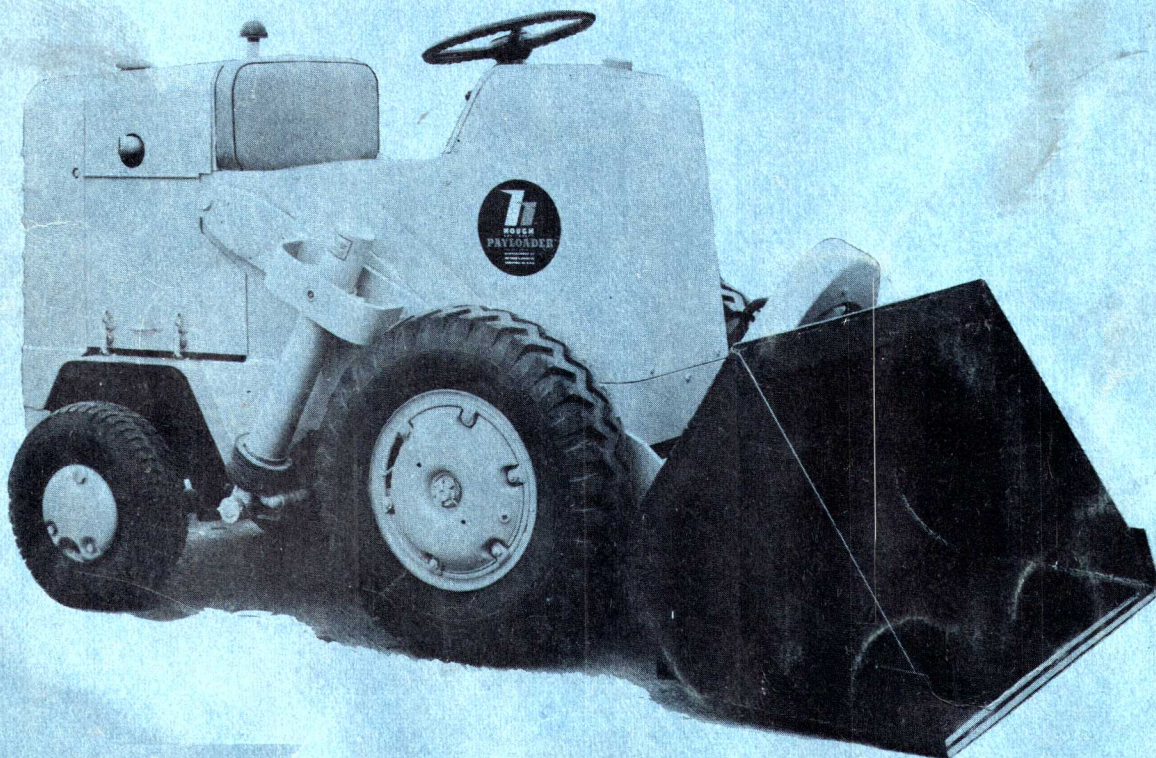


*Use This Book For Parts Orders*

**PARTS LISTS**  
**FOR**  
**MODEL HA PAYLOADER**

**BEGINNING WITH SERIAL NUMBER 23500**

**Sept. 1950**



**MANUFACTURED BY**

**THE FRANK G. HOUGH CO.**

**LIBERTYVILLE, ILLINOIS**

LITHO. IN U. S. A.

FORM HA-51

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## WARRANTY

This Model HA Payloader is warranted free from defects of material or workmanship for a period of six months from date of sale; it is further warranted to be mechanically practical for the purposes advertised by THE FRANK G. HOUGH CO.

Parts claimed to be defective are to be reported to us promptly and returned to us with transportation charges prepaid. If we find the parts defective upon our examination, credit will be issued or the parts replaced.

This warranty will not apply to machines that have been misused, loaded beyond factory rated capacities, neglected or damaged through accident.

Any expense incurred without authorized consent for repairs or replacement will not be allowed. The use of any but THE FRANK G. HOUGH CO. parts nullifies the warranty.

Dealers carry ample stocks of The Frank G. Hough Co. essential Payloader parts.

Listed below you will find the name of The Frank G. Hough Co. dealer with whom your parts orders should be placed and who should be called upon for any required information concerning proper operating and maintenance procedure.

OUR PAYLOADER DEALER IS:

\_\_\_\_\_  
\_\_\_\_\_

When ordering parts always give the Frank G. Hough Co. Payloader dealer both the name and part number of the part required, and also the serial number of the Payloader.

SO THAT YOU MAY HAVE IT BEFORE YOU, WRITE THE PAYLOADER, ENGINE, TRANSMISSION, HYDRAULIC PUMP AND HYDRAULIC VALVE SERIAL NUMBERS HERE:

PAYLOADER SERIAL NO.: \_\_\_\_\_  
*(Stamped on plate on dash board)*

ENGINE SERIAL NO.: \_\_\_\_\_  
*(Stamped on plate on right side of engine)*

HYDRAULIC PUMP SERIAL NO.: \_\_\_\_\_  
*(Stamped on pump body)*

HYDRAULIC VALVE SERIAL NO.: \_\_\_\_\_  
*(Stamped on valve body)*

TRANSMISSION: \_\_\_\_\_  
*(Stamped on cover plate)*

FINAL DRIVE: \_\_\_\_\_  
*(Stamped on housing)*

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## INDEX OF CONTENTS

NAME	PAGE
Accelerator Group . . . . .	19
Body and Shroud Group . . . . .	5
Boom and Guide Bar Group . . . . .	38
Brake Group . . . . .	23
Brake Control Group. . . . .	21
Bucket and Carrier Group . . . . .	39
Clutch Group . . . . .	13
Clutch Control Group . . . . .	11
Drive Axle Group . . . . .	17
Drive Shaft Group. . . . .	14
Electrical Group and Wiring Diagram . . . . .	29
Engine Attachments Group . . . . .	7
Extra Equipment Group . . . . .	41
Gearshift Levers Group. . . . .	15
Hoist Cylinders Group. . . . .	37
Hydraulic Connections and Diagram. . . . .	31
Main Frame Group. . . . .	3
Oil Reservoir Group . . . . .	32
Pump Group . . . . .	33
Steering Axle and Linkage . . . . .	25
Steering Gear Group. . . . .	27
Transmission Group. . . . .	9
Valve Group . . . . .	35
Valve Control Levers Group. . . . .	36

### IMPORTANT

Each part pictured in this catalog is given an identification number which corresponds to the Item number in the parts list of the group. These Item numbers are given to identify the part number and name of the parts wanted. Always include the following information in all repair parts orders.

1. The PART NUMBER, NAME and QUANTITY of Items needed.
2. The SERIAL NUMBER and MODEL letters of the machine.
3. When ordering parts for TRANSMISSION, DRIVE AXLE, PUMP or VALVE be sure to give the SERIAL NUMBER and MODEL NUMBER of such units also.
4. Give the DESTINATION and METHOD of shipment desired along with any special routing or invoicing instructions.

IT IS THE POLICY OF THE FRANK G. HOUGH CO. TO IMPROVE ITS PRODUCTS WHENEVER POSSIBLE AND PRACTICAL TO DO SO. WE RESERVE THE RIGHT TO MAKE CHANGES OR ADD IMPROVEMENTS AT ANY TIME WITHOUT INCURRING ANY OBLIGATION TO MAKE SUCH CHANGES ON MODELS PREVIOUSLY SOLD.

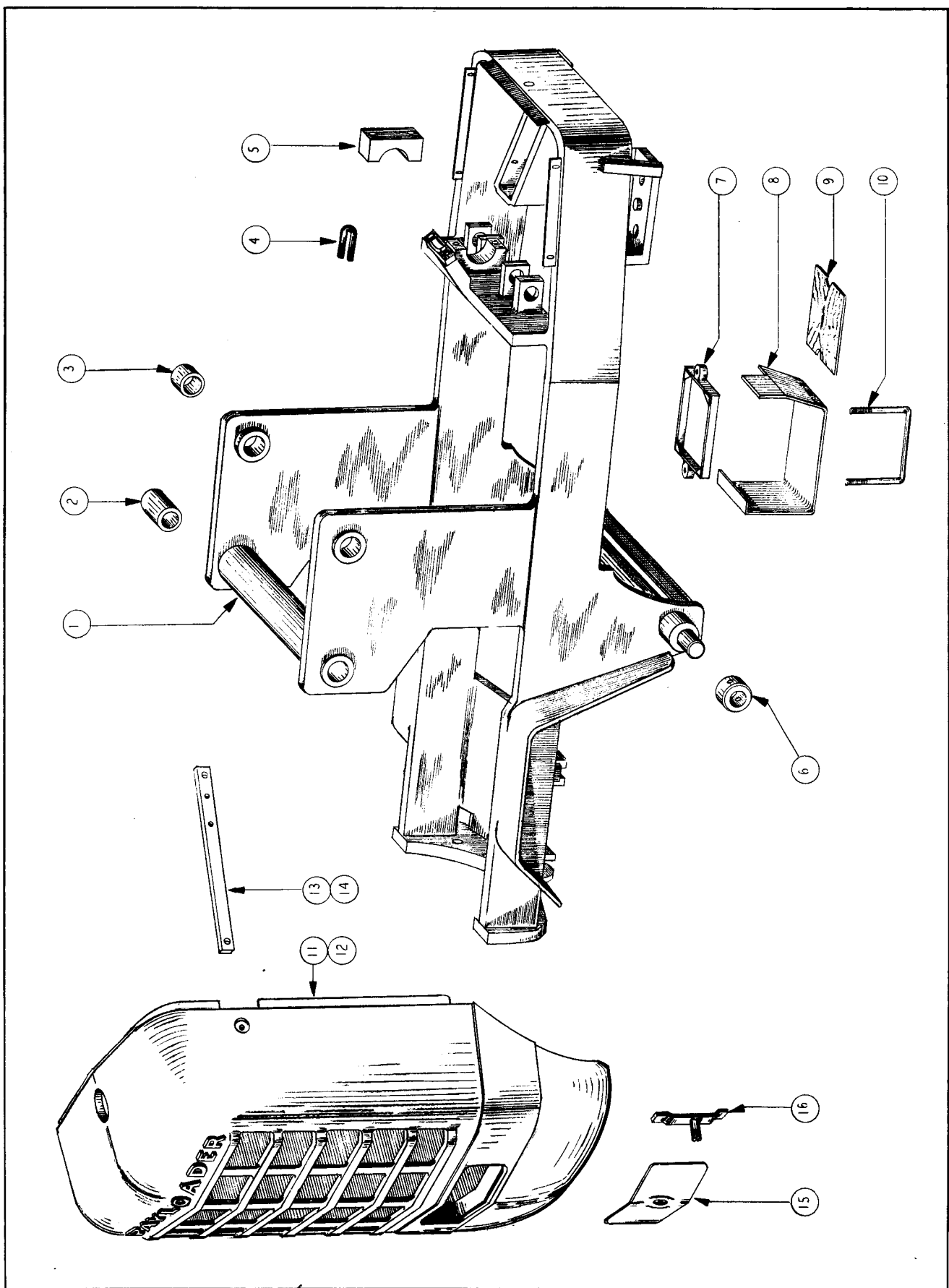


Fig. 25

MAIN FRAME GROUP

ITEM NO.	PART NO.	PART NAME	Qty.	1st Used on Payloaders of Serial Numbers	
				FROM	THRU
1	111740	Main Frame . . . . .	1		
2	101022	Bushing - Boom Pivot . . . . .	2		
3	110548	Bushing - Guide Pivot . . . . .	2		
4	104510	"U" Bolt - Steering Gear Support . . . . .	1		
5	110261	Cap - Steering Gear Support. . . . .	1		
6	111733	Collar - Hoist Cyl. Retainer. . . . .	2		
7	111715	Cover - Battery Hold Down . . . . .	1		
8	111714	Battery Box. . . . .	1		
9	110369	Insulator - Battery Box. . . . .	1		
10	111724	"U" Bolt - Battery Hold Down. . . . .	1		
11	112181	Grille Casting with Screen . . . . .	1		
12	109271	Screen - Grille Casting . . . . .	1		
13	110506	Tie Bar R.H. - Grille to Frame . . . . .	1		
14	110507	Tie Bar L.H. - Grille to Frame . . . . .	1		
15	111781	Cover - Pump Inspection . . . . .	1		
16	112390	Clamp - Pump Cover to Grille . . . . .	1		

*Always give the Payloader Serial Number with the Part Number and Name of Items needed when ordering Repair Parts.*

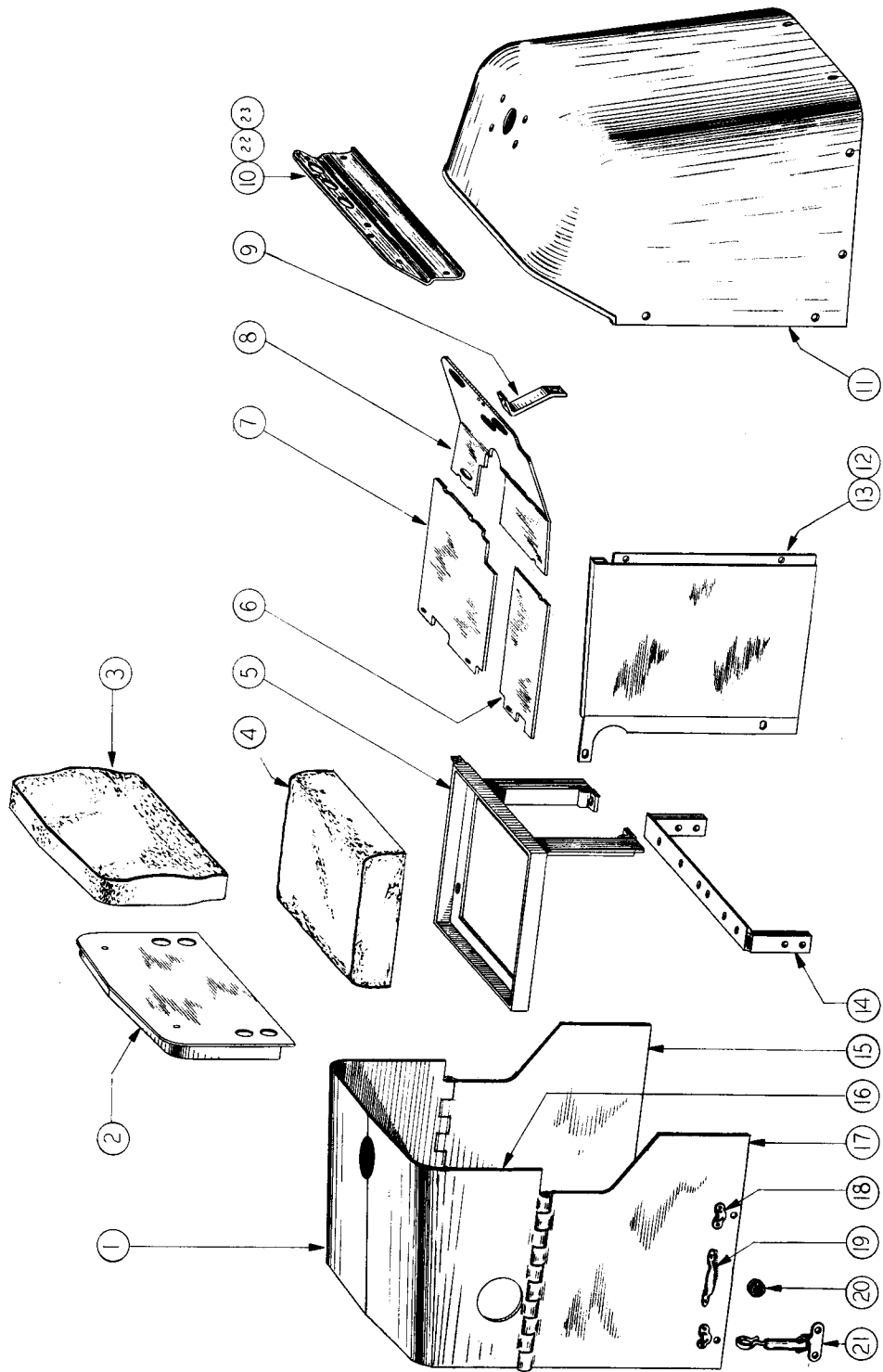


Fig. 26

**BODY AND SHROUD GROUP**

ITEM NO.	PART NO.	PART NAME	Qty.	1st Used on Payloaders of Serial Numbers	
				FROM	THRU
1	111065	Hood Top Ass'y (includes Items 15, 16, and 17) . . . . .	1		
2	110336	Seat Back Support. . . . .	1		
3	110335	Back Rest Cushion . . . . .	1		
4	107875	Seat Cushion . . . . .	1		
5	110775	Seat Frame . . . . .	1		
6	110773	Inspection Cover - Battery. . . . .	1		
7	110772	Floorplate - L.H. Side. . . . .	1		
8	110438	Floorplate - Front . . . . .	1		
9	110771	Support - Front Floorplate. . . . .	1		
10	112381	Instrument Panel - Cowl . . . . .	1		
11	112317	Cowl - Front. . . . .	1		
12	110347	Side Panel - R.H. . . . .	1		
13	110348	Side Panel - L.H. . . . .	1		
14	110204	Seat and Floor Support . . . . .	1		
15		Hood Side - L.H. } . . . . .	1		
16		Hood Top } Order Item 1, . . . . .	1		
17		Hood Side - R.H. } . . . . .	1		
18	HL-3634	Hood Catch . . . . .	4		
19	112691	Handle - Hood . . . . .	2		
20	107677	Rubber Bumper . . . . .	4		
21	HL-3635	Hood Fastener . . . . .	4		
22	112498	Capscrew - Instrument Panel to Cowl . . . . .	4		
23	112467	Lockwasher - Instrument Panel to Cowl. . . . .	4		

*Always give the Payloader Serial Number with the Part Number and Name of Items needed when ordering Repair Parts.*

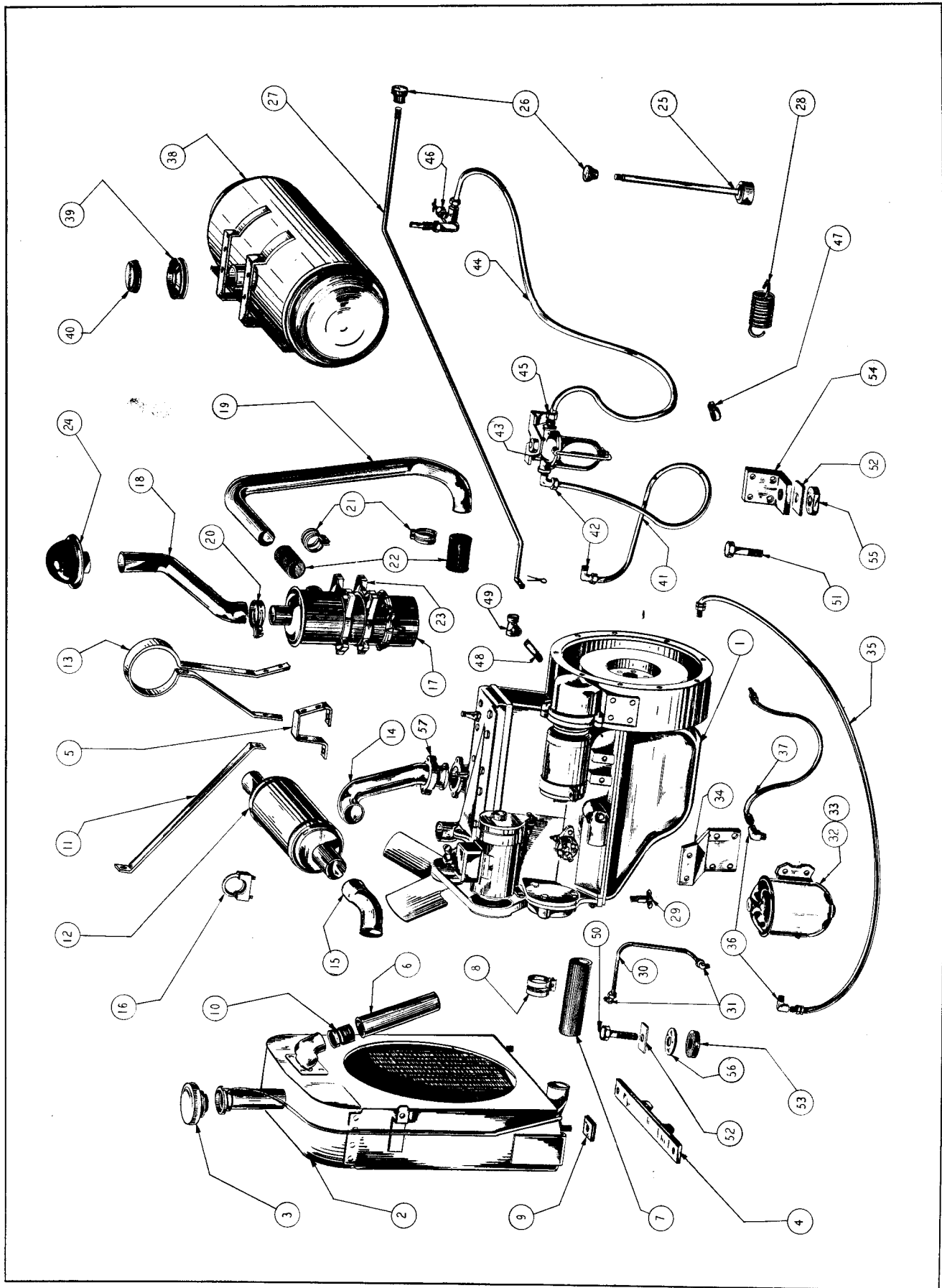


Fig. 27



### ENGINE ATTACHMENTS

ITEM NO.	PART NO.	PART NAME	Qty.	1st Used on Payloaders of Serial Numbers	
				FROM	THRU
1	110354	Engine (Waukesha F.C. Industrial) . . . . .	1		
2	111739	Radiator . . . . .	1		
3	112890	Cap - Radiator . . . . .	1		
4	111398	Radiator Support . . . . .	1		
5	111576	Brace - Radiator and Muffler Support . . . . .	1		
6	HA-353	Hose - Upper Radiator . . . . .	1		
7	HA-353	Hose - Lower Radiator . . . . .	1		
8	HA-352	Clamp - Radiator Hoses . . . . .	6		
9	HA-1025	Pad - Radiator Mounting . . . . .	2		
10	103835	Thermostat . . . . .	1		
11	111577	Tie Bar - Radiator . . . . .	1		
12	110836	Muffler . . . . .	1		
13	111578	Bracket - Muffler Support . . . . .	1		
14	112513	Pipe - Manifold to Muffler . . . . .	1		
15	HA-909	Pipe - Exhaust Outlet . . . . .	1		
16	HA-910	Clamp - Muffler Pipe . . . . .	2		
17	110356	Air Cleaner . . . . .	1		
18	110360	Inlet Tube - Air Cleaner . . . . .	1		
19	109983	Tube - Air Cleaner . . . . .	1		
20	112330	Clamp - Air Cleaner Inlet . . . . .	1		
21	HA-354	Clamp - Air Cleaner Tube . . . . .	4		
22	110358	Hose - Air Cleaner . . . . .	2		
23	112329	Mounting Band - Air Cleaner . . . . .	2		
24	110355	Cap - Air Cleaner . . . . .	1		
25	111005	Starter Rod - Starter Switch . . . . .	1		
26	HL-3562	Knob - Starter and Choke Rods . . . . .	2		
27	110359	Choke Rod . . . . .	1		
28	105862	Spring - Choke Return . . . . .	1		
29	HA-1006	Drain Cock - Water Inlet Elbow . . . . .	1		
30	103838	Tubing - Water by Pass Line . . . . .	1		
31	103836	Elbow - Water by Pass Line . . . . .	2		
32	110967	Oil Filter . . . . .	1		
33	HS-979	Cartridge - Oil Filter Refill . . . . .			
34	110361	Bracket - Filter Mounting . . . . .	1		
35	112093	Hose - Engine to Filter . . . . .	1		
36	HS-898	Elbow - Filter Line . . . . .	2		
37	112092	Hose - Filter Return Line . . . . .	1		
38	110344	Gas Tank . . . . .	1		
39	110352	Grommet - Gas Tank Filler . . . . .	1		
40	HA-1279	Cap - Gas Tank Filler . . . . .	1		
41	110365	Fuel Line - Strainer to Carburetor . . . . .	1		
42	HA-928	Elbow . . . . .	2		
43	HA-1471	Strainer - Fuel Line . . . . .	1		
44	110367	Fuel Line - Tank to Strainer . . . . .	1		
45	HS-257	Connection . . . . .	1		
46	HA-963	Needle Valve - Tank . . . . .	1		
47	HL-3550	Clip - Fuel Line Supports . . . . .	2		
48	112327	Nipple - Oil Line to Filter . . . . .	1		
49	103505	Tee - Oil Line to Filter . . . . .	1		
50	112324	Capscrew - Eng. Mtg. Rear . . . . .	1		
51	HA-1422	Capscrew - Eng. Mtg. Front . . . . .	2		
52	112159	Spacer - Eng. Mtg . . . . .	3		
53	HA-1023	Rubber Block - Eng. Mtg. Rear . . . . .	1		
54	110441	Clip - Engine Mtg. Front . . . . .	2		
55	112160	Rubber Block - Eng. Mtg. Front . . . . .	2		
56	112479	Spacer - Eng. Mtg. Rear . . . . .	1		
57	112420	Exhaust Flange . . . . .	1		

See PD171

*Always give the Payloader Serial Number with the Part Number and Name of Items needed when ordering Repair Parts.*

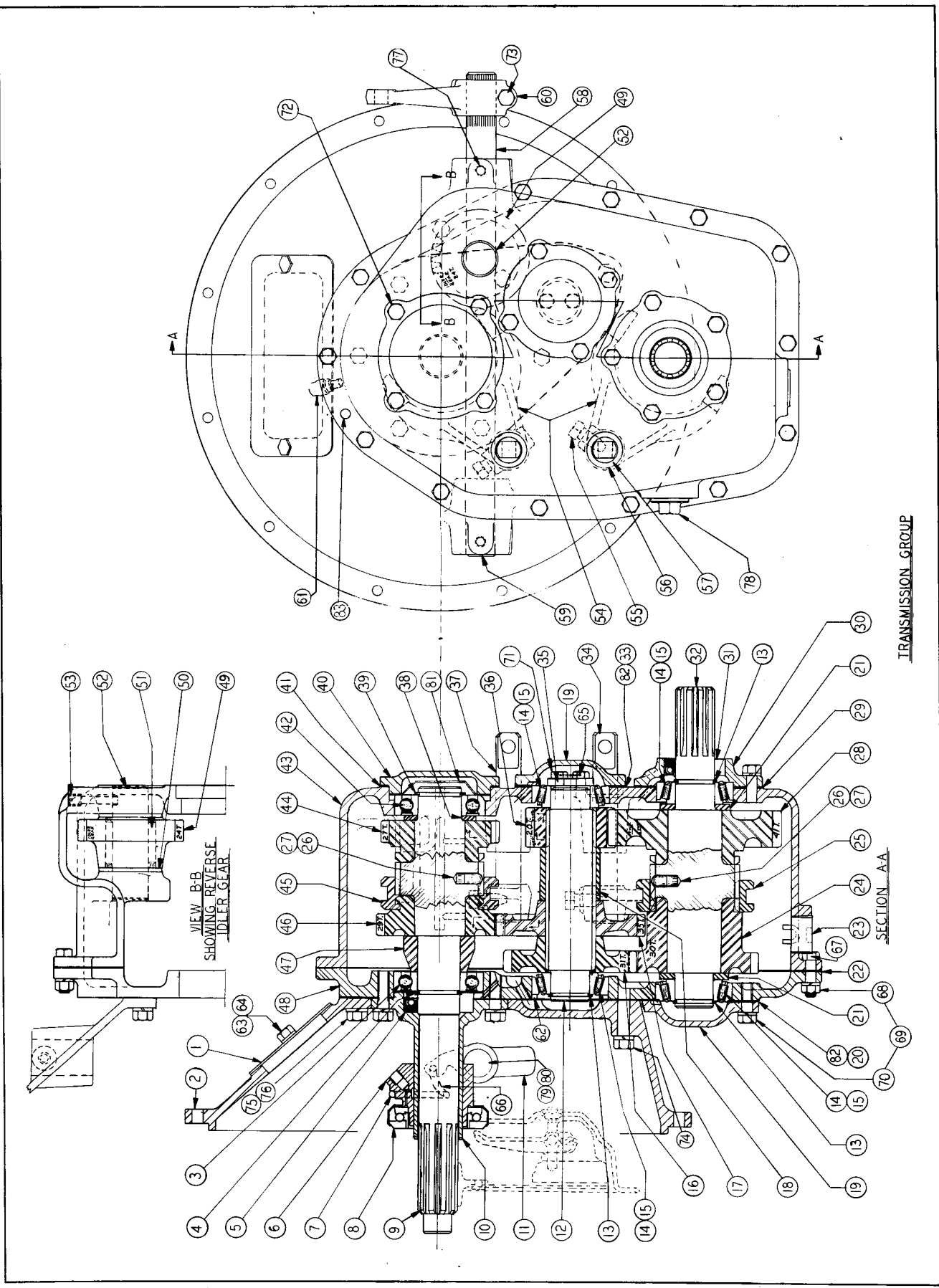


Fig. 28

**TRANSMISSION GROUP**

ITEM NO.	PART NO.	PART NAME	Qty.	1st Used on Payloaders of Serial Numbers	
				FROM	THRU
1	110074	Transmission Complete. . . . .	1		
2	111114	Cover - Clutch Inspection . . . . .	1		
3	111264	Clutch Housing. . . . .	1		
4	111270	Bearing - Main Shaft Rear . . . . .	1		
5	111196	Snap Ring - Main Shaft Rear Bearing... . . . .	1		
6	111179	Oil Seal - Rear Bearing. . . . .	1		
7	111260	Carrier - Clutch Release Bearing. . . . .	1		
8	111181	Spring - Clutch Yoke. . . . .	1		
9	111273	Bearing - Clutch Release. . . . .	1		
10	111247	Shaft - Main Drive . . . . .	1		
11	111096	Cap - Main Shaft Rear Bearing (includes Item 5) . . . . .	1		
12	111263	Yoke - Clutch Release. . . . .	1		
13	111245	Shaft - Intermediate . . . . .	1		
14	111194	Snap Ring - Intermediate Shaft Bearings. . . . .	3		
15	111268	Cup - Intermediate and Driven Shafts. . . . .	4		
16	111269	Cone - Intermediate and Driven Shafts . . . . .	4		
17	111258	Gear (31T) Intermediate Reverse . . . . .	1		
18	111259	Gear (35T) Intermediate Drive . . . . .	1		
19	111185	Spacer - Intermediate Shaft . . . . .	1		
20	111237	Cap - Intermediate and Driven Shafts. . . . .	2		
21	111212	Gasket - Clutch Housing . . . . .	1		
22	111186	Spacer - Driven Shaft Bearing . . . . .	2		
23	111211	Gasket - Transmission Case and Cover . . . . .	1		
24	111175	Plug - Oil Drain. . . . .	1		
25	111255	Gear (30T) High Speed Driven. . . . .	1		
26	111262	Clutch - Sliding . . . . .	1		
27	111266	Spring - Shift Clutch Plunger . . . . .	6		
28	111174	Plunger - Shift Clutch. . . . .	6		
29	111256	Gear (41T) Low Speed Driven. . . . .	1		
30	104616	Shim - Front Cap Driven. . . . .	5		
31	104617	Shim - Front Cap Driven. . . . .	1		
32	111095	Cap and Seal Ass'y - Driven Shaft Front (includes Item 31) . . . . .	1		
33	111178	Oil Seal - Driven Shaft Front . . . . .	1		
34	111246	Shaft - Driven . . . . .	1		
35	111205	Shim (.003) Intermediate and Driven Caps. . . . .	1		
36	111206	Shim (.005) Intermediate and Driven Caps. . . . .	4		
37	111207	Shim (.010) Intermediate and Driven Caps. . . . .	4		
38	111217	Shaft - High and Low Shifter. . . . .	1		
39	111182	Washer - Intermediate Bearing Adjust. . . . .	1		
40	111251	Gear (20T) Intermediate Driven . . . . .	1		
41	111219	Shaft - Forward and Reverse Shift. . . . .	1		
42	111189	Spacer - Main Shaft Front Bearing . . . . .	1		
43	111195	Snap Ring - Main Shaft Bearing. . . . .	1		
44	111239	Cap - Main Shaft Front . . . . .	1		
45	111213	Gasket - Main Shaft Front Cap . . . . .	1		
46	111271	Bearing - Main Shaft Front . . . . .	1		
47	111092	Case and Cover Ass'y - Transmission (includes Item 48) . . . . .	1		
	111253	Gear (27T) Reverse Drive . . . . .	1		
	111261	Collar - Shift Clutch. . . . .	1		
	111254	Gear (29T) Transmission Drive . . . . .	1		
	111188	Spacer - Transmission Drive Gear . . . . .	1		

Continued on next page

*Always give the Payloader Serial Number with the Part Number and Name of Items needed when ordering Repair Parts.*

TRANSMISSION GROUP - Continued

ITEM NO.	PART NO.	PART NAME	Qty.	1st Used on Payloaders of Serial Numbers	
				FROM	THRU
48		Cover - Transmission Case (order Item 43) . . . . .	1		
49	111252	Gear (24T) Reverse Idler. . . . .	1		
50	111183	Washer - Reverse Idler Thrust. . . . .	2		
51	111272	Bearing - Reverse Idler Gear. . . . .	1		
52	111249	Shaft - Reverse Idler . . . . .	1		
53	111147	Screw - Reverse Idler Shaft. . . . .	1		
54	111221	Fork - Shifter Shafts. . . . .	2		
55	111155	Setscrew - Shifter Fork. . . . .	2		
56	111180	Retainer - Shifter Shaft Felt. . . . .	2		
57	111146	Felt - Shifter Shaft. . . . .	2		
58	111218	Shaft - L.H. Clutch Release . . . . .	1		
59	111216	Shaft - R.H. Clutch Release . . . . .	1		
60	111220	Lever - Clutch Release Operating. . . . .	1		
61	104581	Oil Breather . . . . .	1		
62	111187	Spacer - Intermediate Rear Bearing . . . . .	1		
63	111116	Capscrew - Clutch Inspection Cover . . . . .	2		
64	111126	Lockwasher - Inspection Cover. . . . .	2		
65	111108	Lockwire - Intermediate Adjusting Washer . . . . .	1		
66	111109	Lockwire - Clutch Yoke. . . . .	1		
67	111121	Capscrew - Transmission Cover to Case . . . . .	14		
68	109508	Nut - Transmission Case and Lever . . . . .	15		
69	104626	Lockwasher - Bearing Caps and Transmission Case. . . . .	32		
70	111118	Capscrew - Bearing Caps . . . . .	17		
71	111117	Capscrew - Intermission Shaft Washer. . . . .	2		
72	111119	Capscrew - Main Shaft Rear Cap. . . . .	3		
73	111122	Capscrew - Clutch Release Lever . . . . .	1		
74	111125	Capscrew - Clutch Housing to Cover . . . . .	1		
75	111124	Capscrew - Clutch Housing to Cover . . . . .	6		
76	104589	Lockwasher - Bearing Cap and Clutch Housing. . . . .	10		
77		Grease Fitting - Clutch Operating Shaft (Alemite #1613) . . . . .	2		
78	111113	Plug - Oil Level and Filler . . . . .	1		
79	111120	Setscrew - Clutch Release Yoke . . . . .	2		
80		Key - #16 Woodruff - Clutch Yoke . . . . .	2		
81	112398	Oil Baffle - Main Front Cap. . . . .	1		
82	113043	Gasket - Intermediate and Driven Shaft Cap . . . . .	2		
83		Taper Pin (#7X1) Transmission Case and Cover . . . . .	2		

Always give the Payloader Serial Number with the Part Number and Name of Items needed when ordering Repair Parts.

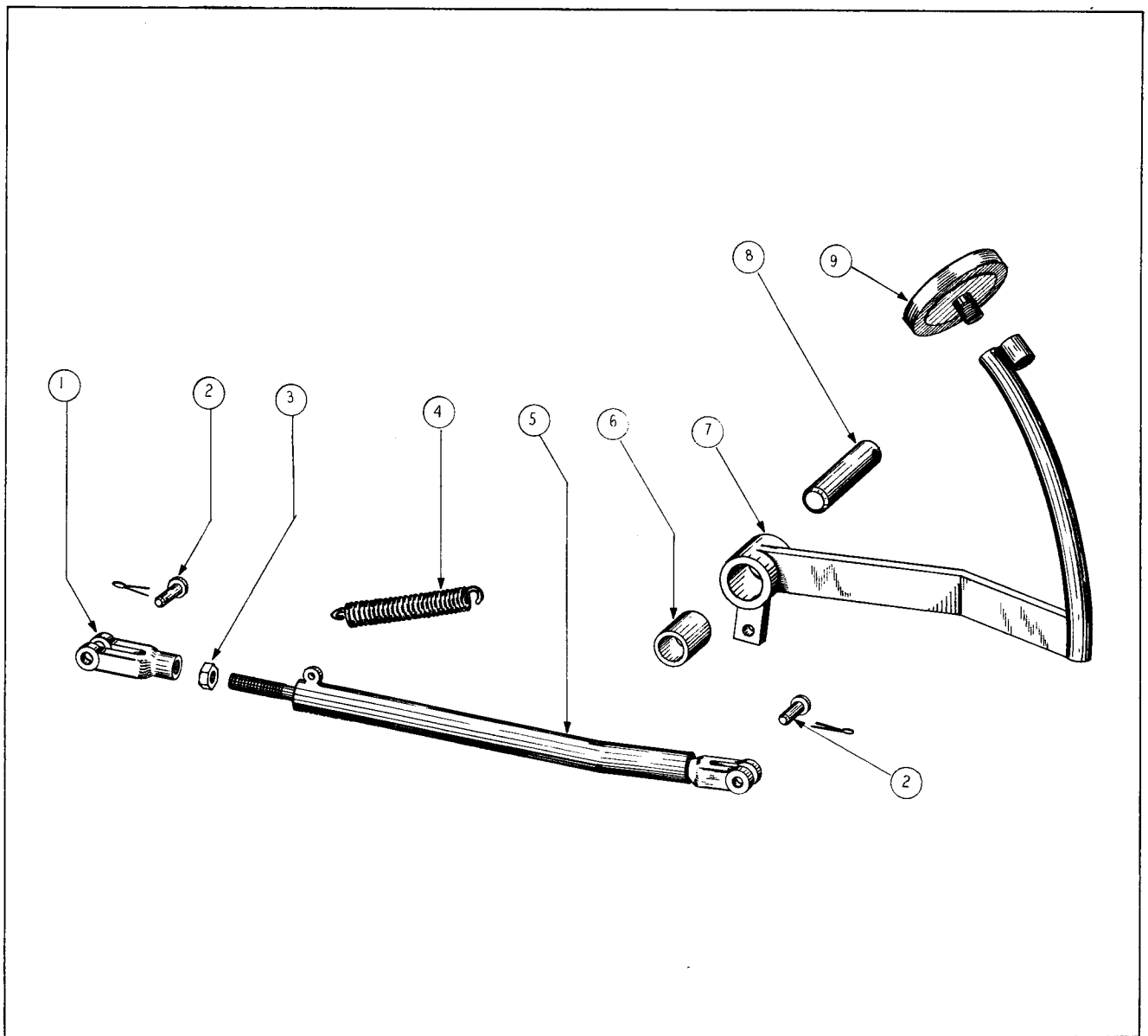


Fig. 29  
CLUTCH CONTROL GROUP

ITEM NO.	PART NO.	PART NAME	Qty.	1st Used on Payloaders of Serial Numbers	
				FROM	THRU
1	GH-211	Clevis, 1/2" - Clutch Rod . . . . .	1		
2	GH-212	Pin, 1/2" - Clevis Pivot . . . . .	2		
3		Nut, 1/2" - 20 NF Thd. - Clevis Lock . . . . .	1		
4	HL-3190	Spring - Pedal Return . . . . .	1		
5	110311	Rod - Pedal to Clutch Arm. . . . .	1		
6	102092	Bushing - Pedal Pivot. . . . .	1		
7	110304	Clutch Foot Pedal . . . . .	1		
8	110309	Shaft - Pedal Pivot. . . . .	1		
9	HA-795	Foot Pad - Pedal . . . . .	1		

*Always give the Payloader Serial Number with the Part Number and Name of Items needed when ordering Repair Parts.*

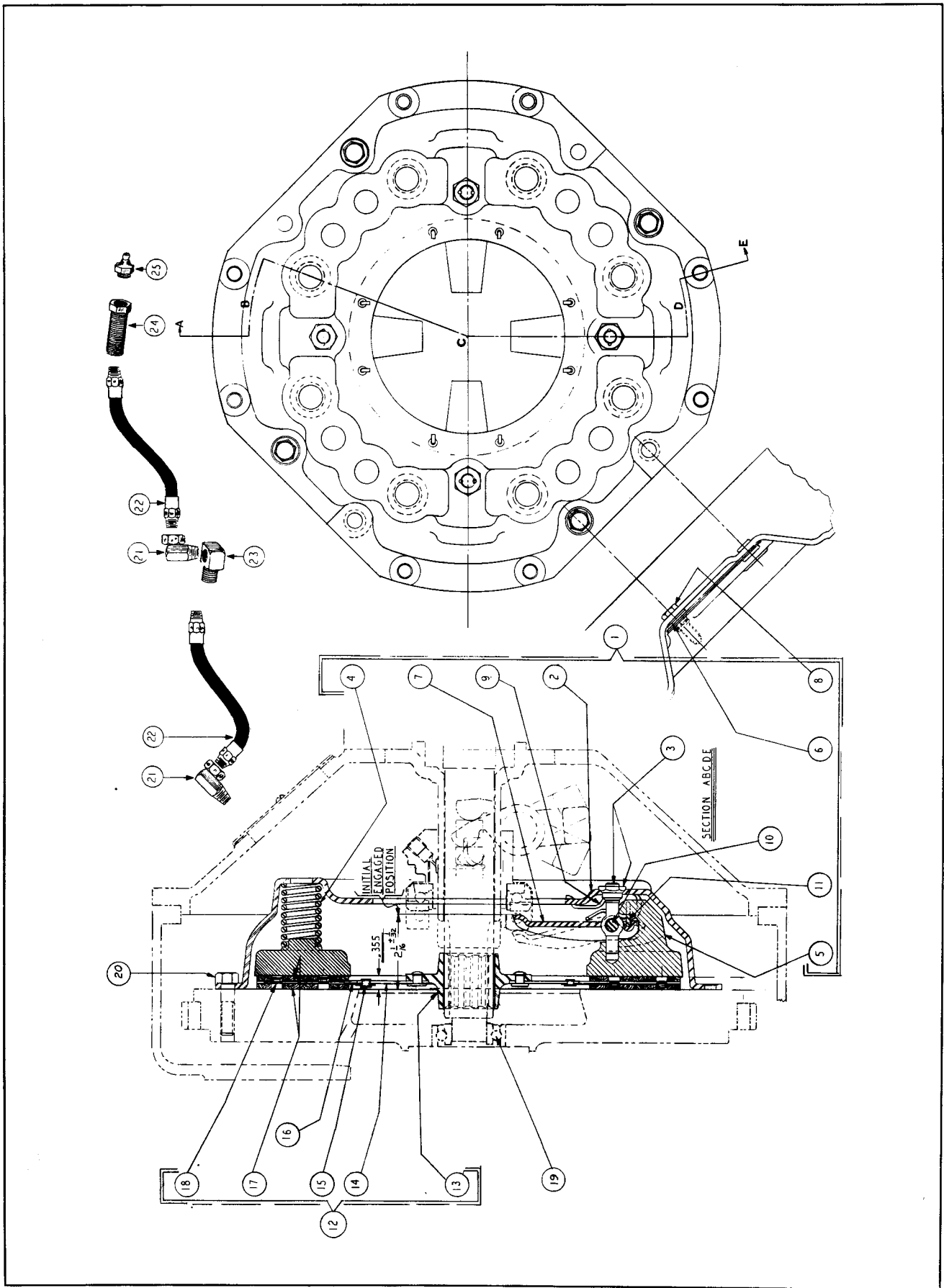
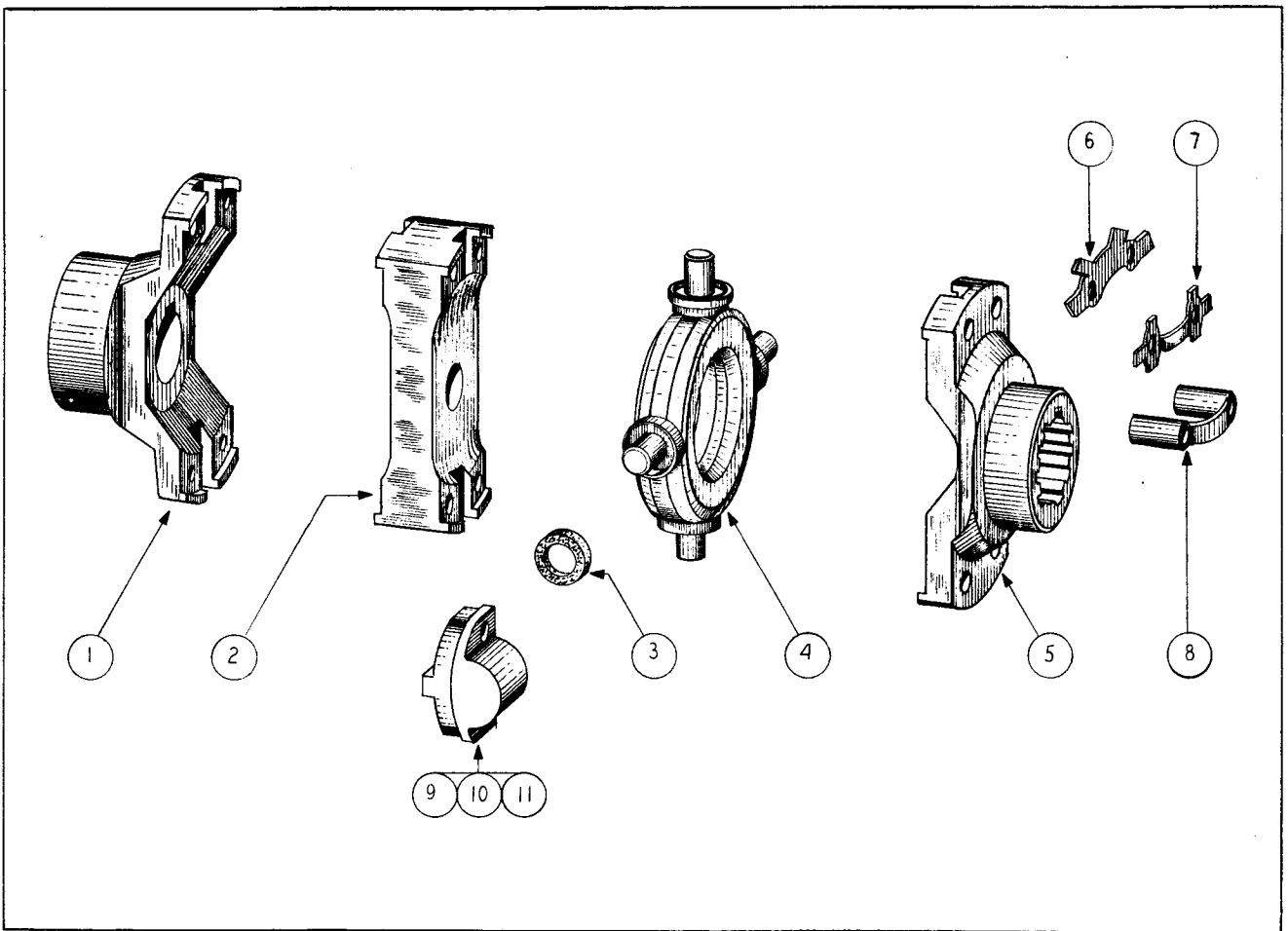


Fig. 30

### CLUTCH GROUP

ITEM NO.	PART NO.	PART NAME	Qty.	1st Used on Payloaders of Serial Numbers	
				FROM	THRU
	110407	Clutch Complete (includes Driven Plate and Cover Assemblies) . . . . .	1		
1	110885	Cover Ass'y Complete - (includes Items 2 - 11) . . . . .	1		
2	110886	Cover with Driving Strap and Rivets Ass'y . . . . .	1		
3	110887	Eyebolt and Nut Ass'y . . . . .	4		
4	110888	Thrust Spring . . . . .	8		
5	110889	Pressure Plate . . . . .	1		
6	110890	Ferrule - Drive Strap . . . . .	4		
7	110891	Release Lever . . . . .	4		
8	110892	Capscrew, 5/16 - 24 Thd. Hex . . . . .	4		
9	HA-1282	Anti - Rattle Spring . . . . .	4		
10	HA-1284	Pin - Eyebolt . . . . .	4		
11	HA-1285	Strut - Release Lever . . . . .	4		
12	110881	Driven Plate Ass'y (includes Items 13 - 18) <i>115550</i> . . . . .	1	<i>use 117970</i>	<i>after ser# 25856</i>
13		Hub - (order 110881) . . . . .			
14		Plate - (order 110881) . . . . .			
15		Rivets - Cushion Spring - (order 110881) . . . . .			
16		Cushion Spring - Facing - (order 110881) . . . . .			
17	110883	Facing . . . . . <i>115551</i>	2	<i>use 117971</i>	<i>after ser# 25856</i>
18	110884	Rivet - Tubular - Facing . . . . .	40		
19	HA-520	Pilot Bearing - Flywheel . . . . .	1		
20	110564	Capscrew - Clutch to Flywheel - Special . . . . .	8		
21	110902	Adapter Union - Grease Hose . . . . .	2		
22	110391	Grease Hose - to Clutch Housing and to Frame . . . . .	2		
23	110393	Fitting - Grease Hose to Clutch Housing . . . . .	1		
24	110392	Fitting - Grease Hose to Frame . . . . .	1		
25	HA-1009	Grease Fitting - Lubriguard #1930) . . . . .	1		

*Always give the Payloader Serial Number with the Part Number and Name of Items needed when ordering Repair Parts.*



**Fig. 31  
DRIVE SHAFT GROUP**

ITEM NO.	PART NO.	PART NAME	Qty.	1st Used on Payloaders of Serial Numbers	
				FROM	THRU
	110380	Drive Shaft Complete . . . . .(3796-A)	1		
1	111636	Fitting Yoke - to Axle Shaft . . . . .(16420EX)	1		
2	111644	Coupling Plate . . . . . (5565J)	1		
3	105106	Cork Washer . . . . . (3565J)	8		
4	105112	Spider Ass'y . . . . .(112-4005)	2		
5	111639	Fitting Yoke - Transmission Shaft. . . . .(16413EX)	1		
6	104758	Lock Plate - Flat . . . . . (3549J)	2		
7	111637	Lock Plate - Curved . . . . . (7448J)	2		
8	111638	Strap - Bearing Lock . . . . . (7447J)	2		
9	111642	Bearing Ass'y - Counterbored Mtg. Holes. . .(113-4004)	2		
10	111643	Bearing Ass'y - Plain Mtg. Holes. . . . .(113-4007)	2		
11	104756	Bearing Ass'y - Threaded Mtg. Holes . . . .(113-4001)	4		
		Capscrew - Heat Treated - 5/16" x 27/32"			
		Lg. Hex. . . . . (3786J)	4		
		Capscrew - Heat Treated - 5/16" x 1-5/8"			
		Lg. Hex. . . . . (7449J)	4		
		Capscrew - Heat Treated - 5/16" x 1-21/32"			
		Lg. Allen. . . . . (5499J)	4		

*Always give the Payloader Serial Number with the Part Number and Name of Items needed when ordering Repair Parts.*



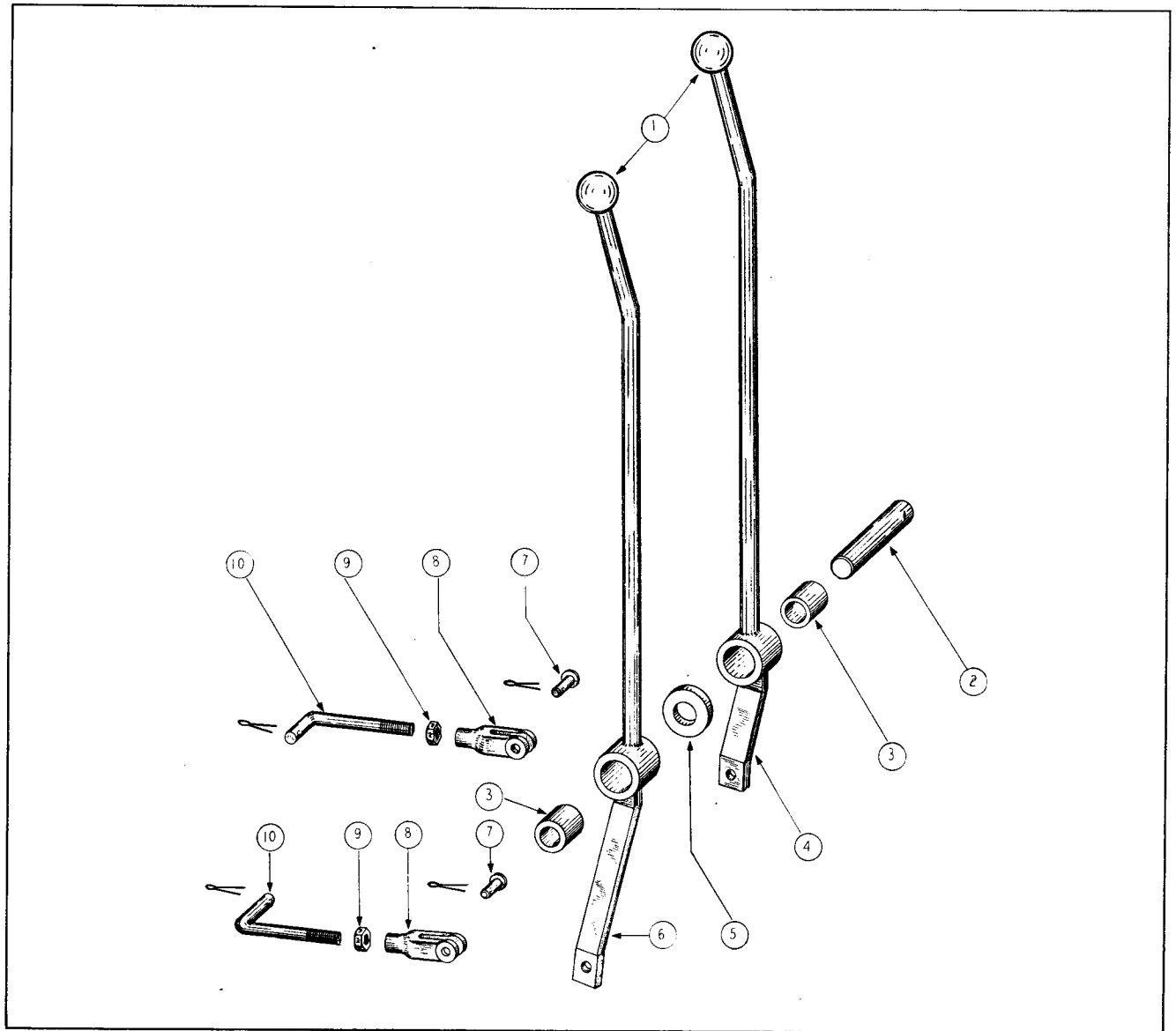


Fig. 32  
GEARSHIFT LEVERS GROUP

ITEM NO.	PART NO.	PART NAME	Qty.	1st Used on Payloaders of Serial Numbers	
				FROM	THRU
1	HL-3343	Ball - Hand Levers. . . . .	2		
2	110323	Pivot Shaft . . . . .	1		
3	102092	Bushing - Hand Levers . . . . .	2		
4	110317	Hand Lever - Directional. . . . .	1		
5	110322	Spacer . . . . .	1		
6	110314	Hand Lever - Speed Range . . . . .	1		
7	GH-212	Pin - Clevis Pivot . . . . .	2		
8	GH-211	Clevis - 1/2" - Shifter Rods. . . . .	2		
9		Nut - 1/2" - 20 Thd. - Clevis Lock . . . . .	2		
10	111904	Shifter Rod - Levers to Transmission . . . . .	2		

Always give the Payloader Serial Number with the Part Number and Name of Items needed when ordering Repair Parts.

DRIVE AXLE GROUP  
(DIFFERENTIAL CARRIER, FINAL DRIVE & BRAKE)

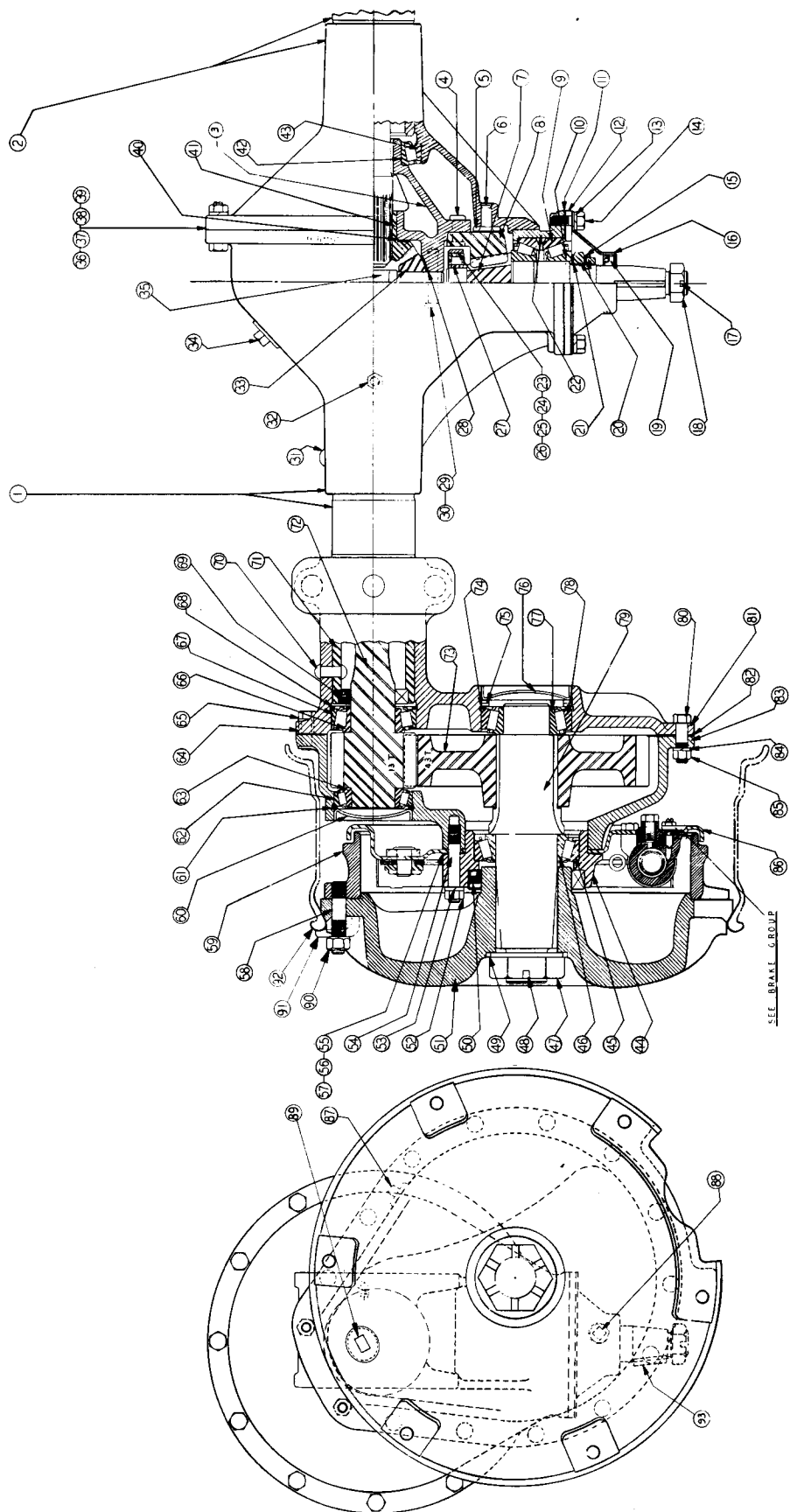


Fig. 33

**DRIVE AXLE GROUP**

ITEM NO.	PART NO.	PART NAME	Qty.	1st Used on Payloaders of Serial Numbers	
				FROM	THRU
	109145	Drive Axle Complete (TA-153-2) . . . . .	1		
1	111104	Housing L.H. - (includes Items 31, 69, 70, 71 and 81) . .	1		
2	111102	Housing R.H. - (includes Items 31, 69, 70, 71 and 81) . .	1		
3	113031	Differential Case, Drive Gear, Drive Pinion and Race Ass'y) (includes Items 7, 8, and 22) . . . . .	1		
3	111090	Differential Case only - Both Halves (included in Item 22). . . . .	1		
4	111153	Rivets - Drive Gear to Differential . . . . .	12		
5	111176	Thrust Block - Bevel Gear. . . . .	1		
6	111173	Pin - Thrust Block. . . . .	1		
7	111107	Pinion - Bevel Drive (6-40T) . . . . .	1		
8	111142	Gear - Bevel Drive. . . . .	1		
9	111138	Cup - Drive Pinion Bearing . . . . .	1		
10	111139	Cone - Drive Pinion Bearing . . . . .	2		
11	111204	Gasket - Drive Pinion Cover. . . . .	2		
12	113032	Cap and Anchor Ass'y - Drive Pinion. . . . .	1		
13	104626	Lockwasher - Drive Pinion Cover. . . . .	6		
14	111115	Capscrew - Drive Pinion Cover . . . . .	6		
15	111168	Lock - Pinion Bearing Adjusting Nut . . . . .	1		
16	111091	Cover Ass'y - Drive Pinion (includes Item 19). . . . .	1		
17	104633	Cotter - Drive Pinion Nut . . . . .	1		
18	111132	Nut - Drive Pinion . . . . .	1		
19	111082	Oil Seal - (included in Item 16). . . . .	1		
20	111164	Nut - Drive Pinion Bearing Adjust. . . . .	2		
21	111167	Washer - Drive Pinion Nut. . . . .	1		
22	112542	Differential Case, Side Gear, Pinion and Spider Ass'y (includes Items 28, 33, 35, 40 and 41) . . . . .	1		
23	111171	Retainer - Drive Pinion Rear Bearing . . . . .	1		
24	104573	Lock - Drive Pinion Bearing Retainer . . . . .	1		
25	111154	Rivet - Pinion Bearing Retainer . . . . .	2		
26	111165	Bearing - Drive Pinion Rear . . . . .	1		
27	111163	Bearing - Drive Pinion Inner Race . . . . .	1		
28	112539	Washer - Differential Pinion Thrust . . . . .	4		
29	111151	Bolt - Differential Case. . . . .	8		
30	111131	Lockwire - Differential Case Bolt. . . . .	1		
31		Rivet - (part of Item 1 and 2) . . . . .			
32	104581	Oil Breather - Differential Carrier . . . . .	1		
33	112540	Pinion - Differential . . . . .	4		
34	104579	Plug - Differential Drain and Filler. . . . .	2		
35	111227	Spider - Differential. . . . .	1		
36	112064	Bolt - Differential Carrier Flange. . . . .	11		
37	109508	Nut - Differential Carrier Bolt. . . . .	11		
38	104626	Washer - Differential Carrier Bolt . . . . .	11		
39	111203	Gasket - Differential Carrier Flange . . . . .	1		
40	111170	Washer - Differential Side Gear Thrust . . . . .	2		
41	112541	Gear - Differential Side. . . . .	2		
42	111130	Cone - Differential Bearing . . . . .	2		
43	111129	Cup - Differential Bearing . . . . .	2		
44	113036	Cage - Final Drive Shaft (includes Items 45 and 50) . . . . .	2		
45	111140	Cup - (included with Item 44) . . . . .	2		
46	111141	Cone - Final Drive Shaft Bearing . . . . .	2		
47	104600	Nut - Final Drive Shaft . . . . .	2		
48	111111	Cotter - Final Drive Shaft Nut . . . . .	2		

Continued on next page

*Always give the Payloader Serial Number with the Part Number and Name of Items needed when ordering Repair Parts.*

DRIVE AXLE GROUP - Continued

ITEM NO.	PART NO.	PART NAME	Qty.	1st Used on Payloaders of Serial Numbers	
				FROM	THRU
49	111184	Washer - Final Drive Shaft . . . . .			
50	111084	Oil Seal - Final Drive Bearing (included in Item 44) . . .	2		
51	113038	Hub - Wheel . . . . .	2		
52	104588	Nut - Drive Shaft Bearing Cage and Brake . . . . .	12		
53	104589	Lockwasher . . . . .	12		
54	113037	Stud - Drive Shaft Bearing Cage and Brake . . . . .	12		
55	111208	Shim - .003 } . . . . .	2		
56	111209	Shim - .030 } Final Drive Shaft Outer Bearing . . .	2		
57	111210	Shim - .005 } . . . . .	20		
58	113039	Stud - Wheel (included with Item 59) . . . . .	12		
59	113040	Drum - Brake (includes Item 58) . . . . .	2		
60	111234	Cover - Axle Outer Bearing . . . . .	2		
61	111193	Snap Ring - Axle Outer Bearing . . . . .	2		
62	111134	Cup - Axle Shaft Outer Bearing . . . . .	2		
63	111135	Cone - Axle Shaft Outer Bearing . . . . .	2		
64	113035	Dowel - Drive Case and Cover . . . . .	6		
65	111119	Capscrew - Drive Case and Cover . . . . .	4		
66	111128	Cone - Axle Shaft Inner Bearing . . . . .	2		
67	111127	Cup - Axle Shaft Inner Bearing . . . . .	2		
68	111190	Snap Ring - Inner Bearing . . . . .	2		
69	111083	Oil Seal - Inner Bearing - (included in Items 1 and 2) . .	2		
70		Rivet - (see Item 1 and 2) . . . . .			
71		Tube (part of Item 1 and 2) . . . . .			
72	111228	Shaft - Axle Drive and Pinion . . . . .	2		
73	111257	Gear, 43T - Final Drive . . . . .	2		
74	111191	Snap Ring - Drive Shaft Inner Bearing . . . . .	2		
75	111192	Spring Washer - Inner Bearing . . . . .	2		
76	111235	Cover - Drive Shaft Inner Bearing . . . . .	2		
77	111136	Cup - Drive Shaft Inner Bearing . . . . .	2		
78	111137	Cone - Drive Shaft Inner Bearing . . . . .	2		
79	111248	Shaft - Final Drive . . . . .	2		
80	111123	Capscrew - Drive Case and Cover . . . . .	26		
81		Cover (part of Item 1 and 2) . . . . .			
82	111214	Gasket - .005 - Drive Case and Cover . . . . .	2		
82	111215	Gasket - .010 - Drive Case and Cover . . . . .	4		
83	113033	Case L.H. - Final Drive - (includes Items 54 and 64) . .	1		
83	113034	Case R.H. - Final Drive - (includes Items 54 and 64) . .	1		
84	104589	Lockwasher - Case and Cover . . . . .	30		
85	104588	Nut - Case and Cover . . . . .	26		
86		Brake Ass'y - see Brake Group . . . . .	2		
87	104581	Oil Breather - Final Drive Case . . . . .	1		
88	111112	Plug - Drain and Filler . . . . .	4		
89	113041	Plug - Brake Inspection Hole . . . . .	2		
90	110382	Rim . . . . .	2		
91	112325	Rim Lugs . . . . .	12		
92	112326	Lug Nuts . . . . .	12		
93	HA-953	Key - Drive Pinion . . . . .	1		
	108643	Tires Flaps - 7.50 x 16 . . . . .	2		
		Tires, 7.50 x 16 - 8 ply, not sold for replacement by THE FRANK G. HOUGH CO. . . . .			

Always give the Payloader Serial Number with the Part Number and Name of Items needed when ordering Repair Parts.

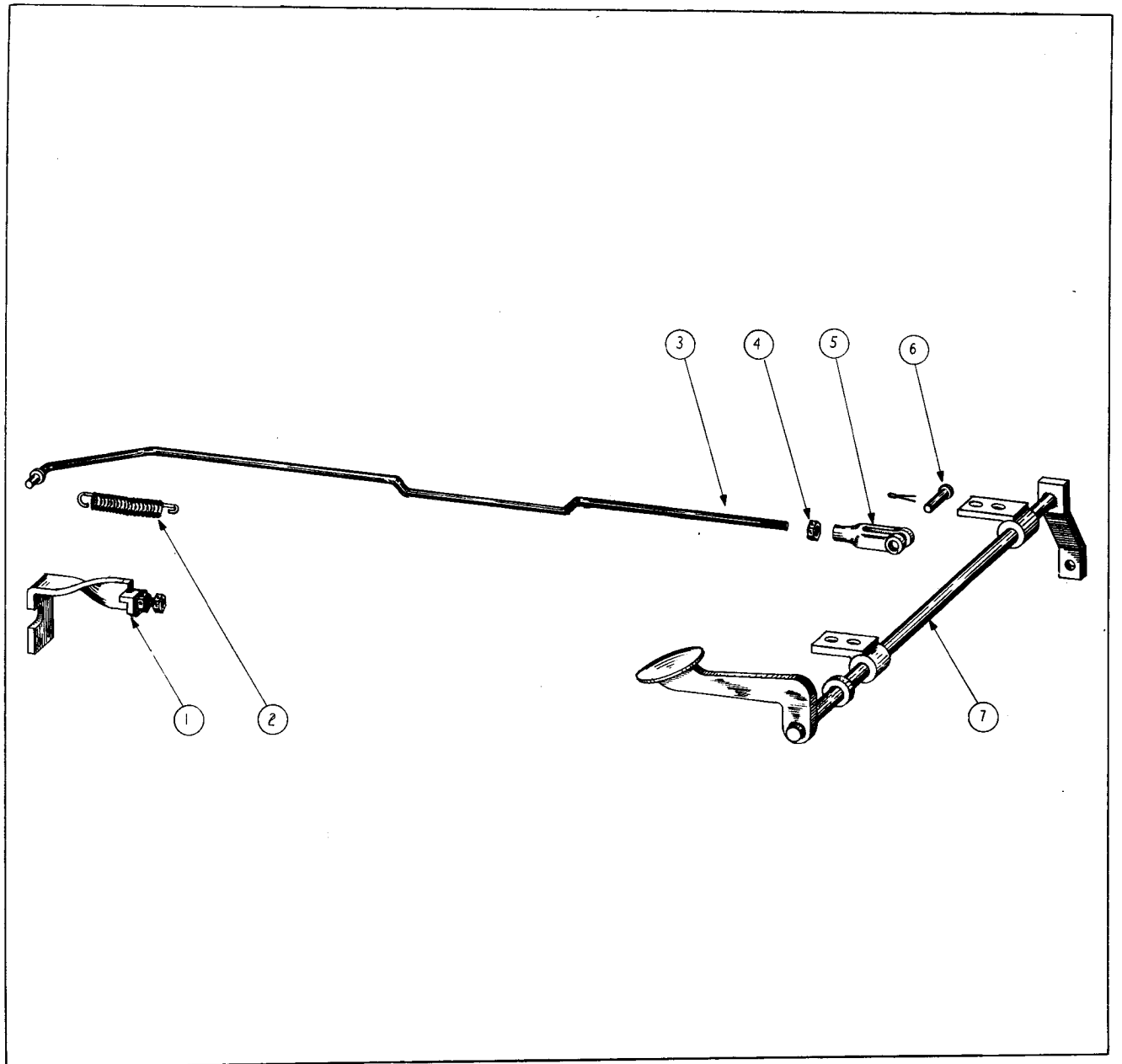


Fig. 34  
FOOT ACCELERATOR GROUP

ITEM NO.	PART NO.	PART NAME	Qty.	1st Used on Payloaders of Serial Numbers	
				FROM	THRU
1	105022	Bracket - Accelerator Stop . . . . .	1		
2	106475	Spring - Pedal Return . . . . .	1		
3	110297	Rod - Accelerator Pedal to Carburetor . . . . .	1		
4		Nut - 1/4" - 28 NF Thd. - Clevis Lock . . . . .	1		
5	HA-807	Clevis - Pedal Adjustment . . . . .	1		
6	HA-845	Pin, 1/4", - Clevis Pivot . . . . .	1		
7	110295	Pedal Assembly . . . . .	1		

*Always give the Payloader Serial Number with the Part Number and Name of Items needed when ordering Repair Parts.*

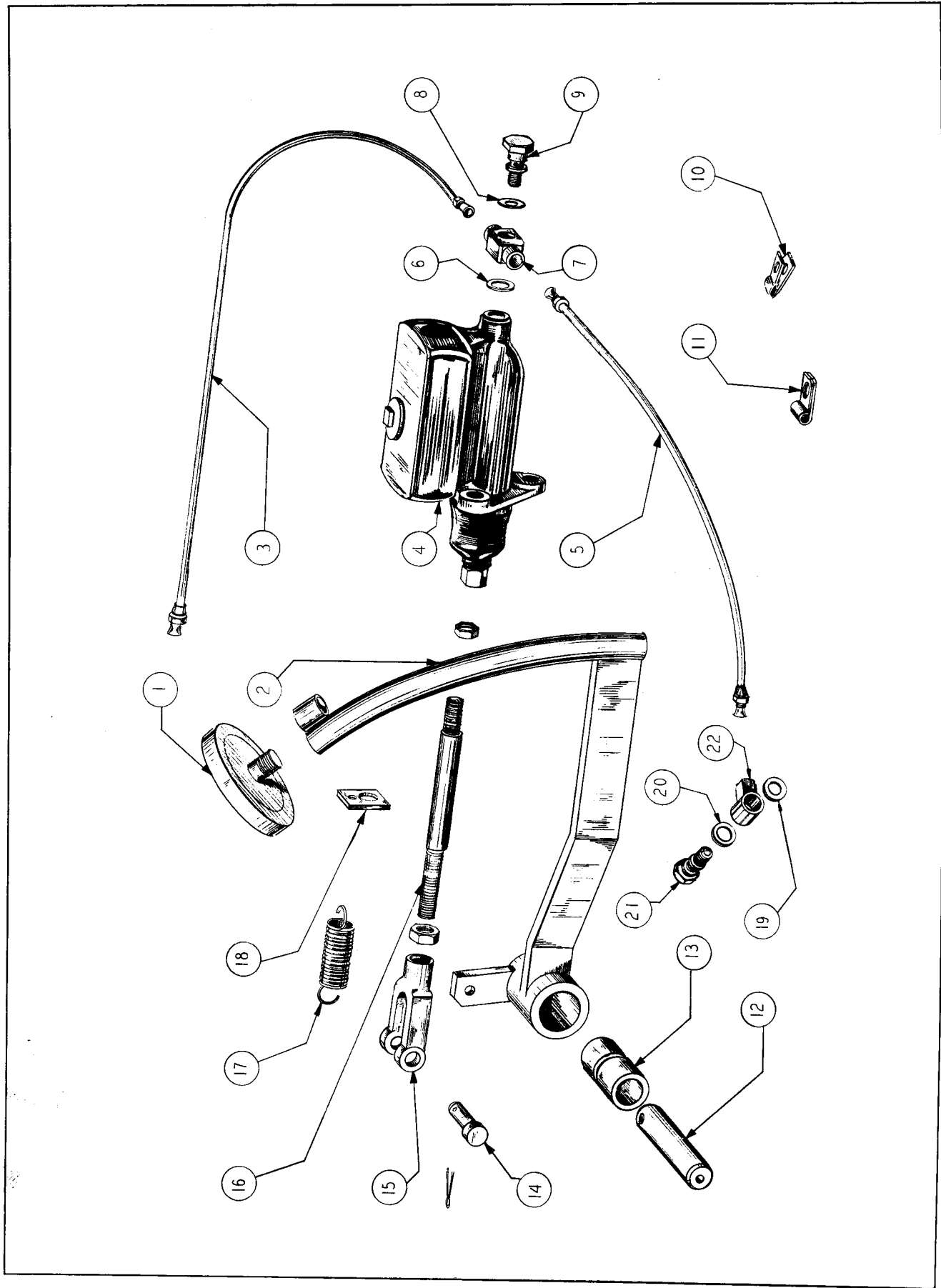


Fig. 35

**FOOT BRAKE CONTROL GROUP**

ITEM NO.	PART NO.	PART NAME	Qty.	1st Used on Payloader of Serial Numbers	
				FROM	THRU
1	HA-795	Pedal Pad . . . . .	1		
2	110299	Brake Pedal . . . . .	1		
3	110414	Tubing - L.H. Brake Line . . . . .	1		
4	HA-484	Master Brake Cylinder . . . . .	1		
	105394	Repair Kit - Master Cylinder . . . . .			
5	110413	Tubing - R.H. Brake Line . . . . .	1		
6	HA-883	Copper Gasket - Master Cylinder (13/32" I.D.) . . . . .	1		
7	HA-881	Tee - Master Cylinder . . . . .	1		
8	HA-884	Copper Gasket - Master Cylinder (1/2" I.D.) . . . . .	1		
9	HA-882	Stud - Master Cylinder Tee . . . . .	1		
10	HL-3550	Clips - Brake Line Support . . . . .	2		
11	105907	Clips - Brake Line Support . . . . .	2		
12	110310	Shaft - Pedal Pivot . . . . .	1		
13	102092	Bushing - Pedal . . . . .	2		
14	HL-3486	Pin - Clevis . . . . .	1		
15	HL-3485	Clevis - Rod . . . . .	1		
16	113346	Rod - Master Cylinder to Pedal . . . . .	1		
17	HA-984	Spring - Pedal Return . . . . .	1		
18	111575	Clip - Return Spring to Rod (obsolete order Item 16) . . . . .	1		
19	HA-1332	Gasket - Inlet Bolt - (7/16" I.D.) . . . . .	1		
20	HA-1333	Gasket - Inlet Bolt - (17/32" I.D.) . . . . .	1		
21	HA-1334	Inlet Bolt - to Wheel Cylinder . . . . .	1		
22	HA-1335	Fitting - to Wheel Cylinder . . . . .	1		

*Always give the Payloader Serial Number with the Part Number and Name of Items needed when ordering Repair Parts.*

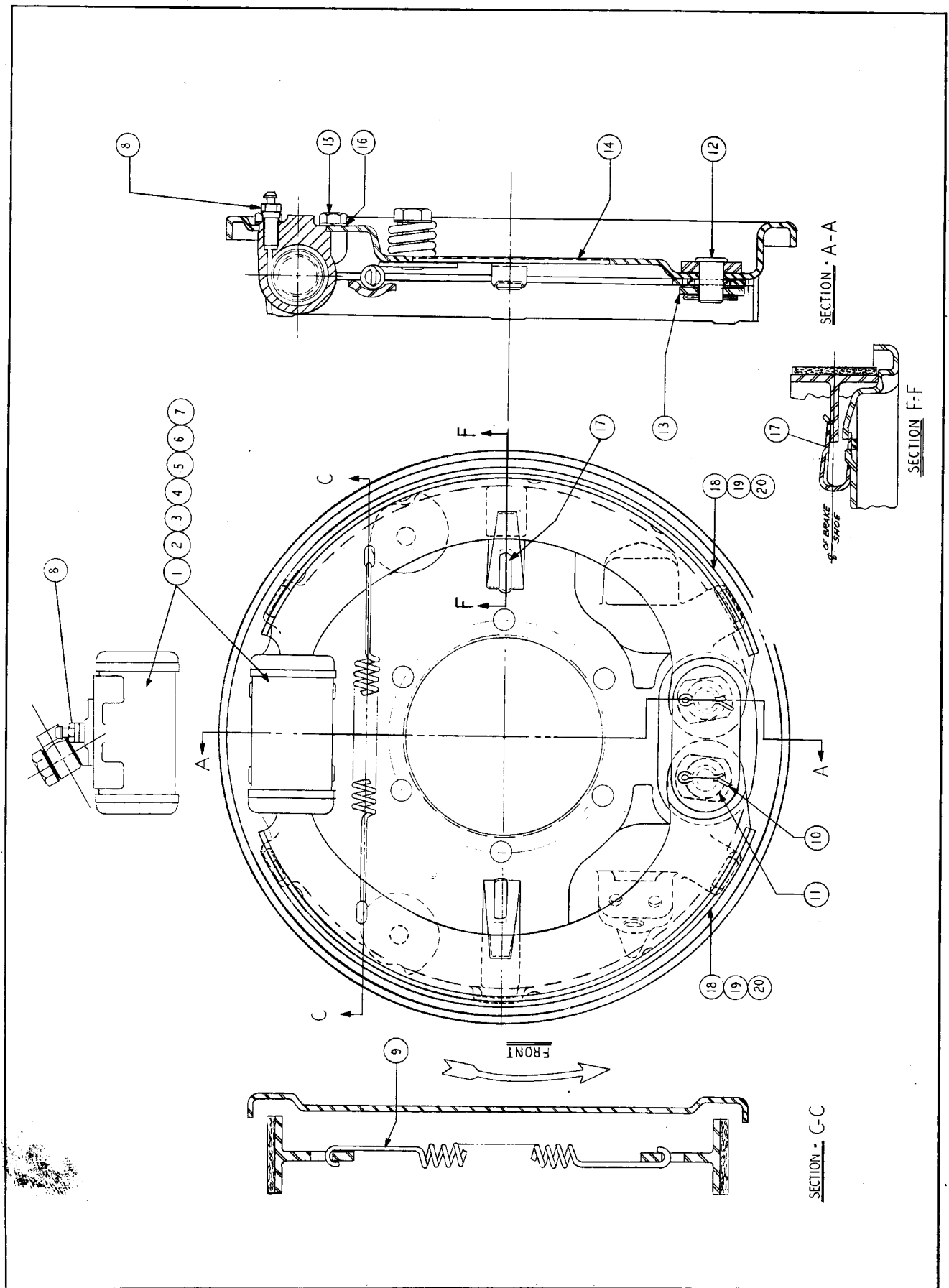


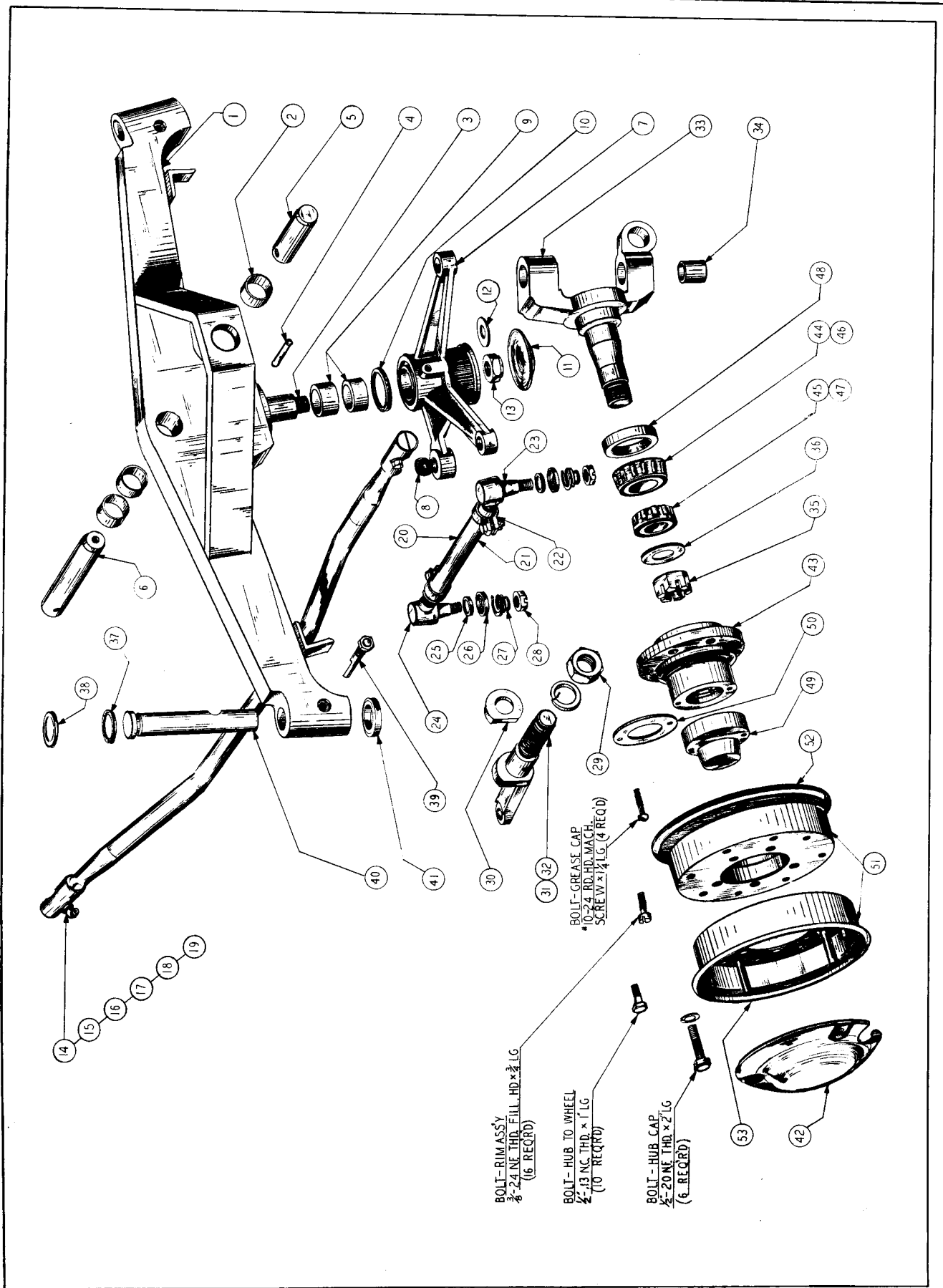
Fig. 36



**BRAKE GROUP**

ITEM NO.	PART NO.	PART NAME	Qty.	1st Used on Payloaders of Serial Numbers	
				FROM	THRU
	113029	Brake Assembly R.H. - Complete . . . . .	1		
	113030	Brake Assembly L.H. - Complete . . . . .	1		
1	113045	Wheel Cylinder R.H. - Complete with Fittings . . . . .	1		
1	113046	Wheel Cylinder L.H. - Complete with Fittings . . . . .	1		
2	111463	Repair Kit - Wheel Cylinder includes Items 4 and 5 . . . . .			
3	111458	Casting - R.H. Wheel Cylinder . . . . .	1		
3	111457	Casting - L.H. Wheel Cylinder . . . . .	1		
4	111460	Cup - Wheel Cylinder Piston . . . . .	2		
5	111462	Boot - Wheel Cylinder . . . . .	2		
6	111461	Piston - Wheel Cylinder . . . . .	2		
7	111459	Spring - Wheel Cylinder . . . . .	2		
8	102384	Bleeder Screw . . . . .	2		
9	111758	Spring - Brake Shield Ass'y . . . . .	2		
10	111759	Cotter Pin - Anchor Pin . . . . .	4		
11	111760	Anchor Pin Washer . . . . .	4		
12	111763	Anchor Pin . . . . .	4		
13	111764	Plate - Anchor Pin . . . . .	2		
14	113042	Housing Plate Ass'y . . . . .	2		
15	112999	Screw - Wheel Cylinder . . . . .	8		
16	112998	Lockwasher . . . . .	8		
17	112997	Hold Down Spring . . . . .	4		
18	111762	Brake Shoe Ass'y - Forward . . . . .	4		
19	111772	Lining - Brake Shoe . . . . .	4		
20	111774	Rivets - Brake Shoe Lining . . . . .	40		

*Always give the Payloader Serial Number with the Part Number and Name of Items needed when ordering Repair Parts.*



BOLT - GREASE CAP  
 \*10-24 RD. HD. MACH.  
 SCREW X 1 LG (4 REQ'D)

BOLT - RIM ASS'Y  
 3/8-24 NE THD, FILL. HD, X 1/2 LG  
 (16 REQ'D)

BOLT - HUB TO WHEEL  
 1/2-13 NC THD, X 1 LG  
 (10 REQ'D)

BOLT - HUB CAP  
 1/2-20 NE THD, X 2 1/2 LG  
 (6 REQ'D)

Fig. 37

## STEERING AXLE AND LINKAGE

ITEM NO.	PART NO.	PART NAME	Qty.	1st Used on Payloaders of Serial Numbers	
				FROM	THRU
1	110328	Steering Axle. . . . .	1		
2	112177	Bushing - Axle and Radius Rod Pivots . . . . .	3		
3	110332	Pin - Bell Crank Pivot . . . . .	1		
4	HA-409	Lock - Bell Crank Pin. . . . .	1		
5	110333	Pin - Radius Rod Pivot . . . . .	1		
6	110334	Pin - Axle Bolster Pivot . . . . .	1		
7	110385	Bell Crank (includes Item 8). . . . .	1		
8		Ball Stud - Part of Item 7 . . . . .	1		
9	106080	Bushing - Bell Crank . . . . .	2		
10	110388	Leather Washer - Bell Crank. . . . .	1		
11	110389	Welsh Plug - Bell Crank . . . . .	1		
12	1i2178	Washer - Bell Crank Pin. . . . .	1		
13	113001	Nut - Special - Bell Crank Pin . . . . .	1		
14	110394	Drag Link Complete (includes Items 15 - 19). . . . .	1		
15	HS-830	Spring - Drag Link Ball Joint. . . . .	2		
16	HS-831	Ball Seat - Drag Link Ball Joint . . . . .	4		
17	HS-832	Threaded Plug - Drag Link Ball Joint . . . . .	2		
19	HS-1042	Spacer - Drage Link Ball Joint. . . . .	2		
20	110390	Tie Rod Ass'y (includes Items 21 - 28). . . . .	2		
21	112337	Rod - Tie Rod . . . . .	2		
22	113066	Clamps - Tie Rod. . . . .	4		
23	112332	Tie Rod Ball Joint Ass'y - R.H. Thd . . . . .	2		
24	112333	Tie Rod Ball Joint Ass'y - L.H. Thd . . . . .	2		
25	112336	Felt Seal - Tie Rod End. . . . .	4		
26	112335	Seal Retainer - Rod End . . . . .	4		
27	112334	Spiral Spring - Rod End. . . . .	4		
28	113065	Nut - Tie Rod End . . . . .	4		
29		Nut - Steering Arm - 1" - 14 NF Thds. . . . .	2		
30	HA-378	Washer - Steering Arm. . . . .	2		
31	112885	Steering Arm - R.H . . . . .	1		
32	112887	Steering Arm - L.H . . . . .	1		
33	110458	Spindle - with Bushings and Nut . . . . .	2		
34	HA-929	Bushing - Spindle . . . . .	4		
35	111373	Nut - Spindle. . . . .	2		
36	HA-397	Washer - Spindle Nut . . . . .	2		
37	HA-875	Dirt Seal - King Pin . . . . .	2		
38	HA-876	Retainer - King Pin Dirt Seal . . . . .	2		
39	HA-614	Keeper Bolt - King Pin . . . . .	2		
40	HA-871	King Pin. . . . .	2		
41	HA-872	Thrust Bearing - King Pin. . . . .	2		
42	HA-811	Hub Cap . . . . .	2		
43	HA-201	Hub with Cups (Items 44 and 45) . . . . .	2		
44	X-230	Cup, Inner (included in Item 43) . . . . .	2		
45	X-394	Cup, Outer (included in Item 43) . . . . .	2		
46	X-229	Cone - Intter Bearing - Hub. . . . .	2		
47	HA-494	Cone - Outer Bearing - Hub. . . . .	2		
48	HA-396	Grease Seal - Spindle . . . . .	2		
49	HA-812	Grease Cap - Hub. . . . .	2		
50	HA-834	Gasket - Grease Cap. . . . .	2		
51	HA-1321	Wheel Complete - (includes Item 52 and 53). . . . .	2		
52	HA-402	Rim - Inner. . . . .	2		
53	HA-814	Rim- Outer . . . . .	2		
	107802	Tire Flaps - 6.00 x 9 . . . . .	2		
		Tires - 6.00 x 9 - 6 ply - not solde for replacement by THE FRANK G. HOUGH CO. . . . .			

*Always give the Payloader Serial Number with the Part Number  
and Name of Items needed when ordering Repair Parts.*

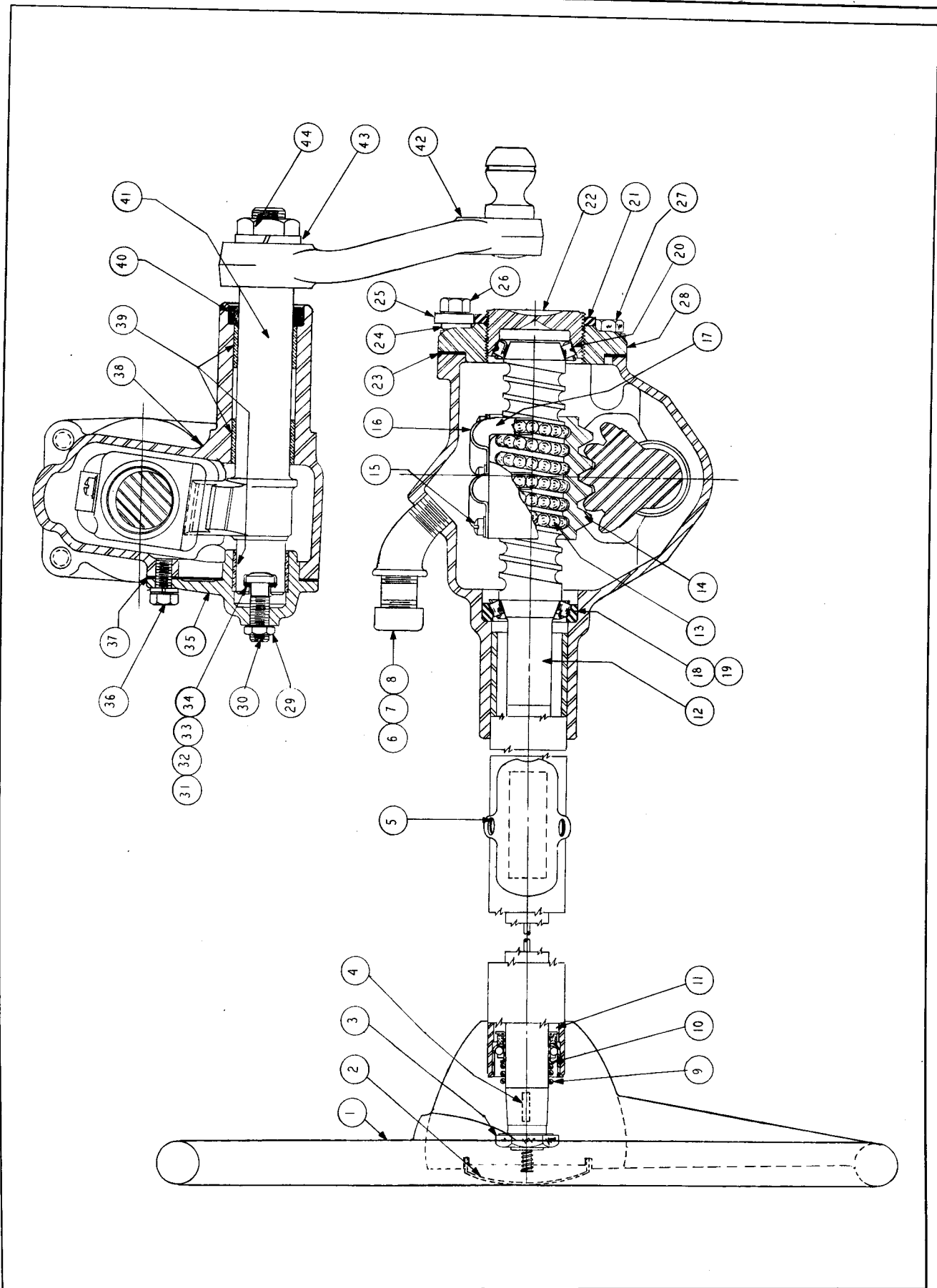
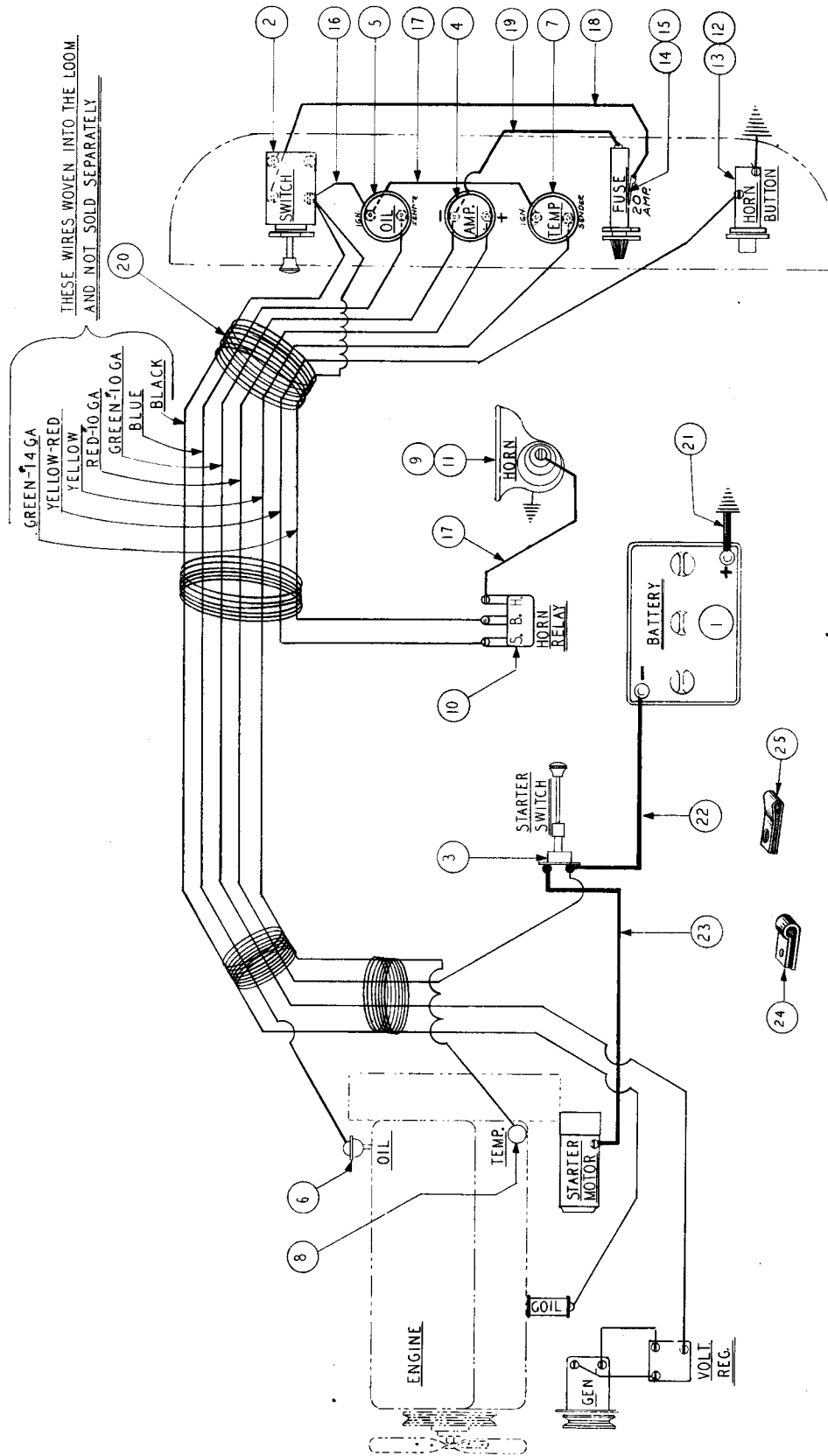


Fig. 38

**STEERING GEAR**

ITEM NO.	PART NO.	PART NAME	Qty.	1st Used on Payloaders of Serial Numbers	
				FROM	THRU
	110396	Steering Gear Complete. . . . .	1		
	112449	Steering Gear Ass'y but LESS Pitman Arm and Steering Wheel . . . . .	1		
1	112378	Steering Wheel. . . . .	1		
2	112380	Cap - Steering Wheel (see Item 45) . . . . .	1		
3	HS-923	Nut - Steering Wheel. . . . .	1		
4	HS-921	Key - Steering Wheel . . . . .	1		
5	108490	Cover - Horn Cable Connection. . . . .	1		
6		Pipe Cap - Filler Pipe . . . . .	1		
7	112767	Nipple - Filler Pipe . . . . .	1		
8	103498	Street Ell - Filler Pipe . . . . .	1		
9	HS-928	Spring - Upper Bearing . . . . .	1		
10	HS-926	Seat - Upper Bearing . . . . .	1		
11	HL-1821	Bearing Ass'y - Upper . . . . .	1		
12	112446	Shaft Ass'y; Ball Nut and Steering (includes Items 13 thru 18) . . . . .	1		
13	HS-911	Ball. . . . .	106		
14	107943	Nut - Ball. . . . .	1		
15	107940	Bolt Ass'y - Ball Guide . . . . .	3		
16	107941	Clamp - Ball Guide. . . . .	1		
17	107942	Guide - Ball Return . . . . .	4		
18	HS-915	Bearing - Worm Thrust - Housing. . . . .	1		
19	HS-905	Cup - Worm Thrust . . . . .	1		
20	HS-915	Bearing - Worm Thrust - Cover . . . . .	1		
21	HS-922	Lash Adjustor Lock . . . . .	1		
22	HS-913	Adjustor - Lash. . . . .	1		
23	HS-918	Gasket - End Cover . . . . .	1		
24	112244	Spacer - Adjustor Lock. . . . .	1		
25	112243	Block - Adjustor Lock. . . . .	1		
26	112343	Capscrew - End Cover and Block . . . . .	1		
27	HS-931	Capscrew - End Cover . . . . .	3		
28	HS-916	End Cover. . . . .	1		
29	HS-932	Nut - Lash Adjustor . . . . .	1		
30	HS-914	Lash Adjustor Screw. . . . .	1		
31	HA-1440	Shim - Lash Adjustor	} Select One. . . . .		
32	HA-1441	Shim - Lash Adjustor			
33	HA-1445	Shim - Lash Adjustor			
34	HA-1446	Shim - Lash Adjustor			
35	HS-902	Side Cover (includes one Bushing Item 39) . . . . .	1		
36	HS-930	Bolt - Side Cover . . . . .	3		
37	HS-919	Gasket - Side Cover . . . . .	1		
38	112447	Housing Ass'y (includes Item 19 and two of Item 39) . . . . .	1		
39	HS-904	Bushing - Pitman Shaft (included in Items 35 and 38) . . . . .	1		
40	HS-925	Seal - Pitman Shaft. . . . .	1		
41	HS-920	Pitman Shaft Gear . . . . .	1		
42	112448	Pitman Arm and Ball . . . . .	1		
43	HS-929	Washer - Pitman Arm Lock. . . . .	1		
44	HS-924	Nut - Pitman Arm Lock. . . . .	1		
45	112497	Screw - Steering Wheel Cap (not shown) . . . . .	2		

*Always give the Payloader Serial Number with the Part Number and Name of Items needed when ordering Repair Parts.*



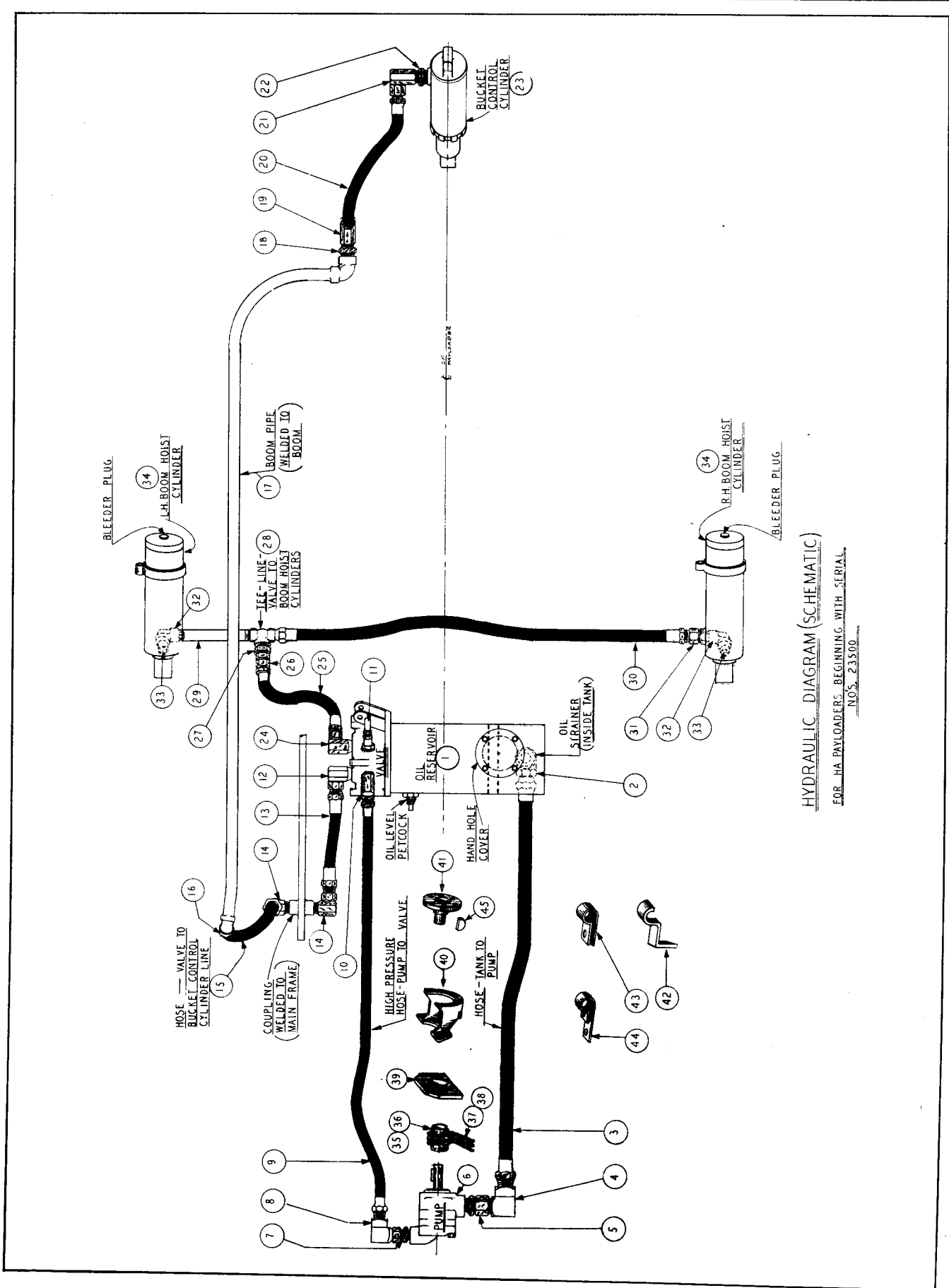
WIRING DIAGRAM  
(SCHEMATIC)  
FOR HA PAYLOADERS BEGINNING  
WITH SERIAL NOS. 23500

Fig. 39

**ELECTRICAL GROUP AND CONNECTIONS**

ITEM NO.	PART NO.	PART NAME	Qty.	1st Used on Payloaders of Serial Numbers	
				FROM	THRU
1		Battery - Exide #1 Sure Start - Buy Locally . . . . .	1		
2	HA-651	Ignition Switch - Dash . . . . .	1		
3	HL-3437	Starter Switch - Seat . . . . .	1		
4	HL-3151	Ammeter - Dash . . . . .	1		
5	HA-1343	Oil Gage - Dash Unit . . . . .	1		
6	HA-1344	Oil Gage - Engine Unit . . . . .	1		
7	107197	Temperature Gage - Dash Unit . . . . .	1		
8	104459	Temperature Gage - Engine Unit . . . . .	1		
9	HS-407	Horn . . . . .	1		
10	HS-451	Relay - Horn . . . . .	1		
11	HS-617	Bracket - Horn Mounting to Frame . . . . .	1		
12	112672	Horn Button Switch - Dash . . . . .	1		
13	112533	Bushing - Horn Button Mounting . . . . .	1		
14	112531	Fuse Retainer - Dash . . . . .	1		
15	101986	Fuse - 20 AMP. 3 AG Mounting . . . . .	1		
16	101981	Wire - Ignition Switch to Oil Gage . . . . .	1		
17	HA-1000	Wire - Gage to Gage and Horn to Relay . . . . .	2		
18	112529	Wire - Fuse Retainer to Switch - Soldered . . . . .	1		
19	112530	Wire - Fuse Retainer to Ammeter - Soldered . . . . .	1		
20	110418	Loom Wiring . . . . .	1		
21	HS-233	Cable - Battery Ground . . . . .	1		
22	110419	Cable - Battery to Switch . . . . .	1		
23	110420	Cable - Starter Switch to Motor . . . . .	1		
24	HA-1351	Clamp - Wiring Loom . . . . .	3		
25	HL-3550	Clip - Wiring . . . . .	1		

*Always give the Payloader Serial Number with the Part Number and Name of Items needed when ordering Repair Parts.*



HYDRAULIC DIAGRAM (SCHEMATIC)  
 FOR HA PAYLOADERS BEGINNING WITH SERIAL  
 NO. 23500

Fig. 40



## HYDRAULIC HOSES AND CONNECTIONS

ITEM NO.	PART NO.	PART NAME	Qty.	1st Used on Payloaders of Serial Numbers	
				FROM	THRU
<b>SUCTION LINE - RESERVOIR TO PUMP</b>					
1		Reservoir - See Oil Reservoir Group. . . . .			
2	105714	Adapter Union - 1" x 90° Female . . . . .	1		
3	HA-990	Hose - 1" Suction. . . . .	1		
4	105714	Adapter Union - 1" x 90° Female . . . . .	1	23501	23600
4	111785	Street Ell - Special - 1" x 90° . . . . .	1	23601	up
5	112846	Nipple . . . . .	1	23501	23600
5	GH-8116A1	Adapter Union - 1" Straight . . . . .	1	23601	up
6		Pump - See Pump Group . . . . .	1		
<b>HIGH PRESSURE LINE - PUMP TO VALVE</b>					
7	103047	Adapter Union - 1/2" Straight. . . . .	1		
8	111784	Street Ell - Special - 1/2 x 90°. . . . .	1		
9	108845	Hose - 1/2" High Press. . . . .	1		
10	104409	Adapter Union - 1/2" x 90° . . . . .	1		
11		Valve - See Valve Group . . . . .	1		
<b>LINE - VALVE TO BUCKET CONTROL CYLINDER</b>					
12	104409	Adapter Union - 1/2 x 90° . . . . .	1		
13	112298	Hose - 1/2" High Press. . . . .	1		
14	104409	Adapter Union - 1/2" x 90° - In Frame Coupling . . . . .	2		
15	112297	Hose - 1/2" High Press. . . . .	1		
16		Reducer Bushing - 1/2" to 3/4" - Boom Pipe . . . . .	1		
17		Boom Pipe - See Boom Group. . . . .	1		
18		Reducer Bushing - 1/2" to 3/4" - Boom Pipe . . . . .	1		
19	104409	Adapter Union - 1/2" x 90° . . . . .	1		
20	106867	Hose - 1/2" High Press. . . . .	1		
21	104409	Adapter Union - 1/2" x 90° . . . . .	1		
22		Reducer Bushing 1/2" to 3/4". . . . .	1		
23		Bucket Control Cylinder - See Hoist Group. . . . .	1		
<b>LINE - VALVE TO BOOM HOIST CYLINDERS</b>					
24	104409	Adapter Union - 1/2" x 90° . . . . .	1		
25	106867	Hose - 1/2" High Press. . . . .	1		
26	103047	Adapter Union - 1/2" Straight. . . . .	1		
27		Reducer Bushing - 1/2" to 3/4" . . . . .	1		
28	HA-1070	Tee - 3/4" W.O.G. Forged. . . . .	1		
29	109818	Nipple - 3/4" Ex. Hy. - L.H. Hoist . . . . .	1		
30	HA-989	Hose - 3/4" High Press - R.H. Hoist. . . . .	1		
31	HA-790	Adapter Union - 3/4" Straight - R.H. Hoist. . . . .	1		
32	107985	Elbow - 3/4" x 90° Forged. . . . .	2		
33	111741	Nipple - 3/4" Ex. Hy. Short . . . . .	2		
34		Boom Cylinder - See Hoist Group . . . . .			
<b>AUXILIARY PARTS</b>					
35	HA-761	Flexible Coupling Complete (includes Items 36 - 37). . .	1		
36	HA-1408	Sprocket - Flexible Coupling . . . . .	2		
37	HA-1409	Chain - Flexible Coupling . . . . .	1		
38	HA-1410	Connecting Link - Flexible Coupling . . . . .	1		
39	111437	Adapter Plate - Pump to Bracket . . . . .	1		
40	111560	Bracket - Pump to Engine . . . . .	1		
41	HA-763	Drive Shaft - to Engine Crankshaft . . . . .	1		
42	112455	Hose Support. . . . .	1		
43	HL-3551	Hose Clamp. . . . .	1		
44	HA-1022	Hose Clamp. . . . .	1		
45		Key - Pump Drive Shaft - #9 Woodruff. . . . .			

*Always give the Payloader Serial Number with the Part Number and Name of Items needed when ordering Repair Parts.*

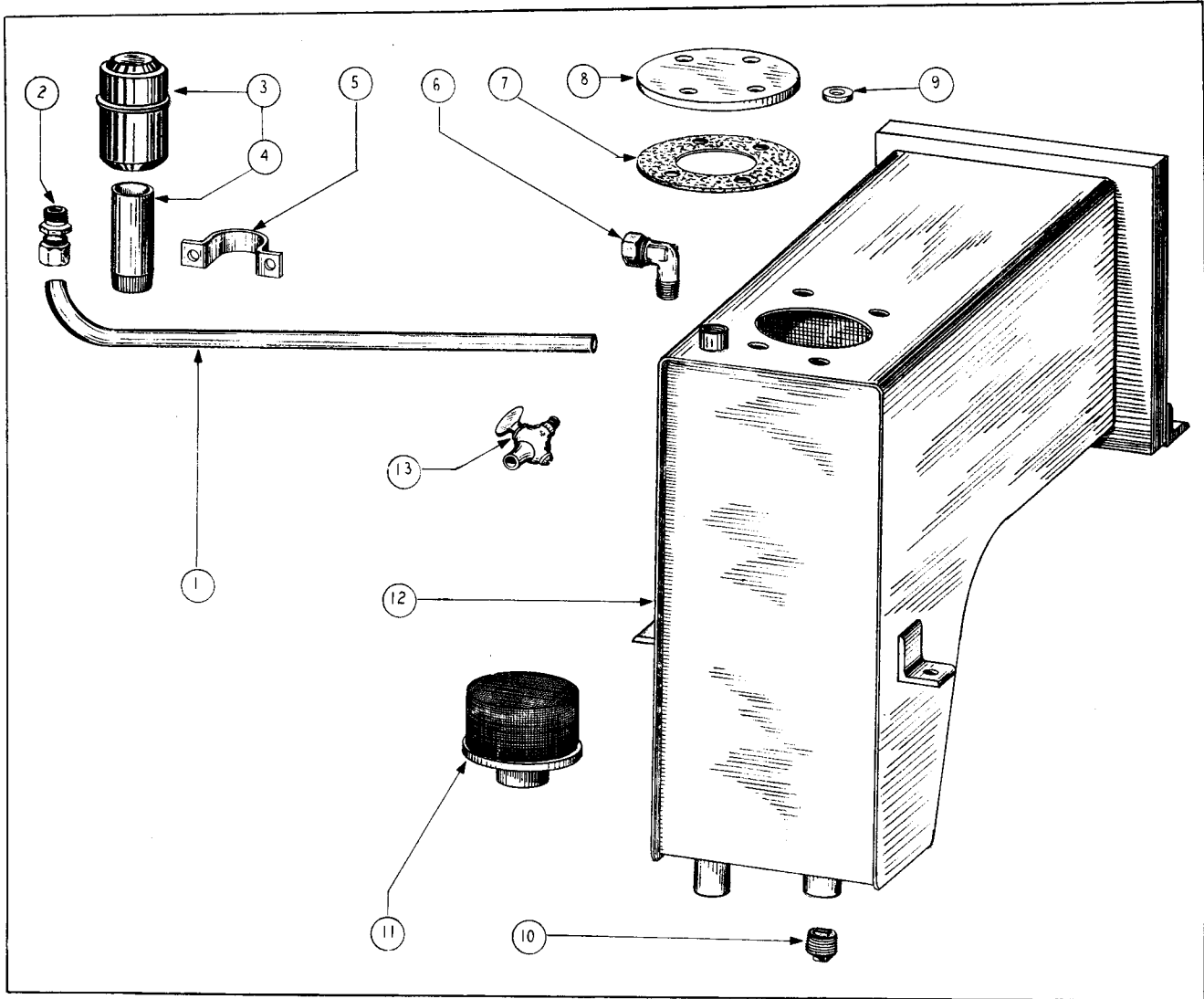


Fig. 41  
OIL RESERVOIR GROUP

ITEM NO.	PART NO.	PART NAME	Qty.	1st Used on Payloaders of Serial Numbers	
				FROM	THRU
1	113228	Tube - Breather Line . . . . .	1		
2	112423	Connection - Breather Pipe . . . . .	1		
3	103000	Cap - Breather Pipe . . . . .	1		
4	103896	Breather Pipe . . . . .	1		
5	103900	Clamp - Breather Pipe . . . . .	1		
6	103898	Elbow - Breather Pipe . . . . .	1		
7	HA-902	Gasket - Cleanout Cover . . . . .	1		
8	113453	Cleanout Cover (center hole tapped 1/8" pipe). . . . .	1		
9	EW-198	Washer - Cleanout Cover. . . . .	4		
10	103941	Drain Plug - 3/4" Magnetic - Reservoir. . . . .	1		
11	110122	Strainer - Reservoir Suction Outlet. . . . .	1		
12	110113	Oil Reservoir . . . . .	1		
13	HH-10054A	Petcock - Oil Level . . . . .	11		
	113067	Clamp - Breather Tube - (not shown). . . . .	1		

Always give the Payloader Serial Number with the Part Number and Name of Items needed when ordering Repair Parts.

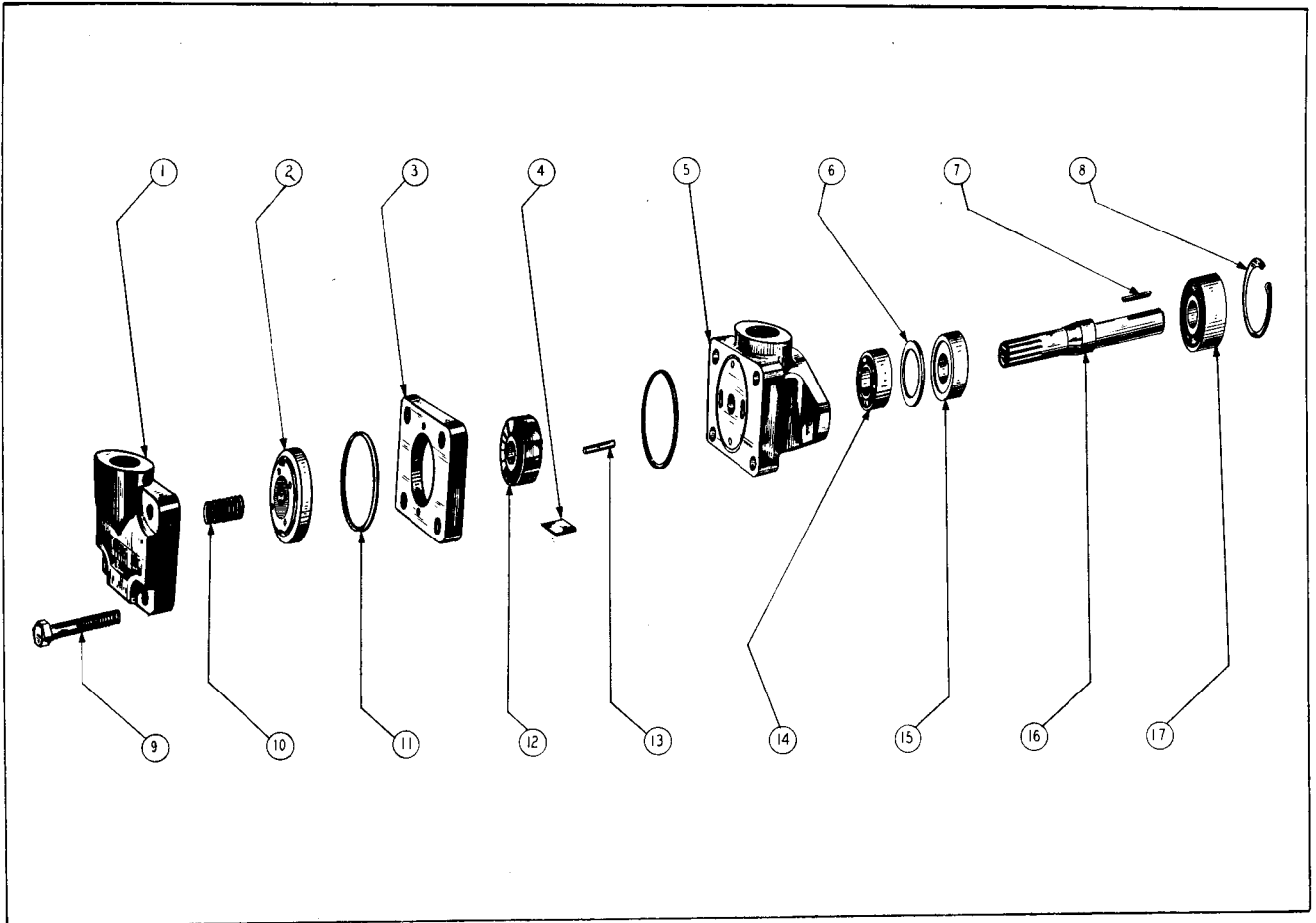


Fig. 42  
PUMP GROUP

ITEM NO.	PART NO.	PART NAME	Qty.	1st Used on Payloaders of Serial Numbers	
				FROM	THRU
	107654	Pump Complete . . . . . (Vickers V210-8-1A-12LH)			
1	112949	Cover . . . . .	1		
2	112951	Plate - Pressure . . . . .	1		
3	109638	Ring . . . . .	1		
4	109649	Vane . . . . .	12		
5	109642	Body . . . . .	1		
6	112947	Spacer . . . . .	1		
7	109646	Key . . . . .	1		
8	109648	Snap Ring . . . . .	1		
9	112950	Screw . . . . .	4		
10	109635	Spring . . . . .	1		
11	109637	Sealing Ring . . . . .	2		
12	109650	Rotor . . . . .	1		
13	109641	Pin . . . . .	2		
14	109643	Ball Bearing . . . . .	1		
15	112948	Oil Seal . . . . .	1		
16	109645	Shaft . . . . .	1		
17	109647	Ball Bearing . . . . .	1		

Always give the Payloader Serial Number with the Part Number and Name of Items needed when ordering Repair Parts.

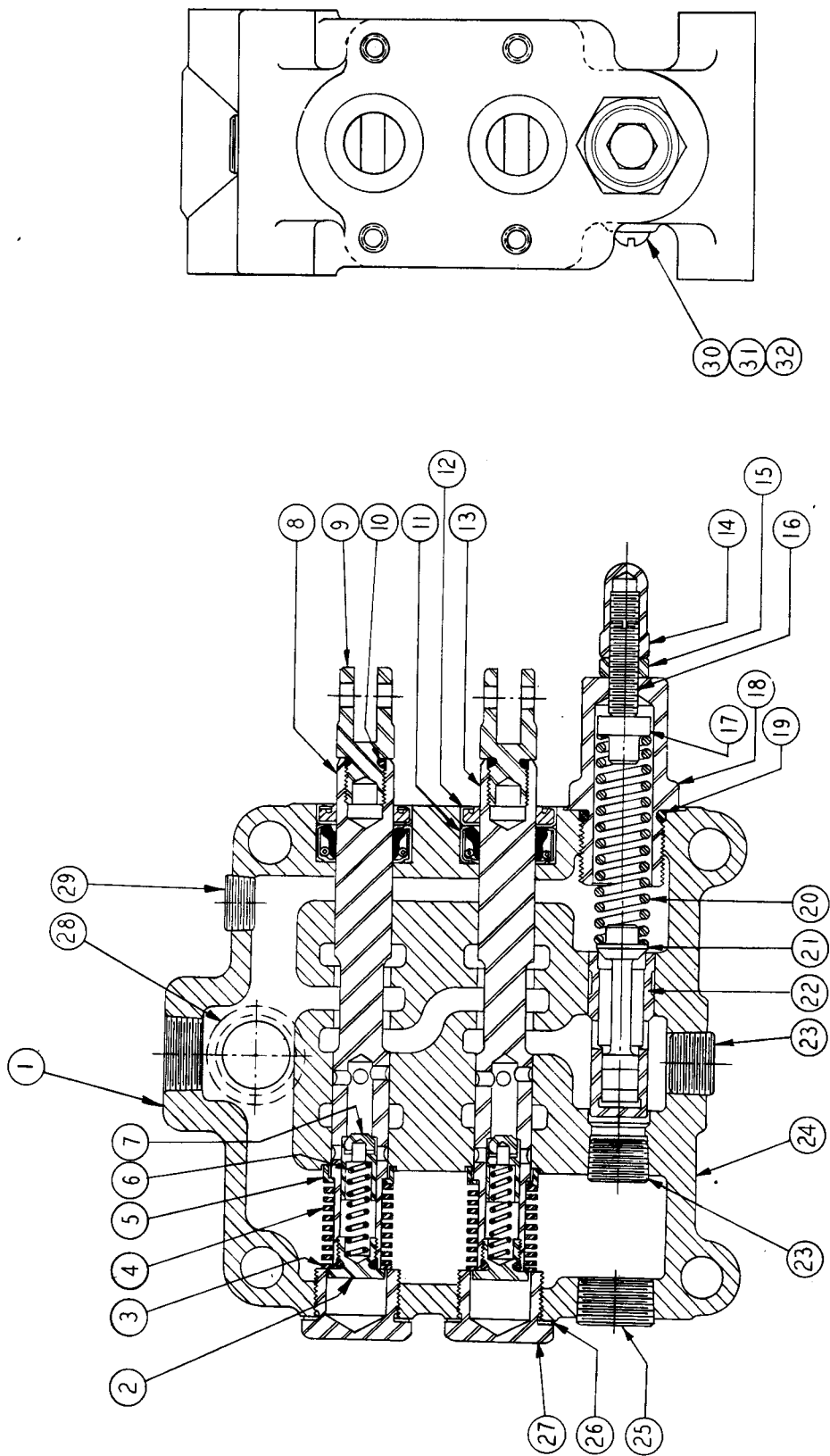


Fig. 43

## VALVE GROUP

ITEM NO.	PART NO.	PART NAME	Description	Qty.	1st Used on Payloaders of Serial Numbers	
					FROM	THRU
1	105735	Valve Complete. . . . .	V1SS1C	1	21803	up
2	106701	Cap . . . . .	514 x 94	1		
3	106703	Washer . . . . .	A408 x 14	2		
4	106706	Return Spring . . . . .	A502 x 17	2		
5	106707	Washer . . . . .	A506 x 1	2		
6	106705	Check Spring . . . . .	A501 x 19	2		
7	106700	Check Plunger . . . . .	513 x 13A	2		
8	106699	Plunger . . . . .	512 x 62	2		
9	106702	Plunger Eye . . . . .	516 x 30	2		
10	106704	Seal Ring . . . . .	A466 x 2	4		
11	106720	Seal . . . . .	A362 x 18	4		
12	106721	Seal . . . . .	A364 x 9	4		
13	106698	Plunger Assembly (Items 2 thru 9) . . . . .	512 x 62K5	2		
14	106726	Acorn Nut . . . . .	A427 x 5	1		
15	106716	Jam Nut . . . . .	A249 x 3	1		
16	106715	Adjuster Screw . . . . .	A232 x 10	1		
17	106710	Spring Stop . . . . .	416 x 5	1		
18	106712	Adjusting Cap . . . . .	514 x 224	1		
19	106722	Seal Ring . . . . .	A395 x 17	1		
20	106727	Relief Spring . . . . .	A501 x 182	1		
21	106709	Relief Valve Plunger . . . . .	415 x 43	1		
22	106708	Relief Valve Seat . . . . .	414 x 42	1		
23	106822	Pipe Plug . . . . .	A300 x 4	8		
24	106697	Housing (Identification only - not furnished) . . . . .	525 x 199	1		
25	106719	Pipe Plug . . . . .	A300 x 5	1		
26	106725	Gasket . . . . .	A402 x 12	2		
27	106711	Cap . . . . .	514 x 93	2		
28	106723	Seal Ring (Valve to Reserboir) . . . . .	A395 x 19	1		
29	106717	Pipe Plug . . . . .	A300 x 3	2		
30	106714	Set Screw . . . . .	A180 x 4	1		
31	106713	Machine Screw . . . . .	A151 x 2	1		
32	106724	Gasket . . . . .	A402 x 3	1		

**NOTE:** *Plunger cores are individually honed to fit housings.  
Plunger field replacement not recommended.*

*Always give the Payloader Serial Number with the Part Number  
and Name of Items needed when ordering Repair Parts.*

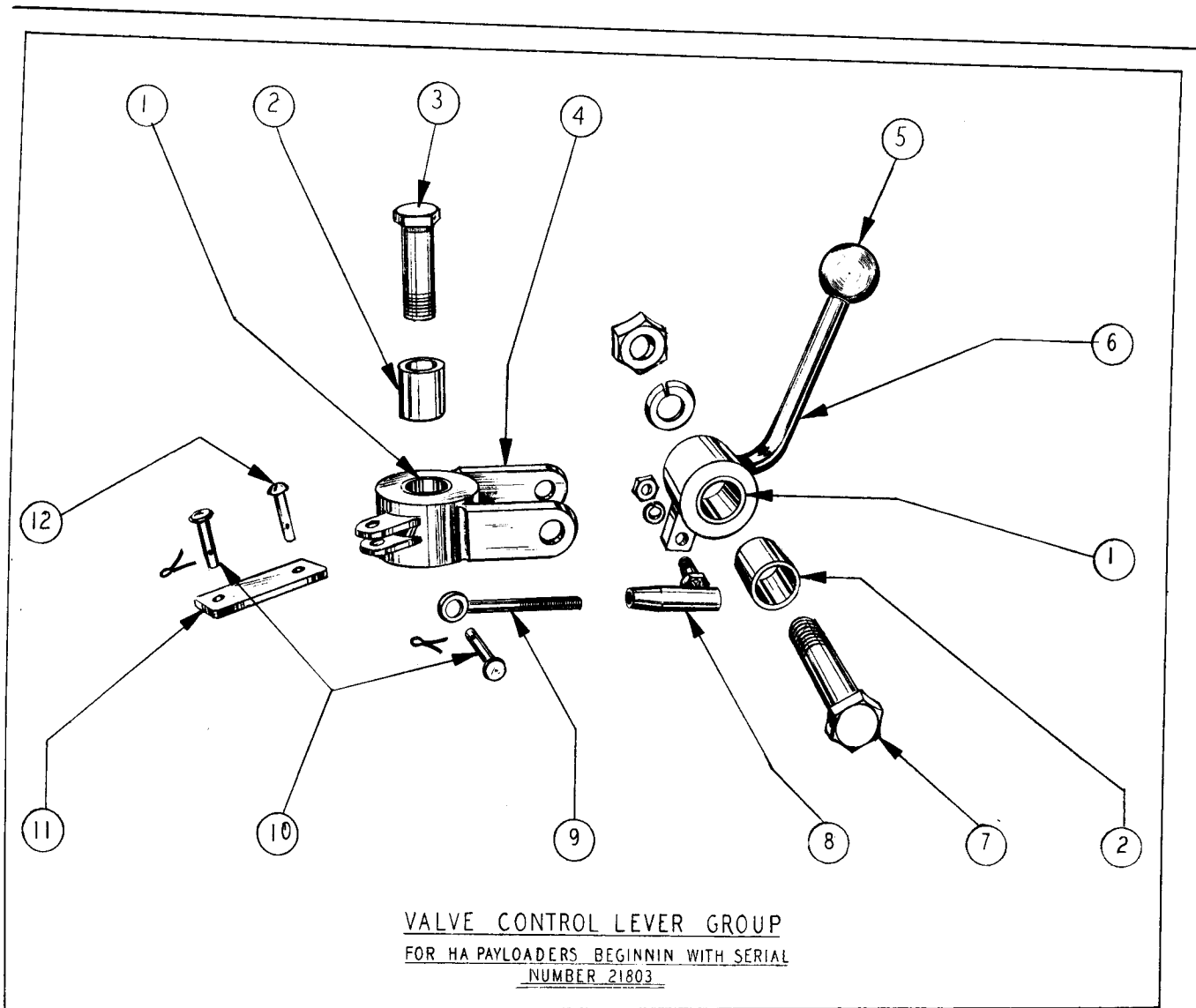


Fig. 44  
VALVE CONTROL GROUP

ITEM NO.	PART NO.	PART NAME	Qty.	1st Used on Payloaders of Serial Numbers	
				FROM	THRU
1	102092	Bushing - Swivel and Lever . . . . .	2		
2	101572	Sleeve - Swivel and Lever . . . . .	2		
3		Bolt - Swivel - 5/8" NF Thd. x 2-3/4" Lg. with nut . . . . .	1		
4	105723	Swivel . . . . .	1		
5	HL-3343	Ball - Hand Lever . . . . .	1		
6	105726	Hand Lever . . . . .	1		
7		Bolt - Hand Lever - 5/8" NF Thd. x 2-1/2" Lg . . . . .	1		
8	105068	Ball Joint - Lever to Valve . . . . .	1		
9	HL-3610	Eyebolt - Ball Joint to Valve . . . . .	1		
10	HL-1264	Pivot Pin - Eyebolt to Link . . . . .	2		
11	105728	Link - Swivel to Valve. . . . .	1		
12	106024	Pivot Pin - Link to Swivel . . . . .	1		

*Always give the Payloader Serial Number with the Part Number and Name of Items needed when ordering Repair Parts.*

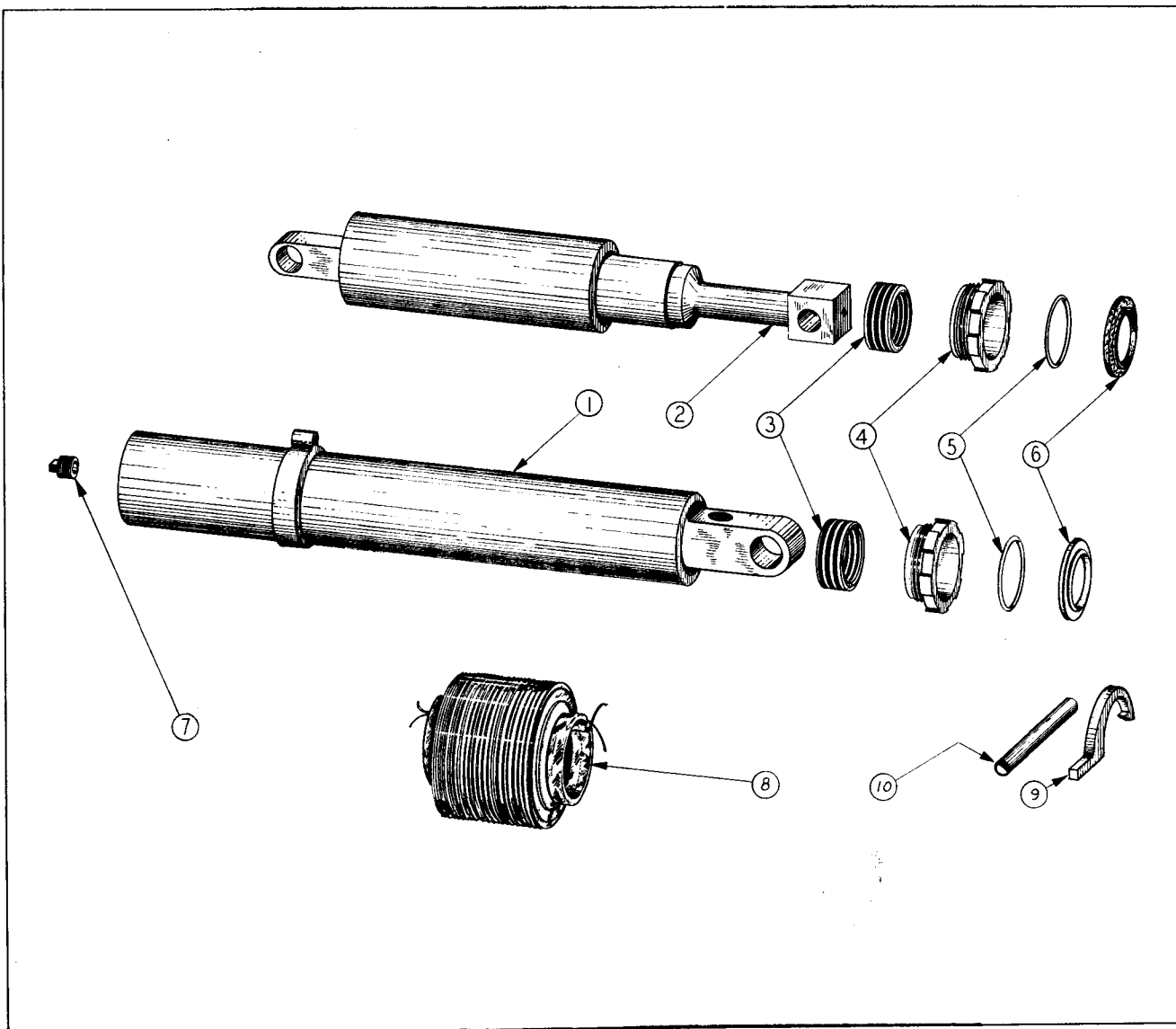


Fig. 45  
HOIST GROUP

*See PD 170*

ITEM NO.	PART NO.	PART NAME	Qty.	1st Used on Payloaders of Serial Numbers	
				FROM	THRU
1	107740	Boom Hoist Complete . . . . .	2		
2	104977	Bucket Control Cylinder Complete. . . . .	1		
3	103267	Packing Set - Continuous Ring } Optional. . . . .	3		
3	104085	Packing Set - Split Ring	3		
4	103543	Packing Nut . . . . .	3		
5	103546	"O" Ring - Packing Nut . . . . .	3		
6	103544	Wiper Ring - Packing Nut . . . . .	3		
7		Bleeder Plug - Boom Hoists. . . . .	2		
8	104089	Boot - Boom Hoist . . . . .	2		
9	102840	Wrench - Packing Nut. . . . .	1		
10	102838	Handle - Spanner Wrench. . . . .	1		

Always give the Payloader Serial Number with the Part Number and Name of Items needed when ordering Repair Parts.

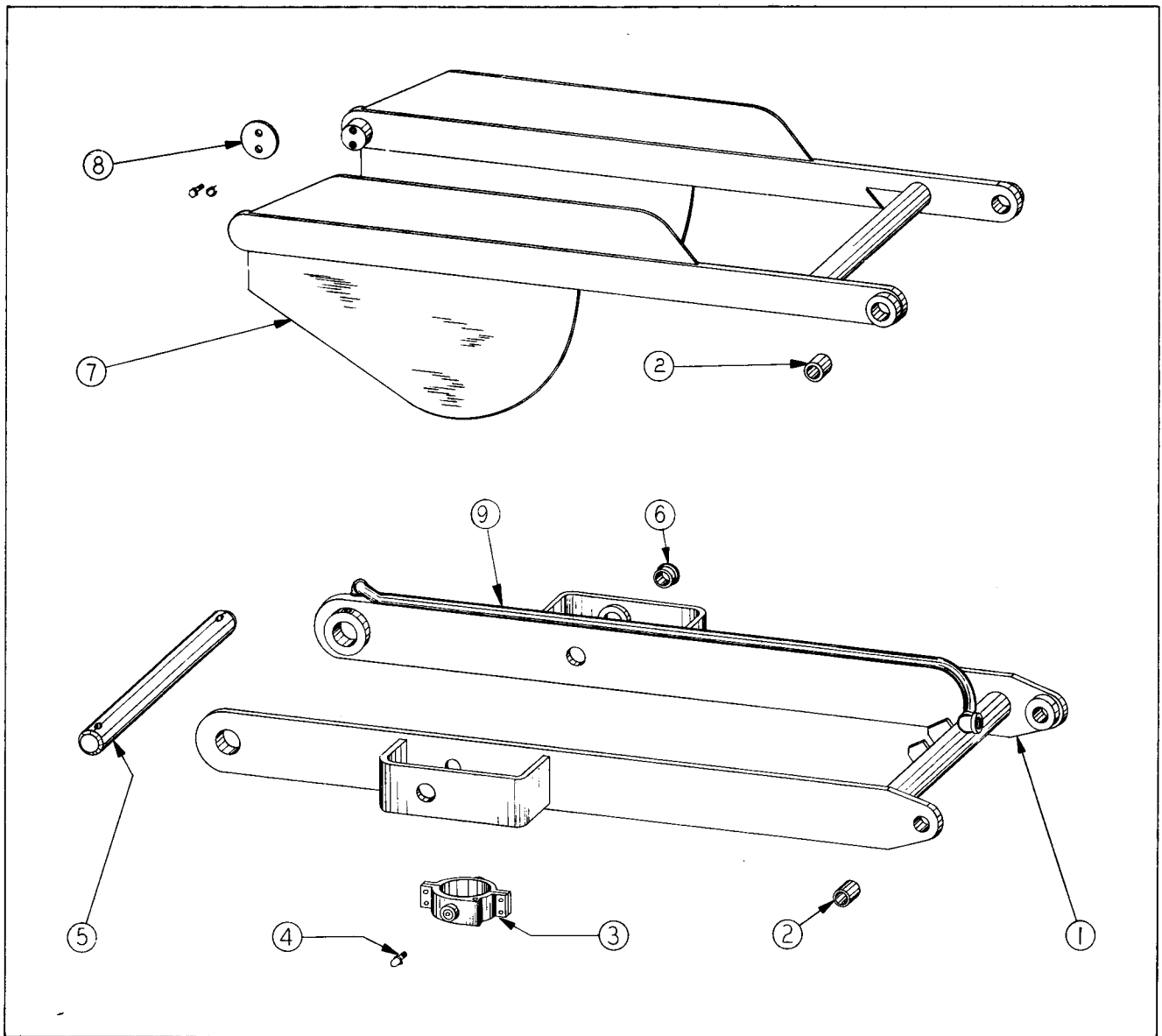


Fig. 46  
BOOM AND GUIDE GROUP

ITEM NO.	PART NO.	PART NAME	Qty.	1st Used on Payloaders of Serial Numbers	
				FROM	THRU
1	112342	Boom Complete . . . . .	1		
2	HA-670	Bushing - Boom and Guide to Carrier . . . . .	4		
3	106944	Trunnion - Hoist to Boom . . . . .	2		
4		Grease Fitting - Trunnion - 1/4 - 28 Thd. Alemite. . . . .	4		
5	111646	Shaft - Boom Frame Pivot . . . . .	1		
6	106943	Bushing - Trunnion Pivot Inner and Outer. . . . .	4		
7	HA-680	Guide Complete . . . . .	1		
8	HA-677	Retainer - Guide to Frame. . . . .	2		
9	112341	Pipe Ass'y - Welded to Boom . . . . .	1		

Always give the Payloader Serial Number with the Part Number and Name of Items needed when ordering Repair Parts.



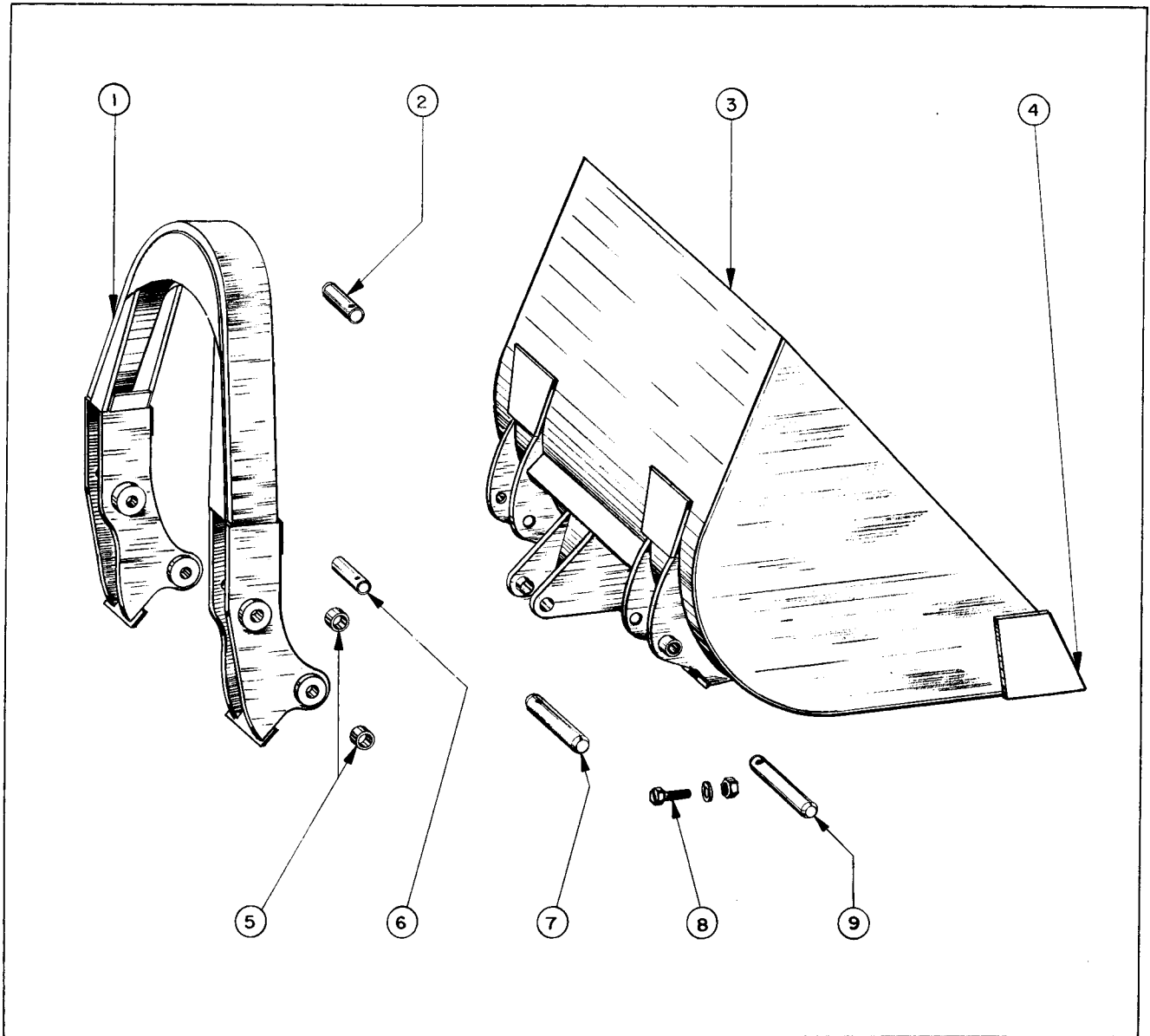


Fig. 47  
 BUCKET AND CARRIER GROUP

ITEM NO.	PART NO.	PART NAME	Qty.	1st Used on Payloaders of Serial Numbers	
				FROM	THRU
1	104947	Carrier Complete. . . . .	1		
2	104865	Pin - Hoist to Carrier. . . . .	1		
3	106927	Bucket - 48" (includes Item 4) . . . . .	1		
4	101646	Cutting Edge - Bucket. . . . .	1		
5	HA-691	Bushing - Boom and Guide to Carrier . . . . .	4		
6	HA-977	Pin - Boom to Carrier . . . . .	2		
7	104864	Pin - Hoist to Bucket . . . . .	1		
8	108095	Bolt - Hinge Pin Lock. . . . .	2		
9	109226	Hinge Pin - Bucket Pivot. . . . .	2		

Always give the Payloader Serial Number with the Part Number and Name of Items needed when ordering Repair Parts.

**EXTRA EQUIPMENT**

PART NO.	Qty.	PART NAME
106454 HA-898	1 1	36" Buecket - Serial No's 21803 and up. Cutting Edge - 36" Bucket.
105354 101693	1 1	42" Bucket - Serial No's 21803 and up. Cutting Edge - 48" Bucket.
106483 HA-906	1 1	60" Bucket - Serial No's 21803 and up. Cutting Edge - 60" Bucket.
105896 110573		Fork Lift Bucket - Serial No's 21803 and up. Fork Bucket - 18 Tine.
HH-5515-A1		Bucket Teeth. - 4 Teeth for 36" Bucket 5 Teeth for 46" Bucket 6 Teeth for 48" Bucket 8 Teeth for 60" Bucket
112547 HA-1054 HA-1083 HA-1056 HA-1057 HA-910 112549 112244	1 1 1 1 1 3 1 2	Flame and Spark Arresting Exhaust System (includes next 5 Items). Muffler. Exhaust Elbow. Flame Arrestor. Baffle. Clamp Exhaust. Bracket - Muffler Support. Spacer - Bracket to Support.
112589 112585 HS-1002	1 1 1	Fire Proof Fuel Tank (consists of next 2 Items). Fire Proof Tank. Tank Cap Ass'y.
112579 HA-1073	2 2	Solid Tire Drive Wheel with Tire. Solid Tire Rear Wheel with Tire.
113181 113182 113186 113189 113207	1 1 1 1 1	Water Muffler Attachment (includes next 4 Items). Water Muffler. Exhaust Tube. Exhaust Pipe. Support - Muffler.

*Always give the Payloader Serial Number with the Part Number  
and Name of Items needed when ordering Repair Parts.*

NUMERICAL INDEX

PART NO.	PAGE	PART NO.	PAGE	PART NO.	PAGE	PART NO.	PAGE
EW-198	32	HA-1000	29	HS-407	29	103267	37
		HA-1006	7	HS-451	29	103498	27
		HA-1009	13	HS-617	29	103505	7
		HA-1022	31	HS-830	25	103543	37
GH-211	11-15	HA-1023	7	HS-831	25	103544	37
GH-212	11-15	HA-1025	7	HS-832	25	103546	37
GH-8116A1	31	HA-1054	40	HS-898	7	103835	7
		HA-1056	40	HS-902	27	103836	7
		HA-1057	40	HS-904	27	103838	7
HA-201	25	HA-1070	31	HS-905	27	103896	32
HA-352	7	HA-1073	40	HS-911	27	103898	32
HA-353	7	HA-1083	40	HS-913	27	103900	32
HA-354	7	HA-1279	7	HS-914	27	103941	32
HA-378	25	HA-1282	13	HS-915	27		
HA-396	25	HA-1284	13	HS-916	27		
HA-397	25	HA-1285	13	HS-918	27		
HA-402	25	HA-1321	25	HS-919	27	104085	37
HA-409	25	HA-1332	21	HS-920	27	104089	37
HA-484	21	HA-1333	21	HS-921	27	104409	31
HA-494	25	HA-1334	21	HS-922	27	104459	29
HA-520	13	HA-1335	21	HS-923	27	104510	3
HA-614	25	HA-1343	29	HS-924	27	104573	17
HA-651	29	HA-1344	29	HS-925	27	104579	17
HA-670	38	HA-1351	29	HS-926	27	104581	10-17-18
HA-677	38	HA-1408	31	HS-928	27	104588	18
HA-680	38	HA-1409	31	HS-929	27	104589	10-18
HA-691	39	HA-1410	31	HS-930	27	104600	17
HA-759	32	HA-1422	7	HS-931	27	104616	9
HA-761	31	HA-1440	27	HS-932	27	104617	9
HA-763	31	HA-1441	27	HS-979	7	104626	10-17
HA-790	31	HA-1445	27	HS-1002	40	104633	17
HA-795	11-21	HA-1446	27	HS-1042	25	104756	14
HA-807	19	HA-1471	7			104758	14
HA-811	25					104864	39
HA-812	25			X-229	25	104865	39
HA-814	25	HH-10054A	32	X-230	25	104947	39
HA-834	25	HH-5515A1	40	X-394	25	104977	37
HA-845	19						
HA-871	25					105022	19
HA-872	25					105068	36
HA-875	25	HL-1264	36	101022	3	105106	14
HA-876	25	HL-1821	27	101572	36	105112	14
HA-881	21	HL-3151	29	101646	39	105354	40
HA-882	21	HL-3190	11	101693	40	105394	21
HA-883	21	HL-3343	15-36	101981	29	105714	31
HA-884	21	HL-3437	29	101986	29	105723	36
HA-898	40	HL-3485	21			105726	36
HA-902	32	HL-3486	21			105728	36
HA-906	40	HL-3550	7-21-29			105735	35
HA-909	7	HL-3551	31	102092	11-15-21	105862	7
HA-910	7-40	HL-3562	7			105896	40
HA-928	7	HL-3610	36	102384	23	105907	21
HA-929	25	HL-3634	5	102838	37		
HA-953	18	HL-3635	5	102840	37		
HA-963	7						
HA-977	39					106024	36
HA-984	21					106080	25
HA-989	31	HS-233	29	103000	32	106454	40
HA-990	31	HS-257	7	103047	31		

NUMERICAL INDEX - Continued

PART NO.	PAGE	PART NO.	PAGE	PART NO.	PAGE	PART NO.	PAGE
106475	19	109271	3	110380	14	111111	17
106483	40	109508	10-17	110382	18	111112	18
106697	35	109635	33	110385	25	111113	10
106698	35	109637	33	110388	25	111114	9
106699	35	109638	33	110389	25	111115	17
106700	35	109641	33	110390	25	111116	10
106701	35	109642	33	110391	13	111117	10
106702	35	109643	33	110392	13	111118	10
106703	35	109645	33	110393	13	111119	10-18
106704	35	109646	33	110394	25	111120	10
106705	35	109647	33	110396	27	111121	10
106706	35	109648	33	110407	13	111122	10
106707	35	109649	33	110413	21	111123	18
106708	35	109650	33	110414	21	111124	10
106709	35	109818	31	110418	29	111125	10
106710	35	109983	7	110419	29	111126	10
106711	35			110420	29	111127	18
106712	35			110438	5	111128	18
106713	35			110441	7	111129	17
106714	35	110074	9	110458	25	111130	17
106715	35	110113	32	110506	3	111131	17
106716	35	110121	32	110507	3	111132	17
106717	35	110122	32	110548	3	111134	18
106719	35	110123	32	110564	13	111135	18
106720	35	110204	5	110573	40	111136	18
106721	35	110261	3	110771	5	111137	18
106722	35	110295	19	110772	5	111138	17
106723	35	110297	19	110773	5	111139	17
106724	35	110299	21	110775	5	111140	17
106725	35	110304	11	110836	7	111141	17
106726	35	110308	21	110881	13	111142	17
106727	35	110309	11	110883	13	111146	10
106822	35	110310	21	110884	13	111147	10
106867	31	110311	11	110885	13	111151	17
106927	39	110314	15	110886	13	111153	17
106943	38	110317	15	110887	13	111154	17
106944	38	110322	15	110888	13	111155	10
		110323	15	110889	13	111163	17
		110328	25	110890	13	111164	17
		110332	25	110891	13	111165	17
107197	29	110333	25	110892	13	111167	17
107654	33	110334	25	110902	13	111168	17
107677	5	110335	5	110967	7	111170	17
107740	37	110336	5			111171	17
107802	25	110344	7			111173	17
107875	5	110347	5			111174	9
107940	27	110348	5	111005	7	111175	9
107941	27	110349	5	111065	5	111176	17
107942	27	110350	5	111082	17	111178	9
107943	27	110351	5	111083	18	111179	9
107985	31	110352	7	111084	18	111180	10
		110354	7	111090	17	111181	9
		110355	7	111091	17	111182	9
108095	39	110356	7	111092	9	111183	10
108490	27	110358	7	111095	9	111184	18
108643	18	110359	7	111096	9	111185	9
108845	31	110360	7	111102	17	111186	9
		110361	7	111104	17	111187	10
		110365	7	111107	17	111188	9
109145	17	110367	7	111108	10	111189	9
109226	39	110369	3	111109	10	111190	18

NUMERICAL INDEX - Continued

PART NO.	PAGE	PART NO.	PAGE	PART NO.	PAGE	PART NO.	PAGE
111191	18	111457	23	112332	25	113032	17
111192	18	111458	23	112333	25	113033	18
111193	18	111459	23	112334	25	113034	18
111194	9	111460	23	112335	25	113035	18
111195	9	111461	23	112336	25	113036	17
111196	9	111462	23	112337	25	113037	18
111203	17	111463	23	112341	38	113038	18
111204	17	111560	31	112342	38	113039	18
111205	9	111575	21	112343	27	113040	18
111206	9	111576	7	112378	27	113041	18
111207	9	111577	7	112380	27	113042	23
111208	18	111578	7	112381	5	113043	10
111209	18	111636	14	112390	3	113045	23
111210	18	111637	14	112398	10	113046	23
111211	9	111638	14	112420	7	113065	25
111212	9	111639	14	112423	32	113066	25
111213	9	111642	14	112446	27	113067	32
111214	18	111643	14	112447	27	113181	40
111215	18	111644	14	112448	27	113182	40
111216	10	111646	38	112449	27	113186	40
111217	9	111714	3	112455	31	113189	40
111218	10	111715	3	112467	5	113207	40
111219	9	111724	3	112479	7	113228	32
111220	10	111733	3	112497	27	113346	21
111221	10	111739	7	112498	5		
111227	17	111740	3	112513	7		
111228	18	111741	31	112529	29		
111234	18	111758	23	112530	29		
111235	18	111759	23	112531	29		
111237	9	111760	23	112533	29		
111239	9	111762	23	112539	17		
111242	9	111763	23	112540	17		
111245	9	111764	23	112541	17		
111246	9	111772	23	112542	17		
111247	9	111774	23	112547	40		
111248	18	111781	3	112549	40		
111249	10	111784	31	112579	40		
111251	9	111785	31	112585	40		
111252	10	111904	15	112589	40		
111253	9			112672	29		
111254	9			112691	5		
111255	9			112767	27		
111256	9	112064	17	112846	31		
111257	18	112092	7	112885	25		
111258	9	112093	7	112887	25		
111259	9	112159	7	112890	7		
111260	9	112160	7	112947	33		
111261	9	112177	25	112948	33		
111262	9	112178	25	112949	33		
111263	9	112181	3	112950	33		
111264	9	112243	27	112951	33		
111266	9	112244	27-40	112997	23		
111268	9	112297	31	112998	23		
111269	9	112298	31	112999	23		
111270	9	112317	5				
111271	9	112324	7				
111272	10	112325	18				
111273	9	112326	18	113001	25		
111373	25	112327	7	113029	23		
111398	7	112329	7	113030	23		
111437	31	112330	7	113031	17		