FORM NO. 3316–105

TORO®

MODEL NO. 30610–390001 & UP

OPERATOR'S MANUAL

PROLINE 120
TRACTION UNIT

The PROLINE 120 conforms to the American National Standards Institute's safety specification for commercial turf care equipment.

TORO
THIS UNIT CONFORMS TO ANSI B71.4–1990

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.

FOREWORD

The PROLINE 120 was developed to satisfy the demand for a maneuverable, intermediate size, turf maintenance rotary mower. The machine has advanced concepts in engineering, design and safety; and if maintained properly, it will give excellent service.

Since the PROLINE 120 is a high quality product, Toro is concerned about the future use of the machine and the safety of the user. Read this manual to familiarize yourself with the proper set up, operation, and maintenance instructions. The major sections of this manual are:

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

The engine, hydrostatic transmission and axle are not covered are not covered in great detail in this manual. However, service manuals are available from the respective manufacturers.

An engine service manual can be obtained from:

Kohler Company
Kohler, Wisconsin 53044

A drive axle service manual can be obtained from:

Tecumseh Products Company
900 North Street
Grafton, Wisconsin

And a hydrostatic transmission service manual and a repair manual can be obtained from:

Tecumseh Products Company
900 North Street
Grafton, Wisconsin

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 the directive because it deals with the possibility of damaging a part or parts of the machine. NOTE identifies general information worthy of special attention.

SPARK ARRESTER

In some areas there are local, state or federal regulations requiring that a spark arrestor muffler be used on the engine of this mower. If a spark arrestor muffler is required, order the parts from your local Authorized Toro Proline Service Dealer.

This parts are approved by the United States Department of Agriculture and Forestry.

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

If help concerning set up, operation, maintenance or safety is ever needed, contact a local Authorized Toro Proline Service Dealer. In addition to genuine Toro replacement parts, the distributor also has optional equipment form the complete line of Toro turf care equipment. Keep your Toro all Toro — buy genuine Toro replacement parts and accessories.

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SAFETY INSTRUCTIONS

The PROLINE 120 was tested and certified by TORO for compliance with the B71.4-1990 specifications of the American National Standards Institute. Although hazard control and accident prevention partially are dependent upon the design and configuration of the machine, these factors are also dependent upon the awareness, concern, and proper training of the personnel involved in the operation, transport, maintenance, and storage of the machine. Improper use or maintenance of the machine can result in injury or death. To reduce the potential for injury or death, comply with the following safety instructions.

WARNING: Engine exhaust contains carbon monoxide which is an odorless, deadly poison. Carbon monoxide is also known to the State of California to cause birth defects. Do not run engine indoors or in an enclosed area.

BEFORE OPERATING

1. Read and understand the contents of this manual before starting and operating the machine. Become familiar with the controls and know how to stop the machine and engine quickly. A replacement manual is available by sending the complete Model and Serial Number to:

   The Toro Company
   8111 Lyndale Avenue South
   Bloomington, Minnesota 55420–1196.

2. Never allow children to operate the machine. Do not allow adults to operate machine without proper instruction. Only trained operators who have read this manual should operate this machine.

3. Never operate the machine when under the influence of drugs or alcohol.

4. Remove all debris or other objects that might be picked up and thrown by the blades or fast moving components from other attached implements. Keep all bystanders away from operating area.

5. Do Not Operate without guards, safety devices and decals in place. If a shield, safety device or decal is defective, illegible or damaged, repair or replace it before operating the machine. Also tighten any loose nuts, bolts or screws to ensure machine is in safe operating condition.

6. Do not operate machine while wearing sandals, tennis shoes, sneakers or when barefoot. Also, do not wear loose fitting clothing that could get caught in moving parts and possibly cause personal injury. Wearing safety glasses, safety shoes, long pants and a helmet is advisable and required by some local ordinances and insurance regulations.

7. Check interlock switches daily for proper operation (Refer To Checking Interlock Switches, Page 18). Do not rely entirely on safety switches -shut off engine before getting off seat. If a switch fails, replace it before operating the machine. The interlock system is for your protection, so do not bypass it. Replace all interlock switches every two years. Interlock switches should be adjusted so:

   A. Engine cannot be started unless traction pedal is released (neutral position)–and PTO lever is DISENGAGED (off position).

   B. Engine stops if operator gets off seat when traction pedal is depressed.

   C. Engine stops if operator gets off seat when PTO lever is ENGAGED (on position).

8. Grass deflectors must be installed in lowest position on side discharge units.

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

   A. Use an approved fuel container.

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

   C. Do not smoke while handling fuel.

   D. Keep hood closed when refueling.

   E. Fill fuel tank outdoors and only to within an inch from the top of the tank, not the filler neck. Do not overfill.

   F. Wipe up any spilled fuel.

WHILE OPERATING

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

11. Before starting the engine:

   A. Engage the parking brake.

   B. Make sure traction pedal is in NEUTRAL and PTO switch in OFF 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.

12. Seating capacity is one person. Therefore, never carry passengers.

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

14. Traverse slopes carefully. Do not start or stop suddenly when traveling uphill or downhill.

SAFETY INSTRUCTIONS

15. Operator must be skilled and trained in how to drive on hillsides. Failure to use caution on slopes or hills may cause loss of control and vehicle to tip or roll possibly resulting in personal injury or death.

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

A. Operate only in daylight or when there is good artificial light.

B. Drive slowly. Avoid sudden stops and starts.

C. Watch for holes or other hidden hazards.

D. Look behind machine before backing up.

E. Do not drive close to a sand trap, ditch, creek or other hazard.

F. Reduce speed when making sharp turns and turning on a hillside.

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

H. The cutting deck must be lowered when going down slopes for steering control.

17. If engine stalls or loses headway and cannot make it to the top of a slope, do not turn machine around. Always back slowly straight down the slope.

18. Never raise the cutting unit or other attached implement while the blades or other parts are rotating.

19. Do Not Operate without either grass catcher or guard in place. This product is designed to drive objects into the ground where they lose energy quickly in grassy areas. **DON'T TAKE AN INJURY RISK!** When a person or pet appears unexpectedly in or near the mowing area, **STOP MOWING.** Careless operation, combined with terrain angles, ricochets, or improperly positioned guards can lead to thrown object injuries. Do not resume mowing until area is cleared.

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

21. If cutting deck strikes a solid object or vibrates abnormally, stop immediately, turn engine off, set parking brake and wait for all motion to stop. Inspect for damage. If damaged, repair or replace any components before operating.

22. Before getting off the seat:

A. Move traction pedal to neutral position and remove foot from pedal.

B. Set the parking brake and disengage the PTO.

C. Shut the engine OFF and remove key from ignition switch. Wait for all machine movement to stop before getting off the seat.

MAINTENANCE

23. Before servicing or making adjustments, stop engine and remove key from the switch.

24. Make sure machine is in safe operating condition by keeping all nuts, bolts and screws tight.

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

26. Keep body and hands away from pin hole leaks or nozzles that eject high pressure hydraulic fluid. Use cardboard or paper to find hydraulic leaks. Hydraulic fluid escaping under pressure can penetrate skin and cause injury. Fluid accidentally injected into the skin must be surgically removed within a few hours by a doctor familiar with this form of injury or gangrene may result.

27. 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.

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

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

30. If engine must be running to perform maintenance or an adjustment, keep hands, feet, clothing and other parts of the body away from cutting deck and other moving parts. Keep all bystanders away.

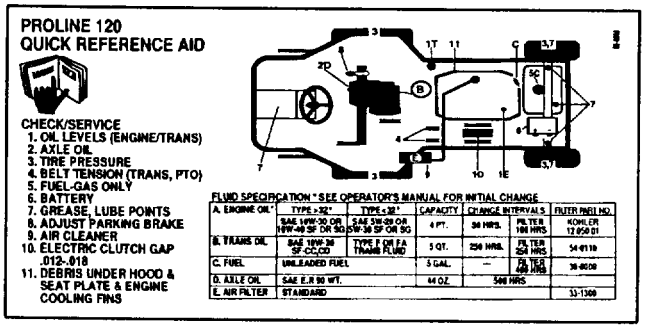
31. Do not overspeed the engine by changing governor setting. To assure safety and accuracy, have an Authorized Toro Distributor check maximum engine speed.

32. Shut engine off before checking or adding oil to the crankcase.

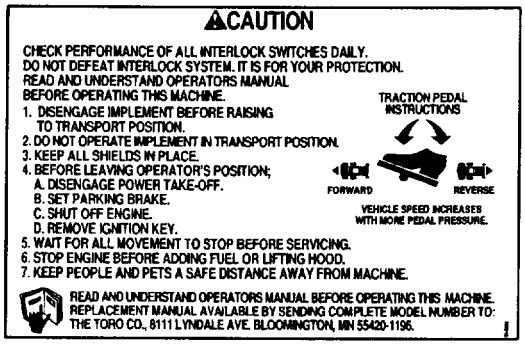
33. At the time of manufacture, the machine conformed to the safety standards for riding mowers. To assure optimum performance and continued safety certification of the machine, use genuine Toro replacement parts and accessories. Replacement parts and accessories made by other manufacturers may result in non-conformance with the safety standards, and the warranty may be voided.

SAFETY AND INSTRUCTION DECALS

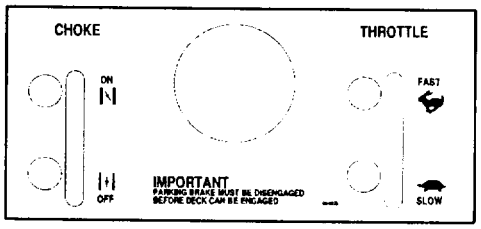
The following safety and instruction decals are affixed to the traction unit. If any decal becomes illegible or damaged, install a new decal. Part numbers are listed below and in your Parts Catalog. Replacement decal can be ordered from your local Authorized Toro Proline Service Dealer.



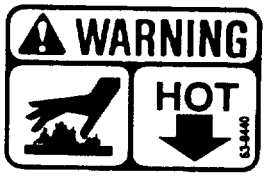
ON HOOD
(Part No. 92–6288)



ON FLOOR PANEL
(Part No. 54-0880)

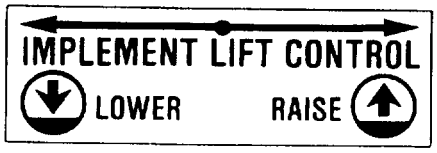


TOP OF STEERING TOWER
(Part No. 92–6278)

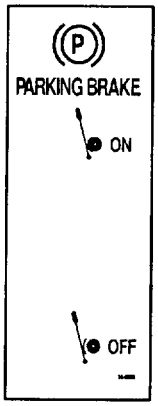


ON ENGINE DUCT
(Part No. 63-8440)

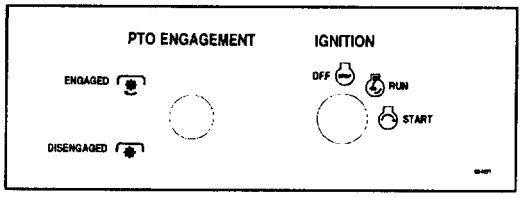
ON LIFT ARMS AND IDLER LEVER
(Part No. 55-4300)



ON SEAT PLATE
(Part No. 54-0900)

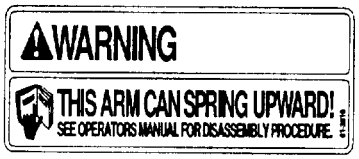


FRONT OF SEAT SUPPORT
(Part No. 54–0920)

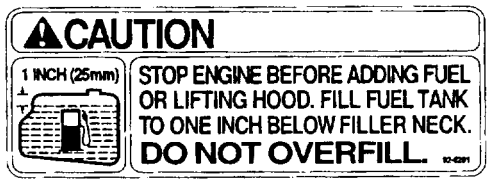


REAR OF STEERING TOWER
(Part No. 92–6277)

ON SIDE PANEL
(Part No. 54-0910)



ON BOTH LIFT ARMS
(Part No. 61–3610)



ON HOOD
(Part No. 92-6291)

ON MIDDLE FRAME CHANNEL
(Part No. 53-4430)

ON SIDE PANELS
(Part No. 77-3100)

SPECIFICATIONS

Engine:

Manufacturer — Kohler, Model CH20QS-64527
Horsepower — 20 @ 3600 RPM.
Torque — 32 ft–lb@ 2500 RPM.
Displacement — 38.1 cu in.
Crankcase Capacity — 4 pints w/filter.
Governor — Mechanical.
Governor Limit — 3100-3300 RPM.
Idle Speed — 1125–1275 RPM.
Spark Plug — RC–12YC
Air Gap — .040 in.

Air Cleaner: Donaldson heavy duty with precleaner. Remote mounted.

Fuel Tank Capacity: 5 gal.

Electrical:

Battery — 12 volt.
Alternator — 15 amp.

Drive Coupling: Direct belt drive from engine PTO to transmission input, spring tensioned idler.

Transmission;

Manufacturer & Model — Eaton hydrostatic – Model 11. Provides infinitely variable control of speed, direction and dynamic braking with a single control.

Hydraulic Filter: 10 micron remote mounted spin–on type. (Special-use Genuine TORO Part only)

Drive Axle: Manufacturer — Peerless, Model 1310. Mates directly with transmission.

Tires, Wheels, Pressure:

Wheels — Demountable type.
Front Tires — 18 x 6.50 – 8
Rear Tires — 13 x 5.00 – 6
All tires 4 ply rating, tubeless type.
(Pressure — 10-15 psi (69 – 103 kPa).

Steering: 15 in. (38 cm) steering wheel. Automotive type steering.

Main Frame: Bolt together frame consists of welded steel, formed steel and square tubing components.

Controls: Throttle, choke, PTO switch, parking brake, implement lift, and ignition switch are all hand-operated. Traction pedal is foot operated.

PTO Drive: Direct belt drive from electric clutch mounted on engine PTO to front mounted jackshaft. Spring tensioned idler.

Implement Connection: Front implements bolt onto two front push arms.

Lift Cylinders: One with 1–1/2 in. bore, 5–1/2 in. stroke.

Control Valve: Equipped with load check valve to prevent settling of implement and 800 PSI relief valve.

Interlock Switches: Prevents engine starting if traction pedal or PTO switch is engaged. Stops engine if operator leaves seat with either traction pedal or PTO switch engaged. Stops engine if parking brake is on and traction pedal is activated.

Dimensions and Weight (approx.):

Traction Unit w/Standard Seat

Length:	71–1/4 in.
Width:	40–1/2 in.
Height:	54 in.
Weight:	735 lb.

OPTIONAL EQUIPMENT

44" Side Discharge Cutting Unit—Model No. 30544

52" Side Discharge Cutting Unit—Model No. 30753

48" Recycler® Cutting Unit—Model No. 30548

Arm Rest Kit — Model 30707.

Grass Collection System — Model No. 30751 (44")

Grass Collection System — Model No. 30576 (52")

Brake Kit — Model No. 30558.

Floatation Kit — Model No. 30759.

Spark Arrestor Muffler — Part No. 53-4580.

44" Snowthrower— Model No. 30761.

Tire Chain Kit— Part No. 56–6630.

Wheel Weight Kit — Part No. 56–6620.

Refer to Specifications section of individual Cutting Unit Operator's Manuals for cutting unit options.

LOOSE PARTS CHART

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

DESCRIPTION	QTY.	USE
Spacer Steering wheel Roll pin 1/4 x 2–1/2"	1 1 1	Install steering wheel.
Seat Capscrews Locknuts R–Clamp	1 4 4 1	Install seat.
Carriage bolt Wing nut	2 2	Connect battery cables to battery.
Operator's Manual (Traction Unit) Parts Catalog Registration Card	2 1 1	Fill out and return to Toro.

SET–UP INSTRUCTIONS

INSTALL SEAT (Fig. 1)

1. Position seat assembly onto seat plate aligning mounting holes.
2. Slide wire clamp over seat switch wire.
3. Using left front hole, loosely secure wire clamp and seat to seat base with capscrews and locknuts.
4. Mount seat to seat base with (3) remaining capscrews and locknuts.
5. Rout seat switch wire thru slot in seat plate and plug connector onto seat switch.
6. Tighten all locknuts and check operation of seat.
7. Make sure wire harness is clear of lift arm and all moving parts.

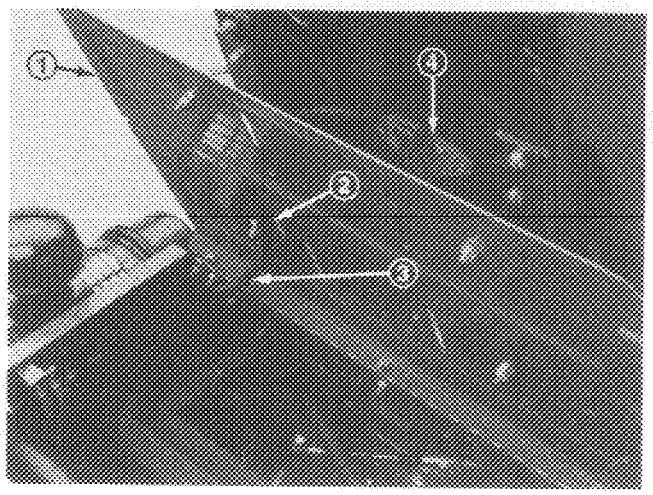


Figure 1

1. **Seat plate**
2. **R–clamp**
3. **Seat switch wire**
4. **Seat switch connector**

INSTALL STEERING WHEEL (Fig. 2)

1. Move rear wheels so they point straight ahead.
2. Slide spacer and steering wheel onto steering shaft aligning mounting holes. Check that logo on steering cap points forward.
3. Secure steering wheel to shaft with roll pin.

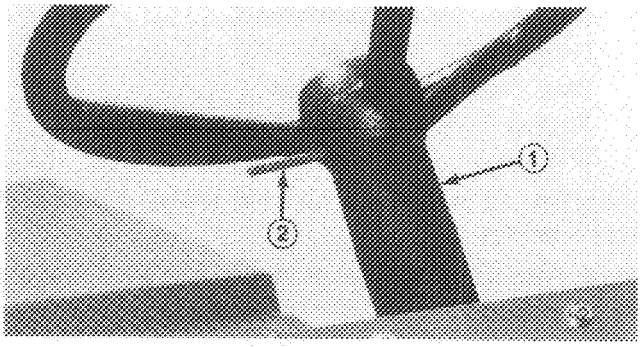


Figure 2

1. **Spacer**
2. **Roll pin**

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 10 to 15 psi.

BEFORE OPERATING

ACTIVATE AND CHARGE BATTERY

The battery is not filled with electrolyte or activated. If you have not already done so, remove the battery from the machine so it can be filled with electrolyte and charged. Bulk electrolyte with 1.260 specific gravity must be purchased from a local battery supply outlet.

WARNING

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

1. Remove wing nut securing battery support rod and remove battery from machine.

2. Remove filler caps from battery and slowly fill each cell until electrolyte is just above the plates. To obtain best results, let battery set for 20 minutes. Add electrolyte to the maximum capacity.

3. Leave filler caps off and connect a 3 to 4 amp battery charger to the battery posts. Charge the battery at a rate of 4 amperes or less for 4 hours.

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

4. 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.

REINSTALL BATTERY (Fig. 3)

1. Mount battery on battery support with terminal posts toward gas tank.

2. Secure battery with clamp, support rod and wing nut.

3. Install the (red) positive battery cable (rubber boot over end) to the positive (+) terminal and the negative cable (black) to the negative terminal of the battery.

WARNING

Connecting cables to the wrong post could damage the electrical system and result in personal injury.

Note: Make sure battery cables are routed away from any sharp edges or moving parts.

4. Secure cables to terminals with carriage bolts and wing nuts. Slide rubber boot over positive terminal to prevent possible short-out from occurring.

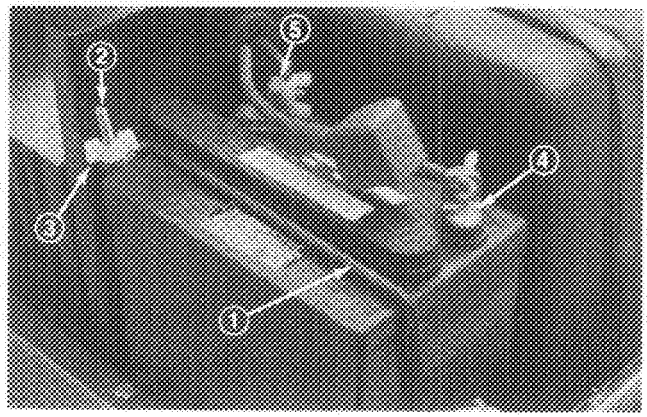


Figure 3

1. Clamp
2. Support rod
3. Wing nut
4. Positive battery cable
5. Negative battery cable

CHECK ENGINE OIL (Fig. 4)

The engine is shipped with 4 pints of oil in the crankcase; however, oil level must be checked before and after the engine is first started.

1. Park on a level surface and open the hood.

2. Remove dipstick and wipe it with a clean rag. Push dipstick down into dipstick tube and make sure it is fully seated. Pull dipstick out and check level of oil. If oil level is low, add enough oil to raise level to FULL mark on dipstick. Do not overfill.

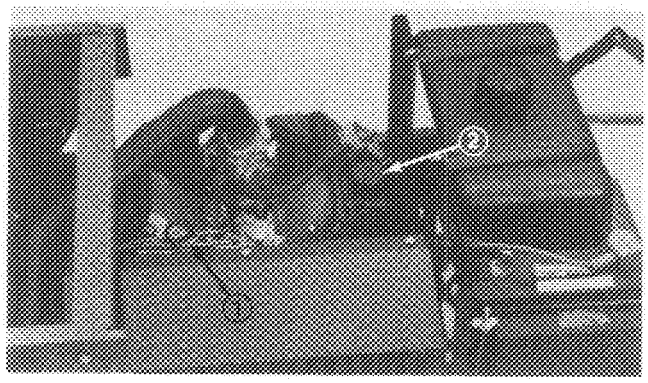


Figure 4

1. Dipstick
2. Filler cap

3. Remove filler cap and pour oil into filler neck until level is at FULL mark on dipstick. The engine requires high-quality detergent oil having the American Petroleum Institute – API– "service classification" SF or SE. Oil viscosity – weight – must be selected according to anticipated ambient temperature. Temperature/viscosity recommendations are:

A. Above 32° F (0°C) – Use 10W–30, and if it is not available, 10W–40 is an acceptable substitute.

B. Below 32° F (0°C) – Use 5W–20 or 5W–30, and if they are not available, 10W–30 is an acceptable substitute.

IMPORTANT: Check level of oil every 5 operating hours or daily. Initially, change oil after the first 5 hours of operation; thereafter, under normal conditions, change oil after every 50 hours of operation. However, change oil and filter more frequently when engine is operated in extremely dusty and dirty conditions. Replace oil filter every other oil change.

CHECK HYDRAULIC SYSTEM FLUID (Fig. 5)

The hydraulic system is designed to operate on SAE 10W–30 engine oil or, as a substitute, SAE 10W–40 engine oil. The reservoir is filled at the factory with approximately 5 quarts of10W–30 engine oil. Check reservoir oil level before engine is first started and daily thereafter.

1. Position machine on a level surface and stop the engine.

2. Remove dipstick cap from filler neck and wipe it with a clean rag. Insert dipstick cap onto filler neck; then remove it and check level of oil. If level is not within 1/2 inch from full mark on dipstick, add SAE 10W–30 engine oil to raise level to FULL mark. Do not overfill.

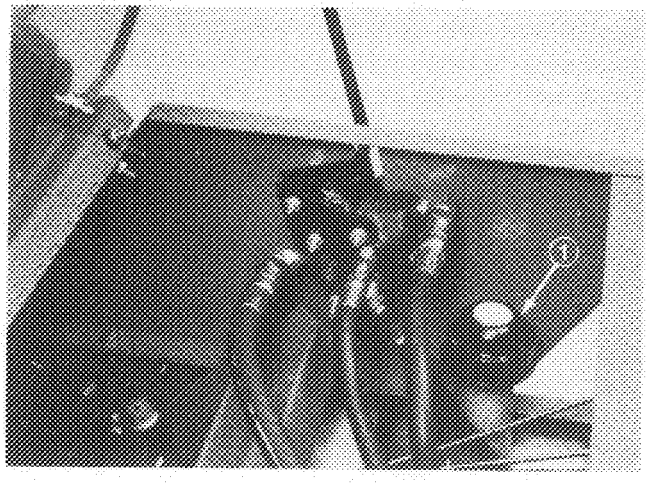


Figure 5

1. Dipstick cap

3. Install dipstick filler cap onto filler neck.

4. Run engine for approximately 1 minute, recheck reservoir oil level and add as required.

FILL FUEL TANK WITH GASOLINE (Fig. 6)

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

⚠ 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) from top of tank, not 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.

BEFORE OPERATING

1. Clean area around fuel tank cap and remove cap from tank.
2. Fill fuel tank to about 1 inch (25 mm) from top of the tank, not into filler neck. Install fuel tank cap securely.
3. Wipe up any spilled gasoline.

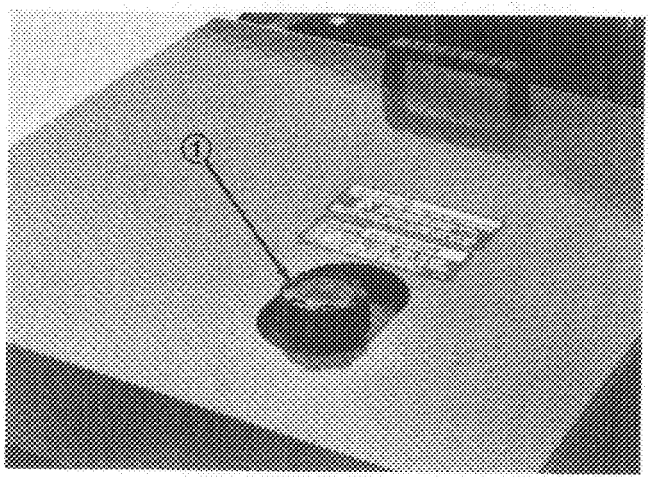


Figure 6

1. **Fuel tank cap**

CONTROLS

Parking Brake (Fig. 7)— 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 up on lever. Parking brake is equipped with an interlock, which shuts off engine when PTO switch or traction pedal are engaged with brake on.

Implement Lift Lever (Fig. 7) — The hydraulic lift lever has three positions: LOWER, RAISE and NEUTRAL. To lower cutting unit to the ground, move lift lever forward. When lowering cutting unit, make sure hydraulic cylinder is completely extended before releasing lift lever. To raise cutting unit, pull lift lever rearward to the RAISE position.

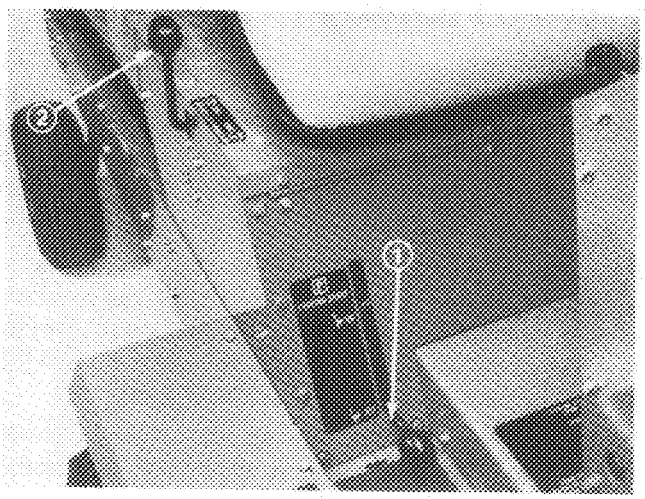


Figure 7

1. **Parking brake**
2. **Implement lift lever**

Cutting unit must be raised when driving from one work area to another. Lower cutting unit when descending a slope.

CAUTION

Never raise cutting unit while blades are rotating because it is hazardous.

Traction Pedal (Fig. 8) — The traction pedal makes the machine move forward and rearward, using the heel and toe of the right foot. Depress the top of pedal to move forward and bottom of pedal to move rearward. Ground speed is proportionate to how far pedal is depressed. For maximum ground speed, traction pedal must be fully depressed while throttle is in FAST position. To get maximum power under heavy load or when ascending a hill, have throttle in FAST position while depressing traction pedal slightly to keep engine rpm high. When engine rpm begins to decrease, release traction pedal slightly to allow rpm to increase.

PTO Switch (Fig. 8) — The PTO switch has two positions: ENGAGE and DISENGAGE. Toggle switch releases blade brake and engages electromagnetic clutch to drive deck pulleys.

Ignition Switch (Fig. 8) —The ignition switch, 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 RUN position. To shut engine off, rotate key counterclockwise to the OFF position.

CONTROLS

Choke (Fig. 8) — To start a cold engine, move choke control to the ON position. After engine starts, regulate choke to keep engine running smoothly. As soon as possible, open the choke by moving it to the OFF position. A warm engine requires little or no choking.

Throttle (Fig. 8) — Throttle is used to operate engine at various speeds. Moving throttle forward increases engine speed — FAST; rearward decreases engine speed — SLOW. The throttle control, in conjunction with traction pedal, controls ground speed of the machine.

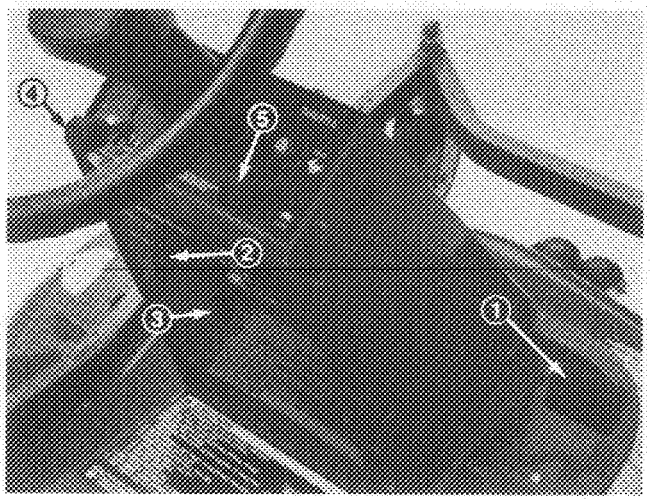


Figure 8

1. Traction pedal
2. PTO switch
3. Ignition switch
4. Choke
5. Throttle

Seat Adjusting Lever (Fig. 9) — To adjust fore and aft position of seat, move lever on left side of seat rearward, slide seat to desired position and release lever to lock seat into position.

Figure 9

1. Seat adjustment lever

OPERATING INSTRUCTIONS

STARTING/STOPPING ENGINE

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

2. Make sure parking brake is set and PTO switch is in DISENGAGE position.

3. Cold Starting – Move choke lever to ON position and throttle lever to half throttle position.

4. Hot Starting – Move choke lever to OFF position and throttle lever to half throttle position.

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

Note: Do not run starter motor more than 10 seconds at a time or premature starter failure may result. If engine fails to start after 10 seconds, turn key to OFF position, recheck controls and procedures, wait 60 additional seconds and repeat starter operation.

6. When engine is started for the first time, or after engine oil change, or overhaul of engine, transmission or axle, operate the machine in forward and reverse for one to two minutes. Also operate the lift lever and PTO lever to assure proper operation of all parts.

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

OPERATING INSTRUCTIONS

CAUTION

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

7. To stop engine, move throttle control rearward to SLOW position, move PTO switch to DISENGAGE position and rotate ignition key to OFF. Remove key from switch to prevent accidental starting.

CHECKING INTERLOCK SYSTEM

The purpose of the safety interlock system is to prevent the engine from cranking or starting unless the operator is on the seat, the traction pedal is in neutral and the PTO switch is in the DISENGAGE position. In addition, the engine will stop if operator gets off the seat or park brake is on, when the PTO control is engaged or traction pedal is depressed.

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 malfunctioning, replace it before operating the machine. Replace the switches every 2 years to be sure of maximum safety.

1. Move PTO switch to DISENGAGE position and remove foot from traction pedal so it is fully released.

2. Rotate the ignition key to START. Engine should crank. If engine cranks, proceed to step 3. If engine does not crank, there may be a malfunction in the interlock system.

3. Raise off the seat and engage the PTO switch while the engine is running. The engine should stop. If engine stops, the switch is operating correctly; proceed to step 4. If engine does not stop, there is a malfunction in the interlock system.

4. Raise off the seat and depress the traction pedal while engine is running and PTO switch is disengaged. The engine should stop. If engine stops, the switch is operating correctly; continue operation. If engine does not stop, there is a malfunction in the interlock system.

5. Sit on seat, engage parking brake and depress traction pedal. Engine should stop.

OPERATING CHARACTERISTICS

Practice driving the PROLINE 120 before initial operation because it has a hydrostatic transmission and its characteristics are different than some turf maintenance machines. Some points to consider when operating the traction unit and cutting unit are the transmission, engine speed and the load on the cutting blades.

To maintain enough power for the traction unit and cutting unit while mowing, regulate traction pedal to keep engine rpm high and somewhat constant. A good rule to follow is: decrease ground speed as the load on the cutting blades increases; and increase ground speed as load on the blades decreases. This allows the engine, working with the transmission, to sense the proper ground speed while maintaining high blade tip speed necessary for good quality-of-cut. Therefore, allow traction pedal to move upward as engine speed decreases, and depress pedal slowly as speed increases. By comparison, when driving from one work area to another—with no load and cutting unit raised—have throttle in FAST position and depress traction pedal slowly but fully to attain maximum ground speed.

Before stopping the engine, disengage all controls and move throttle to SLOW. Moving throttle to SLOW reduces high engine speed, noise and vibration. Allow engine to idle for a few seconds then turn ignition key OFF to stop engine.

PUSHING OR TOWING TRACTION UNIT

In an emergency, the traction unit can be pushed for a very short distance. However, Toro does not recommend this as standard procedure.

IMPORTANT: Do not push or tow the traction unit faster than 2 to 3 mph because transmission may be damaged. If traction unit must be moved a considerable distance, transport it on a truck or trailer.

1. To push traction unit, the traction pedal must be fully depressed forward to push forward or rearward to push in reverse.

LUBRICATION

GREASING BEARINGS AND BUSHINGS

(Fig. 10–13)

CAUTION

To prevent accidental starting of the engine while performing maintenance, shut engine off and remove key from ignition switch.

The traction unit has grease fittings that must be lubricated regularly with No. 2 General Purpose Lithium Base Grease. If machine is operated under normal conditions, lubricate all bearings and bushings after every 25 hours of operation. 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 lubrication points are: rear wheels (Fig. 10), rear wheel spindles, steering pivot plate, rear axle pivot bushings (Fig. 11), bell crank assembly, front axle bearings (Fig. 12) and steering shaft bearing (Fig. 13).

1. Wipe grease fitting clean so dirt will not be forced into bearings.
2. Pump grease into bearings.
3. Wipe up excess grease.

Also lubricate the steering shaft, steering shaft pivot points (Fig. 13) and traction pedal bushings with a few drops of SAE 10W–30 oil or dry spray lube.

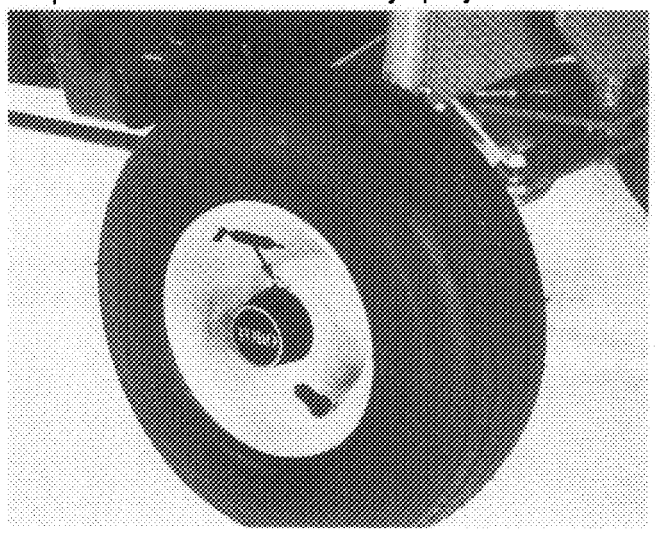


Figure 10

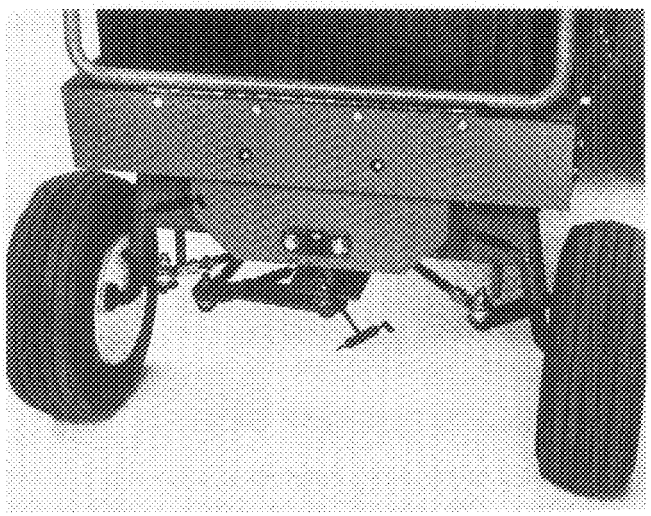


Figure 11

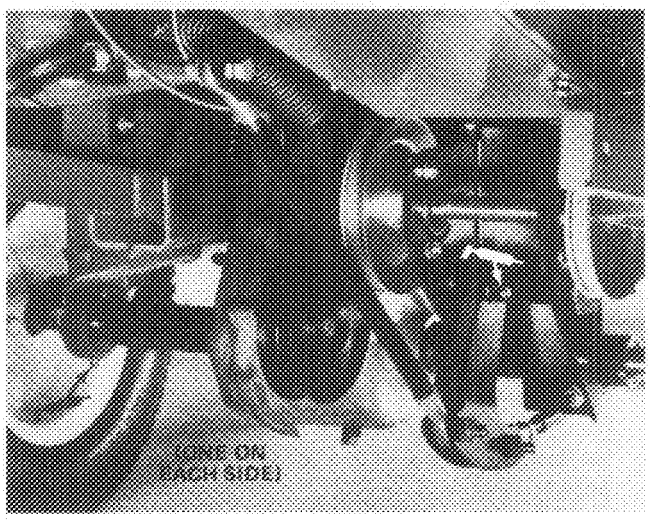


Figure 12

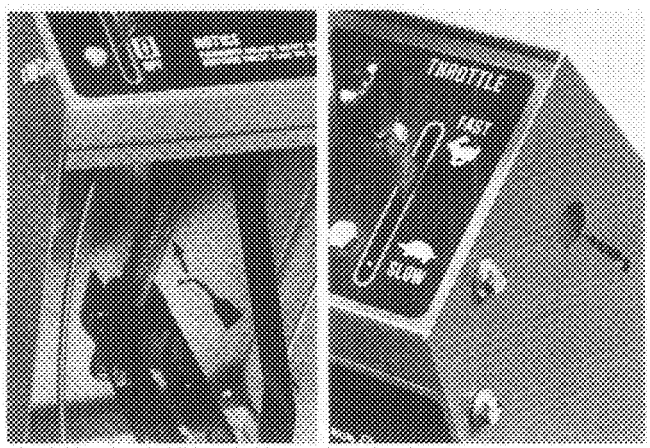


Figure 13

LUBRICATION

GREASE AXLES

The front wheels should be removed and axles greased, once a year, to prevent the formation of rust and to simplify future wheel removal.

CHANGE AXLE OIL (Fig. 14)

After every 500 hours of operation, oil in axle must be changed. If possible run machine just before changing oil. Warm oil flows more freely and carries more contaminants than cold oil.

1. Place a drain pan below drain plug on axle. Clean area around drain plug.

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

3. Remove axle fill plug and fill to plug level with SAE EP-90 wt. oil (approximately 44 oz.)

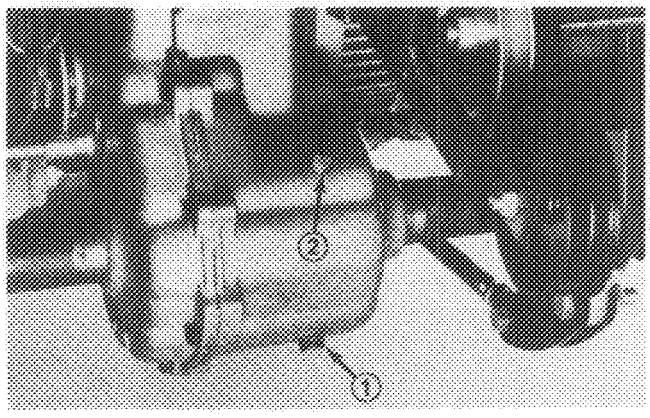
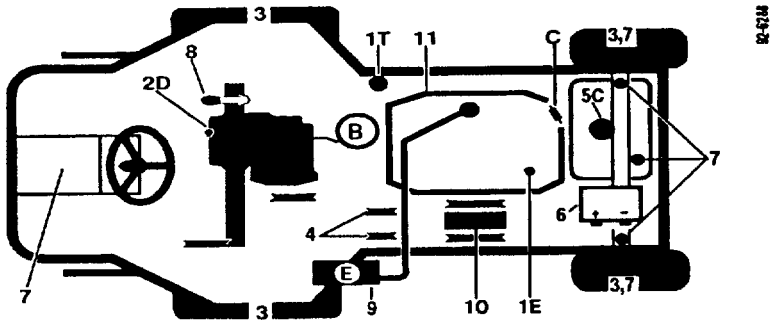


Figure 14
1. **Drain plug**
2. **Fill plug**

SERVICE INTERVAL CHART

PROLINE 120 QUICK REFERENCE AID

CHECK/SERVICE
1. OIL LEVELS (ENGINE/TRANS)
2. AXLE OIL
3. TIRE PRESSURE
4. BELT TENSION (TRANS, PTO)
5. FUEL-GAS ONLY
6. BATTERY
7. GREASE, LUBE POINTS
8. ADJUST PARKING BRAKE
9. AIR CLEANER
10. ELECTRIC CLUTCH GAP .012-.018
11. DEBRIS UNDER HOOD & SEAT PLATE & ENGINE COOLING FINS



FLUID SPECIFICATION * SEE OPERATOR'S MANUAL FOR INITIAL CHANGE

A. ENGINE OIL*	TYPE > 32°	TYPE < 32°	CAPACITY	CHANGE INTERVALS		FILTER PART NO.
	SAE 10W-30 OR 10W-40 SF OR SG	SAE 5W-20 OR 5W-30 SF OR SG	4 PT.	50 HRS.	FILTER 100 HRS	KOHLER 12 050 01
B. TRANS OIL	SAE 10W-30 SF-CC,CD	TYPE F OR FA TRANS FLUID	5 QT.	250 HRS.	FILTER 250 HRS	54-0110
C. FUEL	UNLEADED FUEL		5 GAL.	—	FILTER 400 HRS	38-6000
D. AXLE OIL	SAE E.R 90 WT.		44 OZ.	500 HRS		
E. AIR FILTER	STANDARD					33-1300

PARKING BRAKE ADJUSTMENT (Fig. 15)

If drive wheels do not rotate freely when brake lever is in the OFF position, or brake does not hold when lever is in the ON position, an adjustment is required.

1. Position brake lever in the ON position.

2. Measure distance between disc brake actuating arm and stop pin on axle bracket assembly. Distance should be less than 1/4 inch.

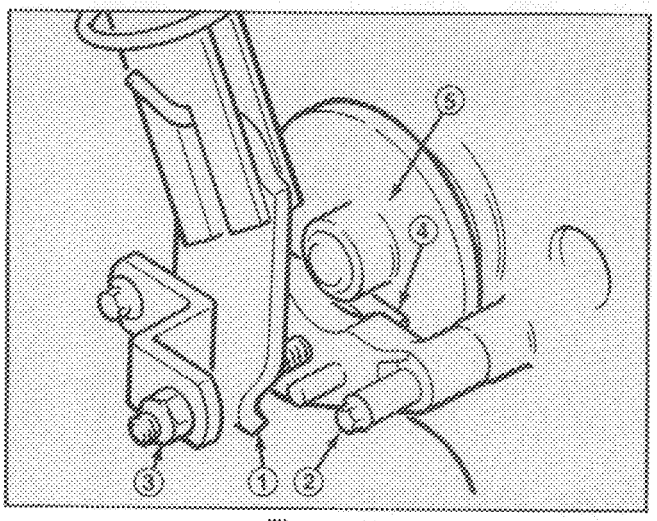


Figure 15

1. Brake actuating arm
2. Stop pin
3. Locknut
4. Brake pad (2)
5. Disc

3. If distance is greater than 1/4 inch, tighten locknut to decrease distance between actuating arm and stop pin.

4. Check clearance between brake pads and disc with a feeler gauge. Proper clearance is approximately .010 inch.

5. The actuating arm should be no more than 3/8 inch away from stop with brake lever in the ON position.

6. Check adjustment. Drive wheels should rotate freely when brake lever is in the OFF position.

ADJUSTING STEERING (Fig. 16)

1. Measure toe-in distance (at axle height) at front and rear of steering tires. Front measurement must be 0–1/4 inch less than rear measurement.

2. Turn steering wheel full left to achieve a full left turn.

3. Check clearance between left tire and tie rod. There should be 1 inch ± 1/4 inch clearance at this position.

4. Adjust steering rod as required to gain clearance by loosening jam nuts and rotating rod. Tighten jam nuts after adjustment.

5. To adjust, loosen jam nuts at both ends of tie rod.

6. Rotate tie rod to move front of tire in or out.

7. Tighten jam nuts when adjustment is correct.

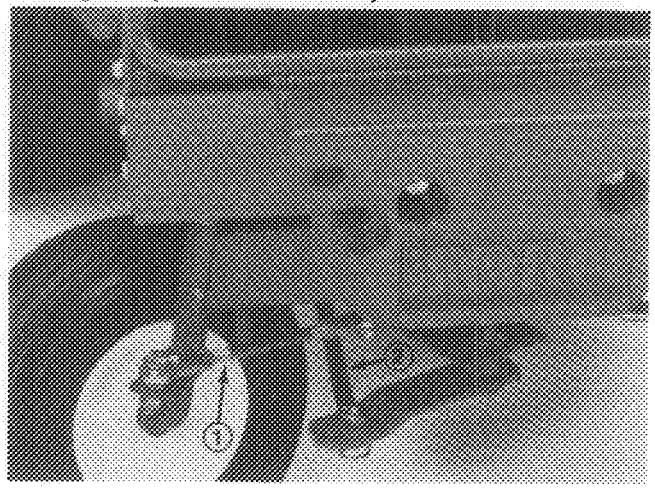


Figure 16

1. Tie rod (2)
2. Steering rod

CHANGING ENGINE OIL AND FILTER (Fig. 17)

For new or rebuilt engines, change oil after first 5 operating hours. Thereafter, under normal conditions change oil every 50 hours of engine operation. Change oil filter after first 50 hours and every 100 hours operation thereafter. However, an engine operated in dusty or dirty conditions required more frequent oil and filter changes. If possible, run engine just before changing oil because warm oil flows better and carries more contaminants than cold oil.

1. Position machine on a level surface.

2. Place drain pan below oil drain cap at rear of crankcase. Clean area around drain cap.

3. Remove drain cap and allow oil to flow into drain pan. After oil is drained, reinstall oil drain cap.

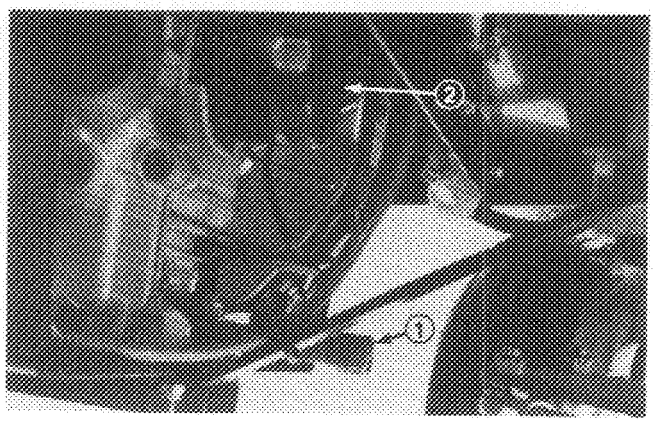


Figure 17

1. Oil drain cap
2. Oil filter

4. Clean area around oil filter and remove filter.

5. Clean the filter mounting surface and apply a thin coating of oil to the rubber seal on new filter.

6. Rotate filter clockwise until rubber seal contacts mounting surface, then tighten filter an additional 2/3 to 3/4 turn.

7. Remove filler cap and pour 3−1/2 pints (4 pints when changing filter) of oil into filler neck. The engine requires high-quality detergent oil having the American Petroleum Institute −API− "service classification" SF or SE. Oil viscosity − weight − must be selected according to anticipated ambient temperature. Temperature/viscosity recommendations are:

A. Above 32° F (0° C) − Use 10W−30, and if it is not available, 10W−40 is an acceptable substitute.

B. Below 32° F (0° C) − Use 5W−20 or 5W−30, and if they are not available, 10W−30 is an acceptable substitute.

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

9. Start the engine and check for leaks.

GENERAL AIR CLEANER MAINTENANCE

To prevent possible severe engine damage and ensure maximum engine service life, periodically inspect the air cleaner and hose assembly.

1. Assure hose between air cleaner and carburetor is clamped securely in place. Replace the hose if it is cracked or punctured.

2. Check air cleaner body for dent and other damage which could possibly cause an air leak. Replace a damaged air cleaner body.

3. Insure dust cap is sealing around bottom of air cleaner body.

4. Mounting screws and nuts holding air cleaner in place must be tight.

5. Inlet cap must be free of obstructions.

SERVICE DUST CUP AND BAFFLE (Fig. 18)

Inspect the dust cup and rubber baffle once a week or every 50 hours operation; however, daily or more frequent inspection is required when operating conditions are extremely dusty and dirty. Never allow dust to build up closer than 1 inch (25 mm) from the slot in top of dust cup.

Note: If conditions are extremely dusty and dirty, begin by checking dust cup and baffle after each day's operation to establish approximately how long an interval passes before dust cup should be emptied. Base further maintenance requirements on this figure. These conditions may be particularly prevalent if the rear discharge cutting unit is attached.

1. Loosen thumb screw until dust cup and baffle can be removed. Separate dust cup and baffle.

2. Dump dust out of the dust cup. After cleaning cup and baffle, reinstall both parts with TOP of cup up.

SERVICING AIR CLEANER FILTER

Service the air cleaner filter every 250 hours or more frequently in extreme dusty or dirty conditions by washing or using compressed air. Replace the element after every six cleanings (1500 hours) or annually, whichever comes first.

1. Remove and service dust cup; refer to Service Dust Cup and Baffle.

2. Remove wing nut w/gasket and slide filter element out of air cleaner body.

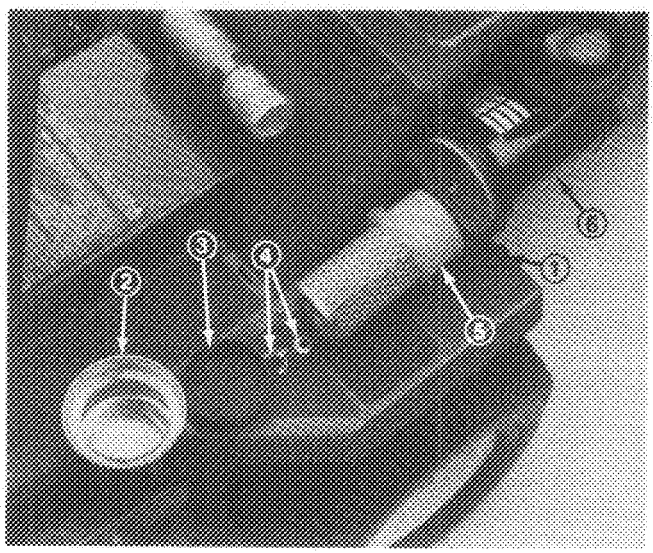


Figure 18

1. **Thumb screw**
2. **Dust cup**
3. **Baffle**
4. **Wing nut with gasket**
5. **Filter element**
6. **Air cleaner body**

3. Clean filter element by washing in a solution of filter cleaner (Toro Part No. 27-7220, available from Toro) and water, or blow dirt out of filter with compressed air.

Note: Compressed air is recommended when element must be used immediately after servicing because a washed element must be dried before it is used. By comparison, washing the element cleans better than blowing dirt out with compressed air. Remember, though, filter must be washed when exhaust soot is lodged in the filter pores.

Washing Method

IMPORTANT: Do not remove plastic fin assembly because washing removes dust from beneath fins.

A. Prepare a solution of filter cleaner and water and soak filter element about 15 minutes. Refer to directions on filter cleaner carton for complete information.

B. After soaking filter for 15 minutes, rinse it with clear water. Maximum water pressure must not exceed 40 psi (276 kPa) to prevent damage to the filter element.

C. Dry filter element using warm, flowing air (160°F (71°C) max), or allow element to air–dry. Do not use compressed air or a light bulb to dry the filter element because damage could result.

Compressed Air Method

IMPORTANT: Do not remove plastic fin assembly because back-blowing with compressed air removes dust from beneath fins.

A. Blow compressed air from inside to the outside of dry filter element. Do not exceed 100 psi (689 kPa) to prevent damage to the element.

B. Keep air hose nozzle at least 1 inch (25 mm) from pleated paper, and move nozzle up and down while rotating the filter element. Inspect element when dust and dirt are removed; refer to Inspecting Filter Element.

4. Wipe inside of air cleaner body with a damp cloth to remove excess dust. Slide filter into air cleaner body and secure in place with wing nut and gasket.

5. Reinstall dust cup and baffle. Move thumb screw behind air cleaner body and tighten it securely.

INSPECTING FILTER ELEMENT

1. Place bright light inside filter.

2. Rotate filter slowly while checking for cleanliness, ruptures, holes, and tears. Replace defective filter element.

3. Check fin assembly, gasket, and screen for damage. Replace filter if damage is evident.

CLEANING ENGINE AND COOLING FINS

To avoid overheating and possible engine damage clean dust, dirt and oil from external surfaces of the engine.

1. Open hood and pull spark plug wires off.

2. Clean dirt, grass and chaff from outside of engine and air intake screen.

3. To clean cylinder head fins, remove engine from chassis and remove cooling shrouds. Make sure cooling shrouds are reinstalled before operating engine.

4. Push wires onto spark plugs and close the hood.

ADJUSTING CARBURETOR (Fig. 19)

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

IMPORTANT: Check fuel filter and make sure the choke is operating correctly before the carburetor is adjusted.

1. **Idle Fuel Adjusting Needle** – Close needle by gently rotating it clockwise.

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

2. Rotate – open – the needle 1-5/8 turns counterclockwise.

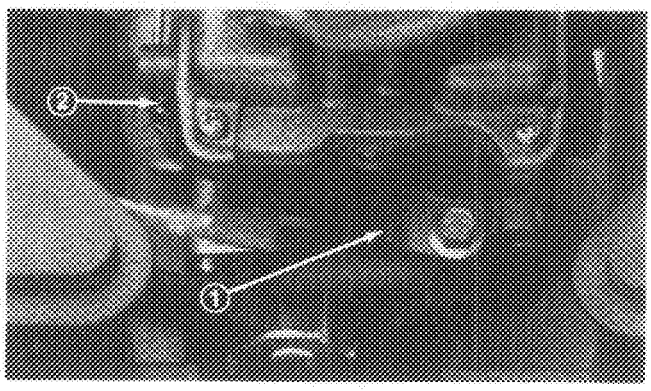


Figure 19

1. Idle fuel adjusting needle
2. Idle speed setting screw

3. Start engine and let it run at half throttle for approximately five to ten minutes to warm up.

WARNING

Engine must be running so final adjustment of the carburetor can be performed. To guard against possible personal injury, 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.

4. **Idle Speed Setting** – Move the throttle control to SLOW setting. Set the idle speed to 1250 rpm ± 50 RPM by turning the idle speed setting screw in or out. Check speed with a tachometer.

5. **Final Setting Idle Fuel Needle** – Move the throttle control to the slow position. Turn the idle fuel adjusting needle out (counterclockwise) until the engine speed decreases (rich). Note position of the needle.

Now turn the adjusting needle in (clockwise). The engine speed may increase, then it will decrease as the needle is turned in (lean). Note position of the needle.

Set the needle midway between the rich and lean settings.

6. Recheck idle speed using a tachometer.

ADJUSTING THROTTLE CONTROL

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

1. Loosen cable clamp screw securing cable to engine.

2. Move throttle control forward approximately 1/16 inch from top of slot in steering tower.

3. Pull firmly on throttle cable till governor arm contacts stop.

4. Tighten cable clamp screw and check engine RPM setting.

3200 ± 100 – High Idle
1250 ± 50 – Low Idle

ADJUSTING CHOKE CONTROL

1. Loosen cable clamp screw securing cable to engine.

2. Place choke control in ON position.

3. Pull firmly on choke cable and tighten cable clamp screw.

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.

FUEL FILTER REPLACEMENT (Fig. 20)

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

1. Place a drain pan under filter.

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

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

4. Install new filter with arrow on the filter body pointing towards fuel pump.

5. Secure with hose clamps.

REPLACING SPARK PLUGS (Fig.20)

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 100 operating hours. Recommended air gap is .040 inch. Correct spark plug to use is a Champion RC-12YC or equivalent.

Note: Spark plug(s) usually last a long time; however, the plug(s) should be removed and checked whenever the engine malfunctions.

1. To gain access to the rear spark plug the gas tank must be removed.

2. Remove and save the capscrews and lock nuts securing tank straps. Unhook fuel line/filter below tank from hose clamp and lift tank slightly to unhook straps from lower bracket.

3. Rotate tank and set in hood to prevent fuel spilling.

4. Push out plastic cover from access hole in plate between engine and gas tank and clean area around spark plug so foreign matter cannot fall into cylinder when spark plug is removed.

5. Pull spark plug wires off spark plugs and remove plugs from cylinder head.

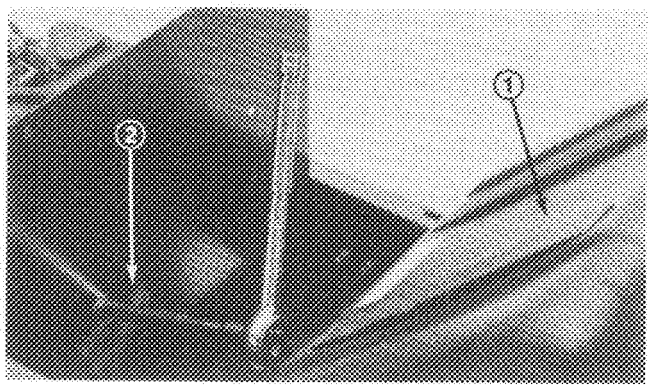


Figure 20

1. **Fuel tank**
2. **Opening for access**

MAINTENANCE

CHECKING SPARK PLUGS (Fig. 21)

IMPORTANT: A cracked, fouled, dirty or otherwise 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.

1. Check condition of side and center electrodes, and center insulator to assure there is no damage.

2. Set air gap between center and side electrodes at .040 inch. Install correctly gapped spark plugs w/gasket seals, and tighten plugs to 10–15 ft–lb. If torque wrench is not used, tighten plugs firmly.

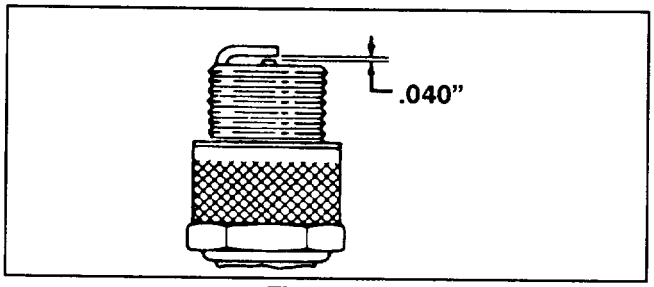


Figure 21

3. Replace high tension leads onto spark plugs and install gas tank by reversing steps 1–4 of Replacing Spark Plugs.

SERVICING BATTERY

IMPORTANT: Before welding on the machine, disconnect ground cable from the battery to prevent damage to the electrical system.

Note: Check battery condition weekly or after every 50 hours of operation. Keep terminals and entire battery case clean because a dirty battery will slowly discharge. To clean the battery wash the entire case with solution of baking soda and water. Rinse with clear water. Coat the battery posts and cable connector with Grafo 112X (Skin-over) grease, Toro Part No. 505-47 or petroleum jelly to prevent corrosion.

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.

Whenever working with the electrical system, always disconnect battery cables, negative (–) cable first, to prevent possible wiring damage from short-outs.

ADJUSTING TRANSMISSION FOR NEUTRAL (Fig. 22)

The machine must not creep when traction pedal is released. If it does creep, an adjustment is required.

1. Park machine on a level surface, lower cutting unit and shut engine off. Disengage the PTO and engage the parking brake.

2. Jack up front of machine until tires are off shop floor. Support machine with jack stands to prevent it from falling accidentally.

WARNING

Engine must be running so transmission neutral adjustment can be performed. To guard against possible personal injury, keep hands, feet, face, and other parts of the body away from muffler, other hot parts of the engine and any rotating parts.

3. Loosen lock nut on adjustment cam.

4. Start engine and rotate adjusting cam in either direction until wheels stop rotating.

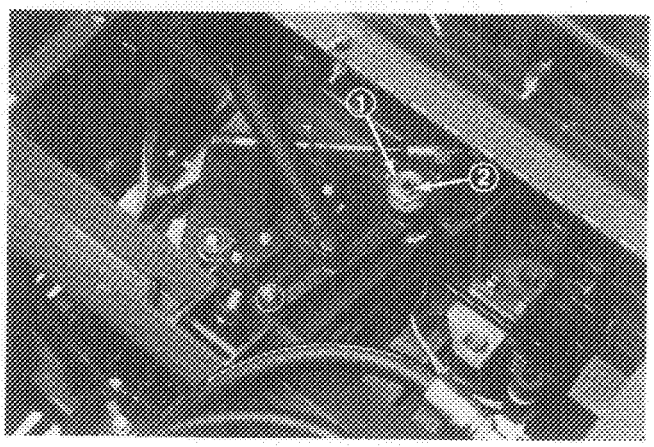


Figure 22

1. Adjustment cam
2. Locknut

5. Stop engine and tighten lock nut to secure adjustment.

6. Start engine and check adjustment. Repeat adjustment, if necessary.

7. Stop engine. Remove jack stands and lower machine to the shop floor. Test drive the machine to be sure it does not creep.

MAINTENANCE

CHANGING HYDRAULIC OIL FILTER (Fig. 23)

The hydraulic oil filter keeps the hydraulic system relatively free of contaminants. However, the hydraulic oil filter must be serviced at regular intervals. The intervals are: initially, after the first 5 hours of operation, and thereafter every 250 hours of operation or yearly, whichever comes first. Use a genuine TORO oil filter for replacement.

WARNING

Keep body and hands away from pin hole leaks or nozzles that eject high pressure hydraulic fluid. Use cardboard or paper to find hydraulic leaks. Hydraulic fluid escaping under pressure can penetrate skin and cause injury. Fluid accidentally injected into the skin must be surgically removed within a few hours by a doctor familiar with this form of injury or gangrene may result.

1. Remove hydraulic oil filter from mounting head. Use bottom type filter wrench. Dispose of filter properly.

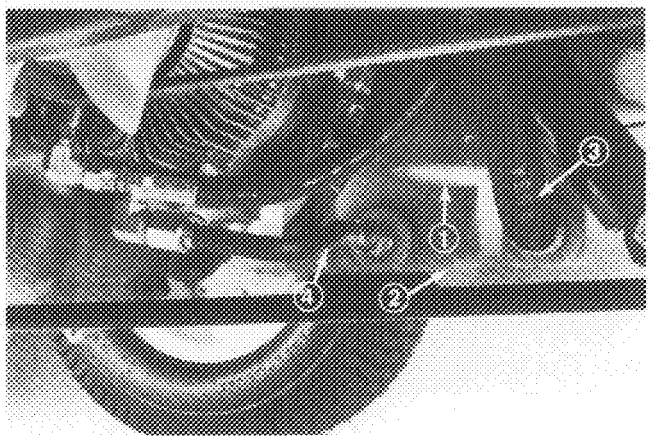


Figure 23

1. **Filter**
2. **Reservoir**
3. **Hose assembly**
4. **Tube assembly**

2. Apply a film of oil on the gasket. Install filter by hand until gasket contacts mounting head; then tighten filter an additional 3/4 turn.

3. Start engine and check for oil leaks. Allow engine to run for about 2 minutes so any air in system is purged. Then shut engine off.

4. Check level of oil in reservoir; refer to Check Hydraulic System Fluid.

CHANGING HYDRAULIC SYSTEM OIL (Fig. 23)

The hydraulic system oil must be changed after every 250 hours of operation or yearly, whichever comes first. The reservoir has a capacity of approximately 5 U.S. quarts.

1. Park machine on a level surface, lower cutting unit, engage parking brake. and shut engine off.

2. Clean the area around the hydraulic oil filter and remove the filter from the bottom of the filter housing. use bottom type filter wrench.

3. Disconnect tube assembly and hose assembly from reservoir and allow the oil to flow into a drain pan.

Note: To drain oil remaining in system, disconnect spark plug wires and crank engine for 15 seconds. This will pump remaining oil out of system thru tube assembly. Do not crank engine for more than 15 seconds.

4. Install the new hydraulic filter onto bottom of the filter housing.

5. Install the tube assembly and hose assembly to reservoir.

6. Fill the reservoir to the proper level; refer to Check Hydraulic System Fluid.

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

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

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

10. Check all connections for leaks.

MAINTENANCE

ADJUSTING LIFT CYLINDER AND COUNTERBALANCE SPRINGS (Fig. 24–25)

1. Start engine and lower lift arms (cutting unit) until lift cylinder is fully extended and lift (cutting unit) is fully lowered.

2. Measure distance between cylinder jam nuts and cylinder pivot pin. Distance should be approximately 2-1/4 inch.

3. Loosen jam nuts and adjust, if necessary, to attain needed clearance.

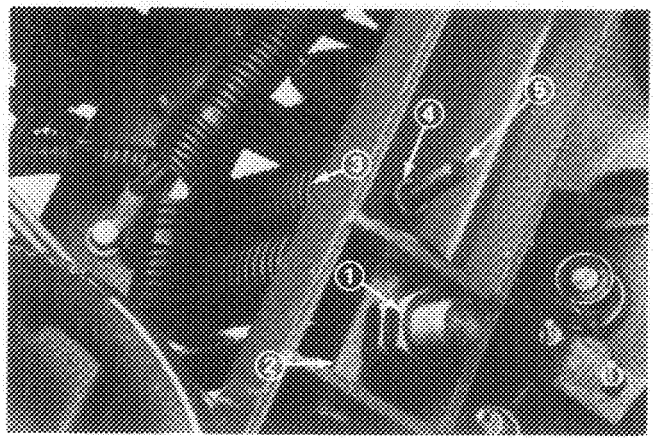


Figure 24

1. **Jam nuts**
2. **Cylinder pivot pin**
3. **Counterbalance springs**
4. **Adjusting nut**
5. **Lift arm "T" hook**

4. Start engine and raise lift arms (cutting unit) until lift cylinder is fully retracted and lift (cutting unit) is fully raised.

5. Check distance between clevis pin and bottom hooks of springs (Fig. 25). Distance should be 1/4 inch or less.

6. Adjust nut on lift arm "T" hook to obtain required distance.

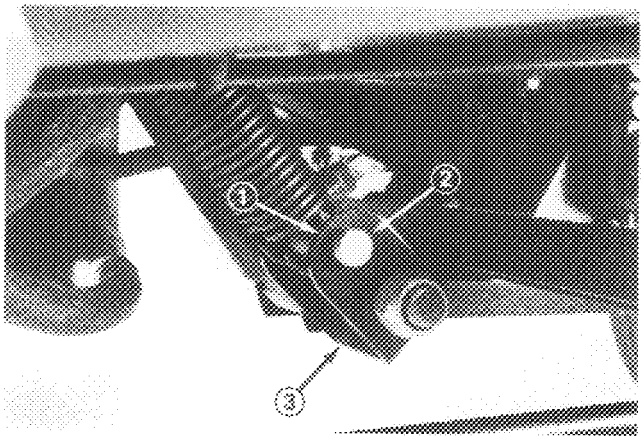


Figure 25

1. **1/4 inch dimension here**
2. **Clevis pin & cotter pin**
3. **Lift bracket**

REMOVING AND INSTALLING CUTTING UNIT

Note: Whenever cutting deck is removed from carrier frame, counterbalance springs must be disconnected as follows:

A. Start engine and raise lift arms (cutting unit) until lift cylinder is fully retracted and cutting unit is fully raised.

B. Remove cotter pin and clevis pin securing bottom of springs to lift bracket.

C. Lift arms may now be lowered and deck removed without carrier frame raising due to spring tension.

ADJUSTING OR REPLACING BELTS (Fig. 26)

If belt slippage occurs, idler pulleys must be adjusted to increase belt tension.

1. Stop engine and raise hood.

2. Measure distance from bottom of spacer on pulley mounting screw to bottom of slot in idler adjustment link. Distance should be 1/4 inch or less.

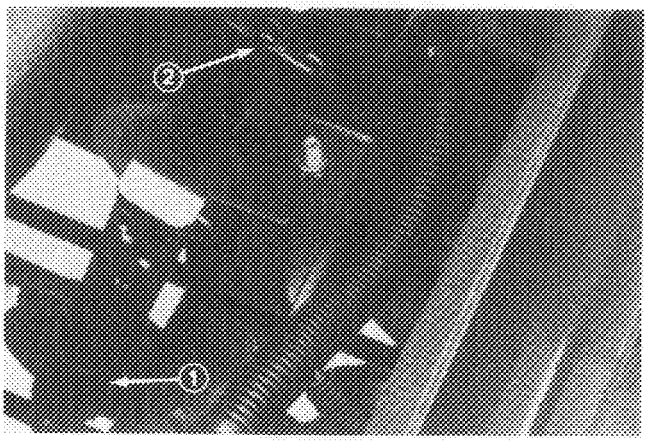


Figure 26

1. **1/4 inch space**
2. **Idler adjustment**

3. To adjust, remove cotter pin and washer securing idler adjustment link to spring anchor. Slide link off mounting pin and select new hole until bottom of spacer is within 1/4 inch from bottom of slot.

4. Reposition link onto spring anchor and secure with washer and cotter pin.

MAINTENANCE

To replace traction or jackshaft belt, use the following procedures and belt routing diagram (Fig. 27).

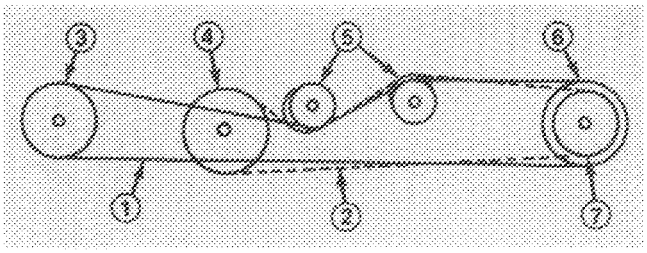


Figure 27

1. **Jackshaft belt**
2. **Traction belt**
3. **Jackshaft pulley**
4. **Transmission pulley**
5. **Idler pulley**
6. **Clutch pulley**
7. **Engine pulley**

1. Clutch anchor bolt must be removed, and clutch unplugged from wire harness before traction belts can be removed.

2. Release tension in idler pulleys before removing or installing belts.

3. When installing traction belt, route belt over transmission

IMPORTANT: To avoid damage reinstall clutch anchor bolt before connecting wire.

ADJUSTING CLUTCH (Fig. 28)

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

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.

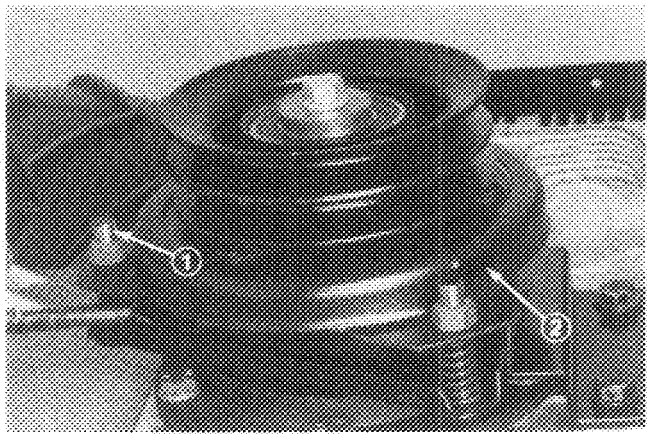
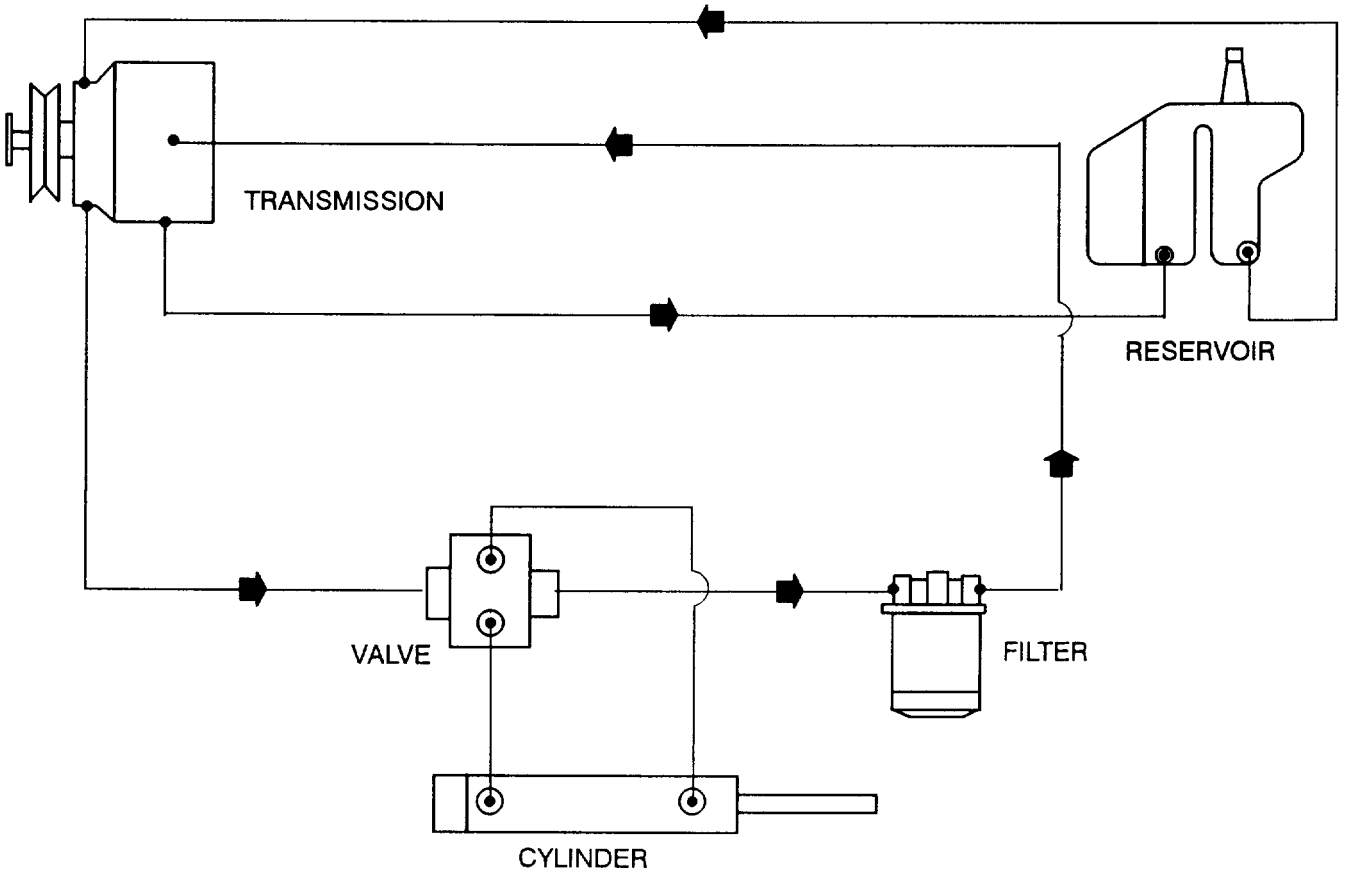


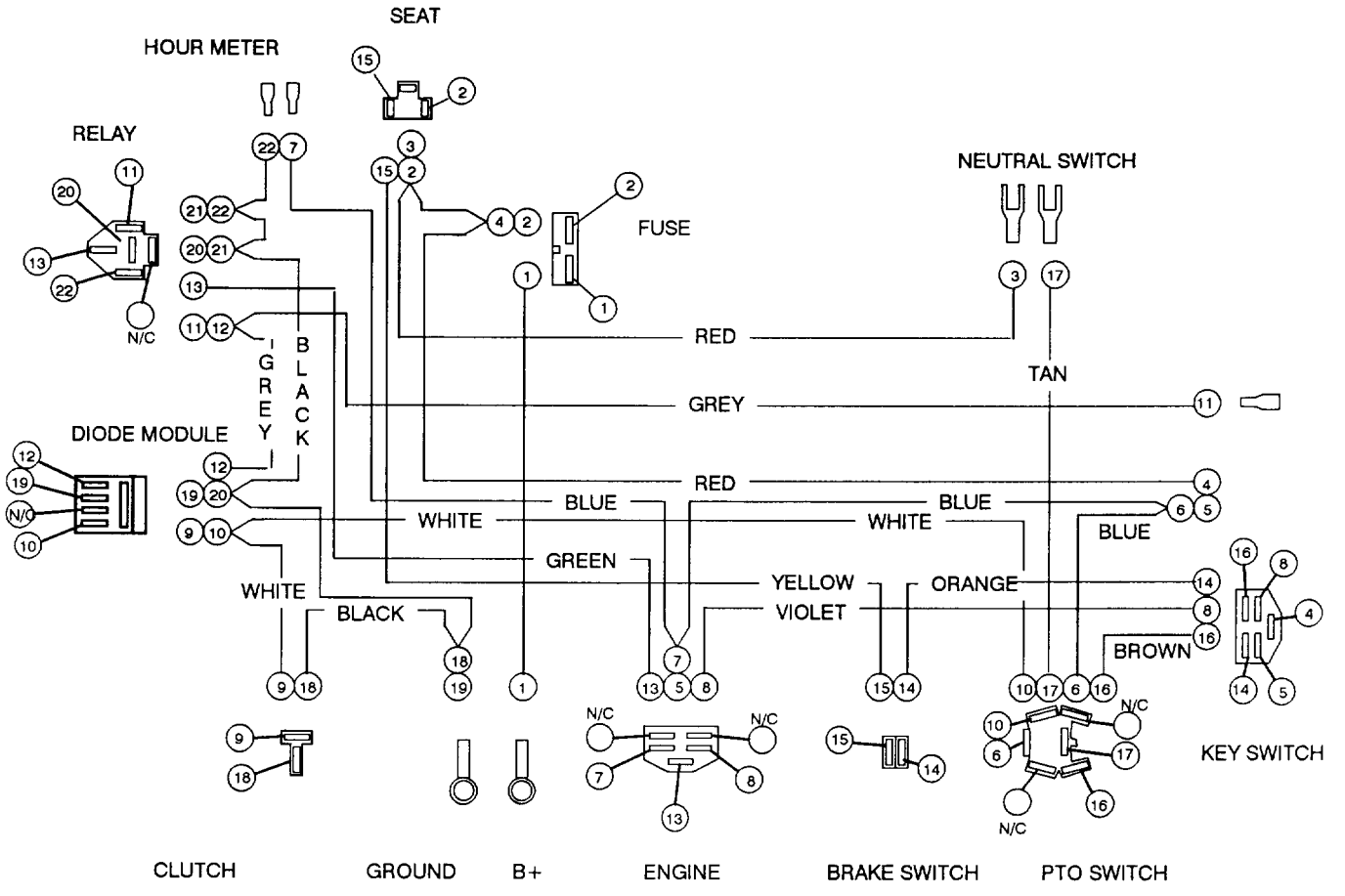
Figure 28

1. **Locknut**
2. **Adjustment slot**

HYDRAULIC SCHEMATIC



ELECTRICAL SCHEMATIC



PREPARATION FOR SEASONAL STORAGE

Traction Unit

1. Thoroughly clean the traction unit, cutting unit and engine, pay special attention to these areas:
   - underneath the cutting unit
   - under the cutting unit belt covers
   - counterbalance springs
   - PTO, traction and cutting unit belts
   - all grease fittings and pivot points
2. Check the tire pressure. Inflate all traction unit tires to 10 to 15 psi.
3. Remove, sharpen and balance the cutting unit's blades.
4. Check all fasteners; tighten as necessary.
5. Grease or oil all grease fittings, steering shaft and pivot points. Wipe off any excess lubricant.
6. Lightly sand and use touch up paint on painted areas that are scratched, chipped or rusted. Repair any dents in the metal body.
7. Service the battery and cables as follows:
   a. Remove battery cables from the battery posts.
   b. Clean the battery, terminals and posts with a wire brush and baking soda/water solution.
   c. Coat the cable terminals and battery posts with Grafo 112X skin-over grease (Toro Part Number 505-47), or petroleum jelly to prevent corrosion.
   d. Slowly recharge the battery for 24 hours every 60 days to prevent lead sulfation of the battery.

Engine

1. Drain the engine oil and replace the drain plug.
2. Remove and discard the oil filter. Install a new filter.
3. Refill the engine with 4 pints of recommended motor oil. Refer to Changing Crankcase Oil.
4. Start the engine and run at idle speed for two minutes.
5. Drain the gasoline from the fuel tank, carburetor and fuel lines or run until empty. Reinstall all lines and secure connections
6. Stop the engine; remove spark plugs.
7. Pour one tablespoon of clean engine oil into each spark plug hole.
8. Reinstall the spark plugs, but do not collect plug wires.
9. Crank the engine with the starter for 2 to 3 revolutions to distribute the oil in the cylinders.
10. Thoroughly clean and service the air cleaner assembly.
11. Seal the air cleaner inlet and the exhaust outlet with weather proof masking tape.
12. Check the oil filler cap and gas cap to ensure they are securely in place.

PRODUCT IDENTIFICATION

The traction unit has two identification numbers: a model number and a serial number that are stamped into a plate. The identification plate is located on back side of steering tower. In any correspondence concerning the traction unit, supply the model and serial numbers to ensure correct information and replacement parts are obtained.

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

1. Model and serial numbers of the traction unit.
2. Part number, description and quantity of parts desired.

Note: Do not order by reference number if a parts catalog is being used; use the part number.

MAINTENANCE RECORD

Date	Hours Used	Date	Hours Used	Date	Hours Used	Date	Hours Used

V43-831

TORO ProLine Products

THE TORO TOTAL COVERAGE GUARANTEE

A One Year Limited Warranty
(A Full Two-Year Warranty for Residential Use)

What Is Covered By This Express Warranty?

The Toro Company promises to repair any TORO ProLine product used for commercial, institutional, or rental purposes if defective in materials or workmanship for a period of one year from the date of purchase. The cost of parts and labor are included as well as transportation within a 15 mile radius of a TORO ProLine Service Dealer.

What Products Are Covered By This Warranty?

ProLine products covered by this warranty include the ProLine 118, 120, 220, 616, 620, 724 riding products and wide area walk behind mowers and their cutting decks and accessories.

How About Residential Use?

TORO ProLine products used for residential use are covered by a full two–year warranty.

How Do You Get Warranty Service?

Should you feel your TORO ProLine product contains a defect in materials or workmanship, contact the dealer who sold you the product or any TORO ProLine Service Dealer. The Yellow Pages of your telephone directory is a good reference source; look under TORO Commercial Service Dealers. The Service Dealer will either arrange service at his/her dealership or recommend another authorized Service Dealer who may be more convenient. You may need proof of purchase (copy of registration card, sales receipt, etc.) for warranty validation.

If for any reason you are dissatisfied with a Service Dealer's analysis of the defect in materials or workmanship or if you need a referral to a TORO ProLine Service Dealer, please feel free to contact us at the following address:

Toro Customer Service Department
8111 Lyndale Avenue South
Bloomington, MN 55420-1196
612-888-8801

What Must You Do To Keep The Warranty In Effect?

You must maintain your TORO Product by following the maintenance procedures described in the operator's manual. Such routine maintenance, whether performed by a dealer or by you, is at your expense.

What Does This Warranty Not Cover?
and
How Does Your State Law Relate To This Warranty?

There is no other express warranty except as described above. This express warranty does not cover:

- Cost of regular maintenance service or parts, such as filters, fuel, lubricants, tune–up parts, blade sharpening, brake and clutch adjustments.
- Any product or part which has been altered or misused or required replacement or repair due to normal wear, accidents, or lack of proper maintenance.
- Repairs necessary due to improper fuel, contaminants in the fuel system, or failure to properly prepare the fuel system prior to any period of non–use over three months.
- Pickup and delivery charges for distances beyond a 15 mile radius from a TORO ProLine Service Dealer.

All repairs covered by this warranty must be performed by a TORO Service Dealer using Toro approved replacement parts.

Repair by a TORO Service Dealer is your sole remedy under this warranty.

The Toro Company is not liable for indirect, incidental or consequential damages in connection with the use of the TORO Products covered by this warranty, including any cost or expense of providing substitute equipment or service during reasonable periods of malfunction or non–use pending completion of repairs under this warranty. Some states do not allow exclusions of incidental or consequential damages, so the above 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.