



MODEL NO. 79370 - 3900001 & UP

**INSTALLATION
INSTRUCTIONS**

WHEEL HORSE®
36 in. Tiller - GT

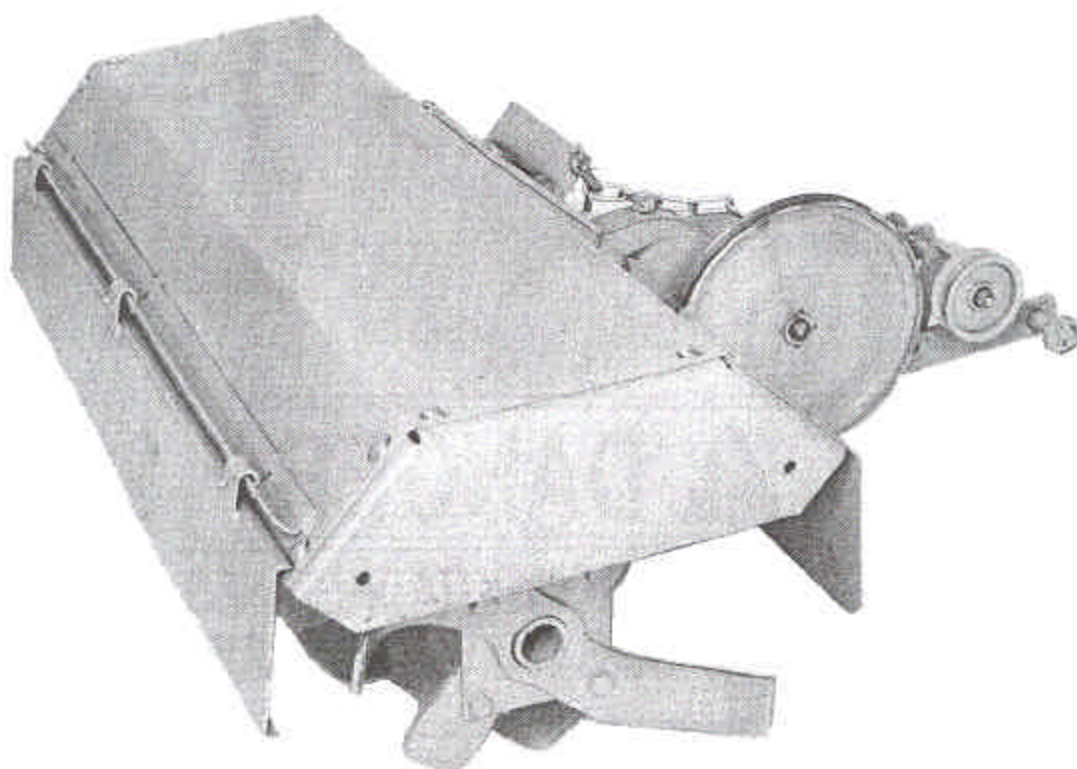


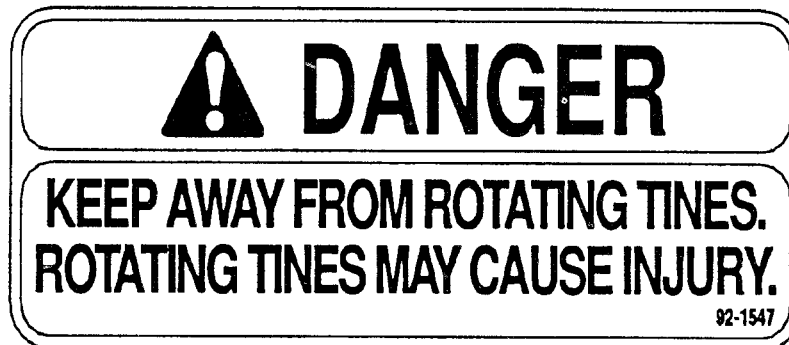
TABLE OF CONTENTS

	<u>Page</u>		<u>Page</u>
MODEL AND SERIAL NUMBER	1	MOUNT TILLER	4
DESCRIPTION	1	ATTACH LIFT CHAIN	4
ASSEMBLY	1	INSTALL SPRING ASSIST- MANUAL	
ATTACH HITCH	1	LIFT	4
MOUNT DRIVE PULLEY	1	MOUNT MID MOUNT IDLERS	5
MOUNT REAR SHIELD	1	INSTALL BELT ON PTO PULLEY	5
INSTALLATION	1-6	INSTALL DRIVE BELT & BELT GUARD ..	6
REMOVE DRAWBAR HITCH	2	REMOVAL	6
REMOVE SEAT AND FENDER	2	OPERATION AND ADJUSTMENT	6
INSTALL TUBE AND CLAMP	2	MAINTENANCE AND STORAGE	7
INSTALL LIFT LEVER	2	MAXIMUM TILLING DEPTH	8
INSTALL REAR FENDER AND SEAT	2	MAXIMUM TRANSPORT GROUND	
INSTALL LIFT CABLE	2	CLEARANCE	8
ASSEMBLE REAR "QUICK HITCH"	3	RECOMMEDED "ALL-AROUND"	
ATTACH REAR "QUICK HITCH"	3	SETTING	8
INSTALL TRUNNION	4		



SAFETY DECALS AND INSTRUCTIONS

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.



Tine Shield
Part No. 92-1547

MODEL AND SERIAL NUMBER

Model and Serial Number identifies your Toro Wheel Horse attachment. These numbers should always be referred to when consulting with your dealer or factory concerning service, replacement parts, or questions you may have. For your reference, record numbers from Model and Serial Number plate on your attachment.

MODEL _____

SERIAL NO. _____

DESCRIPTION

The 36 in. (92 cm) tiller is designed for use with 1978 and later C and GT-Series tractors, except the C-195. To mount the tiller on a 1976 or 1977 B or C-Series tractor, obtain Service Assembly #105162. To mount the tiller on 1975 and prior tractors, obtain S/A #105105.

For more complete information regarding mounting of this tiller on prior model tractors, consult the dealer interchangeability lists.

ASSEMBLY

ATTACH HITCH (Fig. 1)

Support the tiller so it sets in an upright position (Fig. 1). Remove the 3/8-16 x 5 1/2 and 3/8-16 x 4 1/2 bolts; discard the 1/2-13 nuts (used as spacers for shipping). Install the hitch and hitch bracket as shown in Figure 1. Tighten both bolts securely.

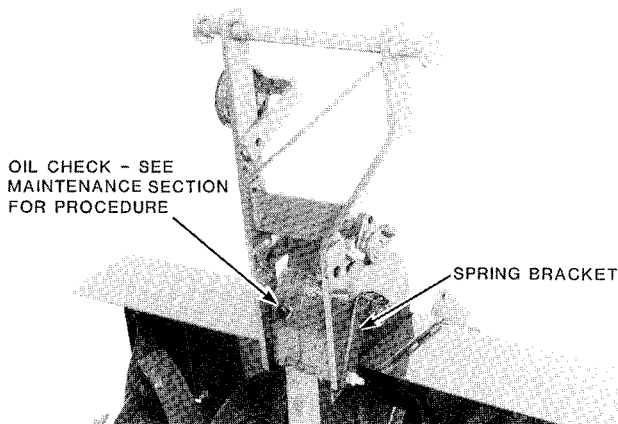


FIG. 1 Install Hitch & Spring Bracket

Note: The "Mounting Ears" may be a tight fit on the tiller case.

MOUNT DRIVE PULLEY (Fig. 2)

Install the square key in the input shaft groove. Slip the pulley onto the shaft (hub toward the gear case) and

align it with the flat idler pulley. Secure with the two square head set screws (Fig. 2).

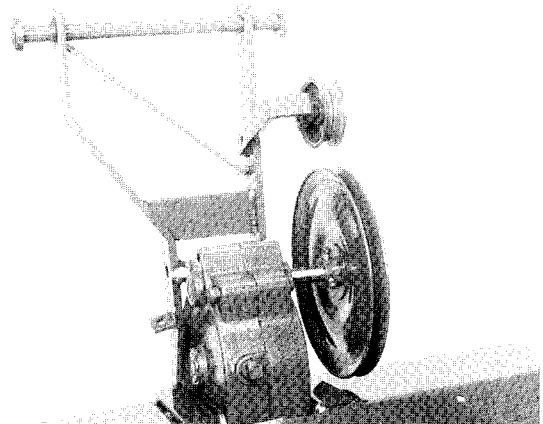


FIG. 2 Mount Drive Pulley

MOUNT REAR SHIELD (Fig. 3)

Attach the rear shield to the tine shield and secure with the three 1/8 x 1 cotter pins (Fig. 3).

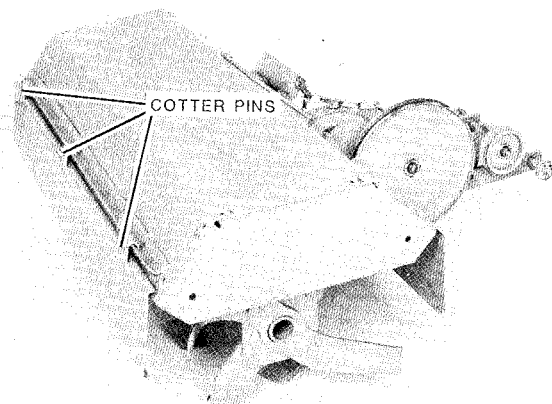


FIG. 3 Install Rear Shield

INSTALLATION

REMOVE DRAWBAR HITCH (Fig. 4)

Remove the drawbar hitch pin and hitch with spacers. Retain for future use. If a slot or clevis hitch is installed, remove it also.

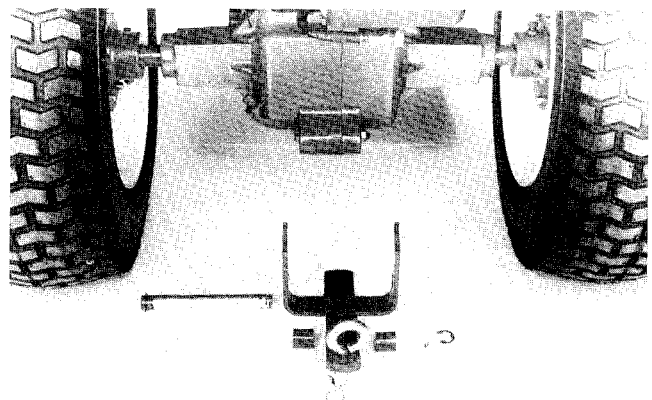


FIG. 4 Remove Drawbar Hitch

REMOVE SEAT AND FENDER

Remove seat and fender from tractor. If tractor has a 25 amp ATO/ATC fuse clipped to inside of console, remove the fuse.

INSTALL TUBE AND CLAMP

Remove two bolts and lock washers holding fuel tank bracket to top of transmission.

Mount tube to top of fuel tank bracket and transmission with bracket and two existing fasteners (Fig. 5).

NOTE: Tube with extreme bend is for hydro units and straight tube is for mechanical transmissions (Fig. 5).

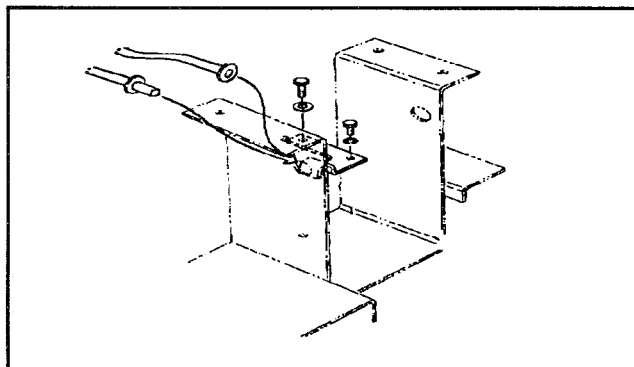


FIG. 5 Cable Tube and Clamp

INSTALL LIFT LEVER

Assemble lift lever parts as shown in Fig. 6. Install one E-ring between welded arm and bushing on short end of rod. Do not install other E-ring yet.

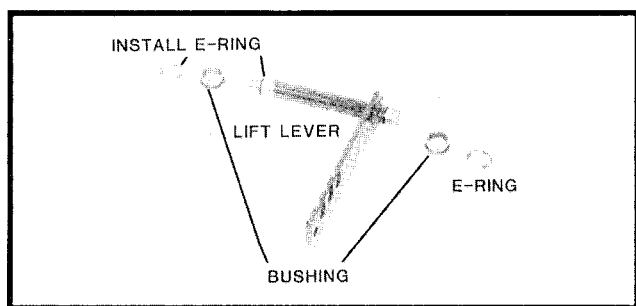


FIG. 6 Lift Lever Components

Make sure bushings will fit into mounting holes in fender support and on shaft of lift lever. Remove excess paint if required.

Next slip a bushing onto long end of lever shaft and insert long end into hole in right side fender support (Fig. 7). Slip remaining bushing into hole in left side fender support and slide short end of lift lever shaft into bushing (Fig. 8).

Install remaining E-ring into groove on right end of shaft (Fig. 8).

INSTALL REAR FENDER AND SEAT

Install fender with existing fasteners.

Check lift lever for excessive (more than .015) side to side end play. Use .015 and .020 thick shim washers to eliminate excessive end play. Install seat with existing fasteners.

NOTE: Install 25 amp main fuse if you removed one previously.

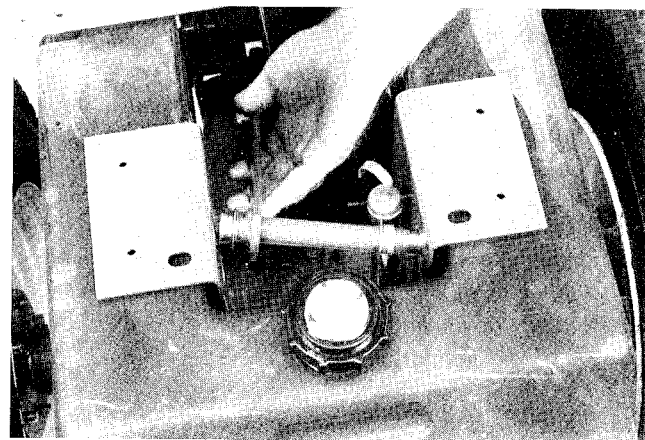


FIG. 7 Install Lift Lever

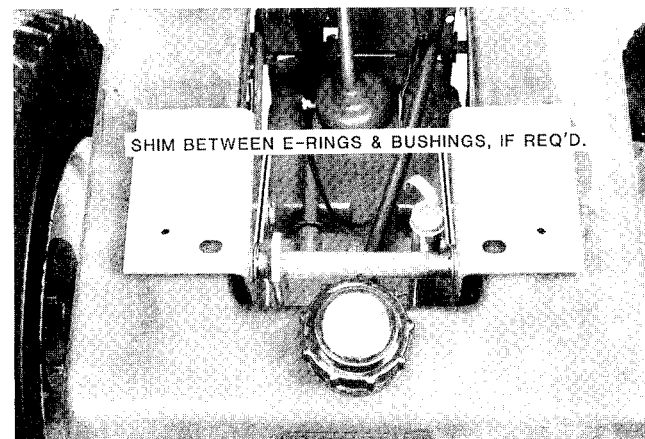


FIG. 8 Secure Lift Lever with E-ring

INSTALL LIFT CABLE

Insert ball-end of cable into tube from rear of tractor, until it protrudes out front of tube.

Select correct length clevis as follows:

2" Long Clevis-For 8-speed models and Automatic models with right side transmission oil filter (Sundstrand).

3 1/8" Clevis-For Automatic models with transmission oil filter facing rear (Eaton).

Lower tractor's attachment lift. Slip end of lift cable into slot on clevis (Fig. 8A). Then attach clevis to lowest hole in tractor lift arm with clevis pin and 1/16 x 1/2 cotter pin (Fig. 8A).

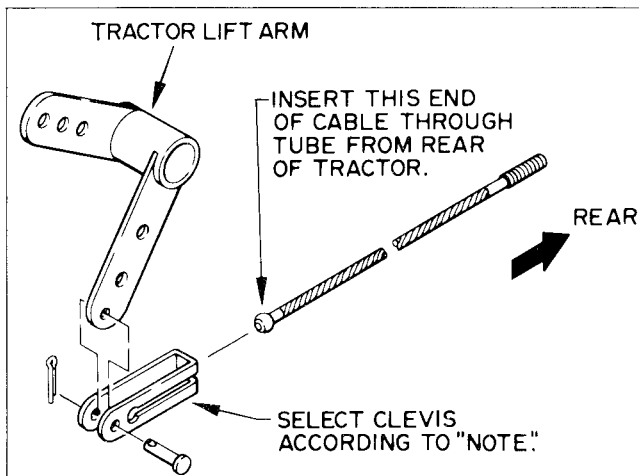


FIG. 8A Attach Lift Cable

ASSEMBLE REAR "QUICK HITCH" (Figs. 9 & 10)

Locate the hitch mounting bracket, two latching plates, two metal links, two 3/8-16 x 1 hex bolts, two 3/8 washers, six 3/8-16 Eslok nuts, two angle spacers, and four 3/8-16 x 3 1/2 carriage bolts.

Attach the two latching plates to the hitch mounting bracket using the 3/8-16 x 1 carriage bolts, 3/8 washers and 3/8-16 Eslok nuts (Fig. 9). Tighten bolts so the latching plates will move with a small amount of force.

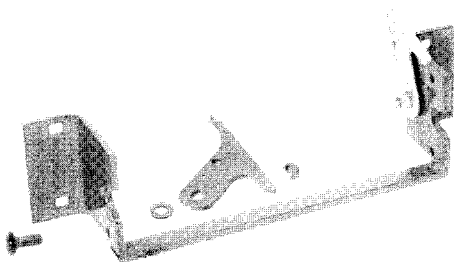


FIG. 9 Attach Latching Plates to Mounting Bracket

Install the metal links to the hitch mounting bracket using two 3/8-16 x 3 1/2 carriage bolts and two 3/8-16 Eslok nuts. Install the "right angle" on the left side of the hitch so the end with two holes will face rearward. Install the bolts in the holes farthest from the latching plates (Fig. 10). Finger tighten nuts only.

ATTACH REAR QUICK-HITCH (Figs. 11,12 & 13)

From the rear of the tractor, install the rear hitch

assembly to the tractor's rear axle housings. This is done by placing the hitch assembly under the tractor's transmission so the latch plate ends face rearward. Turn metal links toward the front of the tractor (Fig. 11).

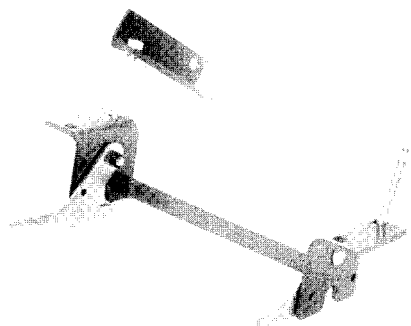


FIG. 10 Install Metal Links

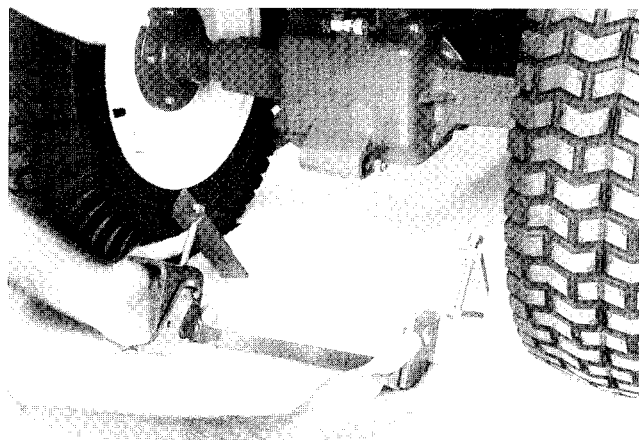


FIG. 11 Attach Rear Hitch

Raise the rear hitch so the hitch touches the bottom of the axle housing. Turn the metal links rearward so they hold the hitch in place. Install the two remaining 3/8-16 x 3 3/4 carriage bolts in the rear mount holes and secure with two 3/8-16 Eslok nuts.

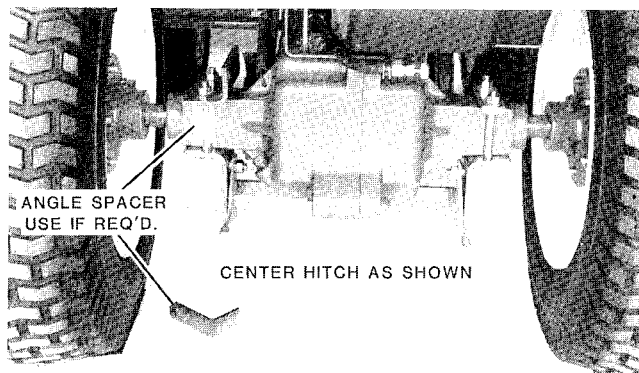


FIG. 12 Secure Rear Hitch (8-Speed & Sundstrand Auto.)

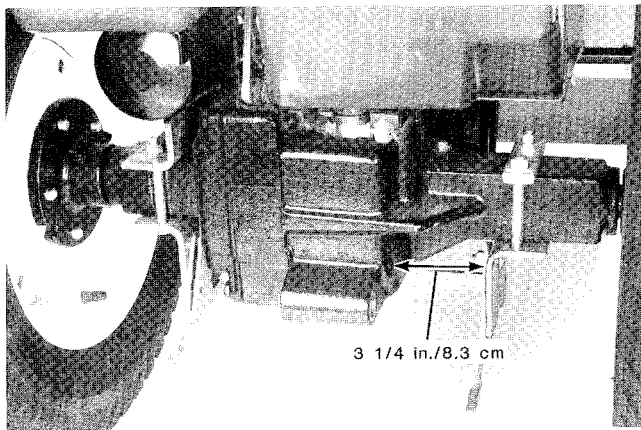


FIG. 13 Secure Rear Hitch (Eaton Auto.)

Note: On some model tractors, it may be necessary to use the angle spacers to take out undue slack between the hitch and rear axle. If necessary, install the angle spacers between the metal links and the tractor axle housings.

Center the rear hitch between the rear wheels. Tighten the 3/8-16 nuts evenly to insure maximum strength.

INSTALL TRUNNION (Fig. 14)

Install the trunnion onto the threaded stud of the lift cable (Fig. 9), leaving it near the end.

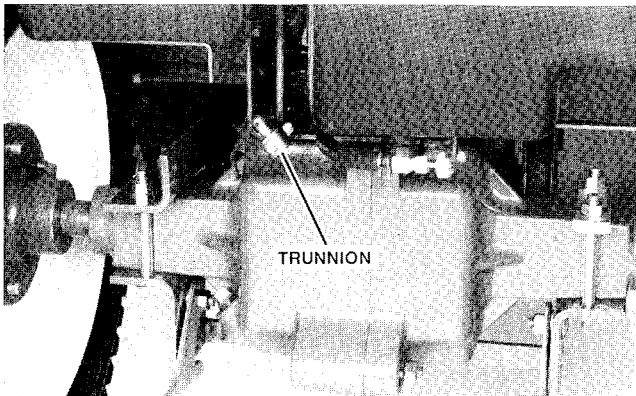


FIG. 14 Install Trunnion

MOUNT TILLER (Figs. 15 & 16)

Open the left hitch latch and temporarily leave the right latch in its closed position. Maneuver the tiller so the mounting rod at the front of the hitch assembly lies just below the rear quick-hitch. **AT THIS POINT ALIGNMENT (SIDE TO SIDE) IS CRITICAL** (Fig. 15).

Raise the mounting rod of the hitch assembly into the quick-hitch. As the mounting frame is raised, open the right hitch latch so the tiller mounting frame can enter the quick-hitch.

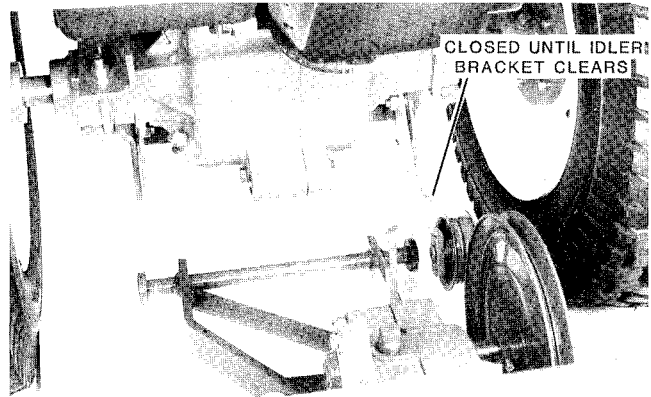


FIG. 15 Position Tiller Under Quick Hitch

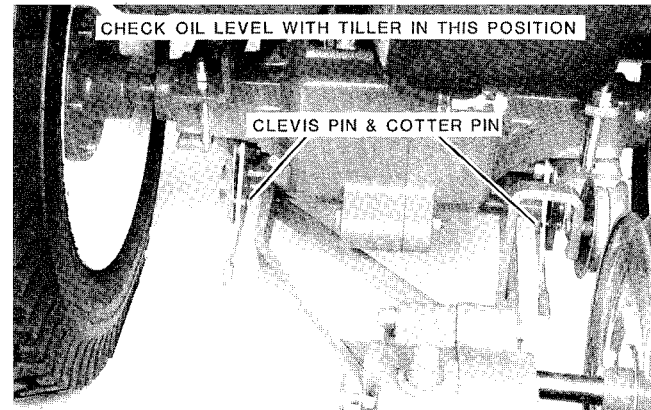


FIG. 16 Raise Tiller Into Quick Hitch

Close both hitch latches by pushing down on the handle. Secure the latches with clevis pins and hair pin cotters, then tighten the latch bolts.

ATTACH LIFT CHAIN (Fig. 17)

Connect the lift chain as shown in Fig. 17, using the clevis, and hairpin cotter at the tiller end. The chain has a special long link, used at the lift lever attaching point. Secure the trunnion to the lift arm with a 3/8 SAE washer and hairpin cotter.

NOTE: Alternate chain and trunnion adjustments are covered in the "operation and Adjustment" section in this manual.

INSTALL SPRING ASSIST - MANUAL LIFT (Fig. 18)



Support the tiller on blocks in the raised position - DO NOT work around tiller when the tiller is unsupported.

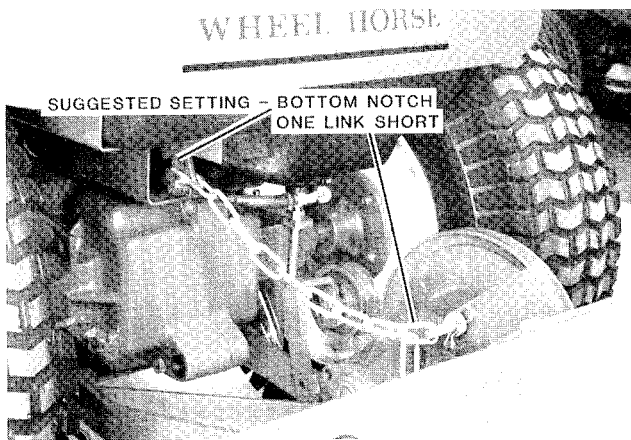


FIG. 17 Attach Lift Chain & Trunnion

Lift the tiller to it's maximum height using the tractor's attachment lift. Slip one end of the heavy spring into the left metal link at the top of the quick-hitch. Slip the other end of the spring into the large eye bolt. Install the eye bolt through the spring bracket, attached to the bottom of the tiller, and secure the eye bolt with a 3/8-16 E.S. nut. The spring should be adjusted so there is a slight amount of tension while the tiller is fully raised.

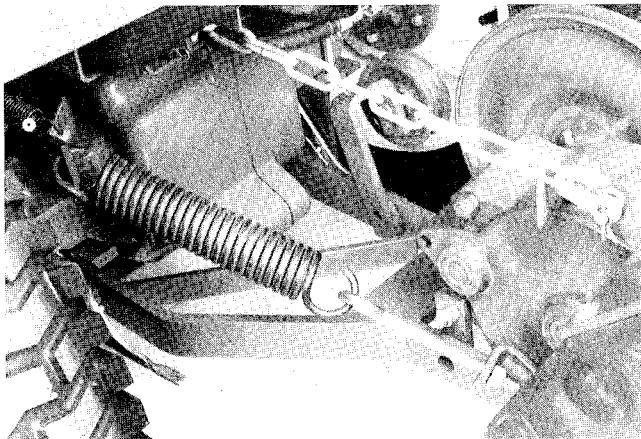


FIG. 18 Install Assist Spring

MOUNT MID MOUNT IDLERS (Figs. 19-21)

Open the mid Tach-A-Matic hitch. Slip the mid mount idlers into the hitch and close the latch (Fig. 19).

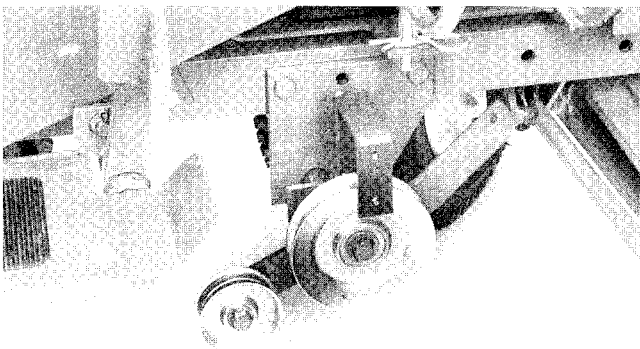


FIG. 19 Install Mid Mount Idlers

Locate the idler arm in the correct mounting hole, as indicated in Fig. 20.

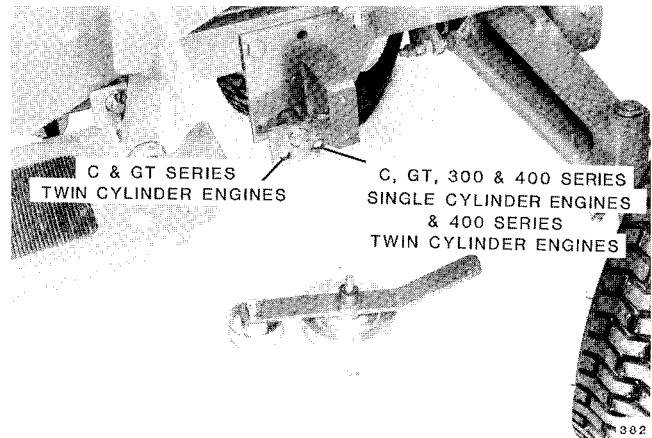


FIG. 20 Idler Arm Location

Slide one end of the idler spring onto the 3/8-16 x 1 1/4 bolt as far as it will go. Install a 3/8-16 Eslok nut on the bolt until it contacts the coils of the spring. Install the bolt with spring as shown in Fig. 21, and secure with another 3/8-16 Eslok nut. Connect the spring to the idler arm.

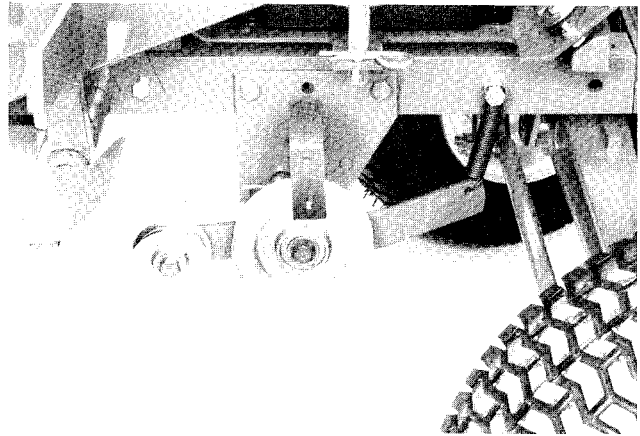


FIG. 21 Install Idler Spring

INSTALL BELT ON PTO PULLEY (Fig. 22)

Remove the hairpin cotter that retains the adjustment trunnion to the PTO engagement plate. Remove the clevis pin that secures the yoke assembly to the clutch shaft.

Remove the large hairpin cotter at the bottom of yoke assembly, permitting it to drop out of the triangular top plate. On earlier model tractors, it will also be necessary to remove the bolt, spacer and nut holding the triangular plate to the engine bracket, as well as a small spring.

Slip the belt between the yoke assembly and PTO pulley and onto the pulley (Fig. 22).

Note: Correctly installed, the yoke will be posi-

tioned between the two sides of the belt (see Fig. 23).

Reassemble the PTO.

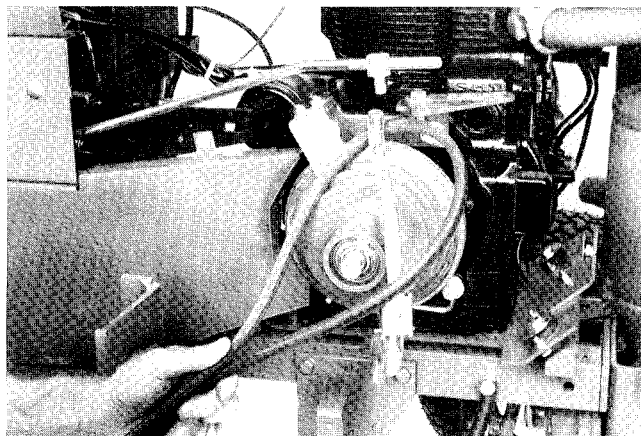


FIG. 22 Install Belt on PTO

INSTALL DRIVE BELT AND BELT GUARD (Fig. 23-25)

Guide the belt past the mid mount idlers as shown in Figure 23. Note that the back side of the belt rides on the smaller pulley.

Route the belt onto the two pulleys on the tiller as shown in Figure 24. **Note: It is not necessary to remove rear tire to install belt.** Check the belt to be sure it has no twists, and that all pulleys and idlers are aligned with each other.

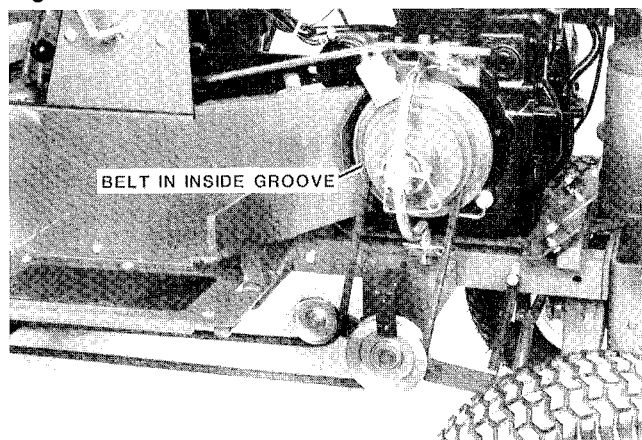


FIG. 23 Belt Routing-Front

Attach the idler guard to its support bracket with two 1/4-20 x 1/2 self-tapping bolts (Fig. 25).

REMOVAL

The tiller can be removed from the tractor by the following procedures:

1. Remove the drive belt.
2. Remove the mid-mount idlers.
3. Remove the tiller from the tractor by disconnecting

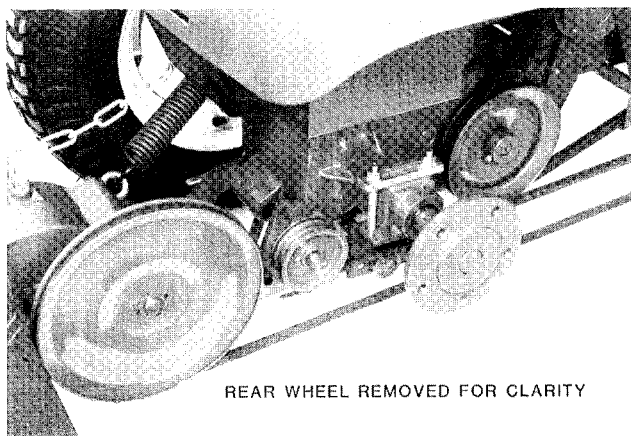


FIG. 24 Belt Routing-Rear

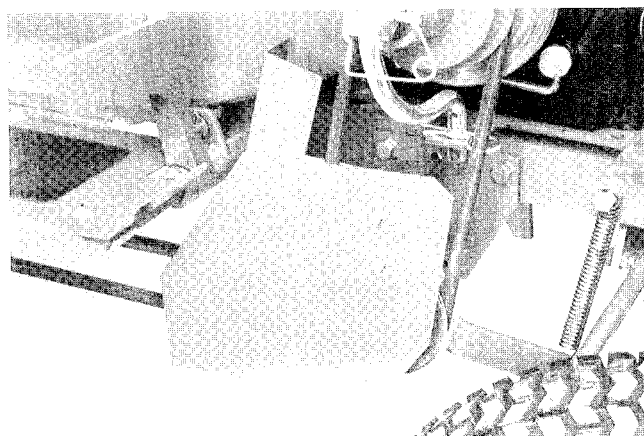


FIG. 25 Install Idler Guard

the lift chain, the spring assist and opening the rear quick-hitch.

For more detailed removal instructions consult the "Installation Instructions" in the areas mentioned above.

OPERATION AND ADJUSTMENT

IMPORTANT: Each time the tiller is installed, check for proper operation of the PTO clutch and brake. Adjustment of the PTO is covered in the tractor Operator's Manual. In extreme applications, such as tilling sod or hard packed ground, the PTO should be tightened by turning the adjustment trunnion 1 to 2 full turns farther onto the PTO rod.

⚠ CAUTION ⚠

Do not operate the tiller until you are completely familiar with the tiller and the tractor controls and insure that other operators do the same. Observe all safety precautions.

Check all connections, fasteners, and for obstructions in the tines before each operation.

Clear the area of all foreign materials before tilling.

For maximum traction and steering control, both front and rear wheel weights, as well as cleat tires or tire chains are recommended when using the tiller.

The method of tilling an area depends upon the type of soil, vegetation, compaction, moisture content, quantity of rocks or "trash", and whether it has been tilled before. Always start with the slowest ground speed and carefully observe how the tiller is working. If using an 8-Speed tractor, operate it in 1st gear, Low Range, to start. Use 2nd or 3rd gear, Low Range, as long as the tiller does not ride up on top of the soil and begin to push the tractor. If using an Automatic tractor, use the motion control lever to regulate ground speed to 0.5 mph (.8 kmh) initially, increasing speed if conditions permit.

The engine of the tractor must always be run at full throttle. Engage and disengage PTO with the tiller in the raised position. **NEVER ATTEMPT TO ENGAGE THE TILLER WHILE THE TINES ARE MAKING CONTACT WITH GROUND.**

To begin, position the tractor with the tiller in the raised position, above the starting point. Adjust the throttle control for full engine speed and engage the PTO.

With foot brake solidly applied, slowly lower the tiller and allow it to till to depth. Engage 1st gear or slowly move the motion control lever forward to place the tractor into motion. Increase ground speed as conditions permit. Maximum recommended speed is 1.5 mph (2.4 kmh).

Because of internal valving, automatic transmission tractors will have a tendency to speed up if the tiller encounters a variable load. Surging will be most noticeable in previously untilled areas, or if attempting to till too deep at one time. This will require adjusting the motion control lever to maintain the desired speed, and is a normal condition.

Care should be exercised when tilling sod, gumbo, virgin ground, or very dry and packed soil, as the tiller will have a tendency to push the tractor. This condition can be corrected by disengaging the PTO and raising the tiller so it penetrates only the very top of the soil. The tiller can be lowered to the desired depth on succeeding passes.



If the tiller starts to push the tractor, disengage the PTO clutch immediately.

The shape, size, obstructions, etc. of the area to be tilled will determine the tilling pattern. Normally, tilling is

done in long straight passes. **Gradual** curves can be followed while tilling. **DO NOT MAKE TURNS WHILE THE TILLER IS IN THE GROUND. DAMAGE TO THE EQUIPMENT MAY RESULT.**

At the end of each pass stop the tractor. Raise the tiller out of the ground and disengage the PTO. Then, it is usually easiest to turn the tractor around and make the next pass in the opposite direction.

As with most tillers, a very small center area will not be tilled as the tines must clear the gear box. This can be corrected by making a second pass overlapping the first pass.

Avoid over-tilling the soil. Soil tilled too fine will not readily absorb moisture. Over-tilling will cause puddling and water run-off. The soil will also compact easily.

Tilling width can be varied in 3 in. (8 cm) increments between 30 and 36 in. (76 and 91 cm) by removing the outside tine assemblies.



Do not use tiller without side covers. Keep all persons a safe distance away when operating the tiller. Always disengage the PTO, lower the attachment and remove the ignition key before making any adjustment or repair.

MAINTENANCE AND STORAGE

The oil level should be checked before using the tiller and periodically thereafter. Oil changes are not required.

Check the oil level by removing the pipe plug (Figs. 1 & 16) in the bottom of the right gear case, with the tiller in **operating position**. If gear lube runs from the case when the plug is removed, the lube in the case is sufficient. Oil may be added as necessary.

GEAR BOX LUBRICANT: SAE 90-140 API Service GL-4 or GL-5 oil; refill capacity 1 qt. (.94 liter).

The tiller should be washed with a garden hose after each use. A mild automotive type detergent may be used to remove stubborn dirt. Touch up painted surfaces with a fresh coat of "Toro Wheel Horse Red", available from your authorized dealer in aerosol cans.

The tines should be painted, or a thin coating of grease should be applied after each use to prevent rust.

Store the tiller in a clean, dry place or protect it with a waterproof cover when stored outdoors.

TILLING DEPTH/GROUND CLEARANCE/LIFT EFFORT

The following table shows the relative effects of chain length and lift cable trunnion position on tilling depth, transport ground clearance, and lift effort, for guidance in making lift system adjustments. Tilling depth can also be limited using the tractor's hydraulic lift or Dial-A-Height control, if so equipped.

NOTE

The lift bellcrank used on 1977 and prior tractors (supplied with Service Assemblies mentioned under "Description") does not have slots to permit changing the chain end link location as described below. Shorten the chain at the tiller end and change the lift cable trunnion location to alter tilling depth and transport ground clearance.

Belcrank Slot (Chain End Link Location)	Tilling Depth*	Transport Ground Clearance*	Lift Effort (Manual Lift)
Top	Shallow	Low	Very Low
Middle	Deeper	Higher	Low
Bottom	Deepest	Highest	Moderate

*Threading trunnion farther onto lift cable decreases tilling depth, increases ground clearance.

MAXIMUM TILLING DEPTH

Chain in bottom bellcrank slot; use full length.

Trunnion threaded completely onto lift cable.

Transport ground clearance: approximately 2 in./5 cm.

MAXIMUM TRANSPORT GROUND CLEARANCE

Chain in bottom bellcrank slot, shortened one link at clevis.

Trunnion threaded completely onto lift cable.

Tilling depth: approximately 4 in./10 cm.

RECOMMENDED "ALL-AROUND" SETTING

Chain in bottom bellcrank slot, shortened one link at clevis end.

Trunnion at end of lift cable.

Tilling depth and transport ground clearance: approximately 5 in./13 cm.

For reduced lift effort (manual lift), put chain in middle bellcrank slot. Depth and clearance dimensions are reduced by approximately 1 in. /2.5 cm.



Consumer
Products

THE TORO TOTAL COVERAGE GUARANTEE

A Full Two-Year Warranty (Limited Warranty for Commercial Use)

What Is Covered By This Express Warranty?

The Toro Company promises to repair any TORO Product used for residential purposes if defective in materials or workmanship for a period of two years from the date of purchase. The cost of parts and labor are included, but the customer pays the transportation costs.

Transportation within a 15 mile radius of the servicing dealer is covered under this warranty for two-stage snowthrowers, walk behind debris equipment and all TORO Wheel Horse riding products. Walk power mowers, single stage snowthrowers, and other products not specifically covered, are excluded from the transportation coverage provided by this warranty.

What Products Are Covered By This Warranty?

This warranty applies to all gasoline powered Consumer Products (including TORO Wheel Horse riding products). ProLine riding products, wide area walk behind mowers and 21" Commercial mowers without blade stop controls are covered by separate warranty statements.

How About Commercial Use?

TORO Consumer Products used for commercial, institutional or rental use are covered by a limited warranty for the following time periods from the date of purchase:

Products	Warranty Period
• Garden Tractors	
Chassis	1 year limited warranty
Engine	2 year limited warranty
• 21" Commercial Duty Walk Mower with blade stop controls	1 year limited warranty
• Lawn Tractors, Yard Tractors, Rear Engine Riders, 3.0 and 3.5 HP Edgers, Straight Shaft Trimmers, and Backpack Blowers	90 day limited warranty
• All Others	45 day limited warranty

How Do You Get Warranty Service?

Should you feel your TORO product contains a defect in material or workmanship, contact the dealer who sold you the product or any Authorized TORO Service Dealer or TORO Master Service Dealer. The Yellow Pages of your telephone directory is a good reference source. The dealer will either arrange service at his/her dealership or recommend another Authorized Service Dealer who may be more convenient. You may need proof of purchase (copy of registration card, sales receipt, etc.) for warranty validation.

If for any reason you are dissatisfied with the Service Dealer's analysis of the defect in materials or workmanship or if you need a referral to a TORO Service Dealer, please feel free to contact us at the following address:

Toro Customer Service Department
8111 Lyndale Avenue South
Bloomington, MN 55420-1196
612-888-8801

What Must You Do To Keep The Warranty In Effect?

You must maintain your TORO Product by following the maintenance procedures described in the operator's manual. Such routine maintenance, whether performed by a dealer or by you, is at your expense.

What Does This Warranty Not Cover? and

How Does Your State Law Relate To This Warranty?

There is no other express warranty except the TORO Starting Guarantee on GTS Engines. This express warranty does not cover:

- Cost of regular maintenance service or parts, such as filters, fuel, lubricants, tune-up parts, blade sharpening, brake and clutch adjustments.
- Any product or part which has been altered or misused or required replacement or repair due to normal wear, accidents, or lack of proper maintenance.

- Repairs necessary due to improper fuel, contaminants in the fuel system, or failure to properly prepare the fuel system prior to any period of non-use over three months.

- Pickup and delivery charges for distances beyond a 15 mile radius from an Authorized TORO Service Dealer (covered products only).

All repairs covered by this warranty must be performed by an Authorized TORO Service Dealer using Toro approved replacement parts.

Repair by an Authorized TORO Service Dealer is your sole remedy under this warranty.

The Toro Company is not liable for indirect, incidental or consequential damages in connection with the use of the TORO Products covered by this warranty, including any cost or expense of providing substitute equipment or service during reasonable periods of malfunction or non-use pending completion of repairs under this warranty. Some states do not allow exclusions of incidental or consequential damages, so the above exclusion may not apply to you.

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

COUNTRIES OTHER THAN THE UNITED STATES OR CANADA

Customers who have purchased TORO products exported from the United States or Canada should contact their TORO Distributor (Dealer) to obtain guarantee policies for your country, province, or state. If for any reason you are dissatisfied with your Distributor's service or have difficulty obtaining guarantee information, contact the TORO importer. If all other remedies fail, you may contact us at The Toro Company.