



ROTARY TILLER

J-72

Operator's Manual No. 9-50543

JI Case
A Tenneco Company





This Safety Alert Symbol Indicates Important Safety Messages In This Manual When You See This Symbol Carefully Read The Message That Follows and Be Alert To The Possibility Of Personal Injury Or Death

IF THIS MACHINE IS USED BY AN EMPLOYEE OR IS LOANED OR RENTED, MAKE ABSOLUTELY CERTAIN THAT THE OPERATOR(S), PRIOR TO OPERATING:

- 1. IS INSTRUCTED IN SAFE AND PROPER USE.**
- 2. REVIEWS AND UNDERSTANDS THE MANUAL(S) PERTAINING TO THE MACHINE.**

751253



WARNING

BEFORE STARTING ENGINE

**STUDY OPERATOR'S MANUAL SAFETY MESSAGES
READ ALL SAFETY SIGNS ON MACHINE
CLEAR THE AREA OF OTHER PERSONS**

LEARN & PRACTICE SAFE USE OF CONTROLS BEFORE OPERATING

IT IS YOUR RESPONSIBILITY TO UNDERSTAND AND FOLLOW MANUFACTURER'S INSTRUCTIONS ON MACHINE OPERATION, SERVICE, AND TO OBSERVE PERTINENT LAWS AND REGULATIONS. OPERATOR AND SERVICE MANUALS MAY BE OBTAINED FROM YOUR EQUIPMENT DEALER.

SAFETY MESSAGES



The safety messages contained in this manual are to be used together with the safety messages appearing in the tractor operator's manual. Be sure to review both carefully before operating the tractor-tiller combination.



CAUTION: Loose fitting clothing may catch in moving parts. Wear proper fitting, substantial clothing when operating your tractor-tiller combination.



CAUTION: Disengage the tiller clutch, stop engine, place transmission in neutral, set parking brake and wait for all motion to stop before leaving the tractor seat to clean tiller tines or for any other reason.



CAUTION: Disengage the tiller clutch whenever the tiller is lifted into the transport position.



CAUTION: Operate tractor and tiller from proper seat position only. Any other method could result in a serious injury.



CAUTION: When operating on an incline, always back up and drive down. Always use extreme care in rough or uneven terrain and inclines. Be sure to equip your tractor with a minimum of 115 pounds (52 Kg) of front counterweight and 57½ pounds (26 Kg) of weight to each rear wheel with tiller attached to obtain required overall stability.



WARNING: Use extreme caution when loading unit on trailer. Always back up the ramp or trailer when loading; drive down when unloading. When unit is on trailer, set the parking brake and lower the tiller so it is resting on the trailer floor. Block wheels securely and attach transport chains.



CAUTION: Be sure the tiller clutch is disengaged (lever locked behind stop) before starting tractor engine.



WARNING: The rotary tiller has high speed rotating tines. Keep all parts of the body behind the shields provided to prevent contact with these tines and personal injury.



CAUTION: When installing tiller or replacing drive belt, run in the belt and check for proper declutching before use. Adjust primary drive belt keeper if necessary.

Be sure to equip the tractor with rear wheel weights and front end weights before operating your tractor with tiller attached.



CAUTION: Use care when hooking the assist spring. Secure spring to assist spring anchor with flat washers and cotter pin before tensioning.

Prevent spring from sliding off stud on lift lever when tensioning. Install nut, bolt, sleeve and washers immediately after tensioning.



CAUTION: Be sure all three belt guards (1) the tractor clutching belt guard, (2) the tiller primary drive belt guard, and (3) the tiller secondary drive belt guard) are properly installed before starting the tractor engine.

IMPORTANT: Always install new decals whenever the old decals are destroyed, lost, painted over or illegible. When individual parts are replaced that have decals attached, be sure to install a new decal with the new part. Replacement decals are available from your Case dealer.

INTRODUCTION

Read this manual carefully before operating your J-72 tiller. Your J I Case Compact Tractor Dealer is well qualified to answer any further questions you might have concerning your equipment. Also, if the need should arise, his service department with factory trained technicians, genuine Case replacement parts and the required facilities is in a position to provide proper repairs in the shortest time possible. The definitions "Right, Left, Front and Rear" as used throughout this manual relate to the tractor and tiller when the operator is seated facing forward in the normal operating position.

TILLING, GENERAL

The J-72 mechanical drive rotary tiller is an unusually versatile attachment. Complete familiarity with its capabilities and operating characteristics will enable you to secure maximum benefits for your garden. This rotary tiller has been thoroughly field-tested under a wide variety of operating conditions, and the final combination of tine geometry, tine spacing, shaft speed and control system has been proven to be the most suitable for varied field conditions. You will find this attachment highly durable and productive in your gardening activities.

A tiller is simply a mechanism for changing the condition of soil. The familiar moldboard plow performs a tilling function, but where the plow turns the soil in long folds or furrows the rotary tiller turns the soil in chunks or small particles....and therein lies the secret of the tillers' versatility. A rotary tiller can be used to perform any of the following functions:

1. Change soil physical conditions, such as in plowing, cultivating and aerating.
2. Control weeds by chopping and churning them into the soil.
3. Preparing seed beds by tilling the soil to a fine texture.
4. Mix chemicals or organic matter such as fertilizer, manure, herbicides and insecticides into the soil.

5. Manage crop residue by turning it under to form mulch.
6. Modify soil topography such as in landscaping.
7. Cultivate or level ground around trees, hedges, or in orchards.
8. Blend various soils and soil modifiers for landscaping and greenhouse work.

AERATION

For aeration purposes the tiller should simply disturb the soil surface without completely turning it over....in much the same manner as inserting a spade each few inches and loosening the soil in clumps. The surface of the soil should be left very rough, with occasional holes and deep fractures to several inches. This permits ready penetration of air and moisture with minimum danger of erosion or crusting. Previously tilled garden areas can be aerated by operating the tiller at comparatively rapid travel speeds....wherein the tiller almost "walks" with the tractor....tines should enter and exit the soil with minimum tearing and churning.

SEEDBED PREPARATION

Tilling for seedbed preparation requires a more thorough working of the soil structure to break it up into small enough particles to provide intimate contact between soil and seed. The ideal structure provides a relatively fine grained soil structure down to seed depth, with progressively coarser grained structure down to the full tilling depth. The interface between tilled and untilled strata should be rough to permit percolation of water.... a smooth, interface, like hardpan, tends to serve as a barrier to deep water and root penetration.

When preparing seedbeds it is generally necessary to use successive passes over the same area to achieve desired depth and texture....each successive pass provides a finer texture to the upper layers while adding to depth of penetration. Allow the tiller to "work" its way into the soil by keeping the tractor travel speed slow but steady, and offset your tilling path a few inches over from the previous path so that tines will till out the trail left by the chain case.

CULTIVATION AND WEED CONTROL

Set the tiller for a shallow depth of one to two inches for cultivating and weed control activities. Avoid over-pulverization of the soil since this tends to "crust" with rain or "dust" away with wind.

The removable drag shield in its normal position serves as an additional bounce shield for breaking up the soil to a finer, uniform texture. The trailing serrations even out the tilled soil to leave a smooth surface, ready for lawn seeding or garden planting. The shield is easily removable for tilling in paddies, for rough tilling or aerating as you prefer.

ORCHARD CULTIVATION

Periodic cultivation between hedgerows or tree rows will provide a continuous rough surface for greatest absorption of water.

The offset mounting feature is particularly valuable for tilling under overhanging branches without "barking" the trees with the tractor.

Several passes with the tiller under nut trees, just prior to harvesting, will provide a smooth and clean surface for easiest harvesting....the nuts can be easily swept or raked up without having to drag through weeds or grass.

LANDSCAPING

Using the rotary tiller for landscaping purposes involves tilling the soil to a very fine texture to allow leveling or removal to another area. Several passes are usually required for this operation, particularly if the old lawn or field is well compacted and threaded with a dense root structure.

Fill ground should be tilled just prior to the application of top soil to aid in forming an interlaced structure between top soil and fill soil....to aid in water and root penetration.

MIXING, BLENDING

Fertilizers, chemicals, manure, humus, old sawdust, compost or other growth producing soil additives can be effectively mixed into the soil by dispersing this material over the ground just prior to tilling. If the area to be tilled is tough then broadcast the additives between successive tiller passes to obtain most effective blending. Special purpose soil blends for potting, hothouse, greenhouse, or other applications can be quickly and easily developed with this tiller. Similarly, soil structure modifiers such as sand, gravel, sawdust and wood chips can be tilled into the soil to form a desired soil base.

SUMMARY

The CASE J-72 tiller is truly a remarkable tool with versatility limited only by the ingenuity of the operator. All tilling functions can be enhanced by exercising reasonable care when tilling in tough or rocky soils, and reasonable care in maintaining the attachment when not in use. Removing large rocks, bottles and sticks from the tilling area, and mowing or burning of excessive vegetation will greatly simplify the tillers tasks....similarly painting bare metal areas will greatly lengthen the tiller life when in storage.

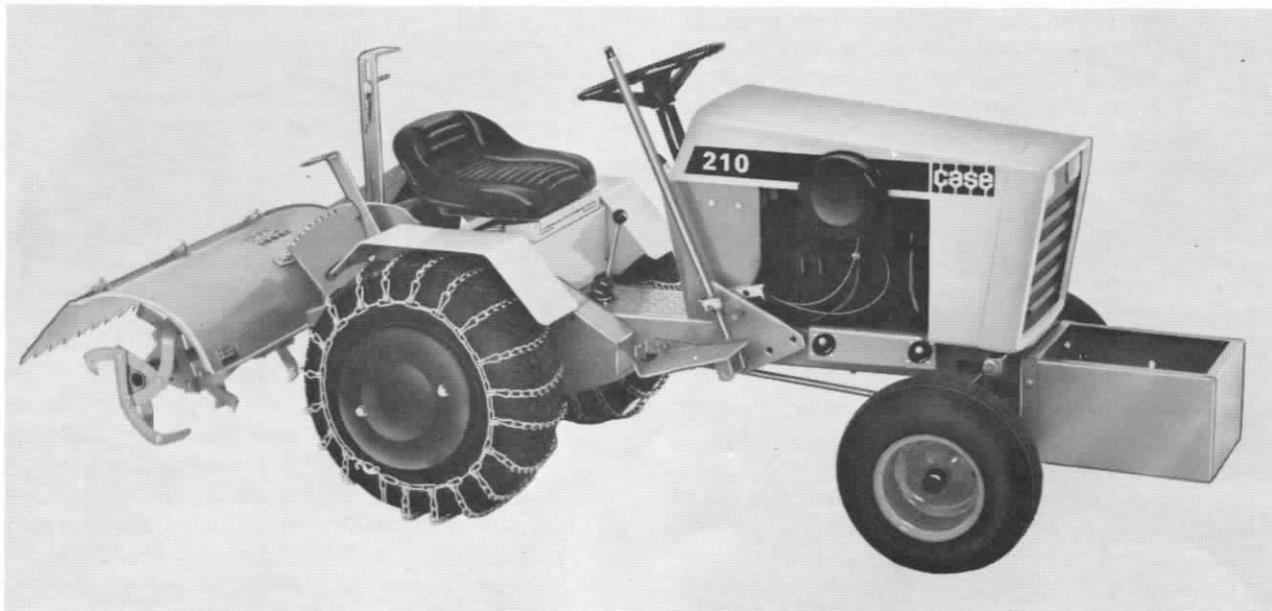


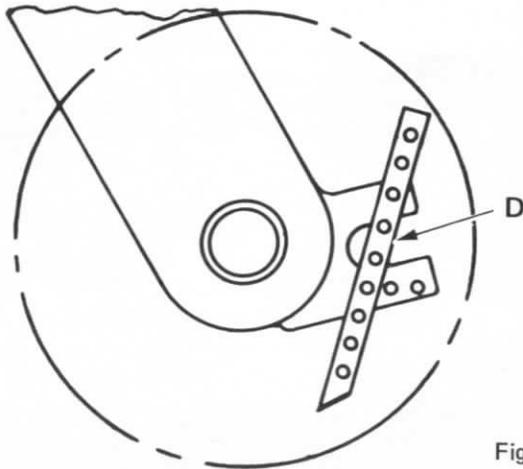
Figure 1

Model J-72 Tiller Mounted on 210 Tractor with K-8 Wheel Weights, D-12 Chains and H-13 Weight Box

OPERATION

TILLER DRIVE

The tiller tine rotation may be started and stopped with an engaging lever on the tiller independent of travel speed. With the engaging lever rearward (behind the stop) the tiller drive is disengaged. With the lever forward, the tiller is engaged. See Figure 4.



DEPTH ADJUSTMENT

The tiller is raised and lowered by the hand lift lever on the mounting bracket. A counter balance spring is provided to reduce the amount of lifting effort required. One notch is provided on the lift lever quadrant for full lift. Eight notches are provided on the lower end of the quadrant to provide eight practical working depths.

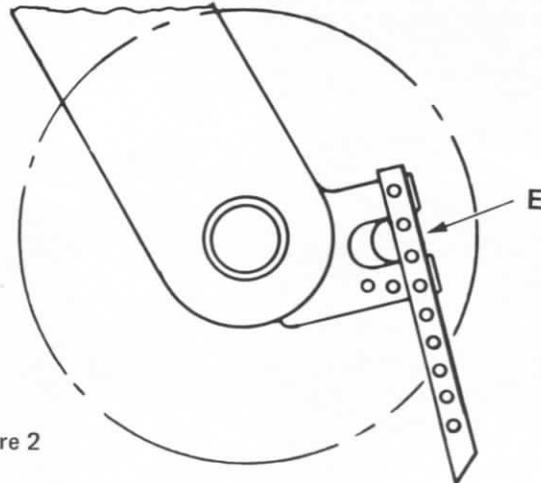


Figure 2

RETARDING CHISEL

A retarding chisel is included with the tiller for mounting behind the chain case. This chisel aids in tractor speed control for some tilling conditions. By installing this chisel angled ahead and slightly above the cutting level of the tiller tines, it will help to prevent the tiller from driving the tractor too fast, and it will also break up the ridge under the chain case (Reference "D", Figure 2). The chisel can also be used for limiting tillage depth by setting it under the tine cutting level and angling it to the rear (Reference "E"). There is little need for the chisel when using the tiller for normal tilling, weed control and aeration.

DRAG SHIELD

The drag shield in its normal position serves as an additional means for breaking up the soil to a finer, uniform texture. The trailing serrations even out the tilled soil to leave a smooth surface, ready for lawn seeding or garden planting. The shield is easily removable for tilling in paddies, for rough tilling or aerating as you prefer. Refer to the assembly section of this manual for the correct drag shield removal and replacement procedure.

TINES

This tiller is assembled at the factory with precise placement of each tine to achieve proper radial timing and overlapping of cutting paths. Tine timing and overlapping are critical ingredients to optimum tiller production and smooth operation, therefore, removing individual tine blades is not recommended except for replacement.

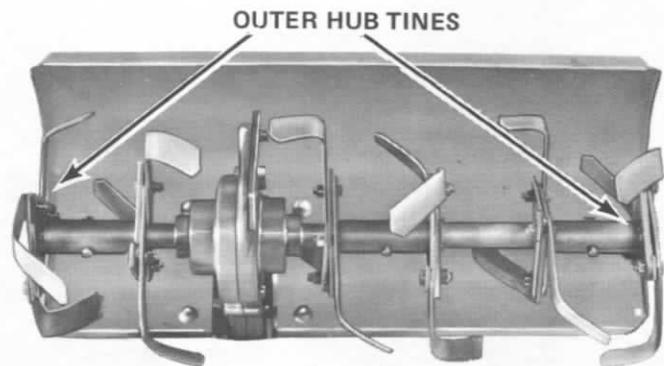


Figure 3

All three tines on each outer hub plate point in toward the center of the tiller. This provides a smooth, well defined edge of cut, reduces the amount of "kick out" of material and permits closer tilling and cultivating to plants without catching foliage on the tine ends. The tiller width may be reduced for severe application by removing one or more tine sections.

TRACTOR CONTROLS

A rotary tiller, under full load, consumes most of the available engine horsepower, therefore, always operate the tiller at high engine RPM to provide high horsepower and adequate engine cooling. Lugging the engine down to low RPM results in inadequate cooling and additional loss of horsepower through excessive internal heat. High engine RPM also provides high tine speeds for most effective tilling.

For most tilling conditions, creeper gear should be used. Under tough tilling conditions, best results will be obtained by allowing the tiller to make initial surface penetration to a shallow depth on the first pass, then increase tilling depth with successive passes until desired depth is reached.

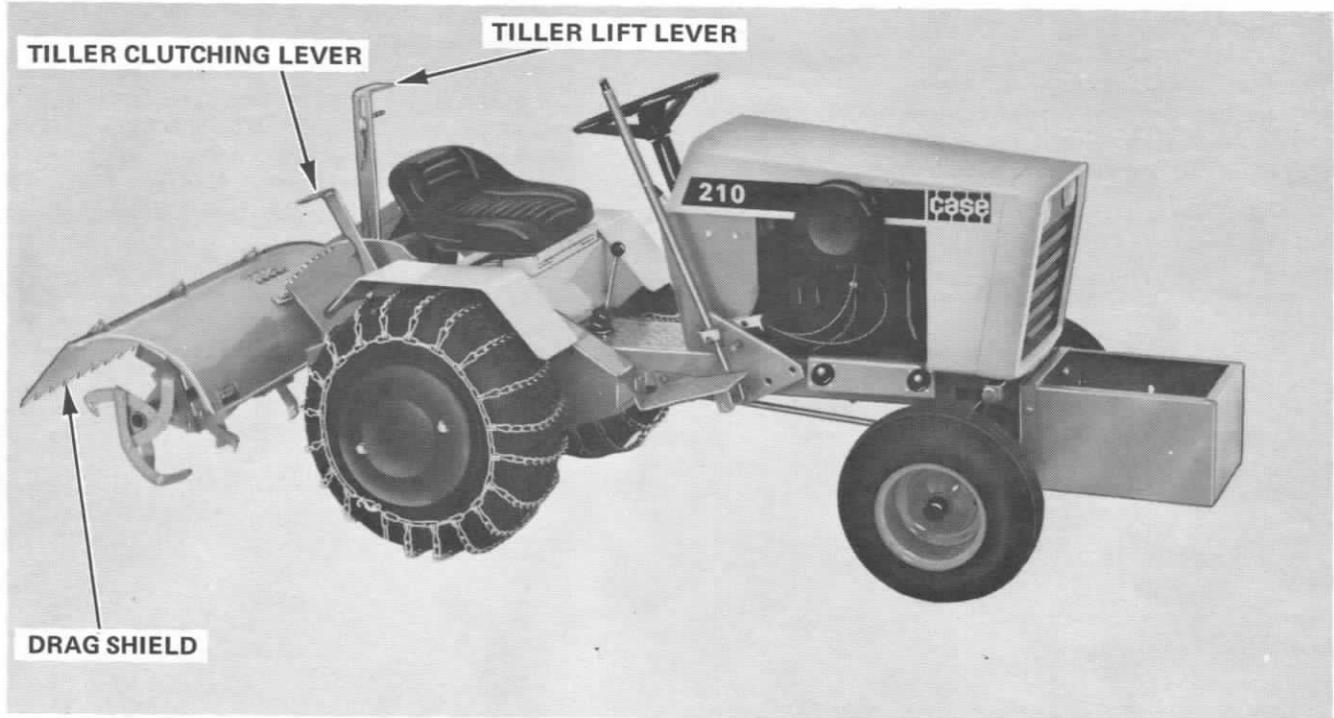


Figure 4

Model J-72 Tiller mounted on 210 tractor with K-8 Wheel Weights, D-12 chains and H-13 Weight Box

OPTIONAL EQUIPMENT REQUIRED FOR BEST PERFORMANCE

Proper weighting of the tractor is imperative to achieve satisfactory results. Rear wheel weights and tire chains provide improved traction and stability. Front end weights will provide improved stability and steering control of the tractor and must be used when operating on inclines. If the H-13 front weight box is used, a minimum of 115 pounds (52 Kg) of weight must be added to it.

Optional weighting can be obtained from your authorized J I Case Compact Tractor Dealer.



CAUTION: When operating on an incline, always back up and drive down. Always use extreme care in rough or uneven terrain and inclines. Be sure to equip your tractor with a minimum of 115 pounds (52 Kg) of front counterweight and 57½ pounds (26 Kg) of weight to each rear wheel with tiller attached to obtain required overall stability.

MAINTENANCE

BELTS AND RETAINERS

Before operating the tiller for the first time each season and again after the first few hours of operation, recheck all bolts and retainers to be sure they are properly secured.

REDUCTION GEAR HOUSING

The gear housing is properly packed with number 2 Lithium base grease at the factory and will normally not require further servicing. The gear housing should be opened at the start of each season and repacked with grease if required.

TILLER CHAIN HOUSING

The chain housing is properly filled with number 2 Lithium base grease at the factory and will normally not require further servicing. An inspection plug is located on the upper right side of the chain housing and lubricant can be added at this point if necessary. Check the chain housing for lubricant at the start of each season or if there should be any evidence of leakage.

ENGINE

Tilling is one of the more demanding operations which your tractor will be used. Consequently more frequent preventive maintenance is necessary to maintain high engine efficiency. The following daily checks will help to keep your tractor performance level high.

- a. Air Cleaner — Daily and more often under severe conditions, remove and carefully tap on a flat surface to dislodge dust and other foreign particles. Replace the element when there is evidence that it has become saturated with dust which will not tap out.
- b. Front Air Intake Screen — Check and brush off all dirt and debris.
- c. Engine Oil — Check level every eight hours of operation (or oftener when indicated). Keep oil level between marks on gauge. Do not overfill. Change the engine oil every twenty-five hours or as conditions warrant.
- d. Ignition — At the beginning of each season and as conditions warrant, check condition of plug wire, inspect for cracks, dirt and connection at spark plug. If engine condition warrants point inspection; in-

spect, clean, regap or replace. Upon breaker point replacement, replace condenser and reset engine timing in accordance with the tractor Operator's Instruction Manual. Inspect, clean, regap or replace the spark plug if needed.

- e. Fuel System — Use only a good grade of REGULAR gasoline. At the end of each season or if the tractor will be out of use for more than a month, run all gas out of the engine to prevent fuel decomposition and subsequent plugging of the carburetor fuel jets. Keep the fuel-air mixture properly adjusted as covered in tractor Operator's Instruction Manual. Check and clean filter screen in the fuel tank as conditions warrant.
- f. Upon completion of a period of tilling, allow the engine to idle for several minutes to cool-down before turning it off.

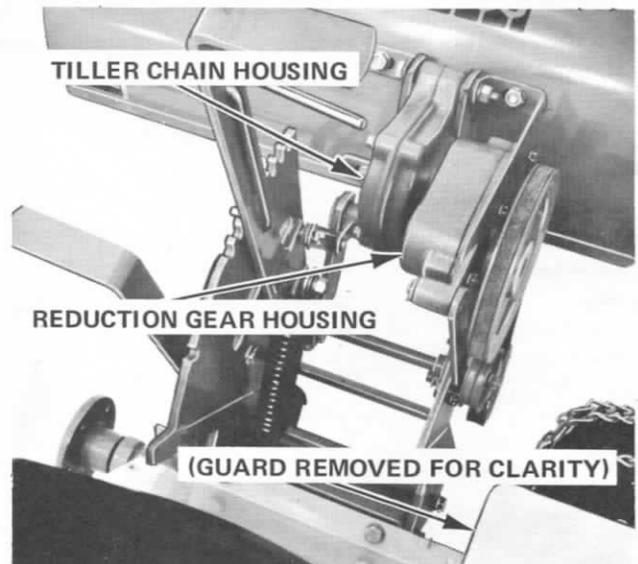


Figure 5

TIRE PRESSURE

Inflate tractor tires to the pressure specified below:

Tire Size	Type	PSI	k Pa	
6:50 x 8	Front (High flotation)	14	100	With front end weight applied
8:50 x 12	Rear (High flotation)	10	70	With rear wheel weights and

STORAGE

Check the condition of all painted surfaces and touch up as necessary to prevent rusting. CASE touch-up enamel is available through your Compact Tractor Dealer. Clean off the tines, hubs, and shaft and apply a coat of heavy oil or grease. Store in a dry sheltered location.

INSTALLATION

Unpackage your Model J-72 tiller and identify all the pieces shown in the illustration below.

In a few of the following photographs the right wheel and tire and fender have been removed for photographic clarity only. Removal of these parts is not necessary for tiller installation.

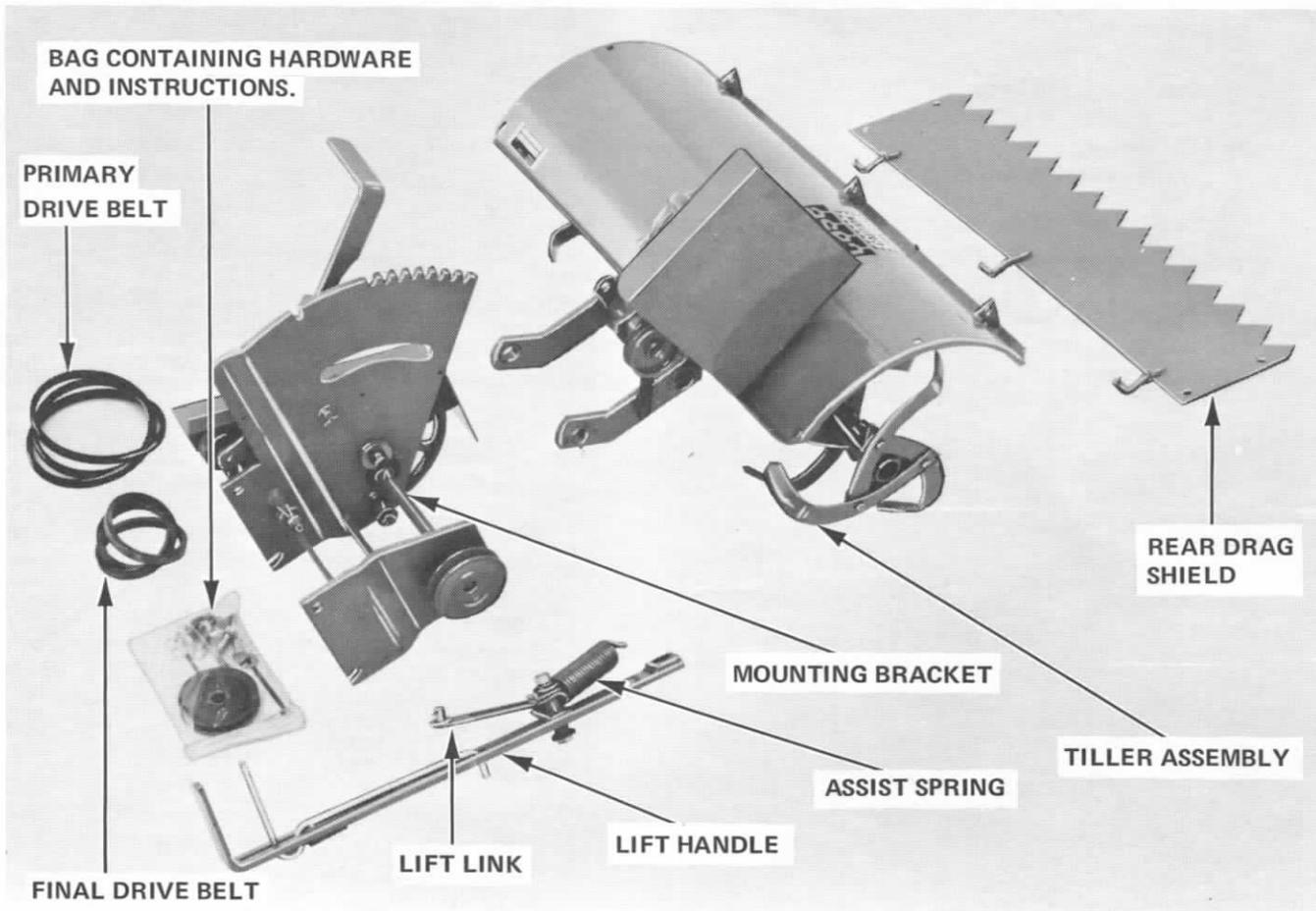


Figure 6

J-72 Tiller - Disassembled

INITIAL ASSEMBLY

Initial assembly of the tiller is easier if done in two stages.

They are:

1. Attaching the mounting bracket to the tractor.
2. Attaching the tiller assembly to the mounting bracket.

A. Preparation:

1. Remove the tow bracket from the tractor. Save the bracket, nuts and bolts for reinstallation when tiller is removed.
2. Remove the rear seat support. Cut a notch 3-1/4 inches (90 mm) long and even with bend as shown in Figure 7. This notch is required for clutching idler clearance.
3. Remove three belt guards:
 - a. tractor clutching belt guard
 - b. tiller primary drive belt guard
 - c. tiller secondary drive belt guard
4. Install tiller drive pulley with roll pin provided. The pulley should be installed with the long hub out.
5. Install the drive belt keeper in the rear flangette retaining bolt. Do not tighten at this time.

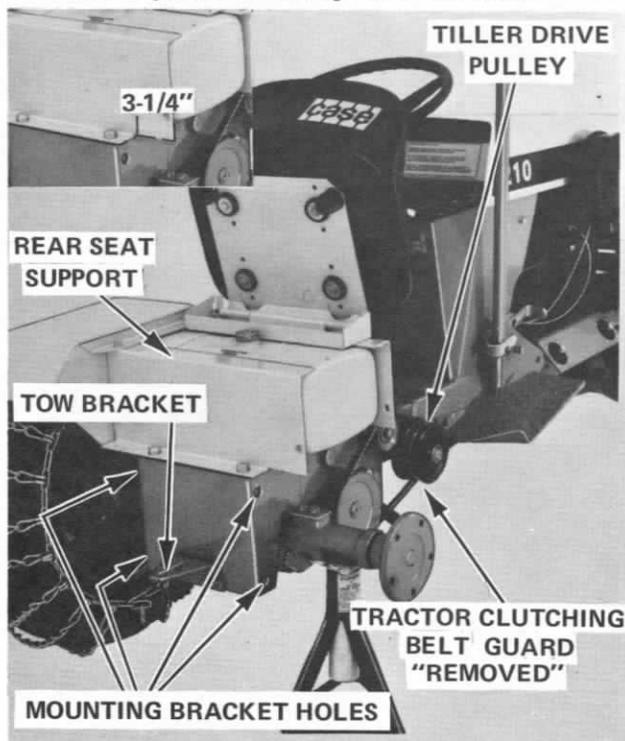


Figure 7

(Wheel and Tire and Fender Removed for clarity)

B. Attaching Mounting Bracket to Tractor:

1. Start lower mounting bolts on right and left sides with lockwasher next to bolt head and flat washer.

2. Slip lower slots in mounting bracket on started bolts. Tip bracket up and start upper mounting bolts with lockwashers.
3. Tighten all four bolts.
4. Remove shoulder bushings from lower rear of mounting bracket noting their preassembled position.

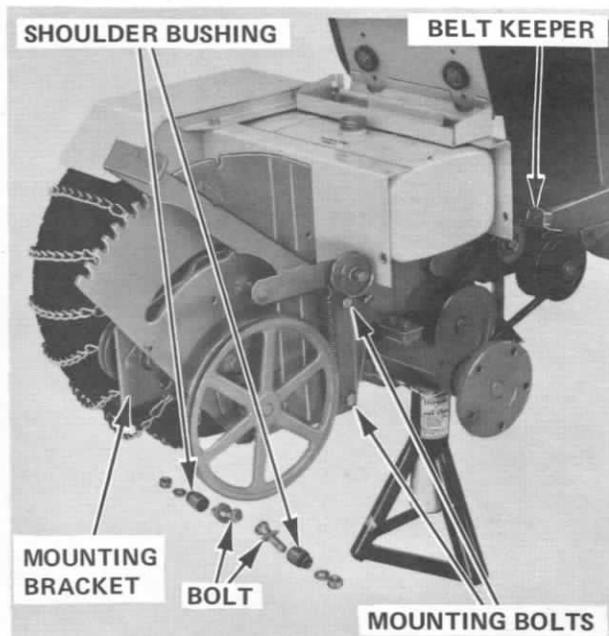


Figure 8

Attaching Mounting Bracket to Tractor
(Wheel and Tire and Fender removed for clarity)

C. Attaching Tiller Assembly to Mounting Bracket and Installing Lift Lever: (Refer to Figure 9.)

1. Line tiller assembly pivot holes to that in mounting bracket and secure with the shoulder bushings, bolts, washers and nuts.
2. Remove preassembled nut, bolt, sleeve and washers from lift lever. (Refer to Figure 10.)
3. Remove cotter pin and one washer from lift lever pivot stud. Position lift lever as illustrated, install washer and secure with cotter pin.
4. If your tiller is equipped with assist spring anchor as pictured:
 - (a) Remove cotter pin and washer from assist spring anchor.
 - (b) Move lift lever fully ahead to hook assist spring over assist spring anchor.
 - (c) Secure spring with washer and cotter pin.
5. If your tiller is not equipped with assist spring anchor as pictured:

- (a) Move lever fully ahead to hook assist spring in the $\frac{1}{4}$ inch diameter hole in the spreader bar. (See Figure 11.)
6. Carefully pull lift lever to one of the first notches and install bolt, sleeve, washers and nut as illustrated (See Figure 10.)
7. Connect lift link to tab on tiller assembly.

 **CAUTION:** Use care when hooking the assist spring. Secure spring to assist spring anchor with flat washers and cotter pin before tensioning.

Prevent spring from sliding off stud on lift lever when tensioning. Install nut, bolt, sleeve and washers immediately after tensioning.

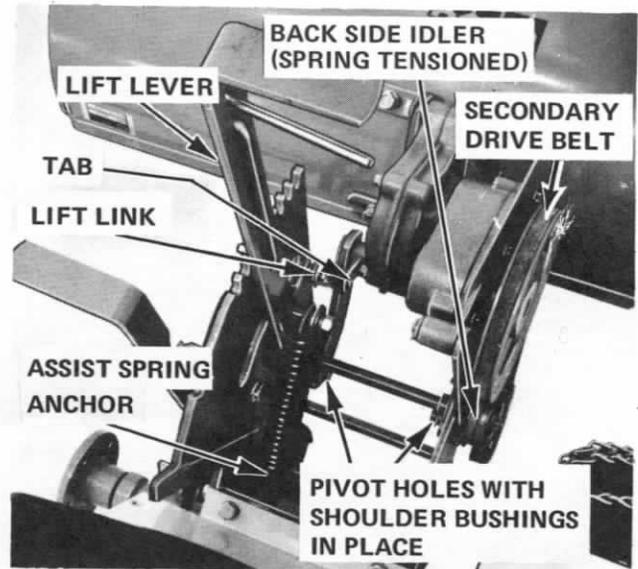


Figure 9

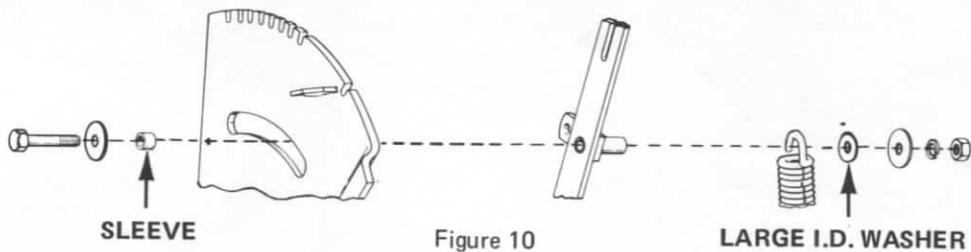


Figure 10

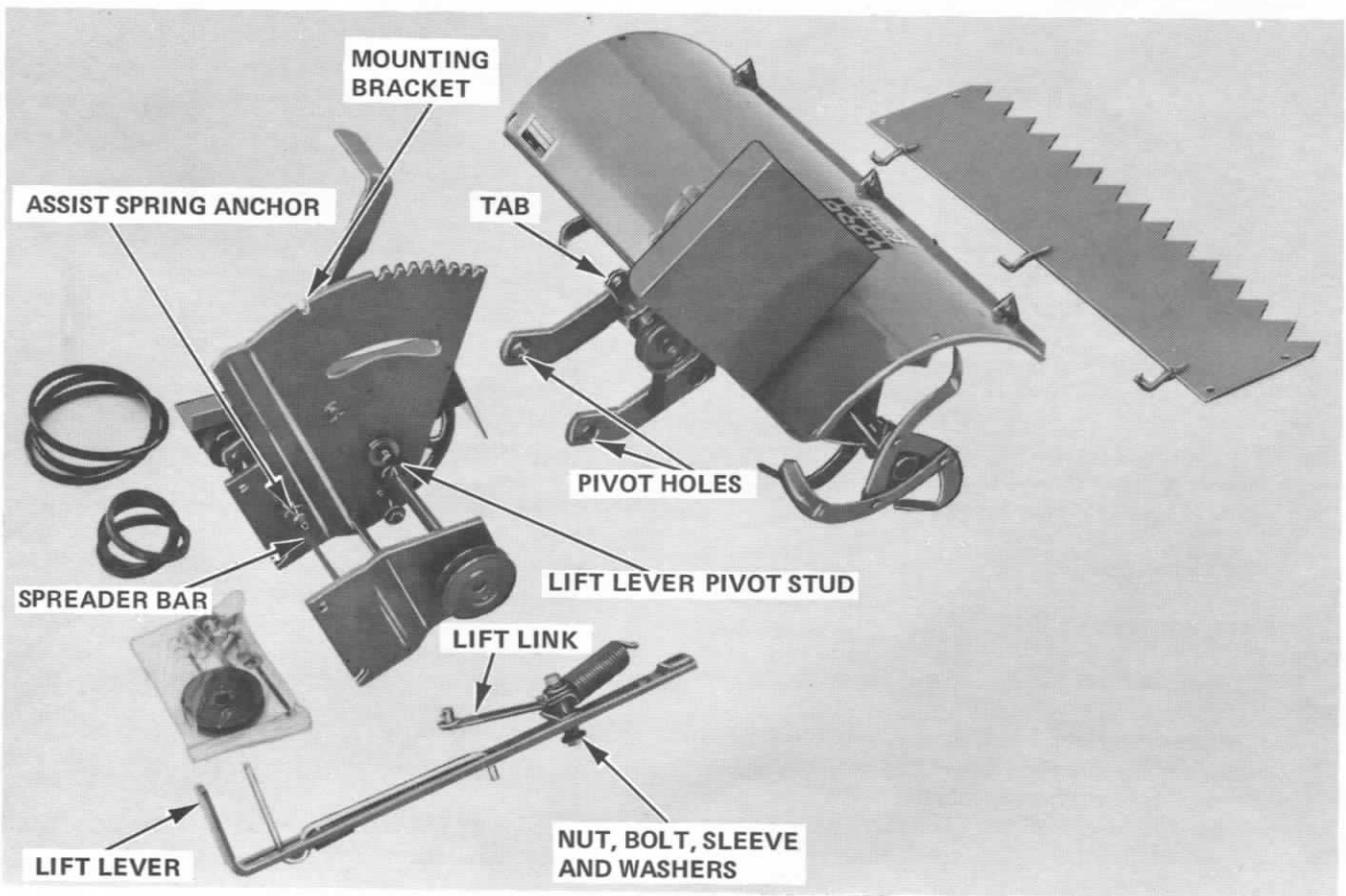


Figure 11

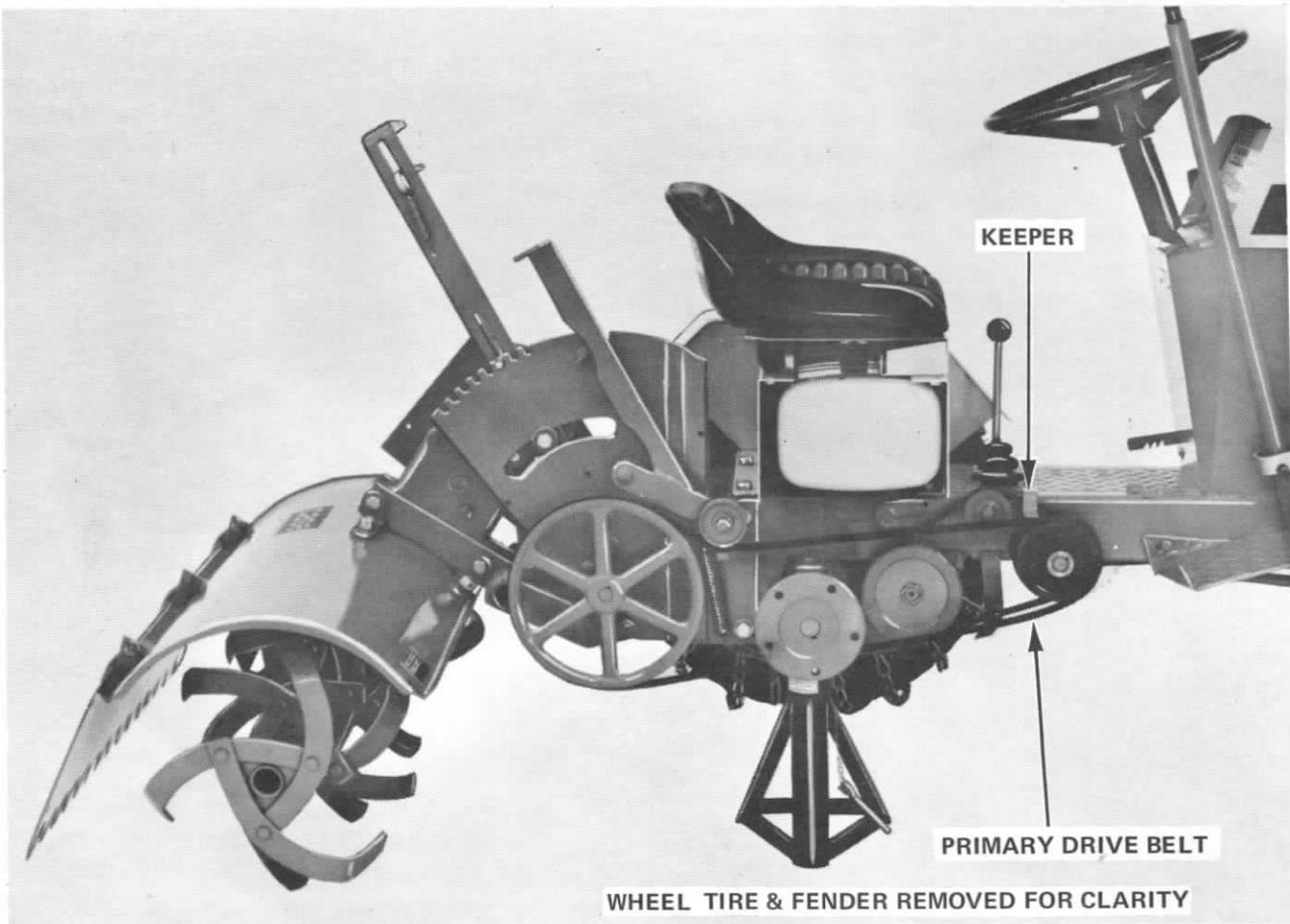


Figure 12

Tiller Assembly Attached to Mounting Bracket

D. Final Assembly Procedures:

1. Install secondary drive belt. (Refer to Figure 9.)

Carefully lift spring tensioned idler arm and guide belt behind backside idler. Check belt alignment.

If alignment is not perfect, shim idler with common washers or move pulleys slightly on their respective shafts to achieve proper alignment.

Replace belt guard.

2. Install primary drive belt.

Slip belt over tire and around pulleys as illustrated.

If alignment is not correct, shim idler with common washers or move pulleys slightly on their respective shafts to achieve proper alignment.

3. Adjust belt keeper as follows: (Refer to Figure 13.)

- a. Put the tiller drive belt in the "DRIVE" position.
- b. Adjust the keeper height to 1/8" (3 mm) above the tiller drive belt. Be sure to maintain clearance with the tractor drive clutching belt in the fully engaged position.
- c. Tighten the flangette retaining bolt.

Replace tractor clutching belt guard and tiller primary drive belt guards.

4. Install rear drag shield.



CAUTION: Be sure all three belt guards (1) the tractor clutching belt guard, (2) the tiller primary drive belt guard, and (3) the tiller secondary drive belt guard are properly installed before starting the tractor engine.



CAUTION: When installing tiller or replacing drive belt, run in the belt and check for proper declutching before use. Adjust primary drive belt keeper if necessary.

Be sure to equip the tractor with rear wheel weights and front end weights before operating your tractor with tiller attached.

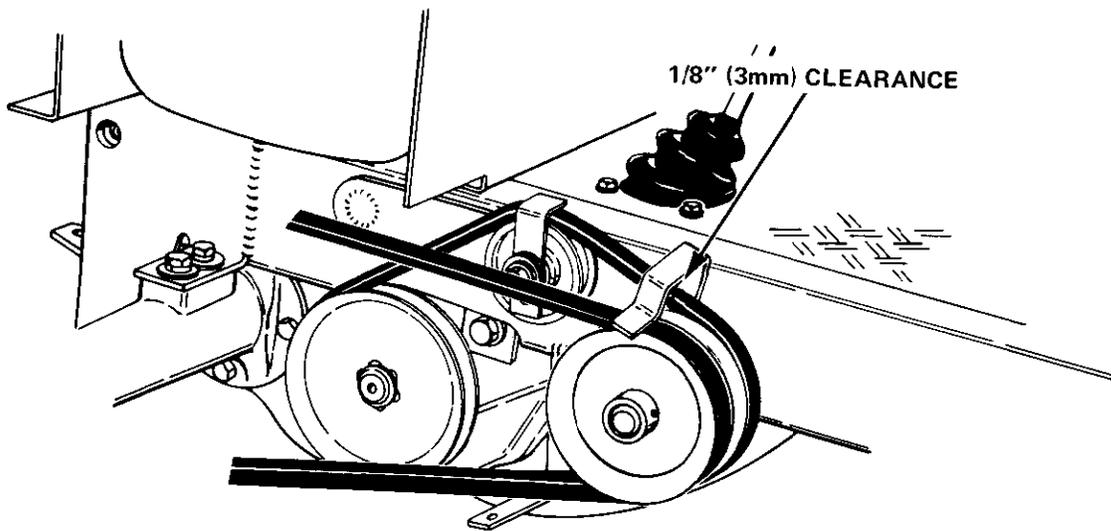


Figure 13

REMOVAL AND REINSTALLATION OF TILLER AFTER INITIAL ASSEMBLY

The tiller assembly and mounting bracket may be removed from the tractor for storage as a complete unit.

Removal Procedure.

1. Remove tractor clutching and tiller primary belt guards.
2. Remove primary drive belt.
3. Remove upper mounting bolts.
4. Loosen lower mounting bolts.
5. Slide tiller from lower mounting bolts and let rest on ground.
6. Remove lower mounting bolts.
7. Reinstall belt guards.
8. Reinstall tractor tow bracket.

Reinstallation Tractor Procedure:

1. Remove tractor tow bracket.
2. Remove tiller primary belt guard.
3. Carefully back tractor up to tiller aligning mounting holes.
4. Start lower mounting bolts.
5. Slip lower slots on mounting brackets over lower bolts.
6. Pull forward on lift handle to pivot mounting bracket on lower bolts to line up upper holes. Install upper bolts and tighten all four.
7. Remove tractor clutching belt guard.
8. Install primary drive belt and adjust keeper if necessary.

To adjust keeper:

- a. loosen (do not remove) the keeper mounting bolt.

b. put the tiller drive belt in the "Drive" position.

c. adjust the keeper height to 1/8" (3 mm) above the tiller drive belt. Be sure to maintain clearance with the tractor drive clutching belt in the fully engaged position.

d. tighten the keeper mounting bolt.

9. Check belt alignment. If alignment is not perfect, shim the idler with common washers or move the driven sheave on its shaft to correct.

10. Install the tiller primary drive and tractor clutching belt guards.



CAUTION: When installing tiller or replacing drive belt, run in the belt and check for proper declutching before use. Adjust primary drive belt keeper if necessary.

Be sure to equip the tractor with rear wheel weights and front end weights before operating your tractor with tiller attached.



CAUTION: When operating on an incline, always back up and drive down. Always use extreme care in rough or uneven terrain and inclines. Be sure to equip your tractor with a minimum of 115 pounds (52 Kg) of front counterweight and 57 pounds (26 Kg) of weight to each rear wheel with tiller attached to obtain required overall stability.



CAUTION: Be sure all three belt guards (1) the tractor clutching belt guard, (2) the tiller primary drive belt guard, and (3) the tiller secondary drive belt guard are properly installed before starting the tractor engine.

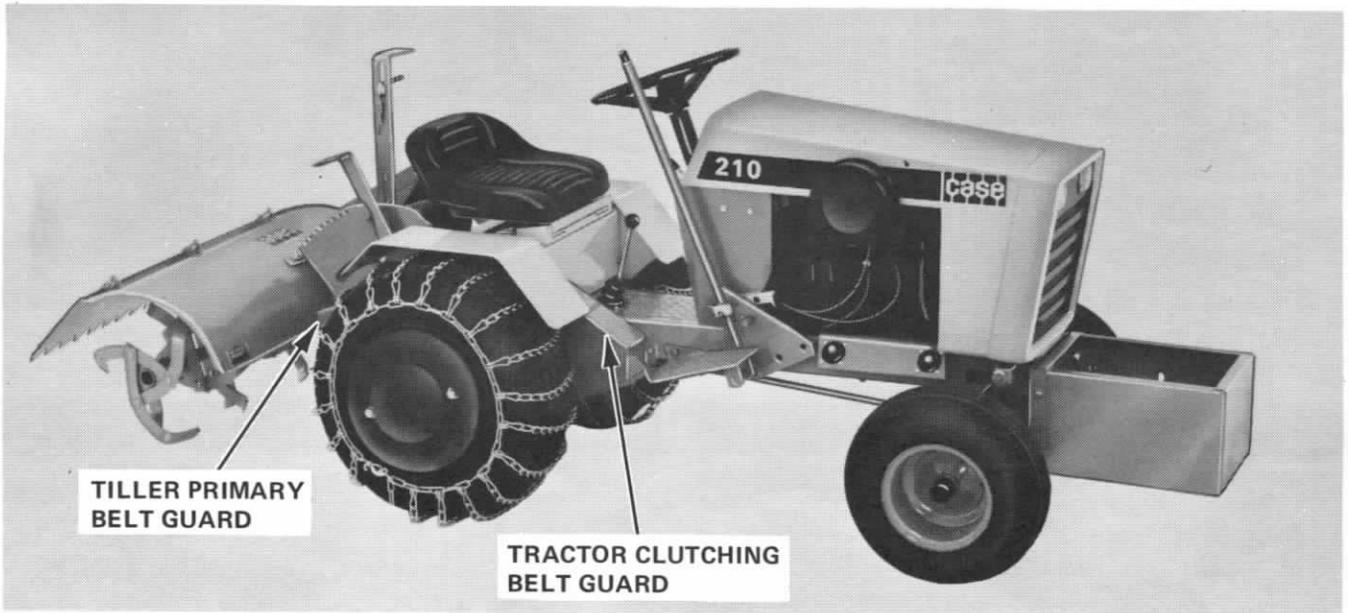


Figure 14

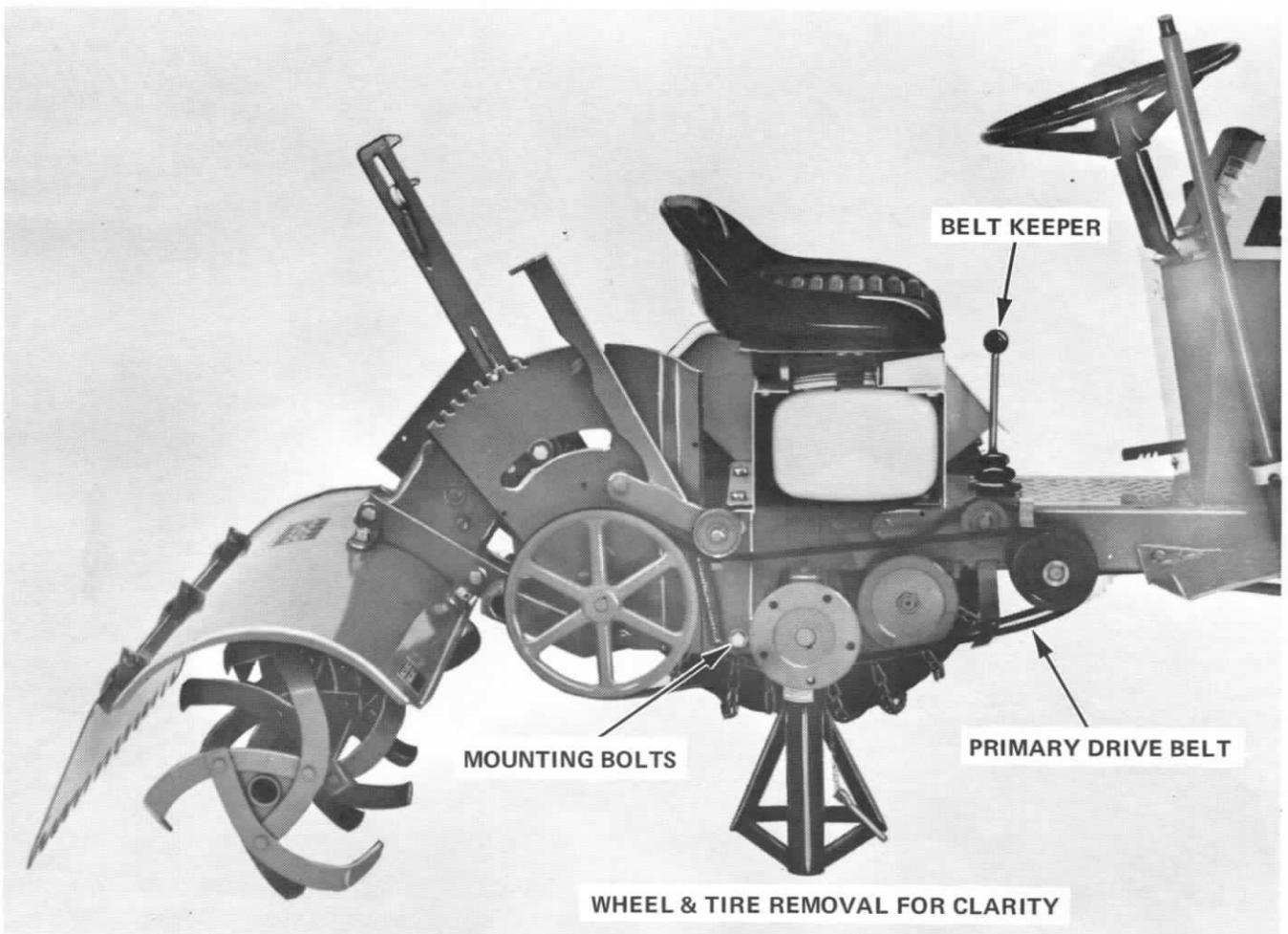


Figure 15

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