

TORO®MODEL NO. 30102 — 80001
THRU 90001 & UP**OPERATOR'S
MANUAL****102 COMMERCIAL WALK MOWER****TORO****THIS UNIT CONFORMS
TO ANSI B71.4 - 1984**

To assure maximum safety, optimum performance, and to gain knowledge of the product, it is essential that you or any other operator of the mower read and understand the contents of this manual before the engine is ever started. Pay particular attention to the **SAFETY INSTRUCTIONS** highlighted by this symbol —



The safety alert symbol means **CAUTION, WARNING or DANGER** — personal safety instruction. Failure to comply with the instruction may result in personal injury.



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FOREWORD

The commercial walk mowers have advanced concepts in engineering, design and safety; and if maintained properly, will give excellent service.

Since they are high-quality products, Toro is concerned about the future use of the machines and safety of the user. Therefore, read this manual to familiarize yourself with proper set-up, operation and maintenance instructions. The major sections of the manual are:

1. Safety Instructions
2. Set-up Instructions
3. Before Operating
4. Maintenance

Certain information in this manual is emphasized. DANGER, WARNING and CAUTION identify personal safety-related information. IMPORTANT identifies mechanical information demanding special attention. Be sure to read this directive because it deals with the possibility of damaging a part or parts of the machine. NOTE identifies general information worthy of special attention.

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SAFETY INSTRUCTIONS



This safety alert symbol means CAUTION, WARNING or DANGER — “personal safety instruction”. Read and understand the instruction because it has to do with safety. Failure to comply with the instruction may result in personal injury.

Improper use or maintenance of the machine can result in injury. To reduce the potential for injury, comply with the following safety instructions.

BEFORE OPERATING

1. Read and understand the contents of this Operator's Manual before operating the machine.

Become familiar with all controls and know how to stop quickly. A free replacement manual is available by sending complete Model and Serial Number to:

The Toro Company
8111 Lyndale Avenue South
Minneapolis, Minnesota 55420

2. Do not allow children to operate the machine. Do not allow adults to operate the machine without proper instruction.

3. Before attempting to start engine, shift into neutral, move deck engagement switch into DIS-ENGAGE position and lock parking brake.

4. Remove all debris or other objects that might be picked up and thrown by the cutter blades. Keep all bystanders away from the mowing area.

SAFETY INSTRUCTIONS

5. Keep all shields and safety devices in place. If a shield, safety device or decal is malfunctioning or damaged, repair or replace it before operation is commenced. Also tighten any loose nuts, bolts and screws to assure machine is in safe operating condition.

6. Do not operate machine while wearing sandals, tennis shoes, sneakers or shorts. Also, do not wear loose fitting clothing which could get caught in moving parts. Always wear long pants and substantial shoes. Wearing safety glasses, safety shoes and a helmet is advisable and required by some local ordinances and insurance regulations.

7. Fill fuel tank with gasoline before starting the engine. Avoid spilling gasoline. Since gasoline is flammable, handle it carefully.

- A. Use an approved gasoline container.
- B. Do not fill tank while engine is hot or running.
- C. Do not smoke while handling gasoline.
- D. Fill fuel tank outdoors and up to about one inch (25 mm) from top of the tank, not the filler neck.
- E. Wipe up any spilled gasoline.

WHILE OPERATING

8. Start engine when parking brake is set, blade is disengaged, and transmission is in neutral.

9. Do not run the engine in a confined area without adequate ventilation. Exhaust fumes are hazardous and could possibly be deadly.

10. Using the machine demands attention, and to prevent loss of control:

- A. Mow only in daylight or when there is good artificial light.
- B. Watch for holes or other hidden hazards.
- C. Do not drive close to a sand trap, ditch, creek or other hazard.
- D. Reduce speed when making sharp turns and when turning on hillsides.

11. The grass deflector must always be installed and in down position on the side discharge cutting unit. If the cutting unit discharge area ever plugs, shut engine off before removing the obstruction.

12. Never raise the cutting unit while the blades are rotating.

13. If the cutting blades strike a solid object or the machine vibrates abnormally, shut the engine off. Remove high tension wire from spark plug to prevent possibility of accidental starting. Check cutting unit and traction unit for damage and malfunctioning

parts. Repair any damage before restarting the engine and operating the cutting unit. Be sure blades are in good condition and blade bolts are tight.

14. Cut grass slopes carefully. Do not start, stop, or turn suddenly.

15. Do not touch engine or muffler while engine is running or soon after it is stopped. These areas could be hot enough to cause a burn.

16. Before leaving the operator's position — behind handle or leaving mower unattended, shift transmission into NEUTRAL, apply parking brake, move deck engagement switch to OFF, and shut OFF engine.

MAINTENANCE

17. Disconnect high tension wire from spark plug to prevent accidental starting of the engine when servicing, adjusting or storing the machine.

18. If tractor and mower must be tipped to perform maintenance or an adjustment, drain gasoline from fuel tank and oil from crankcase.

19. When driving unit forward, always use upper "Forward" traction drive handle. When backing up, always use lower "Reverse" traction drive handle.

20. To reduce potential fire hazard, keep the engine free of excessive grease, grass, leaves and accumulations of dirt.

21. Be sure machine is in safe operating condition by keeping nuts, bolts and screws tight. Check the blade mounting bolts and nuts frequently to be sure they are tightened to specification.

22. If the engine must be running to perform a maintenance adjustment, keep hands, feet, clothing and other parts of the body away from the cutting unit blades and other moving parts.

23. Do not overspeed the engine by changing governor settings. To be sure of safety and accuracy, have an Authorized TORO Distributor check maximum engine speed with a tachometer.

24. Engine must be shut off before checking oil or adding oil to the crankcase.

25. Allow engine to cool before storing mower in any enclosure such as a garage or storage shed. Make sure the mower fuel tank is empty if machine is to be stored in excess of 30 days. Do not store mower near any open flame or where gasoline fumes may be ignited by a spark. Always store gasoline in a safety-approved, red metal container.

SAFETY INSTRUCTIONS

26. Perform only those maintenance instructions described in this manual. If major repairs are ever needed or assistance is desired, contact an Authorized Toro Distributor. To ensure optimum performance and safety, always purchase genuine TORO replacement parts and accessories to keep the Toro all TORO. NEVER USE "WILL-FIT" REPLACEMENT PARTS AND ACCESSORIES MADE BY OTHER MANUFACTURERS. Look for the TORO logo to assure genuineness. Using unapproved replacement parts and accessories could void the warranty of The Toro Company.

CAUTION

1. KEEP ALL SHIELDS IN PLACE.
2. BEFORE LEAVING OPERATOR'S POSITION.
 - A. MOVE TRANSMISSION TO NEUTRAL.
 - B. SET PARKING BRAKE.
 - C. DISENGAGE DECK ENGAGEMENT CLUTCH.
 - D. SHUT OFF ENGINE.
3. WAIT FOR ALL MOVEMENT TO STOP BEFORE SERVICING MACHINE.
4. KEEP BYSTANDERS FROM AREAS BEING MOWED.



SAFETY AND INSTRUCTION DECALS

The following decals are installed on the machine. If any become damaged or illegible, replace it. The decal part number is listed below and in your parts catalog. Replacement can be ordered from your Authorized Toro Distributor.

 **FORWARD – TRACTION DRIVE**
 **PULL TO BRAKE**

ON UPPER CONTROL BAR
(Part No. 54-2740)

 **REVERSE – TRACTION DRIVE**

ON LOWER CONTROL BAR
(Part No. 52-2120)

DANGER

STOP ENGINE BEFORE LEAVING OPERATOR POSITION.
KEEP BYSTANDERS FROM AREA BEING MOWED.
KEEP ALL GUARDS IN PLACE.

READ OPERATORS MANUAL BEFORE OPERATING THIS MACHINE.
REPLACEMENT MANUAL AVAILABLE BY SENDING MODEL
AND SERIAL NUMBER TO: THE TORO CO., 8111 LYNDALE AVE.,
MINNEAPOLIS, MN 55420.

USE REVERSE –
TRACTION DRIVE
BAR ONLY.

DO NOT SHIFT UNDER LOAD.
USE FORWARD – TRACTION DRIVE BAR ONLY

R **(N)** **1** **2** **3** **4**

ON CONTROL PLATE
(Part No. 52-2140)

CHOKE 
FAST 
SLOW 
OFF 

PULL TO
SWITCH
ON

STARTING
POSITION
OFF

BLADE
ENGAGEMENT



ON CONTROL PANEL
(Part No. 54-2770)

SPECIFICATIONS

12 hp Briggs & Stratton Engine: four cycle, recoil start, vertical shaft engine has output of 12 hp @ 3600 rpm and 19.6 ft-lb torque @ 2900 rpm. Displacement is 28.4 cubic inches. Crankcase oil capacity is 48 ounces and fuel tank capacity is 5 gallons. Correct spark plug is Champion RCJ-8 or Autolite AR7N or equivalent resistor type.

Frame: 11 ga. formed steel box with 1 in. dia. axle with 1/4 x 4 U-strap rear frame bolted to frame.

Wheels and Tires: 4.0 x 12.5 pneumatic tires are mounted on welded steel wheels which have greaseable ball bearings. Recommended tire pressure is 24 psi.

Transmission: Permanently lubricated and fully inclosed gear box. In line shift pattern with 4 forward speeds, neutral and reverse.

Traction Drive Belts: A-section, V-belt with 3 in. dia. take up idler to gear box from engine. 2 rib A-section banded belt to each wheel from gear box output shafts.

Gear Drive Reduction:

1st gear – 9.2
2nd gear – 7.0
3rd gear – 4.5
4th gear – 3.0
Rev. – 6.0

Ground Speed @ 3200 Engine rpm:

1st gear – 1.5 MPH
2nd gear – 1.9 MPH
3rd gear – 3.0 MPH
4th gear – 4.5 MPH
Rev. – 2.2 MPH

LOOSE PARTS

Note: Use this chart as a checklist to assure all parts have been received. Without these parts, total set-up cannot be completed.

DESCRIPTION	QTY.	USE
Upper Handle	1	Install upper handle to frame.
Flange Capscrew 3/8-16 x 1" lg.	4	
Flangenut 3/8-16	4	
Shift Lever	1	Install shift lever to transmission.
Lockwasher	1	
Plain Washer	1	
Capscrew 1/4-28 x 3/4" lg.	1	
Locknut 5/16-18	1	Secure wire harness.
Rod Fitting	2	Install Control Rods.
Washer	2	
Hairpin Cotter	2	
Fuel Tank	1	Install Fuel Tank and Fuel Tank Plate.
Fuel Tank Straps	2	
Fuel Tank Plate — Decal	1	
Capscrew 1/4-20 x 5/8" lg.	4	
Locknut 1/4-20	4	
Operators Manual	1	Read manual before operation. Fill out and return to Toro.
Registration Card	1	

SET-UP INSTRUCTIONS

INSTALL UPPER HANDLE

1. Align upper handle mounting holes with mounting holes in frame and secure each side with (2) 3/8-16x1" lg. flange capscrews and flangenuts (Fig. 1).

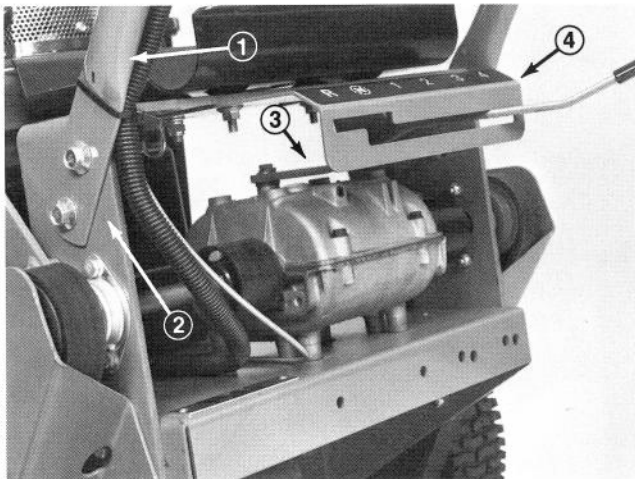


Figure 1

- 1. Upper handle
- 2. Frame
- 3. Shift lever
- 4. Control panel

INSTALL SHIFT LEVER

1. Insert shift lever thru slot in control panel and align mounting hole in lever with mounting shaft on

transmission. Do not remove rubber washer on top of transmission. Secure lever to transmission with 1/4-28x3/4" lg. capscrew, lockwasher and plain washer. Torque capscrew to 100-125 in.-lb (Fig. 1).

CONNECT THROTTLE CABLE

1. Place remote control lever in CHOKE position.
2. Hook wire Z-bend into left side hole of throttle linkage (Fig. 2).

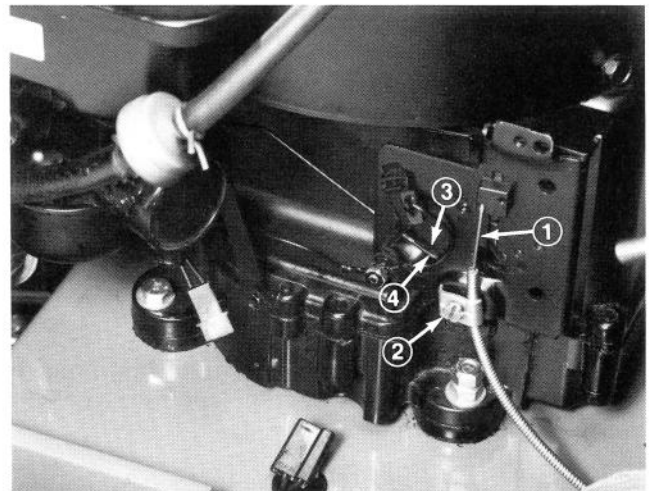


Figure 2

- 1. Wire Z-bend
- 2. Cable clamp
- 3. Throttle lever
- 4. Link

SET-UP INSTRUCTIONS

3. Loosen cable clamp screw allowing cable installation, but do not tighten (Fig. 2).
4. Move control cable casing and wire until the throttle lever touches link. Tighten cable clamp.
5. Check control operation. Refer to Adjusting Throttle-Choke Control, page 13.

CONNECT WIRE HARNESS

1. Secure clutch and engine in-line connectors (Fig. 3).

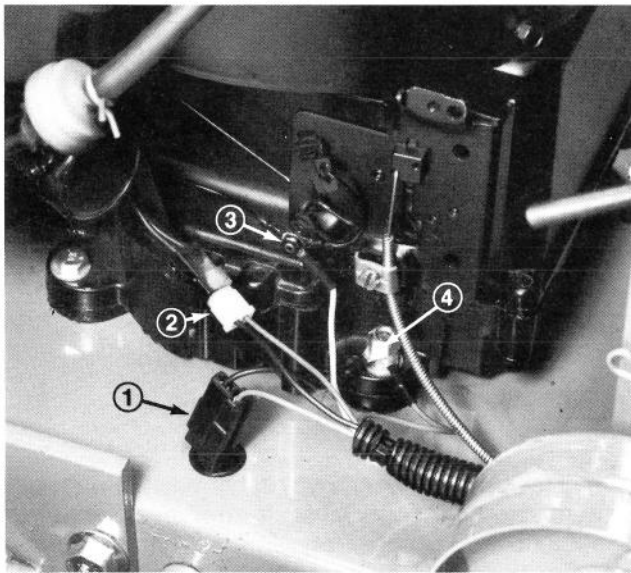


Figure 3

1. Clutch connectors
2. Engine connectors
3. Governor plate terminal
4. Engine mounting bolt

2. Remove small hex nut from governor plate terminal, mount small wire from wire harness and reinstall nut (Fig. 3).
3. Mount remaining (2) wires to engine mounting bolt with locknut supplied in loose parts.

INSTALL CONTROL RODS

1. Thread a rod fitting onto each control rod approximately 2" (Fig. 4).
2. Insert rod fitting ends into mounting holes in idler brackets (from outside) and secure with washers and hairpin cotters (Fig. 4).
3. Control rods should be adjusted so parking brake lever can be swung into a snug position against the upper handle while pulling back on upper control bar.

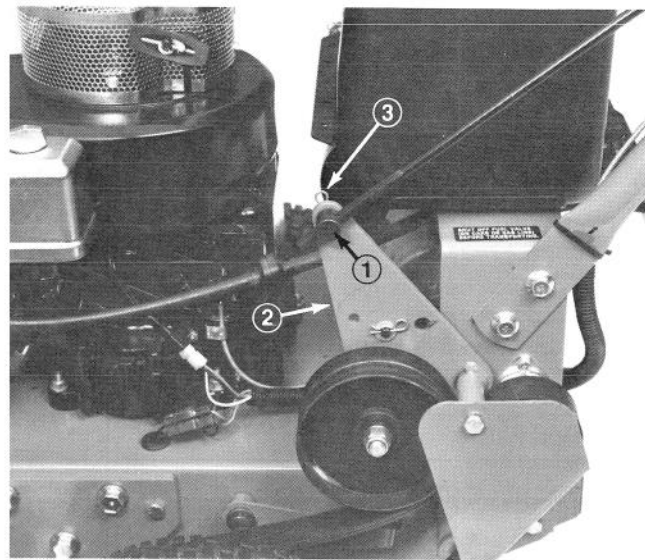


Figure 4

1. Rod fitting
2. Idler brackets
3. Washer & hairpin cotter

4. Check operation. If adjustment is required, remove hairpin cotter and washer, thread rod fitting up or down to proper position on rod and resecure to idler bracket.

Note: The control bar and upper handle must be parallel when in relaxed, drive, and brake positions.

5. Check travel of idler pulleys when fully engaging wheel belts. Pulley travel should be approximately 3/4" (Fig. 5).

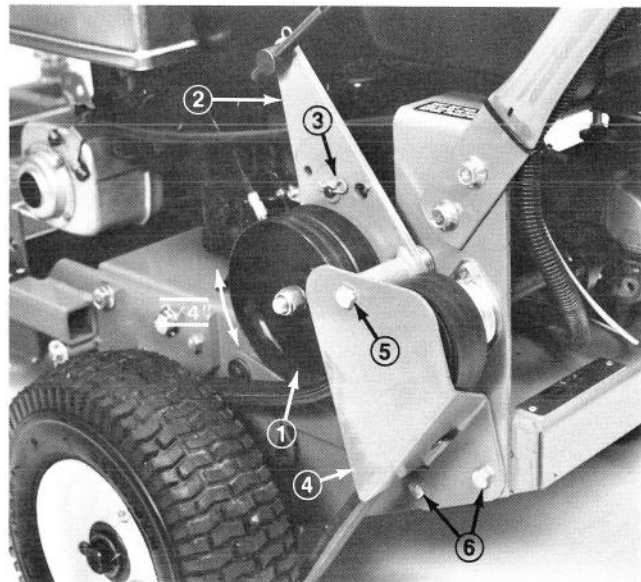


Figure 5

1. Idler pulley
2. Idler bracket
3. Hairpin cotter, washer & brake rod fitting
4. Idler support
5. Top cap screw
6. Bottom cap screws

6. If pulley travel is greater than 3/4", remove hairpin cotter and washer securing brake rod fitting to idler bracket.

SET-UP INSTRUCTIONS

7. Thread fitting down rod and resecure to idler bracket. Check adjustment and readjust if necessary.
8. Repeat procedure on opposite side of adjustment is required.

MOUNT FUEL TANK

1. Position fuel tank onto mounting plate so fitting opening is to left side (Fig. 6).
2. Secure fuel tank straps to rear of fuel tank mounting plate with (2) 1/4-20 x 5/8" lg. capscrews and locknuts (Fig. 6).

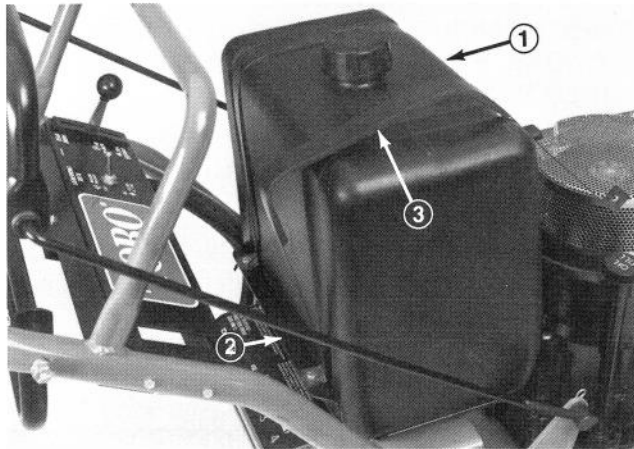


Figure 6

1. Fuel tank
2. Mounting plate
3. Fuel tank straps

3. Wrap straps over tank and secure to front of mounting plate with (2) 1/4-20 x 5/8" lg. capscrews and locknuts (Fig. 7).

4. Secure fuel tank decal plate to front of mounting plate with (2) 1/4-20 x 5/8" lg. capscrews and locknuts (Fig. 7).

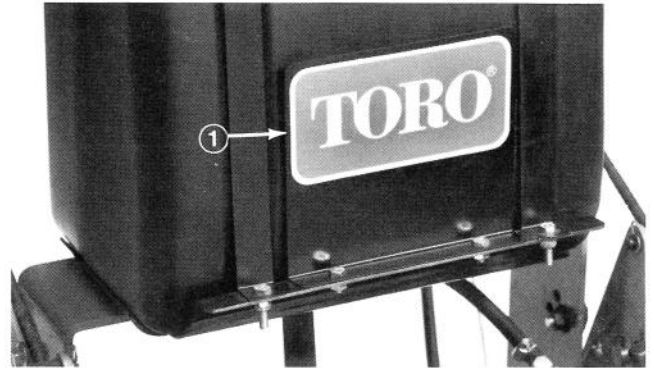


Figure 7

1. Fuel tank decal plate

5. Route fuel line thru hose clip and install onto fuel tank fitting with hose clamp (Fig. 8). Hose clip may be rotated to avoid kinking in fuel line.

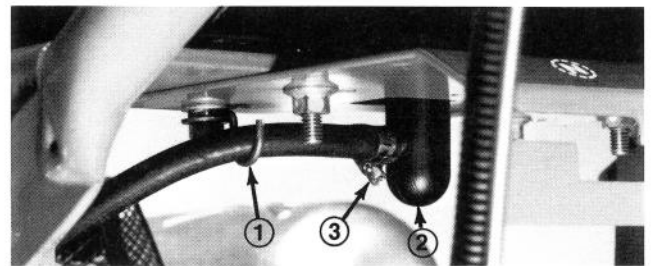


Figure 8

1. Hose clip
2. Fuel tank fitting
3. Hose clamp

BEFORE OPERATING

FILL CRANKCASE WITH OIL

The engine does not have oil in the crankcase when it is shipped from the factory. If engine is started before oil is added to the crankcase, engine damage could result. Therefore, before engine is started for the first time:

1. Position mower on level surface.
2. Clean area around the oil dipstick to prevent foreign matter from entering the filler hole when dipstick is removed.
3. Remove dipstick by rotating cap counterclockwise (Fig. 9).



Figure 9

1. Dipstick

4. Slowly pour approximately 48 ounces of oil into the filler neck. The engine uses any high quality detergent oil having the American Petroleum Institute — API — “service classification” SF, SC, SD or SE. The recommended oil to use is: SAE 30, 10W30 or 10W-40.
5. Wipe end of dipstick with clean rag and insert it into filler neck. Rotate cap clockwise. Then remove the dipstick and check level of oil by reading the dipstick (Fig. 9). If level of oil is low, add only enough oil to raise level to FULL mark on dipstick. **DO NOT ADD OIL SO LEVEL RISES ABOVE FULL MARK BECAUSE ENGINE COULD BE DAMAGED WHEN IT IS STARTED.**
6. Insert dipstick into filler neck and rotate cap clockwise to lock.

Note: Check level of oil after every 5 operating hours or each time the mower is used. Initially, change oil after the first 5 hours of operation; thereafter, when conditions are normal, change oil after every 25 hours of operation. However, change oil more frequently when mower is operated in dusty or dirty conditions.

FILL FUEL TANK WITH GASOLINE

THE TORO COMPANY STRONGLY RECOMMENDS THE USE OF CLEAN, FRESH **UNLEADED** REGULAR GASOLINE IN TORO GASOLINE POWERED PRODUCTS. UNLEADED GASOLINE BURNS CLEANER, EXTENDS ENGINE LIFE, AND PROMOTES GOOD STARTING BY REDUCING THE BUILD-UP OF COMBUSTION CHAMBER DEPOSITS. LEADED GASOLINE CAN BE USED IF UNLEADED IS NOT AVAILABLE.

NOTE: NEVER USE METHANOL, GASOLINE CONTAINING METHANOL, GASOLINE CONTAINING MORE THAN 10% ETHANOL, GASOLINE ADDITIVES, PREMIUM GASOLINE, OR WHITE GAS BECAUSE ENGINE FUEL SYSTEM DAMAGE COULD RESULT.

1. Clean area around fuel tank cap and remove cap from tank.
2. Fill fuel tank to within 1/2 inch (12.7 mm) from top of the tank with gasoline. Install fuel tank cap securely.
3. Wipe up spilled gasoline.



DANGER

Because gasoline is flammable, caution must be used when storing or handling it. Do not fill fuel tank while engine is running, hot or when machine is in an enclosed area. Vapors may build up and be ignited by a spark or flame source many feet away. **DO NOT SMOKE** while filling the fuel tank to prevent the possibility of an explosion. Always fill fuel tank outside and wipe up any spilled gasoline before starting engine. Use a funnel or spout to prevent spilling gasoline, and fill tank to about 1/2 inch (12.7 mm) below the filler neck. Store gasoline in a clean safety-approved container and keep the cap in place on the container. Keep gasoline in a cool, well-ventilated place; never in an enclosed area such as a hot storage shed. To assure volatility, do not buy more than a 30 day supply of gasoline. Gasoline is a fuel for internal combustion engines; therefore, do not use it for any other purpose. Since many children like the smell of gas, keep it out of their reach because the fumes are explosive and dangerous to inhale.

CONTROLS

CHECK TIRE PRESSURE

Tires are over inflated at the factory. Check tires and insure they are inflated to 24 psi.

Throttle Control (Fig. 10)— The throttle control has four positions: CHOKE, FAST, SLOW and OFF.

Deck Engagement Switch (Fig. 10) — Toggle switch releases blade brake and engages electro-magnetic clutch to drive deck pulleys.

Gear Shift Lever (Fig. 10) — Transmission has four forward speeds, neutral and reverse, and has an in-line shift pattern. Do not shift while unit is moving as transmission damage may occur.

Upper Control Bar (Fig. 10) — Shift to desired gear, push forward on control bar to engage forward traction operation and pull back to brake. Pull right side of control bar to turn right and left side to turn left.

Lower Control Bar (Fig. 10) — Shift transmission to reverse and pull rearward on lower control bar to engage rearward traction operation.

Parking Brake Lever (Fig. 10)— Pull back on upper control bar and swing brake lever up against the upper handle.

Recoil Starter — Pull recoil starter handle to start engine.

Fuel Shut-off Valve — Close fuel shut-off valve when storing mower.

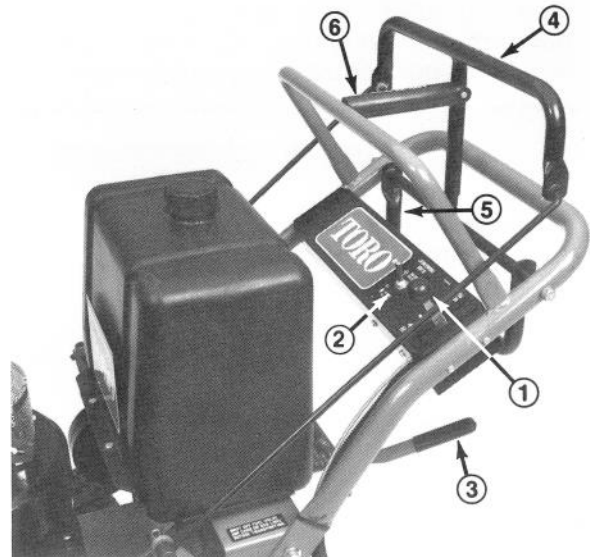


Figure 10

1. Throttle control
2. Deck engagement switch
3. Gear shift lever
4. Upper control bar
5. Lower control bar
6. Parking brake lever

OPERATING INSTRUCTIONS

STARTING AND STOPPING

1. Make sure high tension wire is installed on spark plug and fuel valve is open.

2. Shift into neutral, move deck engagement switch to OFF.

Note: Engine will not start with deck engagement switch in ON position.

3. Move throttle control to CHOKE position before starting a cold engine.

Note: A warm or hot engine usually does not require any choking. To start a warm engine, move throttle control to FAST position.

4. Grasp recoil starter handle firmly and pull out until positive engagement results; then pull handle vigorously to start engine and allow rope to recoil slowly.

IMPORTANT: Do not pull recoil rope to its limit or let go of the starter handle when rope is pulled out because rope may break or recoil assembly may be damaged.

5. To stop engine, release control bar, move deck engagement switch to OFF, shift to Neutral and move throttle to OFF. Wait for all parts to stop moving before leaving the operation position behind handle.

6. Pull high tension wire off spark plug to prevent possibility of accidental starting before storing machine.

7. Close fuel shut off valve before storing machine.

MAINTENANCE



CAUTION

To prevent accidental starting of the engine while performing maintenance, shut engine off. Also, pull high tension wire off spark plug (Fig. 11). Make sure wire does not contact plug accidentally.

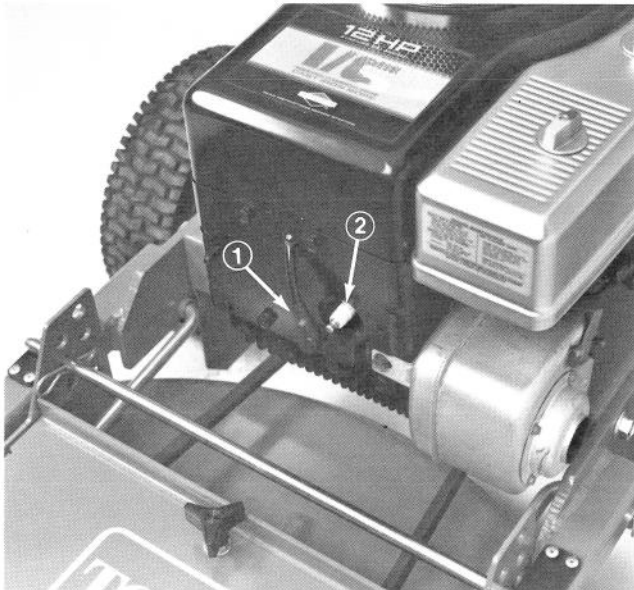


Figure 11

1. High tension wire
2. Spark plug

GREASE WHEELS

Lubricate the wheels every 8 hours w./No. 2 general purpose grease. Wipe up any excess grease.

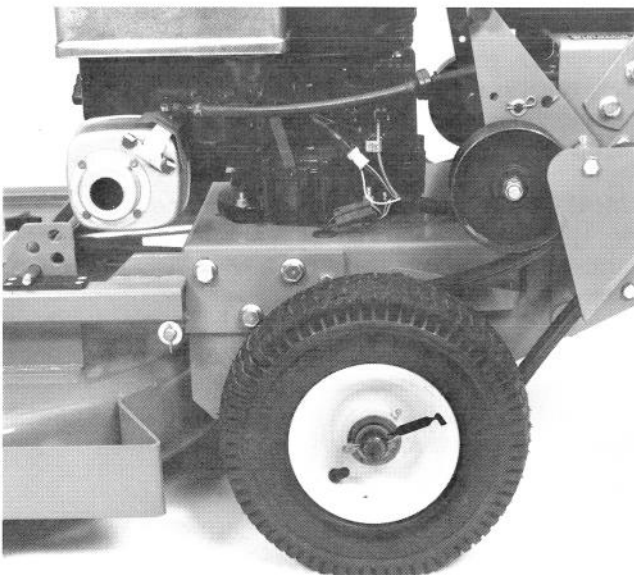


Figure 12

GREASE TRANSMISSION COUPLERS

Lubricate the transmission couplers (Fig. 13) every 250 hours with W/No. 2 general purpose grease. Pump grease gun about 4 times. Wipe up any excess grease.

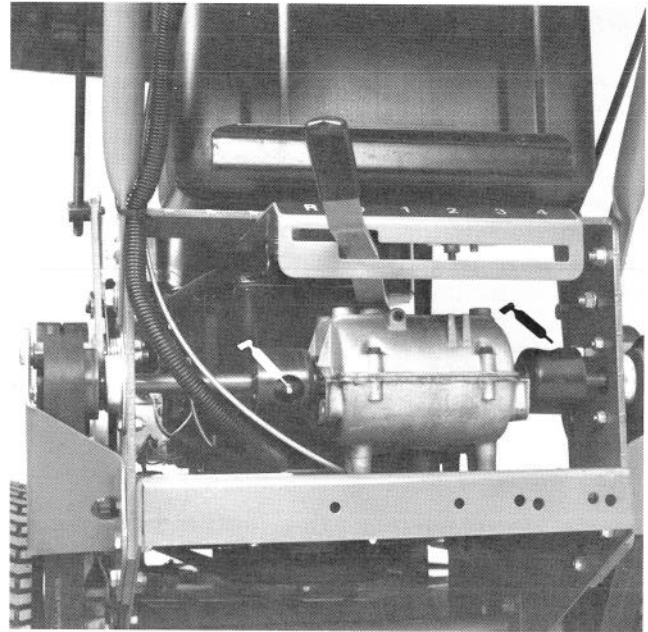


Figure 13

SERVICING AIR CLEANER

The air cleaner must be cleaned after every 25 hours engine operation if engine is operated in clean air conditions. However, element must be cleaned every few hours if operating conditions are extremely dusty or sandy.

1. Remove (2) knobs securing air cleaner cover in place and remove cover (Fig. 14).

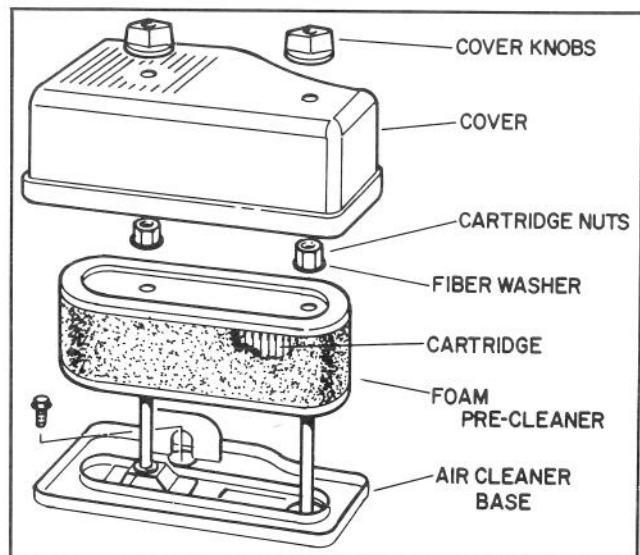


Figure 14

MAINTENANCE

2. Remove foam pre-cleaner by sliding it off the cartridge.

- A. Wash foam pre-cleaner in liquid soap and warm water.
- B. Wrap foam pre-cleaner in cloth and squeeze dry.
- C. Saturate foam in engine oil. Squeeze to remove excess oil.

3. Remove (2) nuts from top of cartridge.

4. Remove cartridge and clean air cleaner body carefully to prevent dirt from entering carburetor. Brush dirt from body thru holes into duct.

5. Clean cartridge by tapping gently on flat surface.

- A. If very dirty, replace cartridge or wash in a low or non-sudsing detergent and warm water solution.
- B. Rinse thoroughly from INSIDE OUT until water is clear.
- C. Cartridge must be allowed to stand and air dry thoroughly before using.

6. Reassemble air cleaner.



CAUTION

Petroleum solvents, such as kerosene, are not to be used to clean cartridge. They may cause deterioration of the cartridge. **DO NOT OIL CARTRIDGE. DO NOT USE PRESSURIZED AIR TO CLEAN OR DRY CARTRIDGE.**

IMPORTANT: Always operate engine with air cleaner element in place or engine damage will result.

CHANGING CRANKCASE OIL

1. Check level of oil before starting engine and after every 5 hours of operation. Maintain oil level at FULL mark on dipstick.

To check level of oil:

- A. Position mower on level surface.
- B. Clean the area around oil dipstick so foreign matter cannot enter filler hole when dipstick is removed.
- C. Unscrew dipstick and wipe oil off.
- D. Screw dipstick fully in to filler neck; then remove it and check oil level on dipstick. If level is low, add only enough oil to raise level to FULL mark. Do not overfill or engine damage may result.
- E. Screw dipstick back into filler neck.

2. Change oil after first 5 hours of operation; every 25 hours thereafter. Change oil more frequently when operating conditions are extremely dusty or dirty.

To change oil:

- A. Position mower on level surface. Start and run engine for a period to warm the oil.
- B. Turn engine off and place drain pan under frame below drain plug (Fig. 15). Remove drain plug and allow all oil to flow into drain pan. Install drain plug after oil stops flowing.



Figure 15

1. Drain plug

MAINTENANCE

- C. Unscrew dipstick and add oil to crankcase. Refer to FILL CRANKCASE WITH OIL, page 8. Capacity of crankcase is 48 oz. DO NOT OVER-FILL or engine damage may result.

Use any high-quality A.P.I. classification SC, SD, SE, or SF engine oil. Recommended viscosity of oil to use is SAE 30, 10W30 or 10W40.

FUEL FILTER REPLACEMENT

An in-line filter is incorporated into the fuel line between the fuel tank and carburetor (Fig. 16). Use the following procedures should replacement become necessary:

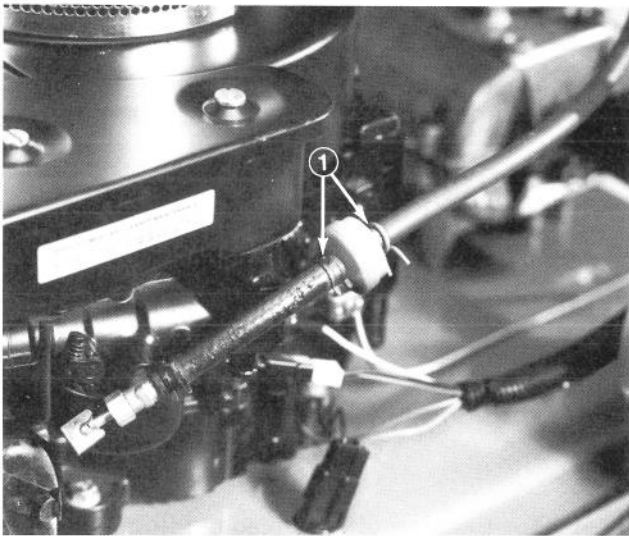


Figure 16

1. Hose clamps

1. Loosen the hose clamp on the carburetor side of filter and remove the fuel line from the filter.
2. Place a drain pan under filter, loosen the remaining hose clamp and remove filter.



CAUTION

Since gasoline is highly flammable, drain it outdoors and make sure engine is cool to prevent a potential fire hazard. Wipe up any gasoline that may have spilled. Do not drain gasoline near any open flame or where gasoline fumes may be ignited by a spark. Do not smoke a cigar, cigarette, or a pipe when handling gasoline.

3. Install the new filter with arrow on the filter body pointing towards the carburetor.

REPLACING SPARK PLUG

Since air gap between center and side electrodes of the spark plug increases gradually during normal operation of the engine, check condition of electrodes after every 25 operating hours. Recommended air gap is 0.030 of an inch (0.762 mm). Correct spark plug to use is:

Champion RCJ-8 or Autolite AR7N.

Note: The spark plug usually lasts a long time; however, the plug should be removed and checked whenever the engine malfunctions.

1. Clean area around spark plug so foreign matter cannot fall into cylinder when spark plug is removed.
2. Pull high tension wire off spark plug and remove plug from cylinder head.
3. Check condition of side electrode, center electrode, and center electrode insulator to assure there is no damage.

IMPORTANT: A cracked, fouled, dirty or malfunctioning spark plug must be replaced. Do not sand blast, scrape, or clean electrodes by using a wire brush because grit may eventually release from the plug and fall into the cylinder. The result is usually a damaged engine.

5. Set air gap between center and side electrodes at 0.030 of an inch (0.762 mm) (Fig. 17). Install correctly gapped spark plug w/gasket seal, and tighten plug to 15 ft-lb (20.4 N·m). If torque wrench is not used, tighten plug firmly.

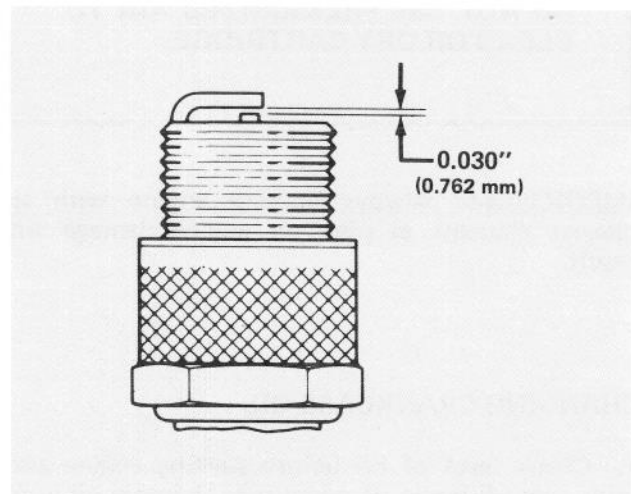


Figure 17

MAINTENANCE

ADJUSTING THROTTLE-CHOKE CONTROL

Proper choke operation is dependent upon proper adjustment of remote controls. Before adjusting the carburetor, assure the throttle-choke control is operating properly.

1. Remove the screws holding air cleaner in place and lift air cleaner cover off air cleaner.
2. Move remote control lever to CHOKE position and check the position of the choke butterfly; it should be fully closed.
3. Move remote control lever to FAST position. The butterfly should be in the fully open position (Fig. 18).

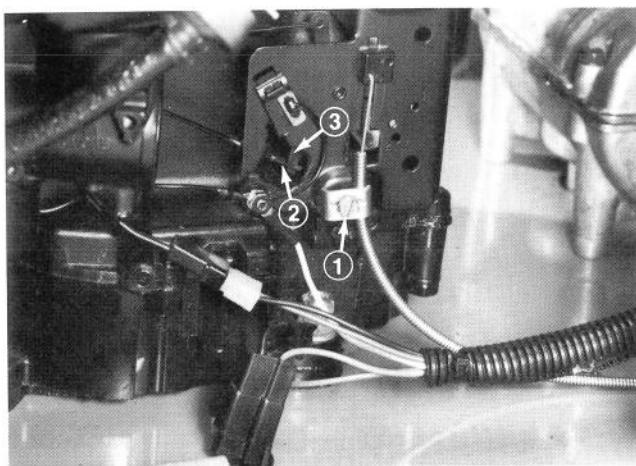


Figure 18

1. Clamp screw
2. Throttle lever
3. Link

4. If the choke butterfly is positioned as described in steps 2 and 3, replace the air cleaner assembly and continue operation.

If either the choke butterfly does not close or is not fully open in the FAST position, adjust the remote control lever as follows:

1. Place remote control lever in CHOKE position.
2. Loosen the throttle cable clamp screw (Fig. 18) and move the control cable casing and wire until the throttle lever touches link.
3. Tighten the cable clamp and assemble the air cleaner cover to the air cleaner.

ADJUSTING CARBURETOR

The carburetor has been set at the factory, but an occasional adjustment may be required. An adjustment may be required to compensate for differences in fuel, temperature and altitude.

IMPORTANT: Before the carburetor is adjusted, throttle control must be checked for proper operation: refer to Adjusting Throttle/Choke Control, page 13.

1. Needle Valve (Fig. 19) — Close valve by gently rotating it clockwise.

IMPORTANT: Do not close the needle valve too tight because the valve and seat in carburetor will likely be damaged.

2. Rotate — open — the needle valve 2 turns counterclockwise (Fig. 19).

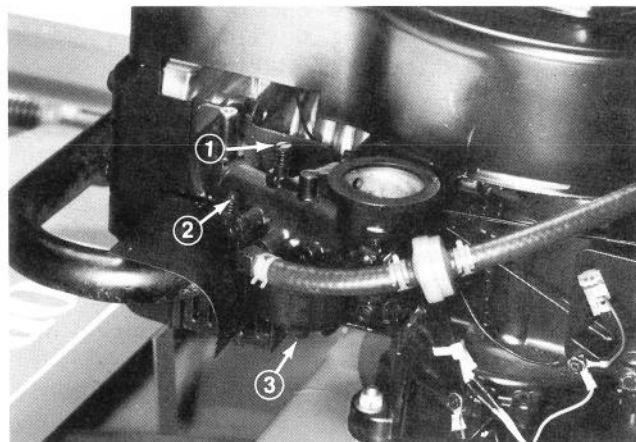


Figure 19

1. Idle valve
2. Idle speed adjusting screw
3. Needle valve

Note: The needle valve setting is an approximate; however, the setting will allow engine to be started so carburetor can be fine tuned — steps 3-9.



WARNING

Engine must be running so final adjustment of the carburetor can be performed. To guard against possible personal injury, move deck engagement switch into OFF position, shift into neutral, and engage parking brake. Keep hands, feet, face, and other parts of the body away from the cutter blades, underside of mower housing, discharge area, and any rotating engine parts.

3. Start engine and let it warm up for approximately two minutes. Next, move throttle control into FAST detent.

IMPORTANT: Air cleaner must be installed on the engine whenever high speed is being adjusted. The air cleaner mounting screw must also be installed when engine is run.

MAINTENANCE

4. Rotate needle valve (Fig. 19) clockwise, 1/8 turn at a time, until engine starts to lose speed. Let engine react to each 1/8 turn setting.

5. Rotate needle valve (Fig. 19) counterclockwise — out — 1/8 turn at a time, until engine first runs rough. Let engine react to each 1/8 turn setting.

6. Rotate needle valve (Fig. 19) clockwise — in — very slowly until engine starts to run smoothly. This setting, under no load, may be slightly rich; however; the slightly rich setting will assure proper operation when engine is under load.

7. Move throttle control backward so engine idles. If engine stalls, rotate idle adjusting screw until engine speed increases (1750 rpm).

Note: Rotate idle adjusting screw clockwise to increase idle rpm. By contrast, rotate idle adjusting screw counterclockwise to decrease idle rpm.

8. Turn idle valve in (lean) and out (rich) slowly until engine idles smoothly.

9. Check carburetor adjustment by quickly moving throttle control from SLOW to FAST. Engine speed should increase without hesitation. If engine tends to stall or die out, rotate needle valve 1/8 turn counterclockwise until engine accelerates smoothly.

10. After carburetor is adjusted, shut engine off.

ADJUSTING AND REPLACING TRACTION BELT

1. Loosen capscrew and flange nut securing idler pulley to frame (Fig. 20). Slide pulley outward relieving belt tension.

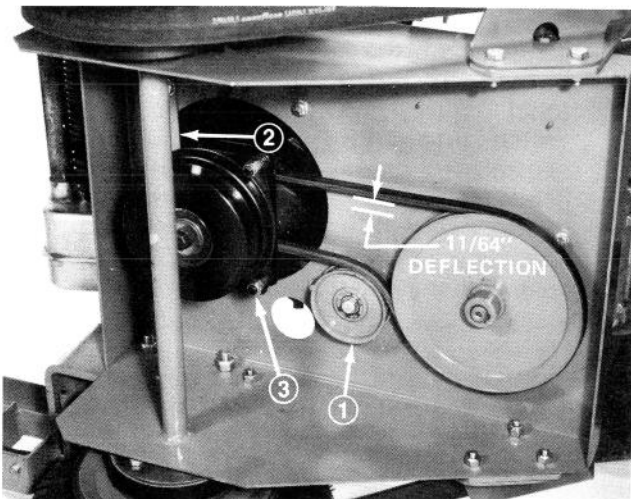


Figure 20

1. Idler pulley
2. Clutch retainer
3. Locknut on flange stud

2. Remove left front engine mounting bolt securing clutch retainer to frame (Fig. 20). Unhook retainer from clutch and remove retainer.

3. Disconnect in-line wire connector and remove belt from drive pulley and clutch (Fig. 20).

4. Install new belt around clutch and drive pulley.

5. Secure in-line connectors and reinstall clutch retainer to clutch and frame with engine mounting bolt. Torque engine mounting bolt to 170-220 in.-lb.

6. Position and secure idler pulley to frame so belt deflection is no more than 11/64" when 5-1/2 lb force is applied to midspan of long leg of belt (Fig. 20).

ADJUSTING CLUTCH

The clutch is adjustable to ensure proper engagement and proper braking.

1. To adjust clutch, tighten or loosen locknuts on flange studs (Fig. 20).

2. Check adjustment by inserting feeler gauge thru slots next to flange studs.

3. The proper disengaged clearance between the clutch plates is .012 - .018 inches. It will be necessary to check this clearance at each of the three slots to ensure the plates are parallel to each other.

BRAKE ADJUSTMENT

An adjustment to the brake may be required to compensate for belt stretching or brake seating.

1. Check travel of idler pulleys when fully engaging wheel belts. Pulley travel should be approximately 3/4" (Fig. 21).

2. If pulley travel is greater than 3/4", remove hairpin cotter and washer securing brake rod fitting to idler bracket.

3. Thread fitting down rod and resecure to idler bracket. Check adjustment and readjust if necessary.

4. Repeat procedure on opposite side if adjustment is required.

5. Readjust control rods, refer to Install Control Rods, page 6.

MAINTENANCE

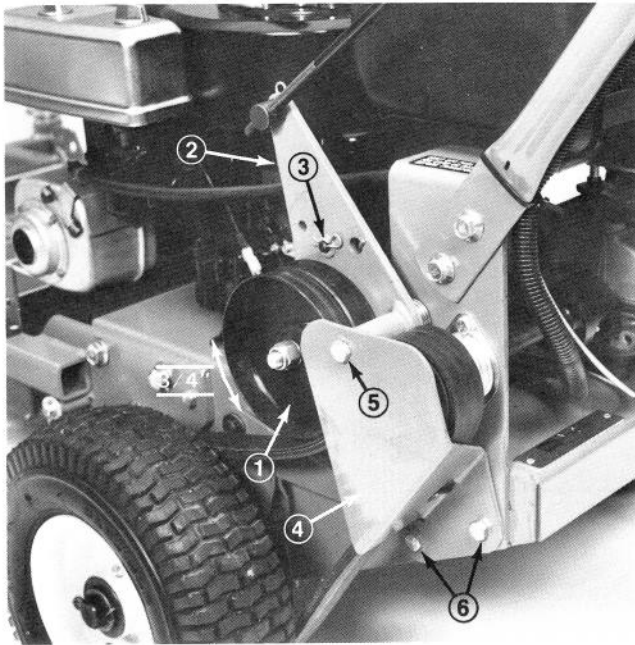


Figure 21

1. Idler pulley
2. Idler bracket
3. Hairpin cotter, washer & brake rod fitting
4. Idler support
5. Top capscrew
6. Bottom capscrews

DRIVE BELT REPLACEMENT

1. Remove top capscrew securing idler support and idler bracket to rear frame (Fig. 21).
2. Loosen bottom two mounting screws enough to allow belt to pass between drive pulley and idler support (Fig. 21).
3. Raise wheel off ground enough to allow belt removal.

CONTROL PANEL ADJUSTMENT

An adjustment to the control panel may be required if transmission cannot be shifted into reverse or 4th gear.

1. Loosen four locknuts securing control panel to rear frame (Fig. 22).
2. Control panel mounting holes are slotted to enable it to be moved from side to side. Position control as needed to achieve full shift range.
3. Retighten locknuts.

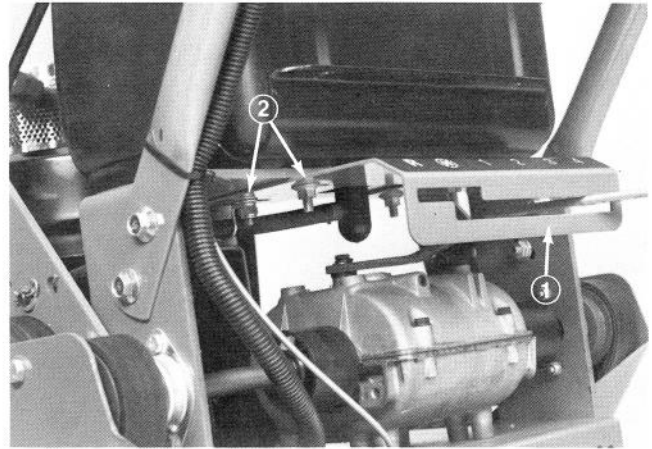


Figure 22

1. Control panel
2. Mounting screws & locknuts

CLEANING COOLING SYSTEM

Clean cooling system frequently. Remove build-up of grass, dirt or other debris from the cylinder and cylinder head cooling fins, air intake screen on flywheel end, and carburetor-governor levers and linkage. This will help insure adequate cooling and correct engine speed and reduce the possibility of overheating and mechanical damage.

OPTIONAL SPARK ARRESTOR

1. If a spark arrestor is required because of local, state or federal regulations, it may be purchased at an authorized Briggs & Stratton Dealer. Or the part may be ordered directly from:

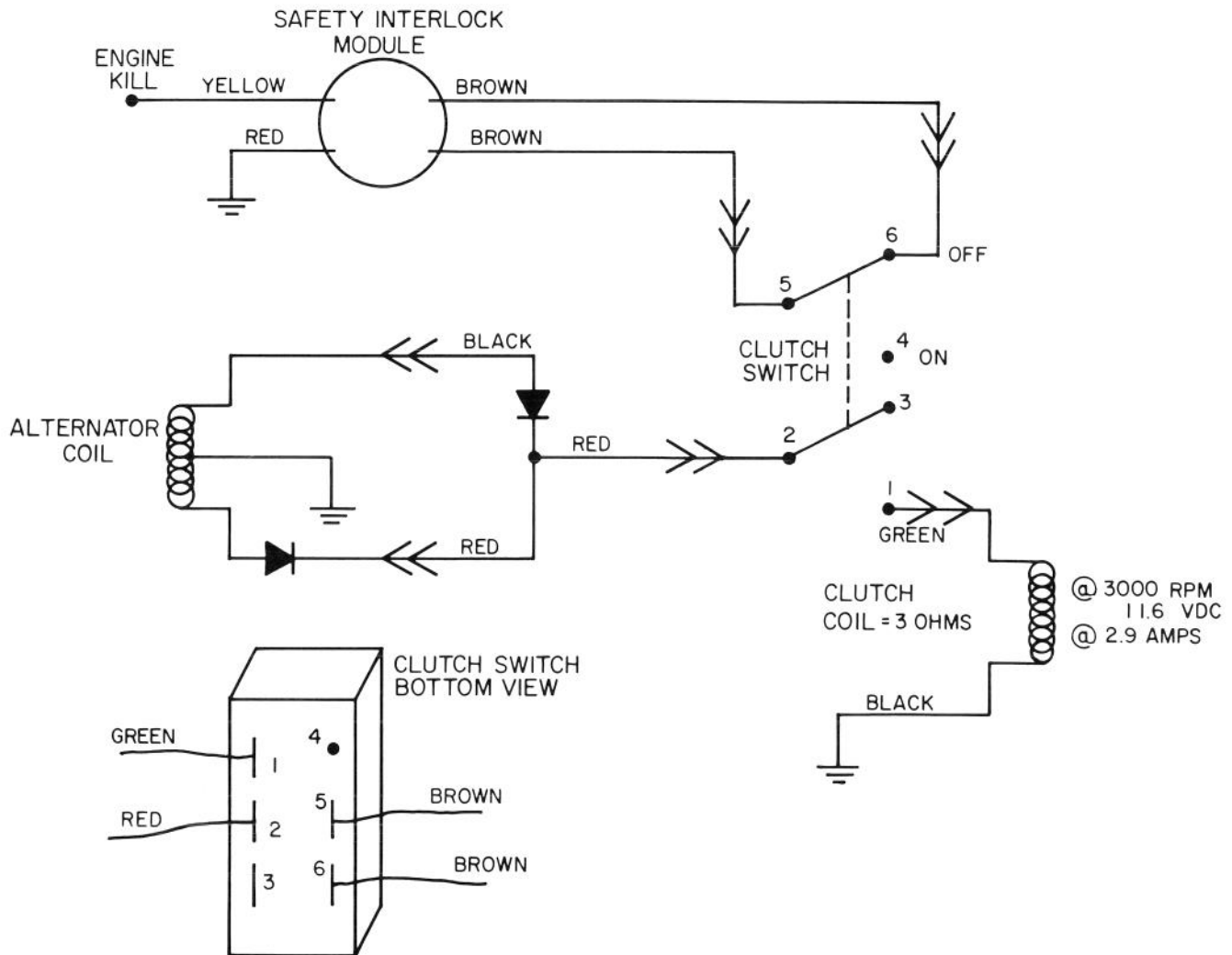
Briggs & Stratton Corporation
Milwaukee, Wisconsin 54201

2. The parts are approved by the United States Department of Agriculture and the United States Forest Service.

Note: When mower is operated on any California forest, brush or grass covered land without a properly operating spark arrestor, the operator is violating state law, Section 4442 Public Resources Code.

3. If muffler is equipped with spark arrestor, remove it after every 100 operating hours for cleaning and inspection. Replace if defective.

WIRING SCHEMATIC



IDENTIFICATION AND ORDERING

The mower has two identification numbers: a model number and a serial number. The two numbers are stamped into a plate that is riveted to the frame at rear of mower. In any correspondence concerning the mower, supply the model and serial numbers to assure that correct information and replacement parts are obtained.

To order replacement parts from an Authorized TORO Service Dealer, supply the following information:

1. Model and serial numbers of the mower.
2. Part number, description and quantity of part(s) desired.

MAINTENANCE RECORD

[illegible]

MAINTENANCE RECORD

[illegible]

MAINTENANCE RECORD

[illegible]

The Toro Promise

A ONE YEAR LIMITED WARRANTY

The Toro Company promises to repair your TORO Product if defective in materials or workmanship. The following time periods from the date of purchase apply:

Commercial Products 1 Year

The costs of parts and labor are included, but the customer pays the transportation costs on walk rotary mowers with cutting unit widths of less than 25".

If you feel your TORO product is defective and wish to rely on The Toro Promise, the following procedure is recommended:

1. Contact your Authorized TORO Distributor or Commercial Dealer (the Yellow Pages of your telephone directory is a good reference source).
2. The TORO Distributor or Commercial Dealer will advise you on the arrangements that can be made to inspect and repair your product.
3. The TORO Distributor or Commercial Dealer will inspect the product and advise you whether the product is defective and, if so, make all repairs necessary to correct the defect without an extra charge to you.

If for any reason you are dissatisfied with the distributor's analysis of the defect or the service performed, you may contact us.

Write:

TORO Commercial Products Service Department
8111 Lyndale Avenue South
Minneapolis, Minnesota 55420

The above remedy of product defects through repair by an Authorized TORO Distributor or Commercial Dealer is the purchaser's sole remedy for any defect.

THERE IS NO OTHER EXPRESS WARRANTY. ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR USE ARE LIMITED TO THE DURATION OF THE EXPRESS WARRANTY.

Some states do not allow limitations on how long an implied warranty lasts, so the above limitation may not apply to you.

This Warranty applies only to parts or components which are defective and does not cover repairs necessary due to normal wear, misuse, accidents, or lack of proper maintenance. Regular, routine maintenance of the unit to keep it in proper condition is the responsibility of the owner.

All warranty repairs reimbursable under the Toro Promise must be performed by an Authorized TORO Commercial Dealer or Distributor using Toro approved replacement parts.

Repairs or attempted repairs by anyone other than an Authorized TORO Distributor or Commercial Dealer are not reimbursable under the Toro Promise. In addition, these unauthorized repair attempts may result in additional malfunctions, the correction of which is not covered by warranty.

THE TORO COMPANY IS NOT LIABLE FOR INDIRECT, INCIDENTAL OR CONSEQUENTIAL DAMAGES IN CONNECTION WITH THE USE OF THE PRODUCT INCLUDING ANY COST OR EXPENSE OF PROVIDING SUBSTITUTE EQUIPMENT OR SERVICE DURING PERIODS OF MALFUNCTION OR NON-USE.

Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you.

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

COUNTRIES OTHER THAN THE UNITED STATES OR CANADA

Customers who have purchased TORO products exported from the United States or Canada should contact their TORO Distributor (Dealer) to obtain guarantee policies for your country, province or state. If for any reason

you are dissatisfied with your Distributor's service or have difficulty obtaining guarantee information, contact the TORO importer. If all other remedies fail, you may contact us at The Toro Company.