

Simplicity®

Asy. Aug. 11/8/26

DELUXE ROTICUL

REVERSING ROTARY TILLER

Article No. 107 3kp

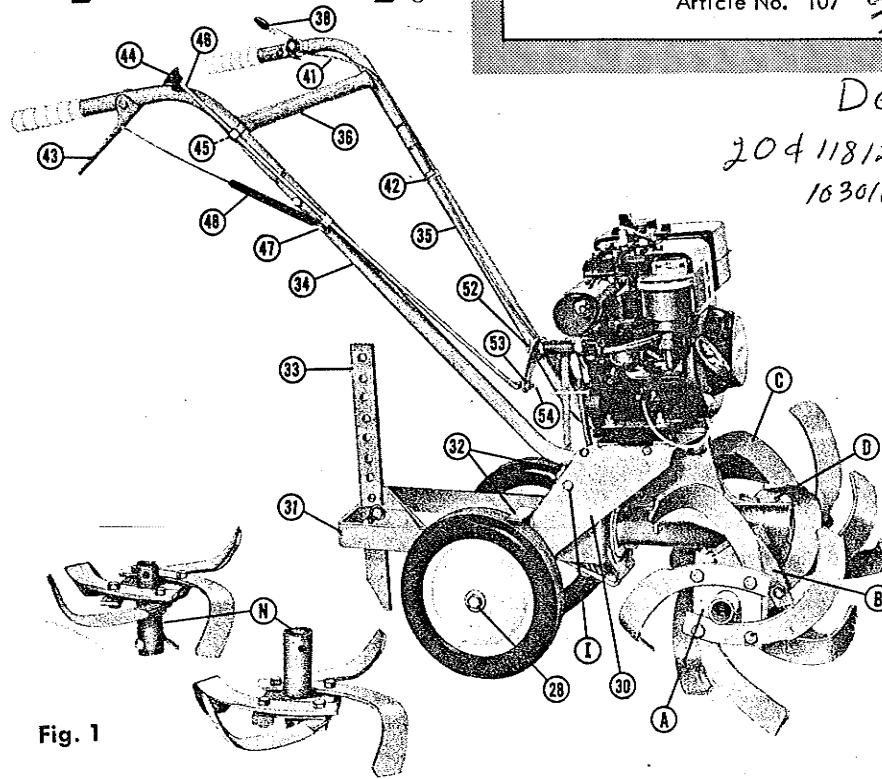


Fig. 1

PACKING LIST

The Deluxe Roticul is shipped complete in two cartons. Before beginning assembly operation remove all parts from both cartons.

Figure 1 and figure 2 show the tiller completely assembled. Also refer to the exploded view.

ASSEMBLY OF FRAME

1. Remove the four screws (I) from the engine bracket (30).
2. Insert the rear frame assembly (31) into the engine bracket and reassemble the four screws and two belt guards (59) keeping nuts to the inside of the bracket.
3. In tightening the screws be sure the lower and back edges of the belt guards (59) are flush with the back edge of the lower pulley (66), and that the belt guards clear the outside diameter of the pulley by not more than 1/16 inch. BEND IF NECESSARY TO MEET THIS MEASUREMENT. THIS ADJUSTMENT IS IMPORTANT SO THAT IN DRIVING, THE BELT NOT IN USE WILL SLIP PROPERLY ON THE LOWER PULLEY.

INSTALLING WHEELS

1. Place a washer on a wheel bolt (28), insert the bolt through one of the wheels, and tighten with one nut (H).

Leave enough clearance so the wheel will turn freely and yet will not be too loose.

2. Secure the wheel axle bolt to the frame assembly with the second nut (J). You will find two holes for the wheel axle bolt in the frame assembly. Use either hole for the handle height adjustment — upper hole provides lower handle height, low hole — higher height.
3. Install other wheel on the other side in similar manner.
4. Install mud scrapers (32) to inside of rear frame assembly as shown in Fig. 2. Position them so that there will be approximately 1/4" clearance between tire and scraper.

ASSEMBLING HANDLES

1. Position the handle supports on the under side of the lower handles (34) and (35). The lower handle bolts can be used as drift pins to align the sets of holes properly.
2. Insert these lower handles and supports into the holes provided in the engine support bracket.
3. Position the lower handle members in the engine support bracket by inserting the 5/16" bolts through the parts. Do not tighten the lock nuts on these bolts until the upper handle assembly has been assembled to the lower handles (Step #4).
4. Assemble the upper handle assembly to the lower

Decals

204118122 "Roticul Deluxe"
103016 "Simplicity"

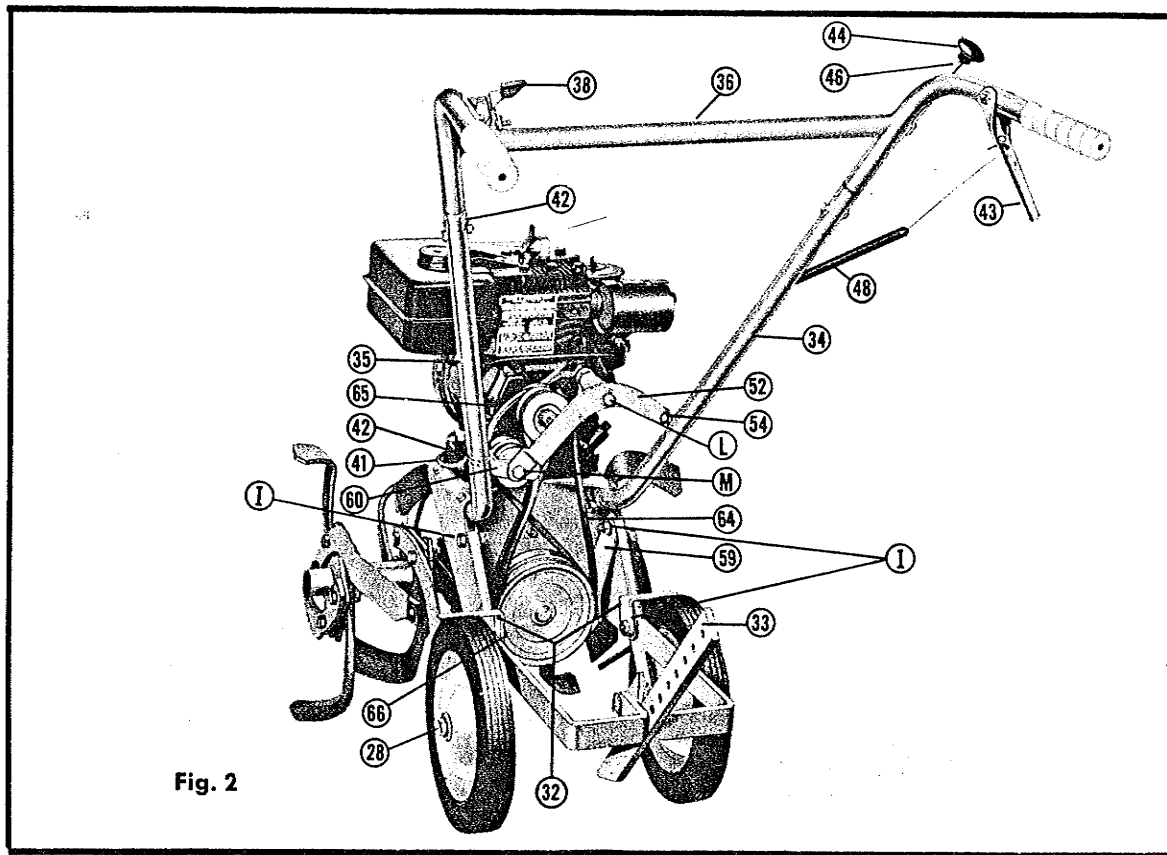


Fig. 2

handle members and fasten with the screws and nuts provided.

5. Secure the complete handle assembly to the engine support bracket by tightening the lock nuts.

INSTALLING THROTTLE CABLE

1. Uncoil the throttle cable (41), wire, and lever (38) from the engine and string under the blower housing, under the fuel tank and on top of left handle.
2. Install the clips (42) at locations shown in the photographs, Fig. 1 and Fig. 2.
3. Attach the control lever to the handle with two self-tapping screws. NOTE: Screws for throttle lever and clips for the cable are in a mailing bag.

INSTALLING CLUTCH ROD

1. Remove the tape holding the nylon bushing (45) on the right hand side of handle.
2. Insert the large eye of the spring (48) into the rear holes of the clutch grip (43) with hook end toward the inside.
3. Unscrew the reverse knob (44) from the rod (46) and insert rod through the nylon bushing and reassemble the knob.
4. Insert the eye (54) at bottom of the rod into the hole in the idler lever (52). Attach eye to idler lever with lock nut (53). NOTE: TIGHTEN THE NUT ON THE EYE ALL THE WAY AND THEN BACK OFF ONE-HALF TURN SO THAT EYE IS COMPLETELY FREE TO TURN IN THE

IDLER LEVER WITHOUT BINDING. BE SURE THAT A LOCK NUT ONLY IS USED TO TIGHTEN THE EYE. ANY WASHER AT THIS POINT MAY CAUSE BINDING.

The collar (47) is pre-set at the factory to approximate operating position. It may be necessary to adjust the collar in the following manner: If the Roticut tries to move forward while the engine is running, move the collar up higher on the rod. If the Roticut tries to back up while the engine is running, move the collar lower on the rod. Use the collar for proper idling adjustment to prevent belts from grabbing.

INSTALLING THE DEPTH BAR

Install the depth bar (33) in the slot of the rear frame assembly being careful to see that the point is to the front.

INSTALLING TINE ASSEMBLIES

Examine the two tine assemblies (B) and (C) with the short hubs. Hold them side by side so that the sharp edges on the top tines point forward. Install these tine assemblies on the driven shaft, making sure that the welds (K) at the hub plates (see exploded view) are on the side nearest the housing. Secure with pin (22) and spring clip (23) and push the clip all the way through so the pin is inside the loop.

Install the outer tine assemblies (A) and (D) to the inner tine assemblies (B) and (C) with pins and spring clips in similar manner, taking care to see that the sharp edges of the top tines are pointing forward.

GETTING READY FOR OPERATION

Before servicing the engine on your Rotical turn the engine over slowly with the recoil starter rope to be sure that the belts slip on all pulleys. If they do not slip properly and have a tendency to grab while the engine is being turned over, adjust the collar (47) as described under INSTALLING CLUTCH ROD.

Service engine air cleaner and crankcase as recommended in engine book. Be sure to always keep oil in air cleaner clean. Be sure you never use oil in the crankcase more than 10 hours. Remember, clean air and clean oil will give you long trouble-free operation — dirt can ruin your engine in a hurry.

OPERATION

BEFORE STARTING ENGINE BE SURE SAFETY STOP SWITCH IS PUSHED AWAY FROM SPARK PLUG.

The throttle lever (38) controls the speed of the tiller. The clutch lever (43) operates the tines for forward movement. To back up, hold grip and push on knob (44) with thumb. This eliminates pulling the tiller back by hand.

We suggest that for initial tilling set the depth bar (33) in the third hole from the top. This setting is for average soil and may vary depending upon the particular type of soil in your garden. Pushing down on the handles will cause the tines to dig deeper. After the tines have penetrated the soil thoroughly, lift up slightly on the handles to allow the tiller to move forward. In most soils the tiller works easier at about 1/2 to 2/3 throttle. If the soil is extremely hard and dry you may find it desirable to cross-till to obtain the depth you want. On the first pass, till across the plot, and on the second pass, till in the direction in which rows will run.

Do not attempt to till the soil when it is very wet as this may cause lumps which are difficult to work up.

The purpose of the depth bar is two-fold:

1. Control the cutting depth of the tines.
2. Provide drag or hold-back, allowing tines to "bite into" the ground.

This is especially important when tilling sod or hard soil. The depth bar should be set so that when the tiller is in operation the greater portion of the tiller weight is not resting on the tiller wheels. For cultivating in loose soil you may not need the depth bar. When depth bar is removed, depth of cultivation is determined by pressure applied to tiller handles.

BELT INFORMATION

The belts on your Rotical are special belts designed specifically for their application on this machine. Both are of special construction and are long wearing belts and when properly adjusted will give many hours of use. However, when it does become necessary to re-

place them, use genuine Simplicity belts and follow the instructions below. Do not use fractional H.P. belts.

1. To remove the belts, remove the cotter pin (L) holding the idler lever on the engine stud. This will allow the idler lever to move out. Loosen the nut (M) holding the belt retainer (60) on the idler pulley. Loosen the top screws on both sides of the engine bracket which hold the belt guards (59) on the lower pulleys so that the belt guards can be moved outward which will facilitate removing the belts from around the lower pulleys.

2. Remove the forward drive belt (64). After this belt has been removed you will be able to remove the reverse drive belt (65).

3. When replacing the reverse drive belt, place belt under the lower pulley, put one-half twist clockwise in the belt, then place belt over engine pulley and over groove in the reverse idler pulley, as shown. Belt running down from reverse idler pulley to lower pulley should be in back of (toward the rear of the Rotical) the belt running up from lower pulley to engine pulley. See exploded view. After the reverse belt has been installed place the forward drive belt over the engine pulley, under the idler pulley, and under the lower pulley. There is no twist in the forward drive belt.

4. Reset the belt retainer (60) on the idler pulley to original angular position, as shown in Fig. 2. **This adjustment is very important.** Tighten the nut so that the belt retainer is secure. Reinstall the idler lever and idler lever spring, being sure to put 1½ turns on the spring. Hook the spring under the engine pulley belt stop and under the idler lever. NOTE: This adjustment is very important as it allows the idler lever to float without pressure being exerted on either of the drive belts when idling. Reinsert the cotter pin.

5. When new belts have been installed check the adjustment on the collar as described under INSTALLING CLUTCH ROD to be sure that both belts will idle properly.

6. Reset belt guards (59) and tighten screws.

7. To compensate for belt stretch, use shims (69) to raise engine.

8. If belts grab, because of gummy belt surfaces or paint in pulley grooves, sprinkle dry dirt or sand on the belts and pulleys while operating.

TINE EXTENSION SET Article No. 990212

Fig. 1 illustrates the tine arrangement as your Rotical was shipped. It will till 20½ inches wide as standard; the extra tine set will allow tilling width of 29 inches. The tine set consists of two tine extensions (N) (Fig. 1), a left hand and right hand assembly. To install the extension tines, place long hubs of the extension tines over hubs of tines previously installed, and secure with pin and spring clip. Be sure the extension tines are so mounted that the sharp edges of the tines on top face forward.

★
1-8271503 - Halder Assy
1-103010 - 8" opener
2-703007 - Bolts
1-719001 - Washer
2-713003 - NUT

FURROW OPENER 093

A furrow opener shovel is available which mounts on the depth bar. You will find this shovel very handy for digging the furrows for crops such as potatoes that are planted in rows. When installing the furrow opener turn depth bar upside down.

MAINTENANCE AND LUBRICATION

Full instructions for operating the engine are included in the engine manual and should be carefully followed. This engine is equipped with an oil bath air cleaner to keep dust and dirt from entering the carburetor, and a breather tube to keep dust and dirt from entering the valve chamber, thus resulting in increased engine life. Frequently oil the nylon bushing, the eye hole in the idler lever, and the idler pulley so that it will turn freely and will not squeak. Occasionally oil the wheel axle bolts.

THE WORM GEAR DRIVE ON THE ROTICUL IS LUBRICATED WITH SPECIAL WORM GEAR OIL AVAILABLE AT THE FACTORY. DO NOT USE ORDINARY TRANSMISSION OILS. If ordinary gear oil is used, gears may fail. It is filled at the factory but should be checked before use and again after every four to five hours of operation. To add oil, the tiller should be tipped far enough backward on the handles so the housing is as near vertical as possible. Turn the tine shaft slowly while adding oil so that the oil will reach the back bearing. **Fill with oil until the oil shows at the plug when tiller is resting on tines. Do not over-fill.** Screw oil plug back on tight.

During operation the action of the worm gear drive may cause the housing to become quite warm. This is normal and no harm will be done to the gears as long as the housing is filled with Special Worm Gear Oil.

HOW TO ORDER REPAIR PARTS

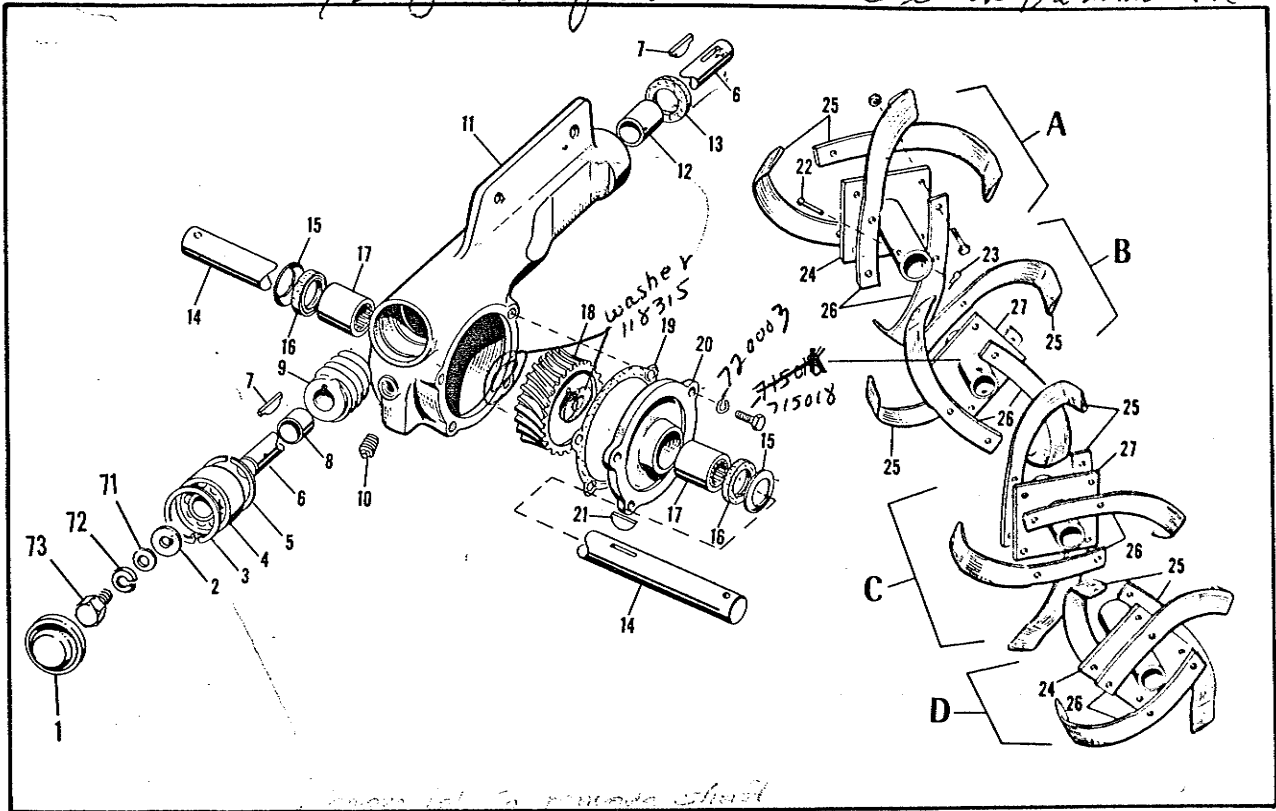
The Authorized Simplicity dealer from whom you purchased your Roticul can supply you with any replacement parts you may need. For prompt service be sure to see your dealer first. He will furnish the correct parts from his stock or order them for you if necessary. However, you may mail-order directly from the factory.

To have your order filled correctly and for prompt service, please furnish the following information:

1. Year of Purchase and Mfgs. No. of your Roticul
2. Part number, description, and quantity of part. (See parts list).

We reserve the right to change construction, specifications, prices and terms, without notice and without obligation as to Roticuls heretofore shipped.

1/2 Pint of Potencil Oil in Transmission

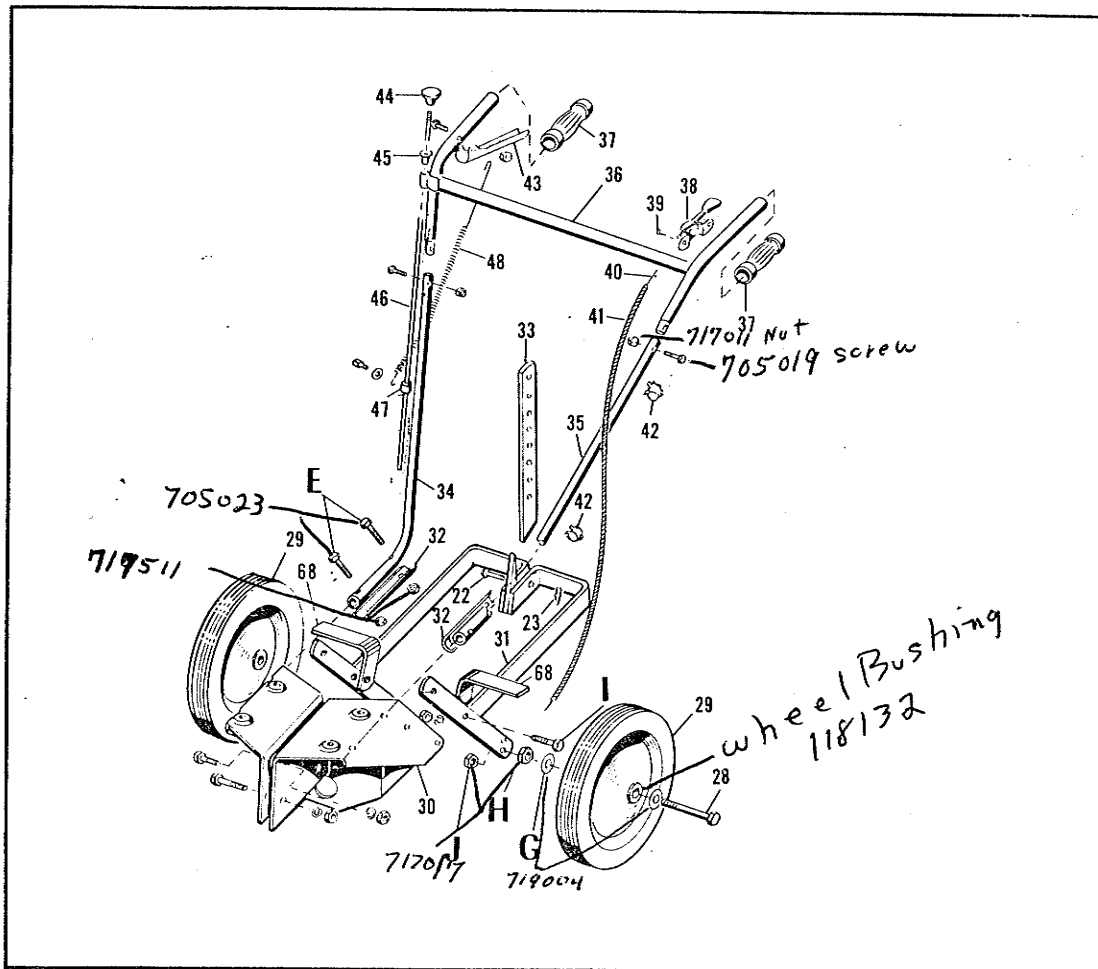


hooking 8.05 Inner 118083 - Tine Assy. L.H. Compl.
8.05 Inner 118120 - " " R.H. Compl.
8.20 Outer 118045 " " L.H. Compl.
8.20 Outer 118048 " " R.H. Compl.

Item No.	Part No.	Description
1	118179	Cup
2	118178	Washer
3	118061	Retaining Ring
4	118011	Ball Bearing
5	118094	Snap Ring
6	118177	Worm Shaft
7	725502	Key, Hi-Pro #706
8	118060	Spacer
9	118016	Worm
10	726003	Pipe Plug, 3/8" Std.
11	118069	Worm Drive Housing <i>118317 with D-118315 washer (8-64)</i>
12	118072	Bushing
13	118117	Oil Seal
14	118021	Worm Gear Shaft
15	118082	Washer
16	118118	Oil Seal
17	118020	Needle Bearing
18	118022	Worm Gear
19	118024	Gasket
20	118070	Cover <i>118316 with D-118315 washer (8-64)</i>
21	725005	Key, Woodruff, 1/4" x 3/4"
22	118053	Pin
23	8161045	Spring Clip
24	118046	-Plate Assembly, Tine Outer 4" Tube
25	8152001	Blade, L.H. Tine
26	8152002	Blade, R.H. Tine
27	118084	-Plate Assembly, Tine Inner
71	719002	Washer, Plain, 5/16"
72	720002	Lock Washer, 3/8"
73	715004	Capscrew, Hex Head, 3/8-16 x 3/4"

103038 Worm Shaft Kit (1-73-72-71-2) 5)
46

USA



Item No.	Part No.	Description
28	705037	Capscrew, Hex Head, 1/2-13 NC x 3-1/4" lg.
29	118030	Wheel and Tire Assembly
30	118076	Bracket Assembly, Engine
31	118077	Frame Assembly, Rear
32	118119	Support, Handle
33	118081	Bar, Depth
34	118096 ✓	Handle, R. H. Lower
35	118097 ✓	Handle, L. H. Lower
36	118098	Handle Assembly, Upper
37	153043	Grip, Handle
38	8061087	Control, Throttle Lever
39	714005	Screw, Rd. Hd., Self-Tapping #10-24 x 1/2"lg.
40	118115	Throttle Wire
41	118114	Throttle Cable
42	8061108	Cable Clip
43	118056	Clutch Grip
44	118104	Knob, Reverse
45	118102	Bushing
46	118103	Rod, Reverse
47	118129	Collar
48	118128	Spring, Clutch Lever

REPAIR PARTS LIST FOR ROTICUL

Order by Part Number

Item No.	Part No.	Name of Part	Ship. Wt.		Price Each
			Lbs.	Oz.	
1	118005	Cup		6	\$.26
2	118061	Retaining Ring		6	.20
3	118011	Ball Bearing		8	2.60
4	118060	Spacer		7	.36
5	118063	Worm Shaft Assembly	3	12	5.05
6	G-A81	Key		3	.10
7	118016	Worm	3		14.20
8	118043	Retaining Ring		3	.06
9	118017	Ball Bearing		8	2.70
10	118058	Retaining Ring		6	.20
11	118019	Oil Seal		8	.40
12	118020	Needle Bearing		8	1.04
13	108076	Shims		1	.05
14	118009	Worm Drive Housing	24	8	24.60
15		1/4 x 3/4 Woodruff Key, #91		6	.08
16	118021	Worm Gear Shaft	3	6	4.20
17	118022	Worm Gear	2	4	7.60
18	118024	Gasket		6	.16
19	118023	Cover <i>118070 & 118118 seal</i>	2		3.35
20	SS-A101 <i>118063</i>	"V" Belt 34"		12	1.26
21	118025	Bushing		6	.20
22	G-A53	Oil Seal		6	1.05
23	118028	Worm Pulley	4		2.00
24		Full Lock Nut, 5/16-18 NC		3	.10
25	118006	Idler Lever	2	4	.80
26	153125	Retaining Ring		5	.15
27	118057	Chain		6	.06
28	118038	Lever Clutch Spring	2		1.00
29	S2-A20	Bushing		3	.60
30	101002	Idler Pulley Assembly	1		1.35
31	118037	Belt Stop		8	.45
31A		Hex Head Cap Screw 1/2" -20 x 3/4"		2	.10
32	118036	Belt Stop		6	.40
33	118027	Engine Pulley	2	8	1.25
34	153043	Handle Grip		8	.50
35	118044	Throttle Lever Control		8	.96
36	118031	Upper Handle Assembly	8		4.30
37	G-A108	Cable Clip		4	.10
38	118040	Throttle Cable	1		.85
39	118041	Throttle Wire		6	.28
40		Locknut 1/4-20		2	.05
41	118056	Clutch Grip		10	.50
42	118035	Lower Handle	4	4	2.45
43	118042	Depth Bar	5	8	2.20
44	S1-A45A	Spring Clip		2	.20
45	118053	Pin		6	.18
46	118029	Rear Frame Assembly	10	8	11.35
47	118004	Bracket	6	8	2.45
48	118030	Wheel and Tire Assembly	5		3.40
48A		Cap Screw 1/2" -13 x 3"		3	.20
49	R-B2	R. H. Tine Blade	1	14	1.90
50	R-B1	L. H. Tine Blade	1	14	1.90
51	118046	Outer Tine Plate Assembly	4		2.80
52	118050	Inner Tine Plate Assembly	4		4.45
53		Full Lock Nut, 7/16-20 NF		2	.06
54		Cap Screw, 7/16-20 x 1 1/4"		2	.10
	118065	1 Qt. Can Special Worm Gear Oil	4		1.25

Simplicity

REG. U.S. PAT. OFF.

DELUXE ROTICUL

REVERSING ROTARY TILLER

Article No. 990107

3 H.P.

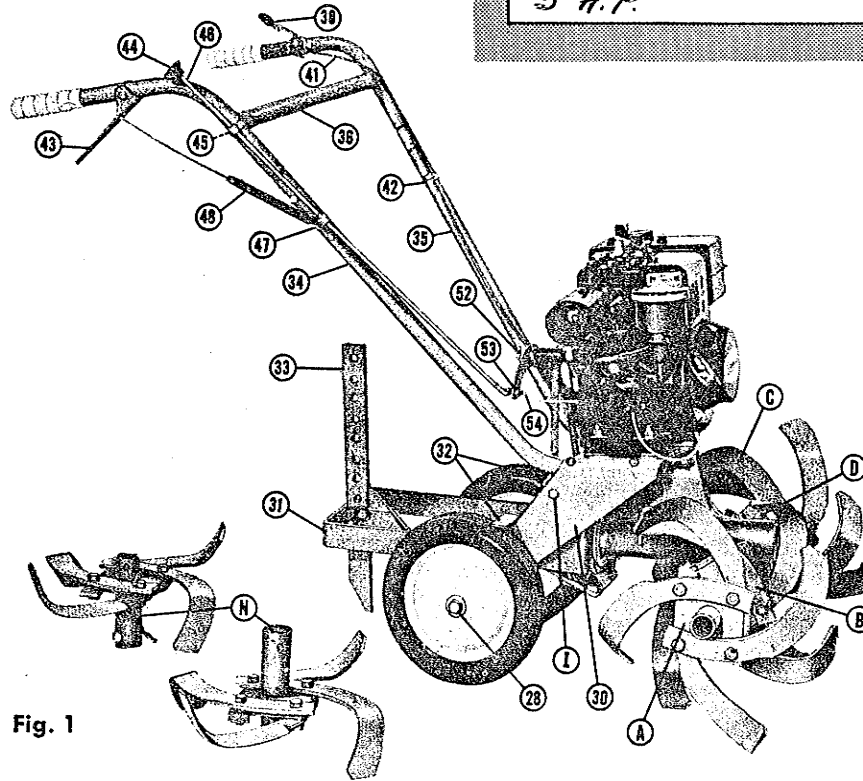


Fig. 1

PACKING LIST

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Figure 1 and figure 2 show the tiller completely assembled. Also refer to the exploded view on page 4 for proper assembly.

ASSEMBLY OF FRAME

1. Remove the four screws (I) from the engine bracket (30).
2. Insert the rear frame assembly (31) into the engine bracket and reassemble the four screws and two belt guards (59) keeping nuts to the inside of the bracket.
3. In tightening the screws be sure the lower and back edges of the belt guards (59) are flush with the back edge of the lower pulley (66), and that the belt guards clear the outside diameter of the pulley by not more than 1/16 inch. BEND IF NECESSARY TO MEET THIS MEASUREMENT. THIS ADJUSTMENT IS IMPORTANT SO THAT IN DRIVING, THE BELT NOT IN USE WILL SLIP PROPERLY ON THE LOWER PULLEY.

INSTALLING WHEELS

1. Place a washer on a wheel bolt (28), insert the bolt through one of the wheels, and tighten with one nut (H).

Leave enough clearance so the wheel will turn freely and yet will not be too loose.

2. Secure the wheel axle bolt to the frame assembly with the second nut (J). You will find two holes for the wheel axle bolt in the frame assembly. Use either hole for the handle height adjustment — upper hole provides lower handle height, low hole — higher height.
3. Install other wheel on the other side in similar manner.
4. Install mud scrapers (32) to inside of rear frame assembly as shown in Fig. 2. Position them so that there will be approximately 1/4" clearance between tire and scraper.

ASSEMBLING HANDLES

1. Position the handle supports on the under side of the lower handles (34) and (35). The lower handle bolts can be used as drift pins to align the sets of holes properly.
2. Insert these lower handles and supports into the holes provided in the engine support bracket.
3. Position the lower handle members in the engine support bracket by inserting the 5/16" bolts through the parts. Do not tighten the lock nuts on these bolts until the upper handle assembly has been assembled to the lower handles (Step #4).
4. Assemble the upper handle assembly to the lower

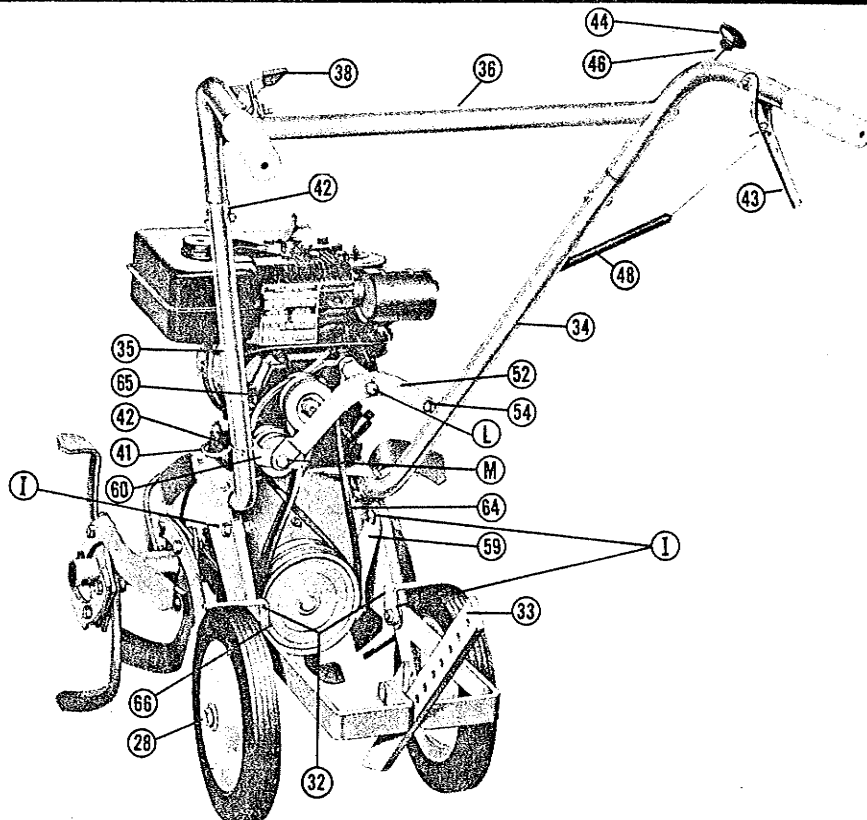


Fig. 2

handle members and fasten with the screws and nuts provided.

5. Secure the complete handle assembly to the engine support bracket by tightening the lock nuts.

INSTALLING THROTTLE CABLE

1. Uncoil the throttle cable (41), wire, and lever (38) from the engine and string under the blower housing, under the fuel tank and on top of left handle.

2. Install the clips (42) at locations shown in the photographs, Fig. 1 and Fig. 2.

3. Attach the control lever to the handle with two self-tapping screws. NOTE: Screws for throttle lever and clips for the cable are in a mailing bag.

INSTALLING CLUTCH ROD

1. Remove the tape holding the nylon bushing (45) on the right hand side of handle.

2. Insert the large eye of the spring (48) into the rear holes of the clutch grip (43) with hook end toward the inside.

3. Unscrew the reverse knob (44) from the rod (46) and insert rod through the nylon bushing and reassemble the knob.

4. Insert the eye (54) at bottom of the rod into the hole in the idler lever (52). Attach eye to idler lever with lock nut (53). NOTE: TIGHTEN THE NUT ON THE EYE ALL THE WAY AND THEN BACK OFF ONE-HALF TURN SO THAT EYE IS COMPLETELY FREE TO TURN IN THE

IDLER LEVER WITHOUT BINDING. BE SURE THAT A LOCK NUT ONLY IS USED TO TIGHTEN THE EYE. ANY WASHER AT THIS POINT MAY CAUSE BINDING.

The collar (47) is pre-set at the factory to approximate operating position. It may be necessary to adjust the collar in the following manner: If the Rotocul tries to move forward while the engine is running, move the collar up higher on the rod. If the Rotocul tries to back up while the engine is running, move the collar lower on the rod. Use the collar for proper idling adjustment to prevent belts from grabbing.

INSTALLING THE DEPTH BAR

Install the depth bar (33) in the slot of the rear frame assembly being careful to see that the point is to the front.

INSTALLING TINE ASSEMBLIES

Examine the two tine assemblies (B) and (C) with the short hubs. Hold them side by side so that the sharp edges on the top tines point forward. Install these tine assemblies on the driven shaft, making sure that the welds (K) at the hub plates (see exploded view) are on the side nearest the housing. Secure with pin (22) and spring clip (23) and push the clip all the way through so the pin is inside the loop.

Install the outer tine assemblies (A) and (D) to the inner tine assemblies (B) and (C) with pins and spring clips in similar manner, taking care to see that the sharp edges of the top tines are pointing forward.

GETTING READY FOR OPERATION

Before servicing the engine on your Rotical turn the engine over slowly with the recoil starter rope to be sure that the belts slip on all pulleys. If they do not slip properly and have a tendency to grab while the engine is being turned over, adjust the collar (47) as described under INSTALLING CLUTCH ROD.

Service engine air cleaner and crankcase as recommended in engine book. Be sure to always keep oil in air cleaner clean. Be sure you never use oil in the crankcase more than 10 hours. Remember, clean air and clean oil will give you long trouble-free operation — dirt can ruin your engine in a hurry.

OPERATION

BEFORE STARTING ENGINE BE SURE SAFETY STOP SWITCH IS PUSHED AWAY FROM SPARK PLUG.

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2. Remove the forward drive belt (64). After this belt has been removed you will be able to remove the reverse drive belt (65).

3. When replacing the reverse drive belt, place belt under the lower pulley, put one-half twist clockwise in the belt, then place belt over engine pulley and over groove in the reverse idler pulley, as shown. Belt running down from reverse idler pulley to lower pulley should be in back of (toward the rear of the Rotical) the belt running up from lower pulley to engine pulley. See exploded view. After the reverse belt has been installed place the forward drive belt over the engine pulley, under the idler pulley, and under the lower pulley. There is no twist in the forward drive belt.

4. Reset the belt retainer (60) on the idler pulley to original angular position, as shown in Fig. 2. **This adjustment is very important.** Tighten the nut so that the belt retainer is secure. Reinstall the idler lever and idler lever spring, being sure to put 1½ turns on the spring. Hook the spring under the engine pulley belt stop and under the idler lever. NOTE: This adjustment is very important as it allows the idler lever to float without pressure being exerted on either of the drive belts when idling. Reinsert the cotter pin.

5. When new belts have been installed check the adjustment on the collar as described under INSTALLING CLUTCH ROD to be sure that both belts will idle properly.

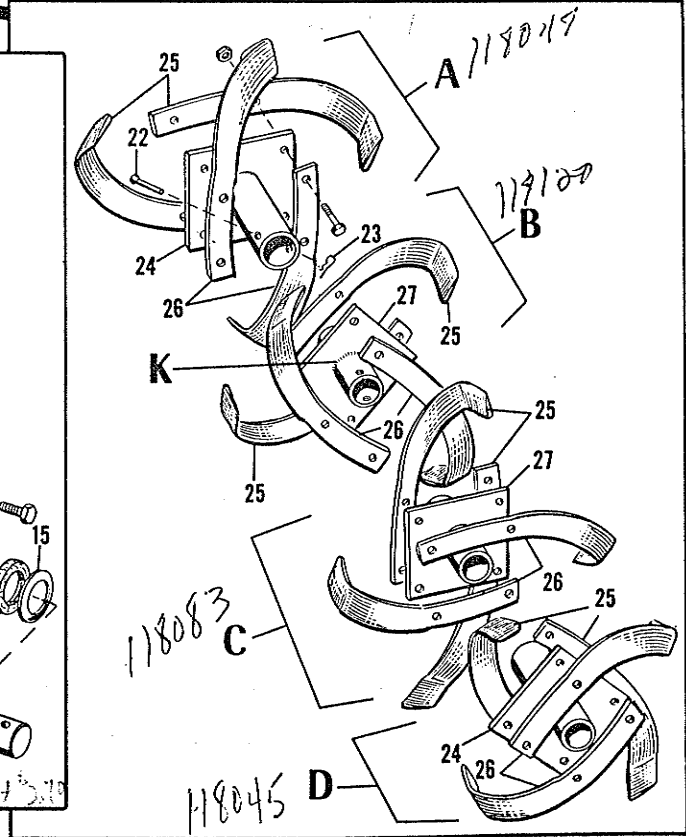
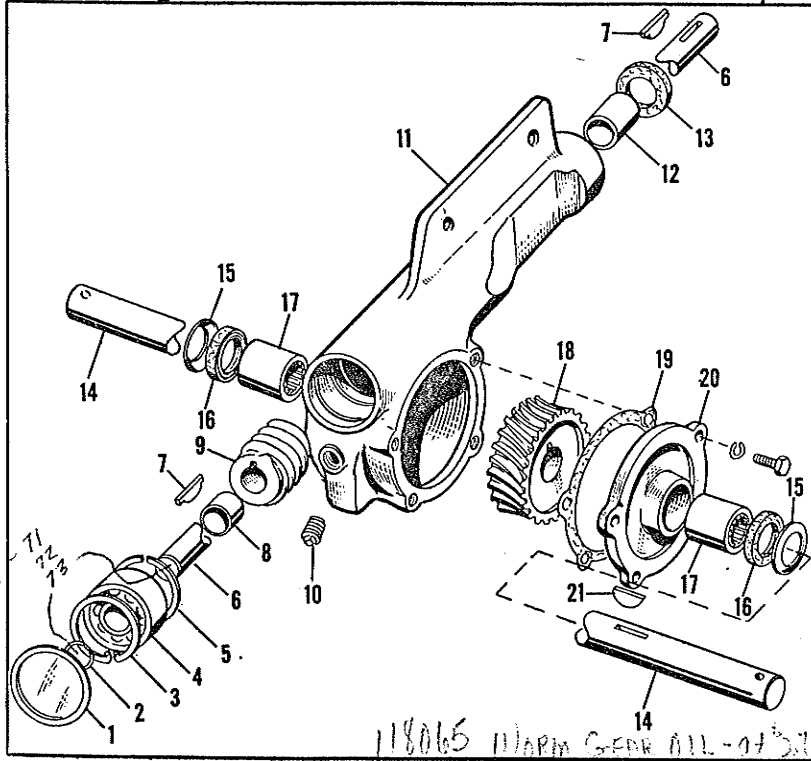
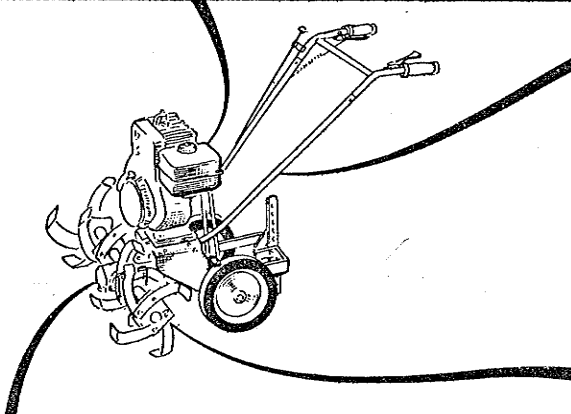
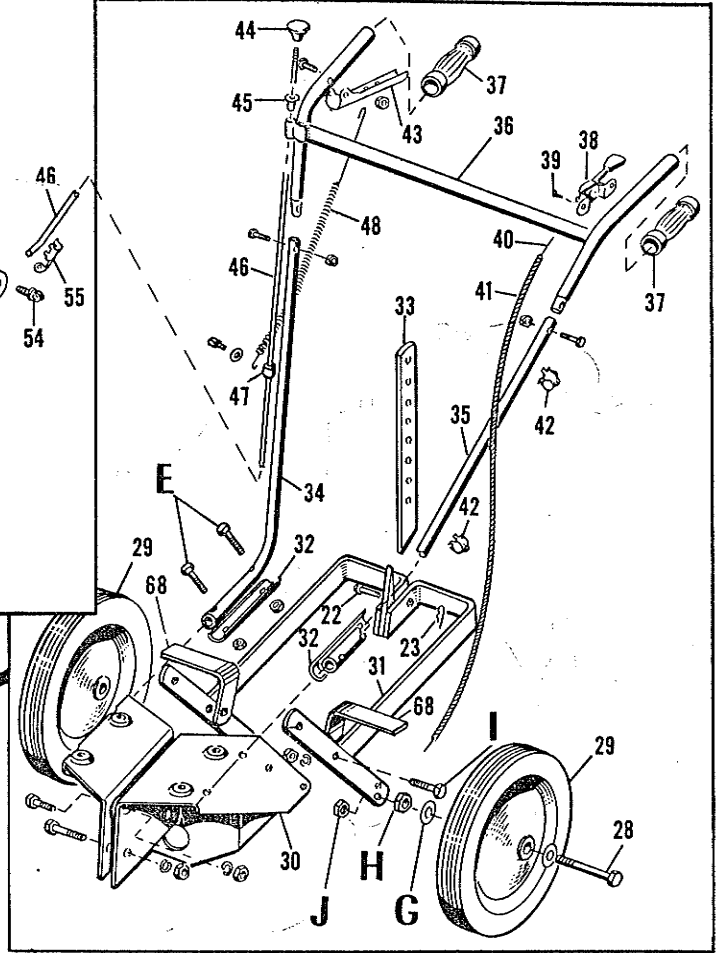
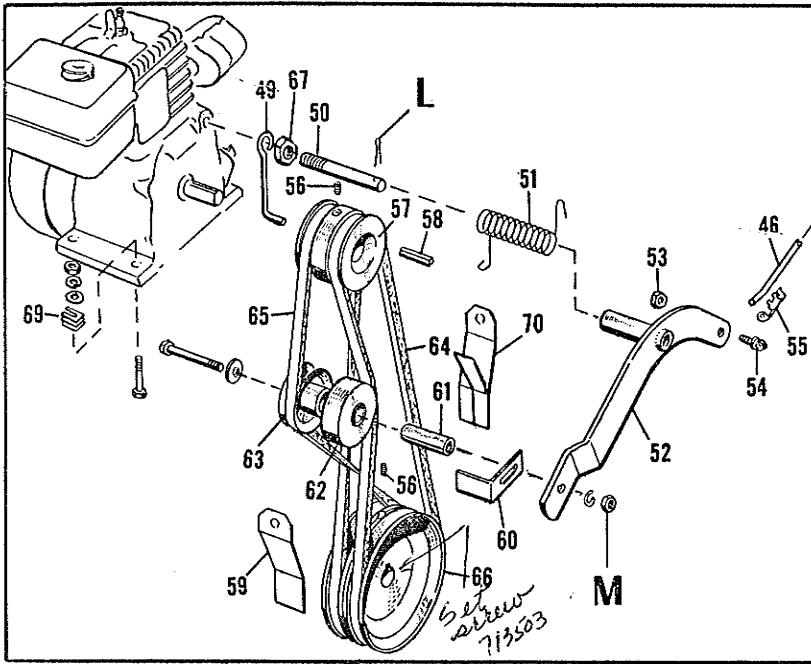
6. Reset belt guards (59) and tighten screws.

7. To compensate for belt stretch, use shims (69) to raise engine.

8. If belts grab, because of gummy belt surfaces or paint in pulley grooves, sprinkle dry dirt or sand on the belts and pulleys while operating.

TINE EXTENSION SET Article No. 990212

Fig. 1 illustrates the tine arrangement as your Rotical was shipped. It will till 20½ inches wide as standard; the extra tine set will allow tilling width of 29 inches. The tine set consists of two tine extensions (N) (Fig. 1), a left hand and right hand assembly. To install the extension tines, place long hubs of the extension tines over hubs of tines previously installed, and secure with pin and spring clip. Be sure the extension tines are so mounted that the sharp edges of the tines on top face forward.



REVERSING ROTARY TILLER

Order by Part Number

Item No.	Part No.	Name of Part	Ship. Wt.	
			Lbs.	Oz.
1	118005	Cup <i>118179</i>		6
2	118134	Ring, Retaining		3
3	118061	Ring, Retaining		6
4	118011	Bearing, Ball		8
5	118094	Ring, Snap		4
6	118130	Shaft, Worm <i>118177</i>	4	
7	725502	Key, Hi-Pro #706		6
8	118060	Spacer		7
9	118016	Worm	3	
10	726003	Plug, Pipe- $\frac{3}{8}$ " Std.		***
11	118069	Housing, Worm Drive	14	
12	118072	Bushing		8
13	118117	Seal, Oil		8
14	118021	Shaft, Worm Gear	3	6
15	118082	Washer		3
16	118118	Seal, Oil		8
17	118020	Bearing, Needle		8
18	118022	Gear, Worm	2	4
19	118024	Gasket		6
20	118070	Cover	3	6
21	725005	Key, Woodruff- $\frac{1}{4}$ "x $\frac{3}{4}$ "		***
22	118053	Pin		6
23	8161045	Clip, Spring		2
24	118046	Plate Assy., Tine Outer	4	
25	8152001	Blade, L.H. Tine	1	14
26	8152002	Blade, R.H. Tine	1	14
27	118084	Plate Assy., Tine Inner	4	
28	705037	Screw, Hex hd. cap, $\frac{1}{2}$ "-13NCx $3\frac{1}{4}$ " Long		***
29	118030	Wheel and Tire Assy.	5	
30	118076	Bracket Assy., Engine	14	8
31	118077	Frame Assy., Rear	13	
32	118119	Support, Handle		8
33	118081	Bar, Depth	5	
34	118096	Handle, R.H. Lower	4	
35	118097	Handle, L.H. Lower	4	
36	118098	Handle Assy., Upper	9	
37	153043	Grip, Handle		8
38	8061087	Control, Throttle Lever		8
39	714005	Screw, Rd. hd. Self Tapping, #10-24x $\frac{1}{2}$ " Long		***
40	118115	Wire, Throttle		8
41	118114	Cable, Throttle	1	
42	8061108	Clip, Cable		4
43	118056	Grip, Clutch		10
44	118104	Knob, Reverse		8
45	118102	Bushing		8
46	118103	Rod, Reverse	1	2
47	118129	Collar		8
48	118128	Spring, Clutch Lever	1	
49	118036	Stop, Belt		6
50	118089	*Stud, Engine		10
51	118110	Spring, Idler Lever		8
52	118086	Lever Assy., Idler	3	
53	717513	Nut, Hex. Full Lock, $\frac{1}{4}$ "-20NC		***
54	118109	Screw, Eye		8
55	118108	Clip, Rod Clevis		6
56	713503	Screw, Hex. Socket, Cup Point Set, 5/16-18N		***
57	118095	Pulley, Drive	3	4
58	8061081	Key		3
59	118111	Guard, Belt		8
60	118113	Retainer, Belt		10
61	118093	Spacer		8
62	101002	Pulley Assy., Idler	1	
63	118090	Pulley Assy., Idler Reverse	2	6
64 ³⁴	118068	"V" Belt, Forward	2	10
65 ³⁶	118116	"V" Belt, Reverse	2	
66	118112	Pulley, Driven	4	
67	717016	Nut, Hex. Jam- $\frac{1}{2}$ "-20 N.F.		***
68	118135	Scraper		8
69	118130	Shim		2
70	118140	Guard Assembly, Reverse Belt		

*** Purchase Locally
 71-719002 - washer
 72-720002 "
 73-715001 - screw

FURROW OPENER

A furrow opener shovel is available which mounts on the depth bar. You will find this shovel very handy for digging the furrows for crops such as potatoes that are planted in rows. When installing the furrow opener turn depth bar upside down.

MAINTENANCE AND LUBRICATION

Full instructions for operating the engine are included in the engine manual and should be carefully followed. This engine is equipped with an oil bath air cleaner to keep dust and dirt from entering the carburetor, and a breather tube to keep dust and dirt from entering the valve chamber, thus resulting in increased engine life. Frequently oil the nylon bushing, the eye hole in the idler lever, and the idler pulley so that it will turn freely and will not squeak. Occasionally oil the wheel axle bolts.

THE WORM GEAR DRIVE ON THE ROTICUL IS LUBRICATED WITH SPECIAL WORM GEAR OIL AVAILABLE AT THE FACTORY. DO NOT USE ORDINARY TRANSMISSION OILS. If ordinary gear oil is used, gears may fail. It is filled at the factory but should be checked before use and again after every four to five hours of operation. To add oil, the tiller should be tipped far enough backward on the handles so the housing is as near vertical as possible. Turn the tine shaft slowly while adding oil so that the oil will reach the back bearing. **Fill with oil until the oil shows at the plug when tiller is resting on tines. Do not over-fill.** Screw oil plug back on tight.

During operation the action of the worm gear drive may cause the housing to become quite warm. This is normal and no harm will be done to the gears as long as the housing is filled with Special Worm Gear Oil.

HOW TO ORDER REPAIR PARTS

The Authorized Simplicity dealer from whom you purchased your Roticul can supply you with any replacement parts you may need. For prompt service be sure to see your dealer first. He will furnish the correct parts from his stock or order them for you if necessary. However, you may mail-order directly from the factory.

To have your order filled correctly and for prompt service, please furnish the following information:

1. Year of Purchase and Mfgs. No. of your Roticul
2. Part number, description, and quantity of part. (See parts list).

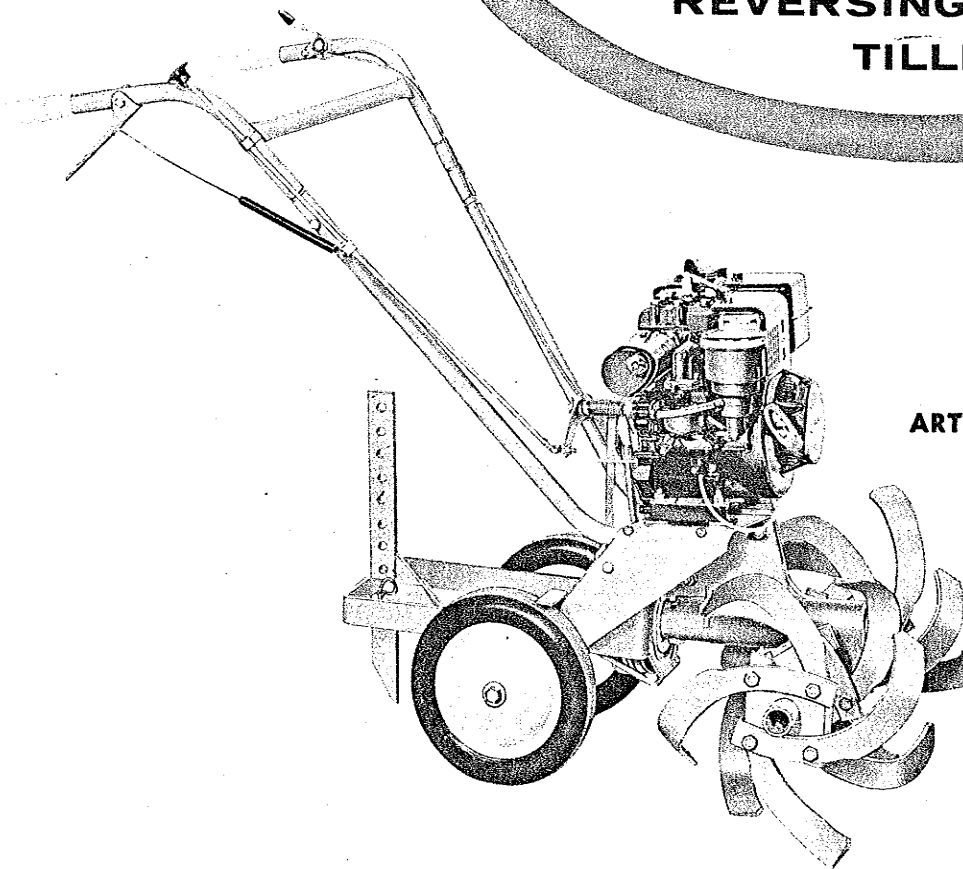
We reserve the right to change construction, specifications, prices and terms, without notice and without obligation as to Roticuls heretofore shipped.

Simplicity
REG U S PAT OFF

**INSTRUCTIONS
AND PARTS LIST**

DELUXE
Roticul

REVERSING ROTARY
TILLER



ARTICLE No. 990107

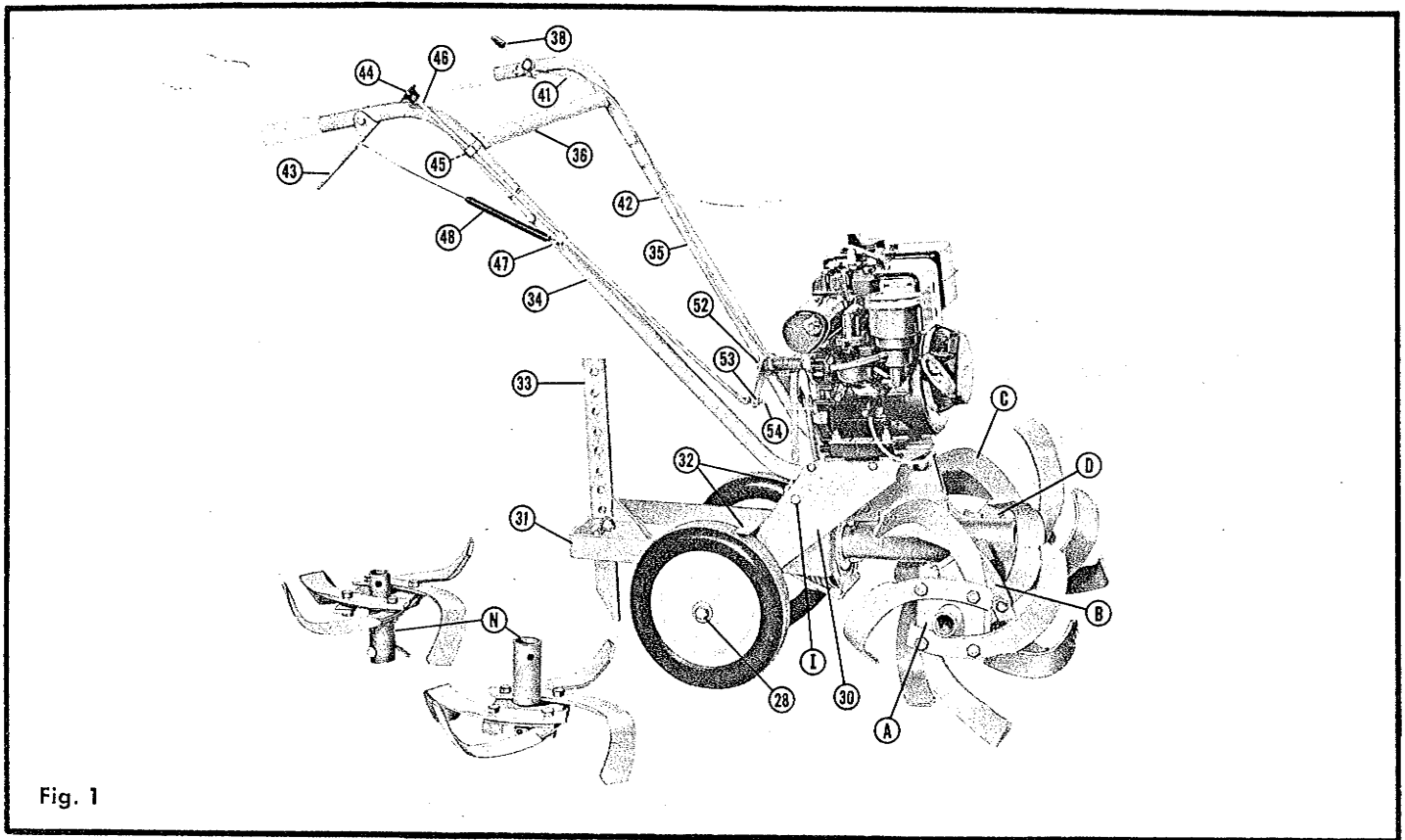


Fig. 1

SIMPLICITY DELUXE ROTICUL

PACKING LIST

The Deluxe Roticul is shipped complete in two cartons. Before beginning assembly operation remove all parts from both cartons.

The Photographs on pages 2 (Fig. 1) and 3 (Fig. 2) show the tiller completely assembled. Also refer to exploded view on page 6 for proper assembly.

ASSEMBLY OF FRAME

1. Remove the four screws (I) from the engine bracket (30).
2. Insert the rear frame assembly (31) into the engine bracket and reassemble the four screws and two belt guards (59) keeping nuts to the inside of the bracket.
3. In tightening the screws be sure the lower and back edges of the belt guards (59) are flush with the back edge of the lower pulley (66), and that the belt guards clear the outside diameter of the pulley by not more than 1/16 inch. BEND IF NECESSARY TO MEET THIS MEASUREMENT. THIS ADJUSTMENT IS IMPORTANT SO THAT IN DRIVING, THE BELT NOT IN USE WILL SLIP PROPERLY ON THE LOWER PULLEY.

INSTALLING WHEELS

1. Place a washer on a wheel bolt (28), insert the bolt through one of the wheels, and tighten with one nut (H).

Leave enough clearance so the wheel will turn freely and yet will not be too loose.

2. Secure the wheel axle bolt to the frame assembly with the second nut (J). You will find two holes for the wheel axle bolt in the frame assembly. Use either hole for the handle height adjustment — upper hole provides lower handle height, low hole — higher height.
3. Install other wheel on the other side in similar manner.
4. Install mud scrapers (32) to inside of rear frame assembly as shown in Fig. 2. Position them so that there will be approximately 1/4" clearance between tire and scraper.

ASSEMBLING HANDLES

1. Position the handle supports on the under side of the lower handles (34) and (35). The lower handle bolts can be used as drift pins to align the sets of holes properly.
2. Insert these lower handles and supports into the holes provided in the engine support bracket.
3. Position the lower handle members in the engine support bracket by inserting the 5/16" bolts through the parts. Do not tighten the lock nuts on these bolts until the upper handle assembly has been assembled to the lower handles (Step #4).
4. Assemble the upper handle assembly to the lower

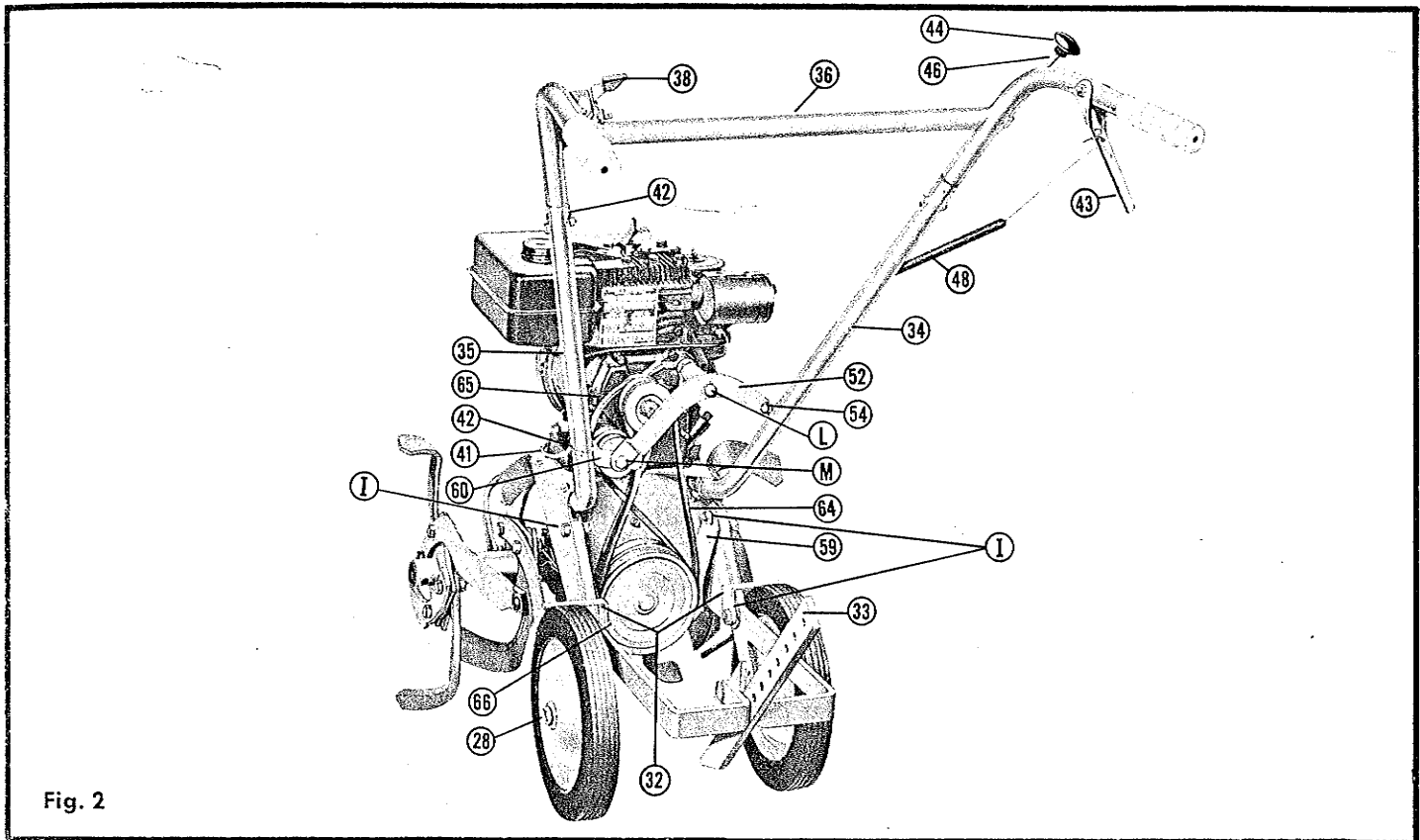


Fig. 2

handle members and fasten with the screws and nuts provided.

5. Secure the complete handle assembly to the engine support bracket by tightening the lock nuts.

INSTALLING THROTTLE CABLE

1. Uncoil the throttle cable (41), wire, and lever (38) from the engine and string under the blower housing, under the fuel tank and on top of left handle.
2. Install the clips (42) at locations shown in the photographs, Fig. 1 and Fig. 2.
3. Attach the control lever to the handle with two self-tapping screws. NOTE: Screws for throttle lever and clips for the cable are in a mailing bag.

INSTALLING CLUTCH ROD

1. Remove the tape holding the nylon bushing (45) on the right hand side of handle.
2. Insert the large eye of the spring (48) into the rear holes of the clutch grip (43) with hook end toward the inside.
3. Unscrew the reverse knob (44) from the rod (46) and insert rod through the nylon bushing and reassemble the knob.
4. Insert the eye (54) at bottom of the rod into the hole in the idler lever (52). Attach eye to idler lever with lock nut (53). NOTE: TIGHTEN THE NUT ON THE EYE ALL THE WAY AND THEN BACK OFF ONE-HALF TURN SO THAT EYE IS COMPLETELY FREE TO TURN IN THE

IDLER LEVER WITHOUT BINDING. BE SURE THAT A LOCK NUT ONLY IS USED TO TIGHTEN THE EYE. ANY WASHER AT THIS POINT MAY CAUSE BINDING.

The collar (47) is pre-set at the factory to approximate operating position. It may be necessary to adjust the collar in the following manner: If the Roticut tries to move forward while the engine is running, move the collar up higher on the rod. If the Roticut tries to back up while the engine is running, move the collar lower on the rod. Use the collar for proper idling adjustment to prevent belts from grabbing.

INSTALLING THE DEPTH BAR

Install the depth bar (33) in the slot of the rear frame assembly being careful to see that the point is to the front.

INSTALLING TINE ASSEMBLIES

Examine the two tine assemblies (B) and (C) with the short hubs. Hold them side by side so that the sharp edges on the top tines point forward. Install these tine assemblies on the driven shaft, making sure that the welds (K) at the hub plates (see exploded view) are on the side nearest the housing. Secure with pin (22) and spring clip (23) and push the clip all the way through so the pin is inside the loop.

Install the outer tine assemblies (A) and (D) to the inner tine assemblies (B) and (C) with pins and spring clips in similar manner, taking care to see that the sharp edges of the top tines are pointing forward.

GETTING READY FOR OPERATION

Before servicing the engine on your Roticul turn the engine over slowly with the recoil starter rope to be sure that the belts slip on all pulleys. If they do not slip properly and have a tendency to grab while the engine is being turned over, adjust the collar (47) as described under INSTALLING CLUTCH ROD.

Service engine air cleaner and crankcase as recommended in engine book. Be sure to always keep oil in air cleaner clean. Be sure you never use oil in the crankcase more than 10 hours. Remember, clean air and clean oil will give you long trouble-free operation — dirt can ruin your engine in a hurry.

OPERATION

BEFORE STARTING ENGINE BE SURE SAFETY STOP SWITCH IS PUSHED AWAY FROM SPARK PLUG.

The throttle lever (38) controls the speed of the tiller. The clutch lever (43) operates the tines for forward movement. To back up, hold grip and push on knob (44) with thumb. This eliminates pulling the tiller back by hand.

We suggest that for initial tilling set the depth bar (33) in the third hole from the top. This setting is for average soil and may vary depending upon the particular type of soil in your garden. Pushing down on the handles will cause the tines to dig deeper. After the tines have penetrated the soil thoroughly, lift up slightly on the handles to allow the tiller to move forward. In most soils the tiller works easier at about 1/2 to 2/3 throttle. If the soil is extremely hard and dry you may find it desirable to cross-till to obtain the depth you want. On the first pass, till across the plot, and on the second pass, till in the direction in which rows will run.

Do not attempt to till the soil when it is very wet as this may cause lumps which are difficult to work up.

The purpose of the depth bar is two-fold:

1. Control the cutting depth of the tines.
2. Provide drag or hold-back, allowing tines to "bite into" the ground.

This is especially important when tilling sod or hard soil. The depth bar should be set so that when the tiller is in operation the greater portion of the tiller weight is not resting on the tiller wheels. For cultivating in loose soil you may not need the depth bar. When depth bar is removed, depth of cultivation is determined by pressure applied to tiller handles.

BELT INFORMATION

The belts on your Roticul are special belts designed specifically for their application on this machine. Both are of special construction and are long wearing belts and when properly adjusted will give many hours of use. However, when it does become necessary to re-

place them, use genuine Simplicity belts and follow the instructions below. Do not use fractional H.P. belts.

1. To remove the belts, remove the cotter pin (L) holding the idler lever on the engine stud. This will allow the idler lever to move out. Loosen the nut (M) holding the belt retainer (60) on the idler pulley. Loosen the top screws on both sides of the engine bracket which hold the belt guards (59) on the lower pulleys so that the belt guards can be moved outward which will facilitate removing the belts from around the lower pulleys.

2. Remove the forward drive belt (64). After this belt has been removed you will be able to remove the reverse drive belt (65).

3. When replacing the reverse drive belt, place belt under the lower pulley, put one-half twist clockwise in the belt, then place belt over engine pulley and over groove in the reverse idler pulley, as shown. Belt running down from reverse idler pulley to lower pulley should be in back of (toward the rear of the Roticul) the belt running up from lower pulley to engine pulley. See exploded view. After the reverse belt has been installed place the forward drive belt over the engine pulley, under the idler pulley, and under the lower pulley. There is no twist in the forward drive belt.

4. Reset the belt retainer (60) on the idler pulley to original angular position, as shown in Fig. 2. **This adjustment is very important.** Tighten the nut so that the belt retainer is secure. Reinstall the idler lever and idler lever spring, being sure to put 1½ turns on the spring. Hook the spring under the engine pulley belt stop and under the idler lever. NOTE: This adjustment is very important as it allows the idler lever to float without pressure being exerted on either of the drive belts when idling. Reinsert the cotter pin.

5. When new belts have been installed check the adjustment on the collar as described under INSTALLING CLUTCH ROD to be sure that both belts will idle properly.

6. Reset belt guards (59) and tighten screws.

7. To compensate for belt stretch, use shims (69) to raise engine.

8. If belts grab, because of gummy belt surfaces or paint in pulley grooves, sprinkle dry dirt or sand on the belts and pulleys while operating.

TINE EXTENSION SET

Fig. 1 illustrates the tine arrangement as your Roticul was shipped. It will till 20½ inches wide as standard; the extra tine set will allow tilling width of 29 inches. The tine set consists of two tine extensions (N) (Fig. 1), a left hand and right hand assembly. To install the extension tines, place long hubs of the extension tines over hubs of tines previously installed, and secure with pin and spring clip. Be sure the extension tines are

so mounted that the sharp edges of the tines on top face forward.

TILLING WIDTH ADJUSTMENTS

The tilling width may be set to any of five positions. Figs. 3, 4, 5, 6, and 7 on page 5 show settings of 8½ inches, 12 inches, 16 inches, 20½ inches, and 29 inches. These settings are obtained by either adding or removing tines from the tine shaft or changing the positions of the tines on the plates as shown. When tilling at the 8½" width the cut will be more even if the two wheels are placed inside of the frame. Loosen the nuts, remove the wheel assemblies, and place them on the inside of the frame and tighten the nuts. The two wheels should always run on tilled soil.

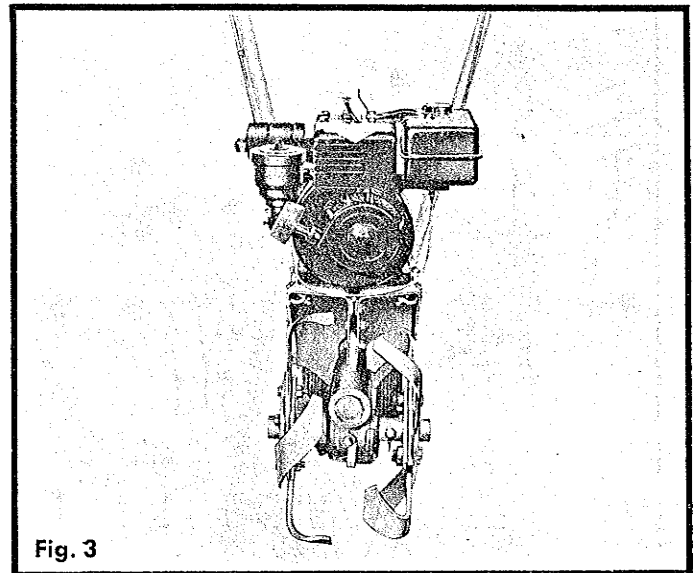


Fig. 3

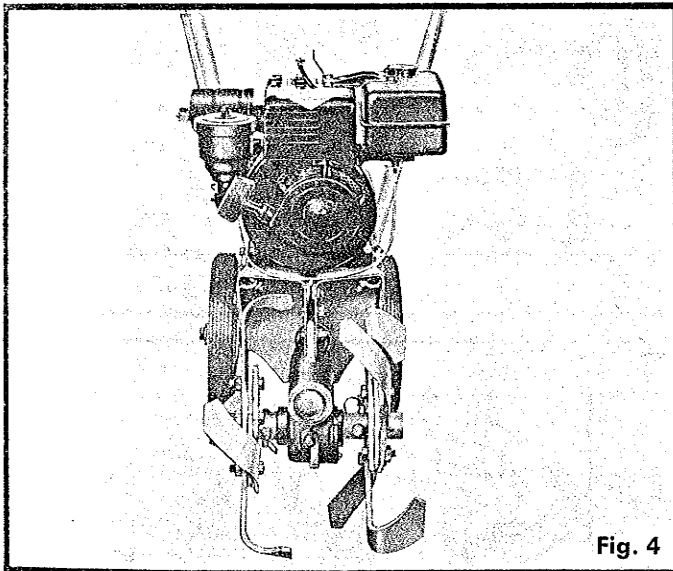


Fig. 4

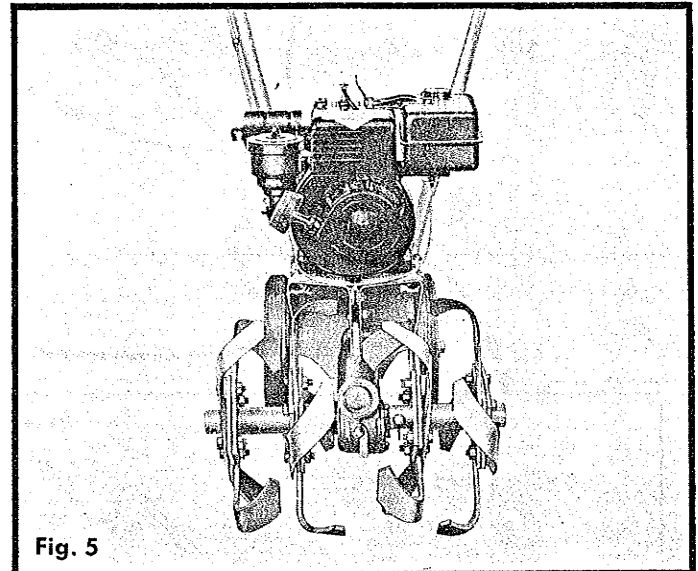


Fig. 5

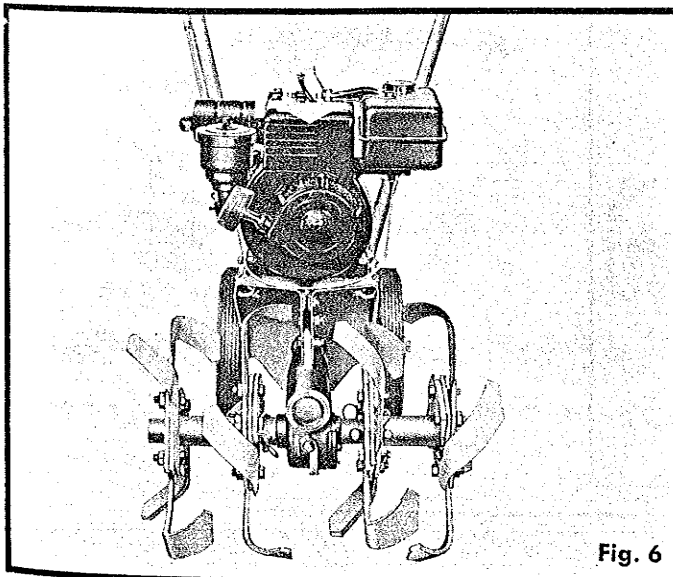


Fig. 6

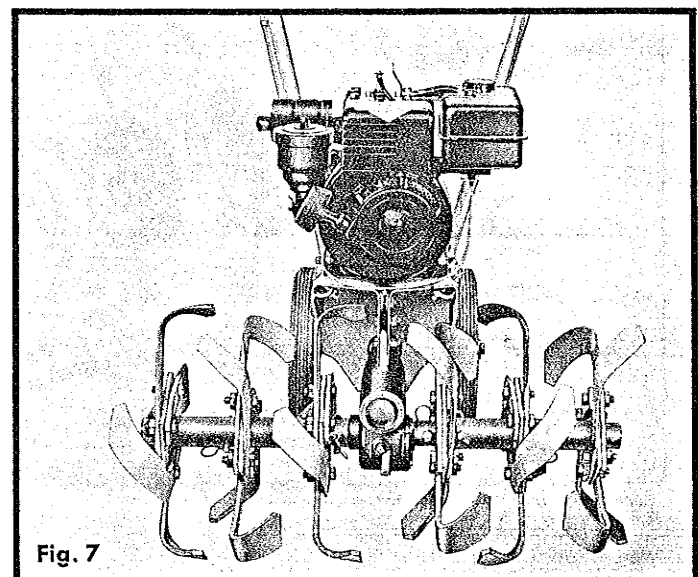


Fig. 7

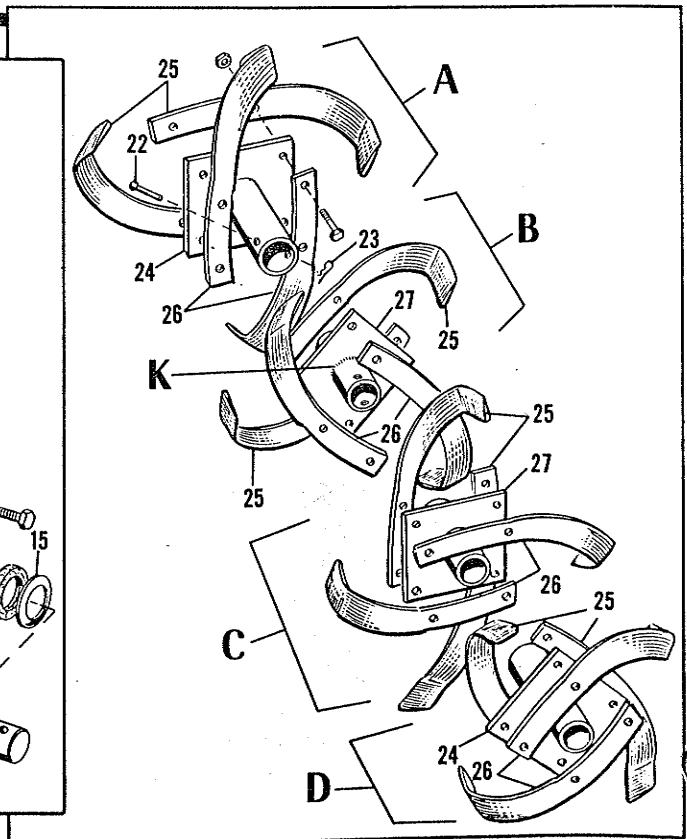
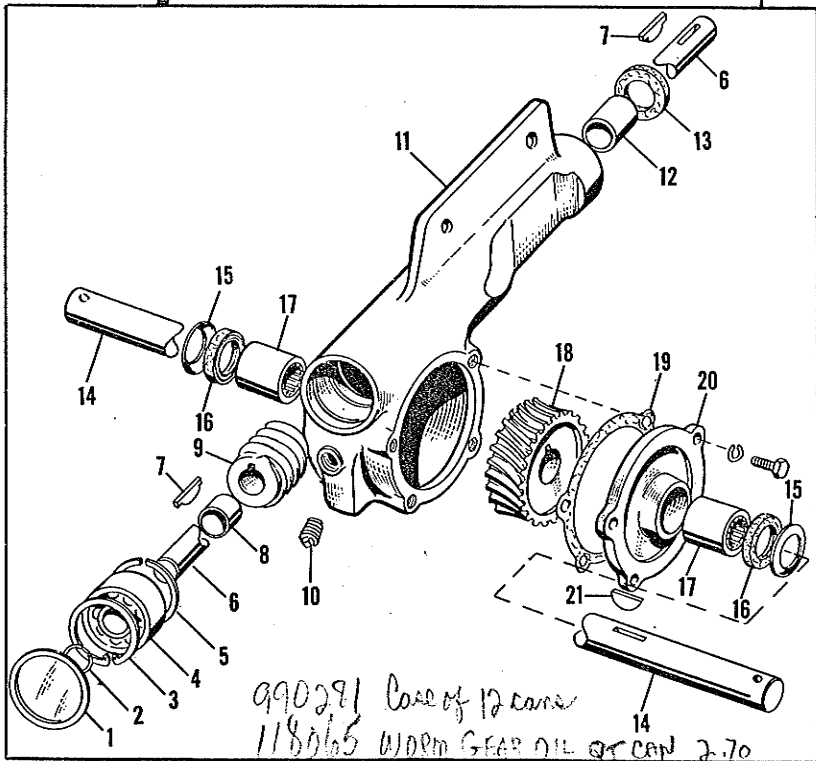
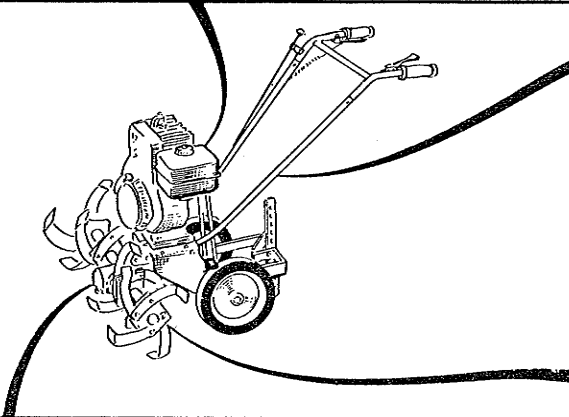
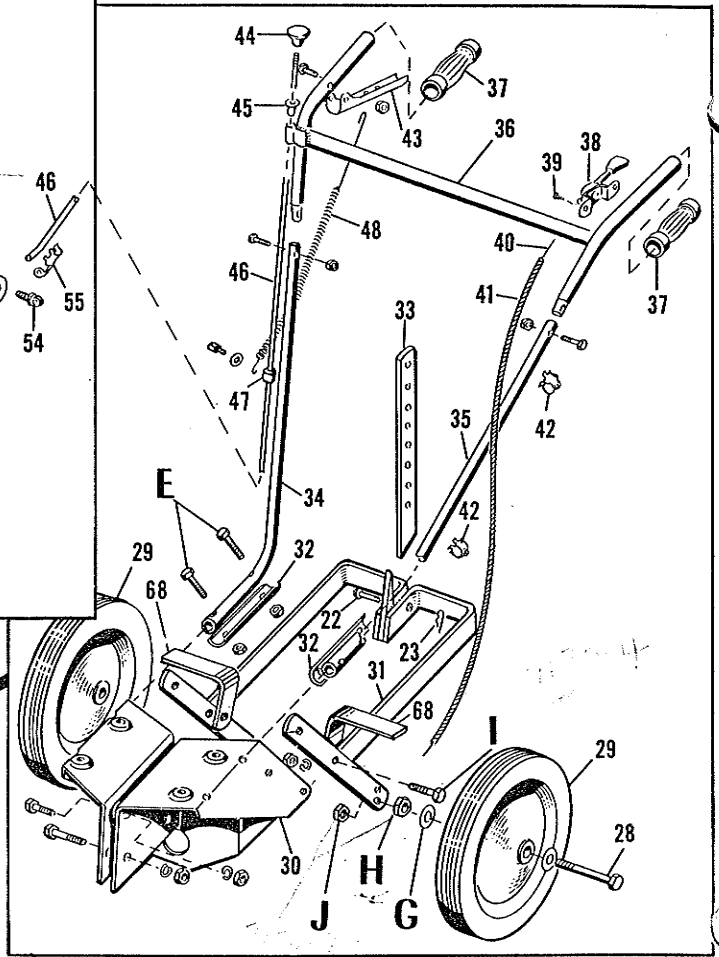
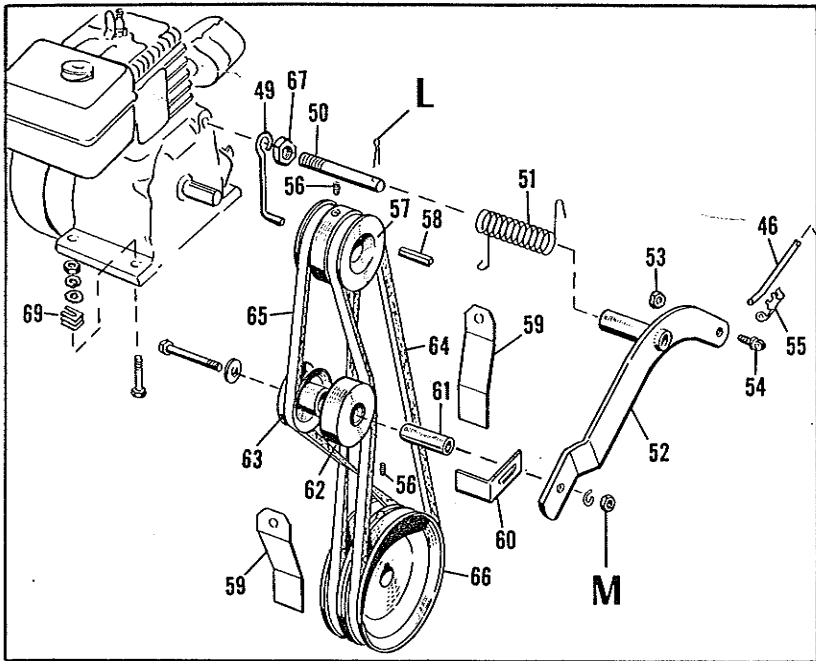


Fig. 8

REVERSING ROTARY TILLER

Order by Part Number

Item No.	Part No.	Name of Part	Ship. Wt.	
			Lbs.	Oz.
1	118005	Cup		6
2	118134	Ring, Retaining		3
3	118061	Ring, Retaining		6
4	118011	Bearing, Ball		8
5	118094	Ring, Snap		4
6	118133	Shaft, Worm	4	
7	725502	Key, Hi-Pro #706		6
8	118060	Spacer		7
9	118016	Worm	3	
10	726003	Plug, Pipe-3/8" Std.		***
11	118069	Housing, Worm Drive	14	
12	118072	Bushing		8
13	118117	Seal, Oil		8
14	118021	Shaft, Worm Gear	3	6
15	118082	Washer		3
16	118118	Seal, Oil		8
17	118020	Bearing, Needle		8
18	118022	Gear, Worm	2	4
19	118024	Gasket		6
20	118070	Cover	3	6
21	725005	Key, Woodruff-1/4"x3/4"		***
22	118053	Pin		6
23	S1-A45A	Clip, Spring		2
24	118046	Plate Assy., Tine Outer	4	
25	R-B1	Blade, L.H. Tine	1	14
26	R-B2	Blade, R.H. Tine	1	14
27	118084	Plate Assy., Tine Inner	4	
28	705037	Screw, Hex hd. cap, 1/2"-13NCx3/4" Long		***
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34	118096	Handle, R.H. Lower	4	
35	118097	Handle, L.H. Lower	4	
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37	153043	Grip, Handle		8
38	G-A87	Control, Throttle Lever		8
39	714005	Screw, Rd. hd. Self Tapping, #10-24x1/2" Long		***
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52	118086	Lever Assy., Idler	3	
53	717513	Nut, Hex. Full Lock, 1/4"-20NC		***
54	118109	Screw, Eye		8
55	118108	Clip, Rod Clevis		6
56	713503	Screw, Hex. Socket, Cup Point Set, 5/16-18N		***
57	118095	Pulley, Drive	3	4
58	G-A81	Key		3
59	118111	Guard, Belt		8
60	118113	Retainer, Belt		10
61	118093	Spacer		8
62	101002	Pulley Assy., Idler	1	
63	118090	Pulley Assy., Idler Reverse	2	6
64	118068	"V" Belt, Forward	2	10
65	118116	"V" Belt, Reverse	2	
66	118112	Pulley, Driven	4	
67	717016	Nut, Hex. Jam-1/2"-20 N.F.		***
68	118135	Scraper		8
69	118130	Shim		2

118132 wheel bushing

*TINE ASSY
L. INNER 118083
R. INNER 118120
L. OUTER 118045
R. OUTER 118048*

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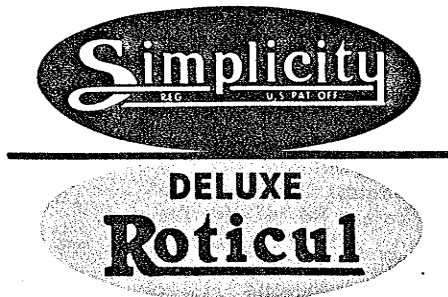
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HOW TO ORDER REPAIR PARTS FOR



The Authorized Simplicity dealer from whom you purchased your Roticul can supply you with any replacement parts you may need. For prompt service be sure to see your dealer first. He will furnish the correct parts from his stock or order them for you if necessary. However, you may mail-order directly from the factory.

To have your order filled correctly and for prompt service, please furnish the following information:

1. Year of Purchase and Mfgs. No. of your Roticul
2. Part number, description, and quantity of part. (See parts list).

We reserve the right to change construction, specifications, prices and terms, without notice and without obligation as to Roticuls heretofore shipped.