

**MODEL
T
ROTO-ETTE**

Trade Mark Reg.

AND

DE LUXE MODEL

PARTS MANUAL

1949-1950-1951

AND

GENERAL INSTRUCTIONS

ROTOTILLER, Inc.

TROY, N. Y.

U. S. A.

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

YOUR
MODEL
T
ROTO-ETTE

IS NUMBER

MOTOR NO.

MAKE OF MOTOR

It is 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

YOUR MODEL T is an exceptionally well-built machine. Throughout its construction only the most desirable material is used. Workmanship throughout is equal to or better than general automobile practice.

Your machine has been carefully assembled, thoroughly tested and was in perfect **working condition** when it left the factory.

The efficiency of your Roto-Ette as well as its economy in operation depends largely upon the care it receives during the first months of service. Giving systematic attention to lubrication and mechanical adjustments will insure your receiving complete satisfaction.

With this care, your Roto-Ette should give you years of performance. Be proud of your Roto-Ette and respect it by giving it the care and attention a fine piece of machinery requires.

PRICES, TERMS AND CONDITIONS

DISCOUNTS. We do not allow discounts excepting to bona fide Roto-Ette dealers who are properly equipped to conduct their business successfully and serve the best interests of Roto-Ette owners.

TERMS. Orders will receive prompt attention. If no remittance accompanies order, shipment will be made C. O. D.

When remittance is forwarded, the amount must be sufficient to cover the postage also. If the remittance is more than sufficient, we will refund the amount overpaid.

REMITTANCES should be made by New York Exchange, Post Office Money Order, or Express Money Order. When checks on local banks are sent, we hold the order until we receive returns from the check.

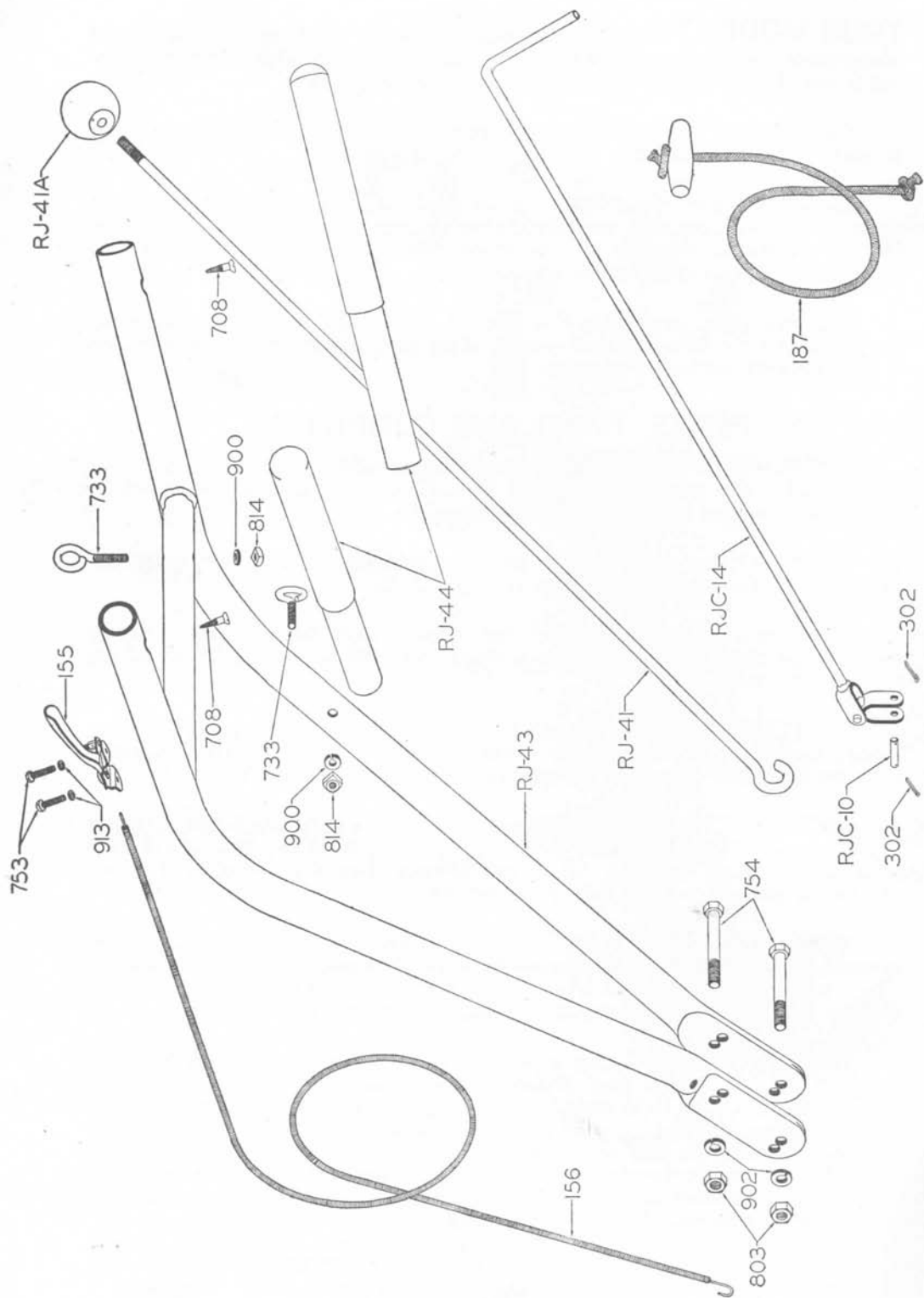
WHEN ORDERING, state definitely what is wanted. Do not leave anything to be inferred. Write and sign your order plainly, on a separate sheet from your letter. When ordering ANY part, always give the model and motor number of your Roto-Ette. This is imperative.

WHEN RETURNING GOODS to us for any reason, charges must be **prepaid or they will not be accepted** from the Railroad or Express Company. They must also be tagged with YOUR name and address (or we cannot identify them), and accompanied by letter of instructions.

CORRESPONDENCE. Our executive force is large, the Finance, Sales Agency, Order, Repair and Shipping Departments being under separate heads. 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 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. We endeavor to make shipments on the day order is received.

Thank you,

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



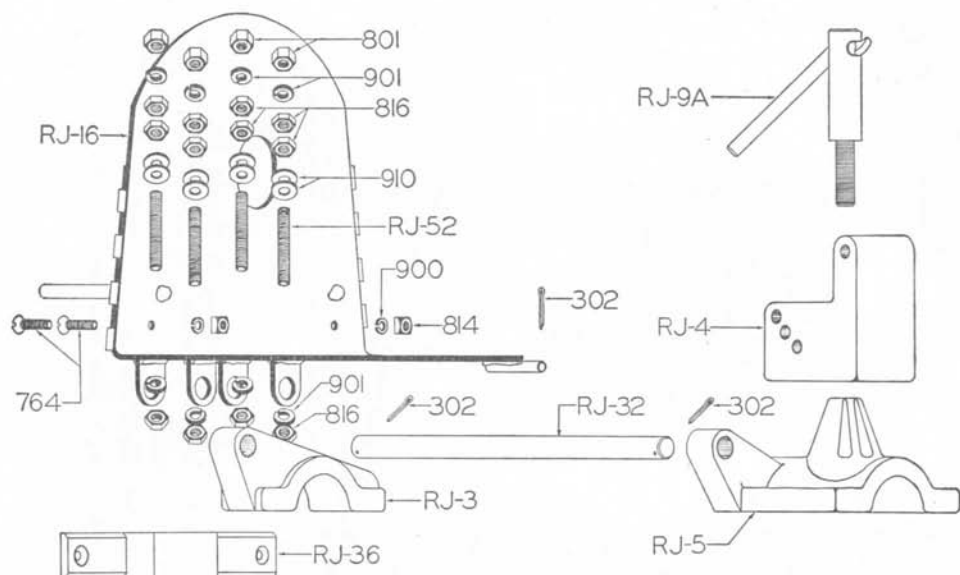
HANDLE BAR AND CONTROL ASSEMBLY

Part Number	NAME	Material	Number Required	Price Each
o RJ-41	Clutch Rod	Steel	1	\$.75
o RJ-41A	Clutch Rod Grip	Wood	1	.10
o RJ-43	Handle Bars	Steel	1	7.50
o RJ-44	Handle Bar Grip	Wood	2	.25
* RJC-10	Eccentric Shaft Pin 1950	Steel	1	.05
* RJC-14	Control Rod Assembly 1950	Steel	1	.75
o 155	Accelerator Lever	Steel	1	.80
o 156	Accelerator Cable	Steel	1	1.25
o 187	Starting Rope	Rope	1	.50
* 302	3/32 x 1 Cotter Pin 1950	Steel	2	.02
o 708	±12 x 1 Flat Head Wood Screw	Steel	2	.03
o 733	¼—20 x 1½ Long x ⅝ Eye Bolt	Steel	1 on 1949 2 on 1950	.10
o 753	±10/32 x ½ Long Round Head Screw	Steel	2	.02
o 754	⅜—16 x 3¼ Hexagon Head Bolt	Steel	2	.02
o 803	⅜—16 Hexagon Nut	Steel	2	.02
o 814	¼—20 Square Nut	Steel	1 on 1949 2 on 1950	.02
o 900	¼" Lock Washer	Steel	1 on 1949	.02
o 902	⅜" Lock Washer	Steel	2 on 1950	.02
o 913	±10 Lock Washer	Steel	2	.02
* o	For 1950 Handle Bar and Control Assembly Only.			
o	For 1949 or 1950 Machines.			

Handle bars (RJ-43) are adjustable up or down or sidewise. Vertical adjustment is made by position of bolts 754 in holes at heels of handle bar and on base block RJ-4. Sidewise adjustment is made by loosening bolt RJ-9A on base (see next page) and swinging either to right or left.

To start Model T forward under its power, push down on clutch rod RJ-41 — to stop, pull back. To engage wheels on 1950 models, turn handle RJC-14 all the way down (do not force). When gears are in proper alignment, engagement is easy.

Motor speed is regulated with accelerator lever 155.

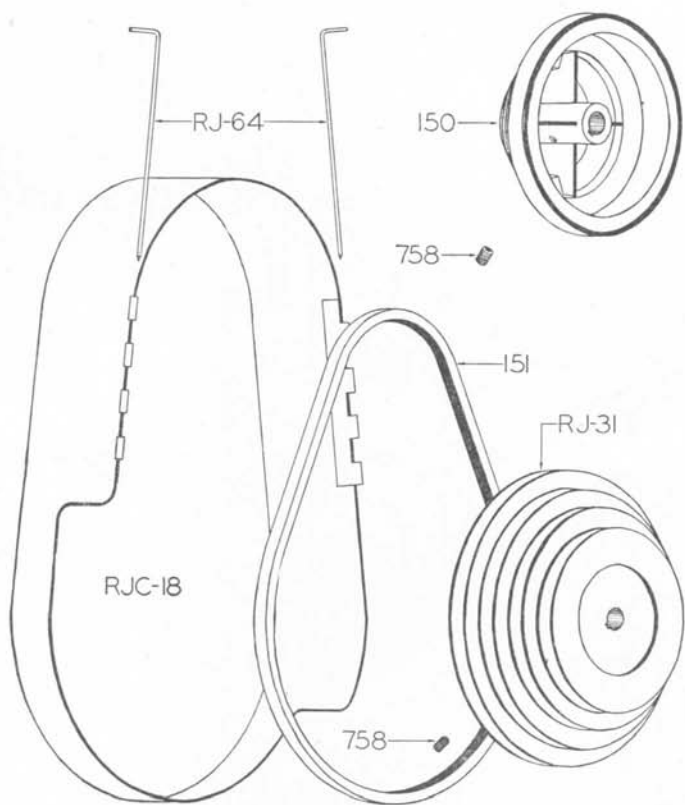


1949 - 1950 MOTOR MOUNTING AND HANDLE BAR BASE

Part Number	NAME	Material	Number Required	Price Each
o RJ-3	Cap	Cast Iron	1	\$1.25
o RJ-4	Handle Bar Bracket	Cast Iron	1	2.00
o RJ-5	Handle Bar Pivot	Cast Iron	1	2.00
o RJ-9A	Clamp Assembly	Steel	1	.75
o RJ-16	Motor Base Assembly	Steel	1	5.00
o RJ-32	Pivot Pin	Steel	1	.35
o RJ-36	Brake Block	Wood	1	.40
o 302	3/32 x 1 Cotter Pin	Steel	2	.02
o 764	1/4—20 x 1" L. Flat Head Screw	Steel	2	.02
o 801	5/16—18 Hexagon Nut	Steel	4	.02
o 814	1/4—20 Square Nut	Steel	2	.02
o 816	5/16—18 Hexagon Jam Nut	Steel	12	.02
o 900	1/4" Lock Washer	Steel	2	.02
o 901	5/16" Lock Washer	Steel	8	.02
o 910	5/16" S. A. E. Washer	Steel	8	.02

o For 1949 or 1950 Machines.

Hardwood block RJ-36 is a brake-block 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. It may be turned upside down to take care of first wear.



1949 - 1950 BELT DRIVE AND COVER ASSEMBLY

Part Number	NAME	Material	Number Required	Price Each
o RJ-31	Drive Pulley	Aluminum	1	\$9.00
o RJ-64	Hinge Pin	Steel	2	.10
o RJC-18	Pulley Guard	Steel	1	5.00
o 150	Cone Pulley	Aluminum	1	3.50
o 151	"V" Belt	Rubber	1	1.25
o 758	5/16—18 x 3/8 L. Socket Set Screw	Steel	2	.10

o For 1949 or 1950 Machines.

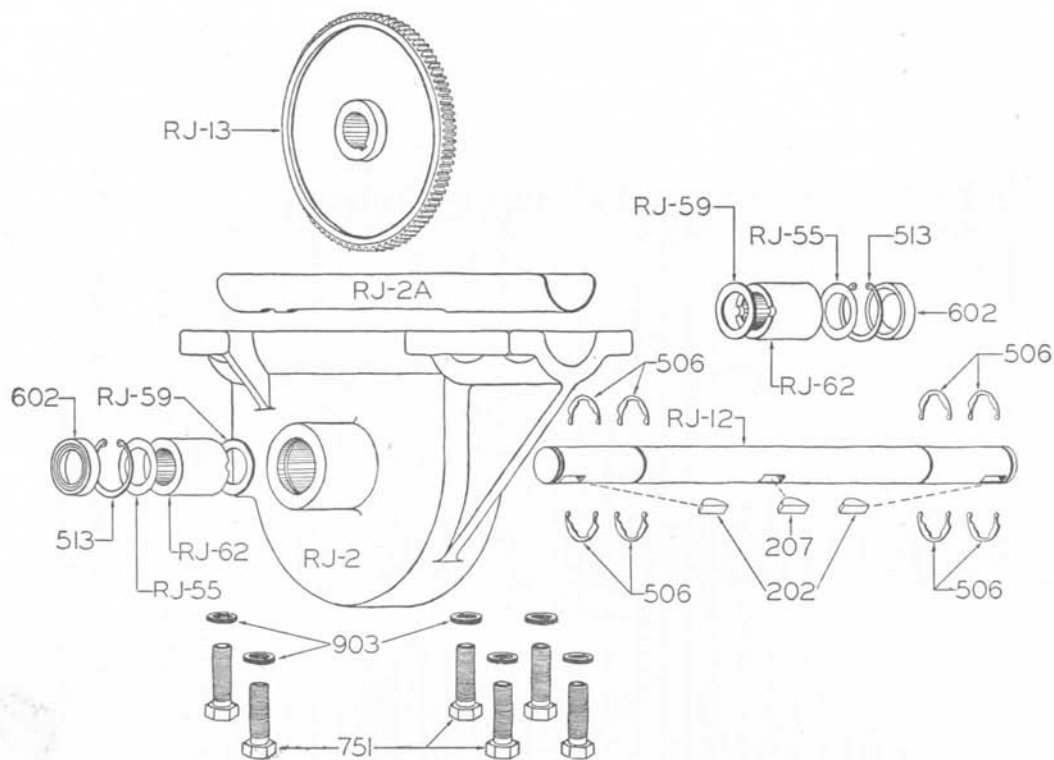
The adjustment of "V" belt 151 is made by raising or lowering motor on studs, RJ-52 (see opposite page).

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 two guide posts (not over them) and should only touch guide posts when motor is disengaged and belt is loose.

RJC-8	Speed Shifting Spring	Steel	2	.12
RJC-2	Wheel Drive Housing	Cast Iron	1	8.50
RJC-2A	Housing Cover	Cast Iron	1	3.50
RJC-2B	Housing Cover Gasket	Vellumoid	1	.10
RJC-12	Axle	Steel	1	3.50
RJC-13	Wheel Drive Worm Gear	Bronze	1	10.00
RJC-16	Speed Shifting Fork	Cast Iron	1	1.25
RJC-20	Speed Shifting Fork Shoe	Bronze	2	.30
RJC-61	Spring Clip	Steel	1	.30
RJC-68	Eccentric Shaft	Steel	1	1.00
RJC-69	Fork Pin	Steel	1	.25
RJC-70	Wheel Drive Clutch	Cast Iron	1	2.15
168	1/4" Pipe Plug	Steel	1	.10
185	5/16" Copper Gasket	Copper	6	.02
207	1/4 x 1 Woodruff Key	Steel	1	.10
506	Two Piece Retaining Ring	Steel	2	.25
513	One Piece Retaining Ring	Steel	2	.20
602	Oil Seal	Steel	2	.70
612	"O" Ring	Rubber	1	.15
712	1/4—20 x 5/8 L. Hexagon Head Screw	Steel	1	.02
715	5/16—18 x 3/4 L. Hexagon Head Screw	Steel	4	.03
751	1/2—13 x 1 3/4 L. Hexagon Head Screw	Steel	6	.08
756	1/4—20 x 1/2 L. Round Head Screw	Steel	1	.02
784	5/16—18 x 1 3/4 L. Hexagon Head Screw	Steel	2	.02
800	1/4—20 Hexagon Nut	Steel	1	.02
900	1/4" Lock Washer	Steel	2	.02
903	1/2" Lock Washer	Steel	6	.02

The wheel clutch with handle bar control is only made for 1950 Models. 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, RJC-13. Any attempt to force this into place will wear out parts RJC-20, shifter fork shoes.

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.

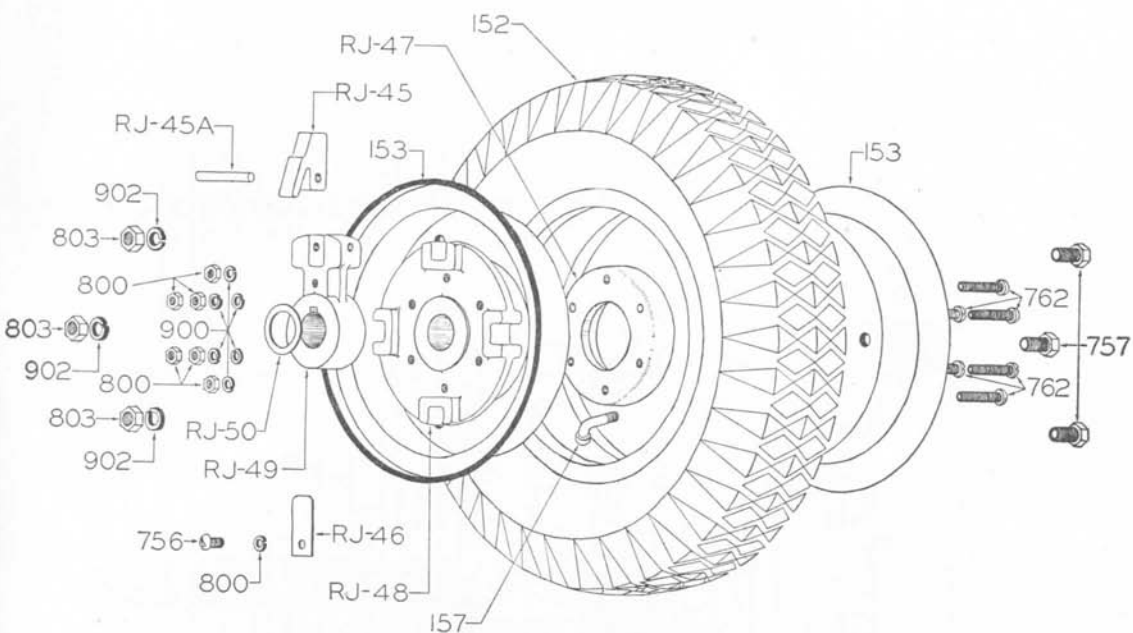


1949 WHEEL DRIVE HOUSING ASSEMBLY

Part Number	NAME	Material	Number Required	Price Each
RJ-2	Wheel Drive Housing	Cast Iron	1	\$10.00
RJ-2A	Wheel Drive Housing Gasket	Vellumoid	1	.15
RJ-12	Axle	Steel	1	3.50
RJ-13	Wheel Drive Worm Gear	Bronze	1	10.00
RJ-55	± 1 Shim	Steel	4	.05
RJ-59	Wheel Drive Housing Washer	Steel	2	.10
RJ-62	Front Bushing	Bronze	2	1.00
202	$\frac{1}{4} \times \frac{7}{8}$ Woodruff Key	Steel	2	.10
207	$\frac{1}{4} \times 1$ Woodruff Key	Steel	1	.10
506	Two Piece Retaining Ring	Steel	4	.25
513	One Piece Retaining Ring	Steel	2	.20
602	Oil Seal		2	.70
751	$\frac{1}{2}$ -13 x $1\frac{3}{4}$ Hexagon Head Bolt	Steel	6	.08
903	$\frac{1}{2}$ Lock Washer	Steel	6	.02

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.

Be sure that bolts 751 and oil seal washers 903 are firmly and securely tightened.

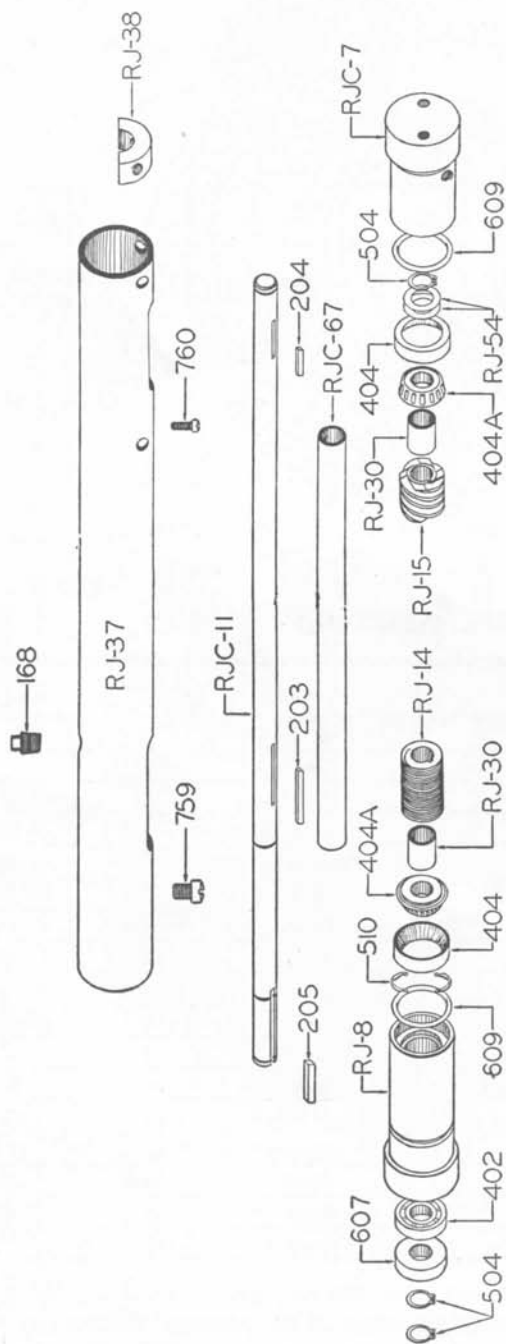


1949 WHEEL ASSEMBLY

Part Number	NAME	Material	Number Required	Price Each
RJ-45	Pawl	Cast Iron	2	\$.20
RJ-45A	Pawl Pin	Steel	2	.10
RJ-46	Pawl Spring	Steel	2	.15
RJ-47	Wheel Disc Ring	Cast Iron	2	1.00
RJ-48	Wheel Hub	Cast Iron	2	3.50
RJ-49	Wheel Hub Dog	Cast Iron	2	1.50
RJ-50	Wheel Hub Shim	Brass	2	.05
152	Tire	Rubber	2	6.30
153	Wheel Discs	Steel	2 Sets	Set 3.50
157	Tube	Rubber	2	2.24
756	$\frac{1}{4}$ —20 x $\frac{1}{2}$ Long Round Head Screw	Steel	2	.02
757	$\frac{3}{8}$ —16 x $\frac{3}{4}$ Long Hexagon Head Screw	Steel	6	.03
762	$\frac{1}{4}$ —20 x $1\frac{3}{4}$ Long Round Head Screw	Steel	12	.03
800	$\frac{1}{4}$ —20 Hexagon Nut	Steel	12	.02
803	$\frac{3}{8}$ —16 Hexagon Nut	Steel	6	.02
900	$\frac{1}{4}$ Lock Washer	Steel	7	.02
902	$\frac{3}{8}$ Lock Washer	Steel	6	.02

Air pressure in tires should always be kept at 24 pounds. When liquid is used in tires, a special valve is required for injection of the liquid.

Most farm tractor agencies are equipped to apply the proper liquid.



1949-1950 CHASSIS AND WORM DRIVE ASSEMBLY

Part Number	NAME	Material	Number Required	Price Each
o RJ-8	Front Bearing Cap	Cast Iron	1	\$2.50
- RJ-11	Drive Shaft 1949	Steel	1	4.00
* RJ-C-11	Drive Shaft 1950	Steel	1	4.00
o RJ-14	Wheel Drive Worm	Steel	1	3.50
o RJ-15	Tine Drive Worm	Steel	1	4.50
o RJ-37	Chassis Tube	Steel	1	4.50
o RJ-30	Spacer	Steel	2	.10
o RJ-38	Tapped Block	Steel	1	.50
o RJ-54	Thrust Bearing Shim	Steel	4	.05

-	RJ-7	Rear Bearing Cap 1949	Cast Iron	1	1.50
*	RJC-7	Rear Bearing Cap 1950	Cast Iron	1	1.50
*	RJC-67	Sleeve 1950	Steel	1	.75
o	168	1/4" Pipe Plug	Steel	1	.10
o	203	1/8 Square Key x 1 3/4" Long	Steel	1	.10
o	204	1/8 Square Key x 7/8" Long	Steel	1	.10
o	205	3/16 Square Key 2" Long	Steel	1	.10
o	402	Ball Bearing	Steel	1	2.35
o	404	Bearing Cup	Steel	2	1.40
o	404A	Bearing Cone	Steel	2	2.30
o	504	One Piece Retaining Ring	Steel	3 on 1950 2 on 1949	.15
o	510	Two Piece Retaining Ring	Steel	1 on 1950 2 on 1949	.15
o	607	Oil Seal		1	.55
*	609	"O" Ring 1950 Only	Rubber	2	.15
o	759	3/8—16 x 1/2 C. Fillister Head Screw	Steel	1	.03
o	760	#10—32 x 1/2 Fillister Head Screw	Steel	1	.02

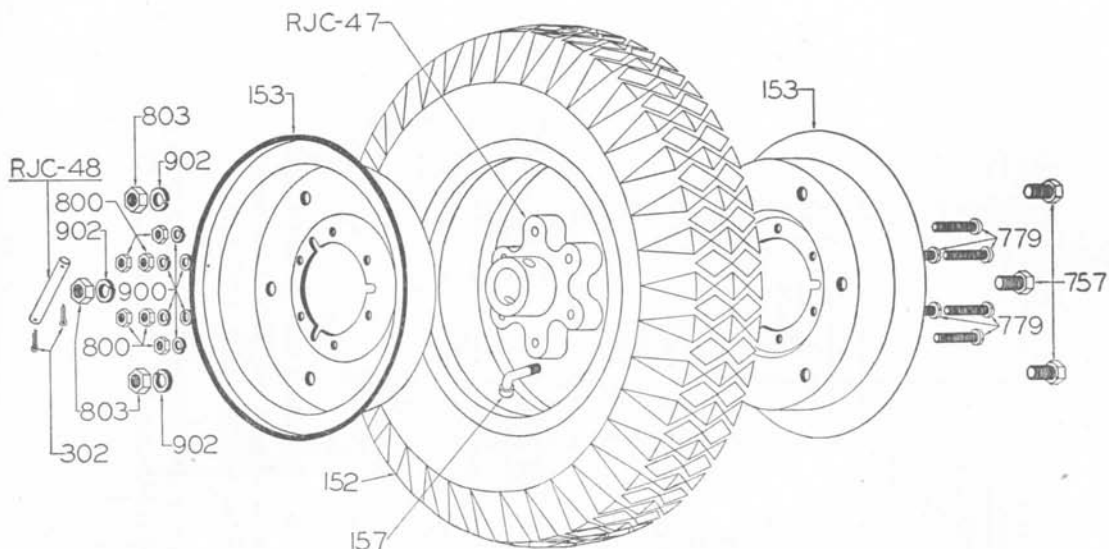
- For 1949 Chassis and Worm Drive Assembly Only.

* For 1950 Chassis and Worm Drive Assembly Only.

o For 1949 or 1950 Machines.

The chassis tube RJ-37 is the back bone of Model T. To this part all other parts are attached, and it encloses the main drive shaft, RJC-11 and both the wheel drive worm RJ-14 and the tiller drive worm, RJ-15. It also encloses two tapered roller bearings, 404A and the annular ball bearing, 402.

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.



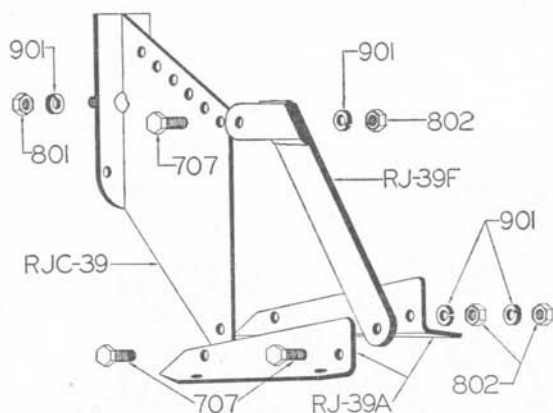
1950 WHEEL ASSEMBLY

Part Number	NAME	Material	Number Required	Price Each
RJC-47	Wheel Hub	Cast Iron	2	\$1.25
RJC-48	Wheel Hub Pin	Steel	2	.10
152	Tire	Rubber	2	6.30
153	Wheel Discs	Steel	2 Sets	Set 3.50
157	Tube	Rubber	2	2.24
302	3/32 x 1 Cotter Pin	Steel	4	.02
757	3/8—16 x 3/4 L. Hexagon Head Screw	Steel	6	.02
779	1/4—20 x 1 1/4 L. Round Head Screw	Steel	12	.02
800	1/4—20 Hexagon Nut	Steel	12	.02
803	3/8—16 Hexagon Nut	Steel	6	.02
902	3/8" Lock Washer	Steel	6	.02

Air pressure should be kept at twenty-four pounds pressure. (See previous page regarding liquid in tires).

Depth control assembly should be entirely removed when working in heavy, stringy, cover crops.

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

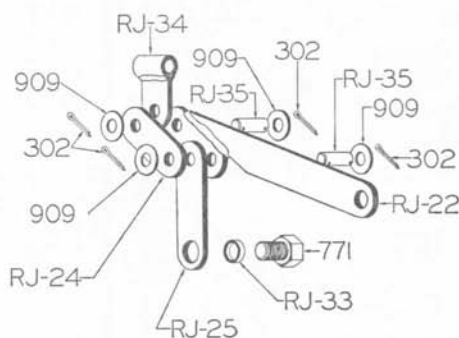


1949 - 1950 DEPTH CONTROL ASSEMBLY

Part Number	NAME	Material	Number Required	Price Each
- RJ-39G	Blade Assembly 1949	Steel	1	\$2.75
* RJ-39	Blade Assembly 1950	Steel	1	2.75
o RJ-39A	Depth Control Shoe	Steel	2	.50
o RJ-39-F	Link Assembly	Steel	1	1.00
o 707	5/16—24 x 3/4 L. Hexagon Head Screw	Steel	3	.03
o 801	5/16—18 Hexagon Nut	Steel	2 on 1949 1 on 1950	.02
o 802	1/16—24 Hexagon Nut	Steel	3	.02
o 901	5/16" Lock Washer	Steel	5 on 1949 4 on 1950	.02

- For 1949 Depth Control Assembly Only.

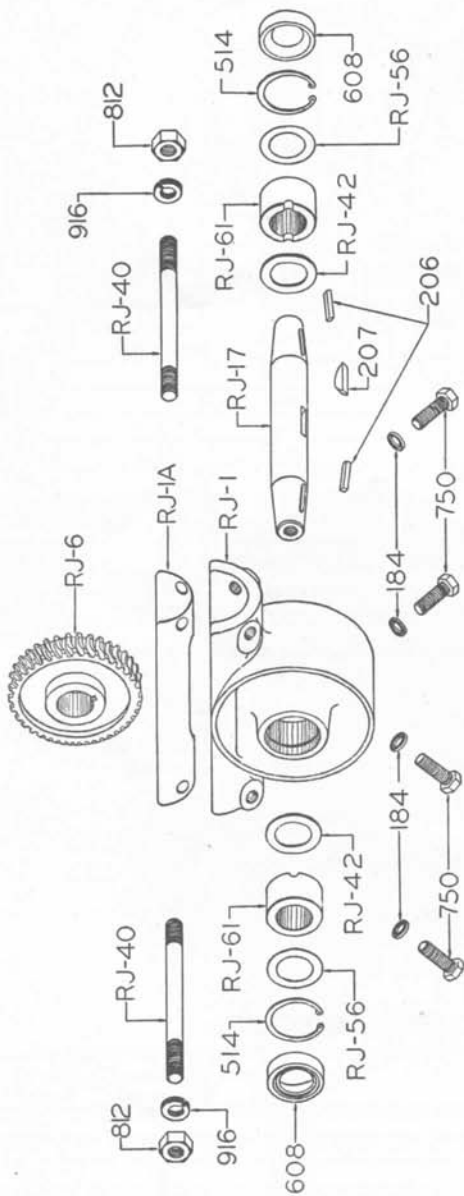
o For 1949 or 1950 Machines. * For 1950 Depth Control Assembly Only.



1949 - 1950 MOTOR CLUTCH CONTROL

Part Number	NAME	Material	Number Required	Price Each
o RJ-22	Clutch Lever Assembly	Steel	1	.25
o RJ-24	#1 Clutch Link	Steel	1	.25
o RJ-25	#2 Clutch Link	Steel	1	.15
o RJ-33	Collar	Steel	1	.15
o RJ-34	Swivel Link Assembly	Steel	1	.12
o RJ-35	Link Pin	Steel	2	.15
o 302	3/32 x 1 Cotter Pin	Steel	4	.02
o 771	1/2—13 x 3/4 Hexagon Head Bolt	Steel	1	.03
o 909	3/8 S. A. E. Washer	Steel	4	.02

o For 1949 or 1950 Machines.



1949 - 1950 TILLER DRIVE HOUSING ASSEMBLY

Part Number	NAME	Material	Number Required	Price Each
o RJ-1	Tiller Drive Housing 1949	Aluminum	1	\$5.00
o RJC-1	Tiller Drive Housing 1950	Aluminum	1	5.00
o RJ-1A	Tiller Drive Housing Gasket	Vellumoid	1	.10
o RJ-6	Tiller Drive Worm Gear	Bronze	1	5.00
o RJ-17	Tine Shaft	Steel	1	1.50
o RJ-40	Tine Shaft Stud	Steel	2	.25
o RJ-42	Thrust Washer 1949	Steel	2	.10
* RJC-42	Rear Thrust Washer 1950	Steel	2	.10
* RJ-55	#1 Shim—1950	Steel	4	.05

-	RJ-56	#2 Shim—1949	Steel	4	.05
-	RJ-61	Rear Bushing 1949	Bronze	2	.75
*	RJC-60	Rear Bushing 1950	Bronze	2	.75
o	184	3/8" Copper Gasket	Copper	4	.02
o	206	3/16 Square Key—1 1/16 Long	Steel	2	.10
o	207	1/4 x 1 Woodruff Key	Steel	1	.10
*	513	One Piece Retaining Ring 1950	Steel	2	.20
-	514	One Piece Retaining Ring 1949	Steel	2	.25
*	602	Oil Seal 1950		2	.70
-	608	Oil Seal 1949		2	.70
o	750	3/8—16 x 1 1/4 L. Hexagon Head Screw	Steel	4	.05
o	812	7/16—14 Hexagon Nut	Steel	2	.05
o	916	7/16" Lock Washer	Steel	2	.02

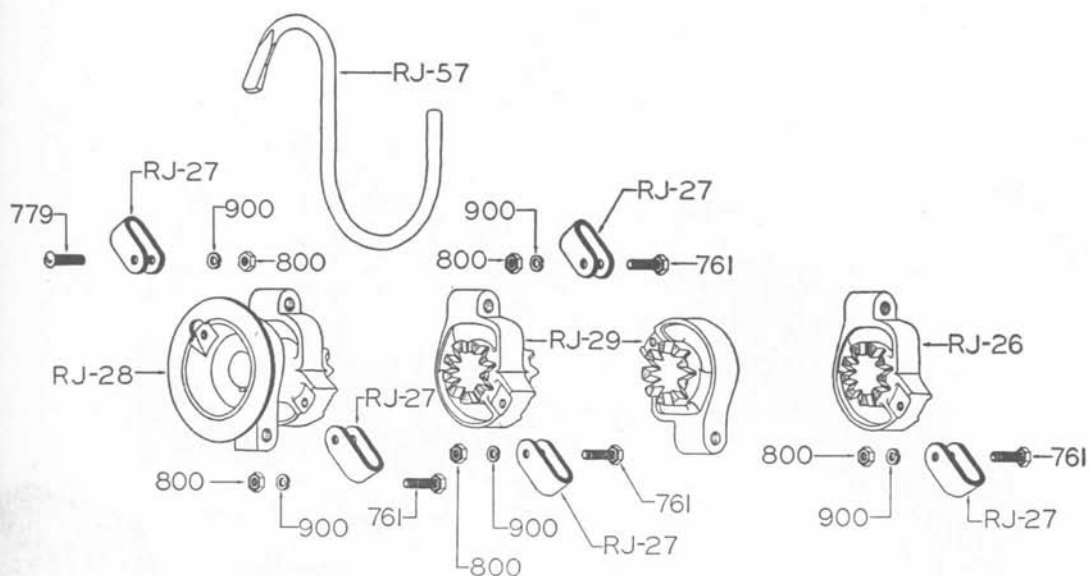
- For 1949 Tiller Housing Only

* For 1950 Tiller Housing Only.

o For 1949 or 1950 Machines.

This is the business end of the Model T. 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.



1949 - 1950 TINE HOLDER ASSEMBLY

Part Number	NAME	Material	Number Required	Price Each
o RJ-26	Outside Tine Holder	Cast Iron	1—Right Hand 1—Left Hand	\$.90
o RJ-27	Tine Clip	Steel	10	.15
- RJ-28	Inside Tine Holder 1949	Cast Iron	1—Right Hand	3.50
* RJC-28	Inside Tine Holder 1950	Cast Iron	1—Left Hand	3.50
o RJ-29	Middle Tine Holder	Cast Iron	4	.90
o RJ-57	Pointed Tine	Steel	10	.45
o 761	¼—20 x 1" L. Hexagon Head Screw	Steel	8	.03
o 779	¼—20 x 1¼" L. Round Head Screw	Steel	2	.02
o 800	¼—20 Hexagon Nut	Steel	10	.02
o 900	¼" Lock Washer	Steel	10	.02

- For 1949 Tine Holder Assembly Only.

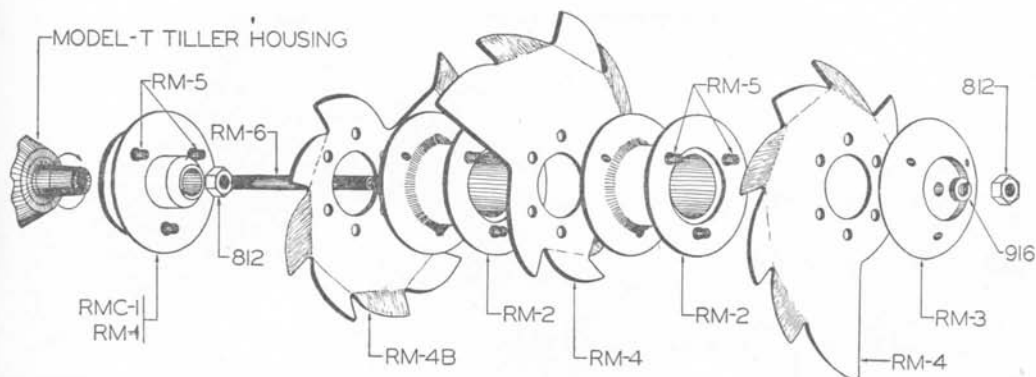
o For 1949 or 1950 Machines.

* For 1950 Tine Holder Assembly Only.

The tine holder assembly is such that more or less RJ-29 middle tine holders can be used. By adding additional tine holders, a wider cut can be made, and by omitting, a narrower cut will be obtainable.

Proper studs (RJ-40, previous page) are available in lengths required to make any change considered desirable.

Tine holders must be as evenly spaced around the tine circle as possible. Exactly even spacing is not always possible, but approximate even spacing is entirely satisfactory.



ROTO-MILLER ASSEMBLY

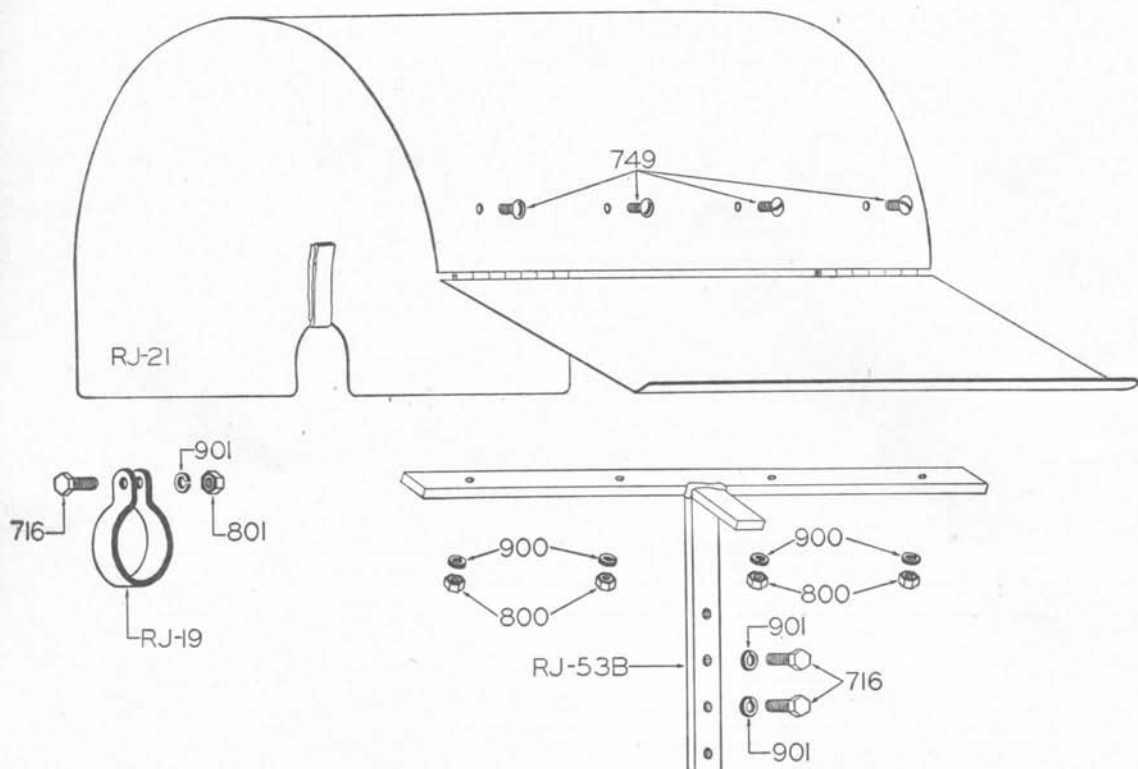
Part Number	NAME	Material	Number Required	Price Each
* RMC-1	Inside Holder (1950)	Cast Iron	2	\$4.05
o RM-1	Inside Holder (1949)	Cast Iron	2	4.05
o RM-2	Middle Holder	Cast Iron	4	3.00
o RM-3	Cap	Cast Iron	2	1.00
o RM-4	Outside Blade	Steel	4	1.40
o RM-4A	Right Blade	Steel	1	1.65
o RM-4B	Left Blade	Steel	1	1.65
o RM-5	Pin	Steel	18	.08
o RM-6	Stud	Steel	2	.25
o 812	7/16"—14 Hexagon Nut	Steel	4	.05
o 916	7/16" Lock Washer	Steel	2	.02

* For 1950 Machines Only.

o For 1949 or 1950 Machines.

Roto-Millers revolve in a direction which causes the points to trail. If Roto-Millers are assembled backward, they will not function, will tangle up, and prove to be completely unsatisfactory.

A special book on the use and mounting of Roto-Millers is available to all owners of Roto-Millers.



1949 - 1950 HOOD ASSEMBLY

Part Number	NAME	Material	Number Required	Price Each
o RJ-19	Hood Clamp	Steel	1	\$.20
o RJ-21	Hood Assembly	Steel	1	5.00
- RJ-53B	Bracket Assembly 1949	Steel	1	1.50
* RJC-53	Bracket Assembly 1950	Steel	1	1.50
* 715	5/16—18 x 3/4 Hexagon Head Screw	Steel	2 on 1950	.03
o 716	5/16—18 x 1 Hexagon Head Screw	Steel	1 on 1950 3 on 1949	.03
o 749	1/4—20 x 5/8 Truss Head Screw	Steel	4	.02
o 800	1/4—20 Hexagon Nut	Steel	4	.02
o 801	5/16—18 Hexagon Nut	Steel	1	.02
o 900	1/4" Lock Washer	Steel	4	.02
o 901	5/16" Lock Washer	Steel	3	.02

- For 1949 Hood Assembly Only.

* For 1950 Hood Assembly Only.

o For 1949 or 1950 Machines.

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

GENERAL OPERATING INSTRUCTIONS

OILING — There are only two oil reservoirs on your Model T — one on the motor, and one located on the chassis tube directly in front of the handle bar bracket. The motor crank case should be kept full at all times, and the directions found in the motor manual should be followed explicitly. When the chassis tube is in a horizontal position, the proper oil level in the chassis tube is one-half full of EP 90 oil available at all service stations. Besides oiling the motor according to the special directions great care must be exercised in keeping the oil up to level in the air cleaner, and under especially dusty conditions this should be changed 2 to 3 times a day.

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 1950 Model T has two clutches, one located on the handle bar cross bar which is known as the motor clutch, and the other located on the right handle bar known as the wheel clutch. 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 raise the motor from the motor base an amount necessary to take up the slack. When doing this, care must be exercised to raise the engine evenly so that the motor crank shaft and the main drive shaft will remain parallel. Raising the motor 1/32" is usually sufficient. Due to the force exerted by the motor clutch control when the motor is raised, it is easily 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 that amount necessary to restore the proper belt tension.

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 Model T 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.

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 Model T is stopped.

DEPTH CONTROL — 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 shoes 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.

HANDLE BARS — The handle bars can be adjusted vertically by placing the bottom handle bar bolt in one of the three holes provided in the handle bar base as shown on page 6, RJ-4. The handle bar can be moved laterally and can be set in any one of three positions by loosening the cylindrical handle which fastens the handle bar base to the wheel housing RJ-9A.

OPERATION — When you have removed your Model T 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. Remove the throttle by unscrewing the two screws. Pass the wire through the collar and through the hole in the adjustment swivel. Twist the throttle clockwise and screw it on to the cable. Replace throttle control and with 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 $\frac{1}{4}$ " protruding from swivel. Bind wire around swivel. 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 the handle bars tightly and do not press down 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 Model T and start tilling in the next row. If you don't wish to walk directly behind the machine loosen the handle bar base and move handle bars either to right or left into the notches provided. Then retighten screw 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 unless the ground is friable and completely clean of all stones and trash.

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 tine holders 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.

PARTS OR ATTACHMENTS — When ordering parts or attachments for your Model T it is essential that you give your machine number. This number is found immediately above the top pulley stamped on the vertical section of the motor base.

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 Model T in slowest speed, belt should be placed on smallest diameter step on motor pulley and on largest driven pulley. To increase speed place belt on next largest driven pulley, etc. 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 ends of 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. Inside tineholders are keyed to the tapered tiller shaft, and it is recommended that when removing them, a tineholder puller be used to make this operation easy and to prevent any damage to the tineholders.

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.

ROTO-MILLERS — In addition to the tines described above, Roto-Millers 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 two inner ones should be so installed so that the curved portion of the tip faces 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 outer millers are the same for each side. The Roto-Millers 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 Model T, 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 Roto-Millers is as follows:

The right inside Miller should be installed so that the straight edge of the miller points up, the middle right miller 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.

ROTO-ETTE WARRANTY

ROTOTILLER, INC. warrants for ninety days from date of delivery all such parts of new Roto-Ettes as shall, under normal use and service, appear to it 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. ROTOTILLER, INC. cannot, however, and does not accept any responsibility in connection with any of its Roto-Ettes when they have been altered outside of its own factories or branch shops. This warranty does not include any component parts not manufactured by ROTOTILLER, INC. The warranty of the respective manufacturers applies to these parts. If the purchaser shall use or allow to be used in his Roto-Ette, parts not made or supplied by the Manufacturer, then this warranty shall become void. ROTOTILLER, INC. is not responsible to any purchaser of its goods for any undertaking, representation or warranty made by Dealer selling its products, beyond those herein expressed.

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