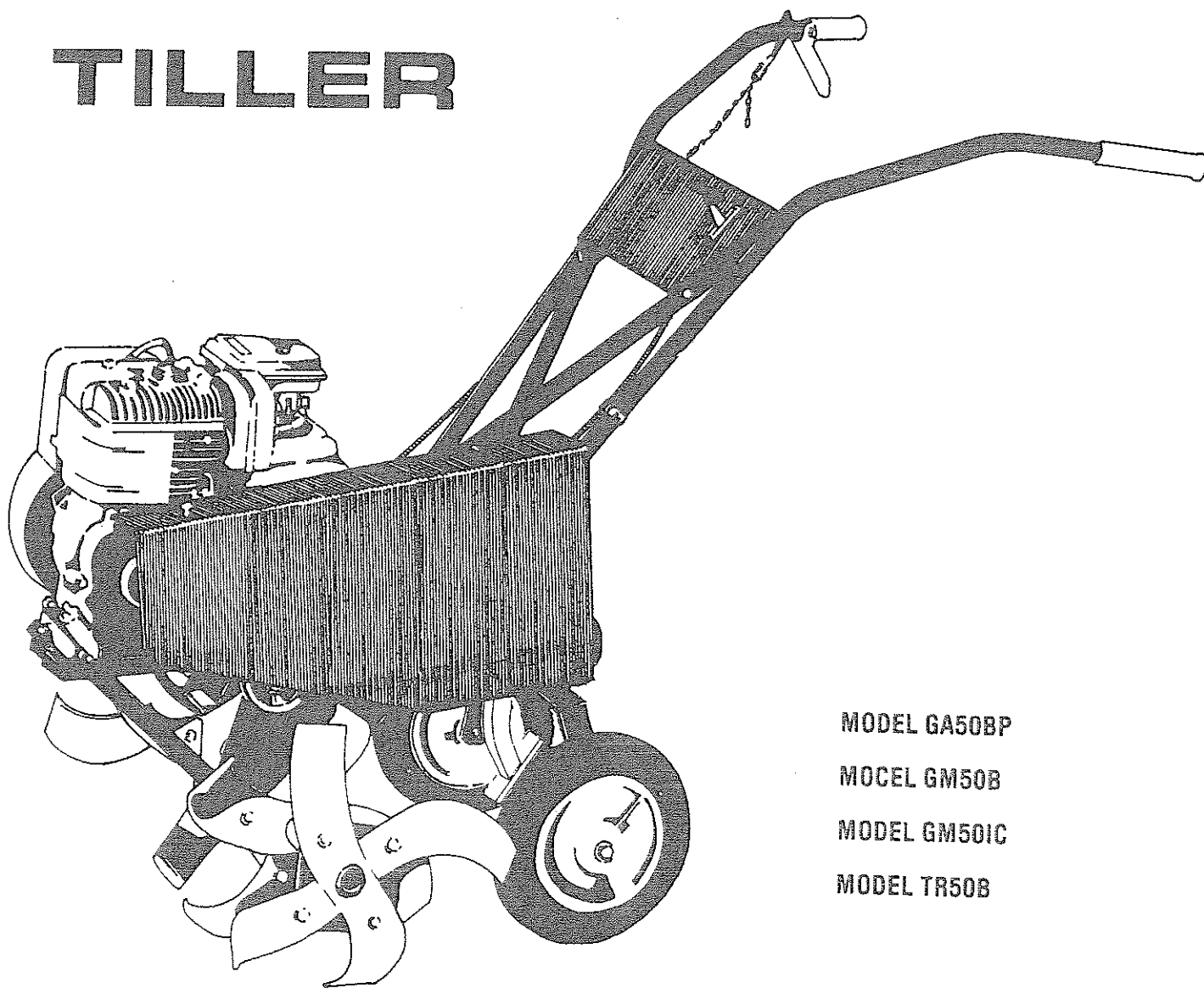


# OPERATOR'S MANUAL AND PARTS LIST

# MAXIM

## CHAIN DRIVE TILLER



MODEL GA50BP

MODEL GM50B

MODEL GM50IC

MODEL TR50B

### WARNING

IF INCORRECTLY USED THIS MACHINE CAN CAUSE SEVERE INJURY. THOSE WHO USE AND MAINTAIN THE MACHINE SHOULD BE TRAINED IN ITS PROPER USE, WARNED OF ITS DANGERS, AND SHOULD READ THE ENTIRE MANUAL BEFORE ATTEMPTING TO SET UP, OPERATE, ADJUST, OR SERVICE THE MACHINE.

# SAFE PRACTICES FOR GARDEN TILLERS

## TRAINING

1. Regard your tiller as a piece of power equipment and teach this regard to all who operate it.
2. Read the owner's manual carefully. Be thoroughly familiar with the controls and proper use of the equipment. Know how to stop the unit and disengage the controls quickly.
3. Never allow children to operate equipment. Never allow adults to operate equipment without proper instruction.
4. Keep the area of operation clear of all persons, especially small children and pets.
5. Exercise caution to avoid slipping or falling.

## PREPARATION

1. Check the tiller to make certain it is in good operating condition.
2. Check tines to be sure they are free of any obstruction.
3. Check engine crankcase oil level.
4. Unless there is very good artificial light, operate only during daylight hours.
5. Do not operate power tools in wet soil, which clogs the cutter and increases the danger of your slipping and falling and possibly coming into contact with the tines.
6. Thoroughly inspect the area where the equipment is to be used and remove all large stones, boards, wires and other foreign objects.
7. Do not operate machine when barefoot or wearing open sandals. Wear strong work-type footwear which will improve footing and provide optimum protection. Provide leg protection by means of long, heavy denim trousers and brogues.
8. Check that clutch is disengaged before starting engine.
9. Handle fuel with care; it is highly flammable.
  - (A) Use approved fuel container.
  - (B) Never add fuel to a running engine or hot engine.
  - (C) Fill fuel tank outdoors with extreme care. Never fill fuel tank while smoking.
  - (D) Replace gasoline cap securely and wipe up spilled fuel.
10. Never attempt to make any adjustments while engine is running except for carburetor mixture.
11. Allow engine sufficient warm-up period.

## OPERATION

1. Give complete and undivided attention to the job at hand.
2. Familiarize yourself with the controls. Be sure you know how to stop your machine quickly. Do not start engine until you set machine on ground to be tilled.
3. Hold the handle with your left hand while pulling the starter rope with your right. Be sure the machine will not tip or roll during the starting operation.
4. Stay clear of the front of self-propelled machine during and after starting. Do not put hands or feet near rotating tines or belt when machine is operating. Once machine is started stand behind it with hands on handles at all times.
5. Keep in step with machine. Do not lag behind or let it pull you so you will not be in full command of the machine.
6. Control the direction of the machine by hand pressure on the handle, not by foot pressure on the machine housing.
7. Stay alert for hidden hazards and traffic. Do not carry passengers.
8. When operating over uneven terrain and slopes, use extreme care and make sure of solid and firm footing at all times.
9. Exercise special care when operating around objects to prevent

the tines from striking them and never deliberately operate over any object.

10. After striking a foreign object, stop the engine, remove wire from spark plug, thoroughly inspect the tiller for any damage and repair the damage before restarting and operating the tiller.
11. If the unit should start to vibrate abnormally, stop the engine and check immediately for the cause. Vibration is generally a warning of trouble.
12. Stop operation when another person approaches.
13. Stop the engine whenever you leave the operating position before making any repairs, adjustment, or inspections.
14. Stop the engine whenever leaving the tiller unattended.
15. When cleaning, repairing, or inspecting make certain tines and all moving parts have stopped. Disconnect spark plug wire and keep wire away from plug to prevent accidental starting.
16. Do not run engine indoors.
17. Exercise extreme caution when changing direction on slopes. Do not attempt to till steep slopes.
18. Never operate tiller without guards, plates, or other safety protective devices in place.
19. Never operate tiller near glass enclosure, automobiles, window wells, drop-off, or bystanders. Keep children and pets away.
20. Do not over load machine capacity by attempting to till ground at too fast a rate.
21. Use care when backing.
22. Never allow anyone in front of unit. Disengage clutch, when someone approaches, when transporting or when not in use.
23. Use only attachments and accessories approved by manufacturer of tiller (such as tine ext. kit, furrow kit, tool bar kit, etc.).
24. Never operate tiller without good visibility or light. Always be sure of your footing and keep a firm hold on the handles and walk, never run.

## MAINTENANCE AND STORAGE

1. Follow the recommendations for maintenance described in this manual and engine literature.
2. Have a competent service man make a thorough inspection of the tiller before the season begins.
3. Check sharp bolts, engine mounting bolts, etc. at frequent intervals for proper tightness to be sure equipment is in safe working condition. Check that the engine stop circuit is intact.
4. Never adjust the machine or change attachments until the engine has been turned off and the spark plug wire disconnected. Otherwise it is possible, that the engine could start while making an adjustment or repair.
5. If carburetor adjustment is necessary, stand to one side and keep feet and hands in the clear while making adjustments.
6. Keep engine free from accumulations of grass, leaves, or excessive grease. An accumulation of these combustible materials may result in a fire.
7. Store gasoline in a safe container. Store the container in a cool, dry place, not in the house or near heating appliances.
8. Never store machine with fuel in the fuel tank inside a building where open flame or spark are present. Allow engine to cool before storing in any enclosure.
9. Keep the machine and fuel container in locked storage to prevent children from playing and tampering with them.
10. Maximum operating results and safety can only be expected if the machine is maintained and operated correctly.
11. Always refer to operator's manual for important details if tiller is to be stored for an extended period.

# SPECIFICATIONS

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Engine: Brigg & Stratton 4 cycle

5 H.P. Model No. 130202

Type No. 0198-05

Air Cleaner: Reusable foam element

Fuel Tank: 3 Quarts

Throttle: On handle panel

Transmission: Roller chain and Sprocket, sealed and running in oil

Tines: 14" Slasher, self sharpening, non-winding, forged steel

Tine Shaft: 1 1/4" case-hardened high carbon steel ground and polished

Tine Speed: Approximately 78 RPM Maximum

Tilling Width: 14" to 26" standard, up to 38" with extension lines

Tilling Depth: Up to 12"

Handle: 14 Gauge seamless tubular steel with braces

Clutch: Hand controlled belt tightener

Frame: All steel, welded and braced

Wheels: 10 x 1.75

Approximate Shipping Weight 5 hp. - 134 lbs.

## HOW TO ORDER REPAIR PARTS

This manual is an operating and service guide for the owner. We recommend that you read it carefully before operating your vehicle and that you follow the simple adjustments and maintenance listed. We do not recommend that you make major repairs beyond necessary adjustments and simple parts replacements required to keep your unit in good operating condition.

For assistance in getting the most out of your unit, and for overhaul, winter or summer storage, tune-up, and repair service, we recommend your Authorized Maxim Dealer who is prepared to help you.

To eliminate error and speed delivery:

1. Write your NAME and ADDRESS on your order plainly.
2. Explain WHERE and HOW to make shipment
3. Give PRODUCT NUMBER, NAME, and SERIAL NUMBER that is stamped on the NAME PLATE or SERIAL PLATE of your product.
4. Order by QUANTITY DESIRED, the PART NUMBER, and the DESCRIPTION OF PART.

5. Send your order to Maxim Mfg. Corp., Drawer A, Sebastopol, MS 39359.

6. INSPECT ALL SHIPMENTS ON RECEIPT If any parts are damaged or missing, file a claim with the carrier before accepting

7. Do not return materials to Maxim Mfg. Corp. without a letter of explanation. Make a list of all returned parts. Show your name and address and include it with the shipment. TRANSPORTATION CHARGES MUST BE PREPAID.

## Minimum parts order \$5.00

A current parts price quotation is available upon request from Maxim Mfg. Corp.

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# SET-UP INSTRUCTIONS

## UNPACKING

Do not attempt to lift the tiller from the carton. After opening the top, cut all four corners and lay the sides flat on the floor or working space. Take out all unassembled parts, bag of parts, and protective packing. Be careful not to kink the control cables.

## DEFINITION OF DIRECTIONS

As used throughout this manual, the following definitions apply: "Right" and "Left" refer to the operator's right and left when standing behind the machine in the normal operating position. "Forward" and "Rearward" likewise refer to directions from the viewpoint of the operator.

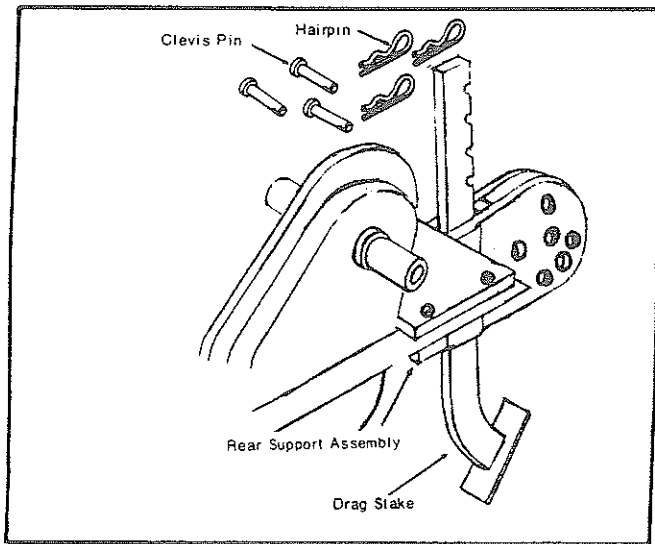


Figure 1

## REAR SUPPORT ASSEMBLY, HANDLES, HANDLE SUPPORTS, DRAG STAKE AND BELT GUARD (See Figs. 1 and 2)

1. Place rear support assembly on frame.
2. Attach lower end of the handles to rear support assembly. Each requires two screws, 5/16-18 X 1-1/2, two lockwashers and two nuts. Do not tighten nuts at this time. Lower rear belt guard bracket mounts with same hardware which secures left handle rear mounting hole.
3. Fasten drag stake to rear support assembly positioning stake in front opening and inserting clevis pin.
4. Secure clevis pin with hairpin.
5. The forward ends of the handle supports align with three holes provided on transmission case. Attach a clutch cable guide on lower screw of the right hand handle support and a belt guard bracket and washer on upper screw of left hand handle support. One screw, 1/4-20 X 1, two screws, 1/4-20 X 1-1/4, and three hex locknuts are required. (See Fig. 2)
6. Attach belt guard to brackets with three thumb screws and three "C" nuts.

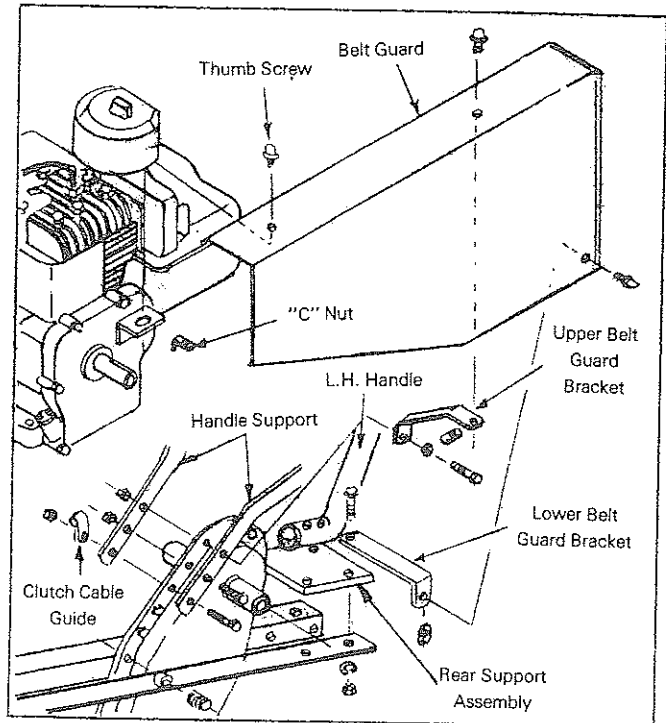


Figure 2

## HANDLE PANEL, CLUTCH LEVER AND CABLE, AND THROTTLE CONTROL (See Fig. 3)

1. Place rear holes of handle panel over studs on handles. Fit rear hole of handle supports over same studs and secure each with a lockwasher and hex nut. A clutch cable guide mounts with same hardware as front right mounting hole of handle support and handle panel. Place two 5/16-18 x 3/4" screws through forward holes and secure with two lockwashers and two nuts.

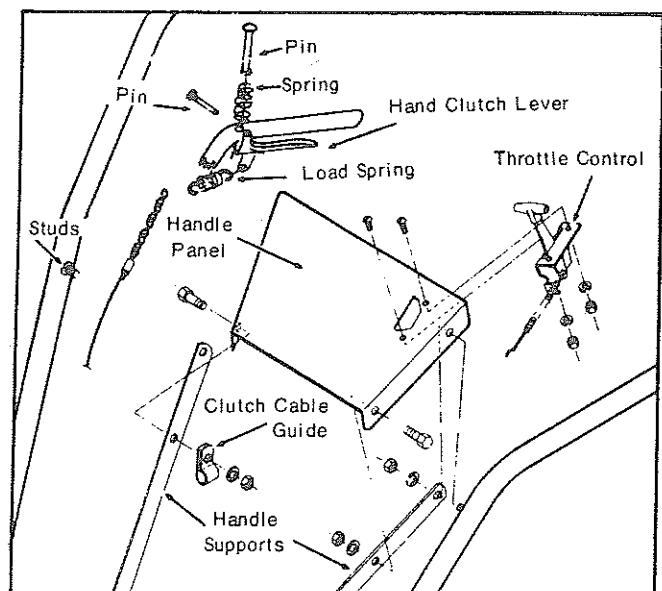


Figure 3

2. Lead throttle control between R.H. handle and R.H. support and through opening in handle panel from backside. Secure with two round head slot screws, two lockwashers and two hex nuts.

# SET-UP INSTRUCTIONS

3. Hook spring through hole in clutch lever. Slide clutch cable through both guides and hook to lever opposite idler pulley.
4. Remove all slack from clutch cable and hook free end of clutch load spring to chain on clutch cable.

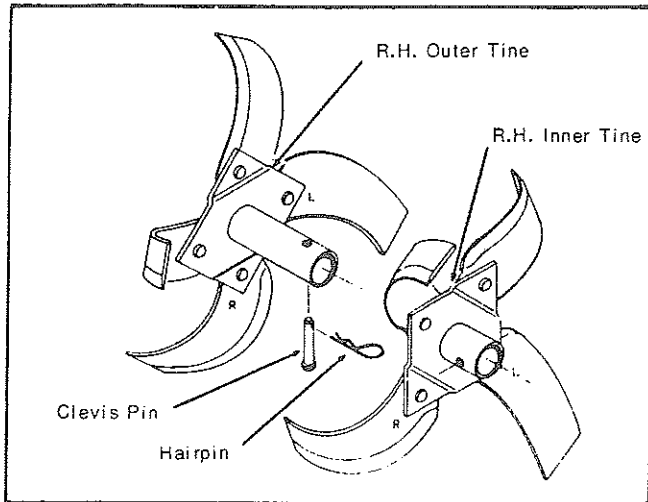


Figure 4

## OUTER TINE ASSEMBLIES (See Fig. 4)

Mount outer tine assemblies with a clevis pin and a hairpin to each.

### NOTE

Cutting edge of tines to face direction of rotation.

## FINAL SET-UP

1. Now tighten all screws and nuts.
2. Fill transmission with unit in upright position (See Fig. 5).
  - a. Use 90 wt. gear lube or 50 wt. motor oil. Approx. 1 pt.
  - b. Remove fill plug

- c. Remove check plug
- d. Fill until check plug hole overflows.
- e. Replace plugs.

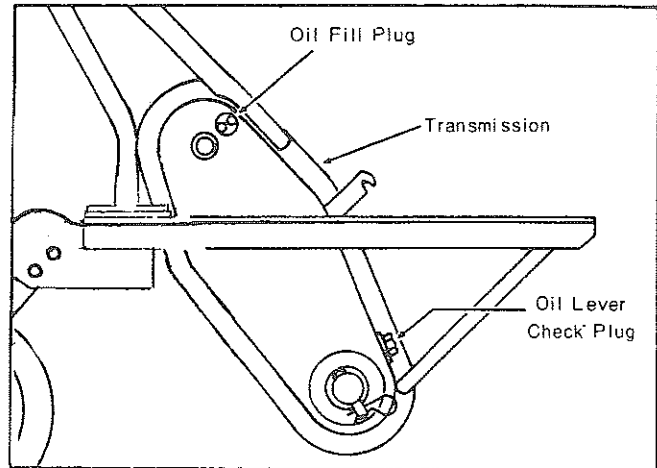


Figure 5

3. Remove the engine dipstick and fill crankcase with oil (See Fig. 6) recommended for specified temperature zone. Refer to "Maintenance" section of this manual.
4. Fill the fuel tank. Use clean, fresh, lead-free, or regular grade automotive gasoline. Fill the tank completely. **DO NOT MIX OIL WITH GASOLINE.**

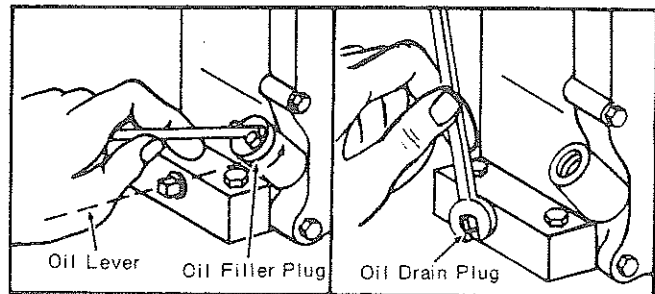


Figure 6

# GENERAL INFORMATION

The Maxim Chain Drive is the most versatile power unit ever developed for the home gardener and does a soil preparation job second to none, so a few minutes spent in studying the following instructions will pay many dividends.

The tiller will dig deeper and move forward slower by pushing down on the handles, and it will go ahead faster but at a shallower depth by raising up on the handles. The speed of the rotors is controlled by the use of the throttle.

To control the depth of tilling, the tiller must be operated with both the proper throttle speed and correct up-and-down hand pressure on the handles. Raising up means going forward. This action releases the grip of the drag stake in the soil, allowing the tiller to progress ahead. Pushing down means slowing down or even standing still. This directs the drag stake into the soil, thus holding the tiller back. Adjust throttle for desired speed of rotors.

When a person is first learning the proper use of the tiller, it is not unlikely that he will encounter an uneven or "buckling" action in the operation of the machine. A little practice will accustom the operator on how to overcome this. Never push on the machine if it

has dug itself in to a depth of six to ten inches in order to get it to move forward. This is accomplished by slightly raising up on the handles and tilting the machine slowly from one side to the other.

Your tiller has been carefully designed in both workmanship and material. However, by the very nature of its operation, common sense and caution must be employed at all time. Read carefully and abide by the safety suggestions below and those under "SAFE PRACTICES FOR GARDEN TILLERS", page 2.

1. Do not place your hands or feet near the tines or belt when the machine is operating.
2. Keep the operating machine away from bystanders, especially children.
3. Attempt no adjustment except carburetor when the engine is running.
4. Familiarize yourself with the controls. Be sure you know how to stop your machine quickly.
5. Hold the handle with your left hand while pulling the starter rope with your right.
6. Never leave the machine when engine is running.

# OPERATION

## OPERATING CONTROLS

### THROTTLE CONTROL LEVER (See Fig. 7)

The throttle control lever, located on the left side of the handle panel controls engine speed. When starting, place control lever in center position. Then adjust to desired speed. To stop engine move throttle control lever to rear position. Push stop switch at spark plug.

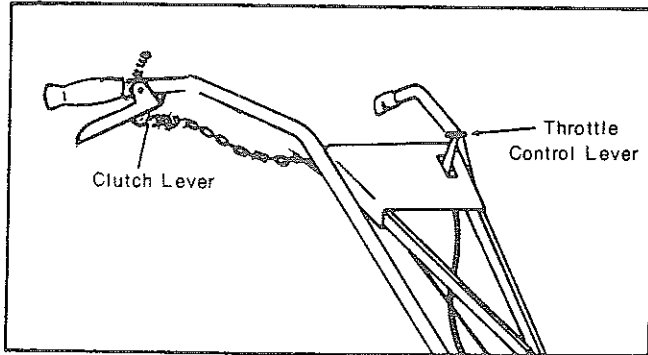


Figure 7

### CLUTCH LEVER (See Fig. 7)

The clutch is disengaged when clutch lever is away from handle grip. To engage clutch, depress clutch lever to handle.

## OPERATING INSTRUCTIONS

Before operating the machine, become familiar with the operating instructions and safety suggestions in this manual. Operate the machine in an open area to get the "feel" of the machine and its controls.

### WARNING - DANGER

To avoid possible serious bodily injury, keep hands and feet away from tines and "V" belt before and after starting engine.

## STARTING AND STOPPING THE ENGINE

Before starting the engine, check the machine against the Set-Up Instructions to see that it is properly assembled. Review the Safety Suggestions and Operating Instructions for safe and proper use of the tiller.

### Pre-Start

1. Check the spark plug wire for proper connection on the spark plug.
2. Fill the fuel tank with clean, fresh, regular gasoline from a sealed container.
3. Check the oil for proper level (See Fig. 6). See the Engine Manual for correct grade and quantity of oil to use.

4. Make certain clutch lever is in disengaged position.

## FUEL RECOMMENDATIONS

Our engines will operate satisfactorily on any gasoline intended for automotive use. **DO NOT MIX OIL WITH GASOLINE.** We recommend the use of clean, fresh, lead-free gasoline. Leaded gasoline may be used if lead-free is not available. A minimum of 77 octane is recommended. The use of lead-free gasoline results in fewer combustion deposits and longer valve life. **DO NOT** fill fuel tank to point of overflowing. Provide approximately 1/4" of tank space for fuel expansion.

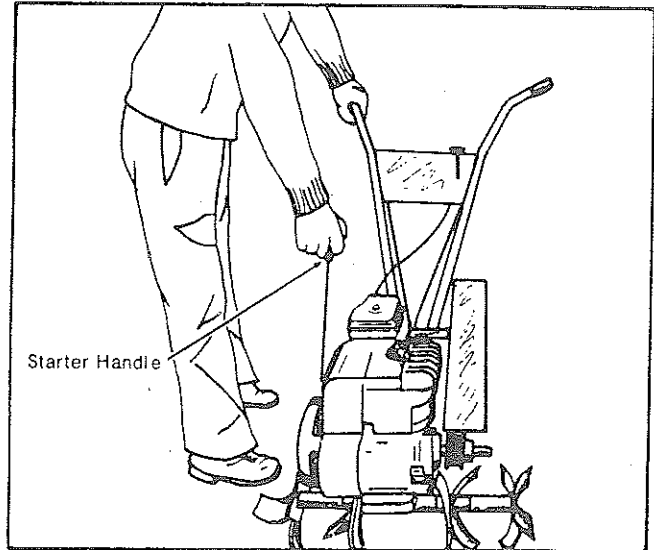


Figure 8

## STARTING PROCEDURE (See Fig. 8)

1. Move throttle control lever to center position.
2. Manually open choke. Hold the handle with your left hand while pulling the starter rope with your right. Pull the rope out slowly until the engine reaches the start of the compression cycle (the rope will pull slightly harder at this point). Then allow the rope to retract fully. (See Fig. 11, Page 8.)
3. Pull the rope with a continuous full arm stroke. Keep a firm grip on the starter handle and let the rope rewind slowly. Do not let the handle snap back against the starter.
4. Repeat steps No. 2 and 3 above until engine starts. If engine fails to start after 3 pulls on the rope, repeat Step No. 1 above as necessary. Close choke after engine has responded.
5. As the engine warms up, move the throttle lever to desired position. Allow engine warm-up period before operating tiller.

### NOTE

A warm engine may start without choking. Do not use the choke if engine is hot.

## STOPPING ENGINE

1. Move the throttle control to rear position
2. Push stop switch at spark plug.
3. Disconnect the wire from the spark plug to prevent accidental starting of the machine while it is unattended.

# OPERATION

## WARNING - DANGER

For safe operation, the chain drive must disengage immediately when clutch lever is released. If it does not, adjust belt and cable tension as described in "Adjustment" section of this manual. Never leave the tiller unattended with the engine running because children might be attracted to a running tiller and could be injured if struck by the rotating tines.

## OPERATION OF CHAIN DRIVE TILLER

1. When the ground is hard (especially during spring and fall plowing), place wheels in up position by removing the pin clip from the wheel clevis pin, removing the clevis pin and repositioning wheel frame bar. Replace the clevis pin and the pin clip (See Fig. 9). For weeding or cultivating, wheels may be left down if you prefer.
2. Adjust the drag stake for comfortable operation. This is done by removing the pin clip from the drag stake clevis pin, removing the clevis pin, and sliding the drag stake up or down. The drag stake should be set so that when it is firmly in the ground, and your hands are on the tiller handle, your arms hang comfortably with the elbows slightly bent.
3. Move throttle control to center position. Start the engine and allow it to warm up, then set the throttle at about half speed. After you have become more familiar with the tiller, you may want to run the engine a little faster.
4. Press down firmly on the handles, and then squeeze the clutch lever. The tines will begin to turn, but the tiller should not move forward. If it does, don't pull backwards - merely press down harder on the handle. When you find the right amount of downward pressure so that the tines are digging and tiller is not moving forward, release the pressure slightly. As you release it you'll notice the tiller beginning to move forward.

The whole tilling operation is controlled by the amount of pressure you put on the drag stake. Do not fight the tiller. Stand between the handles and press down to go slower and dig deeper, and release the downward pressure to move forward faster. In normal soil, the actual up and down movement of the handles will be no more than an inch or two.

## OPERATING TIPS

To acquire the knack of letting the tiller do the work without effort on the part of the operator, we offer the following suggestions:

1. Adjust drag stake so the handles are at such a height that your arms hang straight down to contact them. Rear wheels should be in up position for deep tillage or ease of turning in confined areas.

## IMPORTANT

Keep hands clear of belt while engine is running.

2. Operate the tiller at about three-fourths throttle.
3. Don't hurry the job - proceed at a slow walk - give the machine time to do its job.
4. Concentrate on keeping your arms relaxed. (There is a natural tendency for any beginner to tense up.) Operation actually takes very little effort. Let the tiller do the work.
5. When tilling on sloping ground, turn the front of the machine up hill to sufficiently counteract the tendency to run down hill.
6. For best results, operate at reduced throttle settings when the ground is extremely hard or rough.
7. When cultivating, raise the drag stake until the handles are the proper height as described in Item 1 or set rear wheels in position. Proceed at a slow walk, watching the rotor as it tills along the row.
8. TIGHTEN ALL NUTS AND BOLTS PERIODICALLY.

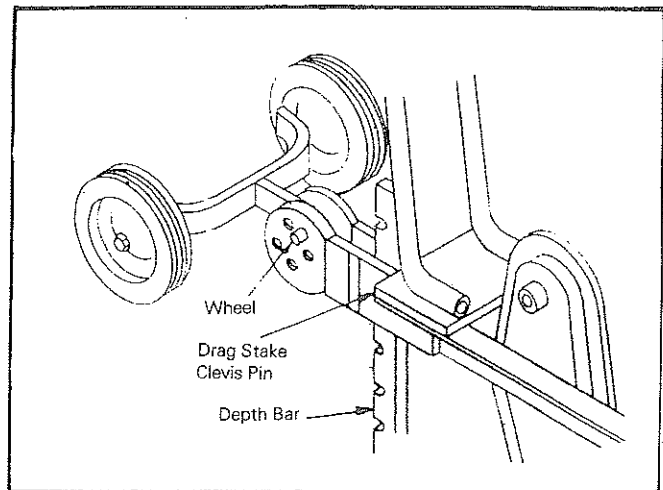


Figure 9

## TILLING PATTERNS

Whenever possible till the soil in the direction in which the planting or rows will run. If the soil is extremely hard and dry, it may be advisable to till across the plot on the first digging and then obtain the depth you want by tilling in the direction the planting will be done.

## TRANSPORT

To transport tiller from garden to storage area, lift the handles until the drag stake is above ground level, set the engine throttle at slow speed and walk the tiller on the tines.

# ADJUSTMENTS

## WHEEL HEIGHT (See Fig. 9 & 10)

Wheel position may be adjusted by removing outer pin clip, removing clevis pin and sliding wheels forward or rearward as desired.

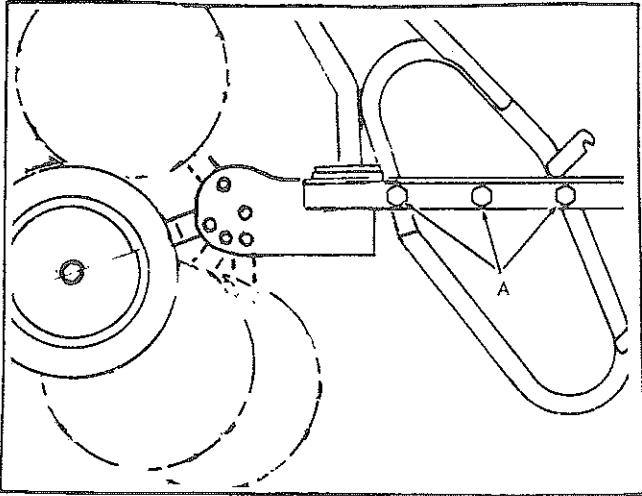


Figure 10

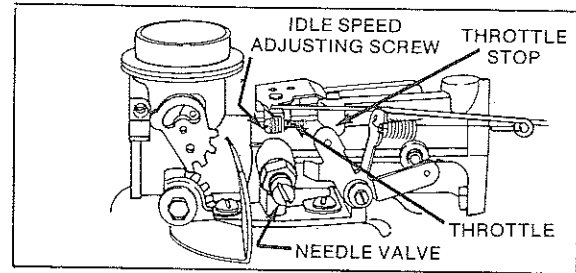


Figure 12

## CARBURETOR ADJUSTMENTS (See Fig. 12)

Minor carburetor adjustment may be required to compensate for differences in fuel, temperature, altitude and load.

1. To make the initial adjustment: close needle valve (turn clockwise), then open 1-1/2 turns (counterclockwise). This initial adjustment will permit the engine to be started and warmed up before making final adjustment.
2. Final adjustment is made with engine running at normal operating speed (approximately 3000 RPM without load.) Close the needle valve (turn clockwise) until engine starts to lose speed (lean mixture).
3. Then slowly open needle valve (turn counterclockwise) past the point of smoothest operation, until engine just begins to run unevenly. This mixture should be rich enough for best performance under load.
4. Hold throttle in idling position. Turn idle speed adjusting screw until fast idle is obtained. (1750 RPM).

Test the engine under full load. If engine tends to stall or die out, it usually indicates that the mixture is slightly lean and it may be necessary to open the needle valve slightly to provide a richer mixture. This richer mixture may cause a slight unevenness in idling.

## CHOKE ENGINE

Engine equipped with Manual Choke. Move lever as illustrated.

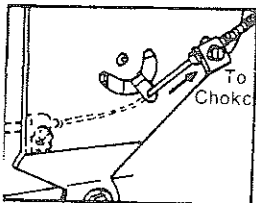
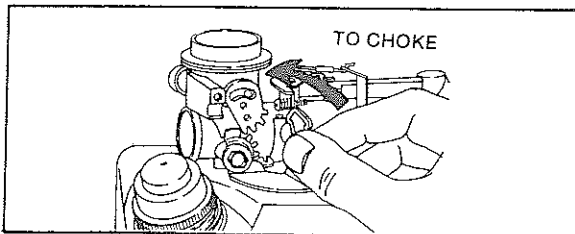


Figure 11

## TINE ADJUSTMENT

The standard tilling width is 26" with both inner and outer tine assemblies mounted. Tilling width is 14" with outer assemblies removed.

To remove outer tine assemblies from inner tine assemblies, remove pin clip from clevis pin. Slide clevis pin out and remove outer tine assembly. Extension tines provide a tilling width of up to 38".

### WARNING - DANGER

To avoid possible serious bodily injury, when performing any adjustments other than carburetor adjustment on engine, remove the spark plug wire and place the wire away from the plug to prevent accidental starting.



# ADJUSTMENTS

## CLUTCH ADJUSTMENT (See Fig. 13)

Proper clutch adjustment is very important. Minor adjustments, if needed, can be made by using the links on the clutch cable chain only. However, the friction type clutch may need further adjustment as the "V" belt stretches. Adjust as follows:

1. Remove belt guard.
2. Loosen 4 engine mount bolts. Slide engine forward or backwards as required.
3. Unhook clutch cable from load spring.
4. Push upward on idler pulley to take all slack from the drive belt. Distance between the inside of belt at the idler pulley should be between 2-7/8 and 3-1/8 of an inch.
5. Re-tighten engine mounting bolts.
6. Remove all the slack from clutch cable and hook spring in proper chain link.
7. Check your adjustment by starting the tiller and holding the tines off the ground. If the tines turn without any hand pressure on the clutch lever, the adjustment is too tight. Unhook the

clutch load, spring and hook into next chain link to lengthen clutch cable. If the cable spring on the clutch handle doesn't stretch when you hold the clutch handle all the way in, the adjustment is too loose. Unhook spring end from chain and hook next link to shorten clutch cable.

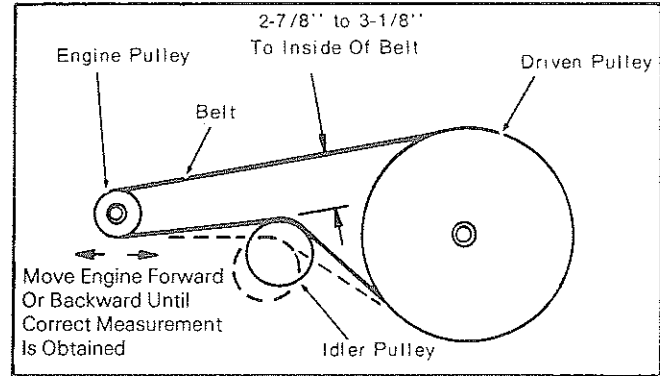


Figure 13

# MAINTENANCE

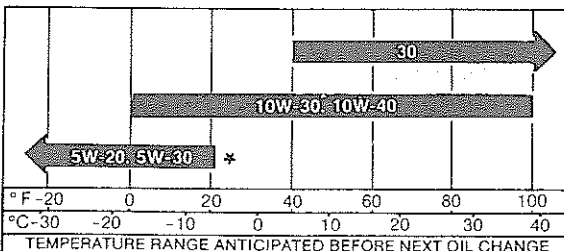
## PERIODICAL CHECK

1. Regularly check all bolts and nuts for tightness. Bolts marked "A" must be torqued to 21 ft. lbs. See Figure 10.
2. If the belt begins to bottom out on the engine pulley, then replacement of the pulley is needed. This is noticeable by the pulley "V" bottom becoming shiny.

## ENGINE OIL (See Fig. 6)

1. Check the oil level before starting the engine and after every five hours of operation. Before removing the filler plug, clean the area around it to prevent dirt from entering the oil fill hole. The engine should be in a level position when checking the oil. Remove the filler plug and fill the crankcase with oil. Use a high quality detergent oil classified "For service SC, SD, SE, or MS." In temperatures above 40 degrees F, use SAE-30. If not available, use SAE 10W-30 or SAE 10W-40. Add oil as necessary to keep oil level as indicated in Figure 6. Detergent oils keep the engine cleaner and retard the formation of gum and varnish deposits. Nothing should be added to the recommended oil.
2. Change the oil after the first five hours of operation and every 25 hours thereafter. Always change oil while the engine is warm. Oil may be drained through the oil drain on the bottom of the engine or through the oil fill hole. The oil capacity is 20 ounces.

### RECOMMENDED SAE VISCOSITY GRADES



\*If not available, a synthetic oil may be used having 5W-20, 5W-30 or 5W-40 viscosity.

## TO SERVICE AIR CLEANER

### CARTRIDGE AIR CLEANER

Clean cartridge at three month intervals or every 25 hours, whichever occurs first.

NOTE: Service more often if necessary.

1. Remove knob and cover.
2. Remove cartridge by pulling it off of the screw.
3. Clean by tapping gently on a flat surface. If very dirty, replace cartridge or clean as follows:
  - a. Wash in a low or non-sudsing detergent and warm water solution. **CAUTION: Do not use petroleum solvents such as kerosene, to clean cartridge.**
  - b. Rinse thoroughly with flowing water from inside out until water is clear.
  - c. Allow cartridge to stand and air dry **thoroughly** before using. **DO NOT OIL CARTRIDGE. DO NOT USE PRESSURIZED AIR TO CLEAN OR DRY CARTRIDGE.**
4. Install cartridge, then cover and screw knob down securely.

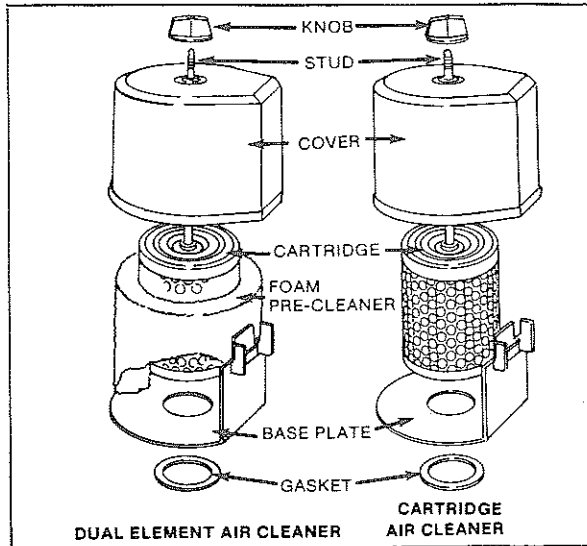
### DUAL ELEMENT AIR CLEANER (OPTIONAL ON SOME MODELS)

Clean and re-oil foam pre-cleaner at three month intervals or every 25 hours, whichever occurs first.

NOTE: Service more often under dusty conditions.

1. Remove knob and cover.
2. Remove foam pre-cleaner by sliding it off of the paper cartridge.
3.
  - a. Wash foam pre-cleaner in kerosene or liquid detergent and water.
  - b. Wrap foam pre-cleaner in cloth and squeeze dry.
  - c. Saturate foam pre-cleaner in engine oil. Squeeze to remove excess oil.

# MAINTENANCE

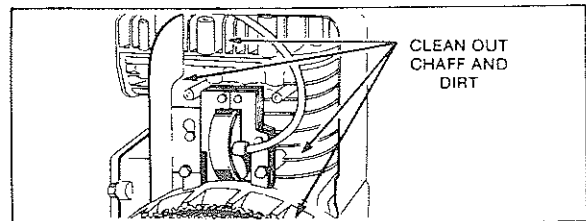


4. Install foam pre-cleaner over paper cartridge. Reassemble cover and screw down tight.

NOTE: Replace or clean cartridge included with DUAL ELEMENT AIR CLEANER yearly or every 100 hours as described in CARTRIDGE AIR CLEANER. Service more often if necessary.

## CLEAN COOLING SYSTEM

Grass, chaff or dirt may clog the rotating screen and the air cooling system, especially after prolonged service cutting dry grass. Yearly or every 100 hours, whichever occurs first, remove the blower housing and clean the areas shown to avoid overspeeding, overheating and engine damage. Clean more often if necessary.



## BELT REPLACEMENT

The drive belt is located on the left side of the machine. To replace a worn or slipping belt proceed as follows:

1. Remove belt guard.
2. Make sure clutch lever is in disengaged position.
3. Start at the top of 10 inch pulley and begin removing belt in clockwise direction (facing tiller from left side). If tension on belt is too great the idler pulley may be pulled downward to relieve pressure on belt.
4. Once belt is off 10 inch pulley remove it from smaller pulley.
5. Replace belt by reversing sequence of steps above.
6. Replace belt guard, "C" nuts, and thumb screws.

# LUBRICATION

## WHEELS

Lubricate wheels and wheel support shafts once a month or every 40 operating hours with #30 oil. Apply oil to axle and hub at back of wheel. Spin wheel to allow oil to move into bearing.

In extremely dusty conditions, wheels may become tight because of dust in bearing area. When this condition occurs, remove the wheels.

Clean axle and wheel bearing surfaces with solvent or emery cloth, then oil and reassemble.

## THROTTLE CONTROL CABLE

Lubricate control cable as necessary, with #30 oil. Apply with a saturated rag or an oil can along the outer surface of the conduit. Remove excess oil.

## CLUTCH LEVER PIVOTS

Apply a few drops of SAE 30 oil to the clutch hand lever and idler lever pivots as required to maintain a free and smooth operation of clutch.

## TRANSMISSION (See Fig. 5)

Fill transmission with machine in normal upright position. Fill plug is located on the upper right hand side. Use 90 weight gear lube or 50 weight motor oil. Capacity is approximately 16 ounces. Remove fill plug. Remove check plug. Fill until check plug hole overflows. Replace plugs.

If excessive oil leakage appears around rotor shaft, the seals and shields must be replaced.

## IDLER ARM PIVOTS

Lubricate idler arm pivots once a month or every 40 operating hours with #30 oil.

# STORAGE

## ENGINE CARE

1. If your tiller is to be stored over 30 days, the engine should be completely drained of fuel to prevent gum deposits from forming on essential carburetor parts, fuel filter, fuel lines and tank.
2. Run the engine until it stops from lack of fuel. The small amount of fuel that remains in the sump of the tank should then be removed by absorbing it with a clean dry cloth. Refer to engine literature for further engine storage procedures.

## TILLER STORAGE

At the end of the season or if tiller is to be stored for any length of time it should be washed. To make the job easier use a soft-bristled scrub brush to clean wheels and tires. A stick can be used to clean dirt from crevices. This simple procedure will keep your tiller looking like new for years to come.

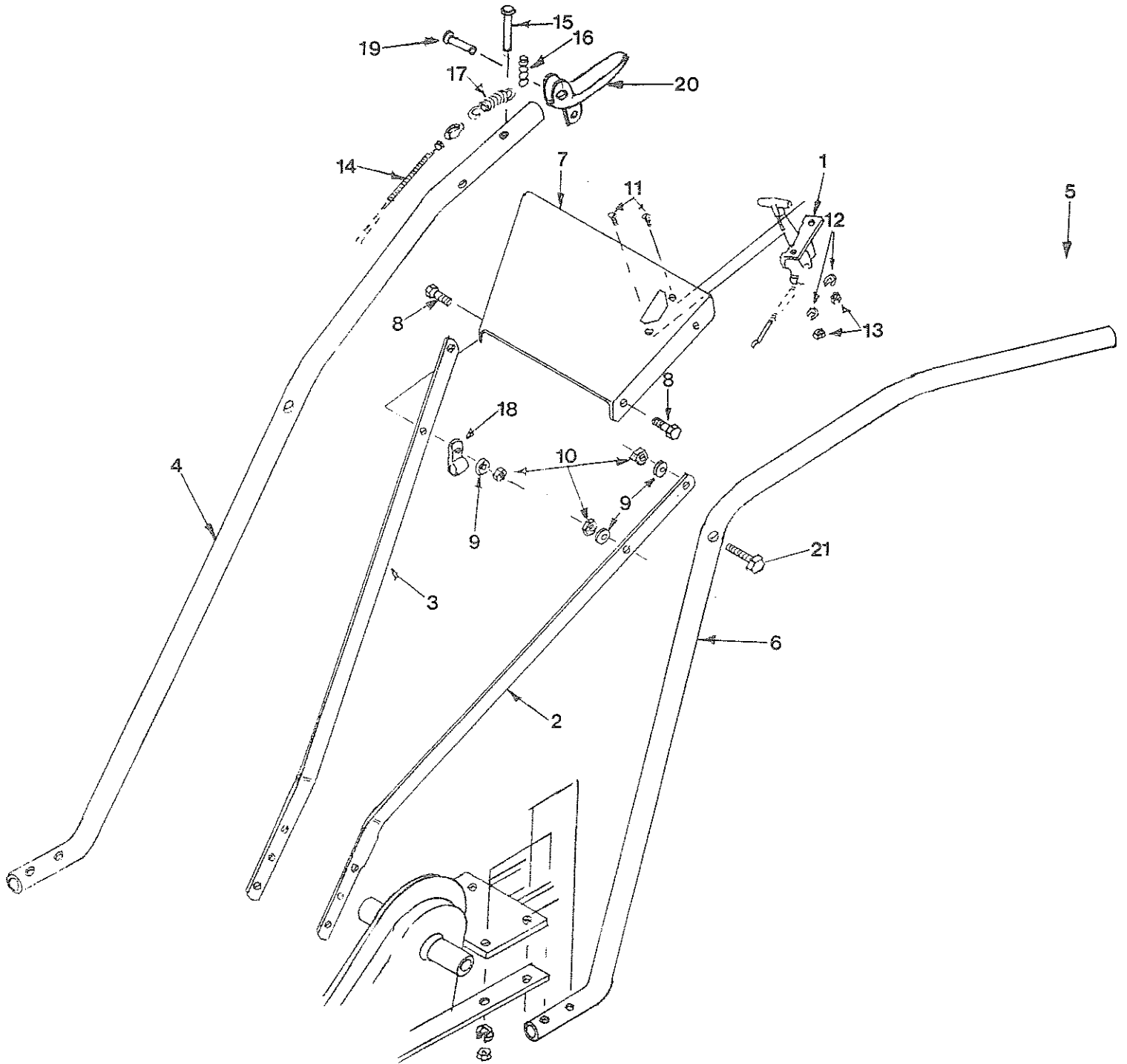
## PARTS LIST- ILLUSTRATION 1

Ref No	Part No.	Quan.	Description
1	162026	1	Throttle Control Assembly
2	336677	1	Support, L.H.
3	336676	1	Support, R.H.
4	130698	1	R.H. Handle Assembly
5	313785	2	Grip
6	130699	1	L.H. Handle Assembly
7	130731	1	Cross Brace and Silkscreen Assembly
8	400184	2	Screw, 5/16 - 18 x 3/4 Hex Hd. Cap
9	446136	4	Lockwasher 5/16 Hvy.
10	443106	4	Nut, 5/16 - 18 Hex
11	402004	2	Screw, #6 - 32 x 3/8 Slot Rd. Hd.
12	446106	2	Lockwasher, #6 Hvy.
13	444304	2	Nut, #6 - 32 Hex
14	162041	1	Cable and Chain Assembly
15	359346	1	Clutch Locking Pin
16	359359	1	Spring
17	359327	1	Spring
18	359326	1	Clip
19	359345	1	Pin
20	336683	1	Lever
21	400184	2	5/16 x 18 x 3/4 Hex Hd. Cap

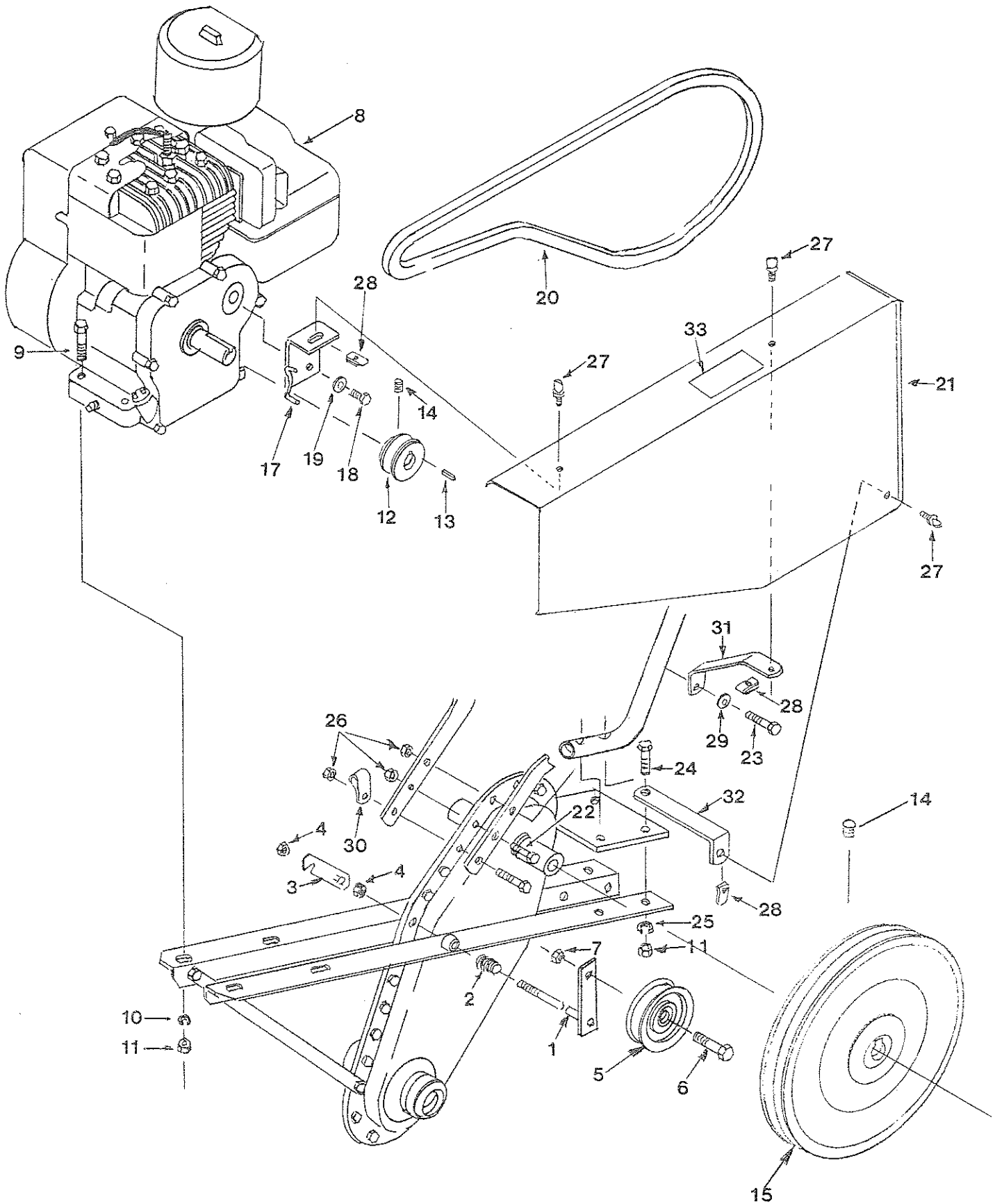
## PARTS LIST- ILLUSTRATION 2

Ref. No.	Part No.	Quan.	Description
1	162028	1	Lever Assembly
2	359324	1	Spring
3	359325	1	Lever
4	443810	2	Nut, 3/8 - 16 Hex Jam
5	359321	1	Idler
6	400265	1	Screw, 3/8 - 16 x 1-1/2 Hex Hd Cap
7	444719	1	Lock Nut, 5/16 - 18 Hex
8		1	Engine Assembly 5 H.P. B and S
9	400192	4	Screw, 5/16 - 18 x 1-1/2 Hex Hd Cap
10	446136	4	Lockwasher, 5/16 Hvy.
11	443106	8	Nut, 5/16 - 18 Hex
12	271686	1	Pulley, Crankshaft (5 H.P.)
13	359383	1	Key, Pulley Mtg.
14	415562	1	Screw, 5/16 - 18 x 5/16 Socket Hd. Cup Pt. Set
15	336672	1	Pulley
16	412015	1	Screw, 5/16 - 18 x 5/8 Sq. Hd. Cup Pt. Set
17	162035	1	Bracket Assembly
18	400235	1	Screw, 1/2" x 3/4 Hex Hd. Cap
19	446136	1	Lockwasher, 5/16 Hvy.
20	359328	1	Belt, V Drive
21	130733	1	Guard
22	400112	1	Screw, 1/4 - 20 x 1 Hex Hd. Cap
23	400114	2	Screw, 1/4 - 20 x 1-1/4 Hex Hd. Cap
24	400192	4	Screw, 5/16 - 18 x 1-1/2 Hex Hd Cap
25	446136	4	Lockwasher, 5/16 Hvy
26	445768	3	Flange Nut, 1/4 - 20 Hex Locknut
27	442706	3	Thumbscrew, 1/4 - 20 x 3/4 Shoulder
28	445245	3	Nut, 1/4 - 20 Tinnerman
29	446136	1	Lockwasher, 5/16 Hvy
30	359325	1	Clip
31	359343	1	Bracket
32	359340	1	Bracket
33	336720	1	Decal, Warning

# ILLUSTRATION 1



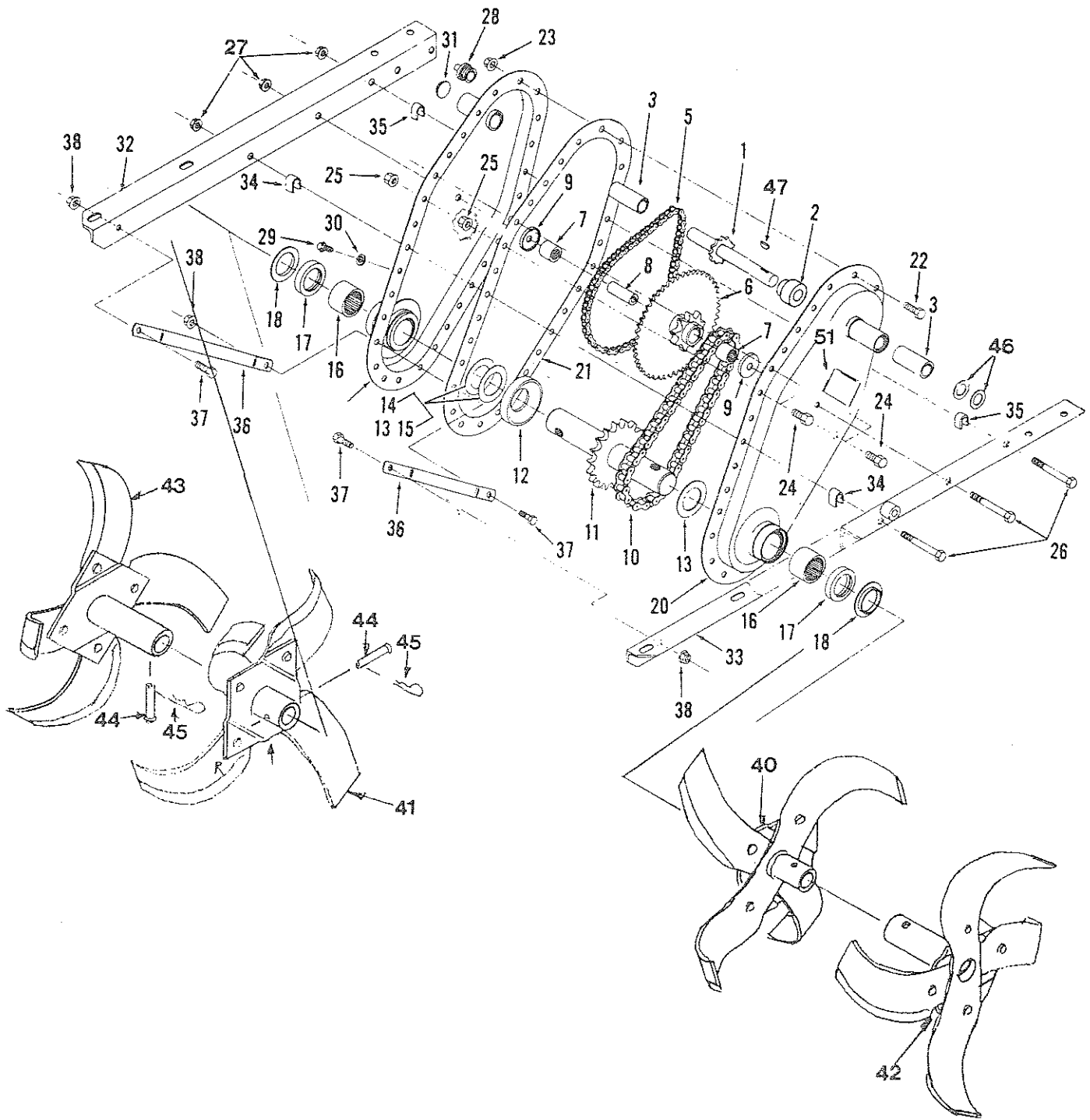
# ILLUSTRATION 2



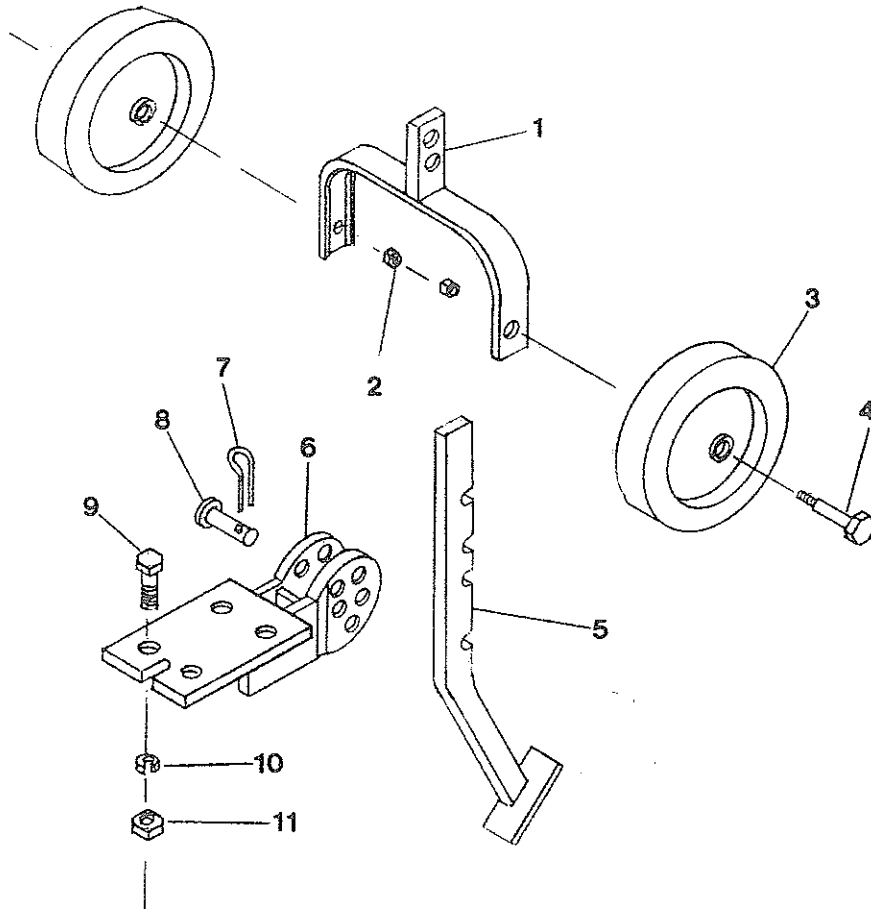
# PARTS LIST-ILLUSTRATION 3

Ref. No.	Part. No.	Quan.	Description
1	162039	1	Shaft and Sprocket Assembly
2	359350	1	Spacer
3	359293	2	Bushing
5	359295	1	Chain
6	162024	1	Sprocket Cluster Assembly
7	359297	2	Bearing, Needle
8	359298	1	Bushing
9	359299	2	Washer
10	359300	1	Chain
11	162025	1	Shaft and Sprocket Assembly
12	359303	1	Spacer
13	359313	AR	Washer
14	359314	AR	Shim, .03
15	359315	AR	Shim, .02
16	359304	2	Bearing, Needle
17	359305	2	Seal, Oil
18	359306	2	Shield
19	130696	1	R. H. Case Assembly
20	130697	1	L. H. Case Assembly
21	336674	1	Gasket
22	400104	16	Screw, 1/4 - 20 x 1/2 Hex Hd. Cap
23	445768	16	Flange Nut, 1/4 - 20 Hex
24	400180	4	Screw, 5/16 - 18 x 1/2 Hex Hd. Cap
25	445765	4	Flange nut, 5/16 - 18 Hex
26	401199	3	Screw, 5/16 - 18 x 2 1/2 Hex Hd. Cap
27	443106	3	Nut, 5/16 - 18 Hex
28	359312	1	Caplug
29	408883	1	Screw, 1/4 x 1/2 Hex Washer Hd.
30	359336	1	Washer, Rubber Seal
31	359310	1	Plug
32	336680	1	Support, R. H.
33	162027	1	L.H. Support Assembly
34	359311	2	Spacer, Front
35	359335	2	Spacer, Rear
36	359339	2	Brace
37	400108	3	Screw, 1/4-20 x 3/4 Hex Hd. Cap
38	445768	3	Flange Nut, 1/4 - 20 Hex
39	130718	1	Slasher Tine Set, Complete
40	130705	1	L.H. Inner Tine Assembly
41	130704	1	R.H. Inner Tine Assembly
42	130707	1	L.H. Outer Tine Assembly
43	130706	1	R.H. Outer Tine Assembly
44	161466	4	Pin, 3/8 x 2-1/8 Clevis
45	460312	4	Hair Pin No. 2
46	455049	2	Washer 41/64 x 3/4 Woodruff No. 9

# ILLUSTRATION 3



# ILLUSTRATION 4



## PARTS LIST – ILLUSTRATION 4

Ref. No.	Part No.,	Quan.	Description
1	162034	1	Wheel Yoke Assembly
2	443110	2	3/8 - 16 Locknut
3	162031	2	Wheel
4	359330	2	Wheel Bolt
5	336686	1	Depth Bar
6	130702	1	Rear Support Assembly
7	460312	3	Hair Pin
8	461466	3	Pin, 3/8 x 2-1/8 Clevis
9	400184	4	Screw 5/16 - 18 x 1 3/4
10	446136	4	5/16 Heavy Lockwasher
11	443106	4	Nut, 5/16 - 18 Hex



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