
983332	C17	25	983553	C27	14	984210	D13	87	984279	D13	23	984647	D10	17
983334	A D13		983554	C28	66	984213	D13	13	984280	D13	99	984648	D10	13
983337	D12	8	983555	C27	60	984214	D13	39	984284	D16	61	984649	D10	15
983340	D12	49	983556	A C25	1	984215	D13	13	984285	D13	13	984650	D10	14
983342	D10	24	983557	C25	2	984217	D13	24	984287	D13	93	984651	D10	16
983344	C22	4	983558	C25	3	984218	D13	77	984288	D13	14	984652	D10	19
983346	D10	34	983559	C25	3	984219	D13	69	984290	D13	64	984653	D10	20
983348	D10	33	983560	C25	3	984220	D13	32	984292	D13	12	984654	D10	18
983349	D10	26	983561	C25	4	984221	D13	27	984293	D13	2	984660	D10	39

NUMERICAL INDEX

PART NO.	PAGE	REF NO.	PART NO.	PAGE	REF NO.	PART NO.	PAGE	REF NO.	PART NO.	PAGE	REF NO.	PART NO.	PAGE	REF NO.
984813	D10	31	985506	C17	5	986047	E15	7	990321 A	C39	44	990468	C39	35
984814	D10	30	985512	C20	18	986048	E15	7	990324	C36	1	990469	C39	36
984951	F1	3	985514	C26	2	986049	E15	7	990325	C36	11	990470	C39	37
985016	E9		985516 A	C26	12	986050	E15	13	990330	C31	1	990489	C37	2
985069	E15	6	985519	D10	6	986052	E15	15	990331	C31	1	990491 A	C37	5
985072	C19	19	985520	D10	7	986053	E15	16	990332	C19	4	990492	C37	6
985075	C26	5	985521	D10	9	986054	E15	20	990333	C31	7	990494	C37	7
985091	E14	23	985522 A	D19		986055	E15	21	990335	C31	1	990495	C37	7
985115	C20	8	985523	D16	83	986056	E15	24	990336	C31	9	990496	C37	7
985117	C27	54	985551	D16	51	986059	E15	31	990337	C31	10	990497	C37	8
985145	C21	13	985553	D16	66	986060	E15	37	990339	C31	16	990498	C37	8
985146	C21	18	985556	D16	55	986061	E16	51	990341	C31	17	990499	C37	9
985147	C21	42	985557	D15	13	986062	E16	51	990343	C19	11	990500	C37	10
985148	C19	19	985559 A	C20	2	986064	E16	74	990344	C37	22	990501	C37	11
985149	A C27	18	985560 A	C20	2	986065	E16	79	990346	C31		990502	C37	12
985150	A C27		985561 A	C20	2	986066 A	E15	5	990347	C33	5	990503	C37	15
985152	C28	8	985562 A	C20	2	986069 A	D11	24	990353	C33	28	990504	C37	16
985153	C28	10	985564	C19	3	986083	C21	25	990354	C33	29	990507	C37	24
985154	C23	39	985567	D12	48	986092	C27	30	990355	C21	13	990510	C37	21
985157	D10	36	985588	C21	5	986104	C26	6	990356	C21	7	990511	C31	
985187	C19	19	985593	D11	23	986121	C18	19	990357	C21	6	990512	C37	29
985190	C27	56	985595	C21	29	986126 A	C32	8	990358	C21	14	990513	C37	34
985207	C27	44	985599	C17	21	986152	E12	19	990359	C21	15	990514	C37	35
985208	C27	47	985606 A	D12	19	986154	E12	7	990359 A	C33	13	990517	C37	39
985210	C20	12	985607 A	D12	20	986159	E17	8	990360 A	C33	30	990518	C37	43
985213	C20	19	985608 A	D12	21	986166 A	D19		990361	C33	30	990519	C37	41
985214	A D19		985609 A	D12	22	986167 A	D19		990362	C33	30	990520	C27	53
985215	D11	30	985610	D12	15	986209	D16	86	990364	C33	6	990521 A	C36	27
985217	A D11	20	985612	C27	50	986232	B1	3	990365	C33	6	990522	C36	27
985220	D11	3	985613	C27	52	986233	D9	4	990373	C21	38	990523	C36	27
985221	A D11	20	985616	C27	29	986235	E2	23	990374	C33	18	990524	C36	27
985222	D11	21	985624	D15	2	986236	E2	30	990375	C33	19	990525	C36	27
985224	A D11		985625 A	D16	45	986239	E5	9	990376	C33	4	990526	C36	27
985225	D11	27	985626	D16	46	986256 A	C19		990377	C39	20	990527	C36	28
985228	D11	15	985627	D15	5	986258	K3	3	990378	C33	17	990528	C36	29
985233	C25	6	985628	D15	5	986259	K3	13	990379	C21	32	990529	C36	30
985254	A E15	25	985629	D16	44	986261 W	K3	2	990380	C33	23	990531	C36	34
985255	D10	12	985630	D16	47	986265	K3	4	990385	C32	4	990548	C36	37
985265	D11	12	985631	D16	54	986277	K4	43	990386	C32	6	990551	C36	41
985266	D11	6	985639	C21	34	986402 A	C20	29	990407 A	C32	9	990555	C35	2
985267	D11	7	985640	C28	62	986403	C28	5	990409	C20	23	990561	C35	9
985269	D11	14	985646	C19	6	986404	C28	7	990410 A	C32	14	990562	C35	10
985270	D11	13	985695 A	D15		986406	C28	14	990411 A	C32	14	990563	C35	13
985271	D11	10	985702	D16	92	986407	C28	6	990412 A	C32	14	990564	C35	14
985273	D11	11	985707	D6	11	986408	C28	2	990413 A	C32	14	990566	C35	18
985274	D11	9	985772	D6	9	986409	C28	11	990415 A	C32	15	990571	C35	33
985275	D11	8	985773 W	D6	8	986412	D16	59	990416	C32	16	990573	C35	36
985276	D11	5	985776 A	D6	2	986418 A	C20	29	990417	C20	27	990577	C34	28
985281	D16	88	985778 W	B1	24	986419	C19	21	990418	C32	21	990580	C34	27
985282	D16	97	985808 W	B1	24	986435	E17	22	990419	C32	20	990581	C34	27
985283	D16	94	985814 A	D9	10	986438	C18	19	990421	C32	18	990597	C19	39
985284	D16	96	985828	E16		986439	C19	18	990429	C22	10	990598	D17	5
985285	D16	95	985892 A	D9	10	986444	D19		990430	C22	13	990600	C38	
985286	D15	10	985964	E3	23	986473	D19	24	990434 A	C34	14	990601	C38	31
985287	D13	38	986027	E15	35	986475	C27	50	990435 A	C34	15	990602	D17	7
985288	D16	42	986038	E8	26	990095	C34	19	990436	C34	14	990608	D17	22
985289	D13	4	986043	E15	38	990096	C34	19	990438	C22	11	990615	D12	37
985299	C27	59	986044 A	E15	2	990134	E6	3	990441	C34	22	990618	D17	31
985301	A C17		986045	E15	3	990136 A	E6	8	990442	C36	41	990619	D17	32
985391	C18	12	986046	E15	7	990319	D19	8	990459	C39	49	990620 A	C38	1

NUMERICAL INDEX

PART NO.	PAGE	REF NO.	PART NO.	PAGE	REF NO.	PART NO.	PAGE	REF NO.	PART NO.	PAGE	REF NO.	PART NO.	PAGE	REF NO.
990623	C38	2	991463	C22	18	991670	C30	30	992209	C31	28	992422	A D7	4
990624	C38	3	991464	C34	19	991671	C30	7	992237	E10	7	992431	C41	14
990626	C38	5	991465	A C34		991672	C30	14	992243	D20	1	992437	A D17	33
990627	C38	6	991466	C34		991673	C30	11	992244	D10	4	992438	A D9	10
990628	C28	4	991467	C34	27	991674	C30	10	992245	D20	7	992439	A D9	10
990629	C38	8	991468	C34	27	991705	C30	2	992246	D20	11	992447	A C31	1
990630	C38	9	991470	C39	30	991741	D12	31	992247	D20	12	992465	D9	6
990632	C35	3	991471	C39	38	991753	C37	19	992248	D10	3	992466	W E6	24
990633	C30	26	991472	C39	50	991754	A C37	38	992249	D20	16	992467	W E6	24
990634	C38	14	991473	C39	51	991755	C37	38	992252	E14	30	992482	E5	7
990636	C38	18	991475	C26	3	991804	C30	1	992253	E14	14	992508	C31	27
990637	C38	19	991476	C39	18	991805	C30	7	992254	E14	27	992509	C37	20
990638	C38	22	991478	C39	23	991806	C30	16	992255	E14	11	992520	C34	24
990639	C38	23	991479	C33	44	991807	C30	17	992256	E14	10	992522	C35	26
990640	C38	25	991480	C37	1	991808	C30	18	992260	E14	12	992523	C36	41
990642	C38	26	991481	C36	39	991810	C30	24	992266	E14	22	992525	C21	18
990643	C38	32	991482	C36	33	991811	C30	25	992268	E14	7	992527	C30	9
990644	C38	33	991483	C36	36	991812	C30	27	992271	E14	8	992530	C33	37
990645	C38	34	991485	C36	39	991814	C30	31	992272	E14	29	992531	C31	10
990646	C38	35	991486	C36	40	991815	C30	32	992273	E14	25	992532	C34	2
990647	C38	36	991487	C36	41	991816	C30	35	992274	A E14	2	992535	C39	34
990663	C31	29	991488	A C35	1	991817	C30	37	992275	E14	3	992536	C16	6
990666	C18	20	991489	A C35	1	991818	C30	48	992278	E14	26	992539	C32	5
990667	C31	27	991491	A C35	3	991820	C30	50	992279	A E14	6	992541	C37	3
990673	C36	38	991492	C35	4	991830	D17	11	992280	E14	4	992557	C30	52
990768	C16	13	991493	C35	5	991838	D12	23	992281	E14	18	992559	C35	11
990777	E10		991494	C35	7	991845	D20	18	992282	E14	6	992561	C37	30
990779	E10		991495	C35	8	991854	D12	28	992284	E14	6	992562	C37	31
990943	C16	9	991496	C35	15	991887	C30	45	992285	E14	6	992563	C37	36
991214	C31	23	991497	C35	17	991888	C32	18	992287	E14	19	992566	C31	19
991215	C31	24	991499	C35	32	991889	C32	19	992288	E14	19	992568	C30	28
991314	A D20		991500	C35	27	991890	C32	20	992289	E14	6	992569	C38	29
991396	E6	18	991501	C35	28	991891	C32	21	992291	E14	17	992570	C38	27
991396	A E14		991502	C35	29	991914	C38	4	992294	E14	16	992571	C30	41
991419	C31	11	991504	A D17	1	991915	C35	25	992337	A D18	2	992572	C39	30
991420	C31	12	991505	D17	6	991929	C32	15	992338	D18	6	992575	C30	40
991422	C31		991506	D17	10	991932	C32	7	992339	D18	7	992582	D17	8
991423	C31		991507	A D17	14	991934	A C36	1	992340	D18	3	992583	E10	
991426	C33	36	991508	D17	14	991935	C36	2	992341	D18	8	992584	C35	15
991427	C21	58	991509	D17	15	991936	C36	3	992342	D18	9	992585	C30	54
991428	C33	41	991510	D17	16	991937	C36	4	992343	D18	10	992586	C37	17
991429	C39	15	991511	D17	17	991938	C36	8	992344	A D18	11	992587	C37	32
991431	C21	62	991513	D17	23	991939	C36	12	992346	D18	17	992591	C37	13
991433	C33	34	991515	C38	15	991940	C36	13	992347	D18	18	992597	C33	35
991434	C33	7	991516	C38	16	991941	C36	14	992348	D18	13	992598	C31	
991435	C33	4	991517	C38		991942	C36	15	992349	A D18	1	992599	C30	46
991436	C33	14	991518	E6	17	991943	C36	16	992358	D18	5	992600	C31	13
991440	C21	48	991518	A E10		991944	C36	17	992363	C33	3	992602	C30	19
991441	C21	47	991520	A E6	7	991945	C36	18	992364	C33	2	992607	C39	48
991445	A C32	8	991528	C36	22	991946	C36	19	992367	C34	23	992608	C34	5
991446	A C32	8	991529	C36	23	991947	C36	20	992368	C22	14	992611	D17	20
991447	A C32	8	991573	A D17		991948	C36	21	992370	C22	9	992612	D17	18
991453	C32	19	991650	C30	22	991953	D17	30	992372	A C31	17	992625	C39	45
991454	A C34	1	991651	C30	23	992004	C17	6	992374	C19	25	992628	C33	16
991455	C34	1	991653	C30	15	992011	D10	29	992409	C41	12	992629	C21	59
991456	C30	36	991654	C30	33	992016	C31	23	992410	C41	12	992630	C21	64
991458	C34	8	991657	C30	34	992017	C31	23	992411	C41	15	992631	C33	32
991460	C34	9	991659	C30	6	992018	C31	23	992412	C2	14	992632	C21	28
991461	C22	12	991668	C30	13	992025	C21	36	992413	C41	13	992633	C17	13
991462	C22	17	991669	C30	12	992053	D17	24	992421	C40	4	992635	C33	35

NUMERICAL INDEX

PART NO.	PAGE	REF NO.	PART NO.	PAGE	REF NO.	PART NO.	PAGE	REF NO.	PART NO.	PAGE	REF NO.	PART NO.	PAGE	REF NO.
992637	C30	39	992765	E14	5									
992638	C39	33	992766	E14	5									
992640	C30	42	992767	D20	17									
992641	C27	31	992768	D20	8									
992642	C17	22	992769	D20	10									
992643	C31	22	992770	D20	14									
992645	C24	8	992771	D20	3									
992647	C21	37	992772	D10	10									
992648	C30	3	992773	D20	5									
992651	D10	28	992774	D20	6									
992653	C31		992775	D18	21									
992655	C37	18	992776	E14	20									
992657	C31	20	992780	D18	16									
992658	C34	3	992781	D18	12									
992662	C38		992782	D18	14									
992664	C37	14	992783	D18	15									
992667	D17	21	992788	C34	25									
992668	D17	19	992829	C21	23									
992669	D13	54	992839	C17	16									
992672	E16	57	992867	D18	19									
992678	C39	46	992947	C19	26									
992680	C35	20	992988 A	C20	20									
992685	C32	12	992999	C19	23									
992687	C33	42												
992688	C36	42												
992690	C31	17												
992692	C39	32												
693	C39	40												
694	C39	24												
695	C33	45												
992696	C33	46												
992697	C36	5												
992698	C36	6												
992699	C36	7												
992700	C36	9												
992701	C36	10												
992702	C35	6												
992703	C35	19												
992705	C30	38												
992720	C31	23												
992722	C37	45												
992726	C37	23												
992736	D20	9												
992737	D20	13												
992743	E14	13												
992744	E14	13												
992746	E15	18												
992748	E14	32												
992749	E14	9												
992750	E14	28												
992751	E14	24												
992752	E14	21												
992757	E14	1												
992758	E14	1												
992759	E14	1												
992760	E14	20												
992761	E14	31												
992762	E14	28												
992763	E14	31												
992764	E14	5												