Parts & Service Manual

1989 500-SERIES

E1-180E02 518-HE AUTOMATIC
R1-18OEO1

899518

Wheel Horse

WHEEL HORSE 500 SERIES
PARTS & SERVICE MANUAL

INTRODUCTION PAGE

1. How to use this parts manual

1.1 The 500-Series parts manual is divided into major sections arranged in the sequence outlined on the following page. Major sections are subdivided into smaller groups of parts, each with its own illustration and illustration reference numbers.

1.2 Illustrated items are numerically keyed to the parts listing on the facing page. Illustrations are repeated when the parts list is too long for one page. Figure numbers are located at the bottom of each illustration and also at the beginning of each description column. Item numbers are numerically keyed to their respective illustrations.

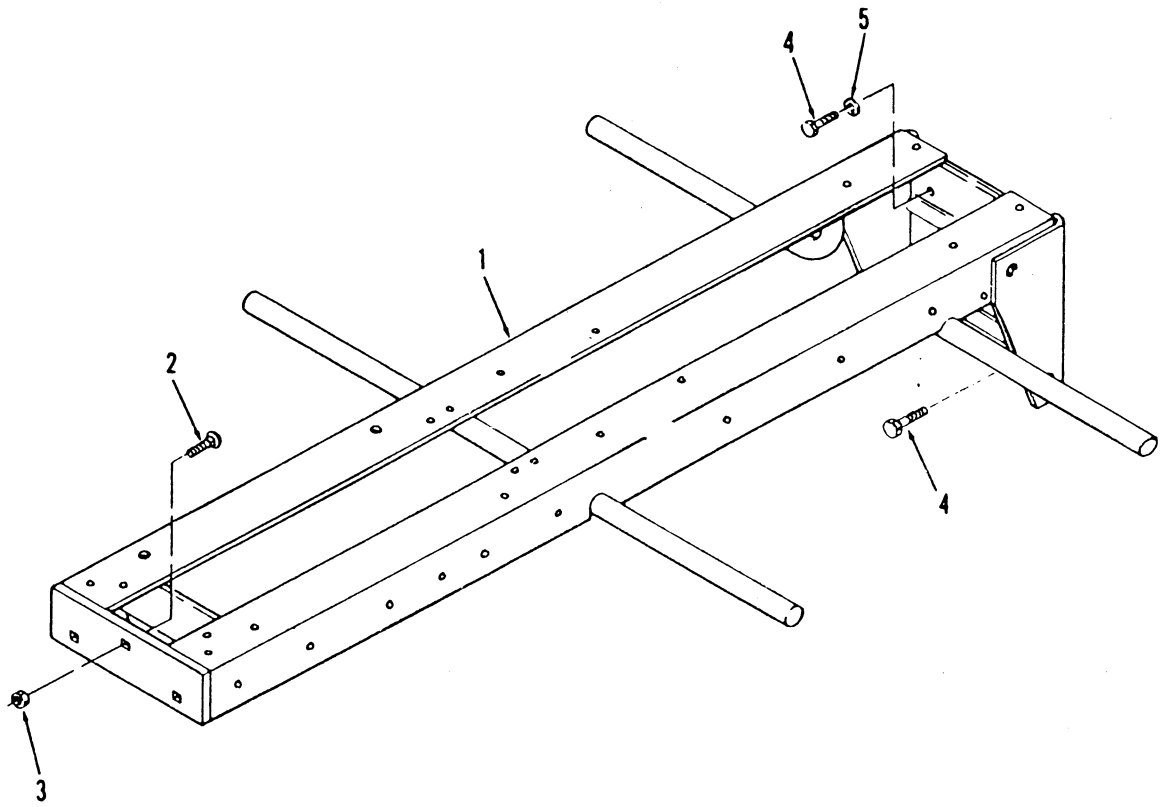
1.3 When an (X) appears in the quantity (Qty) column use only if applicable, or as required to meet tolerances.

2. To locate parts

Refer to the List of Illustrations to locate the proper illustration.

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0103

Figure 1-1 Frame

ITEM	PART NUMBER	DESCRIPTION	QUANTITE
		Figure 1-1 **FRAME**	
1	110648	Frame	1
2	900064	Carriage Bolt 3/8-16 x 1 1/4	3
3	915663	E.S. Nut 3/8-16	4
4	908032	Bolt 3/8-16 x 3/4	4
	908035	Bolt 3/8-16 x 1-1/4	4
5	920083	Lockwasher 3/8	4

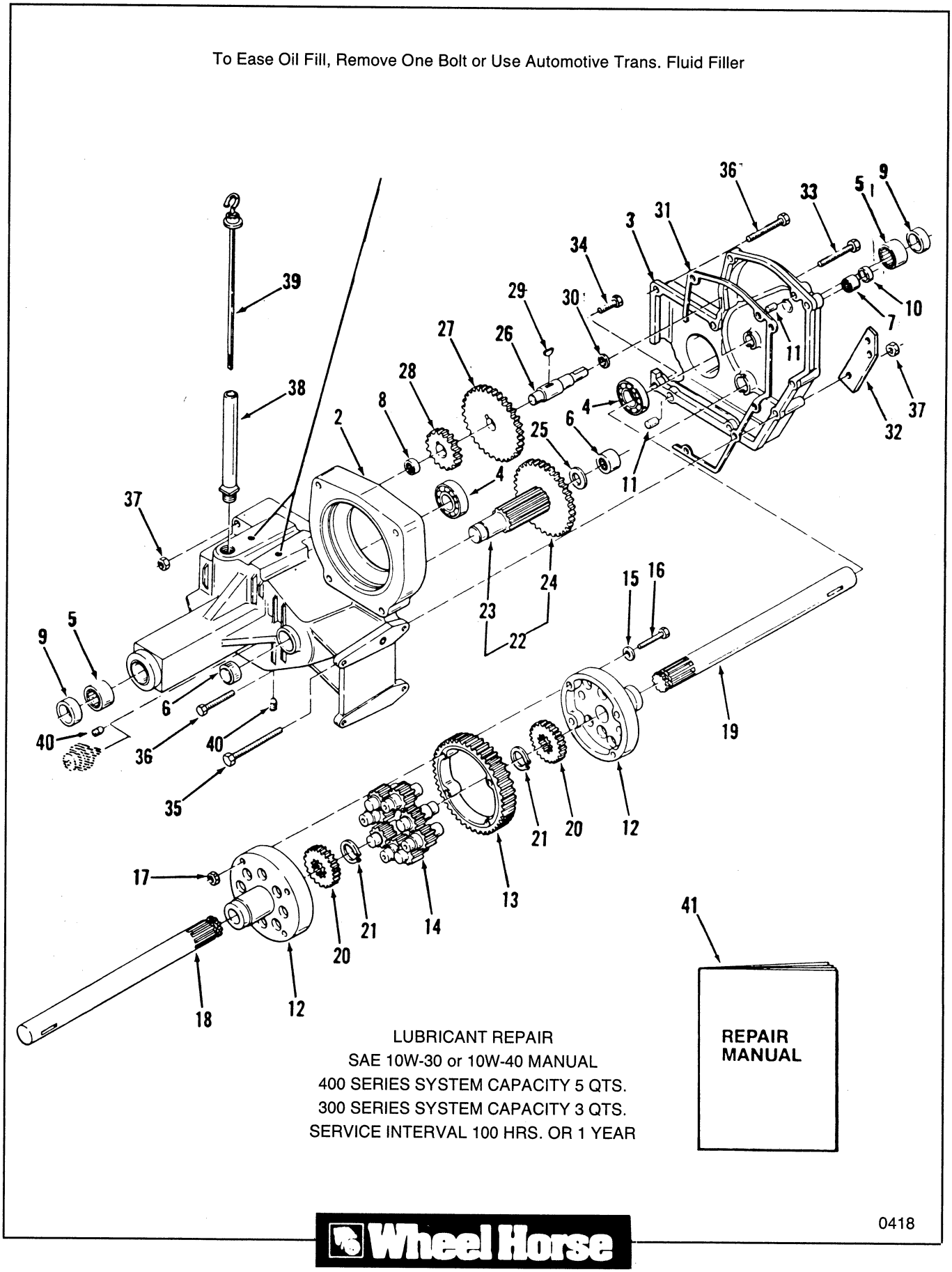


Figure 2-1 Transaxle

Figure 2-1
TRANSAXLE

ITEM	PART NUMBER	DESCRIPTION	QUANTITE
	115173	Transaxle Complete	1
2	113927	Case-Transaxle RH	1
3	111201	Case-Transaxle LH	1
4	111199	Ball Brg 40 mm I.D.	2
5	9416	Needle Bearing 1-1/8 I.D.	2
6	1532	Needle Bearing 1 I.D.	2
7	1538	Needle Bearing 3/4 I.D.	1
8	1518	Needle Bearing 5/8 I.D.	1
9	6449	Seal Axle	2
10	108357	Seal	1
11	108363	Dowel Pin	2
12	111196	Diff. End Cap	2
13	105061	Differential Ring Gear 43 Tooth	1
14	101623	Differential Pinion Gear 11 Tooth	8
15	107374	Special Washer-Case Hardened	4
16	911423	Bolt 3/8-16 x 3-1/2 (Grade 8)	4
17	108881	Nut 3/8-16 High-Tensile	4
18	108362	Rear Axle RH-Long (13 1/8 in./33 cm)	1
19	108361	Rear Axle LH-Short (10 1/8 in./26 cm)	1
20	101889	Differential Axle Gear 24 Tooth	2
21	105876	Special Snapring	2
22	109703	Gear Assembly	1
23	101625	Gear-Pinion 11 Tooth	1
24	101887	Gear-Reduction 46 Tooth	1
25	9547	Thrust Washer	1
26	109370	Shaft	1
27	109752	Gear 46 Tooth	1
28	109742	Gear 20 Tooth	1
29	937099	Woodruff Key 3/16 x 1-1/8	1
30	7956	Thrust Washer	1
31	108312	Gasket-Case	1
32	109367	Bracket-Brake	1
33	908040	Bolt 3/8-16 x 2-1/2 Eslok	1
34	908035	Bolt 3/8-16 x 1-1/4 Eslok	1
35	908149	Bolt 3/8-16 x 5-1/2	1
36	908043	Bolt 3/8-16 x 3-1/2	2
37	915663	Nut 3/8-16 E.S.	2
38	106448	Filler Tube	1
39	110768	Dipstick	1
40	943460	Allen Hd. Pipe Plug 1/4 (1 used on 520-H)	2
41	810243R2	Repair Manual	1

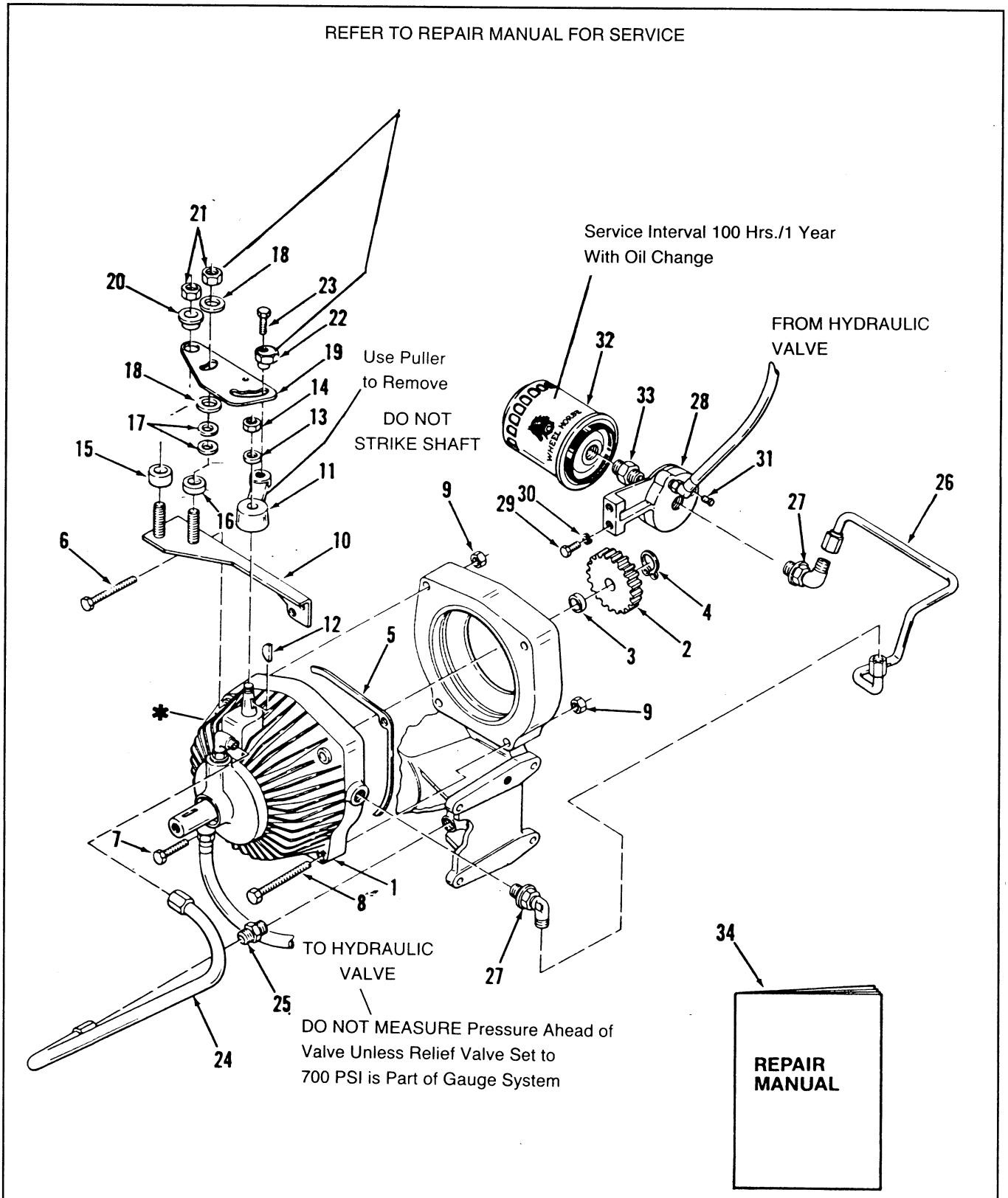


Figure 2-2 Automatic Transmission

Figure 2-2
AUTOMATIC TRANSMISSION

ITEM	PART NUMBER	DESCRIPTION	QUANTITE
1	108368	Pump & Motor (Rebuilt P/N 219020)	1
2	109751	Gear 20 Tooth	1
3	108366	Spacer-Drive Gear	1
4	936121	Snapring 5/8 Ext	1
5	108319	Gasket	1
6	908149	Bolt 3/8-16 x 5-1/2	2
7	908040	Bolt 3/8-16 x 2-1/2 Eslok	1
8	911429	Bolt 3/8-16 x 6-1/2	1
9	915663	Nut 3/8-16 E.S.	3
10	108329	Control Plate	1
11	108325	Cam Follower Arm	1
12	937009	Woodruff Key 1/8 x 5/8	1
13	920011	Washer 1/2 SAE	1
14	915665	Nut 1/2-13 Elastic	1
15	108326	Pivot Spacer (Long)	1
16	108327	Friction Spacer (Short)	1
17	100365	Washer-Spring Disc	2
18	100305	Washer-Friction	2
19	108333	Cam-Speed Control	1
20	100309	Spacer	1
21	108881	Locknut 3/8-16 Hi-Tensile	2
22	106661	Eccentric Cam	1
23	908019	Bolt 5/16-18 x 1 Eslok	1
24	111217	Tube-Suction	1
25	108364	Fitting (With 973620 O-Ring)	1
26	109377	Tube Assembly	1
27	108365	Elbow (With 973370 O-Ring)	2
28	108323	Base-Oil Filter	1
29	908017	Bolt 5/16-18 x 3/4	2
30	920082	Lockwasher 5/16	2
31	943460	Plug 1/4 NPT	1
32	108335	Oil Filter	1
33	5991	Fitting	1
34	810243R2	Repair Manual	1
	937089	Woodruff Key (not illustrated)	1

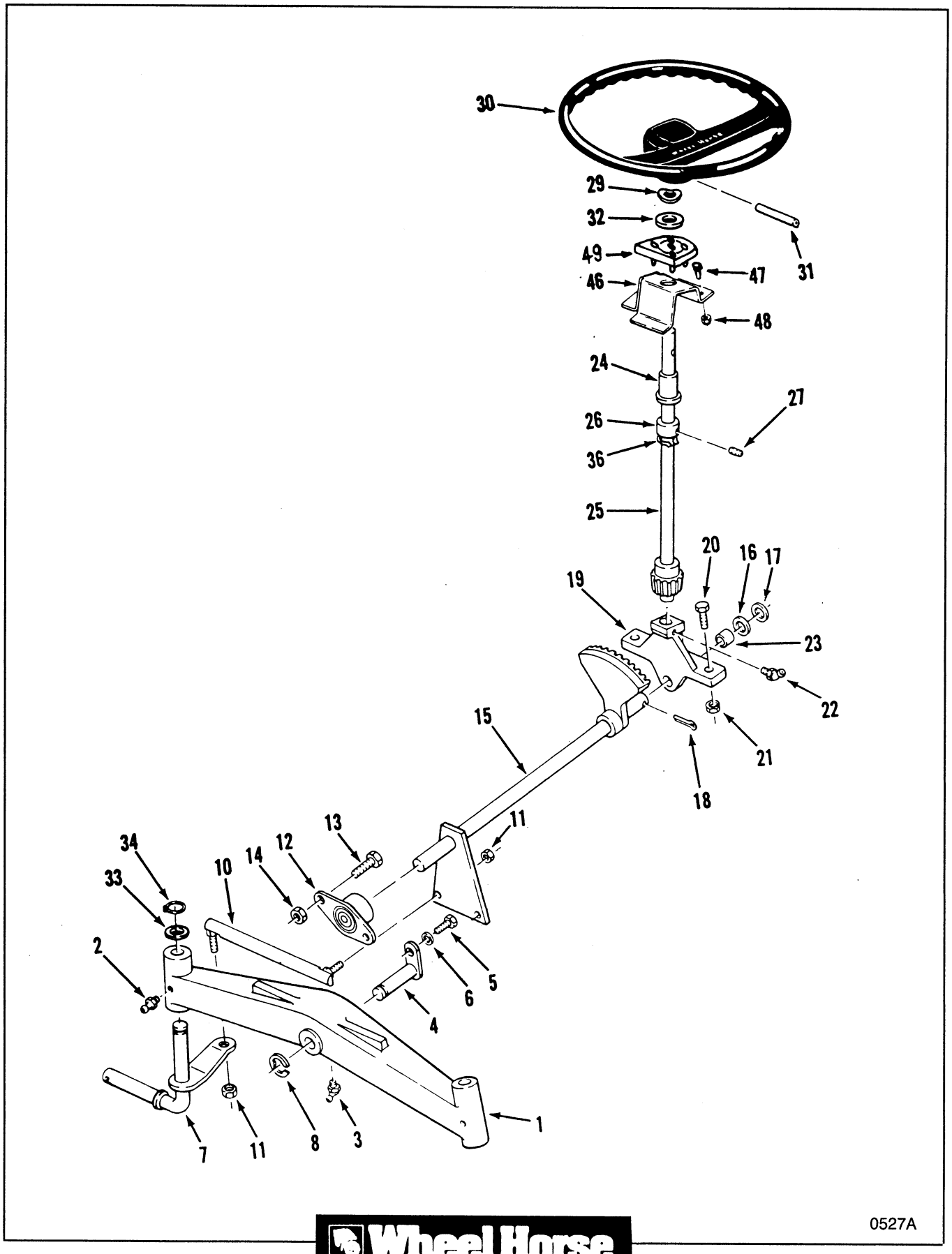


Figure 3-1 Front Axle and Steering

Figure 3-1
FRONT AXLE AND STEERING

ITEM	PART NUMBER	DESCRIPTION	QUANTITE
1	5638	Front Axle	1
2	1030	Grease Fitting Straight	2
3	1481	Grease Fitting 45 Degree	1
4	6216	Pin and Plate	1
5	908015	Bolt 5/16-18 x 1/2	1
6	920082	Lockwasher 5/16	1
7	113382	Front spindle RH	1
	113381	Front Spindle LH	1
8	5618	E-Ring	1
10	102592	Tie Rod RH	1
	102593	Tie Rod LH	1
11	915693	E.S. Nut 3/8-24	4
12	6472	Flanged Bearing	1
13	908032	Bolt 3/8-16 x 3/4	1
14	915663	E.S. Nut 3/8-16	3
15	114198	Lower Steering Shaft	1
16	5210	Shim Washer 3/4 x .015	X
17	1278	Shim Washer 3/4 x .050	X
18	932035	Cotter Pin 3/16 x 1-1/4	1
19	109733	Steering Support	1
20	908037	Bolt 3/8-16 x 1-1/4	2
21	915663	E.S. Nut 3/8-16	2
22	1481	Grease Fitting 45 Degree	1
23	6397	Bearing-Lower Steering Shaft	1
24	109189	Bearing-Upper Steering Shaft	1
25	106177	Upper Steering Shaft	1
26	1085	Collar	1
27	909848	Eslok Set Screw 1/4-20 x 1/4	1
29	7896	Bowed Washer	1
30	113989	Steering Wheel	1
31	933221	Spirol Pin 1/4 x 2	1
32	109262	Special Washer	X
33	1278	Washer	2
34	104822	Retaining Ring	2
36	111646	Grip Ring	1
46	114528	Steering Bracket	1
47	908002	Bolt 1/4-20 x 5/8	3
48	915661	E.S. Nut 1/4-20	3
49	115659	Steering Shaft Cover	1

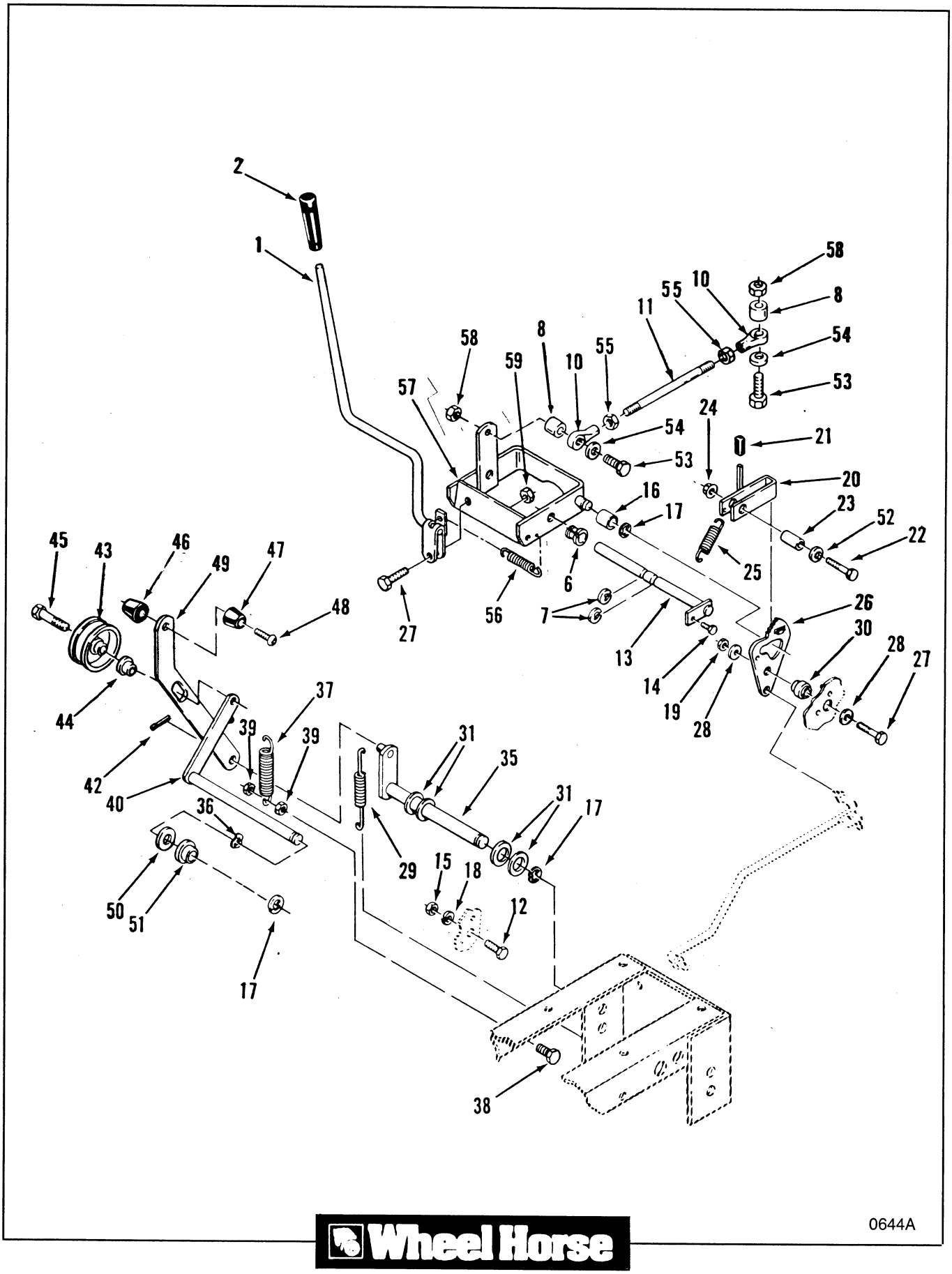


Figure 4-1 Clutch, Brake & Speed Control Linkage

Figure 4-1
CLUTCH, BRAKE & SPEED CONTROL LINKAGE

ITEM	PART NUMBER	DESCRIPTION	QUANTITE
1	115691	Motion Control Lever	1
2	115693	Knob-Motion Control Linkage	1
6	5983	Bushing	2
7	5701	E-Ring	2
8	100304	Spacer 520's	2
10	110189	Rod End	2
11	108904	Rod Control 9'' Long 520's	1
12	908003	Bolt 1/4-20 x 3/4	1
13	108496	Pivot Rod-Motion Control Lever	1
14	926694	S.T. Bolt 5/16-18 x 5/8	1
15	915234	Nut 1/4-20	1
16	100656	Cam Bearing	1
17	5701	E-Ring 1/2	4
18	920122	Lockwasher 1/4 External Tooth	1
19	915663	E.S. Nut 3/8-16	1
20	106325	Parking Brake Lever	1
21	100489	Grip-Parking Brake Lever	1
22	908037	Bolt 3/8-16 x 1-3/4	1
23	102025	Spacer	1
24	102809	Special Flanged Nut	1
25	1230	Spring	1
26	108716	Cam Plate	1
27	908036	Bolt 3/8-16 x 1-1/2	1
28	920039	Washer 3/8 SAE	2
29	110769	Spring Anti-Rattle	1
30	108717	Spacer	1
31	920011	Washer 1/2 SAE	1
35	106369	Shaft	1
36	108473	Wave Washer	2
37	107938	Spring	1
38	908005	Bolt 1/4-20 x 1	1
39	915661	E.S. Nut 1/4 x 20	4
40	106368	Pivot Rod	1
42	932001	Cotter Pin 1/16 x 3/4	1
43	112426	Idler Pulley	1
44	106450	Spacer	1
45	106193	Special Bolt 3/8-16 x 1-1/2	1
46	8722	Knob	1
47	8693	Knob	1
48	911747	Screw nr. 10-24 x 1-1/4	1
49	110780	Handle	1
50	920011	Washer 1/2 SAE 520's	1
51	7879	Bushing	1
52	920009	Washer 3/8 SAE	1
53	908007	Bolt 1/4-20 x 1-1/2 520's	2
54	920007	Washer 1/4 SAE	2
55	915083	Jam Nut 1/4-28	2
56	103125	Spring	1
57	113454	Cam Control	1
58	915663	E.S. Nut 3/8-16	1
	114823	Curvel Spring Washer (not illustrated)	1
	3765	Shim Washer (not illustrated)	1

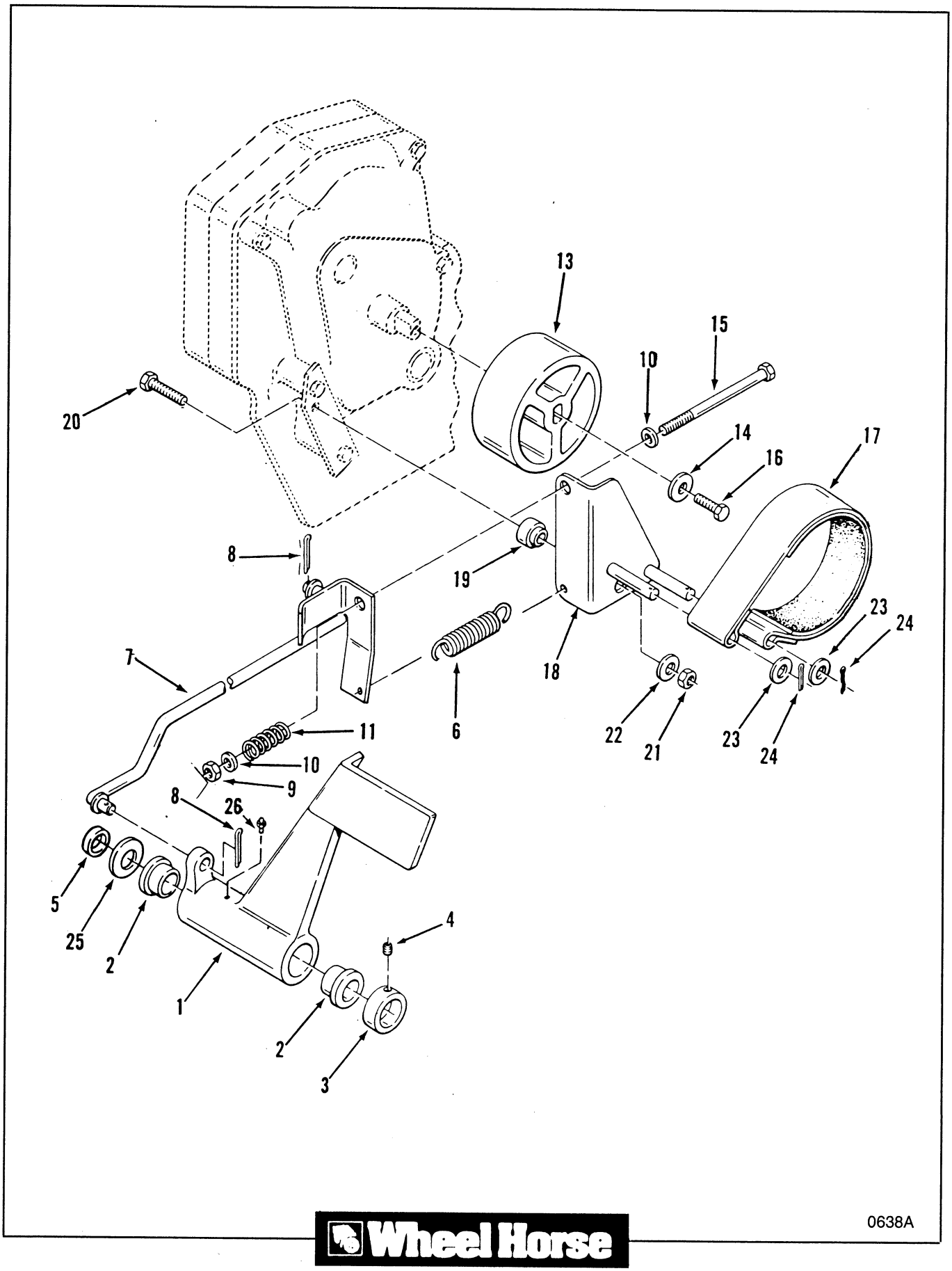


Figure 4-2 Clutch, Brake & Speed Control Linkage

Figure 4-2
CLUTCH, BRAKE & SPEED CONTROL LINKAGE

ITEM	PART NUMBER	DESCRIPTION	QUANTITE
1	114099	Brake/Return To Neutral Pedal	1
2	6254	Bushing	2
3	1085	Collar	1
4	909848	Eslok Set Screw 1/4-20 x 1/4	1
5	102263	Spacer	1
6	103125	Spring-Brake Return	1
7	109372	Brake Rod-Front 520's	1
8	932017	Cotter Pin 1/8 x 1	2
9	915663	E.S. Nut 3/8-16	1
10	920009	Washer 3/8 SAE	2
11	108680	Spring	1
13	106719	Brake Drum	1
14	2844	Special Washer	1
15	908144	Bolt 3/8-16 x 4-1/2	1
16	908034	Eslok Bolt 3/8-16 x 1	1
17	109371	Brake Band	1
18	109366	Brake Pivot Arm	1
19	109356	Bushing	1
20	908036	Bolt 3/8-16 x 1-1/2	1
21	915663	E.S. Nut 3/8-16	1
22	920039	Washer 3/8 U.S.	1
23	920009	Washer 3/8 SAE	2
24	932008	Cotter Pin 3/32 x 3/4	2
25	1278	Shim Washer	X
26	1030	Grease Fitting	1

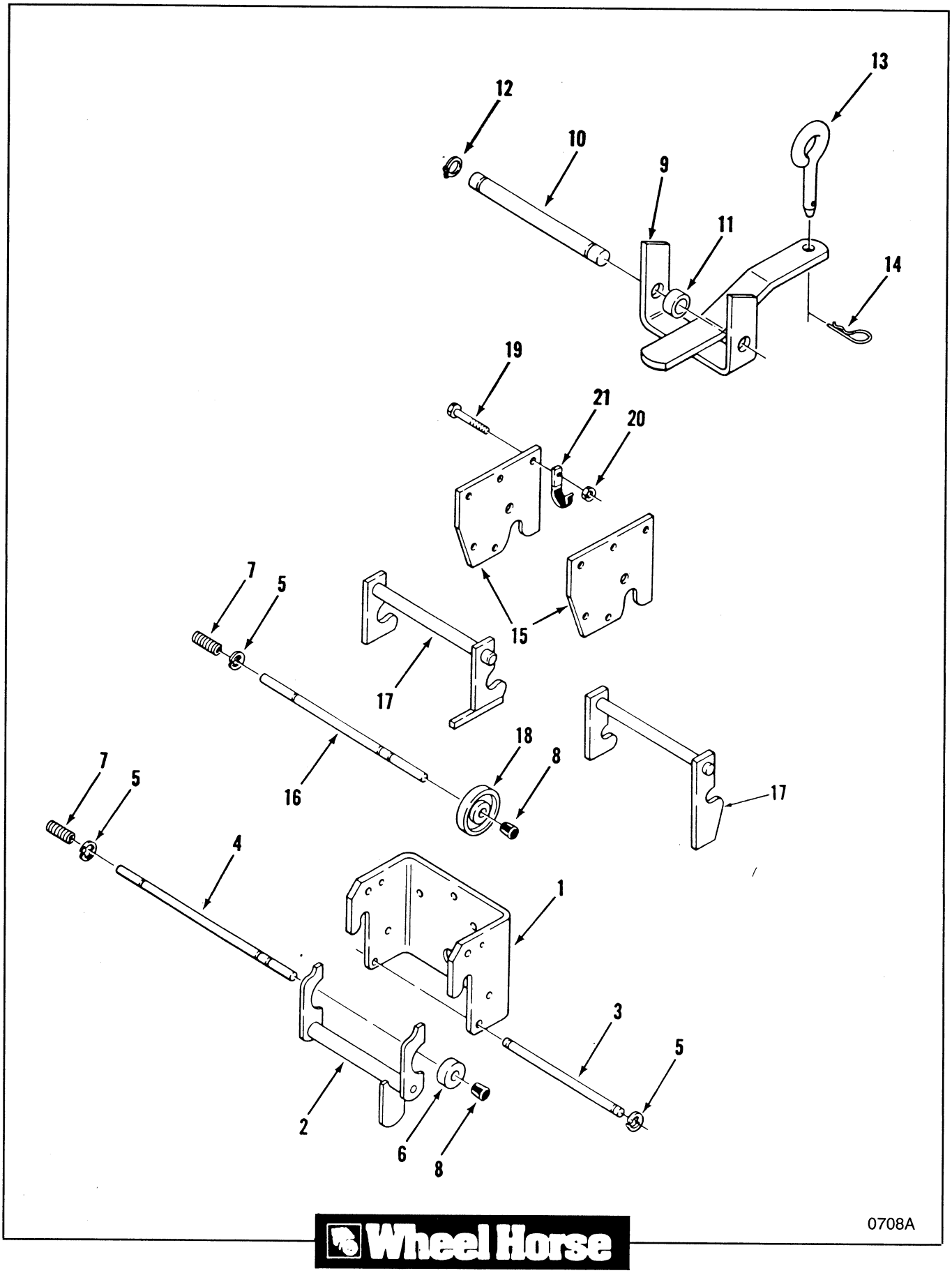


Figure 5-1 Hitches

Figure 5-1
HITCHES

ITEM	PART NUMBER	DESCRIPTION	QUANTITE
1	101711	Front Hitch Housing	1
2	105859	Latch-Front Hitch	1
3	101750	Rod	1
4	101751	Rod-Front Hitch Lock	1
5	105797	E-Ring	8
6	101707	Lock	1
7	8616	Spring	2
8	105316	Cap-Lock Rod	2
9	1644	Drawbar Hitch	1
10	105269	Shaft-Drawbar Hitch	1
11	979120	Spacer	2
12	5618	E-Ring	2
13	106634	Hitch Pin	1
14	933505	Hairpin Cotter	1
15	102644	Mid Hitch Plate	2
16	102672	Rod-Mid Hitch Lock	1
17	102639	Latch-Mid Hitch	1
18	101017	Lock	1
19	908034	Bolt 3/8-16 x 1	2
20	915663	E.S. Nut 3/8-16	4
21	8830	Clip	2

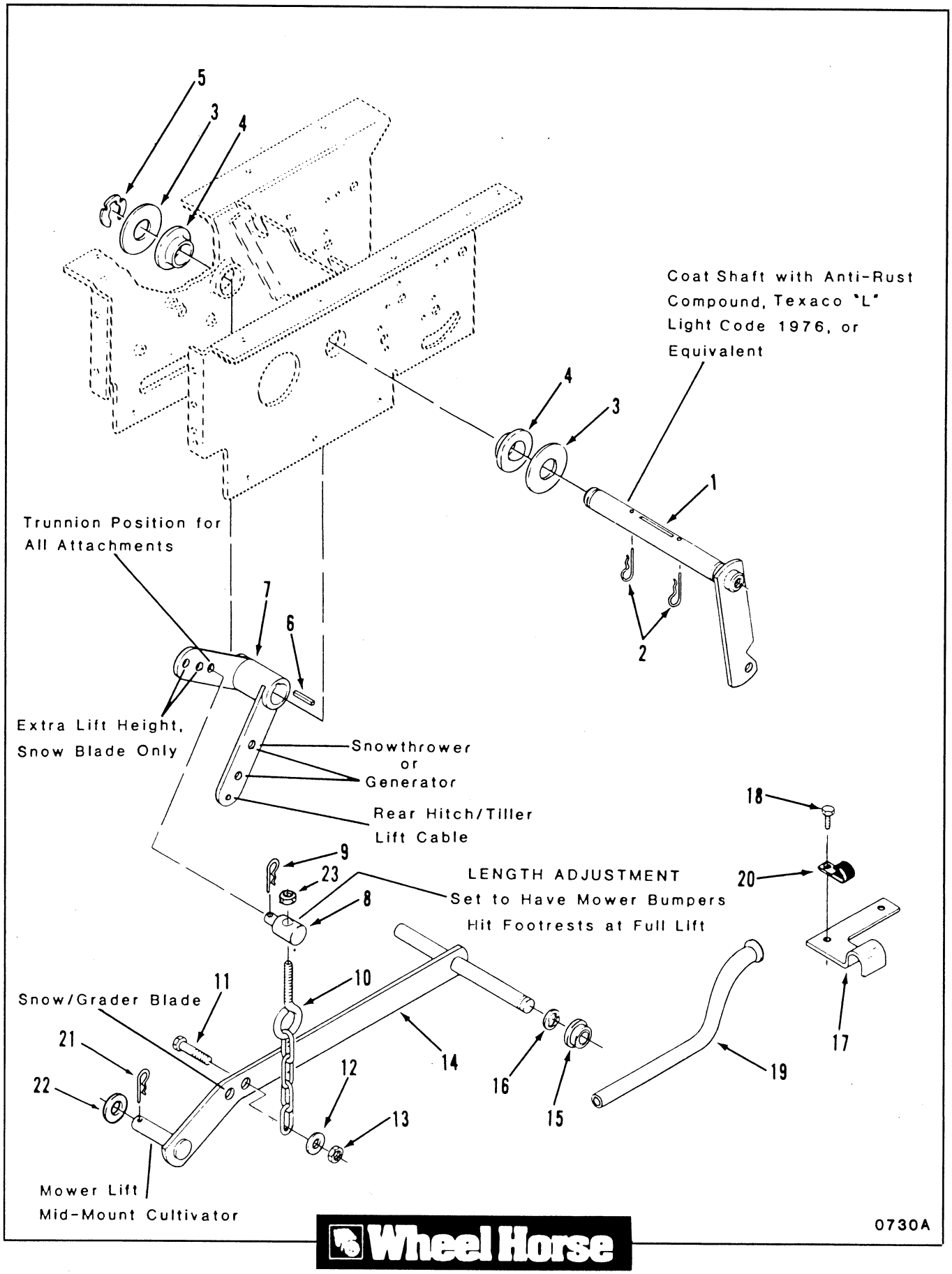


Figure 5-3 Hydraulic Lift Linkage

Figure 5-3
HYDRAULIC LIFT LINKAGE

ITEM	PART NUMBER	DESCRIPTION	QUANTITE
1	109320	Lift Lever	1
2	933507	Hairpin Cotter	2
3	920017	Washer 1" SAE	3
4	106269	Bushing	2
5	106414	Retainer	2
6	1121	Key 1/4 sq. x 1-3/16	1
7	106218	Bellcrank	1
8	6739	Trunnion	1
9	933505	Hairpin Cotter	1
10	106522	Lift Chain	1
11	908019	Bolt 5/16-18 x 1	1
12	920008	Washer 5/16	1
13	915662	E.S. Nut 5/16-18	1
14	113445	Lift Bar	1
15	6229	Bearing	1
16	5701	E-Ring	1
17	108903	Clamp Tube	1
18	908034	Eslok Bolt 3/8-19 x 1	2
19	108315	Tube - Rear Lift Cable	1
20	8830	Clamp	1
21	933505	Hairpin Cotter	1
22	920011	Washer 1/2 SAE	1
23	915663	E.S. Nut 3/8-16	1

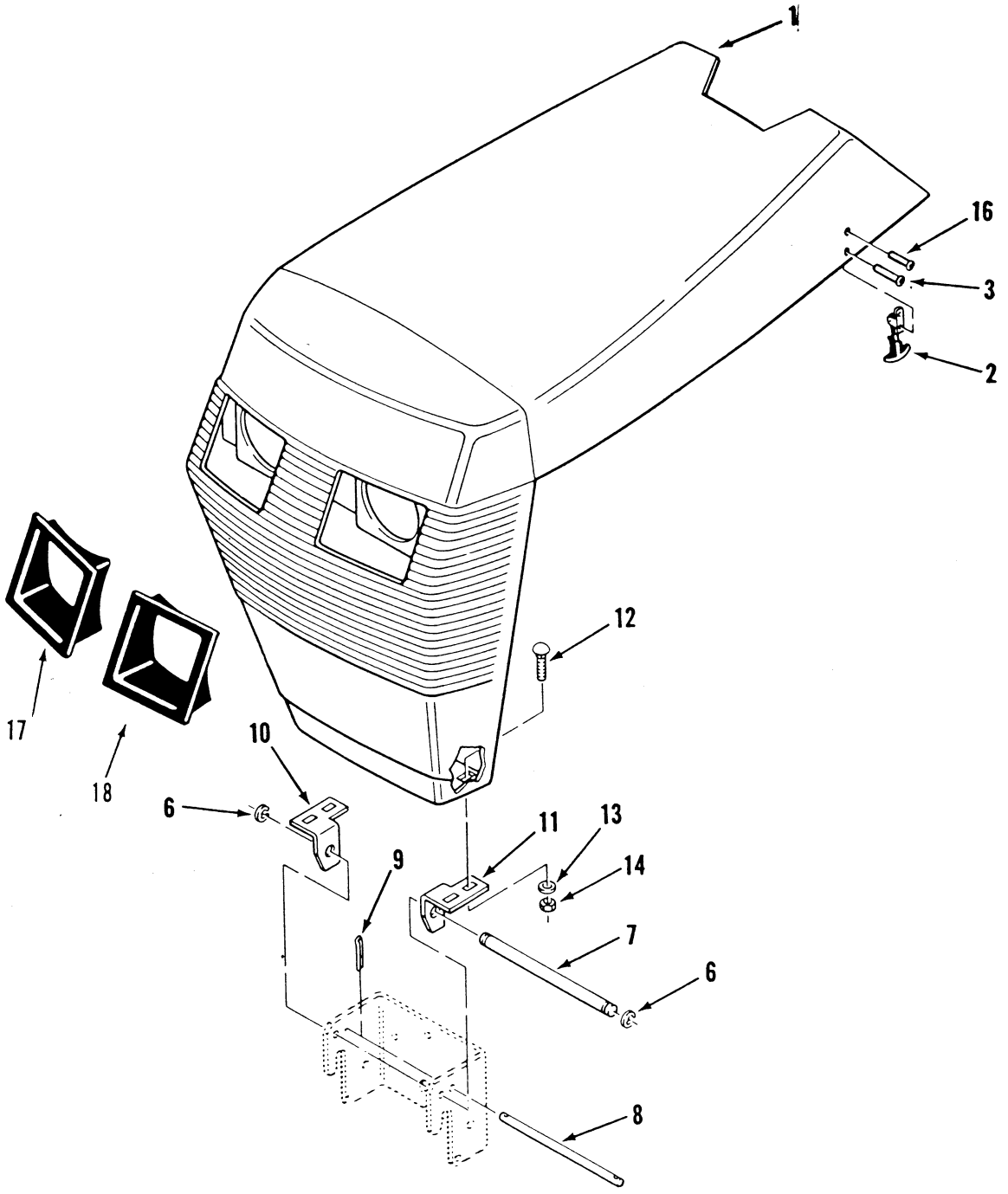


Figure 6 - 1 Sheet Metal and Covers

Figure 6-1
SHEET METAL AND COVERS

ITEM	PART NUMBER	DESCRIPTION	QUANTITE
1	113966	Hood	1
2	106825	Hood Latch (includes 109236 Handle Ass'y & 109237 Latch Keeper)	2
3	923785	Pop Rivet 1/8 x .294	4
6	105797	E-Ring	2
7	101710	Pivot Rod	1
8	101850	Hood Stop Rod	1
9	932000	Cotter Pin 1/16 x 1/2	2
10	109145	Bracket RH	1
11	109146	Bracket LH	1
12	900015	Carriage Bolt 1/4-20 x 3/4	4
13	920007	Washer 1/4 SAE	4
14	915661	E.S. Nut 1/4-20	4
16	923784	Pop Rivet 1/8 x .232	2
17	109494	R.H. - Headlight Bezel	1
18	109495	L.H. - Headlicht Bezel	1

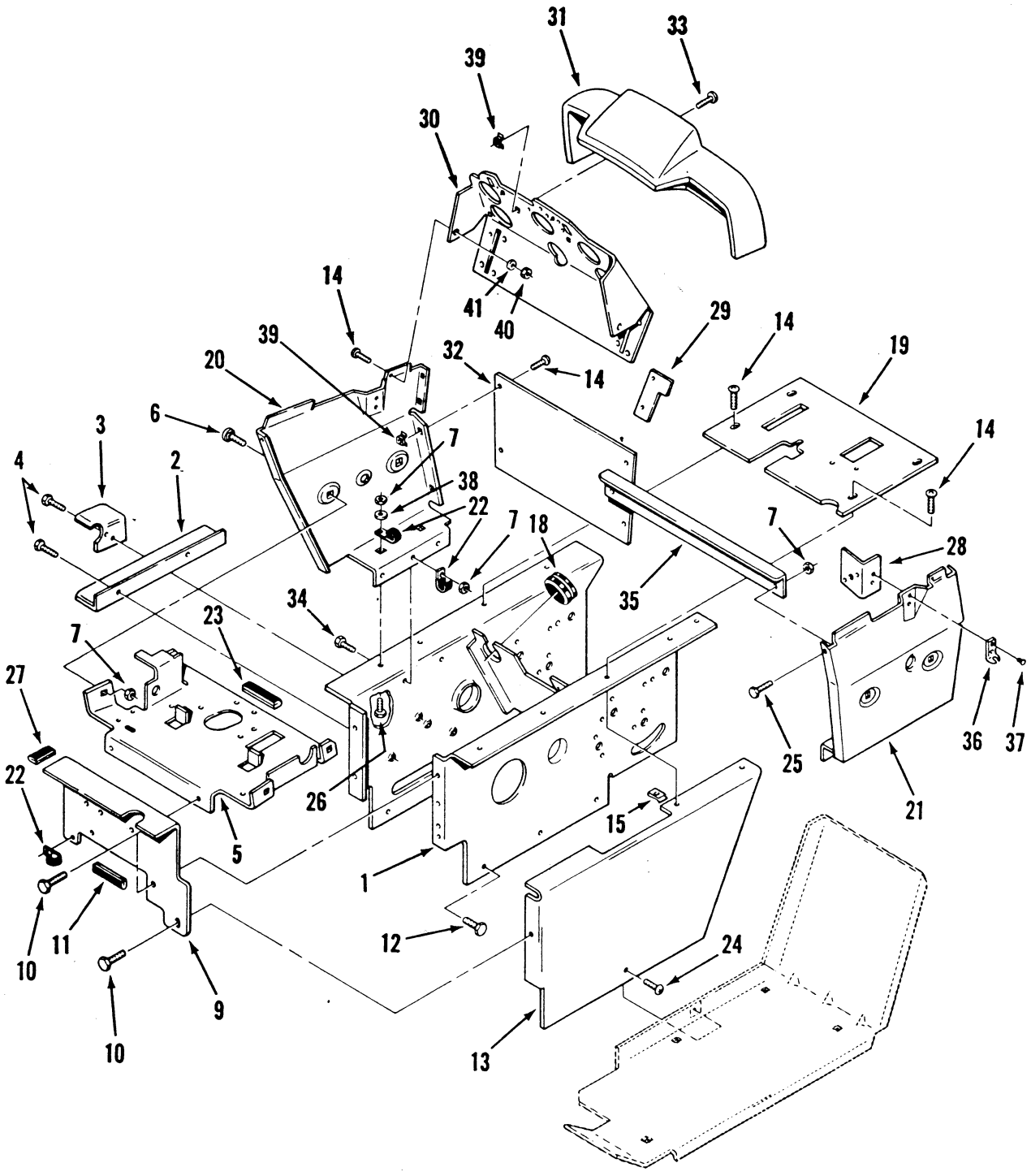


Figure 6 - 2 Sheet Metal and Covers

Figure 6-2
SHEET METAL AND COVERS

ITEM	PART NUMBER	DESCRIPTION	QUANTITE
1	113937	Hoodstand	1
2	114871	Belt Support Bracket	1
3	108537	Belt Bracket	1
4	926694	S.T. Bolt 5/16-18 x 5/8	4
5	113944	Battery Support Bracket	1
6	908017	Carriage bolt 5/16-18 x 3/4	4
	920008	Washer 5/16 SAE	2
7	915662	E.S. Nut 5/16-18	12
9	113938	Front Plate	1
10	926694	S.T. Bolt 5/16-18 x 5/8	3
11	106454	Edge Trim	1
12	926694	S.T. Bolt 5/16-18 x 5/8	4
	926696	S.T. Bolt 5/16-18 x 7/8	2
13	113936	Side Cover LH 520's	1
14	9108372	Screw 1/4-20 x 5/8 Black	12
15	107069	Speed Nut	4
18	104248	Grommet	1
19	116705	Shift Cover Plate	1
20	113962	RS Panel	1
21	113963	LS Panel 520's	1
22	8830	Clip	3
23	106722	Edge Trim	1
24	910837	Screw 1/4-20 x 5/8	1
25	908015	Bolt 5/16-18 x 1/2	2
26	900036	Bolt 5/16-18 x 5/8	4
27	106722	Trim Edge	1
28	114628	Switch Bracket	1
29	114641	Choke Stop	1
30	115905	Dash Panel	1
31	115621	Console Cover 518	1
32	113928	Rear Hoodstand Plate	1
33	9108392	Screw 1/4-20 x 7/8	1
34	908016	Bolt 5/16-18 x 5/8	6
35	113932	Stiffner Panel	1
36	109237	Latch Keeper (included in 106825 Hood Latch)	2
37	923786	LS Pop Rivet 1/8 x .35	2
	923785	RS Pop Rivet 1/8 x .294	2
38	920008	Washer 5/16 SAE	4
39	114207	Nut 1/4-20	8
40	915661	E.S. Nut 1/4-20	4
41	920007	Washer 1/4 SAE	4

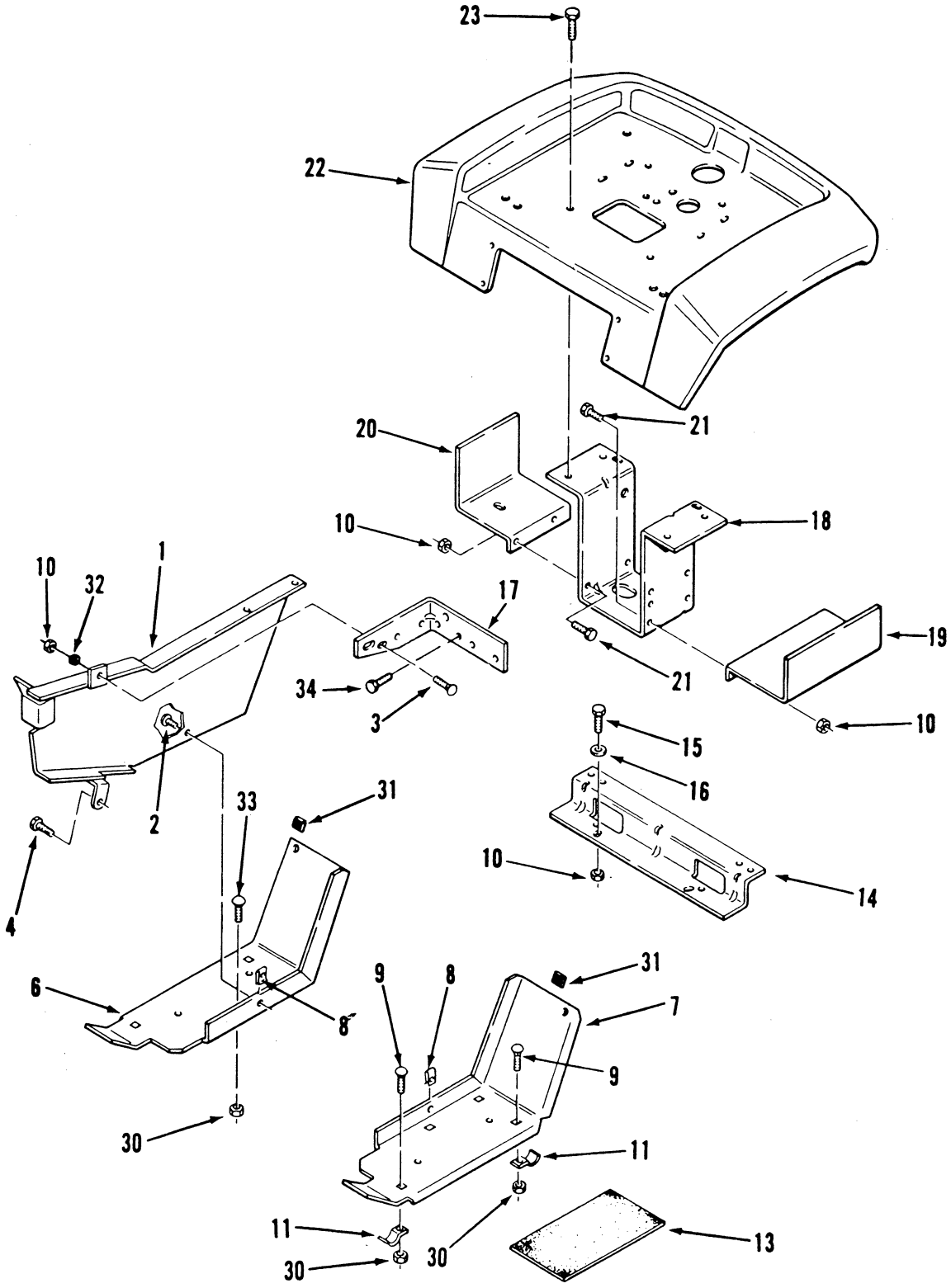


Figure 6 - 3 Sheet Metal and Covers

Figure 6-3
SHEET METAL AND COVERS

ITEM	PART NUMBER	DESCRIPTION	QUANTITE
1	114877	Belt Guard	1
2	910837	Screw 1/4-20 x 5/8	2
3	900037	Carriage Bolt 5/16-18 x 3/4	2
4	926694	S.T. Bolt 5/16-18 x 5/8	1
6	106222	Foot Rest RH	1
7	106223	Foot Rest LH	2
8	107069	Speed Nut	3
9	900037	Carriage Bolt 5/16-18 x 5/8	4
10	915662	E.S. Nut 5/16-18	7
11	7456	Clamp	4
13	110636	Footrest Pad 518	2
14	107951	Front Fender Bracket	1
15	908017	Bolt 5/16-18 x 3/4	2
16	920008	Washer 5/16 SAE	2
17	109554	Support Bracket-Belt Guard	1
18	108897	Fender Support Bracket	1
19	108464	Fuel Tank Support LH	1
20	106236	Fuel Tank Support RH	1
21	908016	Bolt 5/16-18 x 5/8	4
22	110960	Fender	1
23	926694	S.T. Bolt 5/16-18 x 5/8	4
24	920008	Washer 5/16 SAE	4
30	915662	Eslok Nut 5/16-18	4
31	518211	Bumper	2
32	108457	Push Nut	1
33	900214	Carriage Bolt 5/16-18 x 3/4	2
34	926671	S.T. Bolt 1/4-20 x 1/2	3
	908019	Bolt 5/16-18 x 1 (not illustrated)	2

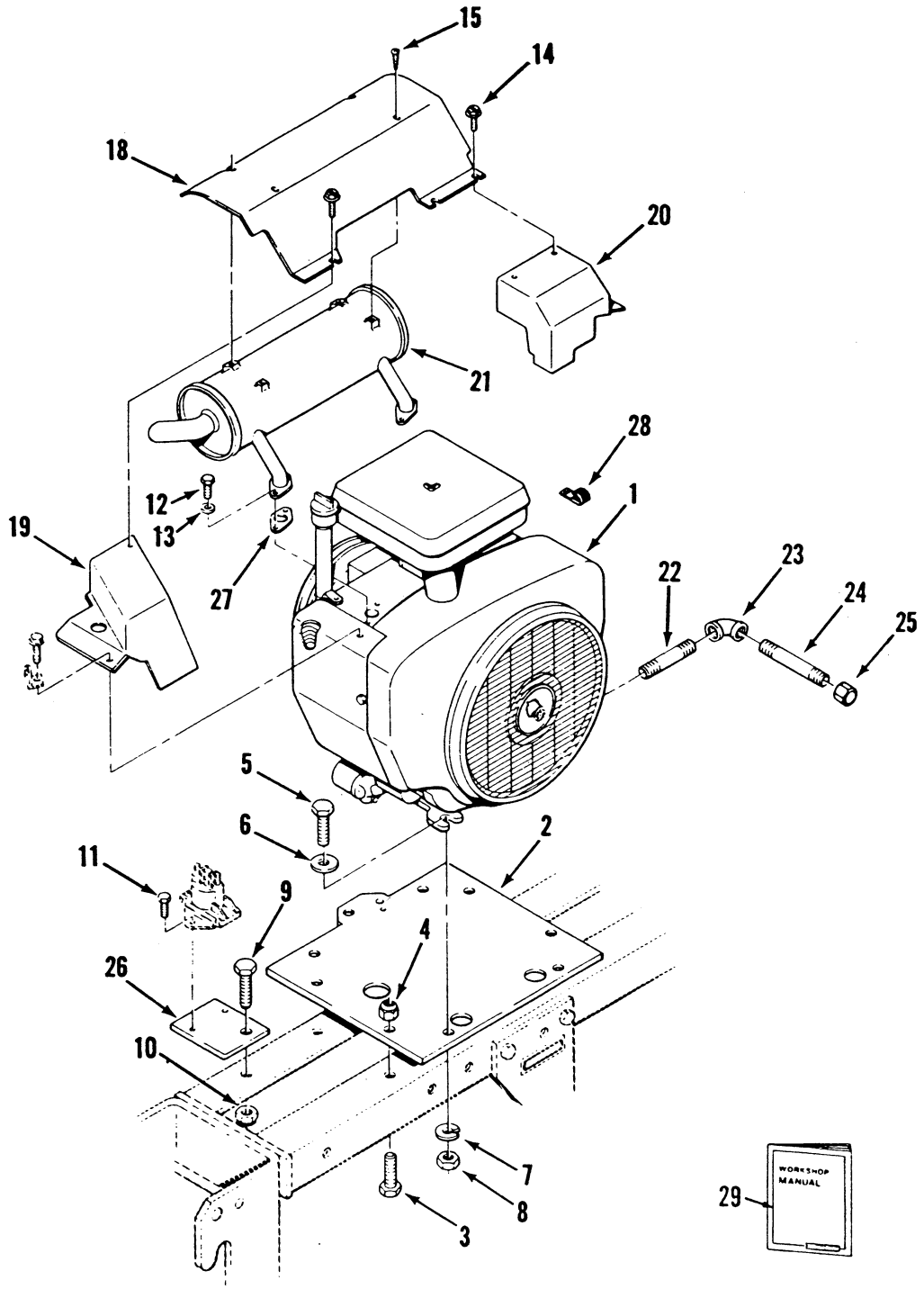


Figure 7 - 1 Engines

ITEM	PART NUMBER	DESCRIPTION	QUANTITE
		Figure 7-1 **ENGINES**	
1	113490	Engine - 18HP - Onan 18HP P218G-I/10539A	X
2	113875	Engine Plate	1
3	908036	Bolt 3/8-16 x 1-1/2	4
4	915663	E.S. Nut 3/8-16	4
5	908036	Bolt 3/8-16 x 1-1/4	4
6	920009	Washer 3/8 SAE	4
7	920083	Lockwasher 3/8	4
8	915113	Eslok Nut 3/8-16	4
9	908034	Bolt 3/8-16 x 1	2
10	915663	E.S. Nut 3/8-16	2
11	916671	S.T. Bolt 1/4-20 x 1/2	2
12	908017	Bolt 5/16-18 x 3/4	4
13	920082	Lockwasher 5/16	4
14	913136	Screw 1/4-20 x .5	3
15	910331	Screw nr. 10-24 x 3/8	4
18	114217	Air Deflector	1
19	114215	LH Exhaust Cover	1
20	114216	RH Exhaust Cover	1
21	114044	Muffler	1
22	114636	Pipe 3/8 x 3	1
23	114764	Elbow 90 Degree	1
24	114763	Pipe 3/8 x 4	1
25	5224	Cap	1
26	114893	Relay Mounting Bracket	1
27	114214	Exhaust Gasket	2
28	111357	Clip	1
29	965-0762	Onan Performer Twin Cylinder Repair Manual	X

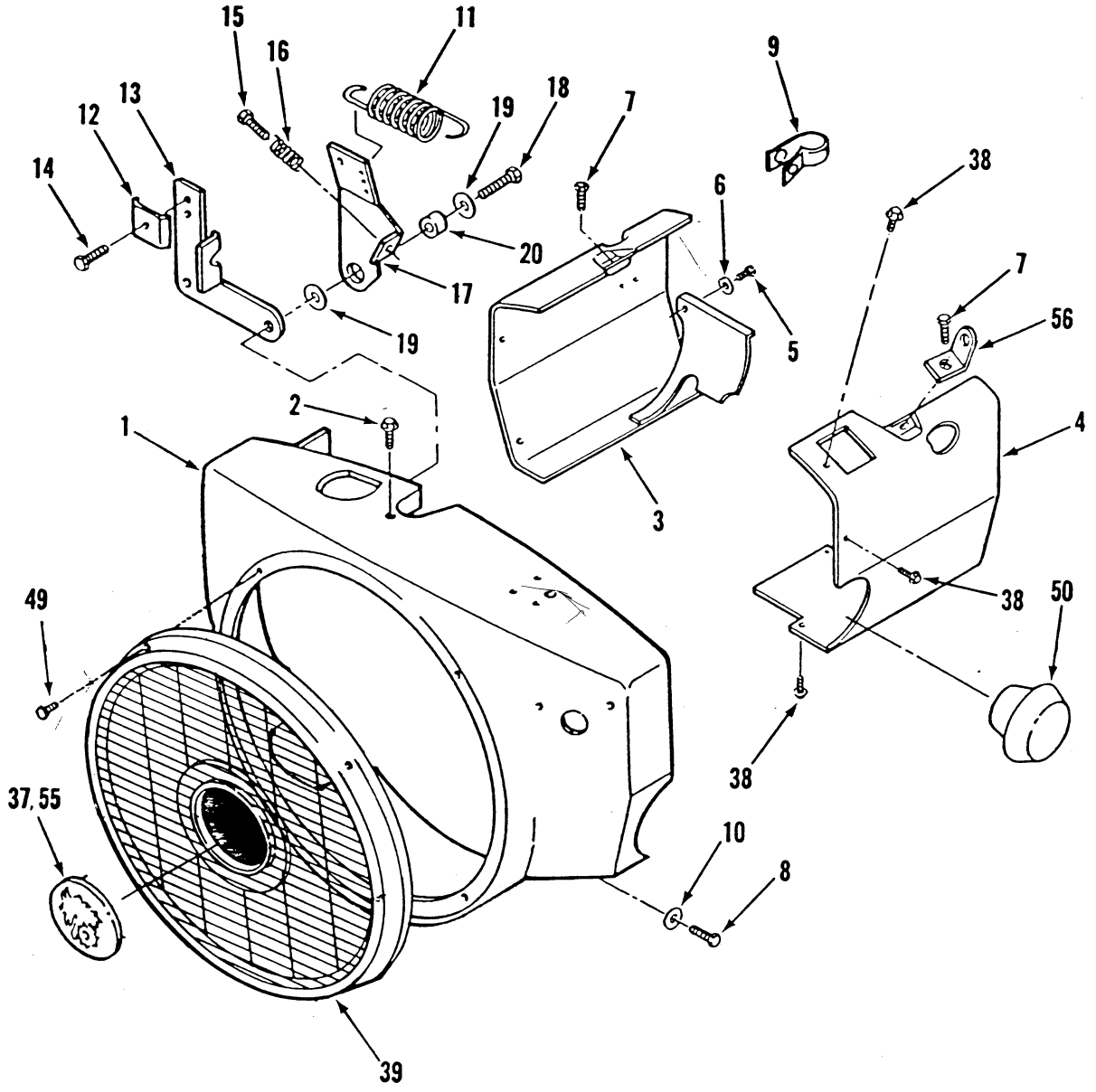


Figure 8 - 2 Blower Housing and Governor

Figure 8-2
BLOWER HOUSING AND GOVERNOR

ITEM	WHEEL HORSE PART NUMBER	VENDOR PART NUMBER	DESCRIPTION	QUANTITE
1	NN10173	134-4654-01	Blower Housing	1
2	NN10392	815-0261	Wash. Hd. ST Screw 1/4-20 x 7/16	1
3	NN10170	134-4615-01	Cylinder Air Housing	1
4	NN10169	134-4614-01	Cylinder Air Housing	1
5	NN10393	815-0290	Wash. Hd. ST Screw 1/4-20 x 5/8	2
6	NN10357	526-0021	Flat Washer 1/4	2
7	NN10417	821-0016	Wash. Hd. Screw 5/16-18 x 3/4	2
8	NN10393	815-0290	Wash. Hd. ST Screw 1/4-20 x 5/8	4
9	NN10289	332-2319	Alt. Leads Wire Clamp	1
10	NN10356	526-0018	Flat Washer 1/4	1
11	NN10217	150-1214	Governor Spring - 5 Ball	1
12	NN10440	153-0593	Cable Clamp	1
13	NN10225	150-1725	Cable Bracket	1
14	NN10395	815-0359	ST Screw nr. 10-32 x 1/2	1
15	NN10410	815-0510	ST Screw nr. 6-32 x 5/8	1
16	NN10219	150-1398	Idle Setting Spring	1
17	NN10223	150-1576	Governor Control Arm - w/o Swivel	1
18	NN10397	815-0436	Wash. Hd. Cap Screw 1/4-20 x 1/2	2
19	NN10357	526-0021	Flat Washer 1/4	1
20	NN10218	150-1269	Control Arm Bushing	1
37	NN10340	517-0136	Black Nylon Bushing	1
38	NN10414	821-0008	Wash. Hd. Cap Screw 1/4-20 x 5/16	4
39	NN10174	134-4689	Stationary Guard	1
49	NN10406	815-0575	Wash. Hd. Screw 1/4-20 x 3/8	4
50	NN10341	517-0190	Hole Plug	1
55	NN10435	99-2389	Nameplate Logo	1
56	NN10296	403-1523-01	Lifting Bracket	2

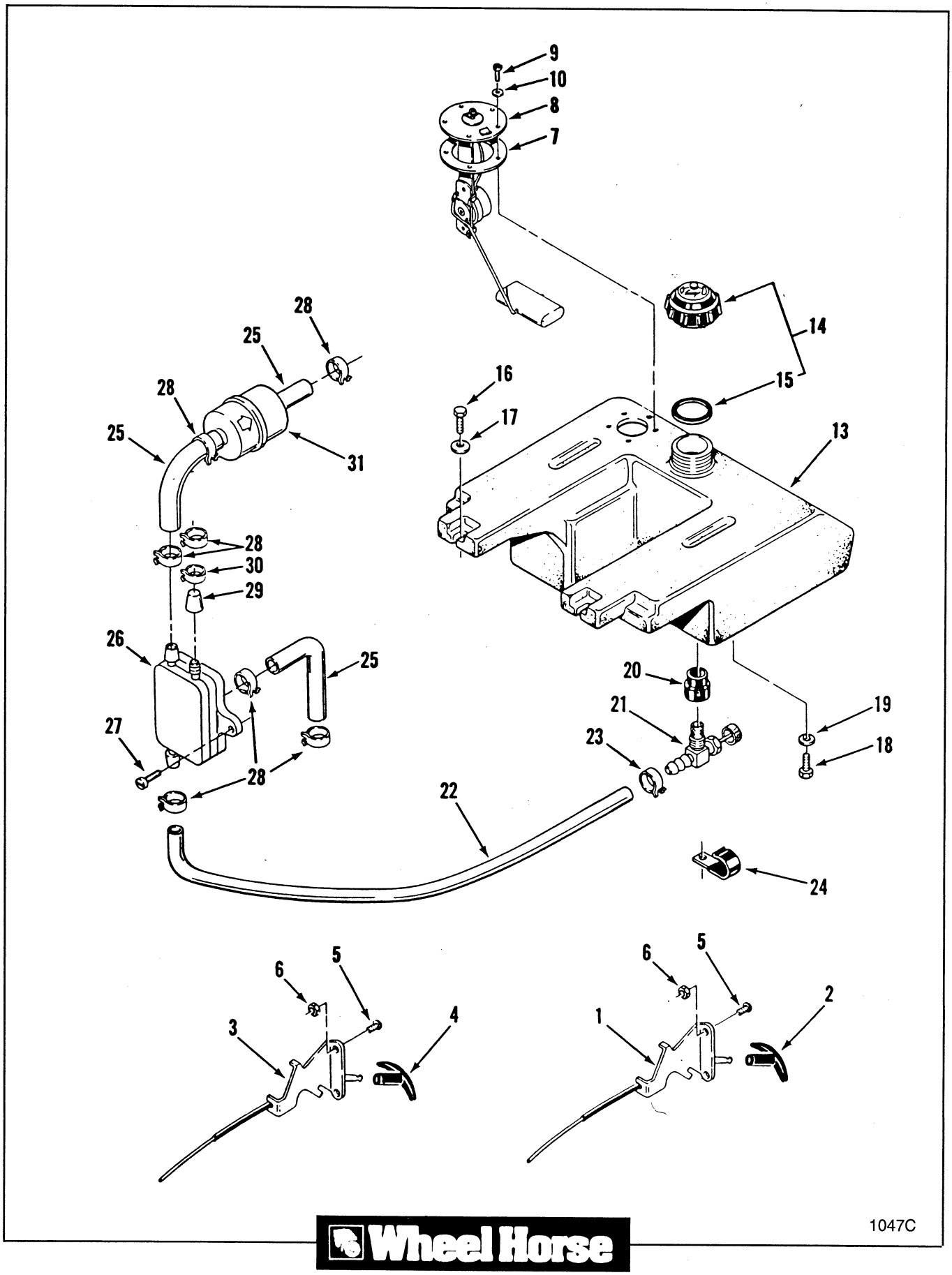


Figure 8 - 4 Throttle, Choke and Fuel Controls

Figure 8-4
THROTTLE, CHOKE AND FUEL CONTROLS

ITEM	PART NUMBER	DESCRIPTION	QUANTITE
1	115392	Throttle Control	1
2	108509	Knob-Throttle Control	1
3	114027	Choke Control	1
4	108510	Knob-Throttle Control	1
5	9107922	Screw Nr. 10-24 x 1/2 Black	4
6	915740	Lock Nut nr. 10-24	4
7	113372	Gasket	1
8	113358	Fuel Level Sender	1
9	910807	Screw nr. 10-32 x 1/2	5
10	920079	Lockwasher nr. 10	5
13	114012	Fuel Tank (includes items 20 & 21)	1
14	113926	Fuel Cap (includes item 15)	1
15	106931	Rubber Seal	1
16	926697	S.T. Bolt 5/16-18 x 1	2
17	920039	Washer 3/8	2
18	908016	Bolt 5/16-18 x 5/8	3
19	920082	Lockwasher 5/16	2
20	104047	Rubber Bushing	1
21	104048	Fuel Shut-Off Valve	1
22	103787	Fuel Line 53 in.	1
23	108898	Corbin Clamp	2
24	114767	Hose Clamp 4/16	1
	920262	Washer 64 x 1-1/8 x .015 (not illustrated)	1
25	NN10302	Fuel Line 12 in. (Vendor nr. 503-0707)	2
26	NN10212	Fuel Pump (Vendor nr. 149-1982)	1
27	NN10403	ST PLan Hd. Screw nr. 10-24 x 5/8 (Vendor nr. 815-0555)	2
28	NN10303	Hose Clamp 1/2 (Vendor nr. 503-0731)	6
29	NN10211	Fuel Fitting Cap (Vendor nr. 149-1321)	1
30	NN10301	Hose Clamp 7/16 (Vendor nr. 503-0301)	1
31	NN10213	Fuel Filter (Vendor nr. 149-2005)	1

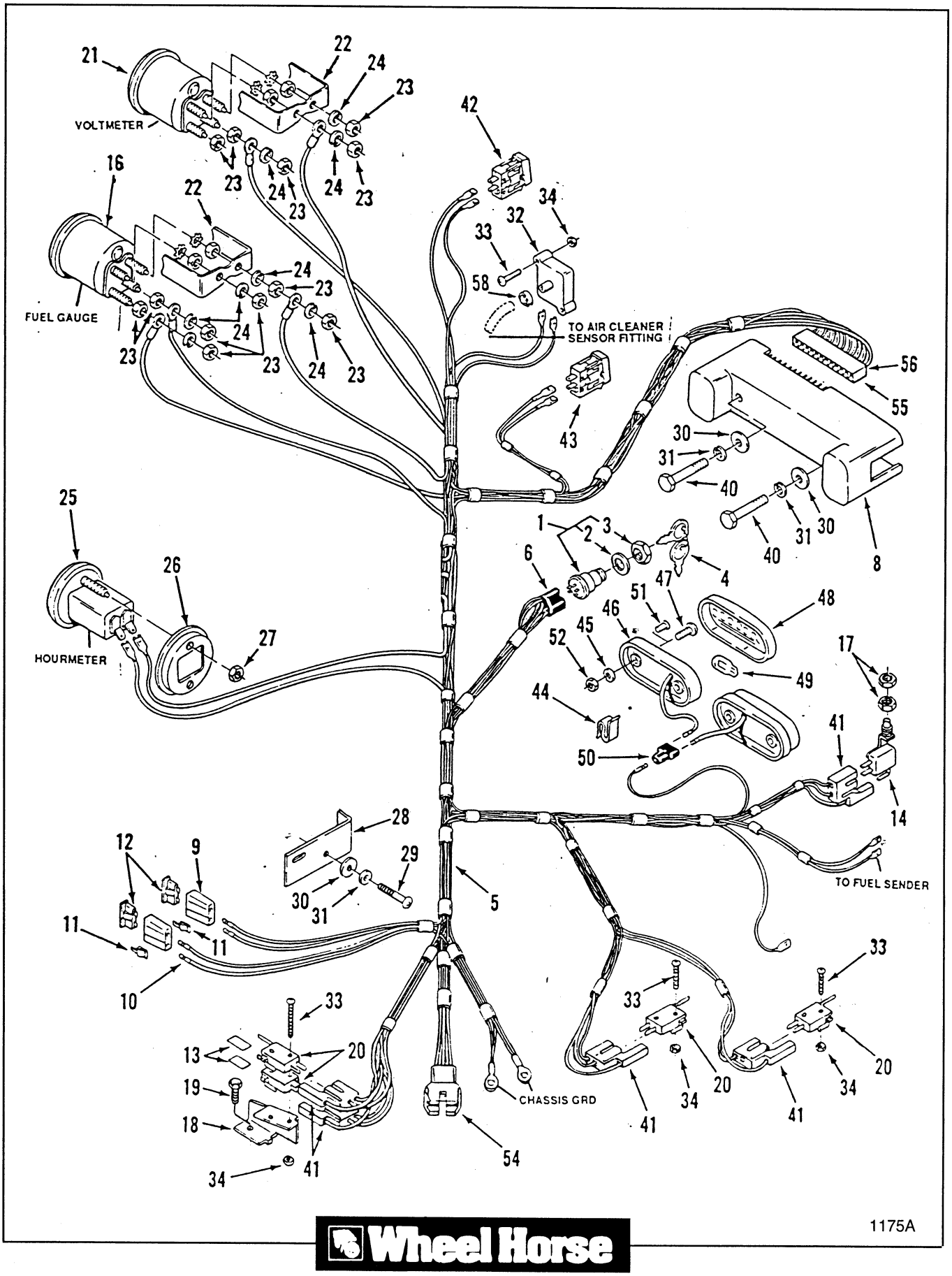


Figure 9 - 1 Electrical System

ITEM	PART NUMBER	DESCRIPTION	QUANTITE
		Figure 9-1 **ELECTRICAL SYSTEM**	
1	111216	Ignition Switch (w/101884 & 920160)	1
2	920160	Internal Tooth Lockwasher 5/8	1
3	111811	Special Nut	1
4	111220	Ignition Key	1
	11214	Padded Ignition Key	1
5	115980	Wiring Harness Assembly	1
6	105302	Connector Body - Ignition Switch - Part of 5	1
8	114626	6-Light Circuit Module	1
9	109117	Single Fuse Body - Part of 5	2
10	108895	One-Way Terminal - part of 5	4
11	109445	Fuse Body Clip - part of 5	2
12	114596	Fuse 10 Amp - ATO or ATC	1
	109101	Fuse 20 Amp - ATO or ATC	1
13	111642	Switch Insulator Barrier	2
14	114240	Seat Switch	1
16	113466	Fuel Gauge (includes item 22) All models	1
17	105805	Special Nut	2
18	115411	Switch Support	1
19	926671	S.T. Bolt 1/4-20 x 1/2	1
20	111332	Interlock Snap Switch	4
21	113468	Voltmeter (includes item 22)	1
22	114016	Clamp	3
23	915551	Nut nr. 10-32	14
24	920079	Lockwasher nr 10	14
25	113469	Hourmeter (includes item 26) 518 & 520's	1
26	114017	Mounting Bracket	1
27	915962	Nut w/ Ext. Lockwasher nr. 8-32	2
28	114581	Light Bracket 516	1
29	910779	Screw nr. 8-32 x 3/4	1
30	920004	Washer nr. 8 SAE	4
31	920078	Lockwasher nr. 8	4
32	114270	Air Cleaner Sensor 518 & 520-H	1
33	910948	Screw nr. 4-40 x 3/4	4
34	915732	Elast Nut nr. 4-40	4
40	910783	Screw nr. 8-32 x 1-1/2	2
41	111498	Connector	5
42	113191	Light Switch	1
43	113190	Test Switch	1
	910839	Screw 1/4-20 x .87 (not illustrated)	4

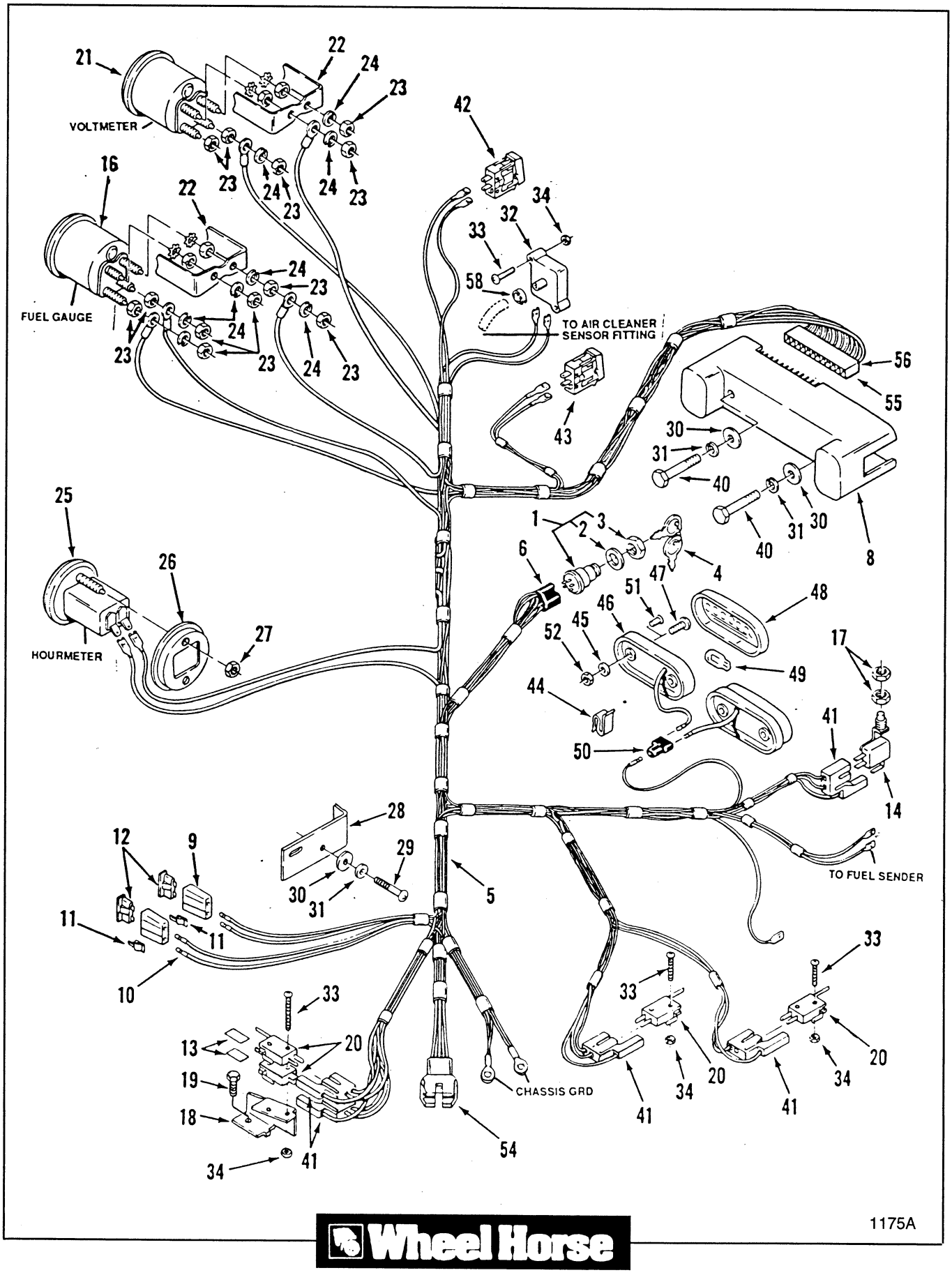


Figure 9 - 1 Electrical System

Figure 9-1
ELECTRICAL SYSTEM (CONTINUED)

ITEM	PART NUMBER	DESCRIPTION	QUANTITE
44	3023	Clip-Small	X
45	920079	Lockwasher nr. 10 (Optional)	4
46	105202	Taillight Base W/Bulb	2
47	910808	Screw nr. 10-32 x 5/8 (Optional)	4
48	112564	Taillight Lens	2
49	109045	Light Bulb (Auto nr. 194)	2
50	7618	Connector 3-Wire	1
51	923795	Poprivet 3/16 x .402 Aluminum (Production)	4
52	915551	Nut nr. 10-32 (Optional)	4
53	920004	Washer nr. 8 (Use With Poprivet-Production)	4
54	113119	9-Terminal Connector-female	1
55	114632	12-Terminal Connector	1
56	114633	Terminal	12
58	114761	Clamp 5/16	1
59	108891	Corbin Clamp	1

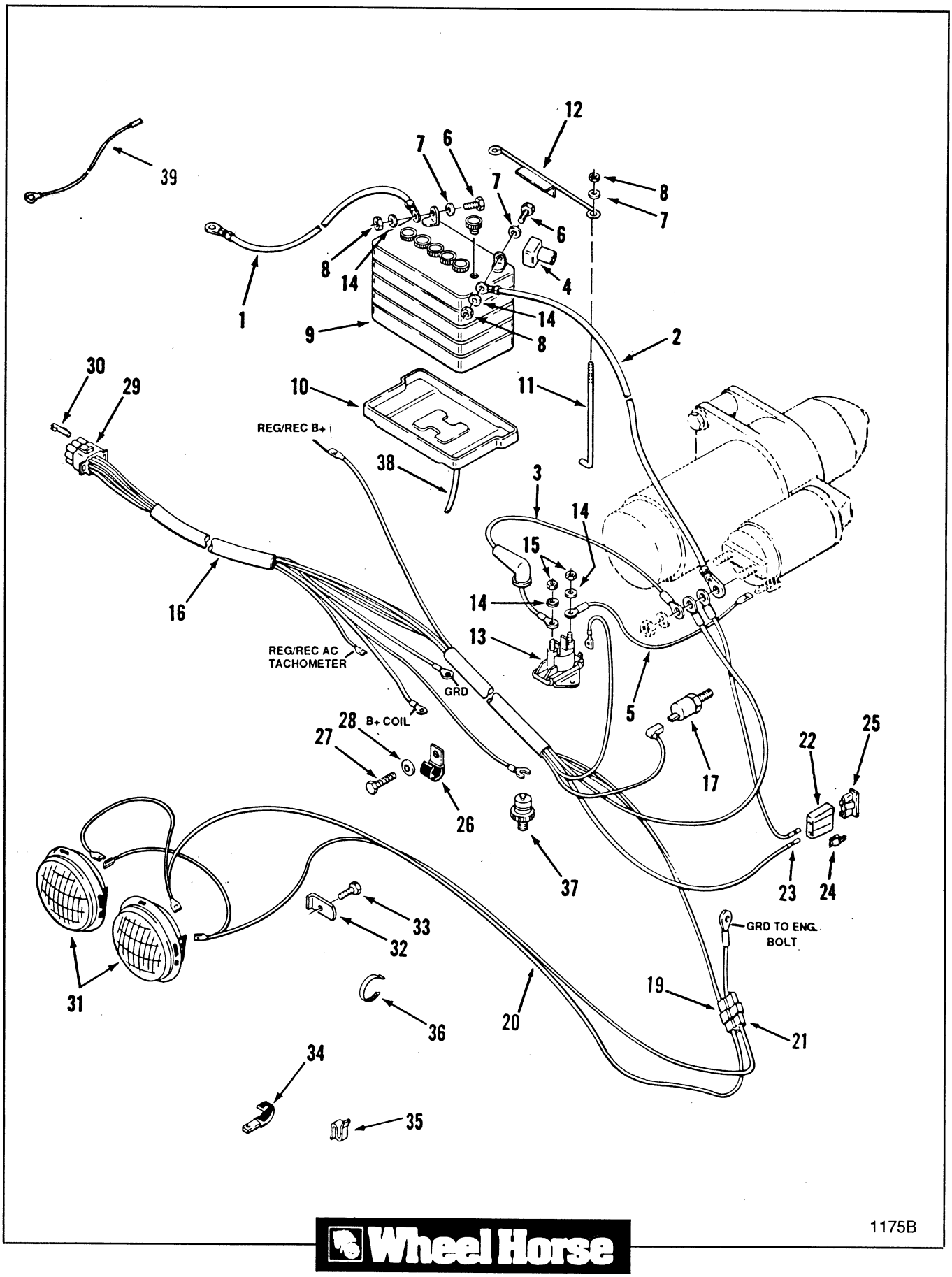


Figure 9 - 2 Electrical System

ITEM	PART NUMBER	DESCRIPTION	QUANTITE
		Figure 9-2 **ELECTRICAL SYSTEM**	
1	114210	Cable - Battery Ground (24")	1
2	113925	Cable - Battery (+) to solenoid (40")	1
3	114212	Wire - Relay to Starter Solenoid	1
4	109553	Terminal Cover	1
5	114211	Wire - Relay to Starter Solenoid	1
6	908003	Bolt 1/4-20 x 3/4	2
7	920007	Washer 1/4 SAE	4
8	915661	E.S. Nut 1/4-20	6
9	105842	Battery	1
10	106948	Battery Tray	1
11	113969	Hook - Battery Hold Down	2
12	113010	Battery Hold Down Rod	1
13	110167	Relay Solenoid	1
14	920081	Lockwasher 1/4	4
15	915234	Jam Nut 1/4-20	2
16	NN10294	Engine Wiring Harness (vendor nr. 338-2175)	1
17	NN10274	High Engine Temp. Switch (vendor nr. 309-0559) 520-H	1
18	NN10291	90 Degree Terminal (vendor nr. 332-2572)	1
19	NN10278	2-Terminal Connector - Male (vendor nr. 323-1085)	1
20	114052	Headlight Harness	1
21	109357	2-Terminal Connector - Female	1
22	109117	Single Fuse Body - Part of 16	1
23	108895	One-Way Terminal - Part of 16	2
	109445	Fuse Body Clip - Part of 16	1
25	NN10277	30 amp Fuse (vendor nr. 321-0291)	1
26	NN10348	Clip (vendor nr. 518-0515)	1
27	NN10399	Screw 1/4-10 x 1/2 (vendor nr. 815-0474)	1
28	NN10425	Int. tooth Washer 1/4 (vendor nr. 854-0014)	1
29	NN10281	9-Terminal Connector-male (vendor nr. 323-1291)	1
30	NN10279	Socket Contact (vendor nr. 323-1200)	1
31	102881	Headlight 516 & 518	2
32	109459	Clamp	2
33	926671	Bolt Hex 1/4-20 x 1/2 ST	2
34	8830	Clip	1
35	3023	Clip-Small	X
36	100571	Cable Tie	X
37	NN10273	Low Oil Pressure Switch (vendor nr. 309-0546)	1
38	114720	Drain Tube 21"	1
39	114820	Ground Wire	1

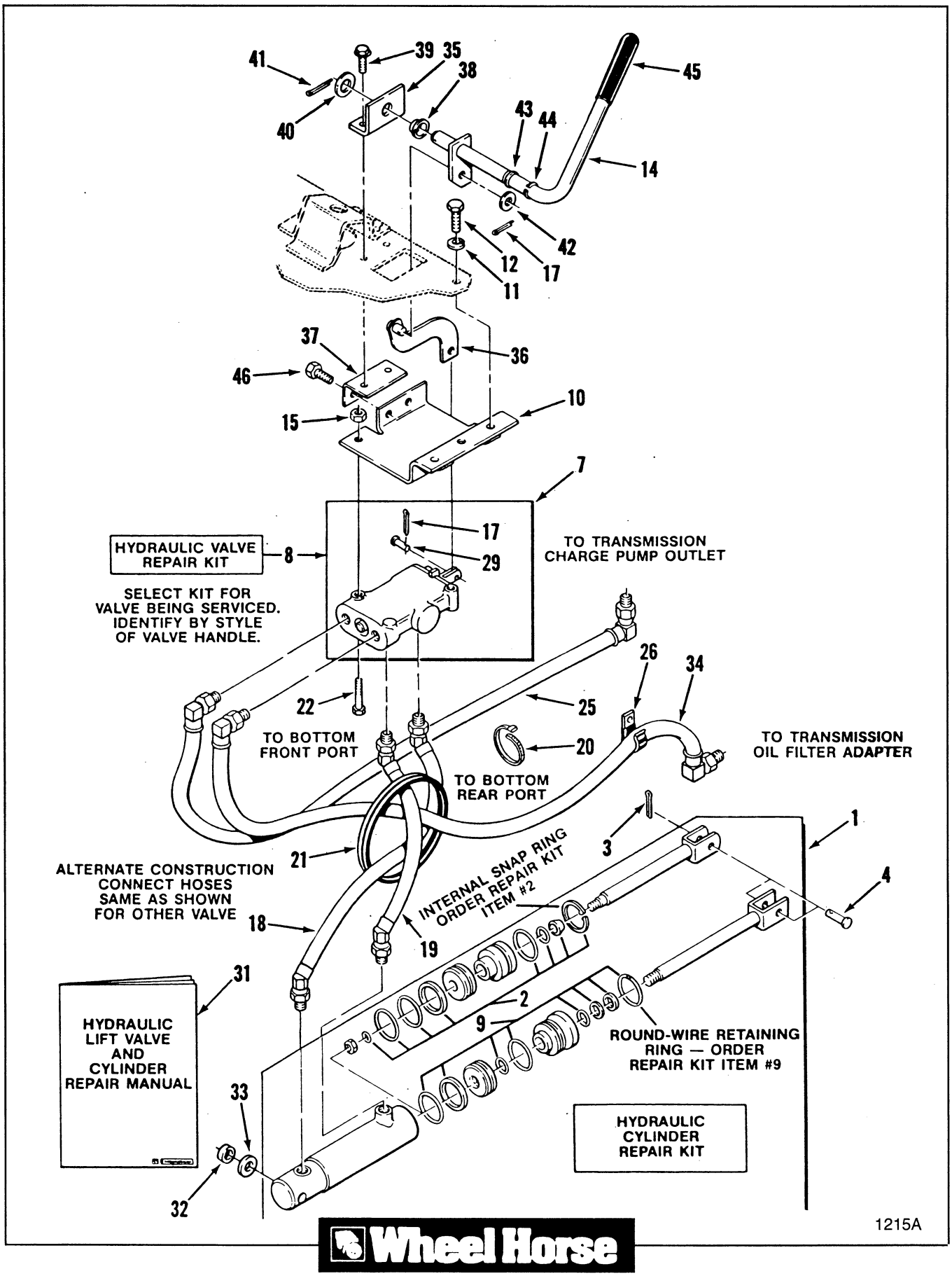
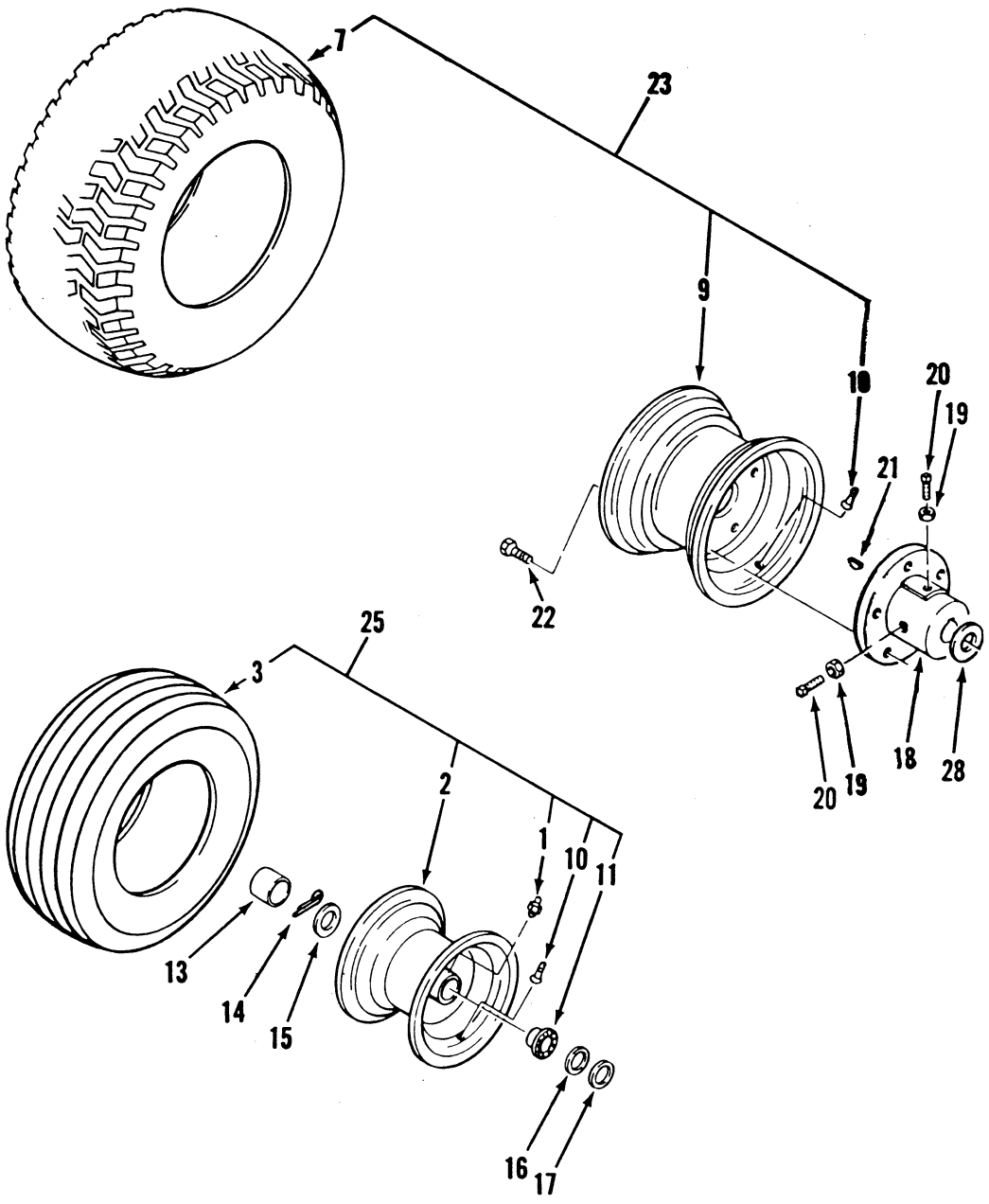


Figure 10 - 1 Hydraulic System

Figure 10-1
HYDRAULIC SYSTEM

ITEM	PART NUMBER	DESCRIPTION	QUANTITE
1	108872	Hydraulic Cylinder	1
2	101699	Service Assembly Cylinder Repair Kit	1
3	932017	Cotter Pin 1/8 x 1	1
4	932997	Clevis Pin 1/2 x 1-1/4	1
7	114000	Hydraulic Valve	1
8	109081	Service Assembly Valve Repair Kit	1
9	109088	Service Assembly Cylinder Repair Kit	1
10	113951	Mounting Bracket	1
11	920082	lockwasher 5/16	2
12	908017	Bolt 5/16-18 x 3/4	2
14	114584	Valve Handle	1
15	915661	E.S. Nut 1/4-20	2
17	932000	Cotter Pin 1/16 x 1/2	2
18	110124	Hose-Valve To Cylinder 14''	1
19	110125	Hose-Valve To Cylinder 9''	1
20	100571	Cable Tie	2
21	106267	Rubber Grommet	1
22	908009	Bolt 1/4-20 x 2	2
25	110096	Hose-Transmission To Valve 26 In. (66.0 cm)	1
26	8830	Clip-Small	1
29	932120	Clevis Pin 1/4 SAE	1
31	810242R3	Repair Manual	1
32	110126	Spacer	2
33	1278	Shim Washer	1
34	110504	Hose-Transmission To Valve 29 In. (73.7 cm)	1
35	113953	Lever Support	1
36	114875	Lift Bar	1
37	113954	Support Bracket	1
38	5983	Nyliner Bushing	1
39	926671	Bolt 1/4-20 x 1/2	2
40	3765	Shim Washer	1
41	932016	Cotter Pin 1/4 x 3/4	1
42	920007	Washer 1/4 SAE	1
43	5666	Bushing	1
44	106649	Grip Ring	1
45	9038	Grip	1
46	926693	S.T. Bolt 5/16-18 x 1/2	2



1325A

Figure 11 - 1 Wheels and Tires

Figure 11-1
WHEELS AND TIRES

ITEM	PART NUMBER	DESCRIPTION	QUANTITE
1	109500	Grease Fitting	2
2	112219	Front Wheel (includes items 1, 10 & 11)	2
3	9792	Frt Tire 16x6.50-8 Turf Trd	2
7	102785	Rear Tire 23x9.50-12 Turf Tread	2
9	110677	Rear Wheel 12x7	2
10	5108	Valve Stem	4
11	110513	Ball Bearing	4
13	111951	Hubcap	2
14	932026	Cotter Pin 5/32x 1 1/4	2
15	111952	Special Hub Cap Washer	2
16	1278	Shim Washer .050	X
17	5210	Shim Washer .015	X
18	105763	Hub Rear Whl 1 1/8" I.D.	2
19	915236	Jam Nut 3/8-16	4
20	909554	Set Screw 3/8-16x1	4
21	937108	Woodruff Key 1/4 x 1-3/8	2
22	1004	Lug Bolt	10
23	110678	Rear Wheel & Tire Assy	2
25	112218	Front Wheel & Tire Assy	2
28	106826	Thrust Washer	2

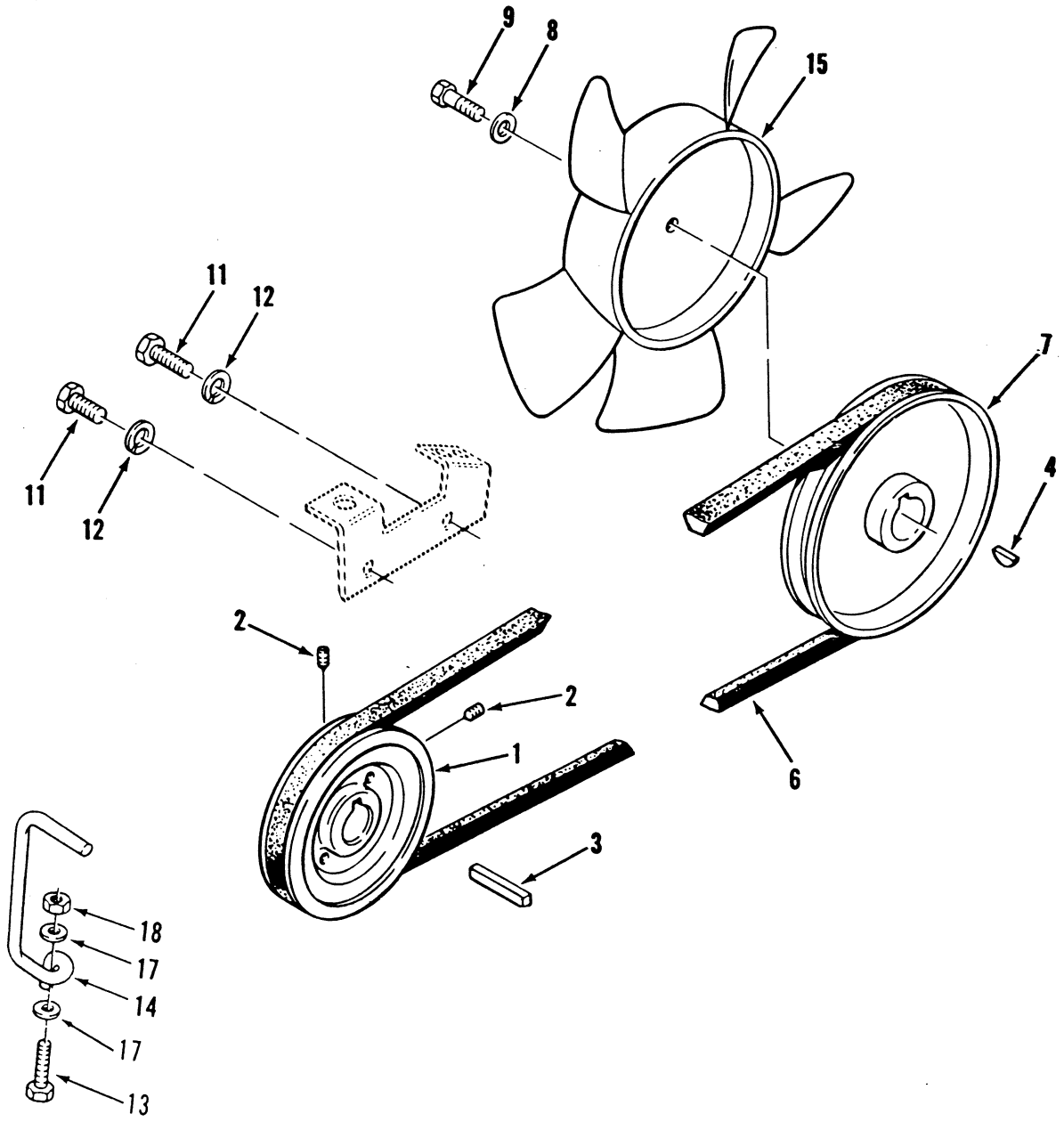


Figure 12 - 1 Drive Belt and Pulleys

Figure 12-1
DRIVE BELT AND PULLEYS

ITEM	PART NUMBER	DESCRIPTION	QUANTITE
1	7443	Engine Drive Pulley	1
2	909862	Set Screw 5/16-18 x 5/16	2
3	105453	Key 1/4 x 1/4 x 3/4	1
4	937082	Woodruff Key 1/8 x 1/2	1
6	114895	Drive Belt	1
7	108316	Transmission Drive Pulley	1
8	103995	Special Washer 9/32	2
9	908010	Eslok Bolt 1/4-20 x 2-1/4	1
11	908034	Bolt 3/8-16 x 1"	2
12	920083	Lockwasher 3/8	2
13	908020	Bolt 5/16 - 18 x 1-1/4	1
14	113924	Belt Guide Bottom	1
15	108393	Cooling Fan	1
17	920038	Washer 5/16	2
18	915662	E.S. Nut 5/16 - 18	1

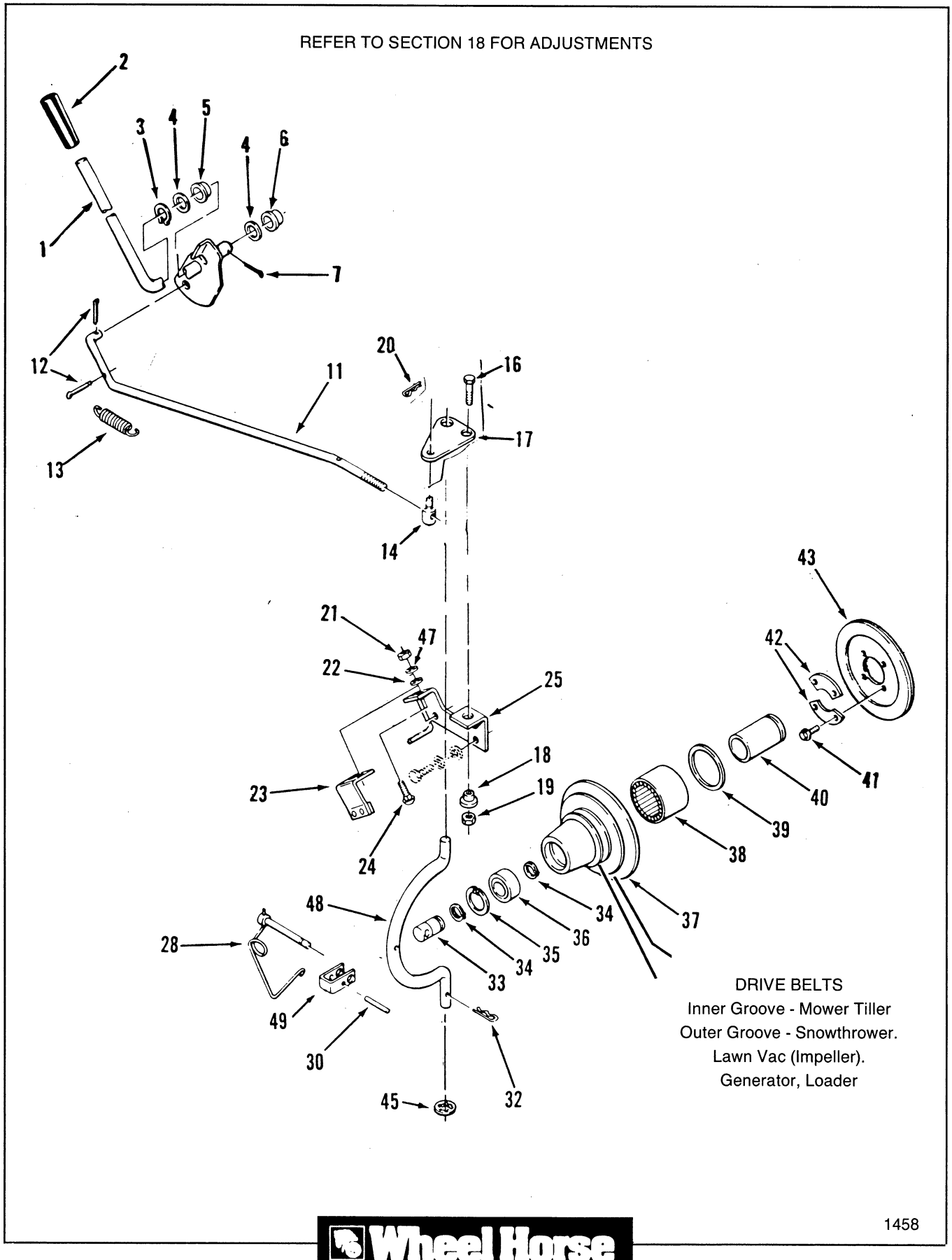
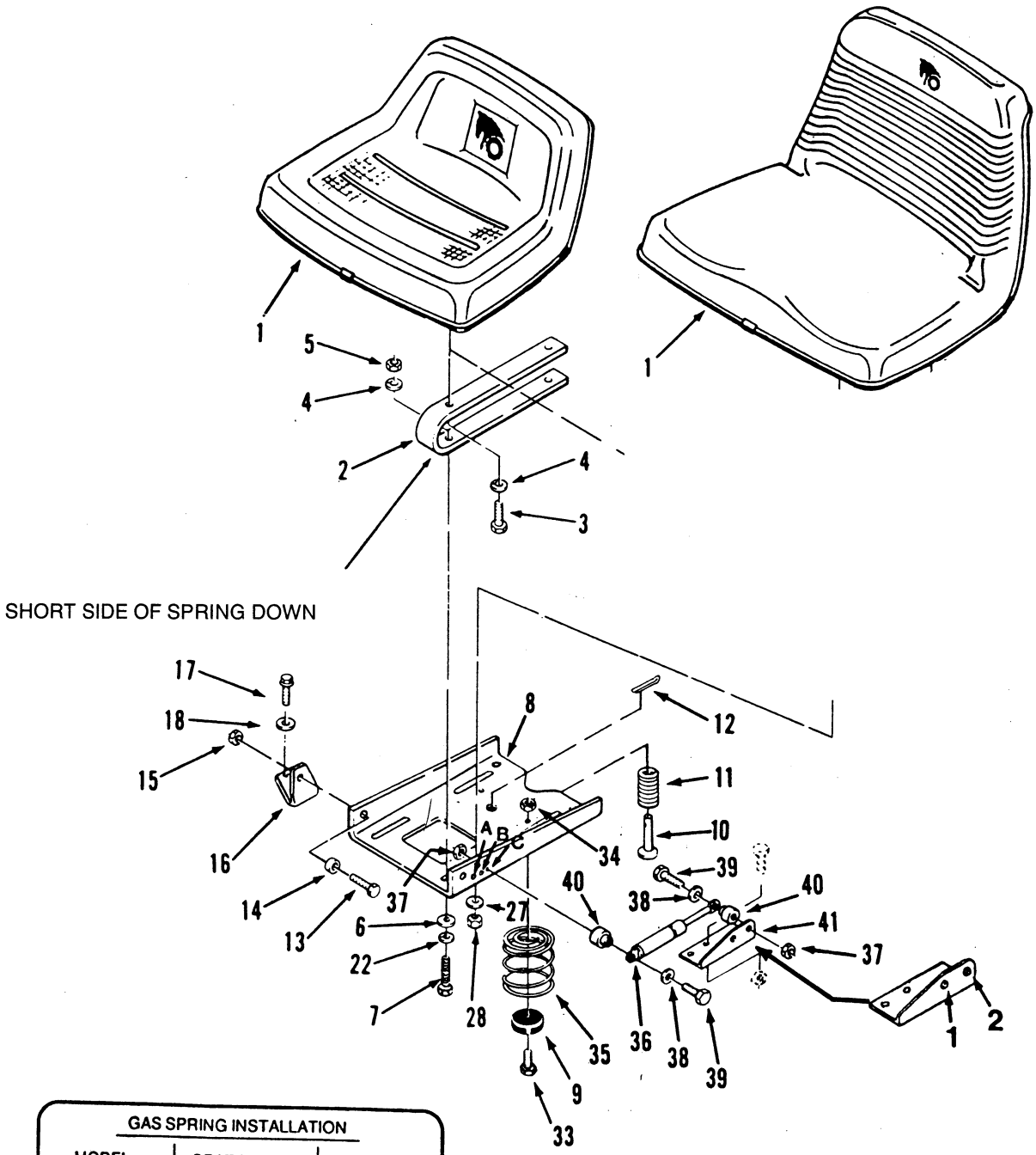


Figure 12 - 2 PTO Clutch and Control

Figure 12-2
PTO CLUTCH AND CONTROL

ITEM	PART NUMBER	DESCRIPTION	QUANTITE
1	111234	PTO Clutch Lever	1
2	9038	Grip	1
3	106649	Grip Ring	1
4	3765	Shim Washer	2
5	5666	Nyliner Bushing	1
6	5983	Bushing	1
7	932016	Cotter Pin 1/8 x 3/4	1
11	111052	PTO Clutch Rod	1
12	932016	Cotter Pin 1/8 x 3/4	2
13	103125	Spring	1
14	110656	Trunnion	1
16	908035	Bolt 3/8-16 x 1-1/4	1
17	110669	PTO Plate	1
18	104859	Spacer	1
19	915663	E.S. Nut 3/8-16	1
20	933505	Hairpin Cotter	1
21	915234	Jam Nut 1/4-20	2
22	920007	Washer 1/4 SAE	2
23	110665	PTO Brake assembly	1
24	900015	Carriage Bolt 1/4-20 x 3/4	2
25	113922	Engine Bracket	1
28	111314	Locking Pin	1
29	113107	Clevis	1
30	933274	Spirol Pin 5/32 x 1-3/8	1
31	113876	PTO Housing Rod	1
32	933506	Hairpin Cotter	1
33	102872	Stub Shaft	1
34	936125	Snap Ring 3/4 External	2
35	936032	Snap Ring 1 3/4 Internal	1
36	109842	Ball Bearing	1
37	103478	Pulley housing	1
38	106769	Needle Bearing	1
39	6663	Seal	1
40	6658	Bearing Race	1
41	908002	Nylok Bolt 1/4-20 X 5/8	4
42	6659	Retainer	2
43	114881	Clutch Plate & Facing	1
45	106695	Push-On Ring	1
47	920081	Lock Washer 1/4	2



GAS SPRING INSTALLATION

MODEL	SEAT PLATE	BRACKET
520-HC & 520-H	C	2
518-H	B	1
516-H	A	1

1563A

Figure 13 - 1 Seat

ITEM	PART NUMBER	DESCRIPTION	QUANTITE
		Figure 13-1 **SEAT**	
1	113985	Seat	1
2	110920	Seat Spring	2
3	926694	Bolt 5/8-18 x 5/8	4
4	920082	Lockwasher 5/16	8
5	915112	Nut 5/16-18	4
6	920008	Washer 5/16 SAE	4
7	908018	Bolt 5/16-18 x 7/8	4
8	112478	Seat Pivot Plate	1
9	108889	Bumper	2
10	106449	Pin	2
11	114267	Spring	2
12	932008	Cotter Pin 3/32 x 3/4	2
13	908018	Bolt 5/16-18 x 7/8	2
14	105503	Bushing	2
15	915662	E.S. Nut 5/16-18	2
16	112744	Pivot Bracket RH	1
	112745	Pivot Bracket LH	1
17	913464	S.T. Bolt 5/16-18 x 7/8	4
27	920038	Washer 5/16 SAE	4
28	915662	E.S. Nut 5/16-18	4
33	908019	Bolt 5/16-18 x 1	2
34	915662	E.S. Nut 5/16-18	2
35	114496	Seat Lifter Spring - Black	2
36	114343	Gas Spring	1
37	915661	E.S. Nut 1/4-20	2
38	920007	Washer 1/4 SAE	2
39	908006	Bolt 1/4-20 x 1-1/4	2
40	114344	Spacer	2
41	114345	Gas Spring Bracket	1

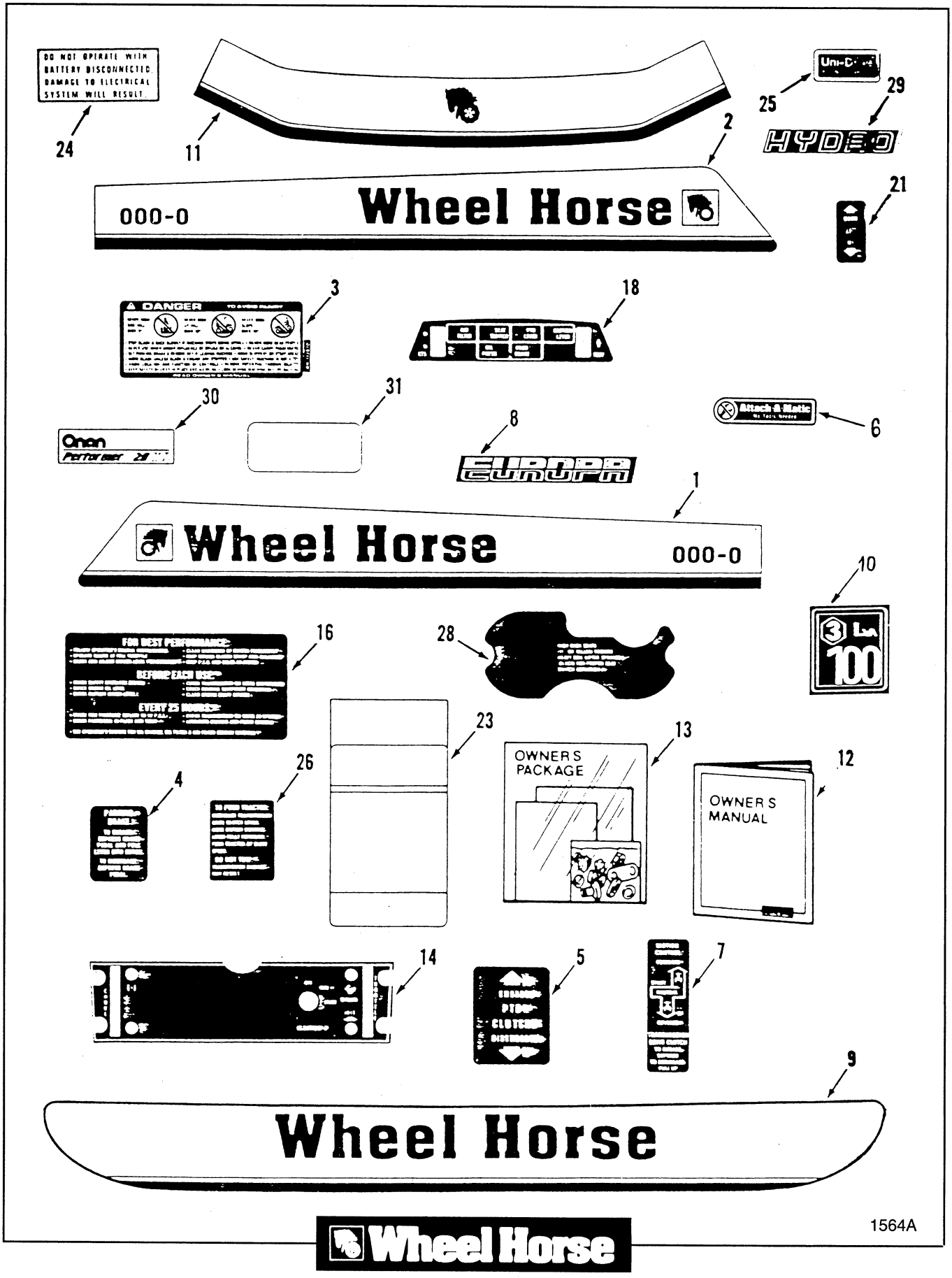


Figure 13 - 2 Decals

ITEM	PART NUMBER	DESCRIPTION	QUANTITE
		Figure 13-2	
		DECALS	
1	115006	Decal-Hood RH 518-H	X
	116680	Decal-Hood RH TORO 518-H	X
2	115007	Decal-Hood LH 518-H	X
	116681	Decal-Hood LH TORO 518-H	X
3	112670	Decal-Danger	1
	88093	Decal-Danger German	1
	88094	Decal-Danger French	1
	88095	Decal-Danger Dutch	1
4	111510	Decal-Parking Brake	1
	88278	Decal-Parking Brake German	1
	88279	Decal-Parking Brake French	1
	88280	Decal-Parking Brake Dutch	1
5	111960	Decal-PTO Clutch	1
	88081	Decal-PTO Clutch Symbol	1
6	115197	Decal-Attach-a-Matic	1
	88160	Decal-Attach-a-Matic German	1
	88161	Decal-Attach-a-Matic French	1
	88162	Decal-Attach-a-Matic Dutch	1
7	113909	Decal-Motion Control	1
	88263	Decal-Motion Control German	1
	88264	Decal-Motion Control French	1
	88265	Decal-Motion Control Dutch	1
8	111342	Decal-Europa	2
9	114925	Decal-Rear Fender	1
	116549	Decal-Rear Fender TORO	1
10	114621	Decal-Europe Noise	1
11	114926	Decal-Hood Front	1
	116546	Decal-Hood Front TORO	1
12	810514R1	Owners Manual	1
13	807159	Loose Parts Package 518-H	X
14	115909	Decal-Front Panel	1
	88266	Decal-Front Panel German	1
	88267	Decal-Front Panel French	1
	88268	Decal-Front Panel Dutch	1
16	114637	Decal-Rear Hood	1
	88269	Decal-Rear Hood German	1
	88270	Decal-Rear Hood French	1
	88271	Decal-Rear Hood Dutch	1
18	114133	Decal-Indicator Lights 518-H	1
	88272	Decal-Indicator Lights 518-H German	1
	88273	Decal-Indicator Lights 518-H French	1
	88274	Decal-Indicator Lights 518-H Dutch	1

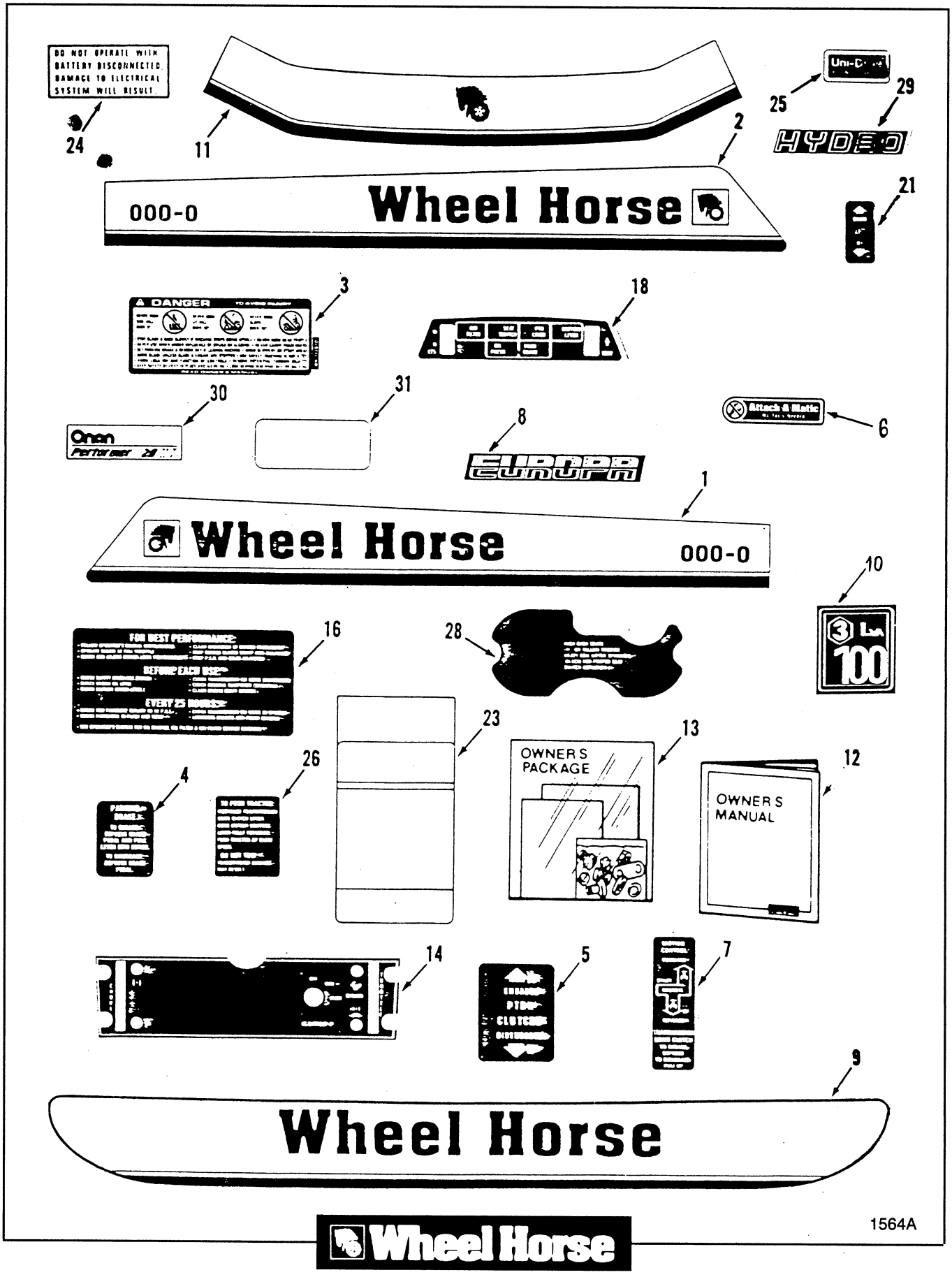
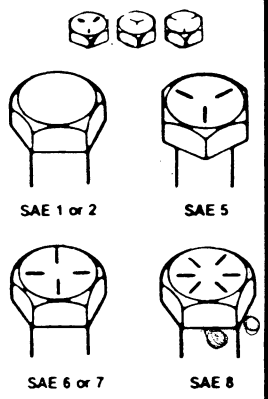


Figure 13 - 2 Decals

ITEM	PART NUMBER	DESCRIPTION	QUANTITE
		Figure 13-2	
		DECALS	
21	112168	Decal-Lift	1
	88067	Decal-Lift German	1
	88066	Decal-Lift French	1
	88068	Decal-Lift Dutch	1
23	115398	Decal-Maintenance	1
	88064	Decal-Maintenance German	1
	88063	Decal-Maintenance French	1
	88065	Decal-Maintenance Dutch	1
24	111926	Decal-Electrical System	1
	88121	Decal-Electrical System German	1
	88122	Decal-Electrical System French	1
	88123	Decal-Electrical System Dutch	1
25	104955	Decal-Uni-Drive	1
26	112690	Decal-Hand Push Tractor	1
	88275	Decal-Hand Push Tractor German	1
	88276	Decal-Hand Push Tractor French	1
	88277	Decal-Hand Push Tractor Dutch	1
28	114296	Decal-Seat Lifter	1
	88087	Decal-Seat Lifter German	1
	88088	Decal-Seat Lifter French	1
	88089	Decal-Seat Lifter Dutch	1
29	114050	Decal-Hydro	1
30	NN10432	Decal-Performer 18 HP (vendor nr. 98-5641-04)	3
31	112403	VIN Tag Overlay	1

50 TORQUE SPECIFICATIONS

BOLT HEAD MARKINGS	BOLT BODY SIZE In. - Thread	SAE GRADE 1 or 2		SAE GRADE 5		SAE GRADE 6 or 7		SAE GRADE 8	
		Torque		Torque		Torque		Torque	
		Ft-Lb	Nm	Ft-Lb	Nm	Ft-Lb	Nm	Ft-Lb	Nm
Manufacturer's marks may vary. Three-line markings on heads shown below, for example, indicate SAE Grade 5. 	1/4-20	5	6.8	8	10.8	10	13.6	12	16.2
	-28	6	8.1	10	13.6			14	19.0
	5/16-18	11	15.0	17	23.0	19	25.8	24	32.5
	-24	13	17.6	19	25.8			27	36.6
	3/8-16	18	24.4	31	42.0	34	46.1	44	59.7
	-24	20	27.1	35	47.5			49	66.4
	7/16-14	28	38.0	49	66.4	55	74.6	70	95.0
	-20	30	40.7	55	74.6			78	105.8
	1/2-13	39	52.9	75	101.7	85	115.2	105	142.4
	-20	41	55.6	85	115.2			120	162.7
	9/16-12	51	69.1	110	149.1	120	162.7	155	210.1
	-18	55	74.6	120	162.7			170	230.5
	5/8-11	83	112.5	150	203.3	167	226.4	210	284.7
	-18	95	128.8	170	230.5			240	325.4
	3/4-10	105	142.4	270	366.1	280	379.6	375	508.4
	-16	115	155.9	295	400.0			420	569.4
	7/8- 9	160	216.9	395	535.5	440	596.6	605	820.3
	-14	175	237.3	435	589.8			675	915.2
	1- 8	235	318.7	590	799.9	660	894.8	910	1233.8
	-14	250	339.0	660	894.8			990	1342.2

FUEL LINE

50' bulk fuel line ID .250 x OD .550nr. 112570

FASTENERS

* All hex bolts GRADE 5 minimum, GRADE 8 used as noted.
* All carriage bolts GRADE 1 unless otherwise noted.
* In place of ESLOK or E.S. nuts, use LOCTITE or lock washers with free running nuts.

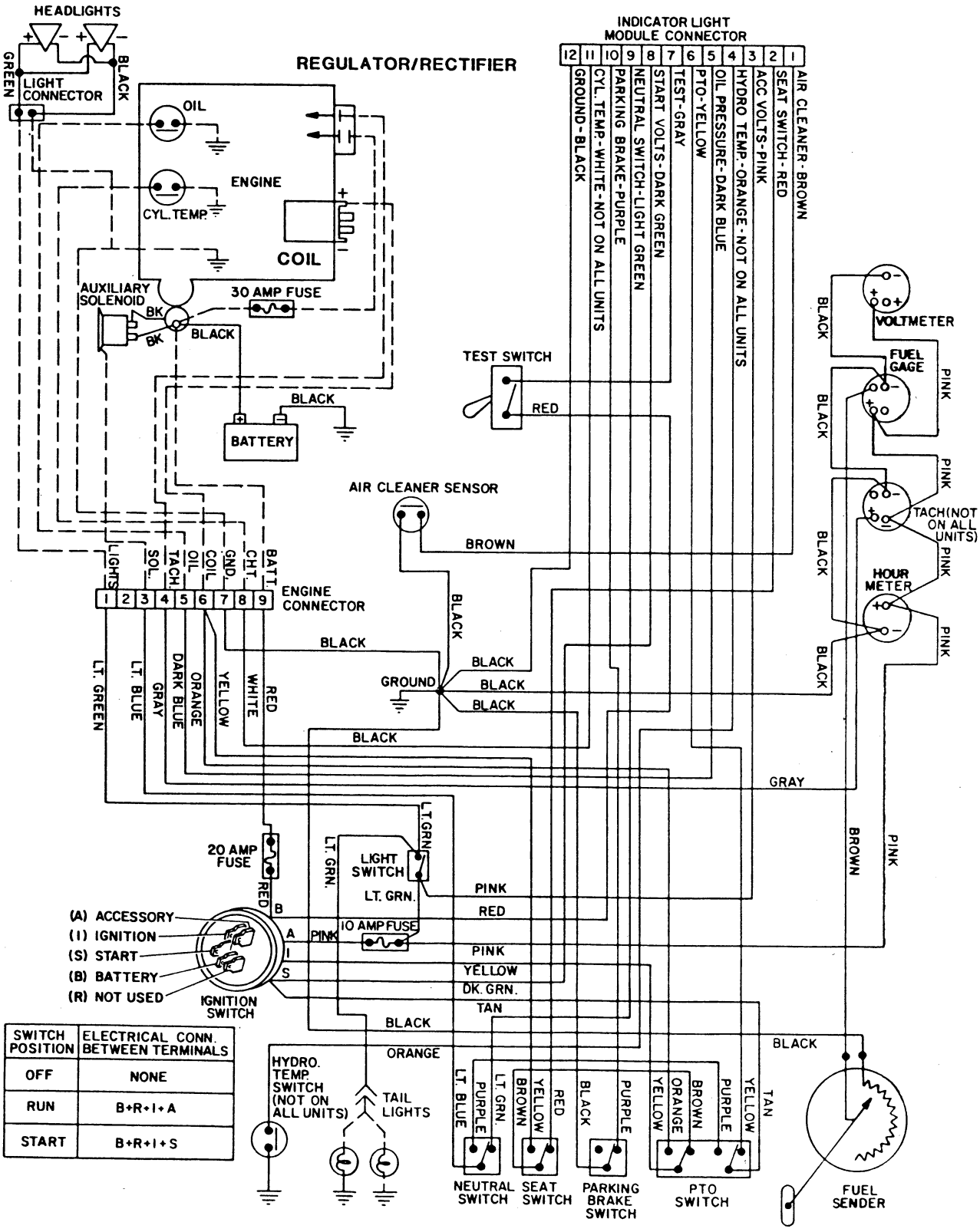
PAINT

Red Enamel - 6 cans, order nr. 8-0311
Red Enamel - Quart can nr. 5340 (Non-aerosol)*
Beige Enamel - 6 cans, order nr. 8-0321
Black Enamel - 6 cans, order nr. 8-0334
Pewter Metallic Enamel - 6 cans, order nr. 8-0335
Automotive Equivalent: 1971 Lincoln-Mercury Pewter Metallic)
White Enamel - 6 cans, order nr. 8-0336
Pewter Gray Enamel - 6 cans, order nr. 8-0337
(Automotive Equivalent: 1982 Lincoln Light Pewter)
Silver Metallic Enamel - 6 cans, order nr. 8-0338
Pewter Gray Enamel - Quart can nr. 5347 (Non-aerosol)**

* Thinning - use automotive enamel reducer with zylol (slow drying time) or toluol (fast drying time) - no mineral spirits

** Thin with zylol

518-HE



SWITCH POSITION	ELECTRICAL CONN. BETWEEN TERMINALS
OFF	NONE
RUN	B+R+I+A
START	B+R+I+S

1844

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Wheel Horse