

# **HANCOCK**

## **PARTS MANUAL**

### **NO.1008**

#### **MODEL 12E2E**

#### **ELEVATING SCRAPER**

●

Information contained herein pertains to 12E2E Serial Numbers 2E 1 L5146  
thru 2E 999 LXXXX

This Manual Supersedes 12E2E Parts Catalog No. PC 44-2 and Parts Bul-  
letins PB 013 & PB 016

Record Your Machine  
Serial Number Here

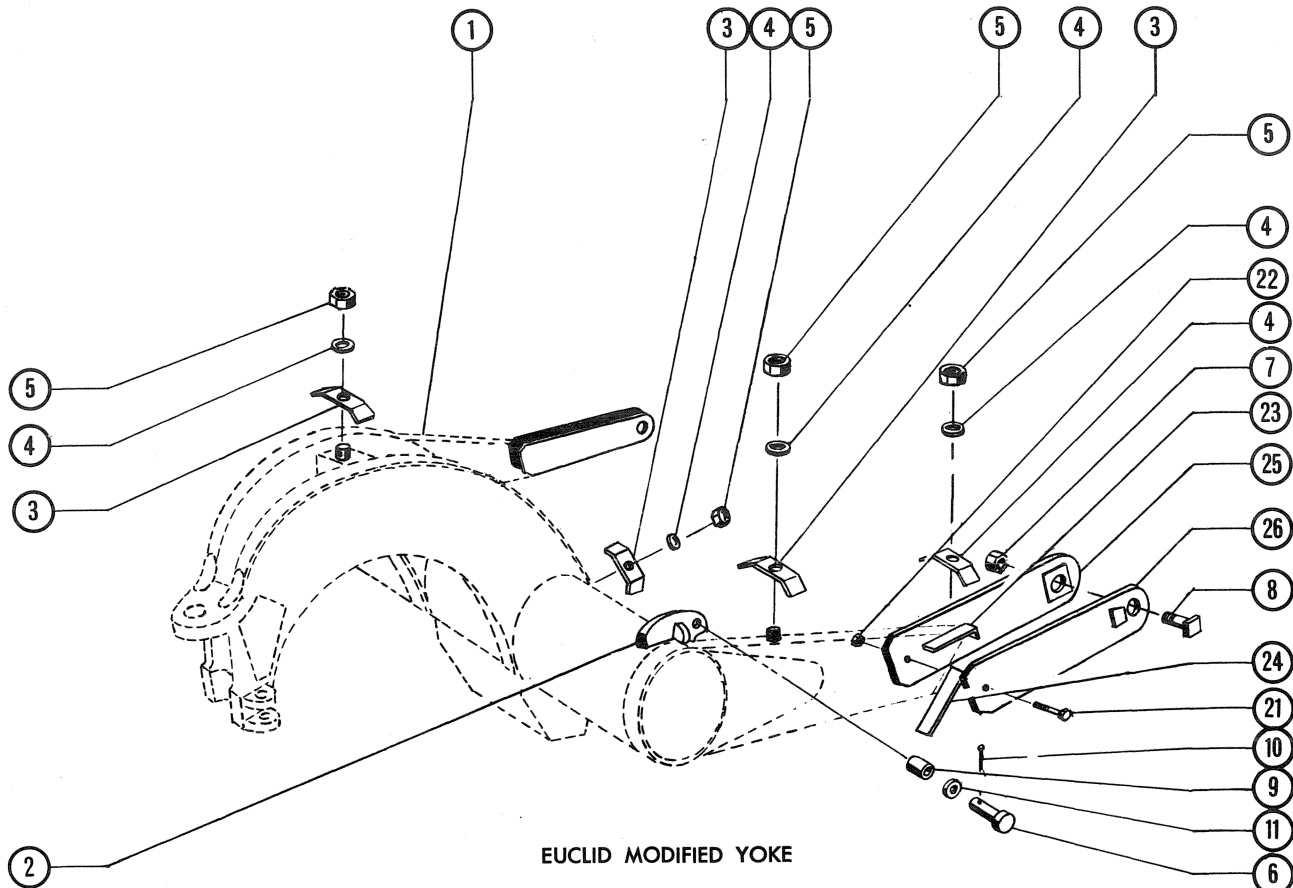
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## **CLARK EQUIPMENT COMPANY**

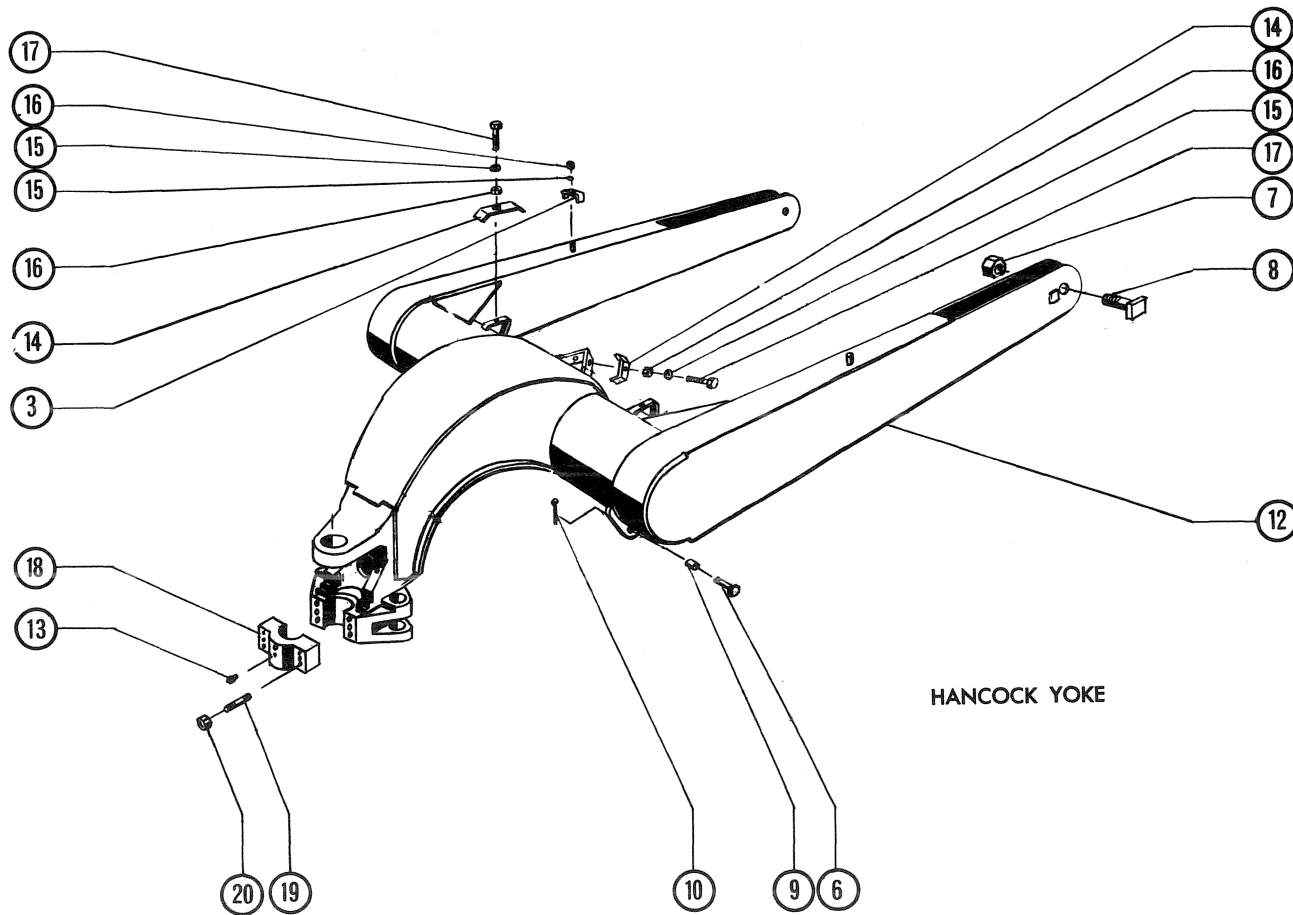
### **HANCOCK DIVISION**





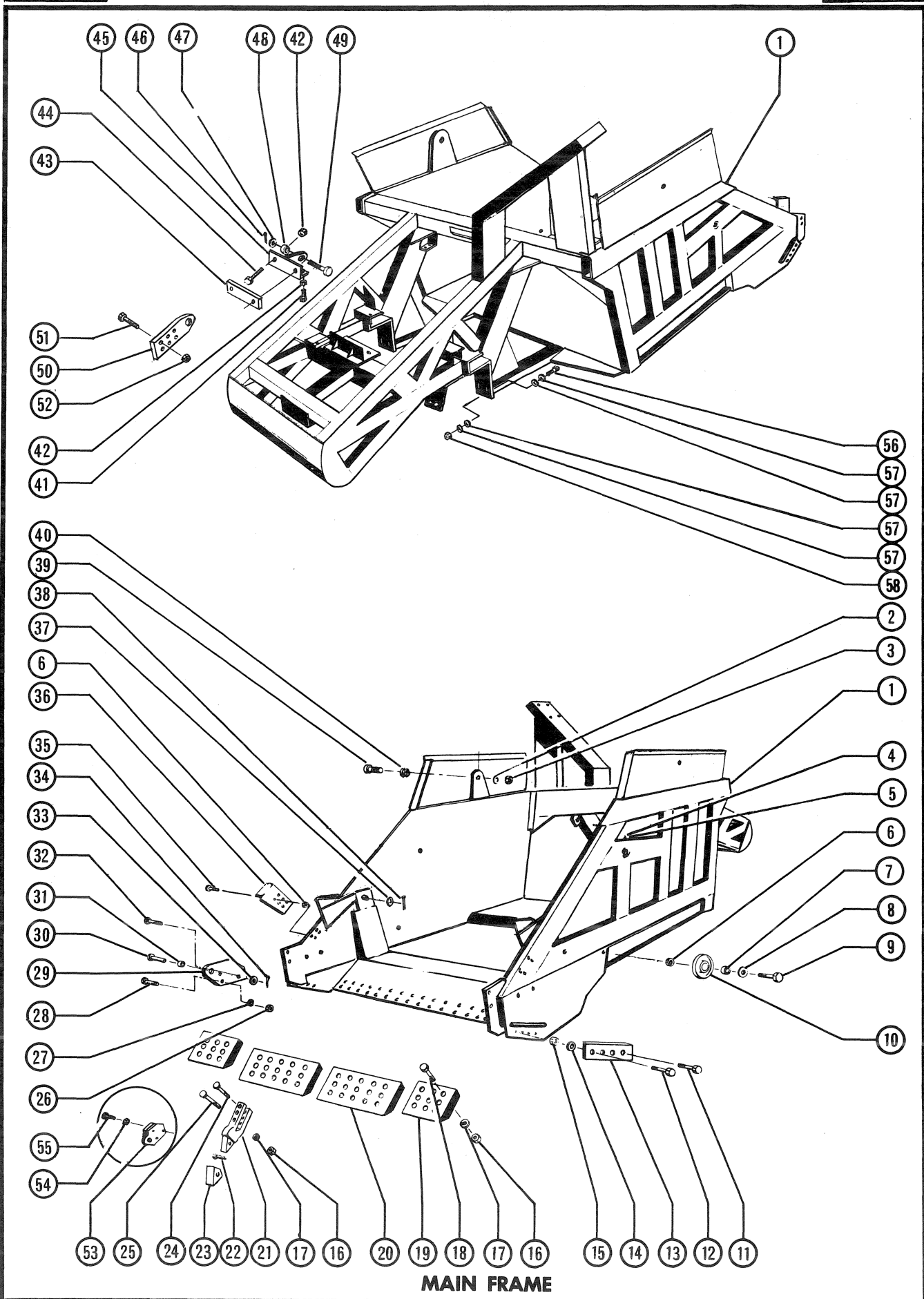


**EUCLID MODIFIED YOKE**



**HANCOCK YOKE**

REF.	PART NUMBER	DESCRIPTION	QTY.
1	199 171 001	Yoke, Modified Euclid	1
2	101 171 019	Hanger, Cylinder	2
3	<del>201 160 004</del>	Bracket <i>1557540 PB 076 4238</i>	4
4	802 512 000	Lockwasher	4
5	802 812 005	Hexnut	4
6	209 050 007	Pin	2
7	820 900 101	Jamnut	2
8	102 161 097	Pin, Hinge	2
9	102 162 002	Bushing	2
10	803 410 190	Pin, Cotter	2
11	802 419 001	Flatwasher	2
12	101 171 001	Yoke, Hancock	1
13	219 903 002	Fitting, Grease	1
14	201 160 003	Bracket	4
15	802 514 000	Lockwasher	6
16	802 814 005	Hexnut	6
17	801 114 215	Capscrew	4
18	101 900 006	Cap	1
19	101 900 007	Stud	6
20	101 900 008	Locknut	6
21	801 117 325	Capscrew	2
22	803 117 003	Locknut	2
23	101 171 016	Brace, Top	2
24	101 171 020	Filler	2
25	101 171 014	Plate, Inside	2
26	101 171 015	Plate, Outside	2



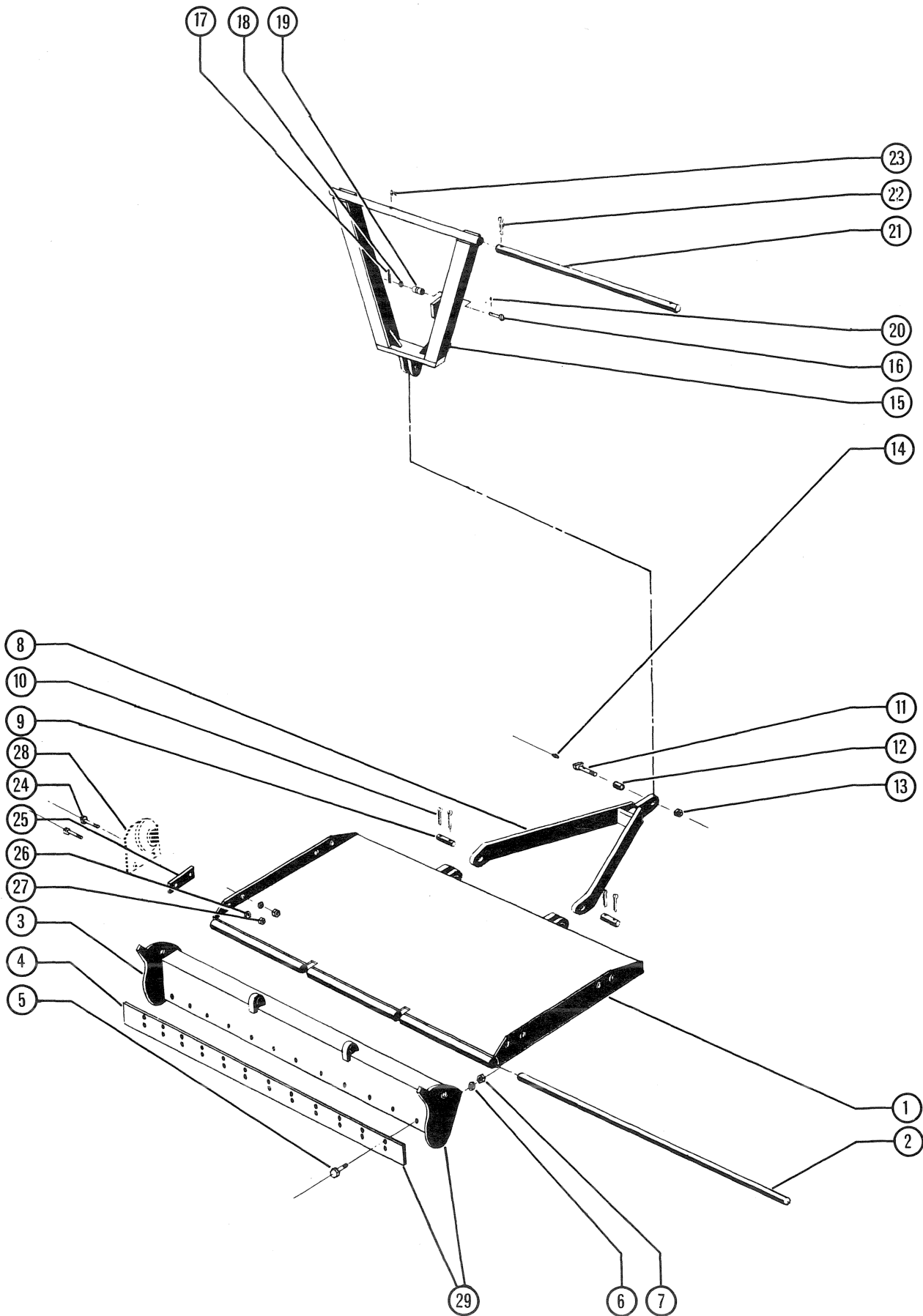
MAIN FRAME



# HANCOCK DIVISION



REF.	PART NUMBER	DESCRIPTION	QTY.	REF.	PART NUMBER	DESCRIPTION	QTY.
<u>MAIN FRAME</u>							
1	102 171 089	Main Frame - For Hancock Yoke	1	37	802 325 000	Flatwasher	2
1A	102 171 094	Main Frame - For Euclid Yoke	1	38	803 414 220	Pin, Cotter	2
2	802 317 000	Flatwasher	2	39	801 117 246	Capscrew	2
3	803 117 005	Locknut	2	40	501 160 012	Bushing	2
4	219 903 002	Zerk	2	41	801 117 205	Capscrew***	4
5	212 901 201	Coupling	2	42	803 117 005	Locknut***	8
6	803 119 005	Locknut	10	43	102 166 067	Shim 1"***	AR
7	103 160 054	Bushing	2	43A	102 166 068	Shim 1/2"***	AR
8	802 319 000	Flatwasher	2	43B	102 166 069	Shim 3/8"***	AR
9	801 119 316	Capscrew	2	43C	102 166 070	Shim 1/4"***	AR
10	990 100 059	Stop Roller	4	43D	102 166 071	Shim 1/8"***	AR
11	801 116 215	Capscrew	6	44	801 117 285	Capscrew***	4
12	801 116 185	Capscrew	2	45	102 166 064	Hanger, Rear Cylinder***	2
13	102 161 164	Blade, Side Cutter	2	46	803 409 180	Pin, Cotter***	2
14	802 516 000	Lockwasher	8	47	802 314 000	Flatwasher***	2
15	802 816 006	Hexnut	8	48	102 160 012	Bushing***	2
16	802 817 005	Hexnut	40	49	209 040 018	Pin***	2
17	802 517 000	Lockwasher	40	50	102 161 138	Hanger, Rear Cylinder****	2
18	<del>801 517 215</del>	Plowbolt <i>552369</i>	28	51	801 117 225	Capscrew****	8
19	102 900 002	Blade	2	52	803 117 003	Locknut****	8
20	102 900 001	Blade	2	53	102 171 033	Front Cylinder Hanger LH (Use with Euclid Yoke Only)	1
21	102 900 024	Shank, Cast Chisel*	4				
21A	102 161 171	Shank, Chisel**	4	53A	102 171 034	Front Cylinder Hanger RH (Use with Euclid Yoke Only)	1
22	102 900 026	Pin, Flex*	4				
22A	102 161 110	Pin, Flex**	4	53B	102 171 044	Front Cylinder Hanger LH (Use with Euclid Yoke & 21.00 x 25 Tires)	1
23	102 900 025	Point, Cast Chisel*	4				
23A	102 161 109	Point, Fabricated Chisel**	4	53C	102 171 045	Front Cylinder Hanger RH (Use with Euclid Yoke & 21.00 x 25 Tires)	1
24	801 517 285	Plowbolt	8				
25	801 517 265	Plowbolt	4	54	803 119 006	Locknut	6
26	802 819 003	Hexnut	6	55	801 119 346	Capscrew	6
27	802 519 000	Lockwasher	6	56	801 117 264	Capscrew	4
28	801 119 255	Capscrew	4	57	802 317 000	Flatwasher	16
29	102 171 035	Hanger, Cylinder (Use with Hancock Yoke & 23.50 x 25 or 18.00 x 25 Tires)	2	58	803 117 004	Locknut	4
29A	102 171 042	Hanger, Cylinder (Use with Hancock Yoke & 21.00 x 25 Tires)	2			*102 900 023, Chisel Assy. Incl Items 21-22 and 23)	
30	209 050 007	Pin, Cylinder	2			**102 161 169, Chisel Assy. Incl. Items 21A-22A and 23A	
31	102 162 002	Bushing	2				
32	801 119 325	Capscrew	2				
33	802 410 000	Flatwasher	2			***Effective with S/N 2E 84 L6108 and Subsequent	
34	803 410 191	Pin, Cotter	2				
35	801 119 285	Capscrew	8				
36	102 171 030	Adjuster, RH Elevator	1			****Effective with S/N 2E 1 L5146 thru 2E 83 L6107	
36A	102 171 029	Adjuster, LH Elevator	1				

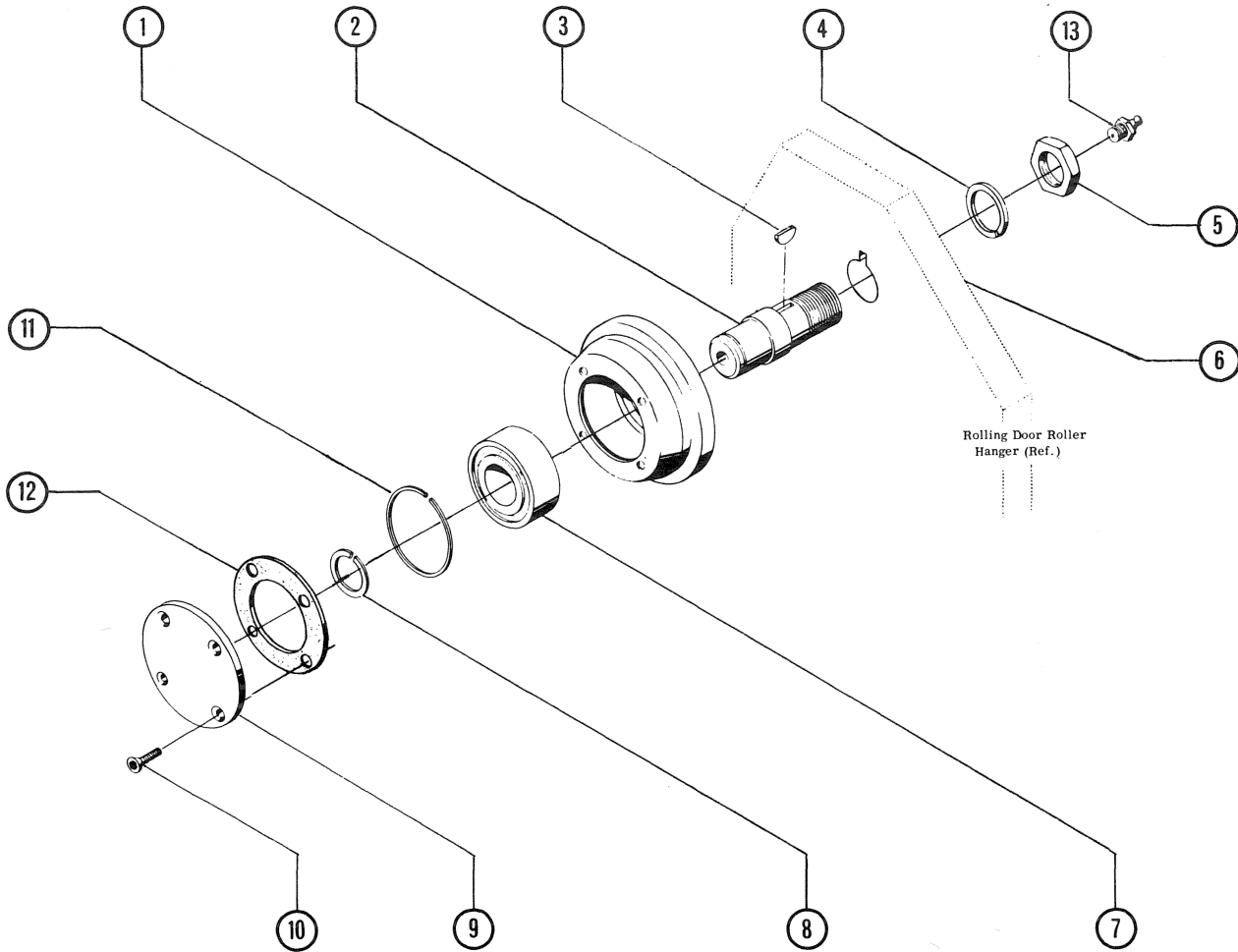


**ROLLING DOOR GROUP**

**ALWAYS STATE MODEL AND SERIAL NUMBER, WHEN ORDERING PARTS**

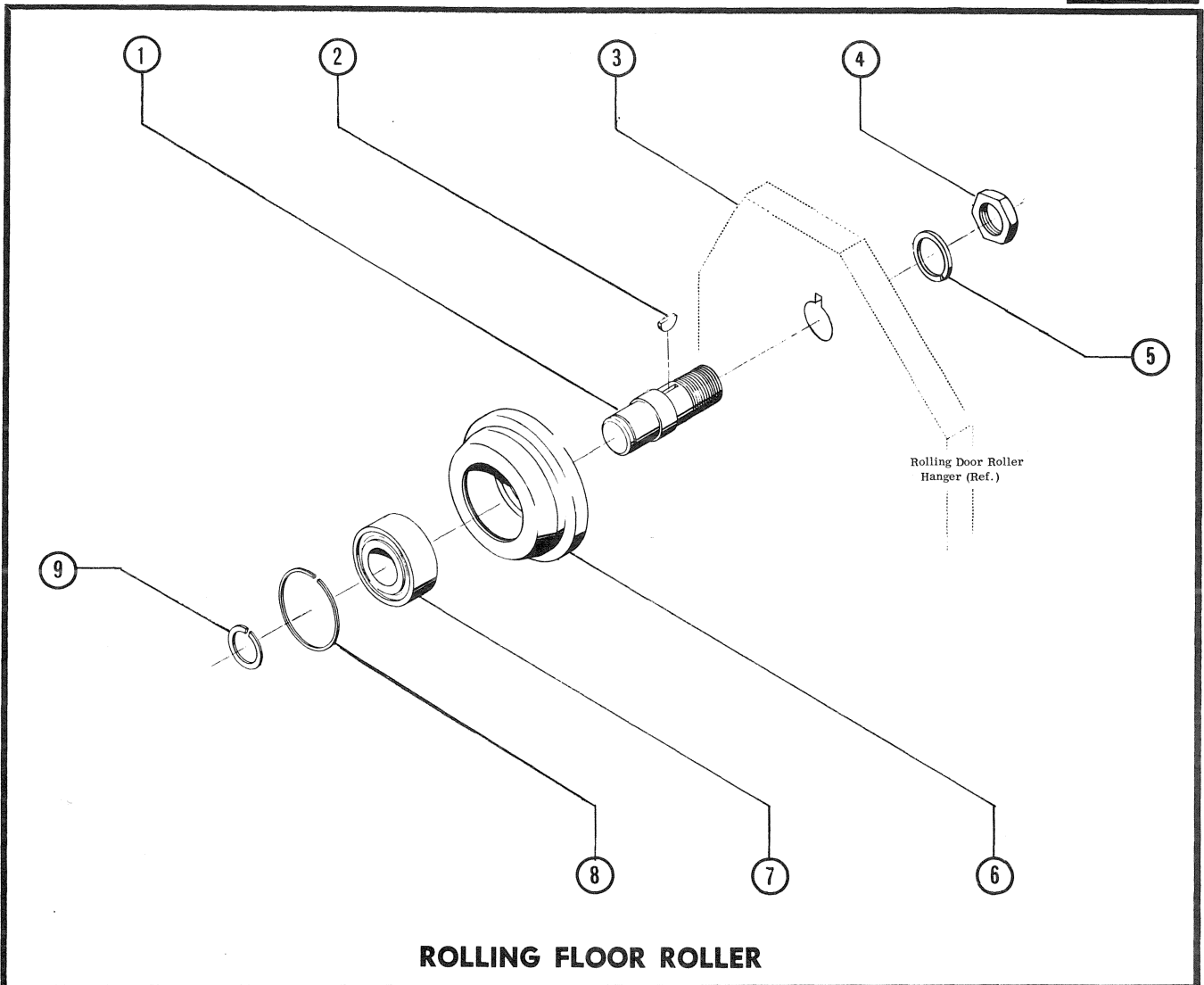


REF.	PART NUMBER	DESCRIPTION	QTY.
		<u>ROLLING DOOR GROUP</u>	
1	103 160 001	Door, Rolling	1
2	103 160 052	Rod, Hinge	1
3	103 160 043	Frame, Strike-Off Blade	1
4	103 161 061	Blade, Strike-Off	1
5	801 114 175	Capscrew	12
6	802 514 000	Lockwasher	12
7	802 814 003	Hexnut	12
8	103 161 018	Yoke, Connecting	1
9	820 900 601	Pin	2
10	803 410 200	Pin, Cotter	4
11	103 161 055	Pin	1
12	103 161 022	Bushing	1
13	803 122 004	Locknut	1
14	219 901 001	Fitting, Grease	1
15	103 161 002	Arm, Actuator	1
16	209 040 021	Pin	1
17	803 410 180	Pin, Cotter	1
18	802 319 000	Washer	1
19	909 010 001	Bushing	1
20	219 901 001	Fitting, Grease	1
21	103 160 019	Rod	1
22	803 414 200	Pin, Cotter	1
23	219 901 001	Fitting, Grease	1
24	801 117 205	Capscrew	8
25	103 160 014	Shim	AR
26	802 517 000	Lockwasher	8
27	802 817 003	Hexnut	8
28	--- --- ---	Plate, Door Roller Mounting	4
29	103 161 083	Strike-Off Assembly (Incl. Items 3 thru 7)	1



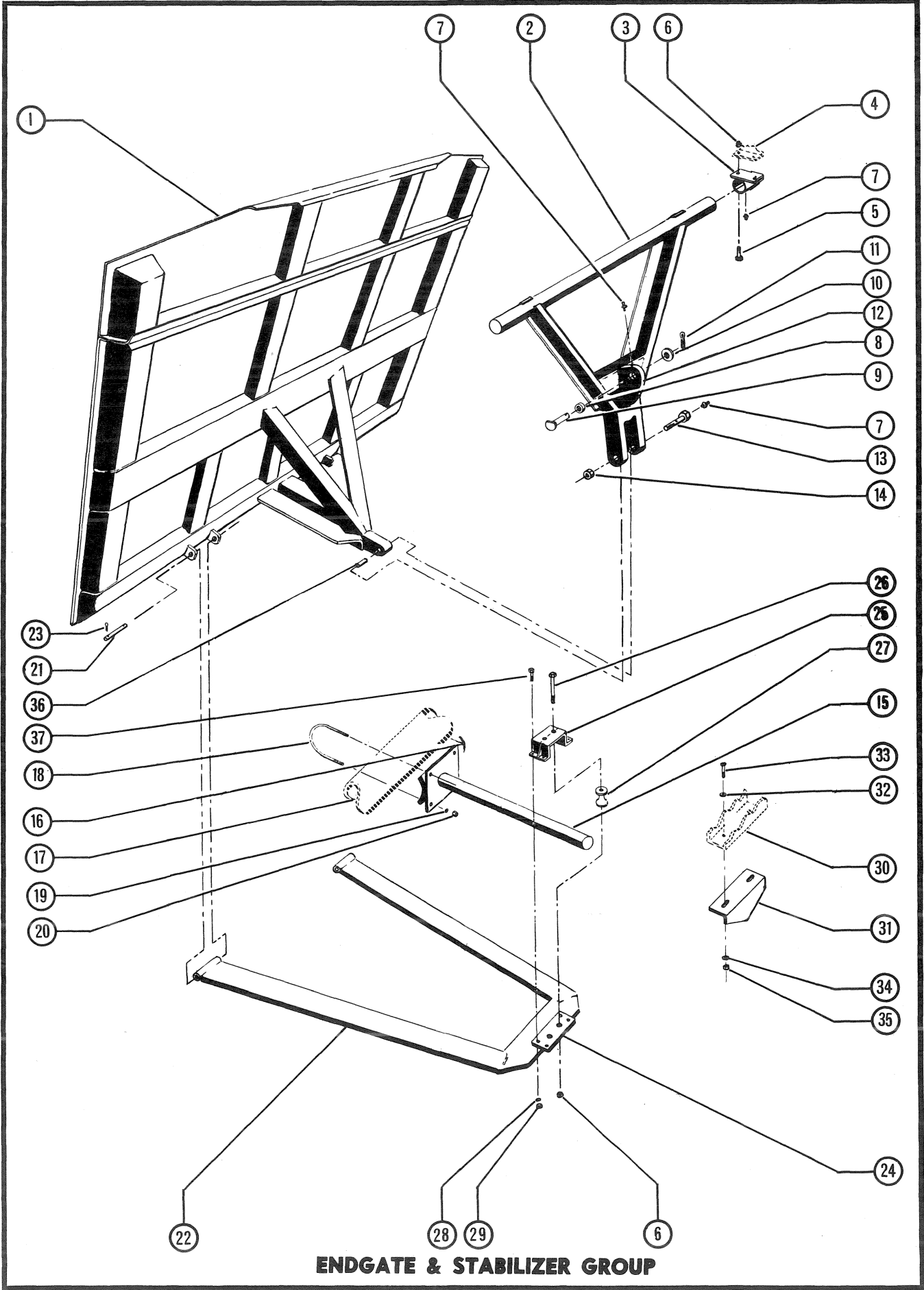
**ROLLING FLOOR ROLLER**

REF.	PART NUMBER	DESCRIPTION	QTY.	REF.	PART NUMBER	DESCRIPTION	QTY.
		Effective with S/N 2E 313 L7291 and Subsequent					
A	103 166 006	Assy., Floor Roller*	4	9	103 166 007	Cap, Roller	1
1	103 166 008	Roller	1	10	801 410 125	Capscrew, Allen Head	4
2	103 166 009	Shaft, Roller	1	11	911 024 401	Ring, Retaining	1
3	923 010 002	Key, Woodruff	1	12	1562827	Gasket	1
4	802 520 000	Lockwasher	1	13	219 901 001	Fitting, Grease	1
5	803 220 004	Jamnut	1				
6	--- --- ---	Hanger, Roller*	4				
7	901 011 810	Bearing	1			*Roller Assy. does not incl. Hanger	
8	912 011 801	Ring, Retaining	1				



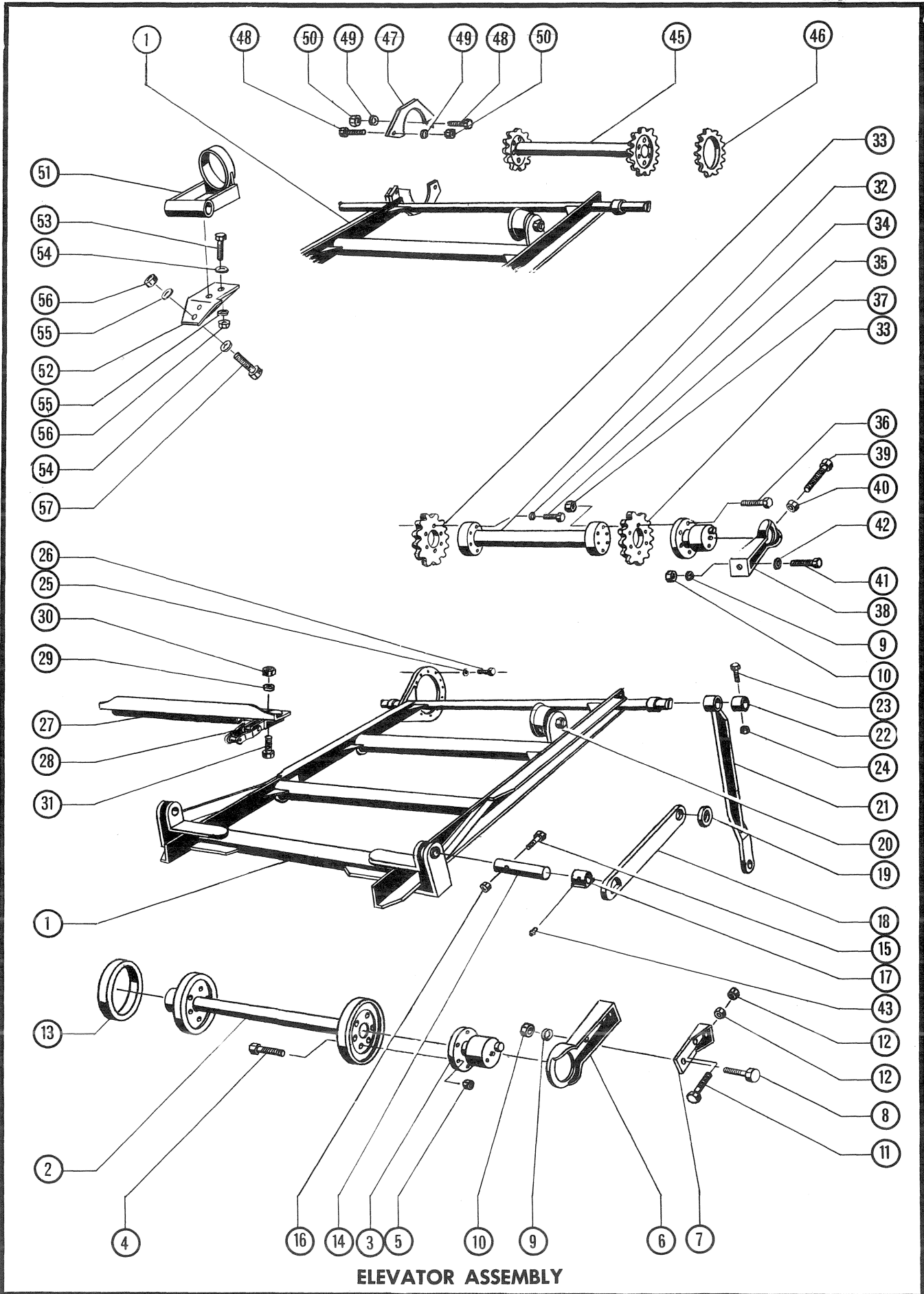
**ROLLING FLOOR ROLLER**

REF.	PART NUMBER	DESCRIPTION	QTY.	REF.	PART NUMBER	DESCRIPTION	QTY.
		Effective with S/N 2E 1 L5146 thru 2E 312 L7290					
A	103 160 068	Assy., Floor Roller*	4	7	901 011 801	Bearing	1
1	103 160 071	Shaft, Roller	1	8	911 024 401	Ring, Retaining	1
2	923 010 002	Key, Woodruff	1	9	912 011 801	Ring, Retaining	1
3	---	Hanger, Roller*	4				
4	803 220 006	Jamnut	1				
5	802 520 000	Lockwasher	1			*Roller Assy. does not Incl. Hanger	
6	103 160 069	Roller	1				



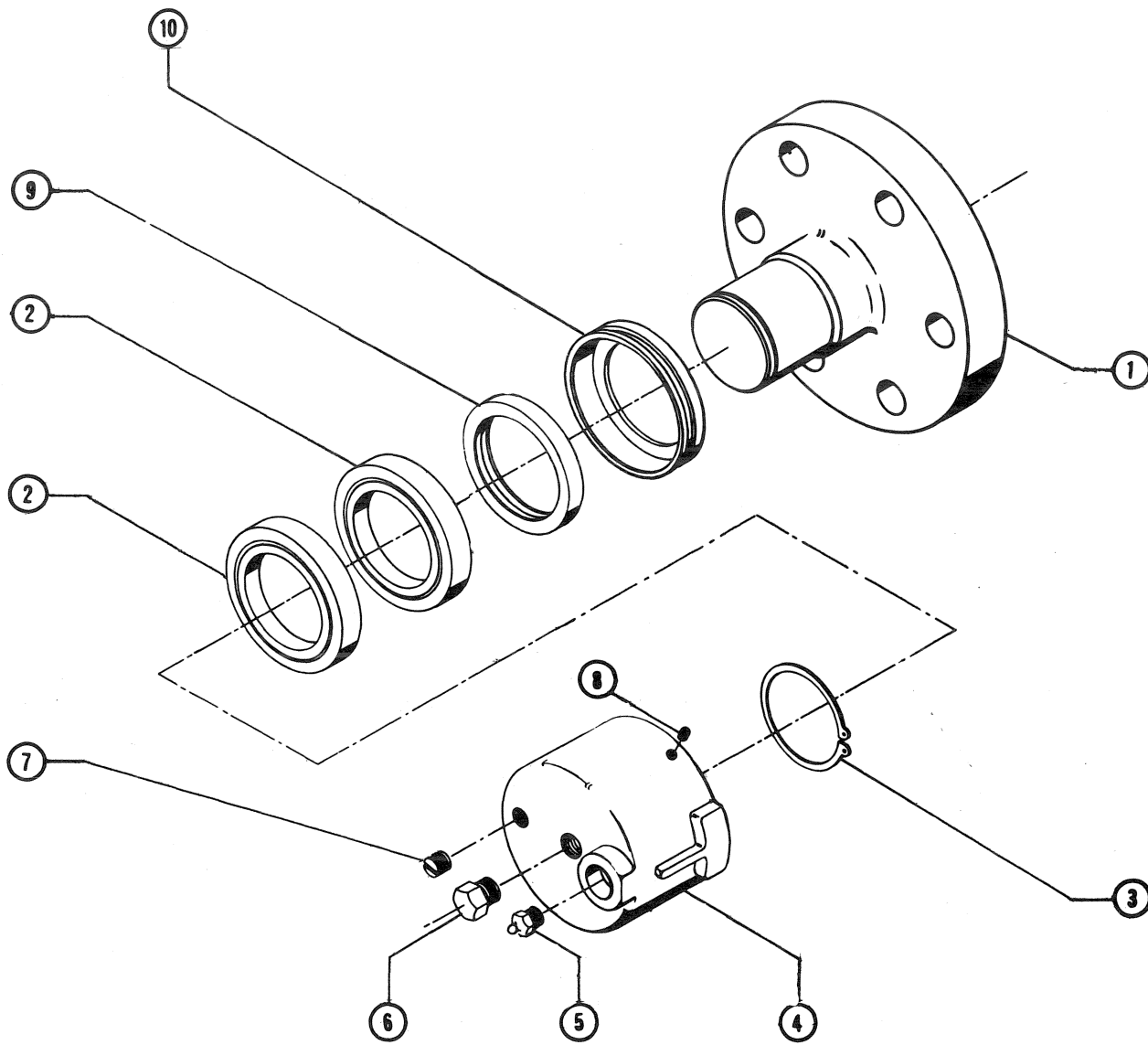
**ENDGATE & STABILIZER GROUP**

REF.	PART NUMBER	DESCRIPTION	QTY.
<u>ENDGATE &amp; STABILIZER GROUP</u>			
1	103 171 001	Endgate	1
2	103 161 044	Actuator	1
3	102 161 092	Bearing	2
4	Reference	Bracket, Main Frame	-
5	801 117 185	Capscrew	4
6	803 117 003	Locknut	6
7	219 901 001	Zerk	4
8	909 010 001	Bushing	1
9	209 040 021	Pin, Cylinder	1
10	802 419 000	Flatwasher	1
11	803 410 181	Pin, Cotter	1
12	103 161 049	Lug, Cylinder	1
13	103 161 055	Pin, Actuator	1
14	803 122 006	Locknut	1
15	103 171 009	Track, Roller	1
16	103 176 121	Stop, Axle	2
17	Reference	Axle, Rear	-
18	103 161 080	U-Bolt	2
19	802 514 000	Lockwasher	4
20	802 817 005	Hexnut	4
21	820 900 602	Pin	2
22	1552023	Yoke, Stabilizer (Superseded 103 161 063)	1
23	803 410 201	Pin, Cotter	4
24	103 160 059	Bolt Bracket Plate	1
25	103 160 063	Bracket, Roller	1
26	801 117 346	Capscrew	2
27	103 160 064	Roller	2
28	802 512 000	Lockwasher	4
29	802 812 006	Hexnut	4
30	Reference	Bracket, Main Frame	-
31	103 161 076	Hanger, Track	1
32	802 317 000	Flatwasher	2
33	801 117 206	Capscrew	2
34	802 517 000	Lockwasher	2
35	802 817 006	Hexnut	2
36	103 161 022	Bushing	1
37	801 112 156	Capscrew	4



**ELEVATOR ASSEMBLY**

REF.	PART NUMBER	DESCRIPTION	QTY.	REF.	PART NUMBER	DESCRIPTION	QTY.
<u>ELEVATOR ASSEMBLY</u>							
A	501 171 047	Assy., Elevator* - Incl. Gearbox	1	33	501 171 063	Bolt on Sprocket* - Superseded 501 171 034	2
B	501 171 009	Assy., Elevator** - Incl. Gearbox	1	34	802 516 000	Lockwasher*	6
1	501 171 045	Frame, Elevator*	1	35	801 116 265	Capscrew*	6
1A	501 171 032	Frame, Elevator**	1	36	801 116 285	Capscrew*	6
2	501 166 040	Tail Roller	1	37	803 116 003	Locknut*	6
3	501 161 011	Stub Spindle - See Index	3	38	501 166 045	Hanger	1
4	801 116 206	Capscrew	12	39	820 900 304	Capscrew	1
5	803 116 006	Locknut	12	40	803 217 001	Locknut	1
6	990 100 111	Hanger - Superseded 501 161 114	2	41	801 117 196	Capscrew	1
7	501 150 001	Block, Adjustment	2	42	501 150 016	Flatwasher	1
8	801 117 216	Capscrew	4	43	219 901 001	Zerk	2
9	802 517 000	Lockwasher	6	44	804 417 206	Bolt, Carriage**	2
10	802 817 006	Hexnut	6	45	501 166 003	Sprocket Roller**	1
11	820 900 305	Capscrew	2	46	501 160 011	Weld on Sprocket**	AR
12	802 817 001	Hexnut	4	47	501 160 005	Lock Bracket**	1
13	501 161 112	Band, Wear	AR	48	801 117 166	Capscrew**	2
14	501 166 031	Arm, Lower	2	49	802 517 000	Lockwasher**	2
15	801 116 261	Capscrew	2	50	802 817 006	Hexnut**	2
16	803 116 001	Locknut	2	51	501 171 038	Gearbox Hanger**	1
17	501 161 104	Bushing, Flat	2	52	501 171 058	Brace**	1
18	501 171 041	Hanger, Lower	2	53	801 117 206	Capscrew**	2
19	501 166 039	Spacer	2	54	802 317 000	Flatwasher**	4
20	501 161 083	Idler Roller - See Index	4	55	802 517 000	Lockwasher**	4
21	501 171 038	Arm, Elevator	2	56	802 817 006	Hexnut**	4
22	501 166 050	Retainer	2				
23	801 112 245	Capscrew	2			*Effective with S/N 2E 43 L5635, 2E 51 L5643, 2E 59 L5651, 2E 63 L5958 & Subsequent	
24	803 112 003	Locknut	2			**Effective with S/N 2E 1 L5146 thru 2E 42 L5634, 2E 44 L5636 thru 2E 50 L5642, 2E 52 L5644 thru 2E 58 L5642, 2E 60 L5652 thru 2E 62 L5957	
25	802 514 000	Lockwasher	12				
26	801 114 175	Capscrew	12				
27	501 166 005	Drag	17				
28	501 900 002	Elevator Chain LH - See Index	1				
NS	501 900 038	Elevator Chain RH	1				
29	802 514 000	Lockwasher	136				
30	802 814 002	Hexnut	136				
31	801 114 171	Capscrew	136				
32	501 171 035	Shaft*					

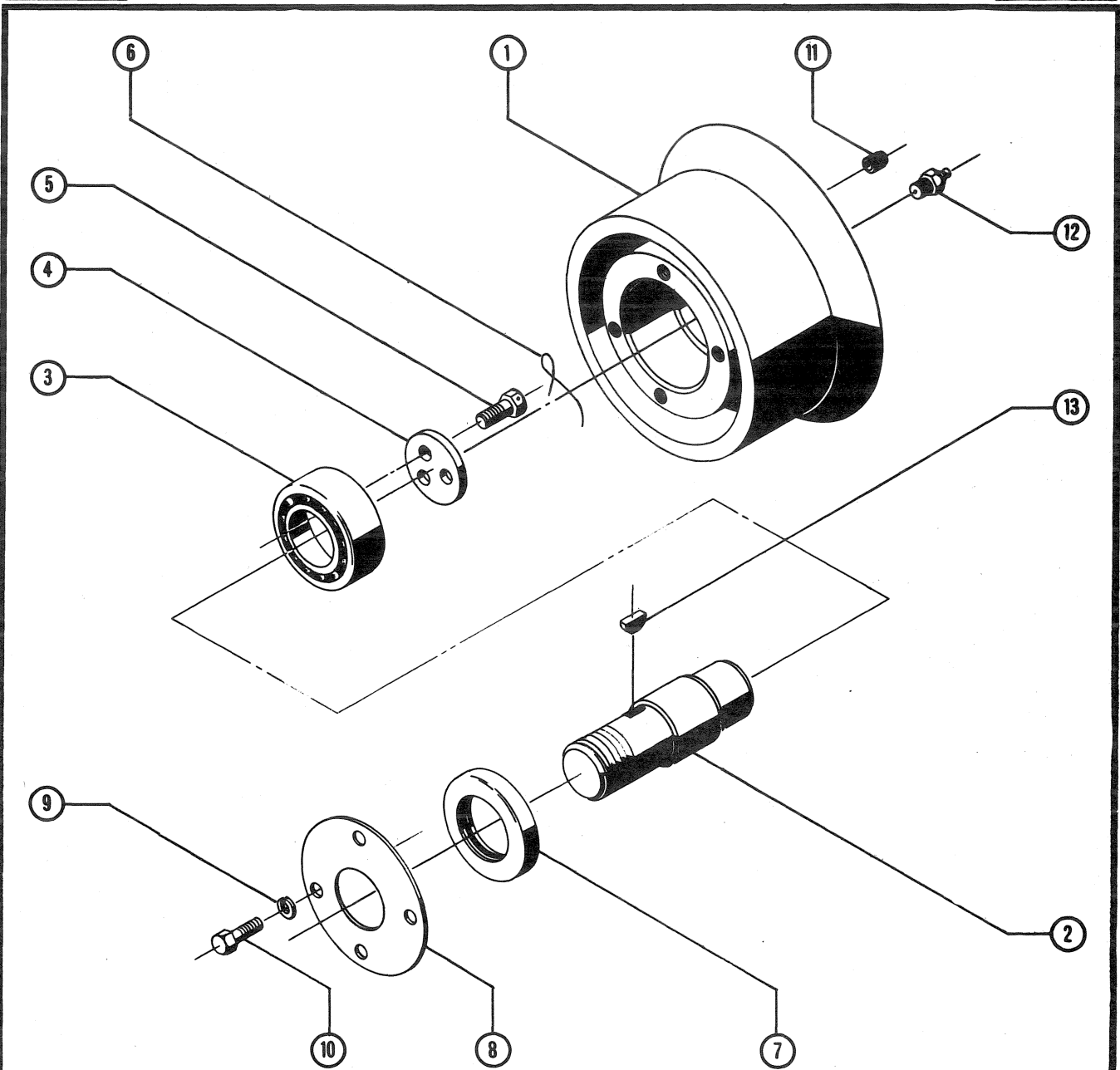


**STUB SPINDLE**

REF.	PART NUMBER	DESCRIPTION	QTY.
A	501 161 011	Stub Spindle Assembly	3
1	501 161 154	Stub Shaft	1
2	901 019 701	Bearing	2
3	912 019 601	Snap Ring	1
4	501 161 012	Cap	1
5	219 901 001	Zerk	1
6	801 114 125	Capscrew	1
7	212 912 501	Plug	1
8	802 110 060	Set Screw	3
9	917 022 501	Seal	1
10	501 161 013	Shield Cap	1



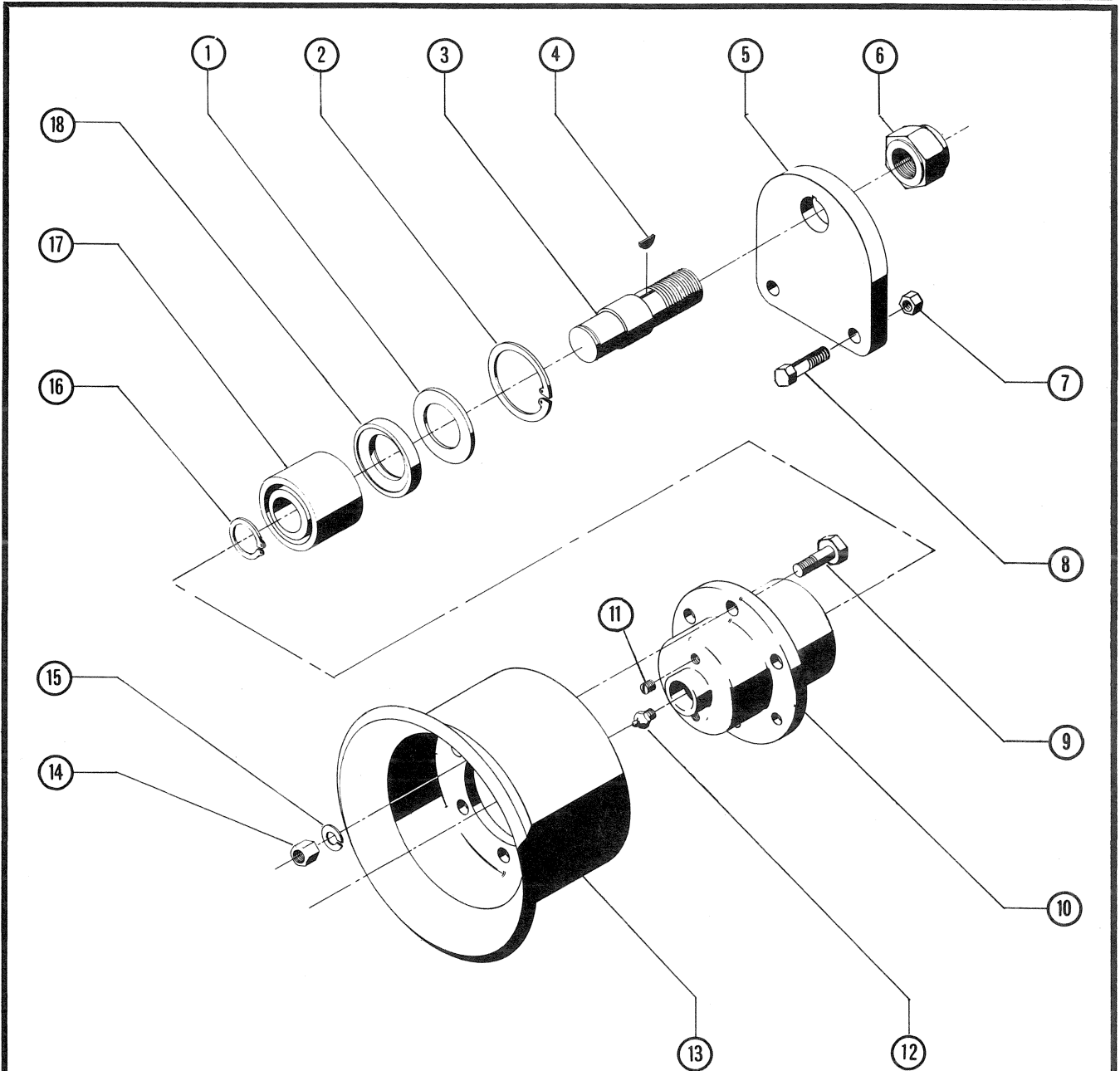




**IDLER ROLLER**  
EFFECTIVE WITH S/N 2E 313 L7291 AND SUBSEQUENT

1010

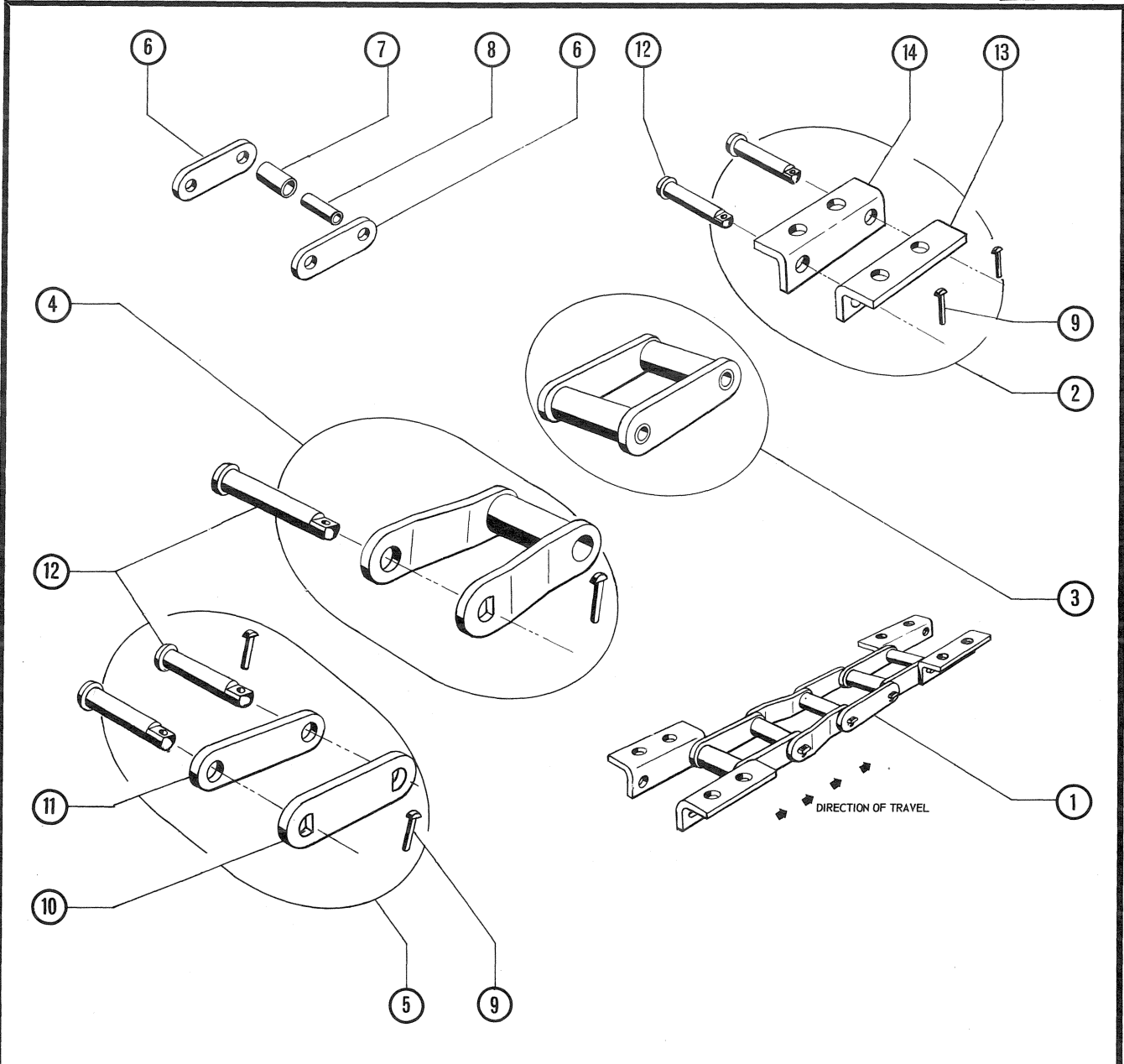
REF.	PART NUMBER	DESCRIPTION	QTY.	REF.	PART NUMBER	DESCRIPTION	QTY.
	501 166 057	IDLER ROLLER ASSEMBLY	2	7	917 015 001	Seal	1
1	501 166 058	Roller	1	8	501 166 060	Seal Cover	1
2	501 166 059	Roller Shaft	1	9	802 510 000	Lockwasher	4
3	901 011 809	Ball Bearing	1	10	801 110 125	Capscrew	4
4	501 166 061	Bearing Retainer	1	11	212 912 501	Headless Pipe Plug	2
5	820 900 429	Drilled Head Capscrew	3	12	219 901 001	Zerk	1
6	925 000 106	Safety Wire	1	13	923 010 002	Woodruff Key	1



**IDLER ROLLER**

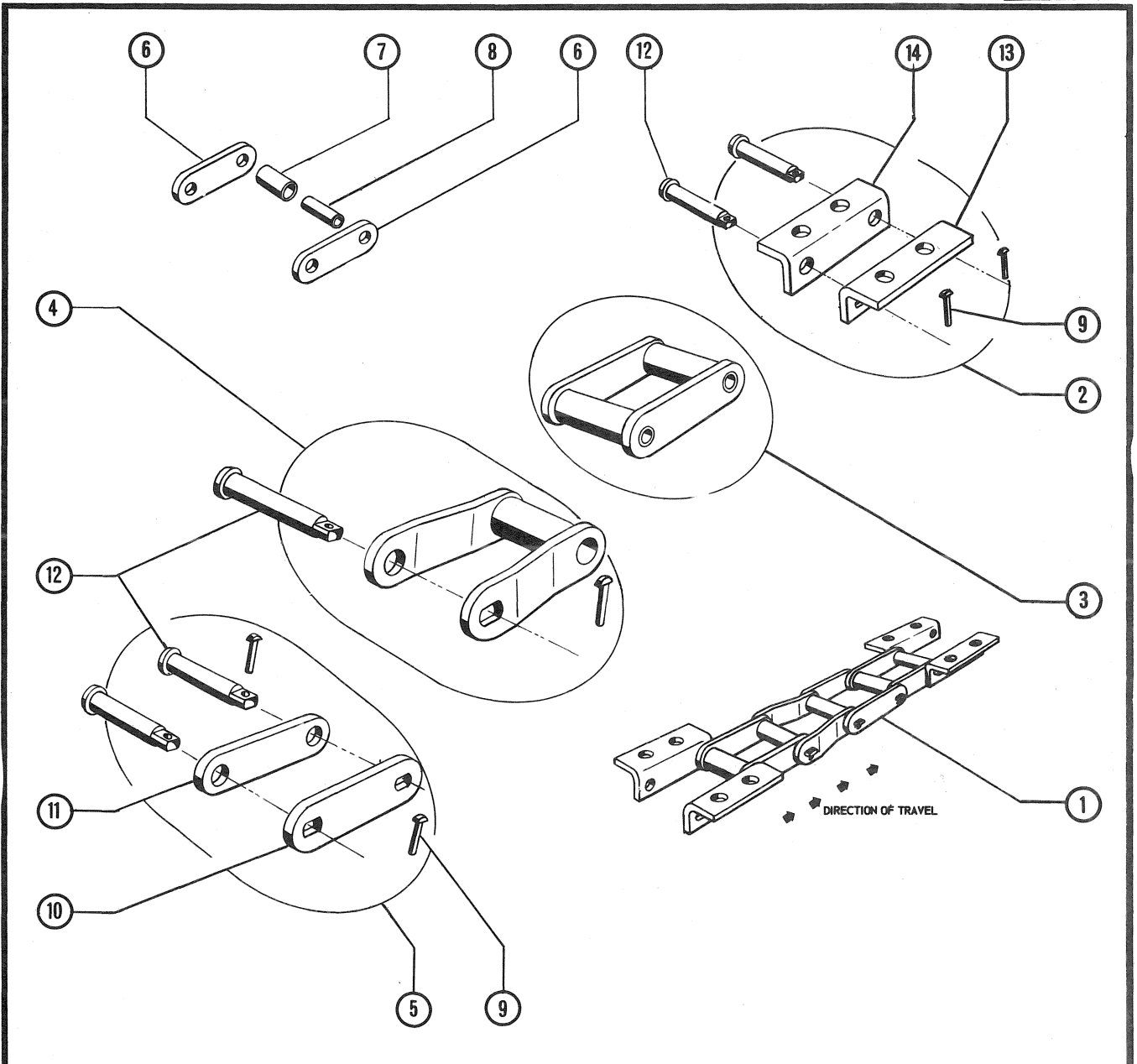
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		EFFEC TIVE WITH S/N 2E 1 L5146 THRU 2E 312 L7290					
A	501 161 083	Assy., Idler Roller	2	13	501 161 153	Roller, Flange	1
1	501 161 098	Cover, Seal	1	14	802 812 003	Hexnut	6
2	911 024 401	Ring, Retaining	1	15	802 512 000	Lockwasher	6
3	501 161 088	Shaft	1	16	912 011 201	Ring, Retaining	1
4	923 010 002	Key, Woodruff	1	17	901 011 802	Bearing	1
5	501 161 085	Support	1	18	917 015 001	Seal	1
6	803 121 004	Locknut	1		501 161 155	Hub Assy. (Incl. Items 2, 5 thru 10, 15 & 16)	
7	803 117 003	Locknut	2		501 161 156	Flange Assy. (Incl. Hub Assy. & Item 11 thru 14)	
8	801 117 205	Capscrew	2				
9	801 112 155	Capscrew	6				
10	501 161 091	Hub, Roller	1				
11	212 912 501	Plug	2				
12	219 901 001	Fitting, Grease	1				

**ALWAYS STATE MODEL AND SERIAL NUMBER, WHEN ORDERING PARTS**



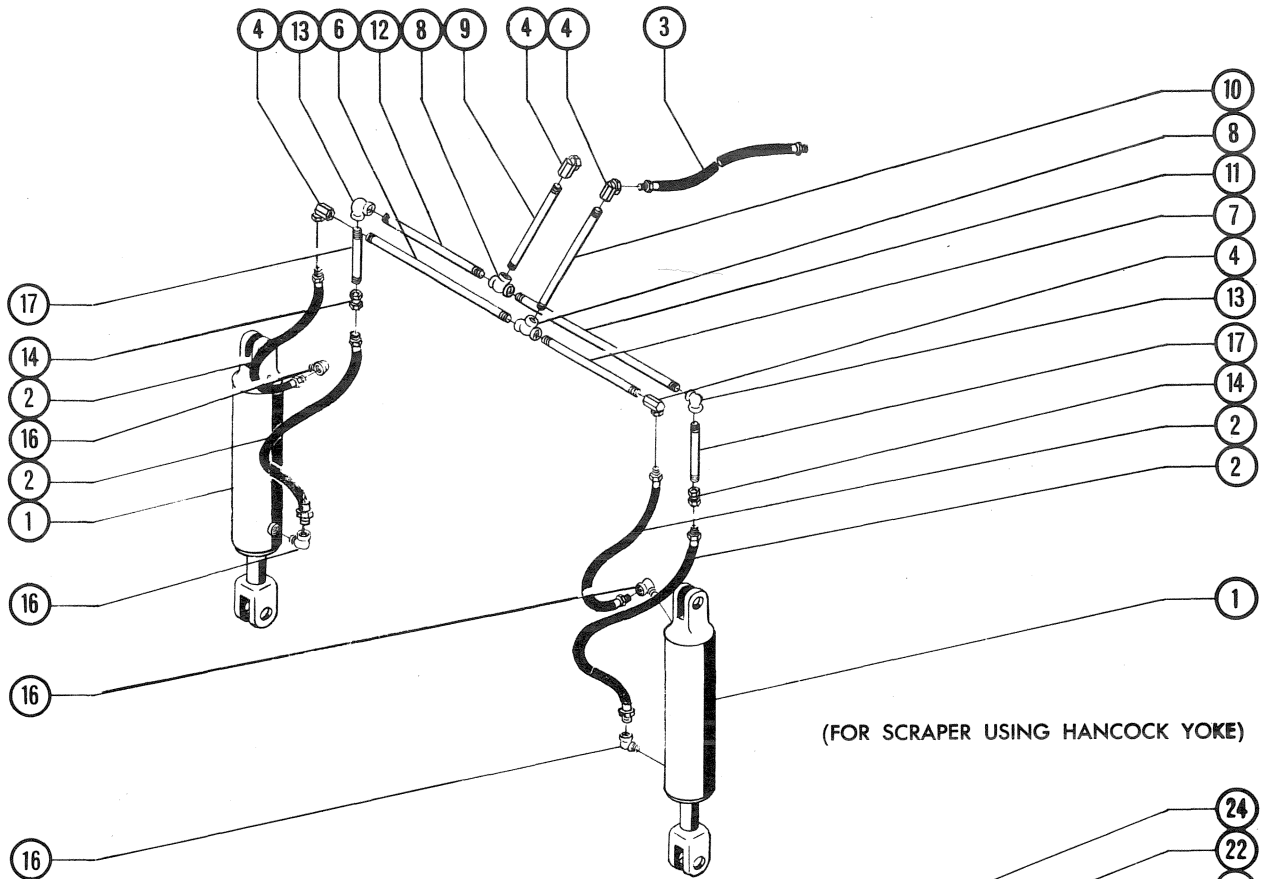
**ELEVATOR CHAIN**

REF.	PART NUMBER	DESCRIPTION	QTY.	REF.	PART NUMBER	DESCRIPTION	QTY.
Effective with S/N 2E 313 L7291 and Subsequent							
1	501 900 106	Chain Assembly (RH)*	1	13	501 900 103	Attachment Link (Key Side)	17
1A	501 900 105	Chain Assembly (LH)*	1	14	501 900 102	Attachment Link (Head Side)	17
2	501 900 111	Attachment Link Assembly	17				
3	501 900 107	Block Link Assembly	34	*	501 900 104	Matched Set of Chains (RH & LH)	
4	501 900 109	Master Link Assembly	17	**	501 900 110	Pin & Key (Incl. One Each, Items 9 & 12)	
5	501 900 108	Connecting Link Assembly	17				
6	501 900 101	Link Bar	68				
7	501 900 098	Roller	85				
8	501 900 009	Bushing	85				
9	501 900 096	Key (Sold in Lots of 100 Only)**	85				
10	501 900 100	Link Bar (Key Side)	17				
11	501 900 099	Link Bar (Head Side)	17				
12	501 900 095	Pin**	85				
						NOTE: Quantities Shown Are For One Complete Chain Assembly	
						NOTE: It Is Strongly Recommended That Chains Be Installed In Pairs To Assure Equal Lengths	

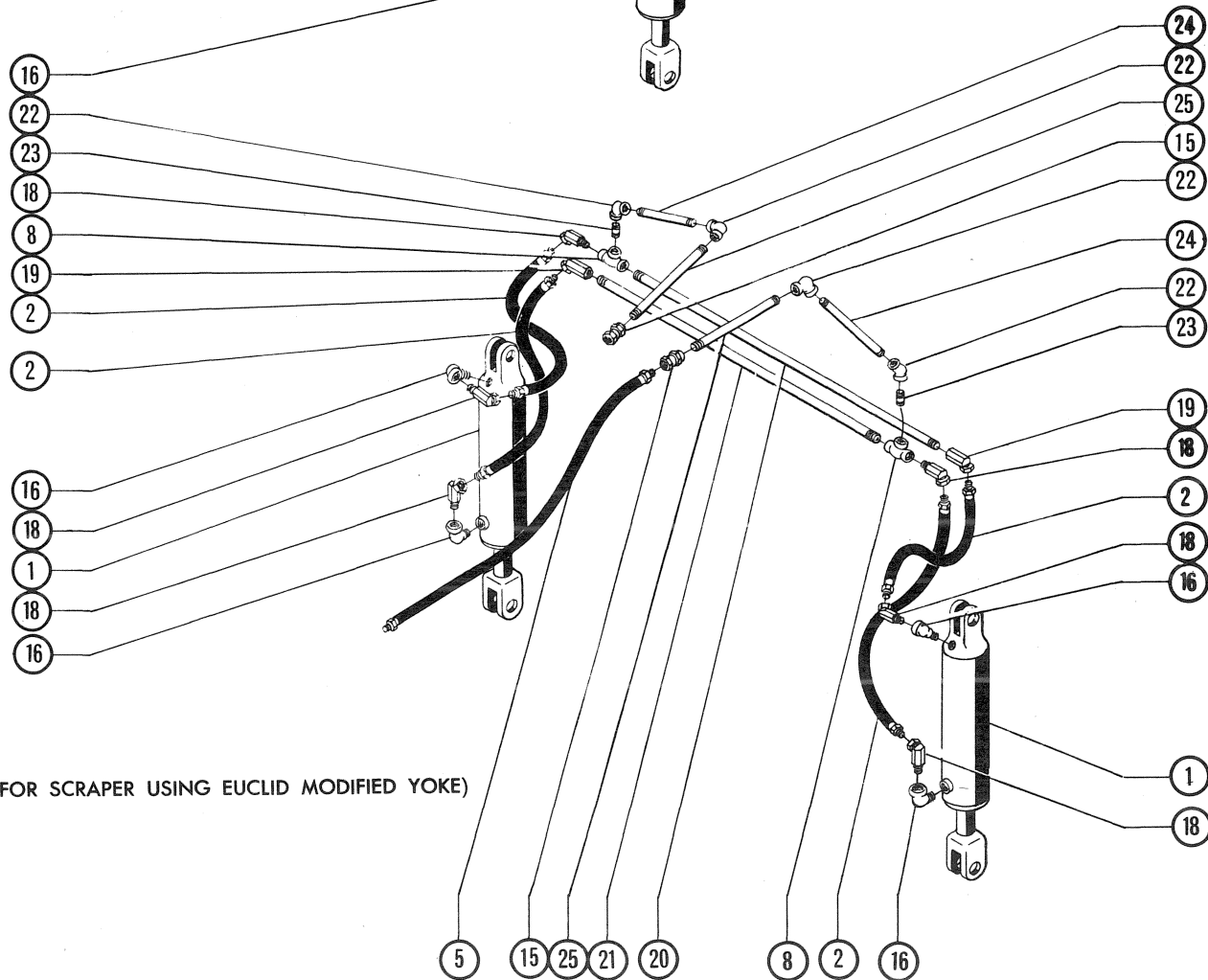


**ELEVATOR CHAIN**

REF.	PART NUMBER	DESCRIPTION	QTY.	REF.	PART NUMBER	DESCRIPTION	QTY.
		Effective with S/N 2E 1 L5146 thru 2E 312 L7291					
1	501 900 038	Chain Assembly (RH)*	1	13	501 900 010	Attachment Link (Key Side)	17
1A	501 900 002	Chain Assembly (LH)*	1	14	501 900 011	Attachment Link (Head Side)	17
2	501 900 032	Attachment Link Assembly	17				
3	501 900 034	Block Link Assembly	34	*	501 900 059	Matched Set of Chains (RH & LH)	
4	501 900 035	Master Link Assembly	17	**	501 900 006	Pin and Key Set (Incl. One Each, Items 9 & 12)	
5	501 900 033	Connecting Link Assembly	17				
6	501 900 007	Link Bar	68				
7	501 900 008	Roller	85			NOTE: Quantities Shown Are for One Complete Chain Assembly	
8	501 900 009	Bushing	85			NOTE: It Is Strongly Recommended that Chains Be Installed In Pairs To Assure Equal Lengths	
9	501 900 039	Key (Sold in Lots of 100 Only)**	85				
10	501 900 004	Link Bar (Key Side)	17				
11	501 900 005	Link Bar (Head Side)	17				
12	501 900 037	Pin**	85				



(FOR SCRAPER USING HANCOCK YOKE)

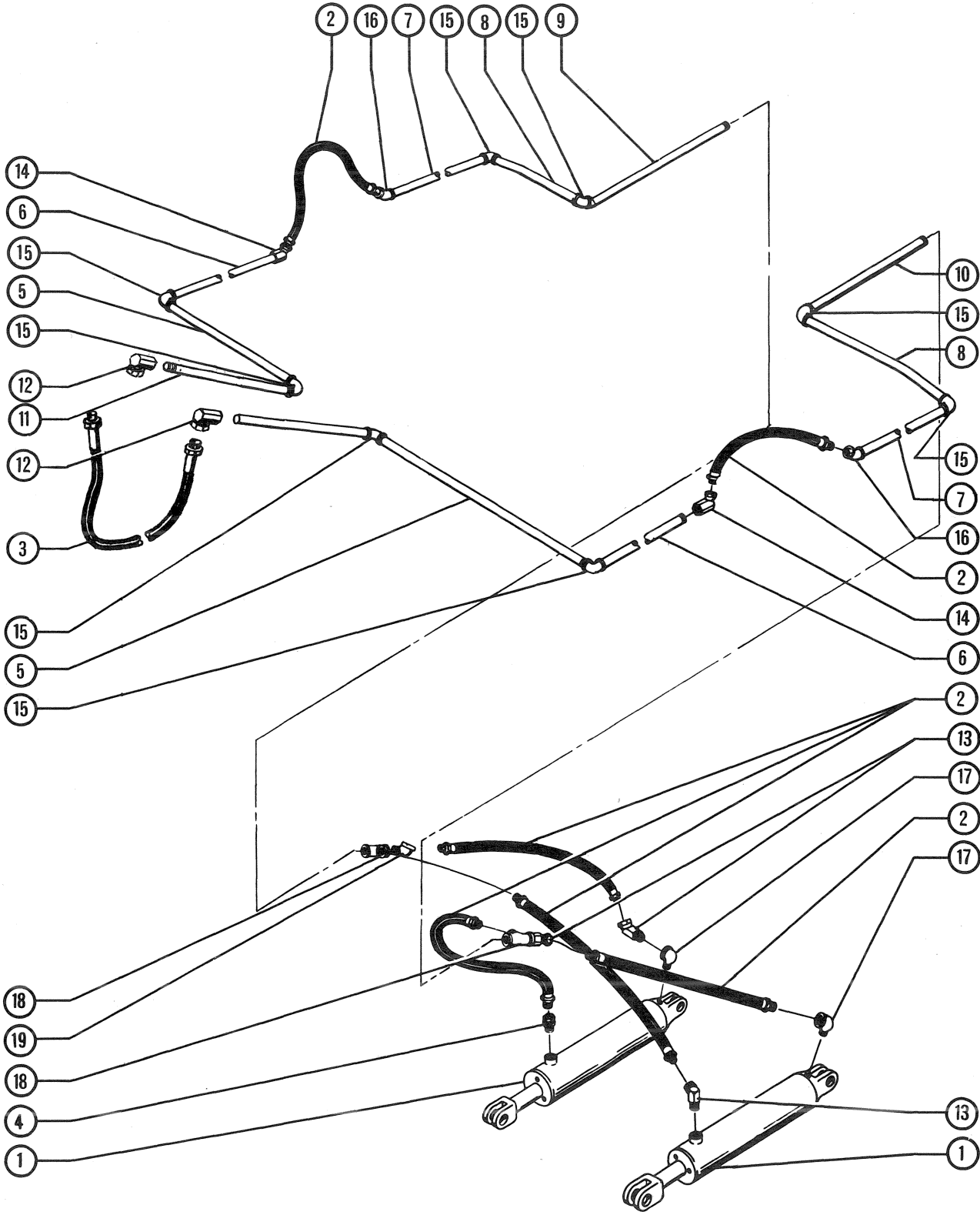


(FOR SCRAPER USING EUCLID MODIFIED YOKE)

**LIFT HYDRAULIC LINES**

REF.	PART NUMBER	DESCRIPTION	QTY.
<u>LIFT HYDRAULIC LINES</u>			
1	209 050 001	Hydraulic Cylinder 5" - See Index	2
1A	209 050 018	Hydraulic Cylinder 5" (Incl. Fittings)	-
2	208 910 001	Hose 3/4" x 29"	4
3	208 910 011	Hose 3/4 x 120"	2
4	217 918 301	Adapter, Union	4
5	208 910 010	Hose 3/4" x 100"	2
6	211 112 009	Pipe	1
7	211 112 006	Pipe	1
8	212 909 401	Tee	2
9	211 112 020	Pipe	1
10	211 112 021	Pipe	1
11	211 112 007	Pipe	1
12	211 112 005	Pipe	1
13	212 902 401	Elbow	2
14	217 907 301	Adapter, Union	2
15	217 907 301	Adapter, Union	2
16	212 908 401	Street Elbow	4
17	211 112 011	Nipple	2
18	217 908 301	Adapter, Union	6
19	217 909 301	Adapter, Union	2
20	211 112 018	Pipe	1
21	211 112 019	Pipe	1
22	212 907 402	Elbow	4
23	211 212 047	Close Nipple	2
24	211 112 016	Pipe	2
25	211 112 014	Pipe	2

(FOR SCRAPER USING HANCOCK YOKE)

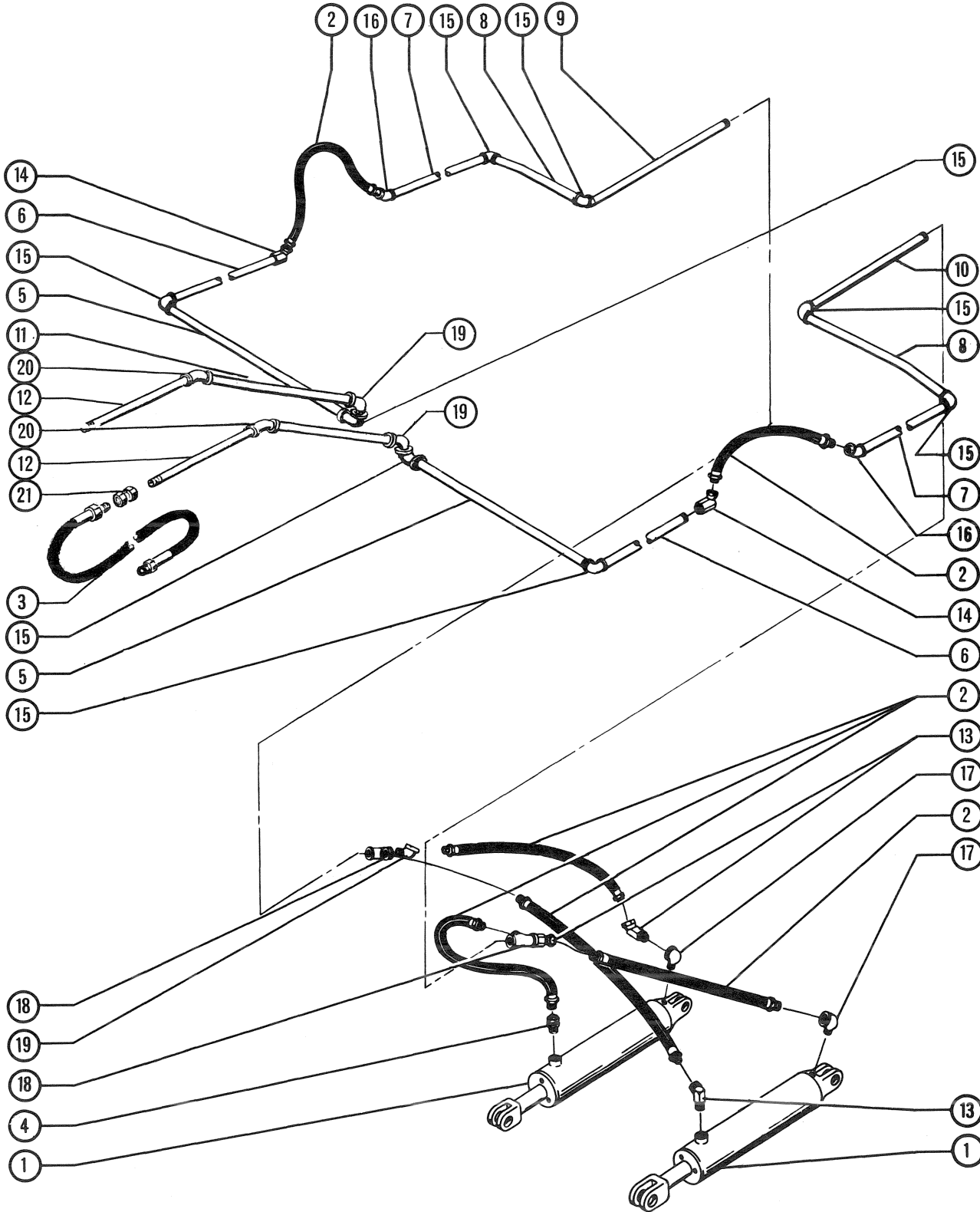


**EJECTION HYDRAULIC LINES**



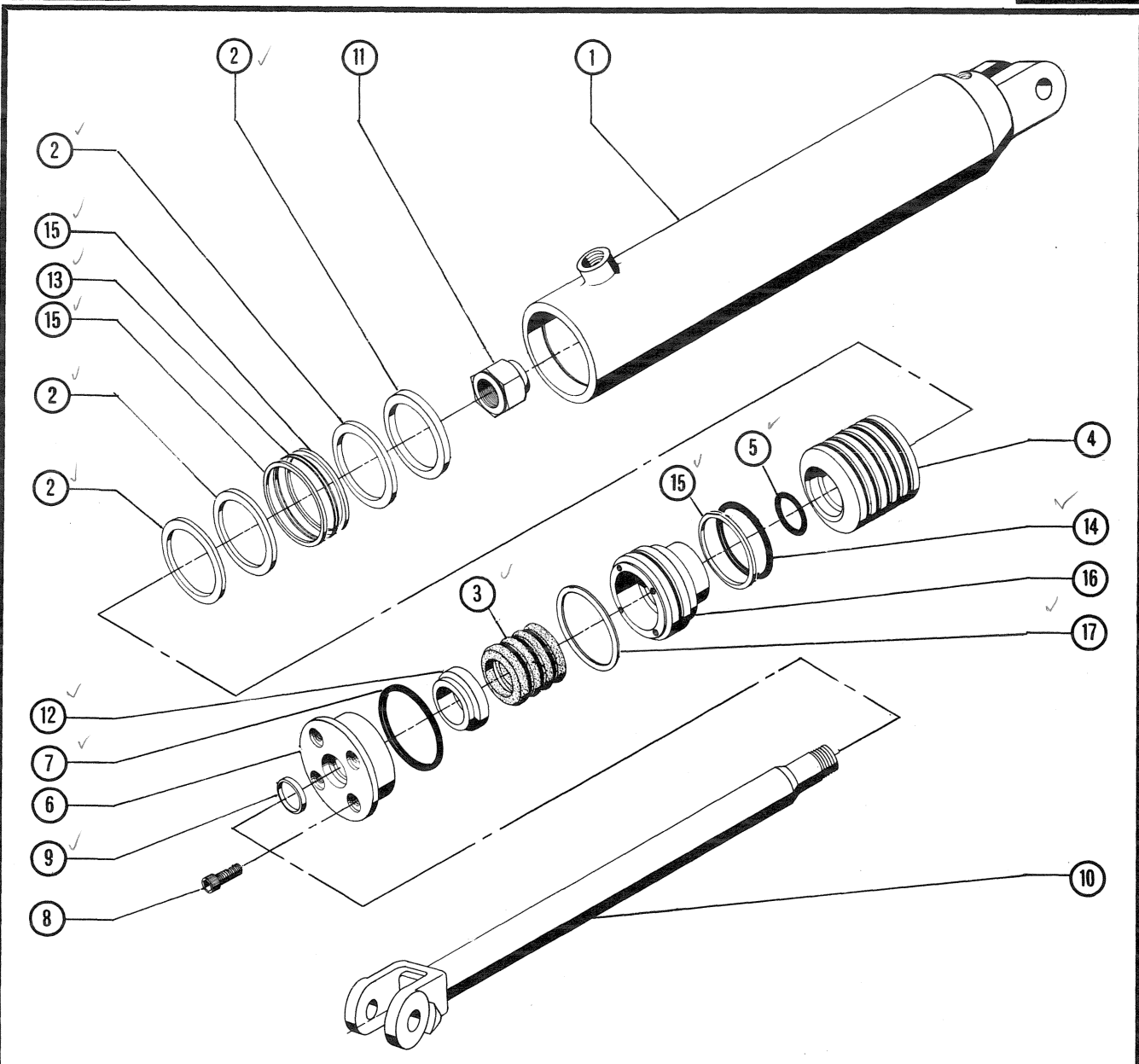
REF.	PART NUMBER	DESCRIPTION	QTY.
<u>EJECTION HYDRAULIC LINES</u> FOR SCRAPER USING HANCOCK YOKE			
1	209 040 001	Hydraulic Cylinder 4" - See Index	2
2	208 910 003	Hose 3/4" x 29"	6
3	208 910 011	Hose 3/4" x 120"	2
4	217 903 303	Adapter, Union	1
5	211 112 018	Pipe	2
6	211 112 010	Pipe	2
7	211 112 004	Pipe	2
8	201 166 030	Pipe	2
9	211 112 013	Pipe	1
10	211 112 012	Pipe	1
11	211 112 011	Pipe	2
12	217 918 301	Adapter, Union	2
13	217 908 301	Adapter, Union	1
14	217 909 301	Adapter, Union	2
15	212 902 203	Elbow	8
16	212 907 201	Elbow	2
17	212 908 401	Street Elbow	2
18	212 909 401	Tee	2
19	212 904 202	Street Elbow	2

(FOR SCRAPER USING EUCLID MODIFIED YOKE)



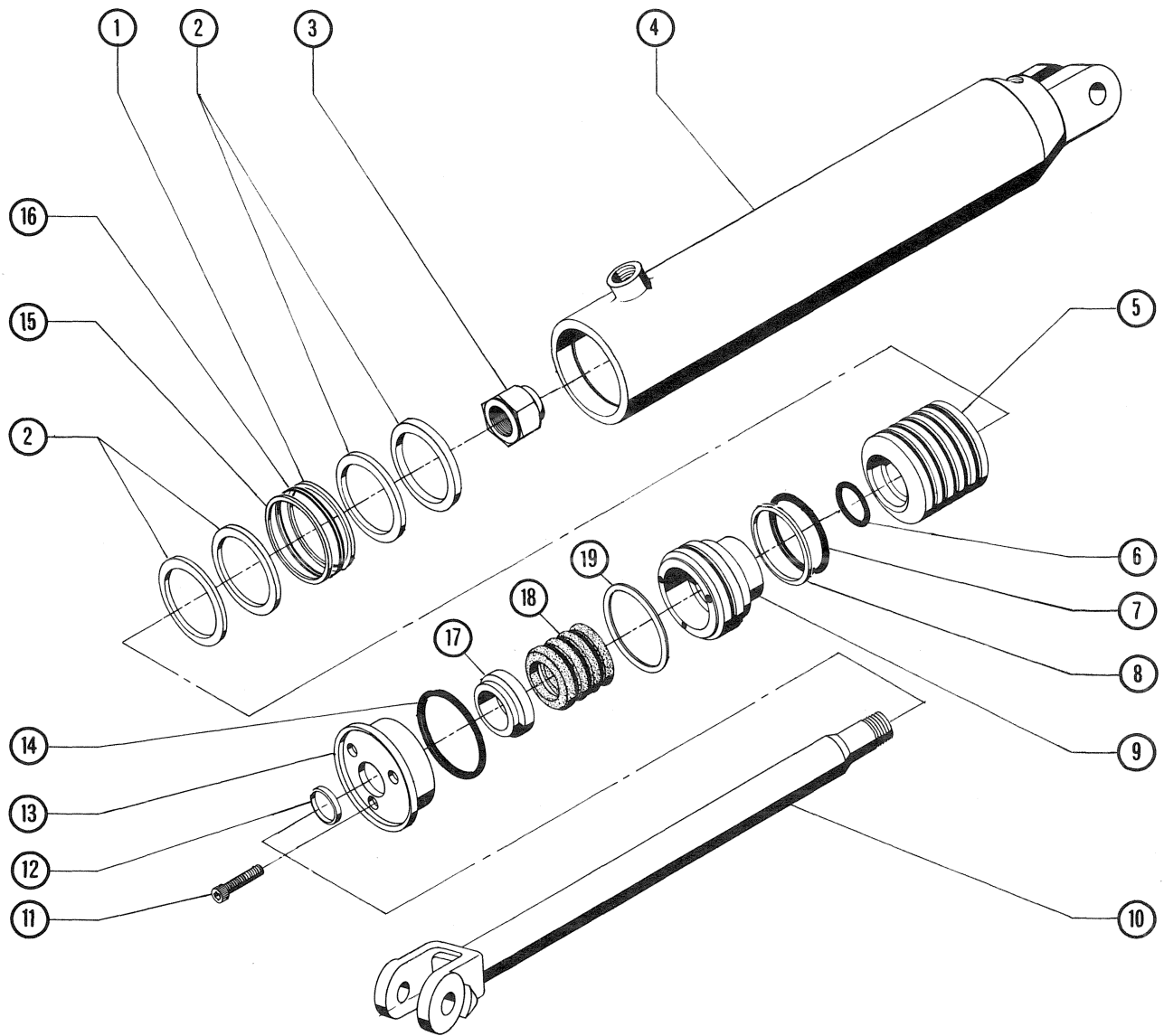
**EJECTION HYDRAULIC LINES**

REF.	PART NUMBER	DESCRIPTION	QTY.
<u>EJECTION HYDRAULIC LINES</u> FOR SCRAPER USING EUCLID MODIFIED YOKE			
1	209 040 001	Hydraulic Cylinder 4" - See Index	2
2	208 910 003	Hose 3/4" x 29"	6
3	208 910 010	Hose 3/4" x 100"	2
4	217 903 303	Adapter, Union	1
5	211 112 017	Pipe	2
6	201 171 002	Pipe	2
7	211 112 004	Pipe	2
8	201 166 030	Pipe	2
9	211 112 013	Pipe	1
10	211 112 012	Pipe	1
11	211 112 015	Pipe	2
12	211 112 014	Pipe	2
13	217 908 301	Adapter, Union	3
14	217 909 301	Adapter, Union	2
15	212 902 203	Elbow	8
16	212 907 201	Elbow	2
17	212 908 401	Street Elbow	2
18	212 909 401	Tee	2
19	212 904 202	Street Elbow	1
20	212 907 201	Elbow	2
21	217 907 301	Coupling	2



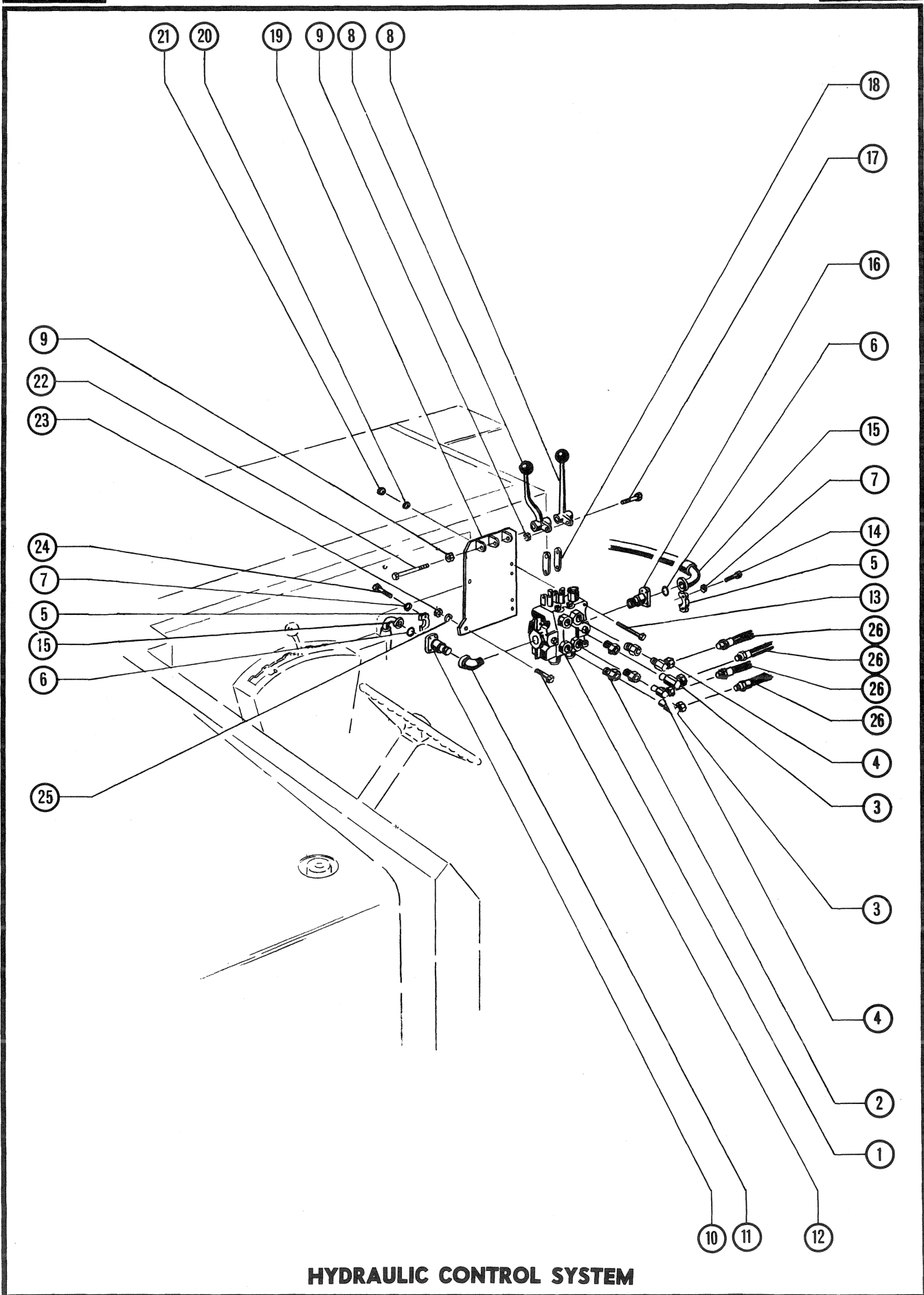
**LIFT HYDRAULIC CYLINDER**

REF.	PART NUMBER	DESCRIPTION	QTY.	REF.	PART NUMBER	DESCRIPTION	QTY.
<u>HYDRAULIC CYLINDER</u>							
A	209 050 001	Hydraulic Cylinder Assembly 5"	2	11	1563792	Locknut - Superseded 209 050 017	1
1	209 050 002	Cylinder Barrel	1	12	209 050 011	Gland Sleeve*	1
2	925 000 702	Piston Ring	1	13	921 242 501	Quad Ring	1
3	925 000 802	Rod Packing	SET	14	919 242 501	"O"Ring	1
4	209 050 003	Piston	1	15	920 842 501	Back-up Ring	3
5	919 221 801	"O"Ring	1	16	209 050 004	Head	1
6	209 050 010	Gland*	1	17	913 050 001	Retaining Ring	1
7	919 225 001	"O"Ring	1	NOTE: Quantities Listed are for one Cylinder Assembly  *209 050 005 Gland Assy. (Incl. Items 6 & 12)			
8	801 312 155	Socket Head Capscrew	4				
9	917 020 011	Seal (Wiper Rod) Superseded 918 020 001	1				
10	209 050 006	Piston Rod	1				



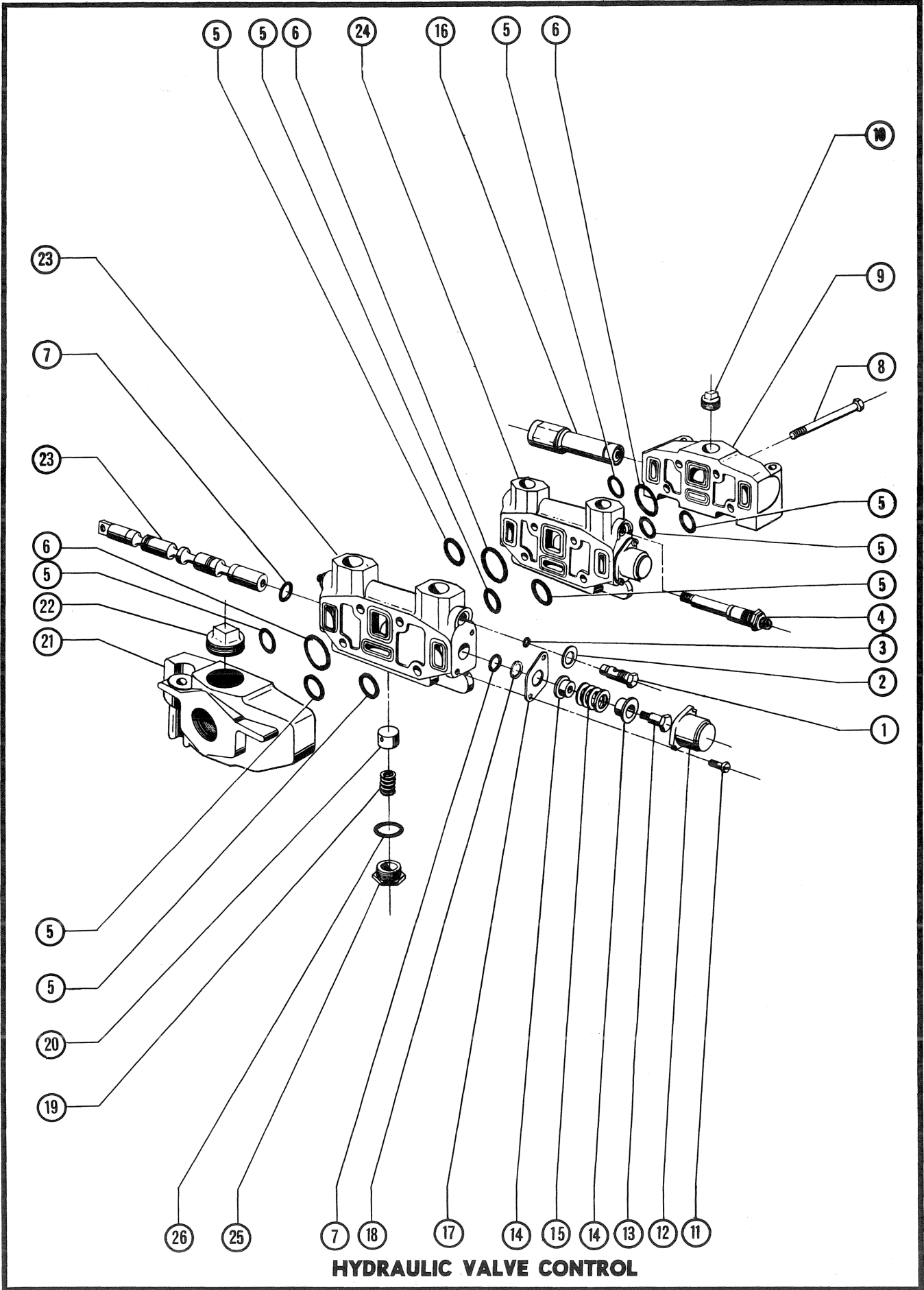
**EJECTION HYDRAULIC CYLINDER**

REF.	PART NUMBER	DESCRIPTION	QTY.	REF.	PART NUMBER	DESCRIPTION	QTY.
A	209 040 001	Assy., Ejection Cylinder	2	13	209 040 016	Gland*	1
1	920 834 201	Ring, Back-up	1	14	919 224 201	"O"Ring	1
2	925 000 701	Ring, Piston	4	15	920 834 201	Ring, Back-up	1
3	1562802	Locknut (Superseded 209 040 055)	1	16	921 234 201	Ring, Quad	1
4	209 040 002	Barrel, Cylinder	1	17	209 040 017	Sleeve, Gland*	1
5	209 040 003	Piston	1	18	925 000 801	Packing, Rod	SET
6	919 221 601	"O"Ring	1	19	913 040 001	Ring, Retaining	1
7	919 234 201	"O"Ring	1				
8	920 834 201	Ring, Back-up	1			*209 040 006, Gland Assy. (Incl. Items 13 & 17)	
9	209 040 004	Head	1				
10	209 040 007	Rod, Piston	1			NOTE: Quantities Shown Are For One Cylinder Assembly	
11	801 312 145	Capscrew, Socket Head	3				
12	917 016 203	Seal, Wiper	1				



**HYDRAULIC CONTROL SYSTEM**

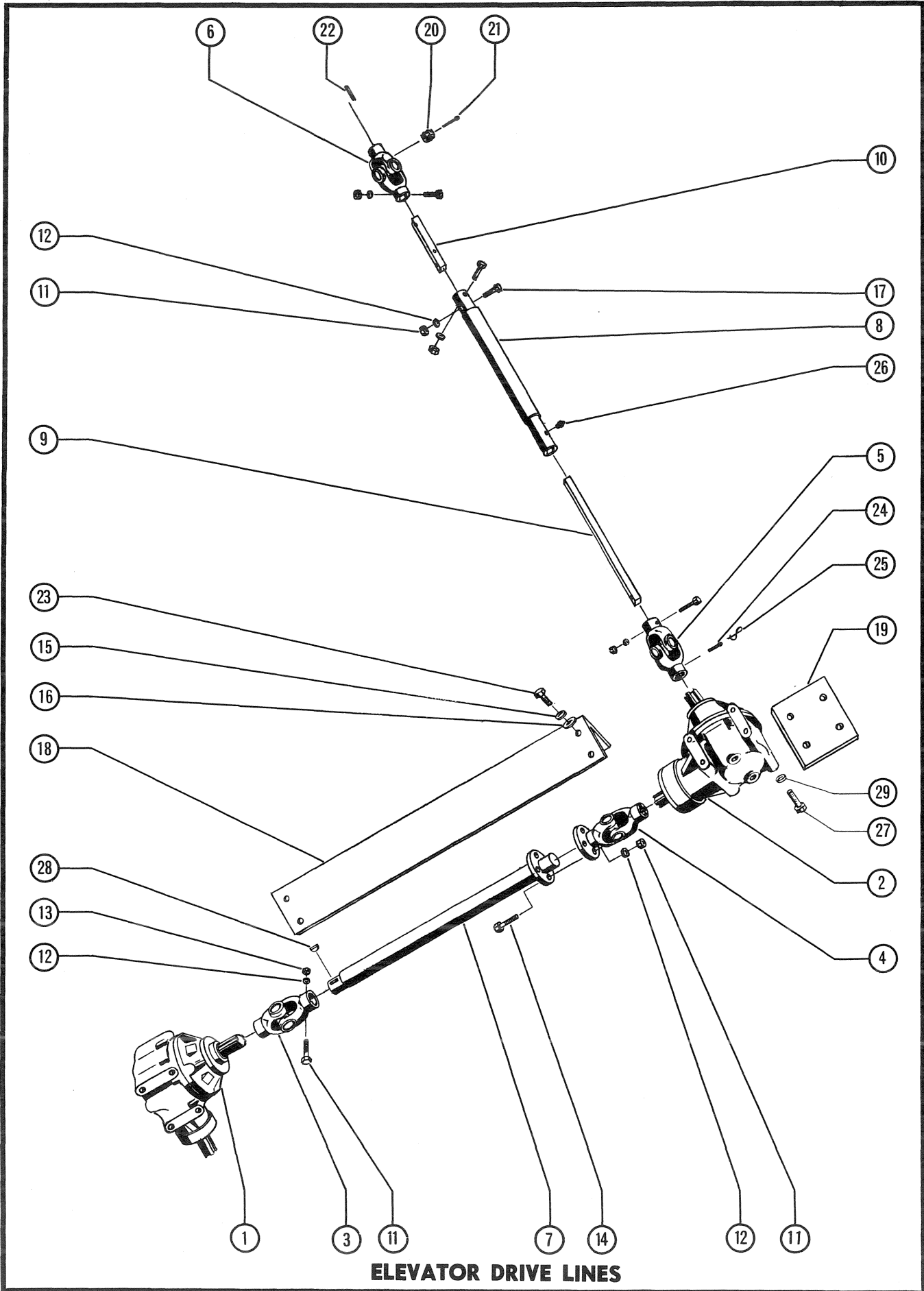
REF.	PART NUMBER	DESCRIPTION	QTY.
<u>HYDRAULIC CONTROL SYSTEM</u>			
1	204 900 047	Assy., Control Valve - See Index	1
2	212 911 101	Bushing*	4
2A	217 928 301	Bushing**	2
3	217 919 302	Adapter, Union*	2
3A	217 919 303	Adapter, Union**	2
3B	217 908 302	Adapter**(Use with adjustable Seat)	1
4	217 908 301	Adapter, Union*	2
4A	217 904 303	Adapter, Union**	2
5	217 906 104	Flange, Half	4
6	919 222 201	"O"Ring	2
7	802 513 000	Lockwasher	8
8	Reference	Existing Euclid Handles	2
9	803 114 006	Locknut	4
10	204 171 006	Adapter	1
11	212 908 202	Street Elbow	1
12	801 114 165	Capscrew	2
13	801 114 305	Capscrew	3
14	801 113 165	Capscrew	4
15	Reference	Existing Euclid Hose	2
16	204 171 008	Adapter	1
17	801 114 186	Capscrew	4
18	204 171 005	Link	2
19	204 171 001	Bracket	1
20	802 514 000	Lockwasher	3
21	802 814 005	Hexnut	3
22	801 114 316	Capscrew	1
23	802 814 006	Hexnut	2
24	801 131 165	Capscrew	4
25	802 514 000	Lockwasher	2
26	208 910 011	Hydraulic Hose (For Hancock Yoke)	4
26A	208 910 010	Hydraulic Hose (For Euclid Yoke)	4
<p>*For used Euclid Model S-7</p> <p>**For New Euclid Model S-7</p>			



**HYDRAULIC VALVE CONTROL**

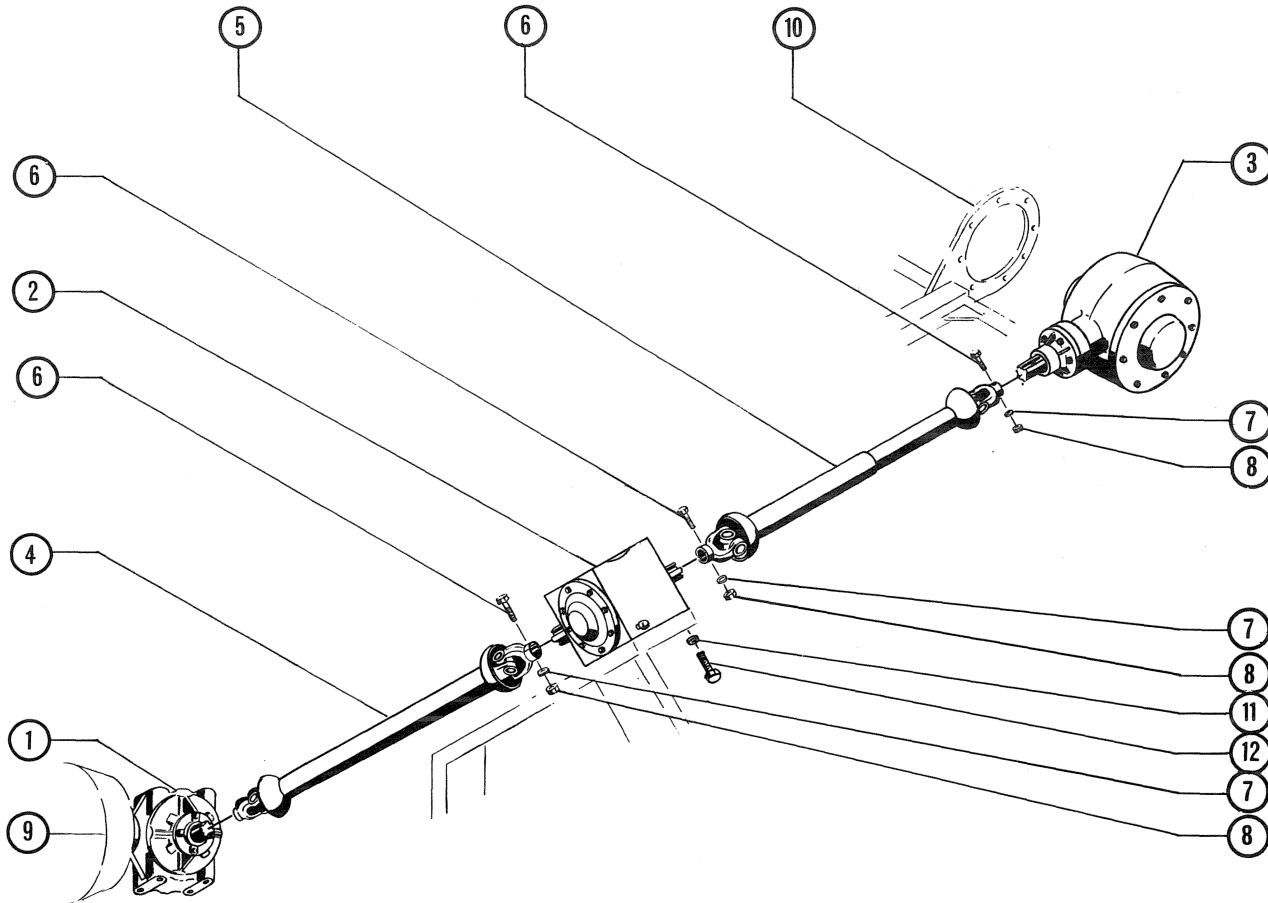


REF.	PART NUMBER	DESCRIPTION	QTY.
<u>HYDRAULIC VALVE CONTROL</u>			
A	204 900 047	Assy., Hydraulic Control Valve	1
1	204 900 162	Check	2
2	204 900 163	Washer	2
3	204 900 164	"O"Ring	2
4	204 900 165	Cartridge	2
5	204 900 134	"O"Ring	9
6	204 900 133	"O"Ring	3
7	204 900 150	"O"Ring	4
8	204 900 131	Capscrew	4
9	204 900 132	Section, Inlet	1
10	212 906 402	Plug	1
11	204 900 157	Screw	4
12	204 900 156	Cap	2
13	204 900 155	Bolt	2
14	204 900 153	Guide	4
15	204 900 154	Spring	2
16	204 900 129	Cartridge	1
17	204 900 152	Plate, Back-up	2
18	204 900 151	Ring, Back-up	2
19	204 900 160	Spring	2
20	204 900 161	Poppet	2
21	204 900 107	Section, Outlet	1
22	212 906 403	Plug	1
23	204 900 149	Housing and Spool (Matched Set Only)	2
24	204 900 127	Lift Section Assembly*	1
24A	204 900 128	Ejection Section Assy. **	1
25	204 900 158	Cap	2
26	204 900 159	"O"Ring	2
<p>*Includes Items 4, 11 thru 17, 19, 20, 23, 25 and 26.</p> <p>**Includes Items 1, 2, 3, 11 thru 17, 19, 20, 23, 25 and 26.</p> <p>NOTE: ITEMS LISTED ABOVE APPLY ONLY TO USED EUCLID MODEL S-7 TRACTOR WITH A HANCOCK INSTALLED SCRAPER.</p>			



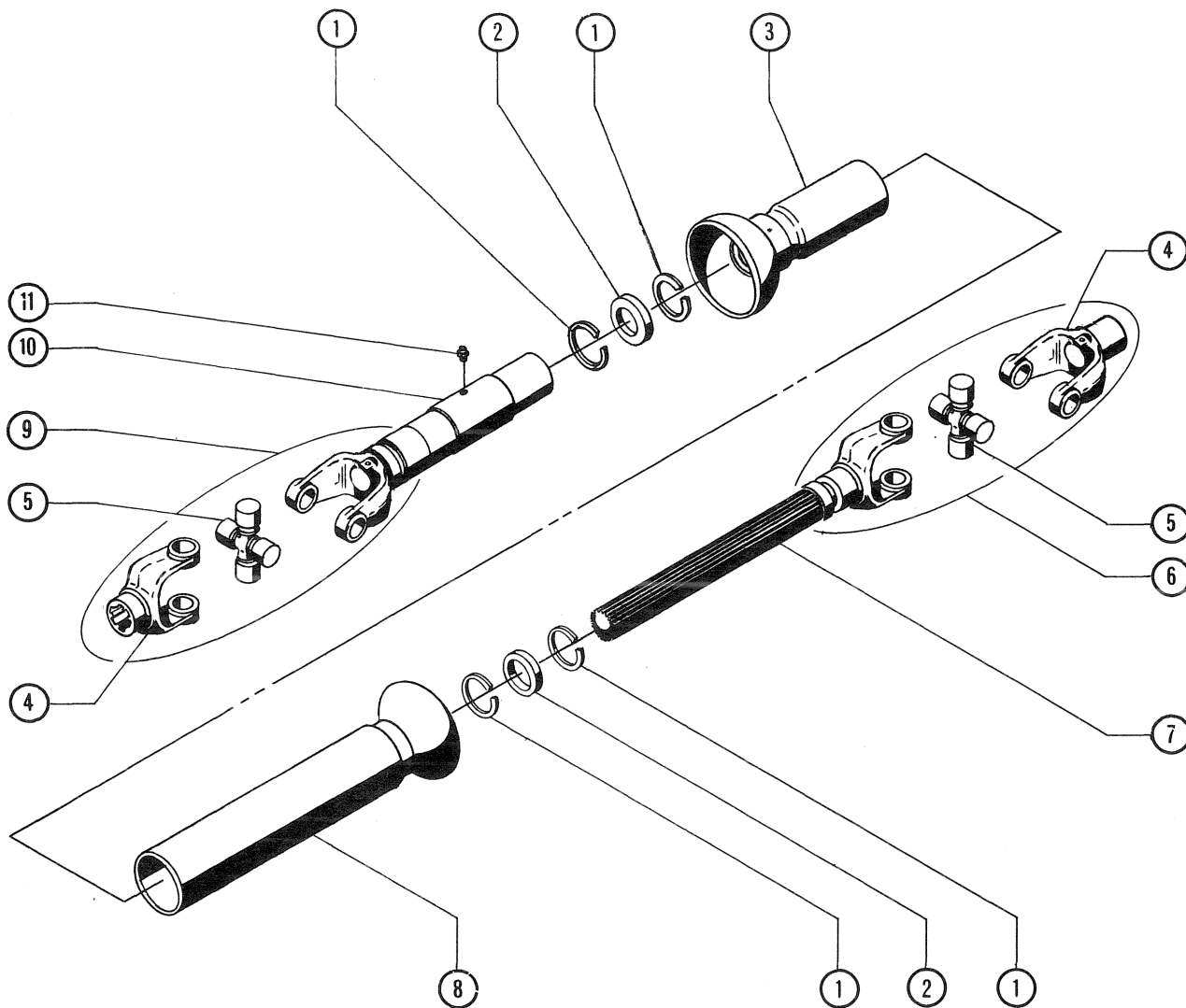
**ELEVATOR DRIVE LINES**

REF.	PART NUMBER	DESCRIPTION	QTY.
		<u>ELEVATOR DRIVE LINES</u>	
		Effective with S/N 2E 1 L5146 thru 2E 42 L5634, 2E 44 L5636 thru 2E 50 L5642, 2E 52 L5644 thru 2E 58 L5650 and 2E 60 L5652 thru 2E 62 L5957	
1	---	Assy., Clutch Gearbox - See Index	1
2	---	Assy., Intermediate Gearbox - See Index	1
3	602 900 018	U-Joint*	1
4	601 166 044	U-Joint*	1
5	602 900 037	U-Joint*	1
6	602 900 036	U-Joint*	1
7	608 171 018	Shaft	1
8	608 171 024	Tubing Assembly	1
9	608 171 016	Shaft, Square	1
10	608 166 003	Shaft, Stub	1
11	801 111 221	Capscrew	2
12	802 511 000	Lockwasher	7
13	802 811 001	Hexnut	7
14	801 111 181	Capscrew	2
15	802 516 000	Lockwasher	4
16	802 316 000	Flatwasher	4
17	801 111 221	Capscrew	4
18	608 171 019	Cover, Drive Line	1
19	102 171 070	Adapter	1
20	601 900 013	Nut, Slotted	1
21	803 406 161	Pin, Cotter	1
22	923 020 002	Key	1
23	801 116 175	Capscrew	1
24	820 900 403	Setscrew	1
25	925 000 019	Wire, Safety	AR
26	219 905 017	Fitting, Grease	1
27	801 114 225	Capscrew	4
28	923 010 003	Key, Woodruff	1
29	802 514 000	Lockwasher	4
		*602 900 031, U-Joint Repair Kit (Incl. 1 Cross, 1 Zerk, 4 Snap Rings & 4 Caps)	



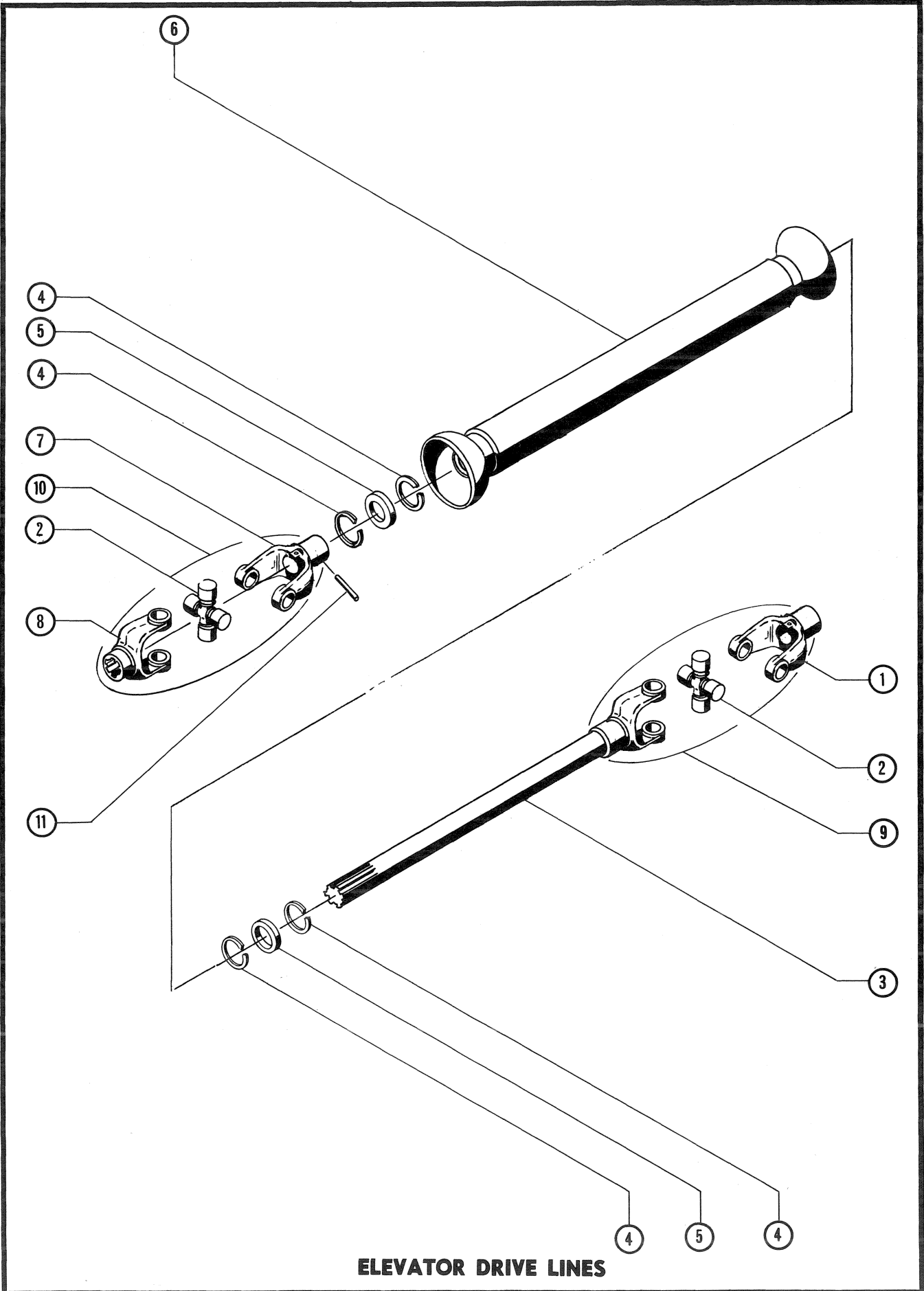
**ELEVATOR DRIVE LINES**

REF.	PART NUMBER	DESCRIPTION	QTY.	REF.	PART NUMBER	DESCRIPTION	QTY.
		Effective with S/N 2E 43 L5635 2E 51 L5643, 2E 59 L5651 2E 63 L5958 and Subsequent					
1	-----	Assy., Clutch Gearbox - See Index	1	5	608 171 004	Assy., Drive Line (Intermediate Gearbox to Elevator Gearbox) See Index	1
2	-----	Assy., Intermediate Gearbox - See Index	1	6	801 112 225	Capscrew	3
3	-----	Assy., Elevator Gearbox - See Index	1	7	802 512 000	Lockwasher	3
4	608 171 003	Assy., Drive Line (Clutch Gearbox to Intermediate Gearbox) Effective with S/N 2E 101 L6125 and Subsequent - See Index	1	8	802 812 003	Hexnut	3
4A	608 171 013	Assy., Drive Line (Clutch Gearbox to Intermediate Gearbox) Effective with S/N 2E 43 L5635, 2E 51 L5643 2E 59 L5651 and 2E 63 L5959 thru 2E 100 L6124 - See Index	1	9	-----	Assy., Air Clutch - See Index	1
				10	-----	Assy., Elevator - See Index	1
				11	802 514 000	Lockwasher	4
				12	801 114 255	Capscrew	4



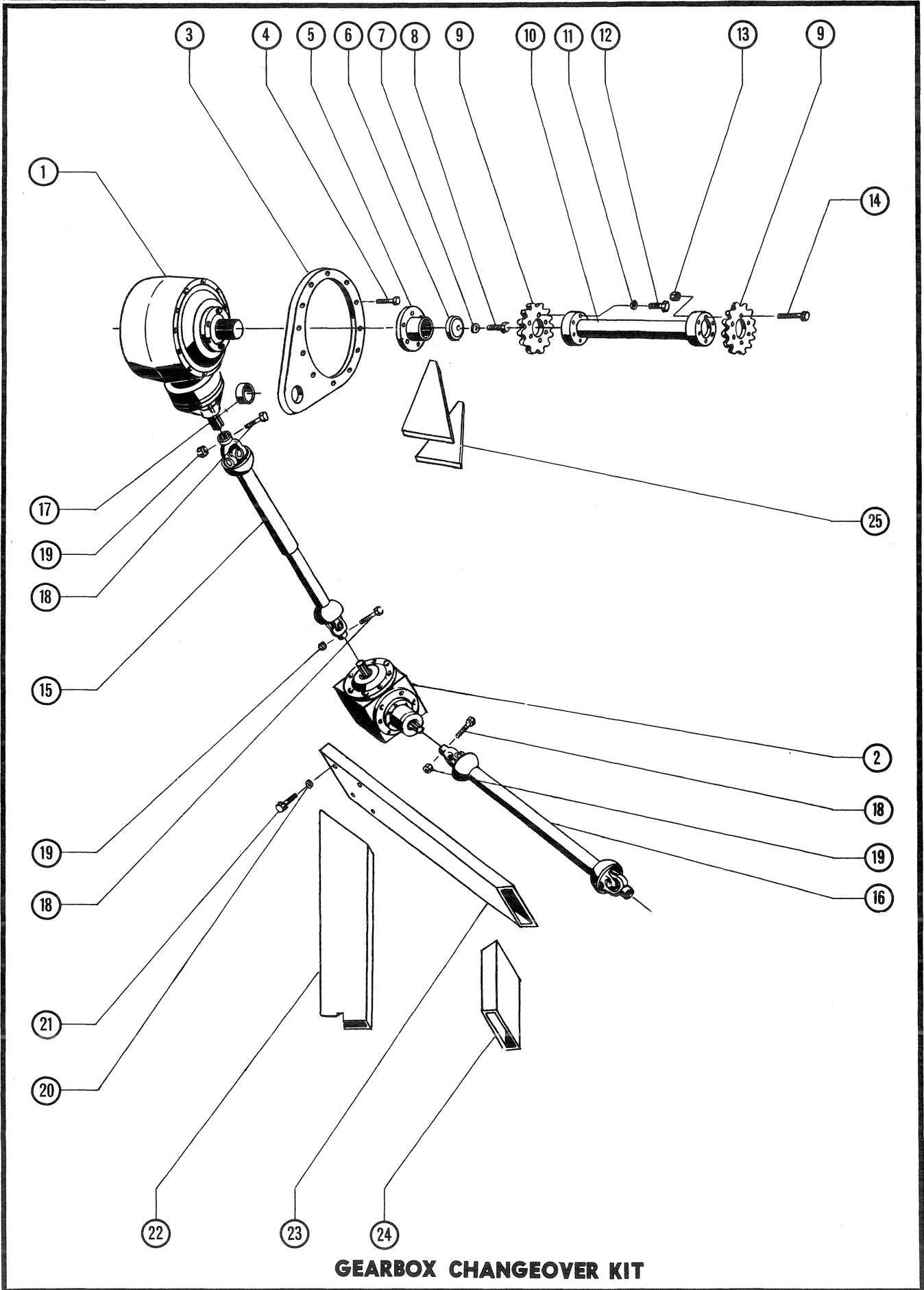
**DRIVE LINE**

REF.	PART NUMBER	DESCRIPTION	QTY.	REF.	PART NUMBER	DESCRIPTION	QTY.
		Effective with S/N 2E 43 L5635, 2E 51 L5643, 2E 59 L5651 2E 63 L5958 and Subsequent					
A	608 171 004	Assy., Drive Line (Intermediate Gearbox to Elevator Gearbox)	1	7	602 900 084	Assy., Solid Shaft & Yoke	1
1	925 000 513	Ring, Retaining	4	8	602 900 087	Shield, Outer	1
2	910 022 502	Spacer, Nylon	2	9	602 900 088	Assy., U-Joint (Incl. Items 4-5-10 & 11)	1
3	602 900 086	Shield, Inner	1	10	602 900 085	Assy., Tubular Shaft & Yoke	1
4	602 900 054	Yoke (Six Spline)	2	11	219 901 005	Fitting, Grease	1
5	602 900 030	U-Joint Repair Kit*	2			*Incl. 1 Cross, 1 Zerk, 4 Snap Rings & 4 Caps	
6	602 900 089	Assy., U-Joint (Incl. Items 4-5 & 7)	1				



**ELEVATOR DRIVE LINES**

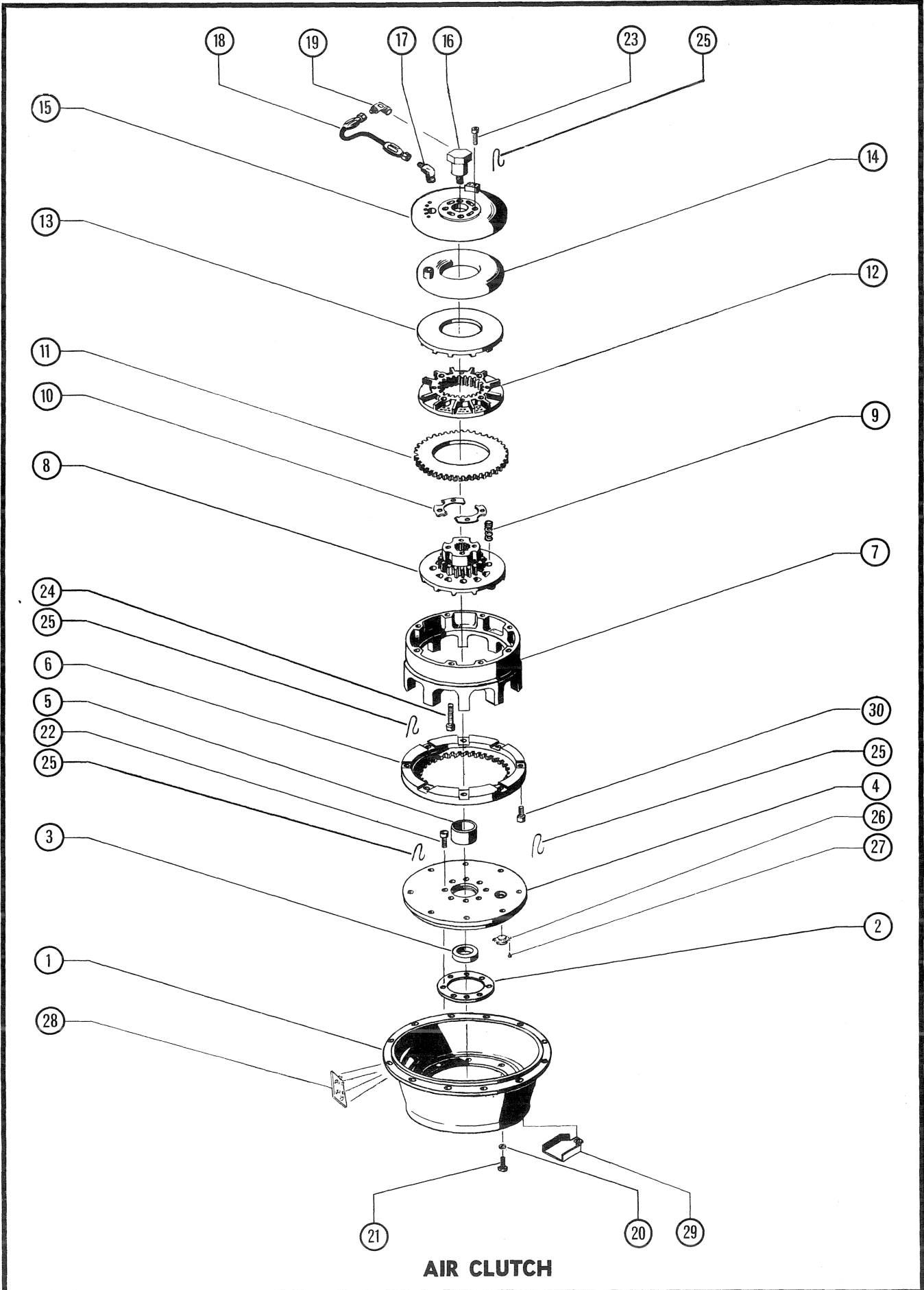
REF.	PART NUMBER	DESCRIPTION	QTY.	REF.	PART NUMBER	DESCRIPTION	QTY.
<b>CHECK EFFECTIVY</b>							
<p style="text-align: center;"><u>DRIVE LINE</u> Effective with S/N 2E 43 L5635, 2E 51 L5643, 2E 59 L5651 and 2E 63 L5958 thru 2E 100 L6124</p>				<p style="text-align: center;"><u>DRIVE LINE</u> Effective with S/N 2E 101 L6125 and Subsequent</p>			
A	608 171 013	Drive Line Assy. (Clutch Gearbox to Intermediate Gearbox)	1	A	608 171 003	Drive Line Assy. (Clutch Gearbox to Intermediate Gearbox)	1
1	602 900 054	Yoke (Six Spline) 1 3/4"	1	1	602 900 054	Yoke (Six Spline) 1 3/4"	1
2	602 900 030	U-Joint Repair Kit*	2	2	602 900 030	U-Joint Repair Kit*	2
3	602 900 080	U-Joint and Shaft Assembly	1	3	602 900 076	U-Joint and Shaft Assembly	1
4	925 000 513	Retainer Ring	4	4	925 000 513	Retainer Ring	4
5	910 022 502	Nylon Spacer	2	5	910 022 502	Nylon Spacer	2
6	602 900 081	Shield	1	6	602 900 077	Shield	1
7	602 900 052	Yoke (Six Spline) 1 5/8"	1	7	602 900 052	Yoke (Six Spline) 1 5/8"	1
8	602 900 051	Yoke (Six Spline) 1 3/8"	1	8	602 900 053	Yoke (Six Spline) 1 3/8"	1
9	602 900 082	U-Joint Assembly (Items 1, 2 & 3)	AR	9	602 900 078	U-Joint Assembly (Items 1, 2 & 3)	AR
10	602 900 083	U-Joint Assembly (Items 2, 7 & 8)	AR	10	602 900 079	U-Joint Assembly (Items 2, 7 & 8)	AR
11	803 312 200	Roll Pin	1	11	803 312 200	Roll Pin	1
<p>*U-Joint Repair Kit Includes 1 Cross, 1 Zerk, 4 Snap Rings and 4 Caps.</p>				<p>*U-Joint Repair Kit Includes 1 Cross, 1 Zerk, 4 Snap Rings and 4 Caps.</p>			



**GEARBOX CHANGEOVER KIT**

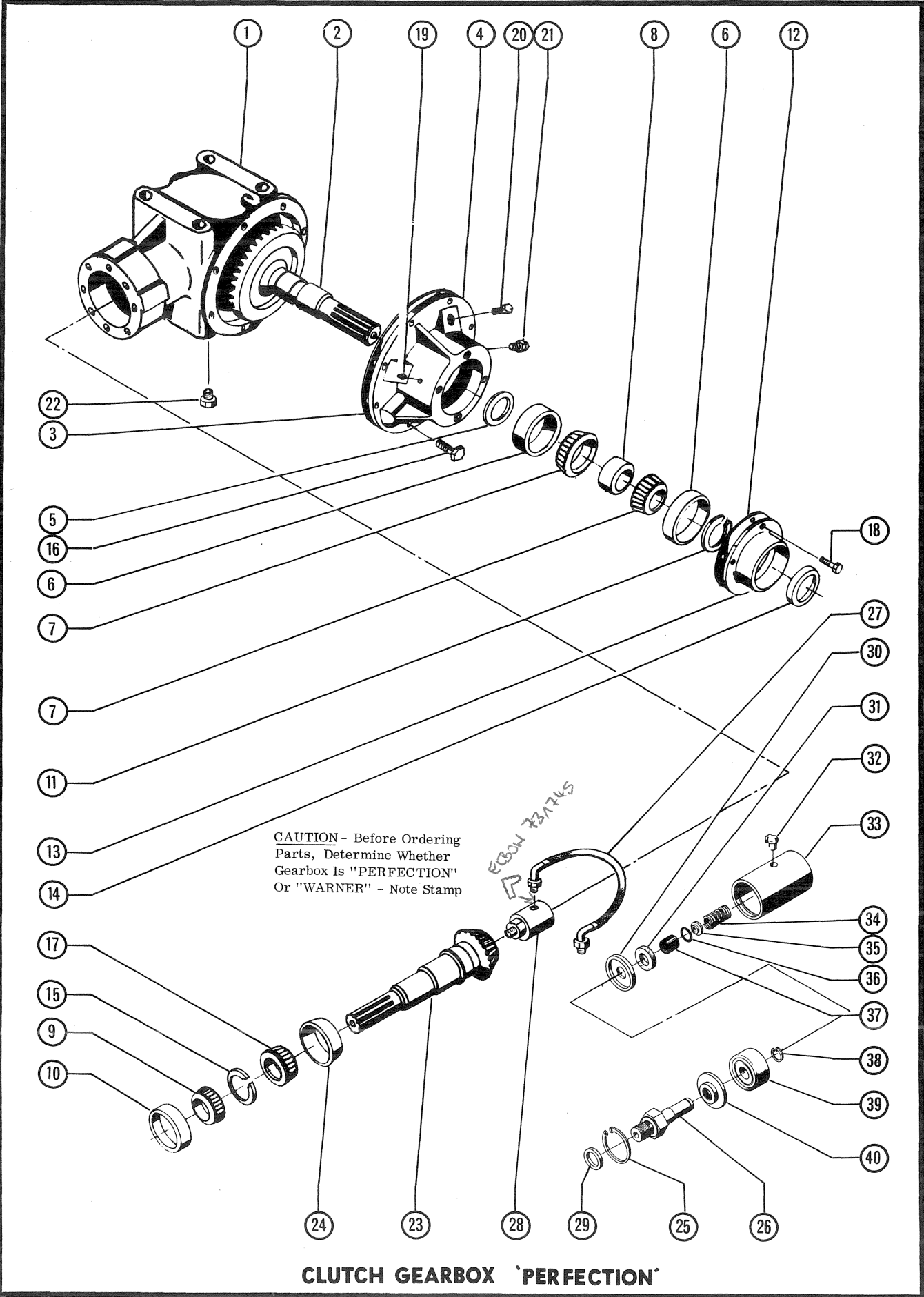


REF.	PART NUMBER	DESCRIPTION	QTY.
<u>GEARBOX CHANGEOVER KIT</u>			
Replacement Parts for S/N 2E 1 L5146 thru 2E 62 L5957 (Excluding Units Numbered 2E 43 L5635, 2E 51 L5643 & 2E 59 L 5651) which have Gearbox Changeover Kit Installed			
A	000 171 014	Gearbox Changeover Kit	1
1	601 166 058	Elevator Gearbox - See Index	1
2	601 171 004	Intermediate Gearbox - See Index	1
3	501 171 029	Hanger, Gearbox	1
4	801 314 145	Socket Head Capscrew	12
5	601 166 100	Hub	1
6	601 166 079	Retainer	1
7	802 514 000	Lockwasher	1
8	801 114 175	Capscrew	1
9	501 171 034	Sprocket, Bolt-on	2
10	501 171 035	Shaft	1
11	802 516 000	Lockwasher	6
12	801 116 265	Capscrew	6
13	803 116 005	Locknut	6
14	801 116 285	Capscrew	6
15	608 171 004	Drive Line Assembly (Upper)	1
16	608 171 003	Drive Line Assembly (Lower)	1
17	501 166 032	Tube	1
18	801 112 225	Capscrew	3
19	803 112 003	Locknut	3
20	802 514 000	Lockwasher	4
21	801 114 255	Capscrew	4
22	102 171 058	Channel, Boxed	1
23	102 171 051	Channel, Boxed	1
24	102 171 055	Channel, Boxed	1
25	501 171 030	Gusset	2
26	102 171 080	Plate*	2
27	102 171 079	Pin, Pivot*	2
28	102 171 081	Plate*	2
*Not Illustrated			



**AIR CLUTCH**

REF.	PART NUMBER	DESCRIPTION	QTY.
<u>AIR CLUTCH</u>			
A	610 900 001	Clutch Assembly	1
1	610 900 064	Bell Housing	1
2	601 300 005	Shim .007"	AR
2A	601 300 006	Shim .010"	AR
2B	601 300 007	Shim .012"	AR
2C	601 300 008	Shim .016"	AR
3	917 022 501	Seal	1
4	610 900 069	Adapter Plate	1
5	610 900 067	Spacer	1
6	610 900 070	Driving Ring	1
7	610 900 080	Driving Ring Adapter	1
8	610 900 066	Hub and Back Plate*	1
9	610 900 068	Spring*	4
10	610 900 073	Shim*	AR
11	610 900 065	Friction Disc*	1
12	610 900 079	Floating Plate*	1
13	610 900 071	Pressure Plate*	1
14	610 900 078	Air Tube*	1
15	610 900 072	Holding Plate*	1
16	610 900 074	End Cap	1
17	217 921 304	Elbow*	1
18	208 904 021	Hose*	1
19	217 930 302	Elbow	1
20	802 512 000	Lockwasher	8
21	801 112 145	Capscrew	8
22	820 900 422	Sockethead Capscrew	8
23	820 900 425	Sockethead Capscrew	4
24	820 900 424	Sockethead Capscrew	8
25	925 000 139	Safety Wire	AR
26	303 900 001	Thermodisc	1
27	801 808 061	Machine Screw	2
28	610 171 005	Cover Plate	1
29	303 171 001	Thermodisc Cover	1
30	820 900 423	Sockethead Capscrew	8
	610 900 085	Air Tube Disc Assembly (Includes Items 8 thru 15, 17 & 18)	

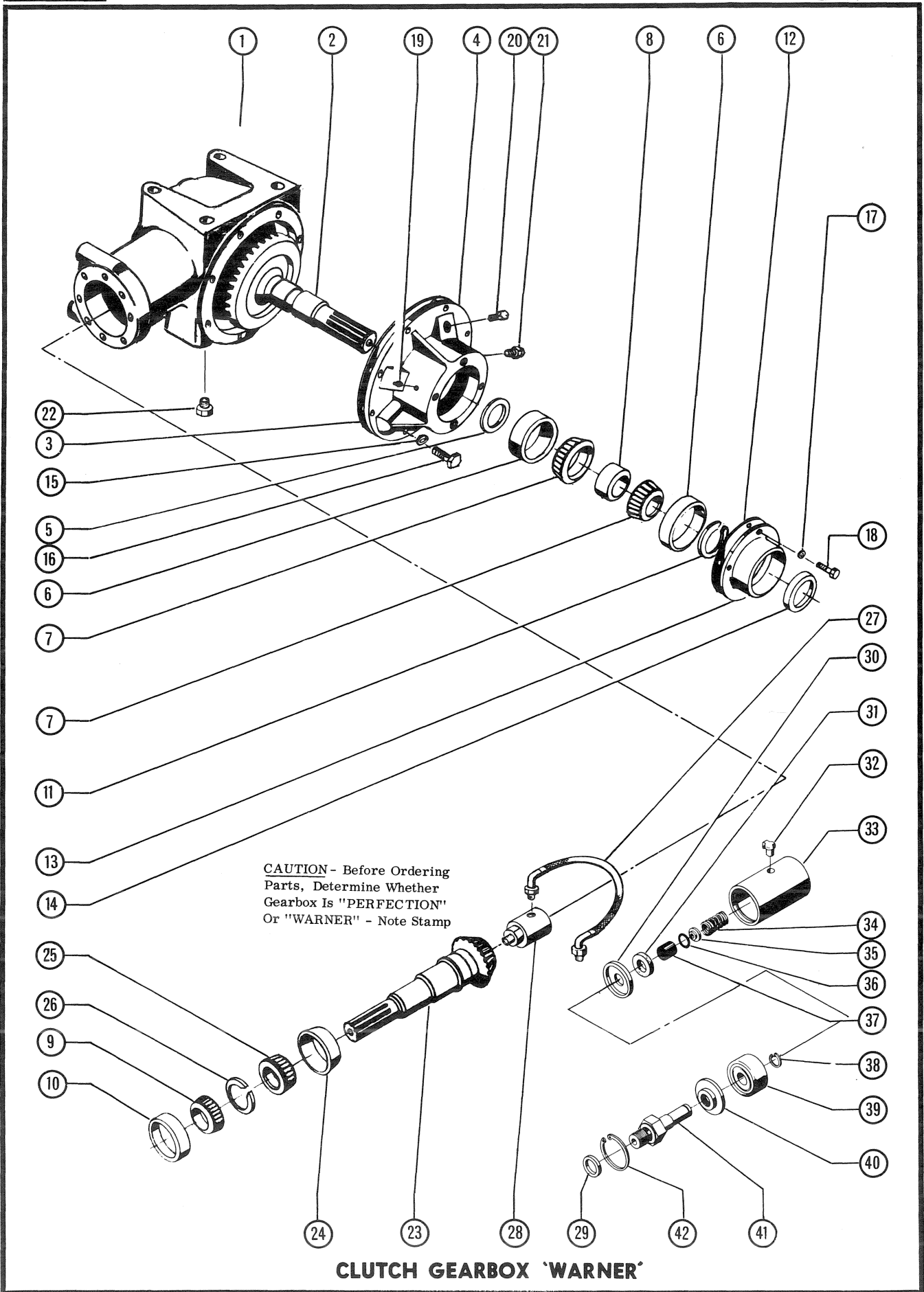


CAUTION - Before Ordering  
Parts, Determine Whether  
Gearbox Is "PERFECTION"  
Or "WARNER" - Note Stamp

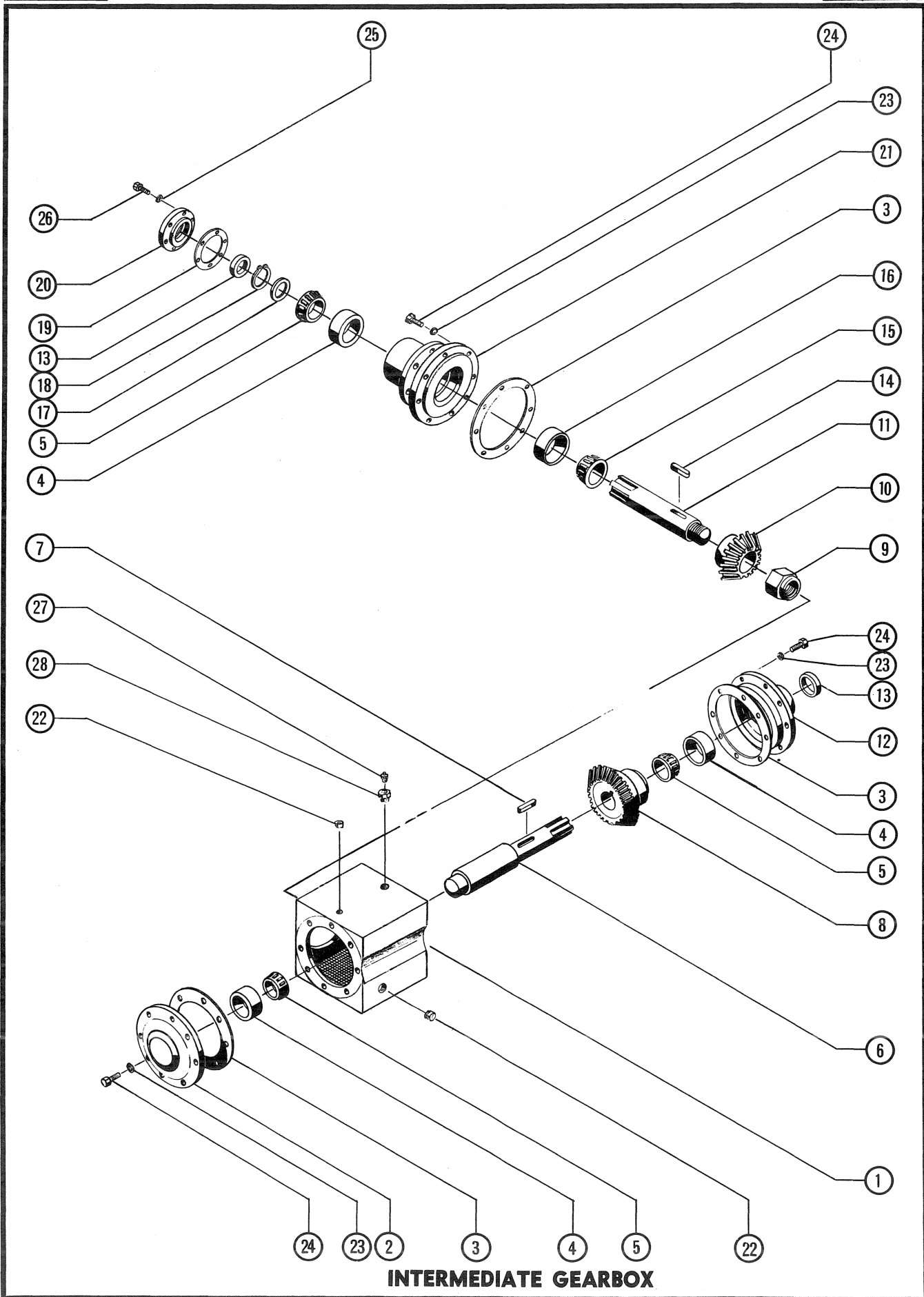
FROM 731745

**CLUTCH GEARBOX 'PERFECTION'**

REF.	PART NUMBER	DESCRIPTION	QTY.	REF.	PART NUMBER	DESCRIPTION	QTY.
		<u>CLUTCH GEARBOX "PERFECTION"</u>					
		CAUTION - Before ordering Parts, Determine whether gearbox is "Perfection" or "Warner"- Note Stamp.					
A	601 171 029	"Perfection" Gearbox Assy.	1	21	220 900 003	Breather	1
1	601 900 107	Housing, Main	1	22	601 900 068	Adapter	1
2	601 900 026	Gear, Output	1	23	601 171 028	Shaft, Input	1
3	601 900 115	Shim	AR	24	902 035 402	Cup, Bearing	1
3A	601 900 116	Shim	AR	25	601 900 166	Snap Ring*	1
3B	601 900 117	Shim	AR	26	601 900 132	Coupling	1
4	601 900 109	Housing, Side	1	27	208 904 022	Hose	1
5	601 900 035	Spacer	1	28	601 900 185	Roto - Coupling Assembly (Superseded 601 900 067)	1
6	902 031 401	Cup, Bearing	2	29	601 900 133	Washer	1
7	903 015 701	Cone, Bearing	2	30	601 900 129	Spacer	1
8	601 900 037	Spacer, Bearing	1	31	601 900 166	Packing*	1
9	903 017 503	Cone, Bearing	1	32	601 900 122	Oil Cap	1
10	902 035 401	Cup, Bearing	1	33	601 900 128	Housing	1
11	601 900 034	Ring, Retaining	1	34	601 900 166	Spring*	1
12	601 900 118	Shim	AR	35	601 900 166	Spacer*	1
12A	601 900 119	Shim	AR	36	601 900 166	"O"Ring*	1
12B	601 900 120	Shim	AR	37	601 900 166	Bushing*	1
13	601 900 111	Cap	1	38	912 004 601	Ring, Snap	1
14	917 013 701	Seal, Oil	1	39	601 900 130	Bearing, Ball	1
15	601 900 036	Ring, Retaining	1	40	601 900 131	Retainer	1
16	820 900 214	Capscrew, Nylock	8	41	610 900 113	Washer, Neophene**	1
17	903 020 001	Cone, Bearing	1				
18	820 900 215	Capscrew, Nylock	4			*Serviced Only in Kit, 601 900 113	
19	212 906 104	Plug, Pipe	2			**Not Illustrated	
20	212 906 101	Plug, Pipe	1				



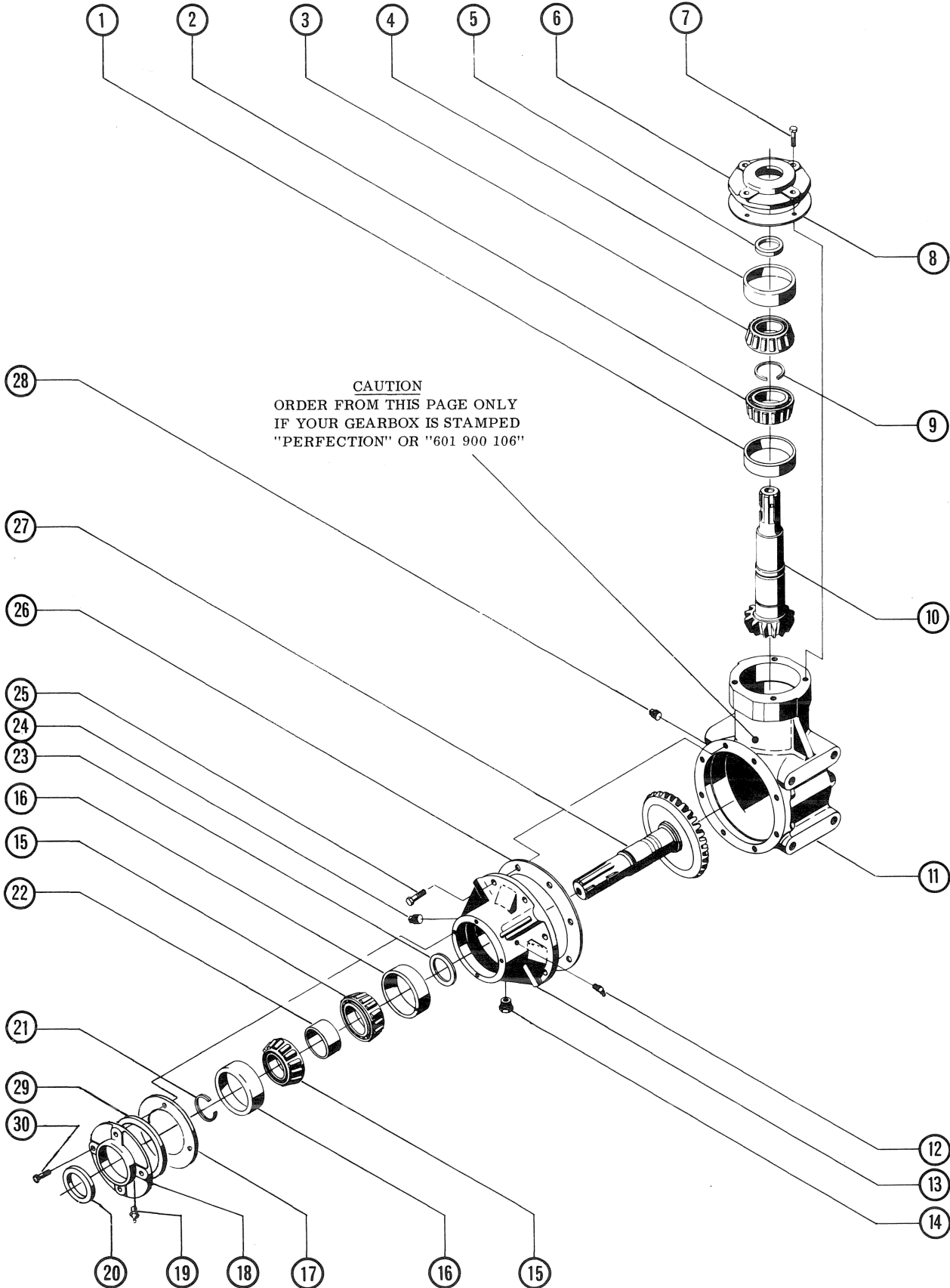
REF.	PART NUMBER	DESCRIPTION	QTY.	REF.	PART NUMBER	DESCRIPTION	QTY.
		<u>CLUTCH GEARBOX "WARNER"</u>					
		CAUTION - Before ordering Parts, Determine whether gearbox is "Perfection" or "Warner"- Note Stamp.					
A	601 171 027	"Warner" Gearbox Assembly	1	22	601 900 068	Adapter	1
1	601 300 002	Housing, Main	1	23	601 171 028	Shaft, Input	1
2	601 900 026	Gear, Output	1	24	902 035 402	Cup, Bearing	1
3	601 900 029	Shim, .007"	AR	25	903 020 001	Cone, Bearing	1
3A	601 900 030	Shim, .012"	AR	26	601 900 036	Ring, Retaining	1
4	601 900 025	Housing, Side	1	27	208 904 022	Hose	1
5	601 900 035	Spacer, Bearing	1	28	601 900 185	Roto-Coupling (Superseded 601 900 067)	1
6	902 031 401	Cup, Bearing	2	29	601 900 133	Washer	1
7	903 015 701	Cone, Bearing	2	30	601 900 129	Spacer	1
8	601 900 037	Bearing Spacer	1	31	601 900 166	Packing*	1
9	903 017 503	Cone, Bearing	1	32	601 900 122	Cap, Oil	1
10	902 035 401	Cup, Bearing	1	33	601 900 128	Housing	1
11	601 900 034	Ring, Retaining	1	34	601 900 166	Spring*	1
12	601 900 031	Shim .005" Brass	AR	35	601 900 166	Spacer*	1
12A	601 900 032	Shim .010"	AR	36	601 900 166	"O"Ring*	1
12B	601 900 033	Shim .015"	AR	37	601 900 166	Bushing*	1
13	601 900 028	Cap, Retaining	1	38	912 004 601	Ring, Snap	1
14	917 013 704	Seal, Oil	1	39	601 900 130	Bearing, Ball	1
15	802 512 000	Lockwasher	8	40	601 900 131	Retainer	1
16	801 112 145	Capscrew	8	41	601 900 132	Coupling	1
17	802 511 000	Lockwasher	4	42	601 900 166	Ring, Snap*	1
18	801 111 135	Capscrew	4	43	601 900 165	Pin, Lock**	1
19	219 901 001	Zerk	1	44	610 900 113	Washer, Neophene*	
20	212 906 101	Plug, Pipe	1			*Serviced Only in Kit, 601 900 166	
21	220 900 003	Breather	1			**Not Illustrated	



**INTERMEDIATE GEARBOX**



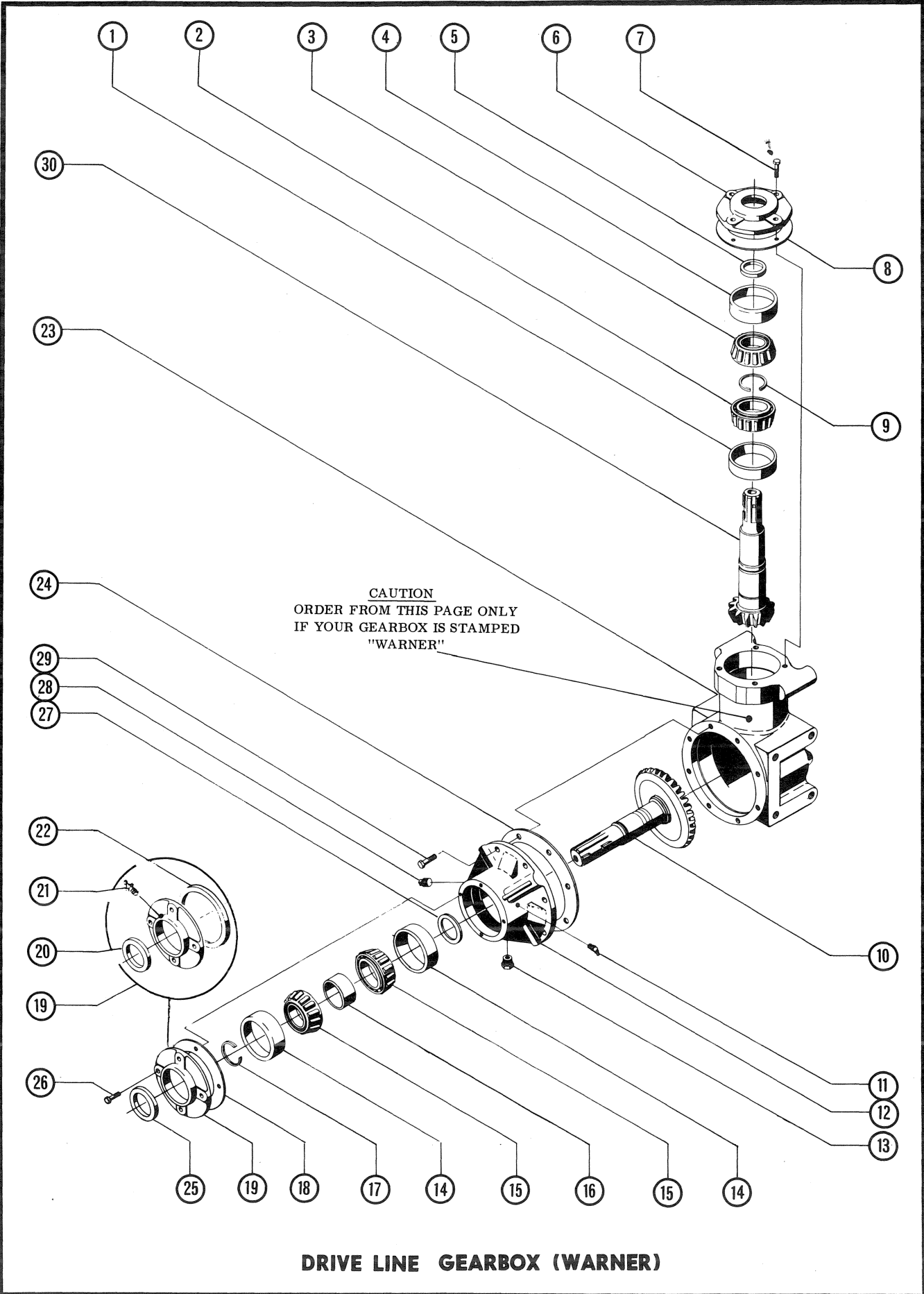
REF.	PART NUMBER	DESCRIPTION	QTY.
<u>INTERMEDIATE GEARBOX</u>			
EFFECTIVE WITH S/N 2E 43 L5635, 2E 51 L5643, 2E 59 L5651 AND 2E 63 L5958 AND SUBSEQUENT			
A	601 171 031	Assy., Gearbox*	1
B	601 171 004	Assy., Gearbox**	1
1	601 171 005	Housing	1
2	601 171 007	Cap, End	1
3	601 171 015	Gasket	1
4	902 032 601	Cup, Bearing	3
5	903 017 505	Cone, Bearing	3
6	601 171 013	Shaft, Output	1
7	601 171 024	Key	1
8	601 171 032	Gear, Output* 31T	1
8A	601 171 010	Gear, Output**	1
9	601 171 038	Nut, Pinion*	1
9A	601 171 026	Nut, Pinion**	1
10	601 171 033	Gear, Input* 14T	1
10A	601 171 011	Gear, Input**	1
11	601 171 034	Shaft, Input*	1
11A	601 171 012	Shaft, Input**	1
12	601 171 006	Cap, End	1
13	917 017 502	Seal	2
14	601 171 025	Key	1
15	903 017 504	Cone, Bearing	1
16	902 040 001	Cup, Bearing	1
17	601 171 014	Spacer	1
18	912 017 501	Ring, Snap	1
19	601 171 036	Gasket	AR
20	601 171 009	Carrier, Seal	1
21	601 171 008	Housing, Pinion	1
22	212 906 101	Plug, Pipe	2
23	802 512 000	Lockwasher	24
24	801 112 141	Capscrew	24
25	802 510 000	Lockwasher	4
26	801 110 121	Capscrew	4
27	220 900 004	Breather	1
28	601 182 027	Bushing	1
*Effective with S/N 2E 263 L7004 and 2E 266 L7007 and Subsequent			
**Effective with S/N 2E 43 L5635, 2E 51 L5643, 2E 59 L5651 and 2E 63 L5958 thru 2E 262 L7003 also 2E 264 L7005 and 2E 265 L7006			



**CAUTION**  
ORDER FROM THIS PAGE ONLY  
IF YOUR GEARBOX IS STAMPED  
"PERFECTION" OR "601 900 106"

**DRIVE LINE GEARBOX**

REF.	PART NUMBER	DESCRIPTION	QTY.
<u>DRIVE LINE GEARBOX</u>			
Effective with S/N 2E 1 L5146 thru 2E 42 L5634, 2E 44 L5636 thru 2E 50 L5642, 2E 52 L5644 thru 2E 58 L5642, 2E 60 L5652 thru 2E 62 L5957			
CAUTION - Order from this page only if your gearbox is stamped "Perfection" or "601 900 106".			
A	601 193 003	Gearbox Assembly	1
1	902 035 402	Cup, Bearing	1
2	903 020 001	Cone, Bearing	1
3	903 017 503	Cone, Bearing	1
4	902 035 401	Cup, Bearing	1
5	917 013 713	Oil Seal, Pinion	1
6	601 900 110	Cap, Pinion	1
7	820 900 208	Capscrew, Nylock	4
8	601 900 175	Shim Set	AR
9	601 900 195	Ring, Retaining	1
10	601 900 134	Pinion (Includes Item 9)	1
11	601 900 107	Housing, Main	1
12	219 901 001	Zerk	1
13	601 900 109	Housing, Side	1
14	220 900 003	Breather	1
15	903 015 701	Cone, Bearing	2
16	902 031 401	Cup, Bearing	2
17	601 900 173	Shim Set	AR
18	601 900 191	Cap Kit (Includes 18, 19, 20 & 29)*	1
19	219 901 004	Zerk	1
19A	212 906 104	Plug	1
20	917 013 713	Seal	1
21	601 900 194	Ring, Retaining	1
22	601 900 037	Spacer, Bearing	1
23	601 900 035	Spacer, Bearing	AR
24	212 906 101	Plug	1
25	820 900 214	Capscrew, Nylock	8
26	601 900 174	Shim Set	AR
27	601 900 026	Ring Gear (Includes Item 21)	1
28	212 906 103	Plug	1
29	601 900 190	Ring, Adapter	1
30	820 900 215	Capscrew, Nylock	4
*Cap Serviced only in Cap Kit			

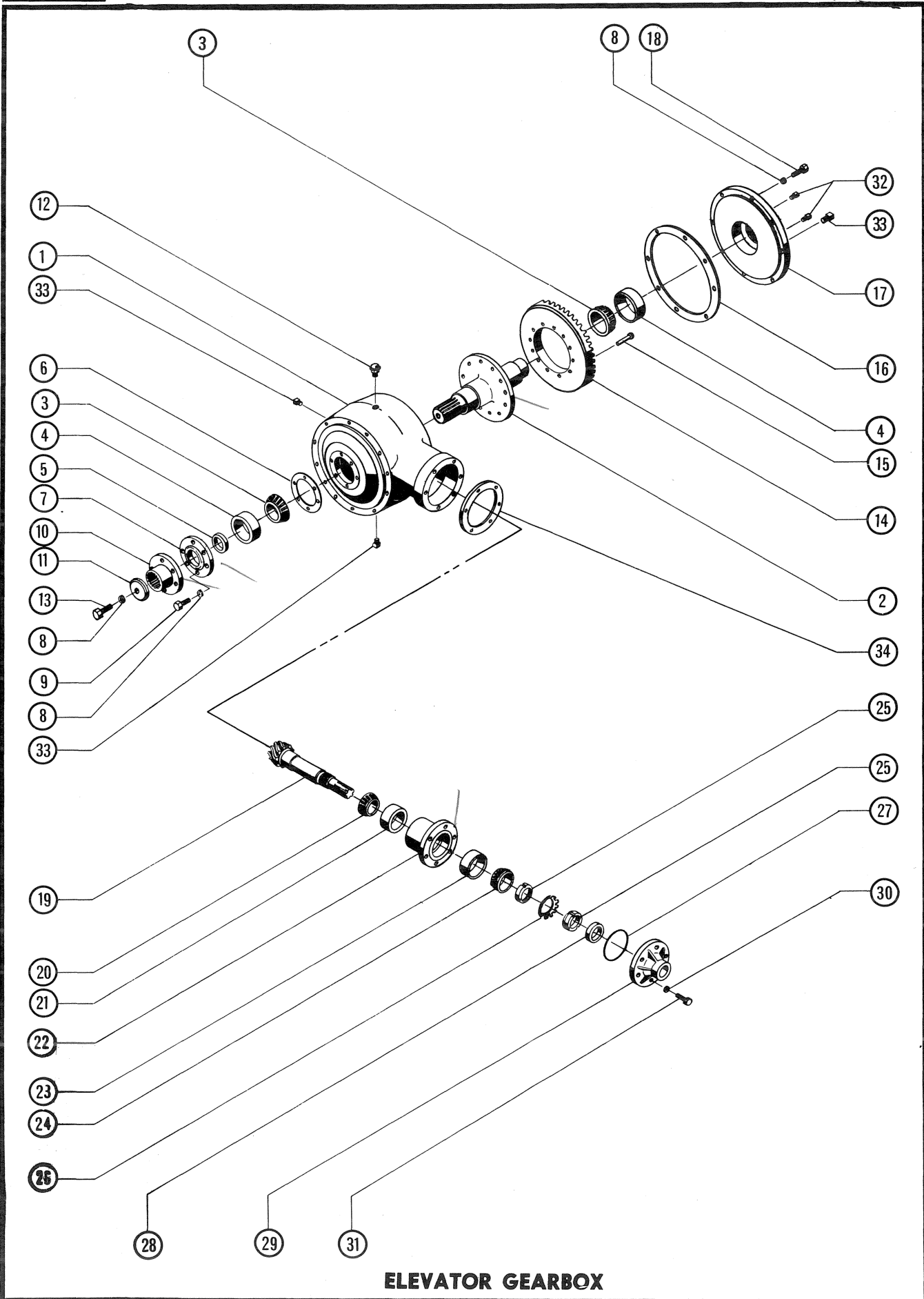


**DRIVE LINE GEARBOX (WARNER)**

**ALWAYS STATE MODEL AND SERIAL NUMBER, WHEN ORDERING PARTS**

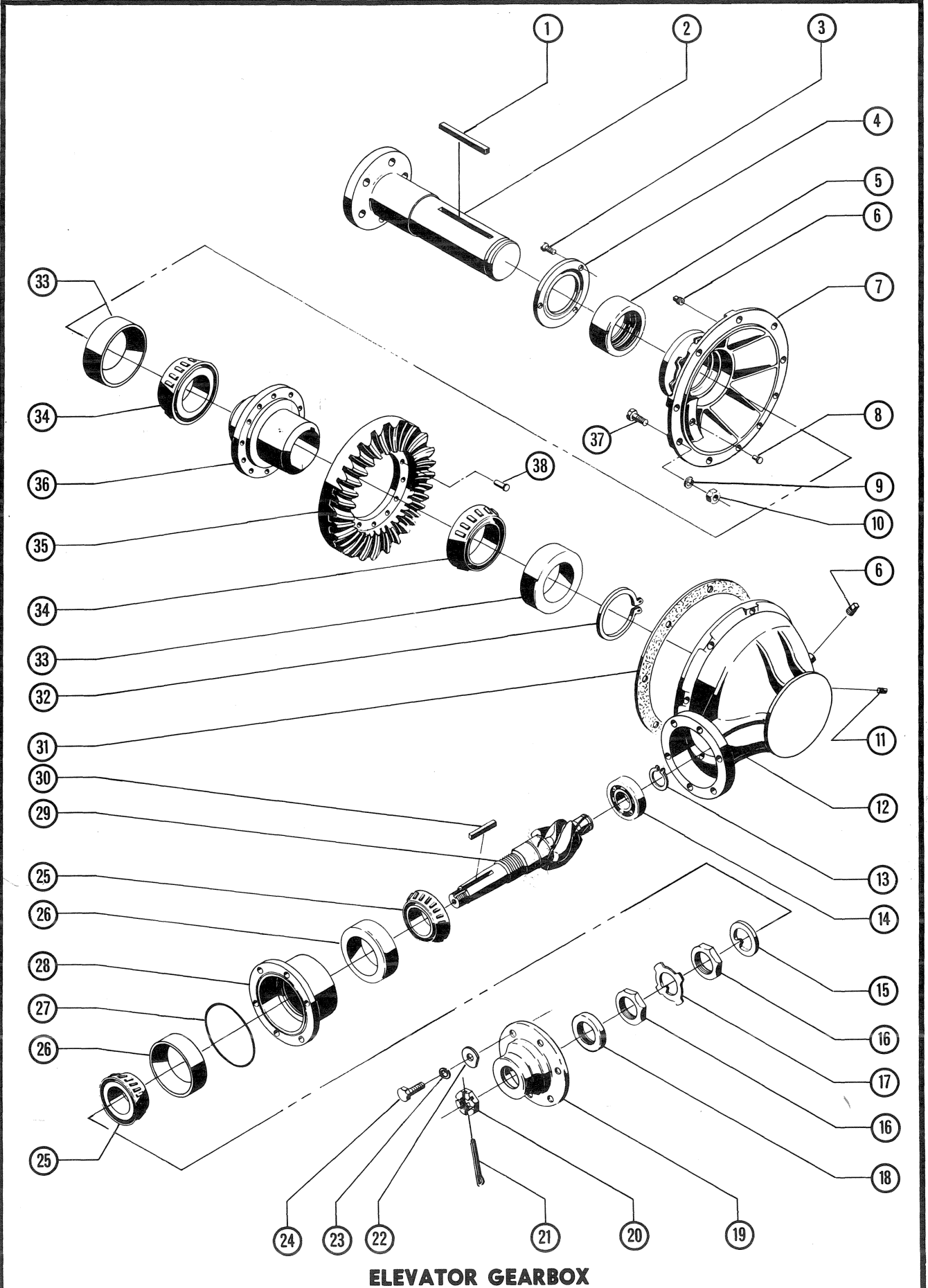
REF.	PART NUMBER	DESCRIPTION	QTY.
		<u>DRIVE LINE GEARBOX "WARNER"</u>	
		Effective with S/N 2E 1 L5146 thru 2E 42 L5634, 2E 44 L5636 thru 2E 50 L5642, 2E 52 L5644 thru 2E 58 L5642, 2E 60 L5652 thru 2E 62 L5957	
		CAUTION - Order from this page only if your gearbox is stamped "Warner".	
A	601 193 001	Gearbox Assembly, "Warner"	1
1	902 035 402	Bearing Cup	1
2	903 020 001	Bearing Cone	1
3	903 017 503	Bearing Cone	1
4	902 035 401	Bearing Cup	1
5	917 017 505	Oil Seal	1
6	601 900 045	Cap, Pinion	1
7	801 312 155	Capscrew	4
7A	802 512 000	Lockwasher	4
8	601 900 040	Shim, .007 Brass	AR
8A	601 900 041	Shim, .010	AR
8B	601 900 042	Shim, .012	AR
8C	601 900 043	Shim, .016	AR
9	601 900 195	Ring, Retainer	1
10	601 900 026	Ring Gear (Includes Item 17)	1
11	219 901 001	Zerk	2
12	601 900 025	Side Housing	1
13	220 900 003	Breather	1
14	902 031 401	Bearing Cup	2
15	903 015 701	Bearing Cone	2
16	601 900 037	Spacer, Bearing	1
17	601 900 194	Ring, Retainer	1
18	601 900 031	Shim, .005 Brass	AR
18A	601 900 032	Shim, .010	AR
18B	601 900 033	Shim, .015	AR
19	601 900 191	Cap Kit (Incl. Cap, Seal, Zerk, Plug and Adapter Ring)*	1
20	917 013 701	Oil Seal (For Gearboxes having Cap Kit Item 19)	1
21	219 901 004	Zerk	1
21A	212 906 104	Plug	1
22	601 900 190	Adapter Ring (Not used on Warner Gearbox)	1
23	601 900 039	Main Housing	1
24	601 900 029	Shim, .007 Brass	AR
NS	601 900 030	Shim, .012	AR
25	917 013 704	Oil Seal (For Gearbox without Cap Kit Item 19)	1
26	801 111 135	Capscrew	4
26A	802 511 000	Lockwasher	4
27	601 900 035	Spacer, Bearing	AR
28	212 906 101	Plug	1
29	801 112 145	Capscrew	8
29A	802 512 000	Lockwasher	8
30	601 900 044	Pinion (Includes Item 9)	1

\*Cap is Serviced Only in Cap Kit



**ELEVATOR GEARBOX**

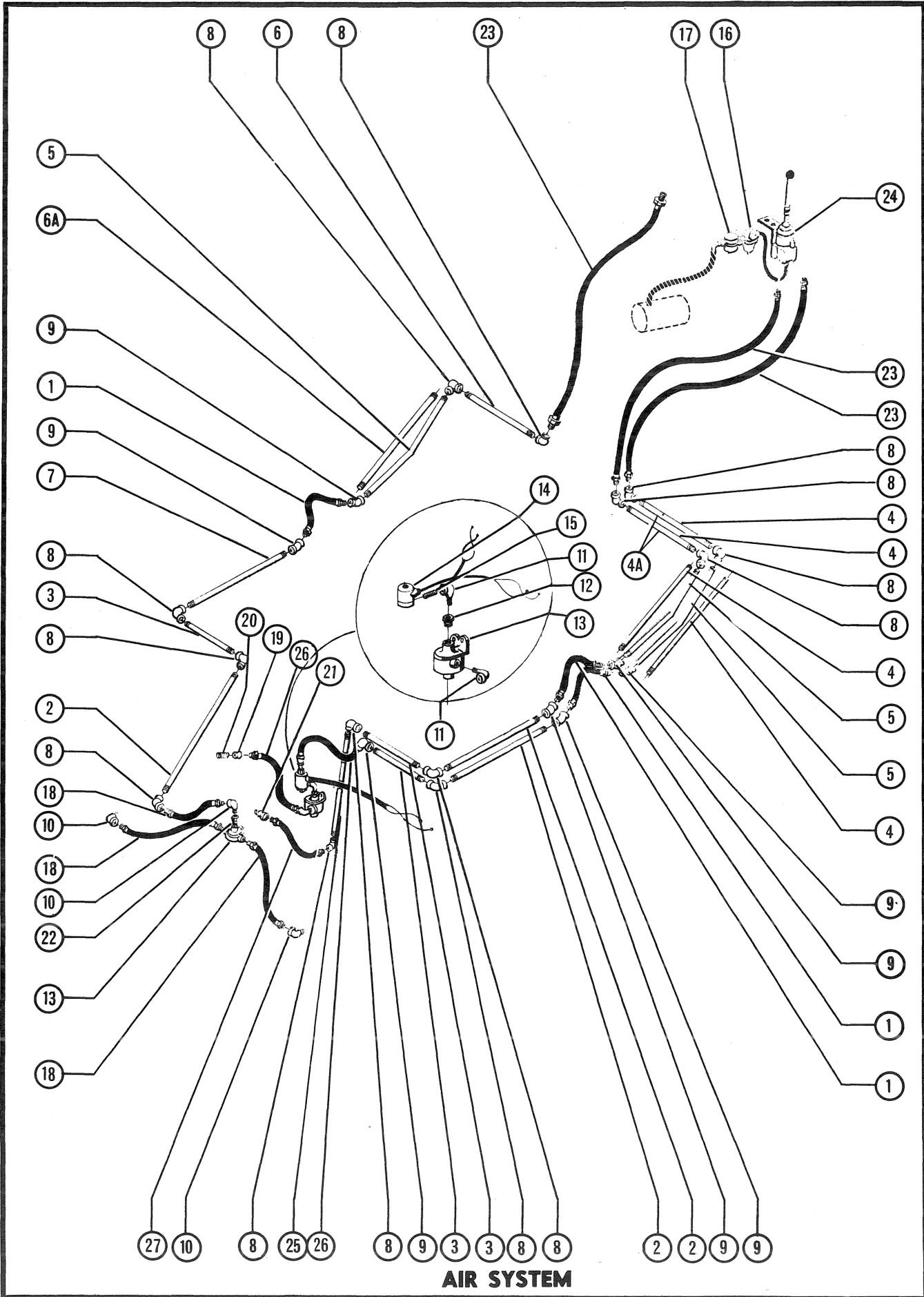
REF.	PART NUMBER	DESCRIPTION	QTY.
		<u>ELEVATOR GEARBOX</u>	
		Effective with S/N 2E 43 L5635, 2E 51 L5643, 2E 59 L5651 and 2E 63 L5958 and Subsequent	
A	601 166 058	Gearbox Assembly**	1
1	601 166 063	Housing, Main	1
2	601 166 075	Shaft, Output	1
3	903 040 001	Cone, Bearing	2
4	902 066 201	Cup, Bearing	2
5	917 038 701	Seal	1
6	601 166 070	Shim Set	1
7	601 166 066	Retainer	1
8	802 514 000	Lockwasher	17
9	801 114 155	Capscrew	8
10	601 166 100	Hub	1
11	601 166 079	Cap, Retainer	1
12	220 900 002	Breather	1
13	801 114 175	Capscrew	1
14	601 166 098	Gear, Output*	1
15	803 514 210	Rivet	12
16	601 166 071	Shim Set	1
17	601 166 064	Cap	1
18	801 114 165	Capscrew	8
19	601 166 098	Pinion, Input*	1
20	903 021 201	Cone, Bearing	1
21	902 050 001	Cup, Bearing	1
22	601 166 076	Insert	1
23	902 042 501	Cup, Bearing	1
24	903 020 601	Cone, Bearing	1
25	820 900 102	Locknut	2
26	820 900 701	Lockwasher	1
27	919 225 301	"O"Ring	1
28	917 017 501	Seal	1
29	601 166 072	Retainer, Seal	1
30	802 516 000	Lockwasher	6
31	801 116 185	Capscrew	6
32	212 912 501	Pipe Plug 1/8"	2
33	212 915 101	Pipe Plug 3/4"	3
34	601 166 069	Shim Set	1
		*601 166 098, Gear and Pinion Sold in Matched Sets Only.	
		**Gearbox Assy. does not Incl. Items 8, 10, 11 & 13	
		NOTE - 601 166 099, Gearbox Assy. does not Incl. Items 8, 10, 11 & 13.	



**ELEVATOR GEARBOX**

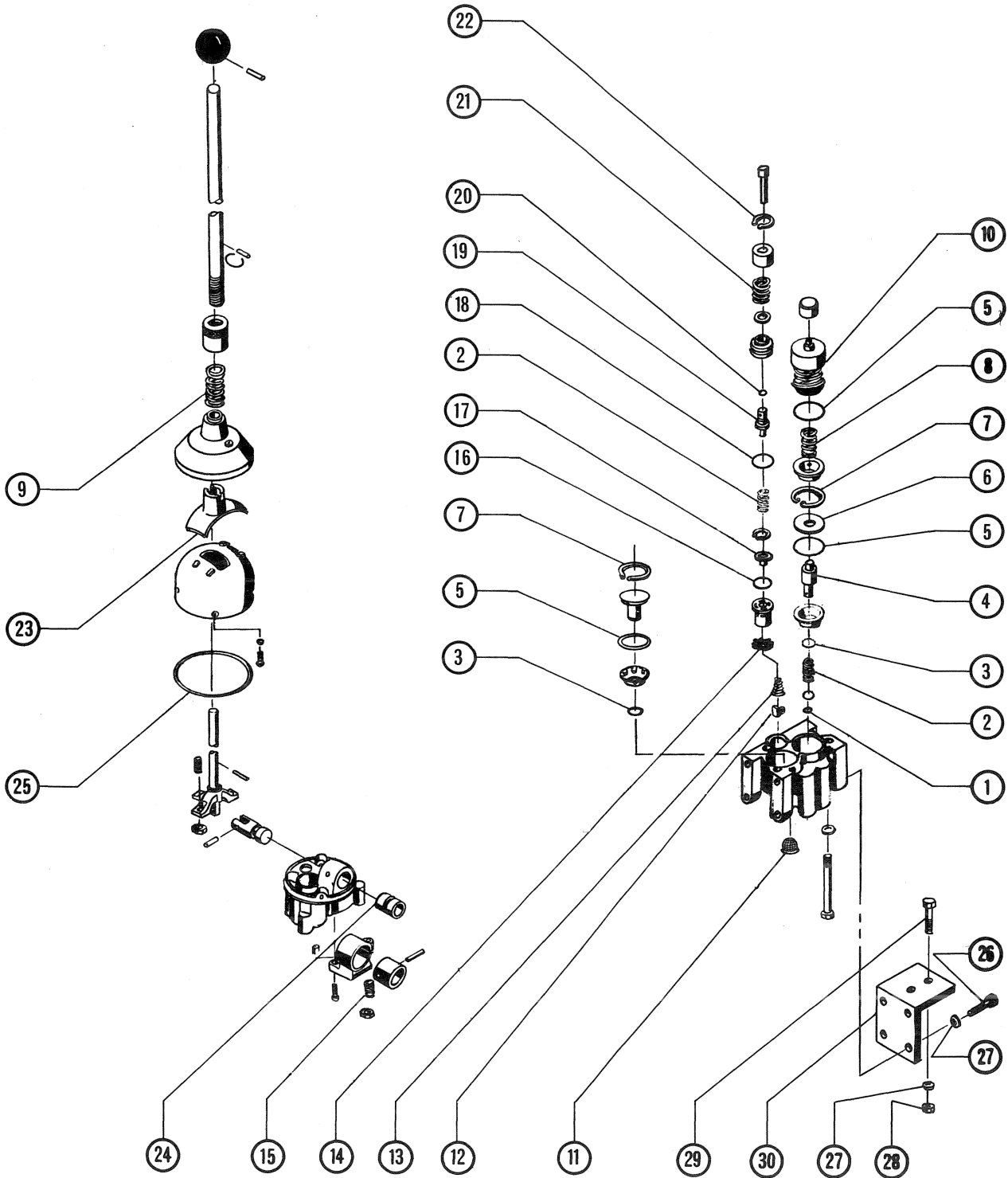


REF.	PART NUMBER	DESCRIPTION	QTY.
		<u>ELEVATOR GEARBOX</u>	
		Effective with S/N 2E 1 L5146 thru 2E 42 L5634, 2E 44 L5636 thru 2E 50 L5642, 2E 52 L5644 thru 2E 58 L5642, 2E 60 L5652 thru 2E 62 L5957	
A	601 166 057	Gearbox Assembly, Elevator	1
1	923 020 001	Key	2
2	601 166 009	Shaft, Drive	1
3	801 410 121	Capscrew, Sockethead	3
4	601 150 031	Retainer	1
5	917 027 501	Seal	1
6	212 906 102	Plug, Pipe	2
7	601 150 024	Housing, Side	1
8	601 900 022	Rivet	1
9	802 513 000	Lockwasher	11
10	802 813 005	Hexnut	11
11	212 906 103	Plug, Pipe	1
12	601 150 019	Housing, Main	1
13	601 900 020	Ring, Snap	1
14	904 009 801	Bearing, Ball	1
15	601 900 017	Washer	1
16	601 900 015	Jamnut	2
17	601 900 016	Lockwasher	1
18	917 013 701	Seal	1
19	601 900 014	Cap, End	1
20	601 900 013	Nut, Slotted	1
21	803 406 160	Pin, Cotter	1
22	501 150 006	Flatwasher	1
23	802 515 000	Lockwasher	6
24	801 115 155	Capscrew	6
25	903 017 502	Cone, Bearing	2
26	902 037 502	Cup, Bearing	2
27	601 900 018	Gasket	1
28	601 900 019	Carrier, Bearing	1
29	601 166 097	Ring Gear and Pinion*	1
30	923 020 002	Key	1
31	601 900 021	Gasket .030	AR
31A	601 900 102	Gasket .008	AR
31B	601 900 103	Gasket .015	AR
32	912 026 201	Ring, Snap	1
33	902 044 301	Cup, Bearing	2
34	903 026 201	Cone, Bearing	2
35	601 166 097	Ring Gear and Pinion*	1
36	601 150 011	Hub	1
37	801 113 175	Capscrew	11
38	803 513 520	Rivet	12
		*Ring Gear & Pinion are Serviced Only in Matched Set.	



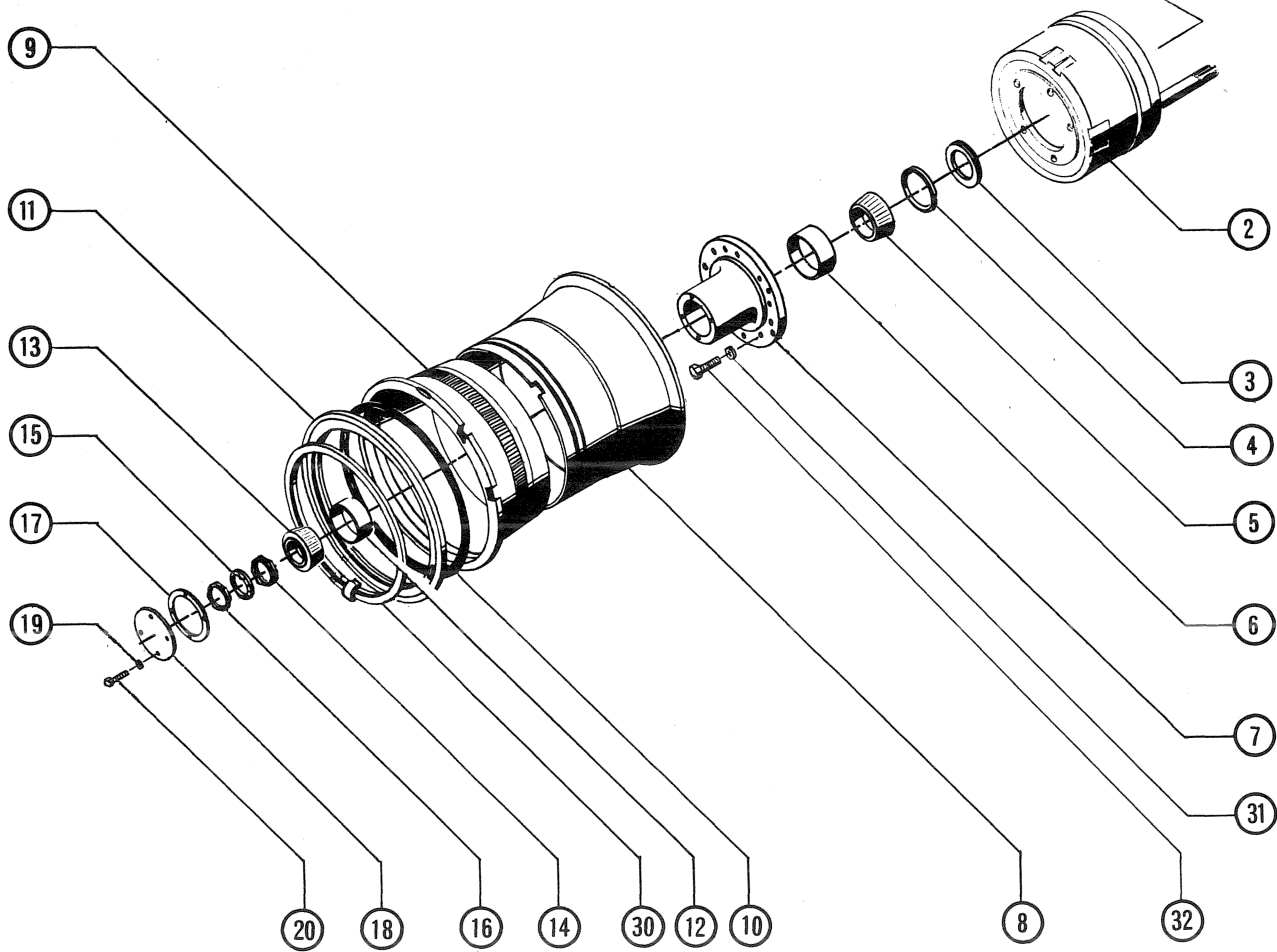
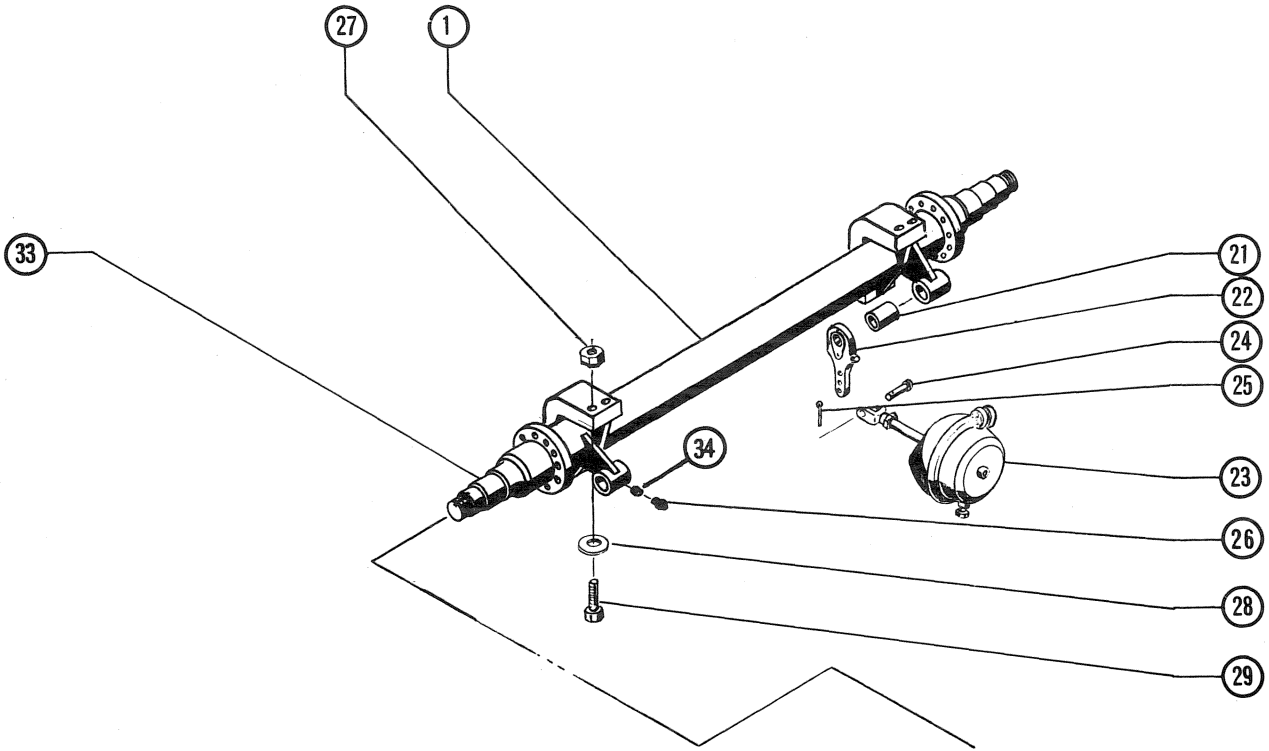
**AIR SYSTEM**

REF.	PART NUMBER	DESCRIPTION	QTY.
<u>AIR SYSTEM</u>			
1	208 904 001	Hose	6
2	211 104 003	Pipe	3
3	201 166 026	Pipe	3
4	211 104 002	Pipe (For Hancock Yoke)	4
4A	211 104 006	Pipe (For Euclid Yoke)	2
5	207 171 001	Pipe (For Euclid Yoke)	3
6	211 104 002	Pipe	1
6A	211 104 002	Pipe (For Hancock Yoke)	1
7	211 104 001	Pipe	1
8	212 902 204	Elbow	12
9	212 907 202	Elbow	7
10	212 908 201	Street Elbow	3
11	212 908 102	Street Elbow	2
12	212 911 203	Bushing	1
13	205 900 001	Valve, Quick Release	2
14	205 171 005	Valve, Pilot (For 12 Volt System)	1
14A	205 900 074	Valve, Pilot (For 24 Volt System)	1
15	211 102 002	Nipple, Close	1
16	201 171 014	Pressure Regulator	1
17	218 900 001	Air Filter	1
18	208 904 001	Hose	3
19	212 920 201	Bell Reducer	1
20	211 104 005	Close Nipple	1
21	212 904 203	Street Elbow	1
22	212 911 201	Bushing	1
23	208 904 013	Hose	3
24	205 182 002	Air Valve With Bracket	1
25	211 104 012	Pipe	1
26	208 904 014	Hose	2
27	208 904 015	Hose	1



**AIR VALVE**

REF.	PART NUMBER	DESCRIPTION	QTY.
<u>AIR VALVE</u>			
A	205 182 002	Assembly, Air Valve (With Mounting Bracket)	1
B	205 900 012	Assembly, Air Valve (Without Mounting Bracket)	1
C	205 900 084	Master Repair Kit, Includes:	-
1	*	"O"Ring, 1/2"	1
2	*	Spring, Return	2
3	*	"O"Ring, 13/16"	2
4	*	Plunger, Valve	1
5	*	"O"Ring, 1 3/8"	2
6	*	Seat, Supply Valve	1
7	*	Ring, Retaining	2
8	*	Spring, Piston Return	1
9	*	Spring, Latch	1
10	*	Spring Assembly	1
11	*	Strainer	1
12	*	Ring, Internal Retaining	1
13	*	Spring, Supply Valve	1
14	*	Valve, Inlet	1
15	*	Spring, Friction Brake	1
16	*	"O"Ring, 7/8"	1
17	*	Seat, Inlet Valve	1
18	*	"O"Ring, 15/16"	1
19	*	Plunger, Pilot Air Valve	1
20	*	"O"Ring, 7/16"	1
21	*	Spring, Valve	1
22	*	Ring, Retaining	1
23	*	Latch, Detent	1
24	*	Bearing, Handle Shaft	1
25	*	Gasket	2
26	801 112 124	Capscrew	4
27	802 512 000	Lockwasher	6
28	802 812 003	Hex Nut	2
29	801 112 185	Capscrew	2
30	205 171 001	Bracket, Mounting	1
*NOT SOLD SEPARATELY - AVAILABLE IN MASTER REPAIR KIT ONLY.			



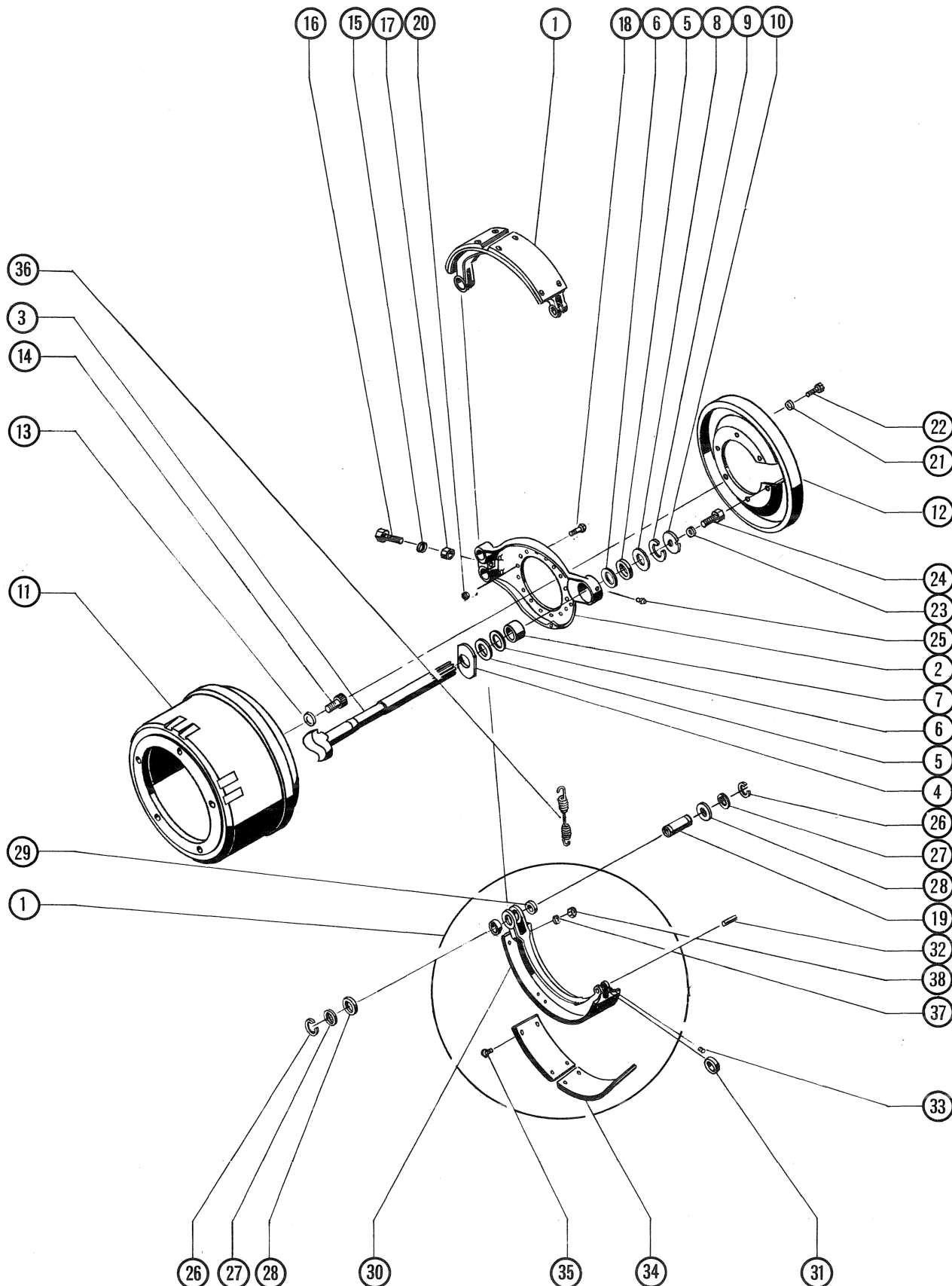
**REAR AXLE & WHEEL**

REF.	PART NUMBER	DESCRIPTION	QTY.
1	401 171 011	Axle, Rear	1
2	403 900 033	Brake Assembly (LH) See Index	1
2A	403 900 034	Brake Assembly (RH) See Index	1
3	401 161 026	Retainer*	2
4	401 161 027	Felt Seal*	2
5	903 035 001	Cone, Bearing	2
6	902 063 801	Cup, Bearing	2
7	407 166 001	Hub	1
8	406 166 001	Wheel**	2
8A	406 166 002	Wheel***	2
9	408 900 003	Band, Bead Seat	2
10	408 900 006	"O"Ring, Rim	2
11	408 900 005	Flange, Side	4
12	902 059 101	Cup, Bearing	2
13	903 031 901	Cone, Bearing	2
14	412 900 002	Nut, Inner Spindle	2
15	412 900 003	Locknut, Spindle	2
16	412 900 004	Nut, Outer Spindle	2
17	407 161 002	Gasket	AR
18	407 161 001	Cover, Hub	2
19	802 512 000	Lockwasher	8
20	801 112 145	Capscrew	8
21	401 161 038	Bushing	2
22	404 900 001	Slack Adjuster	2
23	210 900 001	Air Chamber	2
24	210 900 010	Pin, Clevis	2
25	803 405 140	Pin, Cotter	2
26	219 901 001	Fitting, Grease	2
27	803 117 004	Locknut	4
28	802 317 000	Flatwasher	4
29	801 117 246	Capscrew	4
30	408 900 004	Ring, Lock	2
31	802 517 000	Lockwasher	20
32	801 117 186	Capscrew	20
33	1552010	Spindle, Axle	AR
34	1563730	Spacer	2

\*401 161 025, Grease Seal Assy. (Incl. Items 3 and 4)

\*\*Used With 400 166 001 Wheel Assy. and 21.00 x 25 Tire

\*\*\*Used With 400 166 002 Wheel Assy. and 23.50 x 25 Tire

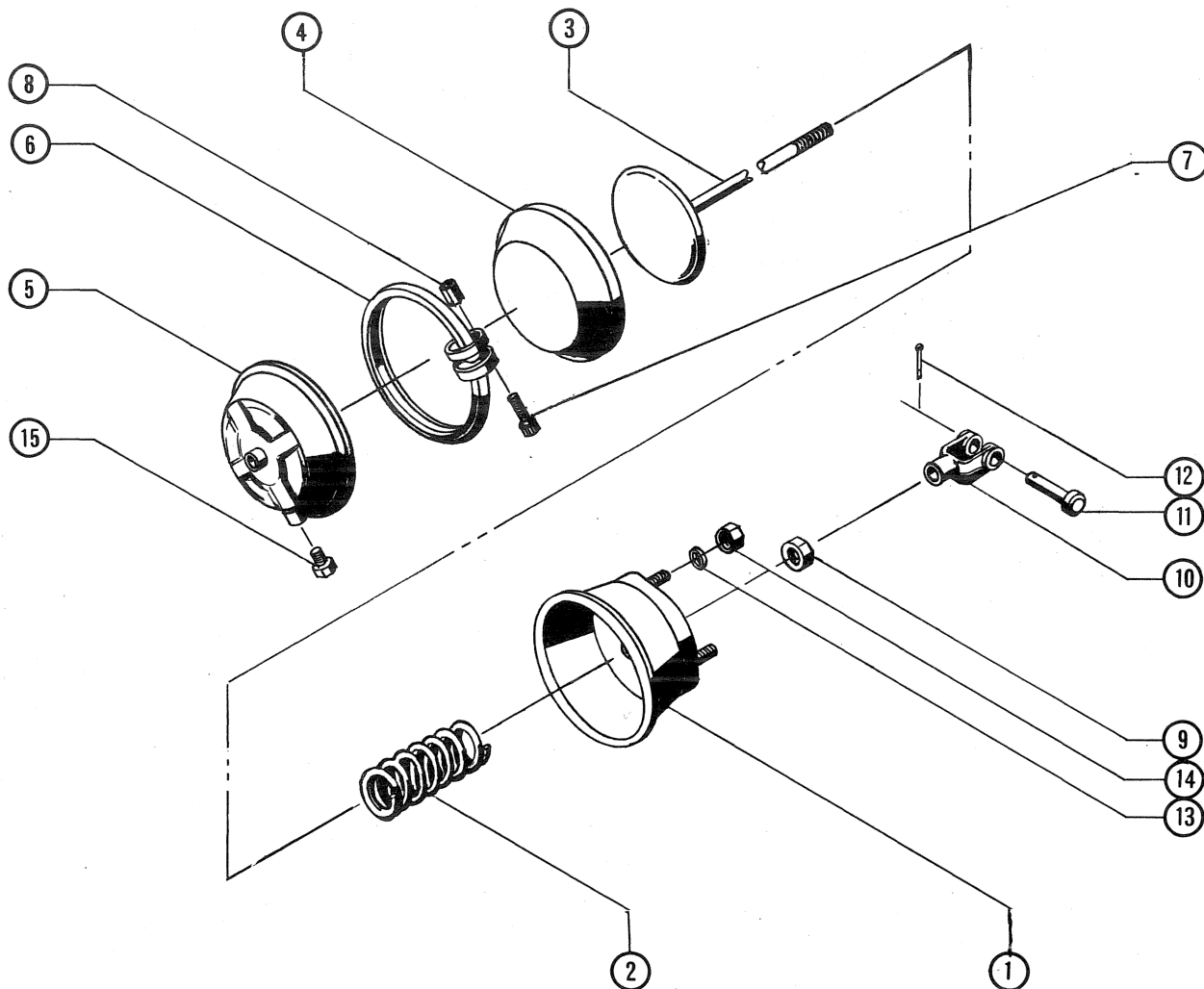


**BRAKE ASSEMBLY AND DRUM**

**ALWAYS STATE MODEL AND SERIAL NUMBER, WHEN ORDERING PARTS**



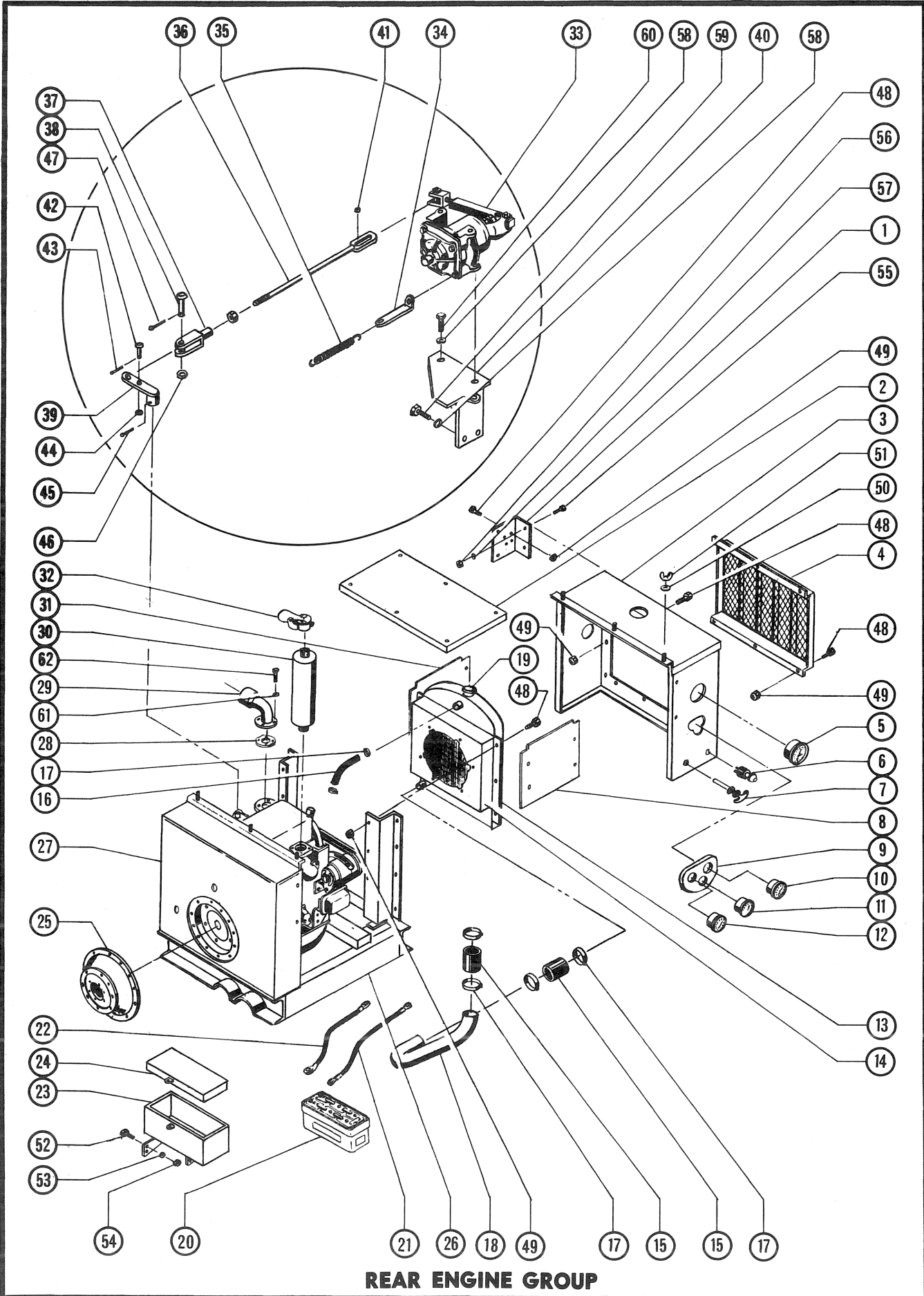
REF.	PART NUMBER	DESCRIPTION	QTY.
<b>BRAKE ASSEMBLY</b>			
A	403 900 033	Brake Assembly (RH)*	1
B	403 900 034	Brake Assembly (LH)*	1
1	403 900 005	Brake Lining Assembly**	2
2	403 900 168	Spider - Superseded 403 900 152	1
3	403 166 002	Cam (RH)	1
3A	403 166 001	Cam (LH)	1
4	403 900 013	Washer	1
5	917 015 004	Felt Seal - Superseded 403 900 014	2
6	403 900 015	Washer	2
7	403 900 169	Bushing - Superseded 403 900 011	1
8	403 900 016	Washer	1
9	403 900 017	Lock Ring	1
10	403 900 018	Washer	1
11	403 900 032	Brake Drum	1
12	403 900 030	Dirt Shield	1
13	925 000 139	Safety Wire	AR
14	820 900 405	Drilled Capscrew	5
15	802 614 000	Internal Tooth Lockwasher	1
16	801 114 206	Capscrew	1
17	802 814 004	Hexnut	1
18	820 900 228	Bolt	16
19	403 900 026	Anchor Pin	1
20	803 114 003	Locknut	16
21	802 511 000	Lockwasher	6
22	801 111 144	Capscrew - Superseded 801 111 105	6
23	802 510 000	Lockwasher - Superseded 802 511 000	1
24	801 110 125	Capscrew - Superseded 801 111 125	1
25	219 905 017	Zerk	1
26	403 900 029	Snap Ring	4
27	403 900 028	Washer	4
28	403 900 027	Felt Seal	4
29	403 900 022	Bushing	2
30	403 900 245	Shoe - Superseded 403 900 019	2
31	403 900 024	Roller	2
32	403 900 025	Pin	2
33	403 900 171	Setscrew	2
34	403 900 020	Lining	4
35	403 900 021	Screw	16
36	403 900 023	Spring	1
37	802 512 000	Lockwasher	16
38	802 812 004	Hexnut	16
<p>*Includes All Items Shown EXCEPT Items 11, 13, 14, 18, 19 and 20</p> <p>**Incl. Items 29, 30, 34, 35, 37 and 38</p> <p>NOTE: Quantities shown are quantities Required to Complete One Brake Assy.</p>			



**AIR CHAMBER**

REF.	PART NUMBER	DESCRIPTION	QTY.
A.	210 900 001	Assy., Air Chamber	4
1	210 900 002	Housing, Main	1
2	210 900 007	Spring, Return	1
3	210 900 006	Rod, Push	1
4	210 900 005	Diaphragm	1
5	210 900 003	Housing, Rear	1
6	210 900 004	Clamp, Chamber	1
7	210 900 051	Capscrew	2
8	210 900 050	Hexnut	2
9	210 900 056	Locknut	1
10	210 900 009	Clevis	1
11	210 900 010	Pin, Clevis	1
12	803 406 140	Pin, Cotter	1
13	802 516 000	Lockwasher	2
14	802 816 004	Hexnut	2
15	40K 4	Plug, Pipe	1





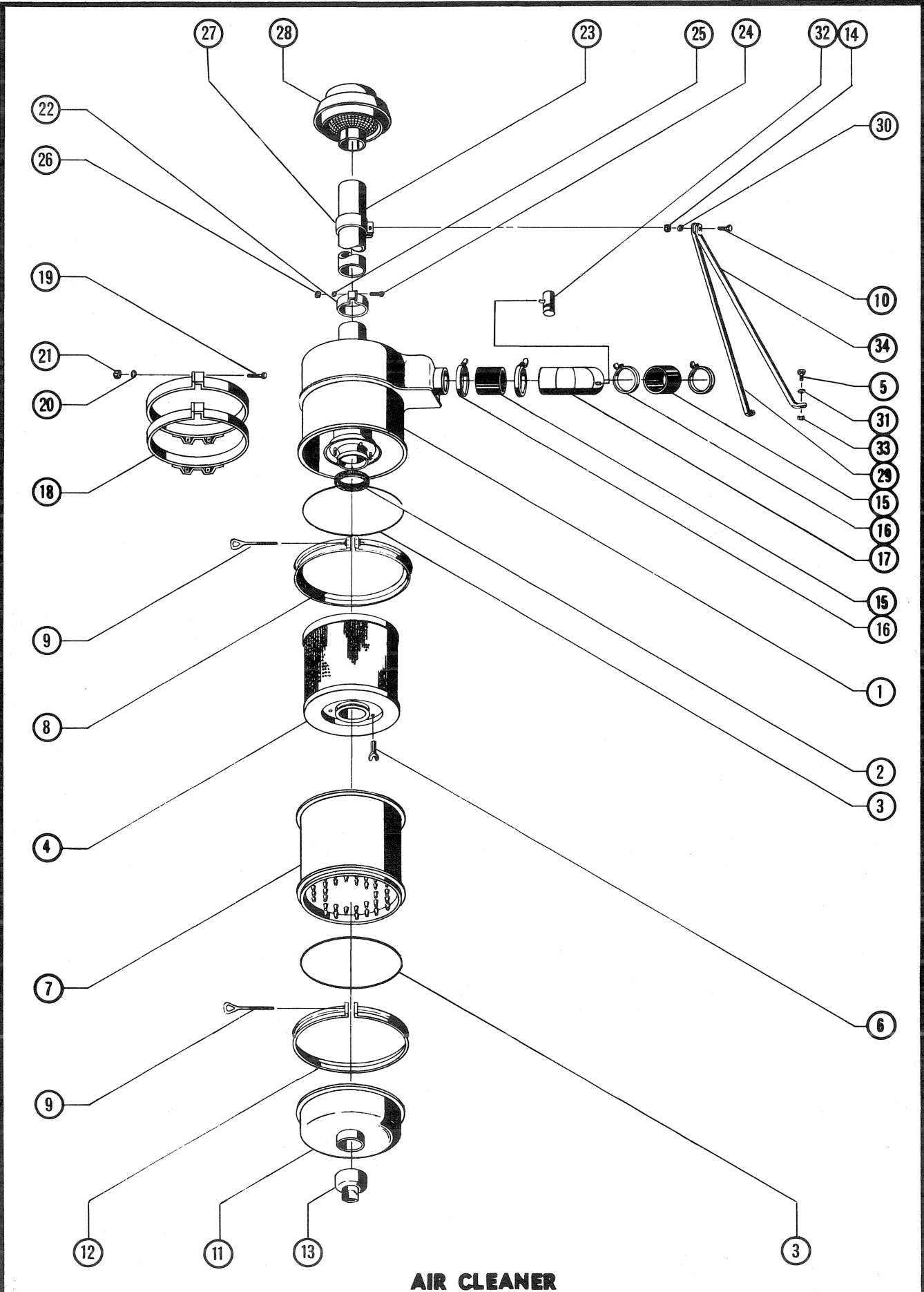
**REAR ENGINE GROUP**



# HANCOCK DIVISION



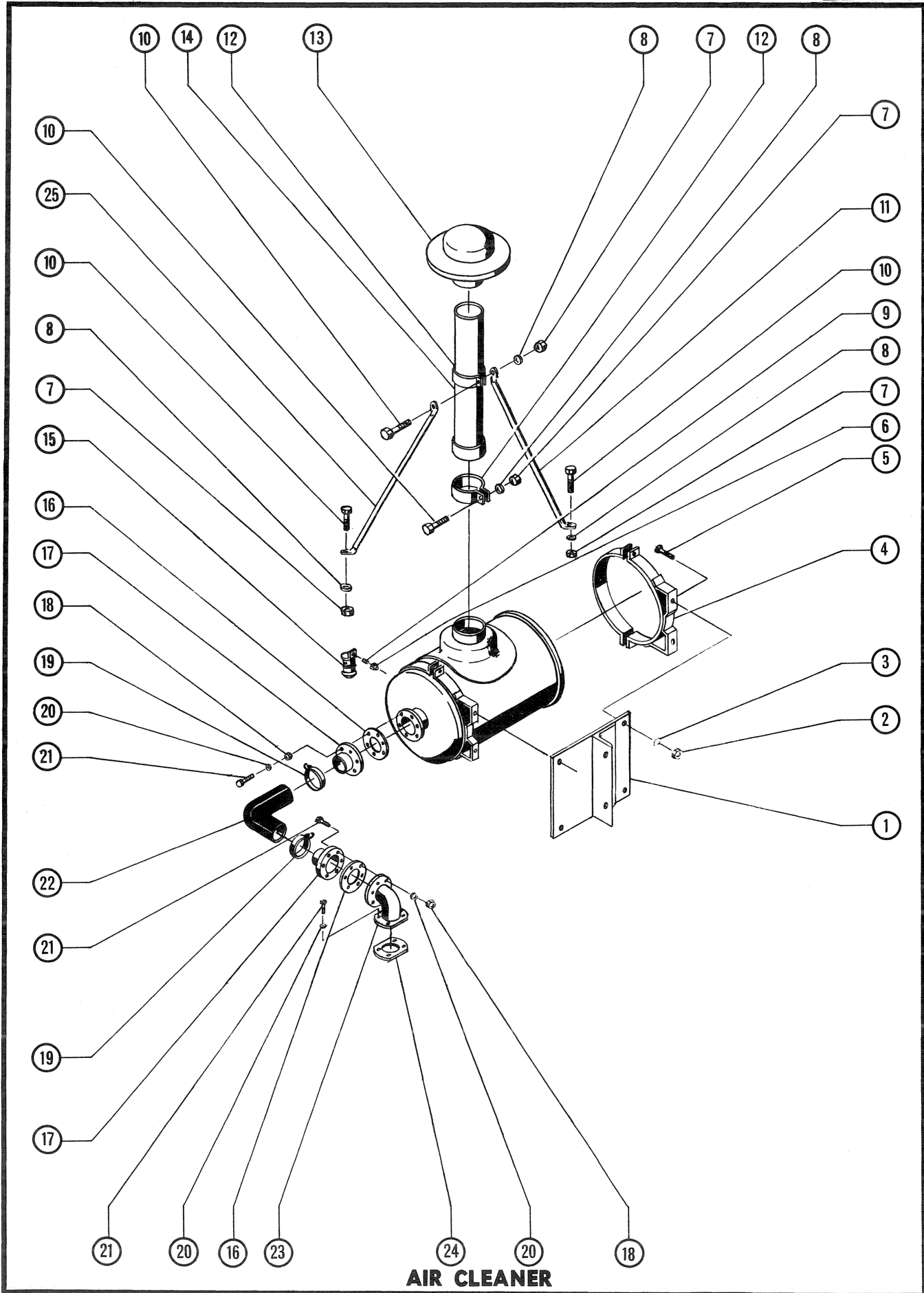
REF.	PART NUMBER	DESCRIPTION	QTY.	REF.	PART NUMBER	DESCRIPTION	QTY.
<u>REAR ENGINE GROUP</u>							
A	701 900 313	Engine, Rear	1	29A	703 171 003	Adapter, Air Cleaner - Effective with	
A1	701 900 352	Mount, Rear Engine*	2			S/N 2E 1 L5146 thru 2E 42 L5634	
A2	701 900 351	Mount, Front Engine*	2			& 2E 44 L5636 thru 2E 50 L5642	1
A3	701 900 353	Mount, Rubber*	4	30	708 900 001	Muffler	1
A4	701 900 145	Dipstick*	1	31	701 900 144	Panel, RH Side Access - 2E 10 L5159	
1	703 171 019	Bracket, Air Cleaner Mount - Effective				& Subsequent	1
		with S/N 2E 43 L5635, 2E 51 L5643		32	708 900 002	Cap, Exhaust Rain	1
		and Subsequent	1	33	210 900 012	Actuator	1
2	701 900 350	Panel, Top Access** - Effective with		34	105 171 007	Bracket, Spring - Effective with	
		S/N 2E 10 L5159 and Subsequent	1			S/N 2E 1 L5146 thru 2E 183 L6750	1
3	701 900 386	Cowling, Rear** - Effective with		35	924 020 004	Spring - Effective with	
		S/N 2E 10 L5159 and Subsequent	1			S/N 2E 1 L5146 thru 2E 183 L6750	1
4	701 900 354	Grille, Engine - Effective with		36	105 171 011	Rod, Governor - Effective with	
		S/N 2E 10 L5159 and Subsequent	1			S/N 2E 184 L6751 & Subsequent	1
5	707 900 029	Tachometer	1	37	925 000 503	Clevis	1
5A	707 900 030	Housing & Cable, Tachometer*	1	38	105 300 006	Pin, Link	1
5B	707 900 031	Drive, Tachometer*	1	39	105 171 009	Arm, Governor	1
5C	707 900 032	Key, Tachometer Drive*	1	40	210 171 008	Bracket, Actuator - Effective with	
5D	707 900 033	Shaft, Tachometer Drive*	1			S/N 2E 184 L6751 & Subsequent	1
5E	707 900 034	Adapter, Tachometer*	1	40A	210 171 001	Bracket, Actuator - Effective with	
6	303 900 012	Button, Starter	1			S/N 2E 1 L5146 thru	
7	701 900 141	Cable, Kill	1			2E 183 L6750	1
8	701 900 143	Panel, LH Side Access** - Effective		41	105 171 008	Bushing	1
		with S/N 2E 10 L5159 & Subsequent	1	42	105 900 001	Pin, Swivel	1
9	707 900 028	Housing, Instrument Cluster	1	43	803 403 121	Cotter Pin	1
10	707 900 027	Gauge, Temperature	1	44	802 512 000	Lockwasher	1
11	304 900 002	Ammeter	1	45	803 206 121	Roll Pin	1
12	707 900 026	Gauge, Oil Pressure	1	46	802 312 000	Flatwasher	1
13	701 900 358	Radiator	1	47	803 404 144	Cotter Pin	1
14	701 900 359	Shroud, Radiator Fan	1	48	820 900 216	Spin Lock Screw	34
14A	701 900 366	Fan, Radiator*	1	49	820 900 115	Spin Lock Nut	34
14B	701 900 355	Support, LH Radiator*	1	50	802 314 000	Flatwasher	6
14C	701 900 356	Support, RH Radiator*	1	51	804 714 001	Wingnut	6
15	701 900 361	Hose, Lower Radiator	2	52	801 112 165	Capscrew	4
16	701 900 360	Hose, Upper Radiator	1	53	802 512 000	Lockwasher	4
17	922 010 002	Clamp, Radiator Hose	6	54	802 812 005	Hexnut	4
18	701 900 365	Tube, Outlet	1	55	801 114 185	Capscrew	2
19	701 900 357	Cap, Radiator	1	56	802 814 005	Hexnut	2
20	305 900 002	Battery, 12 Volt - 4D (12Volt System)	1	57	802 514 000	Lockwasher	2
20A	305 900 002	Battery, 12 Volt - 4D (24Volt System)	2	58	801 510 000	Lockwasher	4
21	308 900 029	Cable, Battery Positive (12Volt System)	1	59	801 110 155	Capscrew	2
21A	308 900 048	Cable, 49 Inch Battery (24Volt Sys.)	1	60	801 110 125	Capscrew	2
22	308 900 030	Cable, Battery Ground (12Volt System)	1	61	802 511 000	Lockwasher	4
22A	308 900 033	Cable, 65 Inch Battery (24Volt Sys.)	1	62	801 111 125	Capscrew	4
22B	308 900 003	Cable, 8 Inch Battery*(24Volt Sys.)	1	63	701 900 362	Slinger Tach. Drive*	1
23	305 171 001	Box, Battery	1	64	308 900 031	Wire and Harness*	1
24	305 171 007	Lid, Battery Box	1	65	701 900 363	Oil Pressure Switch*	1
25	610 900 001	Clutch, Air - See Index	1	66	701 900 364	Temperature Switch*	1
26	701 900 349	Skid, Engine	1	67	702 900 044	Fuel Pressure Switch*	1
27	701 171 011	Cowling, Front** (Superseded				*Not Illustrated	
		701 900 348) Effective with				**Engine Cowlings on Machines	
		S/N 2E 10 L5159 & Subsequent	1			S/N 2E 1 L5146 thru 2E 10 L5159 Dif-	
28	703 171 011	Gasket, Adapter	1			fer from later models. And are avail-	
29	703 900 094	Adapter, Air Cleaner - Effective with				able on special order only.	
		S/N 2E 43 L5635, 2E 51 L5643					
		& Subsequent	1				



**AIR CLEANER**

REF.	PART NUMBER	DESCRIPTION	QTY.
<u>AIR CLEANER</u>			
EFFECTIVE WITH S/N 2E 43 L5635, 2E 51 L5643 AND SUBSEQUENT			
A	703 900 014	Air Cleaner Assembly*	1
1	703 900 064	Upper Body Assembly	1
2	703 900 067	Gasket, Element	1
3	703 900 027	Gasket	2
4	703 900 013	Element	1
5	801 110 165	Capscrew	2
6	703 900 066	Wing Nut	3
7	703 900 068	Lower Body Assembly	1
8	703 900 069	Band Assembly	1
9	703 900 071	Bolt	2
10	801 109 175	Capscrew	1
11	703 900 011	Dust Cap	1
12	703 900 029	Band Assembly (Superseded 703 900 070)	1
13	703 900 012	Valve, Vacuator	1
14	802 809 005	Hexnut	1
15	208 964 003	Hose	2
16	922 030 003	Clamp	4
17	703 900 077	Elbow, Metal - Effective with S/N 2E 93 L6117 and Subsequent	1
17A	703 900 072	Elbow, Rubber - Effective with S/N 2E 43 L5635, 2E 51 L5643 thru 2E 92 L6116	1
18	703 900 003	Band, Mounting	2
19	801 610 165	Capscrew	2
20	802 510 000	Lockwasher	2
21	802 810 005	Hexnut	2
22	703 900 076	Clamp, Bottom (Superseded 703 171 001)	1
23	703 900 010	Stack	1
24	801 109 165	Capscrew	2
25	802 509 000	Lockwasher	2
26	802 809 005	Hexnut	2
27	703 900 075	Clamp, Top	1
28	703 900 006	Inlet Cap	1
29	703 900 092	Brace (Front)	1
30	802 509 000	Lockwasher	1
31	802 510 000	Lockwasher	2
32	703 900 008	Indicator, Restriction	1
33	802 810 005	Hexnut	2
34	703 900 091	Brace (Rear)	1

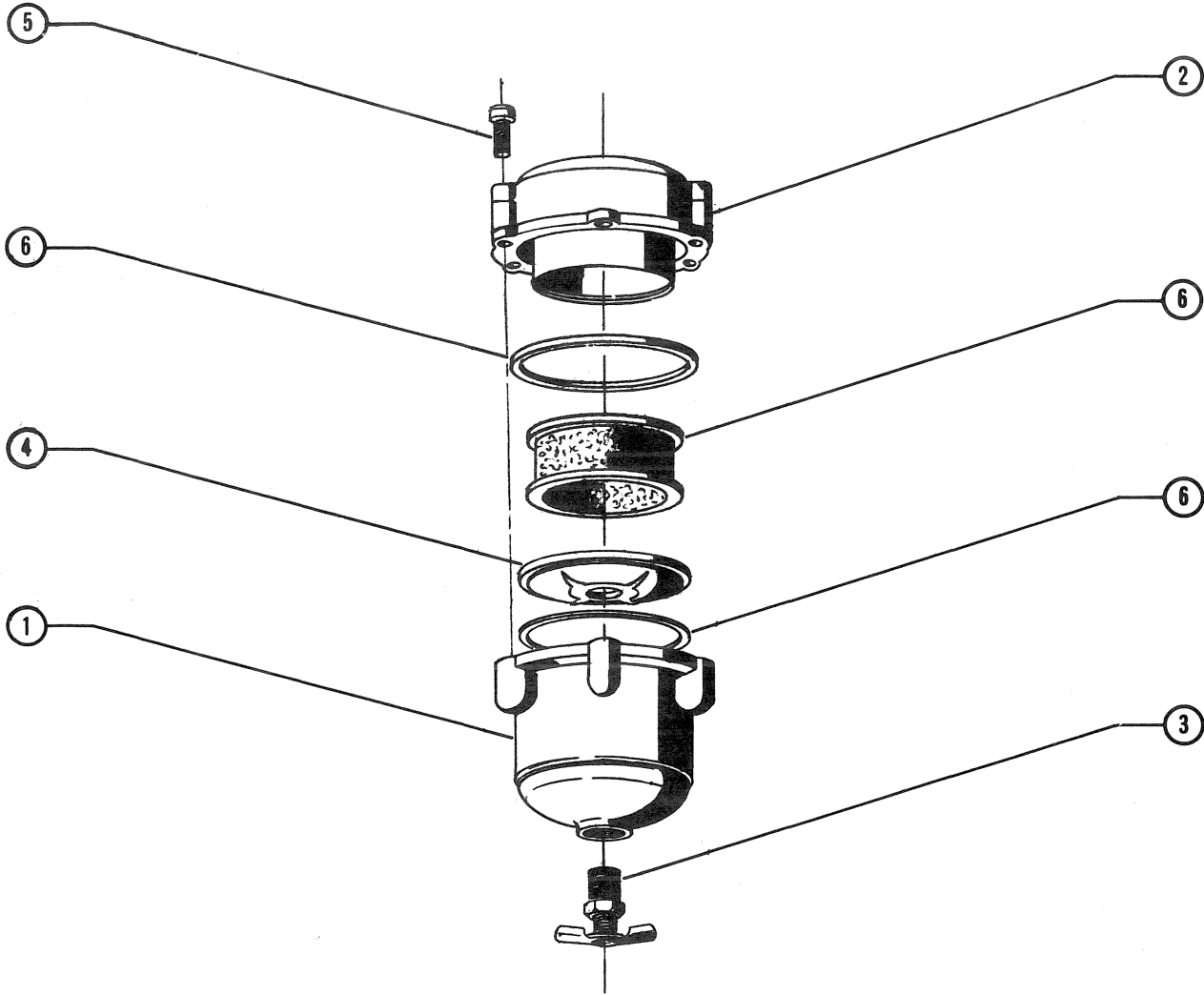
\*Does not Incl. Stack and Braces



**AIR CLEANER**



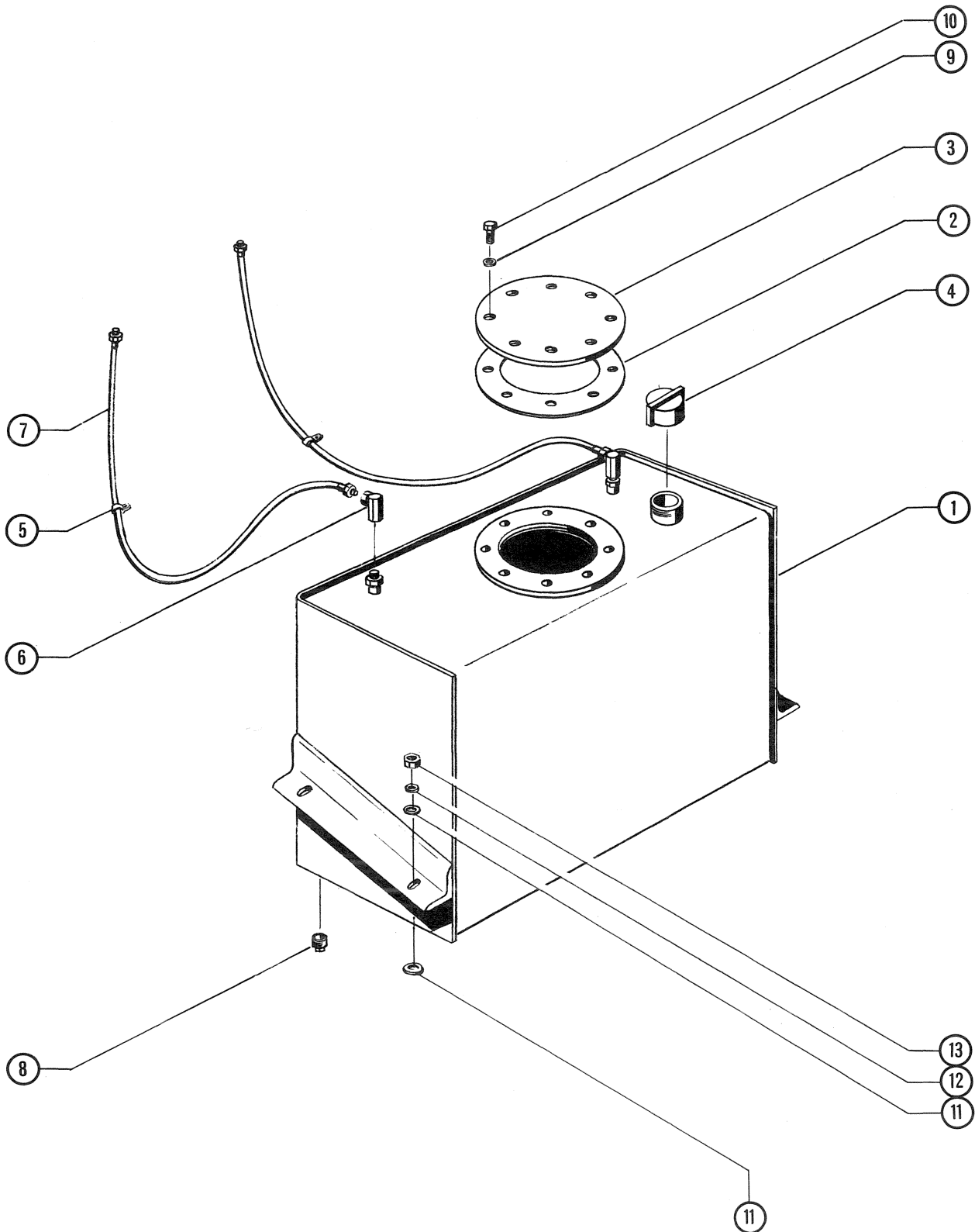
REF.	PART NUMBER	DESCRIPTION	QTY.
		<u>AIR CLEANER</u> EFFECTIVE WITH S/N 2E 1 L5146 THRU 2E 42 L5634, 2E 44 L5636 THRU 2E 50 L5642	
A	703 900 096	Air Cleaner Assembly	1
1	703 171 018	Air Cleaner Bracket	1
2	802 814 001	Hexnut	4
3	802 814 000	Lockwasher	4
4	703 900 126	Band	2
5	801 114 161	Capscrew	4
6	212 911 204	Bushing	1
7	802 812 001	Hexnut	4
8	802 512 000	Lockwasher	4
9	211 102 001	Nipple	1
10	801 114 161	Capscrew	4
11	703 171 006	Brace, Rear	1
12	703 171 001	Clamp	2
13	703 900 097	Cap, Inlet	1
14	703 171 017	Stack	1
15	703 900 008	Indicator, Filter	1
16	703 900 009	Gasket	2
17	703 171 012	Adapter, Outlet	2
18	802 811 001	Hexnut	12
19	922 030 003	Clamp, Hose	2
20	802 511 000	Lockwasher	16
21	801 111 141	Capscrew	16
22	703 171 022	Hose	1
23	703 171 003	Adapter	1
24	703 171 011	Gasket	1
24A	703 900 084	Element, First Stage	1
24B	703 900 085	Element, Second Stage	1
25	703 171 009	Brace, Front	1



**AIR FILTER**

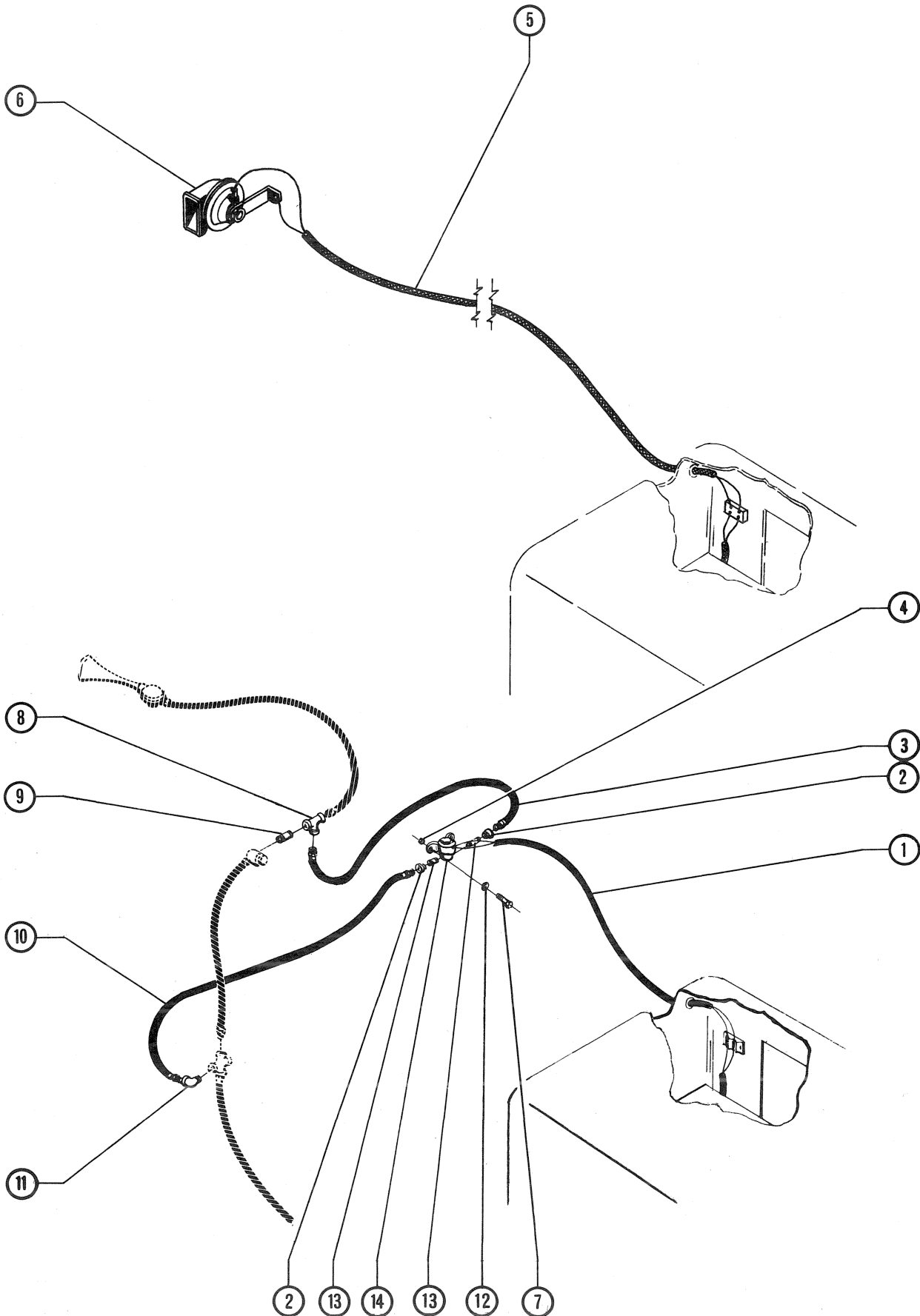
REF.	PART NUMBER	DESCRIPTION	QTY.
A	218 900 001	Assembly, Air Filter	1
1	218 900 007	Bowl, Filter	1
2	218 900 003	Cover, Filter	1
3	218 900 005	Drain Cock	1
4	218 900 004	Baffle, Filter	1
5	218 900 006	Screw	4
6	218 900 002	Kit, Filter Element (Incl. Element & Gaskets)	1





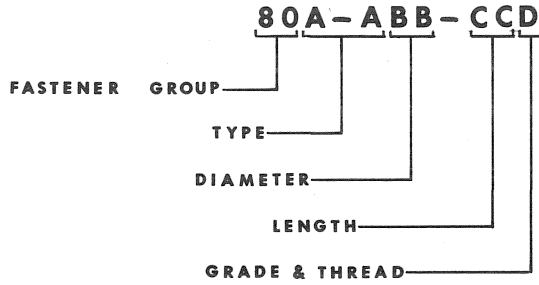
**FUEL TANK & LINES**

REF.	PART NUMBER	DESCRIPTION	QTY.
		<u>FUEL TANK AND LINES</u>	
1	223 171 010	Tank, Fuel	1
2	201 301 050	Gasket	1
3	201 301 049	Cap, Inspection	1
4	223 900 004	Cap	1
5	922 040 003	Clamp	1
6	217 918 302	Adapter	1
7	208 904 012	Hose - 52 Inch	1
7A	208 904 011	Hose - 72 Inch	1
8	212 905 101	Plug	1
9	803 712 000	Flat Copper Washer	8
10	801 112 145	Capscrew	8
11	802 414 000	Flatwasher	8
12	802 514 000	Lockwasher	4
13	802 814 003	Hexnut	4



**REAR ENGINE ALARM SYSTEM**

REF.	PART NUMBER	DESCRIPTION	QTY.
<u>REAR ENGINE ALARM SYSTEM</u>			
1	701 171 008	Wire**	1
2	212 920 201	Reducer, Bell**	2
3	208 904 001	Hose, Outlet**	1
4	802 810 001	Hexnut**	2
5	701 171 008	Wire*	1
6	309 900 001	Electric Horn* (12 Volt System)	1
6A	309 900 011	Horn, Electric* (24 Volt System)	1
7	801 110 141	Capscrew**	2
8	212 909 101	Tee**	1
9	211 104 005	Nipple, Close**	1
10	208 904 001	Hose, Inlet**	1
11	212 908 201	Street Elbow**	1
12	802 510 001	Lockwasher**	2
13	211 102 002	Nipple, Close**	2
14	205 900 083	Solenoid, Air**	1
<p>*Effective with S/N 2E 43 L5635 and Subsequent</p> <p>**Effective with S/N 2E 1 L5146 thru 2E 42 L5634</p>			



**EXAMPLE**

**801-119-345**

**80A-ABB-CCD**

**HEX HEAD CAPSCREW 1" x 7" NAT. COARSE**

NUT GRADE & THREAD (D)		
SAE GRADE	NUMBER NC	NUMBER NF
A	1	2
B	3	4
C	5	6
D	7	8

BOLT GRADE & THREAD (D)		
SAE GRADE	NUMBER NC	NUMBER NF
None	1	2
3	3	4
5	5	6
8	7	8

CODE	TYPE (AA)
801-1	Hex Head Capscrew
801-2	Square Head Capscrew
801-3	Socket Head Capscrew
801-4	Flat Socket Head Capscrew
801-5	Number 3 Regular Plow Bolt
801-6	Round Head Machine Screw
801-7	Flat Head Machine Screw
801-8	Fillister Head Machine Screw
801-9	Oval Head Machine Screw
802-0	Cup Point Square Head Set Screw
802-1	Cup Point Hex Socket Set Screw
802-2	Type 'U' Drive Screw
802-3	Flat Washer
802-4	SAE Flat Washer
802-5	Lock Washer
802-6	Internal Tooth Lock Washer
802-7	External Tooth Lock Washer
802-8	Hex Nut
802-9	Square Nut
803-0	Castle/Slotted Nut
803-1	Lock Nut
803-2	Jam Nut
803-3	Roll Pin
803-4	Cotter Pin
803-5	Button Head Rivet
803-6	Closed Eye Bolt
803-7	Flat Copper Washer
803-8	Clevis Pin
803-9	Internal and External Tooth Washer
804-0	Weld Nut
804-1	Stud Bolt-Full Base
804-2	Round Head Self-Tapping Screw
804-3	Slotted Headless Set Screw-Cup Point
804-4	Round Head, Square Neck Carriage Bolt
804-5	Hex Washer Head Capscrew
804-6	SAE Standard High Nut
804-7	Wingnut

CODE	DIAMETER (BB)
01	.060(#0)
02	.073(#1)
03	.086(#2)
04	.099(#3)
05	.112(#4)
06	.125(#5)
07	.138(#6)
08	.164(#8)
09	.190(#10)
10	1/4
11	5/16
12	3/8
13	7/16
14	1/2
15	9/16
16	5/8
17	3/4
18	7/8
19	1
20	1-1/8
21	1-1/4
22	1-3/8
23	1-1/2
24	1-5/8
25	1-3/4
26	1-7/8
27	2
28	2-1/4
29	2-1/2
30	2-3/4
31	3
32	.216(#12)
33	.154(#7)

CODE	LENGTH (CC)
01	1/16
02	3/32
03	1/8
04	5/32
05	3/16
06	1/4
07	5/16
08	3/8
09	7/16
10	1/2
11	5/8
12	3/4
13	7/8
14	1
15	1-1/4
16	1-1/2
17	1-3/4
18	2
19	2-1/4
20	2-1/2
21	2-3/4
22	3
23	3-1/4
24	3-1/2
25	3-3/4
26	4
27	4-1/4
28	4-1/2
29	4-3/4
30	5
31	5-1/2
32	6
33	6-1/2
34	7
35	7-1/2
36	8
37	8-1/2
38	9
39	9-1/2
40	10





# HANCOCK DIVISION



PARTS NUMBER	PG.	REF.	PARTS NUMBER	PG.	REF.	PARTS NUMBER	PG.	REF.
000 171 014	41	A	103 166 009	10	2	208 910 011	31	26
001 552 010	63	33	103 171 001	13	1	208 964 003	71	15
001 552 023	13	22	103 171 009	13	15	209 040 001	25	1
001 562 802	29	3	103 176 121	13	16	209 040 001	27	1
001 562 827	10	12	105 171 007	69	34	209 040 001	29	A
001 563 730	63	34	105 171 008	69	41	209 040 002	29	4
001 563 792	28	11	105 171 009	69	39	209 040 003	29	5
101 171 001	5	12	105 171 011	69	36	209 040 004	29	9
101 171 014	5	25	105 300 006	69	38	209 040 007	29	10
101 171 015	5	26	105 900 001	69	42	209 040 016	29	13
101 171 016	5	23	199 171 001	5	1	209 040 017	29	17
101 171 019	5	2	201 160 003	5	14	209 040 018	7	49
101 171 020	5	24	201 160 004	5	3	209 040 021	9	16
101 900 006	5	18	201 166 026	59	3	209 040 021	13	9
101 900 007	5	19	201 166 030	25	8	209 050 001	23	1
101 900 008	5	20	201 166 030	27	8	209 050 001	28	A
102 160 012	7	48	201 171 002	27	6	209 050 002	28	1
102 161 092	13	3	201 171 014	59	16	209 050 003	28	4
102 161 097	5	8	201 301 049	77	3	209 050 004	28	16
102 161 109	7	23A	201 301 050	77	2	209 050 006	28	10
102 161 110	7	22A	204 171 001	31	19	209 050 007	5	6
102 161 138	7	50	204 171 005	31	18	209 050 007	7	30
102 161 164	7	13	204 171 006	31	10	209 050 010	28	6
102 161 171	7	21A	204 171 008	31	16	209 050 011	28	12
102 162 002	5	9	204 900 047	31	1	209 050 018	23	1A
102 162 002	7	31	204 900 047	33	A	210 171 001	69	40 A
102 166 064	7	45	204 900 107	33	21	210 171 008	69	40
102 166 067	7	43	204 900 127	33	24	210 900 001	63	23
102 166 068	7	43A	204 900 128	33	24A	210 900 010	63	24
102 166 069	7	43B	204 900 129	33	16	210 900 012	69	33
102 166 070	7	43C	204 900 131	33	8	211 102 001	73	9
102 166 071	7	43D	204 900 132	33	9	211 102 002	59	15
102 171 029	7	36A	204 900 133	33	6	211 102 002	79	13
102 171 030	7	36	204 900 134	33	5	211 104 001	59	7
102 171 033	7	53	204 900 149	33	23	211 104 002	59	4
102 171 034	7	53A	204 900 150	33	7	211 104 002	59	6
102 171 035	7	29	204 900 151	33	18	211 104 002	59	6A
102 171 042	7	29A	204 900 152	33	17	211 104 003	59	2
102 171 044	7	53B	204 900 153	33	14	211 104 005	59	20
102 171 045	7	53C	204 900 154	33	15	211 104 005	79	9
102 171 051	41	23	204 900 155	33	13	211 104 006	59	4A
102 171 055	41	24	204 900 156	33	12	211 104 012	59	25
102 171 058	41	22	204 900 157	33	11	211 112 004	25	7
102 171 070	35	19	204 900 158	33	25	211 112 004	27	7
102 171 079	41	27	204 900 159	33	26	211 112 005	23	12
102 171 080	41	26	204 900 160	33	19	211 112 006	23	7
102 171 081	41	28	204 900 161	33	20	211 112 007	23	11
102 171 089	7	1	204 900 162	33	1	211 112 009	23	6
102 171 094	7	1A	204 900 163	33	2	211 112 010	25	6
102 900 001	7	20	204 900 164	33	3	211 112 011	23	17
102 900 002	7	19	204 900 165	33	4	211 112 011	25	11
102 900 024	7	21	205 171 001	61	30	211 112 012	25	10
102 900 025	7	23	205 171 005	59	14	211 112 012	27	10
102 900 026	7	22	205 182 002	59	24	211 112 013	25	9
103 160 001	9	1	205 182 002	61	A	211 112 013	27	9
103 160 014	9	25	205 900 001	59	13	211 112 014	23	25
103 160 019	9	21	205 900 012	61	B	211 112 014	27	12
103 160 043	9	3	205 900 074	59	14A	211 112 015	27	11
103 160 052	9	2	205 900 083	79	14	211 112 016	23	24
103 160 054	7	7	205 900 084	61	C	211 112 017	27	5
103 160 059	13	24	207 171 001	59	5	211 112 018	23	20
103 160 063	13	25	208 904 001	59	1	211 112 018	25	5
103 160 064	13	27	208 904 001	59	18	211 112 019	23	21
103 160 068	11	A	208 904 001	79	3	211 112 020	23	9
103 160 069	11	6	208 904 001	79	10	211 112 021	23	10
103 160 071	11	1	208 904 011	77	7A	211 112 047	23	23
103 161 002	9	15	208 904 012	77	7	212 901 201	7	5
103 161 018	9	8	208 904 013	59	23	212 902 203	25	15
103 161 022	9	12	208 904 014	59	26	212 902 203	27	15
103 161 022	13	36	208 904 015	59	27	212 902 204	59	8
103 161 044	13	2	208 904 021	43	18	212 902 401	23	13
103 161 049	13	12	208 904 022	45	27	212 904 202	25	19
103 161 055	9	11	208 904 022	47	27	212 904 202	27	19
103 161 055	13	13	208 910 001	23	2	212 904 203	59	21
103 161 061	9	4	208 910 003	25	2	212 905 101	77	8
103 161 076	13	31	208 910 003	27	2	212 906 101	45	20
103 161 080	13	18	208 910 010	23	5	212 906 101	47	20
103 161 083	9	29	208 910 010	27	3	212 906 101	49	22
103 166 006	10	A	208 910 010	31	26A	212 906 101	51	24
103 166 007	10	9	208 910 011	23	3	212 906 101	53	28
103 166 008	10	1	208 910 011	25	3	212 906 102	57	6

ALWAYS STATE MODEL AND SERIAL NUMBER, WHEN ORDERING PARTS

PARTS NUMBER	PG.	REF.	PARTS NUMBER	PG.	REF.	PARTS NUMBER	PG.	REF.
212 906 103	51	28	219 903 002	5	13	501 161 012	16	4
212 906 103	57	11	219 903 002	7	4	501 161 013	16	10
212 906 104	45	19	219 905 017	35	26	501 161 083	15	20
212 906 104	51	19A	219 905 017	65	25	501 161 083	19	A
212 906 104	53	21A	220 900 002	55	12	501 161 085	19	5
212 906 402	33	10	220 900 003	45	21	501 161 088	19	3
212 906 403	33	22	220 900 003	47	21	501 161 091	19	10
212 907 201	25	16	220 900 003	51	14	501 161 098	19	1
212 907 201	27	16	220 900 003	53	13	501 161 104	15	17
212 907 201	27	20	220 900 004	49	27	501 161 112	15	13
212 907 202	59	9	223 171 010	77	1	501 161 153	19	13
212 907 402	23	22	223 900 004	77	4	501 161 154	16	1
212 908 102	59	11	303 171 001	43	29	501 161 155	19	
212 908 201	59	10	303 900 001	43	26	501 161 156	19	
212 908 201	79	11	303 900 012	69	6	501 166 003	15	45
212 908 202	31	11	304 900 002	69	11	501 166 005	15	27
212 908 401	23	16	305 171 001	69	23	501 166 031	15	14
212 908 401	25	17	305 171 007	69	24	501 166 032	41	17
212 908 401	27	17	305 900 002	69	20	501 166 039	15	19
212 909 101	79	8	305 900 002	69	20A	501 166 040	15	2
212 909 401	23	8	308 900 003	69	22B	501 166 045	15	38
212 909 401	25	18	308 900 029	69	21	501 166 050	15	22
212 909 401	27	18	308 900 030	69	22	501 166 057	18	
212 911 101	31	2	308 900 031	69	64	501 166 058	18	1
212 911 201	59	22	308 900 033	69	22A	501 166 059	18	2
212 911 203	59	12	308 900 048	69	21A	501 166 060	18	8
212 911 204	73	6	309 900 001	79	6	501 166 061	18	4
212 912 501	16	7	309 900 011	79	6A	501 171 009	15	8
212 912 501	18	11	401 161 026	63	3	501 171 029	41	3
212 912 501	19	11	401 161 027	63	4	501 171 030	41	25
212 912 501	55	32	401 161 038	63	21	501 171 032	15	1A
212 915 101	55	33	401 171 011	63	1	501 171 034	41	9
212 920 201	59	19	403 166 001	65	3A	501 171 035	15	32
212 920 201	79	2	403 166 002	65	3	501 171 035	41	10
217 903 303	25	4	403 900 005	65	1	501 171 038	15	21
217 903 303	27	4	403 900 013	65	4	501 171 038	15	51
217 904 303	31	4A	403 900 015	65	6	501 171 041	15	18
217 906 104	31	5	403 900 016	65	8	501 171 045	15	1
217 907 301	23	14	403 900 017	65	9	501 171 047	15	A
217 907 301	23	15	403 900 018	65	10	501 171 058	15	52
217 907 301	27	21	403 900 020	65	34	501 171 063	15	33
217 908 301	23	18	403 900 021	65	35	501 900 002	15	28
217 908 301	25	13	403 900 022	65	29	501 900 002	21	1A
217 908 301	27	13	403 900 023	65	36	501 900 004	21	10
217 908 301	31	4	403 900 024	65	31	501 900 005	21	11
217 908 302	31	3B	403 900 025	65	32	501 900 006	21	
217 909 301	23	19	403 900 026	65	19	501 900 007	21	6
217 909 301	25	14	403 900 027	65	28	501 900 008	21	7
217 909 301	27	14	403 900 028	65	27	501 900 009	20	8
217 918 301	23	4	403 900 029	65	26	501 900 009	21	8
217 918 301	25	12	403 900 030	65	12	501 900 010	21	13
217 918 302	77	6	403 900 032	65	11	501 900 011	21	14
217 919 302	31	3	403 900 033	63	2	501 900 032	21	2
217 919 303	31	3A	403 900 033	65	A	501 900 033	21	5
217 921 304	43	17	403 900 034	63	2A	501 900 034	21	3
217 928 301	31	2A	403 900 034	65	B	501 900 035	21	4
217 930 302	43	19	403 900 168	65	2	501 900 037	21	12
218 900 001	59	17	403 900 169	65	7	501 900 038	15	NS
218 900 001	74	A	403 900 171	65	33	501 900 038	21	1
218 900 002	74	6	403 900 245	65	30	501 900 039	21	9
218 900 003	74	2	404 900 001	63	22	501 900 059	21	
218 900 004	74	4	406 166 001	63	8	501 900 095	20	12
218 900 005	74	3	406 166 002	63	8A	501 900 096	20	9
218 900 006	74	5	407 161 001	63	18	501 900 098	20	7
218 900 007	74	1	407 161 002	63	17	501 900 099	20	11
219 901 001	9	14	407 166 001	63	7	501 900 100	20	10
219 901 001	9	20	408 900 003	63	9	501 900 101	20	6
219 901 001	9	23	408 900 004	63	30	501 900 102	20	14
219 901 001	10	13	408 900 005	63	11	501 900 103	20	13
219 901 001	13	7	408 900 006	63	10	501 900 104	20	
219 901 001	15	43	412 900 002	63	14	501 900 105	20	1A
219 901 001	16	5	412 900 003	63	15	501 900 106	20	1
219 901 001	18	12	412 900 004	63	16	501 900 107	20	3
219 901 001	19	12	501 150 001	15	7	501 900 108	20	5
219 901 001	47	19	501 150 006	57	22	501 900 109	20	4
219 901 001	51	12	501 150 016	15	42	501 900 110	20	
219 901 001	53	11	501 160 005	15	47	501 900 111	20	2
219 901 001	63	26	501 160 011	15	46	601 150 011	57	36
219 901 004	51	19	501 160 012	7	40	601 150 019	57	12
219 901 004	53	21	501 161 011	15	3	601 150 024	57	7
219 901 005	37	11	501 161 011	16	A	601 150 031	57	4



# HANCOCK DIVISION



PARTS NUMBER	PG.	REF.	PARTS NUMBER	PG.	REF.	PARTS NUMBER	PG.	REF.
601 166 009	57	2	601 900 032	53	18A	602 900 030	39	2
601 166 044	35	4	601 900 033	47	12B	602 900 030	39	2
601 166 057	57	A	601 900 033	53	18B	602 900 036	35	6
601 166 058	41	1	601 900 034	45	11	602 900 037	35	5
601 166 058	55	A	601 900 034	47	11	602 900 051	39	8
601 166 063	55	1	601 900 035	45	5	602 900 052	39	7
601 166 064	55	17	601 900 035	47	5	602 900 052	39	7
601 166 066	55	7	601 900 035	51	23	602 900 053	39	8
601 166 069	55	34	601 900 035	53	27	602 900 054	37	4
601 166 070	55	6	601 900 036	45	15	602 900 054	39	1
601 166 071	55	16	601 900 036	47	26	602 900 054	39	1
601 166 072	55	29	601 900 037	45	8	602 900 076	39	3
601 166 075	55	2	601 900 037	47	8	602 900 077	39	6
601 166 076	55	22	601 900 037	51	22	602 900 078	39	9
601 166 079	41	6	601 900 037	53	16	602 900 079	39	10
601 166 079	55	11	601 900 039	53	23	602 900 080	39	3
601 166 097	57	29	601 900 040	53	8	602 900 081	39	6
601 166 097	57	35	601 900 041	53	8A	602 900 082	39	9
601 166 098	55	14	601 900 042	53	8B	602 900 083	39	10
601 166 098	55	19	601 900 043	53	8C	602 900 084	37	7
601 166 100	41	5	601 900 044	53	30	602 900 085	37	10
601 166 100	55	10	601 900 045	53	6	602 900 086	37	3
601 171 004	41	2	601 900 068	45	22	602 900 087	37	8
601 171 004	49	B	601 900 068	47	22	602 900 088	37	9
601 171 005	49	1	601 900 102	57	31A	602 900 089	37	6
601 171 006	49	12	601 900 103	57	31B	608 166 003	35	10
601 171 007	49	2	601 900 107	45	1	608 171 003	36	4
601 171 008	49	21	601 900 107	51	11	608 171 003	39	A
601 171 009	49	20	601 900 109	45	4	608 171 003	41	16
601 171 010	49	8A	601 900 109	51	13	608 171 004	36	5
601 171 011	49	10A	601 900 110	51	6	608 171 004	37	A
601 171 012	49	11A	601 900 111	45	13	608 171 004	41	15
601 171 013	49	6	601 900 115	45	3	608 171 013	36	4A
601 171 014	49	17	601 900 116	45	3A	608 171 013	39	A
601 171 015	49	3	601 900 117	45	3B	608 171 016	35	9
601 171 024	49	7	601 900 118	45	12	608 171 018	35	7
601 171 025	49	14	601 900 119	45	12A	608 171 019	35	18
601 171 026	49	9A	601 900 120	45	12B	608 171 024	35	8
601 171 027	47	A	601 900 122	45	32	610 171 005	43	28
601 171 028	45	23	601 900 122	47	32	610 900 001	43	A
601 171 028	47	23	601 900 128	45	33	610 900 001	69	25
601 171 029	45	A	601 900 128	47	33	610 900 064	43	1
601 171 031	49	A	601 900 129	45	30	610 900 065	43	11
601 171 032	49	8	601 900 129	47	30	610 900 066	43	8
601 171 033	49	10	601 900 130	45	39	610 900 067	43	5
601 171 034	49	11	601 900 130	47	39	610 900 068	43	9
601 171 036	49	19	601 900 131	45	40	610 900 069	43	4
601 171 038	49	9	601 900 131	47	40	610 900 070	43	6
601 182 027	49	28	601 900 132	45	26	610 900 071	43	13
601 193 001	53	A	601 900 132	47	41	610 900 072	43	15
601 193 003	51	A	601 900 133	45	29	610 900 073	43	10
601 300 002	47	1	601 900 133	47	29	610 900 074	43	16
601 300 005	43	2	601 900 134	51	10	610 900 078	43	14
601 300 006	43	2A	601 900 165	47	43	610 900 079	43	12
601 300 007	43	2B	601 900 166	45	25	610 900 080	43	7
601 300 008	43	2C	601 900 166	45	31	610 900 113	45	41
601 900 013	35	20	601 900 166	45	34	610 900 113	47	44
601 900 013	57	20	601 900 166	45	35	701 171 008	79	1
601 900 014	57	19	601 900 166	45	36	701 171 008	79	5
601 900 015	57	16	601 900 166	45	37	701 171 011	69	27
601 900 016	57	17	601 900 166	47	31	701 900 141	69	7
601 900 017	57	15	601 900 166	47	34	701 900 143	69	8
601 900 018	57	27	601 900 166	47	35	701 900 144	69	31
601 900 019	57	28	601 900 166	47	36	701 900 145	69	A4
601 900 020	57	13	601 900 166	47	37	701 900 313	69	A
601 900 021	57	31	601 900 166	47	42	701 900 349	69	26
601 900 022	57	8	601 900 173	51	17	701 900 350	69	2
601 900 025	47	4	601 900 174	51	26	701 900 351	69	A2
601 900 025	53	12	601 900 175	51	8	701 900 352	69	A1
601 900 026	45	2	601 900 185	45	28	701 900 353	69	A3
601 900 026	47	2	601 900 185	47	28	701 900 354	69	4
601 900 026	51	27	601 900 190	51	29	701 900 355	69	14B
601 900 026	53	10	601 900 190	53	22	701 900 356	69	14C
601 900 028	47	13	601 900 191	51	18	701 900 357	69	19
601 900 029	47	3	601 900 191	53	19	701 900 358	69	13
601 900 029	53	24	601 900 194	51	21	701 900 359	69	14
601 900 030	47	3A	601 900 194	53	17	701 900 360	69	16
601 900 030	53	NS	601 900 195	51	9	701 900 361	69	15
601 900 031	47	12	601 900 195	53	9	701 900 362	69	63
601 900 031	53	18	602 900 018	35	3	701 900 363	69	65
601 900 032	47	12A	602 900 030	37	5	701 900 364	69	66

ALWAYS STATE MODEL AND SERIAL NUMBER, WHEN ORDERING PARTS

PARTS NUMBER	PG.	REF.	PARTS NUMBER	PG.	REF.	PARTS NUMBER	PG.	REF.
701 900 365	69	18	901 011 809	18	3	917 027 501	57	5
701 900 366	69	14A	901 011 810	10	7	917 038 701	55	5
701 900 386	69	3	901 019 701	16	2	919 221 601	29	6
702 900 044	69	67	902 031 401	45	6	919 221 801	28	5
703 171 001	73	12	902 031 401	47	6	919 222 201	31	6
703 171 003	69	29A	902 031 401	51	16	919 224 201	29	14
703 171 003	73	23	902 031 401	53	14	919 225 001	28	7
703 171 006	73	11	902 032 601	49	4	919 225 301	55	27
703 171 009	73	25	902 035 401	45	10	919 234 201	29	7
703 171 011	69	28	902 035 401	47	10	919 242 501	28	14
703 171 011	73	24	902 035 401	51	4	920 834 201	29	1
703 171 012	73	17	902 035 401	53	4	920 834 201	29	8
703 171 017	73	14	902 035 402	45	24	920 834 201	29	15
703 171 018	73	1	902 035 402	47	24	920 842 501	28	15
703 171 019	69	1	902 035 402	51	1	921 234 201	29	16
703 171 022	73	22	902 035 402	53	1	921 242 501	28	13
703 900 003	71	18	902 037 502	57	26	922 010 002	69	17
703 900 006	71	28	902 040 001	49	16	922 030 003	71	16
703 900 008	71	32	902 042 501	55	23	922 030 003	73	19
703 900 008	73	15	902 044 301	57	33	922 040 003	77	5
703 900 009	73	16	902 050 001	55	21	923 010 002	10	3
703 900 010	71	23	902 059 101	63	12	923 010 002	11	2
703 900 011	71	11	902 063 801	63	6	923 010 002	18	13
703 900 012	71	13	902 066 201	55	4	923 010 002	19	4
703 900 013	71	4	903 015 701	45	7	923 010 003	35	28
703 900 014	71	A	903 015 701	47	7	923 020 001	57	1
703 900 027	71	3	903 015 701	51	15	923 020 002	35	22
703 900 029	71	12	903 015 701	53	15	923 020 002	57	30
703 900 064	71	1	903 017 502	57	25	924 020 004	69	35
703 900 066	71	6	903 017 503	45	9	925 000 019	35	25
703 900 067	71	2	903 017 503	47	9	925 000 106	18	6
703 900 068	71	7	903 017 503	51	3	925 000 139	43	25
703 900 069	71	8	903 017 503	53	3	925 000 139	65	13
703 900 071	71	9	903 017 504	49	15	925 000 503	69	37
703 900 072	71	17A	903 017 505	49	5	925 000 513	37	1
703 900 075	71	27	903 020 001	45	17	925 000 513	39	4
703 900 076	71	22	903 020 001	47	25	925 000 513	39	4
703 900 077	71	17	903 020 001	51	2	925 000 701	29	2
703 900 084	73	24A	903 020 001	53	2	925 000 702	28	2
703 900 085	73	24B	903 020 601	55	24	925 000 801	29	18
703 900 091	71	34	903 021 201	55	20	925 000 802	28	3
703 900 092	71	29	903 026 201	57	34	990 100 059	7	10
703 900 094	69	29	903 031 901	63	13	990 100 111	15	6
703 900 096	73	A	903 035 001	63	5			
703 900 097	73	13	903 040 001	55	3			
703 900 126	73	4	904 009 801	57	14			
707 900 026	69	12	909 010 001	9	19			
707 900 027	69	10	909 010 001	13	8			
707 900 028	69	9	910 022 502	37	2			
707 900 029	69	5	910 022 502	39	5			
707 900 030	69	5A	910 022 502	39	5			
707 900 031	69	5B	911 024 401	10	11			
707 900 032	69	5C	911 024 401	11	8			
707 900 033	69	5D	911 024 401	19	2			
707 900 034	69	5E	912 004 601	45	38			
708 900 001	69	30	912 004 601	47	38			
708 900 002	69	32	912 011 201	19	16			
820 900 101	5	7	912 011 801	10	8			
820 900 102	55	25	912 011 801	11	9			
820 900 115	69	49	912 017 501	49	18			
820 900 208	51	7	912 019 601	16	3			
820 900 214	45	16	912 026 201	57	32			
820 900 214	51	25	913 040 001	29	19			
820 900 215	45	18	913 050 001	28	17			
820 900 215	51	30	917 013 701	45	14			
820 900 216	69	48	917 013 701	53	20			
820 900 228	65	18	917 013 701	57	18			
820 900 304	15	39	917 013 704	47	14			
820 900 305	15	11	917 013 704	53	25			
820 900 403	35	24	917 013 713	51	5			
820 900 405	65	14	917 013 713	51	20			
820 900 422	43	22	917 015 001	18	7			
820 900 423	43	30	917 015 001	19	18			
820 900 424	43	24	917 015 004	65	5			
820 900 425	43	23	917 016 203	29	12			
820 900 429	18	5	917 017 501	55	28			
820 900 601	9	9	917 017 502	49	13			
820 900 602	13	21	917 017 505	53	5			
820 900 701	55	26	917 020 011	28	9			
901 011 801	11	7	917 022 501	16	9			
901 011 802	19	17	917 022 501	43	3			



# HANCOCK DIVISION



**HANCOCK MODEL**

**12E2Euclid SERIES**

**PARTS BOOK CROSSOVER SUPPLEMENT**

**NOTE: USE WITH 1008 PARTS MANUAL  
DATED OCTOBER, 1968.**

**CLARK EQUIPMENT COMPANY**

**Hancock Division**

**Lubbock, Texas**



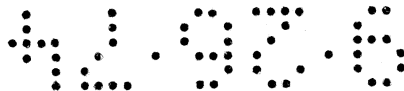
# HANCOCK DIVISION



Page 5

## SCRAPER YOKE

Item	Old Number	New Number
1	199-171-001	1557179
2	101-171-019	1552604
3	201-160-004	1557540
4	802-512-000	4E-6
5	802-812-005	61D-6
6	209-050-007	1564974 4X
7	820-900-101	1562478
8	102-161-097	1553694 4X
9	102-162-002	1553765 4X
10	803-410-190	1F-836
11	replaced by 802-419-000	619028 4X
12	101-171-001	1557540
13	219-903-002	12H-15
14	201-160-003	1557234
15	802-514-000	4E-8
16	802-814-005	61D-8
17	801-114-215	1C-844
18	101-900-006	1550580
19	101-900-007	1550581
20	101-900-008	1550582
21	801-117-325	1C-1296
22	803-117-003	17D-10
23	101-171-016	1552601
24	101-171-020	1552605
25	101-171-014	1552599
26	101-171-015	1552600





# HANCOCK DIVISION



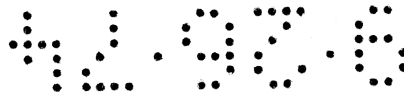
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## MAIN FRAME

Item	Old Number	New Number	Item	Old Number	New Number
1	102-171-089	1554003	31	102-162-002	1553765
1A	102-171-094	1554008	32	801-119-325	15C-1696
2	802-317-000	619036	33	802-410-000	619018
3	803-117-005	17D-10	34	replaced by 803-410-190	1F-836
4	219-903-002	1551674	35	801-119-285	1C-1636
5	212-901-201	75F-1	36	102-171-030	1553947
6	803-119-005	17D-12	36A	102-171-029	1553947
7	103-160-054	1555779	37	802-325-000	743595
8	802-319-000	619037	38	803-414-220	1F-1648
9	801-119-316	16C-1688	39	801-117-246	2C-1256
10	990-100-059	1562333	40	501-160-012	1560031
11	801-116-215	1C-1044	41	801-117-205	1C-1240
12	801-116-185	1C-1032	42	803-117-005	17D-10
13	102-161-164	1553747	43	102-166-067	1553883
14	802-516-000	4E-10	43A	102-166-068	1553884
15	802-816-006	62D-10	43B	102-166-069	1553885
16	802-817-005	61D-12	43C	102-166-070	1553886
17	802-517-000	4E-12	43D	102-166-071	1553887
18	801-517-215	1552070	44	801-117-285	1C-1272
19	102-900-002	1550009	45	102-166-064	1553880
20	102-900-001	1550008	46	803-409-180	1F-632
21	102-900-024*	1550030	47	802-314-000	703891
21A	102-161-171**	1553725	48	102-160-012	1553489
22	102-900-026*	1550558	49	209-040-018	1567404
22A	102-161-110**	1553700	50	102-161-138	1553123
23	102-900-025*	1550031	51	801-117-225	1C-1248
23A	102-161-109**	1553699	52	803-117-003	17D-10
24	801-517-285	1552075	53	102-171-033	1553951
25	801-517-265	1552074	53A	102-171-034	1553952
26	802-819-003	61D-20	53B	102-171-044	1553962
27	802-519-000	4E-16	53C	102-171-045	1553963
28	801-119-255	1C-1660	54	803-119-006	18D-16
29	102-171-035	1553953	55	801-119-346	16C-16112
29A	102-171-042	1553960	56	801-117-264	2C-1264
30	209-050-007	1564974	57	802-317-004	619036
			58	803-117-004	18D-12

\* 102-900-023, 1550030, Chisel Assy, includes 21, 22 & 23.

\*\* 102-161-169, 1553750, Chisel Assy, includes 21A, 22A & 23A.





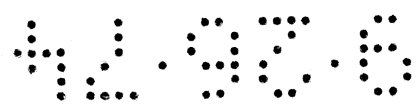
# HANCOCK DIVISION



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## ROLLING DOOR GROUP

Item	Old Number	New Number
1	103-160-001	1555750
2	103-160-052	1555778
3	103-160-043	1555771
4	103-161-061	1555886
5	801-114-175	1C-828
6	802-514-000	4E-8
7	802-814-003	61D-8
8	103-161-018	1555854
9	820-900-601	1550948
10	803-410-200	1F-840
11	103-161-055	1555882
12	103-161-022	1555857
13	803-122-004	18D-6
14	219-901-001	1550756
15	103-161-002	1555844
16	209-040-021	1562797
17	803-410-180	1F-832
18	802-319-000	619037
19	909-010-001	665199
20	219-901-001	1550756
21	103-160-019	1555766
22	803-414-200	1F-1640
23	219-901-001	1550756
24	801-117-205	1C-1240
25	103-160-014	1568829
26	802-517-000	4E-12
27	802-817-003	61D-12
28	-----	
29	103-161-083	1555904







# HANCOCK DIVISION

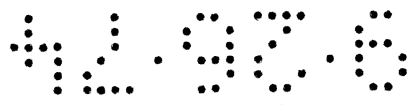


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## ROLLING FLOOR ROLLER

Effective with S/N 2E-313-L7291 & Sub

Item	Old Number	New Number
A	103-166-006	1555956
1	103-166-008	1555958
2	103-166-009	1555959 4X
3	923-010-002	5J-606 10X
4	802-520-000	4E-18 4X
5	803-220-004	8D-18 2X
6	-----	
7	901-011-810	1550986 4X
8	912-011-801	711298 4X
9	103-166-007	1555957
10	801-410-125	9G-412
11	911-024-401	711406 4X
12	-----	1562827
13	219-901-001	1550756





# HANCOCK DIVISION

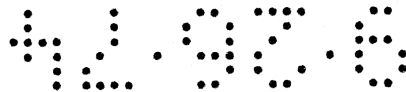


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## ROLLING FLOOR ROLLER

Effective with S/N 2E-1-L5146 thru 2E-312-L7290

Item	Old Number	New Number
A	103-160-068	1555788
1	103-160-071	1555790 2 X
2	923-010-002	5J-606 4 X
3	-----	
4	803-220-006	8D-18 4 X
5	802-520-000	4E-18 4 X
6	103-160-069	1555789 4 X
7	901-011-801	1550985 4 X
8	911-024-401	711406 4 X
9	912-011-801	711298 4 X



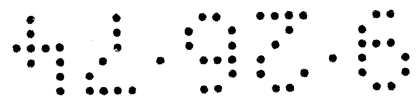
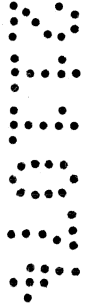


# HANCOCK DIVISION



## ENDGATE & STABILIZER GROUP

Item	New Number	Old Number
1	103-171-001	1555963
2	103-161-044	1555872
3	102-161-092	1553691
4	Reference	
5	801-117-185	1C-1232
6	803-117-003	17D-10
7	219-901-001	1550756
8	909-010-001	665199
9	209-040-021	1562797
10	802-419-000	619028
11	replaced by 803-410-180	1F-632
12	103-161-049	1555885
13	103-161-055	1555882
14	803-122-006	18D-22
15	103-171-009	1555971 2x
16	103-176-121	1556088
17	Reference	
18	103-161-080	1555901
19	802-514-000	4E-8
20	802-817-005	61D-12
21	820-900-602	1550951
22	-----	1552023
23	replaced by 803-410-200	1F-840
24	103-160-059	1555782
25	103-160-063	1555784
26	801-117-346	16C-12112
27	103-160-064	1555785 20x
28	802-512-000	4E-6
29	replaced by 802-812-004	62D-6
30	Reference	
31	103-161-076	1555899
32	802-317-000	619036
33	801-117-206	2C-1240
34	802-517-000	4E-12
35	802-817-006	62D-12
36	103-161-022	1555857
37	801-112-156	2C-620





# HANCOCK DIVISION

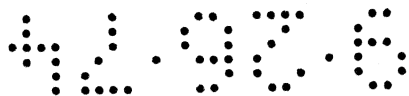


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## ELEVATOR ASSEMBLY

Item	Old Number	New Number	Item	Old Number	New Number
A	501-171-047	1569175	28	-----	*
B	501-171-009	1560359	28A	-----	1551955
1	501-171-045	1560387	29	802-514-000	4E-8
1A	501-171-032	1560374	30	802-814-002	2D-8
2	501-166-040	1560299	31	801-114-171	19C-828
3	501-161-011	1568718	32	501-171-035	1560377
4	801-116-206	1C-1040	33	501-171-063	1560402
5	replaced by 803-116-003	17D-09	34	802-516-000	4E-10
6	990-100-111	1562385	35	801-116-265	1C-1094
7	501-150-001	1562372	36	801-116-285	1C-1072
8	801-117-216	2C-1244	37	803-116-003	17D-9
9	802-517-000	4E-12	38	501-166-045	1560303
10	802-817-006	62D-12	39	820-900-304	1550751
11	820-900-305	1566124	40	803-217-001	7D-12
12	802-817-001	1D-12	41	801-117-196	2C-1236
13	501-161-112	1560163	42	501-150-016	1560052
14	501-166-031	1560290	43	219-901-001	1550756
15	replaced by 801-116-265	1C-1064	44	replaced by 804-417-205	7C-1042
16	replaced by 803-116-005	17D-09	45	replaced by 501-166-064	1560321
17	501-161-104	1560159	46	501-160-011	1560080
18	501-171-041	1560383	47	501-160-005	1560074
19	501-166-039	1560298	48	801-117-166	2C-1224
20	501-161-083	1560147	49	802-517-000	4E-12
21	501-171-038	1560380	50	802-817-006	62D-12
22	501-166-050	1560307	51	501-171-038	1560380
23	801-112-245	1C-656	52	501-171-058	1560398
24	803-112-003	17D-3	53	801-117-206	2C-1240
25	802-514-000	4E-8	54	802-317-000	619036
26	801-114-175	1C-828	55	802-517-000	4E-12
27	501-166-005	1560266	56	802-817-006	62D-12

\* Sold in matched sets only.





# HANCOCK DIVISION

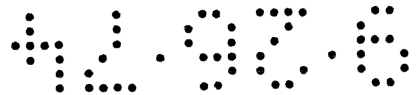


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## STUB SPINDLE

Item	Old Number	New Number
A	501-161-011*	1568718
1	501-161-154	1560195
2	901-019-701	302712
3	912-019-601	654613
4	501-161-012	1560100
5	219-901-001	1550756
6	801-114-125	1C-812
7	212-912-501	15F-2
8	802-110-060	15G-404
9	917-022-501	1550555
10	501-161-013	1560101

\* Started with S/N w+-313-L7271 & Sub.





# HANCOCK DIVISION

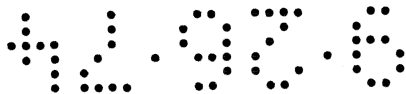
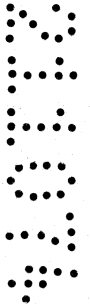


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## IDLER ROLLER

Effective with S/N 2E-313-L7291 & Sub

Item	Old Number	New Number
A	501-166-057	1560314
1	501-166-058	1560315
2	501-166-059	1560316
3	901-011-809	710048
4	501-166-061	1560318
5	820-900-429	3C-412
6	925-000-106	28H-17060
7	917-015-001	1550556
8	501-166-060	1560317
9	802-510-000	4E-4
10	801-110-125	1C-412
11	212-912-501	15F-2
12	219-901-001	1550756
13	923-010-002	5J-606





# HANCOCK DIVISION

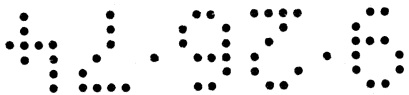


Page 19

## IDLER ROLLER

Effective with S/N 2E-1-L5146 thru 2E-312-L7290

Item	Old Number	New Number
A	501-161-083	1560147
1	501-161-098	1560156
2	911-024-401	711406
3	501-161-088	1560149
4	923-010-002	5J-606
5	501-161-085	1560148
6	803-121-004	18D-20
7	803-117-003	17D-10
8	801-117-205	1C-1240
9	801-112-155	1C-620
10	501-161-091	1560151
11	212-912-501	15F-4
12	219-901-001	1550756
13	501-161-153	1560194
14	802-812-003	61D-12
15	802-512-000	4E-6
16	912-011-201	710822
17	901-011-802	1566152
18	917-015-001	1550556
	501-161-155	1560196
	501-161-156	1560197





# HANCOCK DIVISION



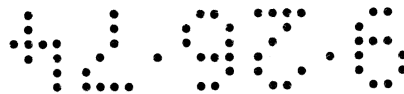
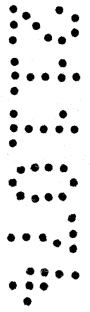
Page 20

## ELEVATOR CHAIN

Effective with S/N 2E-313-L7291 & Sub

Item	Old Number	New Number
1	-----	1551955*
1A	-----	-----
2	501-900-111	1569858
3	501-900-107	1569855
4	501-900-109	1566478
5	501-900-108	1569856
6	501-900-101	1551952
7	501-900-098	1566480
8	501-900-009	1551923
9	501-900-096**	1566481
10	501-900-100	1551951
11	501-900-099	1551950
12	501-900-095**	1566479
13	501-900-103	1551954
14	501-900-102	1551953

\* 501-900-104, 1551955, Matched Set of Chains (RH & LH)  
 \*\* 501-900-110, 1569857, Pin & Key includes one each 9 & 12.







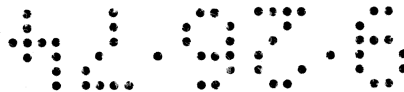
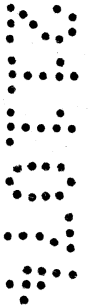
# HANCOCK DIVISION



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## LIFT HYDRAULIC LINES

Item	Old Number	New Number
1	209-050-001	1563816
1A	209-050-018	1563793
2	208-910-001	669953
3	208-910-011	1551413
4	217-918-301	32F-5
5	208-910-010	1551412
6	211-112-009	1568739
7	211-112-006	1568736
8	212-909-401	28K-212
9	211-112-020	5K-696
10	211-112-021	1568745
11	211-112-007	1568737
12	211-112-005	1568735
13	212-902-401	26K-220
14	217-907-301	37F-5
15	217-907-301	37F-5
16	212-908-401	26F-5
17	211-112-011	5K-688
18	217-908-301	33F-5
19	217-909-301	33F-5
20	211-112-018	1568744
21	211-112-019	1570412
22	212-907-402	27K-212
23	211-212-047	5K-611
24	211-112-016	1570409
25	211-112-014	1570407





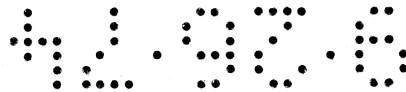
# HANCOCK DIVISION



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## EJECTION HYDRAULIC LINES

Item	Old Number	New Number
1	209-040-001	1563808
2	208-910-003	669953
3	208-910-011	1551413
4	217-903-303	36F-5
5	211-112-018	1568744
6	211-112-010	1568740
7	211-112-004	1568734
8	201-166-030	1557275
9	211-112-013	1568743
10	211-112-012	1568742
11	211-112-011	5K-688
12	217-918-301	32F-5
13	217-908-301	33F-5
14	217-909-301	661425
15	212-902-203	24F-5
16	212-907-201	23F-5
17	212-908-401	26F-5
18	212-909-401	28K-212
19	212-904-202	25F-5





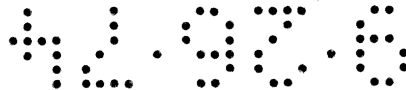
# HANCOCK DIVISION



Page 27

## EJECTION HYDRAULIC LINES

Item	Old Number	New Number
1	209-040-001	1563808
2	208-910-003	559953
3	208-910-010	1551412
4	217-903-303	36F-5
5	211-112-017	1570410
6	201-171-002	1557324
7	211-112-004	1568734
8	201-166-030	1557275
9	211-112-013	1568743
10	211-112-012	1568742
11	211-112-015	1570408
12	211-112-014	1570407
13	217-908-301	32F-5
14	217-909=301	661425
15	212-902-203	24F-5
16	212-907-201	23F-5
17	212-908-401	26F-5
18	212-909-401	28K-212
19	212-904-202	25F-5
20	212-907-201	23F-5
21	217-907-301	37F-5





# HANCOCK DIVISION

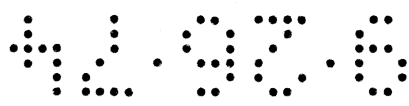
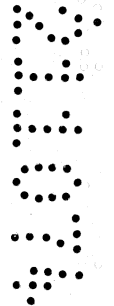


Page 28

## LIFT HYDRAULIC CYLINDER

Item	Old Number	New Number
A	209-050-001	1563816
1	209-050-002	1570082
2	925-000-702	1551004
3	replaced by -----	1569547
4	209-050-003	1564970
5	919-221-801	25K-40108
6	209-050-010*	1564977
7	919-225-001	25K-40500
8	801-312-155	11G-620
9	917-020-011	1566194
10	209-050-006	1564973
11	-----	1563792
12	209-050-011*	1564978
13	921-242-501	1313784
14	919-242-501	25K-80416
15	920-842-501	1550996
16	209-050-004	1564971
17	913-050-001	1302189

\* 209-050-005, 1564972, Gland Assy includes 6 & 12.





# HANCOCK DIVISION

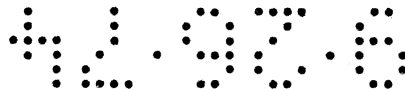
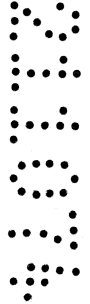


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## EJECTION HYDRAULIC CYLINDER

Item	Old Number	New Number
A	209-040-001	1563808
1	920-824-201	1550563
2	925-000-701	1550562
3	-----	1562802
4	209-040-002	1567815
5	209-040-003	1562788
6	919-221-601	25K-40104
7	919-234-201	25K-60320
8	920-834-201	1550563
9	209-040-004	1562789
10	209-040-007	1562791
11	801-312-145	11G-616
12	917-016-203	1550560
13	209-040-016*	1562795
14	919-224-201	1561868
15	920-834-201	1550563
16	921-234-201	1313783
17	209-040-017*	1562796
18	replaced by -----	1569520
19	913-040-001	763750

\* 209-040-006, 1562790, Gland Assy includes 13 & 17.





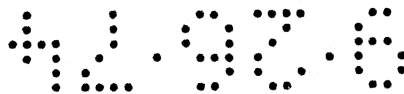
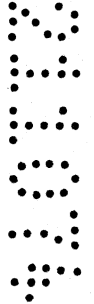
# HANCOCK DIVISION



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## HYDRAULIC CONTROL SYSTEM

Item	Old Number	New Number
1	204-900-047	1550375
2	212-911-101	19F-4
2A	217-928-301	93F-10
3	217-919-302	31F-5
3A	217-919-303	633332
3B	217-908-302	33F-6
4	217-908-301	33F-5
4A	217-904-303	1520566
5	217-906-104	663092
6	919-222-201	25K-40116
7	802-513-000	4E-7
8	Reference	
9	803-114-006	18D-8
10	204-171-006	1558252
11	212-908-202	26F-7
12	801-114-165	1C-824
13	801-114-305	1C-880
14	801-113-165	1C-624
15	Reference	
16	204-171-008	1558254
17	801-114-186	2C-832
18	204-171-005	1558251
19	204-171-001	1558247
20	802-514-000	4E-8
21	802-814-005	61D-8
22	801-114-316	2C-888
23	802-814-006	62D-8
24 replaced by	801-113-165	1C-724
25	802-514-000	4E-8
26	208-910-011	1551413
26A	208-910-010	1551412



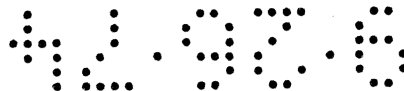
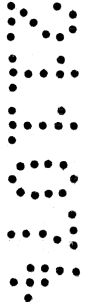


# HANCOCK DIVISION



## HYDRAULIC VALVE CONTROL

Item	Old Number	New Number
A	204-900-047	1550375
1	204-900-163	1550431
2	204-900-163	887075
3	204-900-164	1309831
4	204-900-165	1550432
5	204-900-134	25K-30118
6	204-900-133	25K-30126
7	204-900-150	25K-40028
8	204-900-131	1551130
9	204-900-132	1550417
10	212-906-402	10F-16
11	204-900-157	43G-512
12	204-900-156	1550427
13	204-900-155	1551139
14	204-900-153	1550425
15	204-900-154	1550426
16	204-900-129	1550416
17	204-900-152	1551138
18	204-900-151	1551137
19	204-900-160	1550429
20	204-900-161	1550430
21	204-900-107	1550400
22	212-906-403	10F-20
23	204-900-149	1550424
24	204-900-127	1550414
24A	204-900-128	1550415
25	204-900-158	1550428
26	204-900-159	25K-40104



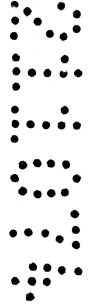


# HANCOCK DIVISION

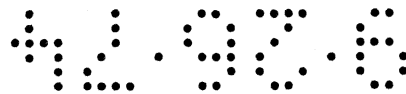


## ELEVATOR DRIVE LINES

Item	Old Number	New Number
1	-----	See Index
2	-----	See Index
3	602-900-018*	1566350
4	601-166-044*	1561316
5	602-900-037*	1566445
6	602-900-036*	1566353
7	608-171-018	1561979
8	608-171-024	1561984
9	608-171-016	1561977
10	608-166-003	1562115
11	replaced by 802-811-005	61D-5
12	802-511-000	4E-5
13	802-811-001	1D-5
14	801-111-181	19C-532
15	802-516-000	4E-10
16	802-316-000	619032
17	replaced by 801-111-225	1C-548
18	608-171-019	1567047
19	102-171-070	1553986
20	601-900-013	867674
21	replaced by 803-406-160	1F-424
22	923-020-002	7J-5112
23	801-116-175	1C-1028
24	820-900-403	1566135
25	replaced by 925-000-119	28H-17190
26	219-905-017	10H-35
27	801-114-225	1C-848
28	923-010-003	5J-1210
29	802-514-000	4E-8



\* 602-900-031, 1550551, U-Joint Repair Kit includes 1 Cross, 1Zerk, 4 Snap Rings & 4 Caps.







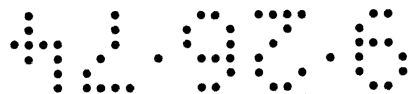
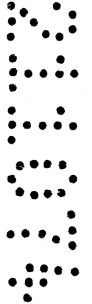
# HANCOCK DIVISION



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## ELEVATOR DRIVE LINES

Item	Old Number	New Number
1	-----	See Index
2	-----	See Index
3	-----	See Index
4	608-171-003	1561973
4A	608-171-013	1561983
5	608-171-004	1561974
6	801-112-225	1C-552
7	802-512-000	4E-6
8	802-812-003	61D-6
9	-----	See Index
10	-----	See Index
11	802-514-000	4E-8
12	801-114-225	1C-860





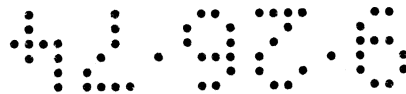
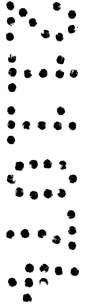
# HANCOCK DIVISION



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## DRIVE LINE

Item	Old Number	New Number
A	608-171-004	1561974
1	925-000-513	1550740
2	910-022-502	1550739
3	602-900-086	1565275
4	602-900-054	1565256
5	602-900-030	1566444
6	602-900-089	1571523
7	602-900-084	1565257
8	602-900-087	1565276
9	602-900-088	1571506
10	602-900-085	1565274
11	219-901-005	49F-5





# HANCOCK DIVISION



### DRIVE LINE

Effective with S/N 2E-43-L5635, 2E-51-L5643,  
2E-59-L5651 and 2E-63-L5958 thru  
2E-100-L6124

Item	Old Number	New Number
A	608-171-013	1561975
1	602-900-054	1565256
2	602-900-030	1566444
3	602-900-080	1565272
4	925-000-513	1550740
5	910-022-502	1550739
6	602-900-081	1565273
7	602-900-052	1565254
8	602-900-051	1565253
9	602-900-082	1571522
10	602-900-083	1571299
11	803-312-200	658455

### DRIVE LINE

Effective with S/N 2E-101-L6125  
and Subsequent

Item	Old Number	New Number
A	608-171-003	1561973
1	602-900-054	1565256
2	602-900-030	1566444
3	602-900-076	1565270
4	925-000-513	1550740
5	910-022-502	1550739
6	602-900-077	1565271
7	602-900-052	1565254
8	602-900-053	1565255
9	602-900-078	1571520
10	602-900-079	1571521
11	803-312-200	658455

2006



# HANCOCK DIVISION

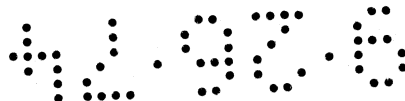
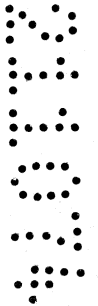


## GEARBOX CHANGEOVER KIT

Item	Old Number	New Number
A	-----	N.S.**
1	601-166-058	1561328
2	601-171-004	1561392
3	501-171-029	1560371
4	801-314-145	11G-816
5	601-166-100	1561370
6	601-166-079	1561349
7	802-514-000	4E-8
8	801-114-175	1C-828
9	501-171-034	1560376
10	501-171-035	1560377
11	802-516-000	4E-10
12	801-116-265	1C-1064
13	803-116-005	17D-9
14	801-116-285	1C-1072
15	608-171-004	1561392
16	608-171-003	1561391
17	501-166-032	1560291
18	801-112-225	1C-648
19	803-112-003	17D-3
20	802-514-000	4E-8
21	801-114-255	1C-860
22	102-171-058	1553974
23	102-171-051	1553967
24	102-171-055	1553971
25	501-171-030	1560372
26	102-171-080*	1553996
27	102-171-079 *	1553995
28	102-171-081*	1553997

\* Not Illustrated

\*\* Not Serviced





# HANCOCK DIVISION



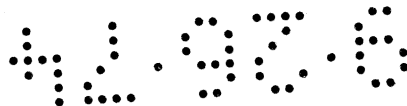
Page 43

## AIR CLUTCH

Item	Old Number	New Number
A	610-900-001	N.S.**
1	610-900-064	1565624
2	601-300-005	1561625
2A	601-300-006	1561626
2B	601-300-007	1561627
2C	601-300-008	1561628
3	917-022-501	1550555
4	610-900-069	1565629
5	610-900-067	1565627
6	610-900-070	1565630
7	610-900-080	1565636
8	610-900-066*	1565626
9	610-900-068*	1565628
10	610-900-073*	1566635
11	610-900-065*	1565625
12	610-900-079*	1565635
13	610-900-071*	1565631
14	610-900-078*	1565634
15	610-900-072*	1565632
16	610-900-074	1565633
17	217-921-304*	1561061
18	208-904-021*	1551239
19	217-930-302	84F-3
20	802-512-000	4E-6
21	801-112-145	17C-616
22	820-900-422	1566286
23	820-900-425*	1570264
24	820-900-424	1570263
25	replaced by - - - - -	28H-20080
26	303-900-001	335874
27	801-808-061	41G-804
28	610-171-005	1562126
29	303-171-001	1558792
30	820-900-423	211471

\* 610-900-085, 1569069, Air Tube Disc Assy includes 8 thru 15, 17 & 18.

\*\* Not Serviced





# HANCOCK DIVISION

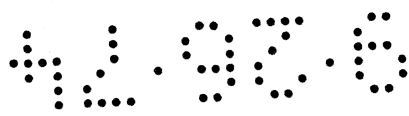


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## CLUTCH GEARBOX – "PERFECTION"

Item	Old Number	New Number			
A	601-171-029	1561417	19	212-906-104	13F-2
1 replaced by	601-900-108	1565208	20	212-906-101	13F-8
2	601-900-026	1561597	21	220-900-003	1551696
3	601-900-115	1566624	22	601-900-068	1566634
3A	601-900-116	1566625	23	601-171-028	1561416
3B	601-900-117	1566626	24	902-035-402	1313649
4	601-900-109	1565209	25	601-900-166	1565227
5	601-900-035	1569546	26	601-900-132*	1566041
6	602-031-401	1313642	27	208-904-022	1551233
7	903-015-701	1313663	28	601-900-185	1565234
8	601-900-037	1551964	29	601-900-133*	1566642
9	903-017-503	731251	30	601-900-129*	1565216
10	902-035-401	1313648	31	601-900-166*	1565227
11	601-900-034	1569545	32	601-900-122*	1565213
12	601-900-118	1566627	33	601-900-128*	1565215
12A	601-900-119	1566628	34	601-900-166*	1565227
12B	601-900-120	1566629	35	601-900-166*	1565227
13	601-900-111	1565211	36	601-900-166*	1565227
14	917-013-701	1550557	37	601-900-166*	1565227
15	601-900-036	1571004	38	912-004-601	1315270
16	820-900-214	1315300	39	601-900-130	1571393
17	903-020-001	655233	40	601-900-131*	1566640
18	820-900-215	1563237	41	610-900-113	1565212

\* Serviced only in Kit, 601-900-166, 1565227.





# HANCOCK DIVISION

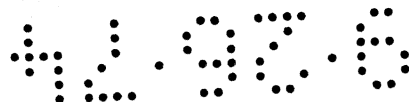


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## CLUTCH GEARBOX – "WARNER"

Item	Old Number	New Number	Item	Old Number	New Number
A	601-171-027	1561415	21	220-900-003	1551696
1	601-300-002	1561622	22	601-900-068	1566634
2	601-900-026	1551961	23	601-171-028	1561219
3	601-900-029	1571465	24	902-035-402	1313649
3A	601-900-030	1571466	25	903-020-001	655233
4	601-900-025	1551960	26	601-900-036	1561404
5	601-900-035	1569546	27	208-904-022	1551282
6	902-031-401	1313642	28	601-900-185	1565224
7	903-015-701	1313663	29	601-900-133	1566642
8	601-900-037	1551964	30	601-900-129	1565216
9	903-017-503	731251	31	601-900-166*	1565227
10	902-035-401	1313648	32	601-900-122	1565213
11	601-900-034	1569545	33	601-900-128	1565215
12	601-900-031	1571467	34	601-900-166*	1565227
12A	601-900-032	1571468	35	601-900-166*	1565227
12B	601-900-033	1571469	36	601-900-166*	1565227
13	601-900-028	1551963	37	601-900-166*	1565227
14	917-013-704	207749	38	912-004-601	1315270
15	802-512-000	4E-6	39	601-900-130	1571393
16	801-112-145	1C-616	40	601-900-131*	1566640
17	802-511-000	4E-5	41	601-900-132*	1566641
18	801-111-135	1C-514	42	601-900-166*	1565227
19	219-901-001	1550756	43	601-900-165	1566643
20	212-906-101	13F-8	44	610-900-113	1565212

\* Serviced only in kit, 601-900-166, 1565227.





# HANCOCK DIVISION

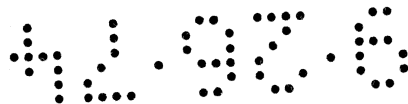


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## INTERMEDIATE GEARBOX

Effective with S/N 2E-43-L5635, 2E-51-L5643,  
2E-59-L5651 and 2E-63-L5958 and subsequent

Item	Old Number	New Number
A	601-171-031	1561419
B	601-171-004	1561392
1	601-171-005	1561393
2	601-171-007	1561395
3	601-171-015	1561403
4	902-032-601	654166
5	903-017-505	713974
6	601-171-013	1561401
7	601-171-024	1561412
8	601-171-032	1561420
8A	601-171-010	1561398
9	601-171-038	1561426
9A	601-171-026	1561414
10	601-171-033	1561421
10A	601-171-011	1561399
11	601-171-034	1561422
11A	601-171-012	1561400
12	601-171-006	1561394
13	917-017-502	1566181
14	601-171-025	1561413
15	903-017-504	1313667
16	902-040-001	662738
17	601-171-014	1561402
18	912-017-501	1570299
19	601-171-036	1561404
20	601-171-009	1561397
21	601-171-008	1561396
22	212-906-101	13F-8
23	802-512-000	4E-8
24	801-112-141	19C-616
25	802-510-000	4E-4
26	801-110-121	19C-412
27	220-900-004	1550525
28	601-182-027	1561464







# HANCOCK DIVISION



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## DRIVE LINE GEARBOX

Effective with S/N 2E-1-L5146 thru 2E-42-L5634, 2E-44-L5636  
thru 2E-50-L5642, 2E-52-L5644 thru 2E-58-L5642, 2E-60-L5652  
thru 2E-62-L5957

Item	Old Number	New Number
A	601-193-003	1561562
1	902-035-402	1313649
2	903-020-001	655233
3	903-017-503	731251
4	902-035-401	1313648
5	917-013-713	1566172
6	601-900-110	1565210
7	820-900-208	1317986
8	601-900-175	1569576
9	601-900-195	1571255
10	601-900-134	1565217
11	601-900-107	1565207
12	219-901-001	1550756
13	601-900-109	1565209
14	220-900-003	1551696
15	903-015-701	1313663
16	902-031-401	1313642
17	601-900-173	1571496
18	601-900-191	1569550
19	219-901-004	743218
19A	212-906-104	13F-2
20	917-013-713	1566172
21	601-900-194	1563162
22	601-900-037	1551964
23	601-900-035	1569546
24	212-906-101	13F-8
25	820-900-214	1315300
26	601-900-174	1569575
27	601-900-026	1551961
28	212-906-103	13F-6
29	601-900-190	1566435
30	820-900-215	1563237





# HANCOCK DIVISION

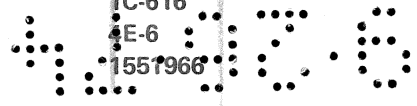


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## DRIVE LINE GEARBOX – “WARNER”

Effective with S/N 2E-1-L5146 thru 2E-42-L5634, 2E-44-L5636  
thru 2E-50-L5642, 2E-52-L5644 thru 2E-58-L5642, 2E-60-L5652  
thru 2E-62-L5957

Item	Old Number	New Number
A	601-193-001	1561561
1	902-035-402	1313649
2	903-020-001	655233
3	903-017-503	731251
4	902-035-401	1313648
5	917-017-505	1566184
6	601-900-045	1551967
7	801-312-155	11G-620
7A	802-512-000	4E-6
8	601-900-040	1571251
8A	601-900-041	1571252
8B	601-900-042	1571253
8C	601-900-043	1571254
9	601-900-195	1571255
10	601-900-026	1551961
11	219-901-001	1550756
12	601-900-025	1551960
13	220-900-003	1551696
14	902-031-401	1313642
15	903-015-701	1313663
16	601-900-037	1551964
17	601-900-194	1563162
18	601-900-031	1571467
18A	601-900-032	1571468
18B	601-900-033	1571469
19	601-900-191	1569550
20	917-013-701	1550557
21	219-901-004	743218
21A	212-906-104	13F-2
22	601-900-190	1566435
23	601-900-039	1566308
24	601-900-029	1571465
NS	601-900-030	1571466
25	917-013-704	207749
26	801-111-135	1C-514
26A	802-511-000	4E-5
27	601-900-035	1569546
28	212-906-101	13F-8
29	801-112-145	1C-616
29A	802-512-000	4E-6
30	601-900-044	1551966





# HANCOCK DIVISION

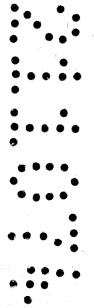


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## ELEVATOR GEARBOX

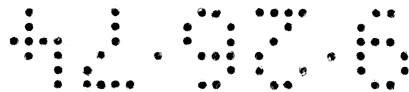
Effective with S/N 2E-43-L5635, 2E-51-L5643, 2E-59-L5651  
and 2E-63-L5958 and subsequent

Item	Old Number	New Number
A	601-166-058	1561328
1	601-166-063	1561333
2	601-166-075	1561345
3	903-040-001	731981
4	902-066-201	672004
5	917-038-701	1566231
6	601-166-070	1561340
7	601-166-066	1561336
8	802-514-000	4E-8
9	801-114-155	1C-820
10	601-166-100	1561370
11	601-166-079	1561349
12	220-900-002	427121
13	801-114-175	1C-828
14	601-166-098*	1561368
15	803-514-210	1H-830
16	601-166-071	1561341
17	601-166-064	1561334
18	801-114-165	1C-824
19	601-166-098*	1561368
20	903-021-201	755780
21	902-050-001	658975
22	601-166-076	1561346
23	902-042-501	675304
24	903-020-601	1313672
25	820-900-102	24H-10
26	820-900-701	27H-110
27	919-225-301	25K-40512
28	917-017-501	601758
29	601-166-072	1561342
30	802-516-000	4E-10
31	801-116-185	1C-1032
32	212-912-501	15F-2
33	212-915-101	14F-12
34	601-166-069	1561339



\* 601-166-098, 1561339, Gear & Pinion sold in matched sets only;

NOTE: 601-166-099, 1561369, Gearbox Assy does not include 8, 10, 11 & 13.





# HANCOCK DIVISION

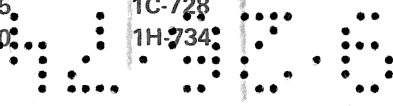
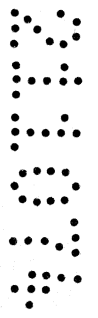


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## ELEVATOR GEARBOX

Effective with S/N 2E-1-L5146 thru 2E-42-L5634, 2E-44-L5636  
thru 2E-50-L5642, 2E-52-L5644 thru 2E-58-L5642, 2E-60-L5652  
thru 2E-62-L5957

Item	Old Number	New Number
A	601-166-057	1561327
1	923-020-001	7J-5700
2	601-166-009	1561312
3	801-410-121	9G-412
4	601-150-031	1561284
5	917-027-501	1550558
6	212-906-102	13F-12
7	601-150-024	1561278
8	601-900-022	1550742
9	802-513-000	4E-7
10	802-813-005	61D-7
11	212-906-103	13F-6
12	601-150-019	1561275
13	601-900-020	1550747
14	904-009-801	1550738
15	601-900-017	1550745
16	601-900-015	1550743
17	601-900-016	1550744
18	917-013-701	1550557
19	601-900-014	1550546
20	replaced by -----	867674
21	803-406-160	1F-424
22	501-150-006	1560042
23	802-515-000	4E-9
24	801-115-155	1C-920
25	903-017-502	1304639
26	902-037-502	1304638
27	601-900-018	1550746
28	601-900-019	1550545
29	601-166-097	1561367
30	923-020-002	7J-5112
31	601-900-021	1550748
31A	601-900-102	1550749
31B	601-900-103	1550750
32	912-026-201	742666
33	902-044-301	710790
34	903-026-201	654048
35	601-166-097	1561367
36	601-150-011	1561274
37	801-113-175	1C-728
38	803-513-520	1H-734





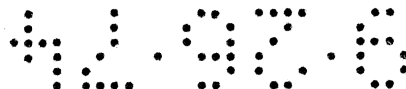
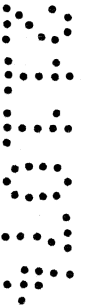
# HANCOCK DIVISION



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## AIR SYSTEM

Item	Old Number	New Number
1	208-904-001	1550532
2	211-104-003	1563841
3	201-166-026	1557274
4	211-104-002	1563840
4A	211-104-006	1570374
5 replaced by	201-171-001	1557323
6	211-104-002	1563840
6A	211-104-002	1563840
7	211-104-001	1563839
8	212-902-204	24K-2
9	212-907-202	24F-6
10	212-908-201	26F-2
11	212-908-102	26F-1
12	212-911-203	19F-2
13	205-900-001	507816
14 replaced by	-----	1569393
14A	205-900-074	1551066
15	211-102-002	5K-106
16	201-171-014	1557336
17	218-900-001	1566522
18	208-904-001	1550532
19	212-920-201	76F-1
20	211-104-005	5K-207
21	212-904-203	25F-2
22	212-911-201	19F-3
23	208-904-013	1550510
24	205-182-002	1558328
25	211-104-012	1563848
26	208-904-014	1550533
27	208-904-015	1550511





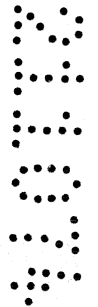
# HANCOCK DIVISION



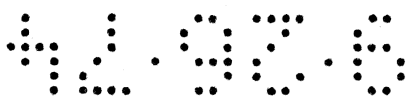
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## AIR VALVE

Item	Old Number	New Number
A	205-182-002	1558328
B	205-900-012	1551039
C	-----	**
1	*	
2	*	
3	*	
4	*	
5	*	
6	*	
7	*	
8	*	
9	*	
10	*	
11	*	
12	*	
13	*	
14	*	
15	*	
16	*	
17	*	
18	*	
19	*	
20	*	
21	*	
22	*	
23	*	
24	*	
25	*	
26	801-112-124	2C-612
27	802-512-000	4E-6
28	802-812-003	61D-5
29	801-112-185	1C-632
30	205-171-001	1558319



\* Not sold separately — Available in Master Repair Kit only.  
 \*\* 205-900-084, Master Repair Kit, replaced by 945163 Repair Kit, 945162 Detent Repair Kit & 945161 Repair Kit, Cavities 1 & 2.





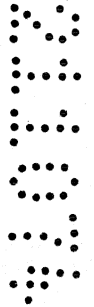
# HANCOCK DIVISION



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## REAR AXLE

Item	Old Number	New Number
1	401-171-011	1559263
2	403-900-033	1550541
2A	403-900-034	1550542
3	401-161-026*	1559223
4	401-161-027*	1559224
5	903-035-001	658965
6	902-063-801	711368
7	407-166-001	1559744
8	406-166-001**	1559680
8A	406-166-002***	1559681
9	408-900-003	553956
10	408-900-006	580278
11	408-900-005	551341
12	902-059-101	710990
13	903-031-901	1313683
14	412-900-002	1568668
15	412-900-003	1552013
16	412-900-004	1552279
17	407-161-002	1559739
18	407-161-001	1559738
19	802-512-000	4E-6
20	801-112-145	1C-616
21	401-161-038	1559158
22	404-900-001	1551763
23	210-900-001	110219
24	210-900-010	1551376
25	replaced by 803-404-140	1F-316
26	219-901-001	1550756
27	803-117-004	18D-12
28	802-317-000	619036
29	801-117-246	2C-1256
30	408-900-004	580274
31	802-517-000	4E-12
32	801-117-186	2C-1232
33	1552010	1552010
34	replaced by -----	6C-1006



\* 401-161-025, 1559147, Grease Seal Assy includes 3 & 4.  
 \*\* Used with 400-166-001, 1558931, Wheel Assy, and 21.00 x 25 Tire.  
 \*\*\* Used with 400-166-002, 1558929, Wheel Assy, and 23.50 x 25 tire.





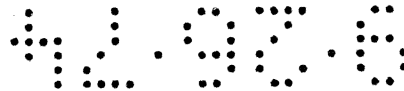
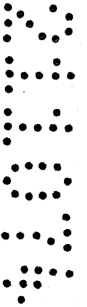
# HANCOCK DIVISION



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## BRAKE ASSEMBLY

Item	Old Number	New Number
A	403-900-033	1550541
B	403-900-034	1550542
1	403-900-005	1551767
2	replaced by -----	1551840
3	403-166-002	1559614
3A	403-166-001	1559613
4	403-900-013	1551535
5	917-015-004	1566601
6	403-900-015	1551537
7	403-900-169	1551768
8	403-900-016	1551538
9	403-900-017	1551539
10	403-900-018	1551540
11	403-900-032	1550540
12	403-900-030	1550539
13	925-000-139	28H-17390
14	820-900-405	4C-1224
15	802-614-000	9E-8 —
16	801-114-206	2C-1240
17	802-814-004	2D-8
18	820-900-228	1562474
19	403-900-026	1551545
20	803-114-003	17D-6
21	802-511-000	4E-5
22	801-111-144	1C-516
23	802-510-000	4E-4
24	801-110-125	1C-412
25	219-905-017	10H-35
26	403-900-029	1551548
27	403-900-028	1551547
28	403-900-027	1551546
29	403-900-022	1551541
30	403-900-245	1566603
31	403-900-024	1551543
32	403-900-025	1551544
33	403-900-171	15G-607
34	403-900-020	1551771
35	403-900-021	1551772
36	403-900-023	1551542
37	802-512-000	4E-6
38	802-812-004	62D-6







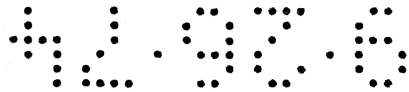
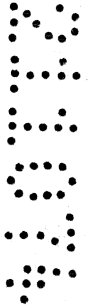
# HANCOCK DIVISION



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## AIR CHAMBER

Item	Old Number	New Number
A	210-900-001	110219
1	210-900-002	1551636
2	210-900-007	1551375
3	210-900-006	1551373
4	210-900-005	1010478
5	210-900-003	1551637
6	210-900-004	1569618
7	210-900-051	1569623
8	210-900-050	1569624
9	210-900-056	8D-10
10	210-900-009	1551638
11	210-900-010	1551376
12 replaced by	803-406-140	1F-416
13	802-516-000	4E-10
14	802-816-004	62D-10
15 replaced by	-----	40K-4





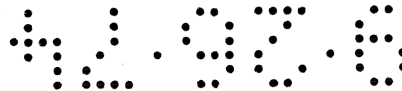
# HANCOCK DIVISION



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## REAR ENGINE GROUP

Item	Old Number	New Number	Item	Old Number	New Number	
A	701-900-313	1569753	29A	703-171-003	1562231	
A1	701-900-352	1566018	30	708-900-001	1550817	
A2	701-900-351	1566017	31	701-900-144	1565913	
A3	701-900-353	1566019	32	708-900-002	421436	
A4	701-900-145	1565914	33	210-900-012	1551634	
1	703-171-019	1562246	34	105-171-007	1556750	
2	701-900-350	1566016	35	924-020-004	1570317	
3	701-900-386	1565996	36	105-171-011	1556760	
4	701-900-354	1566020	37	925-000-503	4J-6208	
5	707-900-029	1566105	38	105-300-006	1556770	
5A	707-900-030	1566106	39	105-171-009	1556758	
5B	707-900-031	1566107	40	210-171-008	1558383	
5C	707-900-032	941216	40A	210-171-001	1558376	
5D	707-900-033	1566108	41	105-171-008	1556757	
5E	707-900-034	1566024	42	105-900-001	1550600	
6	303-900-012	600259	43	replaced by	803-403-120	1F-212
7	701-900-141	1728333	44		802-512-000	4E-6
8	701-900-143	1565912	45	replaced by	803-306-120	1306397
9	707-900-028	1566104	46		802-312-000	619024
10	707-900-027	1566103	47	replaced by	803-404-140	1F-316
11	304-900-002	1551758	48		820-900-216	894777
12	707-900-026	1566102	49		820-900-115	3D-5
13	701-900-358	1571394	50		802-314-000	703891
14	701-900-359	1566563	51		804-714-001	16D-8
14B	701-900-355	1566021	52		801-112-165	1C-624
14C	701-900-356	1571497	53		802-512-000	4E-6
15	701-900-361	1566537	54		802-812-005	61D-6
16	701-900-360	1566556	55		801-114-185	1C-832
17	922-010-002	4H-30	56		802-814-005	61D-8
18	701-900-365	1571536	57		802-514-000	4E-8
19	701-900-357	1571039	58		801-510-000	4E-4
20	305-900-002	655054	59		801-110-155	1C-420
20A	305-900-002		60		801-110-125	1C-412
21	308-900-029	1570185	61		802-511-000	4E-5
21A	replaced by	808-900-019	62		804-111-125	1C-512
22	308-900-030	1570186	63		701-900-362	1566024
22A	replaced by	308-900-037	64		308-900-031	1570187
22B	308-900-003	1570176	65		701-900-363	583458
23	305-171-001	1558797	66		701-900-364	583456
24	305-171-007	1558803	67		702-900-044	1550963
25	610-900-001	1565588				
26	701-900-349	1566015				
27	701-171-011	1562181				
28	703-171-011	1562239				
29	703-900-094	1569755				





# HANCOCK DIVISION

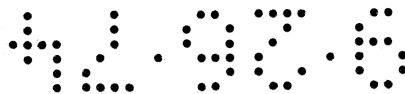
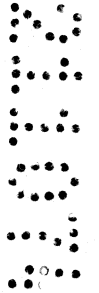


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## AIR CLEANER

Effective with S/N 2E-43-L5635, 2E-51-L5643  
and subsequent

Item	Old Number	New Number
A	703-900-014	1550806
1	703-900-064	1550807
2	703-900-067	1570851
3	703-900-027	892833
4	703-900-013	1550804
5	replaced by 801-112-165	1C-624
6	703-900-066	944405
7	703-900-068	1550808
8	703-900-069	1550809
9	703-900-071	944650
10	replaced by 801-112-175	1C-628
11	703-900-011	990212
12	703-900-029	945060
13	703-900-012	946860
14	replaced by 802-812-005	61D-6
15	208-964-003	1522450
16	922-030-003	517200
17	703-900-077	1570856
17A	703-900-072	515425
18	703-900-003	941474
19	801-610-165	4G-424
20	802-510-000	4E-8
21	802-810-005	61D-4
22	703-900-076	1570855
23	703-900-010	1566041
24	replaced by 801-112-165	1C-624
25	802-509-000	17E-10
26	replaced by 802-809-003	12D-10
27	703-900-075	1570854
28	703-900-006	1642530
29	703-900-092	1566073
30	802-509-000	17E-10
31	802-510-000	4E-4
32	703-900-008	1522782
33	replaced by 802-812-005	61D-6
34	703-900-091	1566072





# HANCOCK DIVISION

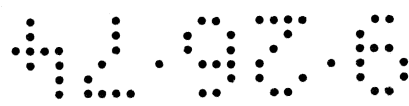
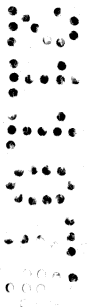


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## AIR CLEANER

Effective with S/N 2E-1-L5146 thru 2E-42-L5634,  
2E-44-L5636 thru 2E-50-L5642

Item	Old Number	New Number
A	703-900-096	1566075
1	703-171-018	1562245
2	802-814-001	1D-8
3	802-814-000	4E-8
4	703-900-126	1550799
5	801-114-161	19C-824
6	212-911-204	19F-1
7	802-812-001	1D-6
8	802-512-000	4E-6
9	211-102-001	5K-116
10	801-114-161	19C-824
11	703-171-006	1562234
12	703-171-001	1562229
13	703-900-097	1550801
14	703-171-017	1562244
15	replaced by 703-900-004	1522782
16	703-900-009	1550798
17	703-171-012	1562240
18	802-811-001	1D-5
19	922-030-003	517200
20	802-511-000	4E-5
21	801-111-141	1C-516
22	703-171-022	1562249
23	703-171-003	1562231
24	703-171-011	1562239
24A	703-900-084	1566067
24B	703-900-085	1566068
25	703-171-009	1562237





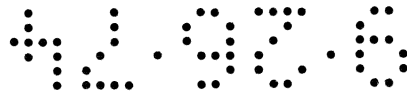
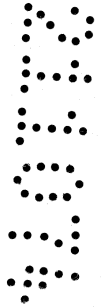
# HANCOCK DIVISION



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## AIR FILTER

Item		Old Number	New Number
A	replaced by	218-900-001	1566522
1		218-900-007	1563243
2		218-900-003	
3		218-900-005	
4		218-900-004	1563242
5		218-900-006	
6		218-900-002	1551671





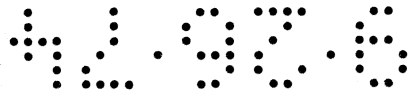
# HANCOCK DIVISION



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## FUEL TANK AND LINES

Item	Old Number	New Number
1	223-171-010	1558520
2	201-301-050	1557962
3	201-301-049	1557961
4	223-900-004	1571038
5	922-040-003	
6	217-918-302	32F-2
7	208-904-012	1551236
7A	208-904-011	1551235
8	212-905-101	565102
9	803-712-000	202321
10	801-112-145	1C-616
11	802-414-000	619027
12	802-514-000	4E-8
13	802-814-003	61D-8





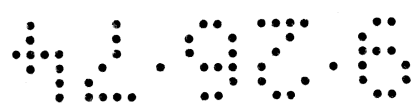
# HANCOCK DIVISION



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## REAR ENGINE ALARM SYSTEM

Item	Old Number	New Number
1	701-171-008	1562178
2	212-920-201	76F-1
3	208-904-001	1550532
4	802-810-001	1D-4
5	701-171-008	1562178
6	309-900-001	
6A	309-900-011	
7	801-110-141	
8	212-909-101	28K-204
9	211-104-005	5K-207
10	208-904-001	1550532
11	212-908-201	26F-2
12 replaced by	802-510-000	4E-4
13	211-102-002	5K-116
14	205-900-083	1551074



# OPERATORS MANUAL

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# HANCOCK elevating scraper

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# MODEL 12E2E

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**HANCOCK MANUFACTURING COMPANY**  
P. O. BOX 1359                      LUBBOCK, TEXAS



# FOREWORD

The Hancock Model 12E2E Elevating Scraper is a revolutionary piece of equipment in the earth-moving industry. The Model, 12E2E is a heavy duty machine especially designed for "self loading".

This manual was created as a guide to proper care and maintenance of the Model 12E2E for long life and satisfactory service. Strict attention to accepted procedures contained within this manual will enable the Model 12E2E to operate properly and do the jobs for which it was designed. This manual is concerned primarily with the scraper portion of the entire unit. For maintenance of the tractor, refer to the manual for that unit.

To assure the best results and maintain the original quality built into this machine, we respectfully request that you contact your Hancock distributor for all replacement parts and any maintenance problems you may encounter that are not covered in this manual.

We suggest that you read the Hancock Warranty furnished by your Hancock distributor and make certain that he returns to us the factory copy of the Warranty Registration Certificate. We further suggest that you record the serial numbers of your tractor, scraper and elevator engine in the spaces provided below.

Tractor Model No. _____
Serial No. _____
Scraper Model No. _____
Serial No. _____
Elevator Engine Model No. _____
Serial No. _____

Published By  
The Service Department  
Hancock Manufacturing Company—Lubbock, Texas

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CLU	Air Clutch	17
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EJS	Ejection System	35
AWT	Rear Axle, Brakes Wheels, and Tires	39

# GENERAL INFORMATION

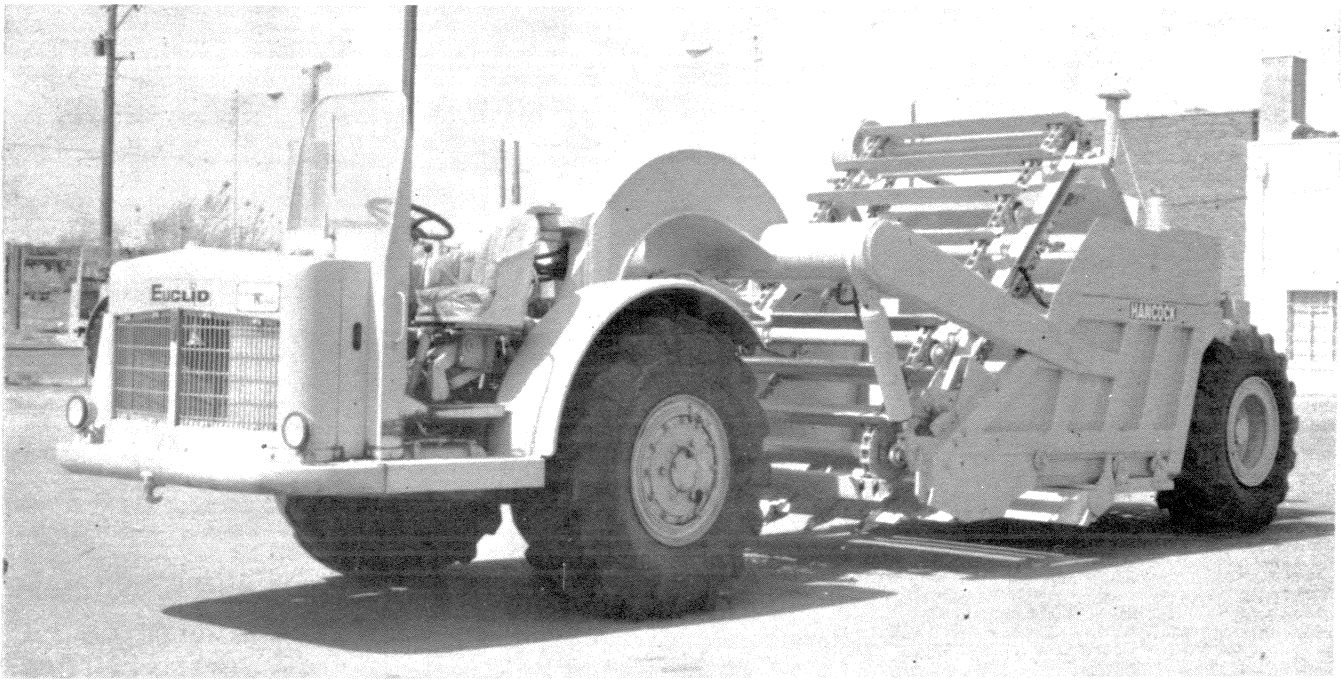


Figure A-1 Hancock Model 12E2E,  
Left Three Quarter Front View.

## GENERAL INFORMATION

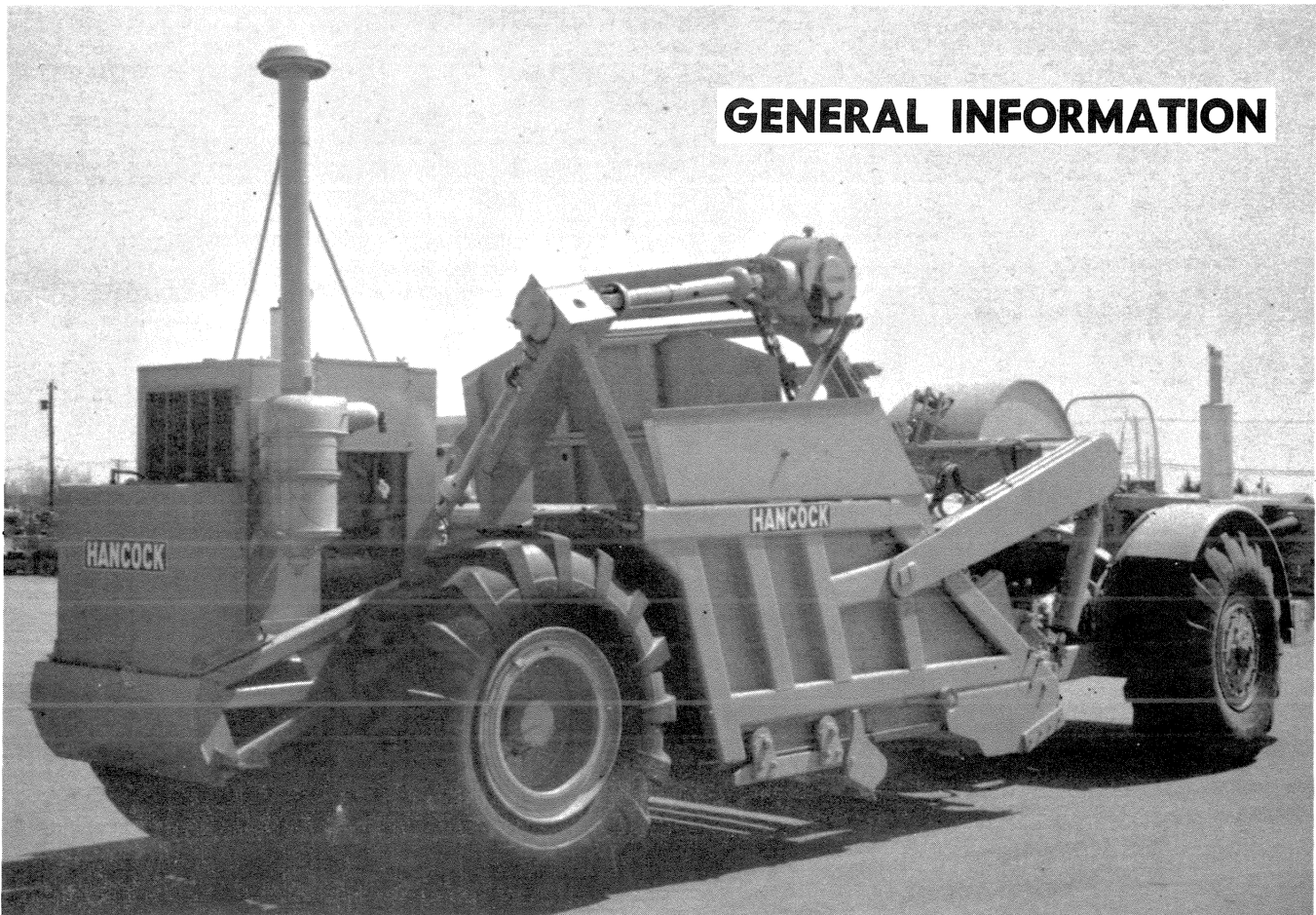


Figure A-2 Hancock Model 12E2E,  
Right Three Quarter Rear View.

# SPECIFICATIONS

## SPECIFICATIONS

### CAPACITY

Cubic Yards ..... 12  
 Weight, Pounds ..... 27,000

### DIMENSIONS

Length (Tractor and Scraper) ..... 32' 0"  
 Length (Scraper—Hitch to Push Block) ..... 23' 7"  
 Width (Scraper) ..... 8' 0"  
 Height (Scraper—Blade Up) ..... 9' 6"  
 Height (Scraper—Blade on Ground) ..... 8' 11"  
 Wheel Base (Rear Tractor Wheel to  
 Scraper Wheel) ..... 20' 0"  
 Width Required for 180° Turn ..... 28' 4"

### GROUND CLEARANCE (Transport Position)

Bowl ..... 1' 2"  
 Rear Axle ..... 1' 8"

### STATIC WEIGHT DISTRIBUTION

(Based on 27,000 lb. Payload)

	Tractor Tires Load/%	Scraper Tires Load/%
Empty .....	19,530—58.5%	13,840—41.5%
Loaded .....	28,130—47.0%	32,240—53.0%
Tractor Weight (Approximate) .....	14,400 lbs.	
Scraper Weight (Approximate) .....	18,970 lbs.	
Gross Vehicle Weight—Empty .....	33,370 lbs.	
—Loaded .....	60,370 lbs.	

### EJECTION

Operation ..... Positive  
 Control — 2 Interchangeable 4" x 18" Hydraulic  
 Remote Cylinders.  
 Method — Combination Sliding Bowl Pan and  
 Ejector Endgate.

### SCRAPER TIRES

Earthmover ..... 18.00-25 16 Ply (Std.)  
 Wide Base Earthmover ..... 23.50-25 16 Ply (Opt.)  
 Earthmover ..... 21.00-25 16 Ply (Opt.)

### BRAKES

Air-Expanding Shoe Type ..... 16½" x 7"

### REAR MOUNTED ENGINE

Make ..... GM Diesel  
 Model ..... (2 Cycle) 2-71

### Maximum Brake HP @ 1890 RPM

(60° F and Sea Level) ..... 70  
 Rated Brake HP @ 1890 RPM ..... 60  
 Maximum Torque (Lb. Ft.) @ 1400 RPM ..... 175  
 Number of Cylinders ..... 2  
 Bore and Stroke ..... 4¼ x 5  
 Displacement (Cubic Inches) ..... 141.9  
 Compression Ratio ..... 17:1  
 Starting Method ..... 12-Volt Electrical System  
 Lubricating Oil Refill Capacity

(Including Filter) ..... 11 Qts. (U.S.)  
 Cooling Water Capacity ..... 4 Gals. (U.S.)  
 Fuel Tank Capacity ..... 45 Gals. (U.S.)  
 Power Take Off ..... Air Clutch  
 Controls ..... Single Lever —  
 Double Control Air Valve  
 (Forward Movement Engages Clutch)  
 (Side Movement Advances Throttle)

### CUTTING BLADE

Control — 2 Interchangeable 5" x 18" Hydraulic  
 Remote Cylinders  
 Blade — 4 Piece, 1" x 12"  
 2 — 15" Interchangeable and Reversible Blades  
 2 — 30" Interchangeable and Reversible Drop  
 Center Blades  
 Effective Width of Cut (Outside to Outside of  
 Router Blade) ..... 8' 0"

### ELEVATOR

Width ..... 6' 0"  
 Length ..... 10' 11"  
 Number of Flights ..... 17  
 Number of Teeth on Drive Sprocket ..... 11  
 Sprocket RPM at 2000 Engine RPM ..... 80  
 Power Source ..... Rear Mounted Diesel Engine

## TIPS FOR SAFETY

1. Remember that a careful operator always is the best insurance against an accident.
2. Never refuel tractor or elevator engine when either is hot or running. Do not smoke when refueling.
3. Be sure all tractor and elevator drives are in neutral before starting engines.
4. Engage clutches gently, especially when under heavy load.
5. Never leave a running engine unattended.
6. Keep the tractor in gear when going down steep hills or grades.
7. Reduce speed before turning.
8. Drive the tractor at speeds slow enough to insure safety, especially over rough ground or near ditches.
9. Disengage elevator engine clutch before dismounting from the tractor.
10. Never dismount from the tractor while it is in motion. Wait until it is completely stopped.
11. Be careful when removing filler caps when radiators are hot. Refill only with engines stopped or slowly idling. Do not fill radiators when engines are overheated.
12. Never run engines without air cleaners being connected.
13. Check position of hydraulic control lever and elevator engine control before starting either engine.
14. Never engage either clutch unless it is possible to disengage immediately.
15. Keep a first aid kit and fire extinguisher on tractor at all times in case of emergency.
16. Never wear loose clothing or gloves — they could catch in moving parts.
17. Never operate the engines in a closed garage or shed.
18. Keep hands away from all moving parts.
19. Never attempt to make adjustments while the tractor is in motion or either engine is running.
20. Never operate tractor on a road or highway at night without a warning lamp. Use a red warning flag in the daytime.

The Model 12E2E Hancock Elevating Scraper is a sturdy and highly efficient machine, designed and tested to perform under adverse and severe conditions, yet to offer long and trouble-free life-expectancy.

Like any other well designed machine, however, the manner in which it is operated directly affects its performance and life. It is therefore very important that the operator thoroughly familiarize himself with the machine and the most efficient manner in which it is operated.

The purpose of this manual is to clearly and con-

cisely present such material as has been found through long experience to be very important. It is strongly recommended that the operator make a thorough study of this manual, and to apply the procedures and recommendations in the operation of this equipment,

## DAILY INSPECTION BEFORE OPERATION:

- (a) General 'walk-around' inspection. Look for loose bolts, parts, broken or distorted or missing parts, ANYTHING out of operating order.
- (b) TIRES: Gauge tractor and scraper tires for correct pressure. Inspect tires for cuts and/or abrasions that need repair before operation.
- (c) ELEVATOR ASSEMBLY: Visually inspect chains, sprockets, tail roller assembly, and gearbox. Remove any wire, rope, or other debris that might have become entangled with and wrapped around elevator sprocket shaft or tail roller shaft. Make sure chains have correct adjustment as outlined in the elevator section of this manual. Start engine and engage elevator. Chains should run smoothly and evenly.
- (d) DRIVE LINES: Inspect drive lines for worn universal joints by feeling for slack at each U-joint. If an earlier model scraper, and the elevator stop has not been installed as described in Hancock Service Brief No. 171-002, determine the point at which drive lines 'bottom out', and do not allow this point to be reached during operation.
- (e) GEARBOXES: Visually inspect gearboxes for indications of lubricant leak and loose mounting bolts. Periodically inspect gear-boxes for correct lubricant level as recommended in gear-box and lube-chart sections.
- (f) HYDRAULIC SYSTEM: Check for leaks at all connections. Look especially for cracked or worn hoses, and for hoses that, due to placement, are rubbing against a metal part, causing abrasion. Inspect hydraulic cylinders for leaks or damage.
- (g) ENGINE LUBE OIL, FUEL, AND COOLANT: Check oil level in both engines and replenish if necessary. Check fuel, and make sure only clean recommended fuels are used. Inspect wiring, fan belts, and coolant hoses. Check coolant level, and replenish as necessary. Generally inspect engine for leaks or any indication of discrepancies.
- (h) Inspect blade, and chisels if used. Correct anything that is out of the ordinary.
- (i) Start engines for pre-operation warm-up. Build up air pressure to its normal level of 65 psi. Open air filter drain cock, and drain filter. Drain air storage tank if equipped with a drain cock. Closely inspect all air connections for leaks and correct if leaks are found. Inspect both engine air cleaners for leaks.

## LUBRICATING OILS

Satisfactory long-time operation of heavy-duty engines requires the use of additive type "Heavy Duty Lubricating Oils". These oils provide better lubrication, possess more heat resistance, and counteract sludge formation more effectively than the straight mineral type oils. These oils are grouped in accordance with their ability to meet the service requirements common to heavy-duty engine operation.

Selection of a reliable oil supplier, strict observance of his oil change period recommendations, and proper filter maintenance will assure good lubrication which contributes to longer engine life. Refer to your GM Diesel Operator's Manual for lubricating oil recommendations.

It is recommended that new engines be started with 100 hour oil change periods. The drain interval may then be gradually increased, or decreased following the recommendations of the oil supplier (based on analysis of the drained oil) until the most practical oil change period for the particular service has been established.

Solvents should not be used as flushing oils in running engines. Dilution of the fresh oil supply can occur which may be detrimental.

Heavy sludge deposits found on the oil filter elements at the time of an oil change must be taken as an indication that the detergency of the oil has been exhausted. When this occurs, the oil drain interval should be shortened. The removal of abrasive dust, metal particles, and carbon must be ensured by replacement of the oil filter elements at the time of an oil change.

## FUEL OILS

The quality of the fuel oil used for high-speed diesel engine operation is a major factor for satisfactory engine performance and life. The fuel oils selected must be clean, completely distilled, stable, and non-corrosive.

Distillation range, cetane number, and sulfur content are three of the most important properties in the selection of diesel fuels for optimum combustion and minimum wear. Engine speed, load, and atmospheric temperature influence the selection of the fuels with respect to distillation range and cetane number.

## INSPECTIONS AT STOPS DURING OPERATION

- (a) A quick 'walk-around' inspection at stops during operation should include:
- (b) Checks for fuel, lube oil, hydraulic fluid, coolant, and air leaks,
- (c) Air cleaners and connections,
- (d) All tires (visual inspection),
- (e) Elevator assembly,
- (f) Blade, and chisels if used,
- (g) A general inspection for loose or broken parts.

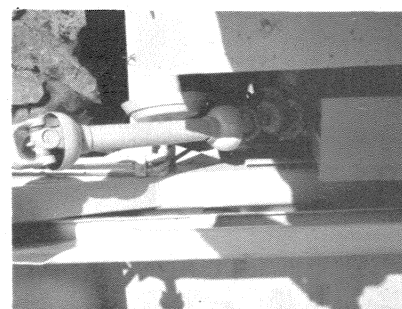
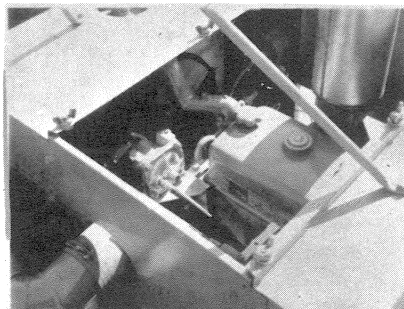
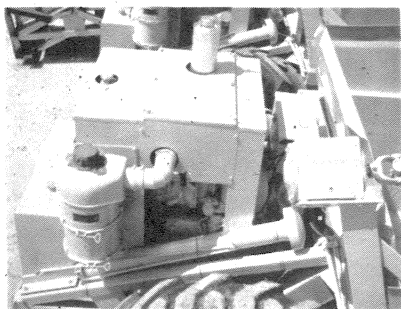
## INSPECTIONS AND MAINTENANCE AFTER OPERATION

- (a) Check for lube oil and grease leaks, hydraulic fluid leaks, coolant leaks, and air leaks. While air pressure is up, drain air filter.
- (b) Check air cleaners on both engines. Perform such daily service as is recommended.
- (c) Inspect and guage all tires. Inspect for cuts or abrasions that might require service.
- (d) Inspect batteries for electrolyte level. Inspect for cracked cases or indication of 'boiling' due to overcharging, badly oxidized terminals and terminal clamps, or other difficulty. Correct as necessary.
- (e) Thorough visual inspection of machine for loose, broken, or missing parts, loose bolts and nuts, loose or frayed fan belts, adjustment of elevator assembly, blade, rolling floor, and endgate. Correct as necessary.
- (f) Lubricate as recommended in Service or Operators manual.

The sulfur content of the fuel must be as low as possible, to avoid excessive deposit formation and premature wear.

Where minimum exhaust smoke is required or where extremely long periods of idling or cold weather conditions are encountered, the more volatile or light distillate fuels are recommended.

As a guide to the selection of the proper fuel oil for various applications refer to the fuel oil selection chart and the ASTM classification in your GM Diesel Operator's Manual.



# TORQUE SPECIFICATIONS

## TORQUE SPECIFICATIONS

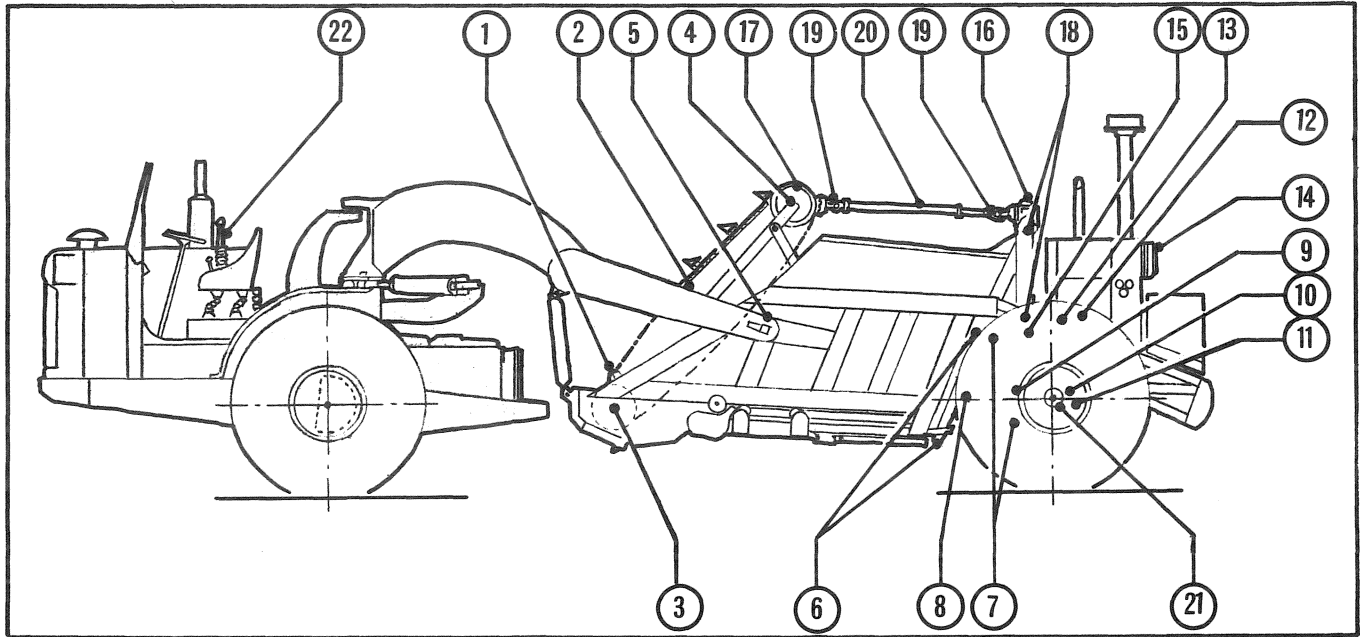
Foot Pound Torque for SAE Grade 5 Capscrews:		
Size	Plain	Plated
1/4-20	8-9	6½-7½
1/4-28	10-11	8-9
5/16-18	17½-19	14-15
5/16-24	22-24	17½-19
3/8-16	32-35	26-28
3/8-24	39-43	31-34
7/16-14	51-56	41-45
7/16-20	64-70	51-55
1/2-13	82-90	65-72
1/2-20	95-105	76-84
9/16-12	119-131	95-105
9/16-18	139-153	111-123
5/8-11	159-175	126-139
5/8-18	190-210	152-168
3/4-10	298-328	238-262
3/4-16	342-378	274-302
7/8-9	437-483	350-386
7/8-14	509-561	407-448
1-8	671-741	537-592
1-14	836-924	670-740

Values given are for 60,000 psi tensile stress for sizes 1/4 diameter to 3/4 diameter inclusive and for 55,000 psi for sizes over 3/4 diameter.



# LUBRICATION CHART

# LUBRICATION CHART



The following lubrication chart pertains primarily to the scraper section of the Hancock Scraper Elevator. For lubrication procedures of the tractor, refer to the maintenance manual of that particular unit.

**Grease Specifications:**

Below 32° F – Chassis Grease, Medium

Above 32° F – Chassis Grease, Heavy

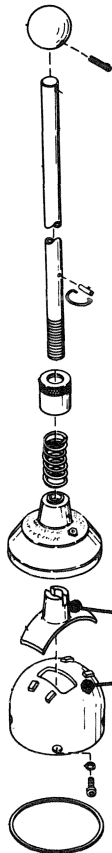
	10 hrs	50 hrs	100 hrs	1000 hrs	1500 hrs
1. Lower Elevator Flat Bushing (2)*	●				
2. Elevator Chain Idler Rollers (2)	●				
3. Elevator Tail Roller Bearings (2)	●				
4. Elevator Sprocket Roller Bearing (1)	●				
5. Scraper Yoke Hinge Pin (2)	●				
6. Rolling Door Actuator (2)	●				
7. Tail Gate Actuator (3)	●				
8. Rolling Door Cylinder Yoke Pin (1)	●				
9. Tail Gate Cylinder Yoke Hinge 1)	●				
10. Scraper Brake Cam Bearings (2)	●				
11. Brake Slack Adjusters (2)		✓			●
12. Elevator Engine Crankcase**	✓		●		
13. Elevator Engine Oil Filter**			●		
14. Elevator Engine Air Cleaner**	✓	●			
15. Elevator Drive Line Clutch Gearbox***		✓		●	
16. Elevator Drive Line Intermediate Gearbox***		✓		●	
17. Elevator Drive Line Final Gearbox***		✓		●	
18. Lower Elevator Drive Line U-joint (2)	●				
19. Upper Elevator Drive Line U-joint (2)	●				
20. Upper Elevator Drive Line Telescoping Shaft	●				
21. Rear Axle Wheel Bearings					●
22. Elevator Engine/Clutch Control Valve					

\*All numbers within parentheses denote the total number of grease zerk fittings pertaining to item named.

\*\*For complete detailed service instructions of the elevator engine, refer to your GM Diesel Operator's Manual.

\*\*\*Gearboxes on the Hancock Elevating Scraper should be serviced with a good quality gear oil, 90 to 120 weight.

ELEVATOR ENGINE CONTROL VALVE  
LUBRICATION



500 HOURS

Clean and lubricate the detent latch and cover every 500 hours of operation with No. 2 Lime Base Grease or an equivalent low temperature cup grease.

1000 HOURS

Remove 1000 hours of operation clean and lubricate the contact ends of screws, handle shaft, contact area of caps, extension and the inside of bearing.

Remove the complete valve periodically for inspection, cleaning and lubrication. All maintenance requiring disassembly must be done on a clean well-lighted work bench.



# ELEVATOR ENGINE

## ELEVATOR ENGINE

The Hancock 12E2E Elevating Scraper utilizes a Series 2-71 GM Diesel engine to power the loading elevator. The engine is a two cylinder, two-cycle diesel, with a high power to weight ratio. A Rootes-type blower furnishes fresh air for scavenging and for combustion.

The engine is of the valve-in-head type, with a fully counter-balanced shaft for smooth operation, and replaceable cylinder liners for ease of maintenance. Cylinder block hand-hole covers are provided to facilitate inspection of liner ports and cylinders.

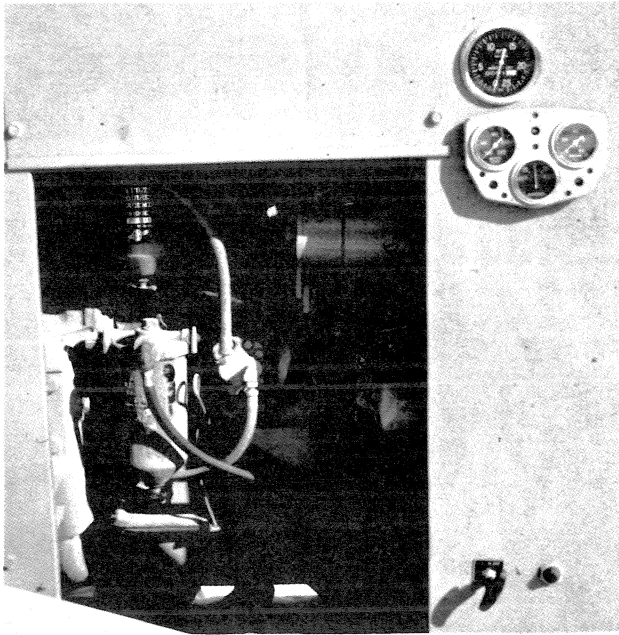


Figure 1. Elevator Engine, Right Side

Mounted in a protected position on the tailframe of the scraper, the engine delivers power to the elevator assembly through a highly efficient air clutch and a series of sturdy right-angle gear boxes and drive lines. Refer to the respective sections of this manual for service and maintenance information of this drive system.

Service on the Series 2-71 engine may be broken down into four basic systems; fuel, air, lubrication, and engine coolant. A fifth system, the electrical system, supplies the electrical current necessary for the operation of the electrical equipment.

Being located at the rear of the scraper, a remote control system and an alarm system are incorporated for safety and convenience of operation. A brief introduction of these systems and their components will be found in this section of the manual. Detailed maintenance and adjustment procedures are to be found in your GM Diesel Operators Manual, which is supplied with the Hancock 12E2E Elevating Scraper.

## FUEL SYSTEM

The fuel system includes the fuel tank, lines, fuel filter, fuel strainer, fuel pump, fuel manifolds (integral with the cylinder head), inlet and outlet fuel pipes, and the fuel injectors.

In operation, fuel is drawn from the fuel tank through the fuel strainer into the fuel pump. Leaving the pump, under pressure, the fuel is forced through the fuel filter into the fuel manifold, through the fuel pipes into the inlet side of the fuel injectors. The fuel is then further filtered through elements in the injectors, and atomized through the injector spray-tip orifices, into the combustion chamber. Surplus fuel returns through the outlet side of the injector, through the outlet fuel pipes, and into the return side of the manifold, from where it is returned to the fuel tank.

## FUEL INJECTOR

The fuel injector combines in a single unit all the parts necessary to meter, atomize, and inject into the combustion chamber the correct amount of fuel at the correct time to obtain maximum efficiency of operation of the engine.

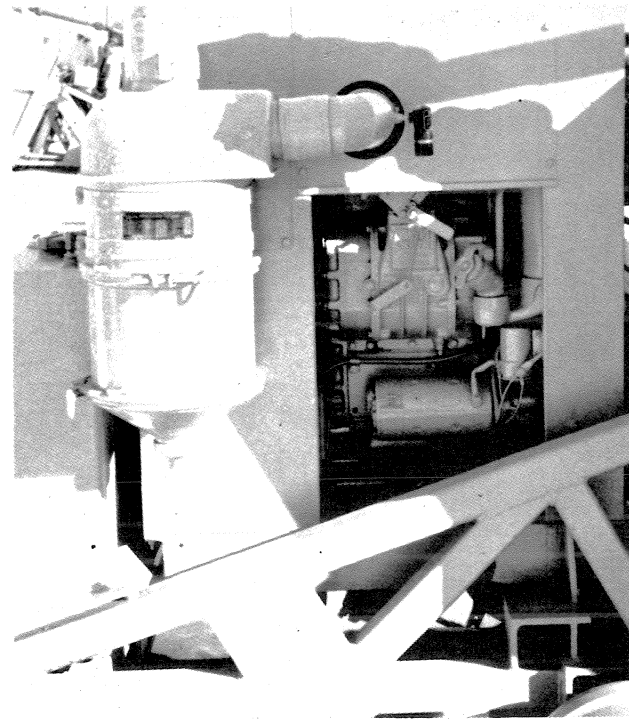


Figure 2. Elevator Engine, Left Side

## FUEL PUMP

A highly efficient positive displacement gear-type pump, designed to supply fuel at the pressures required, is driven by the blower rotor.

## FUEL STRAINER AND FILTER

To insure a supply of clean fuel to the fuel injectors, a replaceable element type fuel strainer and fuel filter is provided. The strainer removes the larger particles, and the filter removes the smaller particles of foreign matter.

**IMPORTANT:** Install new elements in the strainer and filter every 300 hours or as required due to excessive dust or other conditions. Care should be exercised to secure a supply of clean fuel, but in certain areas this may not be possible. Refer to your GM Diesel Operator's Manual for procedure in determining fuel filter and strainer change periods based on pressure readings taken at the fuel inlet manifold, and for recommended replacement intervals and procedures.

## AIR SYSTEM

In the scavenging system used in two-cycle engines, a charge of fresh air is forced into the cylinders by the blower. This sweeps all of the burnt gases out through the exhaust valve ports, leaving the cylinder filled with fresh air for combustion at the end of the upward stroke of the piston. This fresh air also assists in cooling the internal engine parts.

The blower supplies fresh air required for combustion and scavenging. Two hollow three-lobe rotors are closely fitted in the blower housing. The revolving motion of these rotors pulls fresh air through the air cleaner, and provides a continuous and uniform displacement of clean, fresh air in each combustion chamber. For service and maintenance procedures, refer to GM Diesel Operators Manual.

## AIR CLEANER

The Hancock 12E2E Elevating scraper is equipped with a heavy duty air cleaner to compensate for the extreme dust concentrations normally associated with earth moving operations. Maximum protection of the engine against dust and other air contaminants is possible only if the air cleaner is correctly serviced at regular intervals. The air cleaner provided is equipped with an automatic elastic valve. It is the function of this valve to automatically 'dump' the heavier elements of foreign matter each time the engine is stopped. During operation, the operator should occasionally, when stopped, 'work' or massage the elastic valve to insure fine dust has not packed and clogged its operation. Proper servicing of the air cleaner may be accomplished by following this procedure:

- (1) Loosen the lower locking ring, and remove the lower sediment cap (Fig. 3). Dump the accumulated dirt, and blow or wipe clean. Inspect the cap for signs of warpage, bent, or damaged rim that would prevent a tight seal.

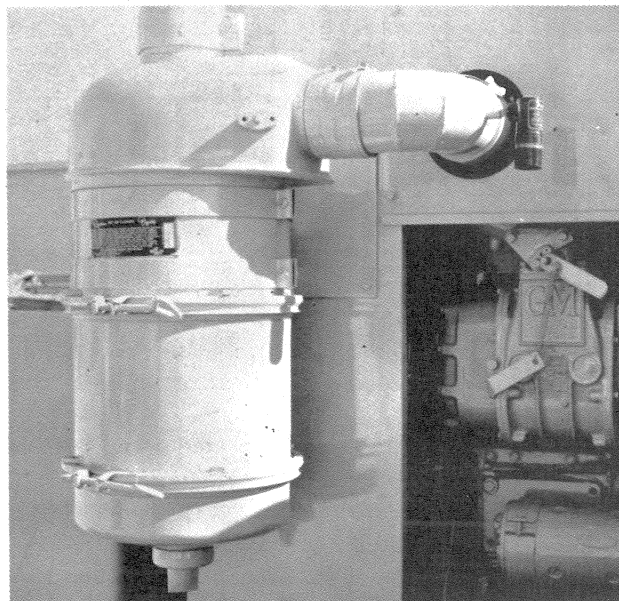


Figure 3. Elevator Engine Air Cleaner

- (2) Loosen upper lock ring, and remove the filter body. Inspect the large lower seal (between sediment cap and filter body), and the inner seal (between the filter element and the lower filter body). Blow dirt from lower body with 'dry' compressed air (always drain moisture from compressor before servicing air cleaner). With a stiff fiber brush, similar to a bottle brush, remove any stubborn dirt or foreign matter from the tubes in the lower body.
- (3) Remove the replaceable filter. Making sure all moisture has been drained from the air compressor tank, blow dust accumulation from the fiber filter element. Hold the garage-type air nozzle 6" to 12" from the filter, and be very careful not to rupture or tear the paper-like material from which the filter is made.
- (4) Insert a 'drop-light' in the center opening of the element, and carefully inspect for pin-holes, tears or broken places, or for clogged areas. **THE SLIGHTEST PIN HOLE OR RUPTURE WILL RENDER THE ELEMENT UNFIT FOR FURTHER SERVICE.**
- (5) Filters fouled by oily soot and dust may be cleaned using a special filter cleaner, mixed in the proportion 2 ounces of cleaner to one gallon of lukewarm water. The filter should be soaked for 15 minutes in this solution, then rinsed clean with clean water, and air dried. **DO NOT HEAT TO HASTEN DRYING.**
- (6) Carefully inspect seals at top and bottom of filter element. If these soft seals are broken, or damaged in any way that would prevent airtight sealing, replace the filter element.

- (7) Reassemble the air cleaner, making sure each joint is properly seated and is sealing to the mated part. **THE REPLACEABLE FILTER ELEMENT SHOULD BE REPLACED AFTER SIX CLEANINGS, OR ANNUALLY.**
- (8) **NEVER** use oil in the lower (sediment) cap. Inspect the filter constantly for leaks. Watch all connections for mechanical tightness. Be sure cleaner outlet pipe is not fractured. If cleaner has been bent or damaged, check all connections and seals immediately. In case of leakage, and if adjustment does not correct the trouble, replace necessary parts or gaskets. Filter cartridge leaks are indicated by (1) Areas of concentrated dust on clean-air side of filter, and (2) light shining through holes when light bulb is held inside filter. Filter should be serviced weekly or as dust conditions may dictate.

### LUBRICATING OIL SYSTEM

The lubricating oil system consists of an oil pump, oil cooler, a full flow oil filter, by-pass valves at the oil cooler and filter and pressure regulator valves at the pump and in the cylinder block main oil gallery. Positive lubrication is insured at all times by this system.

Oil for lubricating the connecting rod bearings, piston pins and for cooling the piston head is provided through the drilled hole in the crankshaft from the adjacent main bearings. The gear train is lubricated by the overflow of oil from the camshaft pocket through a connection passage into the flywheel housing from the camshaft, balance shaft, and idler gear bearings. The blower drive gear bearing is lubricated through an external pipe from the rear horizontal oil passage of the cylinder block.

Oil from the cam pocket enters the blower and overflows through two holes, one at each end of the blower housing, providing lubrication for the blower drive gears at the rear end and for the governor mechanism at the front.

### OIL FILTER

The elevator engine is equipped with a full-flow, lubricating oil filter. All of the oil supplied to the engine passes through the full-flow filter that removes the foreign particles without restricting the normal flow of oil.

Oil filter elements should be changed each time the engine oil is changed. Refer to your GM Diesel Operators Manual for recommended replacement procedure.

### COOLANT SYSTEM

The Model 2-71 Diesel engine employs a typical radiator and fan cooling system. In this system the coolant temperature is reduced by the air stream from a suction type fan. A water pump draws the coolant from the bottom of the radiator core, through the oil cooler, and forces it into the lower part of the cylinder block.

The coolant circulates up through the cylinder block into the cylinder head, then to the water manifold and thermostat housing. From the thermostat housing, the coolant returns to the radiator, or bypasses to the water pump, depending on the temperature of the coolant. Coolant systems of diesel engines require certain maintenance and service for proper operation. Refer to your GM Diesel Operators Manual for specific maintenance procedures.

### ELECTRICAL SYSTEM

The engine electrical system consists of a battery-charging generator, starting motor, voltage regulator, storage battery, starter switch and necessary wiring.

The battery-charging generator is introduced into the electrical system to provide a source of electrical current for maintaining the storage battery in a charged condition and to supply sufficient current to carry any other electrical load requirements up to the rated capacity of the generator.

A regulator is incorporated in the electrical system to regulate the voltage and current output of the battery-charging generator and to help maintain a fully charged storage battery.

A lead-acid storage battery is an electrical device for converting chemical energy into electrical energy. The battery is a perishable item which requires periodic servicing. A properly cared for battery will give long and trouble-free service.

If the scraper unit is to be stored for more than 30 days, remove the battery. The battery should be stored in a cool, dry place. Keep the battery fully charged and check the level of the electrolyte regularly. Refer to your GM Diesel Operator's Manual for recommended electrical maintenance procedures.

### ENGINE REMOTE CONTROL SYSTEM

The loading elevator of the Hancock Scraper is controlled from the operator's position by the rear engine governor and clutch control lever. The control system consists of a pressure regulator, a pressure control valve with lever for the operator, pneumatic positioning device or actuator to position the control arm of the governor, a large capacity filter to trap moisture and remove foreign particles from the system, and the necessary plumbing to complete the system. Engine torque is transferred to the elevator drive by an air actuated disc clutch that is also controlled by this system.



## AUTOMATIC ALARM SYSTEM

Because of the remote placement of the elevator engine on the Hancock Scraper, an alarm system is incorporated as a precaution against damage in the event of engine malfunction. In the event of lubricating oil pressure drop, or engine overheating, the alarm sounds. An electric horn is incorporated in the alarm system to give the operator positive indication of elevator engine trouble.

Should there be a malfunction and the elevator engine alarm system sounds, the operator should stop the elevator as quickly and safely as possible to check the elevator engine and determine the cause of trouble. **DO NOT ATTEMPT TO RE-START ELEVATOR ENGINE UNTIL SOURCE OF TROUBLE IS FOUND AND CORRECTED.** After correcting trouble, elevator engine may be re-started and scraper operation continued.

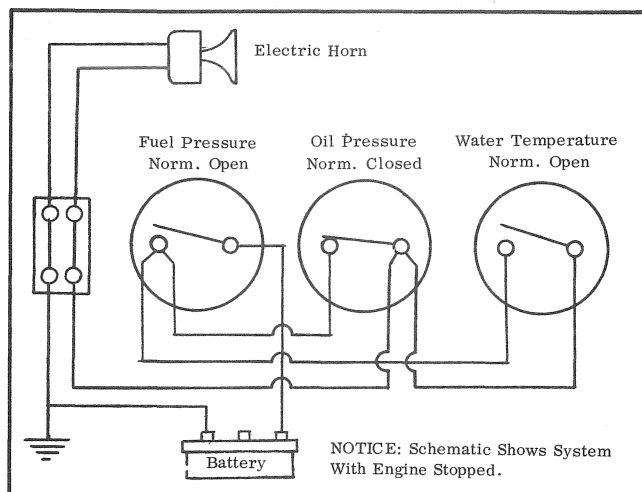


Figure 4. Schematic Diagram, Automatic Alarm System

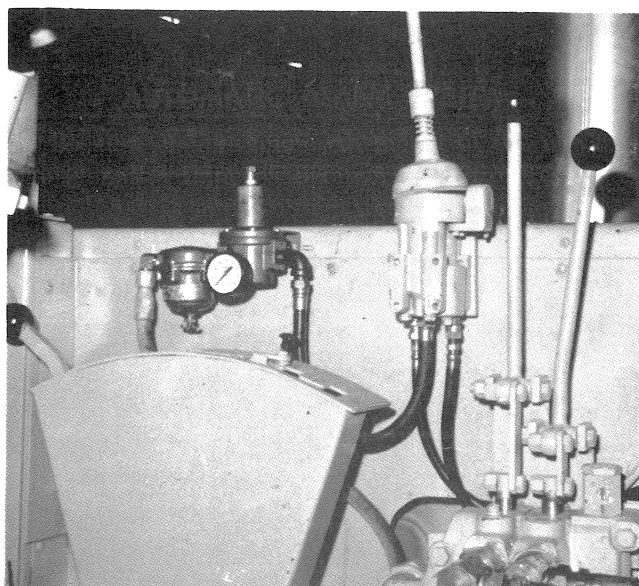


Figure 5. Remote Control Air Valve & Pressure Regulator

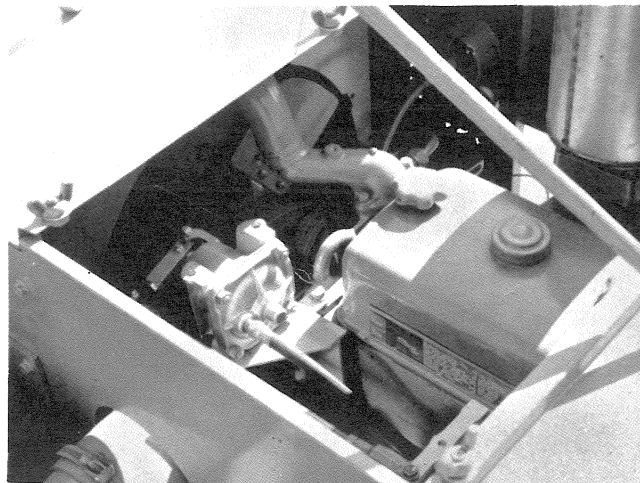


Figure 6. Positioning Actuator, Elevator Engine Governor



**CLUTCH**

## SECTION CLU

The Hancock Model 12E2E Elevating Scraper utilizes a special ventilated air operated clutch and a sturdy right angle drive (Fig. 1) to transmit torque from the rear diesel engine to the elevator assembly. A remote control air valve at the operators position gives him positive control over the clutch. A pressure regulator, set at the 65 psi required to properly operate the clutch, assures a steady operating pressure.

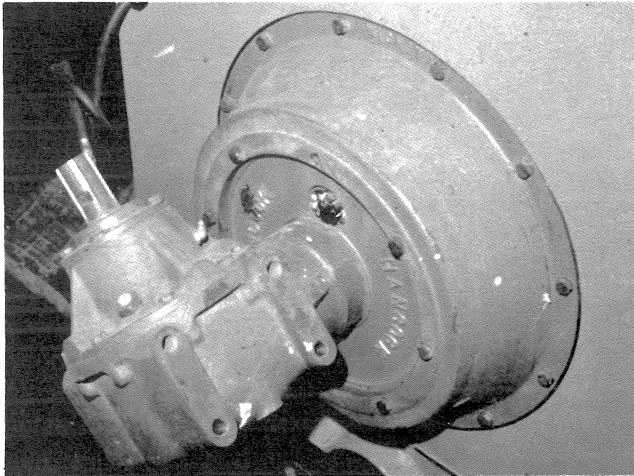


Figure 1. Shaft position, Clutch Gear box

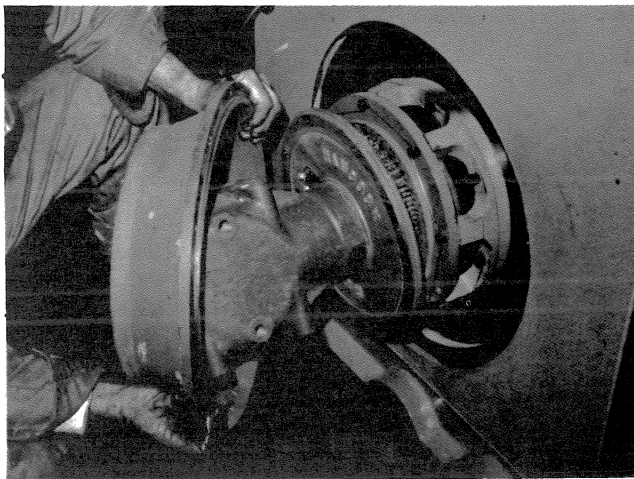


Figure 2. Removal of Bell Housing

A unique system is incorporated for the protection of the clutch. If, due to an unnoticed air leak, or if for any reason the clutch becomes hot due to slipping, a thermal switch, which is installed in the clutch housing, will automatically release air pressure on the clutch, causing it to disengage. The clutch cannot be re-engaged until the clutch has cooled. Until the cause of the clutch heating is discovered, it will continue to automatically disengage the clutch before serious damage can result. A schematic drawing of the air and electrical circuits pertaining to clutch operation, as well as detailed service instructions, follow.

- (1) **REMOVAL:** Disconnect and remove batteries and battery box. Mark the position of the ring gear shaft (output shaft) in relation to the engine. Marks to align the gear box to the adaptor plate, the adaptor plate to the bell housing, and the bell housing to the engine, before disassembly, will facilitate reassembly so that the output shaft will align with the drive line (Fig. 1).
- (2) Remove the two rows of capscrews securing the bell housing to the engine and to the adaptor plate (Fig. 1).
- (3) Remove the bell housing by working it off over the gearbox (Fig. 2).
- (4) Cut and remove safety wire from the Allen-head capscrews securing the clutch assembly to the flywheel. Support the gearbox (Fig. 3), and remove the allen-head capscrews.

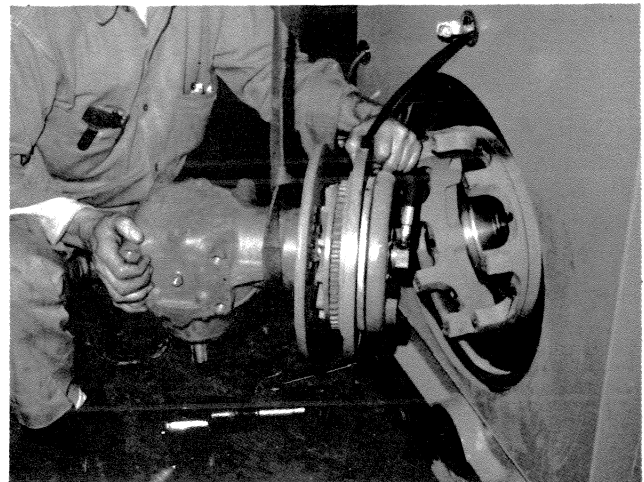


Figure 3. Removal of Clutch Gear box

- (5) Lift the clutch-gearbox group from the engine, and place on a suitable work surface, with the clutch assembly up (Fig. 4).

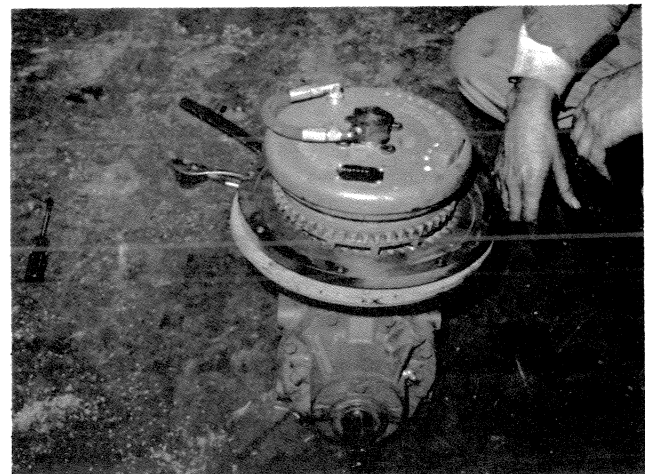


Figure 4. Clutch-Gearbox Group

- (6) Remove the flexible air line and the air line connectors (Fig. 5).



Figure 5. Clutch Air line and End-Cap

- (7) Mark the end-cap (the large hex-head unit at the center of the clutch) so that it may be re-installed in the same relative position. With a suitable wrench, remove end-cap (Fig. 5 & 6).



Figure 6. Clutch End-cap, removed

- (8) Lift the clutch group from the cover plate (Fig. 7).

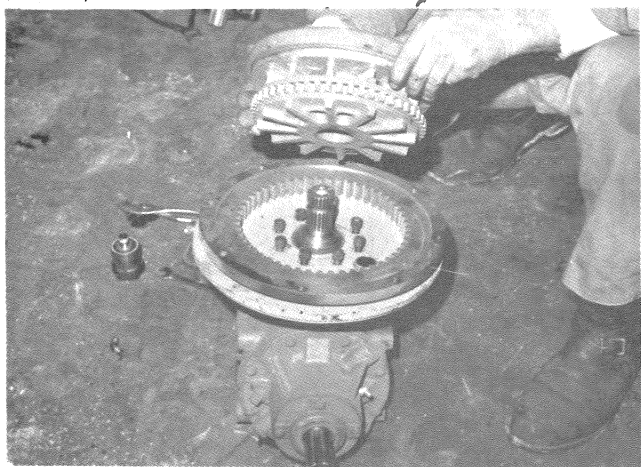


Figure 7. Clutch Group, removed

- (9) At this point the thermal switch is clearly visible. Exercise great care to prevent damage to this switch. The dark colored portion is an integral and very important working part of the switch (Fig. 8 & 9). In Fig. 9, a thermal switch from stock is held above the installed switch to indicate the terminals on the reverse side of the switch.

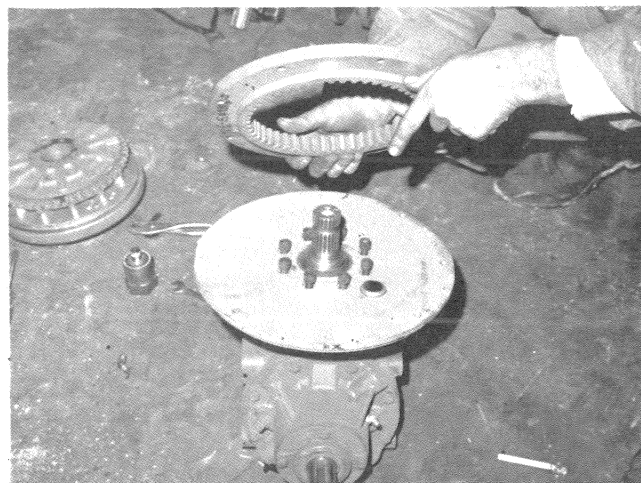


Figure 8. Removal, Clutch drive-ring

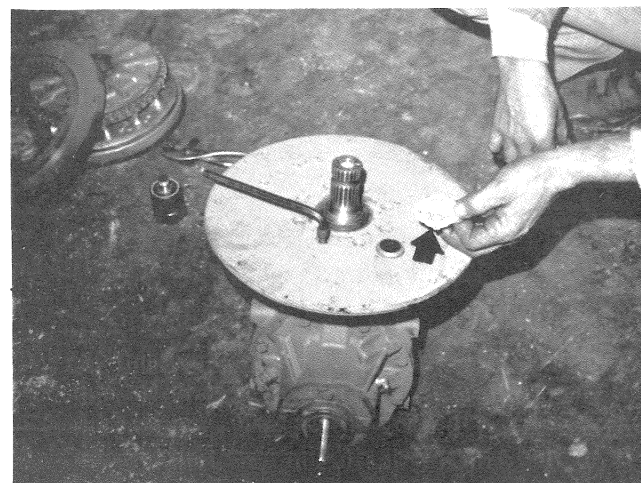


Figure 9. Thermal Switch

- (10) Cut and remove safety wire from the Allen head capscrews securing the adaptor plate to the gearbox, and remove plate. THE SHIMS BETWEEN THE GEARBOX AND THE MOUNTING PLATE DETERMINE THE BEARING PRELOAD ON THE PINION SHAFT BEARINGS, AND SHOULD BE CAREFULLY LAID ASIDE FOR USE IN REASSEMBLY (Fig. 10). Replace oil seal in adaptor plate.



Figure 10. Sleeve & Shims, Bearing Preload Adjustment

- (11) Remove the four safety-wired Allen head cap-screws from the clutch disc assembly (Fig. 11). This releases the clutch for disassembly.

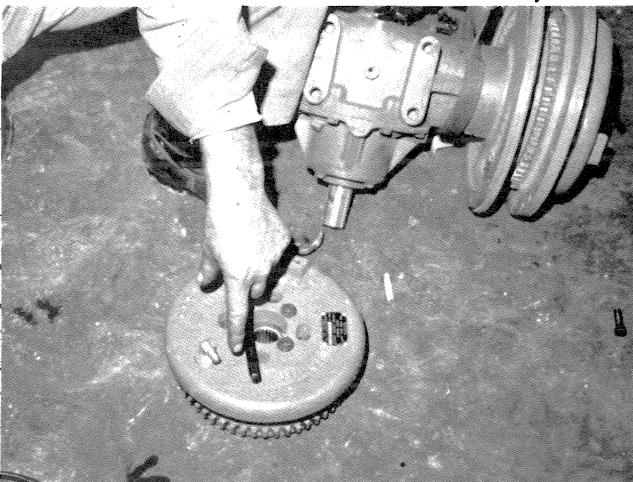


Figure 11. Clutch Disassembly

- (12) Lift the air-tube cover plate (Fig. 12) and inspect the air tube for evidence of deterioration or damage.

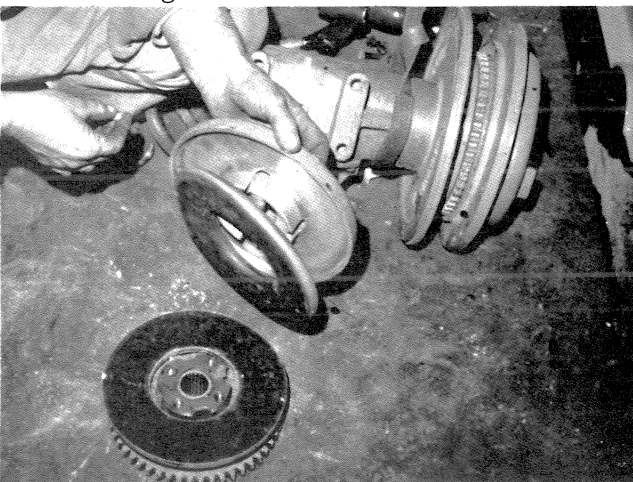


Figure 12. Clutch Air-tube

- (13) Remove the four shims (Fig. 13) and lay aside for use in reassembly. THESE SHIMS ARE USED IN ADJUSTMENT OF THE CLUTCH.

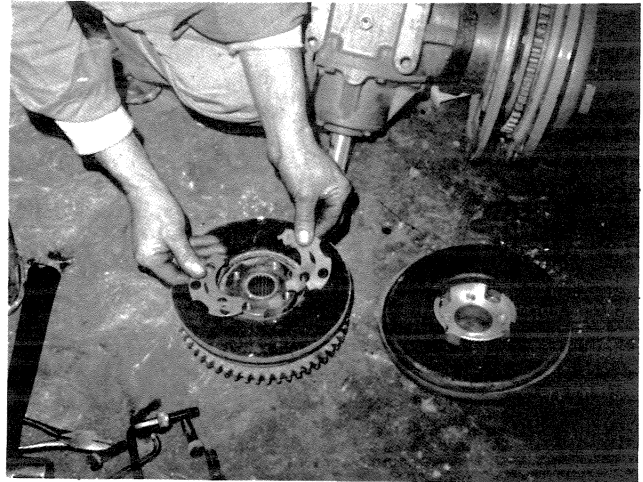


Figure 13. Clutch Adjustment Shims

- (14) Remove the floating plate. This plate need not be marked for disassembly, as the lugs are equidistant, and will fit the counterbored holes in any of four positions (Fig. 14).

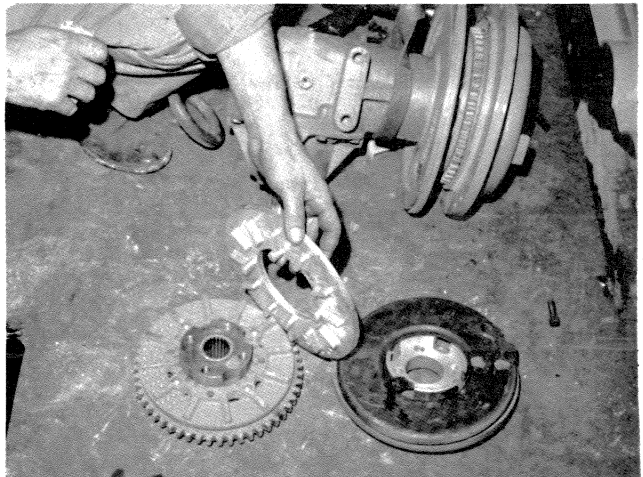


Figure 14. Floating Plate Removal



- (15) Remove pressure plate and fiber friction disc. Note the four return springs. If the springs show signs of collapse, discoloration, or are broken, or if the clutch has been hot, replace all four return springs (Fig. 15 & 16).

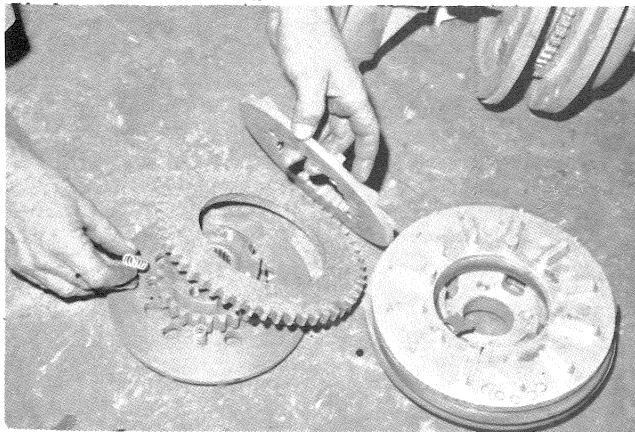


Figure 15. Clutch Return Spring Positioning (1)

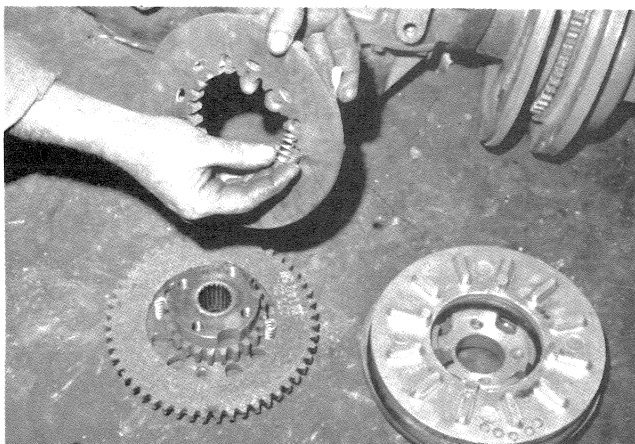


Figure 16. Clutch Return Spring Positioning (2)

- (16) Mark the gear box side housing and main housing, so that the side housing (ring gear housing) may be reinstalled in the same position. Remove the eight capscrews securing the side housing to the main housing, and remove ring gear housing. (Fig. 17).

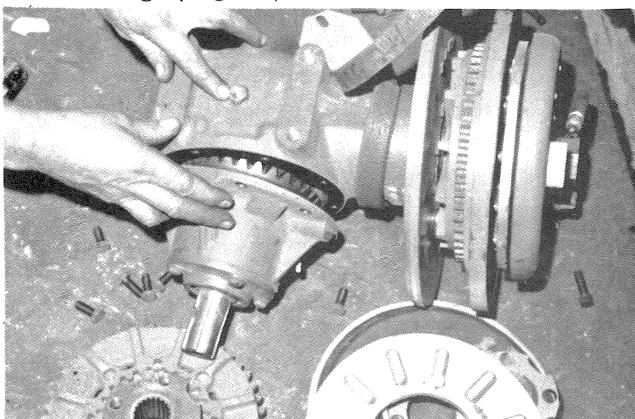


Figure 17. Ring Gear Housing Removal

- (17) Remove Rotocoupling flexible air hose and fittings. Remove Rotocoupling. If gear box is to be serviced, see detailed procedure in 'GEAR-BOX' section of this manual (Fig. 18).

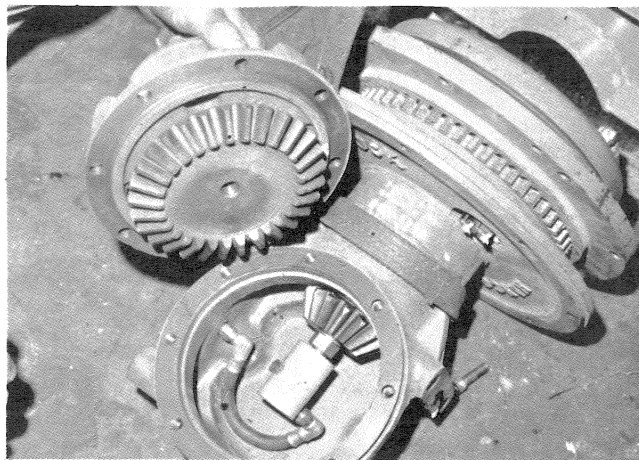


Figure 18. Rotocoupling installed

- (18) Thoroughly wash all metal parts.  
 (19) Carefully inspect parts for cracks, breaks, or chipping. Inspect mating surfaces for scratches, cracks, or marks that might allow leaking. Inspect air-tube and air hoses, and hose fittings for deterioration or cracks, or any condition that might allow air leaks. Inspect the end cap.  
 (20) Remove the thermal protector switch, if so equipped. This is a 'normally-open' SPST thermally actuated, low-voltage, low-current switch. Hook up a continuity testing circuit similar to that shown below in Fig. 19. The test light leads on your armature-growler may be used for this test. With a cigarette lighter or match, gently heat the dark, circular thermal spring as pictured. The test light should remain 'off' until the applied heat causes the switch to 'click' on. At this time, the test light will come on, and

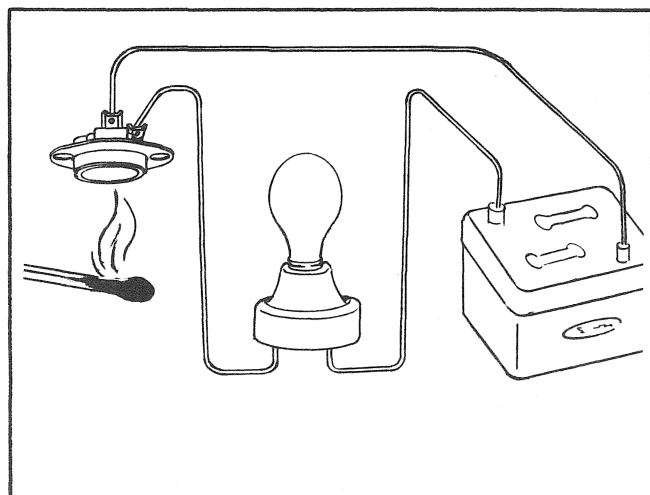


Figure 19. Continuity Test for Thermal Switch

## SECTION CLU

remain on until the thermal switch cools off. When cool, the switch will again 'click', and the test light will go out, again indicating an open switch. It should take a short time for the switch to cool and re-open after having been slightly heated in the manner described in this test. If the switch does not function as described, it should be replaced. At this time, inspect the scraper, and make sure the thermal protector circuit is connected as indicated in the schematic diagram shown in Fig. 20. Note: Some early production machines were not equipped with this protective device.

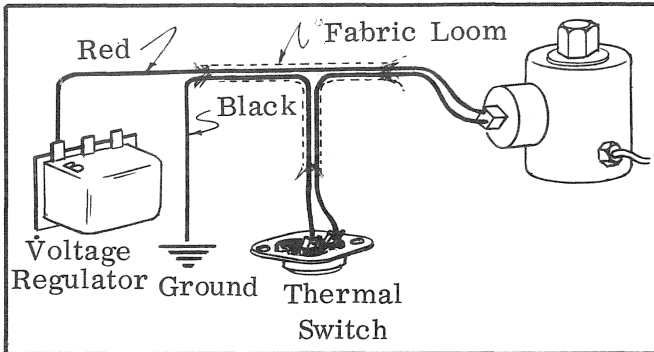


Figure 20. Schematic Diagram of Thermal Switch Circuit

- (21) Inspect pressure plate and fiber friction disc for heat damage. Inspect for chipped spline teeth, and signs of glazing.
- (22) Carefully inspect return springs. If distorted in any way, or show loss of tension due to heat, discard and replace.
- (23) Carefully inspect Rotocoupling, flexible airlines, fittings, and endcap for any signs of leaking. If Rotocoupling repair is indicated, the following procedure should be followed.  
(NOTE: It is recommended the Rotocoupling be returned to the factory for repairs, and a spare installed.)
- (24) **DISASSEMBLY, REPAIR, AND ASSEMBLY OF ROTOCOUPLING**
  - (a) Remove snapping, and slide spindle assembly out of housing.
  - (b) Examine surface of spindle that runs against the carbon ring. If this is rough and/or grooved, replace spindle.
  - (c) Examine bearing. If it feels rough, remove snapping, and remove bearing for thorough inspection. Replace if questionable.
  - (d) Remove carbon ring, felt, O-ring and spring. Replace with new parts from repair kit. Note: Soak the felt in light oil before installing.
  - (e) Pack bearing in grease, and reassemble, being very careful not to scratch the carbon ring.. Install lockring.
- (25) Install Rotocoupling, flex line, and fittings. Use 'Lock-Tite' on fittings, to prevent air leaks.
- (26) Replace ring gear housing, using index marks made prior to disassembly.
- (27) Replace the shims removed, and mount adaptor plate. NOTE: CHECK BACKLASH AS OUTLINED IN PAR 28 & 29 OF THE CLUTCH GEARBOX SECTION OF THIS MANUAL.
- (28) **ASSEMBLY OF CLUTCH:**  
Place clutch hub and backplate on bench, and position four return springs in the counterbored holes.
- (29) Lay friction disc on backplate along with driving ring, which meshes with friction disc.
- (30) Being very careful to align the counterbored holes so that the return springs will seat properly, place the floating plate on hub and engage spline.
- (31) Position pressure plate on the floating plate so that the lugs seat in the counterbored holes in the floating plate.
- (32) Push air tube in the holding plate, making sure the air connection fits properly in the oblong hole in the holding plate. Attach holding plate and airtube to hub and backplate with the four allen head capscrews. Tighten capscrews and safety-wire.
- (33) Clearance between the friction disc and the floating plate can now be checked. If available, attach an airline to the clutch and check the travel of the floating plate when air is applied. The travel of the floating plate, or the gap between the friction disc and the floating plate with air released should be 1/16" to 1/8" when the friction disc is new. Shims (Fig. 13) may be removed to secure the correct adjustment.
- (34) Slide the bearing spacer sleeve over the splined shaft (Fig. 10).
- (35) Mount the clutch assembly on the splined shaft. The clutch should slide on the splined shaft with a slight press fit. Refer to the index mark you made prior to disassembly, and install the end cap. Use lock-tight compound to prevent air leak.
- (36) Install flexible line and fittings, so that the flex-line is not cramped or distorted.
- (37) Using a suitable support, secure the clutch assembly to the flywheel. Tighten and safe-wire the capscrews.
- (38) Refer to index marks, install and tighten the two rows of capscrews securing the adaptor plate to the bell housing and the bell housing to the engine.
- (39) Install drive line, battery box and batteries, and service gearbox with lubricant as recommended.



- (40) A combined air-electrical schematic (Fig. 21) is provided to make clear the functions of the various components, and to provide an accurate pictorial instruction concerning the correct connections of this system.
- (41) The quick-release valve should periodically be cleaned of accumulated moisture. This is ac-

complished by removing the top, and with clean waste, wiping accumulated moisture and/or foreign matter away from the spring, diaphragm, and cover.

**IMPORTANT: THIS SHOULD BE DONE REGULARLY. OVER ACCUMULATION OF MOISTURE PREVENTS CORRECT OPERATION OF THIS VALVE.**

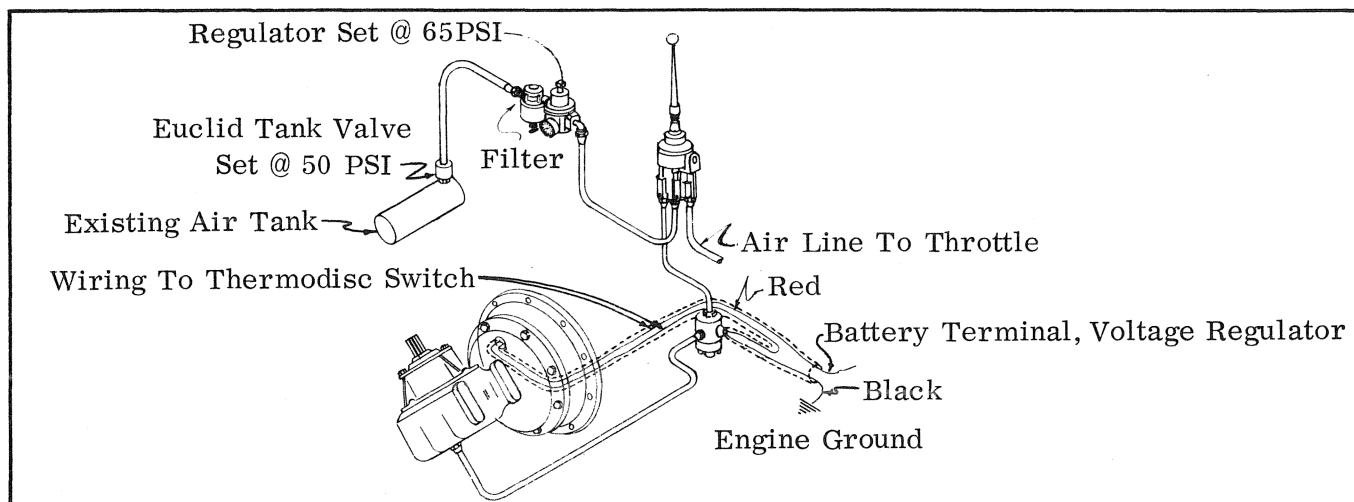


Figure 21. Combined Air-Electrical Schematic, Thermal protection



## **DRIVE LINES**

## SECTION DRL

The lower drive line is a 'solid' drive-line, since its application does not require the use of a slip-joint. It is equipped with a sturdy universal joint at either end, and transmits power from the clutch gear-box to the intermediate gear-box (Fig. 1).

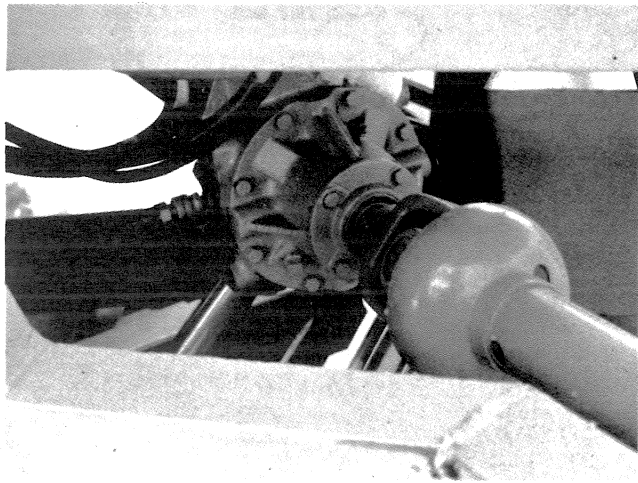


Figure 1. Lower Drive Line

The upper drive-line, connecting the intermediate gear box and the elevator gear box, in order to compensate for changing effective lengths during the raising and lowering of the elevator, is comprised of an outer steel splined tube, a telescoping splined solid shaft, both enclosed by a telescoping steel outer shell, and with a sturdy universal joint at either end. The splined telescoping 'slip-joint' allows this drive-line to alter its effective length automatically as the elevator is raised and lowered, without altering its strength or center-linearity (Fig. 2).

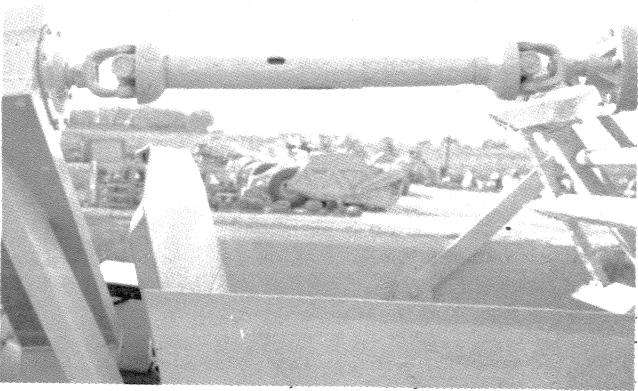


Figure 2. Upper Drive Line

Four roller-bearing cups, and a hardened yoke, or cross-pin in each universal joint allows the power flow to be 'bent', to compensate for slight differences in plane placement of the driving and driven units. As with any close-tolerance moving part, lubrication is of the greatest importance, and each universal joint should be periodically lubricated with the recommended lubricant.

After long service, the universal joints may become worn, or due to incorrect lubrication practices, the bearings may fail. If this occurs, the universal joints may be separately serviced, making it unnecessary to discard and replace the entire shaft. 'U-joint' repair kits are available, and may be procured from Hancock. Yokes must be correctly positioned after service (Fig. 3).

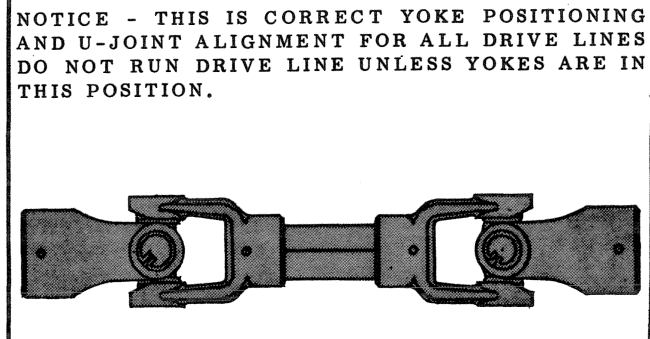


Figure 3. Correct yoke positioning

The drive line is a device for transmitting power. A secondary, but very important function is for the drive-line to have the inherent capability of compensating, by means of universal joints, for movement or misalignment, and even for minor functional movement that may vary the distance by small amounts, between the driving shaft and the driven shaft. In most cases, it is not possible or feasible to obtain absolute alignment between the driving and driven units. It is, however, possible and feasible to so mount the connected units so that center-lines projected through the shafts of the two units lie along parallel lines. It is then possible to compensate (by means of universal joints) for misalignment, and by slip-joints to compensate for minor changes in mean distances between the shafts, that might be caused by functional movement, necessary adjustments, etc.

The drive train of the 12E2E Hancock Elevating Scraper incorporates two drive lines, hereinafter referred to as the lower drive line (connecting the clutch gear box to the intermediate gear box) and the upper drive line (connecting the intermediate gear box to the elevator gear box).

# ELEVATOR

## SECTION ELE

The elevator is the most important part of the scraper's loading mechanism. Correct adjustment and proper chain tension and alignment are important for efficient operation.

When normally adjusted, the sprocket shaft and lower (tail roller) shaft should be parallel, and the elevator 'slats' will be parallel with the shafts.

To insure this, three adjustments are provided—one on each end of the tail roller shaft (Fig. 1), and one on the sprocket drive shaft opposite the gear box (Fig. 2). To check for proper alignment, measure the distance between the center-points of the ends of the elevator sprocket shaft and the tail roller shaft on each side. These distances should be the same. Measure diagonally from the left end of the sprocket shaft to the right end of the tail shaft, and from the right end of the sprocket shaft to the left end of the tail roller shaft. These diagonals should be the same. If the chain or sprockets are not badly worn, the elevator chain group should run smoothly and evenly.

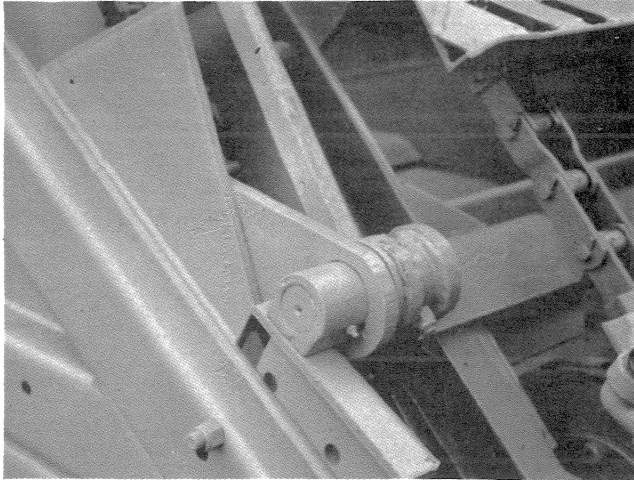


Figure 1. Tail roller adjustment

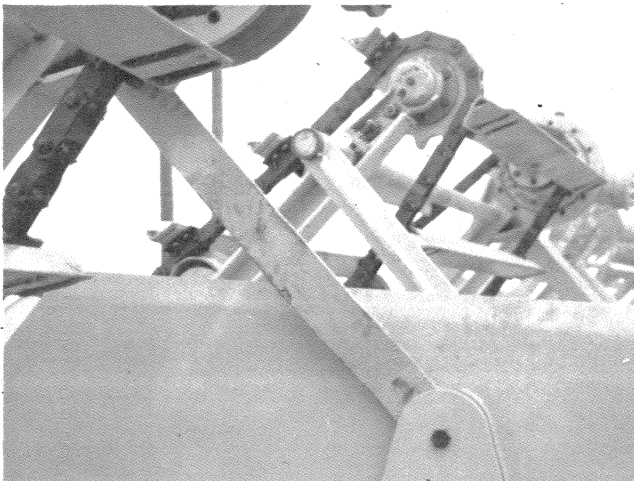


Figure 2. Upper shaft adjustment

**DO NOT OPERATE THE SCRAPER WITH THE CHAIN TOO TIGHT.** The chain should have a pronounced 'sag' measured at the edge of the frame, and halfway between the drive sprocket and the tail roller. At this point, the chain should sag at least 11" below the frame (Fig. 3).

**CAUTION: TOO MUCH TENSION ON THE CHAIN WILL SHORTEN THE LIFE OF THE CHAIN, THE ELEVATOR BEARINGS, AND THE SHAFT ENDS.**

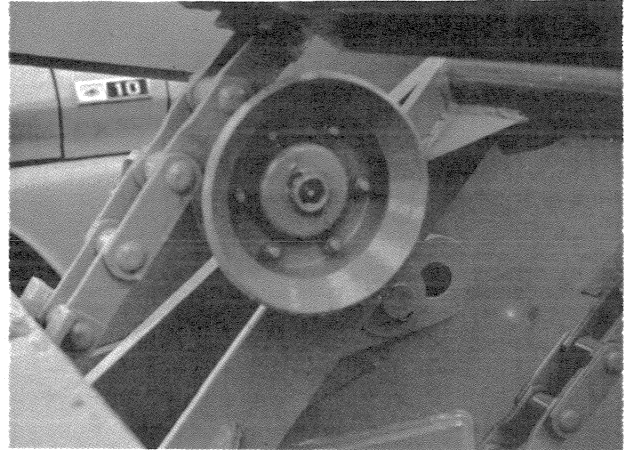


Figure 3. Chain adjustment

### PROCEDURE TO CENTER CHAIN

The elevator chain may be made to travel squarely in the center of the sprocket and tail roller by applying these adjustments:

- (1) Adjust the chain to center on the tail roller first. This is done by adjusting either side of the tail roller up or down. Chain will always travel to the LOOSE side.
- (2) Adjust side of sprocket drive shaft (only one side is adjustable) as needed to obtain proper alignment. Chain will always travel toward LOOSE side.
- (3) After adjusting sprocket drive it may be necessary to slightly readjust tail roller.
- (4) **CAUTION: NEVER ATTEMPT TO ADJUST ELEVATOR WHILE IT IS RUNNING.**

The chain can be made to run exactly in the center if these instructions are followed unless it is so badly worn that adjustment becomes impractical. In this case, new bushings and pins should be installed. Badly worn drive sprockets and/or tail-rollers may make it impractical or impossible to secure correct adjustment. If so, sprockets and/or tail roller repairs are indicated.

Do not extend tail roller hangers excessively during adjustment. This could permit the hanger, under load, to deflect outward, allowing the bearing housing to move and expose the seal and bearings to dust and foreign matter. It may be necessary to remove one or more master links from the chain, and readjust tension.

Inspect chain regularly for proper tension and alignment.

Inspect chain rollers periodically to see that they are turning freely. Some types of dirt have a tendency to 'freeze' rollers. Run the chain at slow speed, and lubricate with diesel fuel.

#### REPLACING CHAIN:

When replacing chain, it will generally be found advantageous to have the scraper full of dirt. The dirt will provide a base for standing, and will hold up the chain when it is taken loose. A boomer or other chain pulling device may be used to pull the lengths of chain together to give sufficient slack for removing pins. After the chain has been taken apart, it may be removed by slowly turning elevator.

#### SPROCKETS

The sprockets are bolt-on, replaceable type sprockets, and are marked with a 'timing' mark (Fig. 4). When being installed, make sure the marks are toward the outside of the machine, and that the marks are in exactly the same position with respect to the shaft hubs. If the two shaft drive sprockets are not aligned, the slats of the elevator will not run parallel to the

axis of the upper and lower shafts.

When wear makes it advisable, the sprockets may be reversed, thus almost doubling the life of the sprockets. The sprocket from the right side of the machine is removed and installed on the left side of the machine, and the left sprocket is installed on the right. Again, make sure the 'timing mark' is toward the outside of the machine in each case, and make sure the marks are aligned.

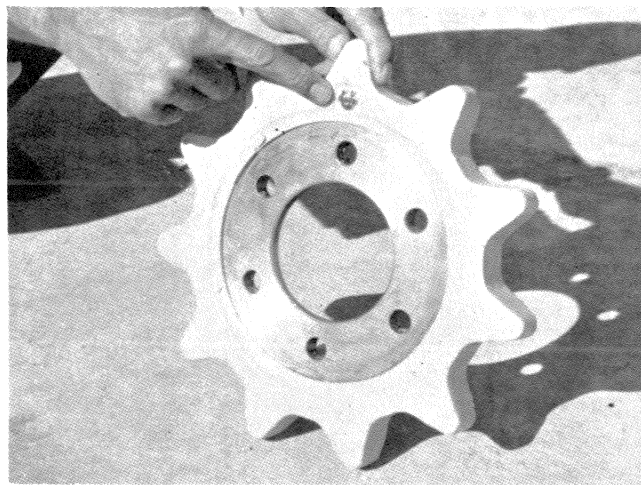


Figure 4. Drive sprocket timing mark

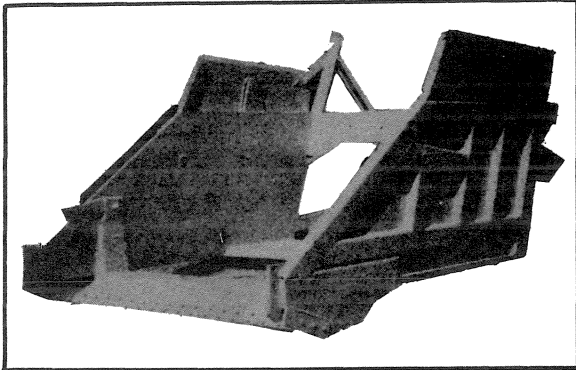




# MAIN FRAME

**MAIN FRAME**

The main frame is that section of the Hancock Scraper in which the load is carried (Fig. 1). It is supported at the rear by a heavy duty axle and wheel assembly, and at approximately the center of the load by two pivoted pull arms. These pull arms are welded to the pull yoke.

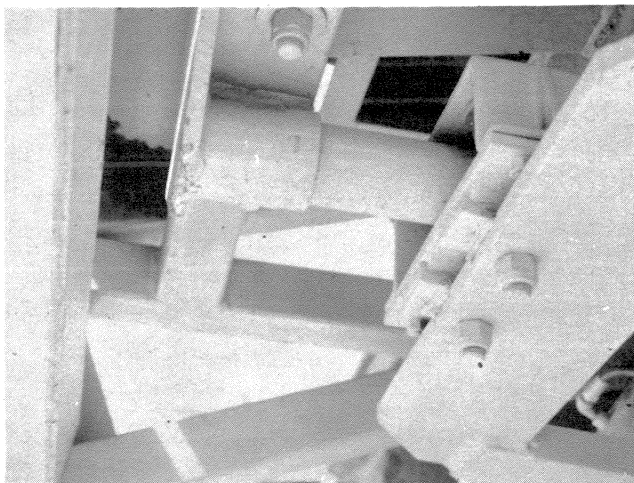


**Figure 1. Main Frame**

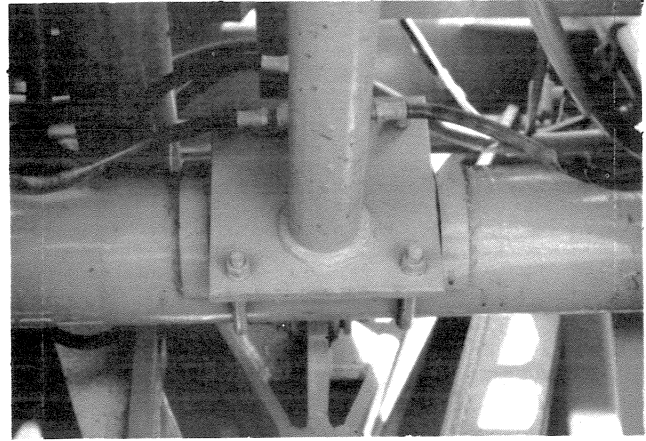
The main frame is raised and lowered by two hydraulic cylinders. These powerful cylinders are connected between the pull arms and the front edge of the main frame, and allow positive control of the depth of cut.

The main frame is of single wall construction, externally reinforced with channel sections. The side walls are rigidly positioned by means of fabricated box sections at the front, bottom, and rear. This type of construction, being all-welded, has proven highly torsion resistant.

On either side of the main bottom, a track for the sliding floor rollers is integral with the reinforcing structure (Fig. 2 & 3). Mounting brackets for the elevator assembly are also integral with the main frame structure.



**Figure 2. Rear End-Gate Track Adjustment**



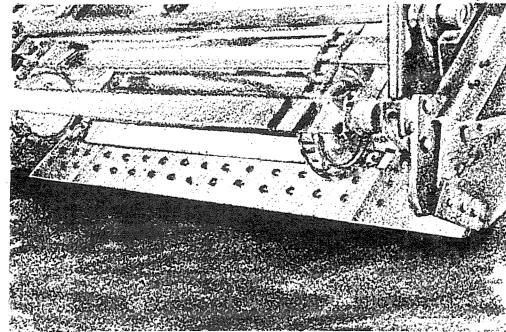
**Figure 3. Front End-Gate Track Adjustment**

A tail frame is of all-welded construction, and forms a part of the complete main-frame structure. Mounting plates for the elevator engine and other accessories are provided.

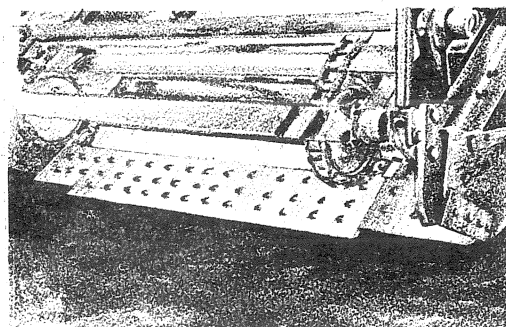
The moldboard is positioned along the front main frame crossmember. The mold board and the scraper blades are designed to allow various arrangements of blades and chisels to most efficiently operate in various types of soil. This results in considerable savings in blade replacement and labor. Obviously, scraper blades should never be allowed to wear to the point where the moldboard is doing the cutting.

**PROPER BLADE ARRANGEMENTS**

To achieve greatest efficiency in cutting and loading, certain methods of procedure and scraper blade arrangement should be observed (Fig. 4). The



**Figure 4a. Straight Blade**



**Figure 4b. Drop Center Blade**

scraper should be operated in a smooth, uniform manner. It is not necessary to drive in a jerky, choppy manner. The elevating feature of the Hancock scraper makes it unnecessary to 'pump' the scraper, or to push-load.

The depth of the cut should be adjusted to the power of the tractor, and the nature of the material being cut. Deeper cuts may be made in loamy dirt or sand, shallower cuts are normally required in hard soil or gumbo.

Experimentation will at times be necessary if material to be loaded creates an abnormal problem. Following procedures are offered as a guide for determining the best method to meet a particular situation.

### ROCKS AND STONES

Cut around large rocks or boulders until they can be 'dozed' out without attempting to load.

### WINDROWED MATERIALS

Use straight blade only. All blade sections should be in the same position horizontally. Blades should be so fastened to the moldboard that both rows of bolts are used.

### HARD OR ABRASIVE MATERIAL

Use chisels on this type of material. This greatly speeds up loading. Chisels may be obtained from your Hancock Distributor.

### SOD OR TURF

Use fully extended drop center blade. Cut in strips, then cut out the centers between the strips.

### GUMBO OR PLASTIC MATERIAL

These materials have to be broken up prior to loading by one of the following methods.

- (1) Use six chisel teeth spaced closely together on the drop center blade.
- (2) Some plastic materials may be loaded with only the drop center blade fully extended to cut material into a narrow strip.
- (3) Add a 30" blade in the center and extend it down below the present drop center. NOTICE: Only in an emergency remove the two 15" side

blades and add these on the lower drop center blade in place of the regular 30" blade.

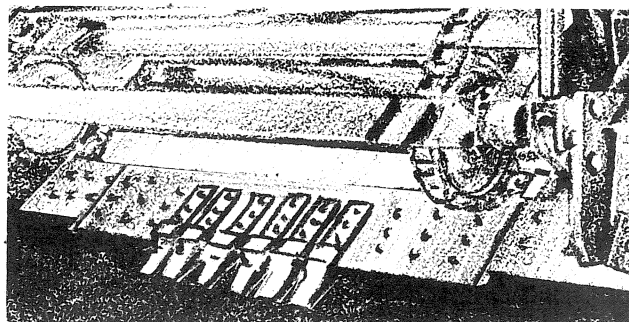
### BLADE CARE AND MAINTENANCE

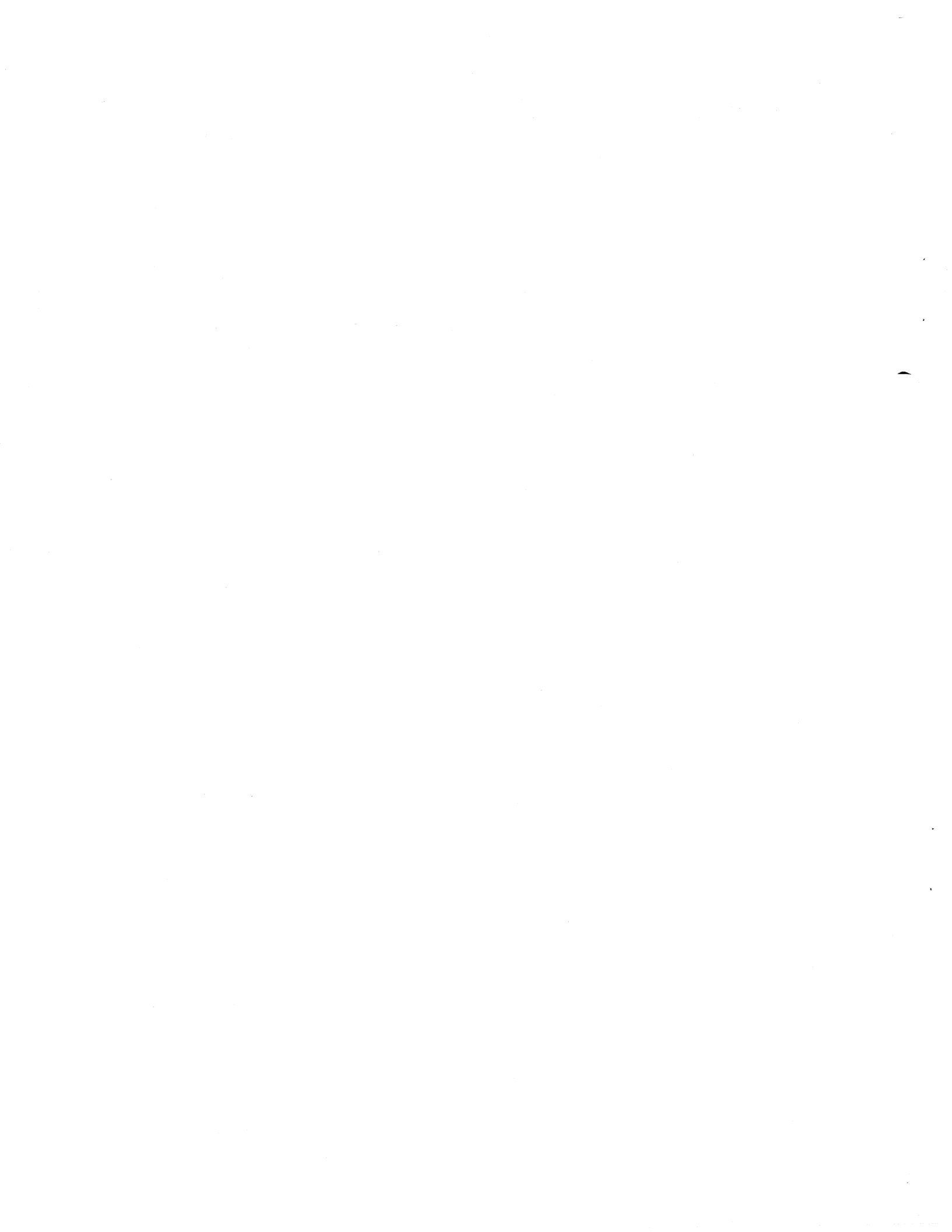
Certain steps may be taken to increase blade wear.

- (1) Rotate blades before cutting edge is completely worn out. Failure to do so may ruin holes so that the other edge of the blade cannot be used at all.
- (2) If blade cuts on one side more than the other, check tire pressure on both scraper and tractor. If pressures are found to be correct, it may be necessary to adjust rear axle, using shims, to obtain an even cut.
- (3) For abrasive conditions it would probably be advisable to hard surface the cutting edges. As this is not advisable for all materials and conditions, it is not recommended for all factory installations. The following procedures for applying hard surface material has been found satisfactory.
  - (1) Clean all areas to be hard-surfaced with a grinding wheel regardless of whether the blade is new or used. Grinding tends to eliminate pin holes and makes it easier to apply the hard metal. The ground surface should always extend beyond the hard metal deposit. Grind back one and one-half inches from the blade edge and deposit the hard metal one and one-quarter inches wide.
  - (2) Before beginning deposit of hard metal, mark off the area to be hard-surfaced with chalk or soapstone to be used as a guide so that the deposit will be uniform in width.
  - (3) Deposit the hard-surfacing material perpendicular to the cutting edge and at an approximate rate of one-quarter pound per foot. This insures against the hard metal "slipping off".
  - (4) For different soil conditions and different moisture content, the hard-surfacing metal may be deposited as follows:
    - (a) Dry, hard soil – Deposit metal on leading edge.
    - (b) Wet, soft soil – Deposit metal on bottom edge.

## CHISELS

Chisels are available and may be obtained from your Hancock distributor. The number needed will vary with the conditions. Ordinarily four chisels will do a satisfactory job; however, in rocky or gumbo conditions it may be necessary to have more. Chisels will break gumbo into thin strips and make the handling of this material much easier. Also, hard ground may be cut by the use of chisels where it might be impossible otherwise. The use of chisels results in considerable savings in blade wear.





# EJECTION SYSTEM

## TAIL GATE

Cylinder adjustment is provided so that in retracted position, the tail gate is 1/4" from rear frame cross member. When cylinder is extended, tail gate is forward about 2" from leading edge of fixed floor. The rear hanger of tail gate cylinder is adjustable, and should be so adjusted that when tail gate is in retracted position and 1/4" from rear frame cross members, tail gate cylinder will be completely retracted. Shim spacing in the tail gate rear cylinder hanger makes precise adjustment possible (Fig. 1). **CAUTION: THIS ADJUSTMENT IS VERY IMPORTANT.** Incorrect adjustment places undue strain on the tail gate ejection system.

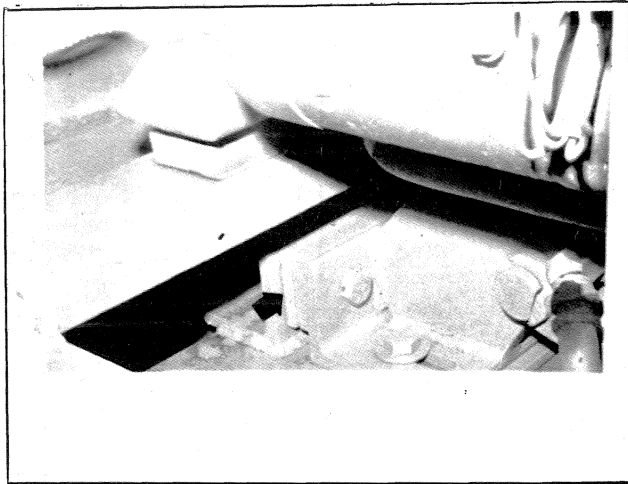


Figure 1. Shim adjustment of Cylinder Hanger

## TAIL GATE STABILIZERS

The tail gate stabilizer insures an even forward movement of the tail gate. This prevents one corner of the tail gate traveling ahead of the other. The stabilizer also controls positioning of the tail gate transversely.

## STABILIZER ADJUSTMENT

The tail gate stabilizer travels along a horizontal track that is adjustable at both ends. Adjustments affect the positioning of the tail gate in relation to the sides of the scraper frame body.

To adjust the tail gate stabilizer track, place the tail gate in the retracted position and loosen bolts of rear track mounting (Fig. 2). Move rear of track to the right or left as necessary to center tail gate between sides of scraper frame body. Tighten rear track mounting bolts.

Cycle the tail gate to the full forward or dump position, and repeat the above procedure with the forward track mounting (Fig. 3). If these adjustments are carefully made, the tail gate will operate squarely in the center of the scraper throughout its entire cycle.

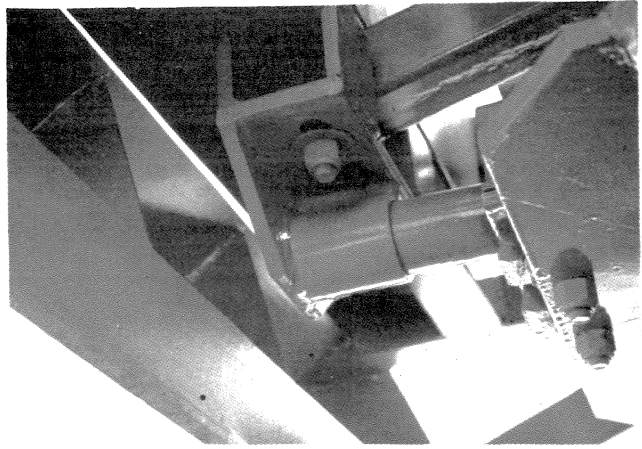


Figure 2. Stabilizer Rear Hanger

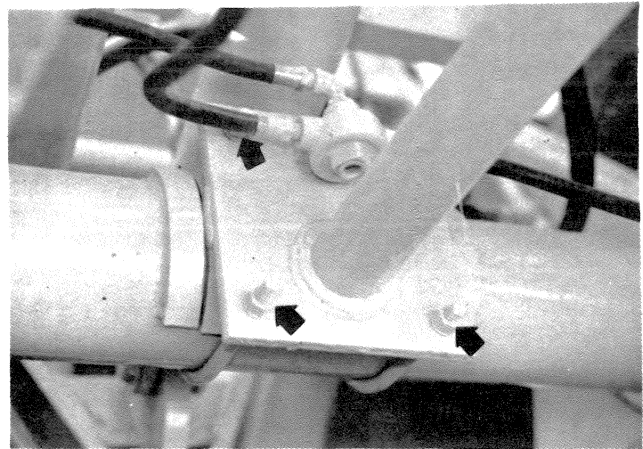


Figure 3. Stabilizer Front Hanger

## SLIDING FLOOR

The cylinder that controls the sliding floor must be adjusted so that when sliding floor is closed, cylinder will be fully extended. This is very important for correct ejection cycling. Improper adjustment of this cylinder will cause front rollers of sliding floor to be overloaded and thereby hasten bearing failure. Shim spacing is provided at rear sliding floor cylinder hanger for this adjustment.

When the sliding floor is in the full forward or closed position, strike-off blade should be slightly open (Fig. 4). **THIS IS VERY IMPORTANT.** If the strike-off blade closes too tightly, the slightest collection of dirt increases the strain on the mechanism, and will tend to place unnecessary weight on the front rollers. This may depress the track.

It may be necessary to readjust the hydraulic cylinder so that it does not extend the sliding floor too far forward. Excessive forward movement of the sliding floor causes a downward pressure on the two front rollers, and misalignment of the hangers. Adjust the cylinder so that a 1/2" clearance is maintained under the strike-off blade when in the full forward position.

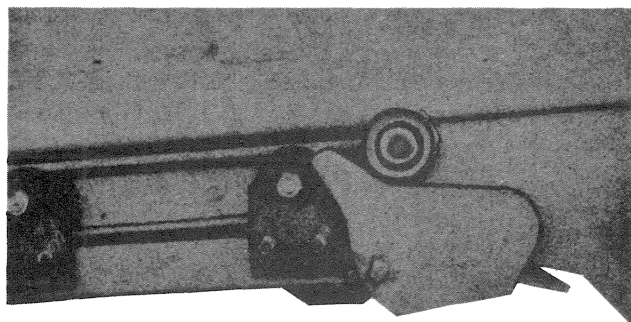


Figure 4. Strike-off blade adjustment

### SLIDING FLOOR ROLLERS

The sliding floor rollers should be adjusted so that there is a 3/16" clearance between roller flange and track on each side of the scraper. The rollers should not bind and must be adjusted to turn freely throughout the entire movement cycle. Clearance may be accomplished by placing washers under roller

hangers. In some types of soil, there may be a build up of material on the tracks. This will have to be scraped off occasionally.

The Hydraulic Cylinder is designed for ease of maintenance and repair. When it becomes necessary to disassemble the cylinder for inspection and repair, observe the following procedures (Number in parentheses refer to Figure 36a):

- (1) Remove 5 capscrews (9) from gland (10).
- (2) Slide gland down rod (13) until retaining ring (15) is visible. Remove retaining ring. Remove complete rod-piston assembly.
- (3) Remove locknut (2) from rod end. Remove piston (6). Seal components may now be removed from rod.
- (4) Inspect all parts for damage. Replace damaged parts. Replace all "O"-rings and seals.
- (5) Reassemble by reversing above procedures. CAUTION: Do not damage "O"-rings and seals during reassembly.

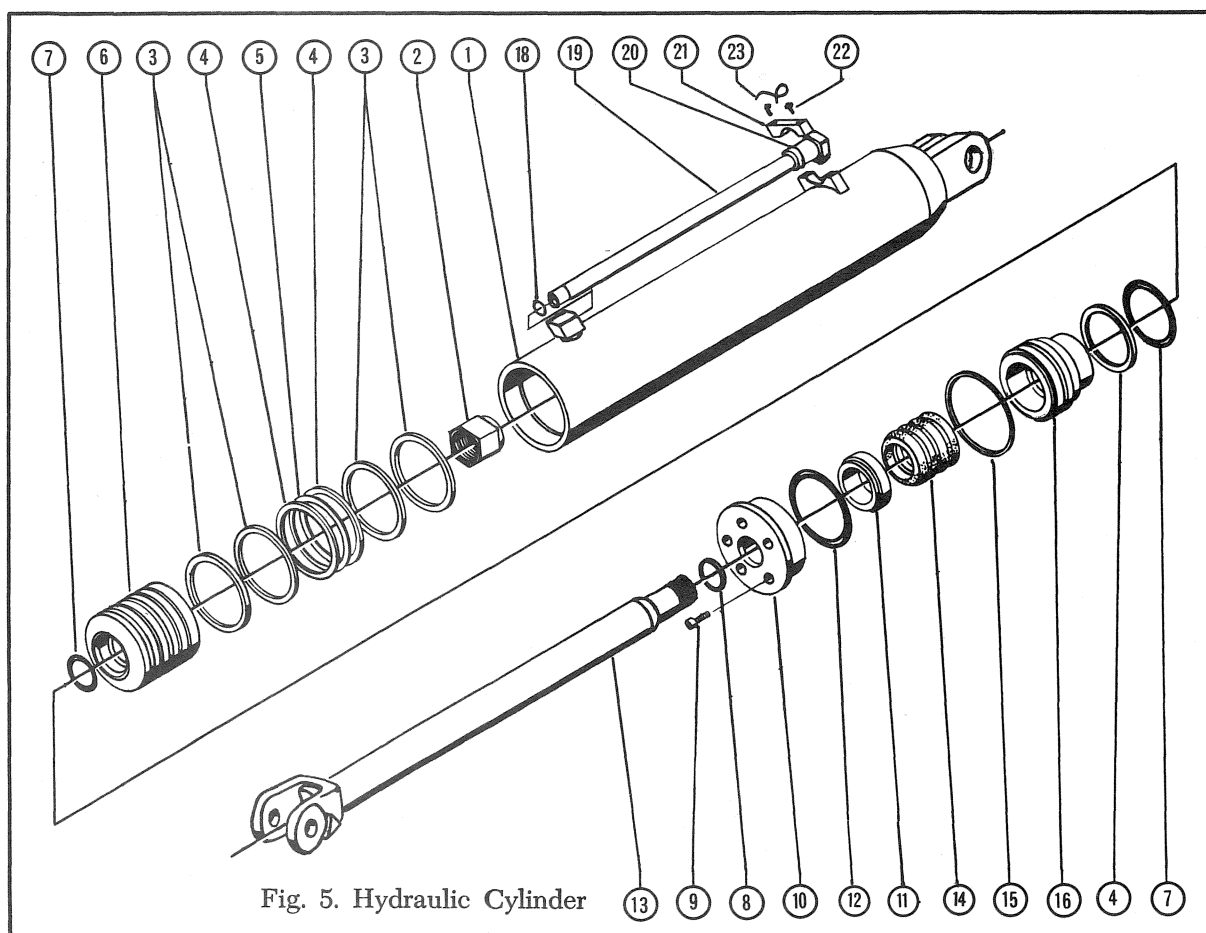


Fig. 5. Hydraulic Cylinder

- |                    |                        |                    |                    |                 |
|--------------------|------------------------|--------------------|--------------------|-----------------|
| 1. Cylinder Barrel | 6. Piston              | 11. Gland Sleeve   | 16. Head           | 21. Flat        |
| 2. Locknut         | 7. O-Ring              | 12. O-Ring         | 17. O-Ring         | 22. Capscrew    |
| 3. Piston Ring     | 8. Wiper               | 13. Rod and Yoke   | 18. O-Ring         | 23. Safety Wire |
| 4. Backup Ring     | 9. Sockethead Capscrew | 14. Rod Packing    | 19. Transfer Tube  |                 |
| 5. Quad Ring       | 10. Gland              | 15. Retaining Ring | 20. Retaining Ring |                 |





## **AXLES, WHEELS AND TIRES**



## DESCRIPTION

## SECTION AWT

The rear axle of the Hancock 12E2E Elevating Scraper is fabricated of steel tubing. It is fitted with machined stub axle shafts, welded into place at each end. Brake backing plate brackets, axle mounting pads, and bearing hanger brackets for the brake actuating cam shaft are welded to the axle tube.

Steel wheels operate on tapered roller bearings, which are mounted on the stub axle shafts. A brake backing plate assembly is mounted on brackets provided. The brake actuating cam shaft is positioned and supported by bearing hangers.

Wheel bearings should be serviced every 500 hours or every six months. The following procedure is recommended when bearing or brake service is indicated.

(1) Jack up the rear wheels of the scraper, and block with timbers or suitable stands.

**CAUTION: EVERY PRECAUTION SHOULD BE OBSERVED TO PREVENT ACCIDENT. SHOULD THE SCRAPER ACCIDENTALLY FALL WITH THE WHEELS REMOVED, NOT ONLY WOULD DAMAGE TO THE SCRAPER RESULT, BUT IT COULD FATALLY INJURE THE SERVICEMAN.**

(2) Rig a means of supporting the wheel and tire assembly during removal.

(3) Remove cap screws securing the hub cap to wheel. Remove hub cap and gasket.

(4) Remove lock nut, lock washer, and retaining nut from stub shaft. Remove hub, wheel, and tire assembly, supporting it by a hoist or other suitable means.

(5) Remove seals, bearings, and retainers. Wash all parts in clean solvent. **CAUTION: DO NOT**

### SPIN BEARINGS WITH AIR NOZZLE.

(6) Clean out any accumulated grease in brake drums and blow out any dust or foreign matter in the brake shoes. Brake linings should be replaced if the wear during the next six months of service would allow the brake lining rivets to touch brake drum.

(7) Inspect wheel bearings for wear or damage prior to replacing. Repack bearings with an approved wheel bearing grease.

(8) Install new seals.

(9) Install wheel bearings, stop washer, and retainer nut. Replace hub, wheel, and tire. Replace retainer nut.

(10) Tighten retaining nut until a slight drag is felt when wheel is rotated. **CAUTION: DO NOT MISTAKE SEAL DRAG OR BRAKE DRAG FOR BEARING PRELOAD DRAG.**

(11) Shake wheel and check for end play. After determining that you have a slight amount of bearing drag, back retaining nut off slightly, lock, and replace hub caps.

(12) Adjust and test brakes. Recheck all work done. Remove dunnage or stands and lower scraper to ground. Check tire pressure on both tractor and scraper tires. Scraper tires should be inflated to the following recommended pressure(s):

18:00-25 — 16 Ply ..... 40 Lbs.

23:50-25 — 16 Ply ..... 35 Lbs.

21:00-25 — 16 Ply ..... 30 Lbs.

It is very important that each pair of tires on both scraper and tractor be inflated to equal pressure to ensure a level cutting blade.

## **BRAKES**

## SECTION AWT

The air brake equipment on the Hancock Elevating Scraper provides a means of controlling the brakes through the medium of compressed air. The air brake equipment consists of a group of devices which (a) maintain a supply of compressed air, (b) direct and control the flow of compressed air, and (c) provide for the energy and motion necessary to apply the brakes. Following is a list of the components comprising an air brake system with a brief description of each.

**COMPRESSOR** — Develops the compressed air to operate the brakes and air accessories. Mounted on and driven by the tractor engine.

**GOVERNOR** — Controls the compression of air by the compressor. Although the compressor runs continuously when the engine is running, the governor, acting with the compressor unloading mechanism in the compressor, stops and starts the compression of air by the compressor when the specified maximum and minimum air pressures are present in the system.

**TREADLE VALVE** — Controls the air pressure being delivered to the brake chambers.

**BRAKE CHAMBERS** — Transform the energy of compressed air into the mechanical force and motion necessary to apply the brakes. One of these units is used to operate the brakes on each wheel (Figure J-1).

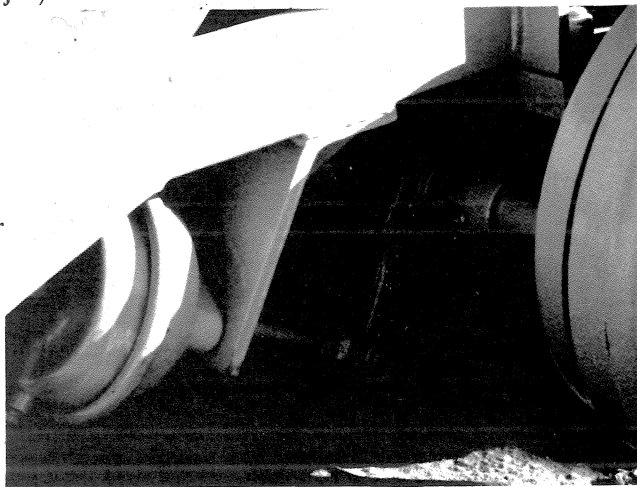


Figure J-1

### Brake Chamber and Slack Adjuster

**SLACK ADJUSTERS** — Provide a quick and easy method of adjusting the brakes to compensate for brake lining wear. One slack adjuster is used for the brakes on each wheel (Figure J-1).

**SAFETY VALVE** — Protects the air brake system against excessive pressure.

**AIR TANKS** — Serve as a reservoir for the compressed air until it is needed for brake operation. They hold sufficient compressed air to make several brake applications even after the engine has stopped.

**AIR PRESSURE GAUGE** — Mounted on the tractor instrument panel, this gauge registers the pressure in the air system.

The brakes are applied or released by depressing or releasing the treadle valve. Depressing the treadle valve allows a controlled flow of compressed air through the hoses and lines to the brake chambers. The amount of air which flows to the brake chambers is proportional to the amount the treadle is depressed. By releasing the treadle valve, the line from the reservoir is sealed closed and the air in the brake chambers escapes through the treadle valve exhaust port and the quick release valve. Graduations in braking force are possible by a graduated use of the treadle valve.

When compressed air is valved to the brake chambers by depressing the treadle valve, the brake chamber diaphragms push out. This movement of the diaphragms causes the brake chamber push rods to move the slack adjusters. In this way, the brake cam shafts and cams are rotated, forcing the brake shoes against the brake drums, applying the brakes. When the air pressure in the brake chambers is exhausted, the force of the brake chamber springs and brake shoe return springs returns the brake system to neutral, thereby releasing the brakes.

The wheel hub and brake drum should be removed every 1500 hours so that the brake assembly may be cleaned and inspected for damage. Clean entire assembly with a suitable solvent such as kerosene. Do not allow the brake linings to become saturated with oil. Observe the following inspection procedure:

1. Check backing plate for cracks and bends. Replace if necessary.
2. Cams should be checked for flat spots. Flat spots on cams can cause serious pulling.
3. Check for bent camshafts. Bent camshafts will tend to bind in the bushings, push the shoes open at an angle and tend to bend the anchor pins or cause a taper wear pattern of the brake linings.
4. Check camshaft bushings or anchor pin bushings for excessive wear and replace if worn.
5. Check brake drums for cracks, checks, distortion and scored surfaces. Severely scored brake drums may be salvaged by reborng. The maximum the drums can be rebored is 3/16". With rebored drums, an oversized lining should be used. If oversized lining is not available, it will be necessary to shim the standard lining. A metal shim should be used between the shoe and lining to conduct the heat away from the lining. When using over-size linings, each shoe must have added to the original thickness ONE HALF the amount removed from the drum.

6. Check brake shoe rollers for binding. If they bind, clean and oil. If they still bind, the roller and pin should be checked for excessive wear. Replace if excessively worn.
7. Clean all rust off faces of brake shoes and smooth down bolt or rivet holes so lining will fit snugly. After properly servicing the brake assembly, replace it and reinstall brake drum and wheel hub.

### BRAKE CHAMBERS

Every 250 hours of service, check travel of brake chamber push rods and adjust brakes if necessary. Push rod travel should be kept at the minimum without brakes dragging. Excessive travel shortens the service life of brake chamber diaphragms and also results in slow braking response. Place a few drops of oil on push rod and yoke pins.

Once a year disassemble brake chambers and clean all parts. Install new diaphragms. When replacing release springs, be sure to use the correct spring. Otherwise, uneven braking will result.

The brake chambers may be tested for serviceability by observing the following procedures:

1. Apply brakes and observe that push rods move out promptly without binding.
2. Release brakes and observe that push rods return to release position promptly without binding.
3. Check travel of push rod to be sure it is at the minimum without brakes dragging.
4. With brakes fully applied, coat with soap suds the brake chamber bolting flanges holding the diaphragm in place to check for leakage. No leakage is permissible. If leakage is found, tighten flange or clamp ring bolts. All flange bolts must be tightened evenly but only sufficiently to prevent leakage. Otherwise, the diaphragm will be distorted and premature failure will result.
5. With brakes fully applied, check for leakage through the diaphragm by coating the clearance hole around the push rod and the drain holes in the non-pressure plate with soap suds. No leakage is permissible. If leakage is found, the diaphragm must be replaced.

### SLACK ADJUSTERS

Slack adjusters provide a quick, easy method for adjusting brakes to compensate for brake lining wear (Figure J-1). Slack adjusters are designed for the needs of heavy-duty, two-shoe foundation brakes.

In normal braking, the entire slack adjuster remains rigid as a unit and rotates bodily with the brake cam shaft as the brakes are applied or released. When the brakes are applied, (a) air pressure actuates the

brake chamber diaphragm, (b) the brake chamber push rod rotates the slack adjuster, (c) the slack adjuster rotates the cam shaft and cam, spreading the brake shoe and applying the brakes. When the brakes are released and (d) the air pressure in the brake chamber is released, (e) the brake chamber release springs and brake shoe return springs return the brake cam, cam shaft, slack adjuster and brake chamber push rod to the released position.

Slack adjusters are adjusted by turning the adjusting screw nut on the end of the worm shaft with a common open end, box or socket wrench. Turning the adjusting screw rotates the worm shaft. The worm shaft rotates the worm gear. The worm gear meshes with the slack adjuster gear and the worm gear rotates the slack adjuster gear. The slack adjuster gear is connected to the brake cam by a splined cam shaft. The turning of the slack adjuster gear rotates the cam shaft and brake cam. The brake cam spreads the brake shoes and compensates for lining wear.

If the vehicle is equipped with a numbered type slack adjuster (Type 15, 16, 20, etc.) which has the positive lock mechanism, position the wrench over the adjusting screw and disengage the locking sleeve by depressing it. Make the necessary adjustment by turning the adjusting screw with the locking sleeve in the depressed position. When the adjustment is completed, make certain the locking sleeve is returned to its locked position by permitting the locking sleeve to engage the hexagon head of the adjusting screw.

Other types of slack adjusters use the lock ball and worm shaft indent principle adjustment lock. Be sure the lock ball engages the indent on the worm shaft after any brake adjustment by listening for a metallic click when adjusting.

Brakes on a vehicle can be adjusted by merely turning the adjusting screw until the brake shoes are against the brake drum with the brake chamber push rod in the released position. Back off the adjustment for sufficient brake lining clearance.

On vehicles with which mechanics are not familiar, it is advisable to jack up the wheel and make the adjustment as close as possible to the position where the brakes just begin to drag. Back off the adjustment to a position where the wheel will again rotate freely.

After proper adjustment, apply the brakes. The slack adjuster arm and brake chamber push rod should form an angle slightly greater than 90 degrees. All slack adjusters on the vehicle should be at the same angle.

Lubricate slack adjusters every six months or 1500 hours with a grease gun.





## **GENERAL NOTES**

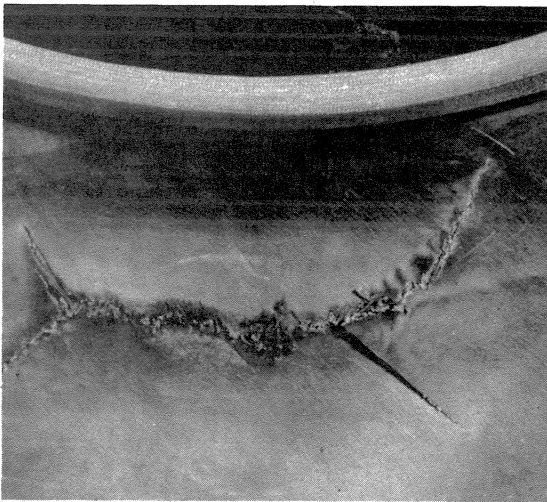
## SECTION AWT

Check air pressure daily. Use a special low pressure gauge with one-pound graduations to ensure an accurate reading. Check gauge occasionally for accuracy.

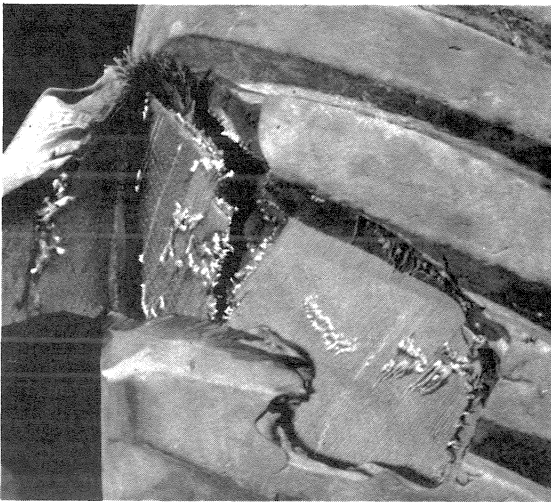
### CARE OF RUBBER TIRES

Inspect tires at regular intervals for possible damage. The sidewall or tread rubber may be cut through, exposing the fabric so that moisture and dirt can get in and cause rotting of the fabric. There are rubber compounds on the market for filling these cuts. Your distributor may be able to do this for you.

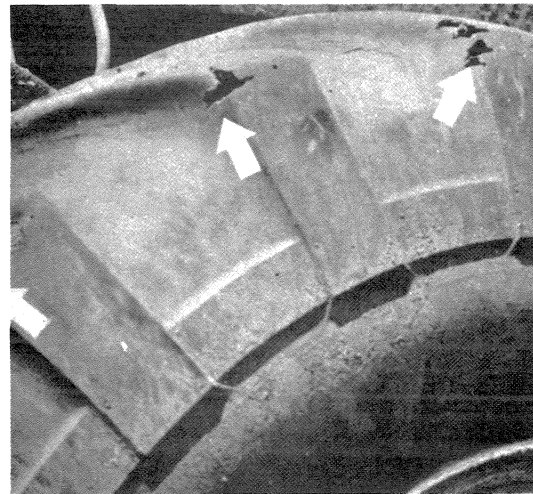
Grease and oil shortens the life of rubber tires. Tires should not stand on oil soaked floors, and should not be subjected to contact with fuel or oil.



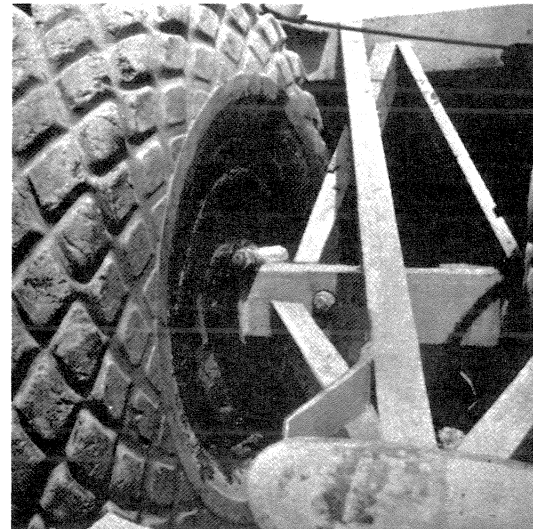
*This break resulted from a severe blow when overinflated.*



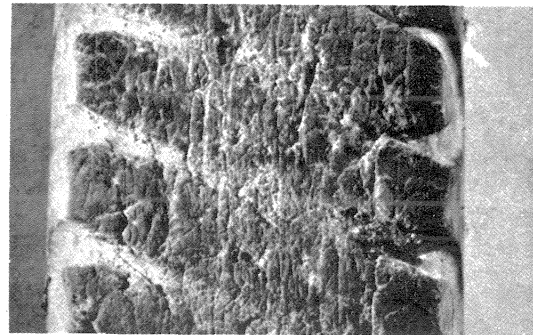
*Blowouts such as this occur frequently when tires are overinflated.*



*A vehicle obstruction takes a bite out of this tire tread at each revolution.*



*Grease and oil are highly damaging to tires.*



*This tire shows the result of spinning. Tires have been worn smooth in 500 hours by spinning on abrasive material.*