Ariens OWNERS MANUAL

831000 SERIES
ROTARY TILLER - 34RT

MODEL 831006 — 34" ROTARY TILLER
SERIAL NUMBER 000101 AND UP
REQUIRES REAR PTO

A MESSAGE TO THE ARIENS CUSTOMER. . .

Welcome to the world of Ariens equipment. We are pleased that you have selected Ariens and sincerely believe you have purchased the best equipment available. The care you give your new Ariens equipment will greatly determine the satisfaction and service life you will obtain from it. Use this manual as your guide. By observing the instructions and suggestions in this manual your Ariens equipment will serve you well for many years.

Your Ariens dealer will be happy to supply any service or advice which may be required to keep your Ariens equipment operating at peak efficiency. He stocks genuine Ariens parts and lubricants; manufactured with the same precision and skill as the original equipment. His factory trained staff is kept well informed on the best methods of servicing Ariens equipment and is ready and able to serve you.

Should service be required on equipment, be prepared to supply the serviceman with the Model Number and Serial Number of the equipment as well as a full description of the trouble encountered.

Finally, your local Ariens dealer is in the best position to answer your questions and service equipment. If for some reason he is unable to satisfy your requirements, assistance is always available from the Consumer Services, Ariens Company, Brillion, Wisconsin 54110. Telephone: (414) 756-2141.

Ariens COMPANY BRILLION, WISCONSIN 54110

PART NUMBER 31792D **PRINTED IN U.S.A. 12-81**

INSTRUCTIONS FOR SAFE OPERATION

1. Know your controls and how to stop quickly. Do not operate without proper instructions. Read the Owner's Manual.
2. Do not allow children to operate the tiller; nor adults to operate it without proper instructions.
3. Keep children and pets a safe distance away.
4. Before tilling, check and remove sticks, stones, or any other debris from area to be tilled. This will prevent possible tiller damage and eliminate the possibility of tines picking up and throwing debris.
5. Never allow anyone near tiller while it is in operation.
6. Observe all decals.
7. Keep all shields in place. Beware of rotating parts.
8. Always till slowly over rough ground and on hillsides. Till at speeds slow enough to insure your safety. Be alert for holes, ditches, and other irregularities that may cause the tractor to overturn.
9. Do not stop or start suddenly when going up or down hill.
10. Avoid steep hillside operation which could cause the tractor to overturn. Reduce speed when turning so that there is no danger of the tractor overturning.
11. Always look behind you when backing up.
12. Do not back up with tiller engaged. Raise tiller to transport position before backing up or turning sharply.
13. Stop the tiller after striking a solid object. Inspect the tiller for damage and make necessary repairs prior to restarting and operating.
14. Always maintain the tiller equipment properly. Check all fasteners, guards, and parts frequently. Built-in safety features are effective only if maintained.
15. Handle gasoline with care. It is highly flammable. Never add gasoline to a running or hot engine. Wipe up spilled gasoline. Do not run or fill engine indoors. Exhaust fumes are dangerous.
16. When the tractor is parked, stored, or left unattended, always lower the tiller so that it is resting on the ground or floor. If left in a rasied position, the lift lever could accidentally be moved causing the tiller to fall and injure someone.
17. Never attempt to make any adjustment while engine is running. Disengage the tiller clutch. Stop the engine, set parking brake and remove the ignition key.
18. Keep hands, feet and clothing away from tines. Loose clothing can become tangled in moving parts and/or controls, resulting in personal injury.
19. Do not clear tine area without disengaging tiller, stopping tractor engines and setting parking brake.
20. Add Front Weight according to instructions in "INSTALLATION" section of this manual.
21. Tractor control depends on proper use of Lift Lever, speed, and tiller depth settings. See "WARNING" in "OPERATION" section of this manual.

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INSTALLATION

NOTE: THE DESIGNATIONS "LEFT", "RIGHT", "FRONT" AND "REAR" RELATE TO THE TRACTOR AND ROTARY TILLER FROM THE OPERATOR'S POSITION.

1. Lower the mounting stands with tiller on solid ground or floor as shown in Figure 2.

2. Engage Tiller Clutch Lever, Figures 10 and 11.

CAUTION: IF TILLER CLUTCH LEVER IS NOT ENGAGED WHEN BACKING UP TO UNIT, DRAW PLATE ON TRACTOR WILL DAMAGE IDLER. SEE FIGURE 1.

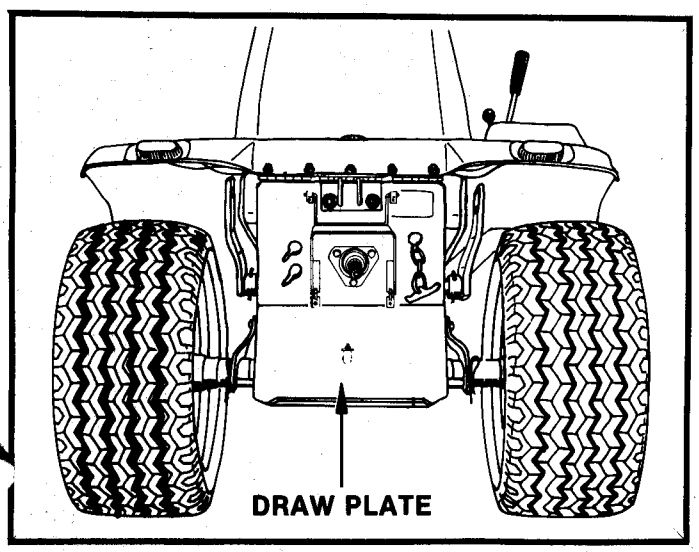


FIGURE 1

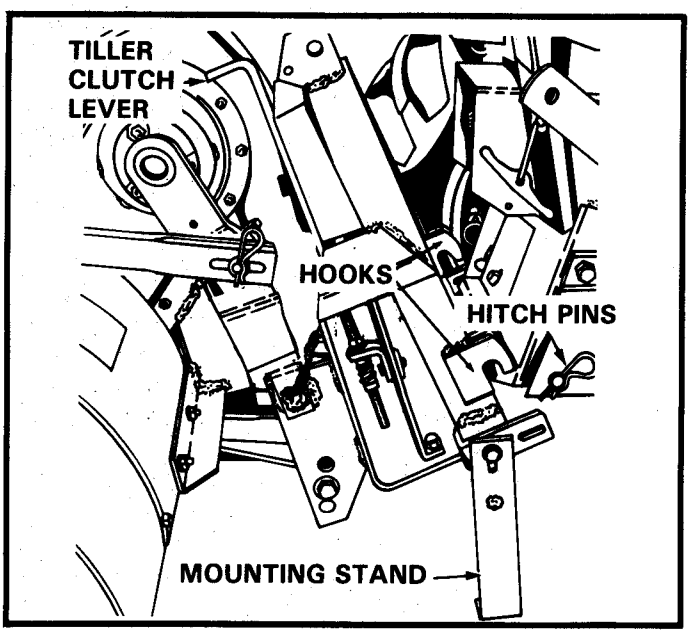


FIGURE 2

3. Slowly back the tractor up to the tiller, being careful to align the hitch pins with the tiller attaching hooks, Figures 2 and 3. Continue backing the tractor until the hooks are secured to the tractor hitch pins and the mounting stands have been forced forward as shown in Figure 3.

NOTE: THE ATTACHING HOOKS MUST BE HIGH ENOUGH TO CLEAR THE TRACTOR HITCH PINS. IF HOOKS DO NOT CLEAR THE PINS WHEN TRACTOR IS BACKED UP, LOOSEN BOLTS "C", FIGURE 3, EACH SIDE AND MOVE THE MOUNTING STANDS DOWN IN THE SLOTTED HOLES AS REQUIRED. TIGHTEN BOLTS "C".

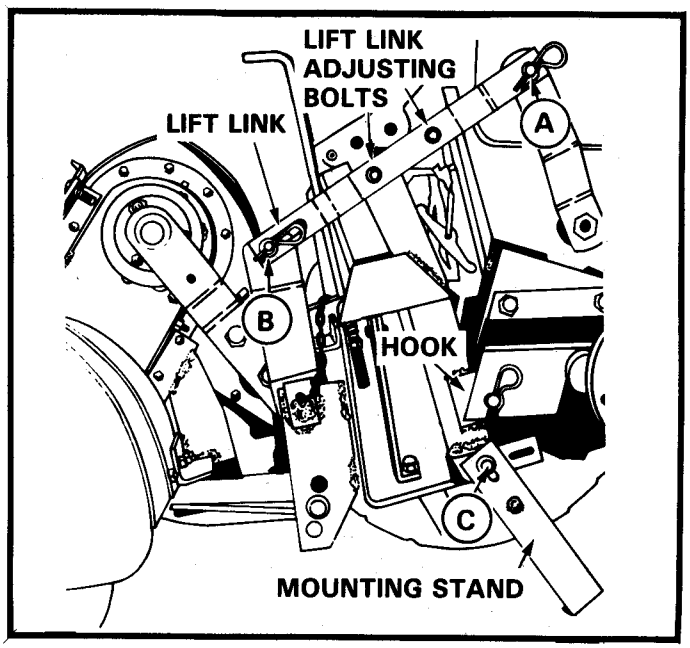


FIGURE 3

4. Start the tractor and move the Lift Lever to the down position until the rock shaft arms are completely lowered. Attach lift link to the right hand tractor rock shaft arm with a drilled rivet and hairpin cotter at "A", Figure 3. Secure lift link to the lift link support with a clevis pin, two flat washers and hairpin cotter at "B". Install flat washers over the slotted holes as shown.

5. Place a small block of wood or similar object between the lift link support and the stop on the tiller frame, Figure 4. With the block used to aid in attaching the top of tiller mounting frame to the tractor, raise the tiller with the Lift Lever until the clevis pin can be installed at "A", Figure 4. Secure clevis pin with a hairpin cotter as shown. Move the Lift Lever to the down position and remove the block used to help raise the attachment.

6. Rotate the mounting stands completely forward as shown in Figure 4 and engage the locking pins in the slots provided in the mounting stand brackets.

7. Disengage tiller Clutch Lever. Install belts and Rear PTO drive sheave on Rear PTO shaft using the appropriate number of Spacers (30029) to obtain belt alignment. See Figures 6 and 7.

INSTALLATION

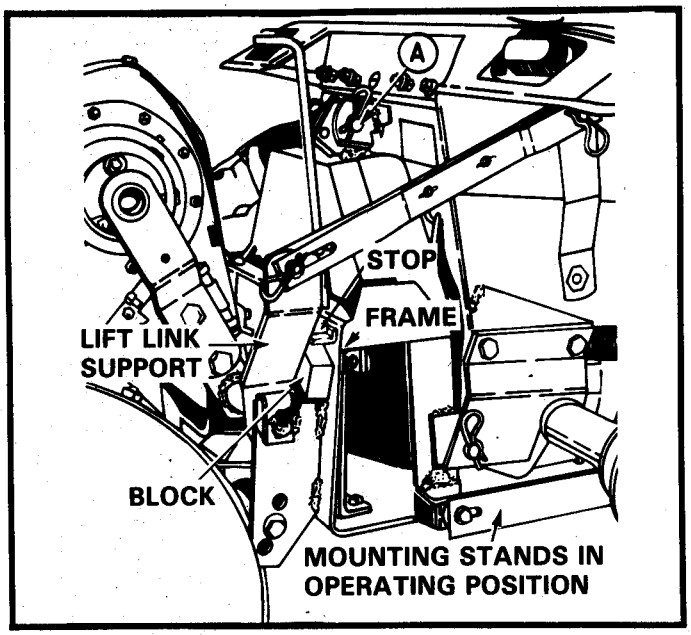


FIGURE 4

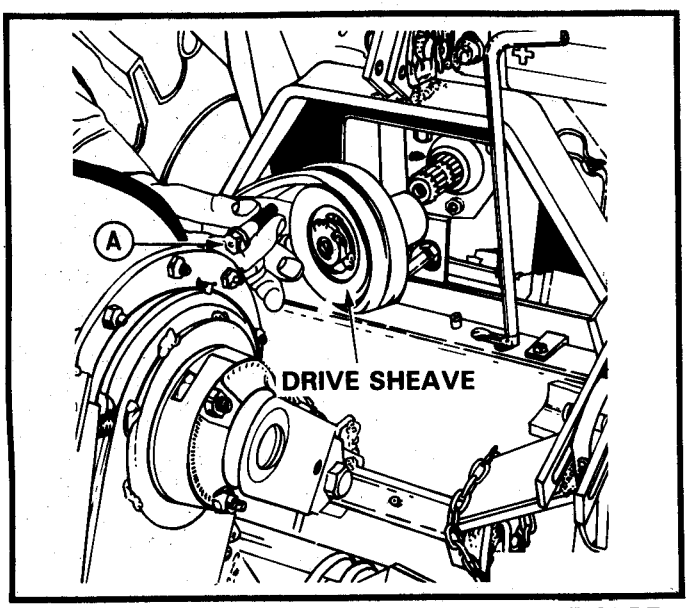


FIGURE 5

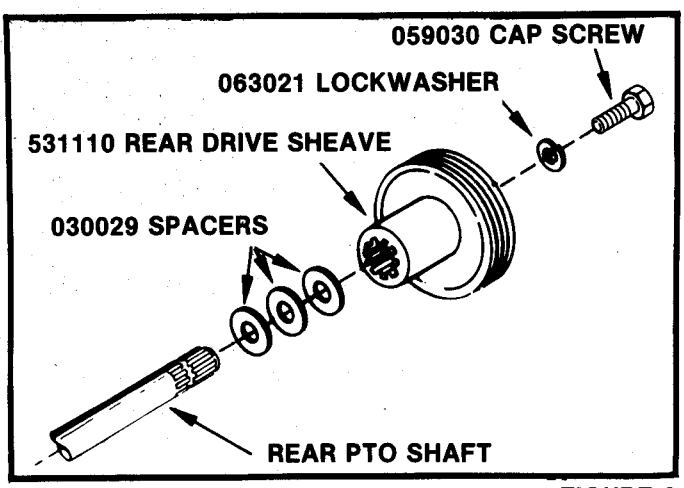


FIGURE 6

8. Engage Tiller Clutch Lever, Figures 10 and 11, and check belt alignment of the drive and driven sheaves as shown by the straight line "B" in Figure 7. The sheaves must be in alignment. If adjustment is needed align as follows:

9. Note the amount of misalignment. Remove the Rear PTO drive sheave and add or remove the Spacers (30029) to obtain alignment. Each spacer will adjust sheave by approximately 1/16 inch. Secure in place with Cap Screw (59030) (3/8-16 x 2-1/4) and Lockwasher (63021).

10. If alignment still cannot be obtained loosen the two setscrews in the driven sheave, Figure 7. Slide driven sheave in or out to align and secure in position.

11. Re-check the sheave and idler alignment, Figure 7, to assure that the drive belts will run straight in the sheaves and idler is centered on belts.

NOTE: TILLER CLUTCH LEVER MUST BE ENGAGED TO CHECK BELT ALIGNMENT.

12. The idler force spring on the tiller Clutch Lever must not be compressed flat when engaged. Excessive idler force will cause idler arm deflection and decrease belt life.

13. Secure belt shield to top of tiller frame with the 5/16" x 1-1/4" clevis pin and hair pin cotter provided.

14. After tiller is completely assembled and installed on the tractor, raise the tiller to the highest position with the Lift Lever. The lift link support should just clear the stop on the frame (approximately 1/16"). Refer to Figure 4. Support tiller securely. Loosen adjustment bolts. Lower the lift arms until the lift link can be adjusted the amount needed to set the proper clearance and tighten bolts securely.

15. Adjust belt fingers as described in "MAINTENANCE" section.

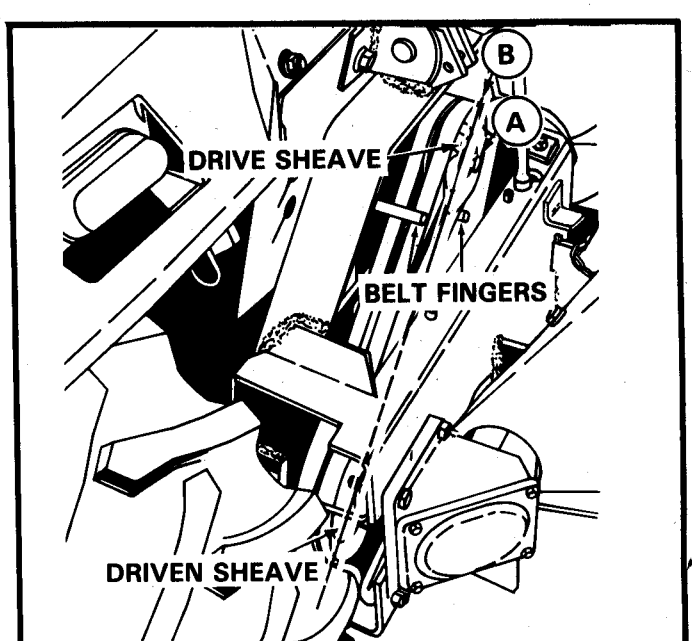


FIGURE 7

REMOVAL

1. Before attempting to remove tiller be sure unit is on a level, solid surface.

2. Place a small block or similar object between the lift link support and the stop on the tiller frame, Figure 4. With the block used to aid in removing the top of tiller mounting frame from the tractor, raise the tiller with the Lift Lever until the clevis pin can be removed at "A", Figure 4. Remove clevis pin and hairpin cotter as shown. Move the Lift Lever to the down position and remove the block used to help raise the attachment.

3. Turn engine off. Disconnect the lift link from tractor rock shaft arm at "A", Figure 3.

4. Remove the drive sheave, Figure 5.

5. Rotate the mounting stands down, Figure 2, start engine and slowly drive the tractor forward. The mounting stands will cause the tiller to raise, disengage the hooks from the tractor hitch pins.

6. On models with PTO shield cover, position shield to enclose the PTO shaft. Secure PTO shield as shown in Figure 8.

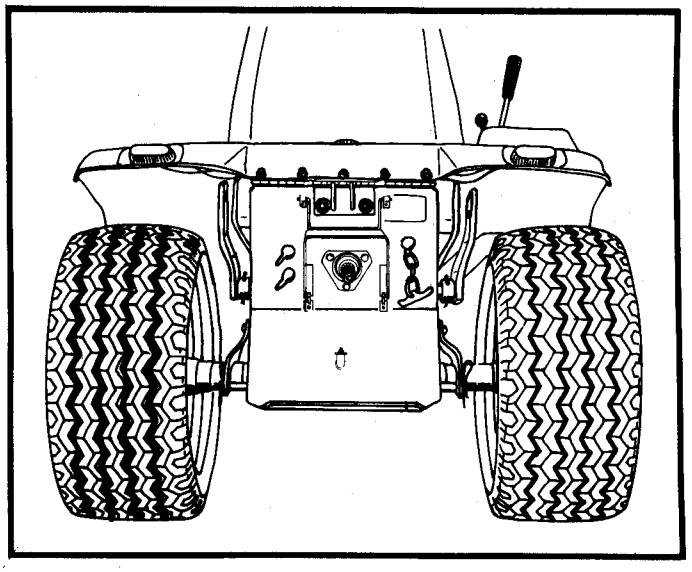


FIGURE 8

CONTROLS

(A) IMPLEMENT POWER CONTROL SWITCH — FIGURE 9

Pull the switch out ("ON") to engage the Rear PTO clutch to drive the tiller.

NOTE: ON MODELS 931019, 931024 AND 931026, THERE ARE TWO SWITCHES, ONE FOR THE ELECTRIC CLUTCHED REAR PTO. THE PTO IS ENGAGED WHEN THE REAR IMPLEMENT POWER SWITCH IS PULLED OUT. USE CAUTION WHEN PTO IS ENGAGED TO AVOID INJURY FROM PTO SHAFT.

CAUTION: DO NOT BACK UP WHEN TILLING. DISENGAGE POWER TO THE REAR PTO AND TILLER BY PUSHING IMPLEMENT POWER CONTROL SWITCH IN ("OFF"). DISENGAGE REAR PTO AND TILLER BEFORE CLEARING TINE AREA OF DEBRIS OR BEFORE ATTEMPTING ANY MAINTENANCE OR ADJUSTMENTS.

(B) IMPLEMENT POWER INDICATOR LIGHT — FIGURE 9

This light glows red when either of the Implement Power Control Switches (A) is pulled out to indicate that an attachment is engaged.

(C) THROTTLE LEVER — FIGURE 9

Raise the Lever to increase engine speed. Lower the Lever to decrease engine speed. Throttle should be set at "FAST" position when using tiller.

(D) IGNITION SWITCH — FIGURE 9

Turn the key fully clockwise to start the engine and release when the engine starts. Turn the key counterclockwise to stop the engine.

(E) CHOKE CONTROL — FIGURE 9

Pull Choke Control out when attempting to start a cold engine or when starting during cold weather. When engine starts, gradually push choke in. Normally, it is not necessary to use the choke when starting a warm engine.

(F) LIGHT SWITCH — FIGURE 9

Pull the switch out to turn on the front and rear lights. The ignition key must be turned on before the lights work.

(G) SEAT INTERLOCK SWITCH — FIGURE 9

This switch, located in the seat, is actuated by the operators weight. If the operator leaves the seat for any reason while the PTO is "ON" or the Shift Lever is not in "PARK/START" the PTO clutch and engine ignition are both shut off. When the PTO is "OFF" and the Shift Lever is in "PARK/START" leaving the seat will not cause the engine to stop.

(H) HYDRAULIC LIFT CONTROL LEVER — FIGURE 9

This Lever controls the hydraulic system used to raise and lower attachments. The lever has four positions — "UP", "HOLD", "DOWN", and "FLOAT". The normal out-of-use position is the "HOLD" position. In this position the attachment will not raise or lower. When it is desired to raise the implement, move the

lever to the "UP" position; to lower the attachment move the lever to the "DOWN" position. When tilling place the lever in the "FLOAT" position to allow the attachment to follow the ground contours.

NOTE: WHEN BACKING UP OR TURNING SHARPLY RAISE THE TILLER ATTACHMENT BY MOVING THE LEVER TO THE "UP" POSITION.

(J) HYDROSTATIC CONTROL LEVER — FIGURE 9

This Lever regulates both tractor speed and direction. Move the Lever, forward from "NEUTRAL" (N) to increase the forward travel speed. Move the Lever rearward to back the tractor and regulate reverse speed.

NOTE: THIS LEVER MUST BE PLACED IN THE "PARK/START" POSITION BEFORE ENGINE WILL START OR TO ALLOW ENGINE TO KEEP RUNNING WHEN OPERATOR GETS OFF SEAT. DO NOT MOVE CONTROL LEVER FROM "PARK/START" POSITION UNLESS ENGINE IS RUNNING.

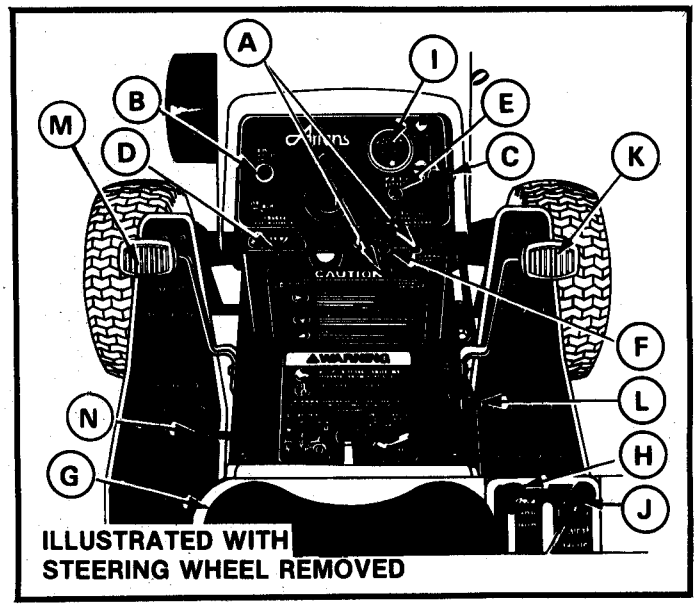


FIGURE 9

(K) BRAKE PEDAL — FIGURE 9

When this pedal is depressed, with the Control Lever in "NEUTRAL" position, the friction brakes will be applied to stop the tractor. DEPRESS THE NEUTRALIZER PEDAL OR RETURN THE HYDROSTATIC CONTROL LEVER TO "NEUTRAL" (N) BEFORE ATTEMPTING TO USE BRAKE PEDAL.

(L) PARKING BRAKE — FIGURE 9

The Parking Brake is a latch that locks the Brake Pedal. To apply the Parking Brake, depress the Brake Pedal, flip up the Parking Brake Latch (L). To disengage the Parking Brake, depress the Brake Pedal and push down the latch.

(M) NEUTRALIZER PEDAL — FIGURE 9

When this Pedal is fully depressed the Hydrostatic Control Lever (J) will return to "NEUTRAL" (N) and the forwad or reverse motion of the tractor will stop (if linkage is properly adjusted). KEEP FOOT OFF PEDAL DURING NORMAL OPERATION OR WHEN MOVING THE HYDROSTATIC CONTROL LEVER. The Pedal is an optional control for slowing down or stopping. Use of the Pedal and Hydrostatic Control Lever simultaneously can result in mis-adjusted hydrostatic linkage.

(N) LIFT SELECTOR — FIGURE 9

Connects the Hydraulic Lift to front/center or rear rock shaft. The Hydraulic Lift is used for the Tiller Attachment. Position Lift Selector in "REAR LIFT" position for tiller operation.

TILLER CLUTCH LEVER — FIGURES 10 & 11

The Tiller Clutch Lever is easily accessible from the operator's seat. To disengage the tiller, pull Lever up to the right, Figure 10, and release. To engage the tiller, pull Lever up and to the left, Figure 11.

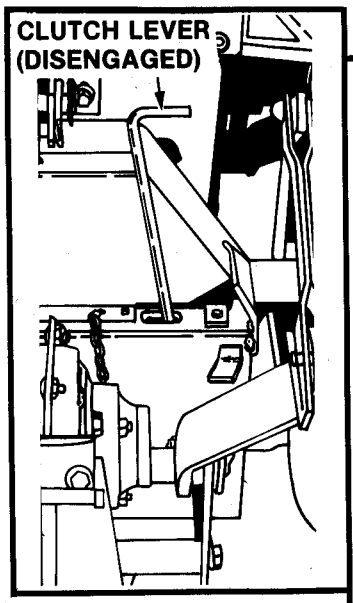


FIGURE 10

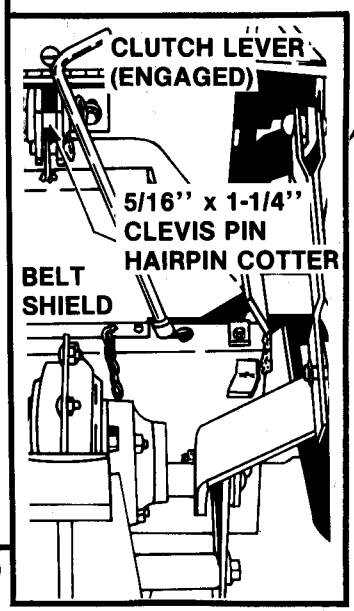


FIGURE 11

OPERATION

STARTING THE ENGINE AND TILLER

Use the following procedure to start the engine and tiller:

1. Be sure Tiller Clutch Lever is in the disengaged position, Figure 10.

2. Place the Hydrostatic Control Lever in "PARK/START" or the Control Lever (Gear Drive Models) in "NEUTRAL" position.

NOTE: THIS IS A SAFETY FEATURE. THE ENGINE WILL NOT START UNLESS THE CONTROL LEVER IS PULLED ALL THE WAY TO THE REAR OF THE "PARK/START" SLOT OR IS IN "NEUTRAL" POSITION ON GEAR DRIVE MODELS.

3. Raise Throttle Lever to approximately 1/3 open position as shown in Figure 9.

4. Pull Choke Control, Figure 9, all the way out if the engine is cold. If engine is warm, little or no choke will be required.

5. Turn ignition key shown in Figure 9, clockwise all the way. Release key as soon as the engine starts and push Choke Control "IN". In extremely cold weather it may be necessary to push Choke "IN" gradually until engine warms up. If engine fails to start on the first attempt, turn key to "OFF", wait a few minutes and try again. Do not operate the starting motor continuously for more than 30 seconds at a time. ALWAYS ALLOW ENGINE TO WARM UP BEFORE APPLYING LOAD.

6. Raise tiller to transport position with the Hydraulic Lift Control.

7. Move Hydrostatic Control Lever to a foward position and drive tractor to the area to be tilled.

8. Pull Tiller Clutch Lever, Figure 11, up and to the left to engage the tiller drive.

9. Raise Throttle Lever until full engine speed is reached.

10. With the Hydraulic Lift Lever, Figure 9, lower tiller to operating depth. Use "FLOAT" position for tilling.

11. Move Hydrostatic Control Lever partially forward to operate at a slow ground speed.

STOPPING THE ENGINE AND TILLER

Always use the following procedure to stop the engine and tiller:

1. Move Hydraulic Lift Lever to raise the tiller to a transport position.

2. Disengage the Tiller Clutch Lever or Rear PTO switch if so equipped. Be sure the tines have stopped rotating.

3. Move the Hydrostatic Control Lever to "PARK/START" or "NEUTRAL" position.

4. Lower the tiller so it is resting on the floor or ground.

5. Lower the Throttle Lever and allow engine to idle for a short period before turning it off.

6. Turn the ignition key counter-clockwise to stop engine.

IMPORTANT: REMOVE IGNITION KEY BEFORE DISMOUNTING FROM TRACTOR. THIS WILL PREVENT CHILDREN AND INEXPERIENCED OPERATORS FROM STARTING THE TRACTOR.

OPERATING TIPS

Tilling methods vary depending upon individual requirements, soil conditions, and the shape and contour of the area to be tilled.

Always operate tractor at full throttle to meet power requirements and to obtain proper engine cooling. Select a slow travel speed to obtain maximum soil pulverization.

Never back the tractor or make sharp turns when tines are in the soil or leveler blade is down. This could result in extensive damage to the tiller.

The tiller tends to propel the tractor forward. Travel slowly. Be prepared to disengage the Tiller Clutch Lever and stop the tractor quickly.

Do not till wet or extremely moist soil. Wet soil tends to "ball up" and cake, making tilling difficult.

Tall grass or weeds should be cut, defoliated or burned before tilling.

When tilling sod or hard ground, make the first pass with the tiller adjusted to a shallow depth. Increae the depth after each pass over the area.

IMPORTANT: RAISE TILLER OUT OF THE SOIL WHEN MAKING TURNS TO PREVENT DAMAGE TO THE CHAIN CASE OR PIVOT.

TINE EXTENSION

Install the optional 8" tine extension (included with tiller) on the side of the tiller best suited to meet the individual requirement. When tilling around citrus trees, bushy shrubs, etc., the extension should be mounted on the right hand side of the tiller to permit the closest cultivation. When tilling row crops, it is normally desirable to install the extension on the left side of the tiller. Maximum cutting width can be obtained by installing the optional 8" extension. This will increase the width to 42". Use of two tine extensions (42" width) is not recommended on the 10 HP tractor models.

IMPORTANT: THE EXTENSIONS ARE DESIGNED FOR CULTIVATING AT SHALLOW DEPTHS IN SOFT SOIL CONDITIONS. WHEN TILLING AT DEEPER DEPTHS OR IN HARD SOIL CONDITIONS, REMOVE THE EXTENSIONS TO AVOID DAMAGE TO THE CHAIN CASE.

The leveler blades, Figure 15, should be lowered as shown when tilling to produce a finer tilth and more level seed bed. When

cultivating, raise the leveler blade and secure with the latch located on the rear of the chain case. This will provide coarser mulching and quicker soil release which is usually desirable when cultivating.

Add one or two wheel weights per rear wheel to increase stability when operating on sloping or hilly ground or if the tiller tends to propel the tractor forward. If using turf tires, it may be desirable to add tire chains to provide adequate traction.

TINE EXTENSION INSTALLATION

The basic tiller has a cutting width of 26''. An 8'' tine extension is included with the tiller to increase the cutting width to 34''. The extension is interchangeable and may be installed on either the right or left side of the tiller, depending upon the individual requirements. An optional extension may also be installed on the side opposite from the standard extension to increase the cutting width to 42''. The same procedure may be followed to install either the standard or optional extensions.

NOTE: USE OF TWO TINE EXTENSIONS (42'' WIDTH) IS NOT RECOMMENDED ON 10 HP MODELS.

NOTE: PROCEDURE FOR INSTALLING TINE EXTENSION IS THE SAME FOR EITHER SIDE OF THE TILLER WITH THE FOLLOWING EXCEPTION:

When extensions are mounted on right side of tiller, the double blades will be outermost. When extensions are installed on the left side of tiller, the single blade will be outermost.

Use the following procedure to install the tine extensions:

1. Remove bolts ''A'', Figure 12, and remove the shroud end cover.

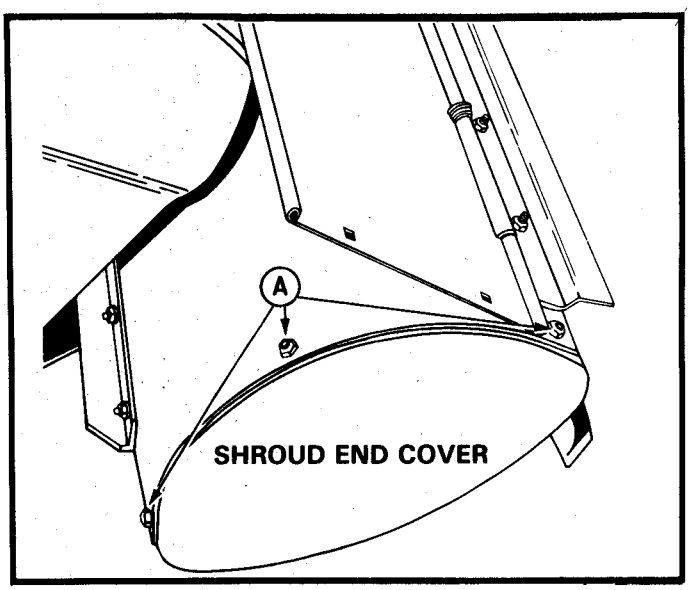


FIGURE 12

2. Install the shaft extension as shown in Figure 13. Secure at ''B'' with a drilled pin and cotter.

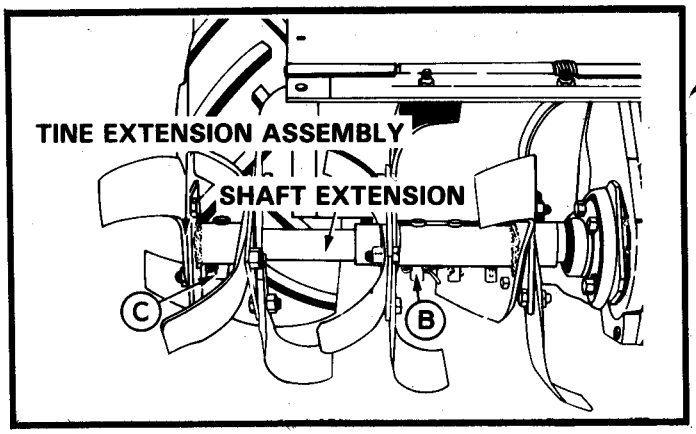


FIGURE 13

3. Secure tine extension assembly to the shaft extension with a drilled pin and cotter at ''C'', Figure 13.

4. Attach shroud extension to shroud, Figure 14. Secure with three 5/16'' x 1/2'' carriage bolts and locknuts at ''D''.

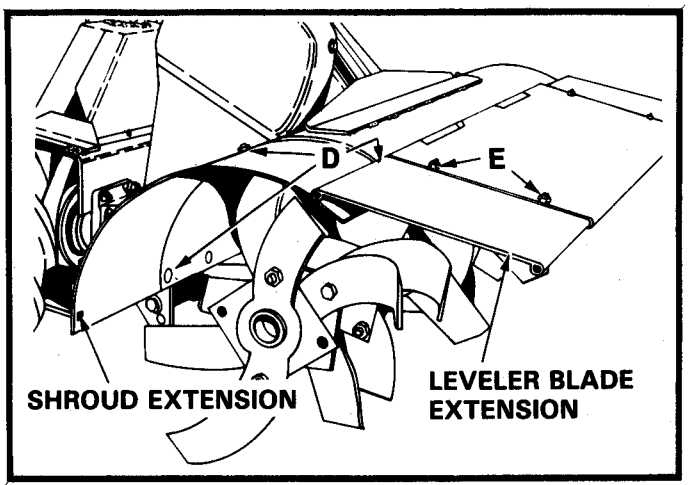


FIGURE 14

5. Attach leveler blade extension to leveler blade as shown in Figure 14. Secure with two 5/16'' x 1/2'' carriage bolts and locknuts at ''E''.

6. Attach the shroud end cover to the shroud at ''F'', Figure 15, with the three 5/16'' x 1/2'' carriage bolts and locknuts previously used.

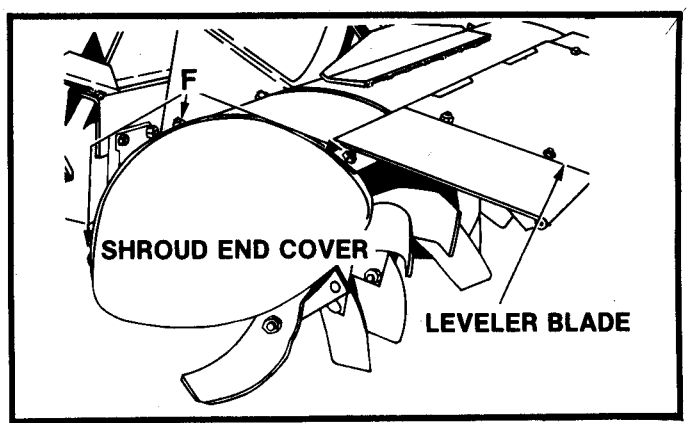


FIGURE 15

LUBRICATION

Lubricate tiller as follows; see Figure 16:

1. **Enclosed Drive Chain** — Add approximately one teaspoonful of oil every 8 hours of operation.

2. **Upper Pivot Bushing** — Grease with several strokes of a grease gun every 8 hours of operation.

3. **Lower Pivots** — Oil lightly every 8 hours of operation.

4. **Rotating Tine Pivot** — (Located under shroud). Grease with several strokes of a grease gun every 8 hours of operation.

5. **Gear Box** — (Figure 17). Pack Gear Box with Ariens Multi-Purpose Grease, Part No. 000150.

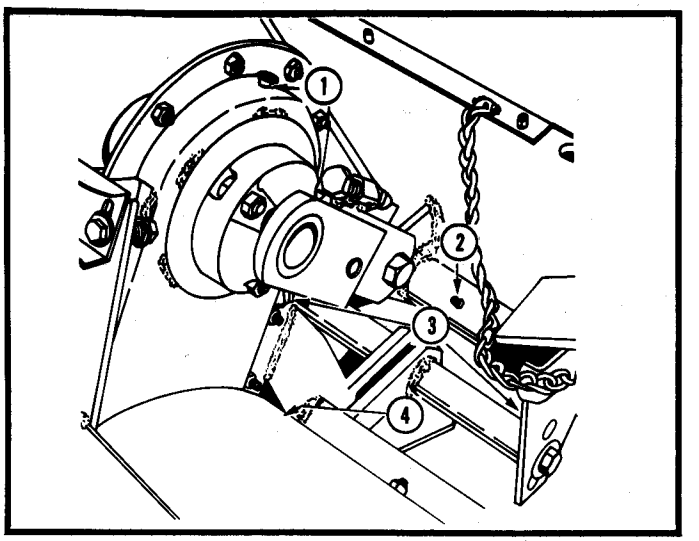


FIGURE 16

CAUTION: BEFORE PERFORMING ANY ADJUSTMENTS AND MAINTENANCE:

1. DISENGAGE THE TILLER CLUTCH LEVER, FIGURE 18.
2. PLACE THE HYDROSTATIC CONTROL LEVER IN THE "PARK/START" POSITION OR GEAR SHIFT IN "NEUTRAL" AND SET PARKING BRAKE.
3. LOWER THE TILLER UNIT UNTIL IT IS RESTING ON THE GROUND OR BLOCK THE TILLER UP SECURELY.
4. STOP THE ENGINE.
5. REMOVE THE IGNITION KEY.

BELT GUIDES

Engage the tiller Clutch Lever and measure the distance between each of the four belt guides and the drive belts, Figure 17. There should be from 3/16" to 1/4" clearance between each guide and the drive belts with the Clutch Lever engaged. Adjust clearance by loosening bolts "A, B, C, D" and moving the guides until proper clearance is obtained. Tighten the bolts securely.

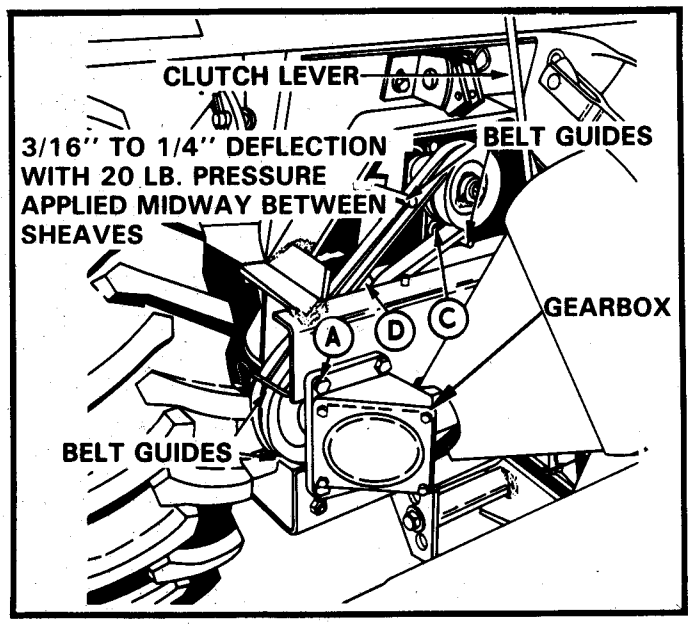


FIGURE 17

BELT TENSION

It is important that the drive belts are kept tight. If the Clutch Lever engages too easily or does not stay engaged, it will be necessary to adjust the belt tension. Proper tension is obtained when the belts deflect 3/16" to 1/4" with a 20 lb. force applied midway between the belt sheaves. (See Figure 17). Tension must be checked with the Clutch Lever engaged.

Tighten belts by loosening nut "A" and tightening nut "B", Figure 18. until proper tension is reached. After belts are tightened, lock the Clutch Lever by tightening nut "A" against the angle support. Too much idler force can cause idler arm deflection and shorten belt life.

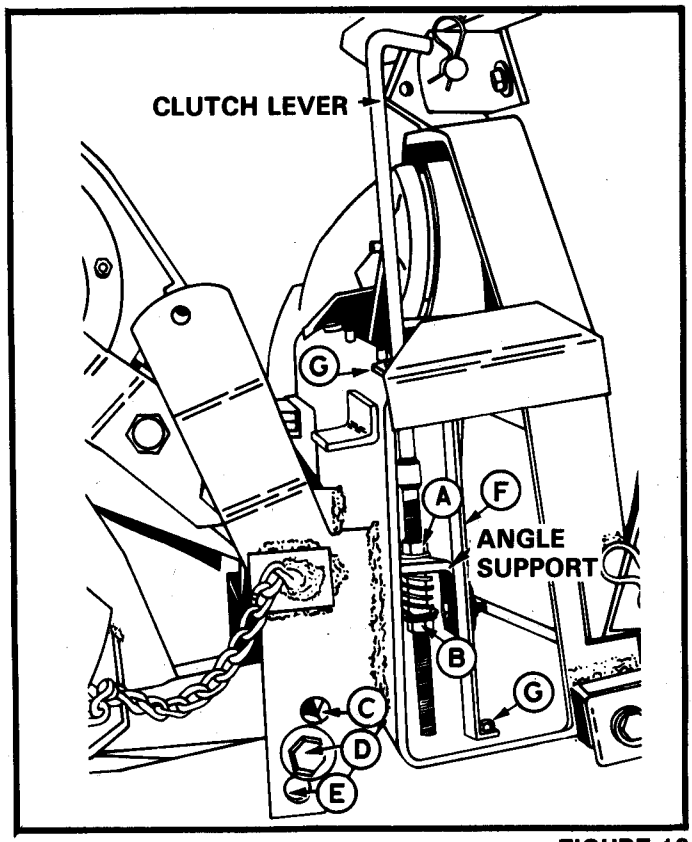


FIGURE 18

STABILIZER BRACKET ADJUSTMENT (ITEM (F))

With Clutch Lever engaged, loosen 3/8" x 1" Carriage Bolts "G" at top and bottom of mounting frame. Adjust both stabilizers together against idler bar arm. Retighten hardware. Operate Clutch Lever, idler bar arm should operate freely thru-out stabilizer bars.

TILLER AGGRESSIVENESS

The lower link of the tiller can be adjusted to any one of three positions to increase or decrease the tendency of the tiller to propel the tractor forward. The tiller is factory-assembled in the center hole "D", Figure 18. This setting is usually desirable for most tilling operations.

The top hole "C" is the most aggressive setting and is recommended for initial tilling in hard soil conditions.

The lower hole "E" is the least aggressive setting. This setting may be used when operating in soft soil conditions.

ENCLOSED DRIVE CHAIN TENSION

Use the following procedure to adjust the enclosed drive chain tension:

1. Raise tiller high enough so that the tines can be rotated.

2. Loosen Jam Nut A, Figure 19, and turn adjusting screw "in" until a slight drag is felt on the chain.

3. Move the tines back and forth by hand until chain slack or "backlash" is felt. Continue to turn the adjusting screw "in" while moving the tines until the backlash is removed and a slight drag is felt on the chain.

4. Turn the adjusting screw out approximately 1/2 turn or as necessary until the tines turn freely. Tighten Jam Nut "A" securely.

CAUTION: DO NOT OVERTIGHTEN THE CHAIN AS EXCESSIVE WEAR ON THE CHAIN AND SPROCKETS WILL RESULT.

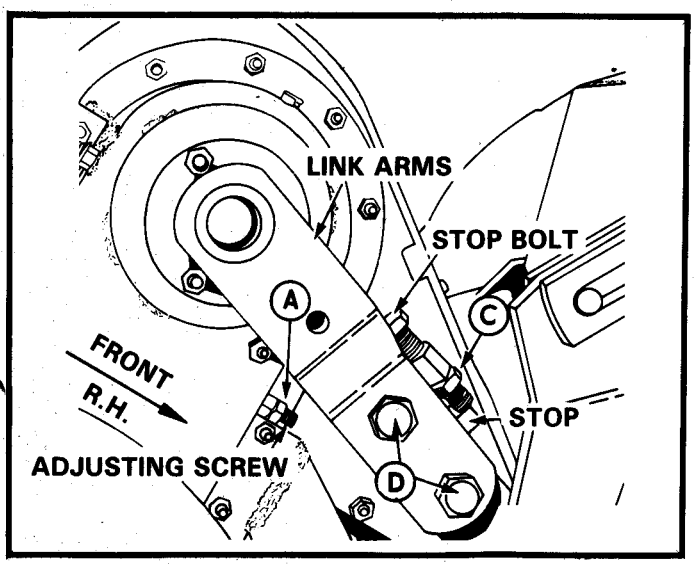


FIGURE 19

EXTERNAL DRIVE CHAIN TENSION

The external drive chain is properly adjusted when distance "B", Figure 20, is from 3/4" to 1".

Use the following procedure to adjust the drive chain.

NOTE: THE CHAIN SHIELD HAS BEEN REMOVED FOR CLARITY. IT IS NOT NECESSARY TO REMOVE THE SHIELD WHEN ADJUSTING CHAIN TENSION.

1. Loosen Jam Nut "C", Figure 19.

2. Loosen Bolts "D", Figure 19, enough so that the link arms can move up.

3. Pry link arms up until the chain pushes the curved tightener spring rod outward 3/4" to 1". See Figure 20.

4. Turn stop bolt down against the stop. Tighten Jam Nut "C" and Link Arm Bolts "D".

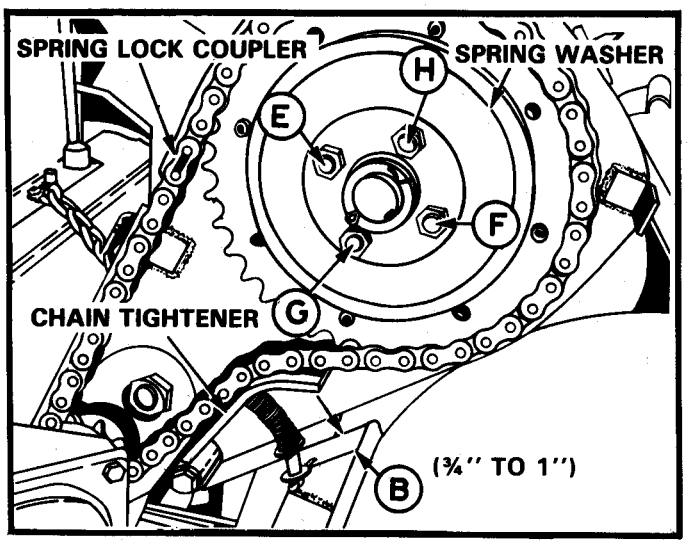


FIGURE 20

CLUTCH PRESSURE ADJUSTMENT

Before the clutch slips excessively, it is necessary to re-adjust the spring washer pressure. Use the following procedure:

1. Remove the external drive chain shield.

2. Loosen nuts E, F, G, and H", Figure 20, then tighten them finger-tight.

3. Retighten nuts a full 2-1/2 turns to provide correct spring washer pressure. The following sequence must be used to tighten nuts or improper spring washer deflection will result. Tighten nut "E, F, G, H", 1/2 turn.

Continue to tighten nuts "E, F, G, and H" in the above order until each nut is tightened 2-1/2 turns.

CAUTION: DO NOT OVERTIGHTEN! OVERTIGHTENING WILL ELIMINATE THE SLIP FEATURE OF THE CLUTCH AND WILL RESULT IN DAMAGE TO THE GEAR CASE IF THE TILLER HITS A SOLID OBJECT.

4. Replace the drive chain shield.

STORAGE

The following maintenance should be performed at the end of each tilling season to provide longer and most efficient service from the tiller.

1. Remove tiler from the tractor using the procedure outlined in this manual.

2. Thoroughly clean the tiller and remove all material which has built up under the shrouding and on the tines.

3. Remove the external drive chain and clean it thoroughly with diesel fuel. Immerse chain in clean oil, allow it to drain completely, then re-install it on the tiller. NOTE: THE CHAIN CAN EASILY BE REMOVED BY REMOVING THE CHAIN SHIELD, THEN DISCONNECTING THE CHAIN AT THE SPRING LOCK COUPLER, SEE FIGURE 20.

4. Remove rust from any exposed metal and cover the areas with paint or a light coat of oil.

5. Lubricate tiller as recommended in this manual.

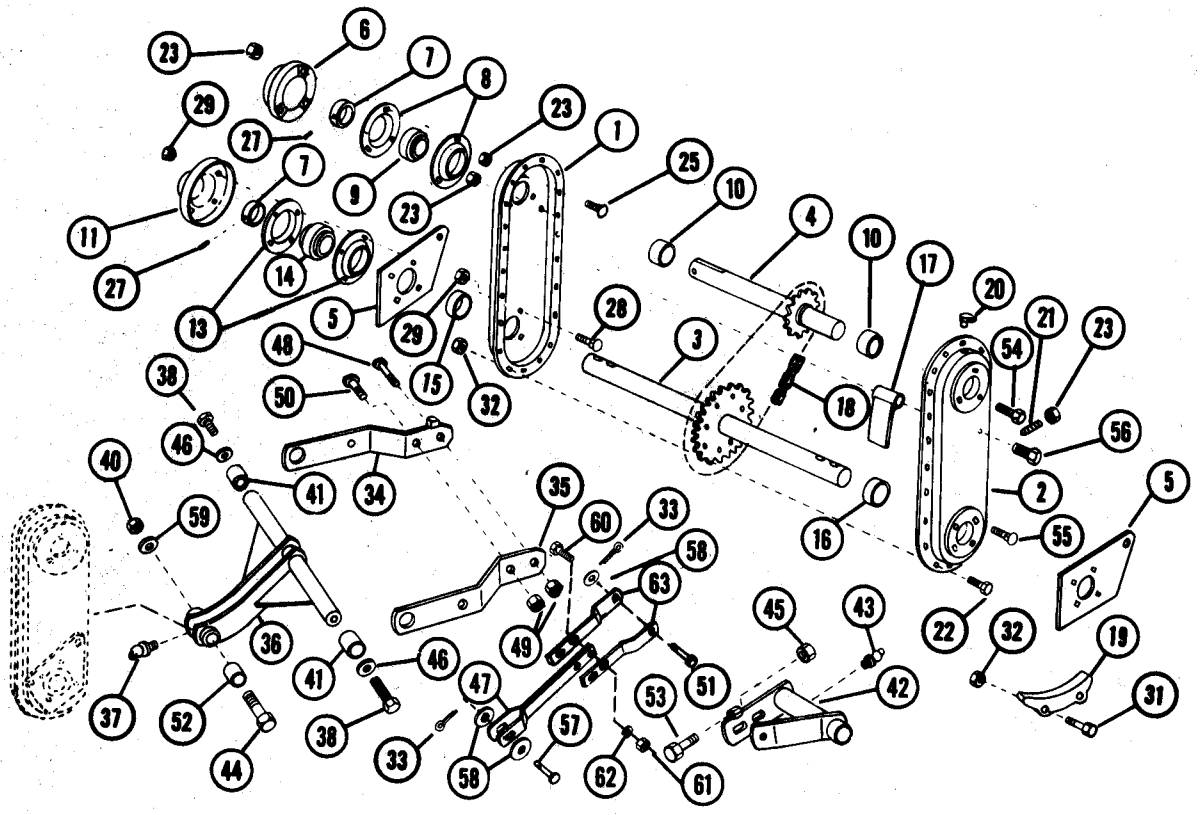
6. Lightly oil the leveler blade hinge.

7. Coat the tines with oil to prevent rusting.

8. Remove drive belts and store in a dark, dry area.

9. Store tiller in a dry place.

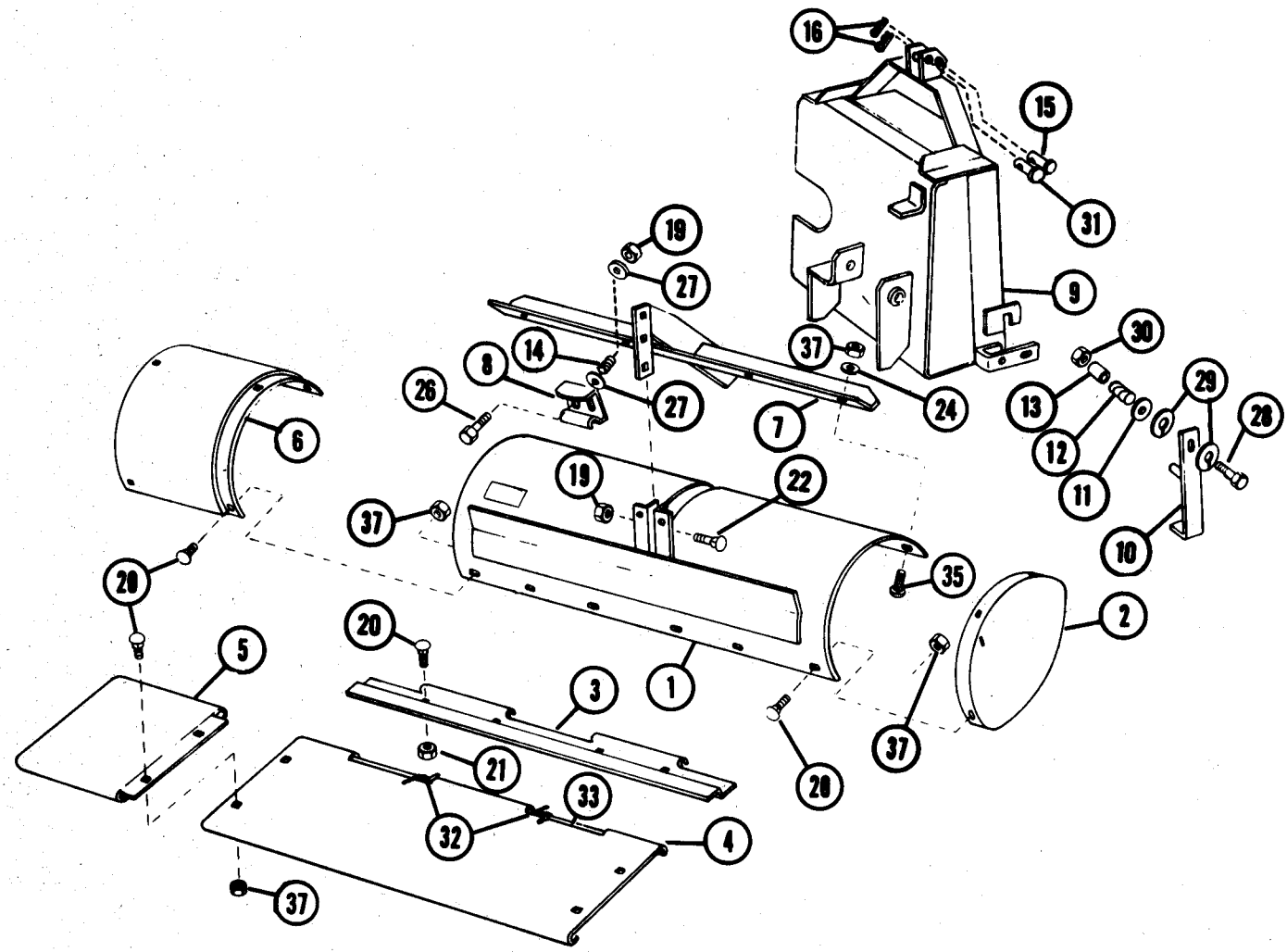
34" TILLER MODEL 831006
DRIVE CHAIN, HOUSING AND REAR LINKAGE



REF. NO.	PART NO.	DESCRIPTION	NO. REQ'D
1	031435	Chain Housing, L.H.	1
2	031434	Chain Housing, R.H.	1
3	031442	Lower Shaft Weld	1
4	031436	Upper Shaft Weld	1
5	031445	Lower Link Plate	2
6	031438	Pivot Hub	2
7	031441	Locking Collar	2
8	054116	Flangette	4
9	054115	Ball Bearing	2
10	031437	Pipe Spacer, Upper Shaft	2
11	031446	Bearing Guard Cap	2
13	054117	Flangette	4
14	054043	Ball Bearing	2
15	031443	Spacer Tine Shaft, Long	1
16	031444	Spacer Tine Shaft, Short	1
17	031440	Paddle Chain Tightener	1
18	031439	Chain RD60, 50 Links	1
19	031447	Wear Bar	2
20	031449	Oil Hole Cover	1
21	060032	Hex Socket Setscrew, 5/16" x 1-1/2"	1
22	059155	Cap Screw, Grade 5, 5/16" x 1/2"	11
23	065042	Hex Locknut, 5/16-18	14
25	062044	Carriage Bolt, 5/16" x 1-1/2"	6
27	060006	Hex Socket Setscrew, 5/16" x 1/4"	2
28	062043	Carriage Bolt, 3/8" x 1-1/2"	8
29	065039	Hex Locknut, 3/8"	16
31	059174	Cap Screw, Hex Head, 1/4" x 2", Grade 5	2
32	065070	Hex Locknut, 1/4"	24
33	067029	Hairpin Cotter	2

REF. NO.	PART NO.	DESCRIPTION	NO.REQ'D
34	031412	Upper Link Arm, L.H.	1
35	031413	Upper Link Arm, R.H.	1
36	031405	Lower Arm Weld	1
37	031406	Grease Fitting, 1/8 x 67½°	1
38	059146	Cap Screw, Hex Head, 1/2 x 1-1/4	2
40	065021	Hex Nut, 1/2	2
41	031407	Spacer	2
42	031799	Upper Link Weld Assembly	1
43	022093	Grease Fitting, ¼ Straight Self Tapping	1
44	059167	Cap Screw, Hex Head, 1/2 x 3-1/2	1
45	065017	Hex Locknut, 1/2	1
46	064144	Special Washer	1
47	031802	Lift Link	1
48	059166	Cap Screw, HH, ⅝ x 3½ UNF, Sp. Gr. 5	1
49	065002	Hex Jam Nut, 5/8	1
50	059165	Cap Screw, HH, ⅝ x 2 UNF, Sp. Gr. 5	1
51	031381	Pin	1
52	031408	Bushing	1
53	059164	Cap Screw, HH, ½ x 2½, Full Thread	1
54	059083	Cap Screw, 1/4-20 x 1 Gr. 5	4
55	062012	Carriage Bolt, 1/4-20 x 3/4	7
56	059170	Cap Screw, 5/16-18 x 2 Gr. 5	1
57	031460	Pin	1
58	064043	Washer, 3/8	3
59	064003	Washer	1
60	059005	Cap Screw, 3/8-16 x 1-1/4	2
61	065018	Nut	2
62	063004	Lockwasher	2
63	031801	Link	2

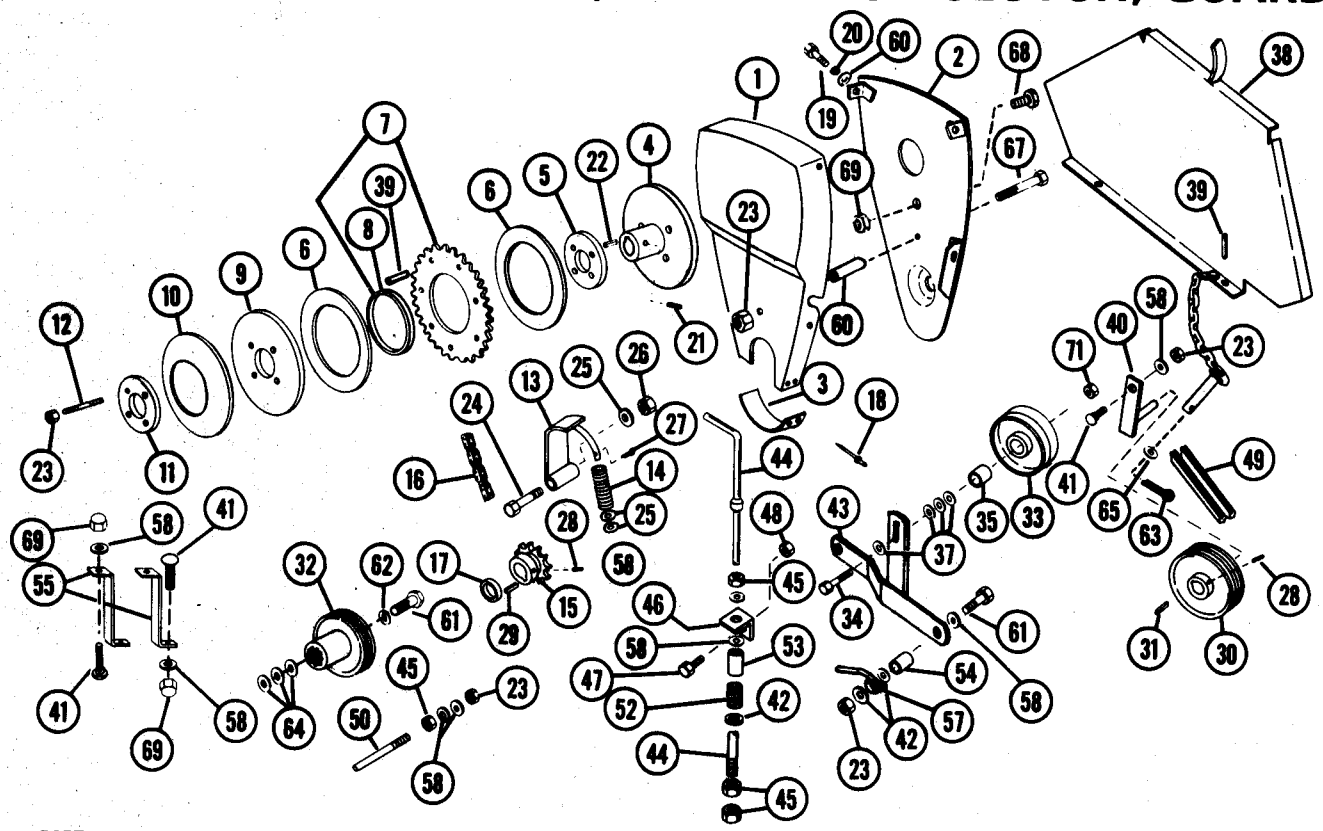
34" TILLER MODEL 831006
SHROUDING, LEVELER BLADE, TRACTOR MOUNT & KICKSTAND



REF. NO.	PART NO.	DESCRIPTION	NO. REQ'D
1	531057	Shroud	1
2	031457	Shroud End Cover	2
3	031422	Hinge Plate	1
4	031474	Leveler Blade Assembly	1
5	031456	Leveler Blade Extension	1
6	031455	Shroud Extension	1
7	031424	Shroud Brace	1
8	031425	Latch	1
9	031796	Tiller Frame	1
10	031380	Kickstand Weld	2
11	031383	Spacer	2
12	083138	Spring	2
13	031382	Spacer	2
14	083144	Spring	2
15	031385	Shield Retainer Pin	1
16	067029	Hairpin Cotter	2

REF. NO.	PART NO.	DESCRIPTION	NO. REQ'D
19	065070	Hex Locknut, ¼"	5
20	062046	Carriage Bolt, 5/16" x ¾"	19
21	065042	Hex Locknut, 5/16"	4
22	062042	Carriage Bolt, ¼" x ¾" Gr.5	3
24	064123	Plain Washer, 5/16"	4
26	059148	Cap Screw, Hex Head, ¼" x 1¾"	2
27	064127	Plain Washer, ¼"	4
28	059030	Cap Screw, 3/8-16 x 2¼" Grade 2	2
29	063021	Washer, 3/8" Lock	2
30	065018	Locknut, 3/8"-16	2
31	031391	Pin	1
32	083145	Spring	2
33	031468	Rod	2
35	062041	Carriage Bolt	4
37	065095	Crown Nut	1
38	064108	Washer, ¼"	1

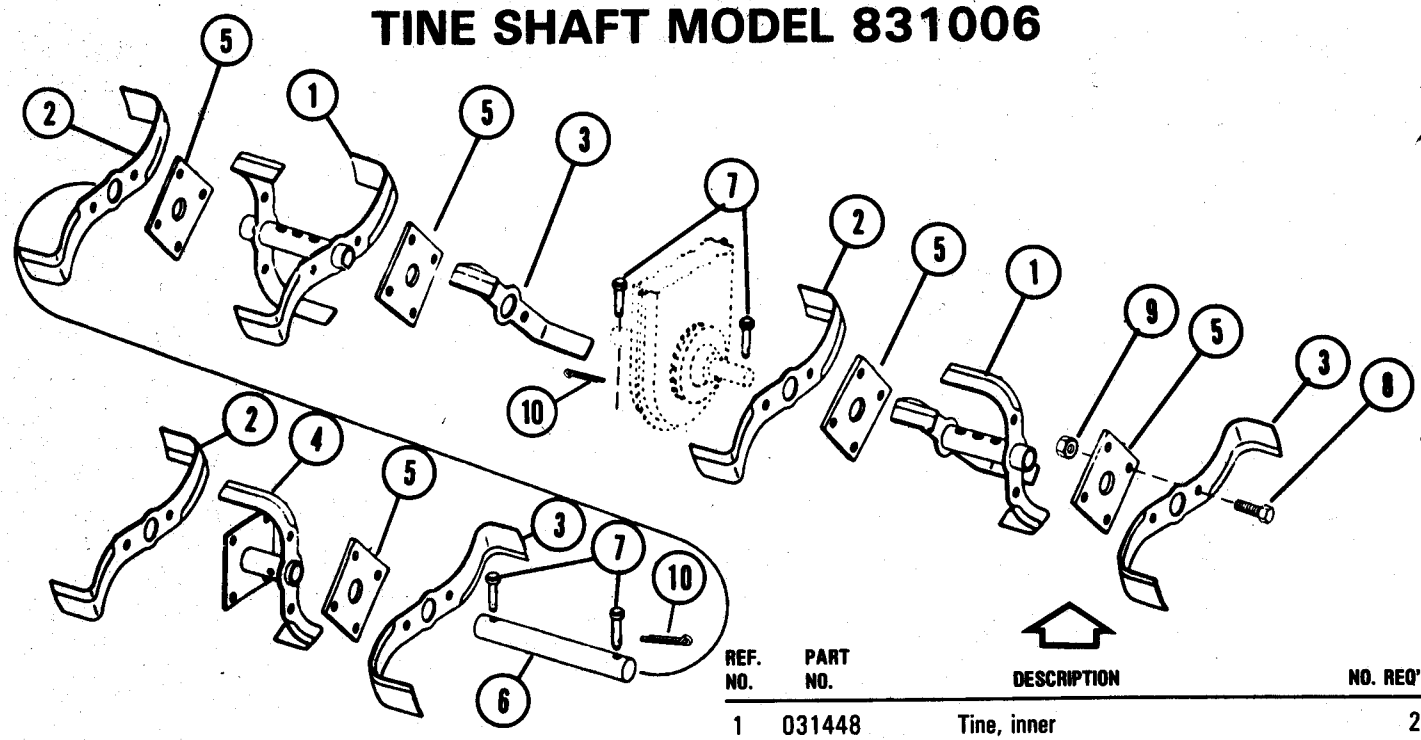
34" TILLER MODEL 831006
DRIVE SPROCKET, IDLER, THROW OUT CLUTCH, GUARD



REF. NO.	PART NO.	DESCRIPTION	NO. REQ'D
1	031417	Outer Chain Guard	1
2	031414	Inner Chain Guard	1
3	031423	Plastic Shield	1
4	031427	Hub Assembly	1
5	031428	Spacer Ring	1
6	031432	Clutch Friction Disc	2
7	631058	Sprocket	1
8	055092	Bushing	1
9	031429	Outer Disc	1
10	031430	Bellieville Washer	1
11	031431	Spring Deflector Ring	1
12	031433	Stud	4
13	031420	Chain Tightner Paddle	1
14	083143	Spring	1
15	031402	Sprocket, 10T	1
16	031404	Drive Chain	1
17	031403	Sprocket Spacer	1
18	068039	Rivet	2
19	059168	Cap Screw, HH, 5/16 x ½ Gr. 5	2
20	063003	Lockwasher, 5/16	2
21	060004	Setscrew, Hex Socket 5/16 x ¼	1
22	066018	Key, Square ¼ x 1¾	1
23	065098	Locknut, Hex 3/8	8
24	059169	Cap Screw, HH 5/16 x 2¼ Gr. 5	1
25	064123	Washer, 5/16	4
26	065042	Locknut, Hex 5/16	1
27	067024	Pin, Cotter, 1/8 x ¾	1
28	060032	Setscrew, Hex Socket 5/16 x ½	4
29	066013	Key, Square 3/16 x 1	1
30	031392	Sheave	1
31	066023	Key, Square 3/16 x 1¾	1
32	531110	Pulley, PTO	1
33	073065	Idler	1

REF. NO.	PART NO.	DESCRIPTION	NO.REQ'D
34	059144	Cap Screw, HH, ½ x 2½ Gr. 5	1
35	031395	Spacer	1
37	064003	Washer, ½	4
38	031418	Guard	1
39	058057	Roll Pin, 5/16 x ¾	3
40	031400	Belt Guide	1
41	062028	Carriage Bolt, 3/8 x 1	3
42	064145	Washer, 3/8	3
43	031386	Idler Arm	1
44	031897	Lever	1
45	065018	Nut, Hex 3/8	4
46	031396	Angle, Lever Mount	1
47	059082	Cap Screw, HH, ¼ x ¾	1
48	065070	Locknut, Hex, ¼	1
49	072105	"V" Belt (Matched Set of 2)	1
50	031401	Rod, Belt Guide	1
52	083139	Lever Spring	1
53	031397	Lever Spacer	1
54	031387	Bushing, Idler Arm	1
55	031394	Bracket, Idler	2
57	031393	Belt Finger	2
58	064008	Washer 3/8	8
59	064002	Washer 5/16	2
60	031419	Spacer	1
61	059030	Cap Screw, 3/8-16 x 2¼ Gr. 2	2
62	063004	Lockwasher, 3/8	1
63	067012	Cotter Pin	1
64	030029	Spacer	AR
65	064064	Washer, ¾ I.D. x 1-3/8 O.D. x 1/8	1
67	059160	Cap Screw, 3/8-16 x 2¾ Gr.5	1
68	061048	Machine Screw, 5/16-18 x 1 F.H.	1
69	065095	Crown Locknut, 5/16-18	3
71	065046	Locknut	1

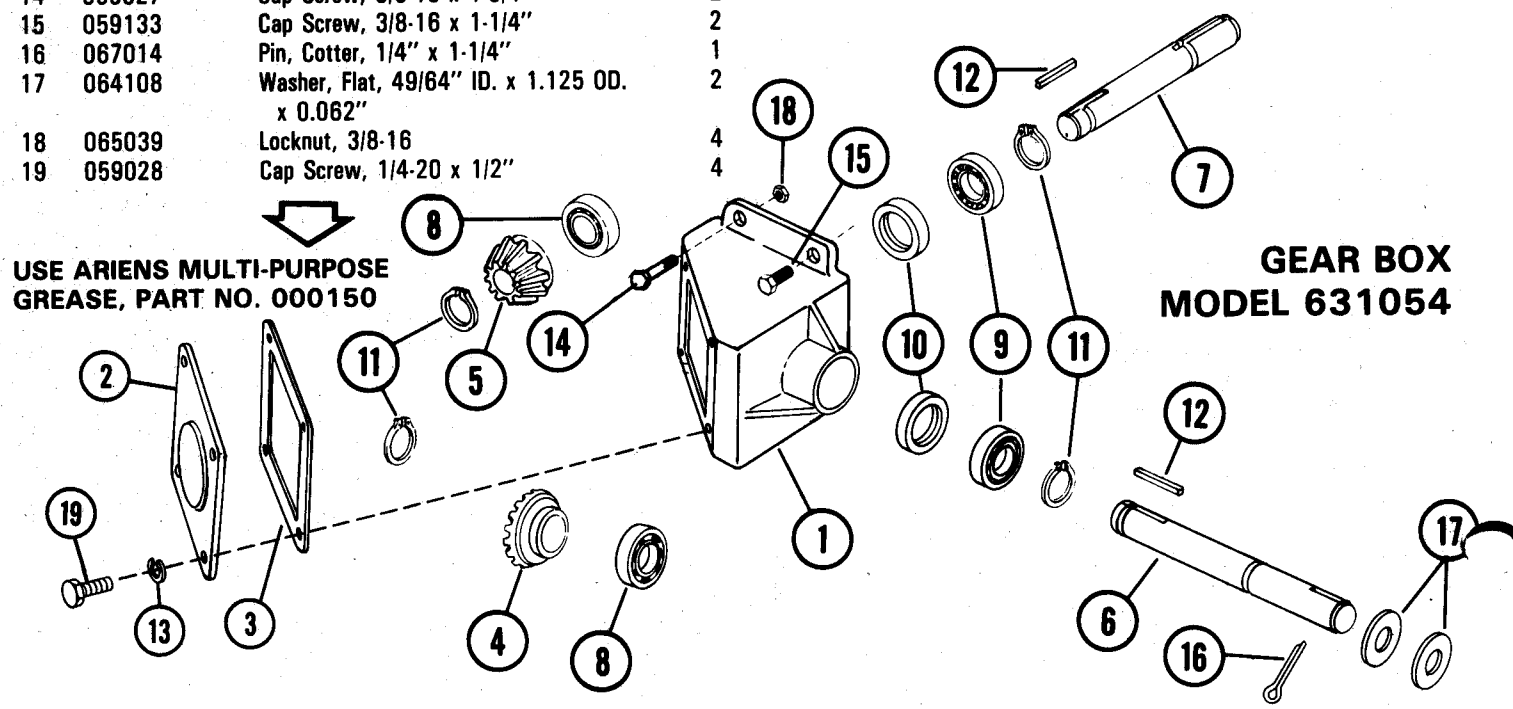
TINE SHAFT MODEL 831006



REF. NO.	PART NO.	DESCRIPTION	NO. REQ'D
	631054	Gearbox Assembly	1
1	031461	Housing	1
2	031462	Lid	1
3	031463	Gasket	1
4	031464	Output Gear	1
5	031465	Input Gear	1
6	f031466	Output Shaft	1
7	031467	Input Shaft	1
8	054118	Bearing, Ball	2
9	054119	Bearing, Ball	2
10	056080	Seal, Oil	2
11	057012	Ring, Retaining	4
12	066031	Key, Ht.	2
13	063002	Lockwasher, 1/4" Std.	4
14	059027	Cap Screw, 3/8-16 x 1-3/4"	2
15	059133	Cap Screw, 3/8-16 x 1-1/4"	2
16	067014	Pin, Cotter, 1/4" x 1-1/4"	1
17	064108	Washer, Flat, 49/64" ID. x 1.125 OD. x 0.062"	2
18	065039	Locknut, 3/8-16	4
19	059028	Cap Screw, 1/4-20 x 1/2"	4

REF. NO.	PART NO.	DESCRIPTION	NO. REQ'D
1	031448	Tine, inner	2
2	031450	Tine, L.H.	3
3	031451	Tine, R.H.	3
4	031452	Tine Extension	1
5	031453	Plate	5
6	031454	Shaft Extension	1
7	031458	Pin, Tine Tube Connector	6
8	059026	Cap Screw, Hex Head, 7/16" x 1"	22
9	065019	Locknut, 7/16"	22
10	067004	Pin, Cotter, 1/8" x 1"	6

USE ARIENS MULTI-PURPOSE GREASE, PART NO. 000150



GEAR BOX MODEL 631054