FORM NO. 3313-325

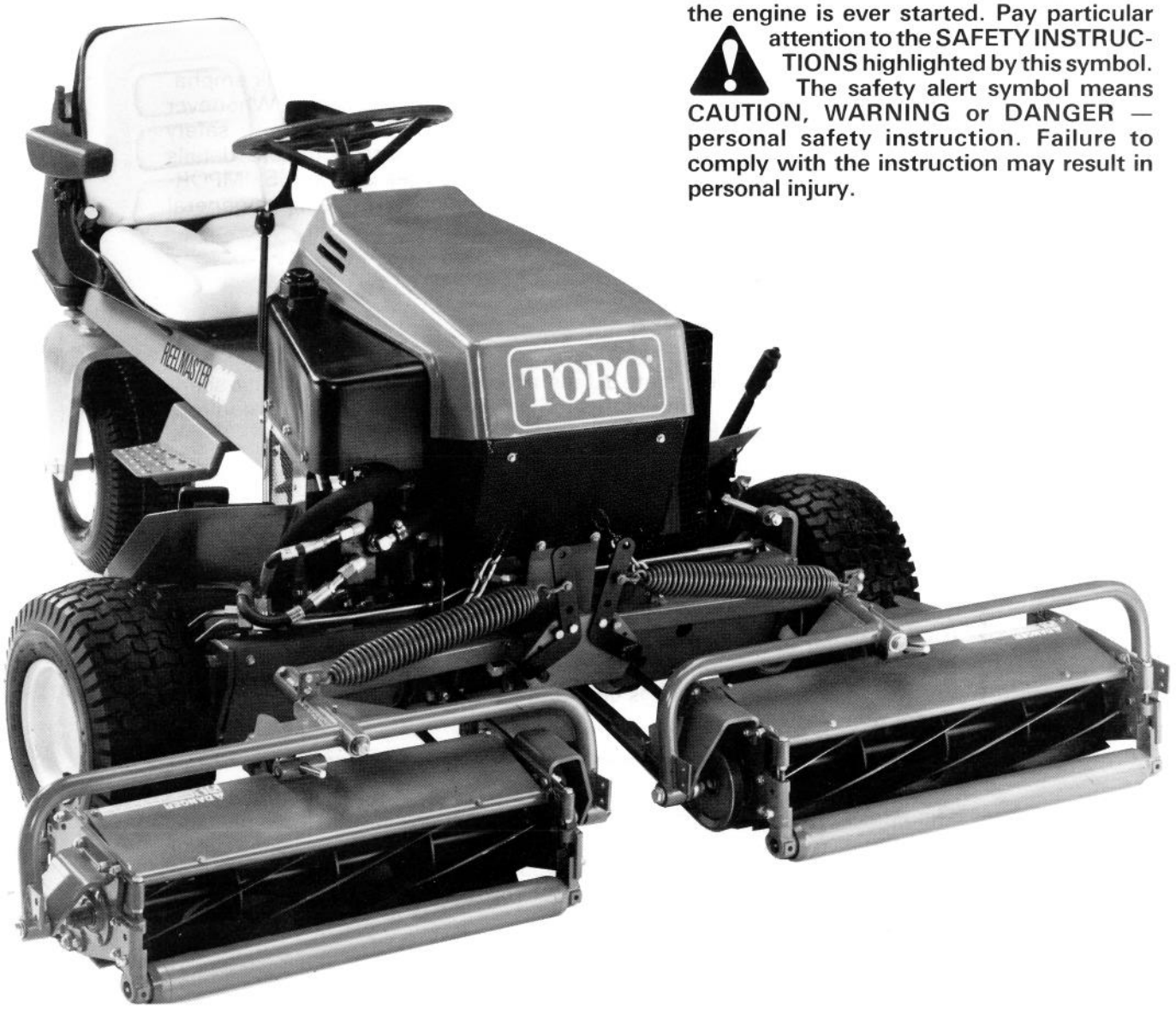
TORO®

MODEL NO. 03410 — 70691 & UP

OPERATOR'S MANUAL

REELMASTER® 216

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.



PRICE $3.00

FOREWORD

Your new REELMASTER® 216 was developed to provide an efficient, reliable and time-saving method of mowing high quality turf. The latest concepts in engineering and design have been incorporated into this machine along with the highest quality parts and workmanship. Excellent service will be derived if proper operation and maintenance practices are followed.

We know, since you have purchased the industry leader in mowing excellence, that future performance and dependability are of prime importance. TORO also is concerned about future use of the machine and of safety to the user. Therefore, this manual should be read by you and those involved with the REELMASTER 216 to ensure that safety, proper set-up, operation and maintenance procedures are followed at all times. The major sections of the manual are:

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

Safety, mechanical and some general information in this manual is emphasized. DANGER, WARNING and CAUTION identify safety messages. Whenever the triangular safety alert symbol appears, ⚠ it is followed by a safety message that must be read and understood. For more complete details concerning safety, read the safety instructions on pages 3, 4 and 5. IMPORTANT identifies special mechanical information and NOTE identifies general information worthy of special attention.

OPTIONAL SPARK ARRESTER

In some areas there are local, state or federal regulations requiring that a spark arrester be used on the engine of this mower. If a spark arrester is required, order the following parts from your local TORO Distributor:

(1) 62-7460 Spark Arrester Assembly

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

When mower is used or operated on any California forest, brush or grass covered land, a working order spark arrester must be attached to muffler. If not, the operator is violating state law, Section 442 Public Resources Code.

If help concerning set-up, operation, maintenance or safety is ever needed, contact the local Authorized TORO Distributor. In addition to genuine TORO replacement parts, the distributor also has optional equipment for the complete line of TORO turf care equipment. Keep your Toro all TORO. Buy genuine TORO parts and accessories.

TABLE OF CONTENTS

⚠ SAFETY INSTRUCTIONS

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

BEFORE OPERATING

1. Operate the machine only after reading and understanding the contents of this manual. 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. Never allow children to operate the machine or adults to operate it without proper instructions.

3. Become familiar with the controls and know how to stop the machine and engine quickly.

4. Keep all shields, safety devices and decals in place. If a shield, safety device or decal is defective or damaged, repair or replace it before operating the machine.

5. Always wear substantial shoes. Do not operate machine while wearing sandals, tennis shoes or sneakers. Do not wear loose fitting clothing because it could get caught in moving parts and possibly cause personal injury.

6. Wearing safety glasses, safety shoes, long pants and a helmet is advisable and required by some local ordinances and insurance regulations.

7. Make sure the work area is clear of objects which might be picked up and thrown by the reels.

8. Do not carry passengers on the machine, and keep everyone, especially children and pets, away from the areas of operation.

9. Since gasoline is highly flammable, handle it carefully.

   A. Use an approved gasoline container.

   B. Do not remove cap from fuel tank when engine is hot or running.

   C. Do not smoke while handling gasoline.

D. Fill fuel tank outdoors and not over one inch (25 mm) from the top of the tank, not the filler neck. Do not overfill.

E. Wipe up any spilled gasoline.

WHILE OPERATING

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

11. Sit on the seat when starting and operating the machine.

12. Check the interlock switches daily for proper operation; refer to page 16. If a switch should fail, replace the switch before operating the machine. **(After every two years, replace all four interlock switches in the wiring system, regardless if they are working properly or not.)**

13. When starting the engine:

A. Engage parking brake.

B. Be sure traction pedal is in neutral and Reel Drive is in disengage position.

C. After engine is started, release parking brake and keep foot off traction pedal. Machine must not move. If movement is evident, the neutral return mechanism is adjusted incorrectly; therefore, shut engine off and adjust until machine does not move when traction pedal is released. Refer to Adjusting Transmission for Neutral, page 22.

D. Watch for holes or other hidden hazards.

E. Use extreme care when operating close to sand traps, ditches, creeks, steep hillsides or other hazards.

F. Reduce speed when making sharp turns. Avoid sudden stops and starts.

G. Before backing up, look to the rear and assure no one is behind the machine.

H. Watch out for traffic when near or crossing roads. Always yield the right-of-way.

15. Keep hands, feet and clothing away from moving parts and the reel discharge area. If so equipped, the grass baskets must be in place during operation of the reels for maximum safety.

16. Raise the cutting units when driving from one work area to another.

17. Do not touch engine, muffler or exhaust pipe while engine is running or soon after it is stopped because these areas could be hot enough to cause burns.

18. If a cutting unit strikes a solid object or vibrates abnormally, stop immediately, turn engine off, wait for all motion to stop and inspect for damage. A damaged reel or bedknife must be repaired or replaced before operation is continued.

19. Before getting off the seat:

A. Move traction pedal to neutral.

B. Set the parking brake.

C. Disengage the cutting units and wait for the reels to stop spinning.

D. Stop the engine and remove key from ignition switch.

20. Whenever machine is left unattended, make sure reels are not spinning, key is removed from ignition switch and parking brake is set.

MAINTENANCE

21. Before servicing or making adjustments to the machine, stop the engine, remove key from switch and disconnect wire from spark plug to prevent accidental starting of the engine.

22. Check performance of all four interlock switches daily. Do not defeat interlock system. It is for your protection.

23. To ensure entire machine is in good operating condition, frequently check and keep all nuts, bolts, screws and hydraulic fittings tight.

24. Make sure all hydraulic line connectors are tight, and all hydraulic hoses and lines are in good condition before applying pressure to the system.

25. Keep body and hands away from pin hole leaks or nozzles that eject hydraulic fluid under high pressure. Use paper or cardboard, not hands, to search for leaks. Hydraulic fluid escaping under pressure can have sufficient force to penetrate skin and do serious damage. If fluid is ejected into the skin it must be surgically removed within a few hours by a doctor familiar with this form of injury or gangrene may result.

26. Before disconnecting or performing any work on the hydraulic system, all pressure in system must be relieved by stopping engine and lowering implement to the ground.

27. If major repairs are ever needed or if assistance is desired, contact an Authorized Toro Distributor.

28. To reduce potential fire hazard, keep the engine area free of excessive grease, grass, leaves and accumulation of dirt.

SAFETY INSTRUCTIONS

29. If the engine must be running to perform a maintenance adjustment, keep hands, feet, clothing, and any other parts of the body away from the cutting units and any moving parts. Keep everyone away.

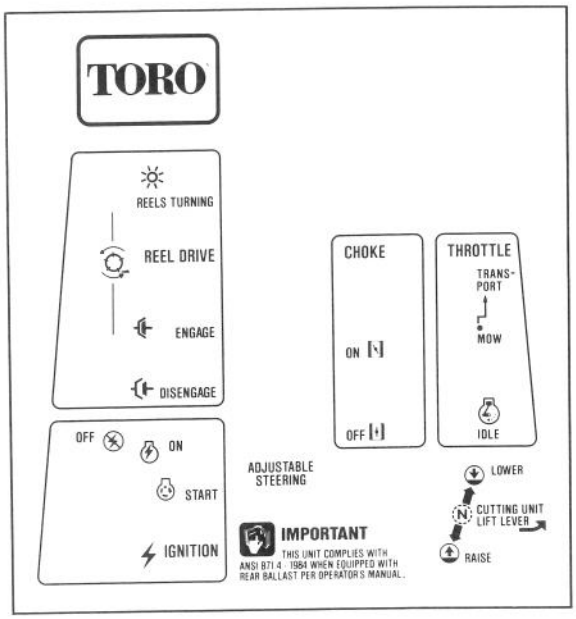
30. Do not overspeed the engine by changing governor settings. To assure safety and accuracy, have an Authorized Toro Distributor check maximum engine speed with a tachometer.

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

32. To insure optimum performance and safety, use genuine TORO replacement parts and accessories. Replacement parts and accessories made by other manufacturers could be dangerous, and such use could void the product warranty of The Toro Company

SAFETY AND INSTRUCTION DECALS

The following safety and instruction decals are installed on the traction unit. If any become damaged or illegible, replace them. Decals are listed in your Parts Catalog. Order replacements from your Authorized Toro Distributor.



ON INSTRUMENT PANEL
(Part No. 62-7270)

ON RIGHT FOOTREST
(Part No. 62-7280)

ON LIFT ARMS
(Part No. 61-3610)

ON CUTTING UNIT SHIELD
(Part No. 62-5070)

ON MUFFLER SHROUD AND HYDRAULIC TANK
(Part No. 62-7290)

SPECIFICATIONS

Engine: Kohler, 4 cycle, air cooled, 16 hp @ 3600 rpm, 35.90 cu. in. (588 cc) displacement. Stelite® intake and exhaust valve and rotator. Mechanical fuel pump, large capacity dual element air cleaner. 4 pint oil capacity.

Electrical: 12 volt starter. Electronic ignition. Interlock switches.

Fuel Capacity: 6 gallons gasoline.

Traction Drive: Hydrostatic drive; variable displacement pump, infinitely variable in both forward and reverse direction. High torque hydraulic wheel motors.

Ground Speed: Infinitely variable speed selection in forward and reverse.

Ground mowing speed: 0-5 mph
Transport speed: 0-6.5 mph
Reverse speed: 0-3 mph

Tires/Wheels: Two front traction drive tires, 18 x 8.50 - 8 tubeless, 4 ply rating. Rear steering tire 18 x 6.50 - 8 4 ply tire with tube. Recommended tire pressure 12-16 psi.

Frame: Tricycle vehicle with front two wheels providing drive and rear wheel steering. Frame consists of formed steel, welded steel and steel tubing components.

Controls: Foot operated traction pedal with adjustable stop. Hand operated throttle, choke, ignition switch, reel engagement switch, cutting unit lift lever and parking brake.

Cutting Unit Lift: Hydraulic lift with automatic reel shut off.

Overall Dimensions: 54" wheel tread width; 55" wheel base; 81" width; 92" length; 43" height.

Weight: 1,250 lbs. with 8 blade cutting unit.

LOOSE PARTS CHART

DESCRIPTION	QTY.	USE
Roll Pin Steering Cap	1 1	Install Steering Wheel
Battery Clamp Locknuts 1/4 - 20 Washers 9/32" x 5/8" Battery Boot Capscrews 5/16 - 18 x 3/4" Lg. Nuts 5/16 - 18	1 2 2 1 2 2	Install Battery
Pivot Rod Capscrews — 5/16 - 18 x 7/8" Lg. Lockwashers	2 4 4	Install to Front Lift Arms.
Thrust Washers Flat Washer Lockwasher Capscrew	3 3 3 3	Mount Cutting Units to Lift Arms.
Belt Tension Rods Capscrew 1/2 - 13 x 2" Lg. Locknut 1/2 - 13 Spacer	4 4 4 16	Install Belt Tension Rods.
Locknuts — M8	4	Install Seat
V-Belt	1	Install to Jackshaft Pulley and Reel Pulley.
Spring Vinyl Sleeve Chain Shackle Clevis Pin Cotter Pin	3 1 1 3 3 3	Install Counterbalance Springs
Reservoir Plug	1	Use When Changing Hydraulic Filter
Operators Manual Parts Catalog	1 1	Read Before Operating Machine
Registration Card	1	Fill out and send to the Toro Co.

SET UP INSTRUCTIONS

INSTALL STEERING WHEEL (Fig. 1)

1. Move rear wheel so it points straight ahead.

2. Slide steering wheel onto steering shaft aligning mounting holes.

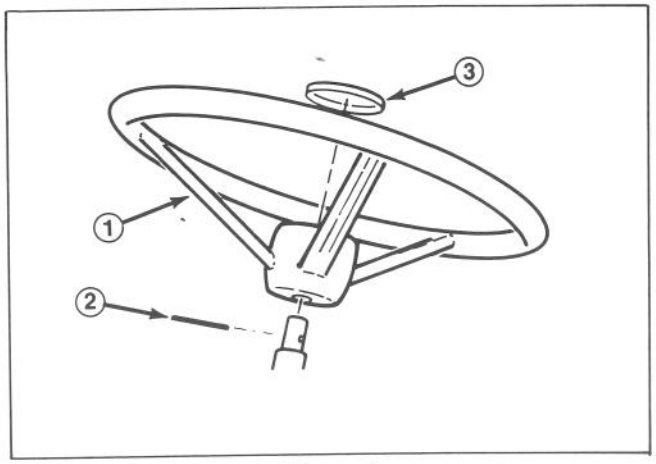


Figure 1

1. Steering wheel
2. Roll pin
3. Steering cap

3. Secure steering wheel in place with roll pin. Install steering wheel cap.

INSTALLING SEAT (Fig. 2)

The Reelmaster 216 is shipped without the seat assembly. Deluxe Seat Kit, Model 30756, must be installed as follows:

1. Remove shipping ties securing lower seat slides to upper seat slides. Note orientation of lower slides for correct reinstallation.

2. Remove machine screws securing upper slides to seat bottom. Move seat slides inward to next set of mounting holes and resecure with machine screws and (4) M8 locknuts (loose parts). Apply Locktite to fasteners.

3. Remove (4) capscrews, (8) flatwashers, and locknuts securing seat plate to frame. Leave spacer positioned over mounting holes.

4. Insert lower slides onto upper slides.

5. Loosely secure slides to seat plate with fasteners previously removed while routing seat switch wire thru slot in seat plate.

6. Tighten capscrews and check operation of seat.

7. Plug seat switch wire into wire harness. Make sure wire is clear of all moving parts.

Figure 2

1. Lower seat slide
2. Upper seat slide

INSTALL FRONT PIVOT RODS (Fig. 3)

1. Insert a pivot rod into each lift arm and align mounting holes.

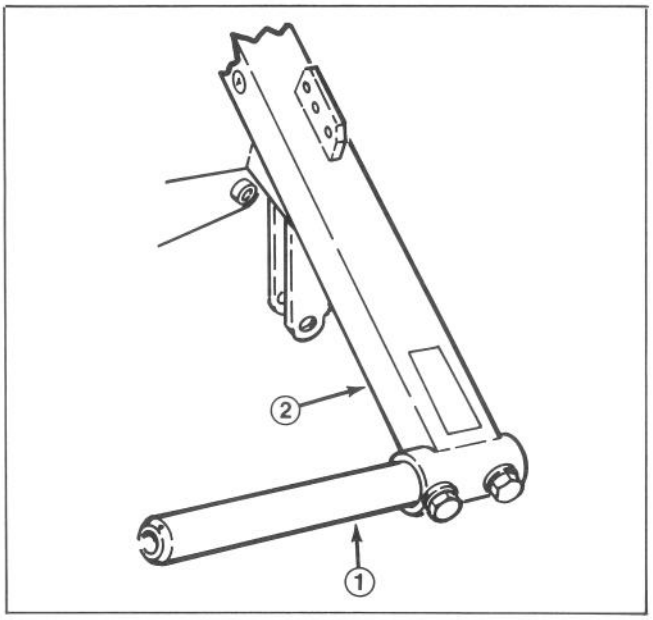


Figure 3

1. Pivot rod
2. Lift arm

2. Secure a pivot rod to each lift arm with (2) 5/16 - 18 x 7/8" Lg. capscrews and lockwashers.

SET UP INSTRUCTIONS

INSTALL BELT TENSIONER TO TRACTION UNIT (Fig. 4)

1. Secure spring end of each belt tension rod to frame bracket with (2) spacers, (1) 1/2 - 13 x 2" Lg. capscrew and locknut. Spacers to be positioned inside bracket, next to balljoint. Rear cutting unit requires (2) belt tension rods.

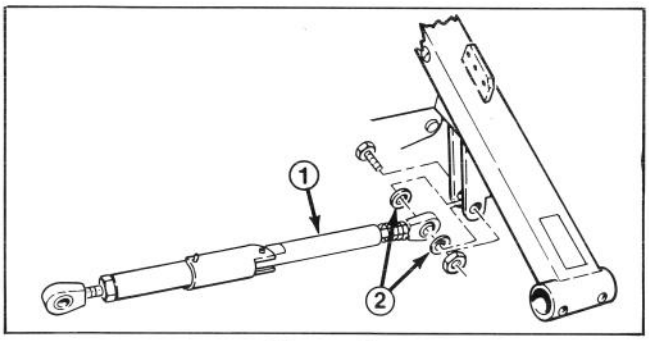


Figure 4

1. Belt tensioner
2. Spacers

MOUNT FRONT ROLLER (Fig. 5)

1. Remove (2) locknuts securing each angle bracket to cutting unit.

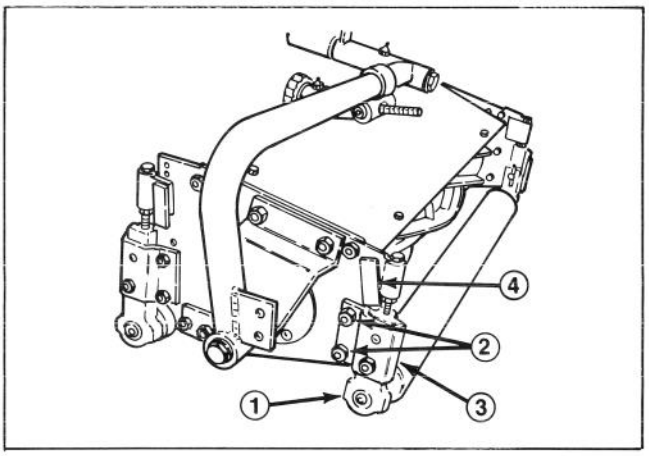


Figure 5

1. Roller bracket
2. Locknuts
3. Angle bracket
4. Height-of-cut pin

2. Remove height-of-cut pins.

3. Insert smaller dia. shaft end of roller into white bushing in roller bracket, making sure flanged end of nylon bushing faces inside toward roller. **Hex of roller bracket must mate with hex of nut adjustment.**

4. Press roller bracket onto other shaft end of roller. **Hex of roller bracket must mate with hex of nut adjustment.**

5. Hold one roller bracket stationary and use other bracket as a wrench to loosen or tighten bearing clearance to allow roller to rotate freely and to eliminate bearing end play.

6. Roller brackets must be aligned for installation onto cutting unit. If necessary to align after bearing adjustment, remove roller bracket on side with flanged nyliner, align with opposite roller bracket within ± one hex flat and replace.

7. Reinstall Height-of-Cut pins.

8. Reinstall (2) locknuts securing each angle bracket to cutting unit.

LEVEL REAR ROLLER (Fig. 6)

1. Position cutting unit on a flat level table or board.

2. Slightly loosen (crack) nut securing each roller bracket to angle bracket (Fig. 6).

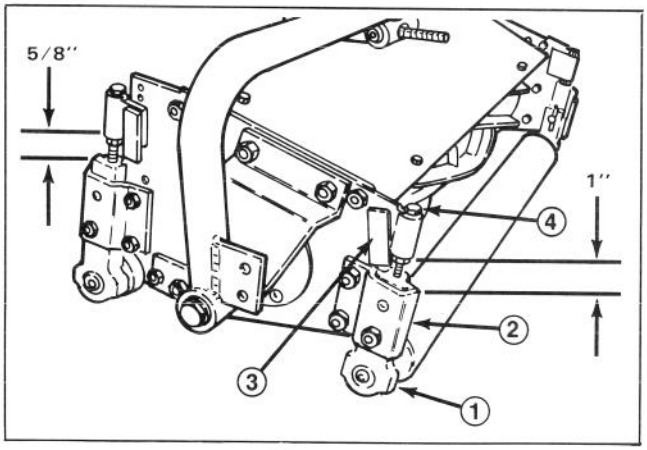


Figure 6

1. Roller bracket
2. Angle bracket
3. Height-of-cut pin
4. Support capscrew

3. Adjust support capscrew to achieve 1" ± 1/16 dimension between Height-of-Cut support and *front* roller bracket (2 places) (Fig. 6).

4. Adjust support capscrew to achieve 5/8" ±1/16 dimension between Height-of-Cut support and *rear* roller bracket (2 places) (Fig. 6).

5. Remove hairpin cotters securing *rear* Height-of-Cut pins and reinstall in the 1/2" setting as indicated on Height-of-Cut plate.

6. Remove hairpin cotters securing front Height-of-Cut pins and reinstall in the 1/4" setting as indicated on Height-of-Cut plate to allow clearance between roller and table.

7. Position a 1/2" or thicker bar under the reel blades and against the front face of the bedknife. Make sure bar covers the full length of reel blades.

SET UP INSTRUCTIONS

8. Verify if rear roller is level, by inserting a piece of paper under each end of roller.

9. Level roller by adjusting appropriate support capscrew on rear roller supports until roller is flat on table.

10. When roller is level, adjust both rollers to desired Height-of-Cut by repositioning Height-of-Cut pins. **Tighten nuts securing roller brackets.**

PARALLEL BEDKNIFE TO REEL (Fig. 7-9)

1. Make sure reel contact is removed by turning bedknife adjustment knob counterclockwise (Fig. 7). Tip cutting unit to gain access to reel and bedknife (Fig. 8).

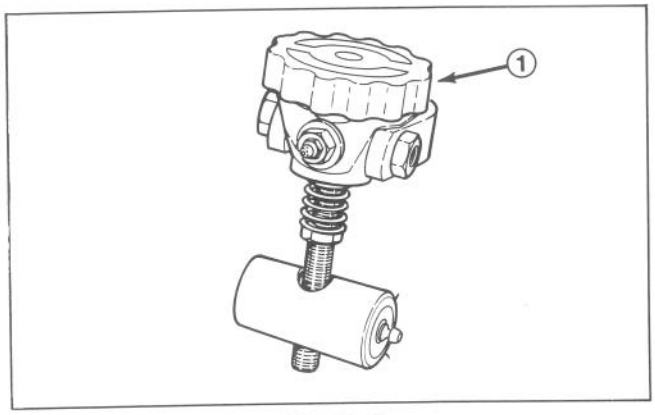


Figure 7

1. Bedknife adjustment knob

2. On either end of reel, insert a long strip of dry newspaper between reel and bedknife. While slowly rotating reel into bedknife, turn bedknife adjusting knob clockwise, one click at a time until paper is pinched lightly, which results in a slight drag when paper is pulled (Fig. 8).

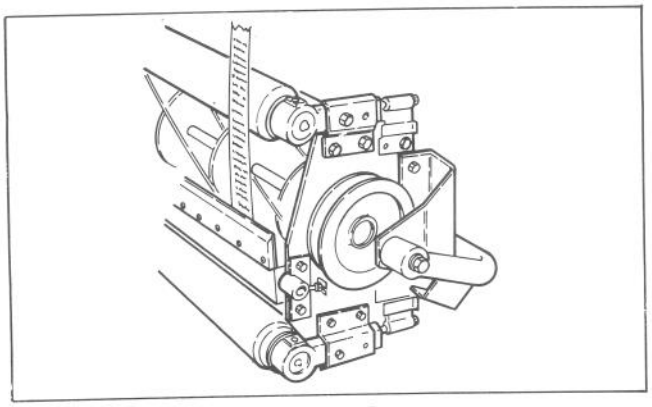


Figure 8

3. Check for light contact at other end of reel using paper. If light contact is not evident, proceed to next step.

4. Loosen (2) carriage bolts on bedbar adjuster (Fig. 9).

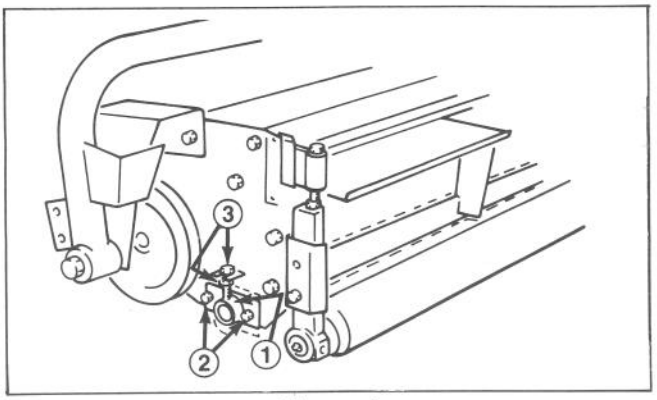


Figure 9

1. Bedbar adjuster
2. Carriage bolts
3. Adjustment nuts

5. Adjust nuts to move bedbar adjuster up or down until paper is pinched along entire bedknife surface, when bedknife adjustment knob is adjusted to no more than two clicks beyond first contact of reel bedknife (Fig. 9).

6. Tighten nuts and carriage bolts and verify adjustment.

VERIFY HEIGHT-OF-CUT SETTING (Fig. 10)

1. On gauge bar, set head of screw to desired Height-of-Cut. This measurement is from bar face to underside of screw head.

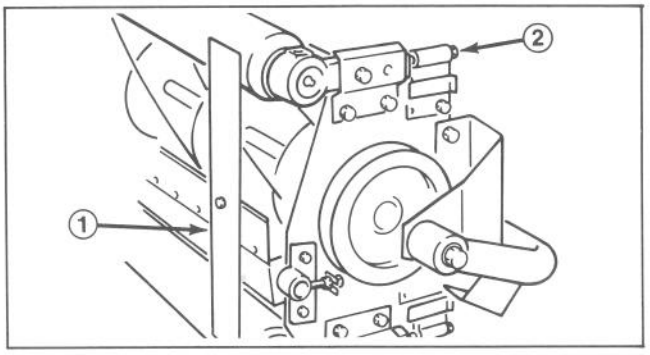


Figure 10

1. Gauge bar
2. Front roller support screw

2. Slightly loosen (crack) nut securing each front roller bracket to angle bracket.

3. Place the bar across the front and rear rollers and adjust the front roller support screws until the underside of screw head engages the bedknife cutting edge. Do this on both ends of reel.

4. Tighten nuts securing roller brackets.

MOUNT CUTTING UNITS (Fig. 11)

1. Slide a thrust washer onto lift arm pivot rod.

2. Slide cutting unit carrier frame onto pivot rod and secure with a flatwasher, lockwasher and capscrew.

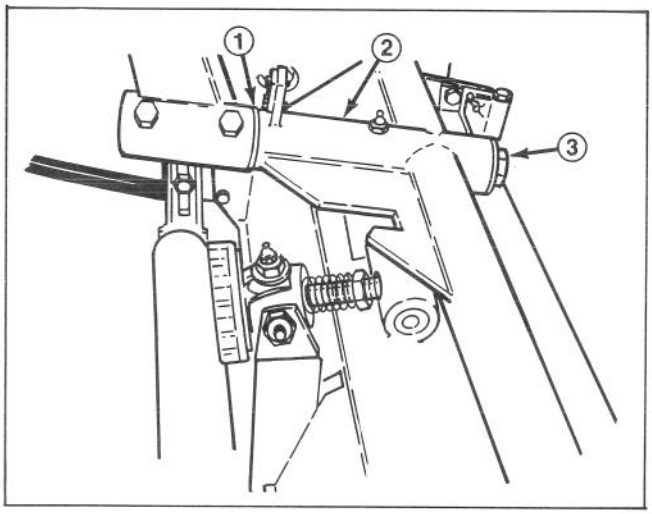


Figure 11

1. Thrust washer
2. Carrier frame
3. Flatwasher, lockwasher, capscrew

INSTALL CUTTING UNIT DRIVE BELTS (Fig. 12)

1. Route (3) V-belts (one in loose parts) around jackshaft pulleys and reel pulleys.

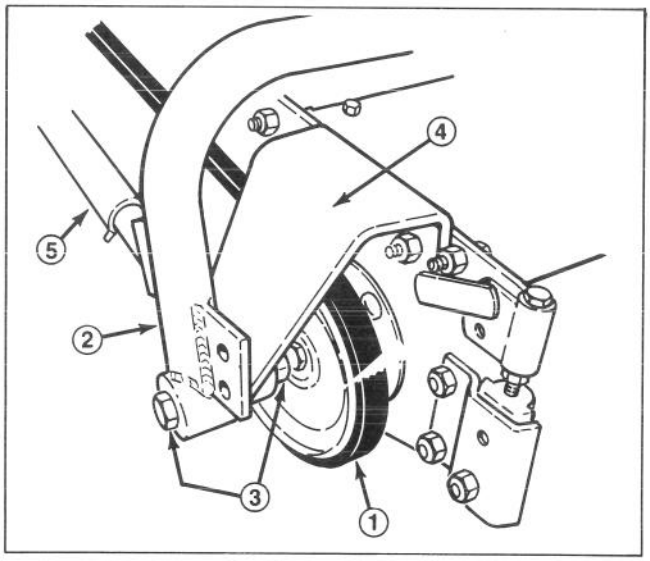


Figure 12

1. Cutting unit drive belt
2. Carrier frame
3. Capscrew and nut
4. Tensioner bracket
5. Belt tensioner

INSTALL BELT TENSIONERS TO CUTTING UNITS (Fig. 12)

1. On pulley end of front cutting units and both ends of rear cutting unit, remove nut from capscrew securing carrier frame to tensioner bracket.

2. Install a spacer, belt tension rod (balljoint) and spacer onto capscrew.

Note: Belt tension rods to be in locked position when installing. Loosen jam nut and rotate rod to adjust rod length for installation.

3. Reinstall nut previously removed.

INSTALL COUNTERBALANCE SPRINGS (Figs. 13-15)

1. Remove capscrew securing counterbalance arm to frame.

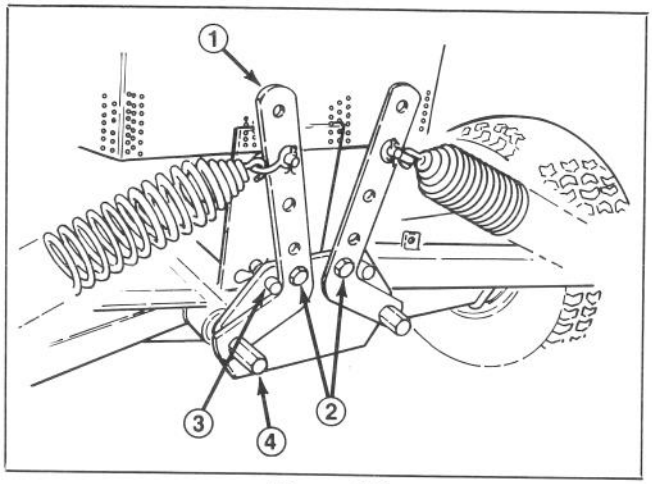


Figure 13

1. Counterbalance arm
2. Capscrew securing counterbalance arm
3. Clevis pin & hairpin cotter
4. Counterbalance arm pivot hex

2. Remove hairpin cotter and clevis pin next to arm.

3. Pivot front arms outward and rear arm inward.

4. Hook one end of spring into second hole (from bottom) on cutting unit lift tab.

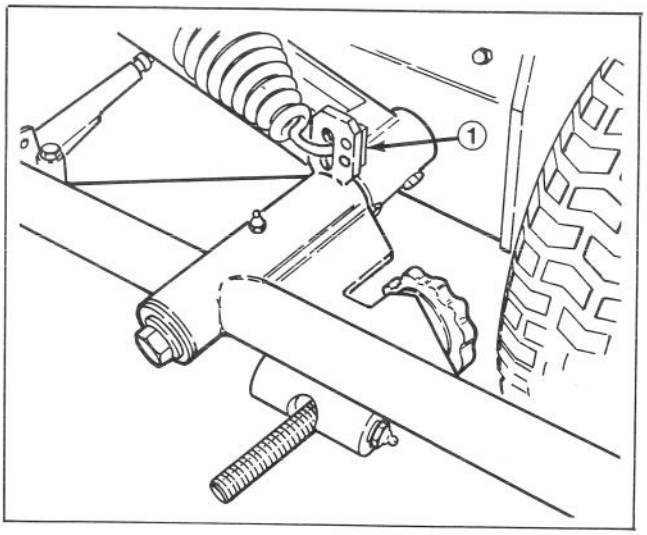


Figure 14

1. Cutting unit lift tab

SET UP INSTRUCTIONS

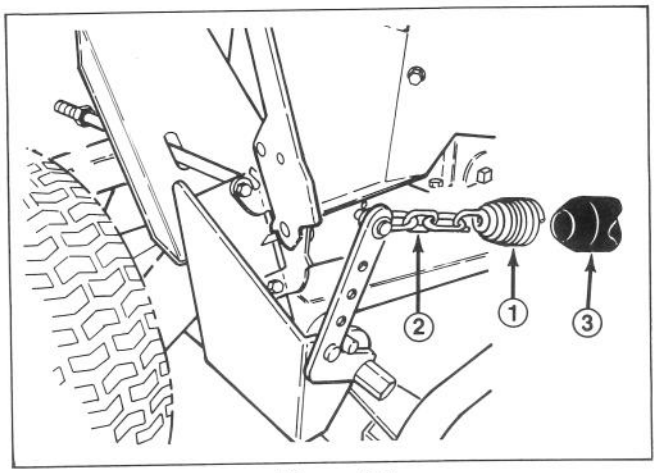


Figure 15

1. Rear counter balance spring
2. Chain links
3. Vinyl cover

Note: On rear counterbalance spring install vinyl cover over spring before installing.

5. On front cutting units secure other end of spring to appropriate hole (see chart below) on counterbalance arm with clevis, clevis pin and hairpin cotter.

6. On rear cutting unit secure other end of spring to appropriate hole in counterbalance arm with (2) chain links, clevis, clevis pin and hairpin cotter.

A. Bottom hole — for 5 blade reel application
B. Second hole — for 8 blade reels without baskets
C. Third hole — for 8 blade reels using baskets

IMPORTANT: These are recommended settings. Readjust spring positions to attain optimum performance. By raising spring locations on counterbalance arms, cutting unit weight on ground is reduced and traction is increased.

7. To tension the counterbalance springs proceed as follows:

A. Insert a 3/4" socket with long extension bar onto counterbalance arm pivot hex.
B. Pivot arms back until clevis pin and hairpin cotter can be reinstalled in frame.
C. Reinstall capscrew to lock arms in position.

WARNING

Use caution when tensioning springs as they are under heavy load.

ADD REAR BALLAST

This unit complies with ANSI B71.4-1984 Standard when equipped with rear ballast. Use chart below to determine weight or combinations of weights needed.

Cutting Unit Using	Weight Needed
5 Blade	Calcium Chloride in rear tire.
8 Blade with no baskets	Calcium Chloride in rear tire and rear weight, Part No. 62-5140.
8 Blade with baskets	Calcium Chloride in rear tire, rear weight Part No. 62-5140 and rear weight Part No. 62-7470.

IMPORTANT: If a puncture occurs in a tire with calcium chloride, remove unit from turf area as quickly as possible. To prevent possible damage to turf, immediately soak affected area with water.

TO INSTALL REAR WEIGHT, PART NO. 62-5140

1. Remove (4) capscrews, flatwashers, and spacers securing gas tank mounting plate to rear frame.

2. Discard spacers.

3. Slide weight under gas tank mounting plate aligning mounting holes.

4. Secure weight to frame with fasteners previously removed.

TO INSTALL REAR WEIGHT, PART NO. 62-7470

1. Secure the (2) weights to the bottom of weight, Part No. 62-5140 with fasteners supplied with kit.

BEFORE OPERATING

ACTIVATE AND CHARGE BATTERY

Note: The Reelmaster 216 is shipped without a battery. A battery, Toro Part No. 28-1400 or equivalent must be installed.

1. If Battery is not filled with electrolyte or activated, bulk electrolyte with 1.260 specific gravity must be purchased from a local battery supply outlet and added to battery.

CAUTION

Wear safety goggles and rubber gloves when working with electrolyte. Charge the battery in a well ventilated place so gasses produced while charging can dissipate. Since the gases are explosive, keep open flames and electrical spark away from the battery; do not smoke. Nausea may result if the gases are inhaled. Unplug charger from electrical outlet before connecting to or disconnecting charger leads from battery posts.

2. Remove filler caps from battery and slowly fill each cell until electrolyte is just above the plates.

3. Replace filler caps and connect a 3 to 4 amp battery charger to the battery posts. Charge the battery at a rate of 3 to 4 amperes for 4 to 8 hours.

4. When battery is charged, disconnect charger from electrical outlet and battery posts.

5. Remove filler caps. Slowly add electrolyte to each cell until level is up to fill ring. Install filler caps.

IMPORTANT: Do not overfill battery. Electrolyte will overflow onto other parts of the machine and severe corrosion and deterioration will result.

INSTALL BATTERY (Fig. 16)

1. Mount battery on battery support with terminal posts toward engine.

2. Secure battery to support rods with clamp, washers, and locknuts.

3. Install the positive cable (rubber boot over end) to the positive (+) terminal and the negative cable (black) to the negative (–) terminal of the battery and secure with capscrews and nuts. Slide the rubber boot over the positive terminal to prevent possible short-out from occurring.

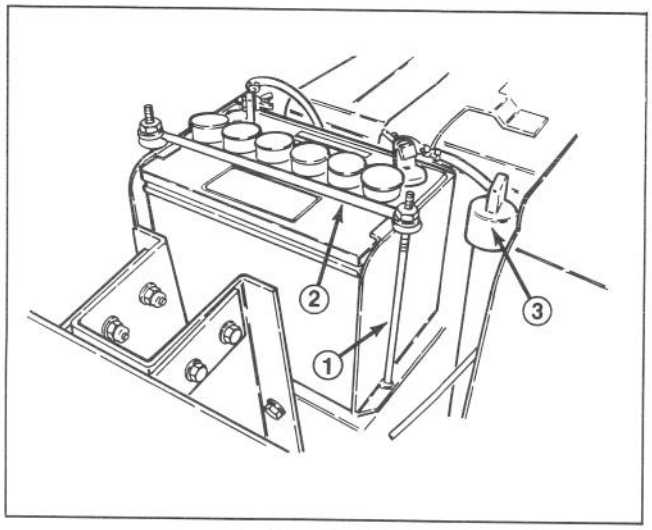


Figure 16

1. Support rod
2. Clamp
3. Oil dipstick

CHECK CRANKCASE OIL (Fig. 16)

The Kohler engine is shipped with 5 pints of oil in the crankcase; however, level of oil must be checked before and after the engine is first started.

1. Position machine on a level surface.

2. Remove dipstick and wipe it with a clean rag. Push dipstick down into dipstick tube and make sure it is seated fully. Pull dipstick out and check level of oil. If oil level is low, add enough oil to raise level to FULL mark on dipstick.

FILL FUEL TANK WITH GASOLINE (Fig. 17)

THE TORO COMPANY STRONGLY RECOMMENDS THE USE OF FRESH CLEAN, UNLEADED REGULAR GRADE 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.

Note: Do not mix oil with gasoline. Never use methanol, gasoline containing methanol, gasohol, gasoline additives, premium gasoline, or white gas because engine/fuel system damage could result.

BEFORE OPERATING

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 before starting engine and fill tank to about 1 inch (25 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.

1. Remove cap from the fuel tank and fill the 6 gallon tank to within 1 inch from the top with unleaded gasoline. Install fuel tank cap tightly.

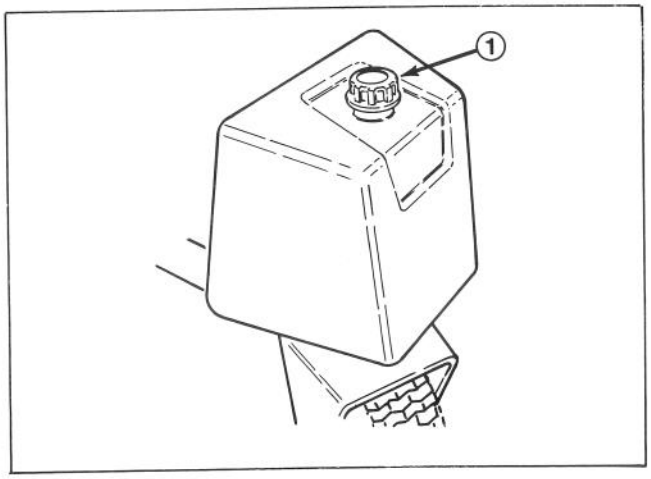


Figure 17

1. Fuel tank cap

2. Wipe up gasoline that may have spilled to prevent a fire hazard.

CHECK HYDRAULIC SYSTEM FLUID (Fig. 18)

The hydraulic system is designed to operate with Mobile DTE26 or equivalent anti-wear hydraulic fluid. The machine's reservoir is filled at the factory with approximately 3½ gallons of fluid. However, check level of hydraulic fluid before engine is first started and daily thereafter.

1. Position machine on a level surface.

2. Remove dipstick cap from filler neck and wipe it with a clean rag. Insert dipstick cap into filler neck; then remove it and check level of fluid. Fluid level should be between marks on dipstick, add Mobile DTE26 or equivalent fluid to raise level to full mark. Do not overfill.

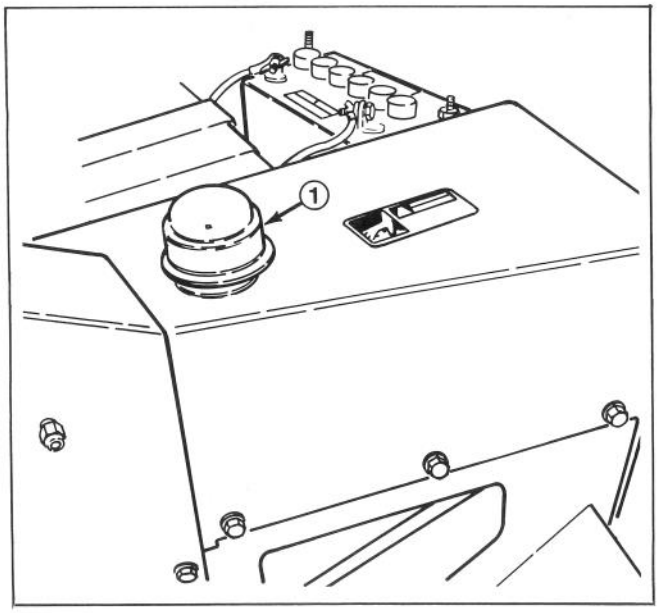


Figure 18

1. Dipstick filler cap

3. Install dipstick filler cap onto filler neck.

CHECK TIRE PRESSURE

The tires are over-inflated for shipping. Therefore, release some of the air to reduce the pressure. Correct air pressure in front and rear tires is 12 to 16 psi.

CONTROLS

Traction Pedal (Fig. 19 & 20) — Traction pedal has two functions: one is to make the machine move forward, the other is to make it move rearward. Using the heel and toe of the right foot, depress top of pedal to move forward and bottom of pedal to move rearward. **For operator comfort, do not rest heel of foot on reverse, when operating forward.**

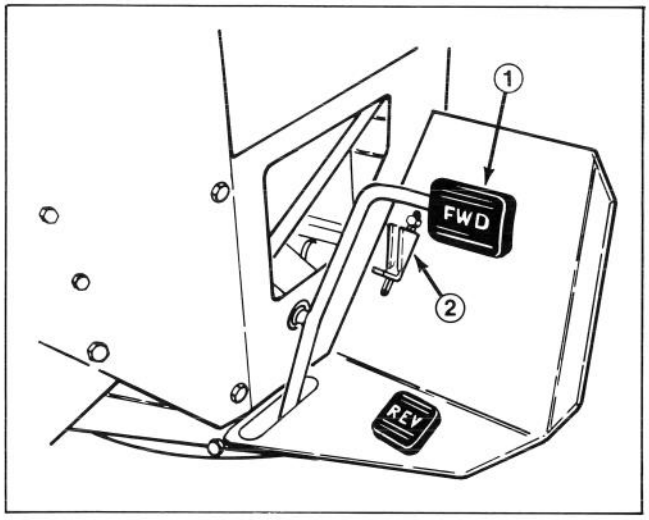


Figure 19

1. Traction pedal
2. Traction pedal stop

Traction Pedal Stop (Fig. 19) — Used in conjunction with traction pedal to maintain a constant mowing speed.

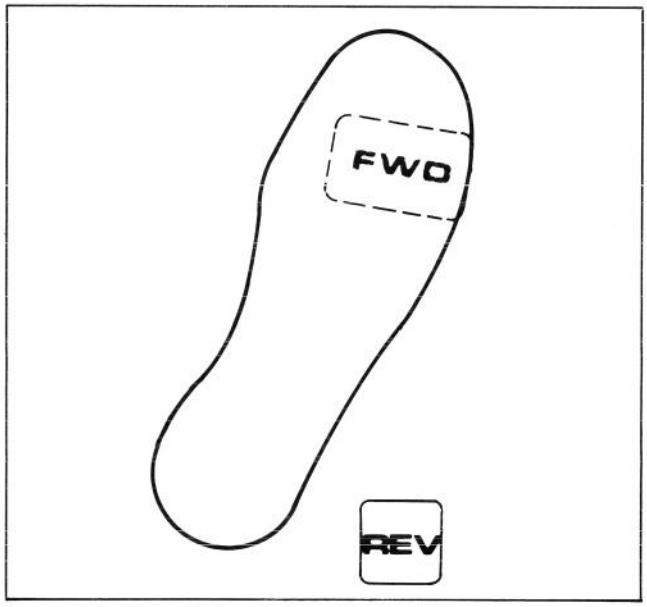


Figure 20

Ignition Switch (Fig. 21) — The ignition switch, which is used to start and stop the engine, has three positions: OFF, RUN and START. Rotate key clockwise — START position — to engage starter motor. Release key when engine starts. The key will move automatically to the ON position. To shut engine off, rotate key counterclockwise to the OFF position.

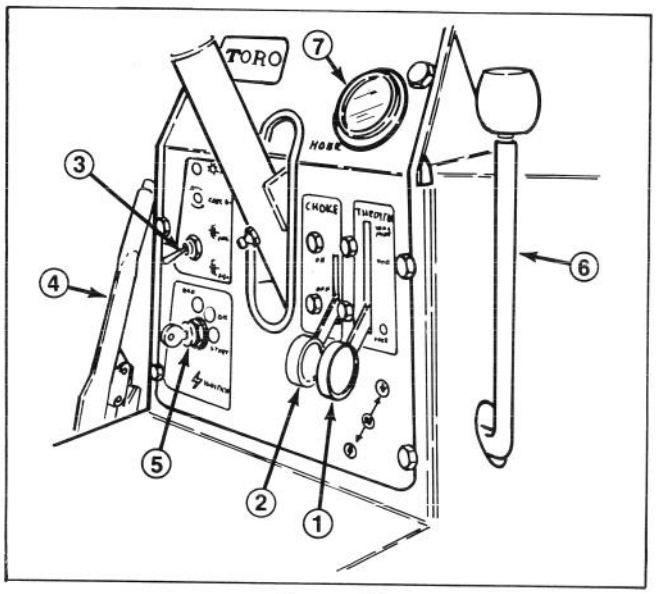


Figure 21

1. Throttle control
2. Choke control
3. Reel drive switch
4. Parking brake
5. Ignition switch
6. Cutting unit lift lever
7. Hour meter

Choke (Fig. 21) — To start a cold engine, close carburetor choke by moving choke control upward to the ON position. After engine starts, regulate choke to keep engine running smoothly. As soon as possible, open the choke by pulling it downward to the OFF position. A warm engine requires little or no choking.

Throttle (Fig. 21) — Throttle is used to operate engine at various speeds. Moving throttle upward increases engine speed downward decreases engine speed. The throttle controls the speed of the reel blades and, in conjunction with traction pedal, controls ground speed of the engine. Position control in MOW for normal cutting. To attain TRANSPORT, move control to MOW, push control to right, then up to transport.

Cutting Unit Lift Lever (Fig. 21) The lift lever has three positions: LOWER, RAISE, and NEUTRAL. To lower cutting units to the ground, move lift lever forward. When lowering cutting units, make sure hydraulic cylinder is completely retracted before releasing lift lever. To raise cutting units, pull lift lever rearward to the RAISE position. Cutting units will not operate unless cylinder is retracted or when lifted.

Reel Drive Switch (Fig. 21) — The switch has two positions: ENGAGE and DISENGAGE. Toggle switch engages electromagnetic clutch to drive reels. Amber light on dash indicate when reels are rotating.

Hour Meter (Fig. 21) — Indicates the total hours of machine operation. The Hour Meter starts to function whenever the key switch is rotated to "ON".

CONTROLS

Parking Brake (Fig. 21) — Whenever the engine is shut off, the parking brake must be engaged to prevent accidental movement of the machine. To engage the parking brake, pull back on lever.

Deluxe Seat Adjustments (Fig. 22) — Fore and Aft Adjustment — Move lever on right side of seat outward, slide seat to desired position and release lever to lock seat into position.

Weight Adjustment — Push lever up or down to adjust to operator's weight. Lever up — light operator, lever in middle position — medium weight operator or lever down for heavy operator.

Inclining Backrest — Turn handle to adjust angle of backrest.

Fuel Shut-off Valve (located behind seat) — Close fuel shut-off valve when storing machine.

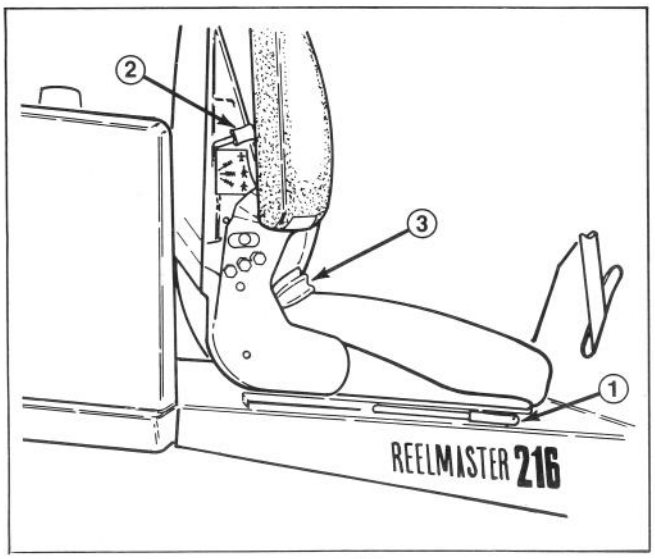


Figure 22

1. Fore and aft lever
2. Weight adjustment lever
3. Inclining backrest knob

OPERATING INSTRUCTIONS

STARTING/STOPPING ENGINE

1. Be sure parking brake is set and Reel Drive switch is in DISENGAGE position.

Note: After hand brake is released, run vehicle in opposite direction of resistance to fully release brake.

2. Remove foot from traction pedal and make sure pedal is in neutral position.

3. Move choke lever to ON position — when starting a cold engine — and throttle lever to half throttle position.

4. Insert key into ignition switch and rotate it clockwise to start the engine. Release key when engine starts. Regulate the choke to keep engine running smoothly.

IMPORTANT: To prevent overheating of the starter motor, do not engage starter longer than 10 seconds. After 10 seconds of continuous cranking, wait 60 seconds before engaging starter motor again.

5. When engine is started for the first time, or after overhaul of the engine, operate the machine in forward and reverse for one to two minutes. Also operate the lift lever and reel drive switch to be sure of proper operation of all parts.

Turn steering wheel to the left and right to check steering response. Then shut engine off and check for oil leaks, loose parts and any other noticeable defects.

CAUTION

Shut engine off and wait for all moving parts to stop before checking for oil leaks, loose parts and other defects.

6. To stop the engine, move throttle control downward to IDLE position, move reel drive switch to DISENGAGE and rotate ignition key to OFF. Remove key from switch to prevent accidental starting.

7. Close fuel shut off valve before storing machine.

OPERATING INSTRUCTIONS

CHECK OPERATION OF INTERLOCK SWITCHES

CAUTION

Do not disconnect the safety switches because they are for the operator's protection. Check operation of the switches daily to be sure the interlock system is operating correctly. If a switch is defective, replace it before operating the machine. Replace the switches every two years to be sure of maximum safety.

1. With operator off the seat, traction pedal in neutral and clutch switch in disengage position, the engine should start. If either the traction pedal is depressed or the clutch switch is engaged, the engine should stop. Correct defect if not operating properly.

2. With operator in the seat, engine running, and clutch switch engaged, the clutch should be engaged, the dash indicator light glowing and the jackshaft turning when the lift cylinder is fully retracted. As the lift cylinder is extended, the light should go out, the clutch disengage and the jackshaft stop turning. Correct defect if not operating properly.

3. With operator on seat, engine running, clutch switch engaged, cutting units lowered and lift cylinder fully retracted, reels should turn and dash indicator light should glow. If reels do not turn and light does not glow, an adjustment to the lift switch may be necessary.

A. Stop engine and set parking brake.

B. Make sure cutting units are completely lowered and lift cylinder is fully retracted.

C. Locate lift switch on left side of machine on bottom of lift cylinder.

D. Rotate screw out until switch is activated. Check continuity when switch is activated.

E. Check operation and repeat adjustment, if necessary.

TRAINING PERIOD

Before mowing with the Reelmaster 216, The Toro Company suggests that you find a clear area and practice starting and stopping, raising and lowering mowers, turning, etc. This training period will be beneficial to the operator in gaining confidence in the performance of the Reelmaster 216.

BEFORE MOWING

Inspect the area for debris and clear area if necessary. Determine the direction best to mow. Base the direction to mow on the previous mowing direction. Always mow in an alternate pattern from the previous mowing, so that the grass blades will be less apt to lay down and therefore be difficult to gather between the reel blades and bedknife.

OPERATING CHARACTERISTICS

Practice driving the Reelmaster 216 because it has a hydrostatic transmission and its characteristics are different than many turf maintenance machines. Some points to consider when operating the traction unit and cutting units are the transmission, engine speed, load on the cutting units.

To maintain enough power for the traction unit and cutting units while mowing, regulate traction pedal to keep engine rpm high and somewhat constant.

The traction pedal stop can be adjusted to maintain a constant ground speed and quality of cut. Do not use the pedal stop when in hilly terrain or in transport position.

Before stopping the engine, disengage all controls and move throttle to IDLE.

TRANSPORT OPERATION

Make sure the cutting units are in the full up position. Move traction pedal stop from under pedal to allow full traction pedal travel. Move throttle control to transport position. Always approach rough areas at a reduced speed and cross severe undulations carefully. Familiarize yourself with the width of the Reelmaster 216. Do not attempt to pass between objects that are close together so that costly damage and downtime can be prevented.

INSPECTION AND CLEAN-UP AFTER MOWING

At the completion of mowing operation, thoroughly wash the machine with a garden hose **without a nozzle** so excessive water pressure will not cause contamination and damage to seals and bearings. Make sure cooler fins and area around engine cooling air intake are kept free of dirt or grass clippings. After cleaning, it is recommended the machine be inspected for possible hydraulic fluid leaks, damage or wear to hydraulic and mechanical components and the cutting units checked for sharpness.

ADJUST STEERING COLUMN (Fig. 23)

1. Raise hood.

2. Remove capscrew securing steering column to frame bracket.

3. Adjust steering column to desired operating position and reinstall capscrew.

OPERATING INSTRUCTIONS

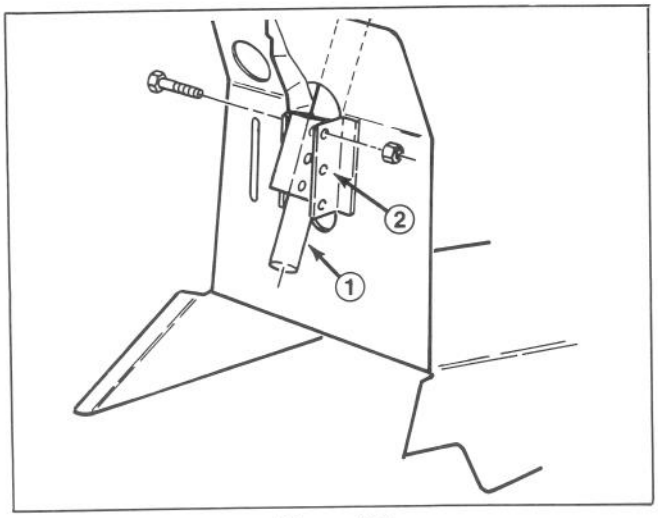


Figure 23

1. Steering column
2. Frame bracket

PUSHING TRACTION UNIT

In case of an emergency, the Reelmaster 216 can be pushed for a short distance. However, Toro does not recommend this as a standard procedure.

IMPORTANT: Do not push the machine faster than 2-3 mph because drive system may be damaged. If machine must be moved a considerable distance, transport it on a truck or trailer.

1. Reach under front of machine and rotate by-pass valve, located on pump, counterclockwise until it is fully open.

2. Before starting engine, close by-pass valve securely by rotating it clockwise. Do not exceed 5-8 ft-lb torque. Do not start engine when valve is open.

CUTTING UNIT CHARACTERISTICS

The single knob bedknife-to-reel adjustment system incorporated in this cutting unit simplifies the adjustment procedure needed to deliver optimum mowing performance. The precise adjustment possible with the single knob/bedbar design gives the necessary control to provide a continual self-sharpening action — thus maintaining sharp cutting edges, assuring good quality-of-cut, and greatly reducing the need for routine backlapping.

In addition, the rear roller positioning system permits optimum bedknife attitude and location for varying height-of-cuts and turf conditions.

CUTTING UNIT DAILY ADJUSTMENTS

Prior to each day's mowing, or as required, each cutting unit must be checked to verify proper bedknife-to-reel contact. **This must be performed even though quality of cut is acceptable.**

1. Shut off engine and lower cutting units onto a hard surface.

2. Release belt tension to cutting units, refer to Releasing Belt Tension to Cutting Units, page 23.

3. Slowly rotate reel in reverse direction listening for reel-to-bedknife contact. If no contact is evident, turn bedknife adjusting knob clockwise, one click at a time, until light contact is felt and heard.

4. If excessive contact is felt, turn bedknife adjusting knob counterclockwise, one click at a time until no contact is evident. Then turn bedknife adjusting knob one click at a time clockwise, until light contact is felt and heard.

IMPORTANT: Light contact is preferred at all times. If light contact is not maintained, bedknife/reel edges will not sufficiently self-sharpen and dull cutting edges will result after a period of operation. If excessive contact is maintained, bedknife/reel wear will be accelerated, uneven wear can result, and quality of cut may be adversely affected.

Note: As the reel blades continue to run against the bedknife a slight burr will appear on the front cutting edge surface the full length of the bedknife. If a file is occasionally run across the front edge to remove this burr, improved cutting can be obtained.

After extended running, notches will eventually develop at both ends of the bedknife. These notches must be rounded off or filed flush with cutting edge of bedknife to assure smooth operation.

LUBRICATION

GREASING BEARINGS AND BUSHINGS

The traction unit and cutting units have grease fittings that must be lubricated regularly with No. 2 General Purpose Lithium Base Grease. If machine is operated under normal conditions, lubricate bearings and bushings after every 25 hours of operating. Bearings and bushings must be lubricated daily when operating conditions are extremely dusty and dirty. Dusty and dirty operating conditions could cause dirt to get into the bearings and bushings, resulting in accelerated wear.

The traction unit has bearings and bushings that must be lubricated and these lubrication points are:

Steering column (Fig. 24), steering shaft (2), rear castor fork (Fig. 25), jackshaft pulley bearing (2), lift arms (3) (Fig. 26) rear axle, and pivot rods (3) (Fig. 27).

The cutting unit lubrication points are: Single point knob adjustment knob (2) (Fig. 28), reel flange bearing (2) (Fig. 29) and front and rear rollers (Fig. 29).

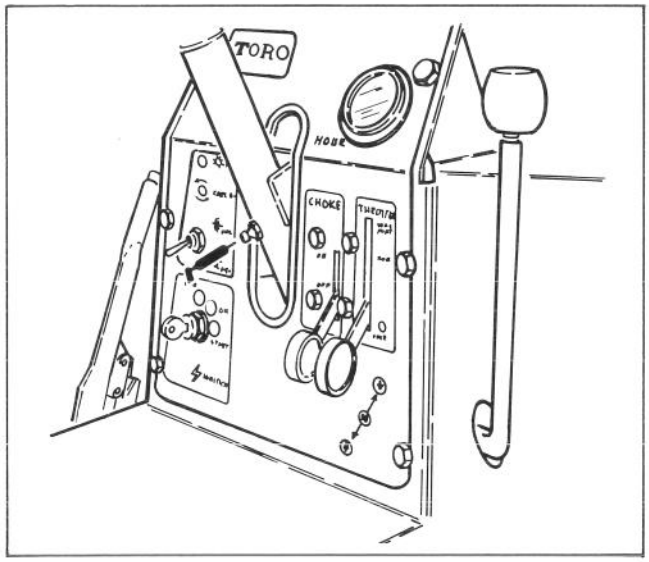


Figure 24

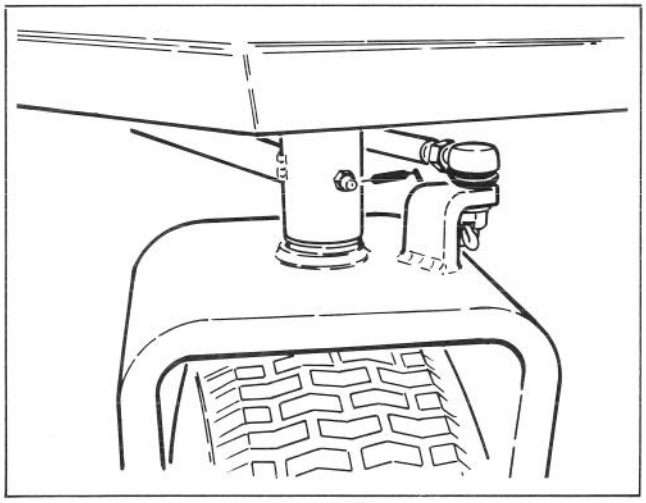


Figure 25

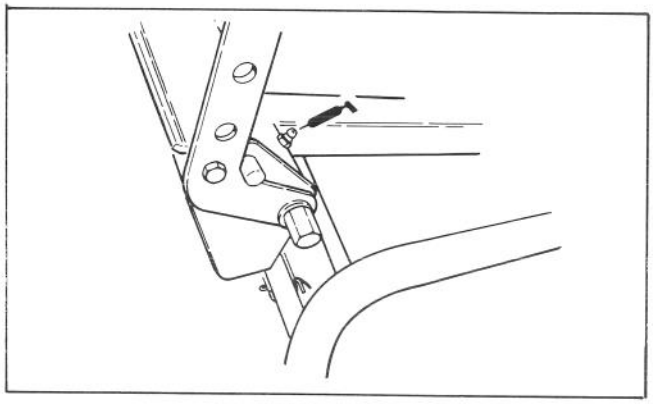


Figure 26

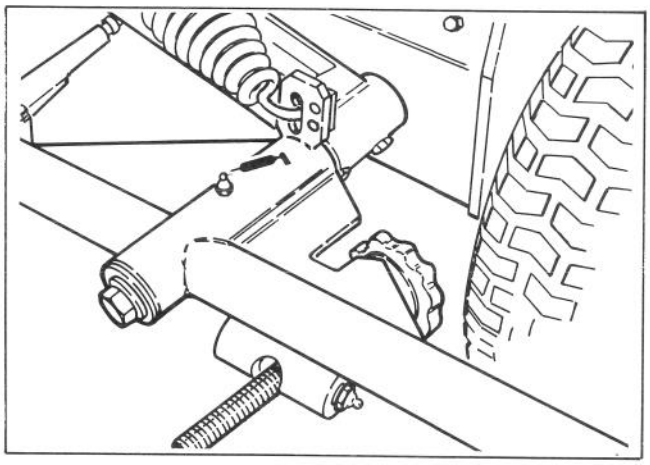


Figure 27

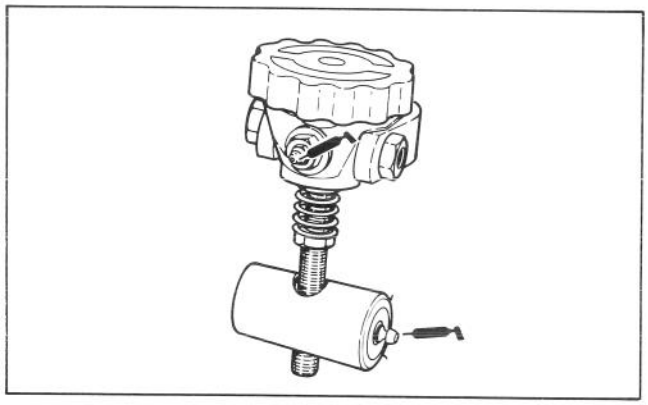


Figure 28

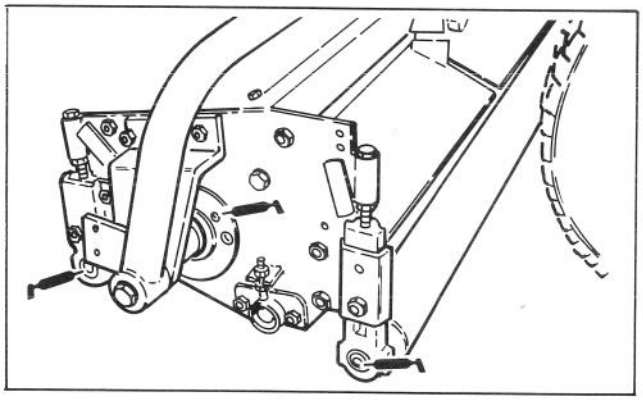


Figure 29

MAINTENANCE

CHANGING CRANKCASE OIL (Fig. 30)

For new engines, change oil after first 5 operating hours. Thereafter, under normal conditions, change oil after every 25 hours of engine operation. However, an engine operated in dusty or dirty conditions requires more frequent oil changes. If possible, run engine just before changing oil. Warm oil flows more freely and carries more contaminants than cold oil.

1. Place an oil drain pan below the drain plug on rear of crankcase. Clean area around drain plug.

2. Remove drain plug and allow oil to flow into drain pan. After oil is drained, reinstall oil drain plug.

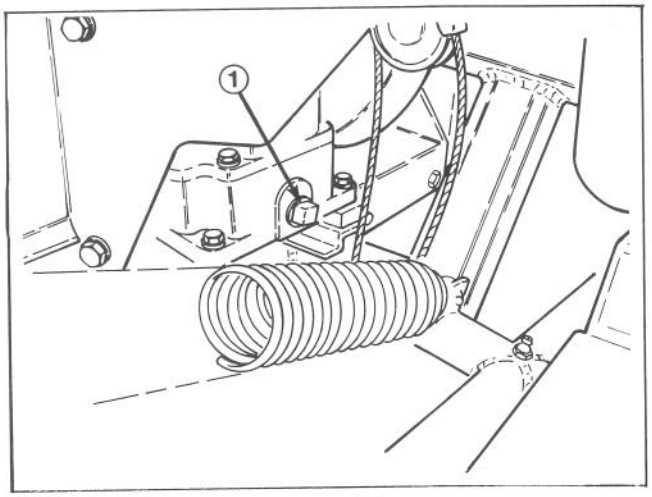


Figure 30

1. Crankcase drain plug

3. Remove filler cap and pour 5 pints of oil having the API "service classification" SE or SF into the filler neck. Oil viscosity — weight — is selected according to anticipated ambient temperature. Temperature/viscosity recommendations are:

A. Above +32°F (0°C) — Use SAE 30, and if it is not available, 10W-30 or 10W-40 are acceptable substitutes.

B. Below 32°F (0°C) — Use SAE 5W-20 or 5W-30, and if they are not available, 10W-30 or 10W-40 are acceptable substitutes.

4. Check oil and make sure level is up to the FULL mark on dipstick. Add more oil if level is low; however, DO NOT OVERFILL.

SERVICING AIR CLEANER (Fig. 31-32)

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

1. Remove lock nut and cover.

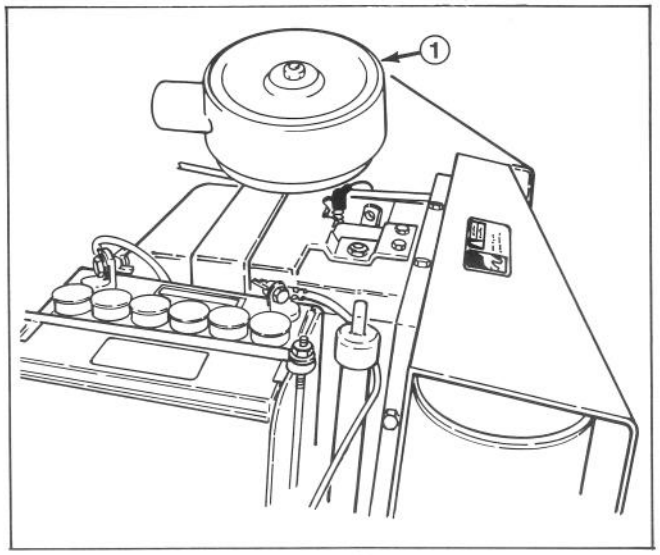


Figure 31

1. Air cleaner cover

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

3. a. Wash foam pre-cleaner in detergent and warm water.

b. Wrap foam pre-cleaner in cloth and squeeze dry. Do not wring precleaner.

c. Saturate foam pre-cleaner in engine oil. Squeeze to remove excess oil.

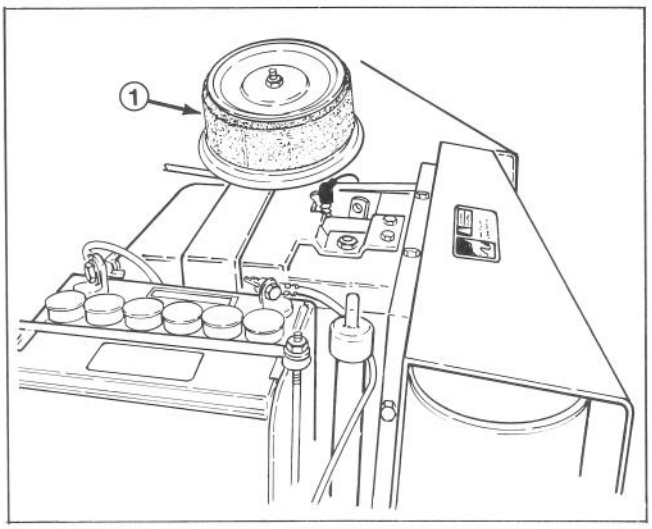


Figure 32

1. Foam pre-cleaner

4. Reinstall on paper cartridge.

Inspect paper element every 50 hours of operation and replace when dirty or damaged. Do not wash paper element or do not clean with compressed air as damage will occur.

Note: With air cleaner disassembled, check air cleaner components for damage. Replace if neces-

sary. Make sure rubber tube in base plate is securely in place or severe engine damage may occur.

5. Reinstall element with pre-cleaner, element cover seal, air cleaner element cover, nut, air cleaner cover and lock nut.

6. Tighten lock nut 1/2 to 1 turn after nut contacts cover. Do not overtighten.

ADJUSTING CARBURETOR (Fig. 33)

Lack of power accompanied by black sooty exhaust smoke is usually caused by a rich carburetor setting. Since a dirty air cleaner element causes the same conditions, check it before adjusting carburetor.

IMPORTANT: Check to make sure the choke is operating correctly before the carburetor is adjusted.

1. Main fuel screw — Close screw by gently rotating it clockwise.

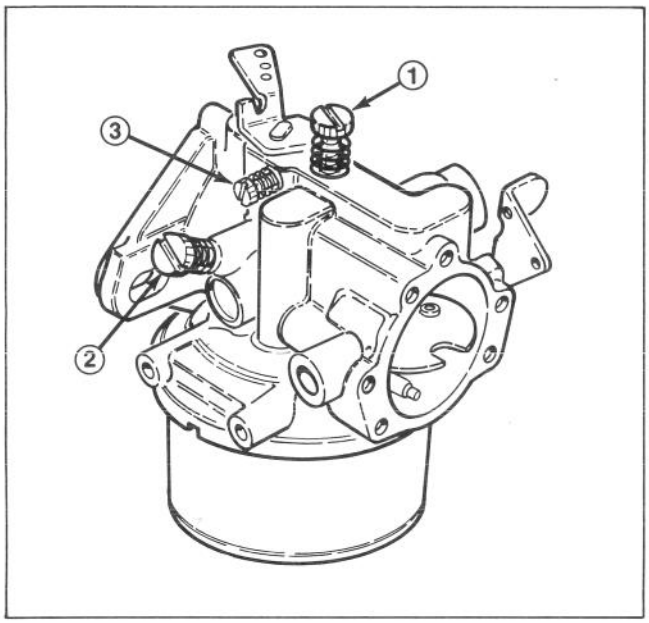


Figure 33

1. Main fuel screw
2. Idle fuel adjusting screw
3. Idle speed screw

IMPORTANT: Do not close the screw too tight because the screw will likely be damaged.

2. Rotate — open — the main fuel screw 3½ turns counterclockwise.

3. Idle fuel adjusting screw — Close screw by gently rotating it clockwise. Open screw by rotating it 2-1/2 turns counterclockwise.

WARNING

Engine must be running so final adjustment of the carburetor can be performed. To guard against possible personal injury, keep hands, feet, face and other parts of the body away from the muffler, other hot parts of the engine, and other moving or rotating parts of the engine. Assure reel switch is in DISENGAGE position and cutting units are on the shop floor. Also engage parking brake.

IMPORTANT: Do not close the screw too tightly because the screw will likely be damaged.

Note: These settings are approximate; however, the settings will allow engine to be started so carburetor can be fine tuned — steps 4-7.

4. Start engine and let it run for 5-10 minutes at half throttle to warm up. Engine must be warm before making final adjustments.

5. Move throttle to TRANSPORT position. Turn main fuel screw in until speed decreases and note position of screw. Now turn screw out — the engine speed may first increase, then it will decrease as screw is turned. Note the position of screw when engine speed starts to decrease. Set the screw at the midpoint of the two positions noted.

6. To adjust idle fuel adjusting screw, follow same procedure as for main fuel but more throttle to IDLE after 5-10 minute warm up and make adjustment.

7. Idle Speed Setting — Run engine at half-throttle for 5-10 minutes to warm up. Move throttle to IDLE and set engine speed to 1200 RPM by turning the idle speed adjusting screw clockwise or counterclockwise.

CHECKING AND REPLACING SPARK PLUG

Since air gap between center and side electrodes increases gradually during normal engine operation, check condition of electrodes at 100 hour intervals. The correct spark plug to use in the engine is Champion RH-10 or equivalent. Set air gap at .025 in.

1. Clean area around spark plug so dirt does not fall into cylinder when plug is removed.

2. Pull wire off spark plug and remove plug from cylinder head.

3. Check condition of center and side electrodes to determine operating temperature of engine.

A. Light brown insulator tip indicates correct spark plug and heat range.

B. Black or oily insulator tip indicates an excessively rich fuel mixture, possibly caused by a dirty air cleaner element or a carburetor that is set too rich.

C. Light gray or blistered-white insulator indicates overheating caused by a lean carburetor setting or incorrect spark plug (heat range too high).

IMPORTANT: A cracked, fouled or dirty spark plug must be replaced. Do not sandblast, scrape or clean electrodes by using a wire brush because grit may release from the plug and enter combustion chamber resulting in engine damage.

4. After setting air gap at .025", install spark plug in cylinder head. Tighten the plug to 10-15 ft-lb. Push wire onto spark plug.

CLEANING CYLINDER HEAD FINS

To avoid overheating and possible engine damage, cooling fins on cylinder head must be kept clean.

CHANGING HYDRAULIC SYSTEM FLUID AND FILTER

The hydraulic system filter must be changed initially, after the first five hours of operation, and thereafter every 250 hours of operation or yearly, whichever comes first. Use a genuine Toro oil filter for replacement. The hydraulic fluid must be changed every 500 hours of operation or yearly, whichever comes first.

1. Park the machine on a level surface lower the cutting units, set parking brake and turn the engine off.

2. If only the filter is to be changed, remove reservoir cap and insert reservoir plug (Fig. 34), to block outlet. This will retain most of the fluid in reservoir when filter is removed.

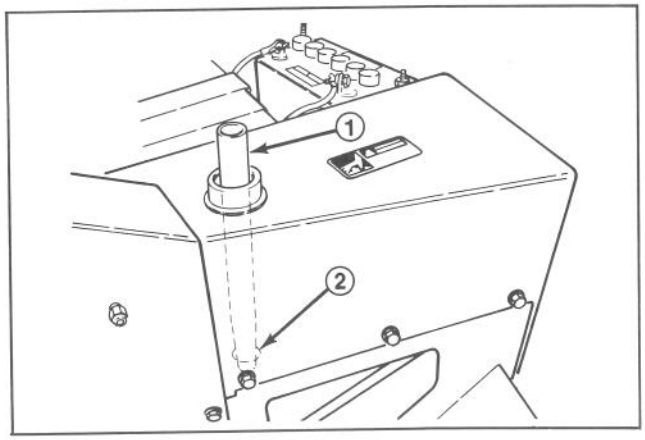


Figure 34

1. Reservoir Plug 2. Reservoir Outlet

3. Clean the area around the hydraulic oil filter and remove the filter from the bottom of the filter housing, allowing the oil to flow into a drain pan. Use bottom type filter wrench. Dispose of the oil filter properly.

4. Apply a film of oil on the filter gasket. Install filter by hand until gasket contacts mounting head; then tighten filter an additional three-fourths turn.

5. Fill the reservoir to proper level, refer to Check Hydraulic System Fluid, page 12.

6. Place all controls in neutral or disengaged position and start engine. Run engine at lowest possible RPM to purge the system of air.

7. Run engine until lift cylinder extends and retracts and forward and reverse wheel motion is achieved.

8. Stop the engine and check the oil level in reservoir, add oil if necessary.

9. Check all connections for leaks.

REPLACING FUEL FILTER

An in-line filter is incorporated into the fuel line. Use the following procedures should replacement become necessary:

1. Close fuel shut-off valve.

2. Clamp both fuel lines that connect to the fuel filter so gasoline cannot drain when lines are removed.

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. Loosen the hose clamps at both ends of the filter and pull fuel lines off filter.

4. Slide hose clamps onto ends of fuel lines. Push fuel lines onto fuel filter and secure them with hose clamps. Be sure arrow on side of filter points toward the fuel carburetor.

MAINTENANCE

BATTERY CARE

1. Battery electrolyte level must be properly maintained and the top of the battery kept clean. If the machine is stored in a location where temperatures are extremely high, the battery will run down more rapidly than if the machine is stored in a location where temperatures are cool.

2. Check the electrolyte level every 25 operating hours or, if machine is in storage, every 30 days.

3. Maintain cell level with distilled or demineralized water. Do not fill cells above the bottom of the split ring inside each cell.

4. Keep top of battery clean by washing periodically with a brush dipped in ammonia or bicarbonate of soda solution. Flush the top surface with water after cleaning. Do not remove the fill caps while cleaning.

5. Battery cables must be tight on terminals to provide good electrical contact.

6. If corrosion occurs at terminals, disconnect cables, negative (—) cable first and scrape clamps and terminals separately. Reconnect cables, positive (+) cable first and coat terminals with petroleum jelly.

BATTERY STORAGE

If the machine will be stored more than 30 days, remove the battery and charge it fully. Either store it on the shelf or on the machine. Leave the cables disconnected if stored on the machine. Store the battery in a cool atmosphere to avoid quick deterioration of the charge in the battery.

WIRING HARNESS SERVICE

Prevent corrosion of wiring terminals by applying Grafo 112X (Skin-over) grease, Toro Part No. 505-47, to the inside of all harness connectors whenever the harness is replaced.

Always disconnect battery cables, ground cable (—) first, to prevent possible wiring damage from short-outs whenever working with the electrical system.

ADJUSTING TRANSMISSION FOR NEUTRAL (Fig. 35)

If the machine "creeps" when the traction control pedal is in the neutral position, the spring leaf assembly must be adjusted.

1. Block up under the frame so one of the front wheels is off the floor.

2. Start engine, move throttle to SLOW and check front wheel that is off shop floor; it must not be rotating. If wheel is rotating forward, loosen capscrews and lightly tap bottom of pump plate counter-clockwise. By contrast, tap pump plate clockwise if wheel is rotating backward. When wheel stops rotating, tighten capscrews holding pump plate against side of pump. Verify the adjustment with throttle in SLOW and FAST position.

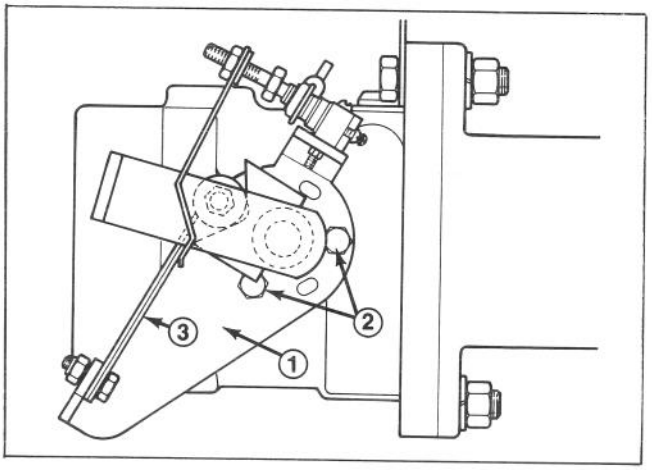


Figure 35

1. Pump plate
2. Capscrews
3. Leaf springs

3. Should the wheel continue to rotate, check for the following:

   A. Ball bearing is loose or worn out.

   B. Plunger on interlock switch is sticking.

   C. loose or missing fasteners.

   D. Worn missing fasteners.

   E. Pump lever loose on control shaft. (Correct by applying Loc-tite 271 or 601 to shaft).

   F. Weak or damaged leaf springs. Replace.

   G. Internal pump component malfunction.

BELT ADJUSTMENTS

Make sure belts are properly tensioned to assure proper operation of the machine and unnecessary wear. Check all belts midway in span of belt. Check belts frequently.

1. The hydraulic pump belt should be tensioned securely to avoid slipping.

   A. Tighten nut on adjustment rod (Fig. 36) until desired belt tension is attained.

Note: Tighten belt to eliminate slippage (squeeling under load) but do not overtighten.

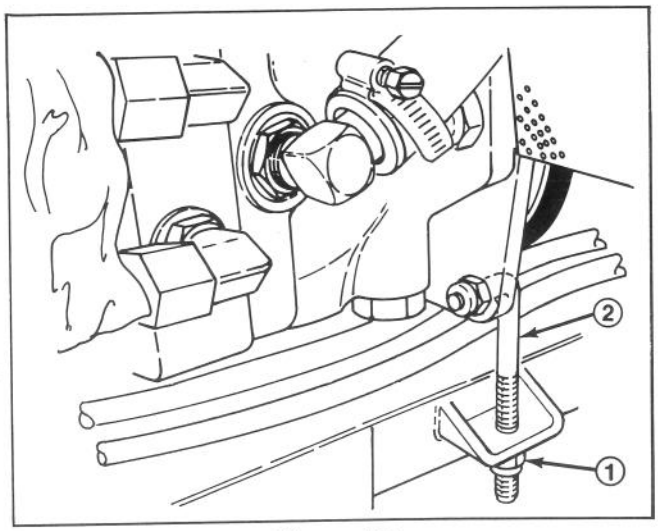


Figure 36

1. Nut
2. Adjustment Rod

2. The clutch to Jack Shaft belt (Poly-V belt) should be properly tensioned.

   A. Make sure the idler bracket and belt tensioner assembly are free to move.

   B. Adjust nut on belt tensioner (left side of engine) to compress spring to a length of ¾".

3. The cutting unit drive belts should have a maximum deflection of 1/2 of an inch with a 10 pound load applied.

   A. Loosen jam nut on front end of belt tension rod. Rotate rod to lengthen or shorten rod to desired length. Tighten jam nut.

4. To release belt tension to cutting units.

   A. Remove hair pin cotter and pivot belt tension rod handle outward (Fig. 37).

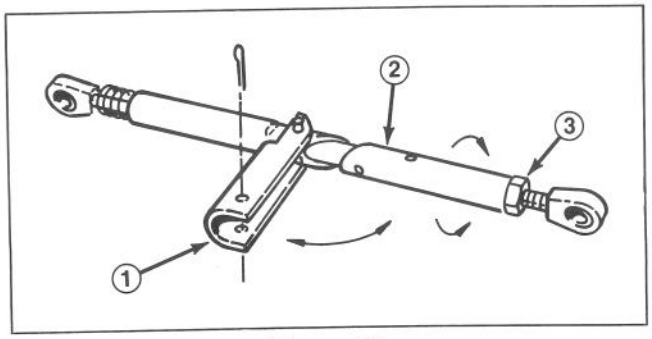


Figure 37

1. Belt tension rod handle
2. Belt tension rod
3. Jam nut

   B. Turn the handle 1/2 turn (180°) so the angle cut of tension rods are parallel. Belt tension is now released.

   C. To retighten the belt, turn the belt tension rod handle 1/2 turn (180°) back to its previous position and reinstall hair pin cotter.

Note: To insure smooth operation, occasionally clean sliding pin at center of tension rod and recoat with anti-sieze compound.

ADJUSTING STEERING STOPS (Fig. 38)

To increase or decrease the turning radius of the machine when steering wheel is fully cramped right or left, steering stop screws may be adjusted.

1. Loosen locknuts securing stop screws to tabs on steering sector (Fig. 38).

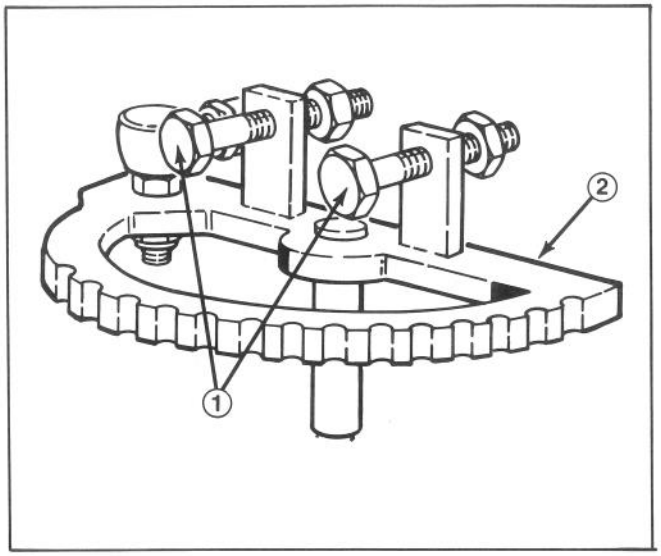


Figure 38

1. Stop screws
2. Steering sector

2. Thread stop screws in or out until desired turning radius is attained.

3. Check adjustment and retighten locknuts.

ADJUSTING TRACTION PEDAL (Fig. 39 & 40)

If traction pedal contacts footrest when pushed fully forward or maximum forward traction speed is unattainable, an adjustment to the traction pedal linkage is required. There should be 3/8 of an inch clearance between pedal shaft and footrest when pedal is pushed fully forward.

1. Remove (3) self tapping screws securing support screen to hydraulic support panel (Fig. 39). Remove screen.

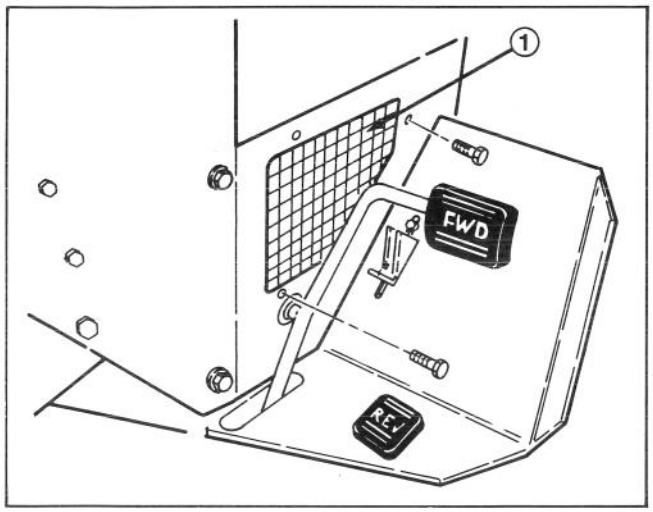


Figure 39

1. Support screen

2. Loosen jam nuts on each end of traction rod (Fig. 40).

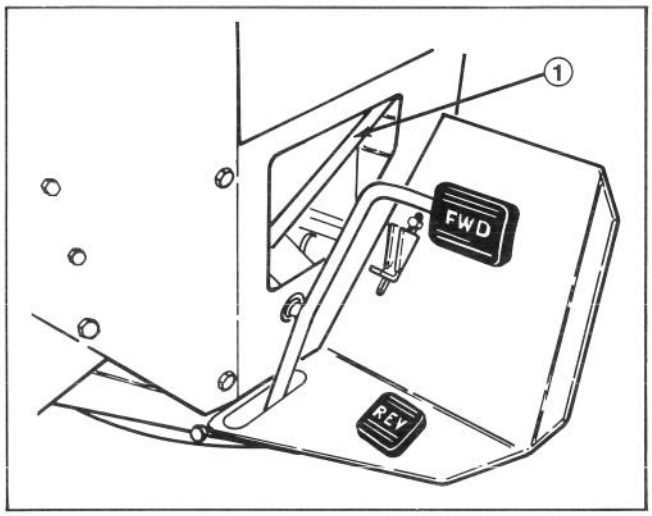


Figure 40

1. Traction rod

3. Rotate rod until 3/8" dimension between traction pedal shaft and footrest is attained.

4. Retighten jam nuts securing traction rod and reinstall support screen.

ADJUSTING CLUTCH

The clutch is adjustable to ensure proper engagement.

1. To adjust clutch, tighten or loosen locknuts on flange studs.

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.

HAND BRAKE ADJUSTMENT

1. Remove both front wheels.

2. Insure that there are (4) return springs on each Return Spring Bracket. The upper (2) springs are stronger than the lower (2).

3. Check operation of the brake lever and linkage to ensure that it moves freely without binding.

4. A properly adjusted brake will have the following clearances:

   a. With handle fully released, the left Brake Shoe should rest solidly against the upper and lower Brake Spacers in an approximately centered position.

   b. There should be approximately 1/32" clearance between the LH Brake Arm and the Lug Nut.

   c. The Spring should be compressed to a length of 3/4" by the nut.

   d. The right Brake Shoe should have about 1/16" clearance from the upper and lower Brake Spacers in an approximately centered position. This may be readjusted as follows:

      1) Loosen the (2) Capscrews, on the left Brake Arm, which hold the Slide Plates.

      2) Place shims between the right Brake Shoe and the upper and lower Brake Spacers.

      3) While holding the left brake shoe against the Brake Spacers, tap the Slide Plates down against the Roll Pin and secure the Slide Plates in this position.

      4) Remove the shims from behind the right Brake Shoe.

5. Clean any rust or debris from inside the wheel rims and reinstall wheels.

6. After any brake adjustment, operate the vehicle at a low speed (one mph or less) and check that the brakes engage equally on both wheels. Readjust as necessary.

BACKLAPPING

Note: Cutting units must be removed from carrier frames before backlapping.

MAINTENANCE

Connect a lapping machine to the capscrew on the left end of reelshaft with an extension coupler and a 9/16 socket. Backlap according to procedures in the Toro Sharpening Reel and Rotary Mowers Manual Form No. 80-300 PT.

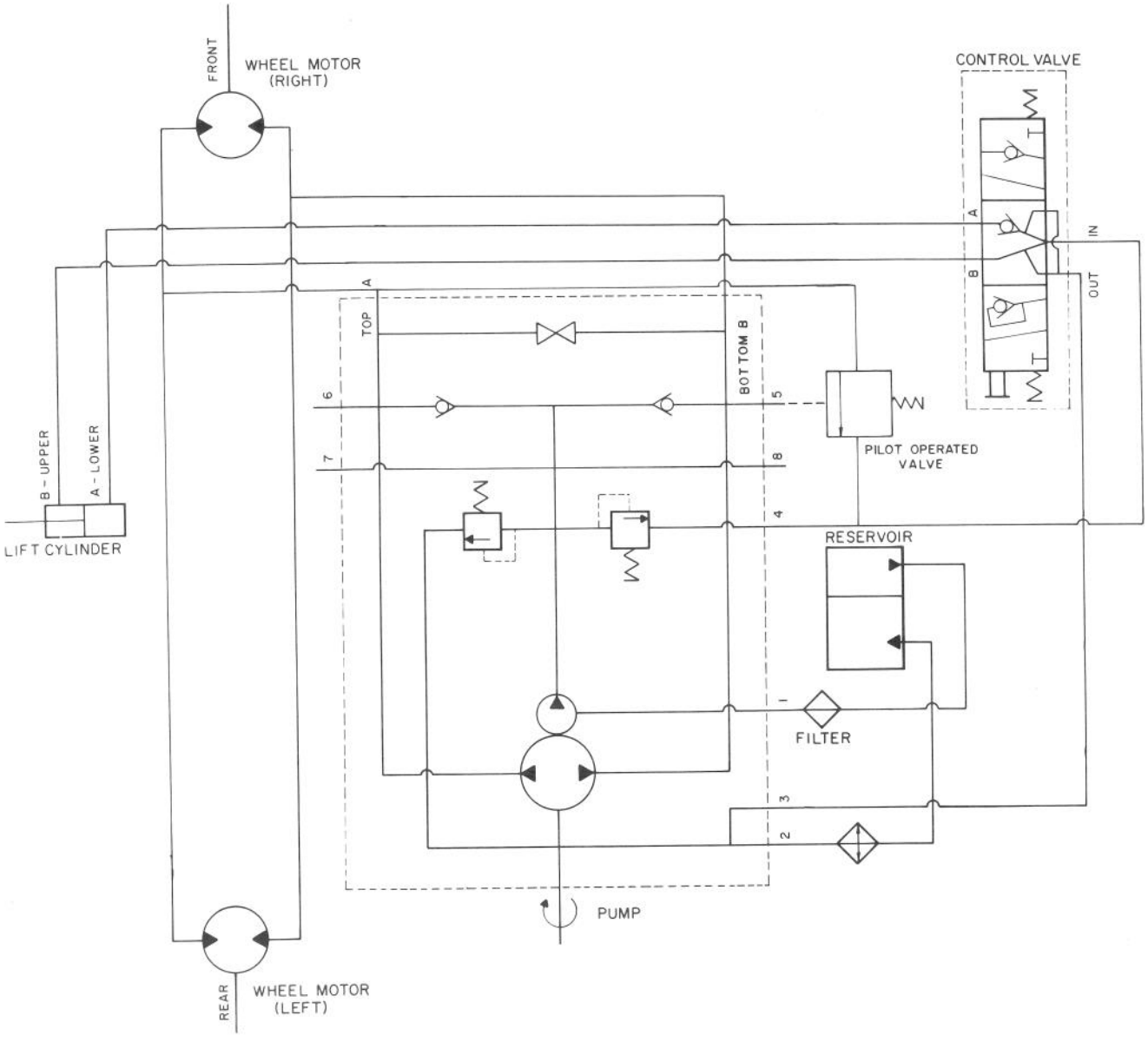
CAUTION

Be careful when lapping the reel because contact with the reel or other moving parts can result in personal injury.

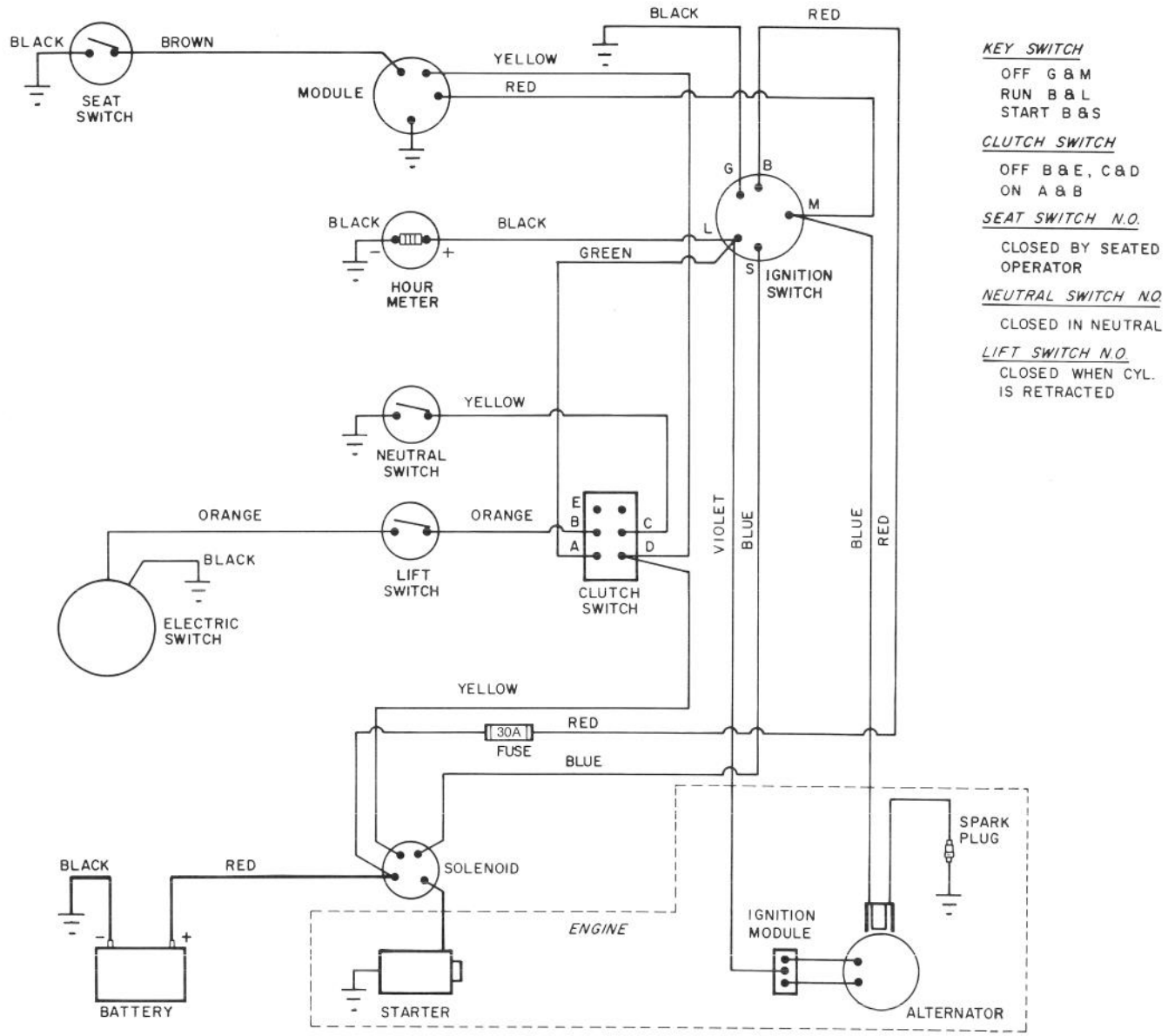
DANGER

Under no circumstances use a short handled paint brush. 29-9100 Handle assembly complete or individual parts are available from your local Authorized TORO Distributor.

HYDRAULIC SCHEMATIC



ELECTRICAL 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

Date	Hours Used	Oil Change	Air Cleaner Service	Lubrication	Cutting Unit Maintenance	Winter Storage	Spring Service	Spark Plug

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.

Compliance with Radio Interference Regulations Certified.
Certifie Conforme au Reglement sur le Brouillage Radioelectrique.

Litho in U.S.A.