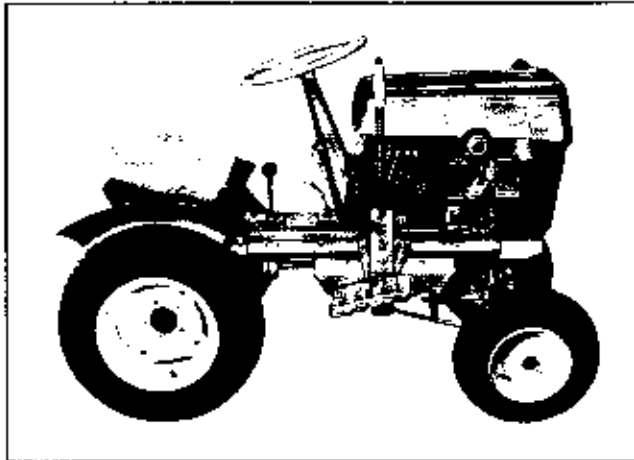


# Owner Operation and Maintenance Manual

WITH  
PARTS  
LIST

**BOLENS**  
**HUSKY-600 TRACTOR**  
**MODELS**  
**180-01 AND 181-01**



## ASSEMBLY

The tractor is shipped completely assembled except for the wheels. Mount the rear wheels dished out and secure with wheel bolts supplied. Mount front wheels with grease fittings to the outside, add flat washers and secure with spring cotters.

## ENGINE

**IMPORTANT: THE ENGINE IS SHIPPED WITHOUT OIL IN THE CRANKCASE.** Before starting the engine, fill crankcase to filler plug level (approximately 1-1/4 qt) with SAE #30 oil for temperatures above 32° or SAE #10W oil below 32°. Check oil level every 10 hours of operation and drain oil every 25 hours of operation. Engine lubrication instructions are given on the engine identification plate.

## NOTE

BOLENS DIVISION DOES NOT WARRANT THE ENGINE OR TRADE ACCESSORIES ON THIS UNIT. THEY ARE WARRANTED SEPARATELY BY THEIR RESPECTIVE MANUFACTURERS THROUGH THEIR OWN LOCAL SERVICE STATIONS.

## TO THE OWNER

THIS IS AN OPERATION AND PARTS MANUAL ONLY AND DOES NOT COVER REPAIR. ALL REPAIR WORK MUST BE PERFORMED BY AN AUTHORIZED BOLENS DEALER OR THE WARRANTY IS VOID. BoLens equipment is carefully engineered to give

efficient, trouble free performance if properly operated and maintained. Keep your equipment clean and lubricated regularly. Periodically inspect the equipment and perform any upkeep maintenance necessary. The dealer is obligated by the factory to completely assemble and service new equipment before delivery and thoroughly explain its operation. He will repair or replace any parts which fail due to defective material or workmanship during the warranty period, and also provide future repair service and parts. To insure continued satisfactory operation, insist that your new equipment be completely serviced and its operation explained by your dealer.

## GEAR CASE

The gear case is of transaxle design with three forward speeds, neutral, and reverse. The transmission is coupled directly to the drive shaft which is connected to the engine by a drive belt. The pulleys on the drive shaft and engine are step pulleys which supply a "HIGH" or "LOW" speed range to the transmission. (See instructions under drive belt setting.)

## POWER TAKE OFF

The power take off is located under the front of tractor frame and is connected to the engine by a drive belt. This assembly has a drive shaft which is splined at both ends so that front, center, and rear power attachments can be coupled directly to drive shaft thus eliminating attachment drive belts.

## CONTROLS

**ENGINE:** The Model 181 tractor is equipped with electric starter and has a starter switch and choke button on the instrument panel. The Model 180 tractor has a recoil starter which is reached by raising the tractor hood from the rear on its spring loaded hinge. The throttle lever is located on the steering column and also acts as a shut off switch.

**DRIVE AND BRAKE:** The foot pedal above the left foot rest operates the clutch and brake. To place the tractor in drive, push pedal down, move gear shift lever (directly in front of seat) to desired gear position and release clutch pedal. The clutch pedal must always be depressed before changing position of gear shift lever. Pushing the clutch pedal all the way down will apply the brake.

Continued on page 8.

**BOLENS DIVISION**  
Port Washington - Wisconsin



**ATTACHMENT:** The lever at the base of the steering column engages and disengages the power take off assembly. The lever on the right side of tractor is the lift lever for front, center, and rear mounted attachments.

**FREE WHEELING:** The pin located on the inside hub of rear right wheel will release the rear axle from the transmission when the tractor is to be moved manually. Pull pin out for "free wheeling" and push pin in for "drive." When the pin is in drive it will also act as a brake when the tractor is standing idle.

#### BELT ADJUSTMENT

### WARNING

**NEVER ATTEMPT TO MAKE BELT ADJUSTMENT OR CHANGE BELT SETTING WITH THE ENGINE RUNNING.**

The drive belt from engine to drive shaft is under constant spring tension and requires no adjustment. The belt from engine to power take off is also under spring tension but it is possible that through wear and stretch, adjustment may be necessary. To tighten belt, loosen capscrews holding power take off to tractor frame and lower the power take off assembly. Tighten capscrews securely.

The generator-starter drive belt on the Model 181 Tractor can be adjusted by loosening the capscrew on the adjustment bracket and moving the generator starter. The belt is properly adjusted when it can be depressed approximately 1/4 inch under slight thumb pressure.

#### BELT SPEED SETTING

The tractor transmission drive belt is positioned in the "HIGH" speed range when assembled at the factory (belt from large section of engine pulley to small section of drive shaft pulley). This setting is the most practical for transport, average mowing, etc. For heavy work such as tilling, snow plowing, or mowing tall or lush grass, the drive belt should be changed to the "LOW" speed range. To change belt setting proceed as follows: (1) open tractor hood exposing clear view of belt; (2) hold or clamp clutch pedal down to release belt tension; (3) move the drive belt from large front groove to small rear groove on engine pulley; (4) slide the belt from the small front groove to the large rear groove of drive shaft pulley located below the tractor frame (5) release clutch pedal and check belt to see it is properly seated in corresponding grooves.

To return belt to "HIGH" speed range simply reverse the procedure by changing the belt on the drive shaft pulley first and then complete operation on the engine pulley.

#### NOTE

Always follow one rule; begin on the pulley where the belt is in the large groove and complete the operation on the opposite pulley.

#### BELT REPLACEMENT

The belt from engine to drive shaft can be replaced in the same manner as changing speed range but instead of moving belt to small groove free it completely from pulley. Next, slide belt from opposite pulley and it is free.

To replace the power take off drive belt it is necessary to first remove the belt from engine to drive shaft. Remove belt guard from power take off pulley, and with power take off disengaged remove belt starting on the lower pulley.

#### BELT STOP ADJUSTMENT

The belt stop studs of belt guard on engine pulley are adjustable and are properly set when there is a clearance of 3/16" between belt and studs with belt under tension.

#### BRAKE ADJUSTMENT

The brake is properly adjusted at the factory but after use the brake band will wear and adjustment may be necessary. To tighten brake, loosen brake adjusting nut on brake rod until enough play is taken up to operate the brake properly.

#### REAR AXLE

After use the rear axle may develop end play which should be removed. Check approximately every 50 hours of operation. Remove cotter pin securing castle nut at end of left rear axle, tighten nut finger tight (DO NOT USE WRENCH) and replace cotter pin. Next, tighten nut on right rear axle in the same manner.

**IMPORTANT: ALWAYS TIGHTEN NUT ON LEFT SIDE FIRST, NEVER TIGHTEN NUTS WITH A WRENCH AS THIS WILL CAUSE DAMAGE TO THE TRANSMISSION.**

#### LUBRICATION

Except for the engine, the tractor is lubricated at the factory. The gear case is filled to filler plug hole level with #90 gear lubricant, check every 24 hours of operation and add lubricant as required to maintain this level. The upper plug at the rear of gear case is the filler plug and the lower plug is the drain plug.

The tractor has seven grease fittings located as follows: one on each front wheel; one on each front wheel spindle; one on front axle pivot; one on power take off housing; one on right rear wheel hub. Lubricate fittings with pressure gun grease and apply light oil to hood hinge, brake linkage, idler linkage, etc. after every 24 hours of operation. Place a few drops of light oil in starter-generator oil cups each time the tractor is lubricated.

TRANSMISSION ASSEMBLY TRACTOR MODELS 180-1 AND 181-01

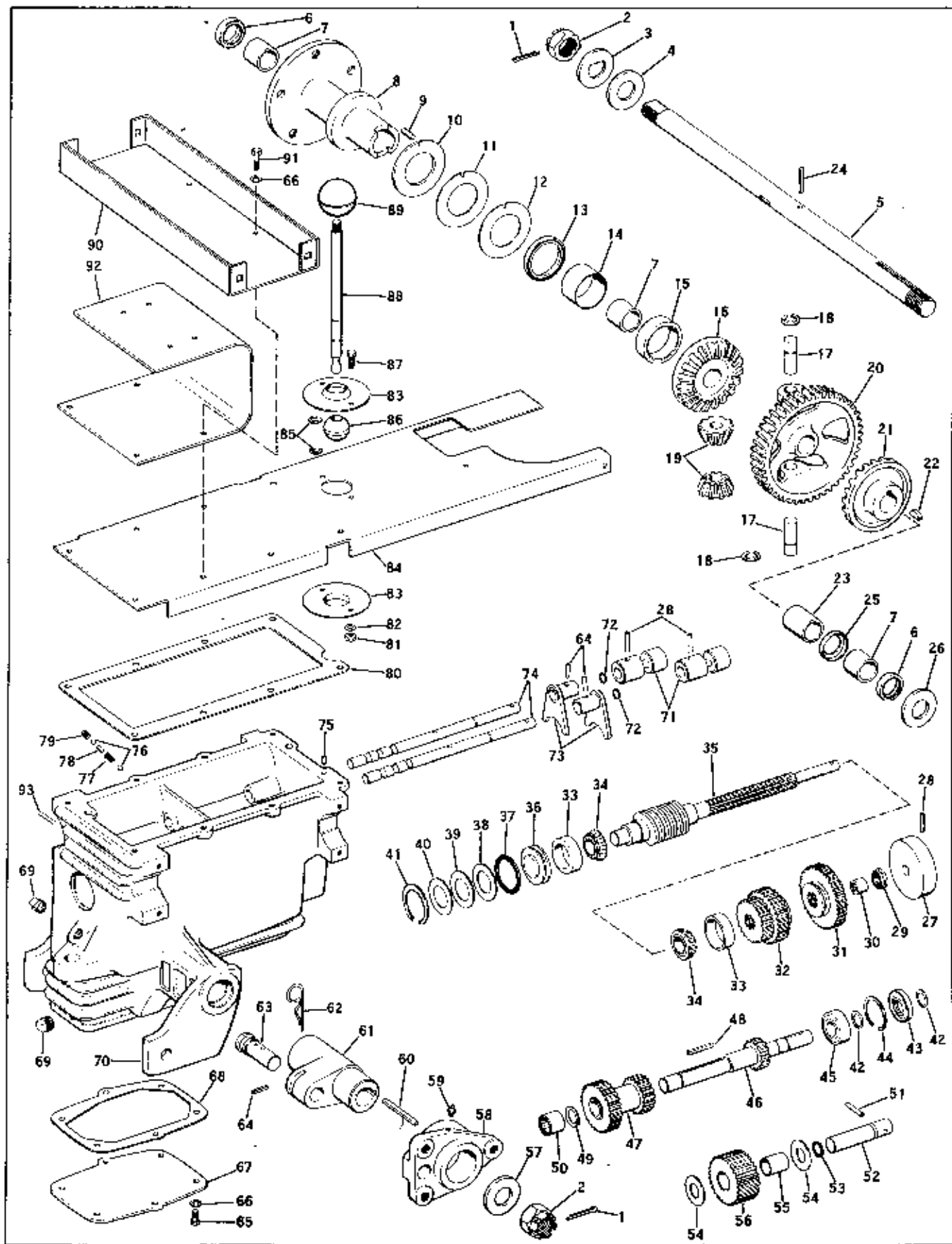


FIG. 1

TRANSMISSION ASSEMBLY TRACTOR MODELS 180-1 AND 181-01

Ref. No.	Part No.	Description	No. Req'd.
1	1100352	Cotter Pin 1/8 x 1-1/2	2
2	1120129	Castle Nut 1-14	2
3	1709578	D-Washer	1
4	1711786	Thrust Bearing	1
5	1713453	Axle	1
6	1185295	Oil Seal	2
7	1185300	Bronze Bearing	3
8	1713445	Wheel Hub	1
9	1713457	Drive Pin	1
10	1713452	Thrust Washer	1
11	1713451	Shim Washer	As Req.
12	1713449	Shim Washer	As Req.
13	1185426	Oil Seal	1
14	1713407	Bronze Bearing	1
15	1713408	Clutch Jaw Ring	1
16	1709606	Bevel Gear	1
17	1713467	Pinion Shaft	2
18	1185561	Retaining Ring	2
19	1713465	Bevel Pinion	2
20	1713411	Worm Wheel	1
21	1713364	Bevel Gear	1
22	1709811	Woodruff Key 1/4 x 7/8	1
23	1713458	Spacer	1
24	1713432	Drive Pin	1
25	1713431	Retainer Cup	1
26	1713468	Thrust Washer	1
27	1713597	Brake Drum	1
28	1704692	Roll Pin	3
29	1891820	Oil Seal	1
30	1185165	Needle Bearing	1
31	1713409	Gear	1
32	1713439	Sliding Gear	1
33	1185276	Bearing Cup	2
34	1185275	Bearing Cone	2
35	1713408	Worm Shaft	1
36	1713454	Plug	1
37	1185267	O-Ring	1
38	1713413	Shim Washer	As Req.
39	1713414	Shim Washer	As Req.
40	1713418	Shim Washer	1
41	1185562	Retaining Ring	1
42	1118809	Retaining Ring	2
43	1185352	Oil Seal	1
44	1700012	Retaining Ring	1
45	1104440	Ball Bearing	1
46	1713442	Shaft	1
47	1713436	Gear	1

Ref. No.	Part No.	Description	No. Req'd.
48	1108841	Square Key	1
49	1113527	Retaining Ring	1
50	1185280	Needle Bearing	1
51	1185232	Drive Pin	1
52	1713419	Shaft	1
53	1185360	O-Ring	1
54	1707548	Flat Washer	2
55	1185113	Bronze Bearing	1
56	1713412	Gear	1
57	1711787	Flat Washer	1
58	1713463	Hub	1
59	1110086	Grease Fitting	1
60	1703053	Key	1
61	1713459	Drive Hub	1
62	1703011	Spring Cotter	1
63	1713426	Lock Pin	1
64	1703066	Drive Pin	3
65	1106872	Capscrew 5/16-18 x 5/8	6
66	1100242	Lock Washer 5/16	14
67	1713428	Cover	1
68	1713427	Gasket	1
69	1105678	Plug	2
70	1713465	Gear Case	1
71	1713422	Connector	2
72	1177388	O-Ring	2
73	1713448	Shifter Arm	2
74	1713424	Shifter Shaft	2
75	182682	Breather	1
76	1713416	Ball	2
77	1713417	Spring	1
78	1713421	Pin	1
79	1185342	Set Screw 5/16-18 x 3/8	1
80	1713429	Gasket	1
81	1103838	Hex Nut 1/4-20	2
82	1100241	Lock Washer 1/4	2
83	1713455	Bearing Retainer	2
84	1713430	Cover Plate	1
85	1185191	Retaining Ring	2
86	1713423	Pivot Ball	1
87	1106832	Capscrew 1/4-20 x 5/8	2
88	1713420	Shift Lever	1
89	1707404	Knob	1
90	1713820	Fender Bracket	1
91	1106878	Capscrew 5/16-18 x 7/8	8
92	1713415	Seat Support	1
93	1120209	Drive Pin	2

TRACTOR ASSEMBLY MODELS 180-01 AND 181-01

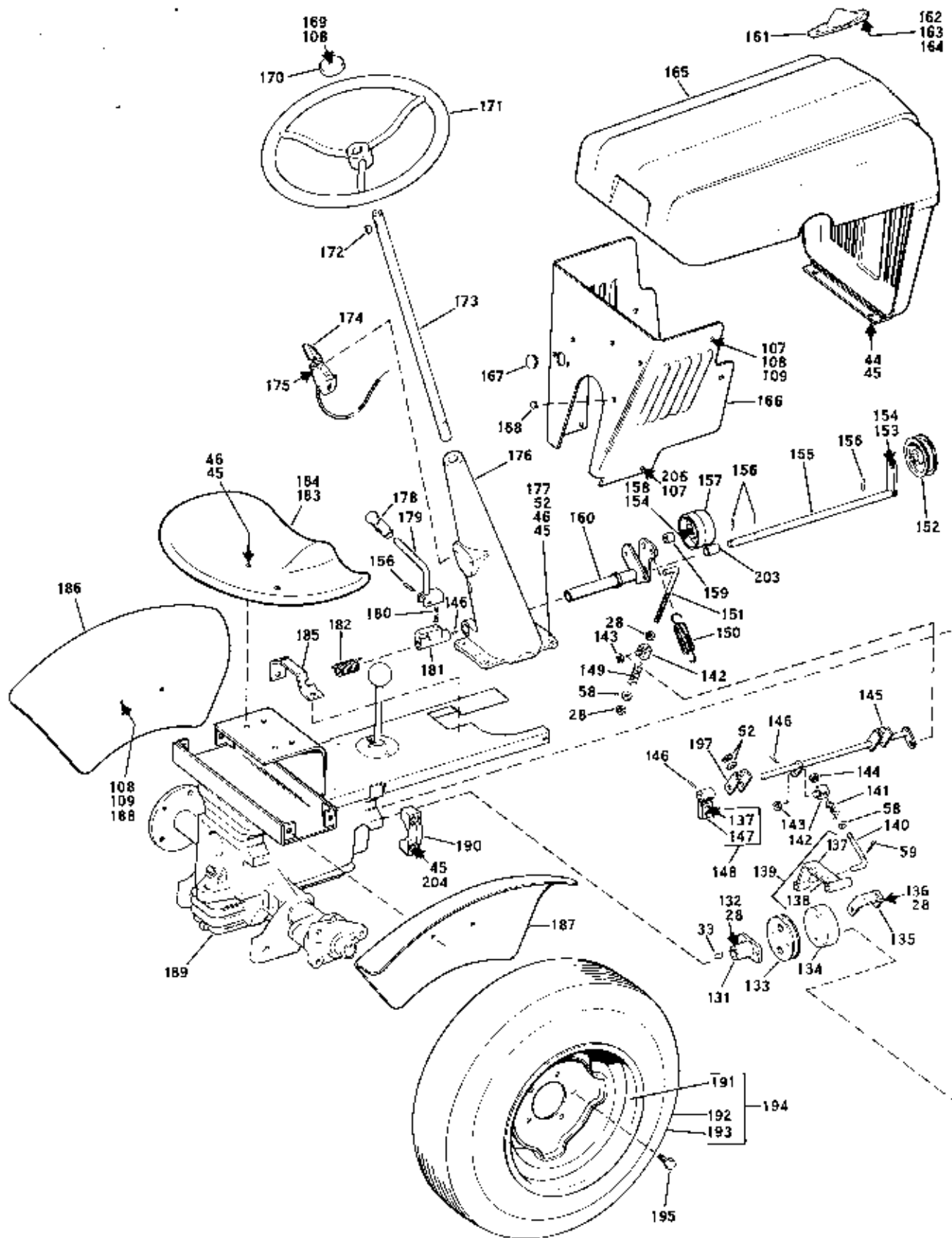


FIG. 2

TRACTOR ASSEMBLY MODELS 180-01 AND 181-01

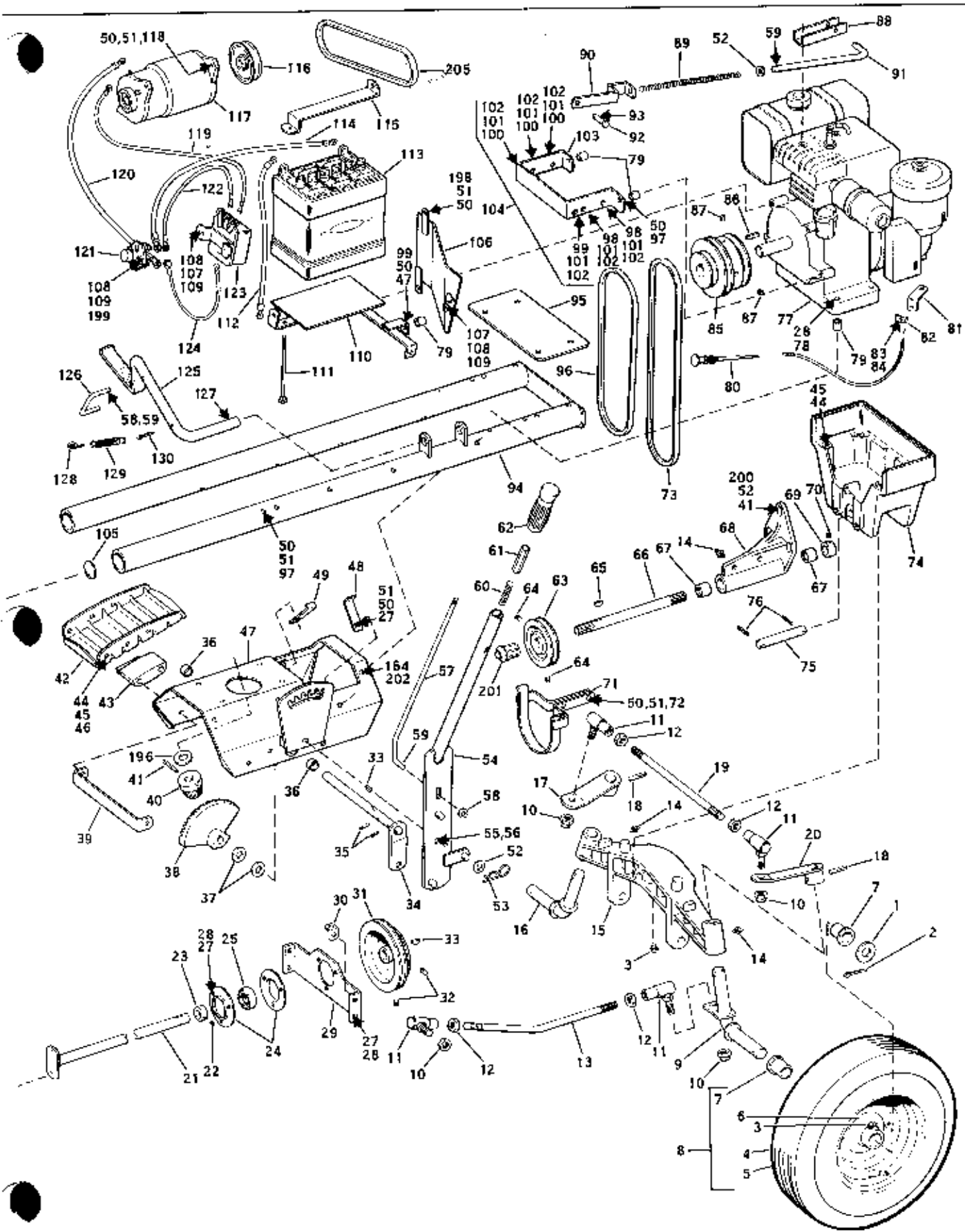


FIG. 2

TRACTOR ASSEMBLY MODELS 180-01 AND 181-01

Ref. No.	Part No.	Description	No. Req'd.
1	309816	Flat Washer	2
2	1104231	Cotter Pin 1/4 x 1-1/2	2
3	1110086	Grease Fitting	4
4	1713744	Tire 4:00 x 8	2
5	1700495	Tube 4:00 x 8	2
6	1713018	Wheel Disc	2
7	1713019	Bearing	4
8	1713745	Wheel & Tire Assy (inc 3 thru 7)	2
9	1713717	Spindle - R.H.	1
10	1110371	Lock Nut 1/2-20	4
11	1713361	Ball Joint	4
12	1103926	Jam Nut 1/2-20	4
13	1713396	Drag Link	1
14	1104954	Grease Fitting	2
15	1713480	Front Axle	1
16	1713374	Spindle - L.H.	1
17	1713377	Steering Lever - L.H.	1
18	1891698	Drive Pin	2
19	1713385	Tie Rod	1
20	1713378	Steering Lever - R.H.	1
21	1713728	Drive Shaft	1
22	1103437	Setscrew 1/4-20 x 1/4	1
23	1800417	Lock Collar	1
24	1800418	Bearing Flange	2
25	1800757	Bearing	1
26	1185263	Bearing Assy (22 thru 25)	1
27	1111265	Carriage Bolt 5/16-18 x 3/4	9
28	1110107	Lock Nut 5/16-18	21
29	1713395	Bearing Support	1
30	1713686	Bracket	1
31	1713616	Pulley	1
32	1182554	Set Screw 5/16-18 x 5/16	2
33	1100277	Woodruff Key 3/16 x 7/8	3
34	1713486	Steering Arm	1
35	1120210	Roll Pin	2
36	1185558	Sleeve Bearing	2
37	1705092	Flat Washer	2
38	1713809	Steering Gear	1
39	1713397	Support Bar	1
40	1713811	Pinion	1
41	1185284	Roll Pin	1
42	1713483	Foot Rest	2
43	1713474	Spacer	2
44	1106940	Capscrew 3/8-16 x 3	8
45	1100243	Lock Washer 3/8	26
46	1103840	Hex Nut 3/8-16	11
47	1713740	Mounting Plate	1
48	1713788	Belt Guide	1
49	1713789	Belt Guide	1
50	1100242	Lock Washer 5/16	13
51	1103839	Hex Nut 5/16-18	8
52	1107383	Flat Washer 3/8	11
53	1703011	Spring Cotter	1
54	1713735	Lift Lever	1
55	1107035	Capscrew 1/2-13 x 2	1
56	1110110	Lock Nut 1/2-13	1
57	1713785	Rod	1
58	1107382	Flat Washer 5/16	7
59	1100346	Cotter Pin 3/32 x 3/4	11
60	1713075	Spring	1

Ref. No.	Part No.	Description	No. Req'd.
61	1709573	Plunger	1
62	1712907	Grip	1
63	1713476	Pulley	1
64	1103470	Set Screw 5/16-18 x 1/2	2
65	1104436	Woodruff Key 3/16 x 3/4	1
66	1713712	Shaft	1
67	1185010	Needle Bearing	2
68	1713478	Support Housing	1
69	1706236	Collar	1
70	1112831	Set Screw 5/16-18 x 5/16	1
71	1713399	Belt Guide	1
72	1106878	Capscrew 5/16-18 x 1	2
73	1713714	Belt - 43" Special	1
74	1713482	Axle Support	1
75	1713383	Axle Pivolt	1
76	1185232	Roll Pin	2
77		Engine	1
78	1106903	Capscrew 5/16-18 x 4	4
79	1713790	Spacer	8
80	1713815	Choke Control (181)	1
81	1713784	Bracket (181)	1
82	1713801	Clamp (181)	1
83	1114748	Rd Hd Screw 10-32 x 1/2 (181)	1
84	1100240	Lock Washer #10 (181)	1
85	1713618	Engine Pulley	1
86	1108843	Key	1
87	1103470	Set Screw 5/16-18 x 1/2	2
88	1713805	Bracket	1
89	1713791	Spring	1
90	1713808	Bracket	1
91	1713807	Rod	1
92	1705810	Clevis Pin	1
93	1100349	Cotter Pin 1/8 x 3/4	1
94	1713755	Main Frame	1
95	1713394	Plate	1
96	1713716	Belt - 35" Special	1
97	1106893	Capscrew 5/16-18 x 2-1/2	6
98	1100167	Carr Bolt 1/4-20 x 1-1/4	2
99	1100168	Carr Bolt 1/4-20 x 1-1/2	1
100	1100169	Carr Bolt 1/4-20 x 2	3
101	1103838	Hex Nut 1/4-20	6
102	1110106	Lock Nut 1/4-20	6
103	1714067	Bracket	1
104	1714082	Belt Guide Assy	1
105	1711380	Expansion Plug	2
106	1714054	Heat Deflector	1
107	1106830	Capscrew 1/4-20 x 1/2	8
108	1100241	Lockwasher 1/4	17
109	1103838	Hex Nut 1/4-20	14
110	1713724	Panel Support (181)	1
	1713723	Panel Support (180)	1
111	1100183	Carriage Bolt 5/16-18 x 6 (181)	2
112	1713841	Wire - Battery to Ground (181)	1
113	1708284	Battery (181)	1
114	1713839	Wire - Battery to Switch (181)	1
115	1713812	Strap (181)	1
116	1713855	Generator Pulley (181)	1
117	1713830	Starter - Generator (181)	1

TRACTOR ASSEMBLY MODELS 180-01 AND 181-01

Ref. No.	Part No.	Description	No. Req'd.
118	1105886	Capscrew 5/16-18 x 1-3/4 (181)	2
119	1713836	Wire - Generator to Regulator (181)	1
120	1713840	Wire - Generator to Switch (181)	1
121	1713595	Switch (181)	1
122	1713837	Wire - Switch to Regulator (181)	1
123	1708287	Voltage Regulator (181)	1
124	1713838	Wire - Switch to Regulator (181)	1
125	1713814	Clutch Pedal	1
126	1713392	Control Rod	1
127	1185260	Cotter Pin 3/32 x 1-1/2	2
128	1713792	Clip	1
129	1705944	Spring	1
130	1100351	Cotter Pin 1/8 x 1-1/4	1
131	1713670	Coupling	1
132	1110818	Set Screw 5/16-18 x 3/4	4
133	1713813	Bonded Coupling	1
134	1713794	Brake Drum	1
135	1713772	Bracket	1
136	1106896	Capscrew 5/16-18 x 2-3/4	1
137	1185248	Rivet	4
138	1713751	Lining Only	1
139	1713760	Brake Shoe Assy (Inc 137 and 138)	1
140	1713806	Brake Rod	1
141	1713782	Spring	1
142	1713804	Control Pivot	2
143	1185257	Retaining Ring	2
144	1110107	Brake Adjustment Lock Nut 5/16-18	1
145	1713770	Brake Rod	1
146	1703066	Roll Pin	3
147	1713777	Lining Only	1
148	1713780	Brake Shoe Assy (Inc 137 and 147)	1
149	1713781	Spring	1
150	1713390	Spring	1
151	1713795	Brake Rod	1
152	1713803	Idler Pulley	1
153	1106927	Capscrew 3/8-16 x 1-1/2	1
154	1110108	Lock Nut 3/8-16	8
155	1713389	Control Arm	1
156	1704892	Roll Pin	4
157	1713802	Idler Pulley	1
158	1106934	Capscrew 3/8-16 x 2-1/4	1
159	1713783	Spacer	1

Ref. No.	Part No.	Description	No. Req'd.
160	1713730	Control Arm	1
161	1713810	Hood Ornament	1
162	1116197	Mach Screw #6-32 x 1/2	2
163	1103989	Lock Washer #6	2
164	1109764	Hex Nut #6-32	2
165	1713750	Hood and Grill	1
166	1713817	Rear Panel	1
167	1709135	Plug (180)	1
168	1893830	Plug (180)	1
169	1118309	Mach Screw 1/4-20 x 1/2	1
170	1713147	Washer	1
171	1712906	Steering Wheel	1
172	1100276	Woodruff Key 1/4 x 7/8	1
173	1713386	Shaft	1
174	1713382	Throttle Control	1
175	1100135	Mach Screw 10-24 x 1	2
176	1713628	Steering Support	1
177	1106923	Capscrew 3/8-16 x 1-1/4	4
178	1710863	Grip	1
179	1713524	Lever	1
180	1713391	Spring	1
181	1713614	Pivot	1
182	1713471	Spring	1
183	1709137	Seat	1
184	1712935	Seat Cushion (Not Illustrated)	1
185	1713472	Quadrant	1
186	1713823	Fender - L.H.	1
187	1713824	Fender - R.H.	1
188	1102760	Carriage Bolt 1/4-20 x 3/4	4
189	1713450	Gear Case Assy (See Fig. 1)	1
190	1713461	Mounting Cap	4
191	1700953	Wheel	
192	1713002	Tire 6-12	
193	1701475	Tube 6-12	
194	1712904	Wheel and Tire (Inc 191 thru 193)	2
195	101085	Hub Bolt	6
196	1708012	Washer	1
197	1713793	Bracket	1
198	1106872	Capscrew 5/16-18 x 5/8	2
199	1106834	Capscrew 1/4-20 x 3/4 (181)	4
200	1106921	Capscrew 3/8-16 x 1-1/8	3
201	1714132	Rubber Tip	2
202	1106938	Capscrew 3/8-16 x 2-3/4	7
203	1892945	Bushing	2
204	1106930	Capscrew 3/8-16 x 1-3/4	8
205	1713533	Belt - 33-7/16" Special (181)	1
206	1185456	Timmerman Nut 1/4-20	2