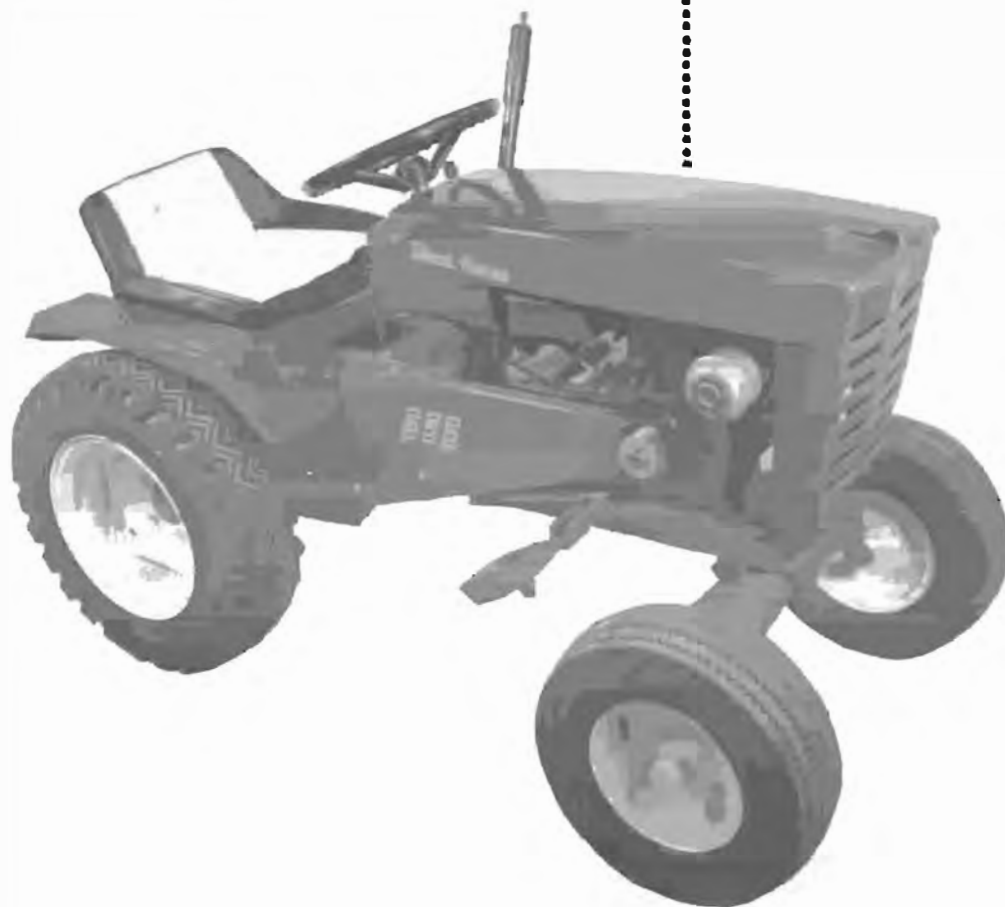


Wheel Horse[®]

LAWN AND GARDEN TRACTORS

models
606, 656



**OPERATION AND
SERVICE MANUAL
WITH PARTS LIST**



WHEEL-HORSE PRODUCTS, INC.

SOUTH BEND, IND.

ASSEMBLY

A. The Tractor is shipped in one carton with the rear wheel and tire assembly, Part No. 1667, in a separate carton.

B. Open tractor unit first. Remove all parts from carton, and place in a convenient arrangement on a clean, level surface.

THINGS YOU SHOULD KNOW

The transmission is powered on needle bearings and ball 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 cooling.

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 "REPAID". 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 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. Oil . . . See Engine Manual.

Check oil level every 5 operating hours or each time equipment is used.

Change oil every 25 operating hours or sooner if equipment is operated in extremely dusty or dirty conditions. 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 oil 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 on the left rear side of the transmission, and fill to level of hole with a good grade of S.A.E. 40 oil (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 656 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 engine. After battery has been in service add only approved water.

DO NOT ADD ACID.

TIRES

The front tires are 4.00-8 and should be inflated to 12 pounds of air pressure. The rear tires are 6 x 12 and should have 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 floater under the hood with a good grade of regular gas and open valve on gas tank. See Figure 1.

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 may not be necessary.

5. A. The Model 656 tractor has a key starter switch. Turn key all the way to right to start engine.

B. The Model 606 tractor has a recoil starter with an off and on key. To start turn key to right and pull recoil starter.

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 $\frac{3}{4}$ 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 down. To release the brake depress the clutch-brake pedal.

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 fillings. 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 cowlings 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, depress clutch brake pedal and move parking brake lever forward into the engaged position. Tighten nut on brake rod until both rear wheels skid when tractor is pushed — parking brake engaged. Tighten nut another $\frac{1}{2}$ turn. The brake and parking brake are now properly adjusted.

7. CLUTCH-BRAKE PEDAL ADJUSTMENT. The clutch-brake pedal rod may be turned in or out to adjust the pedal to operator's desired position. Remove pin from rod and turn rod in or out for adjustment. There are also two holes in the pedal to adjust for travel. The upper hole is for a short movement of travel, the lower hole is for a long movement.

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

9. BATTERY. Check liquid after every 40 hours of use. If tractor has been in storage it may be necessary to recharge.

10. 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.

11. When replacing belts be sure to purchase genuine Wheel Horse belts, as these belts are specifically designed for each application.

(NOTE: Make sure all pulleys are in line.)

12. To raise seat/fender unit pull knob back. See Fig. 1. Seat should be fastened before operating tractor.

SAFETY SUGGESTIONS

Recommended by Outdoor Power Equipment Institute

1. Know the controls and how to stop quickly — read the owner's manual.

2. Do not allow children to operate machine; nor adults to operate it without proper instruction.

3. Clear work area of objects which might be picked up and thrown.

4. Disengage all ditches and shift into neutral before starting motor. Keep hands, feet, and clothing away from power driven parts.

5. Do not carry passengers. Keep children and pets a safe distance away.

6. Never direct discharge of any material toward bystanders, nor allow anyone near machine while in operation.

7. Disengage power to attachment (s) and stop motor before leaving operator position.

8. Take precautions when leaving machine unattended (to avoid accidental starting, rolling away, accidental dropping of any attachment, etc.)

9. Disengage power to any attachment whenever it is not to use, or when traveling from one work area to another.

10. Stay alert for holes and other hidden hazards. Know what is behind you, before backing up.

11. Beware of steep slopes; reduce speed on all side slopes and sharp turns, to prevent tipping or losing control.

12. Don't stop or start suddenly when going uphill or downhill.

13. Use care when pulling loads or using heavy equipment. Refer to owner's manual.

14. Watch out for traffic when near roadways.

15. Handle gasoline with care — it is highly flammable.

a. Use approved gasoline container.

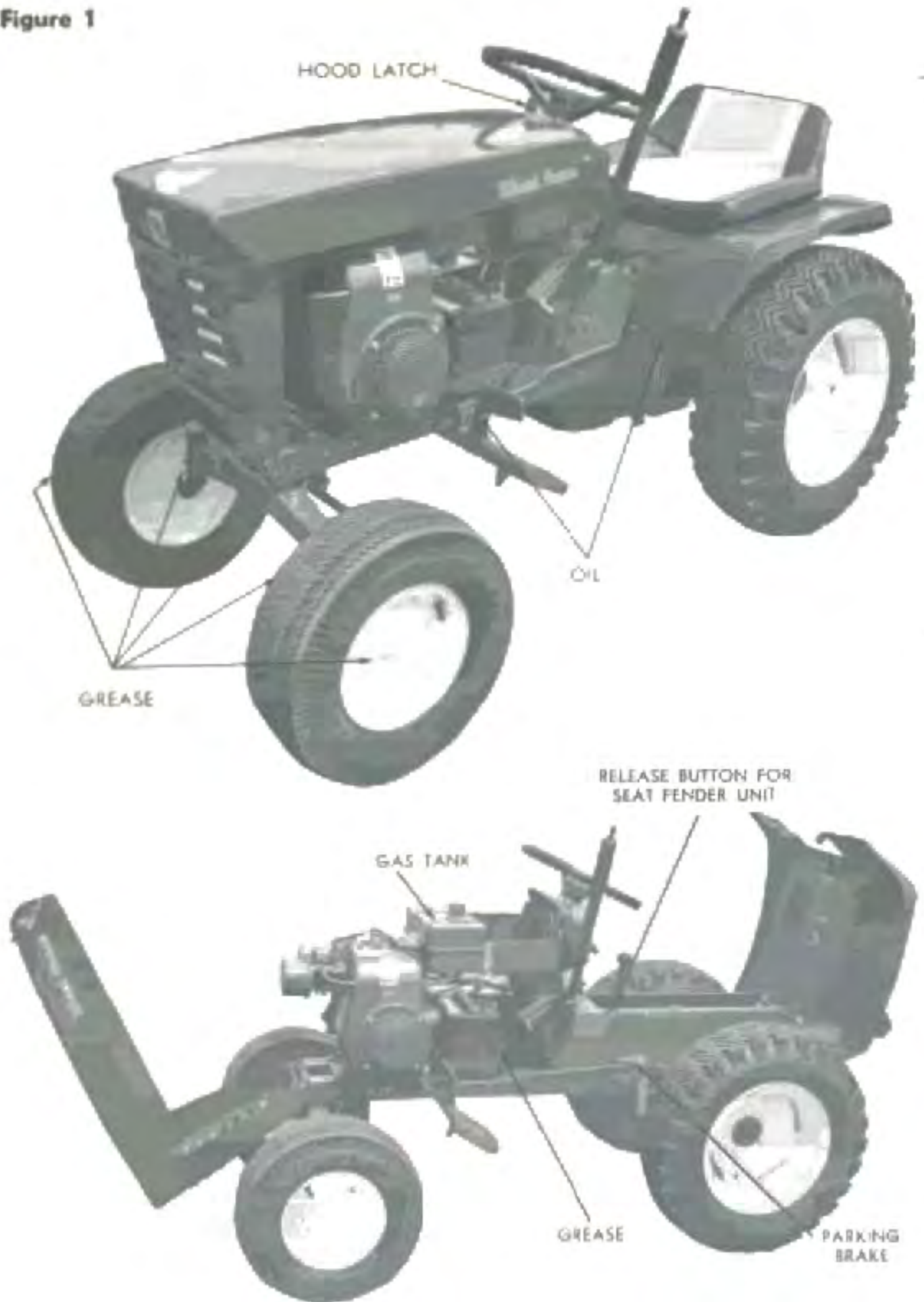
b. Never add gasoline to a running motor — fill tank out of doors; wipe up spilled gasoline.

c. Replace gasoline cap securely.

d. Open doors if motor is run in garage — exhaust gases are dangerous.

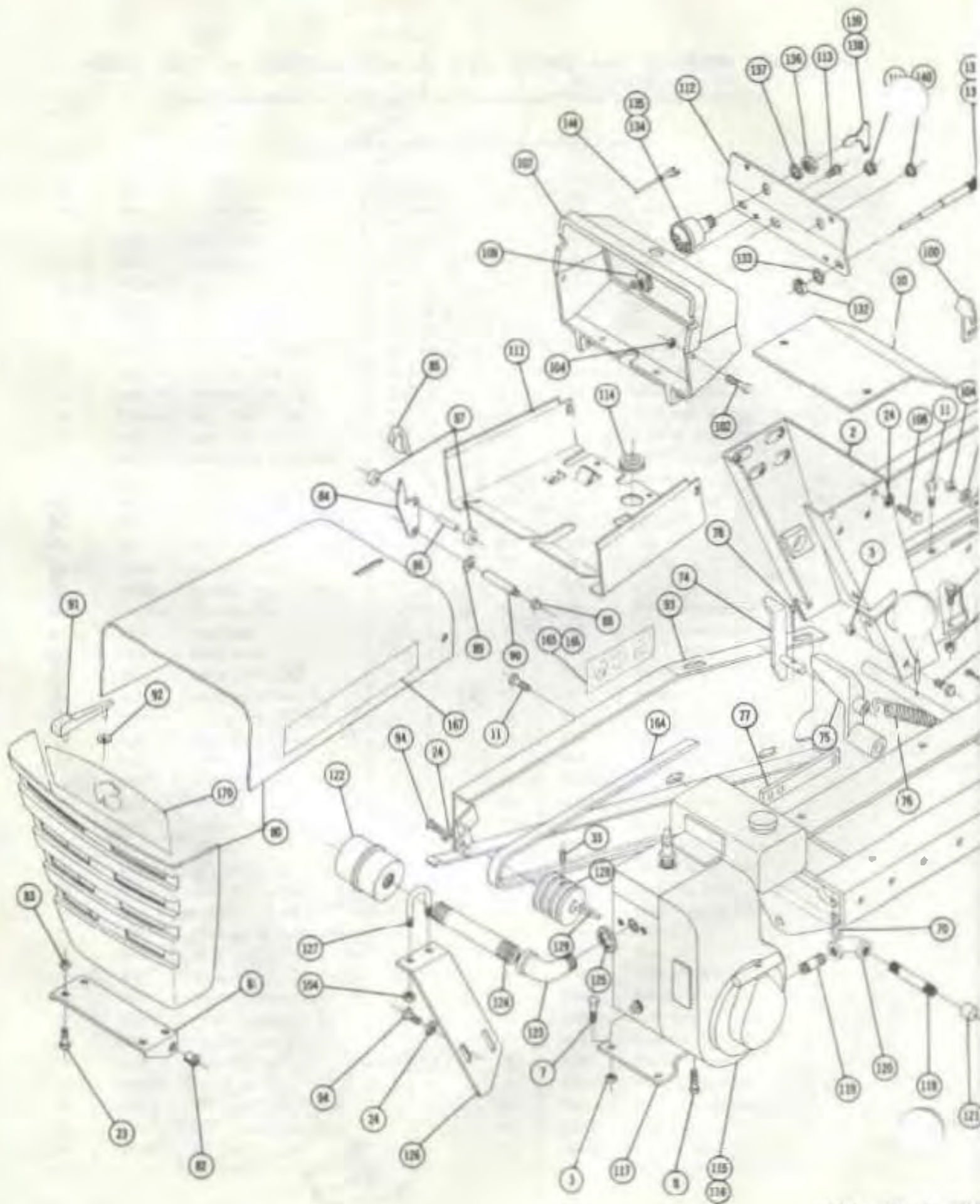
17. Keep machine in good operating condition and keep safety devices in place. Use guards as instructed in owner's manual.

Figure 1

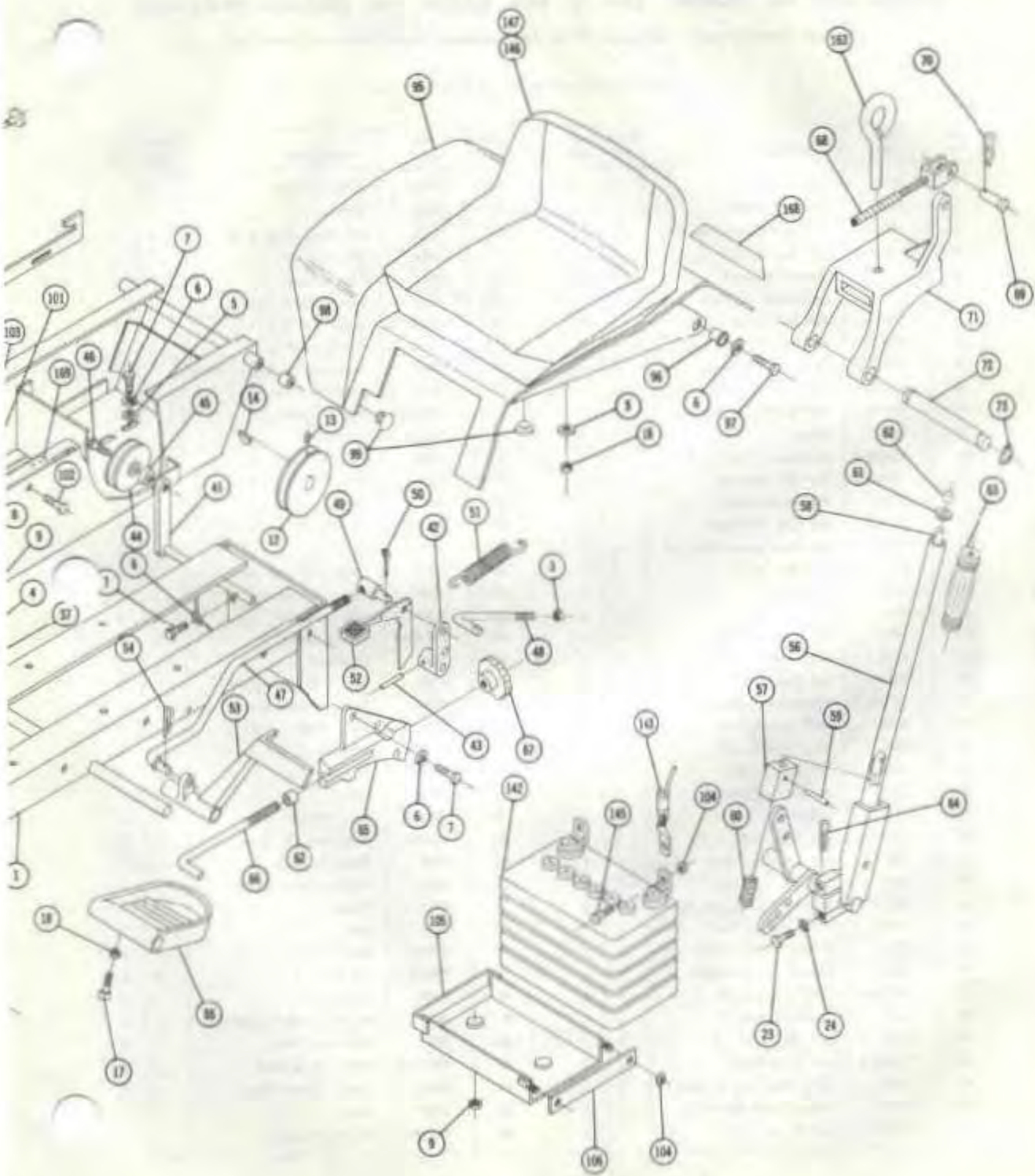




STEERING & WHEEL ASS'Y.



MAIN FRAME, FEN



NER & HOOD ASS'Y

PARTS LIST for MODELS 606 & 656 LAWN and GARDEN TRACTORS

(Except Transmission — see page 10 for Transmission break down and Parts List)

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

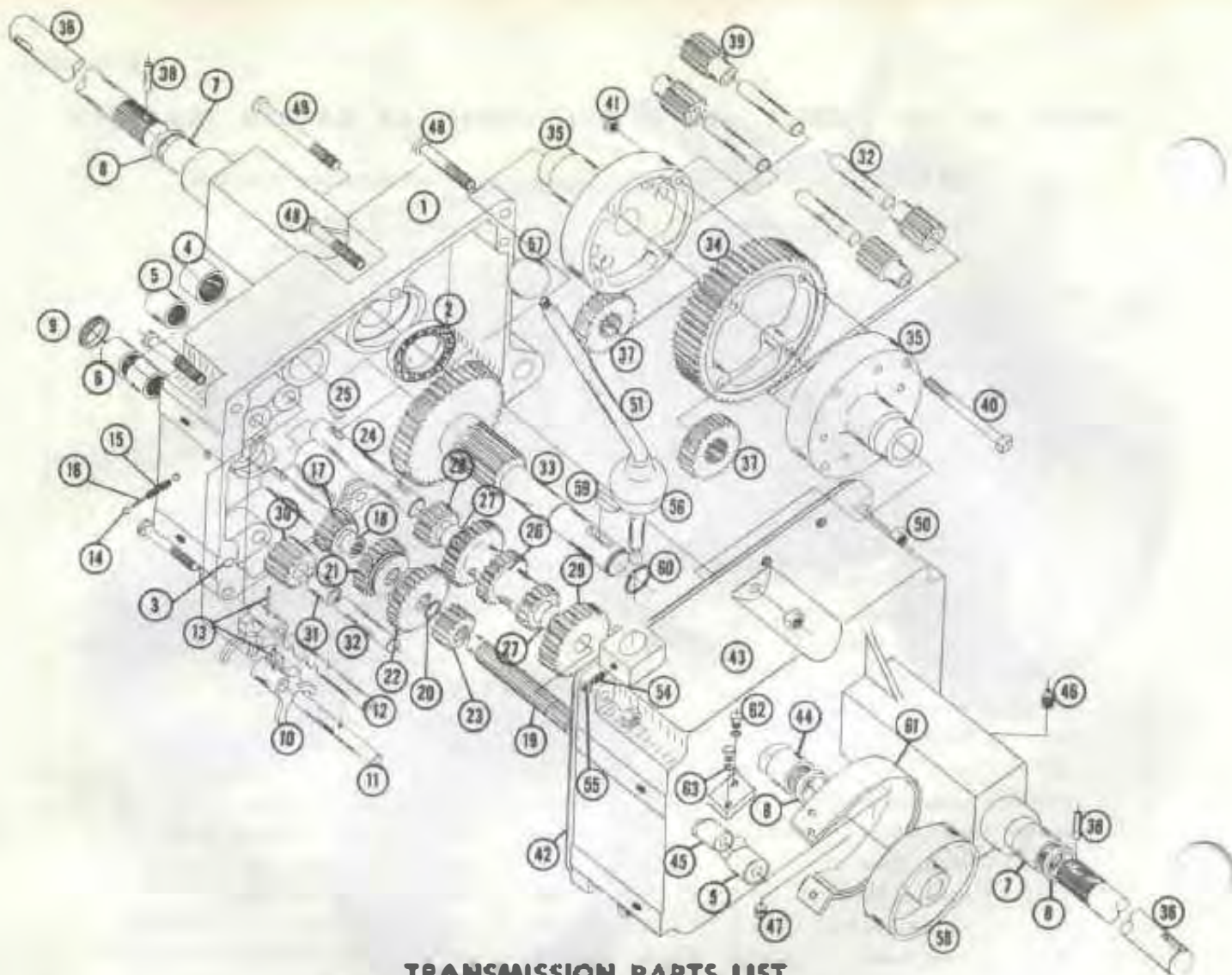
Ref. No.	Part No.	Description	Req'd. 656	Req'd. 606	Ref. No.	Part No.	Description	Req'd. 656	Req'd. 606
1	5634	Ass'y. Frame	1	1	44	1620	Pulley — Idler	1	1
2	5645	Ass'y. Hood/Stand	1	1	45	153A	Bushing	1	1
3	915663-4	Nut 3/8-16 Elastic Stop	9	9	46	1360	Bolt Hex. 3/8-16 x 3/4	1	1
4	908034-4	Bolt Hex. 3/8-16 x 1	2	2	47	2593	Rod — Clutch	1	1
5	920009-4	Washer 3/8 S.A.E.	4	4	48	1935	Rod — Brake	1	1
6	920083-4	Lockwasher 3/8 Plain	12	10	49	1861	Shod — Clutch Rod	1	1
7	908032-4	Bolt Hex. 3/8-16 x 3/4	12	12	50	932072-4	Cotter Pin 3/8 x 1	2	2
8	908017-4	Bolt Hex. 5/16-18 x 3/4	6	6	51	1814	Spring — Clutch	1	1
9	916112-6	Nut — 3/8-18 Nylon	2	2	52	8544	Ass'y. Lever & Knob — Brake	1	1
10	3682	Ass'y. Cover Plate	1	1	53	2267	Pedal — Clutch	1	1
11	940151-4	Bolt 3/8-20 x 1/2 Whitlock	6	6	54	933504-4	Hair Pin Cotter	1	1
12	1611	Pulley	1	1	55	4421	Footrest	2	2
13	909949-3	Set Screw 1/8-20 x 3/8	1	1	56	2266	Ass'y. Lift Lever	1	1
14	937014	Key 9/16 Woodruff	1	1	57	4438	Plunger	1	1
15	4996	Mud Wheel 2 Bolt	2	2	58	4439	Rod	1	1
16	937022	Key 3/8 Woodruff	2	2	59	933168	Bolt Pin 3/8 x 3/8	1	1
17	909554	Set Screw Square 3/8-16 x 1	4	4	60	362A	Spring	1	1
18	915123-4	Nut Hex. 3/8-16	6	6	61	3578	Guide — Plunger Rod	1	1
19	3638	Axis Front	1	1	62	3680	Cap — Plunger Rod	1	1
20	1030	Fitting Grease	3	3	63	1000	Grip — Handle	1	1
21	1481	Fitting Grease 45°	1	1	64	933506-4	Hairpin Cotter	1	1
22	6216	Ass'y. Pin & Plate	1	1	65	5640	Quadrant	1	1
23	908015-4	Bolt Hex. 5/16-18 x 3/4	8	8	66	3179	Rod — Height Control	1	1
24	920032-4	Lockwasher 3/8 Plain	9	9	67	5290	Knob — Height Control	1	1
25	5630	Ass'y. Spindle R.H.	1	1	68	3931	Ass'y. Cable — Lift	1	1
26	5631	Ass'y. Spindle L.H.	1	1	69	932120-4	Pin Clutch 1/2 Dia.	2	2
27	5618	"E" Ring 3/8 Dia.	3	3	70	933503-4	Hairpin Cotter	4	4
28	8896	Support — Shunting	1	1	71	3926	Hitch	1	1
29	6397	Bushing	1	1	72	5988	Pin — Hitch	1	1
30	908035-4	Bolt Hex. 3/8-16 x 1 1/4	2	2	73	936125	Snap Ring 3/8 Shaft	2	2
31	6567	Ass'y. Steering Shaft — Upper	1	1	74	6298	Ass'y. Trip Lever	1	1
32	1085	Collar	1	1	75	4239	Pedal — Attach Clutch	1	1
33	909949-3	Set Screw 1/8-20 x 1/2 Nylon	2	2	76	6714	Spring	1	1
34	6563	Ass'y. Steering Shaft — Lower	1	1	77	3384	Link	1	1
35	5210	Washer — Shifter (915)	1	1	78	932025	Cotter Pin 3/8 x 1	2	2
36	1278	Washer — Shim (990)	1	1	79	933213	Roll Pin 1/4 x 1	2	2
37	922005-4	Cotter Pin 3/8 x 1 1/4	2	2	80	5465	Ass'y. Hood	1	1
38	5628	Ass'y. Ball Joint R.H.	1	1	81	5455	Bracket — Hood Mfg.	1	1
39	5629	Ass'y. Ball Joint L.H.	1	1	82	5457	Bushing — Nylon	3	2
40	915002-3	Nut 3/8-24 Nylon	4	4	83	915112-6	Nut — 3/8-18 Nylon	4	4
41	3950	Ass'y. Idler Arm & Shaft	1	1	84	5457	Lever — Hood Clutch	1	1
42	4899	Arm — Clutch Rod Pivot	1	1	85	5469	Knob	1	1
43	933158	Rod Pin 1/4 x 1 1/4	1	1	86	933182	Bolt Pin 3/8 x 3/8	1	1

PARTS LIST for MODELS 606 & 656 LAWN and GARDEN TRACTORS

(Except Transmission — see page 10 for Transmission break down and Parts List)

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

Ref. No.	Part No.	Description	Req'd 656	Req'd 606	Ref. No.	Part No.	Description	Req'd 656	Req'd 606
87	5458	Roller — Steel	2	2	128	1621	Pulley — Engine	1	1
88	013312-4	Nut — Low Crown #10.24	2	2	129	1349	Key	1	1
89	5466	Speednut 1/2 Dia. Push On	2	2	130	5440	Air's. Control — Choke	1	1
90	5572	Rod — Hood Latch	1	1	131	3171	Air's. Control — Throttle	1	1
91	5438	Ornament — Hood Latch	1	1	132	1364	Nut 1/2-18 Round	2	2
92	5437	Speednut 1/2 Dia. Push On	2	2	133	920127-0	Lockwasher 3/8 Shake Proof	2	2
93	5308	Ass'y. Belt Guard	1	1	134	3856	Ass'y. Switch — Ignition	0	1
94	1432	Screw Round Head 3/8-24 x 1 1/2	1	1	135	4587	Ass'y. Switch — Ignition	1	0
95	5661	Ass'y. Fender	1	1	136	2882	Nut Hex. 2-32 Special	1	1
96	5656	Bushing — Nylon	2	2	137	4681	Lockwasher 3/8 Special	1	1
97	908182-4	Bolt Hex. 3/8-24 x 1 1/2	2	2	138	6989	Key — Ignition	1	0
98	4937	Spacer	2	2	139	3668	Key — Ignition	0	1
99	5667	Bumper — Rubber	4	4	140	935113	Plug Button 7/16 Hole	1	1
100	5695	Latch	1	1	141	5500	Plug Button 3/8 Hole	1	1
101	MW-4404	Spring Washer 3/8 I.D.	2	2	142	3653	Battery	1	0
102	960152-4	Bolt 1/2-20 x 3/4 Whitlock	4	4	143	5647	Wiring Harness	1	0
103	970007-4	Washer 1/4 SAE	2	2	144	4434	Wire — Switch To Ground	0	1
104	915111-B	Nut 1/2-20 Nylon	9	6	145	908002-4	Bolt Hex. 1/2-20 x 3/4	2	0
105	4953	Ass'y. Battery Box	1	0	146	5557	Ass'y. Sool 8910	1	1
106	4958	Clamp Battery	1	0	147	5656	Cushion	1	1
107	5450	Housing — Control Panel	1	1	148	6389	Ass'y. Wheel, Tire & Tube — front	2	2
108	908016-4	Bolt Hex 3/8-18 x 3/4	4	4	149	5656	Wheel	2	2
109	5442	Speed Nut #10-18 Thread	4	4	150	4999	Bearing — Ball	4	4
110	5409	Bushing — Nylon	1	1	151	1656	Tire #89 #10-8	2	2
111	5458	Support — Fuel Tank	1	1	152	1657	Tube	2	2
112	5453	Spool — Central	1	1	153	2844	Washer — Wheel Ropiner	2	2
113	926308-4	Screw — STA 16 x 3/8 Self Tap	4	4	154	948033-4	Bolt 3/8-16 x 3/4	2	2
114	5439	Grommet — Rubber	1	1	155	2874	Hubcap	2	2
115	6751	Ass'y. Engine — 6 H.P. Louison (Electric)	1	0	156	1667	Ass'y. Wheel, Tire & Tube — Rear	2	2
116	6750	Ass'y. Engine — 6 H. P. Louison (Recoil)	0	1	157	1780	Wheel	2	2
117	4414	Cap — Engine	1	1	158	1662	Tire	2	2
118	043317-4	Nipple 1/2 Pipe x 4	1	1	159	1654	Tube	2	2
119	4218	Nipple 1/2 Pipe x 1 1/2	1	1	160	1004	Arg Bolt — Wheel #10-20	10	10
120	4216	Elbow 1/2 Pipe x 90°	1	1	161	4983	Steering Wheel	1	1
121	4217	Cap 1/2 Pipe	1	1	162	2897	Inert	1	1
122	7739	Muffler	1	1	163	1813	Tool Pin	1	1
123	1735	Elbow 3/4 Pipe x 90°	1	1	164	1576	"V" Bolt — Drive	1	1
124	940338-4	Nipple 3/4 Pipe x 3 1/2	1	1	165	0404	Decal — Bolt Guard (656)	1	0
125	1736	Lock Nut 3/4 Pipe	1	1	166	6405	Decal — Bolt Guard (606)	0	1
126	5646	Bracket — Exhaust	1	1	167	5415	Decal — Wheel Harts	2	2
127	1240	"U" Bolt	1	1	168	5604	Decal — Fender	1	1
					169	6165	Decal — Seat Latch	1	1
					170	3462	Decal — Hood	1	1
					171	4581	Decal — Steering Wheel	1	1



TRANSMISSION PARTS LIST

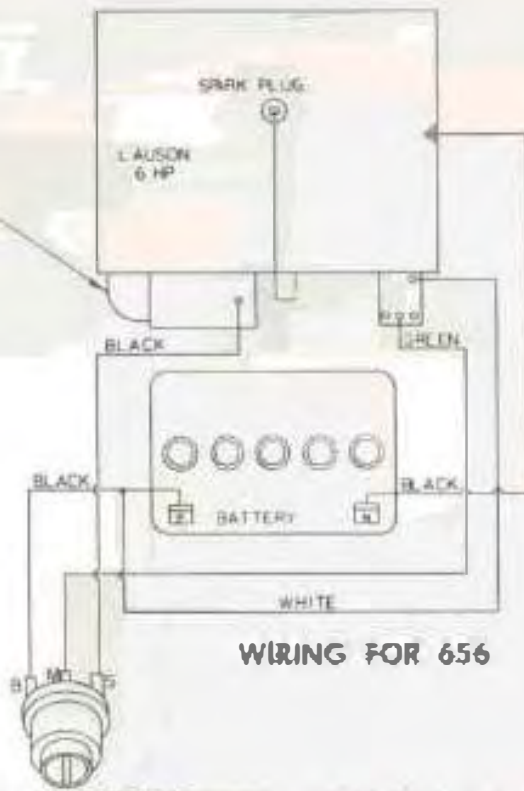
When ordering parts always list Part No. and name of part.

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	2	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	3905	Gear - Axle	2
6	1508	Bearing - Needle	2	38	933217	Pin - Roll $\frac{3}{4} \times 1\frac{1}{2}$	2
7	1528	Bearing - Needle	2	39	4235	Gear - Differential Pinion	4
8	1232	Seal - Oil	3	40	1029	Cap Screw - Hex. $\frac{3}{16} \times 1\frac{3}{4}$	4
9	1303	Seal - Oil	1	41	1316	Nut - Hex. Lock $\frac{3}{4}-18$	4
10	3303	Fork - Shift	2	42	3912	Gasket	1
11	5673	Rail - Rear Shift	1	43	3901	Case Transmission	1
12	5616	Rail - Rear Shift	1	44	1530	Bearing - Needle	1
13	933156	Pin - Roll $\frac{1}{2} \times 1$	2	45	1531	Bearing - Needle	1
14	3517	Ball - Stop	2	46	943460-4	$\frac{1}{4}$ Std. Pipe Plug	1
15	3518	Spring - Stop	1	47	943420-4	$\frac{1}{4}$ Std. Pipe Plug	1
16	5614	Shift Pin - Stop	1	48	908038-4	Bolt Hex. - $\frac{3}{4}-16 \times 2$	5
17	3522	Gear - Input Drive	1	49	908043-4	Bolt - Hex. $\frac{3}{4}-16 \times 3\frac{1}{2}$	1
18	1518	Bearing - Needle	1	50	915113-6	Nut - Nylock $\frac{3}{4}-16$	6
19	3907	Shaft - Spline	1	51	5632	Stick - Shift Assy.	1
20	938125	Snap Ring Tretco $\frac{3}{8}$ Shaft	1				
21	3523	Gear (Hi & Intr.)	1				
22	3524	Gear (Low & Reverse)	1	54	6438	Screw - Sq. Hd. - Sol $\frac{1}{2}-20 \times \frac{3}{8}$	1
23	3525	Gear - Spline Shaft	1	55	915111-4	Nut - Hex. Lock $\frac{1}{2}-20$	1
24	3910	Cluster Shaft	1	56	3577	Boot - Shift Lever	1
25	937014	Key - No Woodruff	2	57	1001	Knob - Shift	1
26	3525	Gear - Cluster	1	58	3902	Brake - Brake	1
27	1504	Bushing - Bronze	2	59	937022	Key #15 Woodruff	1
28	3528	Pinion - Cluster Shaft Reduction	1	60	936131	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. $\frac{1}{2}-20 \times \frac{5}{8}$	2
31	1516	Bushing - Bronze	1	63	920081-4	Washer - Lock $\frac{1}{4}$	2
32	3909	Pin - Reverse Idler	2				

SPECIFICATIONS

(Specifications subject to change without notice.)

Length Overall	61 inches
Wheelbase	41½ inches
Width Overall	34 inches
Width at Front Wheels	33½ inches
Height	37 inches
Height to Top of Hood	33½ inches
Approx. Shipping Weight	424 lbs.
Crab Clearance	7½ inches
Frame Clearance	13½ inches
Engine (4-cyl. single cylinder, all valves)	6 H.P.
Engine Crankcase Oil Capacity	21 oz.
Fuel Capacity	4 quarts
Tires (Front) 4.00-8 Pneumatic (16" wheel dia.)	
Tires (Rear) 6.00-8 Pneumatic (22½" wheel dia.)	
Speeds — 3 forward to 6 mph. 1 Reverse to 2½ mph.	
Turning radius (to outside of outside wheel)	4'



WIRING FOR 656

GMTRON STARTER SWITCH

OWNERS MAINTENANCE RECORD

OIL CHANGES

DATE _____	TYPE & KIND OF OIL _____
_____	_____
_____	_____

DATE _____	GREASE JOBS _____
_____	_____
_____	_____

TUNE UPS

DATE _____	PARTS REPLACED _____
_____	_____
_____	_____

BATTERY SERVICE

DATE _____	SERVICE REQUIRED _____
_____	_____
_____	_____

MISCELLANEOUS

DATE _____	_____
_____	_____
_____	_____