



MODEL NO. 04383—200000001 & UP

**OPERATOR'S
MANUAL****GREENSMASTER® 3250-D**

To understand this product, and for safety and optimum performance, read this manual before starting operation. Pay special attention to **SAFETY INSTRUCTIONS** highlighted by this symbol.



Forword

This operator's manual has instructions on safety, proper set-up and operation, adjustments and maintenance. Therefore, anyone involved with the product, including the operator, should read and understand this manual. This manual emphasizes safety, mechanical and general product information. **DANGER, WARNING** and **CAUTION** identify safety messages. Whenever the triangular safety alert symbol appears, understand the safety message that follows. For complete safety instructions, read pages 3–5. **IMPORTANT** highlights special mechanical information and **NOTE** emphasizes general product information worthy of special attention.

Whenever you have questions or need service, contact your local authorized Toro Distributor. In addition to having a complete line of accessories and professional turf care service technicians, the distributor has a complete line of genuine TORO replacement parts to keep your machine operating properly. Keep your TORO all TORO. Buy genuine TORO parts and accessories.

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Safety Instructions

Training

1. Read the instructions carefully. Be familiar with the controls and the proper use of the equipment.
2. Never allow children or people unfamiliar with these instructions to use the lawn mower. Local regulations may restrict the age of the operator.
3. Never mow while people, especially children, or pets are nearby.
4. Keep in mind that the operator or user is responsible for accidents or hazards occurring to other people or their property.
5. Do not carry passengers.
6. All drivers should seek and obtain professional and practical instruction. Such instruction should emphasize:
 - the need for care and concentration when working with ride-on machines;
 - control of a ride-on machine sliding on a slope will not be regained by the application of the brake. The main reasons for loss of control are:
 - insufficient wheel grip;
 - being driven too fast;
 - inadequate braking;
 - the type of machine is unsuitable for its task;
 - lack of awareness of the effects of ground conditions, especially slopes;
 - incorrect hitching and load distribution.

Preparation

1. While mowing, always wear substantial footwear and long trousers. Do not operate the equipment when barefoot or wearing open sandals.
2. Thoroughly inspect the area where the equipment is to be used and remove all objects which may be thrown by the machine.

3. WARNING—Petrol is highly flammable.

- Store fuel in containers specifically designed for this purpose.
- Refuel outdoors only and do not smoke while refueling.
- Add fuel before starting the engine. Never remove the cap of the fuel tank or add petrol while the engine is running or when the engine is hot.
- If petrol is spilled, do not attempt to start the engine but move the machine away from the area of spillage and avoid creating any source of ignition until petrol vapors have dissipated.
- Replace all fuel tanks and container caps securely.

4. Replace faulty silencers.

Operation

1. Do not operate the engine in a confined space where dangerous carbon monoxide fumes can collect.
2. Mow only in daylight or in good artificial light.
3. Before attempting to start the engine, disengage all blade attachment clutches and shift into neutral.
4. Do not use on slopes of more than:
 - Never mow side hills over 5°
 - Never mow uphill over 10°
 - Never mow downhill over 15°
5. Remember there is no such thing as a “safe” slope. Travel on grass slopes requires particular care. To guard against overturning:
 - do not stop or start suddenly when going up or downhill;
 - engage the clutch slowly, and always keep the machine in gear, especially when travelling downhill;
 - machine speeds should be kept low on slopes and during tight turns;

- stay alert for bumps and hollows and other hidden hazards;
 - never mow across the face of the slope, unless the lawn mower is designed for this purpose.
6. Use care when pulling loads or using heavy equipment.
 - Use only approved drawbar hitch points.
 - Limit loads to those you can safely control.
 - Do not turn sharply. Use care when reversing.
 - Use counterweight(s) or wheel weights when suggested in the instruction handbook.
 7. Watch out for traffic when crossing or near roadways.
 8. Stop the blades rotating before crossing surfaces other than grass.
 9. When using any attachments, never direct discharge of material toward bystanders nor allow anyone near the machine while in operation .
 10. Never operate the lawn mower with defective guards, shields or without safety protective devices in place.
 11. Do not change the engine governor settings or overspeed the engine. Operating the engine at excessive speeds may increase the hazard of personal injury.
 12. Before leaving the operator's position:
 - disengage the power take-off and lower the attachments;
 - change into neutral and set the parking brake;
 - stop the engine and remove the key.
 13. Disengage the drive to attachments when transporting or not in use.
 14. Stop the engine and disengage the drive to the attachment
 - before refueling;
 - before removing the grass catcher;
 - before making height adjustments unless the adjustment can be made from the operator's position.

- before clearing blockages;
- before checking, cleaning or working on the lawn mower;
- after striking a foreign object. Inspect the lawn mower for damage and make repairs before restarting and operating the equipment.

15. Reduce the throttle setting during engine runout and, if the engine is provided with a shutoff valve, turn the fuel off at the conclusion of mowing.

Maintenance and Storage

1. Keep all nuts, bolts and screws tight to be sure the equipment is in safe working condition.
2. Never store the equipment with petrol in the tank inside a building where fumes may reach an open flame or spark.
3. Allow the engine to cool before storing in any enclosure.
4. To reduce the fire hazard, keep the engine, silencer, battery compartment and petrol storage area free of grass, leaves, or excessive grease.
5. Check the grass catcher frequently for wear or deterioration.
6. Replace worn or damaged parts for safety.
7. If the fuel tank has to be drained, this should be done outdoors.
8. Be careful during adjustment of the machine to prevent entrapment of the fingers between moving blades and fixed parts of the machine.
9. On multi-bladed machines, take care as rotating one blade can cause other blades to rotate.
10. When the machine is to be parked, stored or left unattended, lower the cutting means unless a positive mechanical lock is used.

Sound & Vibration Levels

Sound Levels

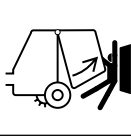
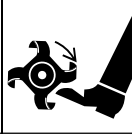
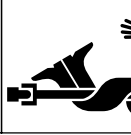
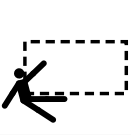
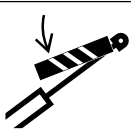
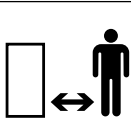
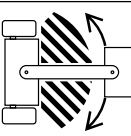
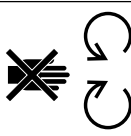
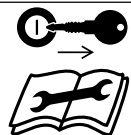
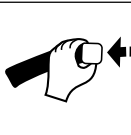
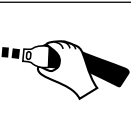
This unit has an equivalent continuous A-weighted sound pressure at the operator ear of: 81 dB(A), based on measurements of identical machines per Directive 98/37/EC and amendments.

Vibration Levels

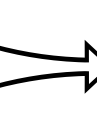
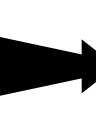
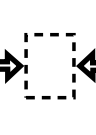
This unit has a vibration level of 2.5 m/s^2 at the posterior, based on measurements of identical machines per ISO 5349 procedures.

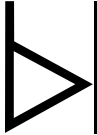
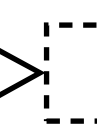
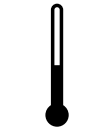
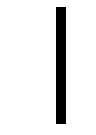
This unit does not exceed a vibration level of 0.5 m/s^2 at the posterior based on measurements of identical machines per ISO 2631 procedures.

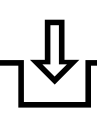
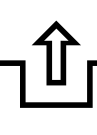
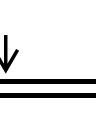
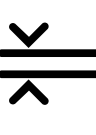
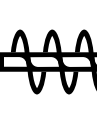
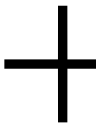
Symbol Glossary

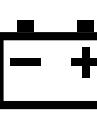
							
Caustic liquids, chemical burns to fingers or hand	Poisonous fumes or toxic gases, asphyxiation	Electrical shock, electrocution	High pressure fluid, injection into body	High pressure spray, erosion of flesh	High pressure spray, erosion of flesh	Crushing of fingers or hand, force applied from above	Crushing of toes or foot, force applied from above
							
Crushing of whole body, applied from above	Crushing of torso, force applied from side	Crushing of fingers or hand, force applied from side	Crushing of leg, force applied from side	Crushing of whole body	Crushing of head, torso and arms	Cutting of fingers or hand	Cutting of foot
							
Cutting or entanglement of foot, rotating auger	Severing of foot, rotating knives	Severing of fingers or hand, impeller blade	Wait until all machine components have completely stopped before touching them	Severing of fingers or hand, engine fan	Whole body entanglement, implement input drive line	Fingers or hand entanglement, chain drive	
							
Hand & arm entanglement, belt drive	Thrown or flying objects, whole body exposure	Thrown or flying objects, face exposure	Runover/backover, (relevant machine to appear in dashed box)	Machine tipping, riding mower	Machine rollover, ROPS (relevant machine to appear in dashed box)	Stored energy hazard, kickback or upward motion	Hot surfaces, burns to fingers or hands
							
Explosion	Fire or open flame	Secure lifting cylinder with locking device before getting in hazardous area	Stay a safe distance from the machine	Stay clear of articulation area while engine is running	Do not open or remove safety shields while engine is running	Do not step on loading platform if PTO is connected to tractor & engine is running	Do not step
							
Shut off engine & remove key before performing maintenance or repair work	Riding on this machine is allowed only on a passenger seat & only if the procedures driver's view is not hindered	Consult technical manual for proper service procedures	Fasten seat belts	Safety alert triangle	outline safety alert symbol	Read operator's manual	

							
Eye protection must be worn	Head protection must be worn	Hearing protection must be worn	Caution, toxic risk	First aid	Flush with water	Engine	Transmission

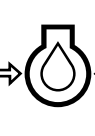
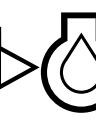
							
Fire, open light & smoking prohibited	Hydraulic system	Brake system	Oil	Coolant (water)	Intake air	Exhaust gas	Pressure

							
Level indicator	Liquid level	Filter	Temperature	Failure/ Malfunction	Start switch/ mechanism	On/start	Off/stop

							
Engage	Disengage	Attachment lower	Attachment raise	Spacing distance	Snow thrower, collector auger	Plus/increase/ positive polarity	Minus/decrease/ negative polarity

							
Horn	Battery charging condition	Hourmeter/elapsed operating hours	Fast	Slow	Continuous variable, linear	Volume empty	Volume full

							
Machine travel direction, forward/rearward	Control lever operating direction, dual direction	Control lever operating direction, multiple direction	Clockwise rotation	Counter-clockwise rotation	Grease lubrication point	Oil lubrication point	Lift point

							
Jack or support point	Draining/ emptying	Engine lubricat- ing oil	Engine lubricating oil pressure	Engine lubricating oil level	Engine lubricating oil filter	Engine lubricating oil temperature	Engine coolant

Symbol Glossary, continued

Engine coolant pressure	Engine coolant filter	Engine lubricating oil pressure	Engine intake/combustion air	Engine intake/combustion air pressure	Engine intake/air filter	Engine start	Engine stop
Engine failure/malfunction	Engine rotational speed/frequency	Choke	Primer (start aid)	Electrical preheat (low temperature start aid)	Transmission oil	Transmission oil pressure	Transmission oil temperature
Transmission failure/malfunction	Clutch	Neutral	High	Low	Forward	Reverse	Park
First gear	Second gear	Third gear (other #'s may be used until the maximum # of forward gears is reached.)	Hydraulic oil	Hydraulic oil pressure	Hydraulic oil level	Hydraulic oil filter	Hydraulic oil temperature
Hydraulic oil failure/malfunction	Parking brake	Fuel	Fuel level	Fuel filter	Fuel system failure/malfunction	Diesel fuel	Unleaded fuel
Headlights	Lock	Unlock	Differential lock	4-Wheel drive	Power Take-Off	Power Take-Off, rotational speed	Reel cutting element
Reel cutting element, height adjustment	Traction	Above working temperature range	Drilling	Manual metal arc welding	Manual	0356 Water pump	0626 Keep dry

Specifications

Configuration: Tricycle vehicle with two front wheels providing drive and one rear wheel providing steering. Operator sits in center over #1 cutting unit with #2 and #3 cutting units in front of vehicle.

Certification: Certified to meet ANSI specification B7 1.4-1 990 and European CE standards.

Engine: Briggs & Stratton/Daihatsu three cylinder water cooled engine. 850 cc. Full pressure lubrication, oil filter. 15.7 kW hp at 3600 rpm, 10.8 hp at 2600 rpm. Engine governed to 2750 ±50 rpm high idle, 1500 ±50 rpm low idle (no load).

Frame: Welded steel tube construction in an “A” frame configuration.

Air Cleaner: Donaldson heavy-duty remote air cleaner.

Steering: Power steering. Danfoss open-center, non-load reacting steering valve with power beyond for raise/lower circuit and Hydrostat charge circuit. 33 cm round steering wheel. Quick adjust steering arm position, with arm motion allowing a wide range of operator sizes. Steering cylinder has a 3.81 cm bore x 15.875 stroke with through shaft design for accurate straight line steering.

Fuel Capacity: 6 gallons (22.7 liters) capacity, diesel.

Hydraulic Oil Capacity: 5.5 gallon (20.8 liter) nylon oil reservoir. Mobile DTE 15 M standard. Mobile EAL 224H approved. Hydraulic oil filter has 5-micron, long-life filtration of reel circuit.

Traction Drive: Hydrostatic piston pump, closed loop system. Foot pedal forward and reverse; infinitely variable. Two front-wheel orbit motors, 26.2³ cm/rev displacement.

Ground Speed: Forward—mowing speed is variable from 2 to 5 mph (3.2 to 8 km/h), adjusted by a stop on the pedal mechanism. Mow speed setting does not affect transport speed. Maximum transport speed is 8.8 mph (14.1 km/h); it may be reduced by adjusting the stop in footrest pan without affecting mow speeds. Reverse is 2.5 mph (4.0 km/h).

Turf Compaction Pressure: 69 kPa average at recommended minimum tire pressures, with a 75 kg operator and cutting units down.

Tires: Three 18 x 9.50 x 8, 2-ply pneumatic tubeless demountable and interchangeable. Smooth tread.

Tire pressure: 55–83 kPa front
55–103 kPa rear

Brakes: 15 cm drum type mechanical with rack and pawl lock for parking.

Cutting Unit Drive: Hydraulic drive; one 9.5 cc rev gear pump section powers three reel motors in series. Manifold block with cartridge valves controls flow, electrical on/off. Reel motors have 12.0 cc rev displacement, low pressure case drains, and Toro exclusive “twist-mount” partial flange cut-away for fast installation.

Clip: Dependent on mowing ground speed, reel rpm, and number of reel blades. Mowing ground speed is easily changed by adjusting the pedal mow stop (this will not affect transport speed). Increasing ground speed will increase clip length and decrease cuts per meter. In general, the quality of cut will be best when clip and height of cut are nearly equal.

Cutting Unit Suspension: Cutting units are completely free floating, each attaching to the traction unit by a single low pull point and lifted by a centered lift arm. Baskets are supported by carrier frames that are suspended off the ground by adjustable stops in the tractor frame weldment. Cutting unit floatation is unaffected by basket content.

Electrical Features: Maintenance-free 12-volt battery with 530 cold cranking amps at –18° C and 85 minutes reserve capacity at 29° C. 27-amp alternator, circuit fused at 40 amps. Ignition switch/key. Seat switch. High-temperature engine-kill override switch. Harness terminals. Fuse slot, and console switch location available for optional lights installation.

Controls/Gauges: Hand-operated throttle, raise/lower/mow lever, and functional control (neutral, mow, transport) lever. Foot-operated traction drive brakes. Hour meter and 4-bulb warning cluster.

Interlocks:

The traction pedal locks when the functional control lever is in neutral.

Engine cranking requires the functional control lever in neutral, operator does not have to be in seat.

The engine will shut off if operator leaves seat without the functional control lever in neutral.

Reels turning forward requires the operator on the seat, the functional control lever in mow and raise/lower/mow control momentarily engaged.

Reels turning backward for backlap requires optional variable reel speed installed. Then the reels are allowed to turn backwards when the functional control lever in neutral and the backlap switch is closed, showing reel direction is reversed.

Seat: Contour seat with high backrest. 18 cm fore/aft slider adjustment with two mounting positions allowing 22.8 cm total seat travel. Operator manual tube is mounted on the seat back for easy access.

General Specifications:

Width of Cut:	59.0 in. (150 cm)
Wheel Tread:	50.5 in. (128 cm)
Wheel Base:	48.6 in. (123 cm)
Overall Length (w/baskets)	93.9 in. (238 cm)
Overall Width:	68.0 in. (173 cm)
Overall Height:	50.5 in. (128 cm)
Weight w/reels (8 Blade 4 Bolt):	1,338 lbs. (608 kg)

Before Operating

**CAUTION**

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

Check The Engine Oil

The engine is shipped 3.3L of oil in the crankcase; however, the level of oil must be checked before and after engine is first started.

1. Position the machine on a level surface.
2. Remove the dipstick and wipe it with a clean cloth. Push the dipstick into the tube and make sure it is seated fully. Remove the dipstick from the tube and check the level of oil. If the oil level is low, remove the filler cap from the valve cover and add enough oil to raise the level to the FULL mark on the dipstick. Add the oil slowly and check the level often during this process. **DO NOT OVERFILL.**

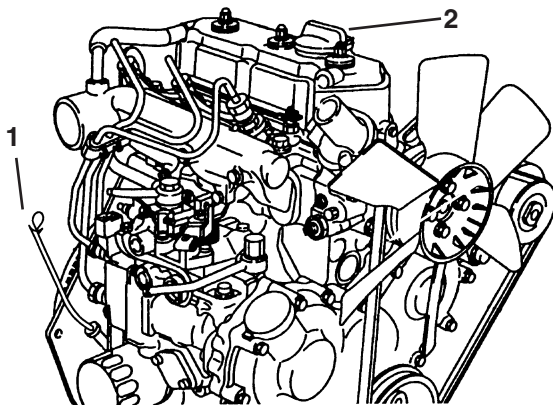


Figure 1

1. Dipstick
2. Filler cap

3. The engine uses any high-quality detergent oil having the American Petroleum Institute—API—“service classification” CD, CE, CF or CF-4 or CG-4 or higher. Recommended viscosity (weight) is SAE 10W30.

IMPORTANT. Check the level of oil every 8 operating hours or daily. Change the oil and filter initially after the first 50 hours of operation; thereafter change oil every 50 hours and filter

every 100 hours. However, change oil more frequently when operating the engine in extremely dusty or dirty conditions.

4. Install the filler cap and dipstick firmly in place.

Fill The Fuel Tank

The engine runs on No. 2 diesel fuel. Fuel tank capacity is 6 gallons (22.7 L)

1. Clean the area around the fuel tank cap.

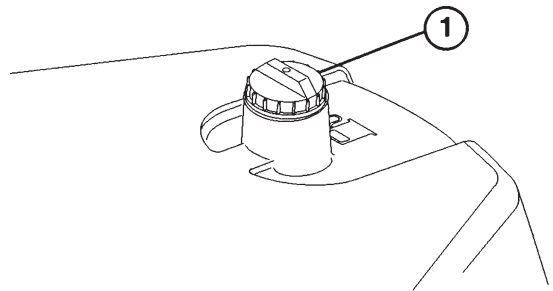


Figure 2

1. Fuel tank cap

2. Remove the fuel tank cap.

**DANGER**

Because diesel fuel is flammable, use caution when storing or handling it. Do not smoke while filling the fuel tank. Do not fill fuel the tank while engine is running, hot, or when the machine is in an enclosed area. Always fill the fuel tank outside and wipe up any spilled diesel fuel before starting the engine. Store fuel in a clean, safety-approved container and keep the cap in place. Use diesel fuel for the engine only; not for any other purpose.

3. Fill the tank to about one inch below the top of the tank, (bottom of the filler neck). **DO NOT OVERFILL.** Then install the cap.
4. Wipe up any fuel that may have spilled to prevent a fire hazard.

Check The Cooling System

Capacity of the cooling system is 3.4 L.

Clean debris off the radiator screen and the radiator daily (Fig. 3)—hourly if conditions are extremely dusty and dirty; refer to *Cleaning the Radiator and Screen*.

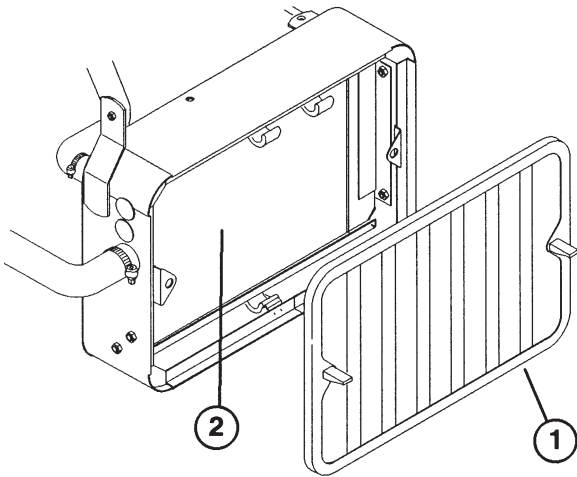


Figure 3

- 1. Radiator screen
- 2. Radiator

The cooling system is filled with a 50/50 solution of water and permanent ethylene glycol anti-freeze. Check the level of coolant at beginning of each day before starting the engine.



CAUTION



If the engine has been running, pressurized hot coolant can escape and cause burns.

1. Park the machine on a level surface.
2. Check coolant level. Coolant should be between the lines on reserve tank, when the engine is cold.
3. If coolant is low, remove the reserve tank cap and add a 50/50 mixture of water and permanent ethylene glycol anti-freeze. **DO NOT OVERFILL.**
4. Install the reserve tank cap.

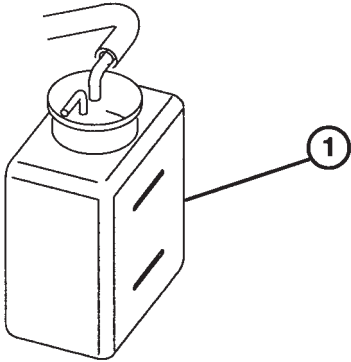


Figure 4

- 1. Reserve tank

Check The Hydraulic System Fluid

The hydraulic system is designed to operate on anti-wear hydraulic fluid. The machine’s reservoir is filled at the factory with approximately 20.8 L of Mobil DTE 15M hydraulic fluid. Check the level of hydraulic fluid before the engine is first started and daily thereafter. Appropriate hydraulic oils are listed below.

Group 1 Hydraulic Fluid (Moderate climate—average duty)

Note: The fluids within this group are interchangeable.

ISO VG 46/68 multi-viscosity anti-wear hydraulic fluid

Mobil	DTE 15M
Amoco	Rykon Premium ISO 46
Castrol	AWH 46
Conoco	Hydromatic AW MV46
Gulf	Harmony HVI 46 AW
Kendall	Hyken Golden MV SAE 5W-20
Pennzbell	AWX MV46
Phillips	Magnus A KV 5W-20
Shell	Tellus T 46
Sunoco	Sun Hyd. Oil 2105
Texaco	Rando HDZ 46

Universal Tractor Hydraulic Fluid

Mobil	Mobilfluid 424
Amoco	1000 Fluid
Chevron	Tractor Hydraulic Fluid
Conoco	Hydromatic Powertran
Esso	Hydraul
Gulf	Universal Tractor Fluid
Kendall	Hyken 052
Marathon	Marafluid Super HT
Pennzoil	Hydra-trans

Phillips	HG Fluid
Shell	Donax TD
76 Lubricants	Hydraulic/Tractor Fluid
Sunoco	TH Fluid
Texaco	TDH

Group 2 Hydraulic Fluid (Hot Climate- Heavy Duty)

Note: The fluids within this group are interchangeable.

ISO VG 68 anti-wear hydraulic fluid

Mobil	DTE 26
Amoco	Rykon AW No. 68
Castrol	AWS 68
Chevron	Hydraulic Oil AW ISO 68
Conoco	Hydrotel AW 68
Exxon	Nuto H 68
Gulf	Harmony 68AW
Kendall	Four Seasons AW 68
Marathon	IS068
Pennzbell	AW Hydraulic Oil 68
Phillips	Magnus A ISO 68
Shell	Tellus 68
76 Lubricants	AW 68
Sunoco	SunVis 868
Texaco	Rando HD 68

IMPORTANT- Group 1 fluids are recommended for use at typical ambient temperatures 0°C to 41°C. The ISO Type 46/48 fluid has been found to offer optimal performance in a wide range of temperature conditions for the average user. The Universal Tractor Fluids offer similar performance for those who prefer them, with perhaps some slight loss of efficiency at high ambient temperatures compared to the Type 46/48 fluids.

Group 2 fluids are recommended for heavy-duty use in hot climates where ambient temperatures range from about 20°C to 49°C. Use at lower ambient temperatures may result in hard starting, increased engine laboring while cold, sluggish or non-operating valves while cold and high filter back pressure due to the higher viscosity of these fluids.

Note: When changing from one type of hydraulic fluid to another, be certain to remove all the old fluid from the system, as some fluids are incompatible with others.

Group 3 Hydraulic Fluid (Biodegradable)

ISO VG 32/46 anti-wear hydraulic fluid

Mobil	EAL 224H
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Note: This biodegradable hydraulic fluid is not

compatible with the fluids in Group 1 and 2.

Note: An Oil Cooler Kit, Part No. 100-3166, is required on the traction unit when using the biodegradable fluid. Fluid temperature should not exceed 82°C.

Note: When changing from standard fluid to the biodegradable type, be certain to follow approved flushing procedures as published by Mobil. Contact your local Toro Distributor for details.

IMPORTANT. Use only types of hydraulic fluids specified. Other fluids could cause system damage.

Note: A red dye additive for the hydraulic system fluid is available in 19.8 ml bottles. One bottle is sufficient for 22 L of hydraulic fluid. Order Part No. 44-2500 from your Authorized Toro Distributor.

1. Position the machine on a level surface. Make sure the machine has cooled down so fluid is cold.
2. Remove the cap from reservoir and check the level of fluid. The fluid should be up to bottom of screen in the filler neck.

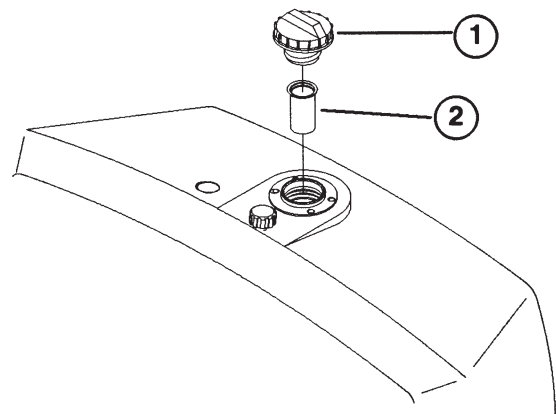


Figure 5

1. Hydraulic reservoir cap
2. Screen

3. If the fluid level is low, slowly fill reservoir with hydraulic fluid until the level reaches the bottom of the screen. **DO NOT OVERFILL.**

IMPORTANT: To prevent system contamination, clean the tops of hydraulic fluid containers before puncturing them. Assure the pour spout and funnel are clean.

4. Install the reservoir cap. Wipe up any fluid that may have spilled.

Draining Water From The Fuel Filter/Water Separator



DANGER



Because diesel fuel is flammable, use caution when storing or handling it. Do not smoke while filling the fuel tank. Do not fill fuel the tank while engine is running, hot, or when the machine is in an enclosed area. Always fill the fuel tank outside and wipe up any spilled diesel fuel before starting the engine. Store fuel in a clean, safety-approved container and keep the cap in place. Use diesel fuel for the engine only; not for any other purpose.

Any water accumulation should be drained from the fuel filter/water separator before each use or when the warning light glows.

1. Position the machine on a level surface and stop the engine.
2. Place a drain pan under the fuel filter.
3. Open the drain plug on the fuel filter/water separator approximately one turn and drain any accumulated water. If necessary, operate the priming pump to drain water (Fig. 6). Tighten the plug after draining.
4. Start the engine and make sure the warning light goes out. Check for leaks.

NOTE: Because the accumulated water will be mixed with diesel fuel, drain the fuel filter into a suitable container and dispose of it properly.

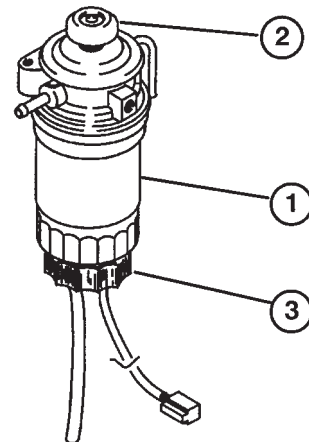


Figure 6

1. Fuel filter
2. Priming Pump
3. Drain Plug

Check Tire Pressure

The tires are over-inflated for shipping. Therefore, release some of the air to reduce the pressure. Correct air pressure is:

Front tires 55–83 kPa

Rear tire 55–103 kPa

Check The Reel-To-Bedknife Contact

Each day before operating, check the reel-to-bedknife contact, regardless of whether or not the quality of cut had been acceptable. There must be light contact across the full length of the reel and bedknife (refer to *Adjusting Reel to Bedknife* in the Cutting Unit operator's Manual).

Check The Torque Of The Wheelnuts



WARNING



Torque the wheel nuts to 95–122 Nm after 1–4 hours of operation and again after 10 hours of operation and every 200 hours thereafter. Failure to maintain proper torque could result in failure or wheel loss, and may result in personal injury.

Controls

Traction Pedal (Fig. 7)—The traction pedal has three functions: 1) to make the machine move forward, 2) to move it backward and 3) to stop the machine. Depress the top of the pedal to move forward and the bottom of the pedal to move backward or to assist in stopping when moving forward. Also, allow the pedal to move to the neutral position to stop the machine. Do not rest your heel of foot on reverse, when operating forward (Fig. 8).

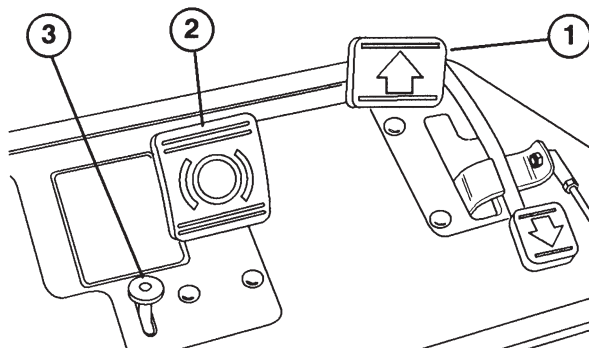


Figure 7

1. Traction pedal
2. Brake pedal
3. Parking brake latch

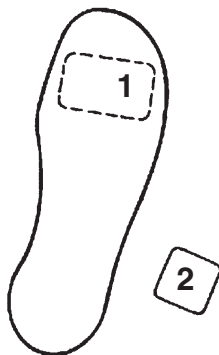


Figure 8

1. Forward
2. Reverse

Brake Pedal (Fig. 7)—The brake pedal actuates an automotive drum-type mechanical brake located at each traction wheel.

Parking Brake Button (Fig. 7)—Depressing the brake pedal to actuate the brake assembly, then depressing the small button indicated will keep the brakes actuated for parking. Disengage the parking brake by depressing the brake pedal. Form the habit of locking the parking brake before you leave the machine.

Throttle Control (Fig. 9)—The throttle controls the

speed of the engine. Moving the Throttle Control toward the “FAST” position increases engine RPM; moving the throttle Control toward “SLOW” will decrease engine rpm.

Functional Control Lever (Fig. 9)—Provides two (2) traction selections, plus a “NEUTRAL” position. It is permissible to shift from mow to transport or from transport to mow (not to neutral) while the Greensmaster 3250-D is in motion. No damage will result.

1. Rear Position—Neutral and backlapping.
2. Middle Position—Used for mowing operation.
3. Front Position—Used for transport operation.

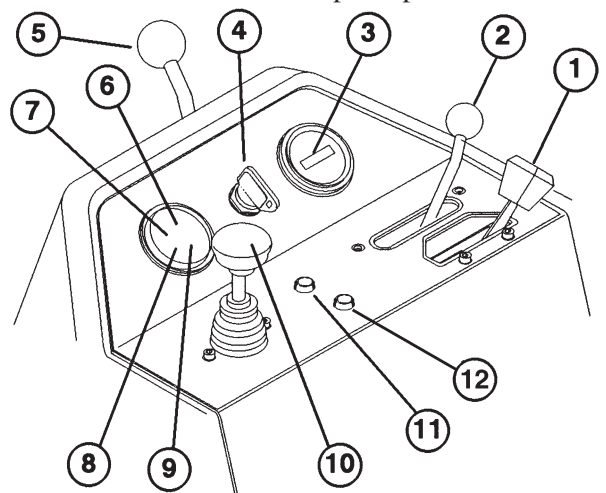


Figure 9

1. Throttle control
2. Functional control lever
3. Hour meter
4. Ignition switch
5. Steering arm locking lever
6. Water temperature light
7. Engine oil pressure light
8. Battery warning light
9. Glow plug light
10. Raise/Lower/Mow control
11. High temperature override button
12. Water-in-fuel indicator light

Hour Meter (Fig. 9)—Indicates the total hours of machine operation. The hour meter starts to function whenever the key switch is turned to “ON”.

Ignition Switch (Fig. 9)—Insert the key into the switch, turn it clockwise as far as possible to the “START” position to start the engine. Release the key as soon as the engine starts; the key will move to the “ON” position. Turn the key counter-clockwise to the “OFF” position to stop the engine.

Steering Arm Locking Lever (Fig. 9)—Rotate the lever rearward to loosen adjustment, raise or lower the

steering arm for operator comfort, then, rotate the lever forward to tighten adjustment.

Water Temperature Light (Fig. 9)—This light glows and the engine automatically shuts-down when the engine coolant temperature gets too high.

Water-in-Fuel Indicator Light (Fig. 9)—This light glows when water is detected in the fuel.

IMPORTANT: Water must be drained from the fuel filter/water separator to avoid serious engine damage. Refer to Draining Water from Fuel Filter/Water Separator.

High-Temperature Override Button (Fig. 9)—If the engine kills due to an over heat condition, press the override button in and hold it there until the machine can be moved to a safe location and allowed to cool down.

Note: When using the override button, it must be held down continuously to operate. Do not use it for extended periods of time.

Glow Plug Indicator Light (Fig. 90)—When lit, this light indicates the glow plugs are on.

Battery Warning Light (Fig. 9)—Light glows if the battery charge is low.

Oil Pressure Light (Fig. 9)—Light glows if the engine oil pressure drops below a safe level.

Raise/Lower/Mow Control (Fig. 9)—Moving this control forward during operation lowers the cutting units and starts the reels. Pull back on the control to stop the reels and raise the cutting units. During operation, the reels can be stopped by pulling back on the control momentarily, then releasing it. Restart the reels by moving the control forward.

SEAT ADJUSTING HANDLE (Fig. 10)—The lever on the left side of the seat allows 17.8 cm fore and aft adjustment.

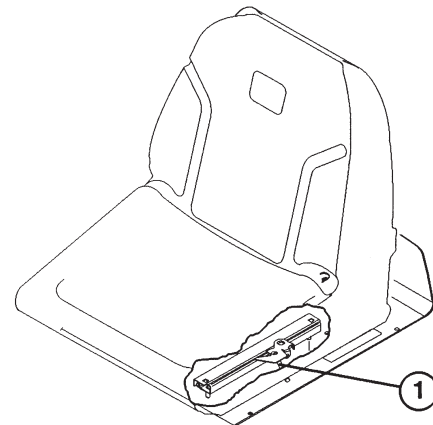


Figure 10

1. Seat adjusting handle

FUEL SHUT-OFF VALVE (Fig. 11)— Close the fuel shut-off valves under the fuel tank and above the fuel filter when storing the machine.

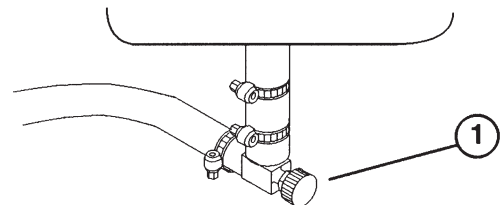


Figure 11

1. Fuel shut off (under fuel tank)

Operation

Break-In Period

1. Only 8 hours of mowing operation is required for the Greensmaster 3250-D break-in period.
2. Since the first hours of operation are critical to future dependability of the machine, monitor its functions and performance closely so that minor difficulties, which could lead to major problems, are noted and can be corrected. Inspect the Greensmaster 3250-D frequently during break-in for signs of oil leakage, loose fasteners, or any other malfunction.
3. To assure optimum performance of the brake system, break-in the brakes before use: Firmly apply the brakes and drive the machine at mowing speed until the brakes are hot, as indicated by their smell. An adjustment to the brakes may be required after break-in.

Starting Instructions

IMPORTANT: The fuel system may have to be bled if any of the following situations have occurred:

- A. Initial start up of a new engine.
- B. The engine has ceased running due to lack of fuel.
- C. Maintenance has been performed upon fuel system components; i.e., filter replaced, etc.

Refer to Bleeding the Fuel System

1. Be sure parking brake is set, the raise/lower/mow control is disengaged and the functional control is in neutral position.
2. Remove your foot from the traction pedal and make sure the pedal is in neutral.
3. Move the throttle lever to the full-throttle position.
4. Insert the key into the switch, turn it to the ON position and hold it there until the glow plug indicator light goes off (approximately 6 seconds).
5. Immediately turn the key to START. Release the key when the engine starts and allow it to move to

the ON position. Move the throttle control to the SLOW position.

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

6. When the 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.

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

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

7. To stop the engine, move the throttle control to the SLOW position, make sure the raise/lower/mow control is disengaged and the functional control is in the neutral position. Turn the starter key to OFF. Remove the key from the switch to prevent accidental starting.
8. Close the fuel shut off valves before storing the machine.

Bleeding The Fuel System

1. Park the machine on a level surface. Make sure the fuel tank is at least half full.
2. Press the primer button on top of the fuel filter until resistance is felt.
3. Start the engine and continue to operate primer button until engine runs smoothly.



DANGER



Because diesel fuel is flammable, use caution when storing or handling it. Do not smoke while filling the fuel tank. Do not fill fuel the tank while engine is running, hot, or when the machine is in an enclosed area. Always fill the fuel tank outside and wipe up any spilled diesel fuel before starting the engine. Store fuel in a clean, safety-approved container and keep the cap in place. Use diesel fuel for the engine only; not for any other purpose.

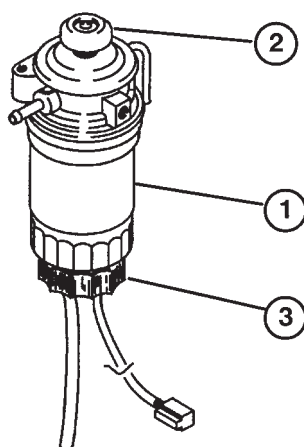


Figure 12

1. Fuel filter
2. Priming Pump
3. Drain Plug

Check Interlock System Operation

The purpose of the interlock system is to prevent the engine from cranking or operating the traction pedal if the functional control lever is not in neutral. Also, the engine will shut off if operator leaves seat without the functional control lever in neutral. Reels will shut-off if the functional control lever is moved to neutral or transport. Perform the following system checks daily to be sure the interlock system is operating correctly.



CAUTION



Do not disconnect the interlock switches. Check switch operation daily to assure the interlock system is operating correctly. If a switch is malfunctioning, replace it before operating the machine. To ensure maximum safety, replace all switches after every two years.

1. Sit on the seat, engage the parking brake, move the functional control lever to neutral and try to depress the traction pedal. The pedal should not depress, which means the interlock system is operating correctly. Correct problem if the system is not operating properly.
2. Sit on the seat, engage the parking brake, put the traction pedal in neutral, the functional control lever in mow or transport and try to start the engine. The engine should not crank, which means the interlock system is operating correctly. Correct the problem if the system is not operating properly.
3. Sit on the seat and start the engine. Move the functional control lever to mow and rise off seat. The engine should kill, which means the interlock system is operating correctly. Correct the problem if the system is not operating properly.
4. Sit on the seat, engage the parking brake, put the traction pedal in neutral, the functional control lever in neutral and start the engine. Move the raise/lower - mow control forward to lower the cutting units but they should not start rotating, which means the interlock system is operating correctly. Correct the problem if the system is not operating properly.

Preparing The Machine For Mowing

To assist in aligning the machine for successive cutting passes, it is suggested the following be done to the No. 2 and No. 3 cutting unit baskets:

1. Measure in approximately 12.5 cm from the outer edge of each basket.
2. Either place a strip of white tape or paint a line onto each basket paralleling the outer edge of each basket (Fig. 13)

Training Period

Before mowing greens with the GREENSMaster 3250-D, The Toro Company suggests that you find a clear area and practice starting and stopping, raising and lowering cutting units, turning, etc. This training period will be beneficial to the operator in gaining confidence in the performance of the GREENSMaster 3250-D.

CAUTION: This product may exceed noise levels of 85 dB(A) at the operator position. Ear protectors are recommended, for prolonged exposure, to reduce the potential of permanent hearing damage.

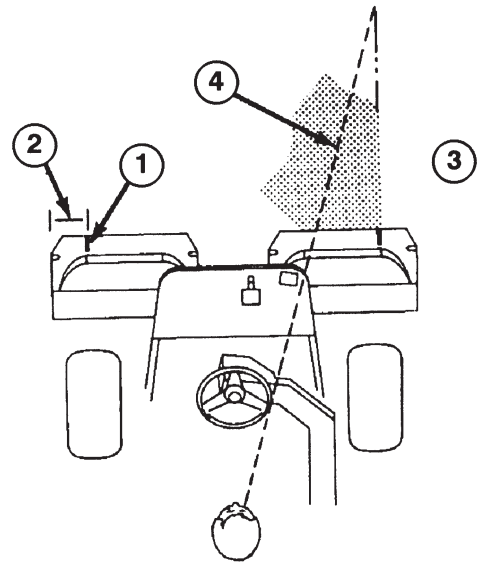


Figure 13

1. Alignment strip
2. Approximately 12 cm
3. Cut grass on the right
4. Keep focal spot 2-3 meters ahead of the machine

Before Mowing

Inspect the green for debris, remove the flag from the cup, and 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 trap between the reel blades and bed knife.

Mowing Procedures

1. Approach the green with the functional control lever in the MOW position and the throttle at FULL speed. Start on one edge of the green so the ribbon procedure of cutting may be used. This holds compaction to a minimum and leaves a neat, attractive pattern on the greens.
2. Actuate the raise/lower-mow lever as the front edge of the grass baskets cross the outer edge of the green. This procedure drops the cutting units to the turf and starts the reels.

IMPORTANT: Familiarize yourself with the fact that the No. 1 cutting unit reel is delayed and therefore, you should practice to try to gain the required timing necessary to minimize the cleanup mowing operation.

3. Overlap a minimal amount with the previous cut on return passes. To assist in maintaining a straight line across the green and keep the machine an equal distance from the edge of the previous cut, establish an imaginary sight line approximately 2 to 3 meters ahead of the machine to the edge of the uncut portion of the green. Some find it useful to include the outer edge of the steering wheel as part of the sight line; i.e., keep the steering wheel edge aligned with a point that is always kept the same distance away from the front of the machine.

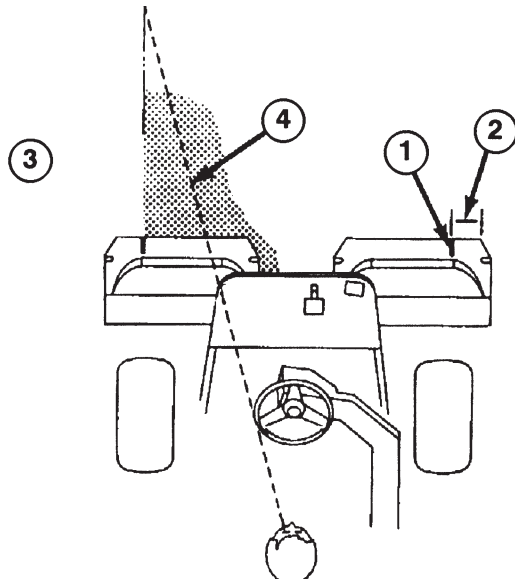


Figure 14

1. Alignment strip
2. Approximately 12 cm
3. Cut grass on the left
4. Keep focal spot 2–3 meters ahead of the machine

4. As the front of the baskets cross the edge of the green, pull back on the raise/lower-mow lever. This will stop the reels and lift the cutting units. Timing of this procedure is important, so the mowers do not cut into the fringe area. However, as much of the green as possible should be cut to minimize the amount of grass left to mow around the outer periphery.
5. Cut down on operating time and ease lineup for the next pass by momentarily turning the machine in the opposite direction, then turning in the direction of the uncut portion; i.e., if intending to turn right, first swing slightly left, then right. This will assist in getting the machine more quickly aligned for the next pass. Follow the same procedure for turning in the opposite direction. It's good practice to try to make as short a turn as possible. However, turn in a wider arc during warmer weather to minimize

the possibility of bruising the turf.

IMPORTANT: The Greensmaster 3250-D should never be stopped on a green with the cutting unit reels operating as damage to the turf may result. Stopping on a wet green with the Greensmaster 3250-D may leave marks or indentations from the wheels.

6. Finish cutting the green by mowing the outer periphery. Be sure to change the direction of cutting from the previous mowing. Always keep weather and turf conditions in mind and be sure to change the direction of mowing from the previous cutting. Replace the flag.
7. Empty the grass baskets of all clippings before transporting to the next green. Heavy wet clippings place an undue strain on the baskets and will add unnecessary weight to the machine, thereby increasing the load on the engine, hydraulic system, brakes, etc.

Transport Operation

Make sure the cutting units are in the full up position. Move the functional control lever to the TRANSPORT position. Use the brakes to slow the machine while going down steep hills to avoid loss of control. Always approach rough areas at a reduced speed and cross severe undulations carefully. Familiarize yourself with the width of the Greensmaster 3250-D. Do not attempt to pass between objects that are close together so that costly damage and down time 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. After cleaning, inspect the machine for possible hydraulic fluid leaks, damage or wear to hydraulic and mechanical components and check the cutting units for sharpness. Also, lubricate the mow and lift pedal and brake shaft assembly with SAE 30 oil or spray lubricant to deter corrosion and help keep the machine performing satisfactorily during the next mowing operation.

Towing The Traction Unit

In case of emergency, the Greensmaster 3250-D can be towed for a short distance. However, Toro does not recommend this as a standard procedure.

IMPORTANT: Do not tow the machine faster than 3–5 kmh because drive system may be damaged. If the machine must be moved a considerable distance, transport it on a truck or trailer.

1. Locate the by-pass valve on the pump and rotate it 90°.

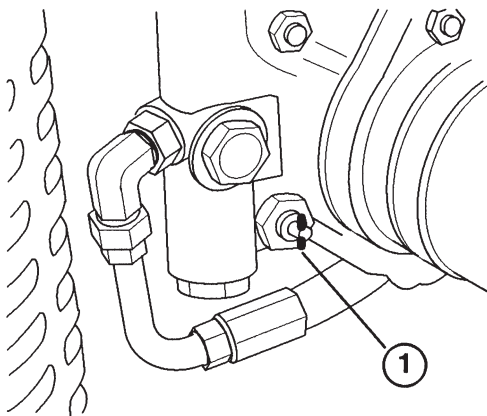
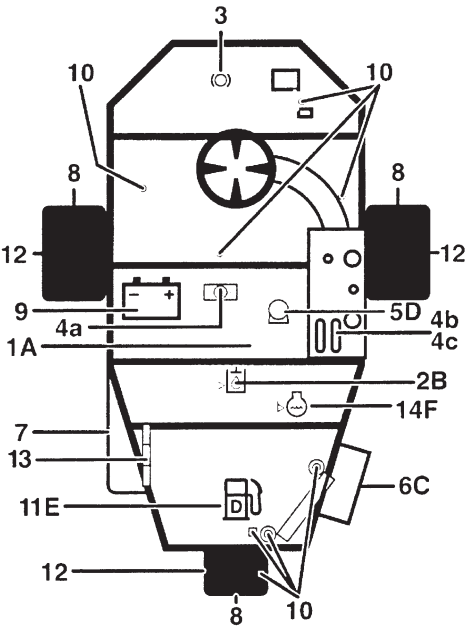


Figure 15

1. By-pass valve

2. Before starting the engine, close by-pass valve by rotating it 90°. Do not start the engine when valve is open.

Maintenance



Quick Reference Aid

Check/service (daily)

- | | |
|--------------------------------|-------------------------------------|
| 1. Oil Level, engine | 6. Air cleaner |
| 2. Oil level, hydraulic tank | 7. Radiator screen |
| 3. Brake function | 8. Tire pressure |
| 4. Interlock system: | 9. Battery |
| 4a. Seat interlock | 10. Grease point (8) |
| 4b. Neutral sensor | 11. Fuel—Diesel #2 |
| 4c. Mow sensor | 12. Wheel nut torque |
| 5. Water separator/fuel filter | 13. Fan/alternator/water pump belts |
| | 14. Coolant level |

See operator's manual for initial change	Fluid Type	Capacity (L)	Fluid Change Interval	Filter Change Interval	Filter Part Number
Engine Oil	SAE 10W-30CD	3.0	50 hours	100 hours	99-9017
Hydraulic Oil*	Mobil DTE 15M	20.8	800 hours	800 hours	75-1310
Air Cleaner				200 hours	93-2195
Fuel Filter				800 hours	100-3192
Fuel Tank	No. 2 Diesel	22.7	Drain and flush, 2 years		
Coolant	50/50 Ethylene glycol/water mix	3.4	Drain and flush, 2 years		

Maintenance Schedule

Maintenance Procedure		Maintenance Interval & Service			
Check battery fluid level	Every 50	Every	Every	Every	
Check battery cable connections	hours	100	200	800	
Service the air filter		hours	hours	hours	
Lubricate all grease fittings					
†Change the engine oil					
†Check alternator fan belt tension					
†Replace the engine oil filter					
Replace the air filter element					
Torque the wheel lug nuts					
Replace hydraulic oil					
Replace hydraulic oil filter					
Check engine RPM (idle and full throttle)					
Replace fuel filter/water separator cannister					
†Initial break in at 8 hours					
‡Initial break in at 50 hours					
Replace moving hoses Replace safety switches Fuel tank—drain and flush Hydraulic tank—drain and flush Cooling system—drain and flush		Recommendations Items are recommended every 2000 hours or 2 years, whichever occurs first.			

Daily Maintenance Checklist

- | | |
|--------------------------------|---------------------------------|
| ✓ Safety Interlock Operation | ✓ Fluid Leaks |
| ✓ Brake Operation | ✓ Tire Pressure |
| ✓ Engine Oil & Fuel Level | ✓ Instrument Operations |
| ✓ Cooling system Fluid Level | ✓ Lubricate All Grease Fittings |
| ✓ Radiator & Screen for Debris | ✓ Touch-up Damaged Paint |
| ✓ Unusual Engine Noises | |
| ✓ Unusual Operating Noises | |
| ✓ Hydraulic System Oil Level | |
| ✓ Hydraulic Hoses for Damage | |

Lubrication



CAUTION



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

The traction unit has grease fittings that must be lubricated regularly with No. 2 General Purpose Lithium Base Grease. If the machine is operated under normal conditions, lubricate all bearings and bushings after every 50 hours of operation. Lubricate the fittings immediately after every washing, regardless of the interval listed.

The traction unit bearings and bushings that must be lubricated are: Rear wheel hub (1), Castor bearing (1), Steering cylinder (2) (Fig. 16), Lift arms (3) (Fig. 17), Traction pedal pivot (1) (Fig. 18).

1. Wipe grease fitting clean so foreign matter cannot be forced into the bearing or bushing.
2. Pump grease into the bearing or bushing.
3. Wipe up excess grease.
4. Apply grease to reel motor spline shaft and onto lift arm when cutting unit is removed for service.
5. Apply a few drops of SAE 30 engine oil or spray lubricant (WD 40) to all pivot points daily after cleaning.

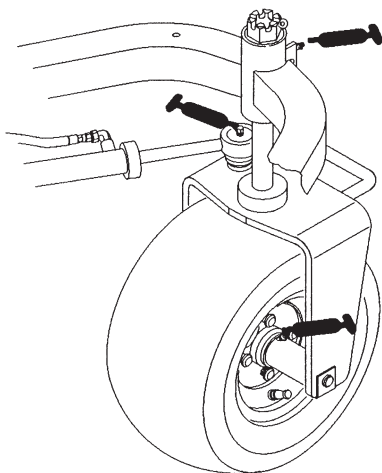


Figure 16

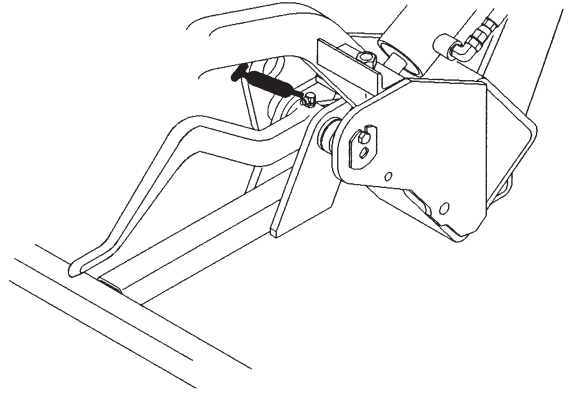


Figure 17

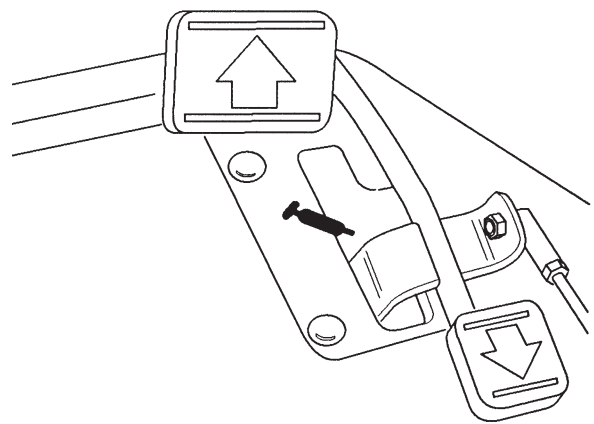


Figure 18

General Air Cleaner Maintenance



CAUTION



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

1. Check the air cleaner body for damage which could possibly cause an air leak. Replace a damaged air cleaner body.
2. Service the air cleaner filter every 200 hours (more frequently in extreme dusty or dirty conditions).

Servicing The Air Cleaner

1. Release the latches securing air cleaner cover to air cleaner body. Separate the cover from the body. Clean the inside of air cleaner cover.

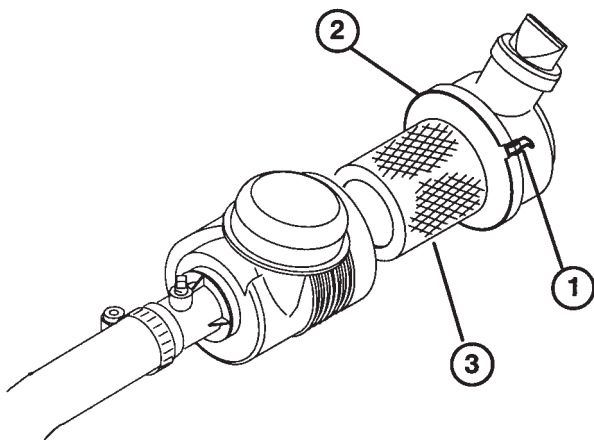


Figure 19

1. Air cleaner latches
2. Dust cup
3. Filter

2. Gently slide the filter out of the air cleaner body to reduce the amount of dust dislodged. Avoid knocking the filter against the air cleaner body.
3. Inspect the filter and discard if damaged. Do not wash or reuse a damaged filter.

Washing Method

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

- B. After soaking the filter for 15 minutes, rinse it with clear water. Maximum water pressure must not exceed 276 kPa to prevent damage to the filter element. Rinse the filter from clean side to dirty to side.
- C. Dry the filter element using warm, flowing air (71° F max), or allow element to air-dry. Do not use a light bulb to dry the filter element because damage could result.

Compressed Air Method

- A. Blow compressed air from inside to the outside of dry filter element. Do not exceed 689 kPa to prevent damage to the element.
- B. Keep the air hose nozzle at least 5 cm from the filter and move the nozzle up and down while rotating the filter element. Inspect for holes and tears by looking through the filter toward a bright light.
5. Inspect the new filter for shipping damage. Check sealing end of the filter. Do not install a damaged filter.
6. Insert a new filter properly into the air cleaner body. Make sure the filter is sealed properly by applying pressure to outer rim of the filter when installing. Do not press on flexible center of the filter.
7. Reinstall the cover and secure the latches.

Cleaning The Radiator And Screen

To prevent the system from overheating, radiator screen and radiator must be kept clean. Check and clean the screen and radiator daily and, if necessary, hourly clean any debris off these parts. Clean these components more frequently in dusty dirty conditions.

1. Remove the radiator screen.
2. Working from the fan side of the radiator, blow out the radiator with compressed air.
3. Clean the screen and re-install.

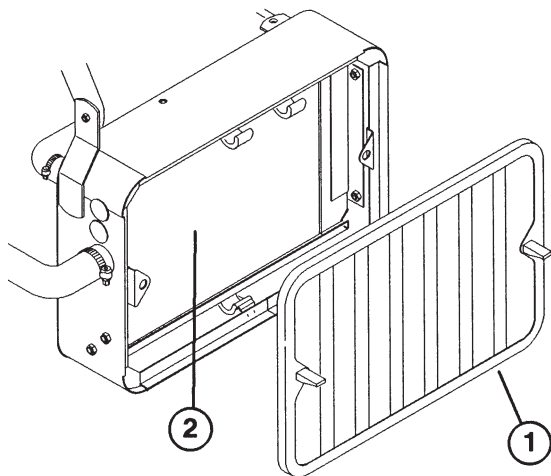


Figure 20

1. Radiator screen
2. Radiator

Changing The Engine Oil And Filter

Change the oil and filter initially after the first 8 hours of operation, thereafter change the oil every 50 hours and filter every 100 hours.

1. Remove the drain plug and let the oil flow into the drain pan. When the oil stops, install the drain plug.
2. Remove the oil filter. Apply a light coat of clean oil to the new filter gasket.
3. Screw the filter on by hand until the gasket contacts the filter adapter, then tighten 1/2 to 3/4 turn further. **DO NOT OVER-TIGHTEN.**
4. Add oil to the crankcase, refer to *Check the Engine Oil*.
5. Dispose of the oil properly.

Servicing The Fuel Filter/Water Separator

Replace filter element after every 800 hours of operation.

1. Clean the area where the filter canister mounts.
2. Disconnect the sensor wire and remove drain plug.
3. Remove the filter canister and clean the mounting surface.

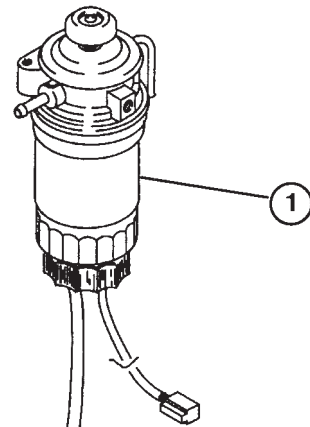


Figure 21

1. Fuel filter with separator

4. Lubricate the gasket on the filter canister with clean oil.
5. Install the filter canister by hand until the gasket contacts the mounting surface, then turn it an additional 1/3 turn.
6. Install the drain plug with new o-ring. Connect the sensor wire.
7. Push the primer button until you feel resistance.
8. Start the engine and check for leaks.

Adjusting The Throttle Control

Proper throttle operation is dependent on correct throttle control adjustment. Before adjusting the carburetor, assure the throttle control is operating properly.

1. Move the remote throttle control lever to the SLOW position.
2. Loosen the cable clamp screw that secures the cable to the engine.
3. Move the cable until the speed control lever contacts the idle speed screw.

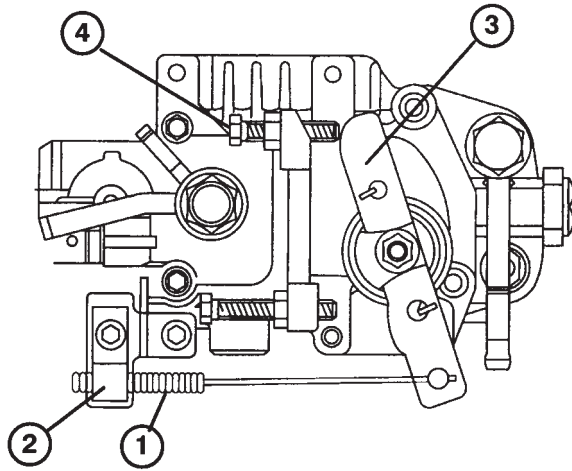


Figure 22

1. Throttle cable
2. Cable clamp
3. Speed control lever
4. Idle speed screw

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

Changing The Hydraulic Oil and Filter

Initially change the hydraulic oil filter after the first 50 operating hours. After that, change the hydraulic oil and filter after every 800 operating hours. If the oil becomes contaminated, contact your local TORO distributor because the system must be flushed. Contaminated oil looks milky or black when compared to clean oil.

1. Clean the area around the filter mounting area. Place the drain pan under the filter and remove the filter.

Note: If the oil is not going to be drained, disconnect and plug hydraulic line going to the filter.

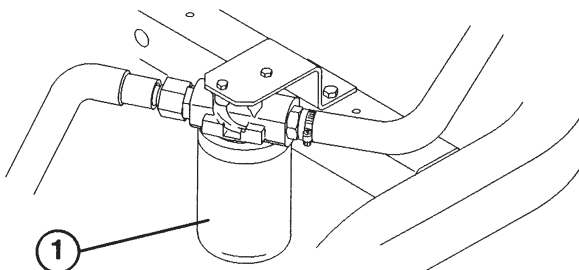


Figure 23

1. Hydraulic filter

2. Fill the replacement filter with Mobil DTE 15M hydraulic fluid, lubricate the sealing gasket and hand

turn until the gasket contacts the filter head. Then tighten 3/4 turn further. The filter should now be sealed.

3. Fill the hydraulic reservoir with 20.8 L of hydraulic oil. Refer to *Check the Hydraulic System*.
4. Start the machine and run it at idle for 3 to 5 minutes to circulate the fluid and remove any air trapped in the system. Stop the machine and recheck the fluid level.
5. Dispose of the oil properly.

Checking Hydraulic Lines And Hoses

Inspect hydraulic lines and hoses daily for leaks, kinked lines, loose mounting supports, wear, loose fittings, weather deterioration and chemical deterioration. Make all necessary repairs before operating.



WARNING



Keep your 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 your skin and cause injury. Fluid accidentally injected into your skin must be surgically removed within a few hours by a doctor familiar with this form of injury or gangrene may result.

Brake Adjustment

A brake adjustment rod is located on each side of the Greensmaster 3250-D so the brakes can be equally adjusted. Adjust the brakes as follows:

1. Drive the machine and depress the brake pedal; both wheels should lock equally.

As a safety precaution, always check brakes in a wide, open spaced, flat area which is free of other persons and obstructions before and after adjustment.

2. Loosen the jam nut and adjust the clevis accordingly.

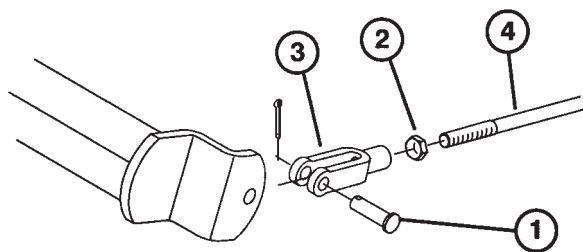


Figure 24

1. Clevis pin & cotter pin
2. Jam nut
3. Clevis
4. Brake shaft

3. Assemble the clevis to the brake shaft.
4. Check the amount of free travel of the brake pedal when adjustment is completed. There should be 1–2.5 cm travel before the brake shoes make contact with the brake drums. Re-adjust, if necessary, to achieve this setting.
5. Drive the machine and depress the brake pedal; both brakes should lock equally. Readjust, if necessary.
6. Brakes should be burnished annually, refer to *Break-in Period*.

Adjusting The Transmission For Neutral

If the machine “creeps” when the traction control pedal is in the neutral position, the neutral return mechanism must be adjusted.

1. Block the machine under the frame so one of the front wheels is off the floor.
2. Start the engine, move the throttle to SLOW and check the front wheel that is off the shop floor; it must not be rotating.
3. If the wheel is rotating, stop the engine and proceed as follows:
 - A. Loosen both jam nuts securing the traction control cable to the bulkhead on the Hydrostat. Make sure the jam nuts are loosened equally and sufficiently to allow adjustment.
 - B. Loosen the nut securing the eccentric to the top of the Hydrostat.

- C. Move the functional control lever to neutral, the throttle to slow and start the engine.
- D. Rotate the eccentric until no creep occurs in either direction. When the wheel stops rotating, tighten the nut locking the eccentric and adjustment. Verify the adjustment with throttle in the SLOW and FAST positions.
- E. From each side of the bulkhead, tighten the locknuts evenly, securing the traction cable to the bulkhead. Do not twist the cable.

Note: If cable tension exists when in neutral, the machine may creep when the functional control lever is moved to the Mow or Transport position.

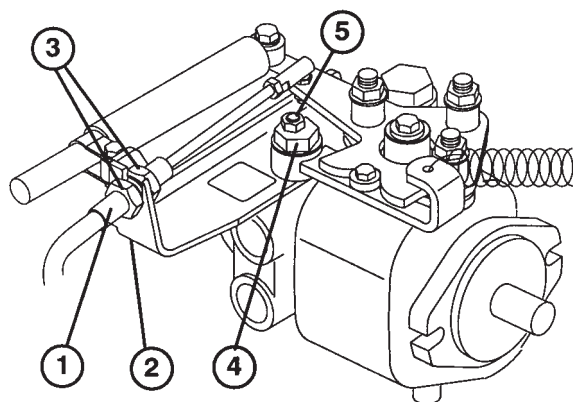


Figure 25

1. Traction cable
2. Bulkhead
3. Jam nuts
4. Eccentric
5. Locknut

Adjusting Transport Speed

The traction pedal was adjusted for maximum transport speed at the factory, but an adjustment may be required if the pedal reaches full stroke before it contacts the pedal stop, or if a decrease in transport speed is desired.

1. Press down on the traction pedal and see if the pedal contacts the stop before tension is felt on cable. If an adjustment is required:
 - A. Loosen the flangehead locknuts securing the pedal stop to the floor plate.
 - B. Adjust the pedal stop so that it contacts the pedal rod and tighten the nuts.

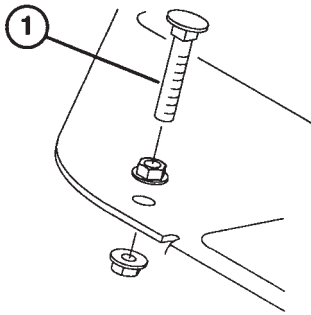


Figure 26

1. Pedal Stop

Adjusting Mowing Speed

The machine is adjusted at the factory, but speed may be varied if desired.

1. Loosen the jam nut on the trunion capscrew.
2. Loosen the nut securing the lock and mow brackets on the pedal pivot.

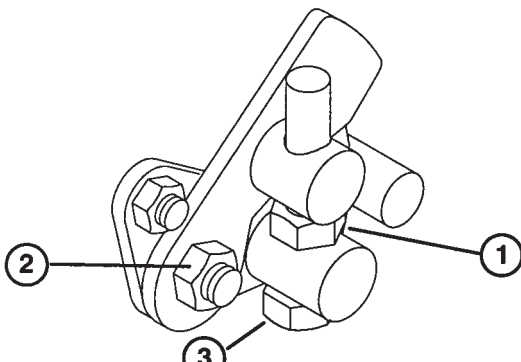


Figure 27

1. Jam nut
2. Nut
3. Trunion capscrew

3. Rotate the trunion capscrew clockwise to reduce mowing speed and counterclockwise to increase mowing speed.
4. Tighten the jam nut on the trunion capscrew and the nut on the pedal pivot to lock adjustment. Then check adjustment and re adjust as required.

Adjusting Cutting Unit Lift/Drop

The machine's cutting unit lift/drop circuit is equipped with a flow control valve. This valve is preset at the factory at 3 turns open, but an adjustment may be required to compensate for differences in hydraulic oil temperatures, mowing spreads, etc. If an adjustment is required, proceed as follows:

Note: Allow hydraulic oil to reach full operating temperature before adjusting the flow control valve.

1. Raise the seat and find the flow control valve mounted to the hydraulic cylinder.

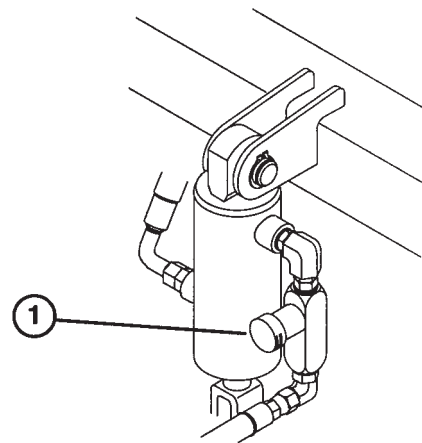


Figure 28

1. Flow control valve

2. Loosen the set screw in the adjusting knob on the flow control.
3. If the center cutting unit is dropping too late, turn the knob 1/4 turn counterclockwise. If the center cutting unit is dropping too early, turn the knob 1/4 turn clockwise.
4. After you have achieved your desired setting, tighten the set screw.

Belt Adjustments

Make sure the belt is properly tensioned to assure proper operation of the machine and prevent unnecessary wear. On new belts, check tension after 8 hours operation.

1. Loosen the bolts securing the alternator to the engine and adjusting strap.

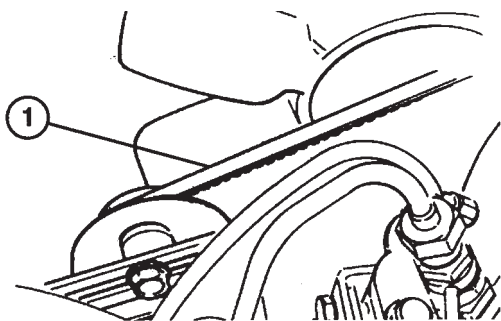


Figure 29

1. Engine belt
2. Adjust the belt to proper tension and tighten the bolts.

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 50 operating hours or, if the 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. Install the filler caps with vents pointing to the rear (toward the fuel tank).

	CAUTION	
Wear safety goggles and rubber gloves when working with electrolyte. Charge the battery in a well-ventilated place so gases 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 the charger from the electrical outlet before connecting to or disconnecting charger leads from battery posts.		

4. Keep the 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 the terminals to provide good electrical contact.

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

6. If corrosion occurs at the terminals, disconnect cables, negative (–) cable first and scrape clamps and terminals separately. Reconnect cables, positive (+) cable first and coat terminals with petroleum jelly.
7. Always disconnect battery cables, ground cable (–) first, to prevent possible wiring damage from short outs whenever working with the electrical system.

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 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. To prevent the battery from freezing, make sure it is fully charged. The specific gravity of a fully charged battery is 1.265–1.299.

Fuses

The fuses in the machine's electrical system are located under the seat.

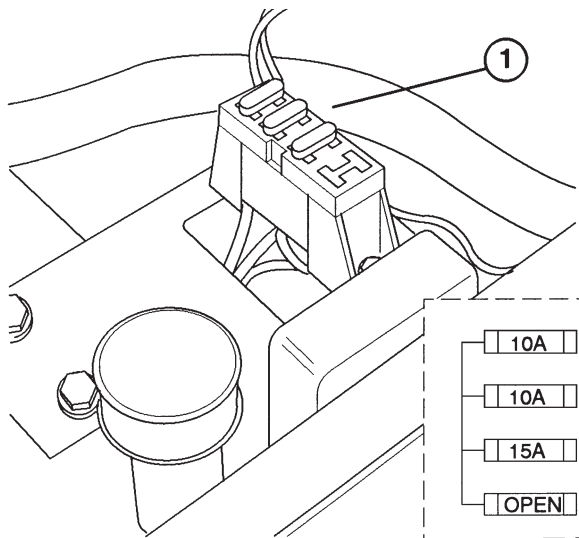


Figure 30

1. Fuses

Identification and Ordering

Model And Serial Number

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 left frame rail under seat. In any correspondence concerning the mower, supply the model and serial numbers to assure that correct information and replacement parts are obtained.

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

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.

