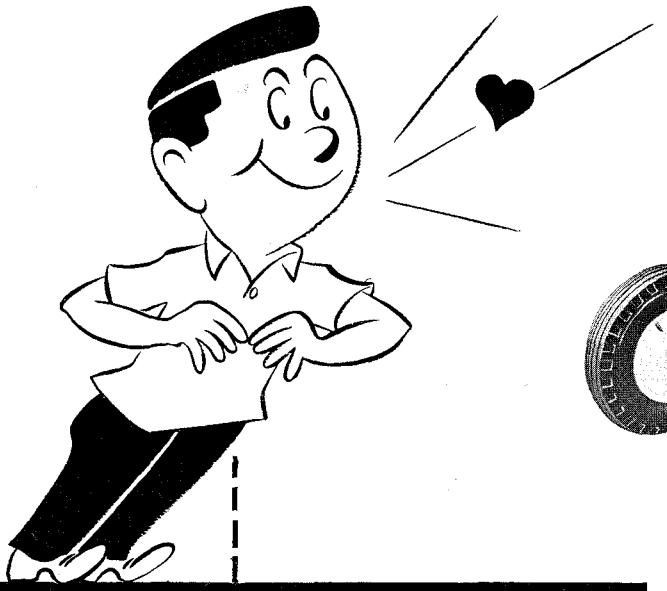
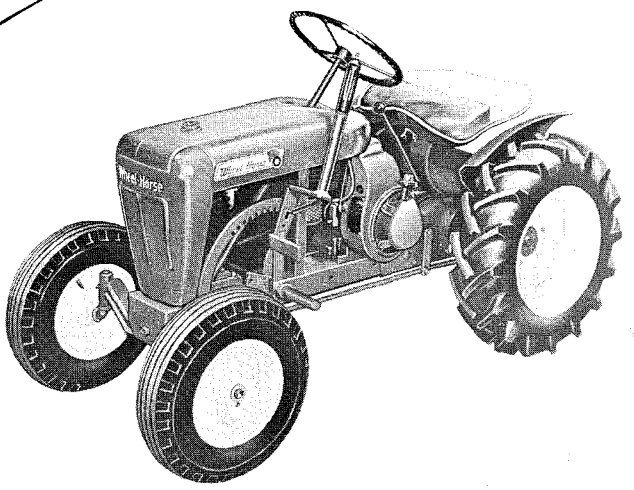




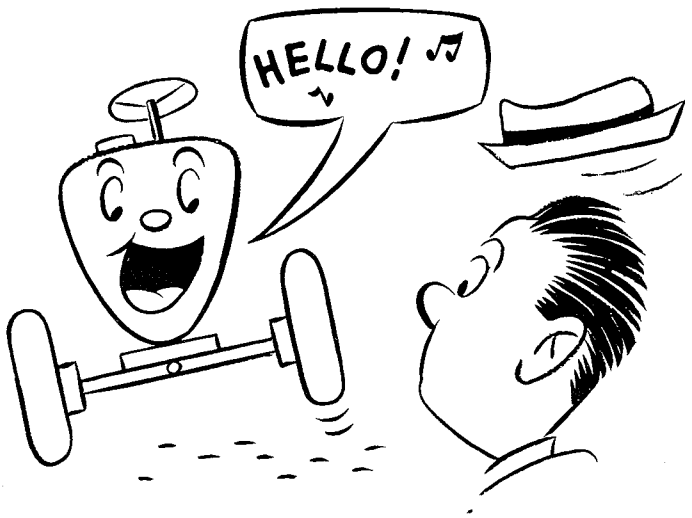
Wheel Horse®

YARD AND GARDEN TRACTORS

MODELS
SUBURBAN "400"
SUBURBAN "550"

OPERATION AND SERVICE MANUAL WITH PARTS LIST

WHEEL HORSE PRODUCTS | **51467 U. S. 31 • SOUTH BEND, INDIANA**

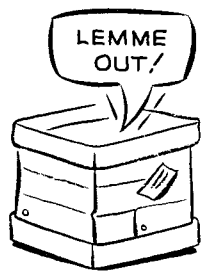


I am speaking directly to you because my builders, Wheel Horse Products, Inc., felt that the information you'll need to operate and service me should come straight from the Wheel Horse's mouth. (Their sense of humor isn't so hot, but they sure do turn out a mighty fine tractor . . . me, that is.)

Many thanks for choosing me. I'm flattered. I assure you that my all-gear power, custom-crafted construction and all-purpose attachments will get more done and give more fun on every type of yard and garden job.

Although a year 'round workhorse, I am also a precision machine that requires a little attention. You, as my owner, are responsible for supplying the petroleum products I'll need. In turn for my shelter and normal servicing, I'll work for you everyday for many years to come.

A WHEEL HORSE IS BORN!



I arrived safe and sound at your dealer's in a sturdy, protective carton. I was almost completely assembled and your dealer may have put on my finishing touches. If not, you'll find it easy to put me in operating condition. Following is a check list of my parts (unassembled to make a smaller and more secure shipping package), which must be installed in the proper places.

2 Rear Wheels
2 Front Wheels
1 Muffler, Exhaust
1 Exhaust Pipe
1 45° Elbow, Exhaust Pipe
1 Rear Hitch with pin
1 Steering Wheel (under seat)
4 ¾" Snap Rings (parts list part no. 1127)
2 ¾" Shim Washers (no.1284)
1 ¼" "U" Bolt with nuts (no. 1240)
2 ¼" Shake Proof Washers
1 ½" Carriage Bolt with nut (no. 1106)
1 ½" Lock Washer
6 Wheel Bolts (no. 1004)
1 3/16" x 1 ¾" Roll Pin (no. 1227)
1 Yoke Pin & Cotter Pin
1 Exhaust Cover (no. 3588)
2 Exhaust Cover Clamps (no. 1883)
2 8-32 x ¼" Screw with nut & Lock Washer

Here's how I go together: First, bolt on my REAR WHEELS so my tire treads point forward at the top of my tires. My rims should be dished out with tire valves on the tractor or inward side. Use 3 bolts for each wheel. Next, slip on my two FRONT WHEELS, with tire valves on the outside. Secure wheels with shim washer and snap rings in grooves. Note that my STEERING WHEEL has been bolted under the SEAT. Remove the shipping bolt and secure SEAT on top of the seat spring with carriage bolt provided (See Fig. 3). Place bolt in either of the two holes in the seat spring, depending on the length of your legs. Fasten my STEERING WHEEL on the steering column with the roll-pin provided. Install my DRAWBAR HITCH behind my transmission and between cover plates with the pin and snap rings provided. (See Fig. 1). Hook my lift cable to my drawbar with the clevis pin. Screw the MUFFLER PIPE into position and secure with ¼" U-bolt provided. Screw on 45° elbow and exhaust muffler, so that I can exhale exhaust gases from under my hood at 45° from straight forward. (See Fig. 3). Put the clamps on my exhaust cover and snap the cover over my exhaust pipe. This cover will keep your leg cool.

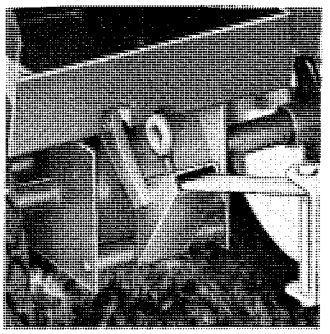


Figure 1.
Drawbar hitch shown with rear-mounted tool attached.

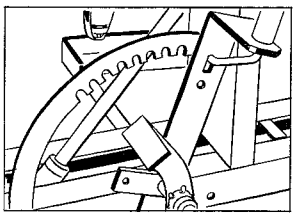
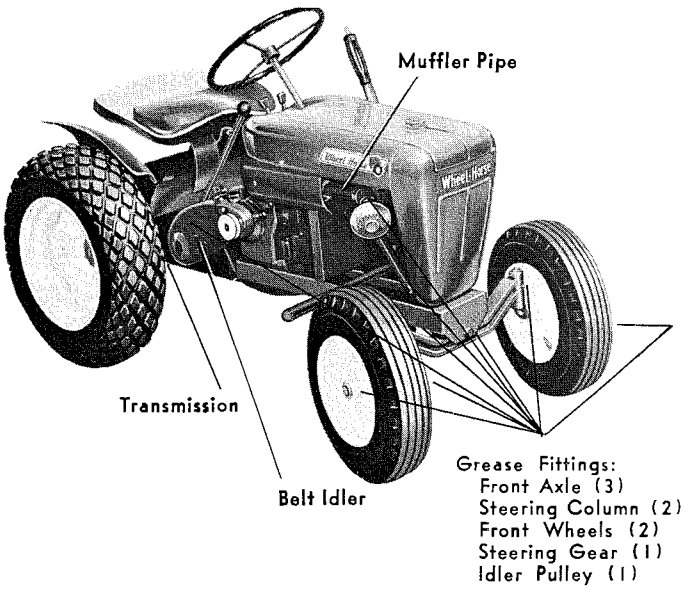


Figure 2.
Multi-notched sector for lift lever. Note sediment bowl.

Figure 3.



LET'S GET OILED!

Important: There was **no oil** in the CRANKCASE (See Fig. 4) of my engine when shipped from the factory. Before starting my engine, be sure to fill my CRANKCASE to the level indicated. Use the recommended lubricant, specified in your engine manual. Additional easy to follow instructions pertaining to my engine, its care and lubrication are contained in the engine manual. This manual makes interesting reading and I suggest you read it, Boss!

Since we both want me in tip top condition, remember that I like the same kind of thorough lubrication that you give your family automobile. Refer to both parts lists or Figure 3 for location of my nine high pressure grease fittings. Lubricate each grease fitting with regular pressure gun lubricant approximately every eight to ten hours of operation. Lubricate the rest of my moving parts every so often with a light oil to keep my joints from squeaking. You don't want me to get arthritis!

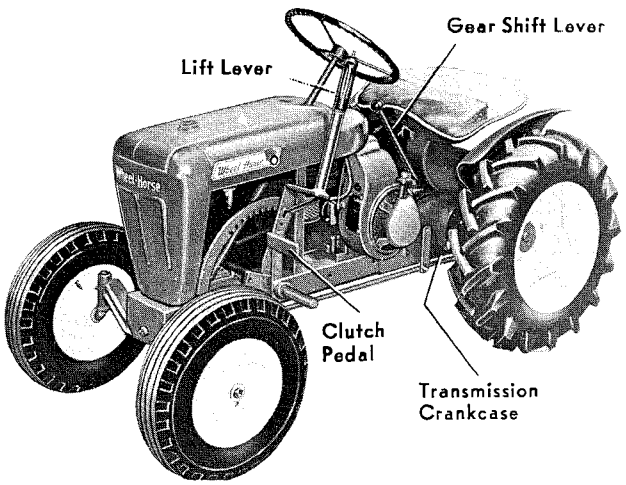
My all-gear drive operates in an oil bath. My automotive-type sliding gear transmission, reduction gears and differential were fit compactly into one oil-tight case at the factory. Then oil was put into my transmission case and I was tested under power in all four gear ranges. This transmission oil was not removed, but some of it might have been lost in shipment. That's why I recommend checking the oil level in my transmission case before you operate me the first time. To check my transmission oil level, remove my oil check plug, located on the right side of my transmission (See Fig. 3) just below the axle. Make sure the oil is up to plug level. If it is not, remove filler plug (located on top of the transmission) and add S.A.E. No. 90 Gear Lube. Check transmission oil level after each 25 hours of operation. My belt idler (See Fig. 3) also has a high pressure grease fitting. Grease every hour.

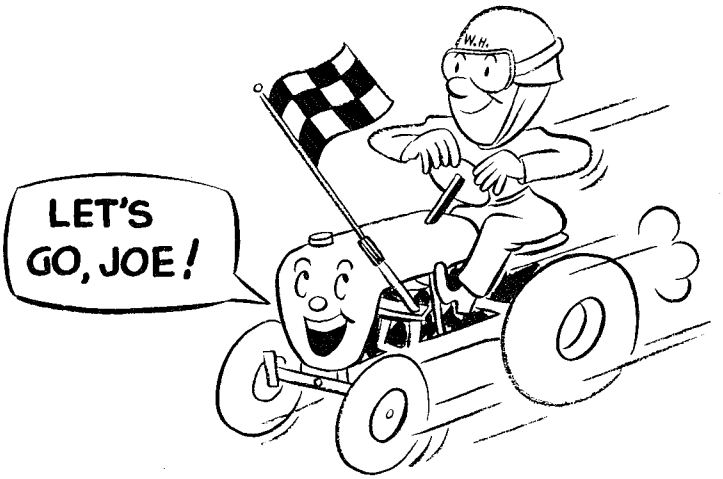
My front tires have been filled at the factory with liquid antifreeze ballast to provide additional weight in my front end. Please don't check the pressure of my front tires as this is really unnecessary and the ballast is harmful to an ordinary air-gauge. Some ballast will also be lost in the process.

My rear tires should be inflated to six or eight pounds of air pressure. My rear tires may be filled with a liquid ballast if desired. Ordinarily, this is not necessary because the weight of the operator adds sufficient weight on the rear tires for more than adequate traction.

Now that you are sure my engine and my chassis have been properly serviced, I am ready for fun-work.

Figure 4.





ALL ABOARD!

Starting My Engine

1. Before starting my engine, open the valve on the sediment bowl (See Fig. 2). Now put gear shift lever (See Fig. 4) in the neutral position. Simply check the handy gear position diagram on recessed control panel (See Fig. 5).
2. Push throttle lever ½ way forward (See Fig. 5).
3. Pull choke lever (See Fig. 5) to choke position . . . if engine is cold. A warm engine requires no choking.
4. Pull retractable starter cord on engine. Or push starter button (optional equipment).
5. When engine starts, push choke lever forward. Regulate speed with throttle lever. To shut off engine, pull throttle back to "Off" position.
6. Depress clutch pedal (See Fig. 4).
7. Shift gear lever into desired gear range (check gear position diagram) and slowly release on clutch pedal.

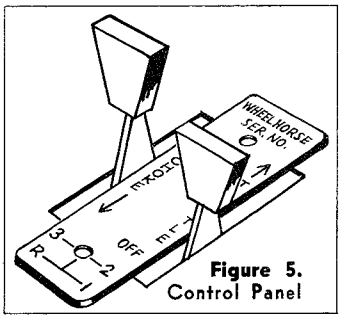


Figure 5. Control Panel

WE'RE OFF!

Important Operating Tips:

There is no need to force my gear shift lever if gears do not immediately mesh. Depress clutch pedal all the way down and let up, then depress again and shift again. To easily avoid jerky starts, release my clutch pedal slowly when shifting. While I am in motion, you

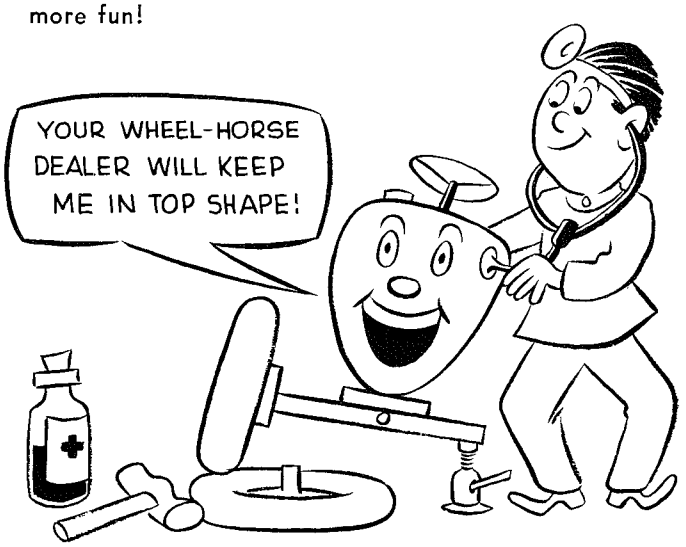
should not shift my gears without depressing my clutch pedal.

My clutch pedal also operates my brakes **when depressed all the way down.** For this reason, you should depress my clutch pedal **only ⅔rds of the way down when shifting** while I am in motion. This clutch-brake pedal combination makes clutching automatic as you apply my brakes to stop. My brake band, located on the left side of my transmission, brakes the transmission, which in turn brakes both wheels. Adjust the nuts on my brake rod so that, when you depress my clutch pedal all the way down, my brake band tightens around the brake drum, just as the idler pulley releases the belt.

With my clutch idler engaged, set the clutch finger (parts list ref. no. 91) approximately 1/8 of an inch away from the belt. This should be checked every 10 hours and reset if required. Be sure the clutch finger does not rub the belt when I'm running. This would cause excessive belt wear.

Unless you wish to come to a complete stop, it is not necessary to use my brakes while going down a hill. My gear train will keep me at a moderate, safe speed. When leaving me parked on unlevel ground, leave my gear shift lever in the low-gear position. This will act as an emergency brake.

Give me the same care that you give your automobile. Please, don't abuse me with improper handling. Keep me sheltered from the weather when not in use. Once in a while, it's a good idea to have me visit your Wheel Horse dealer for a thorough checkup. If you do, I'll live a longer life — getting more done and giving more fun!



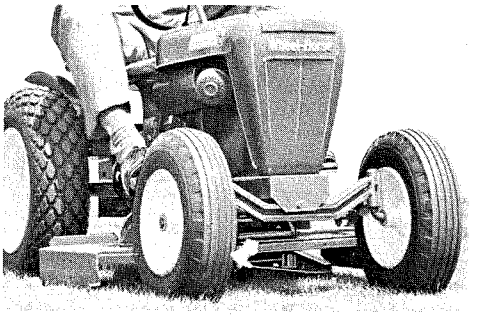
MY GUARANTEE

The Wheel Horse is guaranteed for ninety days from date of purchase against defective parts or workmanship. We will replace, free of charge, any defective part, except in the engine, if returned to the factory prepaid. Wheel Horse Products, Inc., reserves the right to make changes or improvements upon its products without imposing any obligation upon itself to install the same upon its products previously manufactured. The engine carries a separate guarantee by the engine maufacturer. FOR ENGINE SERVICE, CONTACT YOUR LOCAL AUTHORIZED ENGINE SERVICE HEADQUARTERS.

USING MY ATTACHMENTS

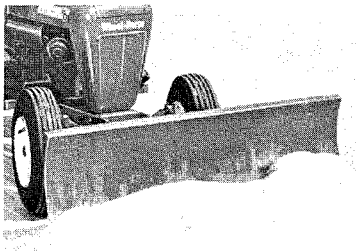
(there are 22 of them!)

ALL-NEW FLOATING ROTARY MOWER



Complete information on the assembly, attachment, operation and service of my new "floating" rotary mower is in the catalog sheet provided with each mower. When attached and adjusted, we're ready to mow. Just release the lift lever (See Fig. 4) by pressing the button at its top. Before starting my engine, move the mower clutch pedal toward you. When you let up on the tractor clutch pedal and move the mover clutch pedal forward we'll be mowing. To put mower in travel position, depress lift lever button, pull lever all the way back and allow ratchet to lock in highest sector (See Fig. 2). Why not practice this operation a couple of times?

ALL-NEW HEAVY DUTY SNOWPLOW — DOZER BLADE



Complete information on the assembly, attachment, operation and service of my new heavy duty snowplow - dozer blade is in the catalog sheet provided with each plow. When attachment is in place and skids are adjusted, you are ready to adjust the blade height and angling position . . . all from the driver's seat! Adjust blade height by pressing button on lift lever and lower or raise to desired height. Let up on button to allow ratchet to latch in multi-notched sector (See Fig. 2). Adjust angling position by depressing pedal and moving blade to desired position with rope. Release pedal when angle is reached and blade will snap into position. Now start my engine and begin to plow! To put snowplow in travel position, follow instruction above for rotary mower.

OTHER ATTACHING TOOLS

The lift lever with multi-notched sector permits quick, easy height adjustment on most of my attaching tools. — both rear and front mounted. I've a proven, practical attaching yard and garden tool for every job in every season. To obtain further information regarding any of my attachments, see your Wheel Horse Dealer.

Sincerely,

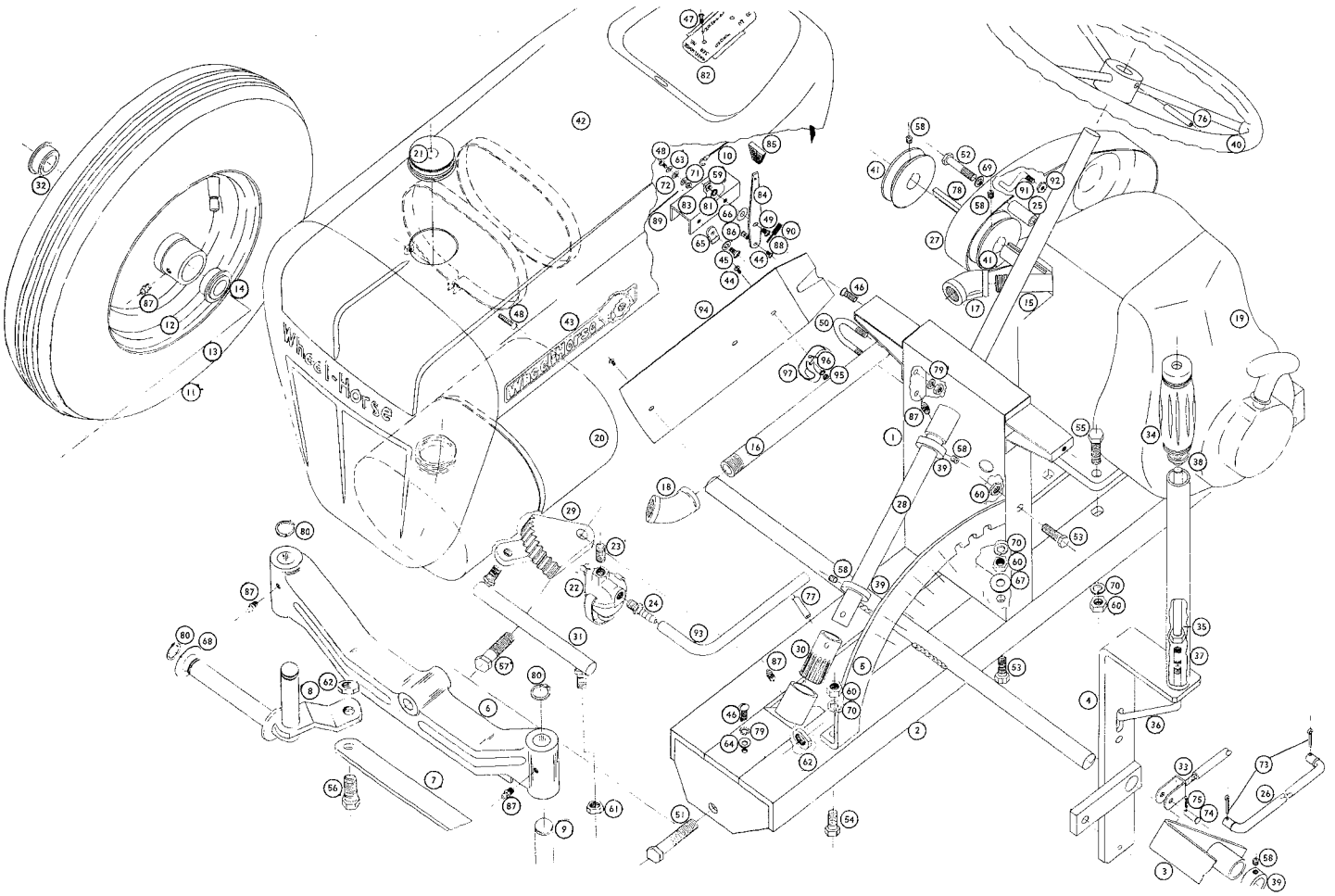
Wheel-Horse

Form No. 135915

Printed in U.S.A.

PARTS LIST (Front End)

Ref. No.	Part No.	Description	No. Per Unit
1	3628	Hood Stand Assembly	1
2	3633	Frame Assembly	1
3	3644	Clutch Pedal	1
4	3639	Tool Lift Lever	1
5	3626	Lift Sector	1
6	3614	Front Axle	1
7	3605	Tie Rod	1
8	3622R	Front Spindle	1
9	3623L	Front Spindle	1
10	1146	Wire Assy.	1
11	1709	Front Wheel Assy.	2
12	1712	Wheel & Rim	2
13	1656	Tire	2
	1657	Tube	2
14	1514	Bearing Ball	4
15	3487	Nipple Pipe	1
16	3488	Nipple Pipe	1
17	3489	Elbow	1
18	3490	Elbow	1
19	1779	Engine	1
20	1785	Fuel Tank	1
21	1789	Cap - Fuel Tank	1
22	1786	Strainer	1
23	1192	Nipple Close	1
24	1787	Connector Strt. Line	1
25	3575	Spacer Belt Gd.	2
26	3550	Clutch Rod	1
27	3627	Belt Guard	1
28	3618	Steering Rod	1
29	3607	Sector Steering	1
30	3606	Pinion Steering	1
31	3600	Drag Link	1
32	1521	Brg. P. Iron	4
33	3539	Lift Cable	1
34	1000	Grip-Rubber	1
35	3617	Plunger Rod (upper)	1
36	3615	Plunger Rod (lower)	1
37	3624	Spring	1
38	3578	Guide Plunger	1
39	1085	Shaft Collar	3
40	3415	Steering Wheel	1
41	1608	Pulley	2
42	3647	Hood	1
43	1283	Crome Cal	2
44	1202	Stove Bolt	2
45	1274	Stove Bolt	2
46	1271	Stove Bolt	3
47	1273	Machine Screw	2
48	1179	Stove Bolt	3
49	1143	Stove Bolt	2
50	1240	U-bolt w/nuts	1
51	1287	Hex Head Cap	1
52	1092	Hex Head Cap	2
53	1061	Hex Head Cap	3
54	1062	Hex Head Cap	1
55	1028	Hex Head Cap	4
56	3608	Hex Head Cap	2
57	1286	Hex Head Cap	1
58	1042	Set Screw Sock. Hd.	2
59	1280	Lock Nut	2
60	1016	Hex Nut	8
61	1110	Hex Nut	1
62	1026	Jam Nut	4
63	1275	Washer	1
64	1119	Washer	1
65	1277	Clip	2
66	1276	Washer (Friction)	2
67	1041	Washer	2
68	1278	Washer	2
69	1196	Lockwasher External (Shakeproof)	2
70	1039	Lockwasher	10
71	3613	Insulating Washer	1
72	3612	Insulating Bushing	1
73	1002	Cotter Pin	2
74	1235	Yoke Pin	1
75	1285	Cotter Pin	1
76	1227	Roll Pin	1
77	1269	Roll Pin	1
78	1120	Key Square	1
79	1067	Shakeproof Washer	5
80	1127	Snap Ring	4
81	3641	Spring	2
82	3629	Cover-Control Plate	1
83	3630	Channel-Con. Lever Mount.	1
84	3631	Control Lever	2
85	1270	Plastic Knob	2
86	1279	Wire Lock	2
87	1030	Zerk	6
88	3648	Wire Throttle	1
89	3649	Wire Choke	1
90	3650	Casing	1
91	3642	Finger Clutch	1
92	1282	Jam Nut	1
93	1790	Fuel Line	1
94	3588	Exhaust Shield	1
95	1182	Nut	2
96	1125	Lock Washer	2
97	1883	Clamp	2



PARTS LIST (Rear End)

Ref. No.	Part No.	Description	No. Per Unit
101	3504	Right Trans. Cover	1
102	3509	Left Trans. Cover	1
103	3638	Idler Arm	1
104	3635	Clutch Arm	1
105	3560	Hitch	1
106	3559	Brake Shaft	1
107	3538	Lever-Shift	1
108	3514	Collar Shift	1
109	3577	Boot-Shift Lever	1
110	3572	Hitch Pin	1
111	3501	Trans. Hsg.	1
112	3503	Shift Fork	2
113	3515	Shift Rail (frt.)	1
114	3516	Shift Rail (rear)	1
115	3517	Ball, Stop	2
116	3518	Spring - Stop	1
117	3573	Pin Stop, Shift	1
118	3519	Rev. Idler Pin	1
119	3520	Rev. Idler Gear	1
120	3521	Spline Shaft	1
121	3522	Input Gear	1
122	3523	Hi & 2 Gear	1
123	3524	Lo & Rev. Gear	1
124	3525	Cluster Gear	1
125	3526	Splined Pinion	1
126	3527	Cluster Shf. Red. Gear	1
127	3528	Cluster Shft. Pinion	1
128	1813	Tool Pin	1
129	3530	Axle Gear	2
130	3531	Spider Gear	4
131	3502	Diff Case & Gear	1
132	3533	Cluster Shaft	1
133	3532	Axle	2
134	1611	Pulley Trans.	1
135	3535	Diff. Pins	4
136	3574	Wheel Hub	2
137	1014	Tension Spring	1
138	3539	Lift Cable	1
139	1001	Knob	1
140	2510	Seat	1
141	3537	Seat Spring	1
142	1650	T & T Assembly	2
143	1654	Tube	2
144	1700	Rim	2
145	1569	Belt	1
146	3540	Brake Drum	1
147	3543	Brake Band Assy	1
148	3634	Brake Rod	1
149	3536	Gasket	2
150	1504	Bronze Bearing	2
151	1517	Bronze Bearing	2
152	1503	Bronze Bearing	2
153	1502	Ball Bearing	2
154	1519	Ball Bearing	5
155	1518	Needle Bearing	1
156	1616	Idler Pulley	1
157	1522	Bronze Bearing	1
158	3632	Stud-Idler Pin	1
159	1234	Oil Seal	2
160	1257	Oil Seal	2
161	1106	Carriage Bolt	1
162	1009	Hex Head Cap	2
163	1248	Hex Head Cap	18
164	1062	Hex Head Cap	7
165	1028	Hex Head Cap	4
166	1239	Set Screw Dog, Pt.	1
167	1042	Set Screw Sock. Hd.	2
168	1252	Set Screw Sq. Head	2
169	1034	Hex Nut	1
170	1016	Hex Nut	8
171	1026	Jam Nut	1
172	1039	Lockwasher	8
173	1002	Cotter Pin	1
174	1235	Yoke Pin	1
175	1285	Cotter Pin	1
176	1242	Roll Pin	1
177	1244	Roll Pin	3
178	1133	Roll Pin	1
179	1227	Roll Pin	2
180	1081	Roll Pin	2
181	1122	Key, Woodruff #9	4
182	1008	Key, Woodruff #15	4
183	1108	Pipe Plug	1
184	1013	Pipe Plug	1
185	1243	Cup Plug	1
186	1004	Wheel Bolt	6
187	1067	Shakeproof Washer	2
188	1272	Snap Ring	1
189	1127	Snap Ring	4
190	1115	Lock Washer	1
191	3583	Lug-Cable Clamp	1
192	1030	Zerk	1
193	1080	Jam Nut	2