MODELS T-2-3 ROTOTILLER

Trade Mark Reg.

PARTS MANUAL

AND

GENERAL INSTRUCTIONS

FOR

1954 MODEL T (Single Speed Model)
1954 MODEL 2 (#14249 to 18280)
1954 MODEL 3 (#508B to 1410)
1955-56 Model T (Two Speed Model)
1955-56 Model 2 (#18281 Onwards)
1955-56 Model 3 (#1411 Onwards)
1957 Models T-2-3

ROTOTILLER, INC.
TROY, N. Y.
U. S. A.

Founder of Rotary Soil-Conditioning in the U. S. A.
Since 1930

A NOTE TO YOU — Mr. Rototiller Owner

In buying a Rototiller, you have chosen wisely. Into it has gone 25 years of thought, research, and improvement both at the factory and under actual working conditions. Thousands of enthusiastic users in every part of the U. S. A., and in many other countries of the world, are pleased with the results obtained with their Rototiller equipment, and have therefore helped us in the manufacture of better machines for more people at smaller cost.

Your Rototiller is an exceptionally well built machine. Throughout its construction only the most desirable material is used and workmanship is of the highest standard. Your machine has been carefully assembled, thoroughly tested and was in perfect **working condition** when it left the factory.

The efficiency of your Rototiller, as well as its economy in operation, depends largely upon the care it receives during the first days of service. We are confident that with systematic attention to lubrication, proper mechanical adjustments and reasonable care, your machine will give you years of the superior and economical performance for which it was designed.

YOUR

ROTOTILLER

Trade Mark Reg.

IS

MODEL .....

MACHINE NUMBER .....

MAKE OF MOTOR .....

MOTOR NUMBER .....

You will always have the machine number and motor serial number handy if you write them here.

For best performance have your Rototiller serviced by an Authorized Rototiller Dealer.

ORDERING PARTS

PRICES, TERMS AND CONDITIONS

When ordering service parts follow the instructions listed below. By doing so, you will be assured of receiving the correct part in the shortest possible time.

1. Give the machine model and serial number.
2. Write the complete part number as well as the description of the part.
3. Whenever the term "left" and "right" is used herein, it should be understood to mean from a position immediately behind the machine in direction of travel.
4. Whenever possible send your order to the nearest Authorized Rototiller Dealer.
5. Give detailed shipping instructions, that is, Railroad Station, County, etc. and whether shipment is to go by Parcel Post, Express, Truck or Railroad Freight.

DISCOUNTS

The Company allows no discount excepting to bona fide Rototiller, Inc. dealers who are properly equipped to conduct their business successfully and serve the best interests of Rototiller owners.

TERMS

Orders to the factory should be accompanied by a remittance to cover the cost of the goods ordered as well as the cost of Parcel Post charges. If no remittance accompanies an order, shipment will be made C. O. D. Orders will receive prompt attention and whenever possible we endeavor to make shipments on the day the order is received.

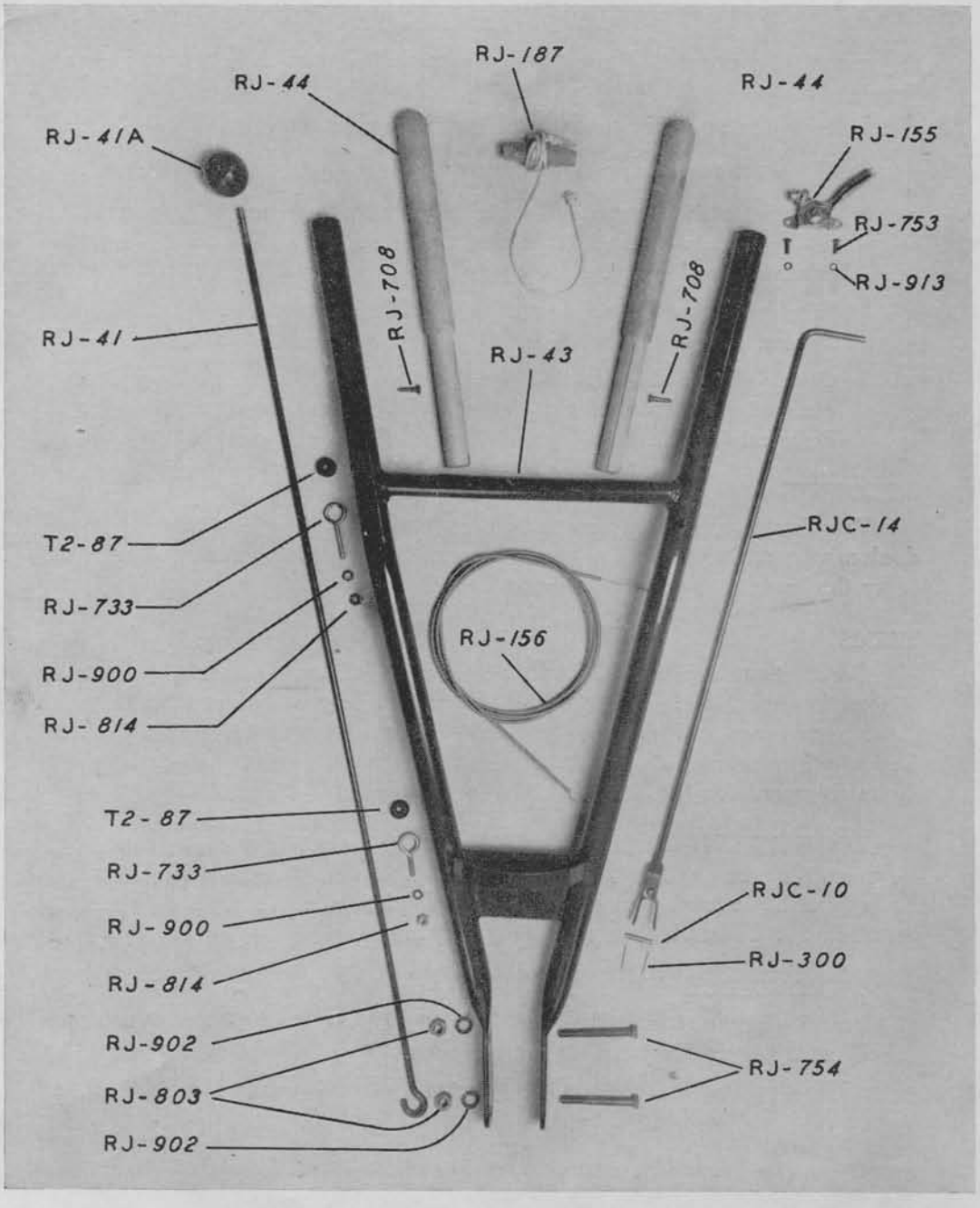
WHEN RETURNING GOODS to the factory for any reason, charges must be prepaid or they will not be accepted from the railroad or express Company. They must be tagged with your name and address, so that we may identify them, and accompanied by a letter of instructions.

CORRESPONDENCE

You can help us to expedite your shipment by having your correspondence on different subjects written on separate sheets, dated and signed and with your address on each sheet, so that each may be sent immediately to the department to which it belongs, thereby making it unnecessary for one letter to go the rounds of the several departments. If this practice is followed it will greatly help us in making shipments on the day that the order is received.

ROTOTILLER, INC.
Troy, N. Y.
U. S. A.

HANDLE BAR AND CONTROL ASSEMBLY



HANDLE BAR AND CONTROL ASSEMBLY

Part Number	NAME	Number Required
RJ-41	Clutch Rod	1
RJ-41A	Clutch Rod Grip	1
RJ-43	Handle Bars	1
RJ-44	Handle Bar Grip	2
RJC-10	Eccentric Shaft Pin	1
RJC-14	Control Rod Assembly	1
T2-87	Rubber Grommets (Model 2 and 3 only)	3
RJ-155	Accelerator Lever	1
RJ-156	Accelerator Cable	1
RJ-187	Starting Rope	1
RJ-300	1/16 x 1 Cotter Pin	2
RJ-708	#12 x 1 Flat Head Wood Screws	2
RJ-733	¼—20 x 1½ Eye Bolt	2
RJ-753	#10—32 x ½ Round Head Screw	2
RJ-754	⅜—16 x 3¼ Hexagon Head Bolt	2
RJ-803	⅜—16 Hexagon Nut	2
RJ-814	¼—20 Square Nut	2
RJ-900	¼—Lock Washer	2
RJ-902	⅜—Lock Washer	2
RJ-913	#10 Lock Washer	2

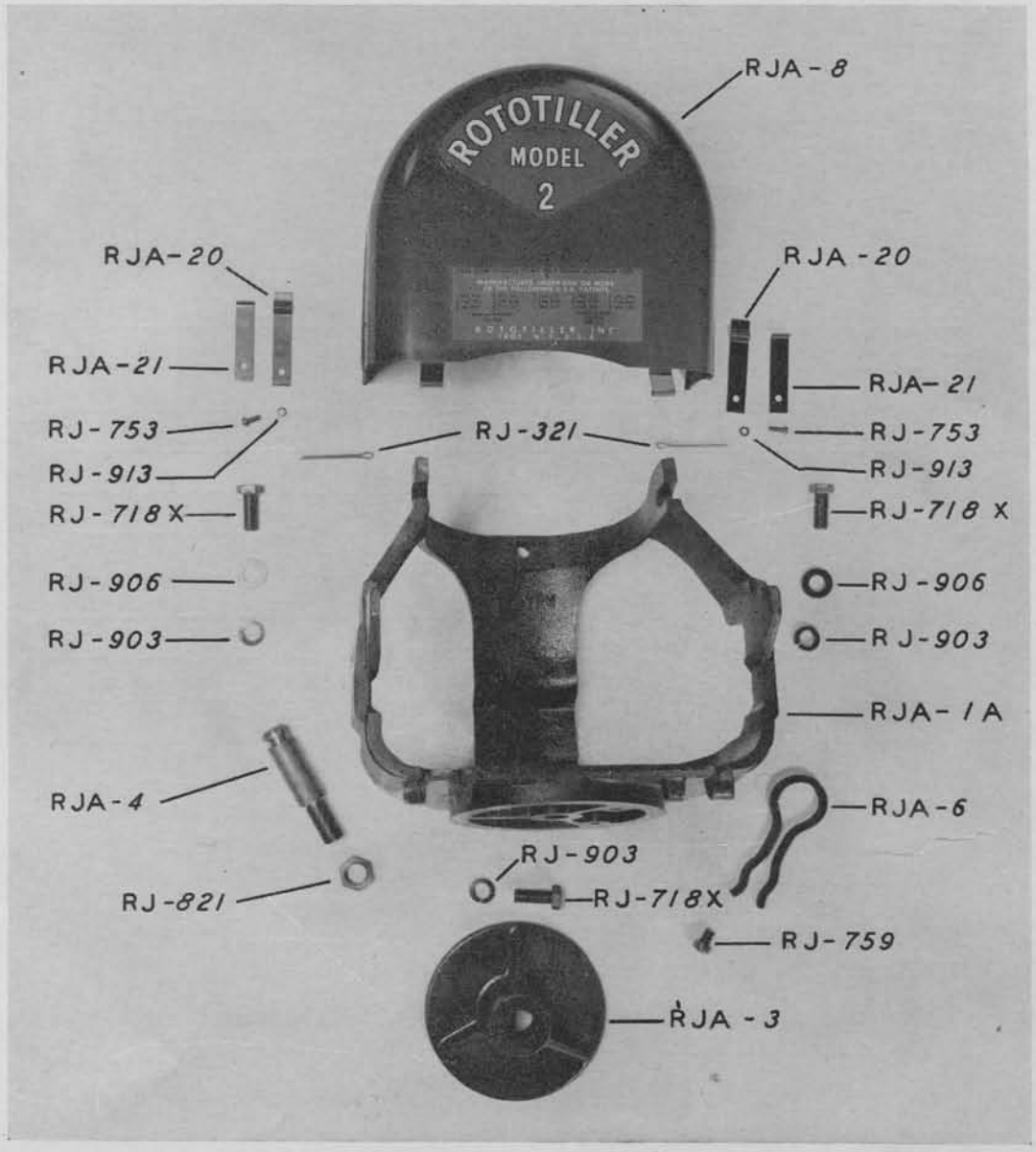
Handle bars (RJ-43) are adjustable up or down or sidewise. Vertical adjustment is made by position of bolts 754 in holes at the bottom of the handle bar and on base block (RJ-4). Six different vertical positions are possible. Sidewise adjustment is made by loosening clamp RJ-9A (or T2-9A on Model 2 and 3) on base block and swinging either to right or left.

To start Rototiller forward under its power, push down on clutch rod RJ-41 — to stop, pull back.

To engage wheels, turn handle RJC-14 all the way down (do not force). When teeth on clutch and gears are in proper alignment, engagement is easy.

Motor speed is regulated with accelerator lever 155.

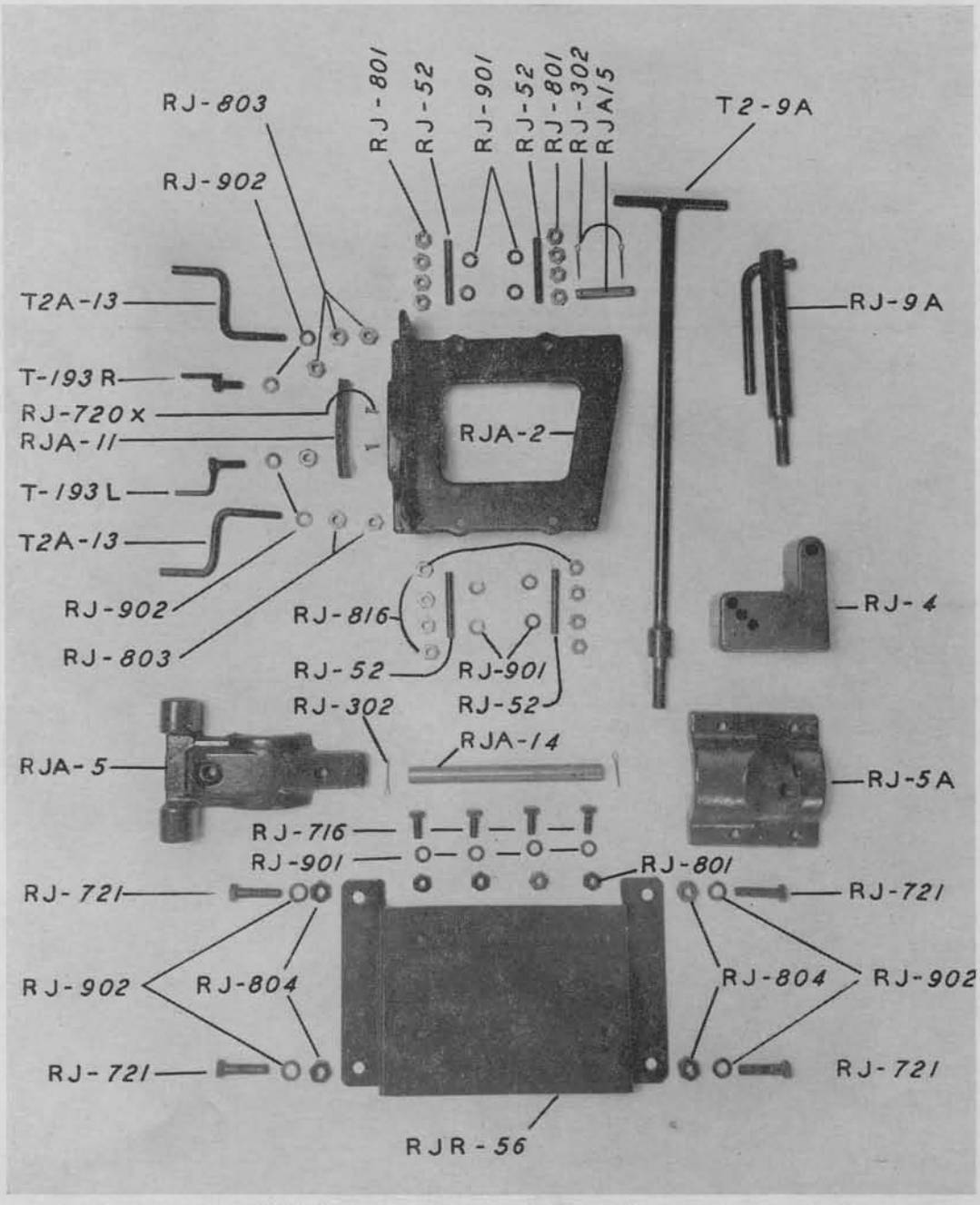
LIGHTNING CHANGE FRONT ASSEMBLY



LIGHTNING CHANGE FRONT ASSEMBLY

Part Number	NAME	Number Required
RJA-1A	Attachment Bracket	1
RJA-3	Plate	1
RJA-4	Bracket Pin	1
RJA-6	Retainer Clip	1
RJA-8	Pulley Guard (Model 2 only)	1
RJA-8A	Pulley Guard (Model 3)	1
RJA-20	Spring #1	2
RJA-21	Spring #2	2
RJ-321	1/8 x 2 Cotter Pin	2
RJ-718X	1/2—13 x 1 1/4 Hexagon Head Screw	3
RJ-753	#10—32 x 1/2 Round Head Screw	2
RJ-759	3/8—16 x 1/2 Fillister Head Screw	1
RJ-821	3/4—16 Hex Jam Nut	1
RJ-903	1/2" Lock Washer	3
RJ-906	1/2" Flat Washer	1
RJ-913	#10 Lock Washer	2

MOTOR MOUNT AND HANDLE BAR BASES

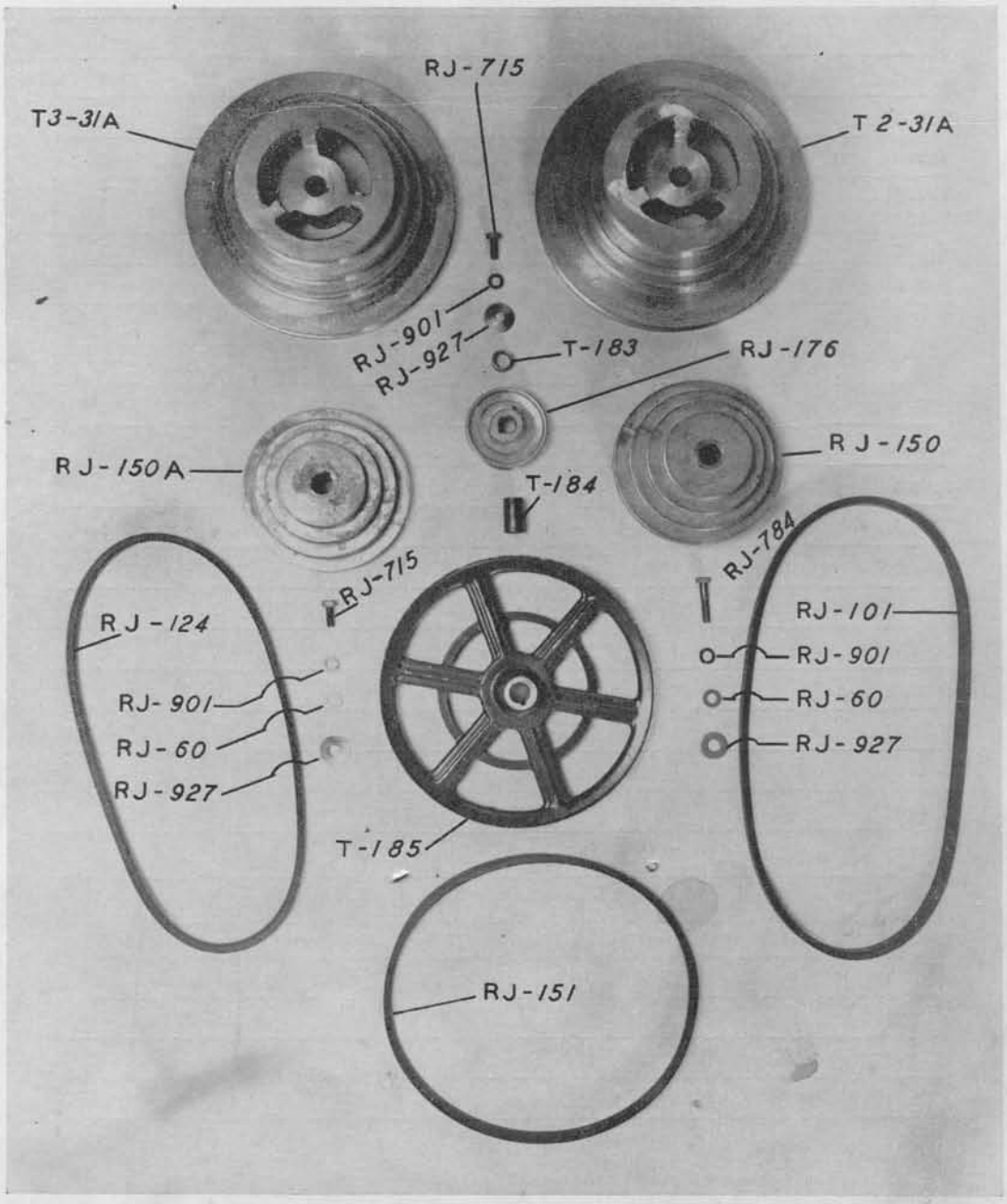


Leather piece RJA-11 is a brake used to quickly check speed of power pulley and keep machine from creeping forward when clutch is disengaged. This part will wear out and must be renewed from time to time.

MOTOR MOUNT AND HANDLE BAR BASES

Part Number	NAME	Number Required
RJA-2	Motor Base	1
RJA-5	Bracket Cap	1
RJA-11	Brake Shoe	1
T2A-13	Belt Pin (Model 2 and 3)	2
T-193	Belt Pin, Right (Model T Single	1
T-193	Belt Pin, Left Speed only)	1
T-193A	Belt Pin (Model T—two-speed)	1
RJA-14	Motor Base Pin	1
RJR-56	Motor Base Plate (Model 3 only)	1
RJA-15	Swivel Pin	1
RJ-4	Handle Bar Bracket	1
RJ-5A	Handle Bar Pivot	1
RJ-9A	Clamp Assembly (Obsolete, Use T2-9A)	
T2-9A	Clamp Assembly	1
RJ-52	Motor Stud	4
RJ-302	3/32 x 1 Cotter Pin	4
RJ-720X	1/8 x 3/4 Tinners Rivet	2
RJ-801	5/16—18 Hexagon Nut	8
RJ-803	3/8—16 Hexagon Nut	4
RJ-816	5/16—18 Hexagon Jam Nut	8
RJ-901	5/16 Lock Washer	8
RJ-902	3/8 Lock Washer	2
	FOR MODEL #3 MOTOR BASE ASSEMBLY	
RJ-716	Hex Head Screw—5/16—18 x 1	4
RJ-721	Hex Head Screw—3/8—24 x 1 1/2	4
RJ-801	5/16—18 Hexagon Nut	4
RJ-804	3/8—24 Hex Head Nut	4
RJ-901	5/16 Lock Washer	4
RJ-902	3/8 Lock Washer	4

BELTS AND PULLEYS



BELTS AND PULLEYS

Part Number	NAME	Number Required
T2-31A	Drive Pulley (Model 2)	1
T3-31A	Drive Pulley (Model 3)	1
*RJ-150	Cone Pulley (Model 2)	1
*RJ-150A	Cone Pulley (Model 3, ¾" bore)	1
*150-B	Cone Pulley (Model 3—¾ bore) (Used on all Model 3's after 2477)	1
RJ-101	"V" Belt (2370) (Model T-2-3)	1
RJ-124	"V" Belt (2410) (Model 3)	1
137	"V" Belt (34") (Used on all Model 3's after 2477)	1
138	"V" Belt (38") (Used on all Model 3's after 2477)	1
RJ-151	"V" Belt (2333) (Model 2)	1
RJ-176	Engine Pulley (Model T—Single Speed Only)	1
T-183	Spacer (Model T)	1
T-184	Spacer (Model T)	1
T-185	Drive Pulley (Model T—Single Speed Only)	1
T-197	Pulley Shield (All Model T's)	1
T-198	Engine Pulley (Model T—2 Speed)	1
T-199	Drive Pulley (Model T—2 Speed)	1
RJ-30	Spacer (Use on Model T—2 Speed)	1
RJ-715	5/16—18 x ¾ Hexagon Head Screw (Model T and Model 3)	1
RJ-784	5/16—18 x 1¾ Hexagon Head Screw (Model 2 only)	1
RJ-718X	Hex Head Screw—½—13 x 1¼	1
RJ-60	#2 Shim	2
RJ-901	5/16 Lock Washer	1
RJ-903	½" Lock Washer	1
RJ-927	5/16 Plain Washer, Standard	1

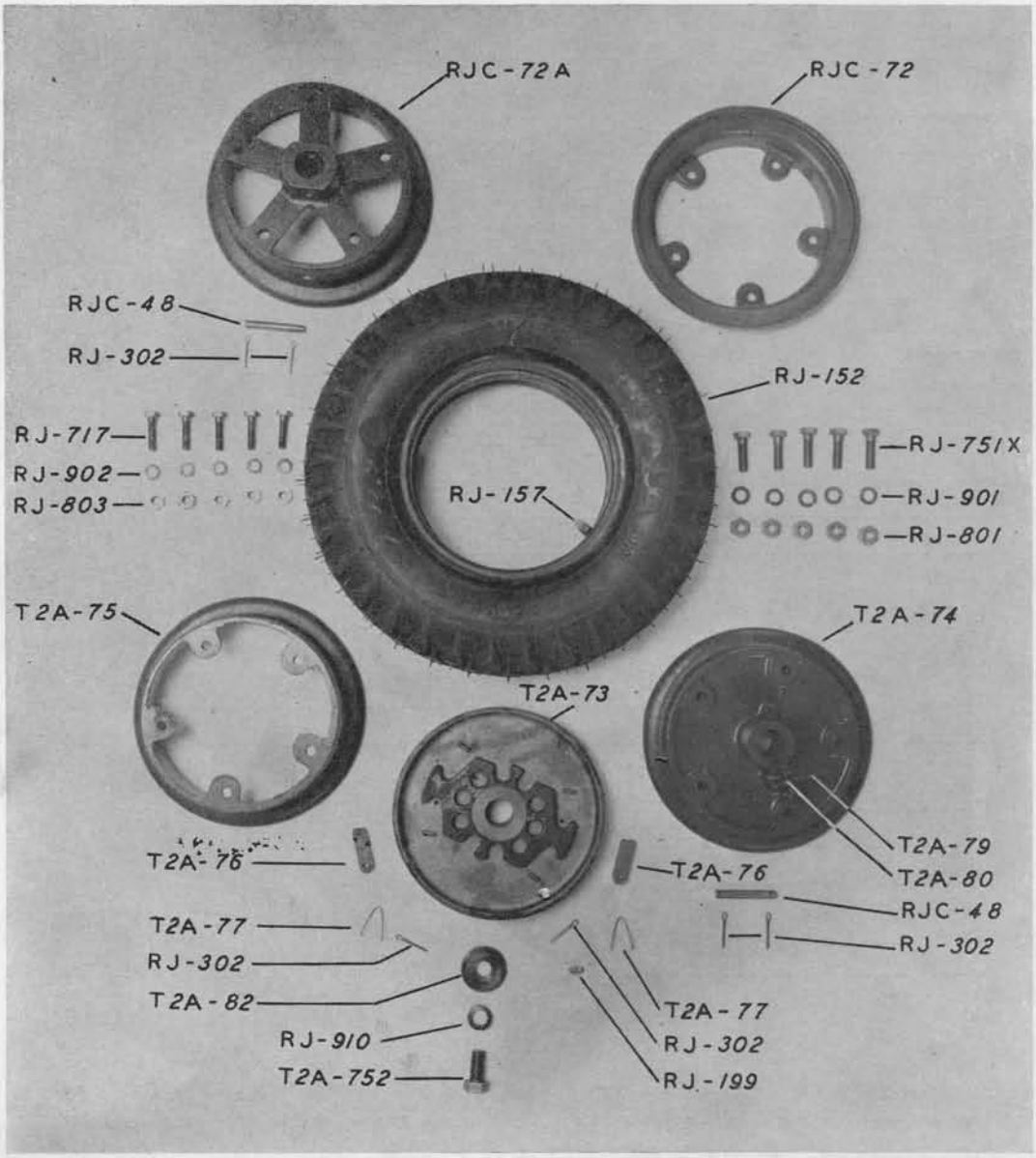
*1957 Model 3 uses RJA-12A — Cast Iron Motor Pulley — with Belts RJ-138S (A-38S) and RJ-137 (A-37).

* 1957 Model 2 uses RJA-12 — Cast Iron Pulley — with Belts RJ-151 (2333) and RJ-178S (A-35S).

The "V" Belt adjustments are made by tilting the motor base assembly which raises or lowers the hinged end of the motor base. (See back of book for General Operating Instructions).

The belt acts as the motor clutch. It must be gently tight when engaged and loose when disengaged. Too tight or too loose a belt will cause power loss. Belt must run between the two guide posts (Part Nos. T2A-13 or T-193) and not over them and should only touch these guide posts when the motor is disengaged and the belt is loose.

WHEEL ASSEMBLY



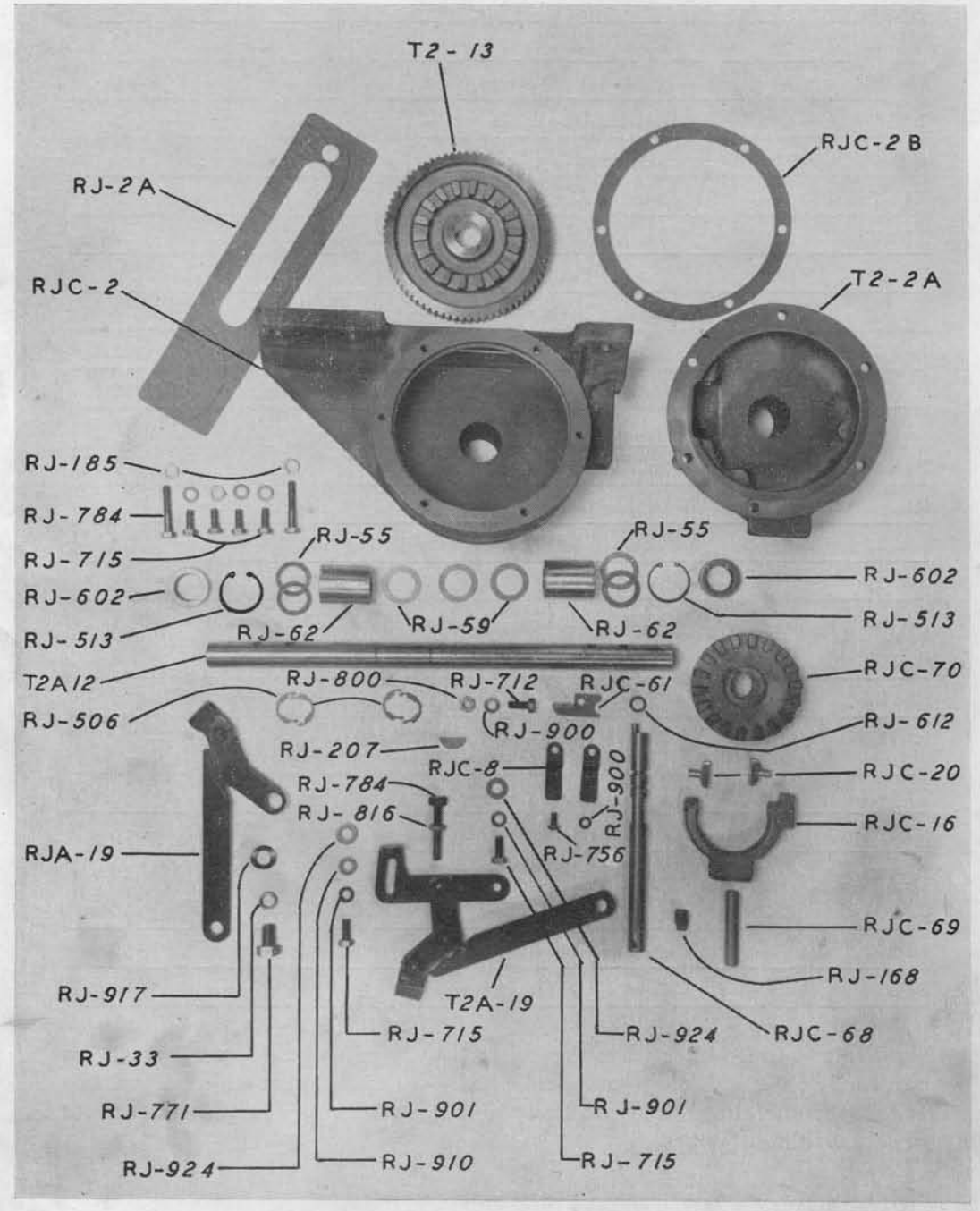
WHEEL ASSEMBLY

Part Number	NAME	Number Required
RJC-48	Wheel Hub Pin	2
RJC-72	Inside Wheel Disc	2
RJC-72A	Outside Wheel Disc	2
T2A-73	Ratchet Hub (Right and Left)	2
T2A-74	Ratchet Rim	2
T2A-75	Ratchet Outside Wheel Rim	2
T2A-76	Ratchet Pawl	4
T2A-77	Ratchet Spring	4
T2A-79	Ratchet Lock	2
T2A-80	Ratchet Lock Lever	2
T2A-81	Ratchet Lock Spring	2
T2A-82	Hub Washer	2
RJ-140	Grease Cup—⅛ Pipe Thread	2
RJ-152	Tire	2
RJ-157	Tube	2
RJ-199	Alemite Fitting—⅛ offset	1
RJ-302	Cotter Pin—3/32 x 1	4
RJ-717	⅜—16 x 1¼ Hexagon Head Screw	10
RJ-715X	Hex Head Screw—5/16—18 x 2 (For Ratchet Wheels)	10
T2A-752	Hex Head Bolt—½—20 x ¾	2
RJ-801	5/16—18 Hexagon Nut	10
RJ-803	⅜—16 Hexagon Nut	10
RJ-901	5/16 Lock Washer	10
RJ-902	⅜ Lock Washer	10
RJ-910	5/16 Flat Washer	2

Water can be inserted in tire tubes by use of valve adapter (which we can supply) and by using your garden hose. In those areas which experience freezing temperatures, it is necessary to remove the water prior to the advent of cold weather.

Air pressure should be kept at twenty-four pounds.

WHEEL DRIVE AND CLUTCH ASSEMBLY



WHEEL DRIVE AND CLUTCH ASSEMBLY

Part Number	NAME	Number Required
RJ-2A	Wheel Drive Housing Gasket	1
RJ-33	Collar	1
RJ-55	#1 Shim	4
RJ-59	Wheel Drive Housing Washer	4
RJ-62	Front Bushing	2
RJA-19 Assy.	Clutch Linkage Assembly (Model T only)	1
RJC-2	Wheel Drive Housing	1
RJC-2B	Housing Cover Gasket	1
RJC-8	Speed Shifting Spring	2
RJC-16	Speed Shifting Fork	1
RJC-20	Speed Shifting Fork Shoe	2
RJC-61	Spring Clip	1
RJC-68	Eccentric Shaft	1
RJC-69	Fork Pin	1
RJC-70	Wheel Drive Clutch	1
T2-2A	Housing Cover	1
T2A-12	Axle	1
T2-13	Wheel Drive Worm Gear	1
T2A-19	Clutch Linkage Assembly (Model 2 and 3 only)	1
RJ-168	¼" Pipe Plug	1
RJ-185	5/16 Copper Gasket	6
RJ-207	¼ x 1 Woodruff Key	1
RJ-506	Two Piece Retaining Ring	4
RJ-513	One Piece Retaining Ring	2
RJ-602	Oil Seal	2
RJ-612	"O" Ring	1
RJ-712	¼—20 x ⅝ Hexagon Head Screw	1
RJ-715	5/16—18 x ¾ Hexagon Head Screw	6
RJ-719X	½—13 x 2 Hex Head Tap Bolt	2
RJ-751	½—13 x 1¾ Hex Head Screw	4

WHEEL DRIVE AND CLUTCH ASSEMBLY
(Continued)

Part Number	NAME	Number Required
RJ-756	¼—20 x ½ Round Head Screw	1
RJ-771	½—13 x ¾ Hexagon Head Bolt	1
RJ-784	5/16—18 x 1¾ Hexagon Head Screw	3
RJ-800	¼—20 Hexagon Nut	1
RJ-816	5/16—18 Hexagon Jam Nut	1
RJ-900	¼" Lock Washer	2
RJ-901	5/16 Lock Washer	2
RJ-903	½" Lock Washer	6
RJ-910	5/16 Plain Washer—S. A. E.	1
RJ-917	17/32 Bowed Washer	1
RJ-924	Flat Washer—7/16 Standard	2

When assembling this unit onto the Chassis Tube, care must be exercised in seeing that gasket RJ-2A is smoothly in place. It is well to oil both surfaces before applying.

In shifting to drive position, part RJC-70 is moved along the wheel shaft so that the teeth will mesh with similar teeth on worm drive wheel, T2-13. Any attempt to force this into place will wear out parts RJC-20, shifter fork shoes, or will break yoke (Part RJC-16).

When motor has turned worm drive wheel to proper position, engagement will be easy — so turn shift handle gently, keeping slight pressure on it until engagement is made easily.

Motor clutch control bolt 771 must be kept tight, otherwise rattling will occur.

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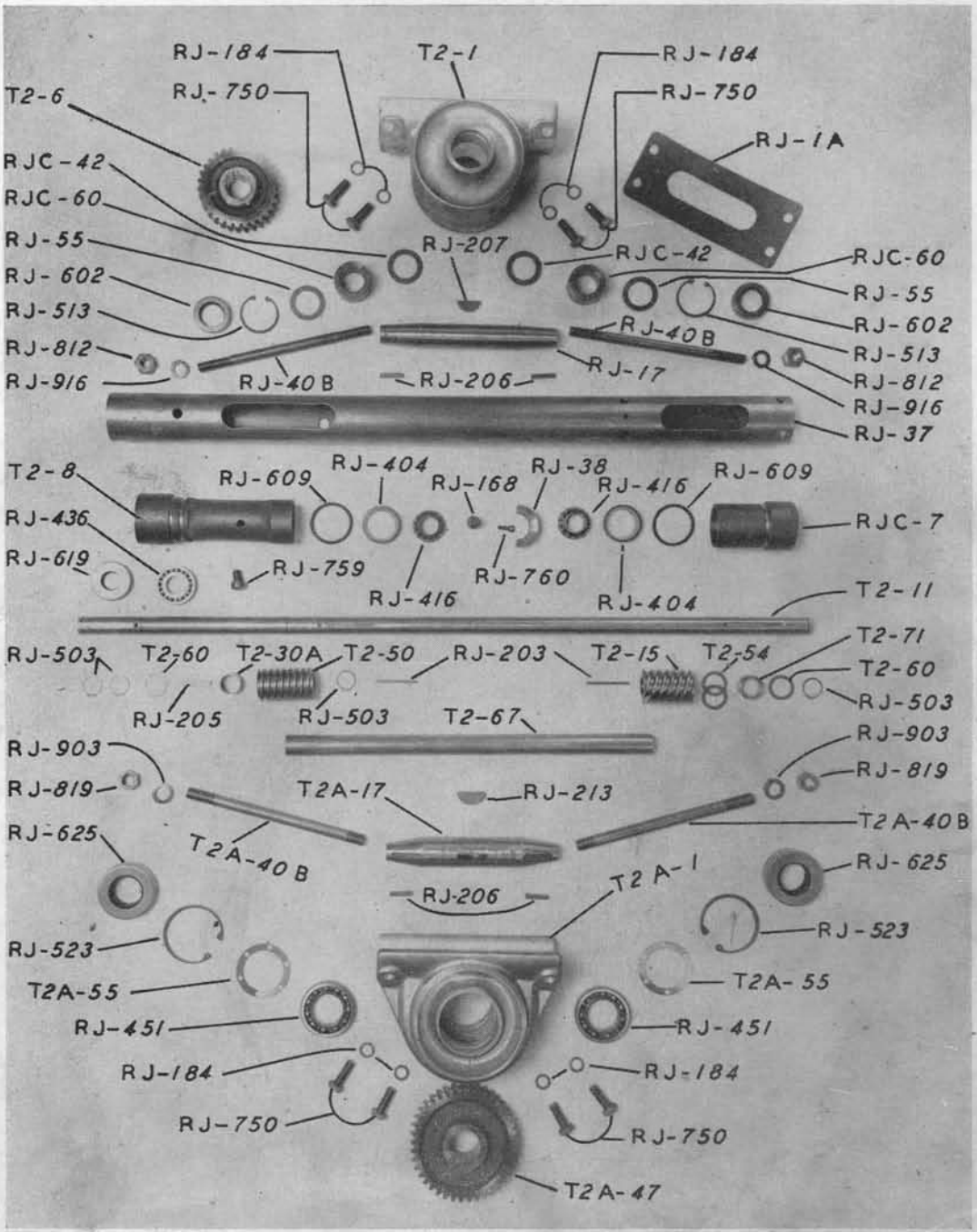
CHASSIS AND WORM DRIVE ASSEMBLY
TILLER DRIVE HOUSING ASSEMBLY



TILLER DRIVE HOUSING AND CHASSIS AND WORM DRIVE HOUSING ASSEMBLIES

MODEL T TILLER HOUSING ASSEMBLY

Part Number	NAME	Number Required
RJ-1A	Tiller Drive Housing Gasket (All Models)	1
RJ-1C	Tiller Drive Housing Gasket (Metal, Used on all 1956 Model 2's and 3's)	1
RJ-17	Tine Shaft	1
RJ-40B	Tine Shaft Stud	2
RJ-55	#1 Shim	4
T2-1	Tiller Drive Housing	1
T2-6	Tiller Drive Worm Gear	1
RJC-42	Rear Thrust Washer	2
RJC-60	Rear Bushing	2
RJ-184	3/8 Copper Gasket	4
RJ-206	3/16 Square Key 1 1/16 Long	2
RJ-207	1/4 x 1 Woodruff Key	1
RJ-513	One Piece Retaining Ring	2
RJ-602	Oil Seal	2
RJ-750	3/8—16 x 1 1/4 Hexagon Head Screw	4
RJ-812	7/16—14 Hexagon Nut	2
RJ-916	7/16—Lock Washer	2
T2-8	Front Bearing Cap	1
T2-11	Drive Shaft	1
T2-15	Tine Drive Worm—Use on Model 2 from No. 18281 onwards and on all Model T's, 1954-55-56.	1
T2-15A	Tine Drive Worm—Use on Model 2 from 18281 onwards On Model 3 from 1411 Onwards	1
T2-30A	Drive Shaft Spacer, Front	1
T2-50	Wheel Drive Worm	1
T2-54	Shim	2
T2-60	Shim	2
T2-67	Sleeve	1
T2-71	Drive Shaft Spacer, Rear	1
RJ-37	Chassis Tube	1
RJ-38	Tapped Block	1
RJC-7	Rear Bearing Cap	1
RJ-168	1/4" Pipe Plug	1
RJ-203	1/8 Square Key x 1 3/4" Long	2
RJ-205	3/16 Square Key x 2" Long	1
RJ-404	Bearing Cup	2
RJ-416	Bearing Cone	2
RJ-436	Ball Bearing	1
RJ-503	One Piece Retaining Ring	4
RJ-609	"O" Ring	2

TILLER DRIVE HOUSING AND CHASSIS AND WORM DRIVE HOUSING ASSEMBLIES
(Continued)

Part Number	NAME	Number Required
RJ-619	Oil Seal	1
RJ-759	3/8—16 x 1/2 Fillister Head Screw	1
RJ-760	#10—32 x 1/2 Fillister Head Screw	1
T2A-1	Tiller Drive Housing	1
T2A-17	Tine Shaft	1
T2A-40B	Tine Shaft Stud—1/2"	2
T2A-47	Tiller Drive Worm Gear (Use on Model 2 from No. 14249 to 18280 Use on Model 3 from No. 509 to 1410)	1
T2A-47A	Tiller Drive Worm Gear (Use on Model 2 from No. 18281 Onwards Use on Model 3 from 1411 Onwards)	1
T2A-55	Shim	2
RJ-184	3/8 Copper Gasket	4
RJ-206	3/16 Square Key—1 1/16 Long	2
RJ-213	1/4 x 1 1/4 Woodruff Key	1
RJ-451	Bearing	2
RJ-523	Retaining Ring	2
RJ-625	Oil Seal	2
RJ-628	O Ring	8
RJ-717A	Hex Head Screw, Hardened—3/8 x 16 x 1 1/4	2
RJ-750A	Hex Head Screw, Hardened—3/8 x 16 x 1	2
RJ-819	1/2—20 Hex Nut	2
RJ-903	Lock Washer 1/2	2
RJ-914	Internal Tooth Washer—3/8	4

1957 Models 2 and 3 are equipped with a Special Tiller Housing Clamp and Wear Plate — T2-114 Assembly.

T2-114A	Wear Plate	1
T2-114B	Tie Rod—Front	1
T2-114C	Tie Rod—Rear	1
T2-114D	Turnbuckle Nut	2
728	3/8—16 x 1/2 Hex Head Screw	1

1957 Model T'S are equipped with Clamp Assembly T-1-111 Assembly.

T1-111A	U Clamp	2
T1-111B	U Clamp Lug	4
T1-111C	Clip	2
T1-113	Housing Dowel Pin 5/16"	1

This is the business end of the Rototiller. The bearings and parts are subject to severe conditions. This means that a certain amount of attention is required to assure years of satisfactory service. This is easily and quickly done, as all that is required is to see that bolts 750 are kept tight, and making sure the oil level in the chassis tube is always maintained.

Always remember that in any piece of high grade precision machinery too much oil can do no damage but one drop too little may cause great damage. Be sure all bolts and nuts are kept tight.

Slight leakage of oil may occur until Rototiller has been operated for a few hours and until the oil seals become seated on the tiller shaft (RJ-17 or T2A-17).

The chassis tube RJ-37 is the backbone of the Rototiller. To this part all other parts are attached, and it encloses the main drive shaft, T2-11 and both the wheel drive worm T2-50 and the tiller drive worm, T2-15A. It also encloses two tapered roller bearings, 416 and the annular ball bearing, 436.

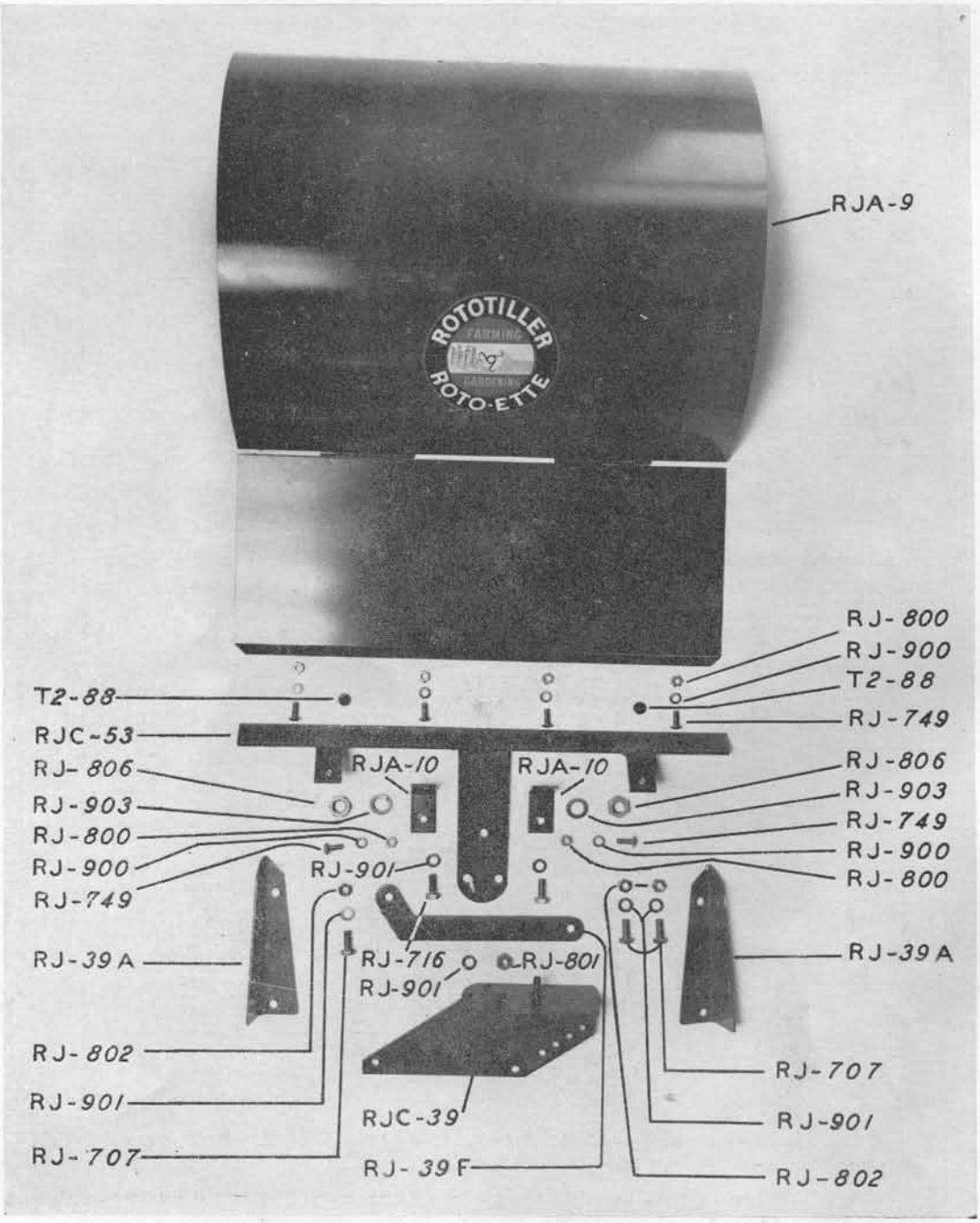
These are all precision, expensive parts and great care is required in assembling in order to keep out any dust or dirt. Care must also be exercised in assembling and mounting the oil retaining "O" Rings, 609, as any damage to these will cause oil leakage.

When replacing the main drive shaft together with the bearings and bearing caps, it must be remembered that all "end play" must be eliminated. If there is "end play" it should be taken up by means of additional shims. If this is not done, the "end play" will cause excessive wearing on the bronze gears, both the wheel drive gear and the tiller gear.

OIL

It is essential that the Chassis and Worm Drive Assembly together with the Wheel Drive Housing Assembly is kept up to the proper oil level. The correct oil to use in this assembly is Gulf #95 E. P. Lubricant and if it is not possible to obtain this oil and an equivalent is used, it is essential that the old oil in the assembly be drained and washed out as it is possible that the substitute oil does not have the same base as the Gulf #95 E. P. Lubricant. As a result, an acid reaction might take place with resulting damage to the gears, bearings, etc.

HOOD AND DEPTH CONTROL ASSEMBLIES



HOOD AND DEPTH CONTROL ASSEMBLIES

Part Number	NAME	Number Required
RJA-9	Hood Assembly	1
RJA-10	Hood Clip	2
RJC-53	Hook Bracket Assembly	1
RJC-39	Blade Assembly	1
RJ-39A	Depth Control Shoe	2
RJ-39F	Link Assembly	1
T2-88	Rubber Stop (Model 2 and 3 only)	2
RJ-707	5/16—24 x ¾ Hexagon Head Screw	3
RJ-716	5/16—18 x 1 Hexagon Head Screw	2
RJ-749	¼—20 x ⅝ Truss Head Screw	6
RJ-800	¼—20 Hexagon Nut	6
RJ-801	5/16—18 Hexagon Nut	1
RJ-802	5/16—24 Hexagon Nut	3
RJ-806	½—13 Hexagon Jam Nut	2
RJ-900	¼ Lock Washer	6
RJ-901	5/16 Lock Washer	6
RJ-903	½ Lock Washer	2

CENTER SHEAR ASSEMBLY

T-101	Center Shear Hd.	1
T-103	Shear Mtg. Bracket	1
RJ-716	5/16—18 x 1 Hexagon Head Screw	1
RJ-732	⅜—16 x 1¾ Hexagon Head Screw	1
RJ-802	5/16—18 Hexagon Nut	1
RJ-803	⅜—16 Hexagon Nut	1
RJ-901	5/16 Lockwasher	1
RJ-902	⅜—Lockwasher	1

DEPTH REGULATOR ASSEMBLY

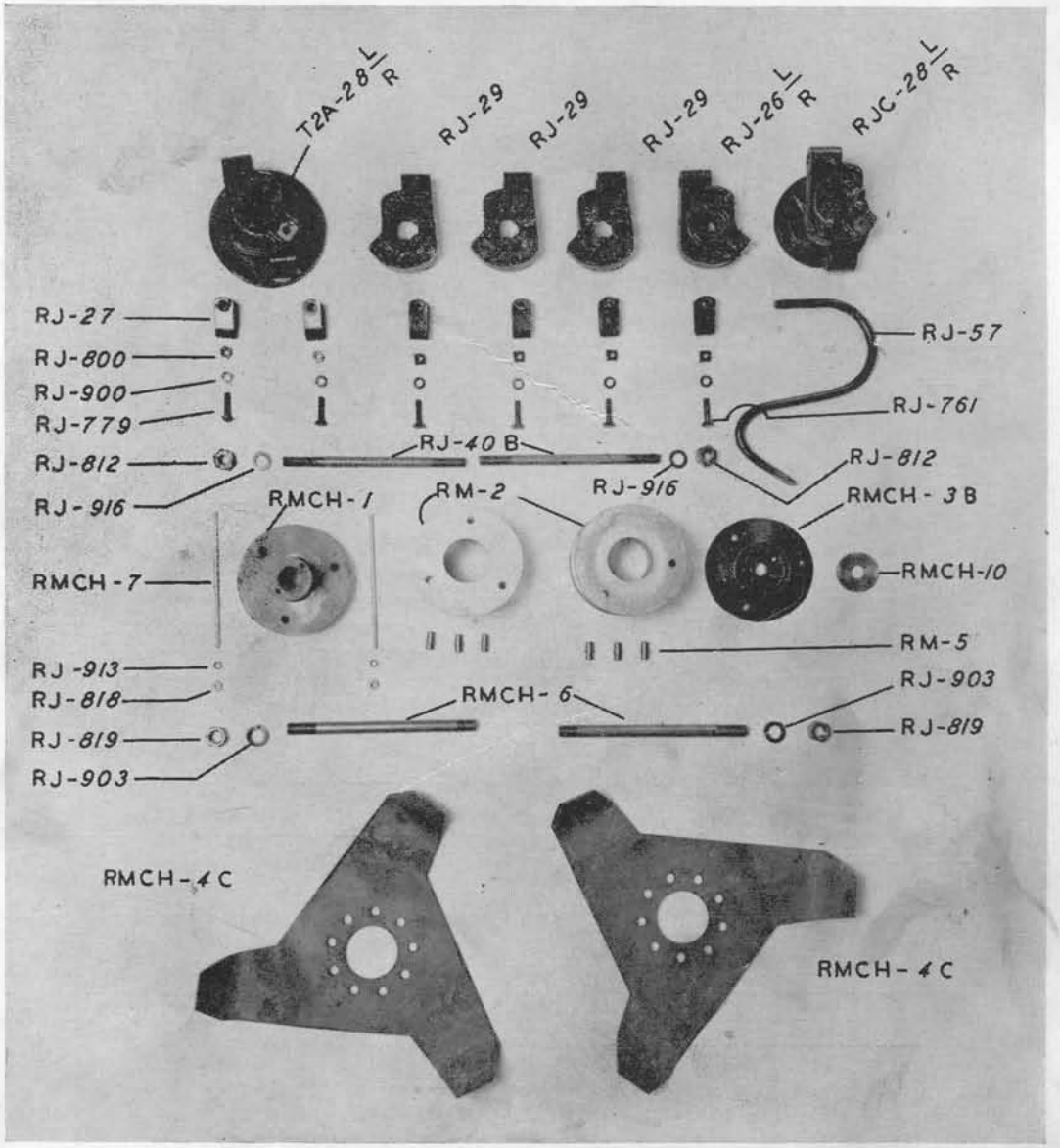
TI-104	Depth Regulator Assembly	1
TI-108	Hood Bar Assembly	1
TI-110	Hood Flap Ext.	1
TI-105	Depth Regulator Clamp	1
TI-106	Depth Regulator Clamp Spacer	1
TI-107	Depth Regulator Lock Assembly	1
RJ-749	¼ x 20 x ⅝ Truss Head Screw	4
RJ-30	3/32 x 1 Cotter Pin	2
RJ-756	¼—20 x ½ Round Head Screw	8
RJ-800	¼—20 Hexagon Nut	12
RJ-900	¼—Lockwasher	12

The old style Depth Control Assembly should be entirely removed when working in heavy, stringy, cover crops.

All 1957 Model machines are equipped with new Center Shear Assembly and a new style Hood Depth Regulator.

The hood should be used at all times in order to produce a smooth level seed bed, and as a protection.

TINEHOLDER ASSEMBLY
AND
ROTO-MILLER CHOPPER DIGGER ASSEMBLY



TINEHOLDER ASSEMBLY

Part Number	NAME	Number Required
RJC-28	Inside Tineholder (Rights and Lefts) (Model T only)	2
T2A-28	Inside Tineholder (Rights and Lefts) (Model 2 and 3 only)	2
RJ-26	Outside Tineholder (Rights and Lefts) (Model T only)	2
T2A-26	Outside Tineholder (Rights and Lefts) (Model 2 and 3 only)	2
RJ-27	Tine Clip	12
RJ-29	Middle Tineholder	6
RJ-40B	Tineholder Stud 7/16 x 7¼" (Model T only)	2
T2A-40B	Tineholder Stud—½ x 7½" (Use on Tiller Assembly and—Model 2 and 3 1955 Chopper Assembly and after)	2
RJ-57	Pointed Tine	12
RMC-1	Inside Holder (Model T only)	2
RMC-1B	Inside Holder (Model T, for new style chopper blades. Eliminates use of RMCH-8 spacers)	2
RMCH-1	Inside Holder (Model 2 and 3 only)	2
RMCH-1C	Inside Holder (Model 2 and 3 only) (1955 Choppers)	2
RM-2	Middle Holder	4
RM-3	Cap (Model T only)	2
RMCH-3B	Cap (Model 2 and 3 only)	2
RMCH-4C	Rotomiller Chopper Blade (Rights and Lefts) (1954) (Obsolete, use RMCH-4D)	
RMCH-4D	Rotomiller Chopper Blade (Rights and Lefts) (1955)	4
RMCH-4E	Inside Rotomiller Chopper Blade (Rights and Lefts)	2
RMCH-7	Holder Stud—6/32 x 4¾ (1954)	4
RMCH-7C	Holder Stud—6/32 x 6 (For 1955 Model Chopper Assembly)	4
RMCH-8	Spacer (Use on Model T's and models where 1955 blades are being used.)	2
RM-5	Pin	18
RM-6	Stud—7/16 x 6⅜ (Model T only)	2
RMCH-6	Stud—½" x 6½" (Model 2 and 3 only) (1954 Choppers)	2
RMCH-10	Spacer (Model 2 and 3 only)	2
RJ-761	¼—20 x 1 Hexagon Head Screw	10
RJ-779	¼—20 x 1¼ Round Head Screw	2
RJ-800	¼—20 Hexagon Nut	12
RJ-812	7/16—14 Hexagon Nut	2
RJ-818	10/32 Hexagon Nut	4
RJ-819	½—20 Hexagon Head Nut	2
RJ-900	¼ Lock Washer	12
RJ-903	½ Lock Washer	2
RJ-913	#10 Lock Washer	4
RJ-916	7/16 Lock Washer	2

The tineholder assembly is made so that more (or less) RJ-29 middle tineholders can be used. By using additional tineholders, a wider cut can be made, and by omitting tineholders, a narrower cut will be obtainable.

Proper studs are available in lengths required to make any change considered desirable.

Tineholders must be as evenly spaced around the tine circle as possible. Exact even spacing is not always possible, but approximate even spacing is satisfactory.

GENERAL OPERATING INSTRUCTIONS

OILING — There are only two oil reservoirs on your Rototiller — one on the motor, and one located on the chassis tube directly in front of the handle bar bracket. The motor crankcase should be kept full at all times, and the directions found in the motor manual should be followed implicitly. When the chassis tube is in a horizontal position, the proper oil level in the chassis tube is one-half full of "Gulf #95 E. P. Lubricant", available at almost all service stations. Besides oiling the motor according to the special directions furnished by the motor manufacturers, great care must be exercised in keeping the oil up to level in the air cleaner. This oil should be checked frequently and under **extremely dusty conditions** this should be changed frequently, every hour, if necessary. In any event, it should be cleaned out and refilled after every 25 hours of operational use.
The toggle linkage which raises and lowers the motor base should also be kept lubricated.

STARTING MOTOR — We refer you to the accompanying instructions for care and operation of the engine. In order that you may have trouble-free operation, **it is essential that these instructions be learned and followed.**

CLUTCH — Your Rototiller has two clutches. On the **Models 2 and 3,** one is located on the handle bar cross bar which is known as the wheel clutch and the other is located on the right side of the handle bars which is known as the motor clutch. On the **Model T,** the motor clutch is located on the handle bar cross bar and the wheel clutch is located on the right hand side of the handle bars.

BELT ADJUSTMENT — By pushing forward on the motor clutch the engine is raised, thus tightening the V Belt which transmits power to the main drive shaft. After several hours use, the V Belt will tend to stretch and in order to retain the same tension on the V Belt it will be necessary to increase the center to center distance between the two pulleys. The adjustment is made by loosening the two bolts at each end of the clutch control arm assembly (Part No. T2A-19) which is attached to the wheel drive housing cover (RJC-2B). At one end of this arm assembly, there is an adjusting screw with nuts, which when tightened up, will raise up the motor base assembly and so tighten the belt. (On the Model T, the belt adjustment is made by raising up the motor base, Part No. RJA-2, by means of the studs, nuts, and jam nuts. When doing this, care should be exercised to raise the engine evenly, so that the motor crank shaft and the main drive shaft will remain parallel). Remember, it is only necessary to tilt the motor base (or in the case of the Model T, raise the motor base) a fraction of an inch in order to increase the tension to the required amount. Due to the force exerted by the motor clutch control when the motor is raised, it is possible to bend the drive shaft supporting the lower pulley if the belt is too tight. Great care should therefore be exercised to raise the motor only the amount necessary to restore the proper tension.

WHEELS — Both rubber-tired wheels are keyed to the axle shaft so that it is impossible to operate with only one wheel engaged. When the wheel clutch handle points upward, the wheel clutch is in the disengaged position which will allow the axle to turn freely. When the clutch handle points downward, the clutch is engaged and the wheels are thus locked in gear. When engaging this clutch, **be sure not to use force and be sure handle is all the way up or all the way down.** If your clutch does not readily

engage when the machine is stopped, the clutch dogs will be hitting against each other and in order to get them to mesh it is necessary to move the Rototiller either forward or backward an inch or two. If the motor clutch is already engaged, then no difficulty will be experienced in engaging the wheel clutch.

RATCHET WHEELS — If your Rototiller is equipped with Ratchet wheels, it is possible to operate with either one or both wheels engaged. To engage or disengage the wheels it is merely necessary to pull out the ratchet lock lever and slip it into the groove or to release the lock lever from this groove.

WARNING — The wheel clutch is **not** a brake, and if, when using the trailer or going down a hill, the wheel clutch is suddenly engaged it is very possible to cause damage which will necessitate tearing down your machine in order that repairs can be made. It is therefore wisest to engage the wheel clutch only when the Rototiller is stopped.

DEPTH CONTROL (A) — Attached to the rear of the chassis tube is a device for regulating the depth of tillage. Two shoes, located on either side of the vertical section are adjustable in six locations. The lower these are set, the shallower will be the cultivation or tilling and vice versa. Should the ground be exceptionally hard or covered with a thick cover crop, the shoes should be removed.

DEPTH CONTROL (B) — All 1957 Models are equipped with a new style Center Shear Assembly and Tiller Hood Depth Regulator. Both of these assemblies are easily adjusted.

The adjustment for the **Center Shear** is under the Tiller Hood. If the conditions are extremely difficult, the Center Shear should be put down all the way — so that the tiller is able to take only a small bite the first time over the ground. As conditions vary — the Center Shear should be adjusted accordingly. Under normal working conditions the Center Shear should be put up to the highest position — that is to say — it should be right up against the tiller housing.

The adjustment of the Tiller Hood Depth Regulator is obvious and simple. By adjustment, it is possible to get at all times, a proper control of the depth required and in very soft going it is invaluable as a Soil Compactor.

OPERATION — When you have removed your Rototiller from its crate, mount the handle bars in the position most suitable to you. Thread the throttle cable up through the handle bar tube, and with a piece of hooked wire draw the end out of the upper hole located directly in front of the throttle control and cut off length not required. Take out the throttle control lever from package. Pass the wire through the collar and through the hole in the adjustment swivel. Twist the throttle clockwise and screw it onto the cable. Install throttle control onto handle bars, using screws and washers supplied and with a pair of pliers, push the wire into cable thus closing the carburetor throttle. Set control lever in closed position and tighten set screw. Cut off wire leaving about 1/4" protruding from swivel. Bind wire around swivel The clutch rod (RJ-41) should then be attached to the end of the clutch linkage and adjusting arm assembly which will be found on the right hand side of the machine. In order to do this, it will be necessary to remove the Eye Bolt (RJ-733) which will be found on the handle bar assembly and then pass the clutch rod through

the eye bolt and attach the hooked end of the rod to the hole in the end of the clutch linkage assembly. Then replace the eye bolt on handlebars. Start motor in accordance with instructions in the special motor instruction book, making sure that the round handle clutch control is in the **out** position (pull back handle as far as it will go.) After engine has warmed up, engage wheel clutch, and push motor clutch handle forward. Lift handles high enough to keep tiller clear of ground to prevent digging. If you have considerable distance to go to get to your garden, machine should be in high speed or use free wheeling for easy transport. When you have arrived at the place you wish to till, stop machine and "kill" motor by pressing "shorter" against top of spark plug. Change belt to low speed position. Restart motor and engage motor clutch. Let tiller into the ground. It is not necessary to hold handle bars tightly and **do not press** on them. Under tough conditions it may be necessary to hold back slightly on the handle bars until the machine has been over the ground once. When you have reached the end of the row, close the throttle so that the engine won't race. Reverse the direction of the Rototiller and start tilling in the next row. If you don't wish to walk directly behind the machine loosen the handle bar base by unscrewing the clamp assembly (RJ-9A or T2-9A) and move handle bars either to right or left into the notches provided. Then retighten clamp so that handle bars are solid. When tilling in stony, trashy, or tough going, the engine should be throttled down in order to have the tiller revolve slowly. This will prevent breakage. If these instructions are followed, the motor will stall before any damage will be done to the machine.

The following instructions should be followed for best results:

1. Under tough, bad conditions, operate in low gear with motor running slowly.

2. Under normal conditions, not too difficult tilling, operate in second speed, with motor running slowly.

3. **Never use your tiller in 3rd or 4th speed.** The guarantee on this machine will become invalid if damage should occur while machine is being used for tilling or cultivating in these higher speeds. Remember that as the speed of the tines increases, the blow on hitting stones or obstructions is increased, and that damage to the tines, or tineholders, can only occur when tines are traveling at high speed. When tines are going slowly and motor is not racing, but just running smoothly at a moderate speed, it will stall before any damage can occur. The action of the tiller hitting the ground is rather similar to striking a telegraph pole with the bumper of an automobile. If the telegraph pole is struck between 5 and 10 miles an hour, very little damage results, but if the same telegraph pole is hit at 50 miles an hour, it is more than probable that the automobile would end up as a complete wreck.

PARTS OR ATTACHMENTS — When ordering parts or attachments for your Rototiller it is essential that you give your Model Number as well as your machine number. On the **Model T** machine, this number is stamped on the bracket cap (Part No. RJA-5) which will be found at the base of the handle bars. On the **Model 2's and 3's,** it is stamped on the horizontal ribs of the

Lightning Change Front (RJA-1) directly behind the removable disc (Part No. RJA-3) .

GUARANTEE — To make your guarantee **valid,** the warranty card enclosed with these instructions **must be filled in accurately and returned to the factory.**

CHANGING SPEEDS — This should **only** be done when the engine is not in operation. To put your Rototiller in the slowest speed, the belt should be placed on the smallest diameter step on motor pulley and on the largest step of driven pulley. On the **Model 2's and 3's,** to increase the speed, remove the other belt which you will find placed inside the pulley guard (RJA-8) and place it on the step of the pulley at the required speed. The belt which was on the lowest speed should be removed and put back inside the pulley guard. Forward speed in any gear can be varied by opening or closing the hand throttle located on the handle bar.

TINEHOLDERS — Tineholders are held in place by studs screwed into the ends of the tiller shaft. To remove tineholders, unscrew nuts located on outside tineholders. If it is desired to decrease or increase number of tineholders, it will be necessary to also use shorter or longer studs. The inside tineholders are keyed to the tapered tiller shaft. (On the **Model T** it is recommended that when removing the inside tineholders a tineholder puller be used to make this operation easy and prevent any damage to the tineholders). It is essential that the nuts on the outside end of the tineholder studs be kept tight at all times. Tightness should be checked before operating the machine and every fifteen or twenty minutes for the first four hours of operation. The tineholders are castings and the surfaces of the meshing teeth are therefore necessarily rough. Vibration or use causes the meshing surfaces to become smooth which allows the tineholders to become loose or sloppy. When this condition exists, the tine shaft stud is allowed to bend and eventually it will break off where it enters the tiller shaft. To prevent this **keep the outside nuts tight.**

TINES — Two types of tines are available, the pointed or hooked tine for use in clean, hard ground, and the knife tines for use in cultivating or where there is a cover crop. These are designated by the numbers #1 and #2 respectively. It is advisable to have both types on hand. When tines are installed, only one tine on each side should be entering the ground at one time. Each tine should be staggered approximately 60 degrees from its next inside neighbor and the tines on the opposite tiller shaft should be in the same relative positions. In short, space the tines as evenly as possible around the tine circle. Changing of tines is made easier by having an additional set of tineholders.

ROTOMILLERS — "Rotomillers" are available, which are designed primarily for surface tillage and incorporating cover crop into the soil and for cultivating. Three millers are used on each side of the tiller housing. The reason for this is to minimize as much as possible the untilled strip directly beneath the tiller housing. The middle and other millers are the same for each side. The Rotomillers are cam shaped and should be installed so that as the tiller shaft revolves, the edge of the cam biting into the ground goes from the smallest radius to the largest radius. As the tiller shaft revolves with the direction of travel of the Rototiller, the Miller must be installed so that the point of the teeth trail and do not enter the ground first.

The proper position of the Rotomillers is as follows:
The right inside Miller should be installed so that the straight edge of the miller points up, the middle should be turned 120 degrees from this, and

the outside miller, 240 degrees. The left inside miller should be installed with the straight edge pointing downward with the middle miller 120 degrees from this and the outside miller 240 degrees.

ROTOMILLER CHOPPER DIGGERS — In addition to the above, Rotomiller chopper diggers are also available. These chopper diggers are an all purpose tool and are unbreakable. They work well in all types of ground and in cover crops as well as for power composting. They are very desirable when the type of work that has to be done varies considerably as they do away with the necessity of having to change from one type of tine to another. These are put on in the same way as the Rotomillers mentioned above, except that all the right hand blades go on one side and all the left hand blades go on the opposite side.

GENERAL — It should be remembered that there is no one perfect tine for all conditions that exist from one end of the country to the other — from clean, friable, easily worked soil to hard packed clay, with large imbedded stones, from tall stringy cover crops to tender, young, green cover crops, for deep digging and surface mulching and light cultivating. We consider the Rotomiller Chopper-Diggers the best compromise for all conditions likely to be encountered. However, on many occasions it is advisable to have both the #1 and #2 tines on hand for specific jobs as they occur and which might do a better job than the Rotomiller choppers, for that particular type of work.

SAFETY PRECAUTIONS — REMEMBER that most accidents can be avoided by the observation of a few Safety Precautions.

1. Do not pour gasoline into the fuel tank while the engine is running.
2. Do not lubricate, change belts or make any adjustments to the machine whilst the engine is running.
3. Do not work around the machine in loose clothing that might catch in any of the moving parts.
4. Do not operate the machine as a tiller without the tiller hood.
5. Do not operate the machine with the Lawn Mower, Snow Plow, or Field Mower attachments unless all the tines and holders have been removed from the tiller attachment.
6. Always use caution and common sense at all times when operating the machine.

ABOUT IMPROVEMENTS — The ROTOTILLER Company is continually striving to improve its products.

We must, therefore, reserve the right to make improvements or changes when it becomes practical and possible to do so, without incurring any obligation to make changes or additions to equipment sold previously.

WARRANTY

Rototiller, Inc. products are sold by the Company, their distributors or dealers with the following standard warranty of the manufacturer, AND NO OTHER.

Rototiller, Inc. warrants for 90 days from date of delivery all such parts of new Rototillers and attachments sold directly by the Company or through an Authorized Rototiller Dealer as shall, under normal use and service appear to have been defective in workmanship or material. This warranty shall be limited to shipment, to the purchaser without charge, except for transportation, of the part or parts intended to replace those acknowledged by Rototiller, Inc. to be defective. The Company, however, cannot and does not accept any responsibility in connection with any of its Rototillers or attachments when they have been altered outside of its own factory nor does it apply to any used, second-hand, or rebuilt machines.

The Company makes no warranty whatever with respect to engines, tires, tubes or other trade accessories not manufactured by it, as they are subject to the warranty of their respective manufacturers.

Rototiller, Inc. is not responsible to any purchaser of its products for any undertaking, representation, or warranty made by a dealer selling its products beyond those herein expressed. The Company's liability in connection with the manufacture, sale or use of any of its products is expressly limited to the replacement of defective parts as above set forth. The Company specifically assumes no other liability for damages of any kind or nature, direct, consequential or contingent.

IMPORTANT

Make sure your warranty card is filled out and returned promptly to the factory.

ROTOTILLER Products are covered by one or more of the following U. S. A. Patents

117788	2199954	2366625
1944937	2352267	2366626
2054129	2366571	2428973
2161060	2366624	2466594
2176261		2502094

Trade Mark No. 300066

Trade Mark No. 426015

OTHER PATENTS PENDING

ROTOTILLER, Inc.

TROY, N. Y.
U. S. A.

Founder of Rotary Soil-Conditioning in the U. S. A.
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