

OWNER'S GUIDE

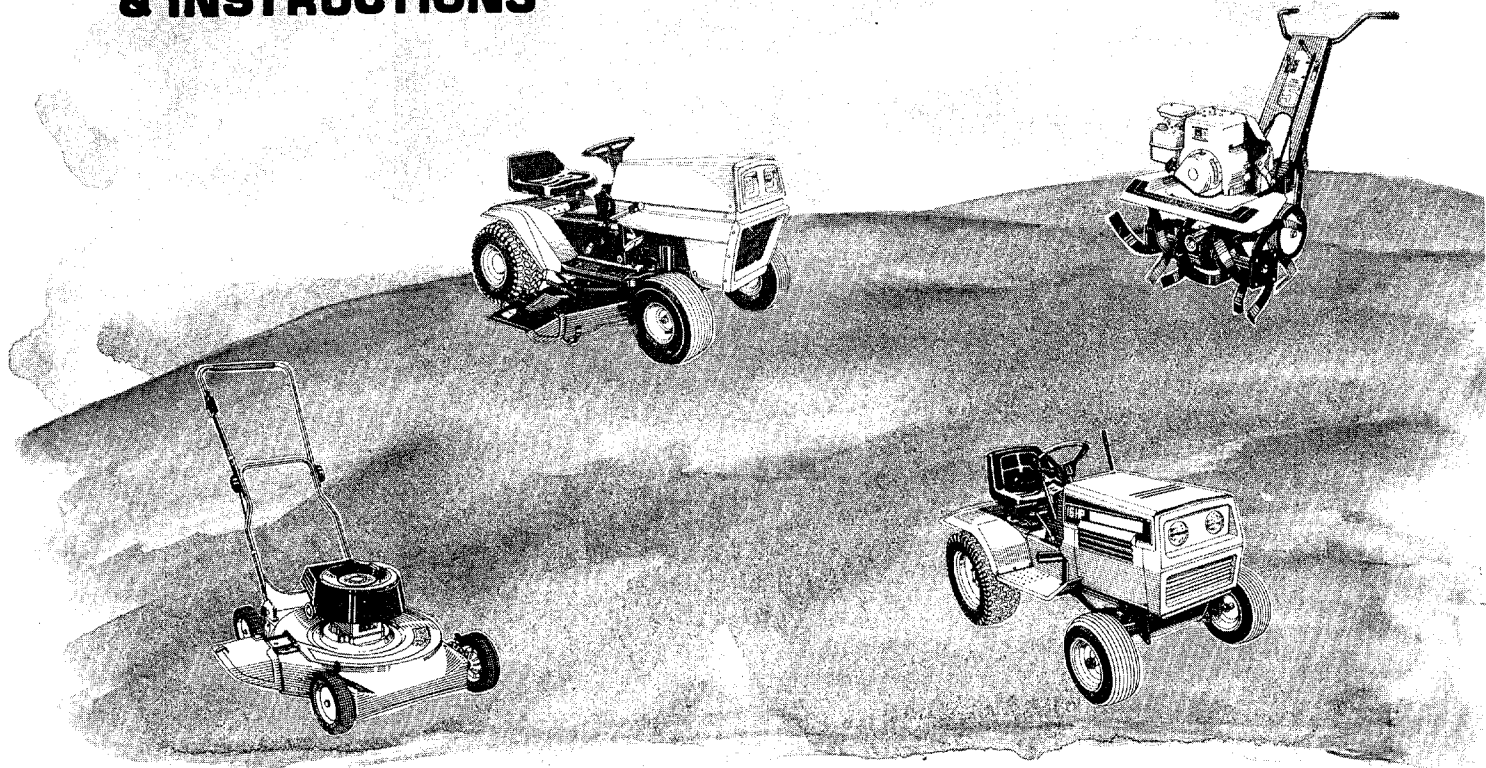
FIFTY CENTS

**MODEL
NO.
219-100A**

**ASSEMBLY
OPERATION
PARTS
MAINTENANCE**

**VERTICAL
ROTARY
TILLER**

**IMPORTANT:
READ SAFETY RULES
& INSTRUCTIONS**



PRINTED IN U.S.A.

FORM No. 770-8289

LIMITED WARRANTY

For one year from the date of original retail purchase, MTD PRODUCTS INC will either repair or replace, at its option, free of charge, F.O.B. factory or authorized service firm, any part or parts found to be defective in material or workmanship. Transportation charges under this warranty must be paid by the purchaser unless return is requested by MTD PRODUCTS INC.

This warranty will not apply to any part which has become inoperative due to misuse, excessive use, accident, neglect, improper maintenance, alterations, or unless the unit has been operated and maintained in accordance with the instructions furnished. This warranty does not apply to the engine, motor, battery, battery charger or component parts thereof. Please refer to the applicable manufacturer's warranty on these items.

This warranty will not apply where the unit has been used commercially.

Warranty service is available through your local authorized service dealer or distributor. If you do not know the dealer or distributor in your area, please write to the Customer Service Department of MTD.

The return of a complete unit will not be accepted by the factory unless prior written permission has been extended by MTD.

This warranty gives you specific legal rights. You may also have other rights which vary from state to state.

WARNING TO PURCHASERS OF INTERNAL COMBUSTION ENGINE EQUIPPED MACHINERY OR DEVICES IN THE STATE OF CALIFORNIA

The equipment which you have just purchased does not have a spark arrester. If this equipment is used on any forest covered land, brush covered land, or grass covered unimproved land in the State of California, before using on such land, the California law requires that a spark arrester be provided. In addition, spark arrester is required by law to be in effective working order. The spark arrester must be attached to the exhaust system and comply with Section 4442 of the California Public Resources Code.

IMPORTANT

It is suggested that this manual be read in its entirety before attempting to assemble or operate. Keep this manual in a safe place for future reference and for ordering replacement parts.

This unit is shipped **WITHOUT GASOLINE** or **OIL**. After assembly, see operating section of this manual for proper fuel and amount.

Your tiller is a precision piece of power equipment, not a play thing. Therefore exercise extreme caution at all times.

SAFE OPERATION PRACTICES FOR TILLERS

1. Read the Operating and Service Owner's Manual carefully. Be thoroughly familiar with the controls and the proper use of the equipment.
2. Never allow children to operate a power tiller. Only persons well acquainted with these rules of safe operation should be allowed to use your tiller.
3. Keep the area of operation clear of all persons, particularly small children and pets.
4. Do not operate equipment when barefoot or wearing open sandals. Always wear substantial footwear.
5. Do not wear loose fitting clothing that could get caught on the tiller.
6. Do not start the engine unless the shift lever is in the neutral (N) position.
7. Do not stand in front of the tiller while starting the engine.
8. Do not place feet and hands on or near the tines when starting the engine or while the engine is running.
9. Do not leave the tiller unattended with the engine running.
10. Do not walk in front of the tiller while the engine is running.
11. Do not fill gasoline tank while engine is running. Spilling gasoline on hot engine may cause a fire or explosion.
12. Do not run the engine while indoors. Exhaust gases are deadly poisonous.
13. Be careful not to touch the muffler after the engine has been running, it is hot.
14. Before any maintenance work is performed or adjustments are made, remove the spark plug wire and ground it on the engine block for added safety.
15. Use caution when tilling near buildings and fences, rotating tines can cause damage or injury.
16. Before attempting to remove rocks, bricks and other objects from tines, stop the engine and be sure the tines have stopped completely. Disconnect the spark plug wire and ground to prevent accidental starting.
17. Check the tine and engine mounting bolts at frequent intervals for proper tightness.
18. Keep all nuts, bolts and screws tight to be sure the equipment is in safe working condition.
19. Never store the equipment with gasoline in the tank inside of a building where fumes may reach an open flame or spark. Allow the engine to cool before storing in any enclosure.

ASSEMBLY

Your rotary tiller is shipped complete in a single carton. The tines, wheels, handle and depth bar are to be assembled. This is done in the manner described below.

Tines—Mount tines on tine shaft as shown. (See page 10.) Tines must be mounted with the cutting edges facing the correct direction. The tiller will not operate properly unless the sharpened surface of the tines enter the soil first. Secure tines in position on tine shaft with clevis pins (41), and internal cotter pins (32).

Handle—Assemble the handle brackets (8) to the handle (2) with hex head screw (11), lockwashers (9) and hex nuts (10). DO NOT tighten. Place the handle brackets (8) in the tailpiece slots. Line up lower holes in handle brackets with mounting holes in tailpiece assembly. Secure with carriage bolt 5/16-18 x 3/4" Lg. (20), lockwasher (13) and hex nut (12). Line up upper holes in handle brackets with mounting holes in mounting plate assemblies (19) and secure with carriage bolt (20), lockwasher (13) and hex nut (12). See page 8 for correct sequence. Tighten all nuts and bolts securely.

CLUTCH CONTROL LEVER ASSEMBLY

Clutch Lever—Assemble in this order: rubber washer (42), steel washer (41), clutch lever assembly (43), (rod bracket to the front), steel washer (41) and lock nut (40). Tighten until rubber washer compresses slightly. (See page 8.)

Clutch Control Assembly—Screw the ferrule (37) on the threaded end of the control rod (38) until about 1" of the threads show above the ferrule. Insert the ferrule through the control pivot lever (36), fasten with flat washer (35) and cotter hairpin (34). Put the clutch handle in the neutral position. Insert the control rod in the bracket on the clutch lever and secure with a cotter hairpin (34) through the center of the bracket. Adjust the ferrule so the belt is slack when the clutch lever is in the neutral position. (See page 8.)

Depth Bar—Attach depth bar (18) in desired position with clevis pin (17) and locking pin (15). (See page 8.)

Grips—Slip hand grips on the upper end of each handle. They will slip on more easily if you first soak them in warm soapy water.

CHECK LIST BEFORE OPERATION

A. After the tiller is assembled and before gasoline and oil are added to the engine, check the case for correct lubricant level.

1. Remove rear pipe plug from tiller gear case. See figure 1.

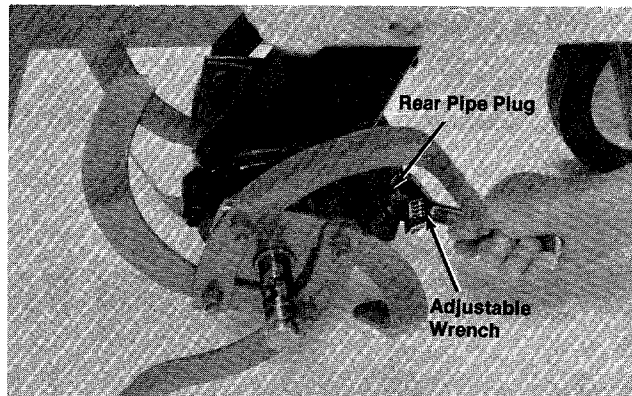


FIGURE 1.

2. If lubricant flows from the outlet, lubricant is at the correct level. See figure 2.

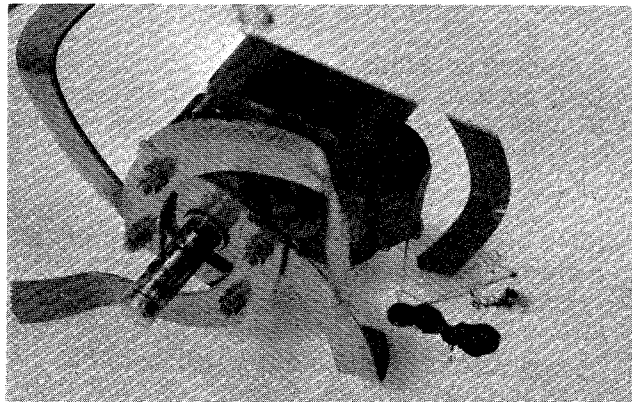


FIGURE 2.

3. If lubricant fails to flow from the outlet, lubricant should be added. USE PENNANT OIL EP #35000. This is available in 8 ounce squeeze tubes. Order part number 737-0136. See figure 3.

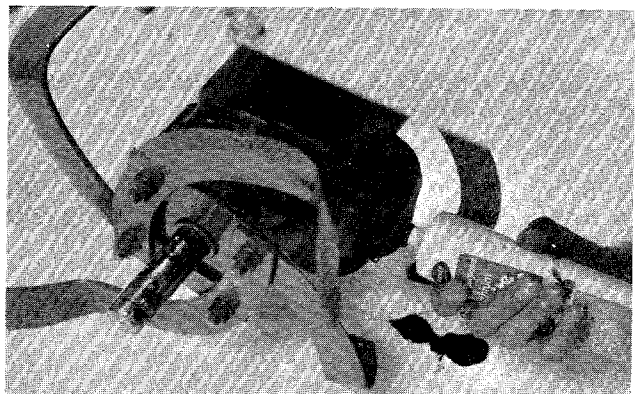


FIGURE 3.

- B. Remove spark plug wire from spark plug and ground. Check tiller tines for proper installation. With throttle control lever set on STOP position and the clutch control handle set in FORWARD position, slowly crank engine to determine direction of tine rotation. Be sure all tines are mounted so the sharpened edges enter the soil first.
- C. Now place the clutch control handle in NEUTRAL position. Slowly crank engine. The tines should not rotate.
- D. Check all nuts and bolts for proper tightness. This is especially important during the initial operation period. Make this same check periodically thereafter.
- E. Fill fuel tank with clean, fresh, regular grade gasoline. This should be used at all times.
- F. Check engine crankcase for proper oil level. The engine is shipped without oil in the crankcase. Be sure to fill crankcase before starting engine. Be sure crankcase is FULL. See engine manual for correct type and amount.

 **NOTE**

The engine is warranted separately by the engine manufacturer. For warranty service contact the engine manufacturer or their local authorized service station. All important information pertaining to care and operation is included in the engine manual.

STARTING YOUR TILLER

1. Be sure clutch control handle is in NEUTRAL position.
2. Move throttle lever to START position on engine.
3. After cranking the engine several times or as the engine fires, move the throttle lever to RUN position.
4. Adjust throttle lever for desired operating speed.
5. To stop engine, move throttle lever to STOP position. Keep throttle lever in STOP position at all times when tiller is not in use.

 **NOTE**

A brief break-in period is essential to insure maximum engine life. This consists of running the engine at half speed for a period of time required to use one tank of gasoline. This is necessary on the initial run only. It is also recommended that the oil be changed after five (5) hours of operation. This allows for the removal of impurities which may have accumulated during the break-in period. Subsequent oil changes should be made as stated in the engine manual. Always check oil before using your tiller. Be sure oil level is adequate.

OPERATING INSTRUCTIONS

For your own convenience and safety, observe all safety suggestions shown in this manual. Your tiller is not a toy, it is a precision piece of power equipment. Treat it as such.

It is important to recognize the fact that the forward and penetrating action of the rotary tiller is obtained from the rotating action of the tines in the soil. The depth bar acts as a brake for the tiller and controls the depth and speed at which the machine will operate. By lowering the setting of the depth bar, the forward speed of the machine is reduced and the working depth of the tines is increased. Raising the setting of the depth bar increases the forward speed and reduces the working depth. When soil conditions are severe and several passes must be made over a certain area, the depth bar setting should be lowered each time a pass is made. Further control of tilling depth and travel speed can be obtained by variation of pressure on the handles or the throttle setting. A downward pressure on the handles will increase the working depth and reduce the forward speed. An upward pressure on the handles will reduce the working depth and increase the forward speed. The type of soil and working conditions will determine the actual setting of the depth bar and the handle pressure required.

1. Tine engagement and forward travel is achieved by moving the clutch lever to FORWARD position. Tine rotation and forward motion are stopped by moving the clutch lever to NEUTRAL position.

2. The throttle lever adjusts the engine speed. It also gives fingertip control of the carburetor and magneto stop switch. When the throttle lever is pushed completely to the right from behind the tiller, the carburetor is in START position. Pulling the lever to the left reduces the engine speed to SLOW. When the lever is pulled completely to the left from behind the tiller, the magneto stop switch grounds out the spark and stops the engine.
3. When the depth bar is positioned out of ground engagement, self-propelled transporting of the tiller is easily achieved. With no pressure on the handles and the throttle lever set for SLOW engine speed, move the clutch control handle to the FORWARD position and let the tiller gently propel itself.

1. Standard tine arrangement..... 26"
2. Remove tines that point outward from outer tine assemblies. Tines may be interchanged with opposite sides..... 20"
3. Add tine extensions to standard arrangement (See page 7.)..... 40"

NOTE

When adjusting tines, be sure the cutting edges enter the soil first.

MAINTENANCE AND LUBRICATION

Engine—Service engine in accordance with the engine manufacturer's owner's guide.

NOTE

To drain oil, remove oil filler plug and tip tiller on its side. Drain oil while the engine is warm. See engine manual for filling instructions.

Gear Case—Whenever disassembly of gear case is required, gear case should be thoroughly cleaned and lubricated with 4½ ounces of PENNANT OIL EP #35000. This is available in 8 ounce squeeze tubes. Order part number 747-0136. See figure 4.

ADJUSTMENTS

Belts—Belt slack is taken up by a spring loaded idler pulley. Because of this, belt adjustment is not required.

Clutch—No adjustment of the lower clutch rod is required. This is done automatically by the spring loaded idler.

NOTE

Belt and clutch adjustments can be made by moving the engine bed. Loosen the four bolts which secure it and move the engine bed forward or backward as required. Adjusting the control rod will also effect the belt and clutch adjustment. These adjustments may be necessary if handle position is changed.

Handle—The position of the handle may be adjusted by removing and moving carriage bolts to the desired mounting holes. Adjustment should be made for the most convenient operating height.

Wheels—Wheel positions may be varied to give further adjustment of handle height. Various wheel positions also give variations of the leverage and weight distribution over the tines. Wheels should be set to suit the local soil conditions and the operator's convenience.

Tines—The standard width of cut is 26". Because of the various types of work to which the tiller may be put, variation in the tilling widths may be necessary. This can be accomplished in a number of ways.

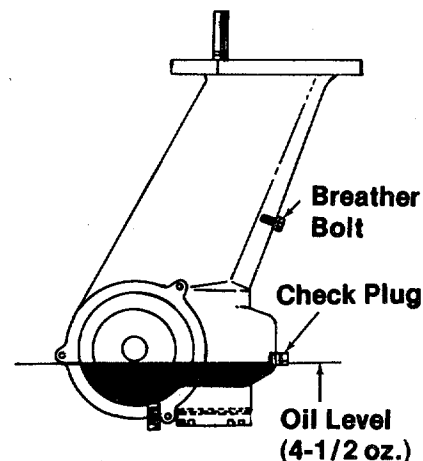


FIGURE 4.

Belt—Access to V belt and pulley assemblies is accomplished by removing the engine and engine bed as described below.

1. Remove four cap screws which secure engine bed to mounting plate assembly. Remove engine bed with engine attached.

2. Remove hex screw, lockwasher and flatwasher in 4½" pulley. Remove pulley and "V" belt. The belt clip on idler must be loosened to remove belt, mark correct location of belt clip in relation to idler before loosening. This can be done by scribing the belt clip and the end of the weld bolt in idler with a file. It is most important that this clip be reassembled in the right position.
3. Position new belt on 4½" pulley and reinstall on gear case shaft. Pulley must be mounted in position so that it will line up with engine pulley when assembly is completed. The correct position is that point at which the center of the pulley is 1-1/8" above the mounting plate assembly. Tighten hex screw, lockwasher and flat washer securely.
4. Line up the belt clip in original position and tighten securely. Make sure belt is inside belt guards. While holding the belt taut (grasp at extreme rear position), move clutch belt lever to FORWARD and NEUTRAL position. If belt clip touches belt with lever in either position, readjust position of clip.
5. Move clutch lever to NEUTRAL position. Remove inspection plate from engine bed.
6. Replace engine bed on mounting plate assembly. Move engine bed and engine as far forward as possible.
7. Remove inspection plate (See page 10.) from engine bed and reach through inspection hole and guide belt into position on engine pulley.
8. Check visually through inspection hole to make sure belt is inside all belt guards and that pulleys are in proper alignment. A flashlight will help you make this check quickly and easily.
9. Line up mounting holes of engine bed and mounting plate then replace cap screws. Do not tighten cap screws until all four screws are in place. Replace inspection plate.

REPLACING TILLER GEAR CASE OIL SEALS

1. Drain lubricant.
2. Remove tine assemblies.
3. Remove bearing cap. (See reference 17 on page 12.)
4. Remove bearings, worm wheel and tine shaft. Do not remove bearing races.
5. Remove oil seals from gear case and bearing cap.
6. Remove all burrs from holes in tine shaft.

7. Dip oil seals in lubricant and then insert one in gear case and one in bearing cap.
8. Wipe tine shaft clean of filings and lubricate before assembling with bearings and worm wheel in gear case.
9. Replace bearing cap.



CAUTION

Do not damage oil seals. The open flanges face to the outside of the gear case.

10. Tighten bearing cap, retighten screws evenly.
11. Replace tine assemblies and add lubricant. (See page 5.)

General—Check periodically all nuts and bolts. Loose nuts and bolts can cause permanent damage to your unit. Keep all nuts and bolts securely tightened.

STORAGE

The following steps should be taken to prepare your tiller for storage.

1. Clean tiller thoroughly and lubricate as described in the preceding instructions.
2. Coat tilling tines with grease to prevent rusting.
3. Prepare engine for storage in accordance with engine manufacturer's owner's guide.
4. Block tiller legs to raise tires clear of floor. Be sure tiller is level.
5. Store in a dry, clean area.

ATTACHMENTS

Extension Tines—This attachment is available to increase your tilling width up to 40". Extension tines are easily installed and removed. Order under part number 299-162A.

Furrow Opener—This attachment is easily installed on the depth bar of your tiller. It can be used for either furrowing or hilling operations. These attachments are available through your local dealer.

For wide (2" x .43") depth bar, order furrow opener 299-179A.

**TILLER WINTERIZING INSTRUCTIONS FOR USE
WITH SNOW BLADE:**

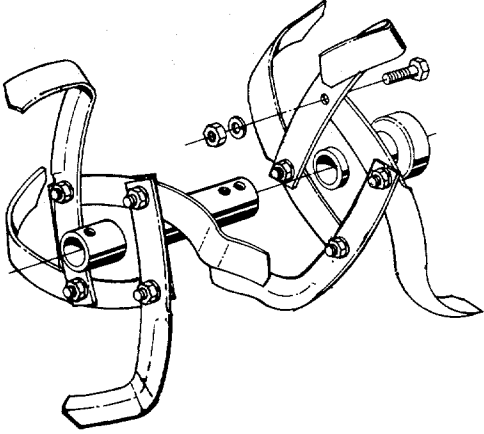
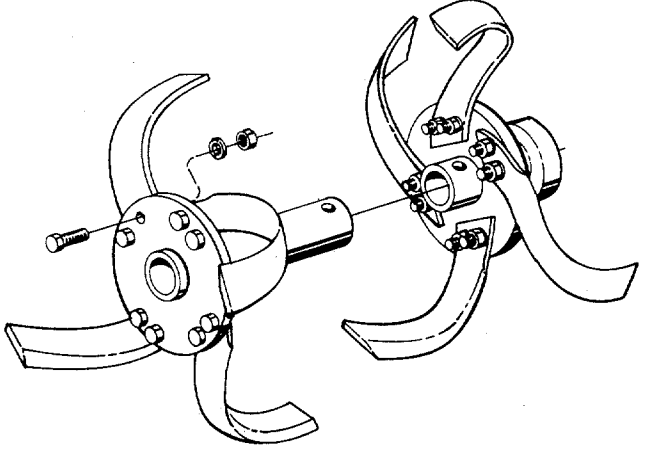
1. For cold weather, (below 32°F.), drain oil from tiller engine crankcase and replace with SAE 10W or 10W-20W detergent oil.
2. Replace any remaining fuel on hand or in the engine fuel tank with a fresh supply of winter grade fuel. Winter fuels contain additives for faster starts. Keep fuel tank full.

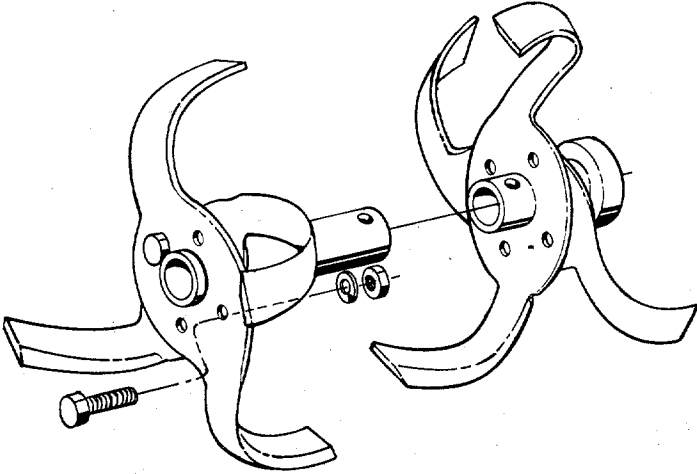


It may be necessary to enrich the carburetor idle and high speed jets 1/8 to 1/4 turn (counterclockwise) for good performance.

3. In the spring of the year, before the tilling season, be sure to change engine oil back to SAE 30W detergent oil.

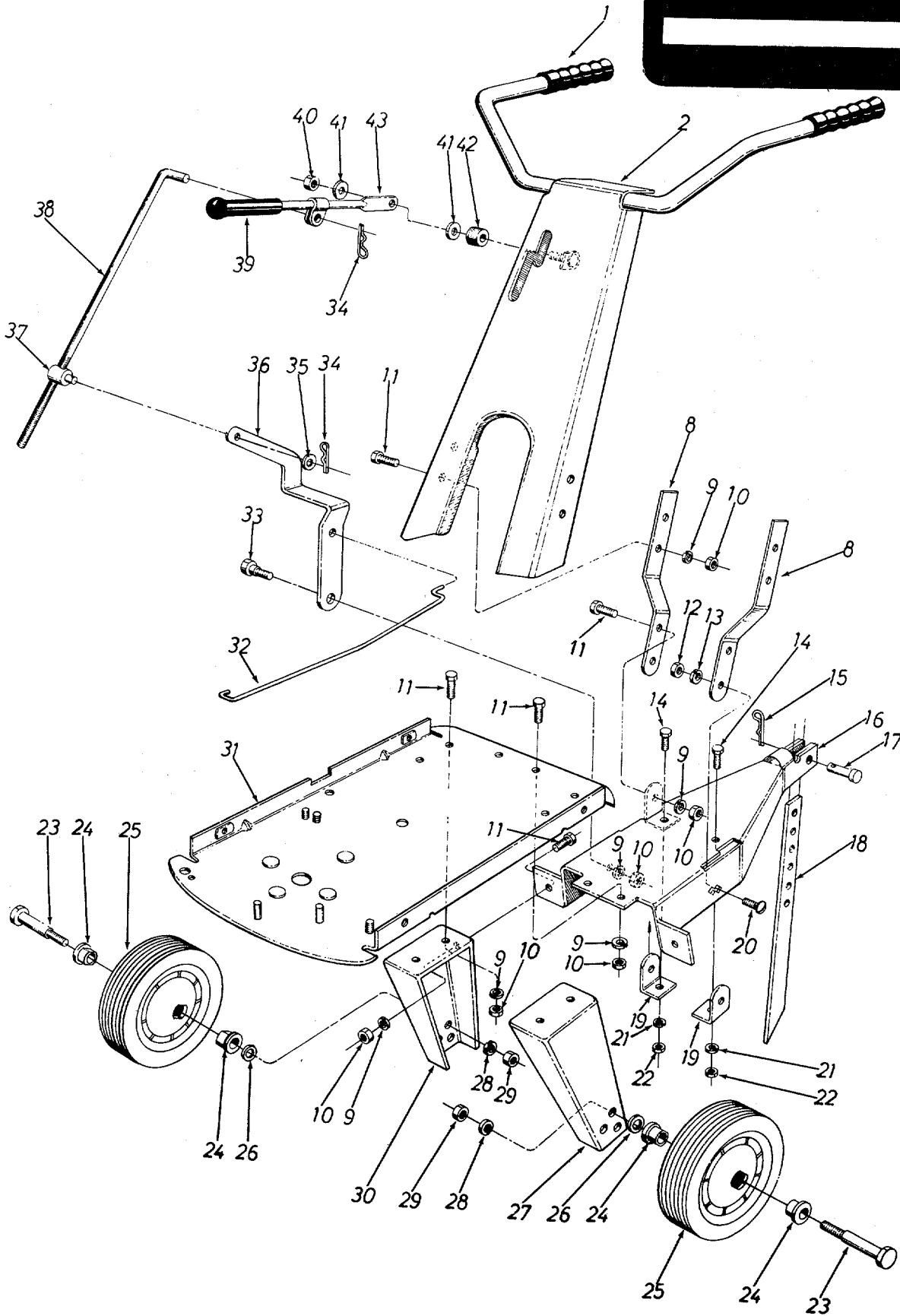
TINE CHART

					
BOLO TINES (have a square plate with four (4) tines)		SLASHER TINES (have a round plate with eight (8) bolts)			
12" Bolo Tines for Gear Case Models	04701 04702 04293 04294 742-0105 742-0106 04683 04673	Inner tine ass'y. L.H. Inner tine ass'y. R.H. Outer tine ass'y. L.H. Outer tine ass'y. R.H. Tine only L.H. Tine only R.H. Outer tine adapter Inner tine adapter	14" Slasher Tines for Gear Case Models with 1" tine shaft	04677 04678 04297 04298 742-0113 742-0110 04265 04674	Inner tine ass'y. L.H. Inner tine ass'y. R.H. Outer tine ass'y. L.H. Outer tine ass'y. R.H. Tine only L.H. Tine only R.H. Outer tine adapter Inner tine adapter

		
BEAVER TINES (have three welded pieces, no hardware)		
14" Beaver Tines for Gear Case Models with 1" tine shaft	742-0155 742-0154 742-0167 742-0168	Inner tine ass'y. L.H. Inner tine ass'y. R.H. Outer tine ass'y. L.H. Outer tine ass'y. R.H.

219-100A

IF YOU WRITE TO US ABOUT THIS ARTICLE
OR IF YOU ORDER REPLACEMENT PARTS AL-
WAYS MENTION THIS MODEL & SERIAL NO
MODEL



PARTS LIST FOR MODEL 219-100A

REF. NO.	PART NO.	COLOR CODE	DESCRIPTION	NEW PART	REF. NO.	PART NO.	COLOR CODE	DESCRIPTION	NEW PART
1	01166		Grip—Black		26	736-0253		Belleville Wash. .505 I.D. x 1.00 O.D.	
2	04624	—463	Handle Ass'y.		27	04109	—463	Leg—Left Hand	
8	04386	—463	Handle Mount Brackets		28	736-0921		L-Wash. ½" Scr.*	
9	736-0169		L-Wash. 3/8" Scr.*		29	712-0239		Hex Nut ½-20 Thd.*	
10	712-0798		Hex Nut 3/8-16 Thd.*		30	04110	—463	Leg—Right Hand	
11	710-0253		Hex Scr. 3/8-16 x 1.00" Lg.*		31	04691	—463	Mounting Plate Ass'y.	
12	712-0267		Hex Nut 5/16-18 Thd.*		32	747-0148		Lower Control Rod	
13	736-0119		L-Wash. 5/16" Scr.*		33	738-0183		Shoulder Scr. .500" Dia. x .215	
14	710-0118		Hex Scr. 5/16-18 x .75" Lg.*		34	714-0115		Cotter Pin 1/8" Dia. x 1.00" Lg.*	
15	732-0194		Spring Pin		35	736-0204		FI-Wash. .344" I.D. x .62 O.D.	
16	04329	—463	Tail Piece Ass'y.		36	04619		Control Pivot Lever	
17	711-0231		Clevis Pin .500" Dia.		37	711-0392		Adjustment Ferrule	
18	04668	—463	Depth Bar		38	711-0502		Control Rod 20"	
19	04124	—463	Handle Mount Brackets		39	720-0143		Grip—Black	
20	710-0276		Carriage Bolt 5/16-18 x 1.00" Lg.*		40	712-0158		Hex Inserted L-Nut 5/16-18 Thd.	
21	736-0119		L-Wash. 5/16" Scr.*		41	736-0159		FI-Wash. .344 I.D. x .88 O.D.	
22	712-0267		Hex Nut 5/16-18 Thd.*		42	735-0126		Rubber Wash. .33 I.D. x .87 O.D.	
23	738-0318		Shoulder Scr. .625" Dia. x 2.75 (½-20 Thd.)		43	04392		Clutch Lever Ass'y.	
24	741-0116		Flange Brg. with Flats .631 I.D.						
25	734-0585		Wheel Ass'y. 9.0 x 1.75						

*For faster service, obtain standard nuts, bolts and washers locally. If these items cannot be obtained locally, order by part number and size as shown on parts list.

(463—Top Flite Red) When ordering parts if color or finish is important, use the appropriate color code shown at left. (e.g. Top Flite Red Finish—04624 (463))

The engine is not under warranty by the tiller manufacturer. If repairs or service is needed on the engine, please contact your nearest authorized engine service outlet. Check the "Yellow Pages" of your telephone book under "Engines-Gasoline."

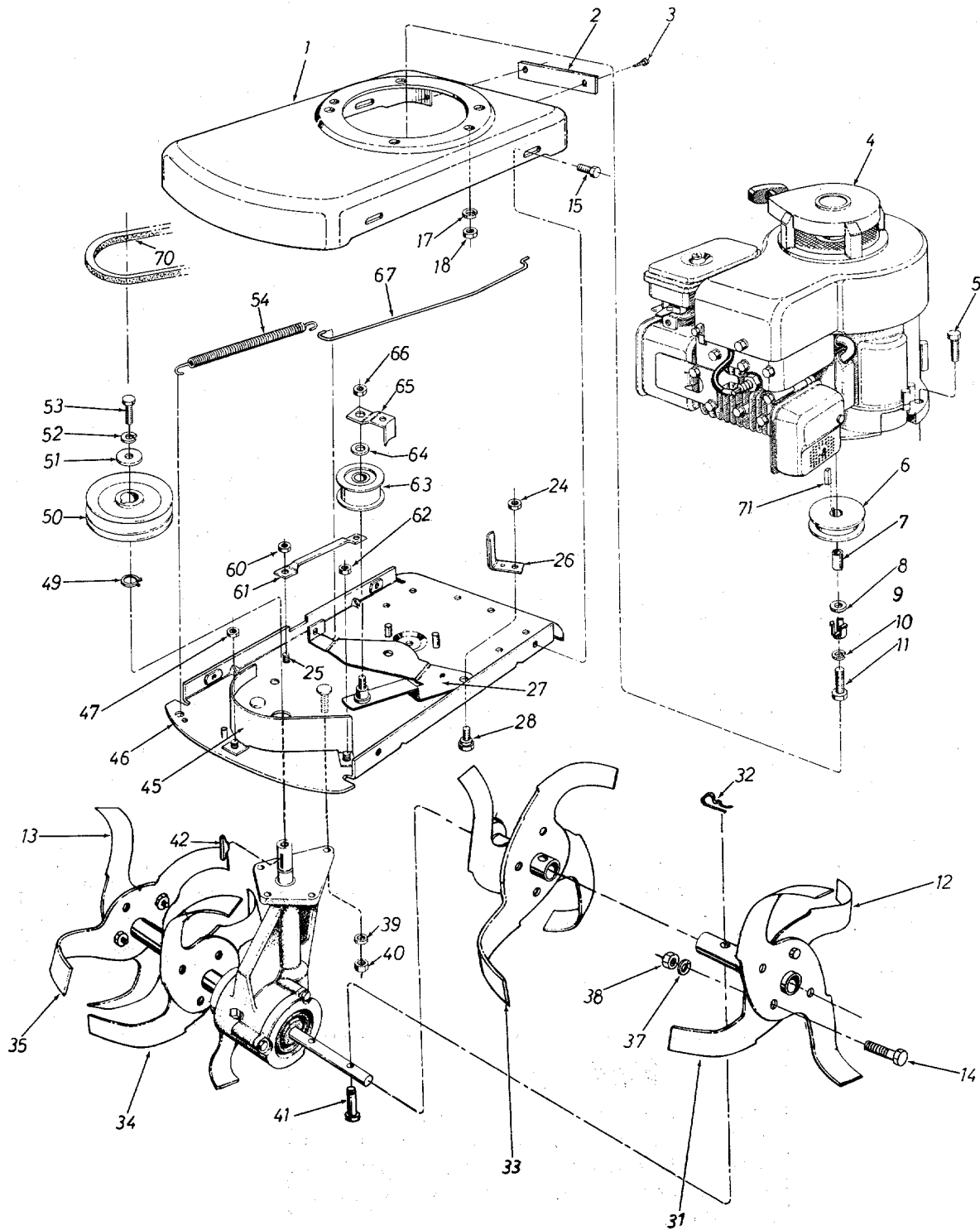
**Find It Fast
in The
Yellow Pages**



NOTE

This instruction manual covers various models and all specifications shown do not necessarily apply to your model. Specifications subject to change without notice or obligation.

219-100A



INNER TINE ASS'Y.—COMP.—L.H. 742-0155
INNER TINE ASS'Y.—COMP.—R.H. 742-0154
OUTER TINE ASS'Y.—COMP.—L.H. 742-0167
OUTER TINE ASS'Y.—COMP.—R.H. 742-0168

Optional Tine Extension—Order Part No. 298-162A 04673

NOTE
 Due to specification changes on tiller tines, the tines on your tiller may be different than the ones shown here. When ordering replacement parts, see tine chart on page 9.

PARTS LIST FOR MODEL 219-100A

REF. NO.	PART NO.	COLOR CODE	DESCRIPTION	NEW PART	REF. NO.	PART NO.	COLOR CODE	DESCRIPTION	NEW PART
1	04258	—312	Engine Bed		38	712-0241		Hex Nut 3/8-24 Thd.*	
2	04126		Inspection Plate		39	736-0169		L-Wash. 3/8" Scr.*	
3	710-0128		Hex F-Tapp Scr. #10-32 x .50" Lg.*		40	712-0798		Hex Nut 3/8-16 Thd.*	
4	—		Engine		41	711-0599		Clevis Pin 3/8" Dia.	
5	710-0158		Hex Scr. 5/16-24 x 1.25" Lg.*		42	714-0126		#9 Hi-Pro-Key 3/16 x 3/4" Dia.	
6	756-0248		Sheave 3.0" x .50		45	04197	—463	Belt Guard	
7	750-0284		Spacer		46	04691	—463	Mounting Plate Ass'y.	
8	736-0117		FI-Wash. .385" I.D. x .62 O.D.		47	712-0107		Hex Cent. L-Nut 1/4-20 Thd.	
9	04259		Engine Shaft Spacer		49	716-0119		Snap Ring 3/4" Dia. Shaft	
10	736-0169		L-Wash. 3/8" Scr.*		50	756-0249		Pulley—Double Groove 4.50" O.D.	
11	710-0152		Hex Scr. 3/8-24 x 1.00" Lg.*		51	736-0231		FI-Wash. .344 x 1.125	
12	742-0166		Double Tine R.H.		52	736-0119		L-Wash. 5/16" Scr.*	
13	742-0165		Double Tine L.H.		53	710-0118		Hex Scr. 5/16-18 x .75" Lg.*	
14	710-0152		Hex Scr. 3/8-24 x 1.0" Lg.		54	732-0233		Spring Extension .62 O.D. x 4.94 Lg.	
15	710-0259		Hex Sems Scr. 5/16-18 x .62" Lg.*		60	712-0107		Hex Cent. L-Nut 1/4-20 Thd.	
17	736-0119		L-Wash. 5/16" Scr.*		61	04196		Hold Down Clamp	
18	712-0123		Hex Nut 5/16-24 Thd.*		62	712-0107		Hex Cent. L-Nut 1/4-20 Thd.	
24	712-0181		Hex Top L-Nut 3/8-16 Thd.*		63	756-0370		Idler Bearing Ass'y.	
25	710-0600		Hex Wash.-Hd. Self Tapp. Scr. 5/16-24 x .50" Lg.		64	736-0300		FI-Wash. .385" I.D. x .870" O.D.	
26	04204		Belt Pusher		65	07353		Belt Clip	
27	04688		Idler Brkt. Ass'y.		66	712-0158		Hex Cent. L-Nut 5/16-18 Thd.	
28	738-0183		Shoulder Scr. .500" Dia. x .215		67	747-0148		Lower Control Rod	
31	742-0167		Outer Tine Ass'y. L.H.		70	754-0196		V-Belt 1/2" x 30" Lg. (Forward Belt) Fiber "B"	
32	714-0145		Internal Cotter Pin		71	714-0105		Sq. Key 3/16 x 3/16 x 1.00" Lg.	
33	742-0155		Inner Tine Ass'y. L.H.		72	711-0599		Clevis Pin	
34	742-0154		Inner Tine Ass'y. R.H.						
35	742-0168		Outer Tine Ass'y. R.H.						
36	742-0106		Tine 12"—Right Hand						
37	736-0169		L-Wash. 3/8" Scr.*						

*For faster service, obtain standard nuts, bolts and washers locally. If these items cannot be obtained locally, order by part number and size as shown on parts list.

(463—Top Flite Red) When ordering parts if color or finish is important, use the appropriate color code shown at left. (e.g Top Flite Red Finish—04624 (463))

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219-100A

GEAR CASE ASSEMBLY 717-0305

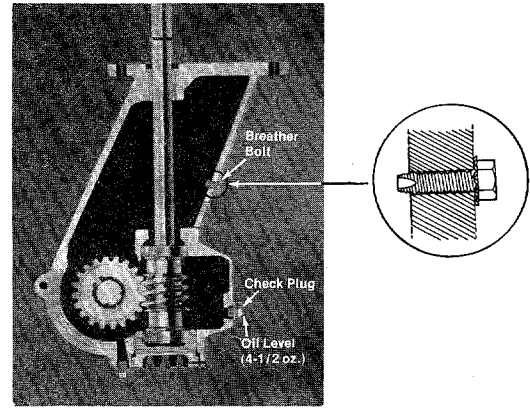
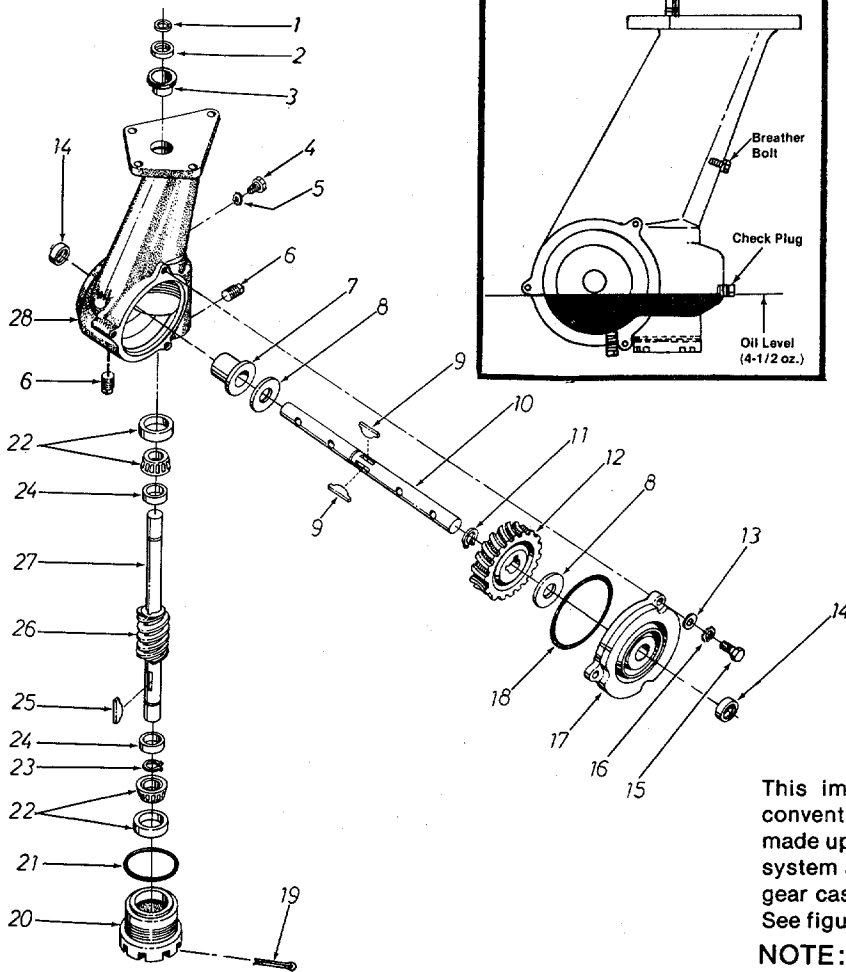


FIGURE 1.

This improved tiller gear case is not equipped with the conventional type breather plug. In its place is an assembly made up of a self tapping screw and a star type washer. This system allows adequate relief of built up pressure within the gear case. It also reduces lubricant leakage to a minimum. See figure 1.

NOTE: Use 4½ ounces of Pennant Oil EP#35000. Order Part No. 737-0136.

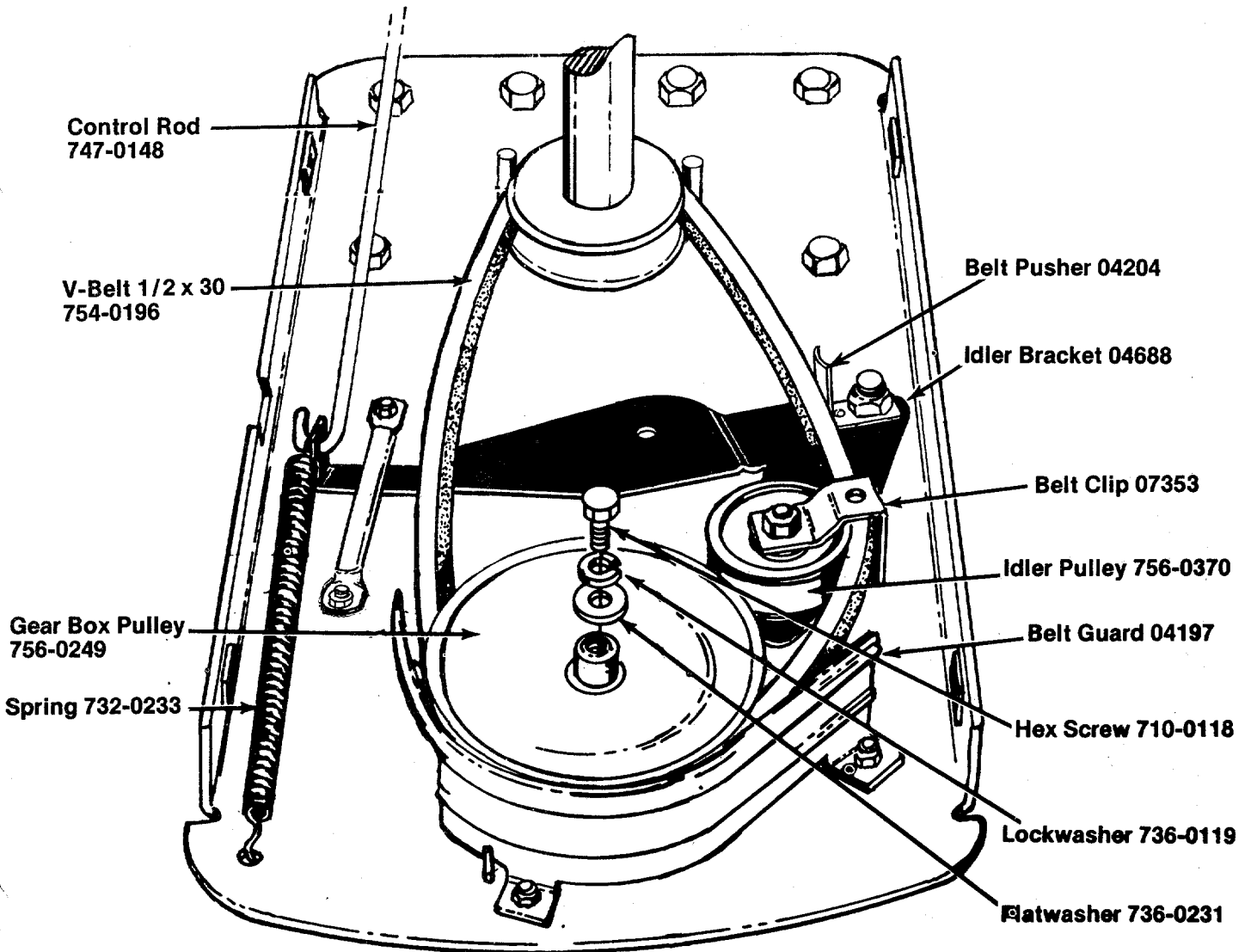
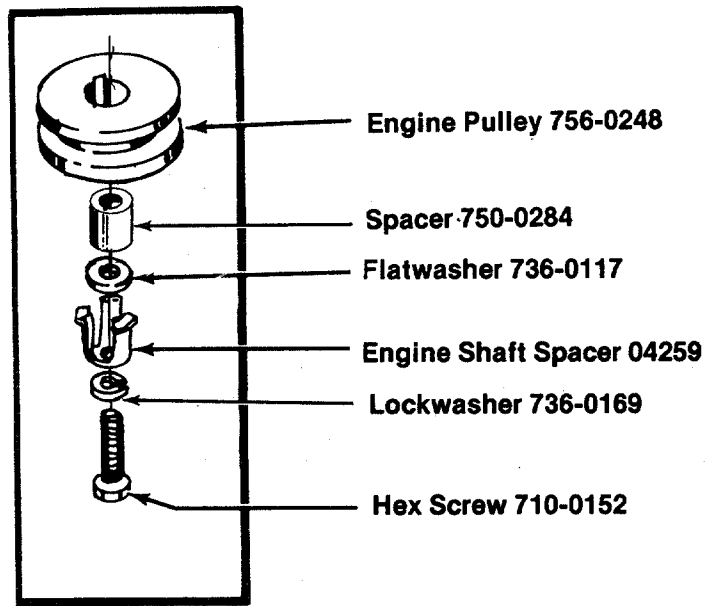
PARTS LIST FOR GEAR CASE ASSEMBLY 717-0305

REF. NO.	PART NO.	COLOR CODE	DESCRIPTION	NEW PART	REF. NO.	PART NO.	COLOR CODE	DESCRIPTION	NEW PART
1	716-0119		Snap Ring .75" Dia. Shaft		16	736-0261		Wash.—Flat Toothed (Special)	
2	721-0100		Oil Seal .75" Dia. Shaft		17	741-0188		Bearing Cap with Bearing	
3	741-0197		Sleeve Brg. .752 I.D. x .878 O.D. x 1.00" Lg.		18	735-0101		"O"-Ring 3.62" I.D. x 3.88 O.D. x .12	
4	710-0599		Hex Wash. Self-Tapp. Scr.		19	714-0474		Cotter Pin 1/8" Dia. x .75" Lg.*	
5	736-0222		Ext. L-Wash. 1/4"		20	10583		Bearing Adjustment Cap	
6	737-0103		Sq. Hd. Pipe Plug 3/8" Thd.*		21	735-0100		"O"-Ring 2.12 I.D. x 2.28 O.D. x .12	
7	741-0189		Flange Brg. 1.00 I.D.		22	741-0107		Roller Brg. Ass'y. .75 I.D.	
8	736-0259		Fl-Wash. 1.00" I.D. x 1.62" O.D. x .095		23	716-0101		Snap Ring for .75" Dia. Shaft	
9	714-0103		#91 Woodruff Key 1/4 x 3/4" Dia.		24	711-0469		Spacer .755 I.D. x 1.265 O.D. x .502	
10	711-0622		Tine Shaft 1.00" Dia.		25	714-0126		#9 Hi-Pro Key 3/16 x .75" Dia.	
11	716-0102		Snap Ring for 1.00" Dia. Shaft		26	717-0312		Worm	
12	717-0311		Worm Wheel		27	738-0171		Worm Shaft	
13	736-0119		L-Wash. 5/16" Scr.*		28	719-0223		Gear Case	
14	721-0102		Oil Seal Double Lip 1.00" Shaft						
15	710-0371		Hex Scr. 5/16-18 x .88" Lg. (Plastic Insert)						

*For faster service obtain standard nuts, bolts and washers locally. If these items cannot be obtained locally, order by part number and size as shown on parts list.

219-100A TILLER DRIVE MECHANISM

Engine Pulley Assembly →



ACCESSORIES AVAILABLE FOR TILLER MODEL 219-100A

299-160	Pneumatic Tire Kit
299-161	15" Sweep Plow
299-163	32" Leveling Rake
299-167	Hilling Plow (Must be used with 299-169 "V" Bar Frame Adapter)
299-168	Six Tang Cultivator (Recommended use of 299-191 Depth Gauge Wheels)
299-169	"V" Bar Frame Adapter (Recom- mended use of 299-191 Depth Gauge Wheels)
299-179	8" Furrow Opener
299-181	Aerator (Recommended use of 299-194 Wheel Weights in firm soil)
299-190	Four Shovel Cultivator (Must be used with 299-169 "V" Bar Frame Adapter)
299-191	Depth Gauge Wheels
299-192	Tine Cultivating Shields
299-194	Wheel Weights
299-195	Tire Chains (13" x 5")
299-196	32" Angle Dozer Blade

PARTS INFORMATION

POWER EQUIPMENT PARTS AND SERVICE

Parts and service for all MTD manufactured power equipment are available through the authorized service firms listed below. All orders should specify the model number of your unit, parts number, description of parts and the quantity of each part required.

ALABAMA	BIRMINGHAM	
Auto Electric & Carburetor Co.	2625 4th Ave. S.	35233
ARKANSAS	NORTH LITTLE ROCK	
Sutton's Lawn Mower Shop	Rt. 4 Box 368	72117
	FORT SMITH	
Mity Mite Motors, Inc.	2515 Towson Ave.	72901
CALIFORNIA	PORTERVILLE	
Billious	75 North D Street	93257
	SAN BERNARDINO	
Lawn Mower Supply Co.	25608 E. Baseline	92410
	SAN FRANCISCO	
J.W. Jewett Co.	981 Folsom St.	94107
	SACRAMENTO	
Luttig & Severson	2030 28th St.	95818
COLORADO	DENVER	
South Denver Lawn Equip.	527 West Evans	80223
FLORIDA	JACKSONVILLE	
Radco Distributors	2403 Market St.	32206
	CORAL GABLES	
Moz-All of Florida, Inc.	365 Greco Ave.	33146
GEORGIA	EAST POINT	
East Point Cycle & Key	2834 Church St.	30344
ILLINOIS	LYONS	
Keen Edge Co.	8615 Ogden Ave.	60534
INDIANA	ELKHART	
Parts & Sales Inc.	2101 Industrial Pkwy.	46514
IOWA	DUBUQUE	
Power Lawn & Garden Equip.	2551 J.F. Kennedy	52001
LOUISIANA	NEW ORLEANS	
Suhren Engine Co.	8330 Earhart Blvd.	70118
MARYLAND	TAKOMA PARK	
Center Supply Co.	6867 New Hampshire Ave.	20012
MASSACHUSETTS	SPRINGFIELD	
Morton B. Collins Co.	300 Birnie Ave.	01107
MICHIGAN	MOUNT CLEMENS	
Power Equipment Dist.	36463 South Gratiot	48043
	LANSING	
Lorenz Service Co.	2500 S. Pennsylvania	48900
MINNESOTA	MINNETONKA	
Hance Distributing Inc.	11212 Wayzata Blvd.	55343
	ST. PAUL	
Power Tools Inc.	3771 Sibley Memorial Hwy.	55122
MISSISSIPPI	BILOXI	
Biloxi Sales & Service, Inc.	506 Caillavet St.	39533
MISSOURI	KANSAS CITY	
Automotive Equip. Service	3117 Holmes St.	64109
	ST. JOSEPH	
Ross-Frazier Supply Co.	8th and Monterey	64503
	ST. LOUIS	
Henzler, Inc.	2015 Lemay Ferry Rd.	63125
NEW JERSEY	BELLMAWR	
Lawnmower Parts Inc.	717 Creek Rd., P.O. Box 7.08030	
	RUTHERFORD	
Feld Distributor	28 Glen Rd.	07070
NEW YORK	CARTHAGE	
Gambie Dist., Inc.	West End Ave.	13619

BRIGGS AND STRATTON, TECUMSEH AND PEERLESS PARTS AND SERVICE

Briggs & Stratton, Tecumseh and Peerless parts and service should be handled by your nearest authorized engine service firm. Check the yellow pages of your telephone directory under the listing **Engines—Gasoline**, Briggs & Stratton or Tecumseh Lauson.

	SYRACUSE	
GTP Leisure Products Inc.	420 Marcellus St.	13204
NORTH CAROLINA	GREENSBORO	
Dixie Sales Company	327 Battleground Ave.	27402
	GOLDSBORO	
Smith Hardware Co.	515 N. George St.	27530
OHIO	WADSWORTH	
National Central	687 Seville Rd.	44281
	CLEVELAND	
Bleckrie, Inc.	7900 Lorain Ave.	44102
	CARROLL	
Stebe's Mid-State Mower Supply. Box 366-71 High St.		43112
	YOUNGSTOWN	
Burton Supply Co.	1301 Logan Ave. Box 929	44501
OKLAHOMA	MUSKOGEE	
Victory Motors, Inc.	605 S. Cherokee.	74401
	OKLAHOMA CITY	
Forest Sales Inc.	1039 NW 63rd St.	73116
	ADA	
Ada Auto Supply	301 E. 12th St.	74820
OREGON	PORTLAND	
Kenton Supply Co.	8216 N. Denver Ave.	97217
PENNSYLVANIA	CHESTER	
Stull Equipment Corp.	742 W. Front St.	19013
	HARRISBURG	
EECO Inc.	4021 N. 6th St.	17110
	PHILADELPHIA	
Thompson Rubber Co.	5222-24 N Fifth St.	19120
	PITTSBURGH	
Bluemont Co.	11125 Frankstown Rd.	15235
TENNESSEE	KNOXVILLE	
Master Repair Service	2423 Broadway, N.E.	37917
	MEMPHIS	
Memphis Cycle & Supply Co.	421 Monroe Ave.	38103
American Sales & Service, Inc.	1922 Lynnbrook	38116
TEXAS	DALLAS	
Marr Brothers, Inc.	423 E. Jefferson.	75203
	HOUSTON	
Bullard Supply Co.	2409 Commerce St.	77003
	SAN ANTONIO	
Catto & Putty, Inc.	P.O. Box 2408	78206
	FORT WORTH	
Woodson Sales Corp.	1702 N. Sylvania	76111
UTAH	SALT LAKE CITY	
A-1 Engine & Mower Co.	437 E. 9th St.	84111
VERMONT	BURLINGTON	
Vermont Hdwe. Co. Inc.	180 Flynn Ave.	05401
VIRGINIA	RICHMOND	
RBI Corp.	963 Myers St.	23260
WASHINGTON	SEATTLE	
Bailey's Inc.	1414 14th Ave.	98122
WEST VIRGINIA	CHARLESTON	
Young's, Inc.	233 Virginia St., E.	25301
WISCONSIN	APPLETON	
Automotive Supply Co.	123 S. Linwood Ave.	54911

WARRANTY PARTS AND SERVICE POLICY

The purpose of warranty is to protect the customer from defects in workmanship and materials, defects which are NOT detected at the time of manufacture. It does not provide for the unlimited and unrestricted replacement of parts. Use and maintenance are the responsibility of the customer. The manufacturer cannot assume responsibility for conditions which it has no control. Simply put, if it's the manufacturer's fault, it's the manufacturer's responsibility; if it's the customer's fault, it's the customer's responsibility.

CLAIMS AGAINST THE MANUFACTURER'S WARRANTY INCLUDES

1. Replacement of Missing Parts on new equipment.
2. Replacement of Defective Parts within the warranty period.
3. Repair of Defects within the warranty period.

All claims MUST be substantiated with the following information:

1. Model Number of unit involved.
2. Date unit was purchased or first put into service.
3. Date of failure.
4. Nature of failure.

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