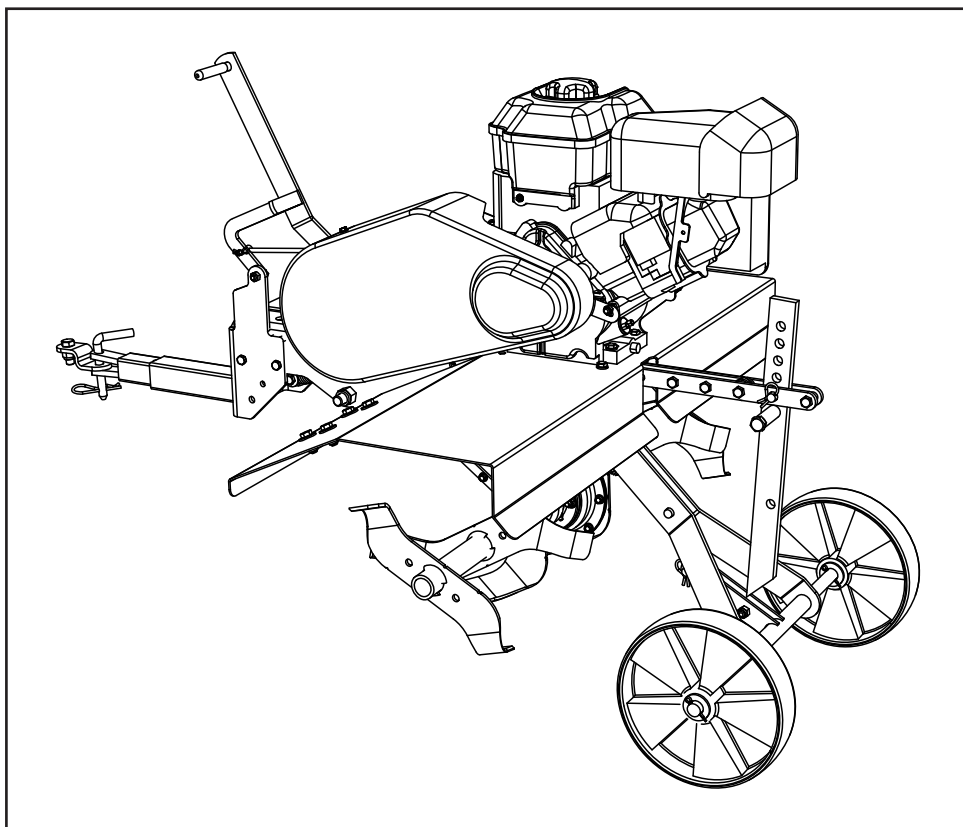




OWNER'S MANUAL

**MODEL NO.
45-03088**

CAUTION:
Read Rules for
Safe Operation
and Instructions
Carefully



UNIVERSAL TOW BEHIND TILLER

IMPORTANT! The engine is shipped without oil. Oil must be added before starting the engine. See Engine Maintenance on page 10 of this manual for instructions.

IMPORTANT! Check engine air filter prior to each use. Follow the maintenance schedule on page 8 of this manual.

- **Assembly**
- **Operation**
- **Customer Responsibilities**
- **Service and Adjustment**
- **Repair Parts**

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PARTS ORDERING/SERVICE	Rear Cover

Congratulations on your purchase of a tow behind tiller. It has been designed, engineered and manufactured to give you the best possible dependability and performance.

Please read and retain this manual. The instructions will enable you to assemble and maintain your tiller properly. Always observe the **SAFETY RULES**.

CUSTOMER RESPONSIBILITIES

- Read and observe the safety rules.
- Follow a regular schedule in maintaining, caring for and using your tiller.
- Follow the instructions under **MAINTENANCE** and **STORAGE** sections of this Owners Manual.

MODEL NUMBER: 45-03088

SERIAL NUMBER: _____
DATE OF PURCHASE: _____

THE MODEL AND SERIAL NUMBER WILL BE FOUND ON THE MODEL PLATE ATTACHED TO THE RIGHT HAND CHASSIS.

YOU SHOULD RECORD BOTH SERIAL NUMBER AND DATE OF PURCHASE AND KEEP IN A SAFE PLACE FOR FUTURE REFERENCE.

PRODUCT SPECIFICATIONS

OIL (20 oz. Capacity):	Above 32 F: SAE 30 Below 32 F: SAE 5W30
TILLING GROUND SPEED:	Approx. 2 MPH
TILLING WIDTH:	36 in.
TILLING TINE SPEED:	230 RPM

This unit is equipped with an internal combustion engine and should not be used on or near any unimproved forest covered, brush covered, or grass covered land unless the engine's exhaust system is equipped with a spark arrester meeting applicable local or state laws (if any). If a spark arrester is used, it should be maintained in effective working order by the operator.

In the state of California the above is required by law (Section 4442 of the California Public Resources Code). Other states may have similar laws. Federal laws apply on federal lands. A spark arrester muffler is available at your nearest authorized engine service center.



SAFETY RULES



IMPORTANT

Warnings, cautions, and notes are a means of attracting attention to important or critical information in this manual.



LOOK FOR THIS SYMBOL TO POINT OUT IMPORTANT SAFETY PRECAUTIONS. IT MEANS — ATTENTION! BECOME ALERT! YOUR SAFETY IS INVOLVED

TRAINING

- Read opening and service instructions carefully. Be thoroughly familiar with the controls and the proper use of the equipment.
- Never allow children to operate the machine. Do not allow adults to operate the machine without proper instruction.
- Keep the area of operation clear of all bystanders, particularly small children and pets.

PREPARATION

- Check fuel and lubrication before starting the engine.
- Do not fill the gasoline tank while the engine is running or still hot.
- Do not fill the gasoline tank indoors.
- Wipe off any spilled gasoline before starting the engine.
- Inspect the area to be tilled. Remove glass, wire, metal objects, large sticks, and stones. Avoid underground pipes and wiring.
- Have a complete working knowledge of your tractor and know how to handle your tractor with a tiller or other attachment attached.

OPERATION

- Give complete and undivided attention to the job at hand. Operate the tiller in daylight or good artificial light.
- Always proceed slowly and carefully while operating tiller.
- Personal injury may result from contact with the augers or debris thrown by this machine. Always stay a safe distance away from the augers.
- Shut off engine before leaving tiller unattended.
- Check for loose fasteners or parts before each use.
- Never store tiller inside a building while gasoline is in the tank. Allow engine to cool before storing in an enclosure.

- Stop engine and disconnect spark plug lead wire before cleaning augers, removing obstacles, or making adjustments, except for those which must be done with the engine running.
- Never place hands or feet under or into rotating parts or concealed areas. Keep hands and feet clearly away from auger elements, belts, pulleys, etc. while engine is running.
- Wear substantial shoes and eye protection while using tiller.
- Never attempt to make a maintenance adjustment while engine is running, except on the carburetor.
- Never run the engine indoors.
- Never operate machine without proper guards, plates, or other safety protective devices in place.
- Disengage the tine clutch lever and stop the tiller and tractor engines before getting off the tractor.
- Disengage the tine clutch lever and stop the tiller engine before transporting tiller.

MAINTENANCE AND STORAGE

- Follow maintenance instructions as outlined in this manual and the engine owner's manual.
- Disconnect spark plug wire before making a maintenance adjustment or repair.
- Store gasoline in UL-approved non-spill containers.
- Only use manufacturer replacement parts.

ASSEMBLY

REMOVE UNIT FROM CARTON

- Cut all four corners of the carton from top to bottom and lay panels flat. See figure 1.
- Remove the lag screw that holds the floating hitch to the packing skid.
- Remove wooden top and side supports.
- Remove four hex bolts, hex nuts, and flat washers from the hold down brackets at the rear of the carton.
- Remove and **save** the two flat washers and cotter pins from the rear axle. Reuse when attaching gauge wheels.
- Discard all other packing hardware.

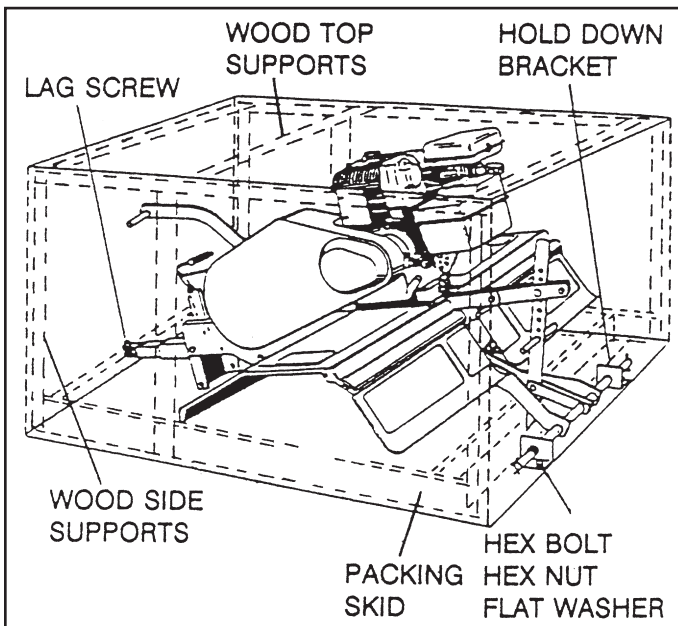


FIGURE 1

INSTALL TILLER GAUGE WHEELS

- Assemble gauge wheels onto rear axle with the extended end of the hub facing inward. Secure with the flat washers and cotter pins that were removed from the axle during unpacking. See figure 2.

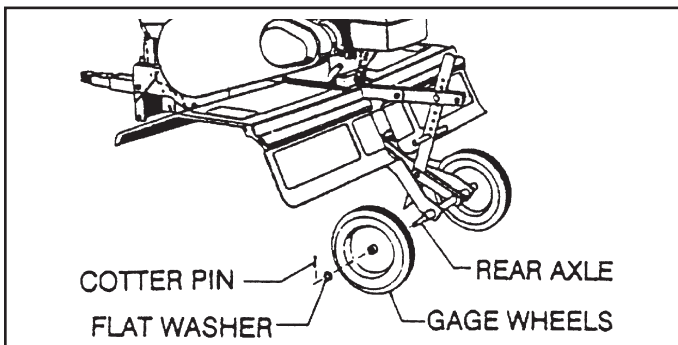


FIGURE 2

INSTALL TILLER TINE ASSEMBLIES

- Attach floating hitch to tractor draw bar (Refer to **OPERATING INSTRUCTIONS** on page 6.)
- Remove the pre-assembled 3/8" x 2" hex bolt and 3/8" nylock nut from the left hand tine assembly. Slide the tine assembly onto the transmission axle on the left side of the tiller and secure with the hex bolt and nylock nut. See figure 3. Repeat for opposite side.

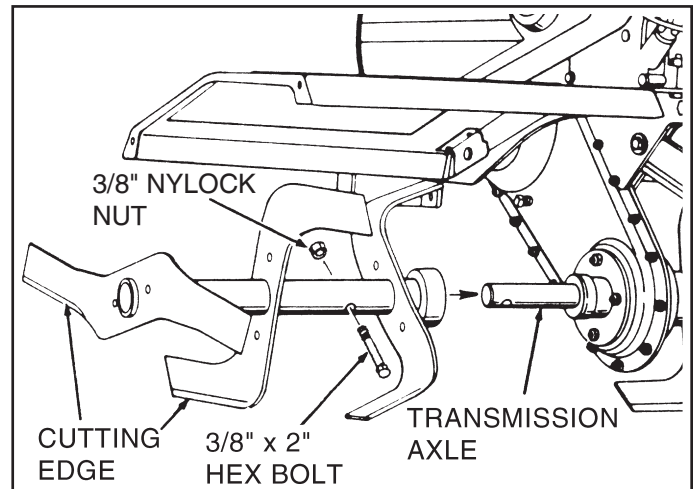


FIGURE 3

INSTALL (WHEEL) WEIGHTS TO TILLER

NOTE: Weights are not furnished with the tiller. Wheel weights may be purchased to mount to the tiller if extra weight is required. (Refer to the **OPERATION** section of this manual.)

- Remove the four hex bolts and nuts located approximately 3-1/2" from the front edge of the tine shields. See Figure 4.
- Secure (wheel) weights to tine shield using bolts and nuts furnished with the weights. See Figure 4.

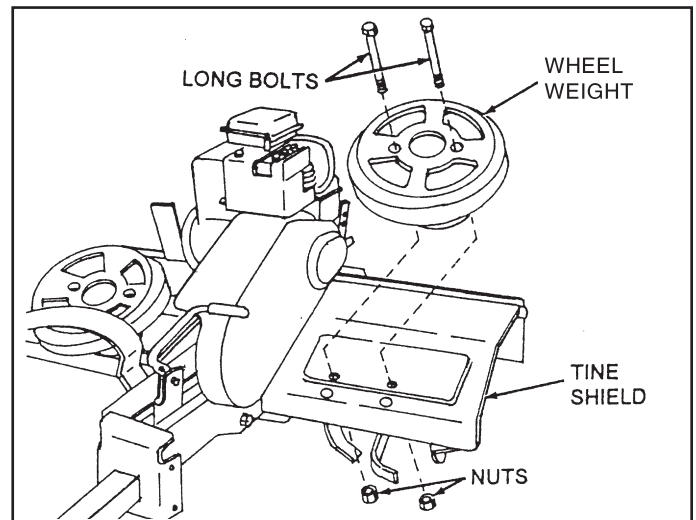


FIGURE 4

OPERATION

RIGHT HAND (RH) AND LEFT HAND (LH) ARE DETERMINED FROM THE DRIVERS POSITION WHILE SEATED ON THE TRACTOR.

WE RECOMMEND THAT YOU REMOVE THE MOWER DECK BEFORE USING THE TILLER. REFER TO YOUR TRACTOR OWNER'S MANUAL.

KNOW YOUR TILLER

Compare the illustration below with your tiller to familiarize yourself with the location of various controls and adjustments.

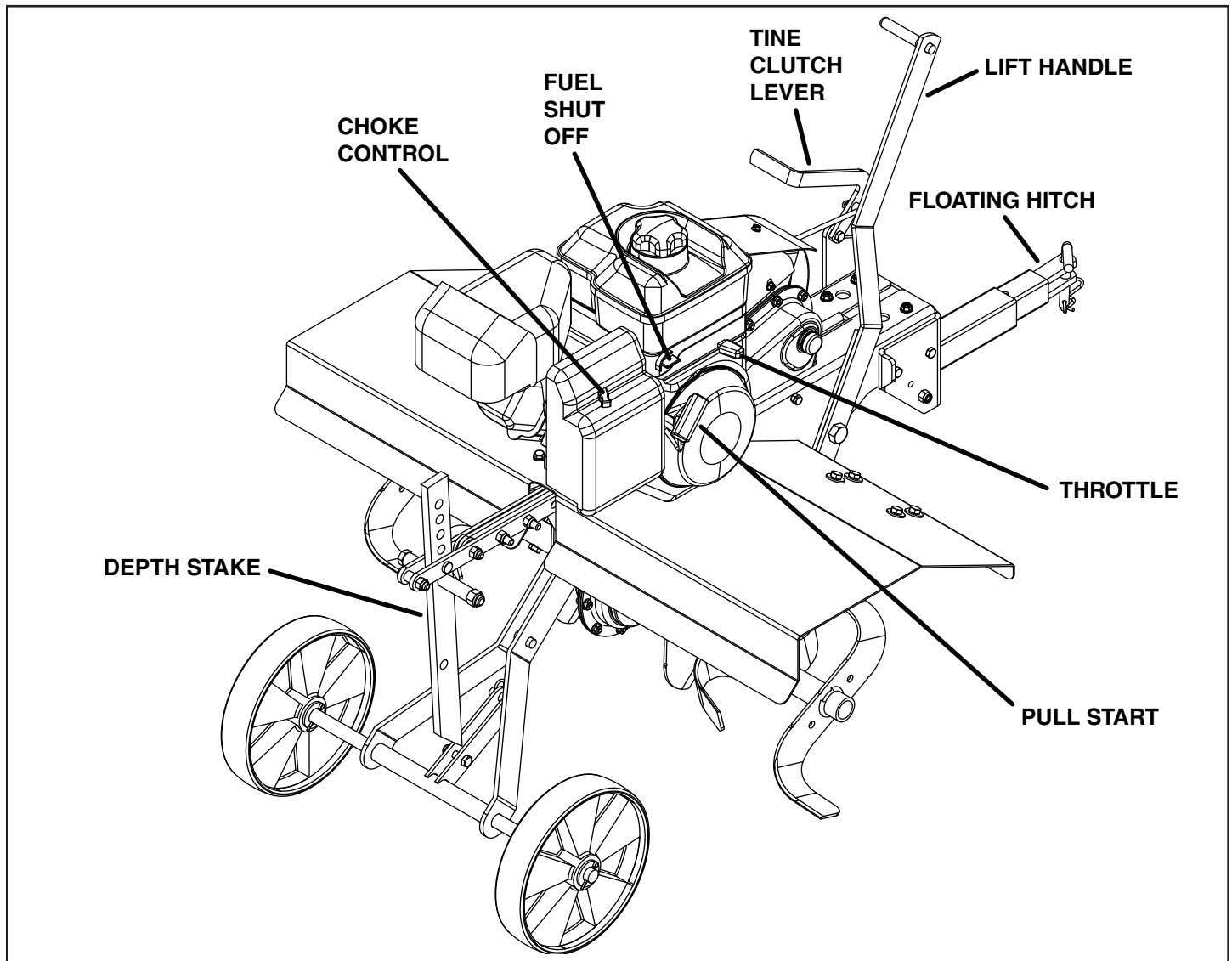


FIGURE 5

SAFETY SWITCH - prevents engine from starting while tine clutch lever is engaged

LIFT HANDLE - selects tilling or transport position by moving gage wheels

TINE CLUTCH LEVER - starts and stops tine rotation

FLOATING HITCH - telescoping hitch limits shock loads to tractor

RECOIL START HANDLE - used to start the engine

THROTTLE CONTROL - controls engine speed

FUEL SHUT OFF - shuts off fuel to engine

CHOKE CONTROL - used when starting a cold engine

DEPTH STAKE - controls tilling/cultivating depth

OPERATION



WARNING: Flying debris can cause eye injury. Always wear eye protection before starting and while operating tiller.

HOW TO USE YOUR TILLER

BEFORE STARTING YOUR TILLER FILL THE ENGINE WITH OIL! Your tiller engine is shipped without oil or gasoline. Add oil as instructed in **ENGINE MAINTENANCE** on page 9 of this manual. Add gas as instructed in the engine manual.



WARNING: Never fill fuel tank indoors, or with the engine running, or while the engine is hot. Do not smoke while filling tank.

STOPPING YOUR TILLER

TINES

- Raise tiller to transport position.
- Pull forward on tine clutch lever.

ENGINE (Refer to separate engine manual.)

- Move throttle control to "STOP" position.
- Turn shut off to "OFF" position.
- Never use choke to stop engine.

STARTING YOUR TILLER

(Refer to separate engine manual.)



CAUTION: The muffler and adjacent areas are hot!

- Check oil and gas in tiller engine.
- Attach spark plug wire to spark plug.
- Pull forward on tine clutch lever to disengage tines. A safety switch prevents engine from starting while tines are engaged.
- Turn shut off to "ON" position.
- Move choke lever on engine to CHOKE position. (A warm engine may not require choking.)
- Move throttle control lever on engine to FAST position.
- Grasp starter handle and pull rope out slowly until engine reaches start of compression cycle (rope will pull slightly harder at this point). Let the rope rewind slowly.
- Keep a firm grip on starter handle and pull rope with a rapid, continuous, full arm stroke. Let rope rewind slowly. Do not let starter handle snap back against starter.

- Repeat instructions in two preceding paragraphs until engine starts. After engine starts, move choke control gradually to RUN position.
- Allow engine to warm up for a few minutes before engaging tines.

ATTACHING TILLER TO TRACTOR

(See Figure 6)

- Rear wheel weights and tire chains can be used on tractor if additional traction is required for tilling.
- Place tiller on level ground and back tractor up to it.
- Attach hitch bracket extension to floating hitch of tiller using a hitch pin and hair cotter pin.
- Fasten hitch bracket extension to tractor drawbar with a 1/2-13 x 1-1/4" hex bolt and 1/2" nylock nut.

HITCH BRACKET EXTENSION CAN BE ATTACHED AS SHOWN IN FIGURE 6 OR TURNED UPSIDE DOWN FOR TRACTORS WITH LOWER DRAWBARS.

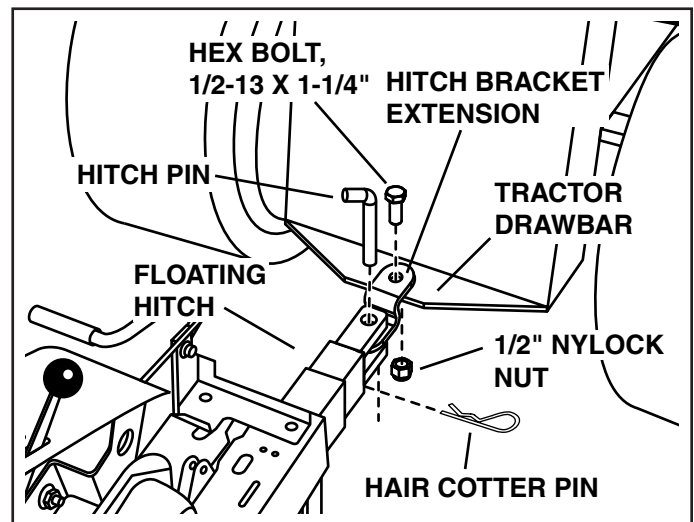


FIGURE 6

BREAKING IN YOUR TILLER

Break-in your belts, pulleys, and the control before you actually begin tilling.

- Start engine with tiller attached to tractor in transport position. Engage tine clutch lever to start tine rotation. Allow tines to rotate for five minutes.
- Check tine operation and adjust if necessary. See **TINE OPERATION CHECK** in the **SERVICE AND ADJUSTMENTS** section of this manual.

OPERATION

TRANSPORTING YOUR TILLER

AROUND THE YARD

- Pull forward on lift handle until it locks in the transport (up) position.

AROUND TOWN

- Disconnect spark plug wire.
- Drain fuel tank.
- Transport in upright position to prevent oil leakage.

TO ADJUST DEPTH STAKE

- The top depth stake hole selects a till depth of 1" with each lower hole increasing till depth by 1" to a maximum of 5".
- To change till depth, remove the hair cotter pin from the clevis pin which is connecting the depth stake to the stake support bracket.
- Grasp the top of the depth stake, remove the clevis pin and reposition the depth stake. Insert clevis pin and hair cotter pin.

IMPORTANT: THE DEPTH STAKE SHOULD NEVER BE REMOVED FROM THE TILLER. IT IS DESIGNED TO PROTECT THE TRACTOR TRANS AXLE FROM THE THRUSTING ACTION OF THE TILLER.

TILLING

- Tilling should be done with the tiller engine full throttle. If tiller engine seems to be overloaded or stalls out, lower gauge wheels for shallower tilling.
- Operate tiller engine at full throttle and operate tractor in slowest forward speed with tractor engine at idle speed or just above idle.
- Soil conditions will determine how deep tiller can penetrate on the first pass. In extremely hard ground, several passes may be necessary to till to a depth of 6 inches. While in soft ground, tiller may penetrate to a depth of 6 inches in the first pass.

TILLING HINTS

IMPORTANT OPERATING HINTS

NOTE: The following are general guidelines for tilling, but may vary depending upon soil conditions.

- In virgin soil, the tiller should be started in shallowest depth position and lowered one position at a time after each pass in each direction.

- Extremely hard and dry soil will need to be cross tilled at a shallow depth first, then tilled in the direction of planting rows on the second pass at the final depth.
- Till in a pattern similar to that shown in Figure 7. Make the first pass, skip a space equal to the width of the tiller and make the return pass, then till the skipped area. Tilling in this pattern will enable you to maintain better control. If the passes are made side-by-side, the tractor and tiller will pull toward the tilled (soft) side.
- Check ground moisture. The ground is too wet if you can make it into a ball with your hand. Tilling soil when it is too wet will cause lumps which are difficult to work up.
- In soil that was tilled the year before, select the tilling depth at which the tiller engine runs comfortable and does not stall or pull down. Lower depth for additional passes if great depth is desired.
- Whenever working multiple passes, go perpendicular to the previous tilling direction.
- In cases where the soil is too hard to get proper penetration or if tilling action causes tiller to hop or bounce, it will be necessary to purchase a set of tiller (wheel) weights.

CULTIVATING

- A minimum of two (2) inches of soil penetration is required for cultivating.
- Set depth stake so the tiller penetrates soil to a depth of 2 to 3 inches.
- Run the tiller engine at full throttle except when cultivating small plants. A slower engine speed is necessary to prevent burying small plants. See Figure 8.

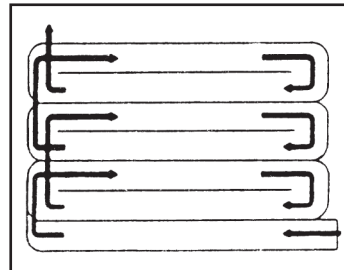


FIGURE 7

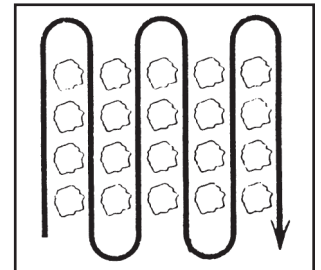


FIGURE 8

MAINTENANCE

GENERAL RECOMMENDATIONS

The warranty on this tiller does not cover items that have been subjected to operator abuse or negligence. To receive full value from the warranty, operator must maintain unit as instructed in this manual.

Some adjustments will need to be made periodically to properly maintain your unit.

All adjustments in the **SERVICES AND ADJUSTMENTS** section of this manual should be checked at least once each season.

- Once a year you should replace the spark plug, clean or replace the air filter, and check tines and belts for wear. A new spark plug and clean air filter ensure proper air-fuel mixture and help your engine run better and last longer.

BEFORE EACH USE

- Check engine oil level.
- Check tine operation.
- Check for loose fasteners

LUBRICATION

Keep unit well lubricated. See **LUBRICATION CHART**.

Refer to the engine manual for instructions on engine maintenance.

MAINTENANCE SCHEDULE Fill in dates as you complete regular service.	Before each use	First 5 to 8 hrs.	25 hrs. or every season	50 hrs. or every season	100 hrs. or every season	Yearly	Service Dates					
Check engine oil level	X											
Change engine oil		X		X*								
Check air filter pre-cleaner	X											
Check air filter cartridge	X											
Service air filter pre-cleaner			X**									
Service air filter cartridge			X**									
Replace spark plug					X							
Clean cooling system					X**							
Check valve clearance						X						
Check for loose fasteners	X											
Lubricate tiller			X									

*Change oil every 25 hours when operating the engine under heavy load or in high temperatures.

**Clean more often under dusty conditions or when airborne debris is present. Replace air cleaner parts, if very dirty.

- REFER TO SEPARATE ENGINE OPERATING & MAINTENANCE INSTRUCTIONS
- REFER TO **MAINTENANCE, TILLER LUBRICATION** SECTION
- GENERAL PURPOSE GREASE

IMPORTANT: DO NOT OIL OR GREASE PIVOT POINTS. VISCOUS LUBRICANTS WILL ATTRACT DUST AND DIRT THAT CAN CAUSE WEAR ON PIVOT POINTS. IF YOU FEEL THEY MUST BE LUBRICATED, USE ONLY A DRY POWDERED GRAPHITE TYPE LUBRICANT.

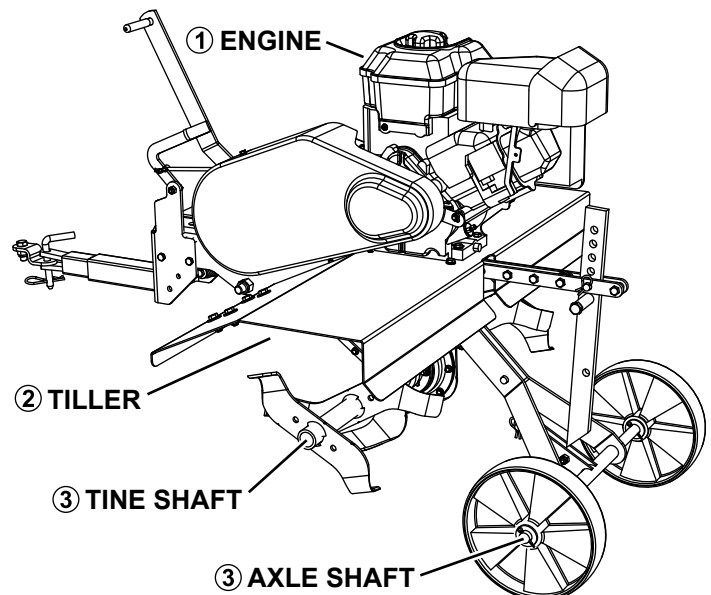


FIGURE 9

MAINTENANCE

TRANSMISSION LUBRICATION

Check the transmission oil level after first 5 hours of operation. Remove oil fill plug (figure 10). Oil level must be even with the plug hole (with tiller level). Add oil if necessary. Use SAE 30 non-detergent motor oil. Replace oil fill plug.

Check the transmission oil level after each 10 hours of operation.

NOTE: It is not necessary to change the oil in this tiller transmission. If for any reason it must be changed, oil capacity is 22 oz.

BEARING LUBRICATION

Grease the tine shaft bearings every 8-10 hours. Use a grease gun to apply about 10 pumps of General Purpose grease in the grease fittings. Wipe off excess grease that is forced out of the bearings. Perform this lubricating procedure more often in dry and dusty environments.

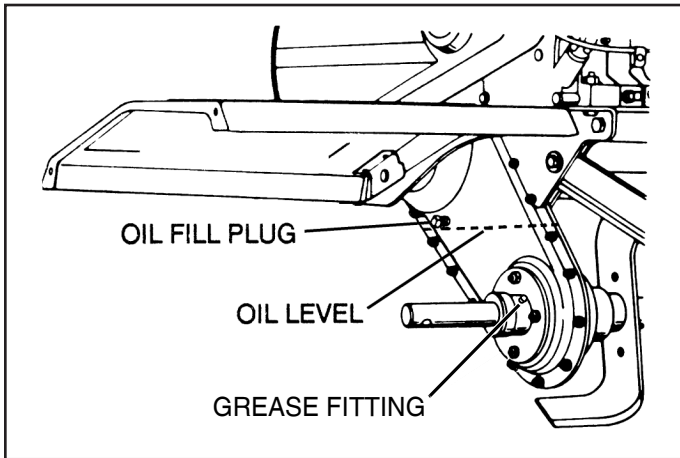


FIGURE 10

CLEANING

- Clean engine as instructed in the engine manual.
- Clean wheels, finish, etc. of all foreign matter.
- Keep finished surfaces and wheels free of all gasoline, oil, etc.
- Protect painted surfaces with automotive type wax.

Do not use a garden hose to clean your unit unless the muffler, air filter, and carburetor are covered to keep water out. Water in the engine will result in shorter engine life.

MUFFLER

Do not operate tiller without muffler. Do not tamper with exhaust system. Damaged mufflers or spark arresters could create a fire hazard. Inspect periodically and replace if necessary. If your engine is equipped with a spark arrester screen assembly, remove every 50 hours for cleaning and inspection. Replace if damaged.

ENGINE MAINTENANCE



WARNING: Always stop engine and disconnect spark plug wire before cleaning, lubricating, or before performing any repairs or maintenance.

- Check **oil level** before each use and every 8 hours.
- Maintain oil at level shown in figure 11 below.
- Service **air cleaner** every 25 hours under normal conditions. Clean every few hours under extremely dusty conditions. Poor engine performance and flooding usually indicates that the air cleaner should be serviced. Refer to separate engine manual to service the air cleaner.
- **Spark plug** replacement is recommended every 100 hours or yearly. Check the engine manual for correct plug type and gap specifications.

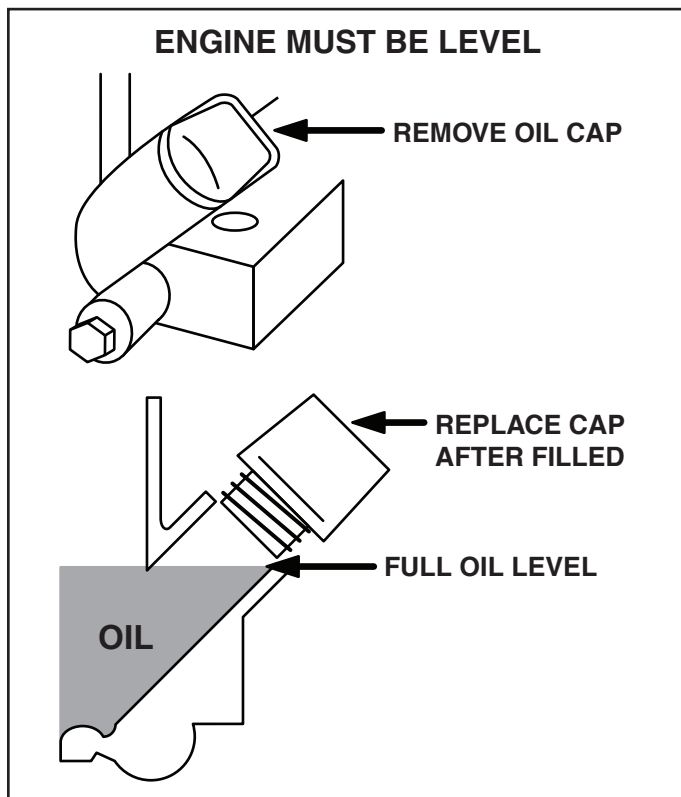


FIGURE 11

SERVICE AIR FILTER



WARNING: Fuel and its vapors are extremely flammable and explosive. Fire or explosion can cause severe burns or death.

- Never start and run the engine with the air cleaner assembly or the air filter removed.
- Remove the cover **B** as shown in figure 12.
- To prevent debris from falling into the carburetor, carefully remove the pre-cleaner **D** and filter **C** from the air filter base **F**. See figure 12.
- Gently tap the filter **C** on a hard surface to loosen debris. If the filter is excessively dirty, replace with a new filter. See figure 12.
- Remove the pre-cleaner **D** from the filter **C**. See figure 12.
- Wash the pre-cleaner **D** in liquid detergent and water. Allow the pre-cleaner to thoroughly air dry. Do not oil the pre-cleaner.
- Assemble the dry pre-cleaner **D** to the filter **C**.
- Install the filter **C** and pre-cleaner **D** to air filter base **F** and onto stud **G**. Make sure filter is properly assembled to air filter base and secure with fastener **E**. See figure 12.
- Install the cover **B** and secure with fastener **A**. Make sure fastener is tight. See figure 12.

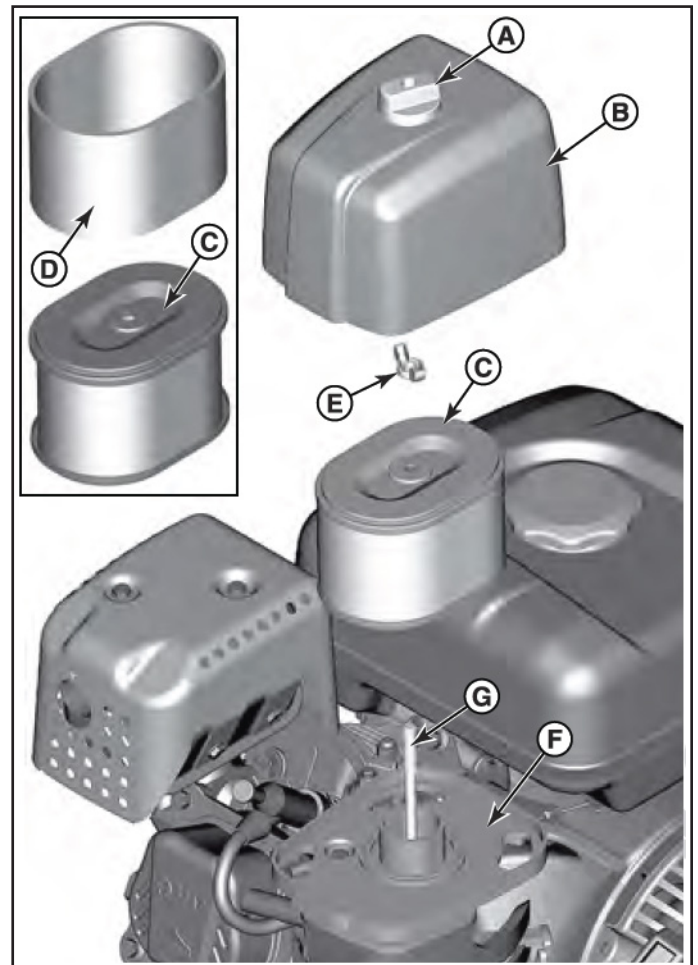


FIGURE 12

SERVICE AND ADJUSTMENTS



WARNING: Shut off (disengage) the Tine Clutch Lever, the Tiller Engine and the Tractor Engine before making any repairs.

TO REPLACE V-BELT

Replace V-belt if it has been damaged considerably from slipping under heavy loads or if it show cracks or frayed edges. Refer to figures 13 and 14.

IMPORTANT: Do not move or remove the belt guide. If the position of the belt guide is accidentally altered, return it to the correct setting (6-1/2" above the tine shield support plate).

- Remove the screw from the top of the belt guard.
- Remove the hex nut from the rear of the guard.
- Remove the belt guard to allow access to drive belt.
- Disengage tine clutch lever and remove belt.
- Reverse above procedures for installation of new belt.

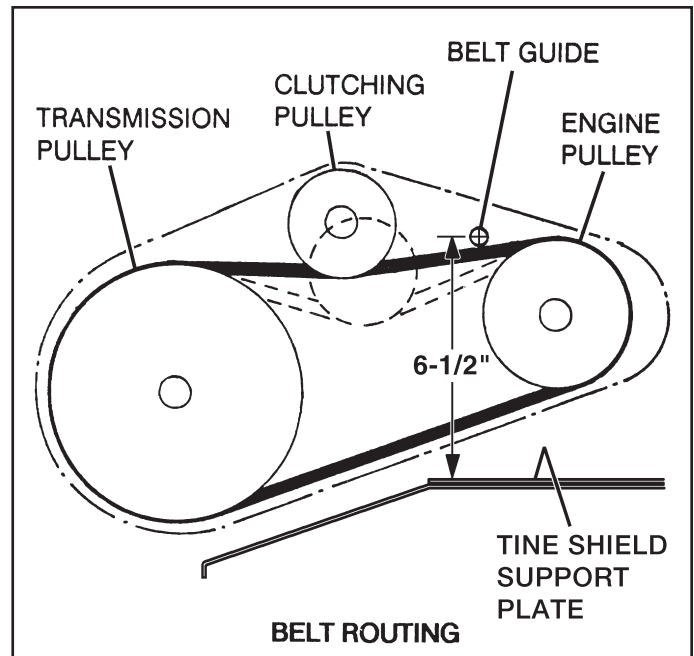


FIGURE 14

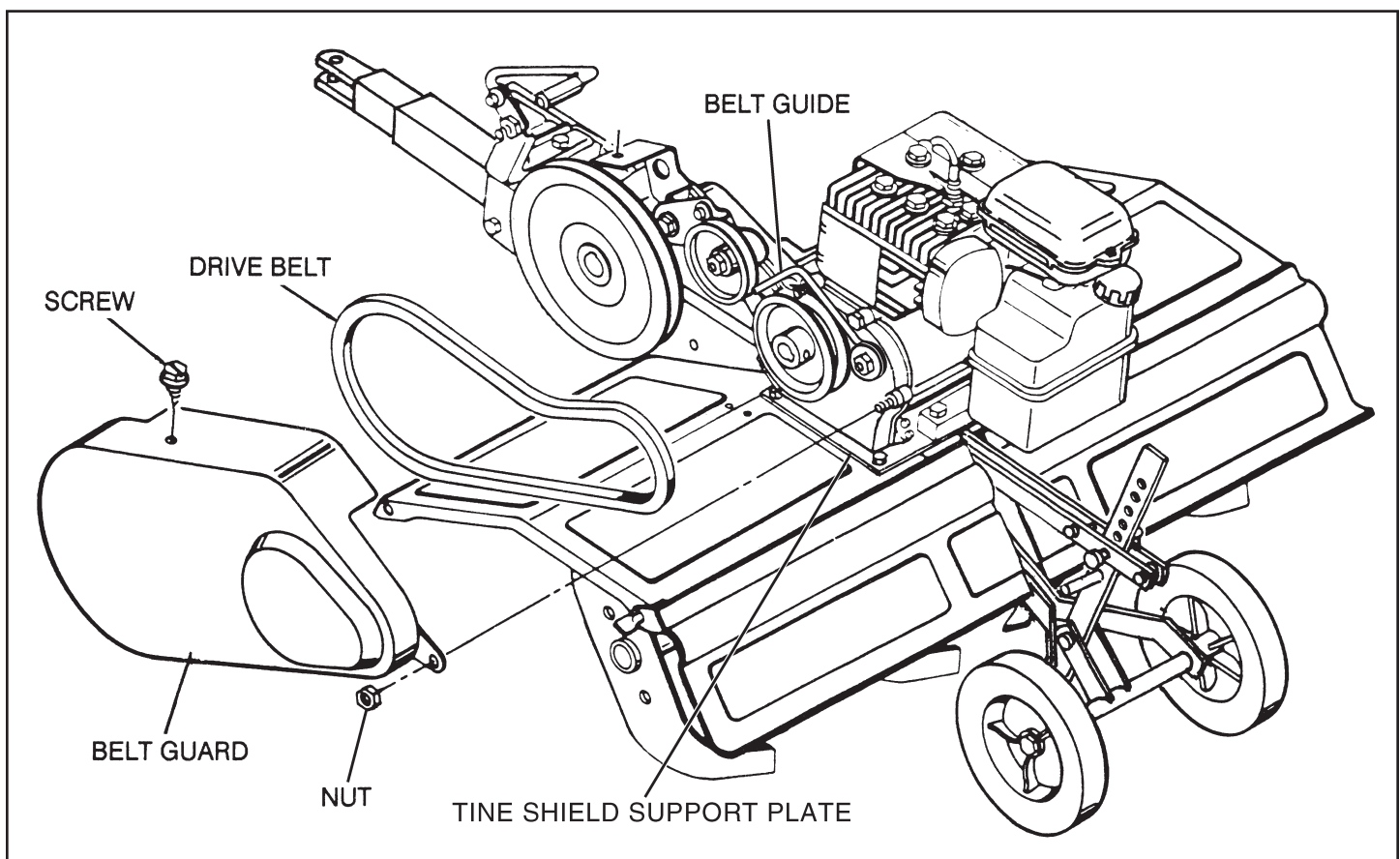


FIGURE 13

SERVICE AND ADJUSTMENTS



WARNING: Shut off (disengage) the Tine Clutch Lever, the Tiller Engine and the Tractor Engine before making any repairs.

TINE CARE

- For best results — Tine blades should be kept reasonably sharp. The tine blade can be sharpened on a grinding wheel. Do not attempt to sharpen tines while they are mounted to tiller.

SPARE TINE DRIVE BOLTS

- The tiller drive components are protected from damage by (shearable) grade 5 hex bolts in the tine assemblies. The hex bolts drive the tines and hold them in the proper location. Should the tine assemblies strike or pick up a large hidden object or become jammed, the hex bolts will break and the drive components will not be damaged.
- Two extra tine hex bolts and nuts are included with the tiller. They are located in the tiller stake support bracket on the rear of the tiller.
- The tine hex bolts are designed to be loose fit. Do not attempt to use a bolt or pin that is larger or harder than the original grade 5 hex bolts.

STORAGE

Prepare your tiller for storage at the end of the season or if the unit will not be used for 30 days or more.



CAUTION: Never store the tiller with gasoline in the tank inside a building, where fumes may reach an open flame or spark. Allow the engine to cool before storing in any enclosure.

- Check that all nuts, bolts, and screws are securely fastened. Inspect moving parts for damage, breakage, and wear. Replace if necessary.
- Touch up all rusted or chipped paint surfaces; sand lightly before painting.
- Store tiller indoors and cover it to protect from dust and dirt.
- Cover tiller with a suitable protective cover that does not retain moisture. Do not use plastic. Plastic allows condensation to form and will cause your unit to rust.

ENGINE

- Follow the instructions in the **SERVICE & STORAGE** section of the Engine Manual.

TILLER

- Clean entire tiller (See **CLEANING** in the **MAINTENANCE** section of the manual).
- Inspect belts and replace if necessary (See belt replacement instructions in the **SERVICE AND ADJUSTMENTS** section of this manual).
- Lubricate as instructed in the **MAINTENANCE** section of this manual.



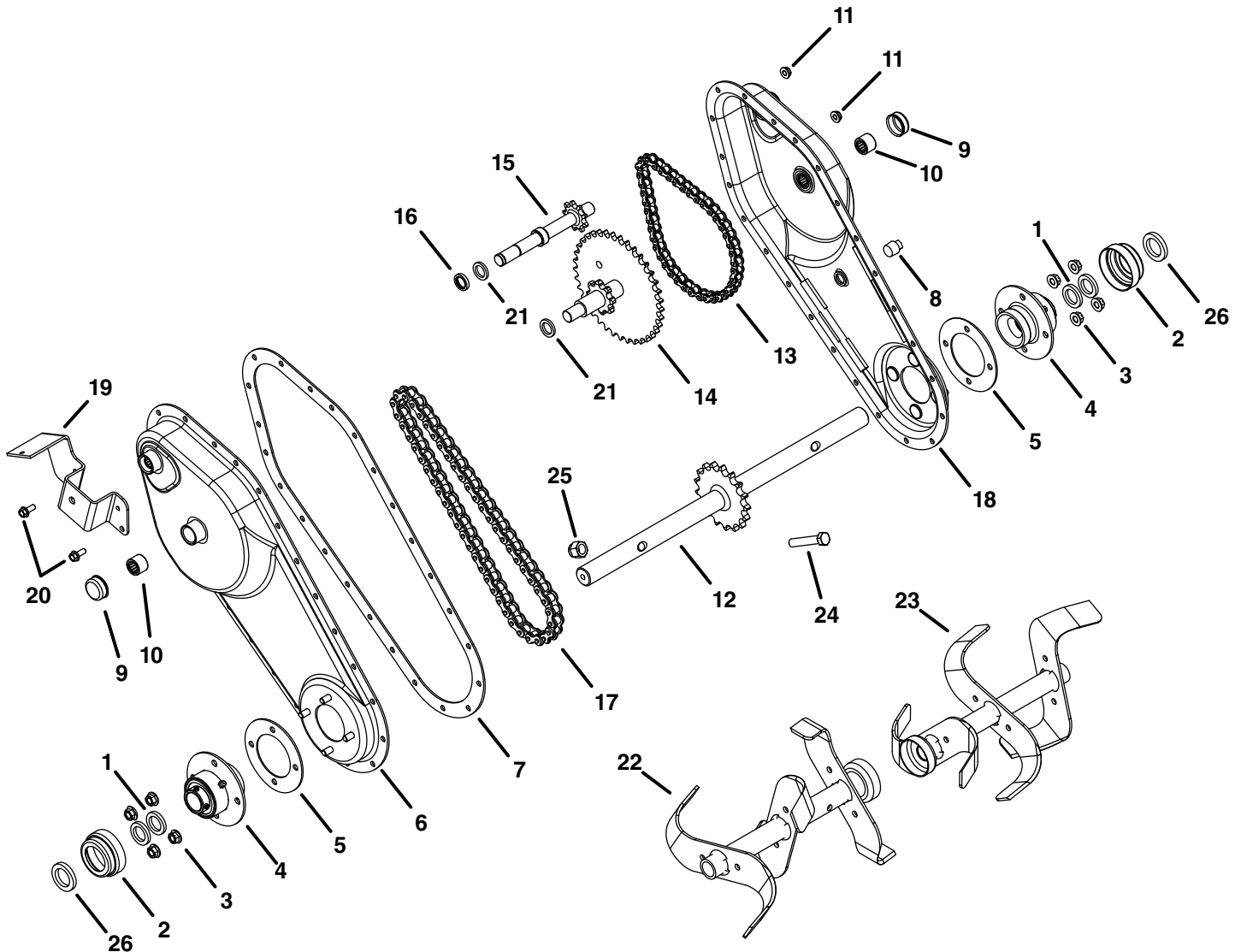
WARNING: Never cover tiller while engine and exhaust areas are still warm.

TROUBLESHOOTING

Follow the instructions in the "Service & Storage" section of the Engine Manual when performing any work on the Engine.

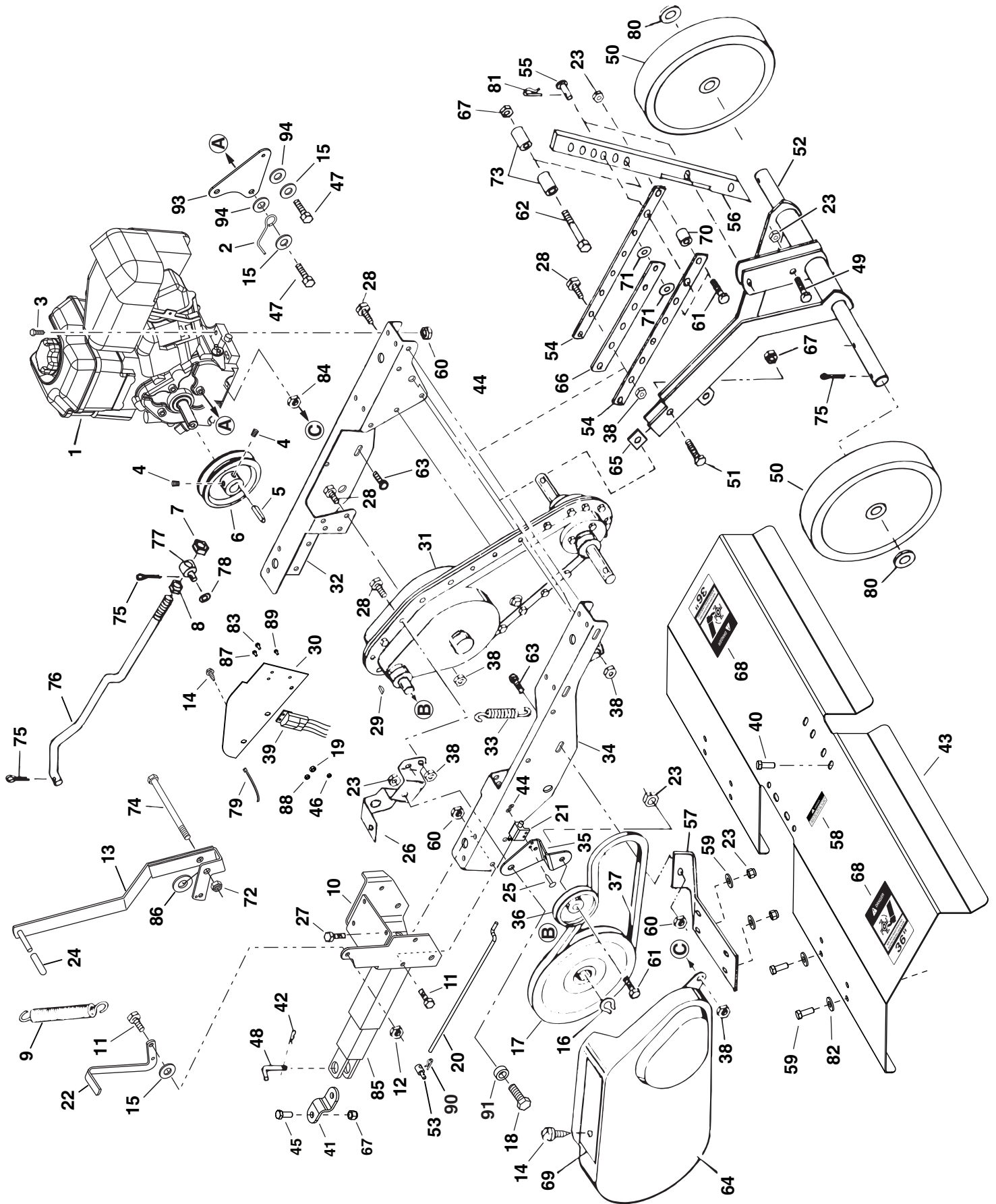
PROBLEM	
Probable Cause	Possible Remedy
WILL NOT START OR HARD TO START	
No gasoline in fuel tank	Fill tank with gasoline
Choke not set properly	Place choke control in choke position
Throttle control not set properly	Place throttle control in fast position
Choked improperly, flooded engine	Move choke control to run position, place throttle control in fast position and pull starter several times to clear out gas
Dirty air cleaner	Remove to inspect, replace if dirty
Loose spark plug wire	Make sure spark plug wire is seated properly on spark plug
Spark plug dirty or improper gap	Replace spark plug and adjust gap
Water in gasoline or old fuel	Drain fuel tank and carburetor, use fresh fuel and replace spark plug
Clogged fuel tank	Remove and clean
ENGINE MISSES OR LACKS POWER	
Engine overloaded	Set depth stake and wheels for shallower tilling
Partially plugged air cleaner	Remove and clean or replace
Dirty air screen	Clean air screen
Spark plug dirty, improper gap or wrong type	Replace spark plug and adjust gap
Oil in gasoline	Drain and refill tank and carburetor
Clogged fuel tank	Remove and clean
Poor compression	Major engine overhaul
ENGINE OVERHEATS	
Low oil level or dirty oil	Add or change oil
Dirty air screen	Clean air screen
Dirty engine	Clean cylinder fins air screen and muffler area
Partially plugged muffler	Remove and clean muffler
EXCESSIVE BOUNCE AND DIFFICULT HANDLING	
Wheels and depth stake incorrectly adjusted	Adjust wheels and depth stake
Ground too dry and hard	Moisten ground or wait for more favorable soil conditions
SOIL BALLS UP OR CLUMPS	
Ground too wet	Wait for more favorable soil conditions
ENGINE RUNS WELL BUT TILLER WON'T MOVE	
Tine control not engaged	Engage tine control
V-belt off of pulleys	Check v-belt
ENGINE RUNS WELL BUT LABORS WHEN TILLING	
Tilling too deep	Adjust depth stake
Throttle control not properly adjusted	Check throttle control setting

REPAIR PARTS FOR MODEL 45-03088 UNIVERSAL TOW BEHIND TILLER



REF.	PART NO.	QTY.	DESCRIPTION	REF.	PART NO.	QTY.	DESCRIPTION
1	HA20125	4	Felt Washer	14	68675	1	Idler Shaft Assembly
2	26707	2	Cap	15	66271	1	Input Shaft Assembly
3	49983	8	Flanged Lock Nut, 5/16-18	16	HA20145	1	Seal
4	68673	2	Flange and Bearing Assembly	17	42087	1	Roller Chain (Long)
5	HA20122	2	Flange Gasket	18	66721	1	Drive Housing (LH) (includes items 9 & 10)
6	66720	1	Drive Housing (RH) (includes items 9 & 10)	19	HA20134	1	Belt Guard and Idler Bracket
7	HA20136	1	Drive Gasket	20	40560	19	Washer Head Bolt, 1/4-20 x 5/8"
8	HA20130	1	Oil Plug	21	HA20129	4	Thrust Washer
9	HA20138	3	Bearing Cap	22	66225	1	Tine Assembly (LH)
10	HA20137	4	Roller Bearing	23	66224	1	Tine Assembly (RH)
11	47598	19	Washer Faced Lock Nut, 1/4-20	24	28243	4	Bolt, 3/8-16 x 2" (2 spare)
12	68674	1	Tine Shaft and Sprocket Assembly	25	HA21362	4	Nut, Hex Nylock 3/8-16 (2 spare)
13	42088	1	Roller Chain (Short)	26	43601	2	Washer

REPAIR PARTS FOR MODEL 45-03088 UNIVERSAL TOW BEHIND TILLER



REPAIR PARTS FOR MODEL 45-03088 UNIVERSAL TOW BEHIND TILLER

REF.	PART NO.	QTY.	DESCRIPTION	REF.	PART NO.	QTY.	DESCRIPTION
1	20897	1	Engine (50 State)	48	HA5236	1	Pin, Hitch
2	48346	1	Guide - Belt	49	43062	1	Bolt, 3/8-16 x 1-1/2" Hex Head
3	43085	4	Bolt, 5/16-18 x 1-1/2" Hex Head	50	HA20918	2	Wheel
4	HA115321	2	Set Screw, 5/16-18 x 5/16"	51	R74780828	1	Bolt, 1/2-13 x 1-3/4" Hex Head
5	HA11154	1	Key, Square 1/4" x 2"	52	HA20670	1	Pivot Axle Assembly
6	40906	1	Pulley	53	26568	1	Anchor
7	48733	1	Nut, 1/2-12 Nylock Jam	54	HA20725	2	Strap Frame Extension
8	HA124934	1	Nut, 1/2-12 Hex Jam	55	HA3433	2	Pin, Clevis
9	HA19860	1	Spring, Depth Extension	56	28176	1	Stake, Drag
10	64282	1	Hitch Bracket Assembly	57	28154	2	Bracket — Wheel Weight Support
11	43063	5	Bolt, 5/16-18 x 1" Hex Head	58	HA20940	1	Decal, Danger
12	43064	1	Locknut, 5/16-18 Hex	59	43001	8	Hex Bolt, 3/8-16 x 1"
13	64343	1	Lift Handle Assembly	60	47810	11	Nut, Hex 5/16-18 Nylock
14	48840	4	Screw, Self-Tapping 1/4" x 1/2"	61	41576	5	Bolt - 3/8-16 x 1-3/4" Hex Head
15	43081	3	Washer, 5/16" Std. Wrt.	62	R74760884	1	Bolt, 1/2-13 x 5-1/2" Hex Head
16	HA20135	2	Ring, Retainer	63	44326	2	Bolt, 5/16-18 x 1" Carriage
17	HA20184	1	Pulley, Input	64	24849	1	Belt Guard (incl. #69)
18	43001	1	Hex Bolt, 3/8-16 x 1"	65	HA14306	1	Washer
19	47189	2	Nut, Hex Nylock 1/4-20	66	HA20691	1	Strap-Frame Extension Brace
20	40843	1	Clutch Rod	67	712-3083	4	Nut, 1/2-13 Nylock
21	HA23199	1	Switch, Safety Interlock	68	HA20938	2	Decal, Danger
22	24847	1	Lever, Clutch	69	HA20942	1	Decal
23	HA21362	15	Nut, Hex Nylock 3/8-16	70	HA5713	1	Spacer
24	HA20170	1	Grip, Handle	71	HA15200	2	Washer
25	49152	2	Rivet, Pop	72	712-0261	1	Nut, Hex 5/8-11 Nylock
26	HA20134	1	Belt Guide & Idler Mounting Bracket	73	HA7974	2	Spacer
27	47630	4	Screw, 5/16-18 x 3/4" Self Tap	74	48278	1	Bolt, Hex 5/8-11 x 7-1/2"
28	43661	5	Bolt, 1/4-20 x 1" Hex Head	75	43010	6	Pin - 1/8" x 1-1/4" Cotter
29	HA20185	1	Key, Woodruff No. 61	76	HA20688	1	Rod - Lift
30	24863	1	Cover, Drive	77	HA19649	1	Anchor - Adjustment
31	67558	1	Transmission - Complete	78	R19171616	1	Washer, .531 x 1 x .059"
32	28173	1	Chassis, Left	79	40699	1	Plastic Tie w/ #8 Screw Hole
33	HA20186	1	Spring, Extension	80	HA456151	4	Washer, 13/16" x 1-1/2" x .134" Flat
34	28174	1	Chassis, Right	81	HA20481	2	Pin - Hair Cotter
35	26124	1	Bracket, Idler	82	43070	16	Washer, 3/8"
36	HA11496	1	Pulley, Idler	83	43012	4	Hex Bolt, 1/4-20 x 3/4"
37	HA20187	1	V-Belt	84	43178	2	Nut, 1/4-20 Hex
38	47598	8	Washer Faced Lock Nut, 1/4-20	85	HA20692	1	Hitch Tube Assem. (incl. with #10)
39	68706	1	Module	86	R19212113	1	Washer, 5/8"
40	43182	1	Hex Bolt, 5/16-18 x 3/4"	87	43346	1	Slot Truss Bolt, 10-32 x 5/8"
41	26559	1	Hitch Bracket Extension	88	47171	1	Nylock Nut, 10-32
42	714-0117	1	Pin - Hair Cotter 5/32"	89	40710	1	Screw, 8-32 x .625
43	26366	1	Fender Plate	90	HA3090	1	Pin - Hair Cotter
44	43910	2	#10 Washer	91	44685	1	Shoulder Spacer
45	43351	1	Bolt, Hex 1/2-13 x 1-1/4"	92	28085	1	Plate, Guard Mounting
46	40711	1	Nylock Nut, 8-32	93	736-0231	2	Washer
47	47600	2	Bolt, Hex 5/16-24 x 1"		28178	1	Owner's Manual

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