

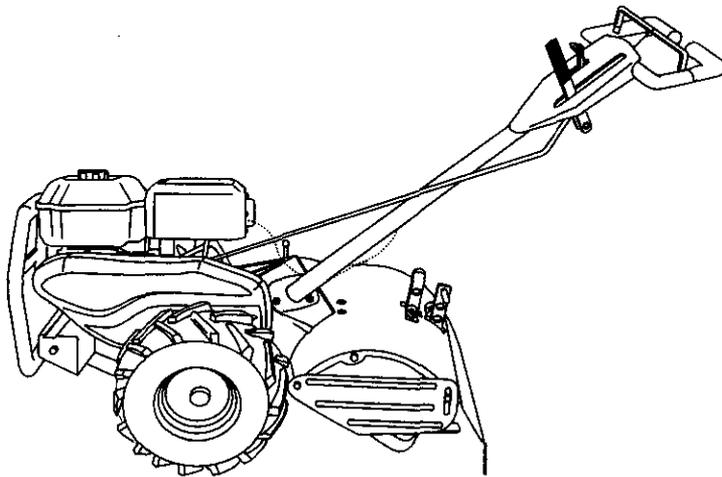
Owner's Manual



**7.0 HP
19 INCH TINE WIDTH
REAR TINE WITH
DUAL ROTATING TINES
TILLER**

Model No.
917.293490

- Safety
- Assembly
- Operation
- Maintenance
- Español
- Repair Parts



This product has a low emission engine which operates differently from previously built engines. Before you start the engine, read and understand this Owner's Manual.

CAUTION:

Read and follow all Safety Rules and Instructions before operating this equipment.

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WARRANTY

LIMITED TWO YEAR WARRANTY ON CRAFTSMAN TILLER

For two (2) years from date of purchase, when this Craftsman Tiller is maintained, lubricated, and tuned up according to the operating and maintenance instructions in the owner's manual, Sears will repair free of charge any defect in material or workmanship.

This Warranty does not cover:

- Expendable items which become worn during normal use, such as tines, spark plugs, air cleaners and belts.
- Repairs necessary because of operator abuse or negligence, including bent crankshafts and the failure to maintain the equipment according to the instructions contained in the owner's manual.
- If this Craftsman Tiller is used for commercial or rental purposes, this Warranty applies for only thirty (30) days from the date of purchase.

Warranty service is available by returning the craftsman power mower to the nearest sears service center/department in the united states. This warranty applies only while this product is in use in the united states.

This Warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

SEARS, ROEBUCK AND CO., D/817WA, HOFFMAN ESTATES, IL 60179

SAFETY RULES

IMPORTANT: This cutting machine is capable of amputating hands and feet and throwing objects. Failure to observe the following safety instructions could result in serious injury or death.

TRAINING

- Read the Owner's Manual carefully. Be thoroughly familiar with the controls and the proper use of the equipment. Know how to stop the unit and disengage the controls quickly.
- Never allow children to operate the equipment. Never allow adults to operate the equipment without proper instruction.
- Keep the area of operation clear of all persons, particularly small children, and pets.

PREPARATION

- Thoroughly inspect the area where the equipment is to be used and remove all foreign objects.

- Disengage all clutches and shift into neutral before starting the engine (motor).
- Do not operate the equipment without wearing adequate outer garments. Wear footwear that will improve footing on slippery surfaces.
- Handle fuel with care; it is highly flammable.
- Use an approved fuel container.
- Never add fuel to a running engine or hot engine.
- Fill fuel tank outdoors with extreme care. Never fill fuel tank indoors.
- Replace gasoline cap securely and clean up spilled fuel before restarting.

- Use extension cords and receptacles as specified by the manufacturer for all units with electric drive motors or electric starting motors.
- Never attempt to make any adjustments while the engine (motor) is running (except where specifically recommended by manufacturer).

OPERATION

- Do not put hands or feet near or under rotating parts.
- Exercise extreme caution when operating on or crossing gravel drives, walks, or roads. Stay alert for hidden hazards or traffic. Do not carry passengers.
- After striking a foreign object, stop the engine (motor), remove the wire from the spark plug, thoroughly inspect the tiller for any damage, and repair the damage before restarting and operating the tiller.
- Exercise caution to avoid slipping or falling.
- If the unit should start to vibrate abnormally, stop the engine (motor) and check immediately for the cause. Vibration is generally a warning of trouble.
- Stop the engine (motor) when leaving the operating position.
- Take all possible precautions when leaving the machine unattended. Disengage the tines, shift into neutral, and stop the engine.
- Before cleaning, repairing, or inspecting, shut off the engine and make certain all moving parts have stopped. Disconnect the spark plug wire, and keep the wire away from the plug to prevent accidental starting. Disconnect the cord on electric motors.
- Do not run the engine indoors; exhaust fumes are dangerous.
- Never operate the tiller without proper guards, plates, or other safety protective devices in place.
- Keep children and pets away.
- Do not overload the machine capacity by attempting to till too deep at too fast a rate.

- Never operate the machine at high speeds on slippery surfaces. Look behind and use care when backing.
- Never allow bystanders near the unit.
- Use only attachments and accessories approved by the manufacturer of the tiller.
- Never operate the tiller without good visibility or light.
- Be careful when tilling in hard ground. The tines may catch in the ground and propel the tiller forward. If this occurs, let go of the handlebars and do not restrain the machine.

MAINTENANCE AND STORAGE

- Keep machine, attachments, and accessories in safe working condition.
- Check shear pins, engine mounting bolts, and other bolts at frequent intervals for proper tightness to be sure the equipment is in safe working condition.
- Never store the machine with fuel in the fuel tank inside a building where ignition sources are present, such as hot water and space heaters, clothes dryers, and the like. Allow the engine to cool before storing in any enclosure.
- Always refer to the operator's guide instructions for important details if the tiller is to be stored for an extended period.

⚠ Look for this symbol to point out important safety precautions. It means **CAUTION!!! BECOME ALERT!!! YOUR SAFETY IS INVOLVED.**

⚠ CAUTION: Always disconnect spark plug wire and place wire where it cannot contact spark plug in order to prevent accidental starting when setting up, transporting, adjusting or making repairs.

⚠ WARNING: Engine exhaust, some of its constituents, and certain vehicle components contain or emit chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

PRODUCT SPECIFICATIONS

GASOLINE CAPACITY:	4 QUARTS UNLEADED REGULAR
OIL (API-SF-SJ): (CAPACITY: 19 OZ.)	SAE 30 (ABOVE 40°F) SAE5W-30/10W-30 (BELOW 40°F)
SPARK PLUG : (GAP: .030")	CHAMPION RJ19LM OR J19LM

CONGRATULATIONS on your purchase of a Sears Tiller. It has been designed, engineered and manufactured to give you the best possible dependability and performance.

Should you experience any problems you cannot easily remedy, please contact a Sears or other qualified Service Center. We have competent, well-trained technicians and the proper tools to service or repair this unit.

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

Your new tiller has been assembled at the factory with exception of those parts left unassembled for shipping purposes. To ensure safe and proper operation of your tiller all parts and hardware you assemble must be tightened securely. Use the correct tools as necessary to insure proper tightness.

CUSTOMER RESPONSIBILITIES

- Read and observe the safety rules.
- Follow a regular schedule in maintaining, caring for and using your tiller.
- Follow the instructions under the "Customer Responsibilities" and "Storage" sections of this Owner's Manual.

⚠WARNING: 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 for the muffler is available through your nearest Sears service center (See REPAIR PARTS section of this manual).

ACCESSORIES

These accessories were available when the tiller was purchased. They are also available at most Sears Retail outlets and Service Centers. Most Sears Stores can order repair parts for you when you provide the model number of your tiller.

ENGINE

SPARK PLUG	MUFFLER	AIR FILTER	GAS CAN	ENGINE OIL	STABILIZER
					

TILLER PERFORMANCE

FURROW OPENER


TILLER MAINTENANCE

BELT	TINES	SHEAR PIN	HAIRPIN CLIP
			

ASSEMBLY

Your new tiller has been assembled at the factory with exception of those parts left unassembled for shipping purposes. To ensure safe and proper operation of your tiller all parts and hardware you assemble must be tightened securely. Use the correct tools as necessary to insure proper tightness.

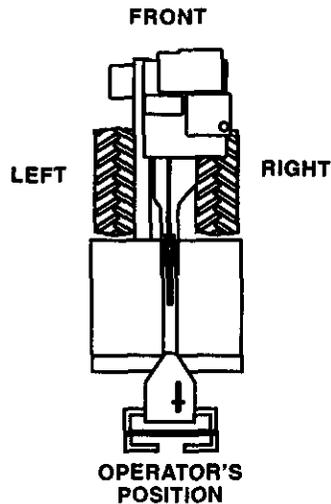
TOOLS REQUIRED FOR ASSEMBLY

A socket wrench set will make assembly easier. Standard wrench sizes are listed.

- (1) Utility knife
- (1) Wire cutter
- (1) Tire pressure gauge
- (1) Screwdriver
- (1) Pair of pliers
- (1) 9/16" wrench

OPERATOR'S POSITION

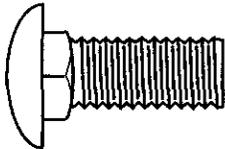
When right or left hand is mentioned in this manual, it means when you are in the operating position (standing behind tiller handles).



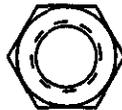
CONTENTS OF HARDWARE PACK



(2) Handle Locks



(1) Carriage Bolt
3/8-16 UNC x 1 Gr. 5



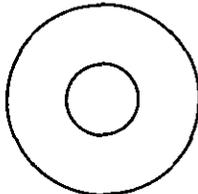
(1) Center Locknut
3/8-16 UNC



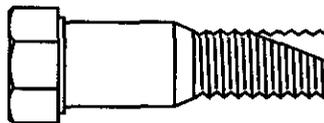
(1) Cable Clip



(1) Hairpin Clips



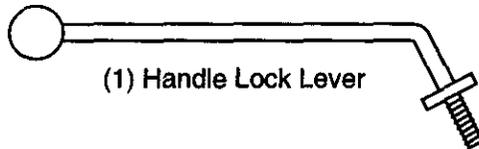
(1) Flat Washer
13/32 x 1 x 11 Ga.



(1) Pivot Bolt
3/8-16 UNC Grade 5



(2) Shear Pins & Clips



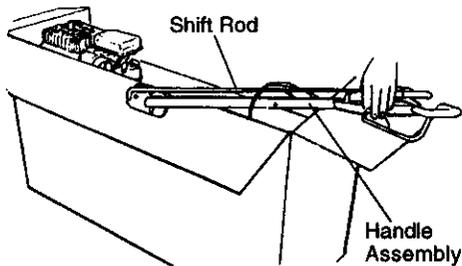
(1) Handle Lock Lever

UNPACKING CARTON

CAUTION: Be careful of exposed staples when handling or disposing of cartoning material.

IMPORTANT: When unpacking and assembling tiller, be careful not to stretch or kink cables.

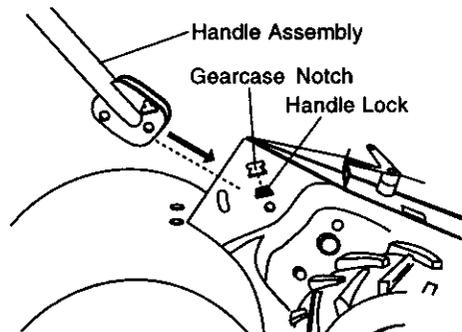
1. While holding handle assembly, cut cable ties securing handle assembly to top frame. Let handle assembly rest on tiller.
2. Remove top frame of carton.
3. Slowly ease handle assembly up and place on top of carton.
4. Cut down right hand front and right hand rear corners of carton. Lay side carton wall down.
5. Remove packing material from handle assembly.



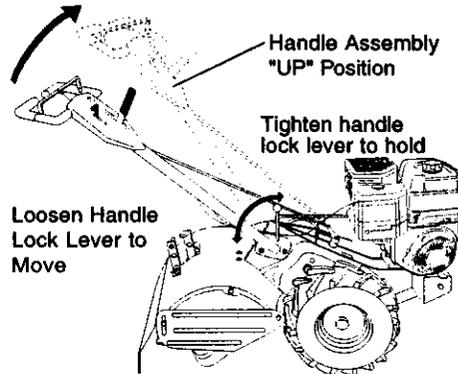
INSTALL HANDLE

1. Insert the thicker black handle lock (with teeth facing to the right) in gearcase notch.

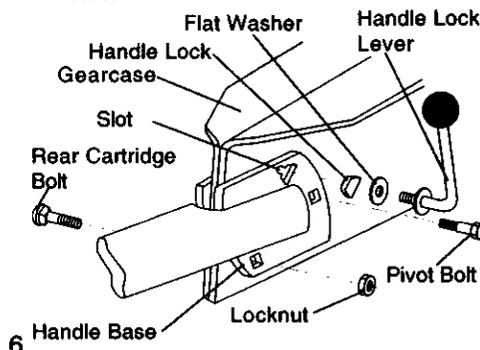
VIEWED FROM R.H. SIDE OF TILLER



2. Grasp handle assembly. Hold in "up" position. Be sure handle lock remains in gearcase notch. Slide handle assembly into position.

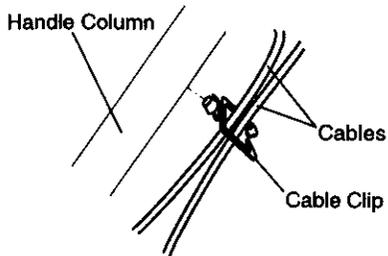


3. Rotate handle assembly down. Insert rear carriage bolt first, with head of bolt on L.H. side of tiller and loosely assemble locknut.
4. Insert pivot bolt in front part of plate and tighten.
5. Cut down left hand rear corner of carton. Lay rear carton wall down, which will remove the protective cardboard flap from leveling shield.
6. Cut down remaining corners of carton and lay panels flat.
7. Lower the handle assembly. Tighten nut on carriage bolt so handle moves with some resistance. This will allow for easier adjustment.
8. Place flat washer on threaded end of handle lock lever.
9. Insert handle lock lever through handle base and gearcase. Screw in handle lock lever just enough to hold lever in place.
10. Insert the smaller silver handle lock (with teeth inward) in the slot of the handle base (just inside of washer).
11. With handle assembly in lowest position, securely tighten handle lock lever by rotating clockwise. Leaving handle assembly in lowest position will make it easier to remove tiller from carton.



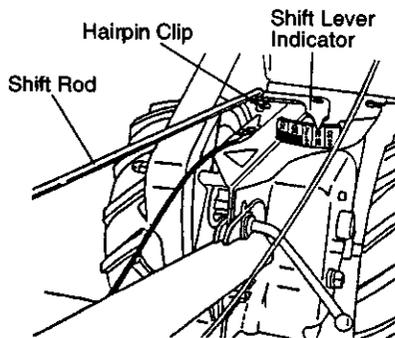
INSERT CABLE CLIP

- Insert plastic cable clip into hole on the back of handle column. Push cables into clip.



CONNECT SHIFT ROD

1. Insert end of shift rod into hole of shift lever indicator.
2. Insert hairpin clip through hole of shift rod to secure.



REMOVE TILLER FROM CRATE

1. Make sure shift lever indicator is in "N" (neutral) position.
2. Tilt tiller forward by lifting handle. Separate cardboard cover from leveling shield.
3. Rotate tiller handle to the right and pull tiller out of carton.

CHECK TIRE PRESSURE

The tires on your unit were overinflated at the factory for shipping purposes. Correct and equal tire pressure is important for best tilling performance.

- Reduce tire pressure to 20 PSI.

HANDLE HEIGHT

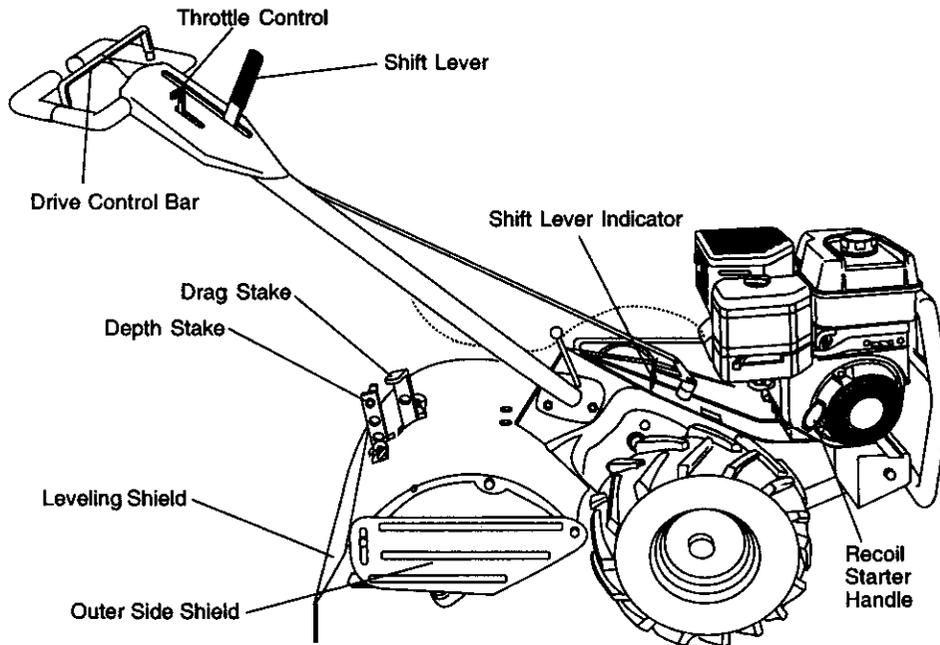
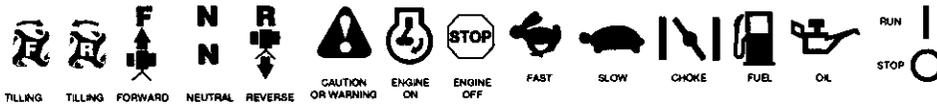
- Handle height may be adjusted to better suit operator. (See "TO ADJUST HANDLE HEIGHT" in the Service and Adjustments section of this manual).

OPERATION

KNOW YOUR TILLER

READ THIS OWNER'S MANUAL AND SAFETY RULES BEFORE OPERATING YOUR TILLER.

Compare the illustrations with your tiller to familiarize yourself with the location of various controls and adjustments. Save this manual for future reference.



MEETS ANSI SAFETY REQUIREMENTS

Our tillers conform to the safety standards of the American National Standards Institute.

DRIVE CONTROL BAR - Used to engage tines.

DEPTH STAKE - Controls depth at which tiller will dig.

DRAG STAKE - Controls forward speed in forward rotating till position.

OUTER SIDE SHIELD - Adjustable to protect small plants from being buried.

THROTTLE CONTROL - Used to control engine speed.

LEVELING SHIELD - Levels tilled soil.

SHIFT LEVER - Used to shift transmission gears.

SHIFT LEVER INDICATOR - Shows which gear the transmission is in.

RECOIL STARTER HANDLE - Used to start the engine.



The operation of any tiller can result in foreign objects thrown into the eyes, which can result in severe eye damage. Always wear safety glasses or eye shields before starting your tiller and while tilling. We recommend a wide vision safety mask over spectacles or standard safety glasses.

HOW TO USE YOUR TILLER

Know how to operate all controls before adding fuel and oil or attempting to start engine.

STOPPING

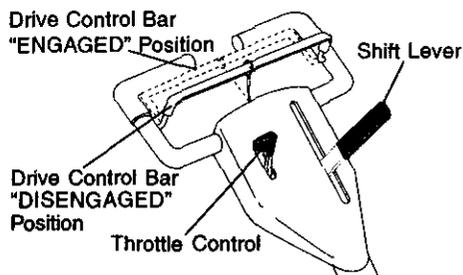
TINES AND DRIVE

1. Release drive control bar to stop movement.
2. Move shift lever to "N" (neutral) position.

ENGINE

- Move throttle control to "STOP" position. If equipped with stop switch, move switch to "STOP" position.

NOTE: Never use choke to stop engine.



TINE OPERATION - WITH WHEEL DRIVE

- Always release drive control bar before moving shift lever into another position.
- Tine movement is achieved by moving shift lever to either the counter rotating (↺) till position or the forward rotating (↻) till position and engaging drive control bar.

FORWARD - WHEELS ONLY/TINES STOPPED

- Release drive control bar and move shift lever indicator to "F" (forward) position. Engage drive control bar and tiller will move forward.

REVERSE - WHEELS ONLY/TINES STOPPED

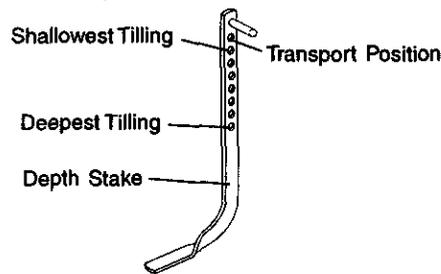
1. DO NOT STAND DIRECTLY BEHIND TILLER.
2. Release the drive control bar.
3. Move throttle control to "SLOW" position.
4. Move shift lever indicator to "R" (reverse) position.
5. Hold drive control bar against the handle to start tiller movement.

HARD TO SHIFT GEARS

- Briefly engage drive control bar and release or rock tiller forward and backward until are able to shift gears.

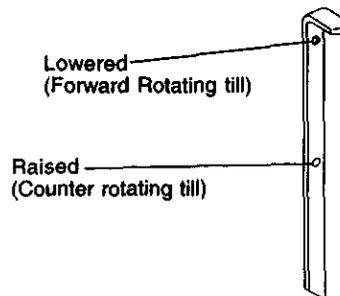
DEPTH STAKE

The depth stake can be raised or lowered to allow you more versatile tilling and cultivating, or to more easily transport your tiller.



DRAG STAKE

The drag stake should be raised when tilling the counter rotating (↺) till position. The drag stake should be lowered when tilling in the forward rotating (↻) till position.



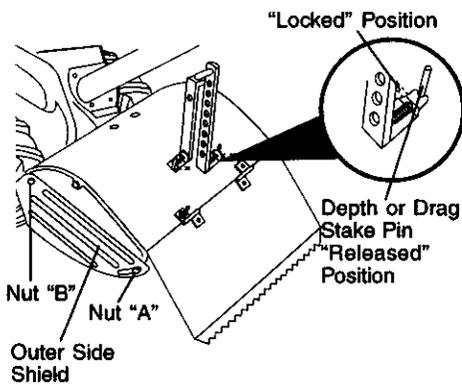
TILLING

NOTE: Use the counter rotating tine drive when tilling hard or rocky soil, virgin ground or sod.

1. Release depth stake and drag stake pins. Pull the depth stake up for increased tilling depth. Raise the drag stake. Place proper pin in hole of depth stake or drag stake to lock in position.
2. Place shift lever indicator in counter rotating (↺) till position.
3. Hold the drive control bar against the handle to start tilling movement. Tines and wheels will both turn.

4. Move throttle control to "FAST" position for deep tilling.

IMPORTANT: Always release drive control bar before moving shift lever into another position.



TURNING

1. Release the drive control bar.
2. Move throttle control to "SLOW" position.
3. Place shift lever indicator in "F" (forward) position. Tines will not turn.
4. Lift handle to raise tines out of ground.
5. Swing the handle in the opposite direction you wish to turn, being careful to keep feet and legs away from tines.
6. When you have completed your turn-around, release the drive control bar and lower handle. Place shift lever in (till) position and move throttle control to desired speed. To begin tilling, hold drive control bar against the handle.

CULTIVATING

NOTE: Use the forward rotating tine drive when cultivating, tilling soft ground or tilling pre-tilled soil.

1. Release the depth and drag stake pins. Lower drag stake. Pull the depth stake up for increased tilling depth. Place proper pin in hole of depth stake or drag stake to lock in position.
2. Place shift lever indicator in forward to rotating (F) till position.
3. Hold the drive control bar against the handle to start tilling movement. Tines and wheels will both turn.
4. Move throttle control "FAST" position for deep tilling. To cultivate, throttle control can be set at any desired speed, depending on how fast or slow you wish to cultivate.

IMPORTANT: Always lower the drag stake when using the forward rotating tine drive.

OUTER SIDE SHIELDS

The back edges of the outer side shields are slotted so that the shields can be raised for deep tilling and lowered for shallow tilling to protect small plants from being buried.

1. Loosen nut "A" in slot and nut "B".
2. Move shield to desired position (both sides).
3. Retighten nuts.

TOTRANSPORT

CAUTION: Before lifting or transporting, allow tiller engine and muffler to cool. Disconnect spark plug wire. Drain gasoline from fuel tank.

AROUND THE YARD

1. Release the depth stake pin. Move the depth stake down to the top hole for transporting the tiller. Place depth stake pin in hole of depth stake to lock in position. This prevents tines from scuffing the ground.
2. Place shift lever indicator in "F" (forward) position for transporting.
3. Hold the drive control bar against the handle to start tiller movement. Tines will not turn.
4. Move throttle control to desired speed.

AROUND TOWN

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

BEFORE STARTING ENGINE

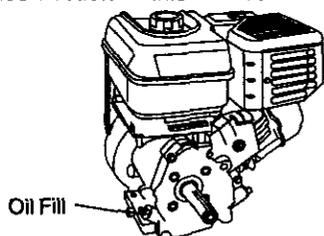
IMPORTANT: Be very careful not to allow dirt to enter the engine when checking or adding oil or fuel. Use clean oil and fuel and store in approved, clean, covered containers. Use clean fill funnels.

CHECK ENGINE OIL LEVEL

The engine in your unit has been shipped, from the factory, already filled with SAE 30 summer weight oil.

1. With engine level, clean area around oil filler plug and remove plug.
2. Engine oil should be to point of overflowing when engine is level.
- For approximate capacity see "PRODUCT SPECIFICATIONS" on page 4 of this manual. All oil must meet A.P.I. Service Classification SF, SG or SH.
3. Reinstall engine oil cap and tighten

- For cold weather operation you should change oil for easier starting (See oil viscosity chart in the Maintenance section of this manual).
- To change engine oil, see the Maintenance section in this manual.



ADD GASOLINE

- Fill fuel tank. Use fresh, clean, regular unleaded gasoline. (Use of leaded gasoline will increase carbon and lead oxide deposits and reduce valve life.)

IMPORTANT: When operating in temperatures below 32°F(0°C), use fresh, clean, winter grade gasoline to help insure good cold weather starting.

⚠WARNING: Experience indicates that alcohol blended fuels (called gasohol or using ethanol or methanol) can attract moisture which leads to separation and formation of acids during storage. Acidic gas can damage the fuel system of an engine while in storage. **To avoid engine problems, the fuel system should be emptied before storage of 30 days or longer.** Drain the gas tank, start the engine and let it run until the fuel lines and carburetor are empty. **Use fresh fuel next season.** See Storage section of this manual for additional information. Never use engine or carburetor cleaner products in the fuel tank or permanent damage may occur.

⚠CAUTION: Fill to within 1/2 inch of top of fuel tank to prevent spills and to allow for fuel expansion. If gasoline is accidentally spilled, move machine away from area of spill. Avoid creating any source of ignition until gasoline vapors have disappeared.

Do not overfill. Wipe off any spilled oil or fuel. Do not store, spill or use gasoline near an open flame.

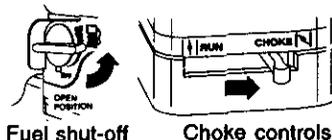
TO START ENGINE

⚠CAUTION: Keep tine control in "OFF" position when starting engine. When starting engine for the first time or if engine has run out of fuel, it will take extra pulls of the recoil starter to move fuel from the tank to the engine.

1. Make sure spark plug wire is properly connected.
 2. Move shift lever indicator to "N" (neutral) position.
 3. Place throttle control in "FAST" position.
 4. Turn fuel shut-off valve 1/4 turn to open position.
 5. Push stop switch to "ON" position.
 6. Move choke control to "CHOKE" position.
 7. Grasp recoil starter handle with one hand and grasp tiller handle with other hand. Pull rope out slowly until engine reaches start of compression cycle (rope will pull slightly harder at this point).
 8. Pull recoil starter handle quickly. Do not let starter handle snap back against starter.
- NOTE:** If engine fires but does not start, move choke control to half choke position. Pull recoil starter handle until engine starts.
9. When engine starts, slowly move choke control to "RUN" position as engine warms up.
 10. Move throttle control to desired running position.
 11. Allow engine to warm up for a few minutes before engaging tines.

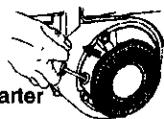
NOTE: If at a high altitude (3000 feet) or in cold temperatures (below 32°F), the carburetor fuel mixture may need to be adjusted for best engine performance. See "TO ADJUST CARBURETOR" in the Service and Adjustments section of this manual.

NOTE: If engine does not start, see troubleshooting points.



Fuel shut-off

Choke controls

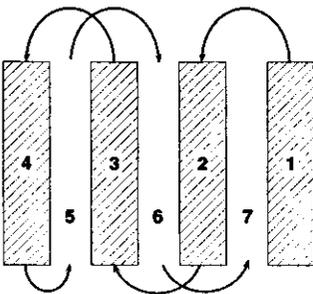


Rewind starter

TILLING HINTS

CAUTION: Until you are accustomed to handling your tiller, start actual field use with throttle in slow position (mid-way between "FAST" and "IDLE").

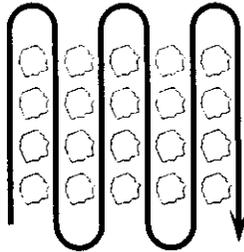
- Tilling is digging into, turning over, and breaking up packed soil before planting. Loose, unpacked soil helps root growth. Best tilling depth is 4" to 6". A tiller will also clear the soil of unwanted vegetation. The decomposition of this vegetable matter enriches the soil. Depending on the climate (rainfall and wind), it may be advisable to till the soil at the end of the growing season to further condition the soil.
- Soil conditions are important for proper tilling. Tines will not readily penetrate dry, hard soil which may contribute to excessive bounce and difficult handling of your tiller. Hard soil should be moistened before tilling; however, extremely wet soil will "ball-up" or clump during tilling. Wait until the soil is less wet in order to achieve the best results. When tilling in the fall, remove vines and long grass to prevent them from wrapping around the tine shaft and slowing your tilling operation.
- You will find tilling much easier if you leave a row untilled between passes. Then go back between tilled rows. There are two reasons for doing this. First, wide turns are much easier to negotiate than about-faces. Second, the tiller won't be pulling itself, and you, toward the row next to it.
- Do not lean on handle. This takes weight off the wheels and reduces traction. To get through a really tough section of sod or hard ground, apply upward pressure on handle or lower the depth stake.



CULTIVATING

Cultivating is destroying the weeds between rows to prevent them from robbing nourishment and moisture from the plants. At the same time, breaking up the upper layer of soil crust will help retain moisture in the soil. Best digging depth is 1" to 3" (2.5-7.5 cm). Lower the outer side shields to protect small plants from being buried.

- Cultivate up and down the rows at a speed which will allow tines to uproot weeds and leave the ground in rough condition, promoting no further growth of weeds and grass.
- Do not lean on handle, this takes weight off the wheels, reduces traction, and may cause the tiller to skip over the ground.
- **Always lower the drag stake when using the forward rotating tine drive.**



TINE SHEAR PINS

The tine assemblies on your tiller are secured to the tine shaft with shear pins (See "TINE REPLACEMENT" in the Service and Adjustments section of this manual).

If the tiller is unusually overloaded or jammed, the shear pins are designed to break before internal damage occurs to the transmission.

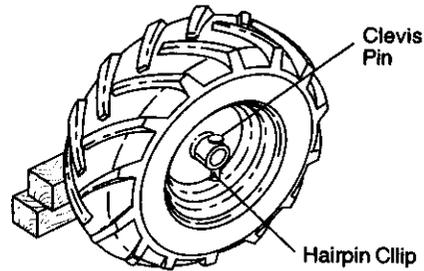
- If shear pin(s) break, replace only with those shown in the Repair Parts section of this manual.

ADJUST WHEELS FOR CULTIVATING

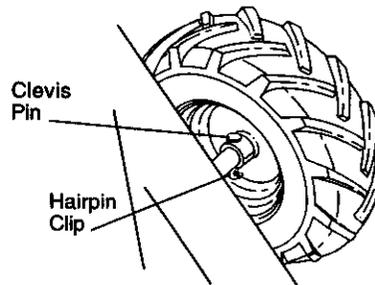
1. Place blocks under right hand side of tiller and remove hairpin clip and clevis pin from right hand wheel.
2. Move wheel outward approximately 1 inch until hole in inner wheel hub lines up with inner hole in axle.
3. Replace clevis pin and hairpin clip on inside of wheel and remove blocks.
4. Repeat preceding steps on left hand side.

NOTE: In extremely rough conditions and while cultivating, the wheels should be moved outward on the axle for increased stability.

OUTER VIEW OF TIRE



INNER VIEW OF TIRE



MAINTENANCE

MAINTENANCE SCHEDULE	FILL IN DATES AS YOU COMPLETE REGULAR SERVICE					SERVICE DATES															
	BEFORE EACH USE	EVERY 5 HOURS	EVERY 25 HOURS	EVERY 50 HOURS	EVERY SEASON																
Check Engine Oil Level	✓	✓																			
Change Engine Oil				✓ _{1,2}																	
Oil Pivot Points		✓																			
Inspect Spark Arrester / Muffler				✓																	
Inspect Air Screen	✓																				
Clean or Replace Air Cleaner Cartridge				✓ ₂																	
Clean Engine Cylinder Fins				✓																	
Replace Spark Plug				✓																	
RH Gear Case Grease Fitting (1oz.)					✓																

1 - Change more often when operating under a heavy load or in high ambient temperatures.
 2 - Service more often when operating in dirty or dusty conditions.

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, the operator must maintain tiller as instructed in this manual.

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

All adjustments in the Service 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 air filter, and check tines and belts for wear. A new spark plug and clean air filter assure proper air-fuel mixture and help your engine run better and last longer.

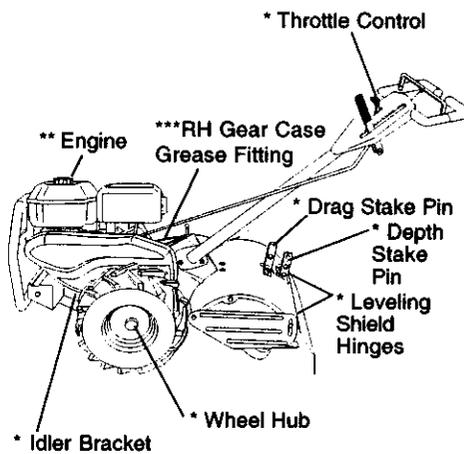
BEFORE EACH USE

1. Check engine oil level.
2. Check tine operation.
3. Check for loose fasteners.

LUBRICATION

Keep unit well lubricated (See "LUBRICATION CHART").

LUBRICATION CHART

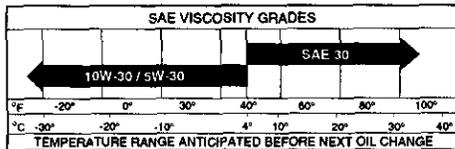


- * SAE 30 OR 5W-30 Motor Oil
- ** Refer to Maintenance "ENGINE" Section
- *** EP #1 Grease

CAUTION: Disconnect spark plug wire before performing any maintenance (except carburetor adjustment) to prevent accidental starting of engine. Prevent fires! Keep the engine free of grass, leaves, spilled oil, or fuel. Remove fuel from tank before tipping unit for maintenance. Clean muffler area of all grass, dirt, and debris. Do not touch hot muffler or cylinder fins as contact may cause burns.

ENGINE LUBRICATION

Use only high quality detergent oil rated with API service classification SF-SJ. Select the oil's SAE viscosity grade according to your expected temperature.



NOTE: Although multi-viscosity oils (5W-30, 10W-30, etc.) improve starting in cold weather, these multi-viscosity oils will result in increased oil consumption when used above 40°F (4°C). Check your engine oil level more frequently to avoid possible engine damage from running low on oil.

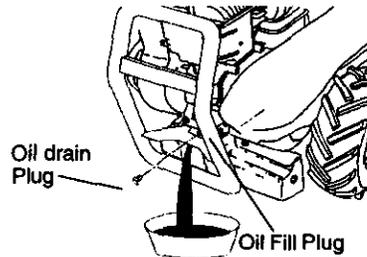
Change the oil after every 50 hours of operation or at least once a year if the tiller is not used for 50 hours in one year. Check the crankcase oil level before starting the engine and after each five (5) hours of continuous use. Add SAE 30 motor oil or equivalent. Tighten oil filler plug securely each time you check the oil level.

TO CHANGE ENGINE OIL

Determine temperature range expected before oil change. All oil must meet API service classification SF-SJ.

- Be sure tiller is on level surface.
 - Oil will drain more freely when warm.
 - Use a funnel to prevent oil spill on tiller, and catch oil in a suitable container.
1. Remove drain plug.
For easier removal of plug use 7/16-12 Pt. socket with extension.
 2. Tip tiller forward to drain oil.
 3. After oil has drained completely, replace oil drain plug and tighten securely.
 4. Remove oil filler plug. Be careful not to allow dirt to enter the engine.

5. Refill engine with oil. See "CHECK ENGINE OIL LEVEL" in the Operation section of this manual.



AIR FILTER

Your engine will not run properly using a dirty air filter. Clean the foam pre-cleaner after every 50 hours of operation or every season. Service paper cartridge every 100 hours of operation or every season, whichever occurs first.

Service air cleaner more often under dusty conditions.

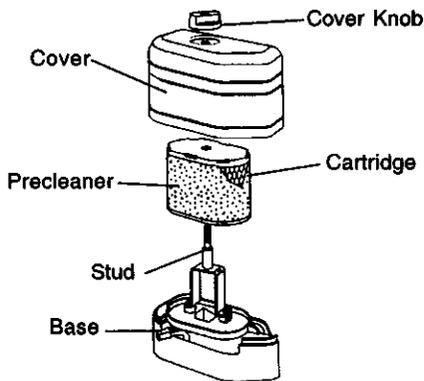
1. Remove knob and cover. Lift air cleaner assembly off stud.

TO SERVICE PRE-CLEANER

2. Remove foam pre-cleaner from air filter.
 3. Wash it in liquid detergent and water.
 4. Squeeze it dry in a clean cloth.
- NOTE:** If very dirty or damaged, replace pre-cleaner.
5. Reinstall pre-cleaner onto air filter.
 6. Reinstall cover and secure with knob.

TO SERVICE CARTRIDGE

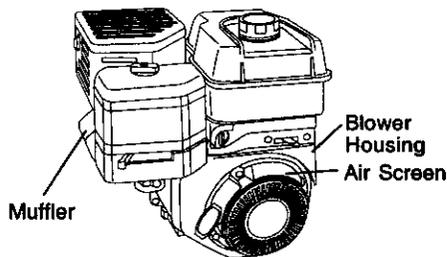
1. Carefully remove cartridge to prevent debris from entering carburetor. Clean base carefully to prevent debris from entering carburetor.
 2. Remove foam pre-cleaner from air filter.
 3. Clean cartridge by tapping gently on flat surface. If very dirty or damaged, replace cartridge.
 4. Reinstall pre-cleaner onto air filter.
 5. Reinstall cover and secure with knob.
- IMPORTANT:** Petroleum solvents, such as kerosene, are not to be used to clean the cartridge. They may cause deterioration of the cartridge. Do not oil cartridge. Do not use pressurized air to clean or dry cartridge.



COOLING SYSTEM

Your engine is air cooled. For proper engine performance and long life keep your engine clean.

- Clean air screen frequently using a stiff-bristled brush.
- Keep cylinder fins, levers, and linkage free of dirt and chaff.



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.

SPARK PLUG

Replace spark plugs at the beginning of each tilling season or after every 50 hours of use, whichever comes first. Spark plug type and gap setting is shown in "PRODUCT SPECIFICATIONS" on page 4 of this manual.

TRANSMISSION

Once a season, lubricate the right hand gear case grease fitting with 1 oz. of EP #1 grease.

CLEANING

Do not clean your tiller when the engine and transmission are hot. We do not recommend using pressurized water (garden hose, etc.) to clean your unit unless the gasket area around the transmission and the engine muffler, air filter and carburetor are covered to keep water out. Water in engine will shorten the useful life of your tiller.

- Clean engine, 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.

SERVICE AND ADJUSTMENTS

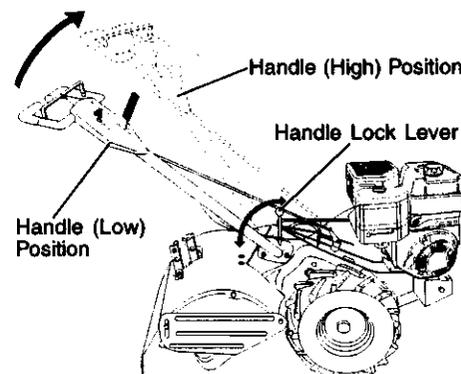
CAUTION: Disconnect spark plug wire from spark plug and place wire where it cannot come into contact with plug.

TILLER

TO ADJUST HANDLE HEIGHT

Select handle height best suited for your tilling conditions. Handle height will be different when tiller digs into soil.

1. First loosen handle lock lever.
2. Handle can be positioned at different settings between "HIGH" and "LOW" positions.
3. Retighten handle lock lever securely after adjusting.



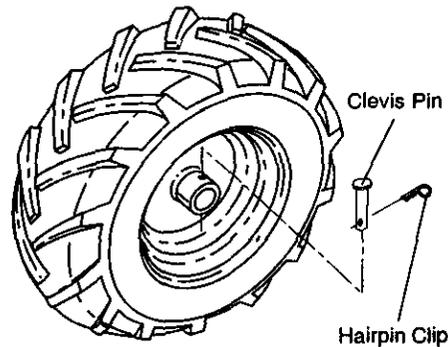
TIRE CARE

CAUTION: When mounting tires, unless beads are seated, overinflation can cause an explosion.

- Maintain 20 pounds of tire pressure. If tire pressures are not equal, tiller will pull to one side.
- Keep tires free of gasoline or oil which can damage rubber.

TO REMOVE WHEEL

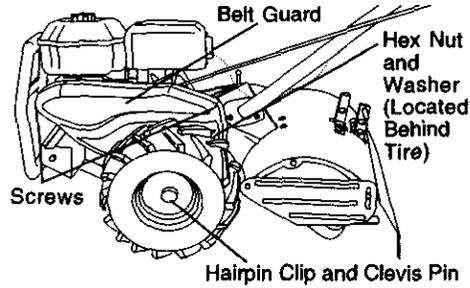
1. Place blocks under transmission to keep tiller from tipping.
2. Remove hairpin clip and clevis pin from wheel.
3. Remove wheel and tire.
4. Repair tire and reassemble.



TO REMOVE BELT GUARD

NOTE: For ease of removal, remove hairpin clip and clevis pin from left wheel. Pull wheel out from tiller about 1 inch.

1. Remove two (2) screws from side of belt guard.
2. Remove hex nut and washer from bottom of belt guard (located behind wheel).
3. Pull belt guard out and away from unit.
4. Replace belt guard by reversing above procedure.



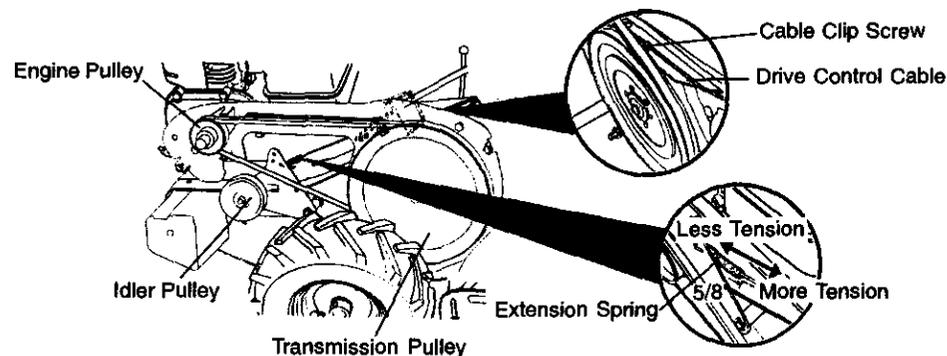
TO REPLACE GROUND DRIVE BELT

1. Remove belt guard as described in "TO REMOVE BELT GUARD".
2. Remove old belt by slipping off engine pulley first then remove from transmission pulley.
3. Place new belt in groove of transmission pulley and into engine pulley. **BELT MUST BE IN GROOVE ON TOP OF IDLER PULLEY. NOTE POSITION OF BELT TO GUIDES.**
4. Check belt adjustment as described below.
5. Replace belt guard.
6. Reposition wheel and replace clevis pin and hairpin clip.

GROUND DRIVE BELT ADJUSTMENT

For proper belt tension, the extension spring should have about 5/8 inch stretch when drive control bar is in "ENGAGED" position. This tension can be attained as follows:

1. Loosen cable clip screw securing the drive control cable.
2. Slide cable forward for less tension and rearward for more tension until about 5/8 inch stretch is obtained while the drive control bar is engaged.
3. Tighten cable clip screw securely.

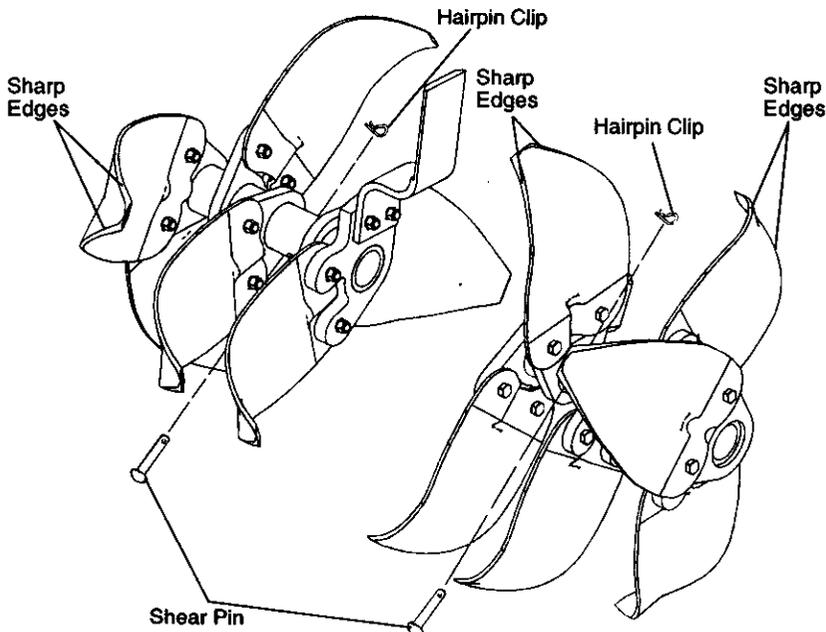
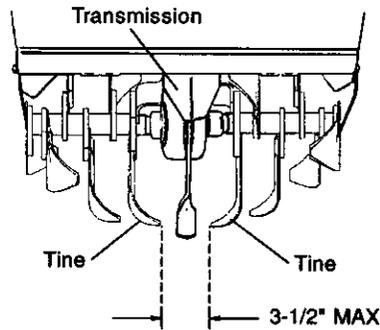
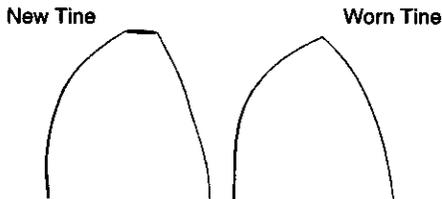


TINE REPLACEMENT

CAUTION: Tines are sharp. Wear gloves or other protection when handling tines.

A badly worn tine causes your tiller to work harder and dig more shallow. Most important, worn tines cannot chop and shred organic matter as effectively nor bury it as deeply as good tines. A tine this worn needs to be replaced.

- To maintain the superb tilling performance of this machine the tines should be checked for sharpness, wear, and bending, particularly the tines which are next to the transmission. If the gap between the tines exceeds 3-1/2 inches they should be replaced or straightened as necessary.
- For tines that are slightly worn, the bolted tine and hub assemblies can be switched between sides to continue tilling in the same tilling mode if tilling in a different mode is desired then the bolted tine and hub assemblies should be switched back to their original side so that the tine edge with the least wear will be used.

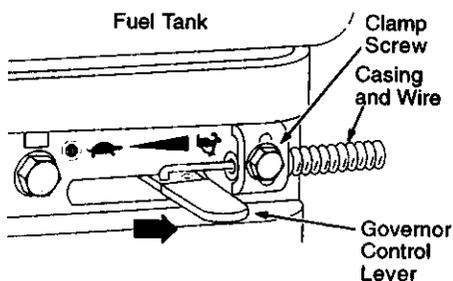


ENGINE

Maintenance, repair, or replacement of the emission control devices and systems, which are being done at the customer's expense, may be performed by any non-road engine repair establishment or individual. Warranty repairs must be performed by an authorized engine manufacturer's service outlet.

TO ADJUST THROTTLE CONTROL CABLE

1. The throttle control has been preset at the factory and adjustment should not be necessary. If adjustment is necessary, proceed as follows:
2. With engine not running, move remote throttle control lever to "FAST" position.
3. If throttle lever on engine touches high speed stop, no further adjustment is necessary. If throttle lever does not touch high speed stop, continue with adjustment procedure.
4. Loosen cable clamp screw.
5. Move throttle lever up until it touches high speed stop, and hold in this position.
6. Tighten cable clamp screw securely.



TO ADJUST CARBURETOR

The carburetor has been preset at the factory and adjustment should not be necessary. However, engine performance can be affected by differences in fuel, temperature, altitude or load. If the carburetor does need adjustment, contact your nearest authorized service center/department

IMPORTANT: Never tamper with the engine governor, which is factory set for proper engine speed. Overspeeding the engine above the factory high speed setting can be dangerous. If you think the engine-governed high speed needs adjusting, contact your nearest sears or other qualified service center which has the proper equipment and experience to make any necessary adjustments.

STORAGE

Immediately 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.

TILLER

1. Clean entire tiller (See "CLEANING" in the Maintenance section of this manual).
2. Inspect and replace belts, if necessary (See belt replacement instructions in the Service and Adjustments section of this manual).
3. Lubricate as shown in the Maintenance section of this manual.
4. Be sure that all nuts, bolts and screws are securely fastened. Inspect moving parts for damage, breakage and wear. Replace if necessary.
5. Touch up all rusted or chipped paint surfaces; sand lightly before painting.

ENGINE

FUEL SYSTEM

IMPORTANT: It is important to prevent gum deposits from forming in essential fuel system parts such as the carburetor, fuel filter, fuel hose, or tank during storage. Also, experience indicates that alcohol blended fuels (called gasohol or using ethanol or methanol) can attract moisture which leads to separation and formation of acids during storage. Acidic gas can damage the fuel system of an engine while in storage.

1. Drain the fuel tank.
 2. Start the engine and let it run until the fuel lines and carburetor are empty.
- Never use engine or carburetor cleaner products in the fuel tank or permanent damage may occur.
 - Use fresh fuel next season.

NOTE: Fuel stabilizer is an acceptable alternative in minimizing the formation of fuel gum deposits during storage. Add stabilizer to gasoline in fuel tank or storage container. Always follow the mix ratio found on stabilizer container. Run engine at least 10 minutes after adding stabilizer to allow the stabilizer to reach the carburetor. Do not drain the gas tank and carburetor if using fuel stabilizer.

ENGINE OIL

Drain oil (with engine warm) and replace with clean oil. (See "ENGINE" in the Maintenance section of this manual).

CYLINDER

1. Remove spark plug.
2. Pour 1 ounce (29 ml) of oil through spark plug hole into cylinder.
3. Pull starter handle slowly several times to distribute oil.
4. Replace with new spark plug.

OTHER

- Do not store gasoline from one season to another.
- Replace your gasoline can if your can starts to rust. Rust and/or dirt in your gasoline will cause problems.
- If possible, store your unit indoors and cover it to give protection from dust and dirt.
- Cover your unit with a suitable protective cover that does not retain moisture. Do not use plastic. Plastic cannot breathe which allows condensation to form and will cause your unit to rust.

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

TROUBLE SHOOTING

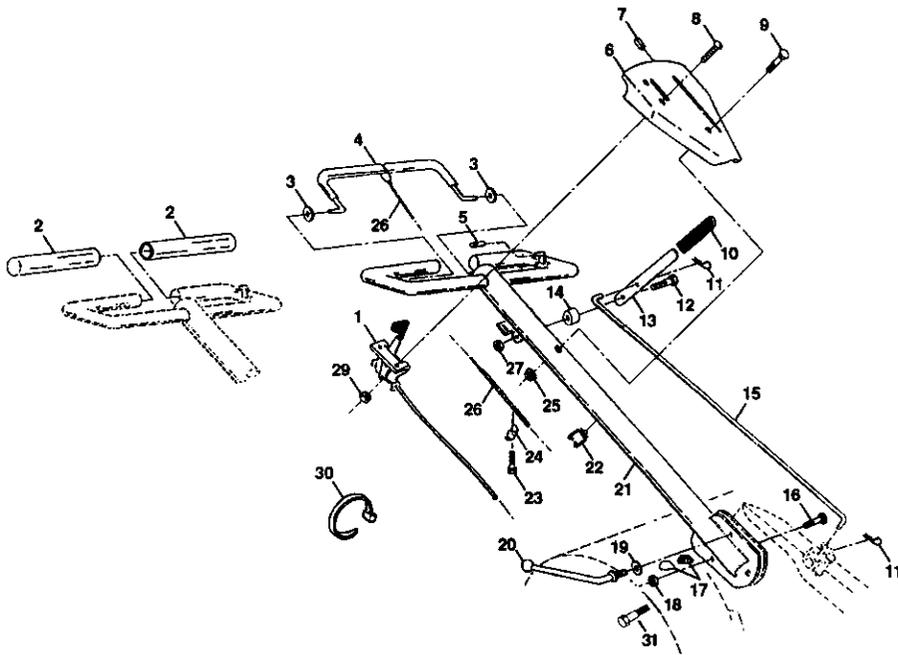
PROBLEM	CAUSE	CORRECTION
Will not start	<ol style="list-style-type: none"> 1. Out of fuel. 2. Engine not "CHOKED" properly. 3. Engine flooded. 4. Dirty air cleaner. 5. Water in fuel. 6. Clogged fuel tank. 7. Loose spark plug wire. 8. Bad spark plug or improper gap. 9. Carburetor out of adjustment. 	<ol style="list-style-type: none"> 1. Fill fuel tank. 2. See "TO START ENGINE" in the Operation section. 3. Wait several minutes before attempting to start. 4. Clean or replace air cleaner cartridge. 5. Drain fuel tank and carburetor, and refill tank with fresh gasoline. 6. Remove fuel tank and clean. 7. Make sure spark plug wire is seated properly on plug. 8. Replace spark plug or adjust gap. 9. Make necessary adjustments.
Hard to start	<ol style="list-style-type: none"> 1. Throttle control not set properly. 2. Dirty air cleaner. 3. Bad spark plug or improper gap. 4. Stale or dirty fuel. 5. Loose spark plug wire. 6. Carburetor out of adjustment. 	<ol style="list-style-type: none"> 1. Place throttle control in "FAST" position. 2. Clean or replace air cleaner cartridge. 3. Replace spark plug or adjust gap. 4. Drain fuel tank and refill with fresh gasoline. 5. Make sure spark plug wire is seated properly on plug. 6. Make necessary adjustments.
Loss of power	<ol style="list-style-type: none"> 1. Engine is overloaded. 2. Dirty air cleaner. 3. Low oil level/dirty oil. 4. Faulty spark plug. 5. Oil in fuel. 6. Stale or dirty fuel. 7. Water in fuel. 8. Clogged fuel tank. 9. Spark plug wire loose. 10. Dirty engine air screen. 11. Dirty/clogged muffler. 12. Carburetor out of adjustment. 13. Poor compression. 	<ol style="list-style-type: none"> 1. Set depth stake for shallower tilling. 2. Clean or replace air cleaner cartridge. 3. Check oil level/change oil. 4. Clean and regap or change spark plug. 5. Drain and clean fuel tank and refill, and clean carburetor. 6. Drain fuel tank and refill with fresh gasoline. 7. Drain fuel tank and carburetor, and refill tank with fresh gasoline. 8. Remove fuel tank and clean. 9. Connect and tighten spark plug wire. 10. Clean engine air screen. 11. Clean/replace muffler. 12. Make necessary adjustments. 13. Contact a Sears or other qualified service center.

PROBLEM	CAUSE	CORRECTION
Engine overheats	<ol style="list-style-type: none"> 1. Low oil level/dirty oil. 2. Dirty engine air screen. 3. Dirty engine. 4. Partially plugged muffler. 5. Improper carburetor adjustment. 	<ol style="list-style-type: none"> 1. Check oil level/change oil. 2. Clean engine air screen. 3. Clean cylinder fins, air-screen, muffler area. 4. Remove and clean muffler. 5. Adjust carburetor to richer position.
Excessive bounce/difficult handling	<ol style="list-style-type: none"> 1. Ground too dry and hard. 2. Depth stake incorrectly adjusted. 	<ol style="list-style-type: none"> 1. Moisten ground or wait for more favorable soil conditions. 2. Adjust depth stake.
Soil balls up or clumps	<ol style="list-style-type: none"> 1. Ground too wet. 	<ol style="list-style-type: none"> 1. Wait for more favorable soil conditions.
Engine runs but tiller won't move	<ol style="list-style-type: none"> 1. Tine control is not engaged. 2. V-belt not correctly adjusted. 3. V-belt is off pulley(s). 	<ol style="list-style-type: none"> 1. Engage tine control. 2. Inspect/adjust V-belt. 3. Inspect V-belt.
Engine runs but labors when tilling	<ol style="list-style-type: none"> 1. Tilling too deep. 2. Throttle control not properly adjusted. 3. Carburetor out of adjustment. 	<ol style="list-style-type: none"> 1. Set depth stake for shallower tilling. 2. Check throttle control setting. 3. Make necessary adjustments.
Tines skip over ground	<ol style="list-style-type: none"> 1. Drag Stake not lowered in forward rotating till mode. 2. Improper tilling mode. 	<ol style="list-style-type: none"> 1. Lower Drag Stake 2. Forward rotating tine drive should only be used for soft ground or for soil that has already been tilled.
Hard to shift into gear	<ol style="list-style-type: none"> 1. Gears not timed. 	<ol style="list-style-type: none"> 1. Briefly engage drive control bar and release or rock tiller forward and backward until are able to shift gears.
Tiller shuts off when drive control bar engaged	<ol style="list-style-type: none"> 1. Shift lever set in between counter rotating till position and forward rotating till position. 2. Tines jammed 	<ol style="list-style-type: none"> 1. Shift to either counter rotating till position or forward rotating till position. 2. Clear tines.

REPAIR PARTS

TILLER -- MODEL NUMBER 917.293490

HANDLES



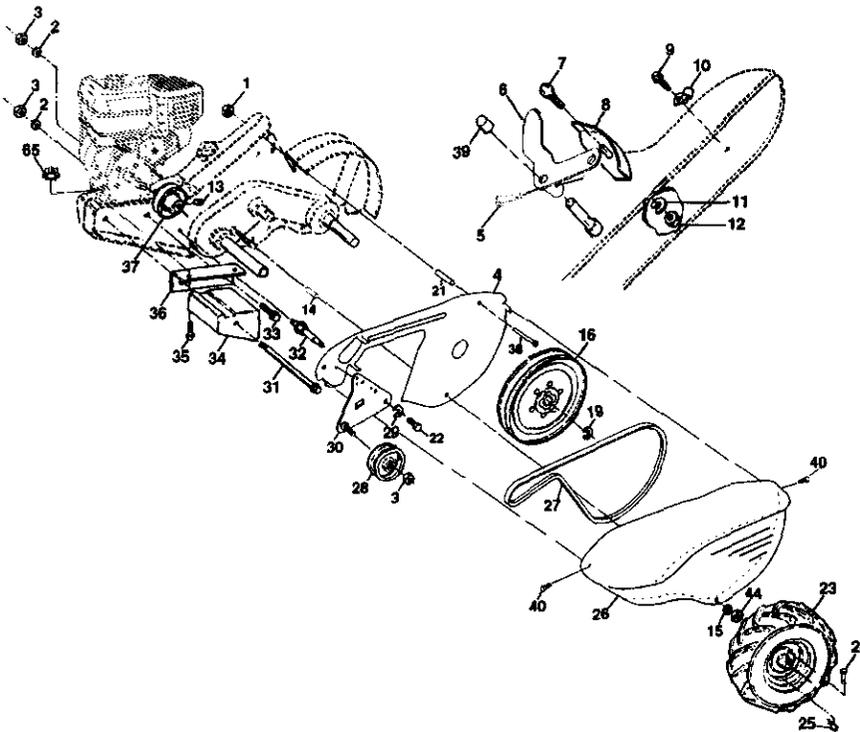
KEY PART NO. NO.	DESCRIPTION
1	175250 Throttle, Control
2	141406 Grip, Handle
3	110673X Grommet, Handle
4	127254X Bar, Drive Control Assembly
5	6712J Cap, Vinyl
6	137119 Panel, Control
7	110641X Bushing, Split
8	71191008 Screw, Pan Head #10-24
9	72010520 Bolt, 5/16-18 x 2-1/2
10	110646X Handle, Grip
11	STD624003 Clip, Hairpin
12	81328 Bolt, Shoulder
13	138295 Handle, Shift
14	109313X Grommet, Rubber
15	110702X Rod, Shift
16	STD533710 Bolt, RDHD SQNK 3/8-16 x 1 Gr 5
17	109229X Lock, Handle
18	STD541437 Nut, Crownlock 3/8-16

KEY PART NO. NO.	DESCRIPTION
19	19131611 Washer 13/32 x 1 x 11 Ga.
20	109228X Lever, Lock, Handle
21	150628 Handle, Assemble
22	165197 Clip, Plastic, Cable
23	86777 Screw, Hex, Washer Hd, Slotted #10-24 x 1/2
24	9484R Clip
25	73970500 Locknut, Hex, Flange
26	110675X Clutch, Cable
27	73900400 Nut, Hex Flange 1/4-20 UNC
29	STD541462 Nut, Keps #10-24
30	7192J Tie, Cable
31	150696 Bolt, Pivot

NOTE: All component dimensions given in U.S. inches. 1 inch = 25.4 mm

TILLER -- MODEL NUMBER 917.293490

MAINFRAME, LEFT SIDE



KEY PART

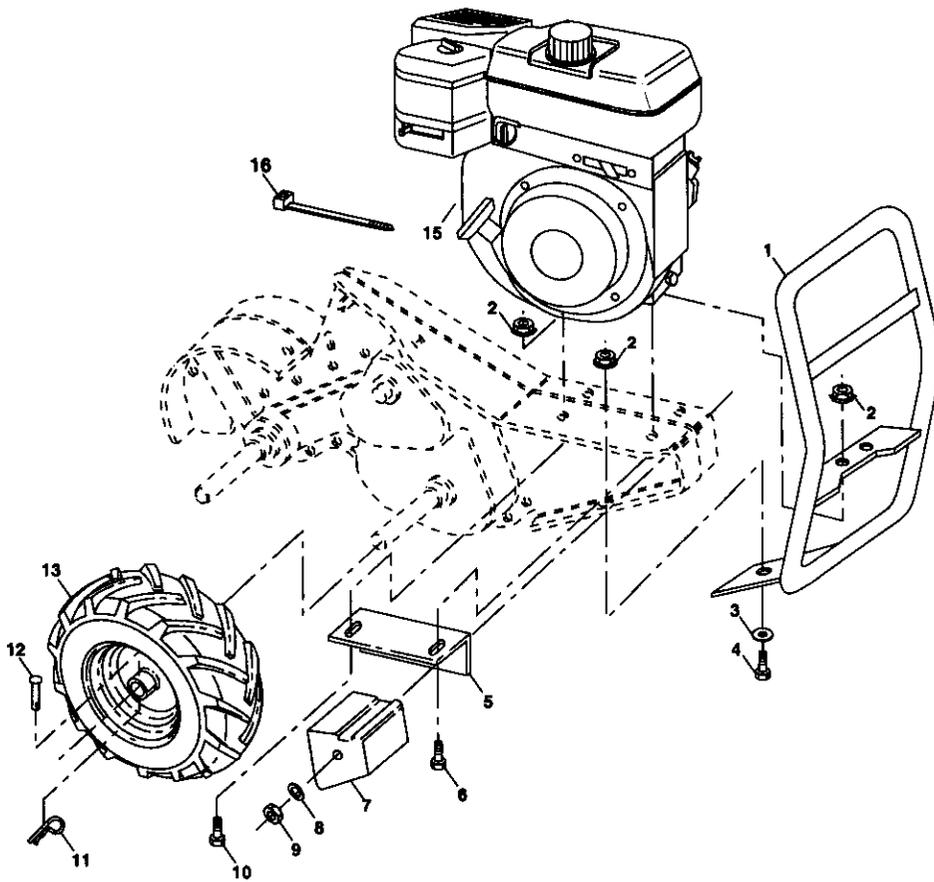
NO.	NO.	DESCRIPTION
1	73510500	Nut, Keps 5/16-18
2	STD651137	Washer, Lock 3/8
3	STD541037	Nut, Hex 3/8-16
4	170127	Shield, Inner Belt Guard
5	164329	Pin, Shift Lever
6	162756X505	Lever, Shift
7	STD532505	Bolt, Carriage 1/4-20 x 1/2 Gr. 5
8	161530	Plate, Shift Indicator
9	86777	Screw, Hex, Washer Head, Slotted #10-24 x 1/2
10	9484R	Clip
11	STD551125	Washer, Lock 1/4
12	STD541025	Nut, Hex 1/4-20
13	23230506	Screw, Set, 5/16-18 x 3/8
14	110652X	Spacer, Split .327 x .42 x 2.09
15	STD551031	Washer 11/32 x 11/16 x 16 Ga.
16	145102	Sheave, Transmission
19	12000028	Ring, Retainer
21	156117	Spacer, Split .327 x .42 x 1.220
22	74770508	Bolt, Fin Hex 5/16-24 x 1/2
23	102190X	Tire
	150750	Rim
	795R	Tire Valve

KEY PART

NO.	NO.	DESCRIPTION
24	126875X	Rivet, Drilled
25	STD624003	Clip, Hairpin
26	165501X615	Guard, Belt
27	132801	Belt, V
28	104679X	Pulley, Idler
29	12000032	Ring, Klip
30	159229	Bracket, Idler
31	102384X	Bolt, Hex 5/16-16 x 12
32	102141X	Shaft, Idler Arm
33	STD523710	Bolt, Hex 3/8-16 x 1
34	102383X	Counterweight, L.H.
35	74760532	Bolt, Hex 5/16-18 x 2
36	102331X	Bracket, Reinforcement, L.H.
37	130812	Sheave, Engine
38	74760544	Bolt, Fin Hex 5/16-18 x 2-3/4
39	140062	Cap, Plunger
40	170488	Screw Hex Wsh. Slit #10-24 x .50
44	STD541431	Nut, Lock 5/16-18
65	73970500	Nut, Lock Hex Flange

NOTE: All component dimensions given in U.S. inches. 1 inch = 25.4 mm

TILLER -- MODEL NUMBER 917.293490
MAINFRAME, RIGHT SIDE



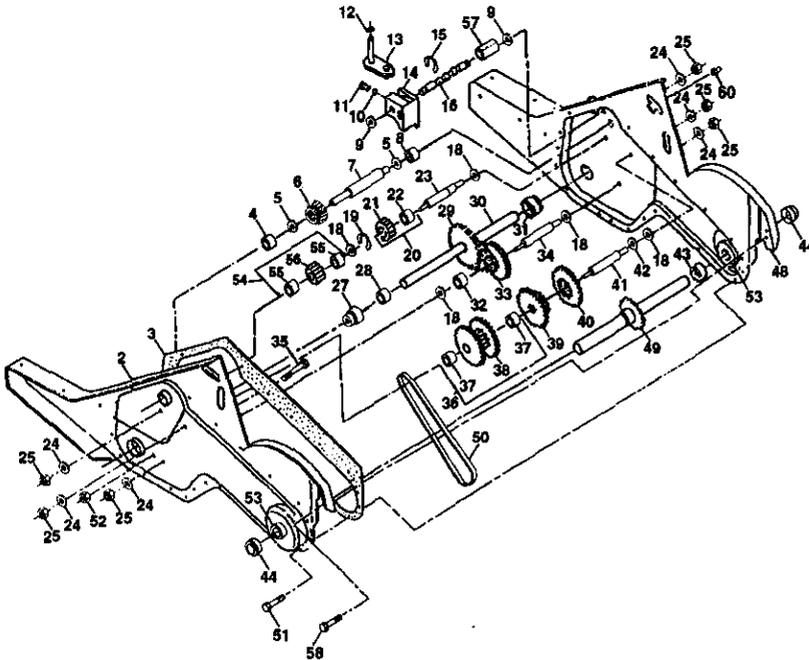
KEY PART NO.	NO.	DESCRIPTION
1	166532	Bumper
2	73970500	Locknut, Hex, Flange 5/16-18
3	STD51031	Washer 11/32 x 11/16 x 16Ga.
4	74760512	Bolt, Hex 5/16-18 x 3/4
5	102332X	Bracket, Reinforcement
6	74760532	Bolt, Hex 5/16-18 x 2
7	102173X	Counter Weight, R.H.
8	STD51137	Washer, Lock 3/8
9	STD541037	Nut, Hex 3/8-16
10	74760524	Bolt, Hex 5/16-18 x 1-1/2
11	STD624003	Clip, Hairpin

KEY PART NO.	NO.	DESCRIPTION
12	126875X	Rivet, Drilled
13	102190X	Tire
	150750	Film
	795R	Tire Valve
15	-----	Engine, (See Breakdown) Craftsman Model No. 121402-0194-E1
16	7192J	Tie Cable

NOTE: All component dimensions given in U.S.inches.
 1 inch = 25.4 mm

TILLER -- MODEL NUMBER 917.293490

TRANSMISSION



KEY PART NO. NO.

KEY PART NO.	NO.	DESCRIPTION
1	170306	Transmission Assembly (Includes Key Nos. 2-52)
2	161510	Gearcase, L.H. w/Bearing (Includes Key No. 4)
3	161963	Gasket, Gearcase
4	5020J	Bearing, Needle
5	1370H	Washer, Thrust 5/8 x 1.10 x 1/32
6	161520	Pinion, Input
7	161518	Shaft, Input
8	4895H	Bearing, Needle
9	154467	Washer, Seal
10	7392M	Ball, Steel
11	100371K	Spring, Shift, Fork
12	106160X	O-Ring
13	142145	Arm, Shift
14	8353J	Fork, Shift
15	12000039	Ring, Klip
16	161516	Shaft, Shift
17	4358J	Washer
18	12000040	Ring, Klip
19	102114X	Gear, Assembly, Reverse Idler (Includes Key Nos. 21 and 22)
20	102115X	Gear, Reverse Idler
21	6803J	Bearing, Needle
22	161527	Shaft, Reverse Idler
23	161527	Shaft, Reverse Idler
24	STD551143	Washer, Lock 7/16
25	STD541143	Nut, Hex 7/16-20
26	143009	Bearing, Shaft, Ground Drive L.H.
27	106390X	Spacer 0.765 x 1.125 x 1.23
28	102134X	Chain #35-50 Pitch
29	150737	Ground Shaft Assembly
30	143008	Bearing, Shaft, Ground Drive R.H.
31	106388X	Spacer 0.70 x 1.00 x 1.150

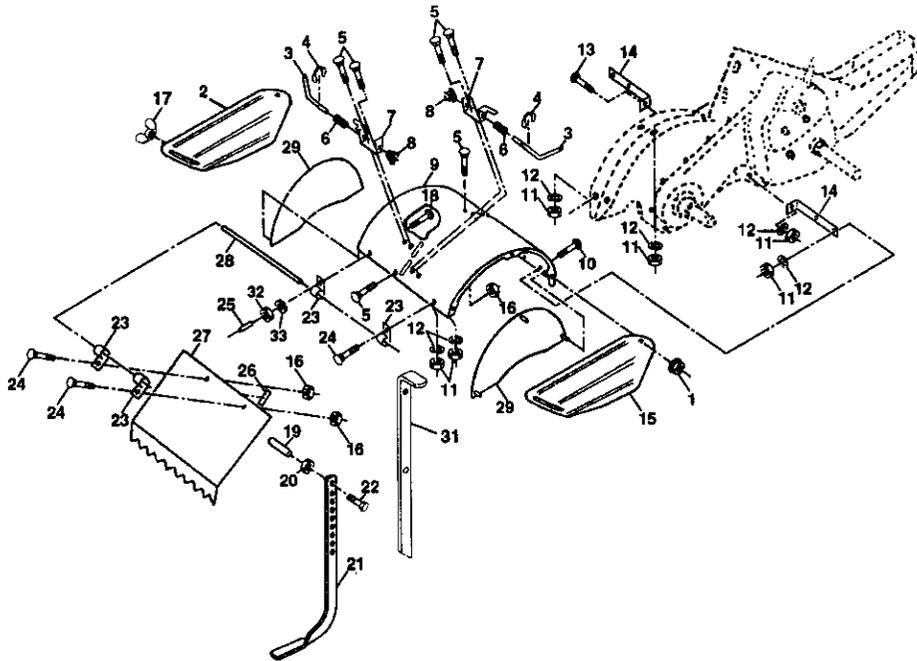
KEY PART NO. NO.

KEY PART NO.	NO.	DESCRIPTION
32	102121X	Sprocket and Gear Assembly
33	102112X	Shaft, Reduction (2nd)
34	102101X	Screw, Whlz, Lock 5/16-18 x 3-1/2
35	161524	Sprocket Assembly w/Bearing (Includes Key Nos. 37 and 38)
36	100413K	Bearing, Needle
37	161525	Sprocket, Tine
38	161526	Gear, Cluster, Red 1st & 2nd
39	105346X	Gear, Reverse
40	161523	Shaft, Reduction (1st)
41	4220R	Washer, Thrust
42	106146X	Spacer 1.01 x 1.75 x 0.760
43	155236	Seal Asm. Oil
44	170307	Gearcase, R.H. w/Bearing (Includes Key No. 8)
45	132688	Shaft, Tine
46	106147X	Chain, Roller #50-50 Pitch
47	17720408	Screw 1/4-20 x 1/2
48	73220500	Nut, Hex 5/16-18
49	165140	Bearing Kit, Tine Shaft
50	161528	Gear, DRT Idler w/Bearing (Includes Key No. 55)
51	3400R	Bearing, Needle
52	161529	Gear, DRT Idler
53	165889	Spacer, Split .52 x .64 x 1.04
54	17720412	Screw 1/4-20 x 3/4
55	6855M	Fitting Grease
56	6066J	Grease, Plastilube #1

NOTE: All component dimensions given in U.S. inches.
1 inch = 25.4 mm

TILLER -- MODEL NUMBER 917.293490

TINE SHIELD



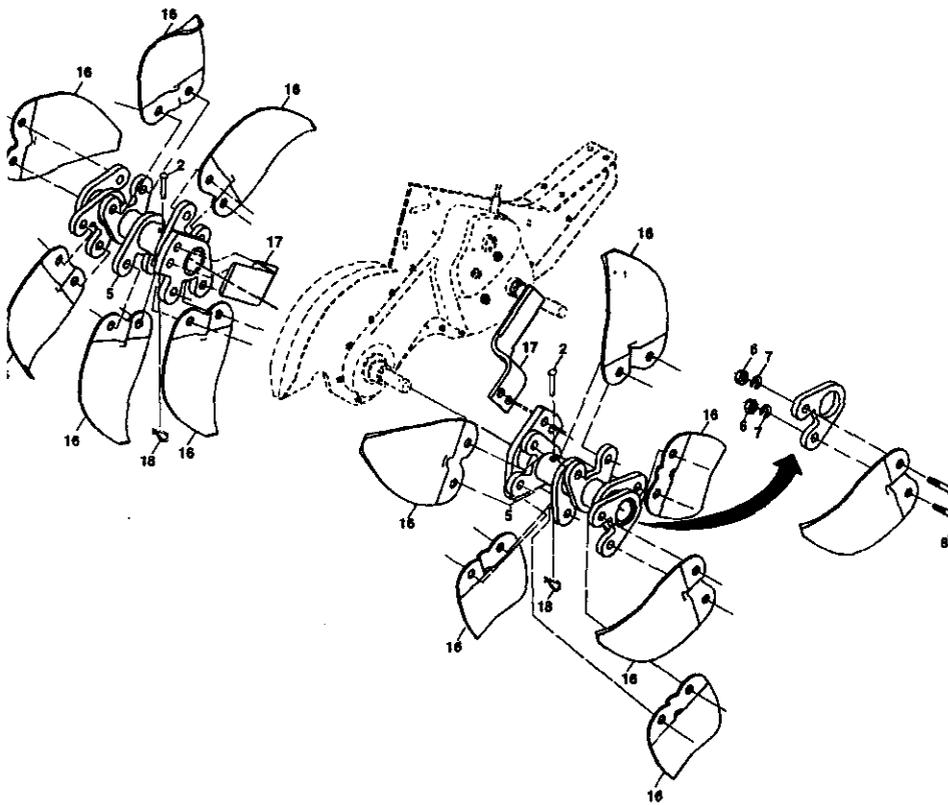
KEY PART NO.	NO.	DESCRIPTION
1	73900500	Nut, Lock Hex Flange 5/16-18 UNC
2	161415X615	Shield, Side, Outer L. H.
3	8393J	Pin, Stake, Depth
4	12000036	Ring, Klip
5	STD533107	Bolt, Carriage 5/16-18 x 3/4 Gr 5
6	8394J	Spring
7	8392J	Bracket, Latch
8	109230X	Spring, Depth Stake
9	163496X615	Shield, Tine
10	STD533110	Bolt, Carriage 5/16-18 x 1 Gr. 5
11	STD551131	Washer, Lock 5/16
12	STD541031	Nut, Hex 5/16-18
13	72110510	Bolt, Carriage 5/16-18 x 1-1/4
14	124343X	Bracket, Shield Tine
15	161414X615	Shield, Side, Outer R.H.
16	73900400	Nut, Hex Flange 1/4-20
17	162175	Nut, Wing Forged 5/16-18
18	STD532512	Bolt, Carriage 1/4-20 x 1-1/4 Gr. 5

KEY PART NO.	NO.	DESCRIPTION
19	102701X	Grip
20	STD541037	Nut, Hex 3/8-16
21	102156X	Stake, Depth
22	74930632	Bolt, Hex 3/8-16 x 2
23	4440J	Hinge
24	72140404	Bolt, Carriage 1/4-20 x 1/2
25	6712J	Cap, Vinyl
26	109227X	Pad, Idler
27	163497X615	Shield, Leveling
28	120588X	Pin, Hinge
29	104085X615	Shield, Side
31	163498X417	Stake, Drag
32	73220400	Nut, Fin, Hex 1/4-20 UNC
33	STD551125	Washer Lock Hvy Helical 1/4

NOTE: All component dimensions given in U.S. inches
1 inch = 25.4 mm

TILLER -- MODEL NUMBER 917.293490

TINE ASSEMBLY



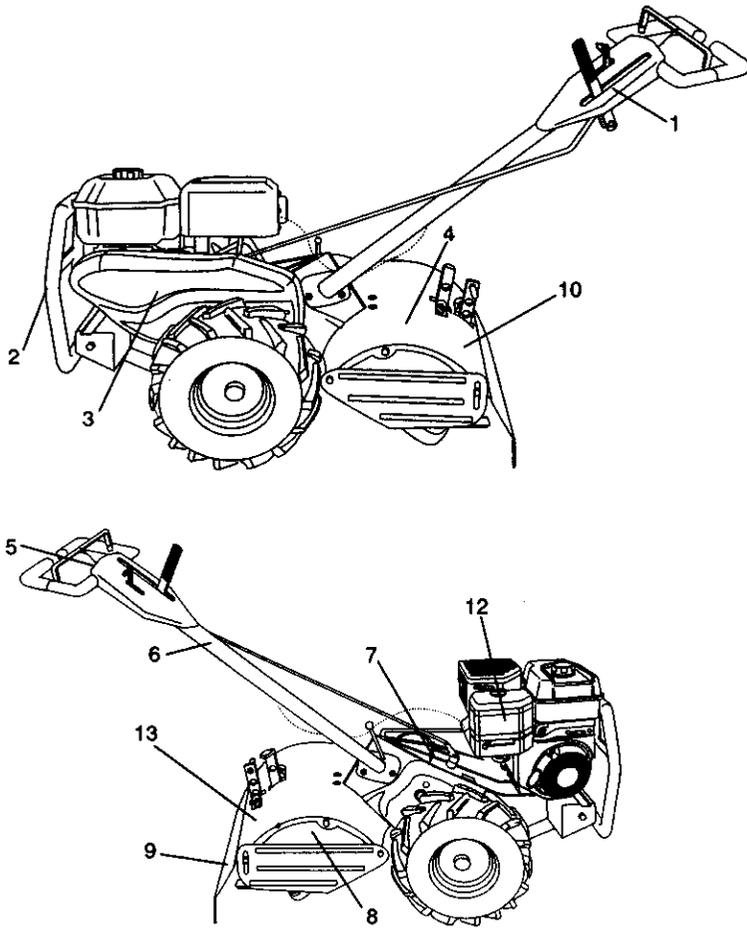
KEY PART NO.	NO.	DESCRIPTION
2	132673	Pin, Shear
5	163926	Assembly, Hub and Plate
6	73610600	Nut, Hex 3/8-24
7	STD551137	Washer, Lock 3/8
8	74610616	Bolt, Hex 3/8-24 x 1

KEY PART NO.	NO.	DESCRIPTION
16	163499	Tine, Spade
17	163500	Tine, Cleaning
18	3146R	Clip, Hairpin

NOTE: All component dimensions given in U.S. inches.
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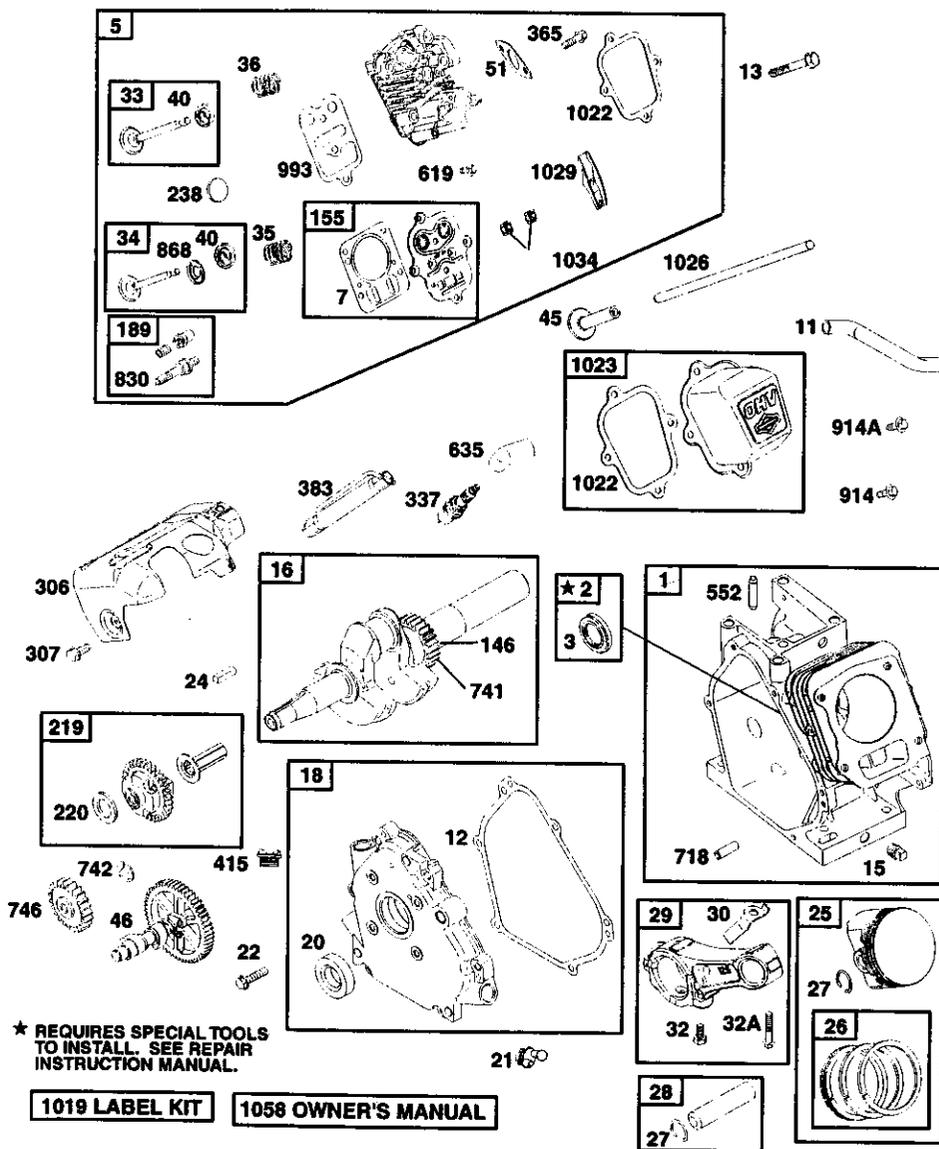
DECALS

TILLER -- MODEL NUMBER 917.293490

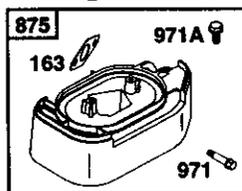
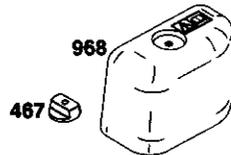
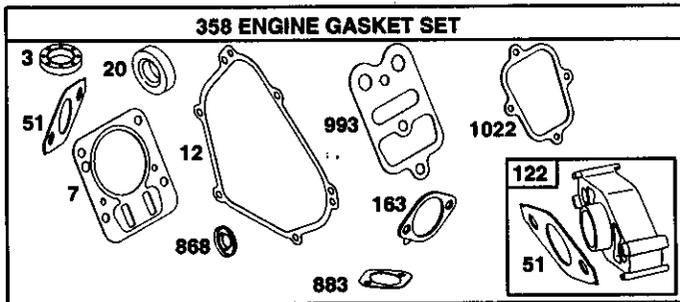
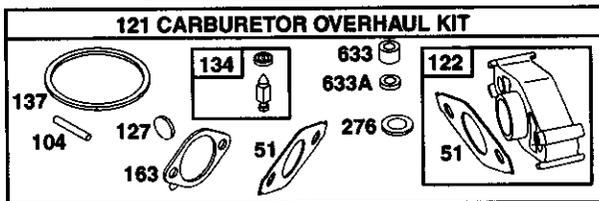
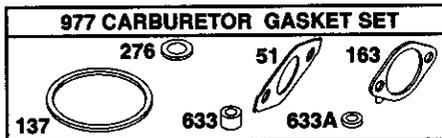
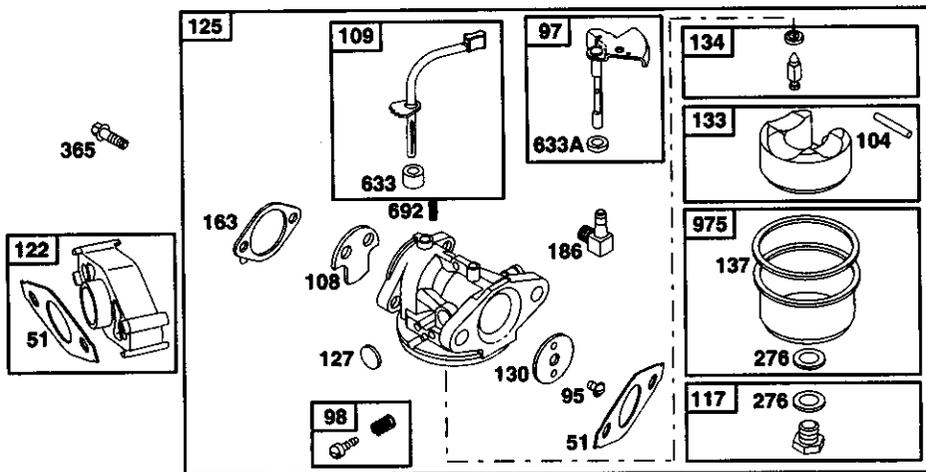


KEY PART NO.	PART NO.	DESCRIPTION
1	177570	Decal, CNTRL. PNL
2	145023	Decal, Logo
3	177564	Decal, Belt Guard
4	177565	Decal, Tine Shield DRT
5	137538	Decal, Caution, Drive Control
6	120431X	Decal, Hand Placement
7	166202	Decal, Shift Indicator
8	166188	Decal, Tine, Shield, Counter Rotating Tines
9	177568	Decal, Warning, DRT
10	177567	Decal, Tine Shield DRT REV
12	166138	Decal, Oper/Lub Instructions
13	177566	Decal, Tine Shield DRT FWD
--	177302	Manual, Owner's (Eng/Span)

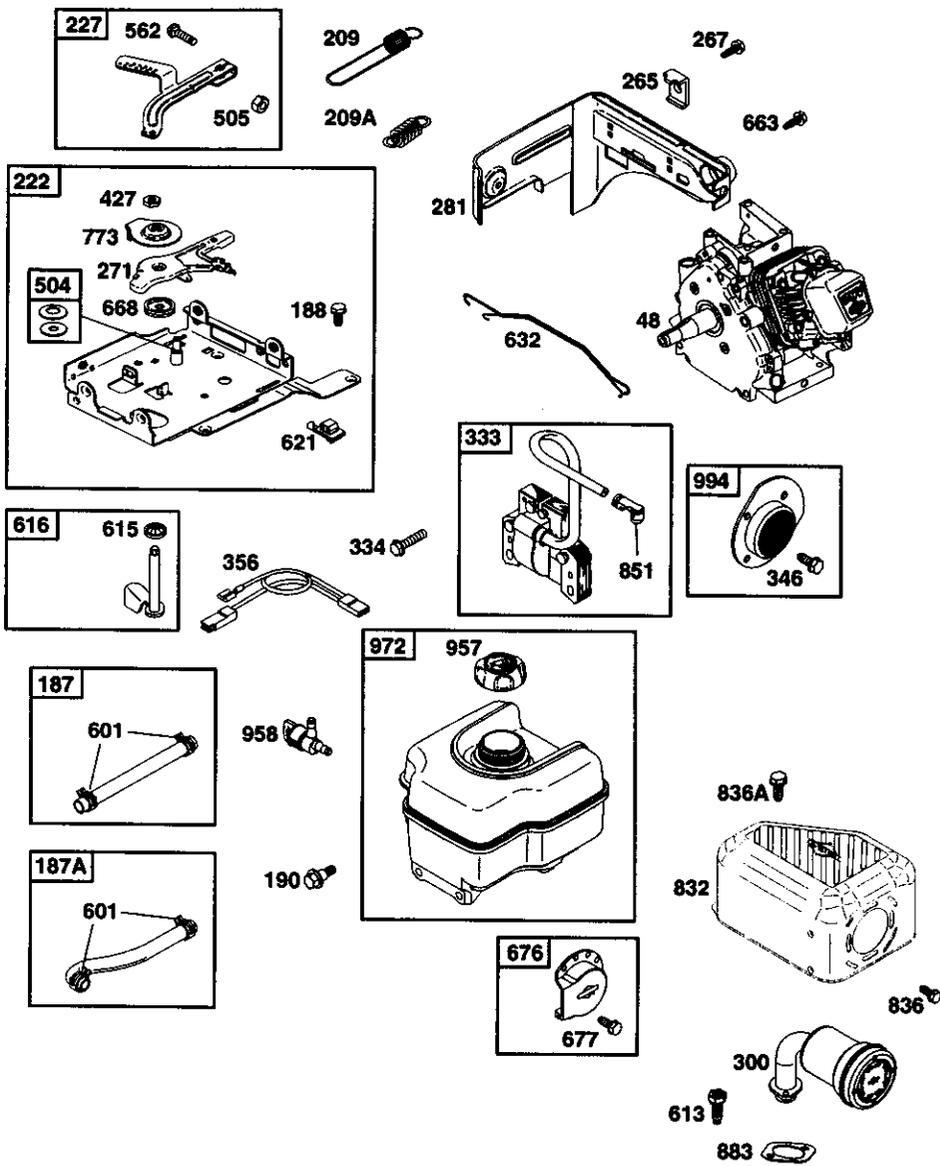
TILLER -- MODEL NUMBER 917.293490
ENGINE, BRIGGS & STRATTON -- MODEL NUMBER 121402-0194-E1



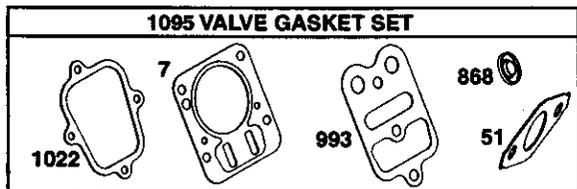
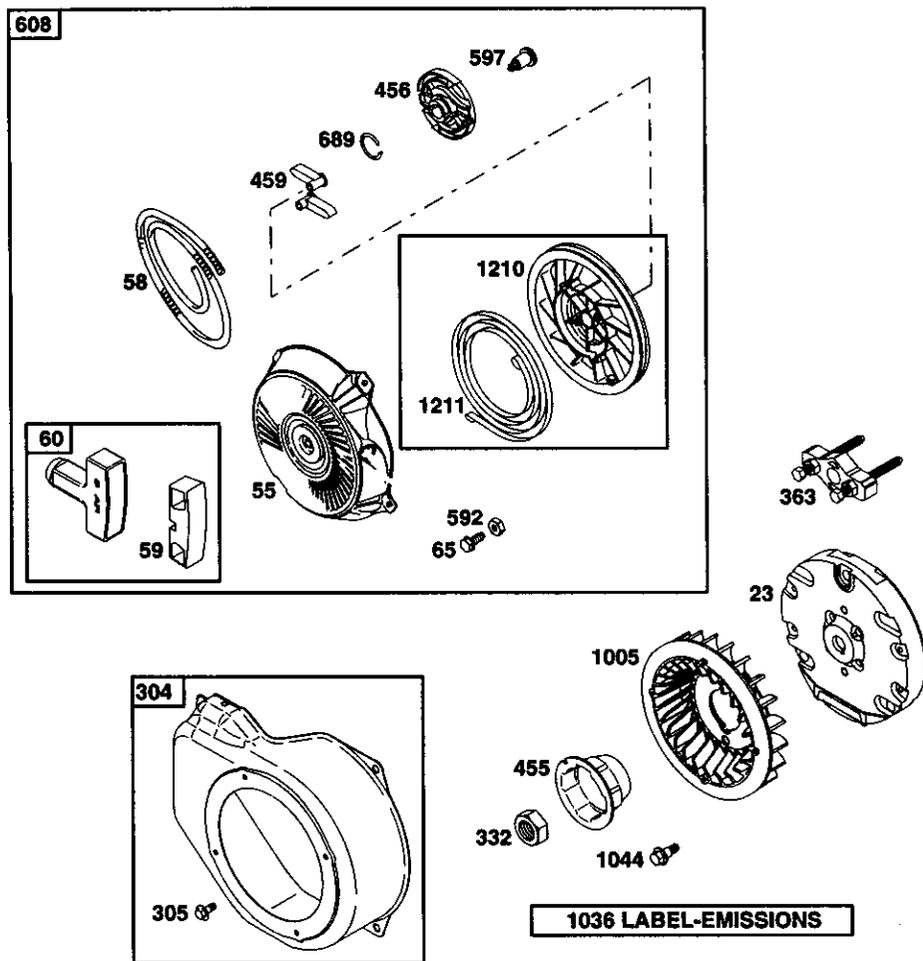
TILLER -- MODEL NUMBER 917.293490
ENGINE, BRIGGS & STRATTON -- MODEL NUMBER 121402-0194-E1



TILLER -- MODEL NUMBER 917.293490
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**TILLER -- MODEL NUMBER 917.293490
ENGINE, BRIGGS & STRATTON -- MODEL NUMBER 121402-0194-E1**

KEY NO.	PART NO.	DESCRIPTION	KEY NO.	PART NO.	DESCRIPTION
1	690045	Cylinder Assembly	98	398185	Kit-Idle Speed
2	399269	Kft-Bushing/Seal	104	691242	Ø Pin-Float Hinge
3	299819	• Seal-Oil (Magneto Side)	108	691182	Plate-Choke
5	693643	Head-Cylinder	109	693628	Shaft-Choke
7	695166	*+ Gasket-Cylinder Head	117	690048	Jet-Main
11	693647	Tube-Breather	121	695157	Kit-Carburetor Overhaul
12	692549	• Gasket-Crankcase	122	693749	*Ø Spacer-Carburetor
13	691137	Screw (Cylinder Head)	125	693518	Carburetor
15	691686	Plug-Oil Drain	127	691739	Ø Plug-Welch
16	693887	Crankshaft	130	691181	Valve-Throttle
18	694466	Cover-Crankcase	133	398187	Float-Carburetor
20	692550	• Seal-Oil (PTO Side)	134	398188	Ø Valve-Needle/Seat
21	281658	Cap-Oil Fill	137	693981	Ø‡ Gasket-Float Bowl
22	692551	Screw (Crankcase Cover)	146	690979	Key-Timing
23	692987	Flywheel	155	695168	Plate-Cylinder Head
24	222698	Key-Flywheel	163	693458	*Ø‡ Gasket-Air Cleaner
25	499627	Piston Assembly (Standard)	186	692317	Connector-Hose
	692788	Piston Assembly (.010" O.S.)	187	691050	Line-Fuel (Cut to Required Length)
	692789	Piston Assembly (.020" O.S.)	187A	692601	Line-Fuel (Molded)
	692790	Piston Assembly (.030" O.S.)	188	690877	Screw (Control Bracket)
26	499631	Ring Set-Piston (Standard)	189	694543	Ball-Rocker Arm
	692785	Ring Set-Piston (.010" O.S.)	190	692127	Screw (Fuel Tank)
	692786	Ring Set-Piston (.020" O.S.)	209	692571	Spring-Governor
	692787	Ring Set-Piston (.030" O.S.)	209A	691278	Spring-Governor
27	691866	Lock-Piston Pin	219	693578	Gear-Governor
28	499423	Pin-Piston	220	691724	Washer-Thrust
29	690124	Rod-Connecting	222	694253	Bracket-Control
30	692562	Dipper-Connecting Rod	227	692573	Control Lever-Governor
32	691664	Screw (Connecting Rod)	238	691300	Cap-Valve
32A	695759	Screw (Connecting Rod)	265	691024	Clamp-Casing
33	499642	Valve-Exhaust	267	692577	Screw (Casing Clamp)
34	499641	Valve-Intake	271	694256	Lever-Control
35	691304	Spring-Valve (Intake)	276	271716	Ø‡ Washer-Sealing
36	691304	Spring-Valve (Exhaust)	281	694252	Panel-Control
40	692194	Retainer-Valve	300	693593	Muffler
45	690977	Tappet-Valve	304	693621	Housing-Blower
46	693404	Camshaft	305	690960	Screw (Blower Housing)
48	693779	Short Block (Replacement Engine 123432-0036-E1)			RPM Settings:Low Speed: 1900-2100 High Speed: 3000-3200
51	692555	Ø‡+ Gasket-Intake (Two Required)			
55	691422	Housing-Rewind Starter	•		Included in Engine Gasket Set, Key. No. 358
58	693389	Rope-Starter (Cut to Required Length)	Ø		Included in Carburetor Overhaul Kit, Key. No. 121
59	805957	Insert-Grip	‡		Included in Carburetor Gasket Set, Key. No. 977
60	715257	Grip-Starter Rope	+		Included in Valve Gasket Set, Key. No. 1095
65	690837	Screw (Rewind Starter)			
95	691636	Screw (Throttle Valve)			
97	690024	Shaft-Throttle			

NOTE: All component dimensions given in U.S. inches 1 inch = 25.4 mm

TILLER -- MODEL NUMBER 917.293490
ENGINE, BRIGGS & STRATTON -- MODEL NUMBER 121402-0194-E1

KEY NO.	PART NO.	DESCRIPTION	KEY NO.	PART NO.	DESCRIPTION
306	693610	Shield-Cylinder	830	694544	Stud-Rocker Arm
307	690345	Screw (Cylinder Shield)	832	693583	Guard-Muffler
332	690662	Nut (Flywheel)	836	690661	Screw (Muffler Guard)
333	692605	Armature-Magneto	836A	693624	Screw (Muffler Guard)
334	691061	Screw (Armature Magneto)	851	493880	Terminal-Sparkplug
337	491055	Spark Plug	868	692044	*+ Seal-Valve
346	690661	Screw (Spark Arrestor)	875	693459	Base-Air Cleaner
356	692390	Wire-Stop	883	691893	• Gasket-Exhaust
358	695155	Engine Gasket Set	914	692198	Screw (Rocker Cover 7/16" Long)
363	19069	Flywheel Puller	914A	692557	Screw (Rocker Cover 3/8" Long)
365	692568	Screw (Carburetor)	957	694261	Cap-Fuel Tank
383	19374	Wrench-Spark Plug	958	692586	Valve-Fuel Shutoff
415	693463	Cap-Oil Fill	961	693598	Screw (Air Cleaner Bracket)
427	694255	Nut (Control Bracket)	967	273356	Filter-Pre Cleaner
445	690610	Filter-Air Cleaner Cartridge	968	693460	Cover-Air Cleaner
455	692591	Cup-Flywheel	971	690349	Screw (Air Cleaner Base)
456	692299	Plate-Pawl Friction	971A	691693	Screw (Air Cleaner Base)
459	281505	Pawl-Ratchet	972	694260	Tank-Fuel
467	691668	Knob-Air Cleaner	975	493640	Bowl-Float
504	694254	Washer Set	977	695156	Set-Carburetor Gasket
505	231082	Nut (Governor Control Lever)	993	691892	*+ Gasket-Cylinder Head Plate
552	692346	Bushing-Governor Crank	994	399541	Arrestor-Spark
562	94852	Bolt (Governor Control Lever)	1005	692592	Fan-Flywheel
592	690800	Nut (Rewind Starter)	1019	694852	Kit-Label
597	691696	Screw (Pawl Friction Plate)	1022	691890	*+ Gasket-Rocker Cover
601	95162	Clamp-Hose	1023	499924	Cover-Rocker Arm
608	693394	Starter-Rewind	1026	693517	Rod-Push
613	691665	Screw (Muffler)	1029	691230	Arm-Rocker
615	692576	Retainer-Governor Shaft	1034	691343	Guide-Push Rod
616	692547	Crank-Governor	1036	695041	Label-Emissions
619	691108	Screw (Cylinder Head Plate)	1058	274781	Owner's Manual
621	692310	Switch-Stop	1044	692590	Screw (Flywheel)
632	693408	Spring/Link-Mechanical Governor	1095	695289	Set-Valve Gasket
633	693867	∅‡ Seal-Choke/Throttle Shaft	1210	498144	Assembly-Pulley/Spring (Pulley)
633A	691321	∅‡ Seal-Choke/Throttle Shaft	1211	498144	Assembly-Pulley/Spring (Spring)
635	692076	Boot-Sparkplug			RPM Settings:Low Speed: 1900-2100 High Speed: 3000-3200
663	694593	Screw (Control Panel)			• Included in Engine Gasket Set, Key. No. 358
668	694257	Spacer-Control Bracket			∅ Included in Carburetor Overhaul Kit, Key. No. 121
676	393757	Deflector-Muffler			‡ Included in Carburetor Gasket Set, Key. No. 977
677	690661	Screw (Muffler Deflector)			+ Included in Valve Gasket Set, Key. No. 1095
689	691855	Spring-Friction			
692	690572	Spring-Detent (Choke)			
717	693462	Bracket-Air Cleaner			
718	690959	Pin-Locating			
741	692565	Gear-Timing			
742	692564	Ring-Retaining			
746	692566	Gear-Idler			
773	694258	Retainer			

NOTE: All component dimensions given in U.S. inches 1 inch = 25.4 mm

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