FORM NO. 3310-572

TORO

MODEL NO. 31763-500001 & UP
MODEL NO. 31823-500001 & UP

OWNER'S MANUAL

826 AND 832 SNOWTHROWERS

SAFETY INSTRUCTIONS

CAUTION: This Snowthrower is engineered and tested to offer reasonably safe and effective service, 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 snowthrower or adults to operate it without proper instruction.
2. Know the controls and how to stop machine quickly – READ THE OWNER'S MANUAL.

PREPARATION

3. Handle gasoline with care – it is highly flammable.
   A. Use approved gasoline container.
   B. Fill gas tank outdoors, never while engine is running. Wipe up spilled gasoline.
   C. Replace gasoline cap securely.
   D. Open doors if engine is run in a garage – exhaust gases are dangerous.
4. If using electric start, be sure house or garage outlet is 110 VAC grounded and fused with a 15 AMP fuse, and a grounded three (3) wire extension cord is used.
5. Keep children and pets a safe distance away at all times.
6. Disengage all drives before starting engine.

OPERATION

7. Stay in your operator zone behind handles. Never leave this position without shutting engine down.
8. Give complete and undivided attention to the job at hand.
9. Personal injury or property damage can result from debris thrown by this machine. Therefore, never direct discharge toward bystanders or windows nor allow anyone in front of or near the machine while operating.
10. Adjust skid height to clear gravel or crushed rock surface.
11. Maintain solid and secure footing at all times.
12. Never look into chute while engine is running. DO NOT PUT HANDS IN DISCHARGE CHUTE.
13. Do not use machine when temperature is below -20°F.
14. Check before each use for loose fasteners or parts.
15. Stop engine before leaving operating position and disconnect spark plug lead wire before cleaning discharge chute, removing obstacles or making adjustments.
16. Never place hands or feet under or into rotating parts or concealed areas.
17. If snowthrower should vibrate abnormally or strike a foreign object, stop engine immediately, disengage all controls, disconnect spark plug lead wire and check for damage or loose parts. Repair damage at once.
18. Wear safety or ski goggles while operating snowthrower.
19. Do not change governor setting or overspeed engine.

MAINTENANCE

20. Follow maintenance instructions as outlined in this manual.
21. Have an authorized Toro Service Dealer inspect the snowthrower each year.
22. Disconnect spark plug wire before making any adjustment or repair, and when storing machine.
23. Store gasoline in an approved red metal container in a cool dry place.
24. Keep machine in good operating condition and keep safety devices, guards, and shields in place.
25. Safety and performance levels can be assured only by the use of specified Toro replacement parts.
26. Make sure that Safety Interlock System is operating– DO NOT attempt to make it inoperative.
27. Maximum engine speed must not exceed 3500 RPM.

TABLE OF CONTENTS

FOREWORD

TO THE TORO OWNER. . .

Toro knows how important proper snow throwing equipment is for winter maintenance and Toro designers have, over the years, strived for and achieved the finest in snow throwing 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 snowthrower 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 snowthrower 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.

IMPORTANT: Make sure your dealer has filled out the TORO Registration Card supplied with your machine, and that you have received your copy. This card validates the date of purchase, date of warranty, and will ensure proper post-sale service.

SAFETY

This Safety Alert symbol is intended to call your attention to a message concerning your personal safety. It means. . .

ATTENTION!
BECOME ALERT!
YOUR SAFETY IS INVOLVED!

Read and remember the message. This snowthrower is as safe as good, practical design can make it. Keep the Operating and Safety Instructions in mind while using it.

⚠ CAUTION
AVOID POTENTIAL HAZARDS

1. STOP ENGINE AND WAIT FOR ALL MOVEMENT TO STOP BEFORE UNCLOGGING OR SERVICING MACHINE.
2. DO NOT DEFEAT INTERLOCK SYSTEM. IT IS FOR YOUR PROTECTION.
3. NEVER DIRECT DISCHARGE TOWARD BYSTANDERS NOR WINDOWS, NOR ALLOW ANYONE IN FRONT OF NOR NEAR THE MACHINE WHILE OPERATING.
4. BE SURE SNOWTHROWER IS PROPERLY ASSEMBLED AND ADJUSTED.
5. READ YOUR OWNER'S MANUAL FOR OPERATING AND SAFETY INSTRUCTIONS. IF YOU DO NOT HAVE AN OWNER'S MANUAL WRITE FOR A FREE COPY. (THE TORO COMPANY, 8111 LYNDALE AVENUE SOUTH, BLOOMINGTON, MINN. 55420.)

BACK OF ENGINE

⚠ WARNING

KEEP HANDS OUT OF CHUTE

STOP ENGINE BEFORE UNCLOGGING OR REMOVING DEBRIS

DO NOT DIRECT DISCHARGE AT BYSTANDERS

ON DEFLECTOR

⚠ WARNING

KEEP CLEAR OF AUGER WHILE ENGINE IS RUNNING

STOP ENGINE BEFORE REMOVING DEBRIS

BACK OF AUGER HOUSING

LOOSE PARTS

DESCRIPTION	QUANTITY
Trunnion & Shift Rod Assembly	1
Clevis Pin	1
Hair Pin Cotter	1
Washer	1
Spring	1
Knob	1
Hex Sems Screw	2
Locknut	2
Knob	1
Clevis Pin	1
Cotter Pin	1

DESCRIPTION	QUANTITY
Hex Flange Screw	4
Pyramidal Washer	1
Locknut	1
Tab	3
Tab Spacer	3
Hex Capscrew	6
Locknut	6
Clevis Pin	1
Cotter Pin	1
Owner's manual	1
Registration Card	1

Unpack your snowthrower with care to avoid damaging the unit or misplacing the loose parts. Carefully inspect the unpacked items to make certain damage has not occurred during shipment. Be sure to locate the loose parts bag containing hardware.

GENERAL ASSEMBLY INSTRUCTIONS

IMPORTANT: Right or left hand is determined from the operator's normal position behind the handles.

1. Slit the corners of the carton and roll the unit off the carton.
2. Spring the ends of the handle outward to disengage it from the shipping tabs as shown in Figure 1. Remove the handle carefully from the machine.

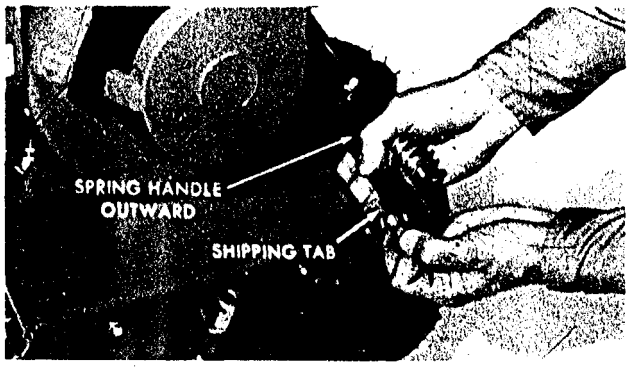


Figure 1

3. Attach the handle to the side plates with the four hex flange screws.

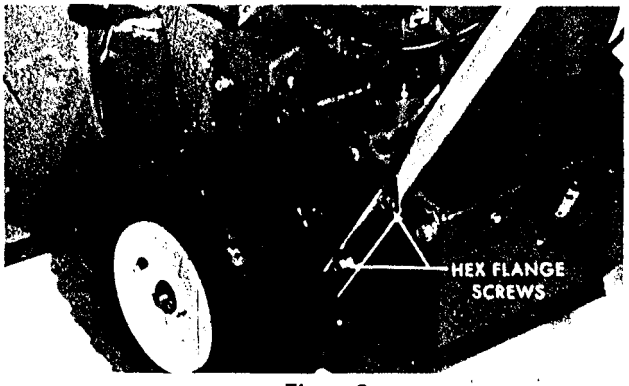


Figure 2

4. Attach the throttle plate to the underside of the panel with the two sems screws and locknuts. Install the knob on the throttle lever.

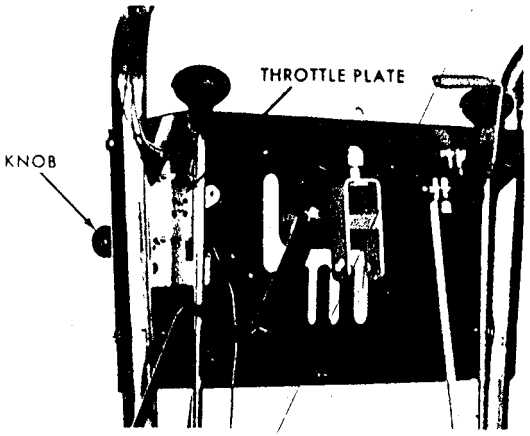


Figure 3

5. Turn the upper section of each clutch rod into the coupling until the rod bottoms against the lower section. Secure with the jam nuts.
6. Hold the clutch handle down (fully disengaged) and

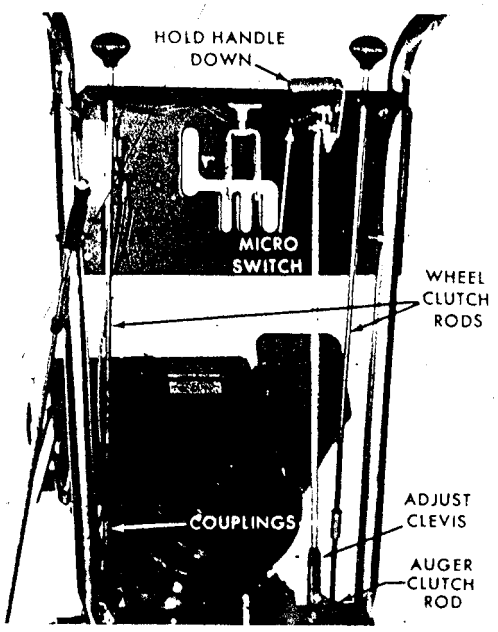


Figure 4

GENERAL ASSEMBLY INSTRUCTIONS (Continued)

adjust the clevis so the pin fits easily through the clevis and bent end of the auger clutch rod. Adjusting in this manner will insure that the micro switch is activated and that the belt will be properly tensioned for driving the auger. (The micro switch prevents the engine from starting if the auger drive is engaged). Figure 4.

7. Install the shift rod assembly to the pivot bracket and the U-joint tube as shown in Figure 5. Secure with the clevis pin, flat washer, and hair pin cotter at the upper end and a clevis pin and regular cotter pin at the lower end. Install the spring between the hole in the shift rod assembly and the hole in the panel. Screw the knob onto the shift rod.

Figure 5

8. It may be necessary to adjust the shift linkage slightly for proper traction disc engagement. Check the adjustment by shifting into first gear. The shift lever should drop to the center of the slot. Figure 6. Then shift into third gear; the lever should drop to 1/4" to 3/8" from the bottom of the slot. If adjustment is necessary, remove hair pin cotter, washer, and clevis pin. Rotate clevis inward (clockwise) to lower lever in slot, outward (counterclockwise) to raise lever in slot. Turn clevis one turn at a time until proper adjustment is achieved. Reinstall pin, washer and hair pin cotter. (Also see Traction Disc Adjustment, pages 9 & 10).

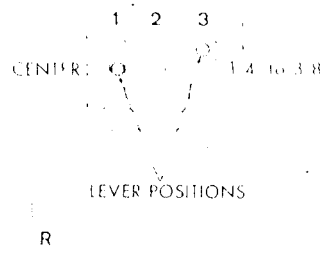


Figure 6

9. Coat chute retaining ring liberally with Lubriplate or an equivalent lubricant.
10. Set discharge chute on retaining ring. When properly positioned, secure with six (6) indented head screws, spacers, tabs and locknuts. Insure that spacer is installed first and the tab on the bottom.

Note: Insure that all the tabs are positioned under retaining ring, then tighten nuts securely.

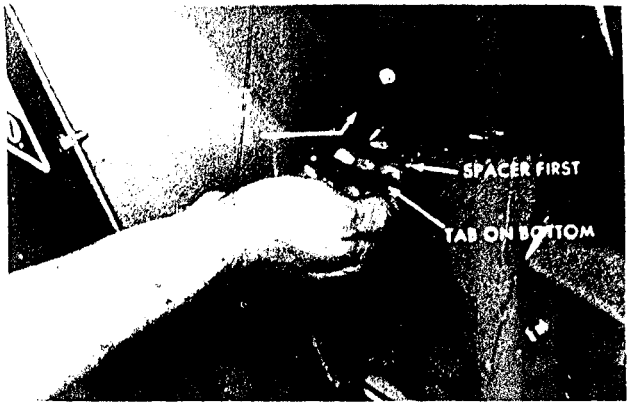


Figure 7

11. Install chute control rod assembly to bracket mount of auger/impeller housing. Adjust the worm snug against teeth of discharge chute and fasten with pyramidal washer and conelock nut.

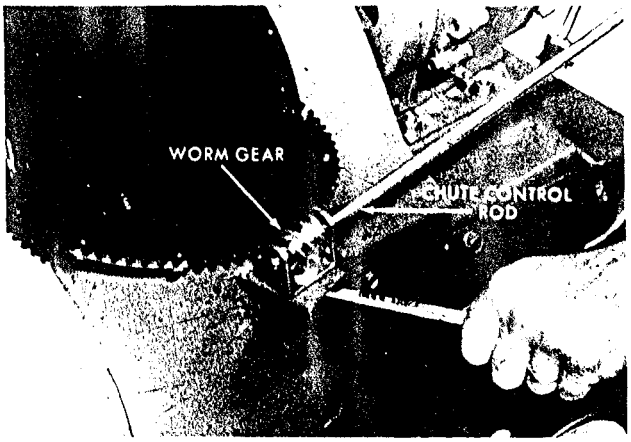


Figure 8

12. Wrap the micro switch wire several times around the throttle cable to remove excess slack and secure the wire to the lug on the governor control plate.

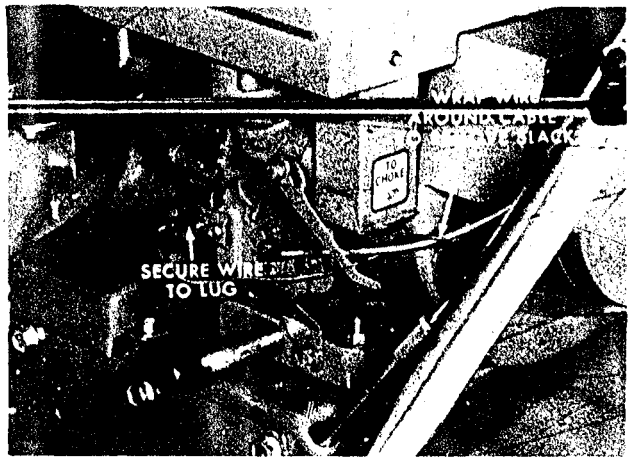


Figure 9

13. Tire Pressure: The tires are over-inflated at the factory for shipping purposes. Reduce the pressure to 15-20 PSI.

PREPARATION BEFORE STARTING

The engine has been shipped from the factory without oil and gasoline. Therefore, it is essential that the Preparation Before Starting instructions in this manual be strictly followed.

FILLING WITH OIL

1. Place snowthrower on a level surface and remove oil filler plug from engine.
2. Using a funnel, slowly pour forty-four (44) ounces (2¾ pints) of a good grade of SC, SD, or SE classification SAE5W-20 or 10W oil into the crankcase until the point of overflowing.
3. After sufficient amount of oil has been added, replace oil filler plug.
4. Change oil after the first two (2) hours of operation. Check oil level after each five (5) operating hours or each time snowthrower is used.

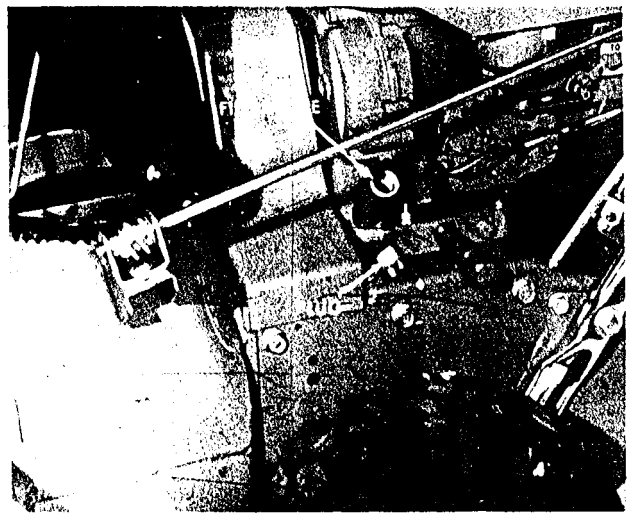


Figure 10

5. Change oil every twenty-five (25) operating hours (See Changing Engine Oil, page 8).
6. Check auger gear box oil level on a level surface. If oil is not at the point of overflowing, fill with SAE 90EP transmission oil. Change oil once a year (See Changing Auger Gear Box Oil, page 9).

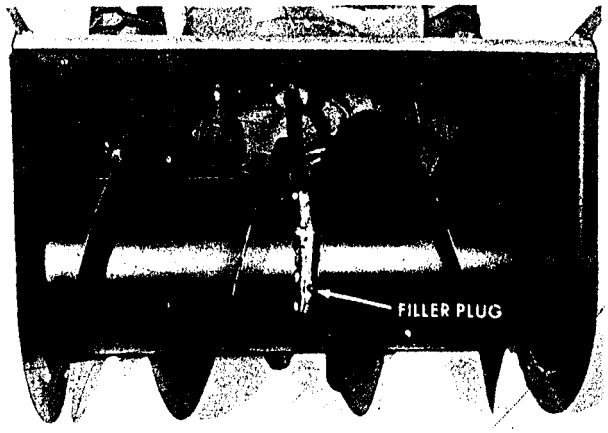


Figure 11

⚠ FILLING WITH GASOLINE

Gasoline is an extremely flammable fuel, and extreme caution must be used when storing and handling it. Gasoline is intended only as a fuel for internal combustion engines. DO NOT USE IT FOR ANY OTHER PURPOSE.

IT MUST BE STORED IN APPROVED CONTAINERS IN A COOL, WELL-VENTILATED PLACE – NEVER IN THE HOME.

THE CAP MUST BE KEPT IN PLACE ON THE CONTAINER EXCEPT WHEN ACTUALLY POURING FUEL.

USE A FUNNEL OR A SPOUT WHEN POURING TO PREVENT SPILLING.

MANY CHILDREN LIKE THE SMELL OF GASOLINE – KEEP IT OUT OF THEIR REACH – THE FUMES ARE DANGEROUS TO INHALE AS WELL AS BEING EXPLOSIVE.

Fill the gas tank with a fresh supply of the new automotive anti-pollution unleaded regular gasoline or regular gasoline.

Handle gasoline with care – it is highly flammable. Do not smoke while adding gas. Do not add gas to your snowthrower in an enclosed area. Fill gas tank outdoors and wipe up spilled gas. Do not add gas to your snowthrower while the engine is hot or running. Keep gas and gas storage cans clean. Keep the area around the gas cap free from debris buildup.

Gasoline should be purchased in small quantities (not more than 30 days supply) to assure fresh gasoline with volatility tailored for the season. Keep breather holes in tank cap open. The tank capacity is 4 quarts.

DO NOT MIX OIL WITH THE GASOLINE. DO NOT USE PREMIUM GAS, WHITE STOVE GAS, OR GASOLINE ADDITIVES.

FUEL SHUT-OFF

After filling with gas, open fuel shut-off valve. Gasoline will now flow through the lines and allow engine to be started.

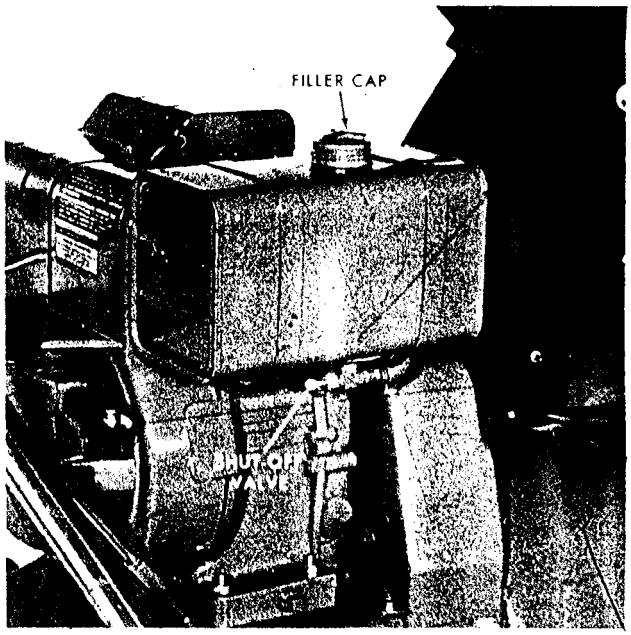


Figure 12

KNOW YOUR CONTROLS

Auger/Impeller Clutch – this control can be used to "Engage" or "Disengage" the auger and impeller. To "Engage," pull clutch lever up slowly. To "Disengage," push clutch lever down.

Gear Shift Lever – this control provides three (3) forward speeds and one (1) reverse. To shift speeds, move shift lever into the speed you desire.

Throttle Control – this control has three (3) positions: STOP, START, and RUN. Pushing lever forward increases engine speed and pulling to the rear as far as possible stops the machine. For effective snowthrowing use just enough throttle to throw snow to the desired spot.

Left and Right Wheel Clutch – these controls are used to make power assisted turns.

Discharge Chute Control – this control is adjustable and can be rotated to throw snow to either the right or left side of snowthrower.

Deflector Handle – this control is used to adjust the height of the snow stream.

Recoil Starter – this control is used to start the engine.

Choke Lever – the choke lever is located on the left-hand side of the engine. Move lever to full choke position for starting.

Safety Interlock Levers – At least one lever must be depressed when the auger impeller clutch is engaged to prevent the engine from stopping. This is a safety feature to remind the operator to disengage the auger before he leaves the operating position (behind the handles).

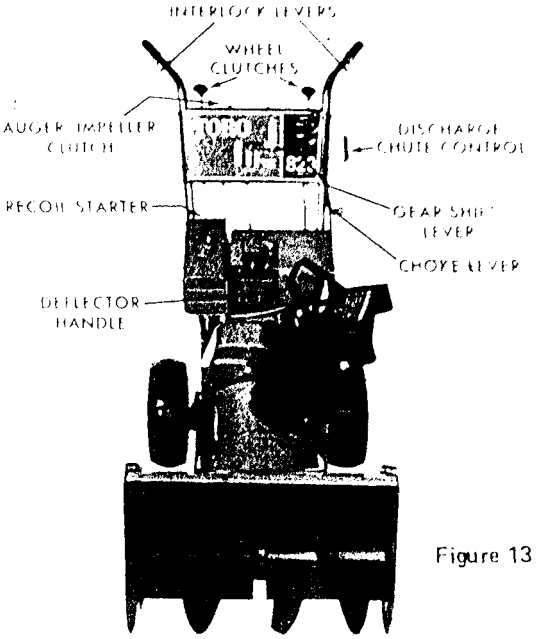


Figure 13

OPERATING INSTRUCTIONS

WARNING: All body movements necessary to stop and run this machine should be performed from the Normal Operating Position (behind handles). This is a position of maximum safety. If it is necessary to leave this position, shut engine off by pulling throttle control lever to the "STOP" position and place all controls in the "Disengage" position or in "N" (neutral).

STARTING

IMPORTANT: Check to insure that impeller is not frozen in housing and discharge chute is not obstructed.

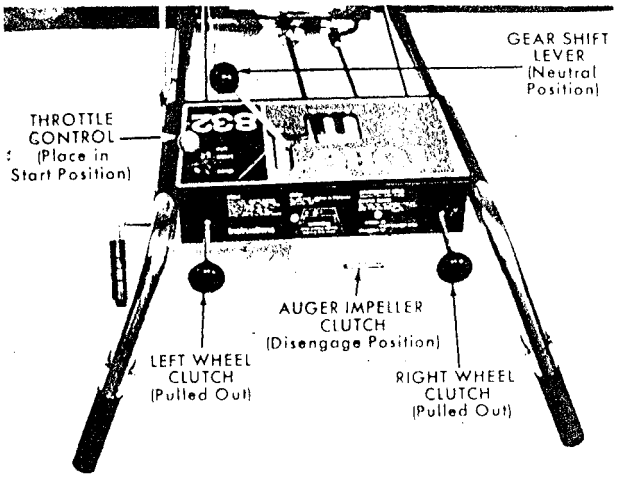


Figure 14

1. All controls should be in the "Disengage" or "N" (neutral) position. The engine will not start unless the Auger Impeller Clutch is in the "Disengage" position.
2. Open fuel shut-off valve below gas tank.
3. Place throttle control in the "START" position.
4. Place choke lever in full choke position.

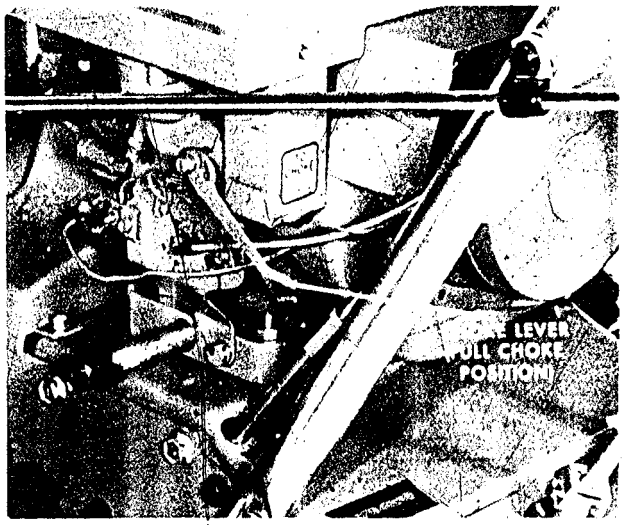


Figure 15

5. Pull starter handle quickly. Keep firm grip on handle and return rope slowly.
6. When engine starts, open (pull up) choke gradually.
7. Allow the engine to warm up for a few minutes before removing snow.

SPECIAL LOW TEMPERATURE STARTING PROCEDURE

1. Turn needle valve located on side of carburetor, 1/8 turn counterclockwise.

OPERATING INSTRUCTIONS (Continued)

2. Move choke lever to full choke and throttle control lever to start position. Pull starter rope one or more times until engine fires at least once. A "pop" at the muffler indicates the engine is firing.
3. Open choke slightly.
4. Pull starter again – engine should start.
5. As engine begins to run, open choke gradually.
6. If engine begins to die, close choke slightly.

NOTE: If fuel drips out of carburetor while trying to start engine, the engine is over choked. Pull starter several times with choke open.

STOPPING

Pull throttle control lever to "STOP" position (STOPS ENGINE). Move gear shift lever to "N" – neutral (STOPS WHEEL DRIVE). Pull Auger Impeller clutch handle down (STOPS AUGER AND IMPELLER).

Do not stop by pulling wheel clutches out.

EMERGENCY STOPPING

PULL THROTTLE CONTROL TO "STOP" POSITION.

AUGER IMPELLER CLUTCH

With engine running at idle speed, pull auger/impeller clutch handle up to ENGAGE. Pull handle down to DISENGAGE.

LEFT AND RIGHT HAND WHEEL CLUTCHES

With the engine off, Auger/Impeller clutch disengaged and gear shift lever in "N" neutral, perform the following:

1. With unit on a flat surface, push either the right or left wheel clutch in. If clutch will not engage, pull either handle sideways while exerting pressure on wheel clutch knob.

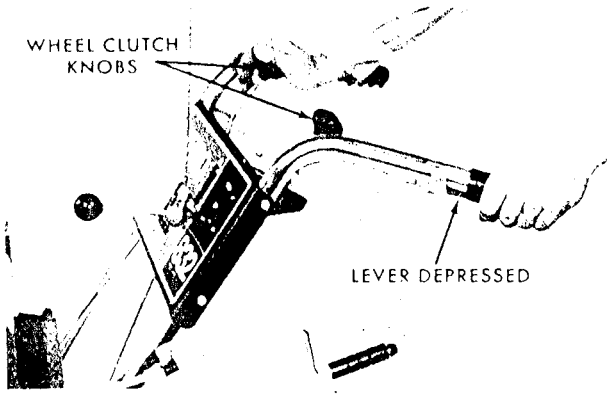


Figure 16

2. When one clutch has been engaged, push opposite clutch in. If clutch will not engage, pull handle sideways while exerting pressure on wheel clutch knob. Excessive force may cause damage.
3. When able to engage and disengage without any trouble, start engine (See Starting, page 6).
4. Move snowthrower to an open area.
5. With engine running at idle speed and gear shift lever in first (1) gear, push knobs down and engage both wheel clutches. INSURE CLUTCHES ARE ENGAGED FULLY (knobs are pushed down completely).

IMPORTANT: Remember that one of the hand levers must be depressed to keep the engine running (with auger engaged).

6. Pull right wheel clutch out – this will produce a power assisted turn to the right.
7. Just prior to the completion of the turn, exert steady pressure on the right wheel clutch knob. Clutch will engage when proper alignment of wheel jaws is obtained. Make a power assisted turn to the left by pulling out left wheel clutch knob. Just prior to the completion of the turn, exert steady pressure on the left wheel clutch knob. Clutch will engage when proper alignment of wheel jaw is obtained.

NOTE: Be sure knobs are pushed down completely to prevent disengagement during operation.

8. Under some conditions wheel clutch may not disengage when pulled out. If this should occur, proceed as follows:
   A. Place gear shift lever in "N" (neutral position).
   B. Firmly pull wheel clutch knob again. Wheel clutch should now disengage.

⚠ SAFETY INTERLOCK SYSTEM

The safety interlock system is a safety feature which will ground out and stop the engine (through a series of switches) if the operator leaves the operating position without disengaging the auger impeller clutch. At least one of the hand levers must be depressed to keep the engine running when the auger impeller is engaged. This feature also prevents the operator from starting the engine with the auger impeller clutch engaged. If the system does not function properly, see an Authorized TORO Service Dealer immediately and have the system repaired. DO NOT ATTEMPT TO DEFEAT THE PURPOSE OF THE SAFETY INTERLOCK SYSTEM BY DISCONNECTING WIRES OR SWITCHES OR OTHERWISE MAKING IT INOPERATIVE. If the system is inoperative, auger and impeller will continue to turn when you leave operating position, and may then be HAZARDOUS.

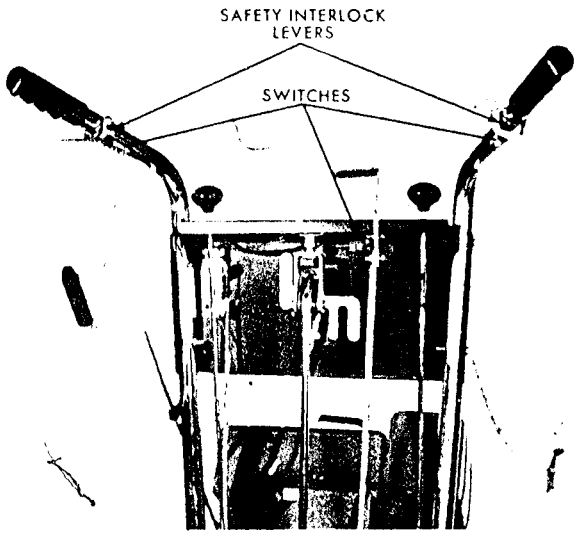


Figure 17

OPERATING INSTRUCTIONS (Continued)

TRANSPORT

When moving unit from one place to another (by pushing) pull both wheel clutch knobs out.

TIPS ON SNOWTHROWING

1. Always have gear shift lever in "N" (Neutral) and close fuel shut-off valve when machine is not in use.
2. Use forward speed best suited to conditions. A RULE OF THUMB: If drive wheels are slipping, your forward speed should be reduced.
3. Whenever possible, discharge snow downwind.
4. Always overlap each pass slightly to assure complete snow removal.
5. Best results are obtained when snow is removed as soon as possible after it falls.
6. For crushed rock or gravel driveways, set skids so machine clears highest rocks (See Skid Adjustment, page 10).
7. For concrete or asphalt surfaces set skids so auger is approximately 1/8" above surface.
8. This machine is designed to clean down to the surface. If front tends to rise at times, reduce ground speed and if necessary, apply upward pressure on handles.
9. Under normal usage, chains are not necessary. However, chains are recommended for conditions which cause excessive wheel slippage.
10. Place a coat of paste wax on the inside of the auger and impeller housing, chute and deflector to prevent the accumulation of snow.
11. When working in snow and cold weather, it is possible for some of the controls of any machine to freeze up. If the controls become difficult to manipulate, DO NOT USE EXCESSIVE FORCE. Check the mechanism for freezing, and take corrective measures.

MAINTENANCE

CAUTION: When performing any maintenance on your snowthrower, disconnect the spark plug lead wire.

LUBRICATION

Keep Snowthrower Properly Lubricated

1. Apply a few drops of SAE10W-40 oil to all pivot points in the control linkage every fifteen (15) operating hours.

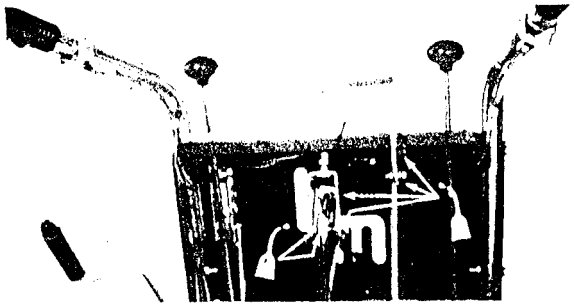


Figure 18

2. Remove rear cover, lightly oil (SAE10W-40) all chains, pivot points, sprocket bushing, nylon ring, control rod, and hex shaft every fifteen (15) operating hours.

IMPORTANT: Do not allow lubricant to get on the rubber wheel and friction drive plate.

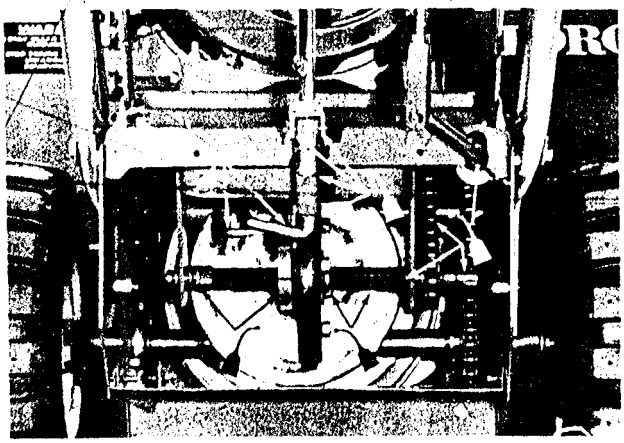


Figure 19

3. Replace rear cover.
4. Lightly oil (SAE 10W-40) clutch assembly parts every fifteen (15) operating hours.

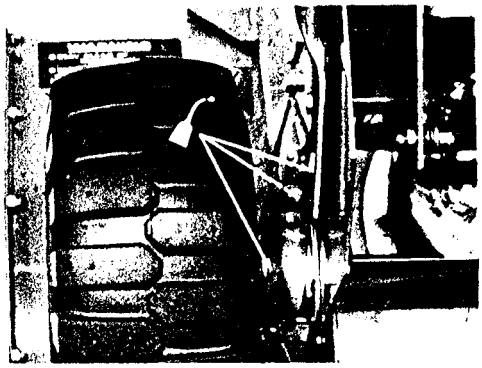


Figure 20

CHANGING ENGINE OIL

Change oil after the first 2 hours of operation; thereafter, every 25 hours. Drain oil while engine is warm and proceed as follows:

1. Remove oil drain cap. Do not remove extension pipe.
2. Allow oil to drain into a low shallow pan. Be sure oil drains completely.

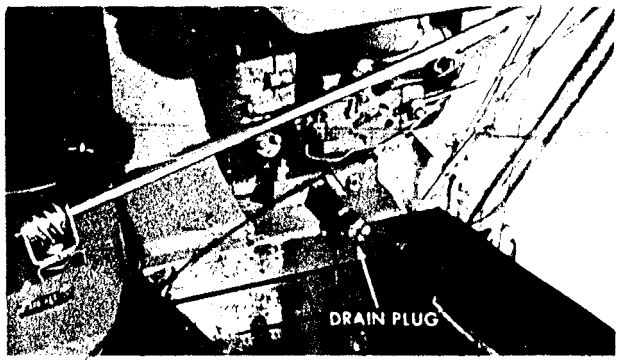


Figure 21

3. Replace oil drain cap and refill with fresh oil (See Filling With Oil, page 5).

CHANGING AUGER GEAR BOX OIL

Change gear oil once a year. Drain oil after auger has been in operation; oil will be warm and flow easily.

1. Remove gas from gas tank.
2. Position unit on a flat level surface.
3. Remove filler plug.

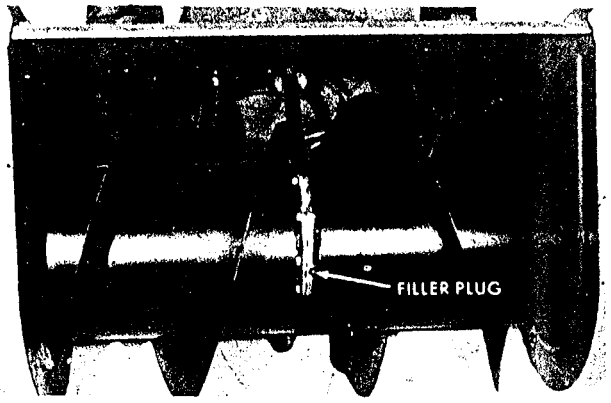


Figure 22

4. Tip unit forward and allow oil to drain into a container which can be disposed of easily. Be sure oil drains completely.
5. Refill with three (3) ounces of SAE 90EP transmission oil (See Filling With Oil, No. 6, Page 5). Replace filler plug.

BELT ADJUSTMENT (Auger Drive)

Belt tension is correct when a 10 pound force will produce a deflection of ½" in the center of the span when the belt is engaged. To increase or decrease the tension in auger drive belt, proceed as follows:

1. Remove cotter pin from clevis pin and clevis pin from clevis. Loosen locknut from clevis.
2. To decrease belt tension, turn the clevis clockwise (in).
3. To increase belt tension, turn the clevis counterclockwise (out).

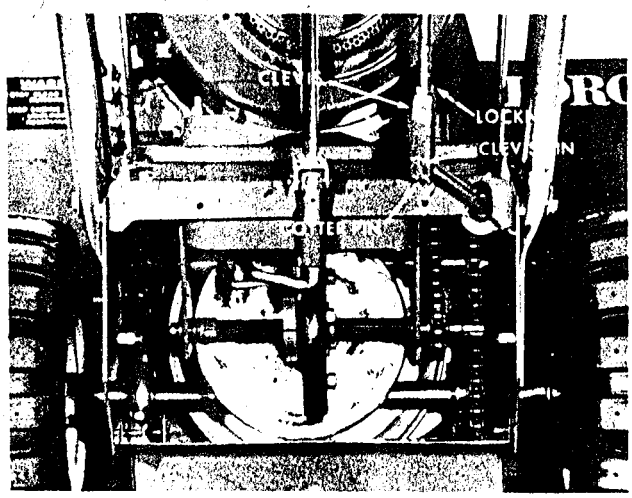


Figure 23

4. Tighten locknut against clevis.
5. Reinstall clevis pin. Secure with cotter pin.

NOTE: DO NOT OVERTIGHTEN BELT.

REPLACING V-BELTS

If the traction or auger drive belts become worn, stretched, or oil-soaked to the point they are no longer efficient, they should be replaced. Proceed as follows:

1. Disconnect the spark plug wire.
2. Remove the belt guard.
3. Remove the upper capscrews and loosen the lower capscrews holding the side plates to the housing.
4. Remove the old belt (or belts) and install the new under the retainer as shown.
5. Reassemble in reverse order.

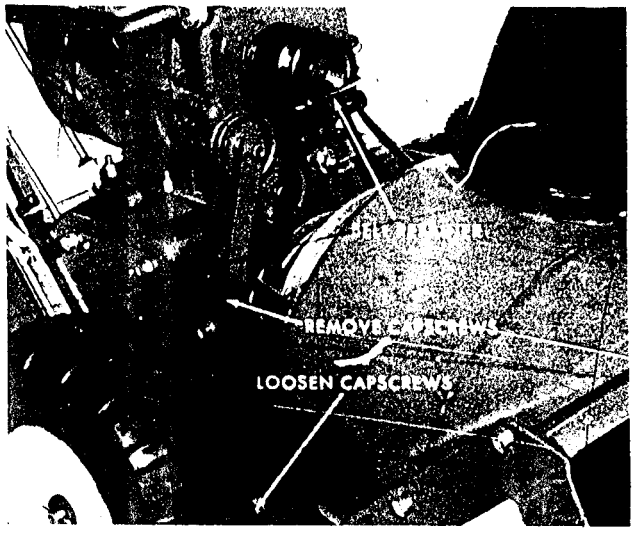


Figure 24

TRACTION DISC ADJUSTMENT

If drive does not disengage, turn clevis inward. If unit will not drive in reverse or forward speeds, turn clevis outward. To adjust, proceed as follows:

1. With gear shift lever in first (1st) gear, remove hairpin cotter and washer from clevis pin and clevis pin from clevis.
2. If drive will not disengage, grasp assembly as shown and rotate clevis inward (clockwise) one turn.
3. If unit will not drive (forward or reverse), rotate clevis outward (counterclockwise) one turn.

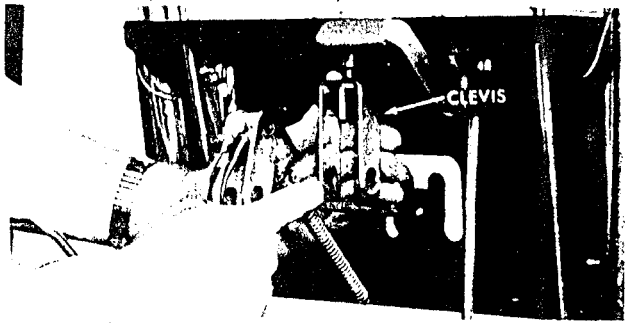


Figure 25

4. Assemble and replace clevis pin, washer, and hairpin cotter.
5. Remove plate from back of unit. A 3/32" clearance should be evident between the friction disc and rubber wheel when gear shift lever is in "N" (neutral). Check with a shim.

NOTE: Too little clearance will result in rapid wear of the rubber wheel.

MAINTENANCE (Continued)

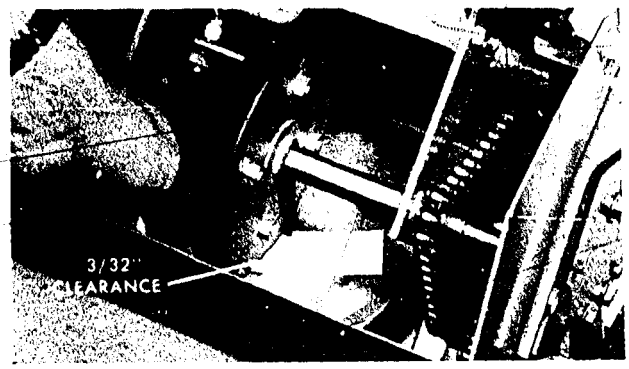


Figure 26

NOTE: If unit will not drive (forward or reverse), even after the proper adjustment has been made, contact your local Toro Service Dealer.

6. If ground speed in first gear is too slow or too fast, or if it is difficult to get shift lever into third gear slot, the following adjustment may be necessary:
   Loosen the two nuts shown in Figure 27. Move the bracket to the right to reduce speed in first gear; to the left to increase speed in first gear.

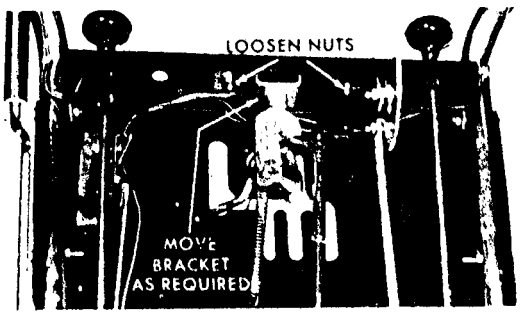


Figure 27

SKID ADJUSTMENT

For normal snowthrowing conditions, adjust the skids as follows:

1. Place unit on level surface and loosen nuts securing skids to auger side plates.
2. Push forward on the machine so that the pivoting scraper blade is pulled to the rear, and position the auger at the desired height, depending on the surface.
3. Insure that skids are parallel with ground and tighten nuts securely.

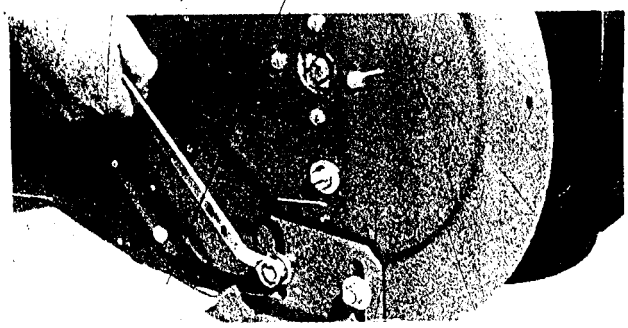


Figure 28

For crushed rock or gravel driveways, adjust the skids as follows:

1. Place unit on a level surface and loosen nuts securing skids to auger side plates.
2. Slide skids downward so that bottom of auger is as far away from the ground as the skids will allow.
3. Insure that skids are parallel with ground and tighten nuts securely.

When surface is rough, bumpy, wavy or frozen, the machine will tend to yaw left and right as the auger contacts these bumps. Slow down by reducing throttle – thus reducing auger R.P.M. Use gear shift lever as desired to maintain forward speed.

SPARK PLUG

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

CARBURETOR

Carburetors are adjusted at the factory and normally do not need adjustment unless they have been disassembled.

Initial Adjustment: Turn needle valve clockwise until it just closes.

CAUTION: Valve may be damaged by turning it in too far.

Now open needle valve 1½ turns counterclockwise.

Close idle valve in same manner and open ¼ to ¾ turns. This initial adjustment will permit the engine to be started and warmed up prior to final adjustment.

Final Adjustment: Turn needle valve in until engine misses (lean mixture) then turn it out past smooth operating point until engine runs unevenly (rich mixture). Now turn needle valve to the mid-point between rich and lean so the engine runs smoothly.

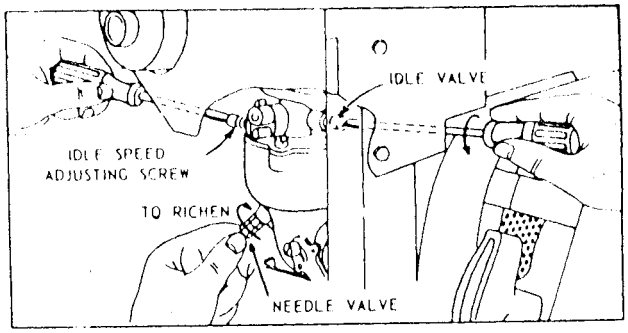


Figure 29

Hold throttle at idle position and set idle speed adjusting screw until fast idle is obtained (1750 RPM). Hold throttle in idle position and turn idle valve in (lean) and out (rich) until engine idles smoothly. Then reset idle speed adjusting screw so that engine idles at 1750 RPM. Release throttle – engine should accelerate without hesitation or sputtering. If engine does not accelerate properly, the carburetor should be readjusted to a slightly richer mixture.

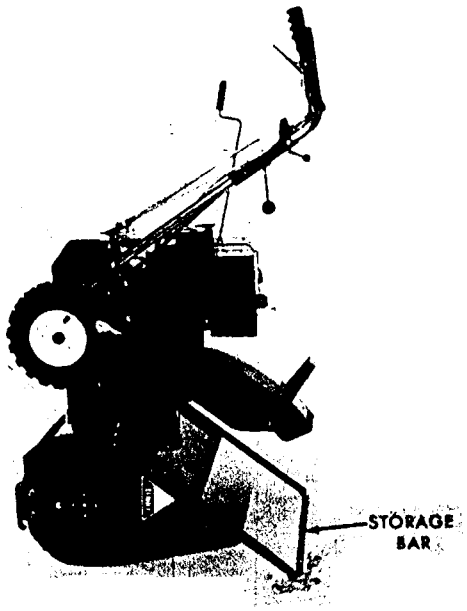
ENGINE SPECIFICATIONS

Bore			3"
Stroke			2¾"
Displacement (cu. in.)			19.44
	AC	Autolite	Champion
Spark plug type	CS-46	A71	J-8
Spark Plug Gap			.030"
Ignition Point Gap			.020"
Intake Valve Clearance			.005-.007"
Exhaust Valve Clearance			.009-.011"

OFF SEASON STORAGE

In the event the engine is to be stored for any length of time (30 days or more) or at the end of the snowthrowing season, prepare it as outlined in the following steps:

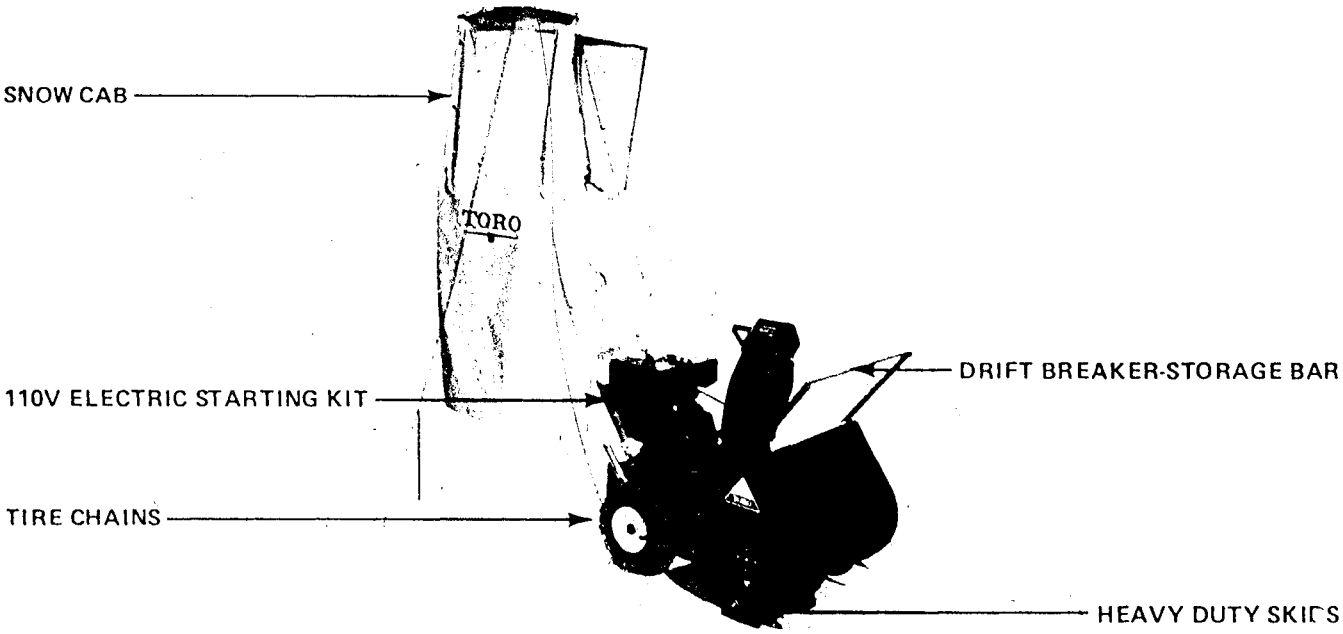
1. Remove fuel from tank.
2. Start engine to use all fuel in carburetor and line. When engine starts to sputter, operate choke which will drain carburetor.
3. Remove spark plug and pour one (1) ounce of lubricating oil (SAE 30) in cylinder – Crank engine several times to distribute oil and replace plug. Leave plug wire disconnected.
4. Lubricate all lubrication points as described on page 8.
5. Check all visible moving parts for wear, breakage, or damage.
6. Store in a clean, dry place and cover to keep clean.
7. Cover bare metal parts of auger, auger housing, impeller and impeller housing with oil or rust preventative to prevent rusting during summer months.
8. If snowthrower is equipped with the optional drift breaker – storage bar, it may be stored as shown. Drain gas and stand unit on storage bar.



TROUBLESHOOTING CHART

PROBLEM	SOLUTION
1. Recoil starter mechanism fails to crank engine	• Frozen Recoil – Thaw it out. • Remove, degrease and dry out ball and detent mechanism. NOTE: Do not remove light oil from wick.
2. Engine fails to start.	• Make sure auger impeller clutch is disengaged and is actuating interlock switch under control panel. • Check fuel tank for gas and fuel shutoff valve. (Turn counterclockwise for "ON") • Throttle lever not in start position. • Spark plug or spark plug wire loose, disconnected or wet. • Carburetor improperly adjusted. • Engine flooded. Remove & dry plug, crank engine with plug removed and throttle in run, (full on) position. Replace plug and wire and resume start procedure. • Auger-impeller clutch engaged.
3. Erratic engine operation, hard starting or loss of power	• Insufficient fuel in tank. • Loose spark plug wire. • Dirt in gas tank. • Carburetor improperly adjusted. • Gas cap vent plugged.
4. Occasional engine skip (hesitates) at high speed.	• Spark plug fouled or gap too wide. • Carburetor improperly adjusted.
5. Erratic idle.	• Carburetor idle speed adjustment improperly set. • Spark plug gap too close.
6. Engine overheats.	• Low on crankcase oil. • Carburetor improperly adjusted.
7. Auger and impeller sluggish or fail to run.	• Broken or loose belt. Adjust belt idler or replace belt. • Impeller frozen in housing – break loose.
8. Dead man reverse fails to return shift lever to neutral.	• Broken or missing shift lever spring. Replace with new spring.
9. Wheel drive fails to rotate wheels when shift lever is in fwd. 1, 2, 3, or reverse.	• Low wheel drive belt tension, or worn belt. Adjust idler. • Check two final drive chains. • Check traction disc adjustment to assure good rubber friction wheel contact.
10. Poor snow cleanup.	• Pivoting scraper blade hung up or jammed. Remove objects. • Check skid adjustment.
NOTE: For repairs beyond the minor adjustments listed above, please contact your local TORO service dealer. (see Yellow Pages)	

OPTIONAL EQUIPMENT



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 commercially	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 an Authorized 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 Authorized 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