Simplicity®

SYSTEM 1005

MFG. NO. 1600400 5HP TILLER
MFG. NO. 1600407 TINE EXTENSION KIT
MFG. NO. 1600373 FURROW OPENER

OPERATOR'S MANUAL

1644 #

FORM — 1609450
PRINTED IN U.S.A.
747

LIMITED WARRANTY

New SIMPLICITY products sold by Simplicity Manufacturing Company are warranted by Allis-Chalmers Corporation (the Company) to be merchantable and free of defects in workmanship and material at the time of shipment from the Company's factory. **THERE ARE NO WARRANTIES WHICH EXTEND BEYOND THOSE EXPRESSLY STATED HEREIN.**

No warranty of any kind, statutory, implied or otherwise, is made or shall be imposed upon the Company with respect to (1) new products which have been subject to operation in excess of recommended capacities, misuse, negligence, or accident, or have been altered or repaired in any manner not authorized by the Company, or (2) tires, engines, generators, voltage regulators or accessories that are warranted separately by their respective manufacturers except that the Company agrees to make available to the first user whatever warranty benefits may be made available to the Company by such manufacturer.

The Company will repair or replace, without charge, any part which under normal use and service fails to conform to this warranty, provided that such parts shall be returned to the Company's authorized Dealer, transportation charges prepaid, within 12 months from the date of delivery of such new product to the first user.

Parts installed by an authorized Dealer, including parts furnished under this warranty, are warranted to be free from defects in workmanship and material for a period of 90 days from the date of installation of such parts or to the expiration of the original warranty, whichever is later. The Company will repair or replace, without charge, any part not conforming to this warranty.

THE COMPANY'S LIABILITY ARISING OUT OF WARRANTIES, REPRESENTATIONS, INSTRUCTIONS, OR DEFECTS FROM ANY CAUSE, SHALL BE LIMITED EXCLUSIVELY TO REPAIR OR REPLACING PARTS UNDER THE CONDITIONS AS AFORESAID, AND IN NO EVENT WILL THE COMPANY BE LIABLE FOR CONSEQUENTIAL DAMAGES.

Service under the terms of this warranty must be obtained at an authorized Simplicity Dealer.

Rotary tiller tines are warranted against breakage for the normal life of the rotary tiller. Simply return any broken tine to an authorized Simplicity Dealer, and the broken tine will be replaced at no charge.

TABLE OF CONTENTS

CONGRATULATIONS!

This great new product is engineered with imagination and built with integrity to assure you maximum service and performance for years to come. To completely understand the operation of your equipment and to take full advantage of its many fine built-in features, study this instruction manual thoroughly before operating the machine. The little time you spend reading now will repay you many times over in the time you save and the satisfaction you gain in using your equipment properly and safely.

SAFETY FIRST

PROTECT YOURSELF AND OTHERS BY FOLLOWING THESE SAFETY RULES

* **ALWAYS** know your controls and how to stop quickly in an emergency—read the operator's manual thoroughly.

* **NEVER** allow anyone to operate the equipment without full instruction and knowledge of safe operating procedures.

* **NEVER** handle gasoline carelessly. Use an approved container and fill the tank out of doors. Wipe up spilled gasoline. Do not smoke while fueling the engine.

* **NEVER** add gasoline to a running engine. Stop engine and allow it to cool a few minutes before adding fuel. Replace filler cap securely.

* **NEVER** operate equipment unless all guards and shields are in place.

* **ALWAYS** keep hands, feet and clothing away from power driven parts.

* **ALWAYS** stop the engine before servicing or adjusting machine or equipment. Remove the spark plug wire on walk behinds.

* Never allow children or pets to cross your path or cause distractions in the area while operating.

* Release both clutch levers and stop the engine before cleaning the tines, removing obstacles, making adjustments or when leaving the operating position.

* **NEVER** overspeed the engine or alter governor settings. Excessive speed is always unsafe and shortens engine life.

* **ALWAYS** properly maintain the equipment. Check all fasteners, guards and parts.

* Do not operate the engine where carbon monoxide can collect.

* **ALWAYS** stop the engine and inspect for damage immediately after striking an obstruction or foreign object. Repair damage before restarting.

BUILT IN SAFETY FEATURES CAN BE EFFECTIVE ONLY IF PROPERLY MAINTAINED AND UTILIZED.

ACCESSORIES

TINE EXTENSION SET (Mfg. No. 1600407) See Figure 1.

The set consists of a left hand and a right hand tine assembly with mounting pins and cotter pins. Mount the long hub of each tine over the outside end of the standard tine assembly and install the pin and cotter pin. Be sure that the sharpened edges of the tines on top face forward. This set increases the effective tilling width to 32-1/2 inches.

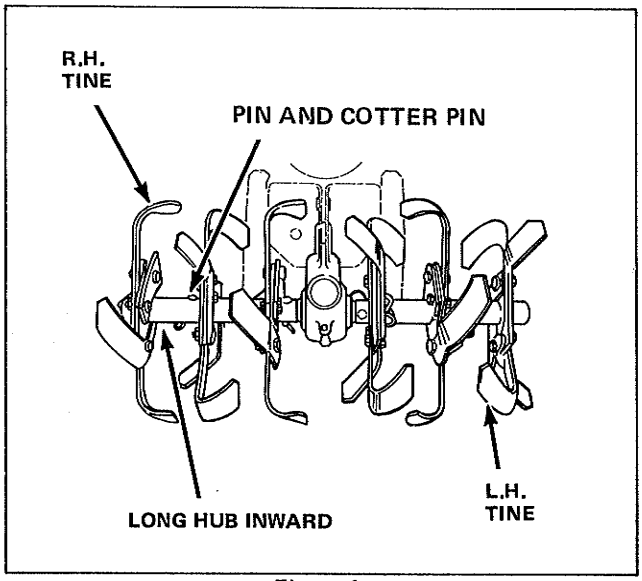

Figure 1.

FURROW OPENER, 8-INCH (Mfg. No. 1600373) See Figure 2.

The furrow opener is interided for digging furrows for crops which must be planted in rows. To install, proceed as follows:

1. Remove the depth bar, turn it upside down and bolt it to the tool holder (A) with the carriage bolts, washers and nuts provided.

2. Remove the stop plate from between the frame supports and install the extension support (B) with the old hardware.

3. Position the depth bar in the extension support and reinstall the depth bar clamp using the pin and spring clip provided. Bolt the furrow opener to the tool holder as shown.

CAUTION

Damage to the worm gear drive which results from use of any lubricant other than a special worm gear oil will automatically invalidate the warranty. (See back cover for oil part number).

ASSEMBLING

1. Remove all components of tiller from box and place them in a clean, level assembly area.

2. See Figure 3. Assemble the left and right handles to frame as shown. Note locations of flat washers.

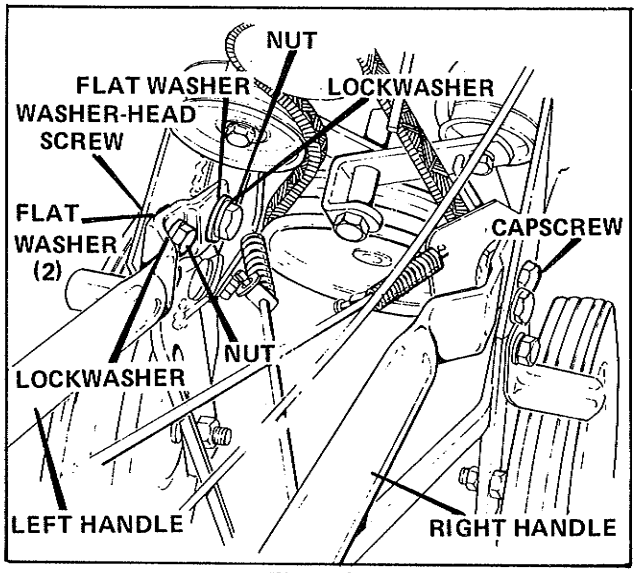

Figure 3.

3. Connect throttle cable as follows:

a. See Figure 11. Move throttle control lever down to STOP position. Be sure throttle wire is securely attached to throttle arm.

b. See Figure 4. Insert loose end of cable through bracket and slide wire into carburetor throttle lever. Tighten bracket screw. Be sure stop switch opens when throttle control lever is in STOP position.

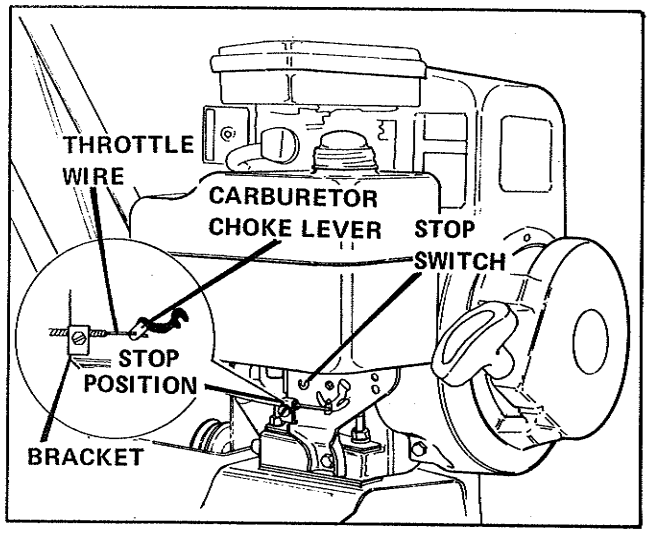

Figure 4.

4. Install forward and reverse control rods as follows:

a. Remove two self-tapping screws from cover and loosen two whiz-lock screws attaching part of handles. Remove cover.

b. See Figure 5. Attach reverse and forward control rod springs to bellcranks.

c. See Figure 5. Slide reverse and forward control rods through wire clamp inside of spring. Loosely secure rods in clamps with setscrews and flat washers. Hook loose end of springs on setscrews between flat washers and clamps.

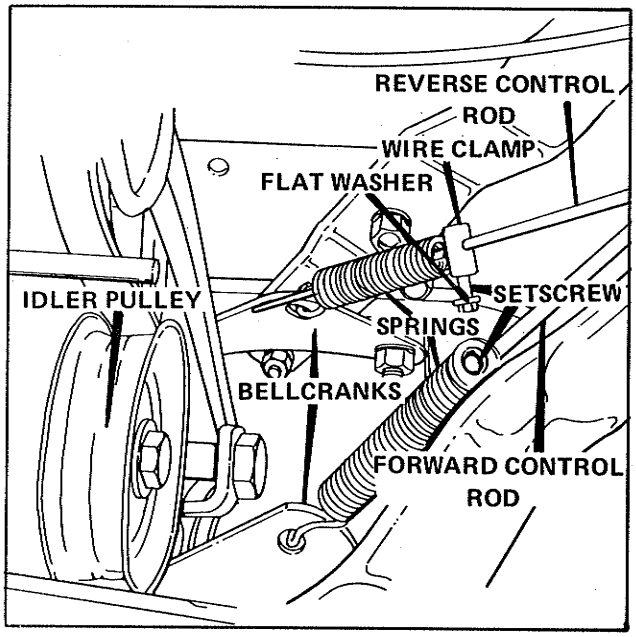

Figure 5.

d. See Figure 5. Adjust spring tension by loosening clamp setscrews and moving clamps on control rods. Idler pulleys should be approximately 1/4-inch from frame when clutch disengaged (handle released). Belt stops should be 1/8-inch from belts when clutch engaged (handle compressed). See Adjustments section of this manual for clutch adjustment procedure.

e. Secure cover to frame with two self-tapping screws. Tighten two whiz-lock screws.

5. Install wheel assemblies as follows:

a. Tilt unit forward on engine.

b. See Figure 6. Secure each wheel assembly to frame through upper holes in frame support with a 3-1/4-inch long capscrew, flat washer, and two jam nuts. One jam nut to be placed on either side of frame upright. Tighten jam nuts to insure wheels turn freely with little side play.

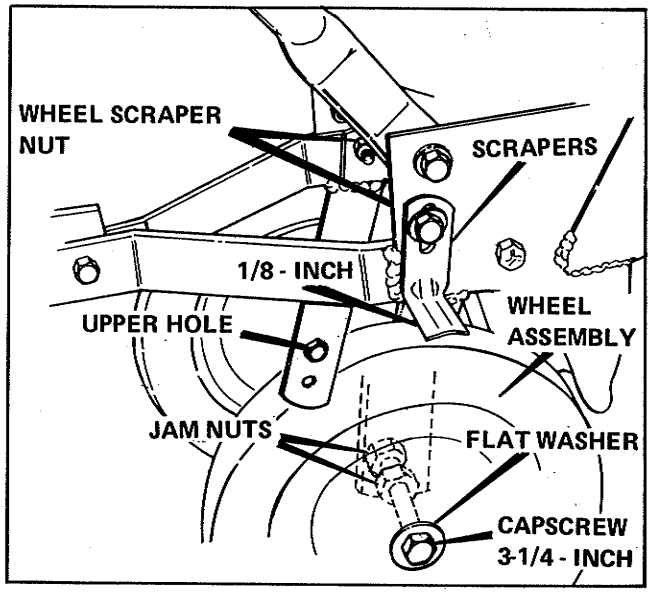

Figure 6.

6. See Figure 6. Loosen each wheel scraper nut and adjust wheel scraper to clear wheel by 1/8-inch. Tighten scraper nut.

7 . Loosen locknut holding clutch grips to handles so that controls work freely. (See figure 9)

8 . See figure 6. Secure depth bar and clamp to rear of frame with pin and hairpin clip. Digging tip of bar should be installed as shown.

NOTE: The depth bar setting determines the depth of tilling. To till 4 to 6 inches deep, install bar mounting pin in second or third hole from the top. The deeper depth bar is set into soil, the deeper tines will dig.

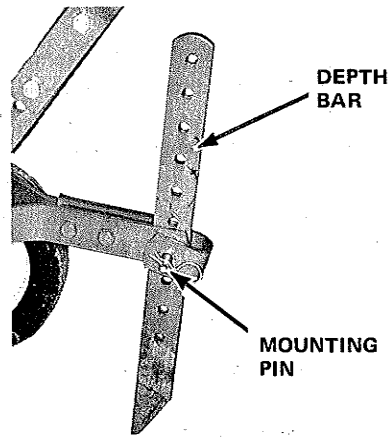

Figure 7.

8. Depending upon what tilling width desired, install right and left tine blade assemblies as follows. Use a pin and cotter pin for installation. See Figure 8 for right inner, outer, and extension tine installation.

TILLING WIDTH (Inches)	TINES USED
8-1/2	* switched left and right inner
12	Left and right inner
18-1/2	Left and right inner *switched left and right inner
** 22-1/2	Left and right inner Left and right outer
32-1/2	Left and right inner Left and right outer Left and right extension

* Switched denotes moving normal left or right blade assembly to opposite side. Be sure sharpened edges face forward.

** Standard tine arrangement.

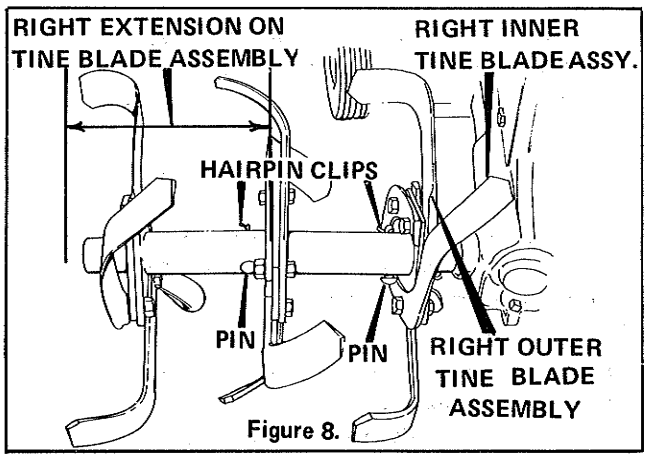

Figure 8.

9. See Figure 15. After some use, drive belts will stretch. If proper clutch action cannot be achieved by clutch adjustment, add one or more shims between the engine and the frame housing. See Adjustment section of this manual.

OPERATION

PREPARING

1. CONTROLS

See Figure 9. Familiarize yourself with the following controls:

a. THROTTLE LEVER. Used to adjust engine speed or to stop engine. See Figure 11 for throttle lever positioning.

b. FORWARD AND REVERSE CLUTCH LEVERS. Used to control forward or reverse action of the tiller. Squeeze desired lever to engage and release to stop.

CAUTION

Never grip both forward and reverse clutch levers at the same time.

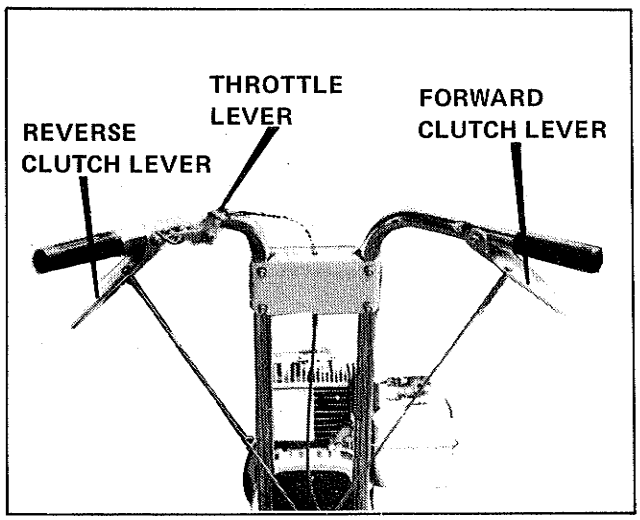

Figure 9.

2. ENGINE

a. MANUALS. Read the engine operator's manual and this operator's manual thoroughly.

b. FUEL. See Figure 10. Have available sufficient quantities of clean, fresh (leaded or non-leaded), "regular" automotive gasoline. Remove fuel tank cap and fill completely. Fuel capacity is 3 quarts.

DO NOT MIX OIL WITH GASOLINE

WARNING

Gasoline is highly inflammable. Avoid overfilling and wipe up any spilled fuel. Allow no open flame, smoking, or matches near the area when refueling.

Replace filler cap securely. Store gasoline only in small quantities, prolonged storage produces gum and harmful deposits. If it is necessary to store gasoline for long periods, add a gasoline stabilizer. See Off-Season Storage section of this manual.

c. OIL. See Figure 10. Have available sufficient quantities of engine crankcase oil, SAE 30 grade MS. Remove dirt around engine filler plug on left side of engine. Remove engine filler plug by turning counter-clockwise. Fill with oil until level with top of neck. Crankcase capacity is 1-1/4 pints. Re-install filler cap securely. Check oil level every time fuel is added.

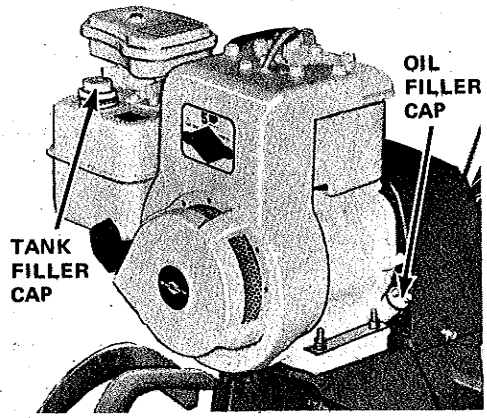

Figure 10.

3. DEPTH BAR

See Adjustments section of this manaul.

4. WHEELS and SCRAPER.

See Figure 6. Be sure wheels are mounted in the UPPER holes of the frame support. If required, adjust wheel scraper 1/8-inch above tire.

5. TINES

Be sure tines are installed securely with pin and hairpin clip. Sharpened edges must face forward. See Assembly section of this manual for tine installation.

OPERATING

1. STARTING

a. See Figure 11. Move throttle lever halfway forward.

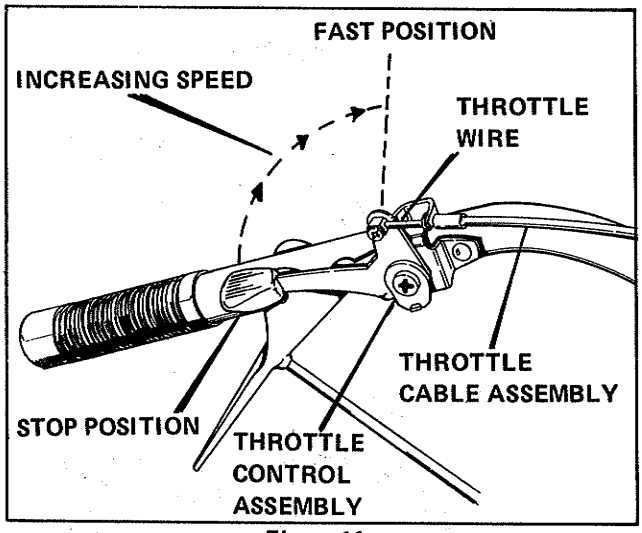

Figure 11.

b. See Figure 12. Pull choke plunger out to CHOKE position.

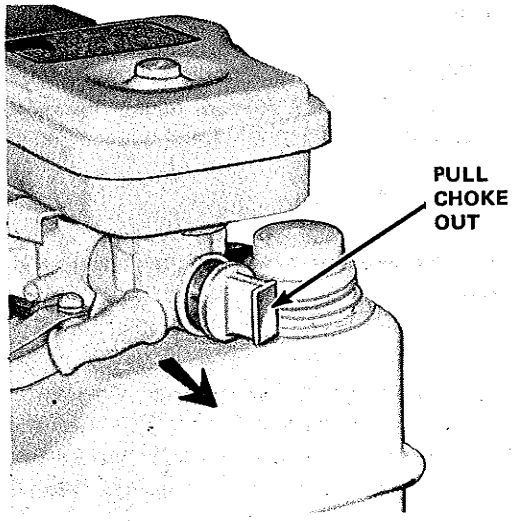

Figure 12.

c. See Figure 13. Grasp the recoil starter handle firmly in your right hand and pull sharply straight out to start the engine. After the engine starts, return the choke to OFF position. If the engine fails to start after 4 or 5 pulls it may be flooded. Return the choke to OFF position and pull recoil starter handle to clear the excess fuel. Always return the handle by hand - DO NOT RELEASE THE HANDLE WITH THE ROPE EXTENDED. To stop the engine, pull the throttle lever all the way back.

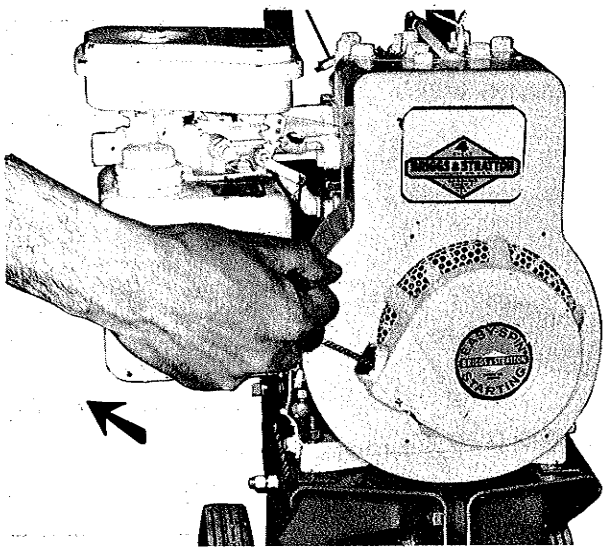

Figure 13.

2. OPERATING

a. After starting, move the throttle lever to 3/4 forward.

b. For FORWARD motion, squeeze the RIGHT HAND clutch lever. For REVERSE motion, release the right lever and squeeze the LEFT HAND clutch lever.

CAUTION

Never grip both forward and reverse clutch levers at the same time.

c. Use the depth bar to furnish the necessary drag rather than pulling back on the handles. Push DOWN on the handles to LOWER the depth bar, slowing forward speed and raising tiller depth. Upward thrust on the handles increases forward speed and lowers tilling depth.

d. Proceed slowly and carefully to get the "feel". Experience will determine the correct handle pressure and depth bar setting. Experiment with the clutch lever, using the quick response for positive control in close areas.

e. Do not till when the soil is very wet. This causes lumps which are difficult to work up. If the soil is extremely hard and dry, it may be desirable to cross-till an area at shallow depth first. Then till in the direction of planting rows on the second pass at the final depth.

f. A furrow opener shovel is available for use in digging furrows for crops which are planted in rows, such as potatoes. See Accessories section of this manual.

3. STOPPING

See Figure 11. Move the throttle lever to the STOP position.

ADJUSTMENTS

BELT STOPS

All belt stops should be 1/8-inch from belts when clutch engaged (handle compressed). To adjust, remove belt cover, loosen stop mounting bolt, squeeze one clutch lever and then the other, adjusting belt stop(s) as indicated in Figure 14. Tighten belt stop mounting bolt and replace cover.

NOTE: If tines will not stop turning after clutch lever is released, belt stops may be too far from belts and not braking belt as required when clutch handle released.

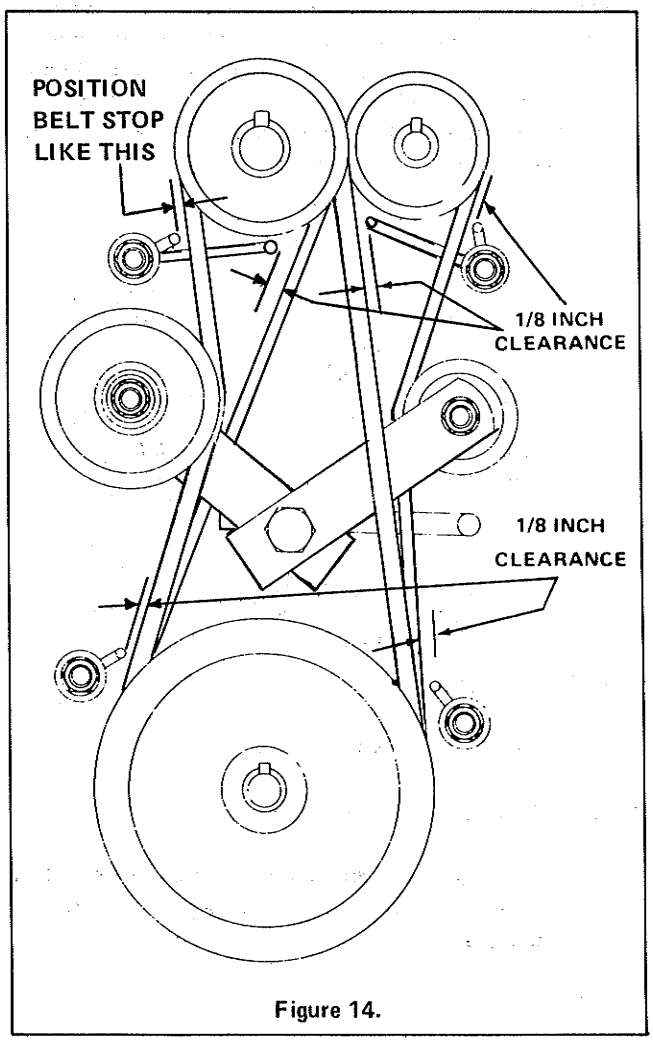

Figure 14.

CLUTCH

1. When clutch disengaged (handle released), idler pulleys should be no closer than 1/4-inch from frame and all belt stops must be firmly gripping the drive belts.

2. When clutch engaged (handle compressed), idler pulley must press in on belt enough to remove belt from contact with belt stops. Approximately 1/8-inch clearance between belt stop and belt should be maintained (See Belt Stop Adjustment).

3. See Figure 5. If clutch does not operate as described above in steps 1 and 2, loosen wire clamp setscrew and adjust wire clamp on forward or reverse control rod to obtain required spring tension.

SCRAPERS

See Figure 6. Loosen scraper mounting nut and adjust scraper in its slot to 1/8-inch clearance above wheels. Tighten nut when adjustment completed.

BELT TENSION

See Figure 15. Normally belt tension can be adjusted by increasing control rod spring tension (moving wire clamp further up control rod). After some use belts may stretch so that this adjustment cannot be made. If this occurs, loosen engine mounting nuts, slide slotted shims from original location, and slide one or more of them between engine and frame. Tighten engine mounting nuts securely.

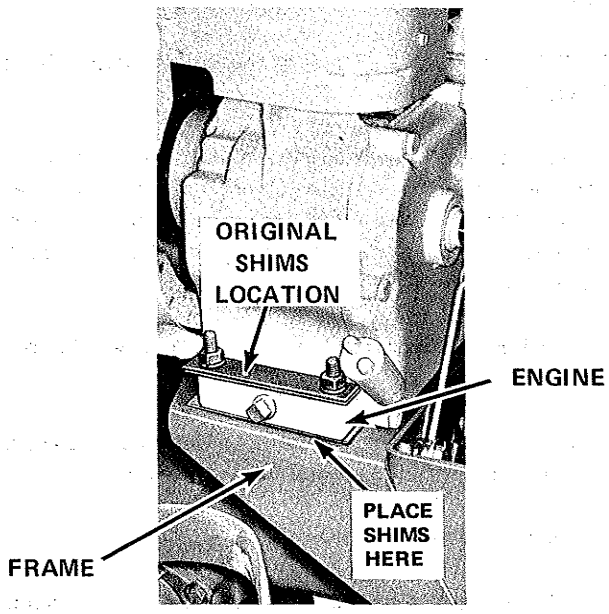

Figure 15.

DEPTH BAR

See Figure 7. The depth bar setting determines the depth of tilling. To till 4 to 6 inches deep, install the bar mounting pin in the second or third hole from the TOP. Pull out the hairpin clip to change pin location. Be sure to install the digging tip as shown. THE DEEPER THE DEPTH BAR IS SET INTO THE SOIL, THE DEEPER THE TINES WILL DIG.

CARBURETOR

Minor carburetor adjustments may be required to compensate for differences in fuel, temperature, altitude and load. See your engine operator's manual for adjustment procedures.

PULLEY ALIGNMENT

1. See Figure 16. Check location of the two engine pulleys. A distance of approximately 1-1/4 inches from center to center is correct. Loosen engine pulley setscrews and adjust accordingly. Be sure engine pulley setscrews are tightened securely.

2. See Figure 16. Visually check alignment of drive pulleys to idler pulleys. Pulleys must be aligned as closely as possible or belts will be stretched and worn excessively. Loosen engine pulley setscrews and adjust accordingly maintaining the 1-1/4 inches between engine pulley centers. Be sure engine pulley setscrews are tightened securely.

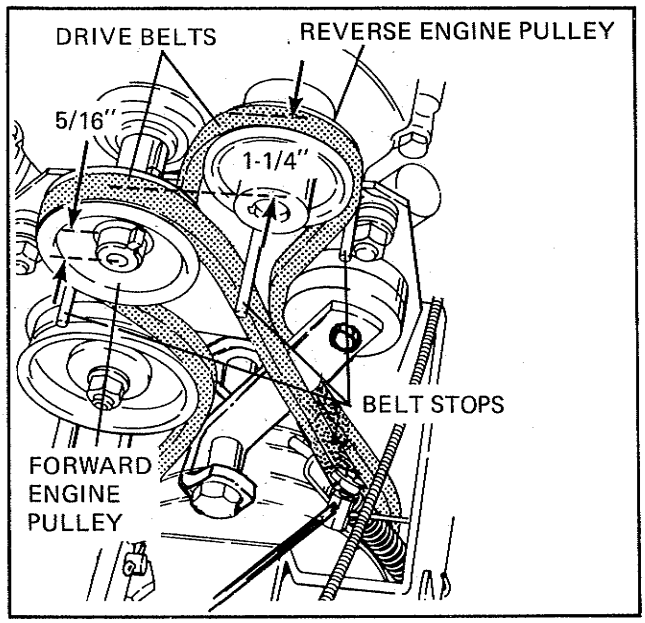

Figure 16.

MAINTENANCE

Read the engine operator's manual thoroughly.

AFTER EACH USE

Grass, dirt, or chaff may clog engine cylinder head fins and blower housing. Check for clogged condition and if necessary, remove blower housing and clean.

CAUTION

Continued operation with a clogged cooling system causes severe overheating and possible engine damage.

FIRST 5 HOURS OF OPERATION

Change engine oil as follows:

a. Run engine for a few minutes to warm engine oil.

b. Remove oil drain plug (See Figure 17) and allow oil to completely drain from engine.

c. Replace oil drain plug securely.

d. Remove dirt around engine oil filler plug (See Figure 10).

e. Remove engine oil filler plug by turning counter-clockwise.

f. Fill with SAE 30 grade MS oil until level with top of neck. Crankcase capacity is 2-3/4 pints.

g. Reinstall engine oil filler plug securely.

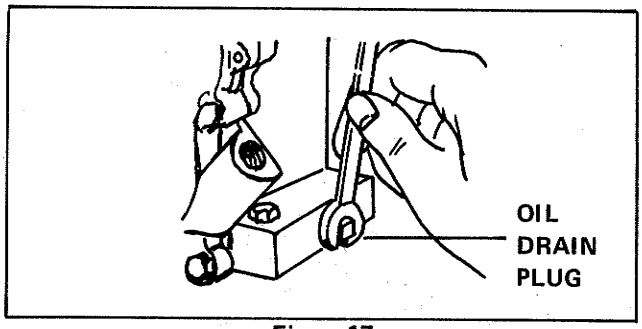

Figure 17.

EVERY 5 HOURS OF OPERATION

See Figure 18. Check and add worm drive housing gear oil as follows:

a. Remove worm gear housing oil filler plug.

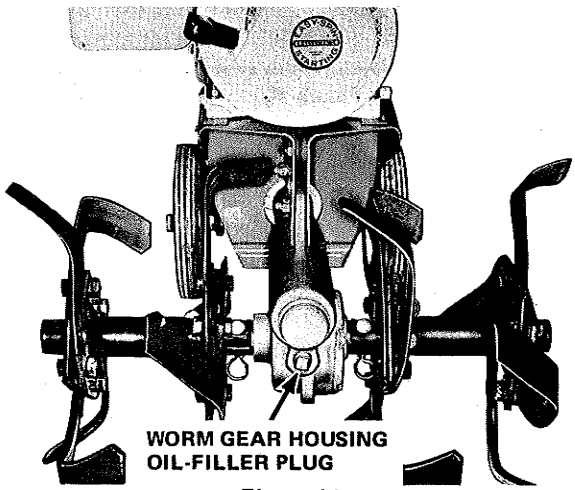

Figure 18.

CAUTION

There is a filter in a vent hole located at rear of worm drive housing. Do not remove this filter for any reason.

b. Oil level should be level with plug hole when tines are resting on ground.

c. If oil is required, tip tiller back until handles rest on ground. Add a small amount of special worm gear oil (See Accessories section of this manual) through plug hole and slowly lower tiller until tines rest on ground. Oil should be level with plug hole, if not, repeat procedure. Do not overfill.

CAUTION

Damage to the worm gear drive which results from use of any lubricant other than a special worm gear oil will automatically invalidate the warranty. (See back cover for oil part number).

d. Tighten filler plug securely.

NOTE: The worm drive housing may become quite warm while operating. This is completely normal and no harm to gears will occur if the housing is kept filled as specified with the special worm gear oil.

EVERY 25 HOURS OF OPERATION

1. Change engine oil. Refer to change procedure in FIRST 5 HOURS OF OPERATION.

2. See Figure 19. Clean air cleaner and re-oil element. The air cleaner normally need not be cleaned for a full season unless tilling is done under extremely dusty conditions. Clean every few hours under extremely dusty conditions. Clean air cleaner as follows:

a. Remove screw attaching air cleaner assembly to carburetor.

b. Remove air cleaner assembly carefully from carburetor so as to prevent dirt from entering carburetor.

c. Disassemble air cleaner assembly.

d. Wash foam element in kerosene or liquid detergent and water to remove dirt.

e. Wrap foam in cloth and squeeze dry.

f. Saturate foam in engine oil. Squeeze to remove excess oil.

g. Assemble parts and secure air cleaner assembly to carburetor with screw.

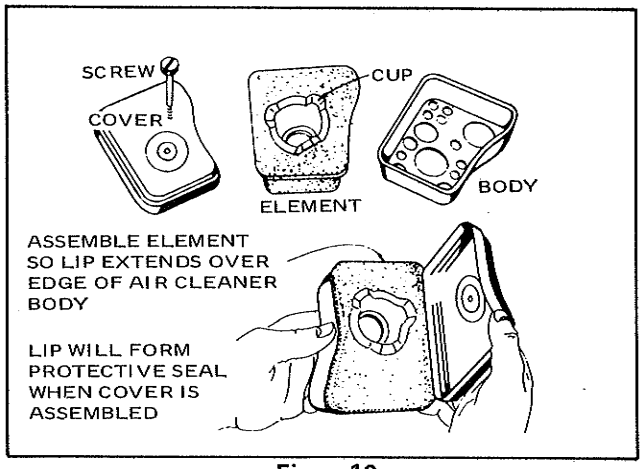

Figure 19.

EVERY 100 HOURS OF OPERATION

Clean and reset spark plug gap at 0.030 of an inch. Plug should be cleaned by scraping or wire brushing and washing with a commercial solvent or gasoline. Grease the plug threads before re-installing.

CAUTION

DO NOT BLAST CLEAN PLUG.

LUBRICATION

See Figure 20. Apply light motor oil occasionally at points indicated to reduce wear and assure free movement. Be careful not to get oil on drive belts. Do not oil wheel bearings which are self-lubricated. Use only small quantities of oil. Additional oil collects dirt and causes extra wear.

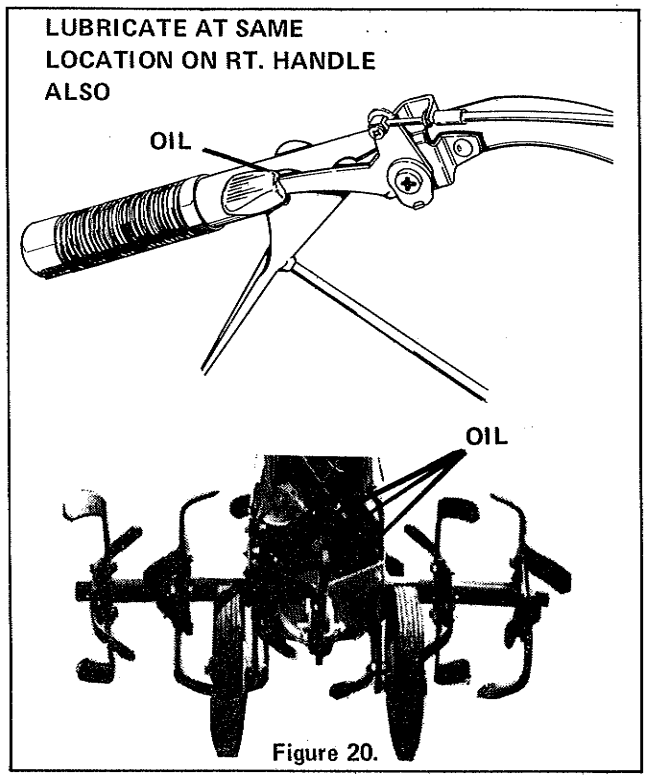

Figure 20.

REPAIRS

To prevent rust, sand off and paint any parts or areas which become chipped or damaged. Tighten all bolts, nuts, and fasteners securely.

OFF-SEASON STORAGE

1. Drain the fuel tank completely by running the engine until it stops. If desired, fuel can be stored in containers or in the tank by using a gasoline stabilizer. Add a can capful to the fuel in the tank or follow the directions on the can for containers of other capacity. This additive prevents formation of gum and varnish for up to one year, providing easier starting and a clean fuel system.

2. Drain and refill crankcase while engine is warm.

3. Remove spark plug, pour 1 oz. 10W-30 oil into cylinder through plug hole. Crank engine a few times to distribute oil. Re-install plug.

4. Clean dirt and chaff from cylinder head fins and engine housing.

TROUBLESHOOTING

IF ENGINE FAILS TO START:

1. Fuel tank may be empty. See Figure 10.

2. Throttle lever is not set to half open. See Figure 11.

3. Spark plug is not securely connected.

4. Choke plunger is not pulled out to CHOKE positon or in OFF position (in), if engine appears to be flooded. See Figure 12. To clear a flooded engine, push choke in and pull starter rope several times to clear excess fuel.

IF BELT SLIPPAGE OCCURS:

1. Belts may be stretched or worn excessively. Replace belts.

2. Belts may be greasy or oily. If so, use cleaning fluid on a rag to clean.

3. Pulleys may be misaligned. Refer to Pulley Alignment in Adjustments section of this manual.

4. Belt tension may be too tight. Refer to Clutch and Belt Tension in Adjustments section of this manual.

5 H.P. TILLER SPECIFICATIONS

ENGINE	MAKE: BRIGGS & STRATTON	■ MODEL NO: 130292 ■ STROKE: 2-7/16 Inches ■ CYCLES: 4 ■ DISPLACEMENT: 12.5 Cu. In. ■ CYLINDERS: 1 ■ CRANKSHAFT ■ BORE: 2-9/16 Inches PLANE: Horizontal
	STARTER	Manual Rewind Easy Spin
	CHOKE	Manual
	GOVERNOR	Remote Controlled Mechanical
	IGNITION	Patented, High-Tension Magneto with Ceramic Magnets
	LUBRICATION	Gear Impeller System - 40% Slope Operation
		CRANKCASE CAPACITY: 1-1/4 Pints
	FUEL CAPACITY	3 Quarts
	AIR CLEANER	Sealed Joint Housing, Reusable Oiled Foam Element
	MUFFLER	Quiet, Low Back Pressure Type, Side Discharge
TRANSMISSION	TYPE	Worm and Gear
	MATERIAL	WORM: Carburized Steel
		GEAR: Bronze
	BEARINGS	FRONT: Tapered Roller Bearing
		REAR: Tapered Roller Bearing
	SEALS	Double Lip - Dirt Excluding
	LUBRICATION	Special Worm Gear Oil (See Back Cover)
	HOUSING	Cast Iron
	SPEEDS	One Forward, One Reverse
		Reverse Type - Camshaft Drive Belt
	CLUTCH	Touch-O-Matic V-Belt
TINES	TYPE	Self-Sharpening, Non-Winding
	MATERIAL	Forged, High-Carbon Steel
	TILLING WIDTH	22-5/8In. Standard, 33-1/2 in. with Tine Extensions
	TILLING DEPTH	0 to 7 Inches, Adjustable
	ATTACHMENT	TO HUB: Bolted
		TO SHAFT: Pin and Cotter Pin
	DRIVE	INNER: Pin Type Floating Drive
		OUTER: Pin and Torsion Plate Floating Drive
	SPEED	75 RPM at Full Engine Speed
DEPTH BAR	TYPE	Pivots in Reverse
	ATTACHMENT	Pin and Hairpin Clip
	ADJUSTMENT	0 to 7 Inches Tilling Depth
CONTROLS	LOCATION	FORWARD CLUTCH: Right Handle, Top
		REVERSE CLUTCH: Left Handle, Bottom
		THROTTLE: Center Mounted
		REWIND STARTER AND CHOKE: On Engine
	HANDLES	
		HEIGHT: Adjustable, Variable
CHASSIS	FRAME	Heavy-Duty, Electrically Welded with Cross-Bracing
	TIRES	10 x 1.75 Semi-Pneumatic
	WHEEL BEARINGS	Solid, Sintered Iron
	WHEEL SCRAPERS	Frame Mounted, Adjustable
OVERALL DIMENSIONS	LENGTH	51 Inches
	WIDTH	26 Inches (Without Tine Extensions)
	HEIGHT	TO TOP OF HANDLE: 38-1/4 Inches
		TO TOP OF ENGINE: 27-3/4 Inches
	WEIGHT	NET (DRY): 133 Lbs.
		SHIPPING (DRY): 143 Lbs.