

TORO[®]



OWNER'S MANUAL



LAWN TRACTORS

MODEL NOS. 57104 – 000001 & UP (RECOIL)

MODEL NOS. 57204 – 000001 & UP (ELECTRIC START)

Price 25 cents

ABOUT YOUR NEW LAWN TRACTOR . . .

Toro knows how important proper mowing equipment is for lawn care, and Toro designers have, over the years, strived for and achieved the finest in mowing products. You, as a Toro owner, share the most advanced methods and machines available today. Give it the proper care, and it will repay you with precision service.

The more you know about the operation and mechanics of your Toro Lawn Tractor the better job it will do for you. That's why it is important to read your Owner's Manual from cover to cover before attempting to operate the machine.

Compare the illustrations to your Lawn Tractor so as to familiarize yourself with locations of controls, lubrication points, and adjustment sites.

Study the safety precautions thoroughly to insure proper functioning and to prevent injury to yourself and others.

At times minor changes are made in Toro products to improve their efficiency. Should you notice a variation in your Lawn Tractor that is not reflected in the Owner's Manual, see your Toro distributor or his authorized Toro Service Dealer for information and parts numbers.

SPECIFICATIONS

ENGINE: 7 H.P., 4 cycle, air cooled, paper element air cleaner.

FUEL TANK CAPACITY: One gallon.

TRANSMISSION: 3 speed forward and 1 reverse.

DIFFERENTIAL: Die cast aluminum housing.

SPEEDS: At 3400 engine RPM

1st - 2.4 MPH
2nd - 3.7 MPH
3rd - 5.0 MPH
Rev. - 4.0 MPH

WHEELS: Front and rear - stamped steel discs with drop center rims.

TIRES: Front: 11 x 4.00-5 tubeless pneumatic terra-tire.
Rear: 15 x 6.00-6 tubeless pneumatic terra-tire.

STEERING: 13" diameter steering wheel.

CUTTER DRIVE: Belt drive from jackshaft ahead of engine.

CUTTER WIDTH: 32"

BLADE: Two 16" blades - fully hardened alloy steel.

HEIGHT OF CUT: 1-1/2" to 3-1/4". Control lever with infinite number of settings.

CONTROLS:

ENGINE: Control wire and casing with stop, slow, fast and choke positions mounted on dash (Recoil start).
Key for start and stop (Electric start).

TRANSMISSION: Single lever with 4 position H pattern.

TRACTION CLUTCH: Foot operated pedal. Depressing pedal disengages idler pulley from belt.

CUTTER: Single lever. Inlock-out position blade belt idler is disengaged and blade brake applied. In engaged position, brake is released and cutter belt engaged.

DIMENSIONS: Wheel base: 39"
Wheel tread: 23-1/2" front
22" rear
27" front-outside to outside
28" rear-outside to outside

Turning Radius: 33"
Length: 52 1/2"
Width: 33 1/2"
Height: 33"

WEIGHT: 260 pounds with 32" cutter.

BRAKE: Foot operated pedal - right side. Depressing pedal engages band on 2 1/2" dia. drum.

SAFETY FEATURES: Meets A.S.A. Specifications.
Separate brake and clutch control.
Automatic blade brake.
Enclosed and guarded drive.

OPTIONAL EQUIPMENT: Snow Blade attachment
32" Rotary Bagger Kit
Roller
Spreader
Aerator
Lawn Sweeper
Dump Cart
Tire Chains

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OPERATING AND SAFETY INSTRUCTIONS

CAUTION

Improper use of riding lawn mowers, garden tractors and attachments on the part of the operator can result in injury. To reduce this possibility, give complete and undivided attention to the job at hand.

1. Know the controls and how to stop quickly—READ THE OWNER'S MANUAL.
2. Do not allow children to operate machine; nor adults to operate it without proper instruction.
3. Clear work area of objects which might be picked up and thrown.
4. Disengage all clutches and shift into neutral before starting motor. Keep hands, feet and clothing away from power driven parts.
5. Do not carry passengers. Keep children and pets a safe distance away.
6. Never direct discharge of any material toward bystanders nor allow anyone near machine while in operation.
7. Disengage power to any attachment and stop engine before leaving operator position.
8. Take precautions when leaving machine unattended (to avoid accidental starting, rolling away, accidental dropping of any attachment, etc.)
9. Disengage power to any attachment whenever it is not in use or when traveling from one work area to another.
10. Stay alert for holes and other hidden hazards.
11. Always look behind you before backing up.
12. Beware of steep slopes, reduce speed on all side slopes and sharp turns to prevent tipping or losing control.
13. Do not stop or start suddenly when going uphill or downhill.
14. Do not drive close to a ditch or creek.
15. Do not attempt to operate the machine when you are not in the driver's seat.
16. Do not attempt to get off of the machine while it is moving.
17. Use extra care when pulling loads or using heavy equipment. (Refer to your owner's manual.)
18. Watch out for traffic when near roadways.
19. Handle gasoline with care — it is highly flammable.
 - A. Use approved gasoline container.
 - B. Never add gasoline to a running motor — fill tank out of doors and wipe up spilled gasoline.
 - C. Replace gasoline cap securely.
 - D. Open doors if motor is run in garage — exhaust gases are dangerous.
20. Keep machine in good operating condition and keep safety devices in place. Use guards as instructed in owner's manual.
21. Disengage power to any attachment and stop engine before making repairs or adjustments.
22. Check brake periodically to be sure brake, when applied, will hold.
23. When striking a foreign object, inspect & repair damaged parts before restarting engine.

Warranty

The Manufacturer warrants each new piece of equipment sold to be free of defects in material and workmanship. For one year from the purchase date of consumer line equipment or 45 days if sold for commercial use, Toro Manufacturing Corporation will repair or replace for the original purchaser, free of charge, through any Authorized Service Dealer, any part or parts found at our factory in Minneapolis, Minnesota, to be defective under normal use and service. All institutional equipment is warranted for ninety (90) days from the purchase date.

This Warranty does not obligate the Manufacturer to bear the cost of transportation charges in connection

with the replacement or repair of defective parts — nor shall it apply to a machine upon which repairs or alterations have been made, unless authorized by the manufacturer.

This Warranty does not include nor cover standard accessories produced by other manufacturers. Such accessories have separate warranties by their respective manufacturers . . . and repair or exchange will be made on the basis of such warranties, and the policies authorized by them shall be adhered to.

This Warranty is in lieu of all other warranties expressed or implied.

KNOW YOUR LAWN TRACTOR . . .

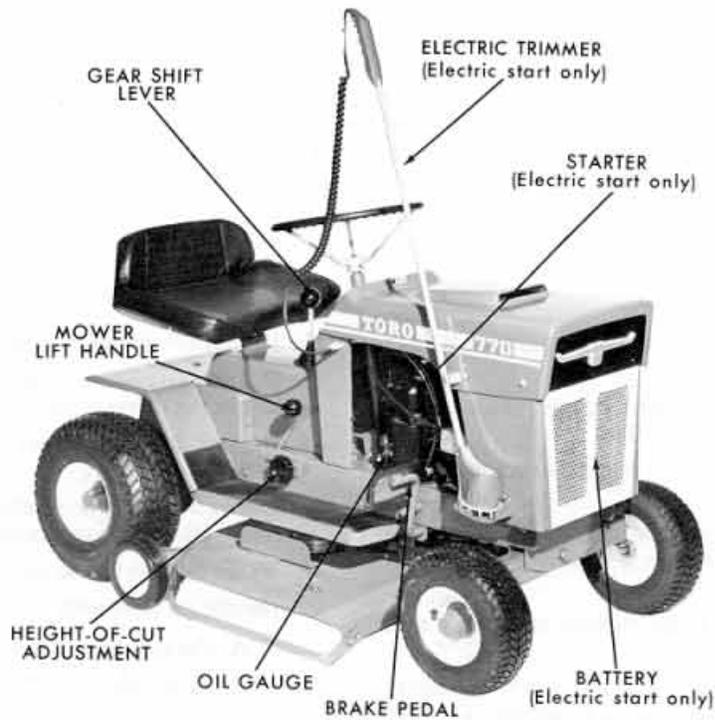


Fig. 1 Assembly of Lawn Tractor Viewed from Right Side

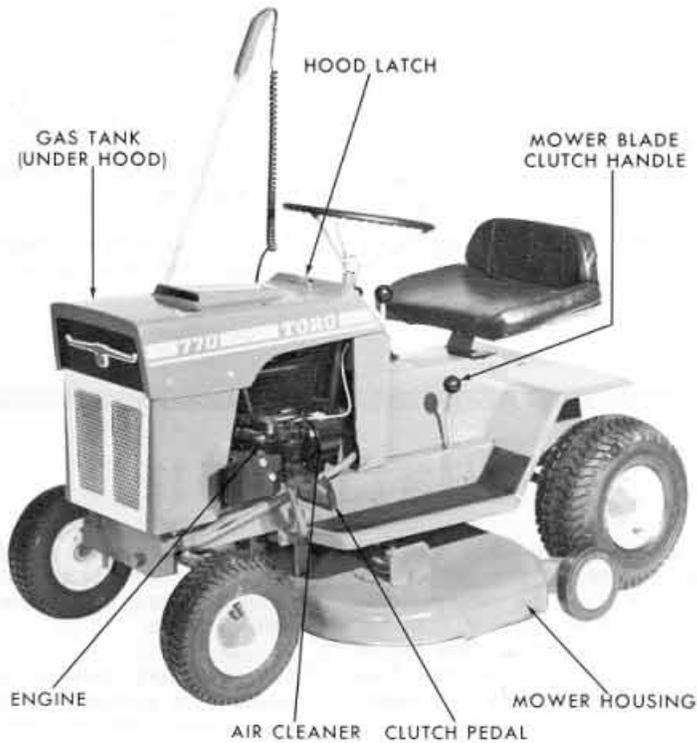


Fig. 2 Assembly of Lawn Tractor Viewed from Left Side



SETTING UP INSTRUCTIONS

Your new TORO LAWN TRACTOR is shipped completely assembled except for steering wheel and battery (electric start only).

These are easily attached by fittings contained in the separate bag. Battery and acid containers are also separate in the carton. Be certain to remove and account for all items before discarding packing cases.

1. Attach steering wheel and battery following instructions on this page.
2. Check and tighten all fittings and screws.
3. Add oil to crankcase. See instructions on this page.
4. Fill fuel tank with gasoline. Check fittings for leakage.

ATTACHING STEERING WHEEL

The steering wheel can be fastened quickly to the steering post.

1. Slide it into the post and line up the holes.
2. Fasten securely to the post with the roll pin provided.

MOUNTING THE BATTERY (Electric Start Only)

1. Always add the electrolyte to the battery **BEFORE** installing on your lawn tractor (see battery activation). Use the bolts and hold down clamp provided and place the battery terminals toward outside of lawn tractor (see Fig. 3).
2. Hook the ground wire, which is the heavy wire attached to the frame, to the negative (-) post of the battery.
3. The other heavy wire running from the switch and the red wire from the rectifier panel should be connected to positive (+) post.
4. Coat the battery terminals with petroleum jelly to prevent corrosion.
5. See Winter Storage of Battery (page 11).

IMPORTANT BATTERY ACTIVATION

Carefully remove the battery and acid containers from the carton. Study all the instructions on the acid containers and those enclosed in the carton, until you thoroughly understand the instructions.

Battery acid should be added to the battery in a place where there is ample light and sufficient water for flushing purposes.

Wearing rubber gloves, handle acid with extreme caution to avoid spilling. It can burn the skin, damage clothing and other materials on contact. We strongly recommend the wearing of safety glasses to avoid eye damage when actually pouring acid into battery. Avoid inhaling the acid fumes as they can cause nausea.

TO OPEN CARTON CONTAINING BATTERY ACID:

Break perforation at arrow on carton, then pull up this half of the carton top. Do not remove acid bag from carton. Using scissors only – snip off small corner of bag to form pencil size opening for pouring.

The levels may drop after filling (wait at least 20 minutes). Then inspect each cell after completing the filling operation, and add acid as required. There will be no difficulty in properly apportioning the acid if care is exercised in filling each cell to the proper level.



Fig. 3

PREPARATION BEFORE STARTING

OILING ENGINE

The engine is shipped without oil in the crankcase; therefore, it is essential that preparation instructions be carefully followed before starting.

1. Place lawn tractor on level surface.
2. Pour 1 3/4 pints of a good grade of A.P.I. classification M.S., SAE 30W engine oil into crankcase (see Fig. 4).
3. The oil in the crankcase should be up to the top of the filler opening at all times.

FILLING THE GAS TANK

Gasoline has been completely removed from the engine; therefore, fill tank with a fresh supply of regular grade gasoline. **DO NOT** mix oil with gas.

DO NOT MIX OIL WITH GAS



Fig. 4

OPERATING INSTRUCTIONS

LOCATION OF CONTROLS

INSTRUMENT PANEL



CAUTION

Put the gear shift lever in neutral and the blade clutch in the "DISENGAGED" position before starting the engine.

STARTING THE ENGINE (RECOIL START)

1. Move the throttle control lever to the CHOKE position.
2. Pull the starter rope handle swiftly. Do not release the handle as the rope rewinds. This helps prevent backlash in the rewind mechanism.
3. When restarting a hot engine, set the throttle control in approximately the middle (between slow and fast). DO NOT choke.
4. To stop the engine, move throttle control lever to "Stop" position.

STARTING THE ENGINE (ELECTRIC START)

1. Move the throttle control lever to the "Choke" position.
2. For ease in starting, press down on clutch pedal.
3. Turn the key in the ignition switch and this will automatically turn the engine over until it starts.
4. When restarting a hot engine, set the throttle control in approximately the middle (between slow and fast). DO NOT choke.
5. To stop the engine, turn the ignition key to the "OFF" position.

BREAK - IN PERIOD

1. Operate the lawn tractor without load for 1/2 hour and with light load for the first hour. Operate it in each of the three speeds forward as well as in reverse during this break-in period.
2. Change the engine oil after the first five hours and every 25 hours thereafter.

OPERATING THE LAWN TRACTOR

1. With the engine running, press the clutch pedal down with your foot.
2. Move the gear shift lever into the speed you desire. (A shifting diagram is applied to the tractor where you can see it as you sit in the seat.) It is not recommended to shift from first to second to third gear; you should start from a complete stop in any gear.

WARNING

Always bring the lawn tractor to a complete stop before reversing direction or shifting speeds.

3. If you are starting in high gear, slow the engine down a little before letting up on the clutch pedal, then increase the engine speed after the clutch takes hold.
4. If you seem to have any difficulty getting into any gear, jog the clutch pedal a little to get the gears into position where they will mesh. Never force the lever.
5. Always depress the clutch pedal when shifting into or out of gear.

WARNING (ELECTRIC START)

Never operate engine with battery leads disconnected or battery removed from circuit (taken out of equipment) unless both rectifiers are removed from rectifier panel. Failure to observe will burn out fuse and generator.

USE CORRECT SPEEDS

1. Use 1st or 2nd gear for pulling heavy loads, for mowing in high grass and for mowing while climbing hills. This allows the blade to maintain constant RPM, and delivers most of the horsepower to the blade. 1st or 2nd gear also gives you maximum control while trimming.
2. Use third gear for mowing level areas. If third gear results in uneven mowing due to the condition of the grass or power loss in engine, shift to lower gear. Use third gear for transporting the tractor to and from work.
3. Slow down on turns to avoid sliding sideways.
4. To avoid jerky starts, release the clutch pedal slowly after shifting.

EMERGENCY STOP

In case of emergency, immediately stop the tractor and move the throttle control to the "STOP" position. If electric start, turn the ignition key to the "OFF" position.

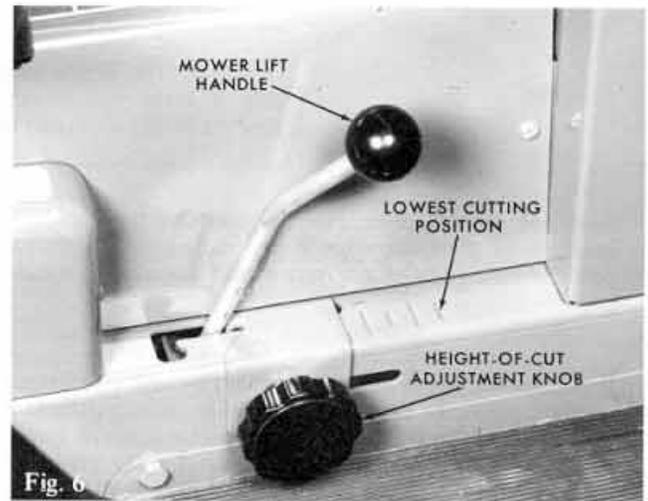
OPERATING INSTRUCTIONS

CHOOSE CORRECT CUTTING HEIGHT

1. In general use the same cutting height you have used before. You know what height is best suited for your own lawn.
2. When first using your mower, cut the grass a little longer than you did before until you are sure that the greater cutting width will not cause scalping due to irregularities in the lawn.
3. If the grass is high, or if it contains lots of moisture, take a first cut with the blade set high. Then finish cutting with the lower blade setting. This gives better distribution of the clippings and provides a cleaner second cut.
4. It is possible, by using care, to cut grass that is extremely high or wet. Set the blade at its highest position, and use the lowest drive speed. Move into the area cautiously. Take a cut, if necessary, only half the width of the mower at each pass. Wet clippings may clog the mower housing, causing the blade to stall and the belts to slip and wear. If this happens it will be necessary to stop and clean the discharge. Be sure to stop the engine.

SETTING THE HEIGHT-OF-CUT

1. The height of cut is easily set or changed by using the height-of-cut adjustment knob (see Fig. 6). The 32" unit lowest cutting position is 1-1/2" with infinite height variation.
2. To adjust the cutting height, lock out lift handle, turn the height-of-cut adjustment knob counterclockwise and readjust to height desired. Tighten the knob securely.
3. To lower the cutting attachment, unlock and push the mower lift handle forward (see Fig. 6); the unit will drop to the desired height. The notches located in front of the mower lift handle represent 1/2" increments each time you raise or lower the unit.



4. It may be necessary to adjust the leveling wheels, which are a part of the mower attachment, when the cutting attachment is lowered to the lowest cutting position to prevent scalping. The leveling wheels should be in the top hole of the wheel bracket at the lowest cutting position and in the bottom hole when operating the mower attachment at highest cutting position.

CAUTION Be sure engine is stopped before adjusting position of leveling wheels.

5. To engage blade for cutting, unlock the mower blade clutch handle and slowly push forward. To disengage, pull towards rear of tractor.

PUT YOUR LAWN TRACTOR TO WORK

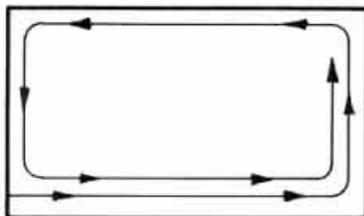
SAVE MOWING TIME WITH PLANNING

1. Changing direction wastes time. Plan to keep the mower moving forward as much as possible. (See figure 7).
2. Plan for the longest straight runs possible. Save close trimming for the cleanup.
3. Try to work with the clippings discharging on to the

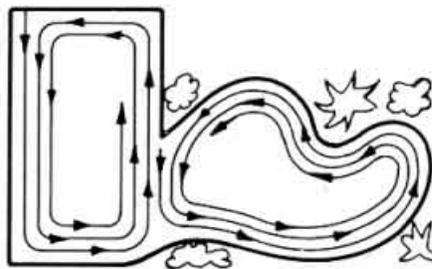
already cut areas, to prevent build-up of clippings which could impose an extra load on the blade, or cause uneven mowing because they prevent the grass from rising into the cutting path of the blade.

4. Try to avoid steep hills. The tractor will normally carry a full size operator up an average grade while mowing grass.

DIVIDE LARGE OR IRREGULAR AREAS INTO TWO SECTIONS FOR EASIER MOWING



NORMAL ROUND AND ROUND METHOD
LARGE EASY AREAS



OVER-LAP IN TIGHT CORNERS TO
GIVE YOURSELF ROOM TO TURN



IT IS POSSIBLE TO CUT SMALL
AREAS WITHOUT LOSING TIME
IN TURNING IN THE MIDDLE

Fig. 7 Grass Cutting Pattern

OBSERVE LAWN TRACTOR LIMITS

Observing the limits of the lawn tractor and mower will help it serve you longer. Overload and mistreatment can shorten its life or impair its usefulness.

1. Keep the mower clean, especially around the blades. A build-up of grass clippings-in the blade housing can impair the efficiency of the mower and cause uneven cutting.
2. It is possible, when using your rotary mower attachment on the tractor, to develop an irregular cutting pattern if you operate the tractor using too fast a forward speed. Also, unevenness of cut, skipping or stepped effect on turns, or streaks or uncut portions of grass in the middle may be noticed if too fast a forward speed is used. That is why your tractor is equipped with a three-speed transmission, so that you will have a selection of forward speeds to choose from, depending on your specific grass cutting job. Best results are always obtained in first (slowest) speed.
3. The discharge opening of the mower attachment has been constructed to allow for maximum discharge of grass cuttings under normal operating conditions. Do Not impair the safe operation of your tractor by removing the protective shroud bar provided across the discharge opening.
4. Avoid pulling loads that are so heavy they cause the drive belt to slip or wheels to spin.
5. If tractor stalls due to an overload, but the engine continues to run, shift immediately to neutral and start out again slowly. Failure to do this will cause excessive belt wear or breakage.
6. If the engine stalls due to overload, disengage the blade clutch and shift into neutral before restarting. Then, find out what caused the overload and avoid it to make it easier when starting out again.

CONDITION AND RECOMMENDATION CHART

CONDITION	RECOMMENDATION
When cutting high weeds.	Cut high weeds in the highest cutting position, use first forward speed, and stop occasionally to allow the discharge to clear itself.
When cutting wet, lush grass.	Cut wet lush grass in highest cutting position once, and then lower deck to desired cutting height and re-cut.
When attempting to cut high stand of heavy grass at too low a cut.	Cut wet lush grass in highest cutting position once, and then lower deck to desired cutting height and re-cut.
When cutting grass in a clockwise direction throwing cut grass into uncut grass.	Always mow grass so that the cuttings are discharged into the cut portion of the lawn.
When attempting to cut grass or weeds at too fast a forward speed.	Reduce forward speed to minimum.
When running the engine at low RPM, thereby reducing the cutting speed of the rotary blade.	Always use engine at near maximum throttle setting after break-in period. Do not operate the mower with the blade dull or out of balance.

LUBRICATION

KEEP LAWN TRACTOR PROPERLY LUBRICATED

1. Lubricate the chassis, from underneath, applying a drop or two of oil to all pivot points in the steering, brake and clutch linkages.
2. When lubricating the underside of the tractor chassis, it may be necessary to tip the tractor over on its back end and place a block of wood under the seat. Lubricate the front wheels, spindle axles and rear axle bearings through the grease fittings provided.
3. In order to lubricate the underside of the tractor chassis, it may be necessary to remove the mower attachment. See p. 11 for removing the mower attachment. You will be able to remove the cutting unit easily and quickly.
4. Use an all purpose Lithium grease and an automotive type grease gun to lubricate the front wheels, front axle spindles and rear axle.
5. Observe the engine manufacturer's oil requirements carefully. Failure to do so will not only void the warranty, but it could also result in engine failure, requiring expensive repair.
6. Transmission and differential are permanently greased at the factory. No further lubrication is required.

CAUTION

When tilting tractor, remove all gasoline from gas tank and remove battery from tractor.

LUBRICATION POINT

1. Height Adjustment Pivots
2. Blade Clutch Lever Pivot
3. Front Wheel Bearings
4. Spindle Bearings
5. Front Frame Pivot Point
6. Clutch and Brake Pedal Pivots

LUBRICANT USED

- Automotive Engine Oil
 Automotive Engine Oil
 Automotive Chassis Grease
 Automotive Chassis Grease
 Automotive Engine Oil
 Automotive Engine Oil

HOW OFTEN

- 25 hours
 Each 25 hours after initial 5 hour break-in oil change
 25 hours

Blade Spindle Bearings (Not Illustrated)

Automotive Chassis Grease

25 hours

Engine Crankcase (Not Illustrated)

See Engine Manufacturer's Instructions

Each 25 hours after initial 5 hour break-in oil change

Steering (Not Illustrated)

Automotive Engine Oil

25 hours

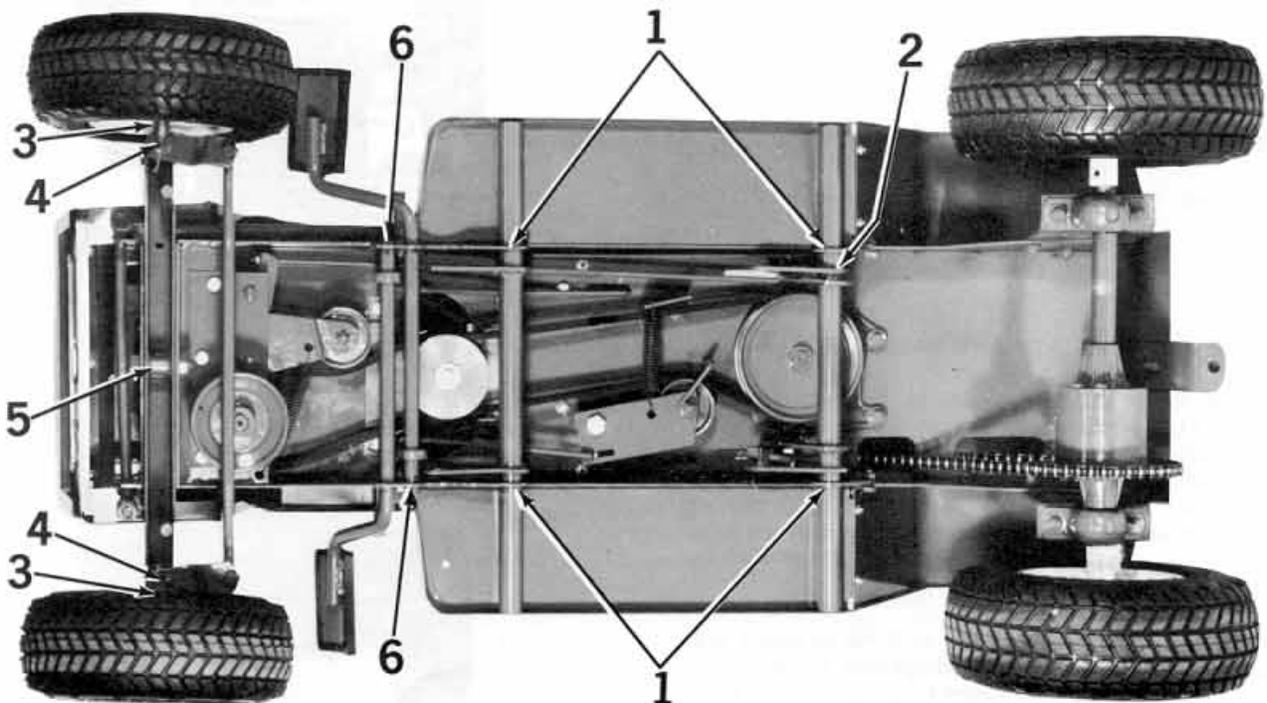


Fig. 8 Lubrication Points

MAINTENANCE

CAUTION: Disconnect Spark Plug Wire To Prevent Accidental Starting Of The Engine!

ENGINE

Read carefully the parts catalog for your engine, 12-volt electric starter, and air cleaner maintenance instructions. Also carburetor adjustments are covered in the parts catalog.

ELECTRICAL SYSTEM AND BATTERY

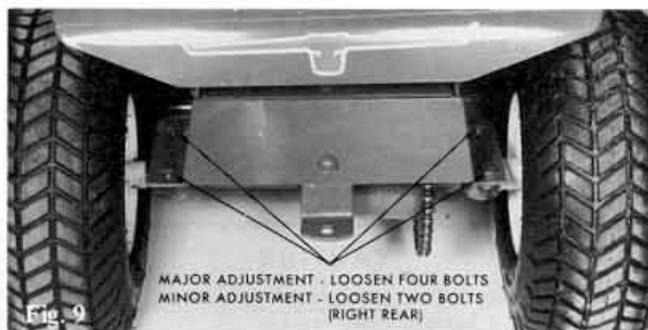
1. Under normal conditions, one hour of engine operation per week will keep battery charged. Under extremely low temperatures two hours of operation per week may be necessary.
2. Battery water level must be properly maintained and the top of the battery must be kept clean. (If battery is in a very hot place between periods of engine operation it will run down more rapidly than if stored in a cool location.)
3. Check electrolyte level every 25 operating hours or every 30 days.
4. Maintain level with distilled or de-mineralized water. Avoid over filling.
5. Keep top of battery clean by periodically washing with a brush dipped in ammonia or bicarbonate of soda. Follow by flushing with clean water.
6. Battery cables must be tight on terminals to provide a good contact.
7. If corrosion occurs at terminals, disconnect cables and scrape clamps and terminals separately. Coat terminals with petroleum jelly and re-install.

TIRE PRESSURE

For shipping purposes, the tires are over-inflated. The recommended tire pressure is 12-14 lbs.

KEEP THE BLADES SHARP AND BALANCED

1. It is important that the blades be kept sharp and in balance. Dull blades waste power, and do a poor grass cutting job. Blades which are out of balance cause excessive vibration on the bearings. When sharpening blades, always take equal amounts of metal off both cutting edges. Replace blades which show any signs of cracks or crystallization to prevent their disintegration at high rotating speeds.
2. Inexpensive blade balancers are available to assure that the blades are in balance after sharpening. In case sharpening results in an out of balance blade, grind some more metal off heavy end. Remove and replace the blades as described on p. 11.



ADJUSTMENTS

1. Chain Tension: Major adjustment - loosen the four bolts holding the differential axle. Grasp differential and axle and pull towards rear to tighten chain. Secure the four bolts. Minor adjustment - loosen the two bolts (right rear) and pull differential and axle. Secure the two bolts (See fig. 9).
2. Belt Removal (See Fig. 10): To remove the engine-to-jackshaft belt (ref. A), put transmission in any gear, tilt tractor on its back end, and place a block of wood under the seat. Pull blade clutch handle so idler arm (ref. B) will pivot over and clear of belt. Remove belt from engine pulley (ref. C), release idler arm (ref. B), and remove belt from jackshaft pulley (ref. D).

To remove traction drive belt (ref. G), first remove engine-to-jackshaft belt on engine pulley. Next, loosen belt guide screws (ref. E) so belt will easily release. Depress clutch pedal and remove belt from engine pulley and transmission pulley (ref. F).

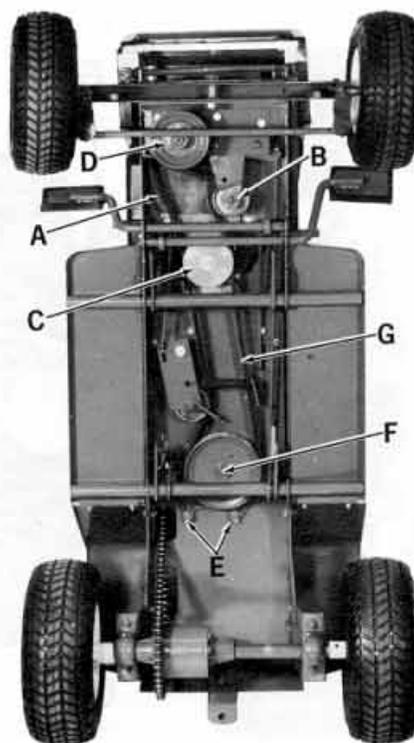


Fig. 10

REMOVAL OF CUTTING ATTACHMENT

CAUTION

Before performing any service operations on the mower be sure to disconnect the spark plug wire to prevent accidental starting of the engine.

It is easier to remove the cutting attachment from the lawn tractor by placing transmission in any gear, tilting the tractor on its back end and placing a block of wood under the seat. Also, the cutting attachment may be removed while the lawn tractor is sitting on its four tires.

CAUTION

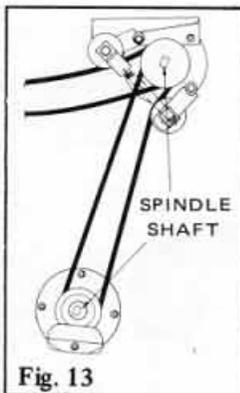
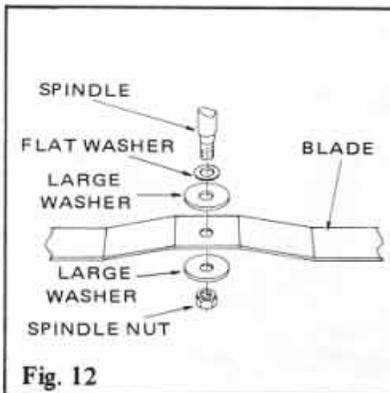
When tilting tractor, remove all gasoline from gas tank and remove battery from tractor.

TO REMOVE CUTTING ATTACHMENT:

1. Remove four hair pin cotters (see fig. 11) securing attachment to tractor chassis.
2. Remove attachment from tractor chassis pivots. Lift up to disconnect belt from tractor drive pulley.
3. To assemble attachment to tractor, reverse the above procedures.



REMOVAL OF CUTTER BLADE



TO REMOVE CUTTER BLADE:

Hold spindle shaft on top of pulley (See Fig. 13) and turn nut holding blade to spindle shaft counterclockwise. Remove nut, large washer, cutter blade, large washer and flat washer.

IMPORTANT – Use only genuine TORO replacement cutter blades. Substitutes may endanger performance and personal safety. Assemble cutter blade as illustrated in Fig. 12. Tighten down cutter blade nut securely.

NOTE: Nut should be torqued from 60 to 80 ft. lbs.

OFF SEASON STORAGE

1. If it is necessary to store the tractor and the attachments for more than 60 days, remove all grass clippings, mud and dust. Wipe all lubrication points clean and lubricate.
2. Drain the gasoline from the fuel tank and the carburetor to prevent formation of gummy deposits. Run the engine until any remaining fuel is consumed. Drain the oil from the engine crankcase while warm and refill with clean oil.
3. When preparing the engine for prolonged storage, put one tablespoon of engine oil (SAE 10W) into the spark plug hole, after the spark plug has been removed. Turn the engine slowly by hand to allow the piston to distribute the oil evenly over the cylinder walls. Replace the spark plug with an old plug which will not be used again, or plug the hole with a cork. (This prevents fouling the

good plug with the oil used to protect the cylinder and piston.)

4. Before starting engine, remove the old spark plug or cork; reinsert the good spark plug after being sure it is clean and properly gapped according to the engine manufacturer's instructions. Check the oil in the engine and fill the fuel tank. The tractor is now ready again for operation.
5. **ELECTRIC START ONLY** - After prolonged storage of the tractor, it may be necessary to have the battery charged at the beginning of the season. The simplest instructions for the storage of a battery between seasons are that it be charged when stored, and then stored in a cool place, but not where it will be subjected to sub-zero temperatures. Storage at 20° to 50° is ideal. Battery should be disconnected from circuit if tractor is to be stored for 30 days or more.

WINTER OPERATION

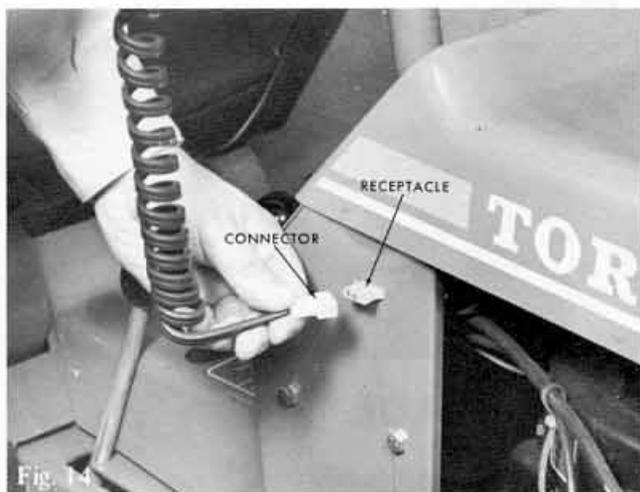
1. If the tractor is to be used during the winter months, clean and lubricate in the same manner as for storage. Drain the engine crankcase and refill with oil as recommended by the manufacturer for the temperature range expected. Be sure the spark plug is clean and properly gapped according to the engine manufacturer's instructions.
2. It will be necessary each time to run the tractor and

transmission for a few minutes, without load, until the engine and the lubricant in the transmission have thinned out sufficiently to provide lubrication. Use winter weight oil in the engine.

3. In the spring, drain and refill the engine crankcase with the normally-recommended weight of oil, and service the entire tractor carefully, according to the instructions in this manual.

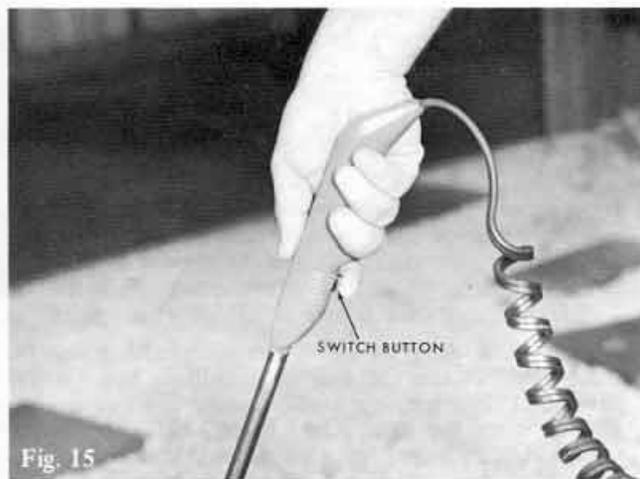
HAND TRIMMER FOR ELECTRIC START TRACTORS

Your new trimmer may be used in conjunction with the electric start tractor. Simply insert trimmer cord connector into receptacle on side of tractor and unit is ready for operation. The trimmer cannot be operated without the ignition key in the "on" position.



STARTING INSTRUCTIONS

Push the button forward for starting the trimmer; simply pull back the button for stopping (see Fig. 15). If trimmer fails to start under battery operation, check all electrical contacts for proper connection.



OPERATING INSTRUCTIONS

Successful lawn care depends as much on the manner in which the trimmer is used as it does on trimmer performance. Try your new trimmer on level grass for the first trimming. As you gain experience, you can trim around flower beds, trees, shrubs, drives, walks, walls and patios.

To cut grass at edge of flower beds, walks, and drives, hold trimmer level at the desired cutting height, and walk parallel to area. When trimming around trees, posts, walls, and other objects, approach head on and use a "sweeping-type" effect (like a golf putter) for best results. BE CAREFUL so as not to damage blade or guide teeth when trimming building or wall corners.

TRANSPORT POSITION

The Trimmer can be easily attached to side of Tractor, for transporting purposes, by clamping into the appropriate fasteners (See Fig. 16-"B").



MAINTENANCE

In lush grass, clippings may pack in a layer along the bottom surface of the blade enclosure and must be scraped off periodically during operation. Extended running with a grass wrapped shaft or housing packed with clippings could quickly result in permanent damage to the trimmer motor.

OFF-SEASON STORAGE

If it is necessary to store the trimmer for any length of time, remove all grass clippings, mud, and dust. Clean entire unit with a damp cloth. DO NOT clean trimmer by washing with water. A hook is provided on the handle end of trimmer for easy hanging while in storage or non-operating condition.