

# **36'' Tiller**

## **for Yard Tractors**

**Model No. 79271 – 4900001 & Up**

**Model No. 99271 – 4900001 & Up**

**Model No. 9861915 – T4P0001 & Up**

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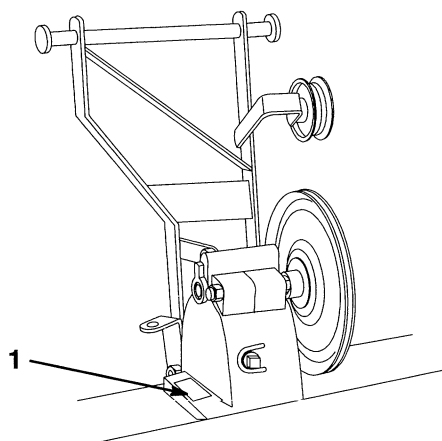
# **Operator's Manual**

**IMPORTANT:** Read this manual carefully. It contains information about your safety and the safety of others. Also become familiar with the controls and their proper use before you operate the product.

# Introduction

We want you to be completely satisfied with your new product, so feel free to contact your local Authorized Service Dealer for help with service, genuine replacement parts, or other information you may require.

Whenever you contact your Authorized Service Dealer or the factory, always know the model and serial numbers of your product. These numbers will help the Service Dealer or Service Representative provide exact information about your specific product. You will find the model and serial number plate located in a unique place on the product as shown below.



1300a

1. Model and Serial Number Plate

For your convenience, write the product model and serial numbers in the space below.

**Model No:** \_\_\_\_\_

**Serial No.** \_\_\_\_\_

The warning system in this manual identifies potential hazards and has special safety messages that help you and others avoid personal injury, even death. **DANGER**, **WARNING** and **CAUTION** are signal words used to identify the level of hazard. However, regardless of the hazard, be extremely careful.

**DANGER** signals an extreme hazard that will cause serious injury or death if the recommended precautions are not followed.

**WARNING** signals a hazard that may cause serious injury or death if the recommended precautions are not followed.

**CAUTION** signals a hazard that may cause minor or moderate injury if the recommended precautions are not followed.

Two other words are also used to highlight information. “Important” calls attention to special mechanical information and “Note” emphasizes general information worthy of special attention.

The left and right side of the machine is determined by sitting on the seat in the normal operator’s position.

# Contents

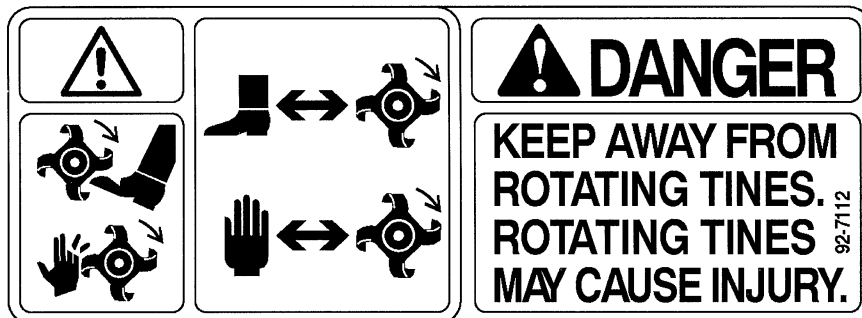
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## Safety and Instruction Decals

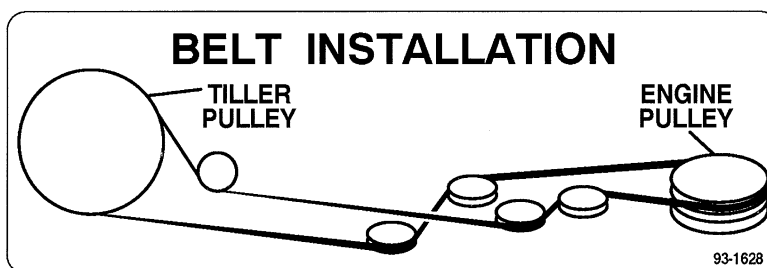


Safety decals and instructions are easily visible to the operator and are located near any area of potential danger. Replace any decal that is damaged or lost.

**ON TINE SHIELD  
LEFT and RIGHT SIDE  
(Part No. 92-7112)  
(Part No. TR92D7112)**



**ON FRONT OF TINE SHIELD  
(Part No. 93-1628)  
(Part No. TR93D1628)**



# Installation

## Loose Parts

**Note:** Use the chart below to verify all parts have been shipped

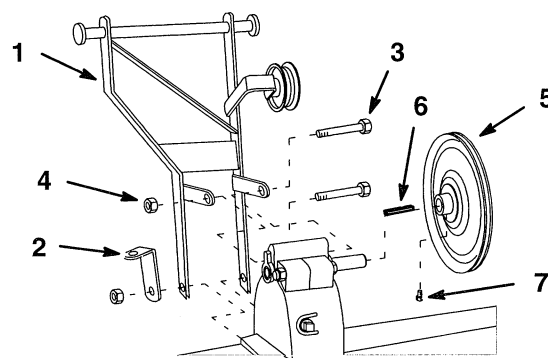
DESCRIPTION	QTY.	USE
Hitch	1	Install tiller hitch to tiller gear case.
Spring bracket	1	
Bolt (installed in case for shipping)	2	
Nut (installed in case for shipping)	2	
Pulley	1	Install drive pulley to tiller gear case.
Key	1	
Set screw	1	
Rear shield	1	Install rear shield to tiller.
Cotter pin	3	
Lift chain	1	Install lift chain to tiller.
Clevis	1	
Clevis pin	1	
Cotter pin	1	
Lift lever	1	
Bushing	2	Install lift to tractor.
Shim washer	4	
E-ring	2	
Lift rod	1	
Trunnion	1	
Hairpin cotter	1	
Washer	2	
Cotter pin	1	
Mounting plate	1	Assemble mounting plate.
Latch lever	2	
Carriage bolt	2	
Washer	2	
Nut	2	
Clevis pin	2	
Hairpin cotter	2	

DESCRIPTION	QTY.	USE
Mounting plate assembly	1	Install mounting plate to tractor.
Bolt	3	
Nut	3	
Spring catch	1	Install lift assist spring to tractor.
Bolt	1	
Spacer	1	
Washer	1	
Nut	1	
Spring	1	Install lift assist spring to tiller.
Eye bolt	1	
Nut	1	
Idler pulley assembly	1	Install idler pulley assembly to tractor.
Bracket	2	
Bolt	1	
Belt	1	
Jam nut	1	
Carriage bolt	4	

## Assemble Tiller

1. Tip tiller onto back and support in an upright position. Remove 3/8-16 x 5-1/2 and 3/8-16 x 4-1/2 inch bolts. (Fig. 1). Discard nuts used as spacers for shipping.
2. Fasten hitch and spring bracket with bolts and nuts as shown in (Fig. 1). Tighten bolts securely.
3. Install pulley with hub 1/4 inch in from the end of drive shaft (Fig. 1). Secure with square key and square head set screws.

**IMPORTANT: Key must be located under a set screw to be retained.**



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**Figure 1**

- |                   |              |
|-------------------|--------------|
| 1. Hitch          | 5. Pulley    |
| 2. Spring bracket | 6. Key       |
| 3. Bolt           | 7. Set screw |
| 4. Nut            |              |

4. Rotate tiller down and hook rear shield into slots at rear of tine shield. Secure with cotter pins (Fig. 2).

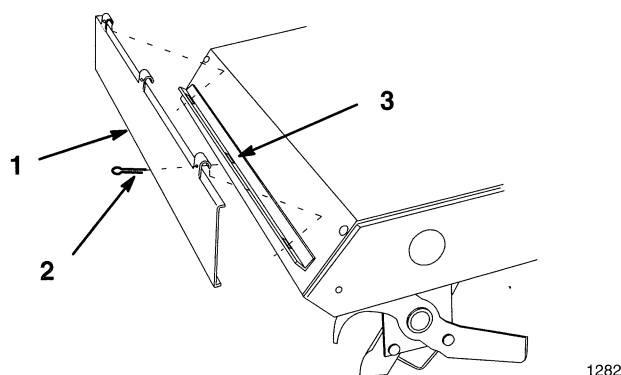


Figure 2

- |                |         |
|----------------|---------|
| 1. Rear shield | 3. Slot |
| 2. Cotter pin  |         |

5. Attach lift chain, short link end, to lift bracket with clevis, clevis pin and secure with cotter pin (Fig. 3).

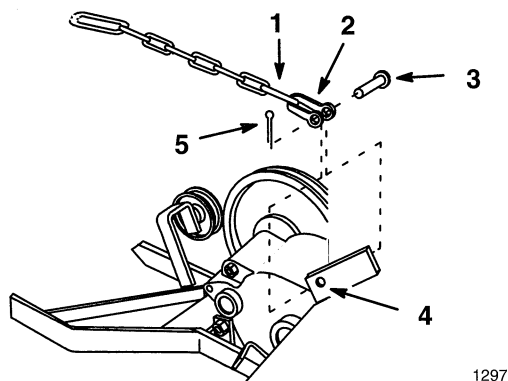


Figure 3

- |               |               |
|---------------|---------------|
| 1. Short link | 4. Bracket    |
| 2. Clevis     | 5. Cotter pin |
| 3. Clevis pin |               |

## Tractor Set-Up

1. Remove and save carriage bolts at fender mount under the seat and attaching footrests. (Fig. 4).
2. Unplug seat wiring harness connector and remove wire harness from wire clip.
3. Remove the fender\seat pan from the tractor.

**Note:** Save all hardware for use when re-installing fenders.

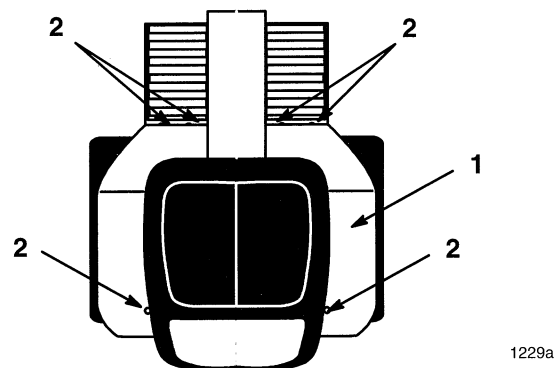


Figure 4

- |                    |                  |
|--------------------|------------------|
| 1. Fender\seat pan | 2. Carriage bolt |
|--------------------|------------------|

4. Remove rear panel behind gas tank (Fig. 5). Save all hardware for use when installing rear panel.

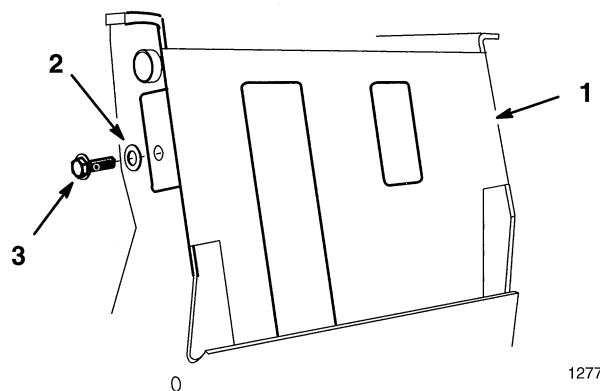


Figure 5

- |               |         |
|---------------|---------|
| 1. Rear panel | 3. Bolt |
| 2. Washer     |         |

5. Remove screws, washers and spacers (some models only) at front of fuel tank. Lift front of fuel tank and slide forward for clearance (Fig. 6).

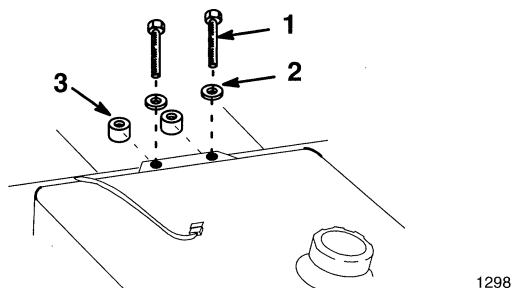


Figure 6

- |           |                              |
|-----------|------------------------------|
| 1. Screw  | 3. Spacer (some models only) |
| 2. Washer |                              |

6. Slide a shim washer and bushing onto ends of lift lever rod. (Fig. 7).

**IMPORTANT: Check that bushings slide easily onto rod ends and into frame. Remove paint if necessary.**

7. Position lift lever into frame and slide bushings and shim washers outward into frame holes. Secure in position with E-rings (Fig. 7).

**IMPORTANT: Lift lever must not have excessive end play (more than .015 inch). Use extra shim washers (.015 and .020 thick) to reduce end play.**

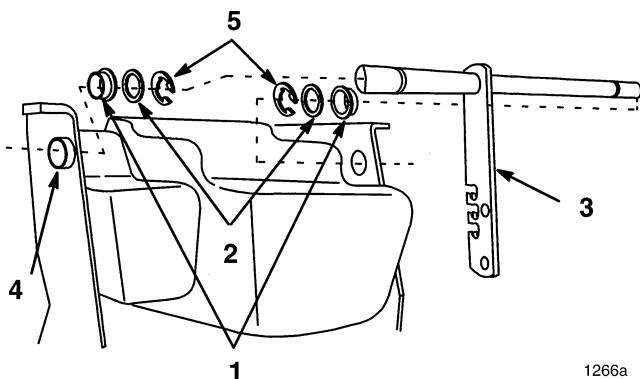


Figure 7

- |                              |               |
|------------------------------|---------------|
| 1. Bushing                   | 3. Lift lever |
| 2. Shim Washer (as required) | 4. Frame hole |
|                              | 5. E-ring     |

8. Slide attachment lift rod from the rear through opening in fuel tank and slot in fender support.
9. Looking under tractor frame on left side, slowly raise and lower attachment lift and slide lift rod into hole in attachment lift. Secure with washer and cotter pin. (Fig. 8).

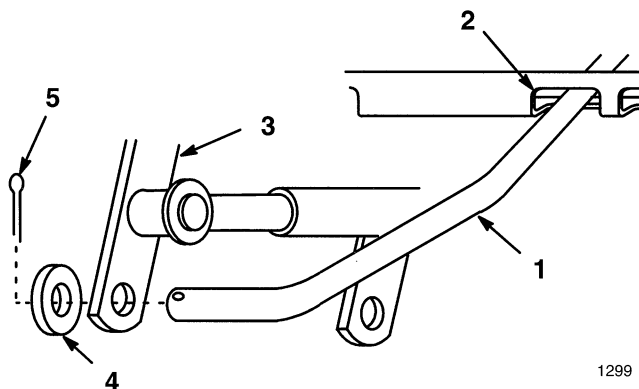


Figure 8

- |                        |               |
|------------------------|---------------|
| 1. Lift rod            | 4. Washer     |
| 2. Fender support slot | 5. Cotter pin |
| 3. Attachment lift     |               |

10. Thread trunnion 1 inch into lift rod. Insert into upper hole of lift lever. Secure with washer and hairpin cotter (Fig. 9).

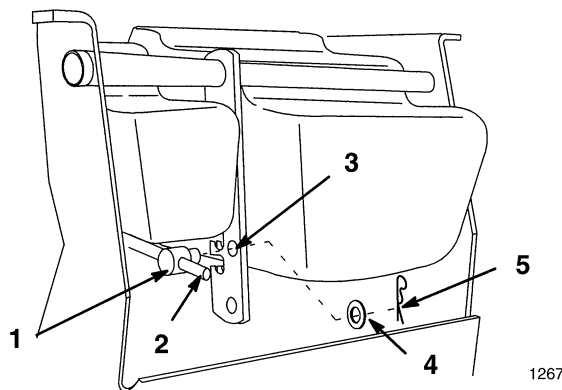


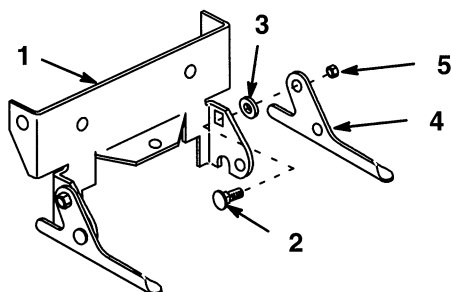
Figure 9

- |                             |                   |
|-----------------------------|-------------------|
| 1. Trunnion                 | 4. Washer         |
| 2. 1 inch from end          | 5. Hairpin cotter |
| 3. Upper hole in lift lever |                   |



11. Install latch levers to mounting plate with carriage bolts, washers and nuts (Fig. 10).

**Note:** Tighten nuts so latch levers move, but hold in position for ease of tiller mounting to tractor.



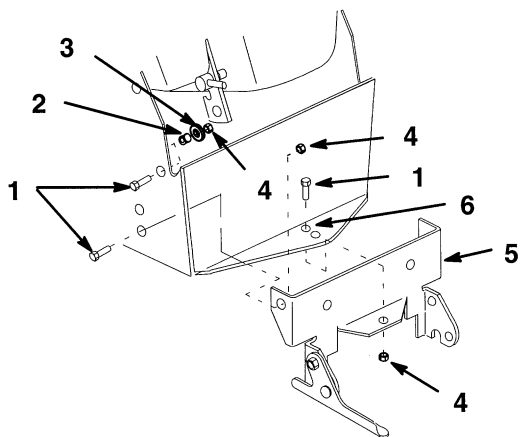
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**Figure 10**

- |                   |                |
|-------------------|----------------|
| 1. Mounting plate | 4. Latch lever |
| 2. Carriage bolt  | 5. Nut         |
| 3. Washer         |                |

12. Install lift assist spring mounting bolt, spacer, washer and lock nut into left frame member upper hole as shown (Fig. 11).

13. Install rear mounting plate under and inside of rear frame member with short tongue rearward (Fig. 11). Secure with bolts and lock nuts at holes in frame side members and front hole of hitch plate (Fig. 11).



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**Figure 11**

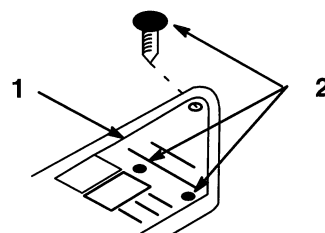
- |           |                   |
|-----------|-------------------|
| 1. Bolt   | 4. Nut            |
| 2. Spacer | 5. Mounting plate |
| 3. Washer | 6. Front hole     |

14. Slide fuel tank rearward into position and secure with previously removed hardware (Fig. 6).

15. Route seat switch wire harness through center hole and install fender/seat pan with previously removed hardware (Fig. 4).

16. Plug seat switch into wire harness connector and secure to opening with wire clip.

17. Pry up three rivets at the front of footrest mats (Fig. 12). Save rivets for securing mats.



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**Figure 12**

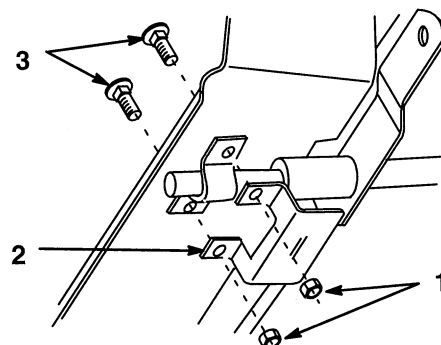
- |        |          |
|--------|----------|
| 1. Mat | 2. Rivet |
|--------|----------|

18. Remove nuts from foot rest cross shaft (Fig. 13).

19. Replace existing carriage bolts, under mat, with longer ones (Fig. 13).

20. Locate bracket under foot rest with 90 degree bend to inside (Fig. 13). Secure with previously removed lock nuts. Discard short carriage bolts.

21. Secure mats to foot rest, pressing previously removed rivets into place (Fig. 12).



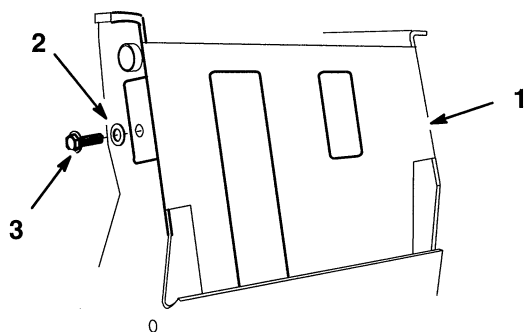
1285a

**Figure 13**

- |                      |                  |
|----------------------|------------------|
| 1. Lock nut (re-use) | 3. Carriage bolt |
| 2. Bracket           |                  |

## Installing Tiller to Tractor

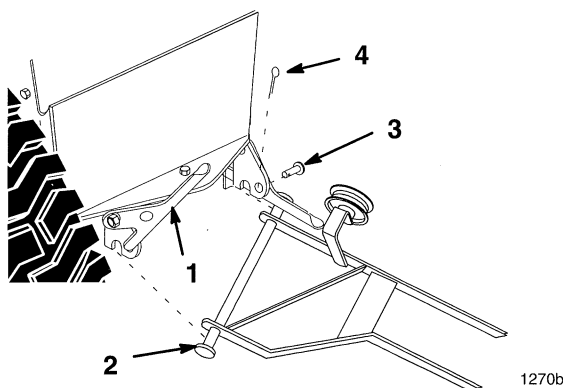
1. Park the machine on a level surface, disengage the power take off (PTO), set the parking brake, and turn the ignition key to "OFF" to stop the engine. Remove the key.
2. Remove rear panel behind gas tank (Fig. 14). Save all hardware for use when installing rear panel.



**Figure 14**

- |               |         |
|---------------|---------|
| 1. Rear panel | 3. Bolt |
| 2. Washer     |         |

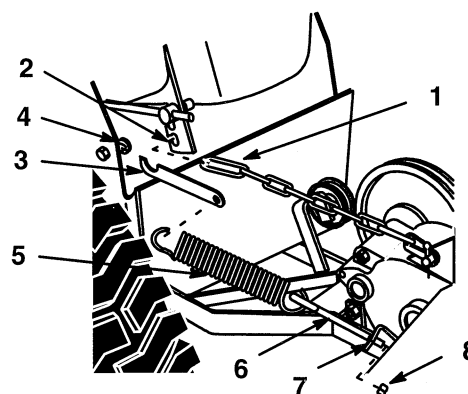
3. Position tiller behind and under rear tractor hitch with idler pulley bracket above right latch lever. Lift latch levers and install frame mounting rod. Center tiller between hitch latches (Fig. 15).
4. Secure latch levers closed with clevis pins and hairpin cotters (Fig. 15).



**Figure 15**

- |                 |                   |
|-----------------|-------------------|
| 1. Latch lever  | 3. Clevis pin     |
| 2. Mounting rod | 4. Hairpin cotter |

5. Set Dial-a-Height to the Mounting Position, and lower attachment lift all the way; refer to Setting Height-of-Cut.
6. Slide long link of lift chain under attachment lift arm and hook into lower notch (Fig. 16).
7. Raise attachment lift lever to the transport position and place a block under tiller gear case.
8. Hook spring catch over rear tractor frame and under bolt spacer (Fig. 16). Hook lift assist spring through spring catch and eye bolt and install eye bolt to bracket with nut (Fig. 16). Adjust nut so there is light spring tension in the fully raised position.



1297a

**Figure 16**

- |                 |                       |
|-----------------|-----------------------|
| 1. Long link    | 5. Lift assist spring |
| 2. Notch        | 6. Eye bolt           |
| 3. Spring catch | 7. Bracket            |
| 4. Spacer       | 8. Nut                |

9. Position idler pulley assembly front tabs above brackets and hook onto tractor lift shaft at rear (Fig. 17).
10. Secure with bolt and jam nut at rear hook (Fig. 17).

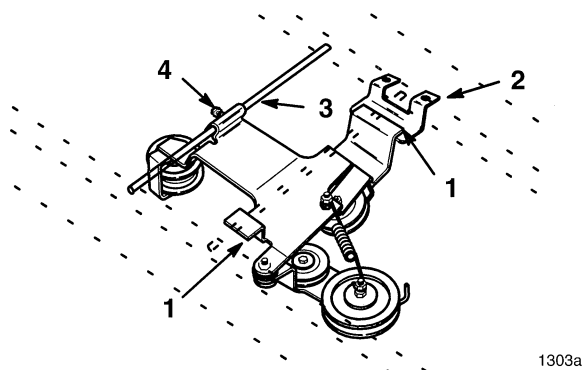


Figure 17

- |              |                       |
|--------------|-----------------------|
| 1. Front tab | 3. Tractor lift shaft |
| 2. Bracket   | 4. Bolt and jam nut   |

11. Route belt around upper pulley groove of electric clutch and idler pulleys (Fig. 18).
12. Hold the belt in the tiller drive pulley groove and rotate the pulley to install belt (Fig. 18).
13. Check that belt is properly routed around all pulleys and belt guides (Fig. 18).

**IMPORTANT: Belt must be properly routed behind all belt guides to prevent jumping off and premature failure.**

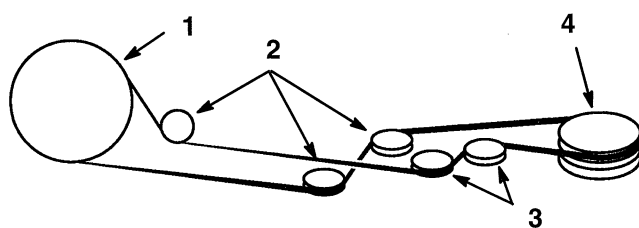


Figure 18

- |                        |  |
|------------------------|--|
| 1. Tiller pulley       | 4. Upper groove of (PTO) power take off, electric clutch |
| 2. Idler               |  |
| 3. Spring loaded idler |  |

## Removing the Tiller

**Note:** Save all hardware, washers and hairpin cotters for reuse when installing tiller.

1. Park the machine on a level surface, disengage the power take off (PTO), set the parking brake, and turn the ignition key to "OFF" to stop the engine. Remove the key.
2. Turn the Dial-a-Height knob counterclockwise, all the way and lower the attachment lift lever to the mounting position; refer to Lowering Attachment.
3. Rotate tiller drive pulley and slide belt out of groove (Fig. 19).
4. Loosen jam nut and bolt on idler assembly (Fig. 19). Unhook idler assembly from tractor lift shaft and slide to clear tabs at brackets to remove (Fig. 19).

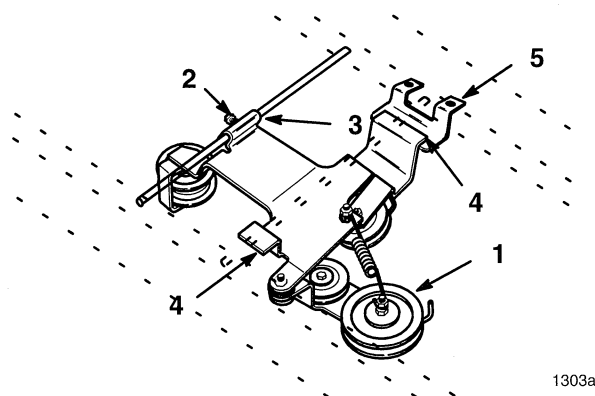


Figure 19

- |                        |            |
|------------------------|------------|
| 1. Spring loaded idler | 4. Tabs    |
| 2. Bolt and jam nut    | 5. Bracket |
| 3. Rear hook           |            |

5. Raise attachment lift to the transport position and place a block under tiller gear case.
6. Unhook lift assist spring and spring catch from tractor (Fig. 20).
7. Turn the Dial-a-Height knob counterclockwise, all the way, remove block and lower the attachment lift lever to the mounting position; refer to Lowering Attachment.
8. Unhook long link of lift chain from lift arm (Fig. 20).

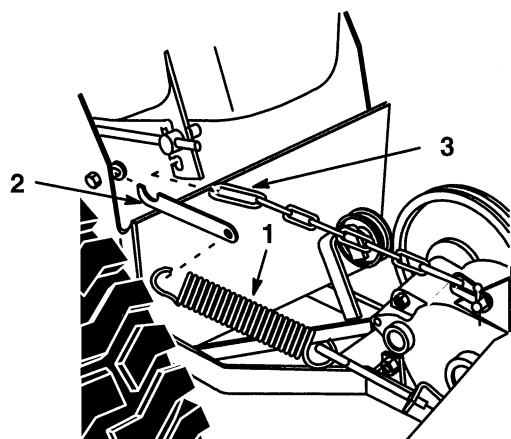


Figure 20

1. Lift assist spring
2. Spring catch
3. Long link

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9. Remove hairpin cotters and clevis pins from latch levers (Fig. 21). Open latch levers and remove mounting rod.

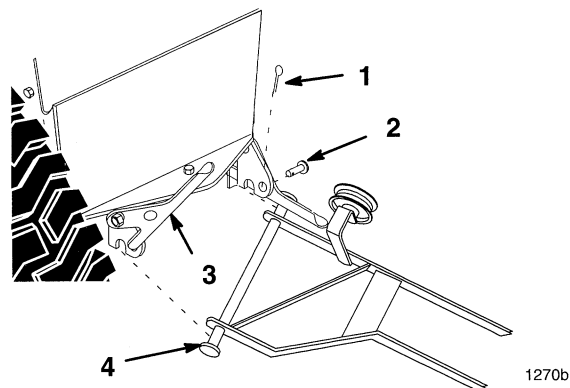


Figure 21

1. Hairpin cotter
2. Clevis pin
3. Latch lever
4. Mounting rod

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**Note:** Save all hardware, washers and hairpin cotters for reuse when installing tiller.

10. Install rear frame panel with previously removed hardware (Fig. 22).

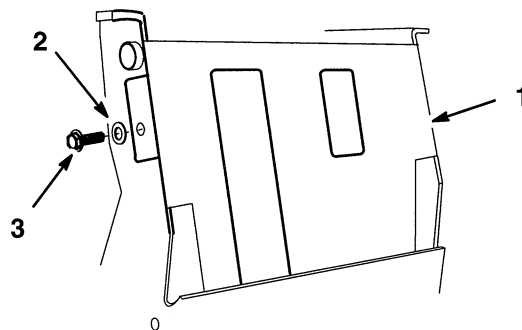


Figure 22

1. Rear panel
2. Washer
3. Bolt

# Operation

## DANGER

### POTENTIAL HAZARD

- Rotating tines can cut hands, feet or other body parts.

### WHAT CAN HAPPEN

- Contact with rotating tines may cause injury.

### HOW TO AVOID THE HAZARD

- Keep away from the rotating tines while operating the tiller.
- Keep your hands, feet, and any other part of your body or clothing away from rotating parts.
- Before adjusting, cleaning, repairing and inspecting the tiller, shut off the engine and wait for all moving parts to stop. Move the power take off (PTO) to “OFF” and rotate the ignition key to “OFF.” Remove the key.

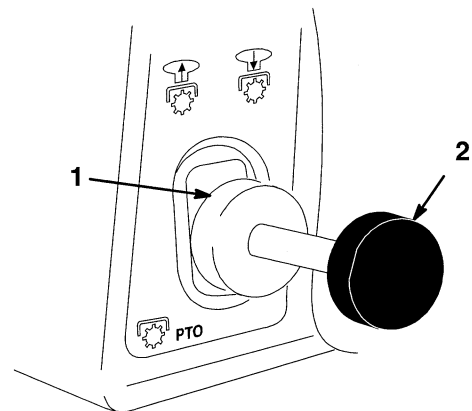
## Operating the Power Take Off (PTO)

The power take off (PTO) engages and disengages power to the electric clutch.

While the ignition key is in the “RUN” or “LIGHTS” positions and the power take off (PTO) is engaged “ON”, the PTO light, in the Indicator Module, will be “ON”. When this light is “ON” it is a reminder; the starter will not crank and to turn off the PTO before getting off.

### Engaging the Power Take Off (PTO)

1. Depress the brake and/or clutch pedal(s) to stop the machine.
2. Pull the power take off (PTO) to “ON” (Fig. 23).



1206

**Figure 23**

1. Off-Disengaged

2. On-Engaged

### Disengaging the Power Take Off (PTO)

1. Depress the brake and/or clutch pedal(s) to stop the machine.
2. Push the power take off (PTO) to “OFF” (Fig.23).

## Attachment Lift Lever

The attachment lift lever (Fig. 24) is used to raise and lower various attachments.

### Raising Attachments

1. Depress the clutch and/or brake pedal(s) to stop the machine.
2. Pull attachment lift lever rearward until latch locks. In this position the lift will hold the attachment in the up, or raised position.

### Lowering Attachments

1. Depress the clutch and/or brake pedal(s) to stop the machine.
2. Pull attachment lift lever rearward, to release lift pressure, and push the button on top to release the latch. Move lift lever forward to lower attachment.

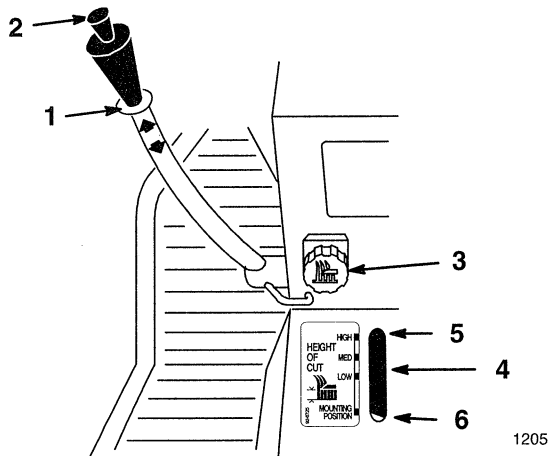


Figure 24

- |                  |                      |
|------------------|----------------------|
| 1. Lift lever    | 4. Indicator         |
| 2. Button        | 5. High              |
| 3. Dial-A-Height | 6. Mounting position |

## Adjusting Dial-A-Height

The Dial-A-Height control (Fig. 24) is used to limit the downward travel of the attachment. The Dial-A-Height knob is rotated to change the location of this stop, up or down.

1. Raise the attachment lift lever: Refer to Raising Attachments. In the raised position the Dial-A-Height knob (Fig. 24) can be rotated to change the stop location. Turn clockwise to raise and counterclockwise to lower the height of the attachment.
2. The Dial-A-Height indicator (Fig. 24) will show the change, high to low, in attachment lift height as adjustment is made.

## Adjusting Lift Chain

### DANGER

#### POTENTIAL HAZARD

- Rotating tines can cut hands, feet or other body parts.

#### WHAT CAN HAPPEN

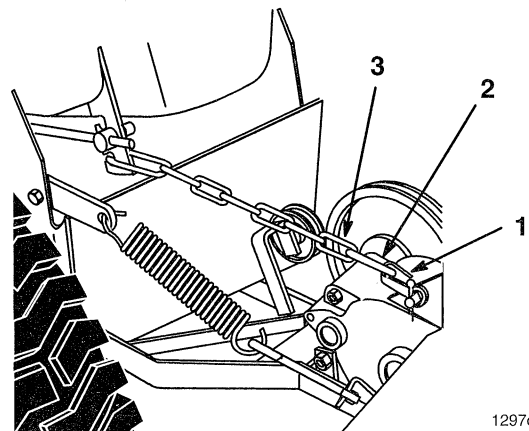
- Contact with rotating tines may cause injury.

#### HOW TO AVOID THE HAZARD

- Keep away from the rotating tines while operating the tiller.
- Keep your hands, feet, and any other part of your body or clothing away from rotating parts.
- Before adjusting, cleaning, repairing and inspecting the tiller, shut off the engine and wait for all moving parts to stop. Move the power take off (PTO) to "OFF" and rotate the ignition key to "OFF." Remove the key.

Changing the lift chain link at the clevis, affects maximum tilling depth and transport lift height. These links can be changed at the clevis (Fig. 25).

1. For maximum tilling depth, but reduced transport lift height locate last link of lift chain in the clevis (Fig. 25).
2. For greater lift height, locate the second last link of lift chain in the clevis (Fig. 25). This position will have reduced tilling depth.

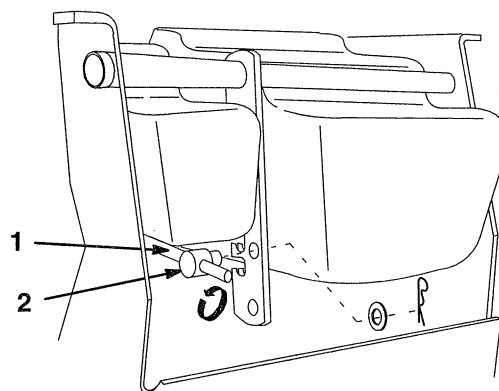


1297c

**Figure 25**

1. Clevis
2. Last link
3. Second last link

3. For variations of less than a link in range disconnect the lift rod from the lift arm and rotate the trunnion (Fig. 26) Turning clockwise increases lift height and tilling depth and counter clockwise reduces lift height and increases tilling depth.



1267

**Figure 26**

1. Lift rod
2. Trunnion

## Tips for Tilling

Clean area of trash, branches and rocks before tilling to prevent equipment damage.

Always begin tilling with the slowest ground speed possible. Increase speed if conditions permit.

Always use full throttle (maximum engine speed) when tilling.

Always engage the power take off (PTO) with tiller in the raised position.

Till in long straight passes. Do not make turns while tiller is in the ground, as equipment damage may result.

A small center area will not be tilled due to the gear case. Overlapping with a second pass will eliminate this condition.

Avoid excessive tilling of the soil, as finely tilled soil will not absorb moisture easily and puddles of water or run-off may occur.

When tilling hard packed, very dry or virgin soil, raise tiller so only the very top of the soil is penetrated. On succeeding passes the depth may be lowered. This reduces the tendency of the tiller to push the tractor. If this happens, disengage power take off (PTO) and reduce forward speed.



# Maintenance

## Service Interval Chart

Service Operation	Each Use	5 Hours	25 Hours	Storage Service	Fall Service	Notes
Oil—check level			X	X	X	
Belt—check for wear/cracks				X	X	
Chipped Surfaces—paint				X		

### CAUTION

#### POTENTIAL HAZARD

- If you leave the key in the ignition switch, someone could start the engine.

#### WHAT CAN HAPPEN

- Accidental starting of the engine could seriously injure you or other bystanders.

#### HOW TO AVOID THE HAZARD

- Remove the key from the ignition switch and pull the wire off the spark plug before you do any maintenance. Also push the wire aside so it does not accidentally contact the spark plug.

## Greasing and Lubrication

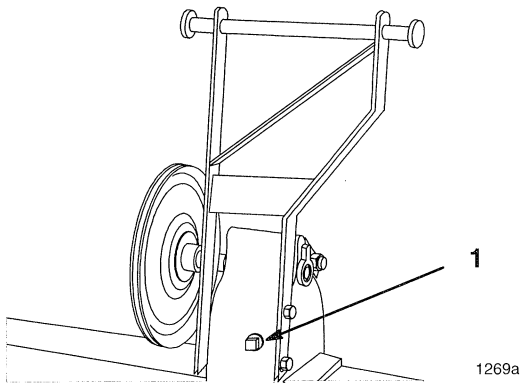
### Service Interval/Specification

Check the gear lube level in the gear case after every 25 operating hours or once a year, whichever occurs first. Gear lube changes are not required.

Gear lube type: SAE 90-140 API service GL-4 or GL-5.

### Checking Gear Lube

1. Remove the tiller from the tractor and tilt vertical, onto the tine shield.
2. Clean the area around the lower pipe plug (Fig. 27).
3. With the tiller standing vertical, remove the pipe plug.
4. Gear lube level should be to the bottom of the plug opening. Add gear lube as required to bring to proper level.



**Figure 27**

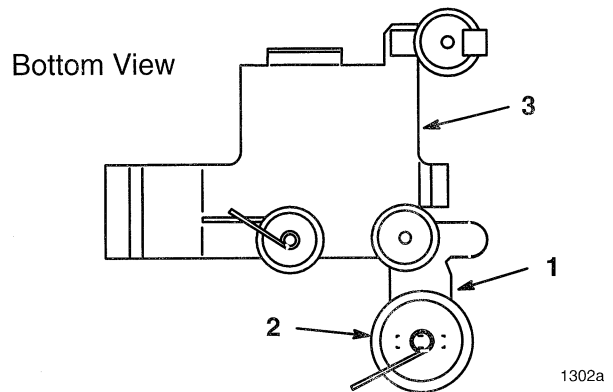
1. Pipe plug

### 5. Adjusting Drive Belt Tension

The drive belt is spring loaded and needs only periodic adjustment, to maintain proper spring tension.

### Checking Drive Belt Tension

1. Disengage the power take off (PTO), set the parking brake, and turn the ignition key to "OFF" to stop the engine. Remove the key.
2. As the drive belt wears, and the tiller is raised and lowered, the spring loaded idler arm moves.(Fig. 28).
3. Raise the tiller and observe the spring loaded idler pulley movement as you push on the belt. The idler pulley must not contact the mounting plate. If it contacts the mounting plate adjustment is required.

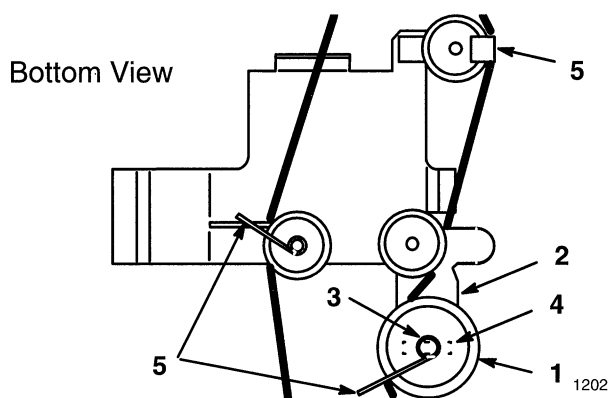


**Figure 28**

1. Spring loaded idler arm
2. Idler pulley
3. Mounting plate

## Adjusting Drive Belt Tension

1. Disengage the power take off (PTO), set the parking brake, and turn the ignition key to "OFF" to stop the engine. Remove the key.
2. Pull on spring loaded idler pulley and remove belt from electric clutch to release tension on belt (Fig. 29).
3. Loosen bolt securing idler pulley to idler arm. Slide idler pulley in slot of idler arm to change belt tension as required. (Fig. 29).
4. Check belt guides for proper location (Fig. 29).
5. Tighten nut securely and install belt onto electric clutch.
6. Push on belt and observe that idler pulley does not contact mounting plate.



**Figure 29**

- |                 |               |
|-----------------|---------------|
| 1. Idler pulley | 4. Slot       |
| 2. Idler arm    | 5. Belt guide |
| 3. Nut          |               |

## Storage

1. Before long term storage wash the machine with mild detergent and water to remove dirt and grime from the entire machine.
2. Check the condition of the drive belt.
3. Check gearcase lubrication level; refer to Greasing and Lubrication, page 16.
4. Check and tighten all bolts, nuts, and screws. Repair or replace any part that is damaged or defective.
5. Paint all scratched or bare metal surfaces. Paint is available from your Authorized Service Dealer.
6. Store the machine in a clean, dry garage or storage area. Cover the machine to protect it and keep it clean.

