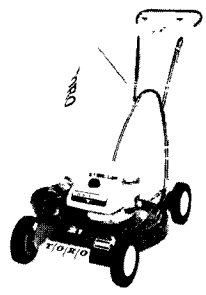
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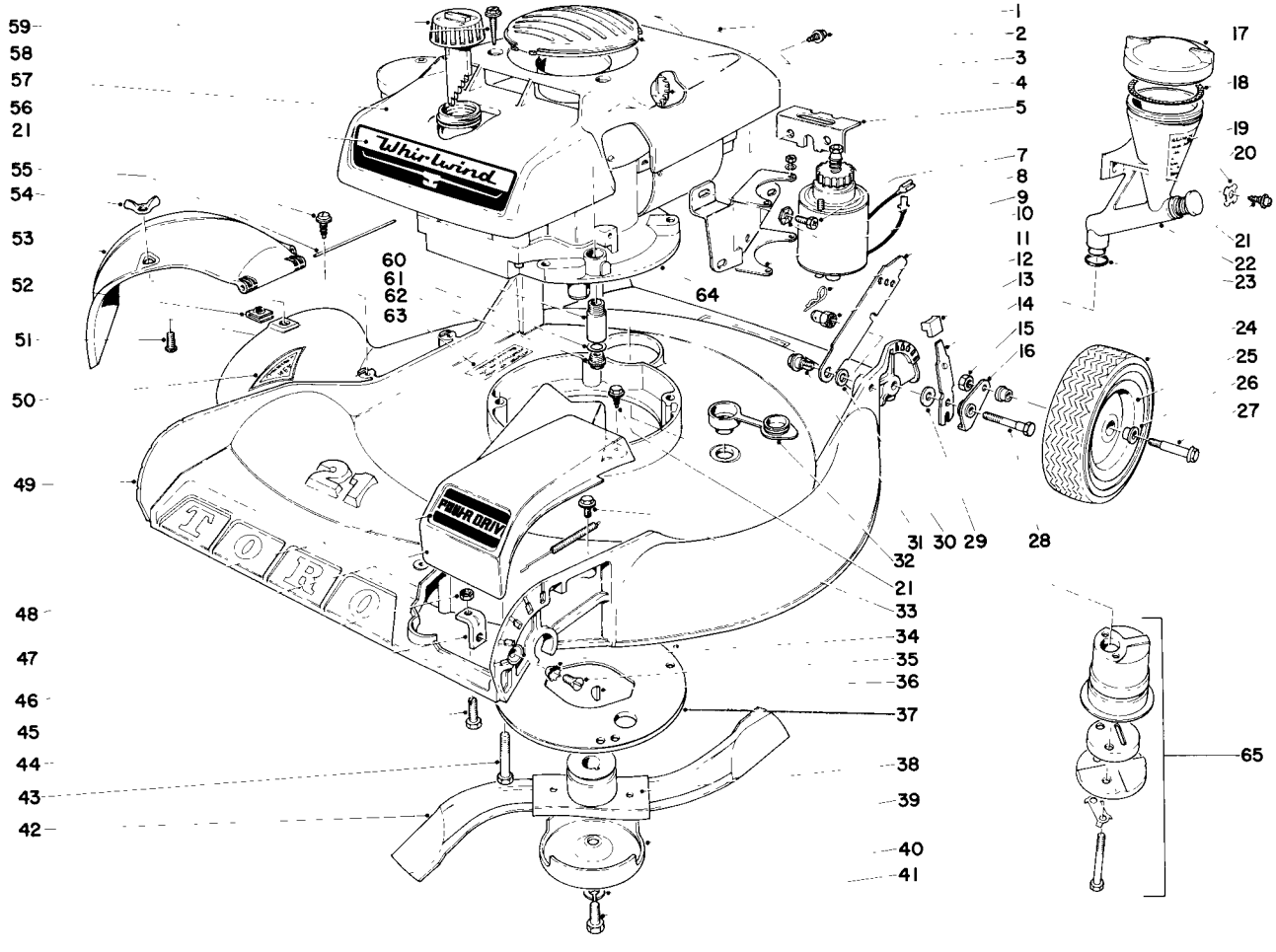
TORO

MODEL NOS. 21100–800001 & UP



21" WHIRLWIND S.P. KEY-LECTRIC

REFERENCE DRAWING AND PARTS LIST



21'' WHIRLWIND S.P. ELECTRIC START NO. 21100

Ref. No.	Part No.	Description	No. Used
1	5-3335	Decal, Maintenance	1
2	32104-76	Self Tapping Screw	1
3	5-3516	Insert Shroud	1
4	5-3522	Flywheel - Modified	1
5	5-3307	Bracket - Rear Shroud	1
7	321-2	Capscrew	3
8	3290-257	Lockwasher	3
9	5-3517	Bracket	1
10	5-2446	Handle Latch	2
11	3290-255	Hair Pin Cotter	2
12	3-6482	Handle Pivot Nut	2
13	5-0656	Knob	1
*	5-0657	Knob	1
14	3-2637	Spring Arm Assembly	2
15	3296-5	Stop Nut	2
16	3-2634	Pivot Arm Assembly	1
*	3-2635	Pivot Arm Assembly	1
17	3-8429	Cap, Reservoir (Incl. No. 18)	1
18	5-1391	"O" Ring	1
19	5-2947	Decal, Reservoir	1
20	3290-261	Washer	2
21	32104-75	Screw, Self Tapping	5
22	5-0625	Oil Reservoir Assembly	1
23	237-65	"O" Ring	1
24	4-2600	Tire	4
25	3-7350	Wheel Assembly (Incl. No. 26)	2
26	3-5116	Wheel Bushing	4
27	3-2652	Wheel Bolt	2
28	3-0655	Pivot Screw	2
29	3-5956	Pivot Washer	2
30	3-3287	Spacer	2
31	5-2490	Shoulder Screw	2
32	5-0655	Plug, Washout	1
33	32104-82	Screw	1
34	3255-12	Lockwasher	1
35	32108-20	Flat Head Screw	1
36	3257-3	Key, Woodruff	1
37	3-7626	Grass Guard	1
38	3-7286	Blade Retainer Assy.	1
39	3-6292	Anti-Scalp Cup	1
40	3253-22	Lockwasher	1
41	3-5246	Screw	1
42	5-1610	Blade	1
43	32140-49	Sems Screw	3
44	3-7281	Screw	1
45	3-7278	Adjustment Bracket	1
46	3218-1	Jam Nut	1
47	5-3305	Belt Drive Cover	1
48	5-3303	Decal, Power Drive	1
49	5-3324	Housing	1
50	5-1426	Decal, Safety Standards	1
51	3290-133	Screw, Round Head	1
52	3290-199	Speed Nut	1
53	5-3311	Deflector	1
54	32103-14	Wing Nut	1
55	3-2644	Hinge Pin	1
56	5-3304	Decal, Whirlwind	1
57	5-3327	Shroud	1
58	32104-88	Self Tapping Screw	2
59	5-3460	Gas Cap Assembly	1
60	3-0761	Extension - Oil Drain	1
61	+28833	Gasket - Oil Drain	1
62	+27244	Plug - Oil Drain	1
63	3-7643	Decal, Warning	1
64	221-299	Engine	1
65	2-9329	Muffler Assembly	1
*	5-3556	Starter Rope Assembly	1
*	81064	Replacement Grass Bags	1
*	3-6279	Grass Bag Locking Strap	1

* Not Illustrated

\+ Obtain from your local Lauson Dealer

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SPECIFICATIONS

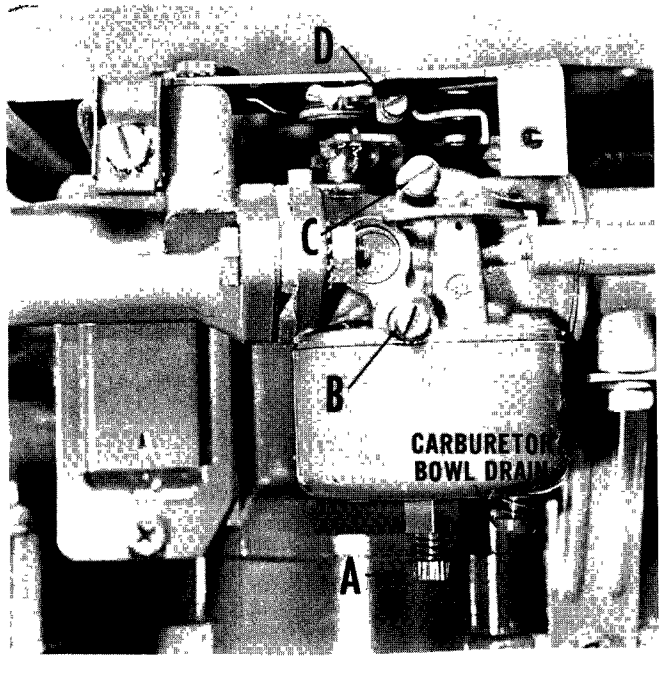
ENGINE: 21" Electric Start Pow-R-Drive - Toro LAV35-40369G.
ENGINE SHROUD: Rigid Polyethylene
FUEL TANK CAPACITY: 1 quart
CUTTER BLADE: 21" long, "S" shaped, hardened.
TRACTION CLUTCH: Hand operated lever and control wire system mounted to escutcheon plate on upper handle which operates spiral jaw clutch in gear case on drive shaft.
FRONT WHEEL TRACTION DRIVE: Special 3L V-belt, with an approximate 10 degree misalignment, running between two pulleys. The steel engine shaft pulley, integral with the blade hub, has a 2.0 eff. O.D.; the powdered iron worm shaft pulley, held with a D-shaped hole, has a 2.5 eff. O.D. The engine to gear box reduction is 1.27:1.
GEAR CASE: Die cast aluminum case. Hardened and polished 4 thread steel worm supported by ball bearing and bronze bushings (6.25:1 reduction). Lubrication requirement: 2 oz. SAE 90 with extreme pressure characteristic.
WHEEL REDUCTION: 14T Stressproof steel pinions on drive shaft supported by double sealed ball bearings to 42T laminated steel external spur gears riveted to wheel (3:1 reduction).
REDUCTION; ENGINE TO WHEEL: 23.8:1.
WHEELS: #18 ga. Steel disc with oil impregnated powered metal bushings.
TIRES: Semi-pneumatic 8 x 1.75 Toro tread
HEIGHT OF CUT: 1/2" to 3" by moving wheels, with hand operated levers.
WIDTH OF CUT: 21"
HOUSING: Die cast aluminum alloy, spiral grass chamber, right hand discharge. Symmetrical wheel locations. Hinged chute deflector.
HANDLE: 3/4" O.D. x #16 ga. welded steel tubing in separable halves. No tool, positive handle height adjustment.
THROTTLE CONTROL: Control wire and casing. Operating lever mounted to escutcheon plate on upper handle. Stop, run, and choke positions.
DIMENSIONS:

Width:	24-1/2"
Length:	32-1/2" w/o handle, wheels at 1" cut.
Height:	14-1/2"

WEIGHT: 66 pounds
STANDARD EQUIPMENT:
Grass bag assembly, bagging chute, bag hanger, anti-scalp dish, washout port, "Auto-oiler" † visual oil filler, battery Pow-R-Pack, starter, battery charger.

† Exclusive mark of Toro Manufacturing Corporation.

CARBURETOR ADJUSTMENTS



Main and idle screw adjustments are set at the factory for best performance. If it should become necessary to adjust the carburetor, proceed as follows:

HIGH SPEED ADJUSTMENTS:
1. Initial adjustment, turn high speed adjusting screw "A" clockwise until finger tight.
2. Carefully turn high speed adjusting screw "A" in a counterclockwise direction 1 turn.
3. After engine has warmed up, make final adjustments by turning adjusting screw an eighth of a turn at a time, allowing an interval between adjustments for the engine to react.
4. If engine speed is not high enough, adjust high speed by turning screw "D". After increasing speed, make final high speed carburetor adjustments with high speed adjusting screw "A". Allow setting to be slightly rich to compensate for load. Turn counterclockwise to richen mixture.

IDLE ADJUSTMENTS:
Set throttle control lever in idle position.
1. Turn idle adjusting screw "B" clockwise until finger tight.
2. Turn counterclockwise 5/8 turn to open. After engine is started, make final adjustments by turning screw an eighth of a turn at a time, allowing time between turns for engine to react. Turn clockwise to richen mixture.
3. Idle speed can be adjusted by turning screw "C". After making speed adjustment, make final idle adjustment by turning screw "B".

BATTERY CHARGING

If the battery has been exhausted by extensive use without charging, at least 48 hours is needed to restore full charge.

Use your TORO charger to replace energy removed from the battery POW-R-PACK. For continued peak performance and long life, the battery should be charged for 24 hours after each cutting. However, for convenience, the battery can be left on continuous charge when the mower is not in use.

To charge, proceed as follows:

1. Disconnect the connector from the receptacle on the battery POW-R-PACK.
2. The battery POW-R-PACK may be left on the mower when charging; or it may be removed for charging at a more convenient location. Flex the mounting tabs slightly and the container will pivot down and off from the mower.
3. Insert the charger connector into the receptacle on the battery POW-R-PACK.
4. Insert the charger into a 115 VAC, single phase, 60 cycle outlet.
5. The battery is now on charge and will remain so until the charger is removed.

NOTE: Use only the Toro battery charger supplied with your mower. Any other brand of charger may permanently damage the battery POW-R-PACK.

OFF SEASON STORAGE

If the battery POW-R-PACK has not been used for an extended period of time (Winter storage, brand new in the carton, etc.), you should charge it for 48 hours or more to restore full charge.

During the off season storage your battery POW-R-PACK may be left on the mower or removed and stored in a separate location. It is recommended that the battery POW-R-PACK be stored in a cool dry area during off season storage.

DO NOT leave the battery POW-R-PACK on charge throughout a Winter storage period; this will shorten the useful life of the battery POW-R-PACK. During this time of idleness, the battery will lose some or all of its charge and may not be able to start the mower the following Spring. Therefore, you will want to charge it for a minimum of 48 hours, at the start of the season, to restore full charge.

DISCARDING OLD BATTERIES:
If you need to purchase a new battery POW-R-PACK, go to your Local TORO Service Dealer. He will have the proper battery to fit your mower.

DO NOT DISPOSE OF THE OLD BATTERY IN FIRE AS IT MAY EXPLODE.

ATTENTION: INOPERATIVE STARTER

Should starter gears not engage and prevent engine from rotating, disconnect spark plug wire and remove shroud insert. Turn the cup on the engine COUNTERCLOCKWISE until the gears break free. Replace shroud insert and reconnect spark plug wire. Your mower is now ready to operate.

MOUNTING THE STARTER MOTOR

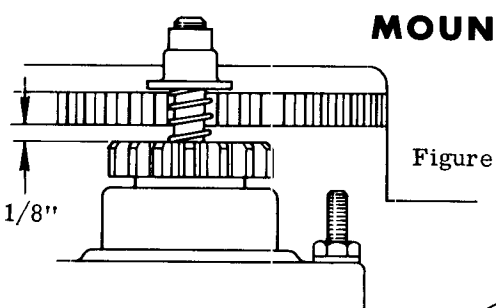


Figure 1

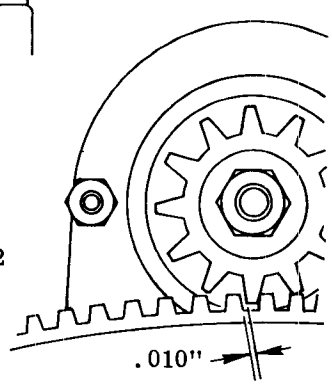


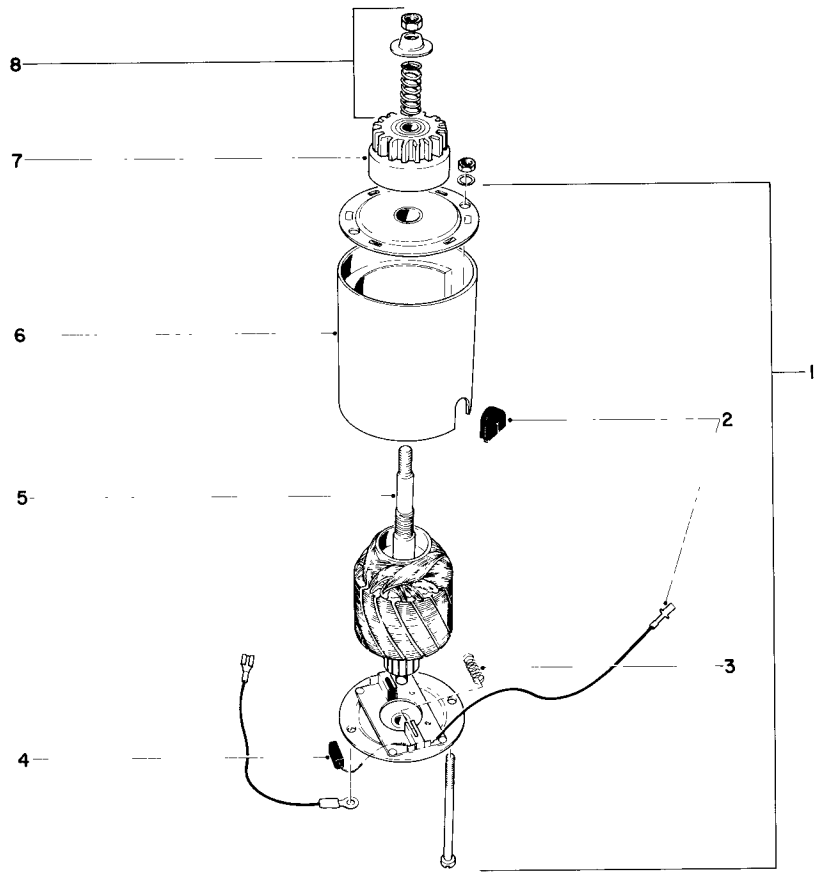
Figure 2

Although mounting the starter motor to the engine is not particularly difficult, we would like to recommend the following instructions:

1. Starter motor should be as near vertical as possible.
2. With Bendix gear disengaged, there should be at least 1/8" CLEARANCE between the upper face of the Bendix gear and the lower face of the flywheel gear. (See figure 1)
3. Rotate the flywheel until the engine is "on compression". With fingers, roll the Bendix gear up the starter shaft and engage the flywheel gear. Gear teeth "backlash", at this point, should be .010". (See figure 2)

This procedure will assure proper alignment, correct gear tooth engagement, and eliminate "binding" problems which might otherwise occur.

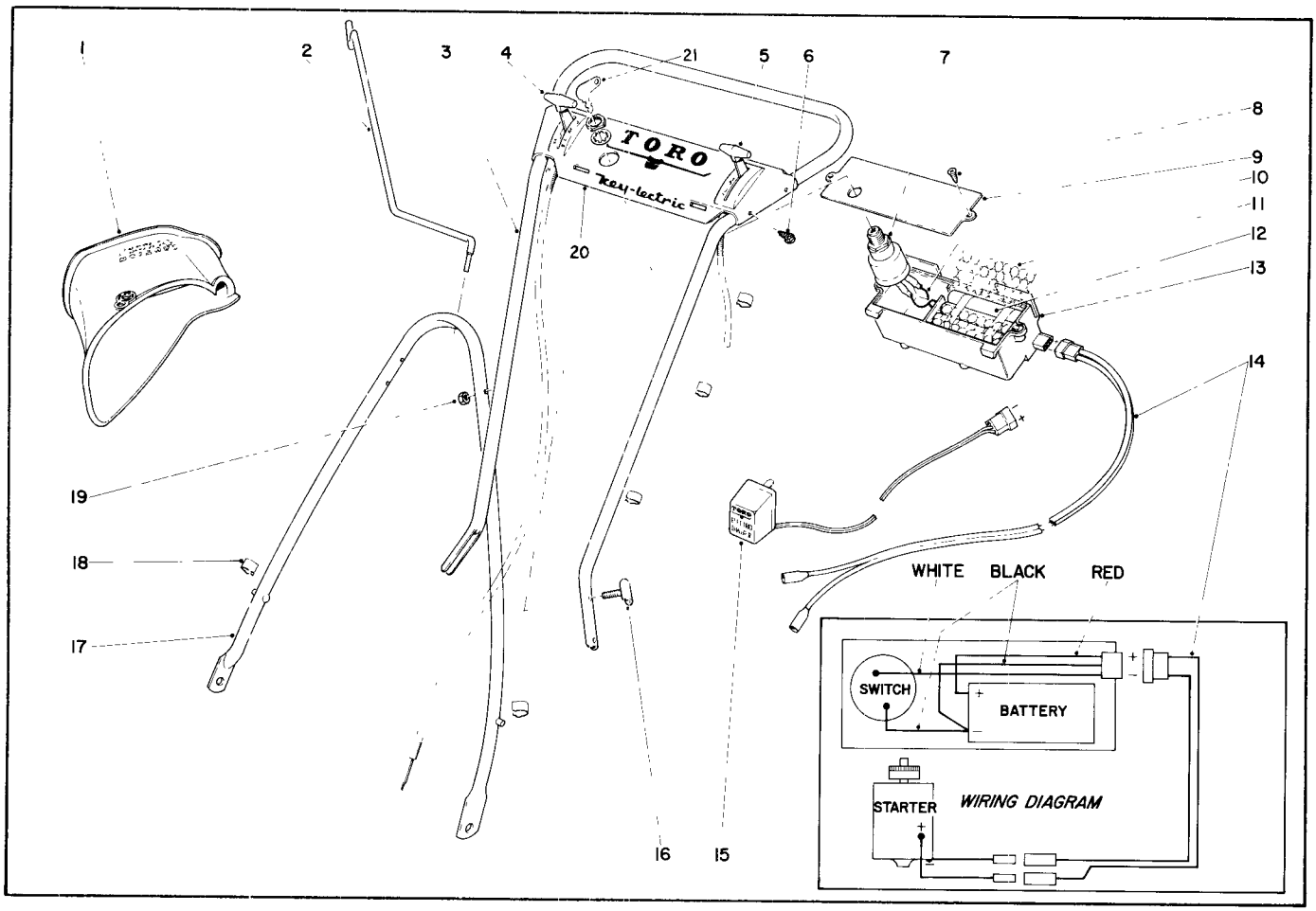
STARTER MOTOR AND PINION



Ref. No.	Part No.	Description	No. Used
1	218-370	Starting Motor w/o Pinion	1
2	218-375	Lead & Grommet	1
3	218-376	Spring Set - Brush	1
4	218-374	Brush Set	1

Ref. No.	Part No.	Description	No. Used
5	218-372	Armature	1
6	218-373	Frame & Pole Assy.	1
7	218-371	Starter Pinion	1
8	218-377	Cup, Nut, Spring Kit	1

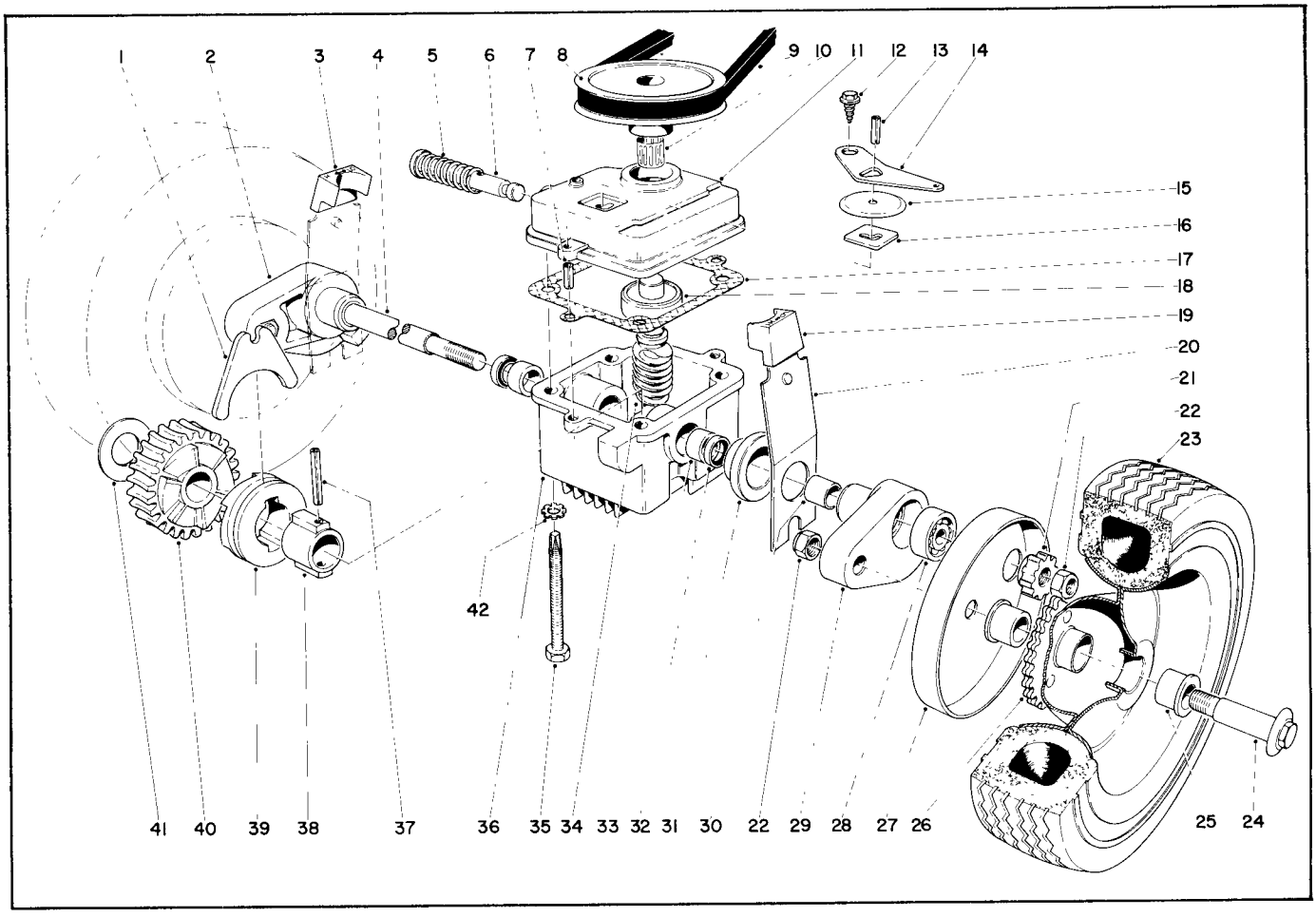
HANDLE ASSEMBLY



Ref. No.	Part No.	Description	No. Used
1	5-3442	Bag Attachment	1
2	3-0690	Bag Hanger	1
3	5-0645	Upper Handle	1
4	5-3551	Throttle Control	1
5	5-3332	Traction Control	1
6	32104-76	Self Tapping Screw	4
7	5-3520	Starter Switch	1
8	32104-91	Self Tapping Screw	2
9	5-3727	Cover Battery Pack	1
10	5-3773	Lead Wire	1
11	5-3726	Spacer - Battery	1

Ref. No.	Part No.	Description	No. Used
12	5-3676	Battery & Wire Assembly	1
13	5-3730	Container Battery Pack	1
14	5-3511	Wiring Harness	1
15	5-3524	Battery Charger	1
16	3-2654	Screw	4
17	3-9430	Lower Handle Assembly	1
18	218-75	Clip	5
19	32146-8	Locknut	4
20	5-3508	Escutcheon Plate	1
21	218-300	Key	2

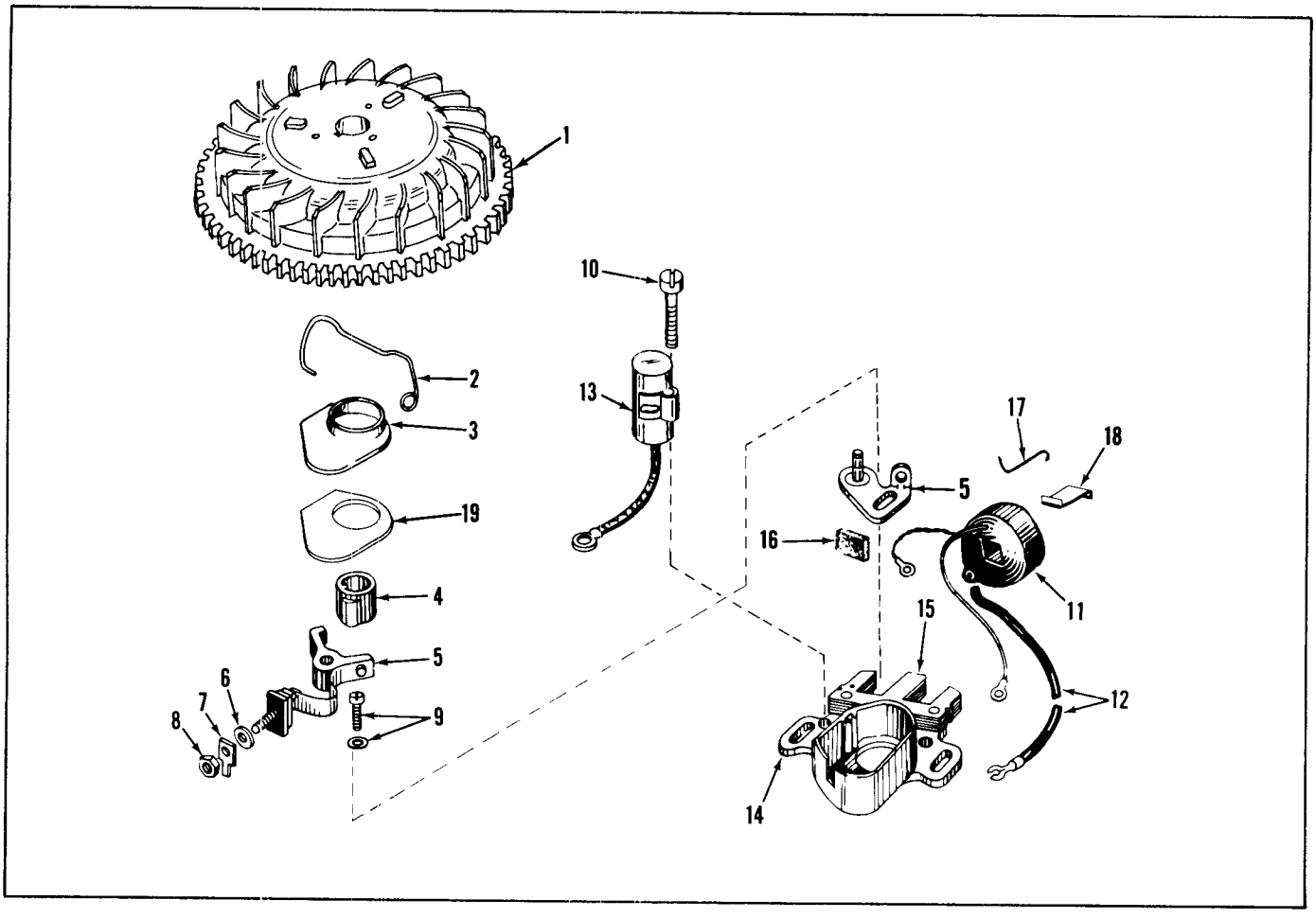
FRONT AXLE & GEAR CASE ASSEMBLY



Ref. No.	Part No.	Description	No. Used
1	5-3247	Fork Shifter	1
2	2-6369	Pivot Arm Assy. (Incl. No. 30)	1
3	5-0656	Arm Knob	1
4	3-0720	Drive Shaft	1
5	3-0731	Spring	1
6	5-3248	Rod, Shifter	1
7	32121-1	Roll Pin	2
8	5-1615	Pulley	1
9	3-7274	V-Belt	1
10	3290-286	Tolerance Ring	1
11	5-3283	Cover, Gear Case	1
12	32140-64	Self Tapping Screw	1
13	32121-23	Roll Pin	1
14	5-3252	Arm, Shifter	1
15	3-2615	Dust Cover	1
16	3-0681	Latch Plate	1
17	3-0734	Gasket, Gear Case	1
18	251-144	Ball Bearing	1
19	5-0657	Arm Knob	2
20	3-2640	Spring Arm Assy.	2
21	3-0738	Pinion, Gear	2
22	3296-5	Stop Nut	4

Ref. No.	Part No.	Description	No. Used
23	4-2600	Tire	2
24	3-5117	Wheel Bolt	2
25	3-5234	Wheel Bushing	4
26	3-7570	Wheel Assy. (Incl. No. 25)	2
27	3-5235	Wheel Cover	2
28	251-183	Bearing	2
29	2-6359	Pivot Arm Assy. (Incl. No. 30)	1
30	256-1	Bushing	2
31	5-0745	End Cap	2
32	253-86	Oil Seal	2
33	256-110	Bushing	2
34	5-1616	Worm Shaft	1
35	32140-63	Screw, Sems	4
36	3-1079	Gear Case	1
37	32121-40	Roll Pin	1
38	3-0721	Sleeve	1
39	3-0722	Clutch Jaw	1
40	3-0723	Worm Gear	1
41	3-0724	Thrust Washer	
42	3255-7	S. P. Washer	4
	4-0809	Gear Case Assy.	1

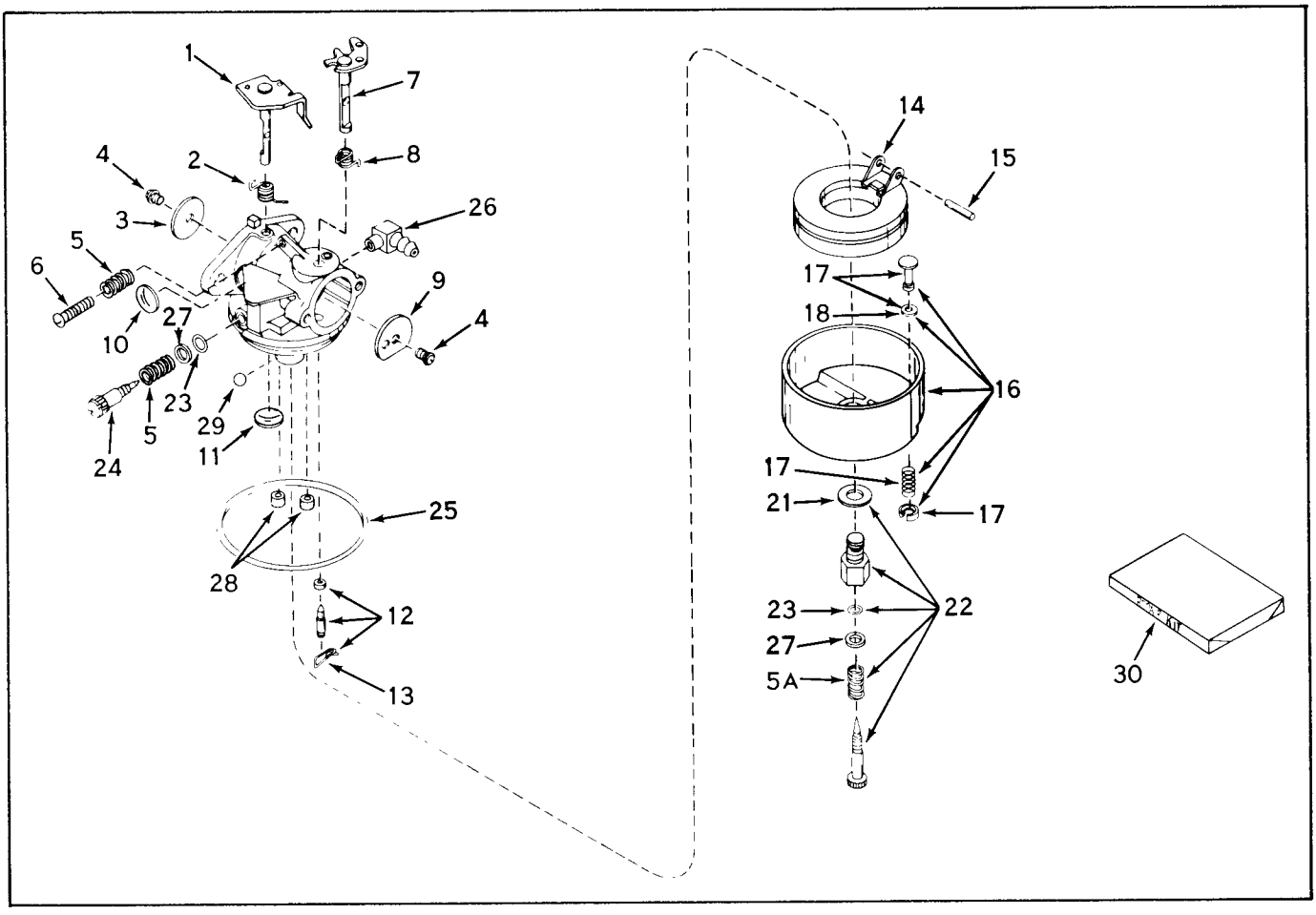
MAGNETO No. 610772



Ref. No.	Part No.	Description	No. Used
1	610757	Flywheel	1
2	30551	Spring, Breaker Box	1
3	30550	Cover, Breaker Box Dust	1
4	30552	Cam, Breaker	1
5	30547A	Contact Assy., Breaker	1
6	610385	Washer, Terminal	1
7	30843	Tab, Ground Terminal	1
8	610408	Nut, Terminal	1
9	29181	Screw & Washer, Breaker	1
10	610593	Screw, Condenser Fastening	1
11	30560	Coil Assy. (Incl. Ref. Nos. 12, 13 & 18)	1

Ref. No.	Part No.	Description	No. Used
12	30554	Wire, Lead	1
13	30548A	Condenser	1
14	30545	Core & Plate	1
15	30561A	Stator Assy. (Incl. Ref. Nos. 2, 3, 5 thru 14, 16 thru 19)	1
16	30549	Felt, Cam Wiper	1
17	31311	Clip, Coil Locking	1
18	29629	Spring, Coil Wedge	1
19	32052	Gasket, Dust Cover	1

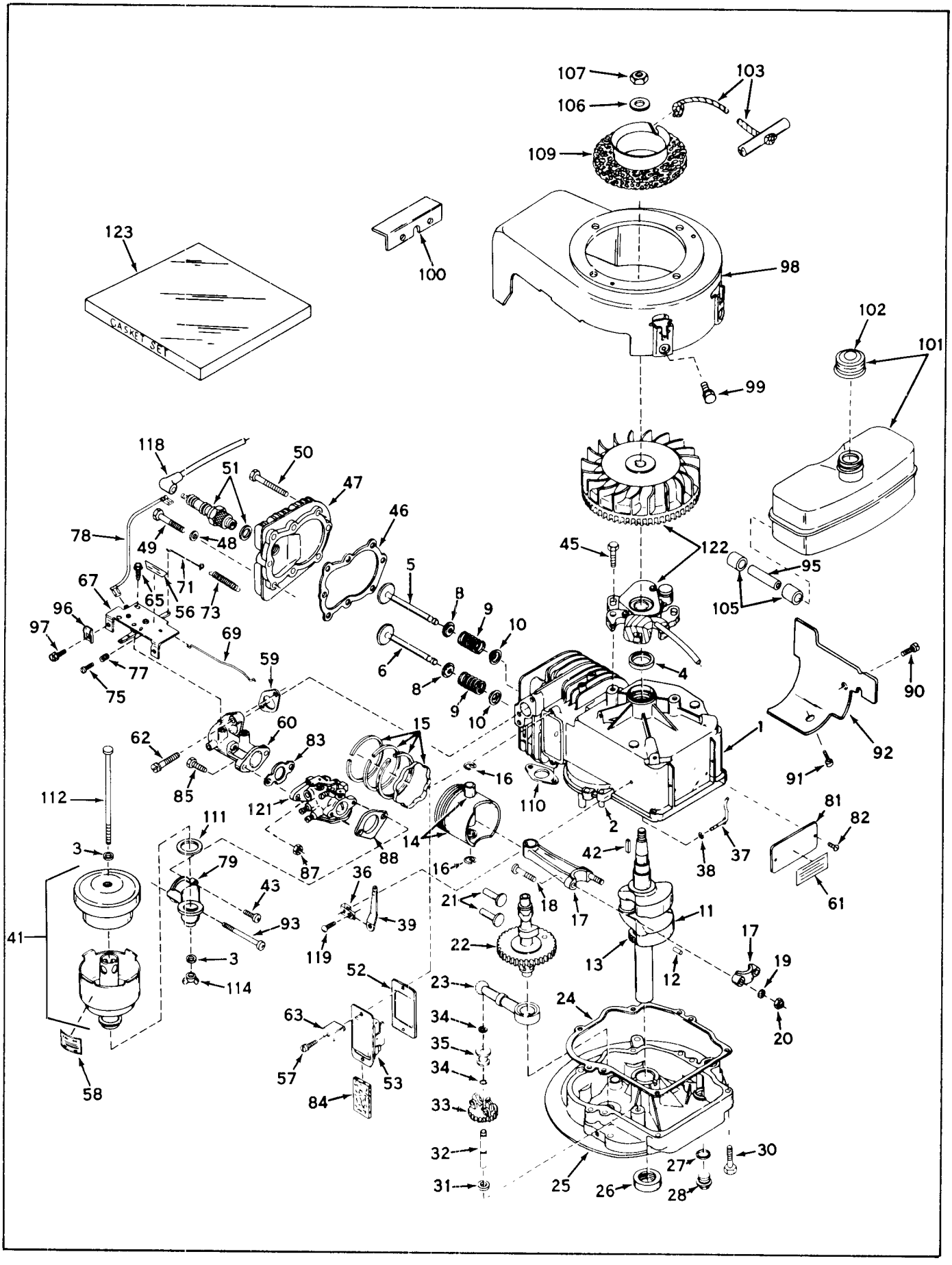
CARBURETOR No. 631003A



Ref. No.	Part No.	Description	No. Used
1	630983	Shaft & Lever Assy., Throttle	1
2	631066	Spring, Throttle Return	1
3	631036	Shutter, Throttle	1
4	650506	Screw	2
5	630766	Spring, Idle Regulating Screw	2
5A	630738	Spring, Main Adj. Screw	1
6	650417	Screw, Idle Regulating	1
7	630973	Shaft & Lever Assy., Choke	1
8	630821	Spring, Choke Return	1
9	631037	Shutter, Choke	1
10	630748	Plug, Welch	1
11	631027	Plug, Welch	1
12	*631021	Inlet Needle, Seat & Clip Assy. (Incl. No. 13)	1
13	631022	Clip, Inlet Needle	1
14	631023	Float, Carburetor	1
15	*631024	Shaft, Float	1
16	631025	Bowl & Drain Assy., Float (Incl. Nos. 17, 19 & 20)	1

Ref. No.	Part No.	Description	No. Used
17	27136	Plunger Assy., Drain (Incl. No. 18)	1
18	27554	Gasket, Drain Plunger	1
19	27137	Spring, Drain Plunger	1
20	27138	Retainer, Plunger Spring	1
21	27110	Gasket, Bowl-to-body	1
22	*631026	Adjustment Screw Assy., Main (Incl. Nos. 5A, 21, 23 & 27)	1
23	*630740	"O" Ring, Adjustment Screw	2
24	*631078	Screw, Idle Adjustment	1
25	*631028	"O" Ring, Bowl-to-Body	1
26	631038	Fitting, Fuel Inlet	1
27	630739	Washer	2
28	630747	Plug, Cup	2
29	631081	Ball, Aluminum	1
30	631029	Repair Kit (Incl. items marked *)	1

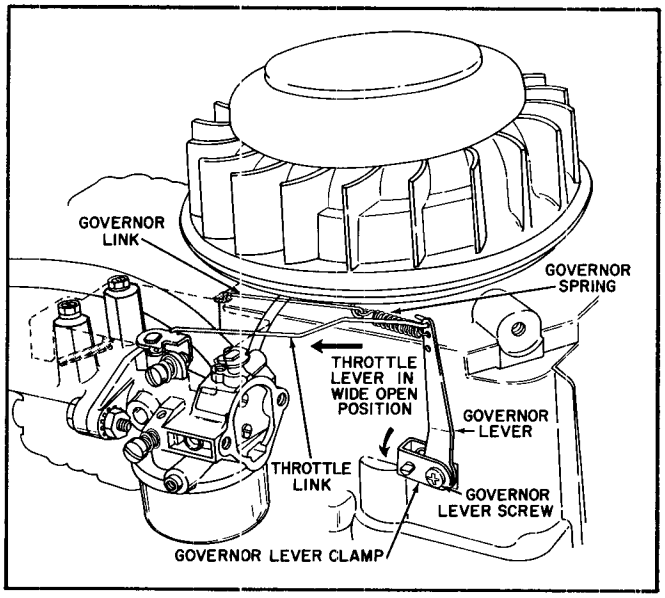
ENGINE MODEL LAV35-40369G



ENGINE MODEL LAV35-40369G PARTS LIST

Ref. No.	Part No.	Description	No. Used
1	32616	Cylinder Assy. (Incl. Nos. 2 & 4)	1
2	26727	Pin, Dowel	2
3	27183	Washer, Fiber	2
4	*29183	Seal, Oil	1
5	29314A	Valve, Intake (Standard) (Incl. Nos. 8, 9 & 10)	1
5	29316A	Valve, Intake (1/32" Overs.) (Incl. Nos. 8, 9 & 10)	1
6	29313A	Valve, Exhaust (Standard) (Incl. Nos. 8, 9 & 10)	1
6	29315A	Valve, Exhaust (1/32" Overs.) (Incl. Nos. 8, 9 & 10)	1
8	31671	Cap, Upper Valve Spring	2
9	31672	Spring, Valve	2
10	31673	Cap, Lower Valve Spring	2
11	29223	Crankshaft Assy. (Incl. Nos 12 & 13)	1
12	29783	Pin, Crankshaft Gear	1
13	27613	Gear, Crankshaft	1
14	31307	Piston & Pin Assy. (Incl. 2 of No. 16) (Standard)	1
14	31308	Piston & Pin Assy. (Incl. 2 of No. 16) (.010 Oversize)	1
14	31309	Piston & Pin Assy. (Incl. 2 of No. 16) (.020 Oversize)	1
15	28986	Ring Set, Piston (Standard)	1
15	28987	Ring Set, Piston (.010 Oversize)	1
15	28988	Ring Set, Piston (.020 Oversize)	1
16	20381	Ring, Piston Pin Retaining	2
17	30963A	Rod Assy., Connecting (Incl. Nos. 18, 19 & 20)	1
18	26706	Bolt, Connecting Rod	2
19	20747	Washer, Connecting Rod	2
20	27573	Nut, Lock	2
21	27241	Lifter, Valve	2
22	32260	Camshaft	1
23	29914	Pump Assy., Oil	1
24	*26750A	Gasket, Mounting Flange	1
25	31907	Flange Assy., Mounting (Incl. Nos. 26, 27, 28 & 32)	1
26	*26208	Seal, Oil	1
27	*28833	Gasket, Drain Plug	1
28	27422	Plug, Oil Drain	1
30	650488	Screw, Hex Hd. Cap Sems	6
31	30590A	Washer, Flat	1
32	30574	Shaft, Mechanical Governor	1
33	30591	Gear Assy., Governor	1
34	29193	Ring, Retaining	2
35	30588A	Spool, Governor	1
36	31335	Clamp, Governor Lever	1
37	30589	Rod, Governor (Incl. No. 38)	1
38	28277	Washer, Flat	1
39	31383	Lever, Governor	1
41	31404	Cleaner Assy., Air	1
42	27247	Key, Flywheel	1
43	28597	Screw, Fil. Hd. Sems	1
45	650489	Screw, Hex Hd. Cap Sems	2
46	*29953B	Gasket, Cylinder Head	1
47	30579	Head, Cylinder	1
48	26073	Washer	5
49	6021	Screw, Hex Hd. Cap	5
50	6023	Screw, Hex Hd. Cap	3
51	21943	Plug, Spark (Champion J-8 or Equivalent)	1
52	*31619	Gasket, Breather	1
53	31337	Breather Assy. (Incl. Nos. 52 & 84)	1
56	31495	Decal, Speed Control	1
57	650128	Screw, Phil. Fil. Hd. Sems	2
58	30002	Decal, Air Cleaner	1
59	*30188	Gasket, Intake Pipe	1
60	31384	Pipe, Intake	1
61	31865	Decal, Name & Instruction	1
62	650176	Screw, Phil. Fil. Hd. Sems	2
63	30593	Clip, Magneto Wire	1
65	30200	Screw, Hex Sltd. Hd. Sems, Self Tapping	2
67	31736	Control Assy., Speed	1
69	31385A	Link, Throttle to Governor	1
71	31387A	Link, Governor Spring	1
73	31386	Spring, Governor	1
75	650549	Screw, Fil. Sltd. Hd. Mach.	1
77	31342	Spring, Compression	1
78	31388	Wire, Ground	1
79	28598	Elbow, Air Cleaner	1
81	31345	Plate, Identification	1
82	28670	Screw, Drive	2
83	26756	Gasket, Carburetor	1
84	31410	Element, Breather	1
85	6201	Screw, Hex Hd. Cap	2
87	29752	Nut, Hex Jam	2
88	*27272	Gasket, Cleaner Bracket	1
90	30688	Screw	1
91	650128	Screw	1
92	32407	Extension, Housing	1
93	650519	Screw, Fil. Hd. Mach.	1
95	31400	Line, Fuel	1
96	27793	Clip, Conduit	1
97	28942	Screw, Sltd. Hex Hd. Sems	1
98	32702	Housing, Blower	1
99	650561	Screw, Hex Hd. Cap Sems	2
100	**	Bracket, Shroud	1
101	32170	Tank, Fuel (Incl. No. 102)	1
102	**	Cap, Fuel Filler	1
103	590343	Rope Assy., Starter	1
105	29774	Line, Fuel	2
106	650490	Washer, Belleville	1
107	650607	Nut, Flywheel	1
109	30892	Pulley, Rope Start	1
110	*30081	Gasket, Muffler	1
111	*27165	Gasket, Air Cleaner to Elbow	1
112	650622	Bolt, Air Cleaner	1
114	9577	Nut, Wing	1
118	610118	Cover, Spark Plug	1
119	650548	Screw, Hex Sltd. Washer Hd.	1
121	631003A	Carburetor	1
122	610772	Magneto, Tecumseh	1
123	31409B	Gasket Set (Incl. items marked *)	1

** Order from your Toro Dealer



MECHANICAL GOVERNOR ADJUSTMENTS

1. Loosen governor lever screw.
2. Hold throttle lever in wide open position.
3. Rotate governor lever clamp as far as possible in direction shown by arrow.
4. Tighten governor lever screw.

IMPORTANT ORDERING INSTRUCTIONS

Repair parts are available from your TORO distributor. To insure getting correct parts without delay, please furnish the following information:

1. Serial number of your product as shown on the name plate.
2. Part number, description and quantity of each part required.
3. Name and address where parts are to be shipped.
4. Do NOT order by reference number, use part number only.

PRODUCT CHANGES

In an effort to make improvements available to Toro owners as quickly as possible, minor changes are incorporated into Toro's products from time to time that do not become immediately shown in the Reference Drawing and Parts List. If such a change apparently has been made in your unit, which is not reflected in your manual, see your Toro distributor or his authorized Toro service dealer for information and parts numbers.

FORM NO 331-725

LITHO IN U.S.A.