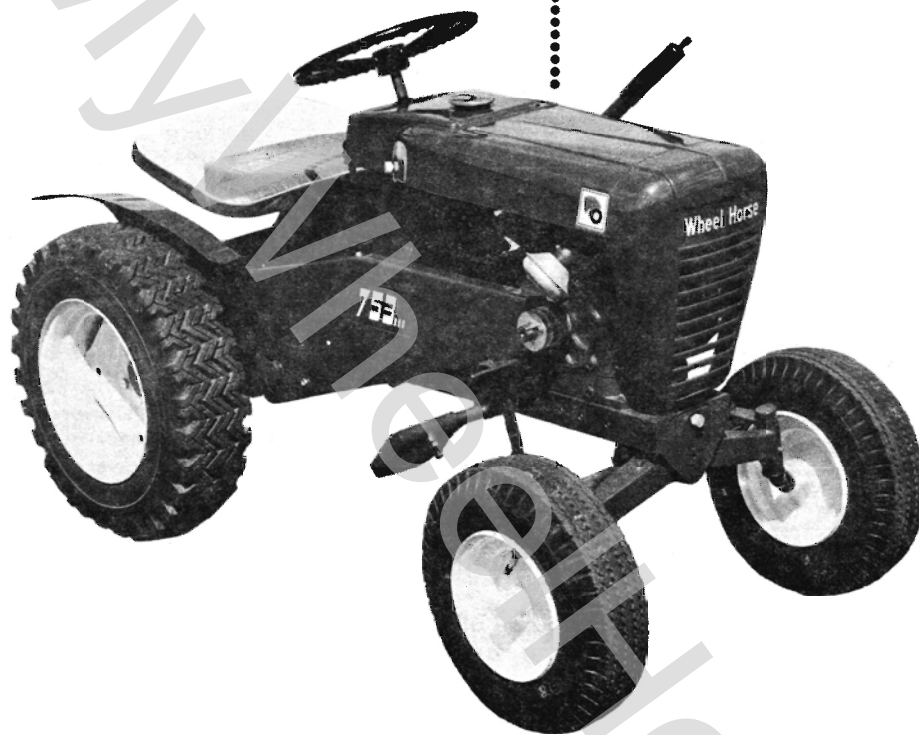


Wheel Horse[®]

LAWN AND GARDEN TRACTORS

models

633, 653, 753



OPERATION AND SERVICE MANUAL WITH PARTS LIST

WHEEL-HORSE PRODUCTS, INC.

SOUTH BEND, IND.



THINGS YOU SHOULD KNOW

The transmission is powered on needle bearings and roller bearings. The reduction is 108 to 1, and both final drives are steel forgings. All shafts are turned, ground, hardened, and polished for greater strength and best oil sealing.

Speeds are from 1 mph to 6 mph with 3 speeds forward and 1 reverse.

WARRANTY

We warrant WHEEL HORSE PRODUCTS for ONE YEAR from date of purchase against defective parts and workmanship. We will replace, free of charge, any defective part if returned to the factory PREPAID*. Wheel Horse Products, Inc., reserves the right to make changes or improvements upon its products without imposing any obligations upon itself to install the same upon its products that have been previously manufactured.

The engine and battery carry a separate warranty by the manufacturer. FOR ENGINE OR BATTERY SERVICE, CONTACT YOUR LOCAL ENGINE OR BATTERY SERVICE HEADQUARTERS.

*All warranty claims, work, shipments, must be handled through your authorized Wheel Horse dealer.

NOTE: 90 Day Warranty for Commercial Use.

BEFORE YOU START

There is **NO OIL** in the crankcase of the engine when shipped from the factory. Read Engine Manual and follow all instructions pertaining to type of lubrication specified. The engine is the heart of your tractor and it is very important that you keep it in good condition.

Lubricate all grease fittings with a regular pressure gun lubricant every eight to ten hours of operation. Refer to Figure 1 for the location of grease fittings.

A light machine oil should be used on all moving parts to keep joints from wearing and squeaking.

Remove oil filler plug, located at the left rear side of the transmission, and fill to level of hole with a good grade of S.A.E. 90 Gear Lube (will require about 3 pints).

The transmission should be checked after every 40 hours of use. The transmission should be drained once a year by removing plug on bottom to drain oil. Refill as above paragraph. This is a regular automotive type transmission with sliding gears and should have the same care as your car.

BATTERY

The battery installed in the 653 and 753 tractor is a dry charged battery. It is important that you properly prepare this battery to insure good service and long life.

1. Remove vent caps. Remove or destroy any sealing device which may have been used to close or restrict the vent openings.

2. Fill each cell of the battery to the proper level with the battery electrolyte.

NOTE. Temperature of battery and electrolyte at time of filling should be above 60°F. Never fill battery in the vehicle.

3. **BOOST CHARGE:** 15 amps. for 10 minutes or 7 amps. for 30 minutes. Adjust electrolyte level, if necessary, after charge.

4. **Install battery with battery posts toward the rear of tractor.** Start motor. Check to see if generator is charging properly. After battery has been in service, add only approved water.

DO NOT ADD ACID.

TIRES

The front tires are 4:00 x 8 and should be inflated to 20 pounds of air pressure. **The rear tires are 6:00 x 12 and should have 6 to 8 pounds of air pressure.** The tires can also be filled with ballast if desired. Ordinarily this is not necessary as the weight of the operator will add sufficient weight for adequate traction.

STARTING ENGINE

1. Before starting the engine fill gas tank with a good grade of regular gas and open valve on sediment bowl.

2. Place gear shift lever in neutral position.

3. Pull throttle lever $\frac{1}{2}$ way out and turn to the right to lock it in position. **Note:** The Throttle control has a locking device. Turn the throttle control to the left to unlock, adjust to the desired position and turn to the right to lock.

4. Pull choke lever all the way out to choke engine. If engine is warm and has been running, choking will not be necessary.

5. A. Model 633 tractor has a recoil starter with an OFF and ON switch. To start push switch to ON position and pull recoil starter.

B. Models 653 and 753 tractors have an OFF and ON key, also a starter button. Turn key to ON position and push starter button.

6. When engine starts push choke in to off position and regulate throttle control by turning to the left to unlock and push in or out to desired speed.

7. Depress clutch pedal on left side of tractor before selecting desired gear range.

8. When starting tractor in winter it is desirable to depress clutch so engine does not have to turn transmission.

CLUTCHING

Don't force the gear shift lever if the gears do not immediately mesh. Depress clutch pedal all the way down and let up, then depress again and shift. To avoid sudden starts, release clutch pedal slowly. While in motion do not shift gears without depressing clutch pedal.

The clutch pedal also operates the brakes **WHEN DEPRESSED ALL THE WAY DOWN.** For this reason, you should depress the clutch pedal **ONLY $\frac{2}{3}$ OF THE WAY DOWN WHEN SHIFTING** while in motion. This clutch-brake pedal combination makes clutching automatic as you apply the brakes to stop.

PARKING BRAKE

The parking brake is located on the left side of the tractor as shown in Figure 1. To set the parking brake depress the clutch-brake pedal as far as possible and push the parking brake forward. To release the brake depress the clutch-brake pedal and pull the parking brake back.

ATTACHING TOOLS

Complete information on the assembly, attachment, operation and service of the many attaching tools will be provided with each attachment.

All drawn implements attach in seconds. Simply lift the tractor hitch pin, insert the tongue, and replace pin.

All power implements will use the attachment clutch pedal located on the right side of the tractor.

CARE OF TRACTOR

1. Keep tractor greased and oiled regularly. Refer to Figure 1 for the location of grease fittings. Check transmission and engine case oil levels.

2. Keep engine air cleaner clean. This will add to engine life.

3. Keep tires properly inflated. See previous instructions.

4. Keep tractor covered and in a dry place when not in use.

5. Keep grass and dirt out of engine cowling as these will stop the flow of air and decrease engine life.

6. BRAKE ADJUSTMENT. The brake band, located on the left side of the transmission, brakes the transmission and in turn stops the wheels.

To adjust first set the parking brake then adjust the nut on the brake rod until it locks the rear wheels. Disengage parking brake, remove cotter

pin from clutch rod at clutch brake pedal and by turning in or out adjust clutch brake pedal to operators desired position.

7. When replacing belts or mounting drive implements make sure all pulleys are in line.

8. On the 653 and 753 tractors which have batteries, check liquid after every 40 hours of use. If tractor has been in storage it may be necessary to recharge.

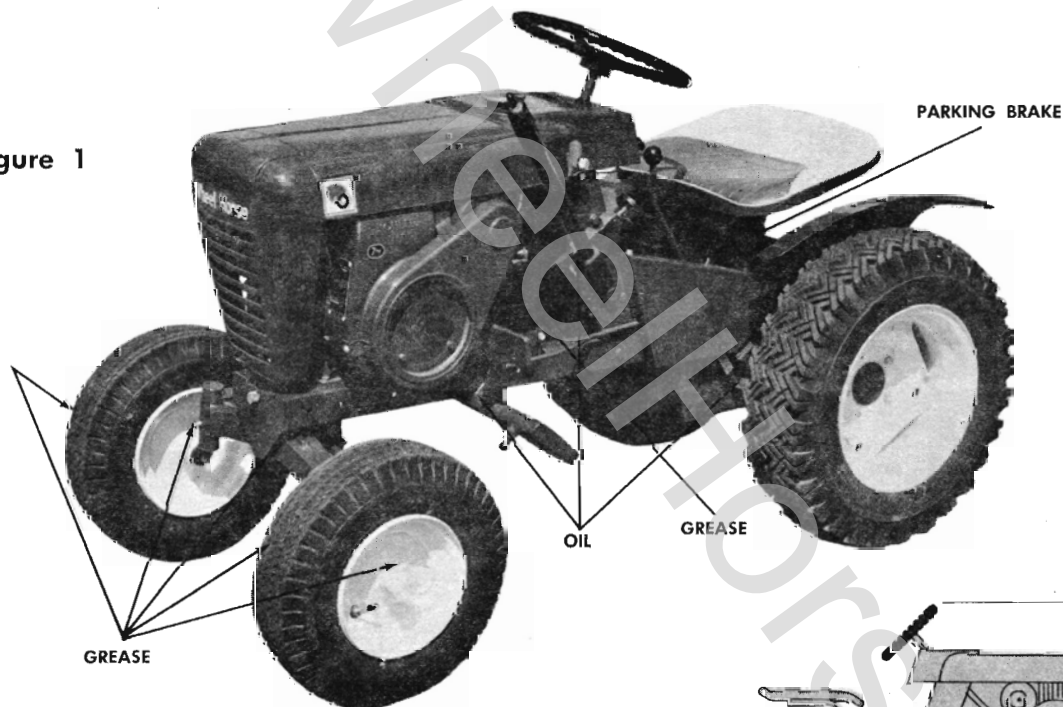
9. Your tractor is only as good as the service you give it. See your Wheel Horse Dealer for a thorough check-up after each season of use.

10. When replacing belts be sure to purchase them from your Wheel Horse Dealer, as these belts are specifically designed for each application. (NOTE: Make sure all pulleys are in line.)

FOR YOUR SAFETY

- A. Keep all guards on at all times.
- B. Never abuse your tractor by improper handling.
- C. Keep hands and feet from moving parts.
- D. Remove key when not in use.
- E. Be careful on high uneven ground.

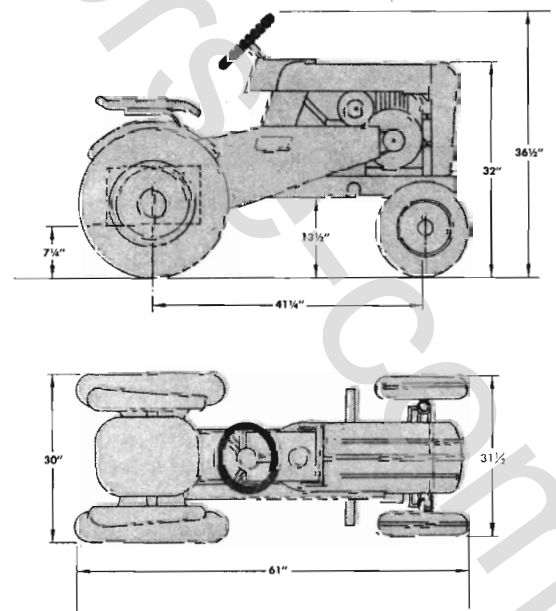
Figure 1

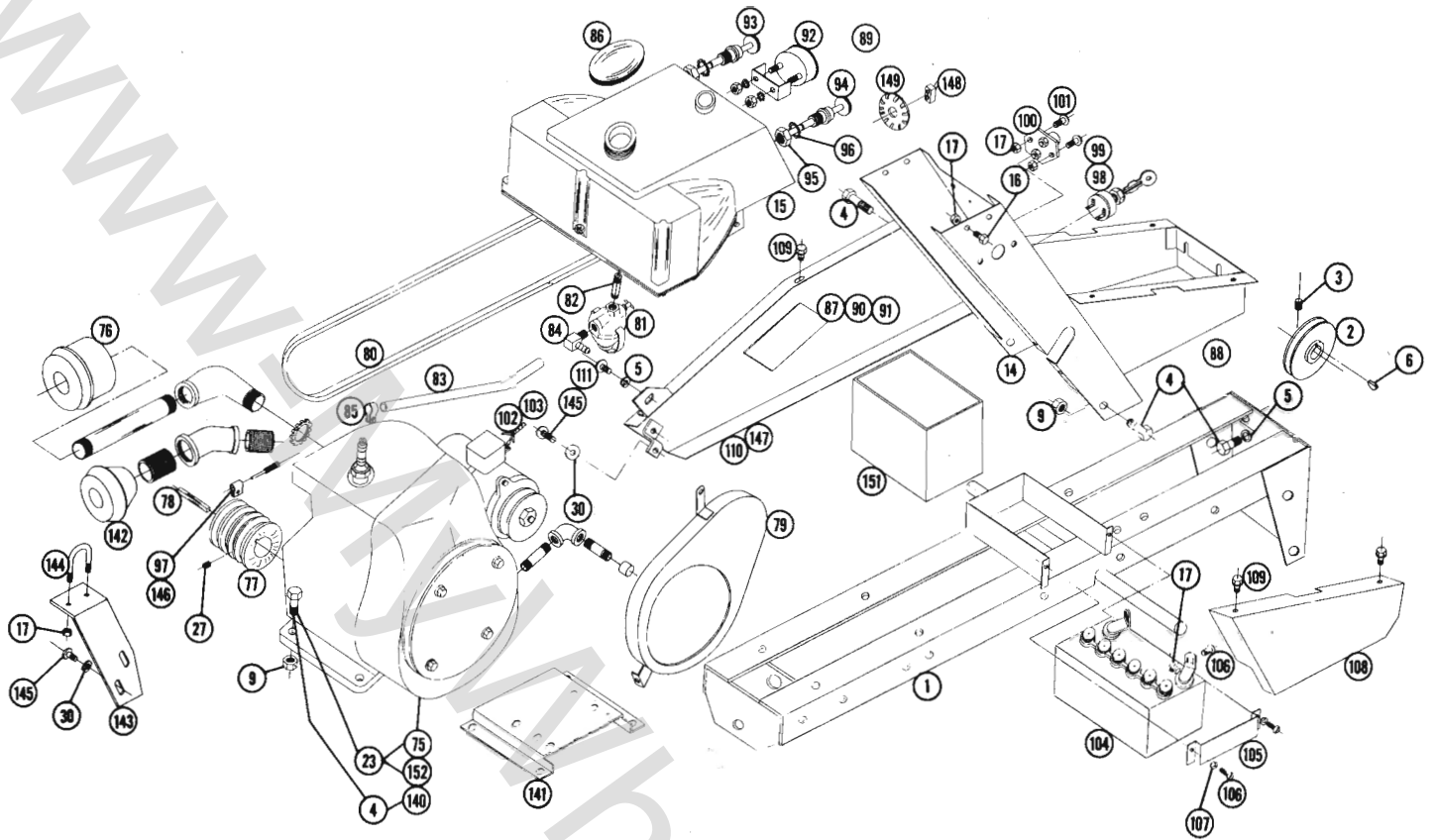


SPECIFICATIONS

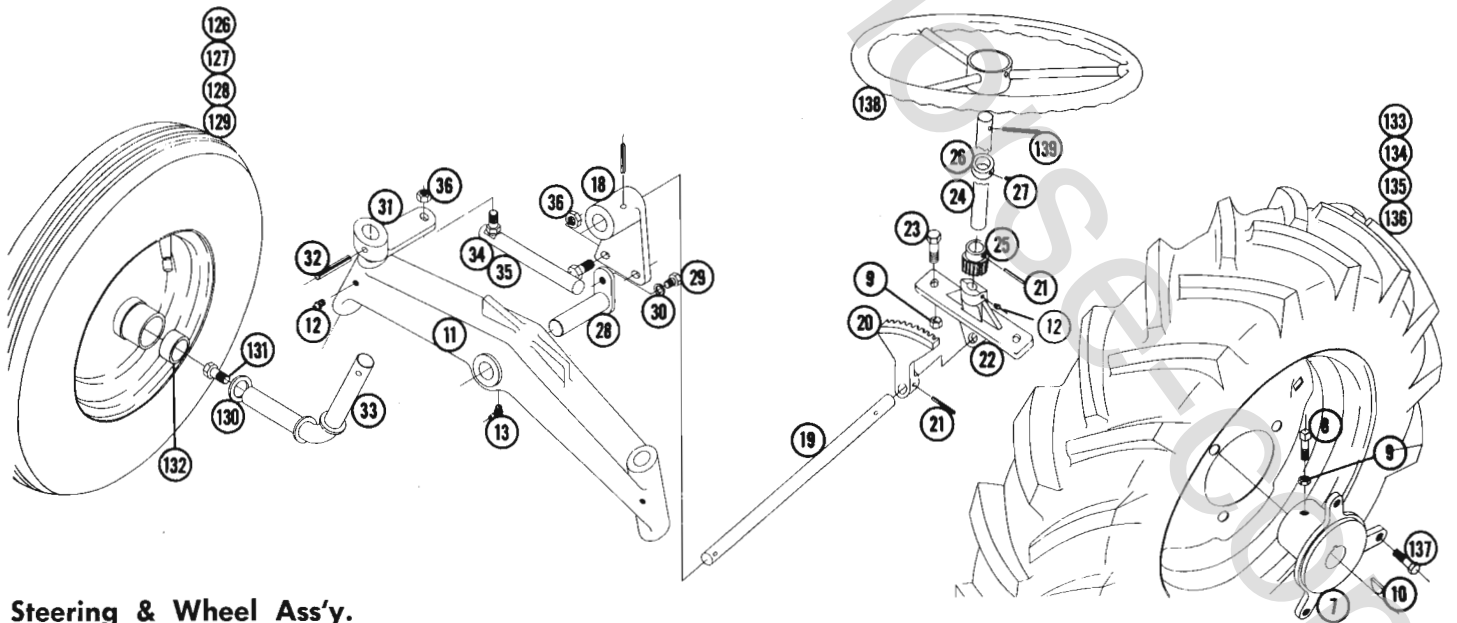
(Specifications subject to change without notice.)

Length overall	61 inches
Wheelbase	41 $\frac{1}{4}$ inches
Width at rear wheels	30 inches
Width at front wheels	31 $\frac{1}{2}$ inches
Height	36 $\frac{1}{2}$ inches
Height to top of hood	32 inches
Net weight	
	(633) 381 lbs. — (653) 373 lbs. — (753) 419 lbs.
Crop clearance	7 $\frac{1}{4}$ inches
Frame clearance	13 $\frac{1}{2}$ inches
Engine (4-cycle, single cylinder, air cooled)	6 or 7 hp.
Fuel capacity	4 quarts
Tires (front)	4:00 x 8" pneumatic (16" wheel dia.)
Tires (rear)	Cleat-type or All Purpose tread 6:00 x 12" pneumatic (22" wheel dia.)

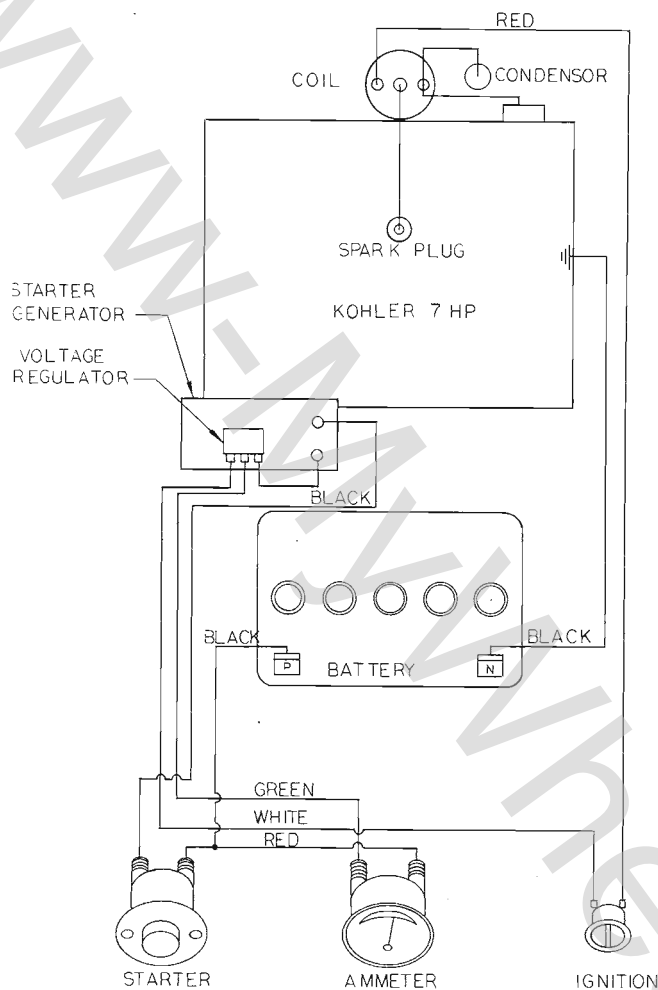




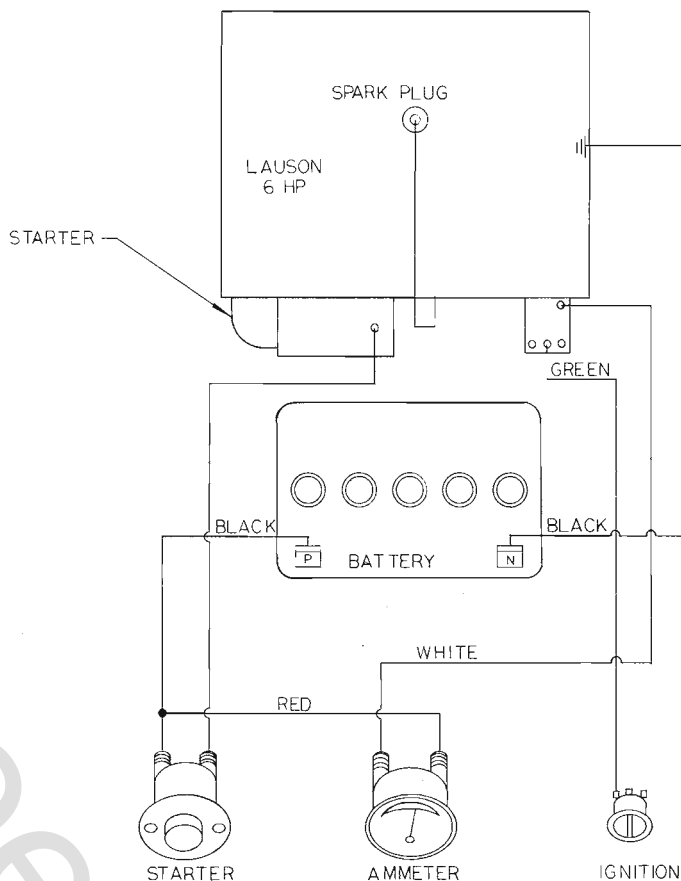
Main Frame Ass'y.



Steering & Wheel Ass'y.



Wiring for 753



Wiring for 653

PARTS LIST for MODELS 633, 653 and 753 LAWN and GARDEN TRACTORS

(Except Transmission — see last page for Transmission break down and Parts List.)

When ordering parts always list Part No. and name of part.

Ref. No.	Part No.	Description	No. Req'd.
1	2290	Ass'y. Frame	1
2	1611	Pulley	1
3	909862-4	Set Screw $\frac{5}{16}$ - 18 x $\frac{5}{16}$ Hex Soc.	1
4	908032-4	Bolt Hex $\frac{3}{8}$ - 16 x $\frac{3}{4}$	12
5	920083-4	Lockwasher $\frac{3}{8}$ Dia.	9
6	937014	Key #9 Woodruff	1
7	3574	Hub - Rear Wheel	2
8	909554-4	Set Screw Sq. Hd. $\frac{3}{8}$ - 16 x 1	2
9	915113-6	Nut - Hex - Nylock $\frac{3}{8}$ - 16	21
10	937022	Key #15 Woodruff	2
11	1649	Axle - Front	1
12	1030	Fitting - Grease - Straight	5
13	1481	Fitting - Grease - 45°	1
14	2268	Ass'y. Hood Stand	1
15	2271	Ass'y. Fuel Tank	1
16	910057-4	Bolt - $\frac{1}{4}$ - 20 x $\frac{5}{8}$ Fil. Hd.	4
17	915111-6	Nut - Hex. Nylock $\frac{1}{4}$ - 20	14

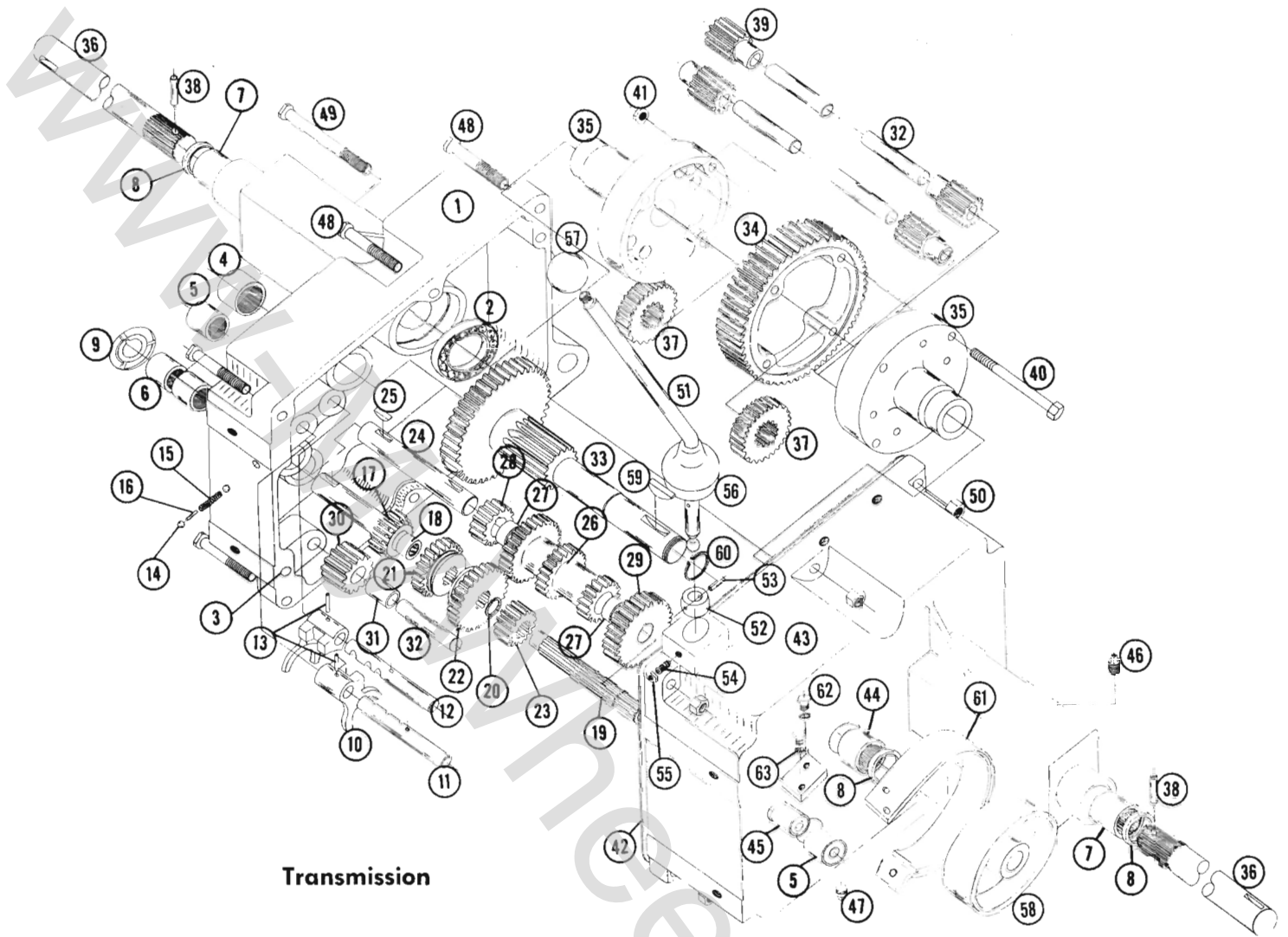
Ref. No.	Part No.	Description	No. Req'd.
18	1900	Link - Steering Pivot	1
19	1932	Shaft - Steering Lower	1
20	4413	Sector - Steering	1
21	933215	Roll Pin $\frac{1}{4}$ x $1\frac{1}{4}$	3
22	4412	Support Steering	1
23	908035-4	Bolt - Hex. $\frac{3}{8}$ - 16 x $1\frac{1}{4}$	6
24	3945	Shaft - Steering - Upper	1
25	3917	Gear - Steering Pinion	1
26	1083	Collar	1
27	909848-4	Set Screw $\frac{1}{4}$ - 20 x $\frac{1}{4}$ Hex.	2
28	2294	Ass'y. Pin and Plate	1
29	908015-4	Bolt - Hex. $\frac{5}{16}$ - 18 x $\frac{1}{2}$	4
30	920082-4	Lock Washer $\frac{5}{16}$ Dia.	7
31	1899	Arm - Steering	2
32	933216	Roll - Pin $\frac{1}{4}$ x $1\frac{3}{8}$	2
33	1898	Ass'y. Spindle	2
34	1772	Ass'y. Ball Joint R.H.	1

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(Except Transmission — see last page for Transmission break down and Parts List.)

When ordering parts always list Part No. and name of part.

Ref. No.	Part No.	Description	No. Req'd.	Ref. No.	Part No.	Description	No. Req'd.
35	1773	Ass'y. Ball Joint L.H.	1	94	4456	Ass'y. Control - Choke	1
36	915002-6	Nut Hex - Nylock $\frac{3}{8}$ - 24	4	95	1364	Nut - $\frac{3}{16}$ Round	2
37	1840	Ass'y. Tool Box	1	96	1331	Lock Washer $\frac{3}{16}$ Shake Proof	2
38	3537	Spring - Seat	1	97	1277	Clip (Kohler)	2
39	908034-4	Bolt Hex $\frac{3}{8}$ - 16 x 1	2	98	1747	Ass'y. Switch Ignition (Kohler)	1
40	2267	Pedal - Clutch	1	99	3656	Ass'y. Switch Ignition (Lauson)	1
41	1372	Hair Pin	1	100	1751	Ass'y. Switch Starter	1
42	3950	Ass'y. Idler Arm & Shaft	1	101	909055-4	Bolt $\frac{1}{4}$ - 20 x $\frac{3}{4}$ Rd. Hd.	2
43	3979	Arm - Clutch Rod Pivot	1	102	3063	Wiring Harness (Kohler)	1
44	933158	Roll Pin - $\frac{1}{8}$ x $1\frac{1}{4}$	1	103	3596	Wiring Harness (Lauson)	1
45	1623	Pulley - Idler	1	104	3653	Battery	1
46	1363	Bolt $\frac{3}{8}$ - 16 x $\frac{7}{8}$ Special	1	105	4206	Clamp - Battery	1
47	1536	Bushing	1	106	908002-4	Bolt - Hex $\frac{1}{4}$ - 20 x $\frac{5}{8}$	4
48	2593	Rod - Clutch	1	107	920081-4	Lock Washer $\frac{1}{4}$ Dia.	5
49	3935	Rod - Brake	1	108	4419	Shield	1
50	1861	Stud - Clutch Rod	1	109	1385	Screw - Hex - Sems $\frac{1}{4}$ - 20 x $\frac{1}{2}$	5
51	932017-4	Cotter Pin $\frac{1}{8}$ x 1	4	110	4450	Ass'y. Belt Guard (Kohler)	1
52	1014	Spring - Clutch	2	111	909082-4	Screw - Rd. Hd. $\frac{3}{8}$ - 16 x $\frac{1}{2}$	1
53	4417	Ass'y. Lever & Knob - Brake	1	112	2582	Ass'y. Hood Stand	1
54	4421	Foot Rest	2	113	1345	Thumbscrew $\frac{1}{4}$ - 20 x $\frac{3}{4}$	2
55	909555-4	Set Screw $\frac{3}{8}$ - 16 x 1 Sq. H. Cup Pt.	2	114	1346	Thumbscrew $\frac{1}{4}$ - 20 x $\frac{3}{8}$	1
56	2266	Ass'y. Lift Lever - Manual	1	115	4246	Ass'y. Trip Lever	1
57	4438	Plunger	1	116	4239	Pedal - Attachment Clutch	1
58	4439	Rod	1	117	3933	Link	1
59	933168	Roll Pin $\frac{5}{32}$ x $1\frac{1}{16}$	1	118	933188	Roll Pin $\frac{3}{16}$ x 1	1
60	3624	Spring	1	119	3983	Fender R.H.	1
61	3578	Guide - Plunger	1	120	3984	Fender L.H.	1
62	3680	Cap	2	121	908003-4	Bolt - Hex. $\frac{1}{4}$ - 20 x $\frac{3}{4}$	4
63	1000	Handle - Grip	1	122	3973	Seat	1
64	932036-4	Cotterpin $\frac{3}{16}$ x $1\frac{1}{2}$	2	123	900112-4	Bolt Carriage $\frac{1}{2}$ - 13 x 1	1
65	3931	Ass'y. Cable	1	124	915115-6	Nut - Hex - Nylock $\frac{1}{2}$ - 13	1
66	932120-4	Pin - Clevis $\frac{1}{4}$ Dia.	2	125	3978	Cushion - Seat	1
67	932001-4	Cotter Pin $\frac{1}{16}$ x $\frac{3}{4}$	2	126	1709	Ass'y. Wheel - Front	2
68	3926	Hitch	1	127	1712	Wheel	2
69	3988	Pin - Hitch	1	128	1656	Tire	2
70	S-50-75	Snap Ring $\frac{3}{4}$ Shaft	2	129	1657	Tube	2
71	1813	Tool Pin	1	130	2844	Washer	2
72	2274	Quadrant	1	131	908033-6	Bolt - Hex $\frac{3}{8}$ - 16 x $\frac{7}{8}$ Nylock	2
73	2179	Rod Height Control	1	132	2816	Hub Cap	2
74	2196	Knob Height Control	1	133	1667	Ass'y. Wheel & Tire Rear	2
75	1799	Ass'y. Engine 7 H.P. Kohler (Elec.)	1	134	1700	Wheel	1
76	1744	Muffler	1	135	1662	Tire - All Purpose	1
77	1621	Pulley	1	136	1654	Tube	1
78	1349	Key $\frac{1}{4}$ x $\frac{1}{4}$ x $1\frac{1}{2}$	1	137	1004	Lug Bolt	6
79	4420	Guard - Engine Belt	1	138	4414	Wheel - Steering	1
80	1576	"V" Belt - Drive	1	139	933191	Roll Pin $\frac{3}{16}$ x $1\frac{3}{8}$	1
81	1786	Ass'y. Fuel Strainer	1	140	2638	Ass'y. Engine 6 H.P. Lauson (Elec.)	1
82	1192	Nipple - Fuel Tank	1	141	4416	Base	1
83	1796	Hose - Fuel Line	1	142	1739	Muffler	1
84	1217	Fitting - Elbow	1	143	2297	Brace - Muffler	1
85	4256	Clip - Fuel Line	1	144	1240	"U" Bolt	1
86	3998	Cap - Fuel Tank	1	145	1432	Screw - Rd. Hd. $\frac{5}{16}$ - 24 x $\frac{1}{2}$	3
87	2589	Decal - 753	1	146	3348	Clip - Choke Cable (Lauson)	1
88	4418	Decal - Shift & Serial No.	1	147	4423	Ass'y. Guard - Drive Belt (Lauson)	1
89	4422	Decal - Instrument Panel	1	148	3279	Ass'y. Switch & Nut - Toggle	1
90	2645	Decal - 633	1	149	4249	Plug - Button	1
91	2637	Decal - 653	1	150	4410	Decal Wheel Horse Emblem	2
92	1745	Ammeter	1	151	4403	Tool Box	1
93	4455	Ass'y. Control - Throttle	1	152	2893	Ass'y. Engine 6 H.P. Kohler (Recoil)	1



Transmission

TRANSMISSION PARTS LIST

When ordering parts always list Part No. and name of part.

Ref. No.	Part No.	Description	No. Req'd.	Ref. No.	Part No.	Description	No. Req'd.
1	3900	Case - Transmission	1	33	3903	Gear - Brake Shaft	1
2	1533	Bearing - Ball	1	34	3906	Gear - Bull	1
3	3915	Pin - Locating	2	35	3905	Case - Differential	2
4	1532	Bearing - Needle	1	36	3904	Axle - Rear	2
5	1529	Bearing - Needle	2	37	3908	Gear - Axle	2
6	1508	Bearing - Needle	2	38	933217	Pin - Roll 1/4 x 1 1/2	2
7	1528	Bearing - Needle	2	39	4235	Gear - Differential Pinion	4
8	1232	Seal - Oil	3	40	1329	Cap Screw - Hex 5/16 - 18 x 3/4	4
9	1303	Seal - Oil	1	41	1316	Nut - Hex - Lock 5/16 - 18	4
10	3503	Fork - Shift	2	42	3912	Gasket	1
11	3515	Rail - Front Shift	1	43	3901	Case Transmission	1
12	3516	Rail - Rear Shift	1	44	1530	Bearing - Needle	1
13	933156	Pin - Roll 1/8 x 1	2	45	1531	Bearing - Needle	1
14	3517	Ball - Stop	2	46	943460-4	1/4 Std. Pipe Plug	1
15	3518	Spring - Stop	1	47	943420-4	3/8 Std. Pipe Plug	1
16	3573	Shift Pin - Stop	1	48	908038-4	Bolt - Hex - 3/8 - 16 x 2	5
17	3522	Gear - Input Drive	1	49	908043-4	Bolt - Hex - 3/8 - 16 x 3 1/2	1
18	1518	Bearing - Needle	1	50	915113-6	Nut - Nylock 3/8 - 16	6
19	3907	Shaft - Spline	1	51	4440	Stick - Shift	1
20	S-50-75	Snap Ring Truarc 3/4 Shaft	1	52	3514	Collar - Shift	1
21	3523	Gear (Hi & Inter.)	1	53	933168	Pin - Roll 5/2 x 1 1/16	1
22	3524	Gear (Low & Reverse)	1	54	909854-4	Screw - Soc. Hd. - Set 1/4 - 20 x 3/4	1
23	3526	Gear - Spline Shaft	1	55	915111-4	Nut - Hex Lock 1/4 - 20	1
24	3910	Cluster - Shaft	1	56	3577	Boot - Shift Lever	1
25	937014	Key - #9 Woodruff	2	57	1001	Knob - Shift	1
26	3525	Gear - Cluster	1	58	3902	Drum - Brake	1
27	1504	Bushing - Bronze	2	59	937022	Key #15 Woodruff	1
28	3528	Pinion - Cluster Shaft Reduction	1	60	S-50-100	Snap Ring 1" Shaft	1
29	3527	Gear - Cluster Shaft Reduction	1	61	4437	Band - Brake	1
30	4204	Gear - Reverse Idler	1	62	908002-4	Bolt - Hex 1/4 - 20 x 5/8	2
31	1516	Bushing - Bronze	1	63	920081-4	Washer - Lock 1/4	2
32	3909	Pin - Reverse Idler	5				