FORM # 3310-195A

TORO®

MODEL NOS. 18070 — 200001 & UP
18208 — 200001 & UP
18257 — 200001 & UP
19271 — 20000 & UP
20571 — 20000 & UP
21172 — 20000 & UP

OWNER'S MANUAL

19" AND 21" GUARDIAN† MOWERS

FINGERTIP AND KEY-LECTRIC

CAUTION

OPERATING & SAFETY INSTRUCTIONS

CAUTION: The following instructions are comparable to the "Instructions for Safe Mowing" adopted by the ANSI Standards Institute. This machine is designed, engineered and tested to offer safe and effective mowing provided it is operated in strict accordance with these instructions. FAILURE TO DO SO MAY RESULT IN PERSONAL INJURY.

TRAINING

1. Never allow children to operate a power mower.
2. Instruct children to stay away from the mower while it is in operation.
3. Read this manual thoroughly. Be familiar with the controls and proper use of the equipment. Learn how to stop the mower quickly.

PREPARATION

4. Before starting, clear area of debris.
5. Set mower at highest cutting height when mowing on rough ground or in tall grass.
6. Disengage self-propelled mechanism on mowers so equipped before starting engine (motor).
7. Mow only in daylight or in good artificial light.
8. Do not operate mower in wet grass.
9. Do not operate mower with guards or safety devices removed.
10. Wear substantial shoes and long pants while using mower.
11. Fill gas tank outdoors, never while engine is running or hot. Avoid spilling.

OPERATION

12. Give complete and undivided attention to the job at hand.
13. Do not operate mower in the vicinity of other persons or pets.
14. Do not change engine governor settings or overspeed engine.
15. Keep washout port closed when mowing.
16. Never attempt to make a height-of-cut adjustment while engine (motor) is running.
17. Stop blade when crossing gravel drive, walks, or roads.
18. Stop engine (motor) and insure that all moving parts have stopped prior to leaving the operating position (behind handle), removing grass catcher and/or unclogging chute. Disconnect spark plug wire prior to performing any maintenance on the unit.
19. Operate the engine (motor) at the slowest speed that will cut satisfactorily.
20. Stand clear of the front of self-propelled mowers.
21. Use caution when operating the mower.
22. Check for breakage and repair any damage after striking a foreign object.
23. If mower should vibrate abnormally, stop the engine (motor), remove spark plug lead wire and immediately check for the cause. Abnormal vibration is generally an indication of trouble.
24. Never place hands or feet under or into rotating parts or concealed areas. Keep hand and feet clearly away from cutter elements, belts, pulleys, gears, etc., while engine (motor) is running. KEEP AWAY FROM DISCHARGE OPENING AT ALL TIMES.
25. Grass deflector or bagging assembly, MUST be fastened when operating mower. To remove bagging assembly, shut engine (motor) off and insure blade has come to a complete stop.
26. Mow slopes from side to side, not up and down. Avoid steep slopes.
27. Never run engine indoors.
28. Always disconnect electric mowers (line operated) before adjusting, repairing, or cleaning.

MAINTENANCE

29. Follow maintenance instructions as outlined in this manual.
30. Have an authorized Toro Service Dealer inspect the mower each year.
31. Disconnect spark plug lead wire and keep wire away from plug before making any adjustment or repair.
32. Keep all nuts, bolts, and screws tight to insure equipment is in safe operating condition. Check blade and engine mounting bolts frequently — insure tightness.
33. Never store mower with gasoline in the tank inside a building where fumes may reach an open flame or spark. Allow engine to cool before storing in any enclosure.
34. Keep engine (motor) free of grease, grass, or debris buildup.
35. Store gasoline in an approved red metal container in a cool, dry place.
36. On battery-start models, remove key from switch when mower is stored or left unattended.
37. Check grass catcher bag frequently. Replace deteriorated bags for safety protection.
38. Safety and performance levels can be assured only by use of specified Toro replacement parts.
39. Maximum engine speed must not exceed 3400 RPM.

These Safety Suggestions are recommended by the OUTDOOR POWER EQUIPMENT INSTITUTE, INC., Washington D.C. and THE TORO CO., Minn.

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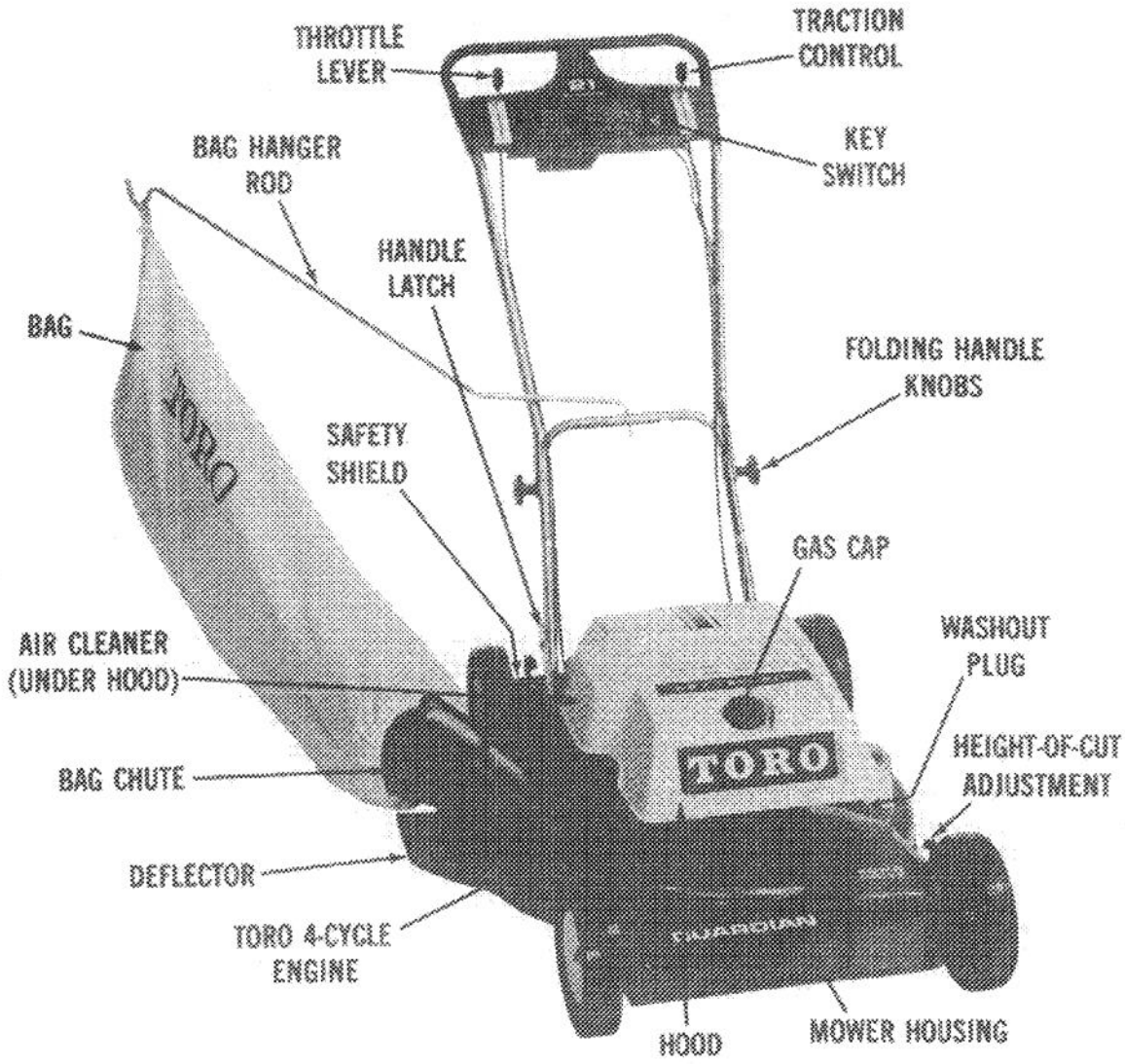
KNOW YOUR MOWER



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MINNEAPOLIS, MINN. 55420 — U.S.A.

ABOUT YOUR NEW MOWER

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 Rotary Mower the better job it will do for you. That's why it is important to read your Owner's Operating Manual from cover to cover before attempting to operate the machine. Compare the illustrations to your mower so as to familiarize yourself with locations of controls, lubrication points, and adjustment sites.

Study the operating and safety instructions 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 mower that is not reflected in the Owner's Operating Manual, see your Toro distributor or his authorized Toro Service Dealer for information and parts numbers.

LOOSE PARTS CHART

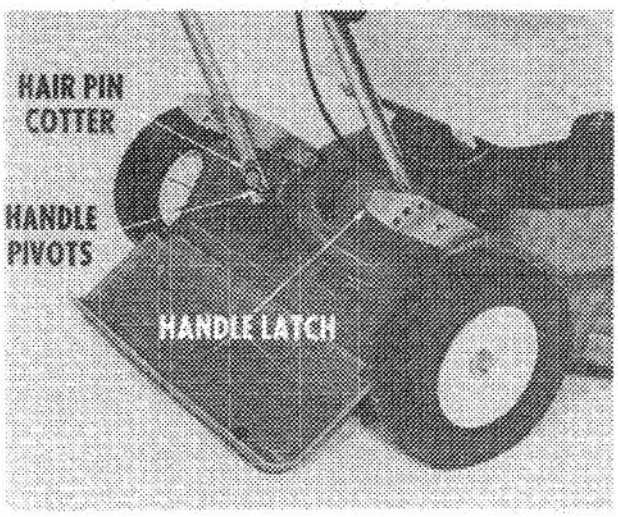
LOOSE PARTS	21'' Self Propelled Key-Lectric	21'' Self Propelled Fingertip	21'' Hand Propelled Fingertip	19'' Self Propelled Key-Lectric	19'' Hand Propelled Key-Lectric	19'' Hand Propelled Fingertip
Lower Handle	1	1	1	1	1	1
Hair Pin Cotter	2	2	2	2	2	2
Upper Handle	1	1	1	1	1	1
Handle Screw	2	2	2	2	2	2
Handle Nut				2	2	2
Handle Knobs	2	2	2			
Self-Tapping Screw	3	3	3	3	3	3
Cable Clips	5	2	1	5	4	1
Bag, Bag Chute, Bag Rod	1	1	1	1	1	1
Pow-R-Pack & Key	1			1	1	
Battery Charger	1			1	1	
Starter Rope	1			1	1	

IMPORTANT: Be certain to remove and account for all items before discarding packing case. Loose parts chart shows the quantity of parts included to complete assembly of each mower.

Carefully remove all mower components from the carton. Slit the carton sides and roll the mower out. Be especially careful not to bend or kink the control cables.

ASSEMBLY INSTRUCTIONS

ATTACHING LOWER HANDLE



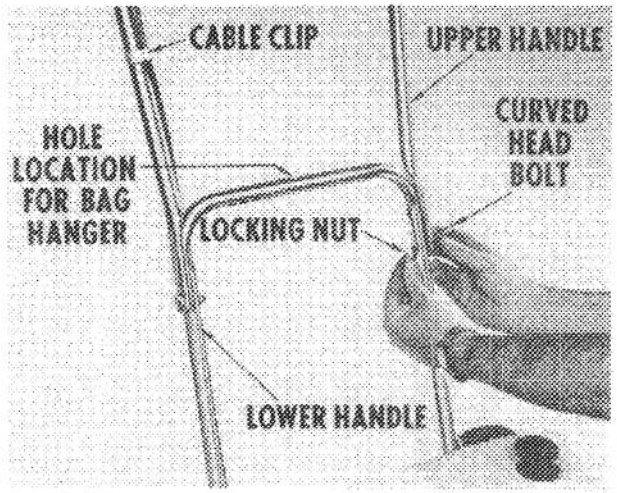
Attach lower handle to mower. It will snap over handle pivots by spring action. Secure in place by inserting hair pin cotters as shown.

Adjust handle height and angle by selecting either of 3 corresponding holes in handle latches and snap onto handle side pins.

ATTACHING UPPER HANDLE 19" MODELS

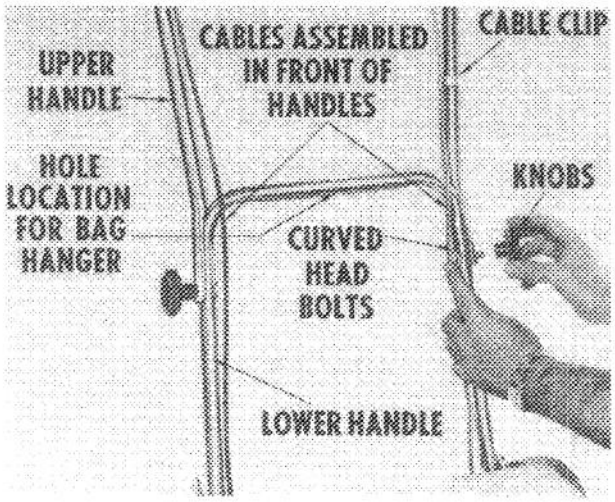
Attach upper handle with curved-head bolts and locking nuts. Curved-head bolts go toward outside of handle.

The control cable (or cables) should be assembled behind the lower handle.



ATTACHING UPPER HANDLE 21" MODELS

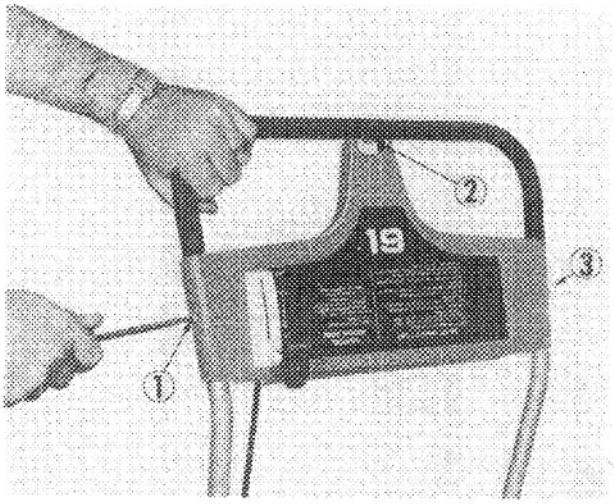
Attach upper handle with curved-head bolts and knobs.



Curved-head bolts must be assembled towards center of handles. Fasten cable (or cables) to handle with cable clips. For each cable use one cable clip on upper handle only.

Important: The control cable (or cables) must be assembled in front of lower handle.

ATTACHING REMOTE CONTROL PANEL ALL MODELS



Attach remote control panel to upper handle with 3 self-tapping screws provided.

ASSEMBLY INSTRUCTIONS (Cont'd.)

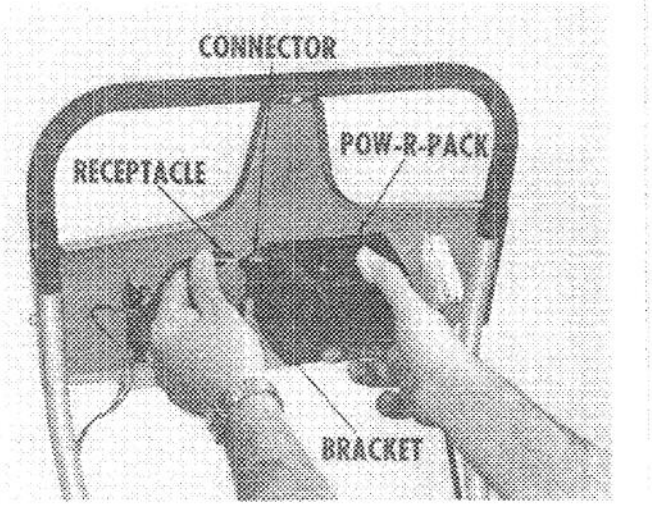
INSTALLING POW-R-PACK - KEY-LECTRIC MODELS ONLY

The new POW-R-PACK will **not** be charged. Charge this POW-R-PACK for at least (4) hours to provide enough energy to start the mower several times. It should be charged for a period of 48 hours to bring it to a fully charged condition.

To install POW-R-PACK, slide POW-R-PACK down between brackets provided in the under side of the remote control panel. POW-R-PACK should be pushed forward until it fits snugly into position. Connect receptacle to the connector on the POW-R-PACK. Fasten wiring harness to the handles with 3 cable clips.

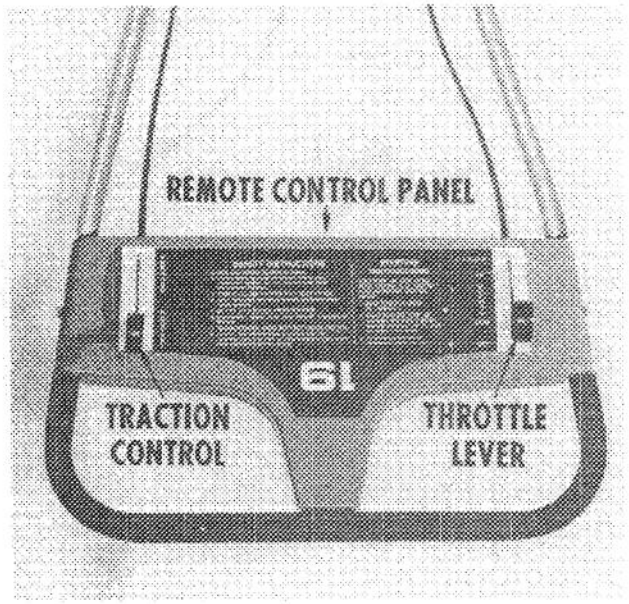
Important: Wiring harness must be secured to the outside of the handle.

For charging of POW-R-PACK see instructions on page 11.



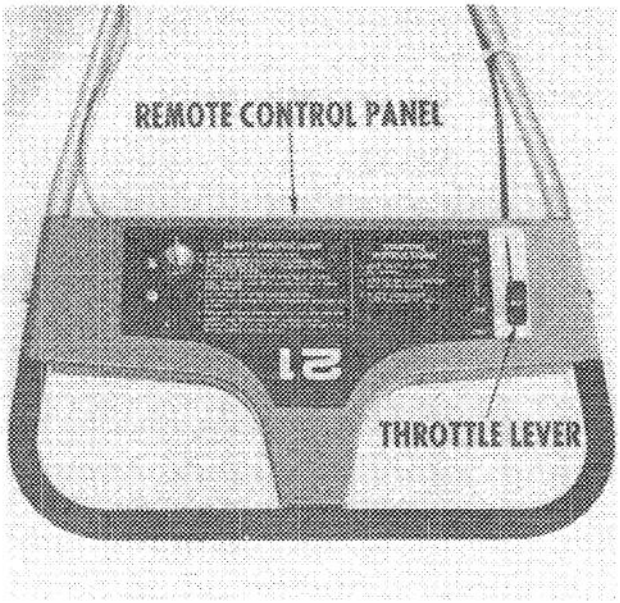
PREPARATION BEFORE STARTING

KNOW YOUR REMOTE CONTROLS



On self-propelled models the engine is operated by the control levers on the remote control panel. Operating positions of levers are shown above.

Normal cutting requires throttle lever set in NORMAL range. Set lever in HI range for heavy cutting or bagging. TO STOP ENGINE, PULL STRAIGHT BACK ON THE THROTTLE CONTROL LEVER TO OFF POSITION. Lever at left in photo is the traction control – push forward to engage drive; pull back to "neutral" to disengage.

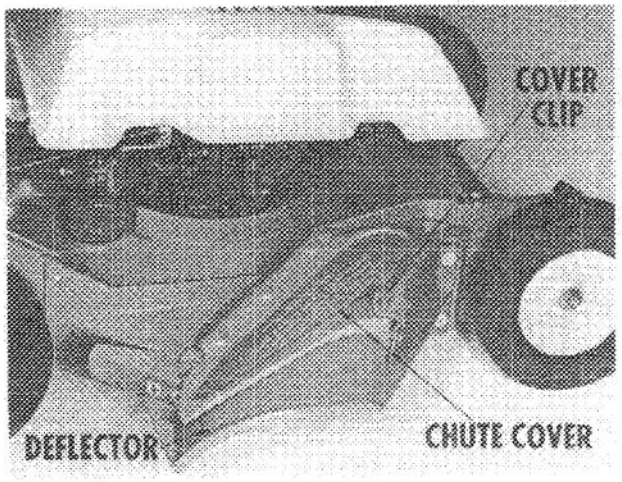


On hand-propelled models the engine is operated by the throttle lever on the remote control panel. Operating positions of lever are shown above.

Normal cutting requires throttle lever set in NORMAL range. Set lever in HI range for heavy cutting or bagging. TO STOP ENGINE, PULL STRAIGHT BACK ON THE THROTTLE CONTROL LEVER TO OFF POSITION.

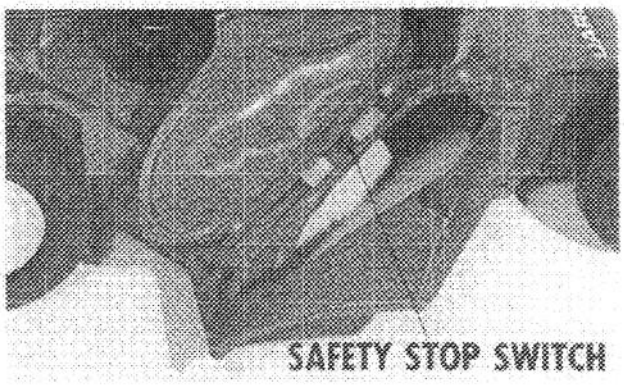
PREPARATION BEFORE STARTING (Cont'd.)

DEFLECTOR



Inspect to make sure that chute cover is secured with cover clip before attempting to start mower.

CAUTION:
Mower must not be used with deflector or cover removed.

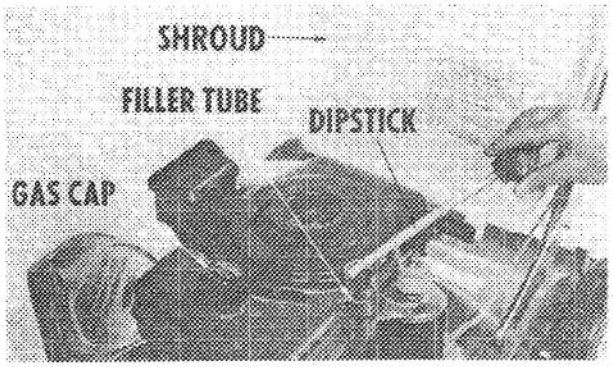


The safety stop switch prevents the mower from being started or run unless the chute cover is closed (fastened) or the bagging chute is installed.

If mower does not start, be sure the chute cover is in place. This is to prevent the operator or bystanders from being struck by foreign objects.

CAUTION:
DO NOT use the safety stop switch as a means of stopping the engine – use the Throttle Control Lever ("OFF" position).

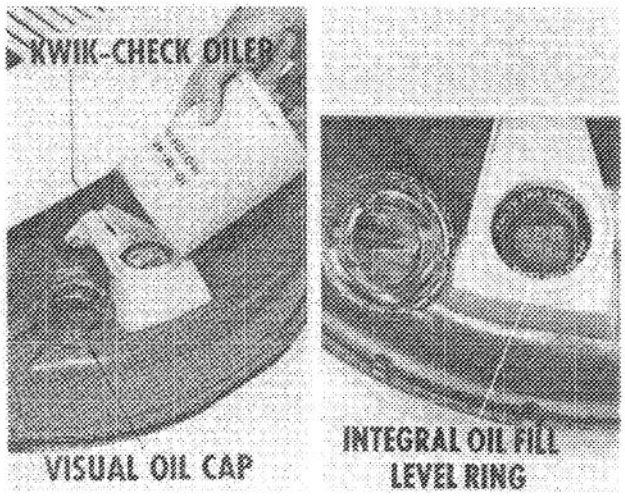
FILLING WITH OIL
DIPSTICK 19" MODELS ONLY



1. Remove gas cap.
2. Tilt shroud back so it rests against handles.
3. Place mower on level surface.
4. Pour 21 ounces of a good grade of A.P.I. classification M.S.,SAE 10-W-40 engine oil through filler tube into crankcase.
5. Do not fill above full mark on dipstick.
6. If oil indicates below "safe mark" add sufficient amount of oil to raise to safe level.
7. Check oil every five (5) operating hours or each time mower is used.
8. Replace shroud and gas cap.

Important: Be sure dipstick cap is screwed securely into filler tube before removal and reading oil level.

†KWIK-CHEK OILER
21" MODELS ONLY



1. Place mower on level surface.
2. Remove visual oil cap. Pour oil (approximately 21 oz. of A.P.I. classification M.S., SAE 10-W-40) into Kwik-Chek Oiler† slowly.
3. Bring oil level up to the integral oil fill level ring.
4. Replace cap; check cap periodically to be sure that it remains tightly installed.
5. Oil level must be kept above the "Add Oil" words on the visual oil gauge.
6. Level of oil must be checked when the engine is **not** running and mower is on a level surface.

†Exclusive Trademark of Toro Manufacturing Corporation

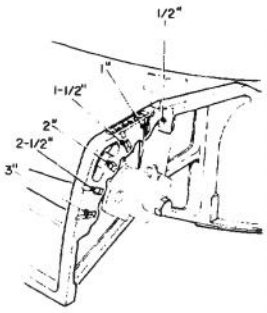
PREPARATION BEFORE STARTING (Cont'd.)

FILLING GAS TANK

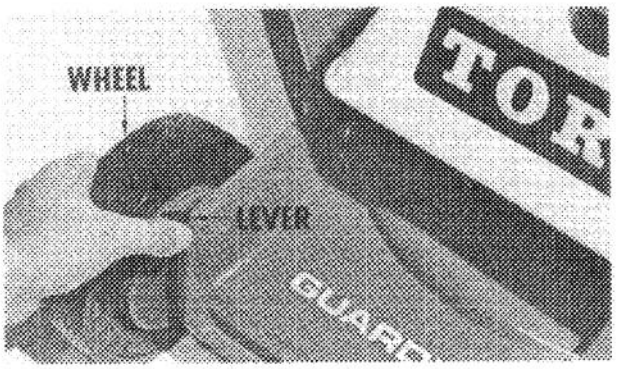
Fill the gas tank with a fresh supply of the new automotive anti-pollution unleaded regular gasolines or regular gasoline. Handle gas with care – it is highly flammable. Never add gas to your mower in an enclosed area. Fill gas tank out-of-doors and wipe up spilled gas. Never add gas to your mower when engine is running. Always take special precaution to keep gas and gas storage cans clean. Keep areas around gas cap on your mower free from any residual grass or dirt.

CAUTION: Do not mix oil with gas. Never use premium gas, white stove gas or gasoline additives.

SELECT HEIGHT-OF-CUT BEFORE STARTING



SHUT ENGINE OFF BEFORE ADJUSTING HEIGHT-OF-CUT. Calibrations in illustration indicate range of cutting heights. To adjust height, grasp lever and wheel and squeeze together, moving both until lever stud is at desired position; then release. **The ½" setting is obtainable in the front wheels only.** When this height of cut is desired, place rear wheels in the 1" setting as there are only five adjustments in the rear wheels.



STARTING INSTRUCTIONS

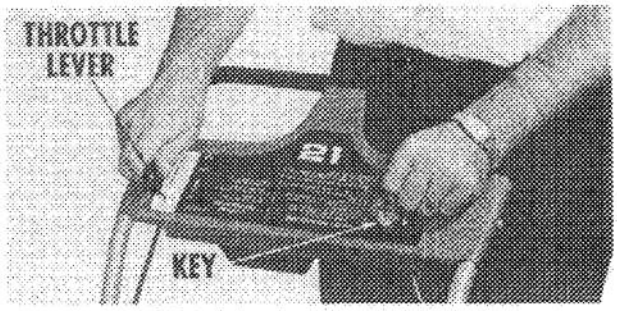
FINGERTIP START



1. Place throttle control lever in choke position.
2. Place foot on step pad on housing as shown and grasp starter handle. Keep other foot away from beneath housing. Pull with a full arm stroke to start engine. Do not allow starter rope to snap back. Allow fingertip starter handle to return slowly by keeping hold of starter handle.
3. When engine starts return throttle control lever to normal operating range.

IMPORTANT: If mower fails to start be sure the chute cover is tightly closed or bagging chute is in place.

KEY-LECTRIC START



The new POW-R-PACK will be wholly discharged when you receive your mower. It should be charged for a period of 48 hours to bring it to a fully charged condition. (See charging instructions on page 11.)

1. Move the throttle lever to the choke position. Insert key into switch until securely snapped into position and turn clockwise to start engine. When the engine has started, release key; the key-switch will automatically return to a neutral position. Shift to normal and you are ready to mow.

Important: If Key-Lectric mower fails to crank (turn engine over) check all electric contacts for proper connections or charge the POW-R-PACK; see page 11.

If mower fails to start, be sure chute cover is tightly closed or bagging chute is in place.

CAUTION: Always remove key from switch when mower is stored or is left unattended.

SELF-PROPELLED MODEL: Place traction control lever in disengage position before starting.

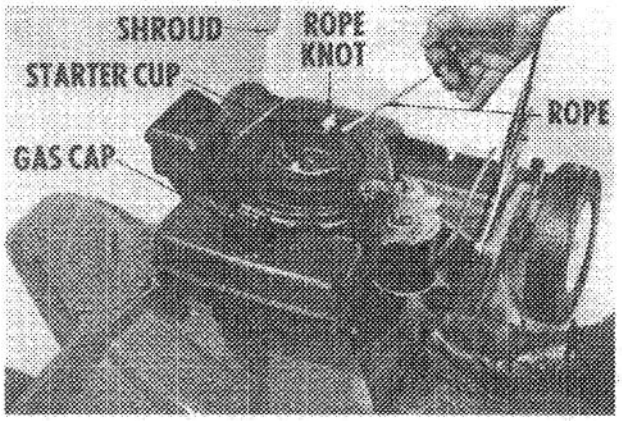
STARTING INSTRUCTIONS (Cont'd.)

ALTERNATE STARTING (KEY-LECTRIC MODELS ONLY)

If the mower fails to start under battery operation, check all electrical contacts for proper connection. To recharge the battery, see page 11. It is possible to start your mower manually; proceed as follows:

1. Remove gas cap and lift shroud towards handle so it rests against handle. **Re-install the gas cap before starting.**
2. Place throttle control in the choke position.
3. Place traction control lever in disengage position (self-propelled models only).
4. Insert knot on the rope supplied with your mower into the slot on the starter cup and wrap the rope around the cup in a clockwise direction.
5. Assume a safe, well balanced position before pulling rope to start engine.
6. When engine starts, return throttle control lever to normal operating range.
7. Remove gas cap, replace shroud and secure in place with gas cap.

CAUTION: When using the alternate starting feature, be sure to stabilize the machine to prevent the machine from rolling or moving when rope is pulled. Be sure hands and feet are clear of housing.



ATTENTION: INOPERATIVE STARTER

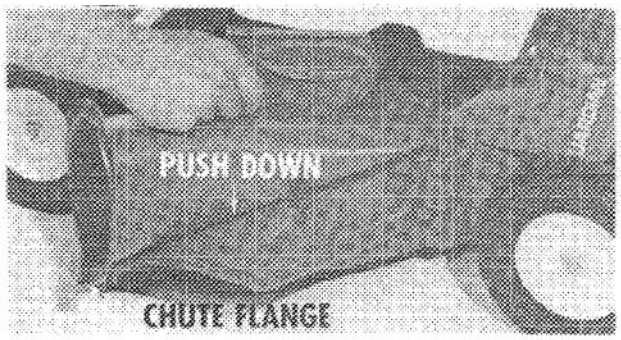
Should starter gears not engage and prevent engine from rotating, **disconnect the spark plug wire** and remove gas cap; tilt hood back against handles. Turn the starter cup on the engine **counterclockwise** until the gears break free. Replace hood and gas cap; re-connect spark plug wire. Your mower is now ready to operate.

BAGGER INSTALLATION

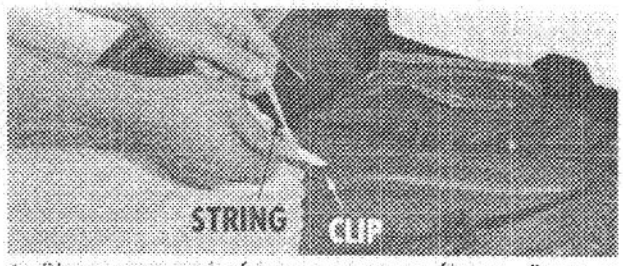
DO NOT OPERATE MOWER UNLESS COVER IS SECURELY LATCHED DOWN OR UNLESS ENTIRE GRASS CATCHER (CHUTE & BAG) IS PROPERLY ATTACHED.



1. Snap cover clip open and raise chute cover (do not snap cover clip closed.
2. With chute cover open, grasp bag chute handle and insert the chute tab into the narrow slot in the front of the opening.



3. Insert chute completely in and push rear of chute down flush into the opening.



4. Place open end of bag over chute flange. Draw up on string and secure with clip.



5. Install bag rod in handle as shown and hang bag by use of loop, on bag rod.

Important: Bag chute must be properly installed to insure that safety stop switch is depressed. Improper installation will result in mower not starting.

CAUTION: If bag chute is clogged with grass, proceed as follows: 1. Shut off engine. **2.** Remove bag chute by handle. **3.** Clean bag chute by shaking debris into grass bag. **4.** Replace bag chute and bag. Now you are ready to mow.

BAGGING TIPS

WARNING: The grass bag is made of materials that will catch and contain the majority of foreign objects which may be thrown into it, such as small stones, etc. However, under normal usage the bag material is subject to deterioration and wear and should, therefore, be frequently checked for bag replacement. Use genuine Toro Replacement Bags.

1. ALWAYS INSTALL THE BAGGING ATTACHMENT BEFORE STARTING ENGINE.
2. Walk leisurely behind your mower; do not run.
3. Avoid cutting wet grass; wait until it dries.
4. Tall grass requires maximum height-of-cut setting.
5. To lessen clogging of bagging chute, empty bag often.
6. Giant leaf cleaning bags can be used to catch grass clippings.
7. Do not wash bags. This only dissolves sizing and shortens life of fabric.
8. Do not use bag when mowing rough, uncertain areas.
9. Guide bag with hand when working in tight locations. This eliminates chance of bag being forced under housing.
10. Full throttle speed is most effective when using bag.
11. ALWAYS SHUT OFF ENGINE when removing or reinstalling bags.
12. Always secure chute cover in place when not bagging grass.
13. To empty bag, stop engine and ensure blade has stopped before detaching bag loop and bag chute. Peel back rear opening flap to dump grass clippings.

LAWN VAC BAGS

Additional Lawn Vac Bags are available from TORO dealers. Several bags will save time and simplify chores.

GIANT BAG KIT

Consists of one giant 5 bushel bag, plus mounting hardware.

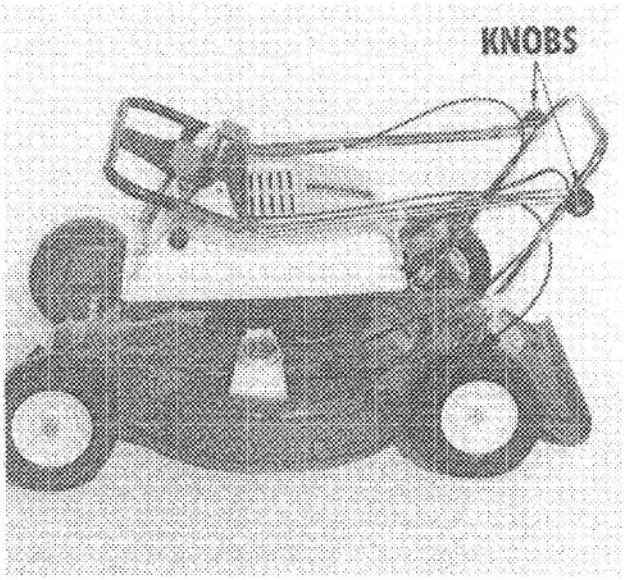
OPERATING INSTRUCTIONS

SAFETY SHIELD



The Guardian SAFETY SHIELD gives added protection to the operator, pivots to ride smoothly over uneven ground, and maneuvers easily.

FOLDING HANDLE 21" MODELS ONLY



All 21" models are equipped with a folding handle – convenient for storage or transporting purposes.

Unscrew handle knobs so as to release the upper handle from lower handle. Upper handle will rest on shroud when in the folded position.

WARNING: When transporting mower in trunk of car, be careful so as not to damage mower or trunk lid when closing trunk lid.

OPERATING INSTRUCTIONS (Cont'd.)

Successful lawn care depends as much on the manner in which the mower is used as it does on mower performance. The rotary blade is turning at all times the engine is running. For best performance, we recommend mowing in the forward direction.

After starting the engine, let it warm up for a minute or so in the idle position. To obtain idle speed, place the throttle control midway between the HI and OFF positions. During the break-in period of your new Toro Rotary, always allow the engine to warm up for a minute or so before mowing. Following this procedure for the first several cuttings will insure better performance and longer engine life. Your mower will cut more satisfactorily if allowed to run at a throttle setting of ½ to ¾ of full throttle. To clean the lawn or to bag litter from the lawn, run at full throttle for optimum suction.

Try your new mower on level grass for the first cutting. As you gain experience, you can attempt the tighter areas and slopes. Be thorough and slightly overlap each swath. For ease and appearance, mow slopes or banks horizontally. Avoid mowing up and down as this causes slipping and unbalanced footing.

To cut grass at edge of flower beds, hold mower level and approach head on. Suction will lift overhanging grass into blade. To mow around posts, trees, and other objects, use the left side of mower in close and follow contour of object. You can successfully mow around dug out trees and shrubs by adjusting both left wheels to compensate for shallow spots.

To cut rough terrain or heavy growth, raise front wheels by bearing down on handle. Mower should be set at a maximum 3-inch cut setting. After rough growth and objects are cleared away, reduce cut setting as desired.

BELOW ARE SOME IMPORTANT FACTS THAT WILL AID YOU IN GROWING AND MAINTAINING A HEALTHY AND ATTRACTIVE LAWN. MOWING PATTERNS, WATERING, AERATING, FERTILIZING, SEEDING, EXISTING GRASS, SOIL VARIATIONS, AND CLIMATE ARE ALL CONTRIBUTING FACTORS TO THE FINAL RESULTS.

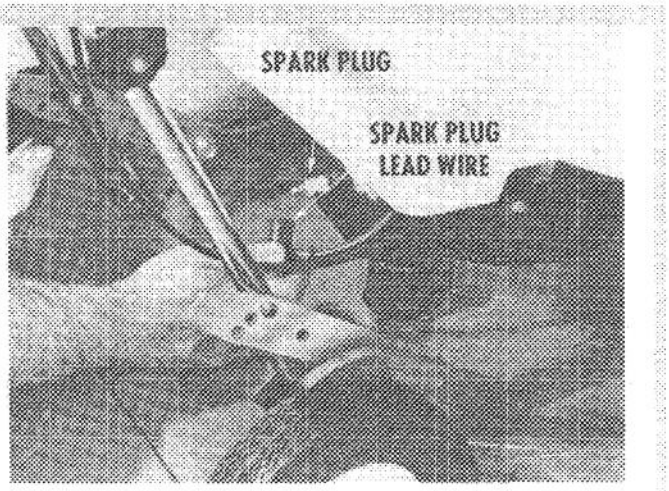
CUTTING WET, THICK OR LUSH GRASS. This can be done best by mowing in a counterclockwise direction, starting at the extreme border and working towards the center. This method saves the cutting blade from the burden of re-cutting discharged grass, and results in more even grooming.

Height-of-cut should not be set too low on thick, lush lawns. Such grass, if cut too short, may die. This also applies to springy, heavy growth lawns. If blade is set too low, the wheels may sink into the lawn causing the housing to drag on the grass and baffle the discharging effect of the cutting blade. New grass, if possible, should be cut in the afternoon when it is dry. Wet grass tends to pack inside the housing, especially if height-of-cut is set low. To clean, see washout instructions, page 13.

CUTTING THIN OR DRY GRASS. Dry, thin grass may be cut in a clockwise direction, moving from outer edge towards the center. On each successive cut, the blade will pick up the previously discharged clippings and throw them towards the center of the lawn where they may be picked up with a minimum of effort.

CAUTION

To prevent accidental starting of the engine, always remove the spark plug lead wire before cleaning under the housing.



Important: When cutting wet grass with a self-propelled model mower, increased traction can be obtained by lifting handle upward to place more traction on front wheels.

ATTENTION OPERATOR: For safety purposes, periodically check cutter blade for tightness.

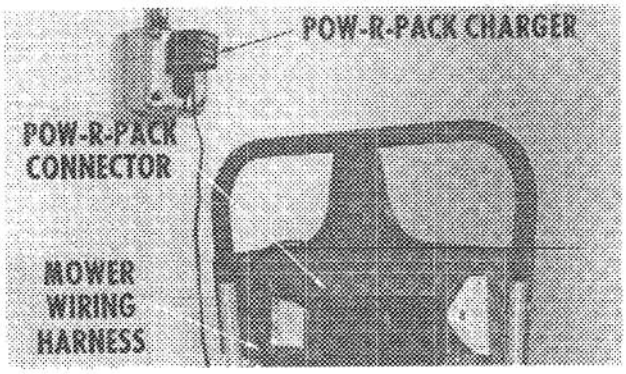
POW-R-PACK CHARGING KEY-LECTRIC MODELS ONLY

The new POW-R-PACK will **not** be charged when you receive your mower. Charge this POW-R-PACK for 48 hours with the Toro charger furnished with your mower.

IMPORTANT: USE ONLY THE TORO CHARGER SUPPLIED WITH YOUR MOWER. OTHER CHARGERS MAY PERMANENTLY DAMAGE THE POW-R-PACK.

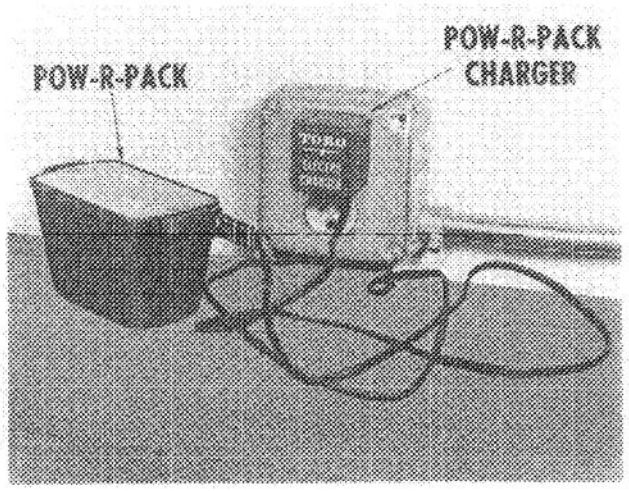
For continued efficient performance and long life, charge the POW-R-PACK for 24 hours after each cutting.

For convenience, the POW-R-PACK may be left on continuous charge between cuttings during the mowing season. DO NOT LEAVE THE POW-R-PACK ON CHARGE THROUGH THE WINTER STORAGE SEASON.



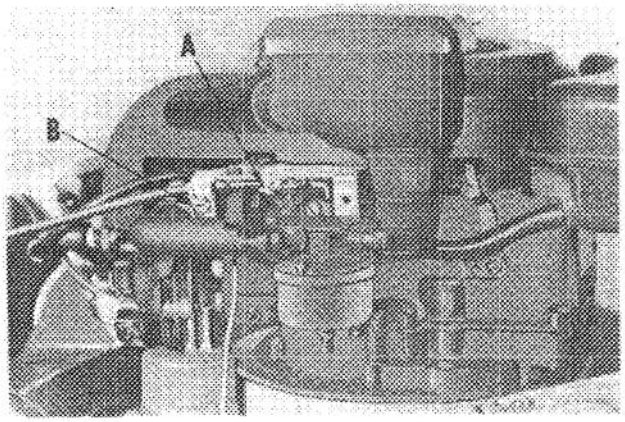
The POW-R-PACK can be charged in place on the mower, or it can be removed for charging in a more convenient location. To charge the POW-R-PACK, proceed as follows:

1. To remove the POW-R-PACK, first slide the battery upward and away from the remote control panel. Disconnect the mower wiring harness.
2. Insert charger connector into POW-R-PACK receptacle. Insert charger into a **115-volt, AC, single-phase, 60-cycle outlet.**



3. After the POW-R-PACK has charged for the required time, remove charger from outlet and disconnect the charger connector from the POW-R-PACK receptacle.
4. Connect mower wiring harness to POW-R-PACK receptacle.
5. Replace POW-R-PACK on the mower by sliding the POW-R-PACK down between the brackets until it fits snugly into position.

ADJUSTMENTS



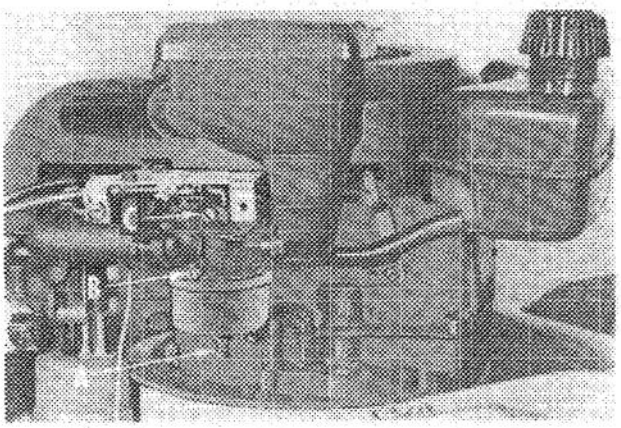
THROTTLE CONTROL

Use the following steps to adjust the throttle control cable at the carburetor:

1. Move the throttle control lever on the remote control panel as far to the rear as possible (off position).
2. Loosen screw "B" on the throttle control cable clamp so that the cable can move freely.
3. Pull control casing to rear as far as possible. Control arm "A" should then be in position shown. Secure screw "B" to clamp casing.

ADJUSTMENTS (Cont'd.)

CARBURETOR ADJUSTMENTS



Do not make unnecessary adjustments. Factory settings are correct for most applications. If adjustments are needed, proceed as follows:

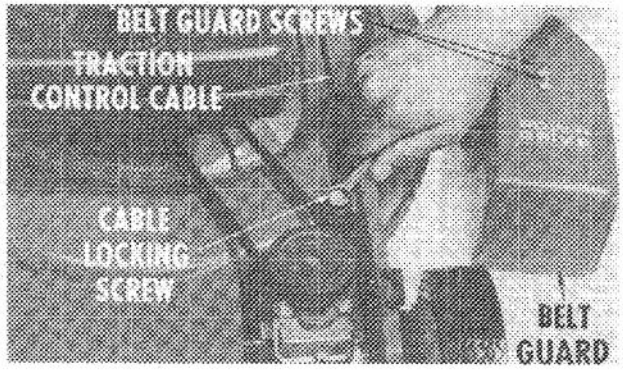
CAUTION: DO NOT FORCE-TIGHTEN NEEDLE. PERMANENT DAMAGE MAY RESULT.

1. Close power adjusting needle "A" by turning to right (clockwise). **Close finger tight only.**
2. Open one turn (counterclockwise).
3. Close idle adjusting needle "B" turning to right (clockwise). **Close finger tight only.**
4. Open five/eighths (5/8) turn (counterclockwise).
5. Start engine. With throttle open (carburetor control at RUN or FAST position), adjust power adjusting needle one/eighth (1/8) turn at a time, forward or backward until engine runs smoothly. If engine tends to stall under load, enrich the mixture slightly (counterclockwise).
6. Hold throttle lever closed or move carburetor control to IDLE or SLOW position and adjust idle adjusting needle until engine runs smoothly, proceeding as in step five (5) above. To obtain idle speed, adjust screw "C".
7. Allow several seconds between each adjustment when performing either step 5 or 6 to allow engine to react to new setting.
8. Maximum engine speeds are preset at factory and should not be changed except by a qualified Toro Service Station repairman who has the necessary equipment.
9. IMPORTANT: Air cleaner should always be checked or cleaned prior to carburetor adjustments. In many cases a dirty air cleaner results in unnecessary carburetor adjustments. (See page 14 for cleaning air cleaner).

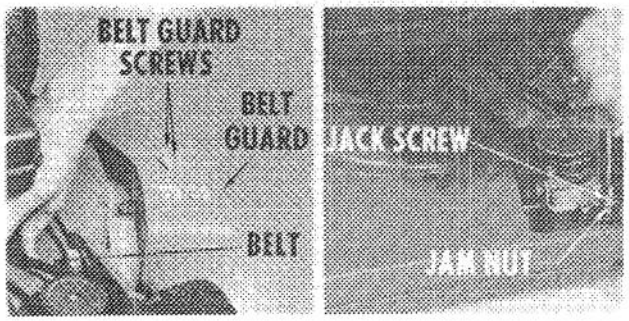
TRACTION CONTROL CABLE SELF-PROPELLED MODELS ONLY

To adjust traction control cable, proceed as follows:

1. Remove two (2) screws which secure belt guard.
2. Loosen cable locking screw.
3. Move the traction control lever on remote control panel as far to rear as possible (neutral position).
4. Pull cable and innerwire as far to the rear as possible to disengage the clutch. Re-tighten the cable locking screw and replace belt cover and screws.



BELT ADJUSTMENTS SELF-PROPELLED MODELS ONLY



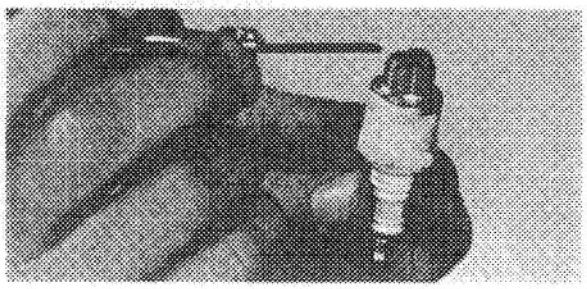
A belt which is too loose will slip in the pulley, or jump out of the pulley grooves, resulting in decreased belt life. Too tight a belt will deform the jack screw bracket and cause loss of traction. To check belt tension:

1. Remove two (2) screws which secure the belt guard.
2. Drive belt is properly tensioned when a load of 10 lbs. is placed on the outside of the belt and a minimum clearance of 1" remains between inside of belt.
3. To correct belt tension, loosen the jam nut and turn jack screw as required. Then tighten jam nut and replace belt guard. If belt needs replacing, have your Toro Service Dealer perform the change.

ADJUSTMENTS (Cont'd.)

SPARK PLUG

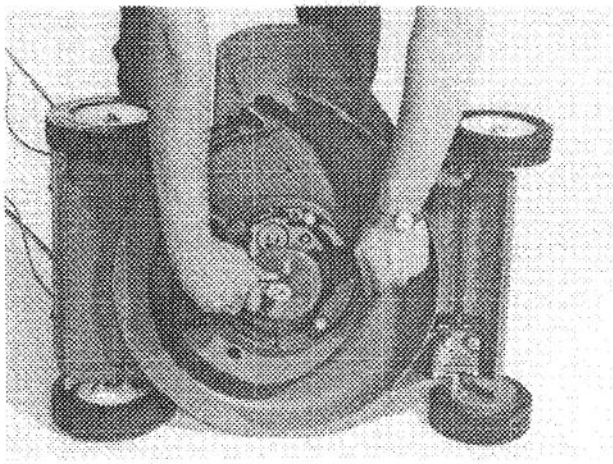
Use a Champion J-8 or equivalent for replacement. Clean and reset the gap at .030 inches every 25 hours of operation. Apply light coating of graphite grease on threads before replacing plug. If plug is pitted or cannot be cleaned easily, install a new plug.



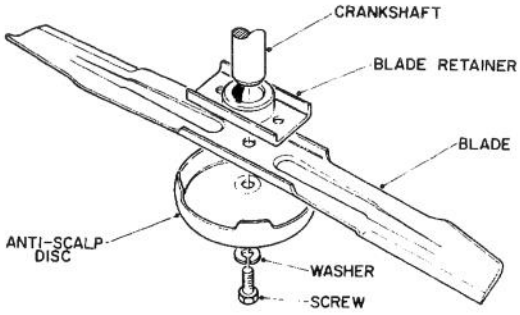
BLADE REMOVAL & SHARPENING

CAUTION
DISCONNECT SPARK PLUG LEAD WIRE

1. Set mower on its left side and grasp blade as shown, turning blade screw counterclockwise. Remove screw, lockwasher, anti-scalp cup and blade.

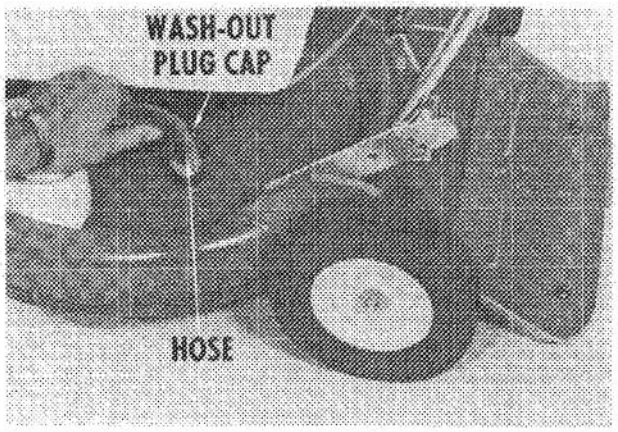


2. Sharpen cutting ends of blade with a file. Try to maintain the original bevel, if possible, for a fine cutting edge. The blade will remain in balance if the same amount of material is removed from each end. Replace blade if extensively damaged or out of balance.
3. Assemble cutter blade and anti-scalp cup assembly in sequence as illustrated. Tighten down cutter blade screw securely. Connect spark plug wire.



IMPORTANT – Use only genuine TORO replacement cutter blades. Substitutes may endanger performance and personal safety.

WASH-OUT PLUG



CAUTION: SHUT OFF ENGINE AND REMOVE BAGGING ATTACHMENT BEFORE USING THE WASH-OUT PLUG. **DO NOT** STAND NEAR THE DISCHARGE CHUTE.

1. After mowing, open wash-out plug cap and place hose end (without nozzle) into opening as shown. Using moderate water pressure, run engine at full throttle speed for about 2 minutes. This flushes out accumulations of grass clippings from underneath housing.

Important: On Key-Lectric start models, do not spray water directly on starter motor.

2. If dry, bulky accumulations of grass clippings do occur, **disconnect spark plug wire**, tip mower on left-hand side, and scrape out debris.

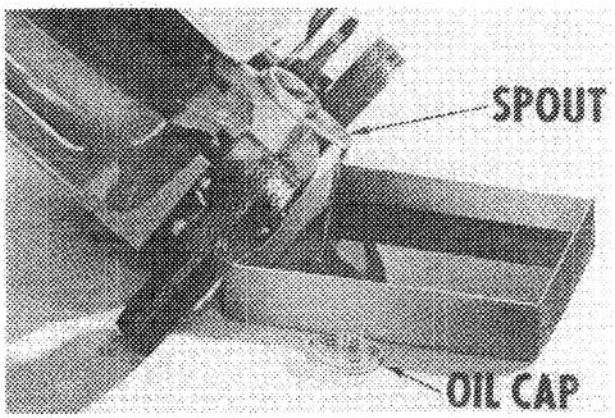
LUBRICATION

DRAINING THE CRANKCASE OIL

Note: Plan to change or drain oil when the gas tank and carburetor are empty to avoid spilling gas on lawn or driveway.

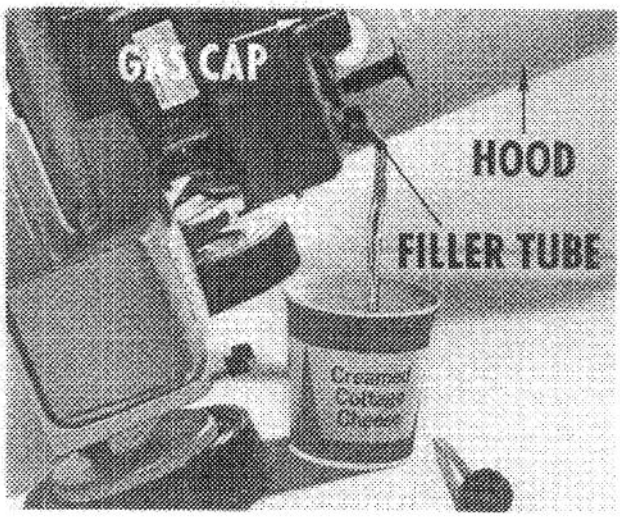
Drain the oil after first 2 hours of operation, preferably when engine is warm, to hasten drainage. Thereafter, change oil after every 25 hours of operation.

KWIK-CHEK OILER
21" MODELS ONLY



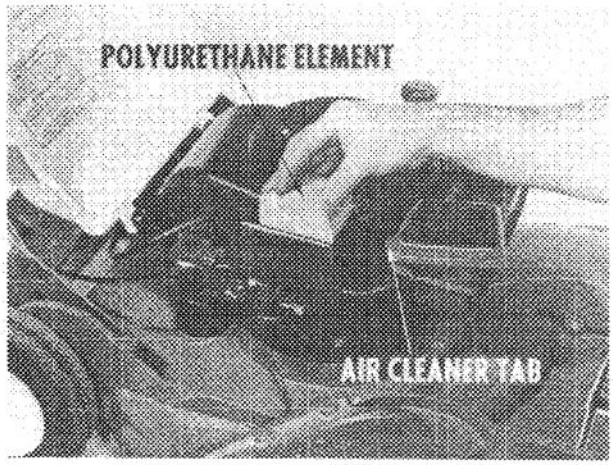
1. Remove visual oil cap and rotate spout outwards.
2. Grasp mower handle and tilt mower increasingly sideways until oil ceases to flow out. A small amount of residual oil will probably remain in the †Kwik-Chek Oiler.
3. Return spout to storage detent, refill with fresh oil, and replace cap.
4. See page 6 for filling of crankcase.

DIPSTICK
19"



1. Remove gas cap; tilt hood back to rest on handles and replace gas cap.
2. Remove dipstick from filler tube.
3. Grasp mower handle and tilt mower increasingly sideways until oil ceases to flow.
4. Refill with fresh oil and replace dipstick.
5. See page 6 for filling crankcase.

CLEANING ENGINE AIR CLEANER



Your engine is equipped with a polyurethane type-serviceable air cleaner. Clean the element every 10 hours of operation or more often when cutting in extremely dusty conditions. To clean the element, proceed as follows:

1. Remove gas cap; tilt hood back to rest on handles.
2. To remove air cleaner cover, grasp tab and lift off.
3. Remove polyurethane element.
4. Wash in detergent and water solution by squeezing similar to a sponge. Squeeze out cleaning solution and shake dry. **Be sure poly element is dry.**
5. Re-oil element by applying a generous quantity (5 teaspoons) of engine oil to sides and open ends. Squeeze to distribute oil and to remove excess oil.
6. Re-install the element and air cleaner cover.
7. NEVER run engine without the polyurethane element or with air cleaner disassembled.

†Exclusive Trademark of Toro Manufacturing Corporation

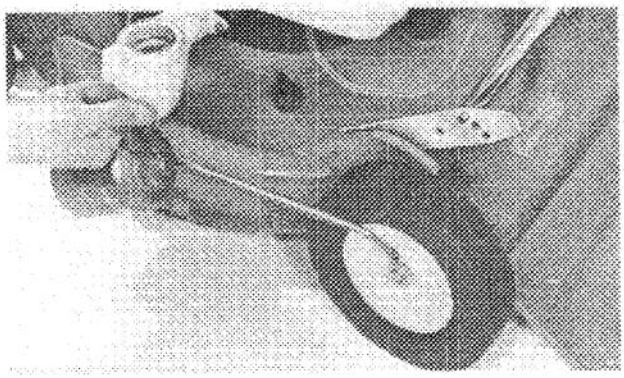
LUBRICATION (Cont'd.)

ENGINE CARE & MAINTENANCE

Your mower is equipped with an air-cooled engine. Keep the blower screen, blower fins on flywheel, and the fins on the cylinder and cylinder head free from grass and dirt. Clogging will restrict the air-flow and cause engine overheating and damage.

You may prefer to have your dealer perform this service.

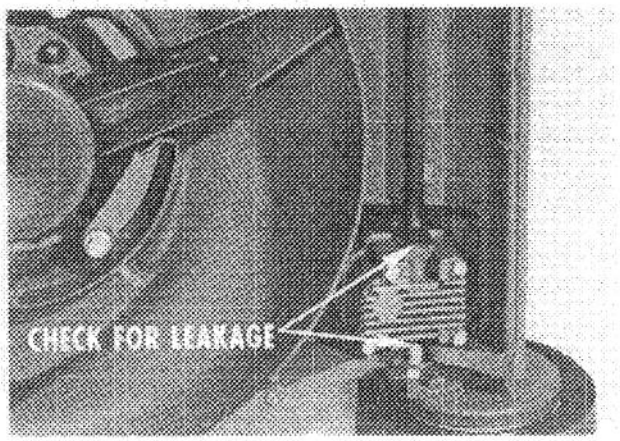
OILING THE WHEELS



Twice a season raise side of mower and add 2 or 3 drops of oil behind head of wheel bolt. Rotate wheel a few times to distribute oil to wheel bearings.

CHECKING POW-R-DRIVE

SELF-PROPELLED MODELS ONLY



The gear case is filled with oil and sealed at the factory. No maintenance to gear case is necessary under normal operating conditions, but periodically inspect the case for a sign of oil leakage between it and the axle. If EXCESSIVE OR CONTINUOUS oil leakage develops around the gear case, have mower inspected by your TORO Service Dealer.

OFF SEASON STORAGE

PREPARING MOWER FOR STORAGE

In event engine is to be stored for any length of time (30 days or more) or at the end of mowing season, prepare as follows:

1. **Drain fuel tank completely; otherwise, gum deposits will form on the carburetor, fuel line, and tank. This may seriously affect the engine when used next. Run the engine until gas from carburetor bowl is exhausted.**

   CAUTION: Drain gas into a container outdoors, away from fire or flame.
2. Drain crankcase oil while engine is warm. Fill the crankcase with fresh oil (see page 6).
3. Remove spark plug and pour one ounce of 10-W-30 oil into cylinder. Crank engine once to allow oil to disperse. Replace spark plug.
4. Clean dirt and grass clippings from cylinder, cylinder head fins and blower housing.

BATTERY STORAGE

FOR KEY-LECTRIC START MODELS ONLY

During the off season storage your battery POW-R-PACK may be left on the mower or removed and stored in a separate location. It is recommended that the battery POW-R-PACK be stored in a cool, dry area during off-season storage.

Do not leave battery POW-R-PACK on charge throughout a winter storage period; this will shorten the useful life of the battery POW-R-PACK.

In the spring charge the battery for 48 hours as instructed on page 11.

If you need to purchase a new battery POW-R-PACK, go to your local Toro Service Dealer. He will have the proper battery to fit your mower. Do not dispose of the old battery in fire as it may explode.

MOWING TIPS

SPRING CLEAN UP – First pick up or remove all objects such as rocks, glass, sticks and other items that may cause damage to your lawn mower. Next, set the height-of-cut on your mower to clip off approximately one-half inch of dormant grass. Attach the bagging attachment and use mower to remove and collect winter debris. This may be done two or three weeks before spring growth starts and will promote an early greening lawn.

MOWING SEASON – Use your bagging attachment to catch clippings, weeds, seed heads and other objectionable growth that may develop. Your mower should generally be set to mow at a height of one and one-half inch to two inches height-of-cut. This is satisfactory for most turf grasses and is an optimum height for your Guardian. Mow often enough so that approximately one-half of an inch of leaf surface is removed at each cutting. This will promote dense growth which helps to shade out weedy grasses, yet does not remove excessive leaf area which will leave the lawn unsightly until new growth is produced.

FALL MOWING – Continue regular mowing practices as late in the fall as required. Also, during fall mowing your bagging attachment provides an excellent means of collecting leaves. These leaves may be used as a beneficial mulch on shrubs and in gardens or they may be composted for use on these areas next spring.

FERTILIZATION – A complete fertilizer – one that contains nitrogen, phosphorous and potash – should be applied in spring and fall at a rate as recommended by the manufacturer. This, along with other information pertaining to the fertilizer, is always shown on the bag. Nitrogen carrying fertilizers should be used periodically to maintain uniform growth and promote good color.

Generally, the complete fertilizer should contain two or three times as much nitrogen as phosphorous and potash. Most lawns require four to six pounds of nitrogen, two to three pounds of phosphoric acid and two to four pounds of potash per thousand square feet of area per growing season. The nitrogen should be applied in at least three or four applications.

WATERING – Correct watering is most important to assure a well groomed lawn of healthy turf grass and can be substantially simplified by the installation of an automatic underground system. Too much or too little water may be more beneficial to grabgrass or other annual weeds than to the permanent turf grass. Water should be applied when about fifty percent of the available water has been exhausted. At this time, the lawn should be watered until subsoil and surface moisture meet. Soils differ in their ability to absorb moisture and water should not be applied in excess of that which can be absorbed. Correct watering procedures should be followed during all growing seasons.

CULTIVATING – Mechanical cultivation, or aeration, may be necessary to alleviate soil compaction. This type of cultivation will provide better water and fertilizer penetration and permit the development of deeper turf grass roots. Lawns should be aerated when the grass is actively growing. In general, northern cool season grasses may be aerated in the spring or early fall, while Bermuda and other warm season grasses may be aerated during the late spring, summer, and early fall.

WEED, DISEASE AND INSECT CONTROL – Chemicals are available for controlling most weeds, insects and diseases. Specific chemicals should be purchased at local lawn and garden supply centers. They should be applied as recommended by the manufacturer as per their directions on the package. However, it is well to remember that weeds invade turf only when it is weak. Weed control chemicals must be considered as an aid only, and unless the basic cause of weakened turf which permitted the invasion is corrected, results with chemicals shall not be favorable. Generally, when weeds are removed by chemical means, the turf grass should be immediately fertilized and possibly cultivated.

SEEDING – The preferred time for seeding is in the early fall. However, spring or early summer seeding will be successful if adequate water is available. For established lawns that are thin and unthrifty, seeding may follow aeration and fertilization. It is necessary that the seed be in contact with soil; otherwise, they may fail to germinate or to become established.

TORO

TROUBLE SHOOTING CHART

1. Engine fails to crank (turn over) (Key-Lectric start models only)	A. Pow-R-Pack not charged (p. 11). B. Inoperative Starter: Starter gears not properly engaged will prevent the engine from cranking. Remove shroud, turn the starter cup on the engine in a counterclockwise direction until the gears break free (p. 8). C. Loose electrical connections. Check to see all connections are secure. D. Make sure house outlet switch is on 115 VAC circuit when charging Pow-R-Pack (p. 11).
2. Engine fails to start	A. Check the fuel tank for gas (p. 7). B. Throttle control lever not in normal or hi position (p. 5). C. Do not attempt to start in heavy or high grass but rather on a clean, dry surface (driveway, sidewalk). D. Spark plug wire loose or disconnected. E. Spark plug faulty or improperly gapped (p. 13). F. Cutter blade bolt loose (p. 13). G. Deflector cover not secured or bagging chute improperly depressing safety stop switch. H. Engine flooded. Remove spark plug, dry the plug, crank engine with plug removed and throttle in "off" position. Replace spark plug and lead wire and resume starting procedures (p. 7). I. Dirty air cleaner (p. 14).
3. Hard starting or loss of power	A. Dirt in gas tank. B. Dirty air cleaner (p. 14). C. Water in fuel supply. D. Vent in gas cap and/or carburetor plugged.
4. Operation erratic	A. Spark plug fouled, faulty or gap too wide (p. 13). B. Dirty air cleaner (p. 14).
5. Occasional skip (hesitates) at high speed	A. Spark plug gap too close (p. 13).
6. Idles poorly	A. Remove any obstruction from air passages in shrouds. B. Clean cooling fins. C. Fill crankcase to proper oil level (p. 6).
7. Engine overheats	A. Spark plug wire loose. B. Cutter blade bolt loose (p. 13). C. Traction control lever in the engaged position (p. 5). D. Dirty air cleaner (p. 14).
8. Excessive vibration	A. Cutter blade loose or unbalanced (p. 13).

IMPORTANT ORDERING INSTRUCTIONS

Repair parts are available from your TORO service dealer. Correct parts and minimum delay are assured when you furnish the following information:

1. Model and Serial number found on mower's name plate.
2. Part number, description and quantity of each part required.
3. Name and address where parts are to be shipped.

Order only from part numbers; do not give reference numbers (parts catalog booklet available by request).

This book is intended as an operating and service guide for the average owner. We do not recommend that you attempt to make major engine repairs beyond the necessary adjustments and simple repairs required to keep your mower in good operating condition.

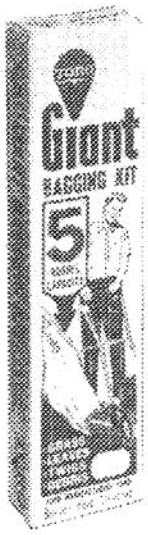
ACCESSORIES

SPRAY PAINT



501-42 – Apple Red

Toro Spray Paint restores the factory finish. Dries in minutes to a glossy finish.

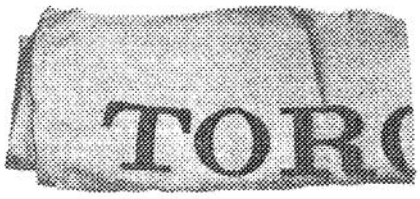


10-2580

GIANT BAGGING KIT

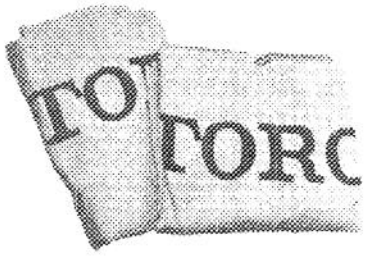
Truly a plus feature of the Toro Rotary. Giant Bags for increased capacity – holds 5 bushels of leaves and is excellent for grass, twigs and other debris. Yard clean-up is faster, easier.

GIANT BAGS



4-4079

Replacement bags for the Giant Bagging Kit. Additional bags ease the yard clean-up chore.



5-5928

Extra Lawn Vac Bags – the easy way to yard clean-up with fewer steps and interruptions.

THE ABOVE ACCESSORIES MAY BE ORDERED FROM YOUR LOCAL TORO DEALER.

THE TORO PROMISE

It is Toro's policy to design and produce Toro products to provide our customers with a high level of performance and durability in normal operation. Our products, however, are produced in high volume, and it is inevitable that occasionally a unit will reach a customer with a defect in materials or workmanship which causes that unit to fall below the normal high level of Toro performance. Invariably, such a defect will be noticed in a residential product within one year, and in an institutional product within ninety days after purchase. Recognizing this possibility, Toro has established a simple guarantee policy and procedure that is intended to assure customer satisfaction. This guarantee statement is as follows:

The Toro Promise

The Toro Company promises to repair any TORO product for the original purchaser if defective in materials or workmanship. The following time periods from the date of purchase apply:

Residential products	1 year
Residential products used commerically	45 days
Institutional products	90 days

The costs of parts and labor are included, but the customer pays the transportation costs. Just return any residential product to a TORO Service Dealer, or any institutional product to a TORO distributor.

Should you feel that a product is defective, and wish to rely on The Toro Promise, the following procedure is recommended:

1. Contact any TORO dealer or distributor, but preferably the dealer or distributor from whom you purchased the product.
2. He will instruct you to either return the product to him, or tell you the name and address of your nearest TORO Service Dealer if the product is to be returned to such dealer.
3. Take the product and your original sales slip, or other evidence of purchase date, to the servicing dealer.
4. The servicing dealer will inspect the unit, advise you whether the product is defective and, if so, make all repairs necessary to correct the defect without extra charge to you.

If for any reason you are dissatisfied with the dealer's analysis of the defect or the service he performs, we urge you to contact us. Write:

TORO "Customer Care" Department
8111 Lyndale Avenue South
Bloomington, Minnesota 55420

MAINTENANCE RECORD

DATE	HOURS USED	OIL CHANGE	AIR CLEANER SERVICE	OIL WHEELS	SHARPEN BLADE	WINTER STORAGE	SPRING SERVICE	SPARK PLUG GAP

FORM NO. 3310-195 REV. A

LITHO IN U.S.A.