FORM NO. 3313-655

TORO®

MODEL 55620 — 9000001 & UP

OPERATOR'S MANUAL

HMR™ 1600

The TORO RIDER meets or exceeds the American National Standards Institute's safety standards for Lawn Tractors; thus, Toro proudly displays the OPEI safety seal.

MODEL CERTIFIED BY INDEPENDENT LABORATORY PROGRAM SPONSORED BY OPEI OUTDOOR POWER EQUIPMENT INSTITUTE
ANSI B71.1-1986 SAFETY STANDARD

To assure maximum safety and optimum performance, and to gain knowledge of the rider, it is essential that you or any other operator, read and understand the contents of this manual before the engine is started. Failure to comply with the safety instructions may result in personal injury.

FOREWORD

The TORO Rider contains the latest engineering and technical workmanship and should provide long troublefree performance and service.

Since you have purchased this fine product, we are sure that dependability and performance are important to you. TORO is also concerned about future use of the machine and of safety to the user. Therefore, you should read this manual thoroughly so that proper safety, operation and maintenance procedures are practiced at all times. The major sections of this manual are:

1. Safety Instructions
2. Setting Up Instructions
3. Before Operating
4. Operating Instructions
5. Maintenance
6. Trouble Shooting

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

OPTIONAL SPARK ARRESTER

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

1 Spark Arrester, part no. 68-3790

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

When a mower is used or operated on any California forest, brush or grass covered land, a working order spark arrester must be attached to muffler. If not, the operator is violating state law, Section 4442 Public Resources Code.

Further assistance concerning safety, operation and maintenance can be acquired by contacting your local Authorized TORO Service Dealer. Your TORO Authorized Service Dealer can provide you with genuine TORO replacement parts and also optional equipment for your TORO Rider. Keep your TORO all TORO. Buy genuine TORO parts and accessories.

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The Toro Company — 1988
MINNEAPOLIS, MN 55420 — U.S.A.

SAFETY INSTRUCTIONS

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

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

BEFORE OPERATING

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

The Toro Company
8111 Lyndale Avenue South
Minneapolis, Minnesota 55420

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

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

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

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

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

A. Use an approved gasoline container.

B. Do not fill fuel tank indoors, when the engine is running, or until engine cools for several minutes after running.

C. Do not smoke while handling gasoline.

D. Fill fuel tank outdoors and up to about one half inch from top of the tank, not the filler neck.

E. Open doors if engine will be run in the garage because exhaust fumes are dangerous and could possibly be deadly. Do not run engine indoors.

F. Wipe up any gasoline that spilled, and install gasoline container cap and rider fuel tank cap before starting the engine.

7. Before attempting to start the engine, shift into neutral, move deck engagement switch into DISENGAGE position and lock parking brake. Engine will not start unless gear shift is in neutral, deck engagement switch is in DISENGAGE position, and the operator is on the vehicle seat.

8. Assure interlock system is functioning correctly before each use of the rider. Have all safety related components and safety interlock switches checked by an Authorized TORO Service Dealer every two years to assure safe operation of the rider.

WHILE OPERATING

9. Never carry passengers on the rider.

10. Keep people and pets a safe distance away from the rider and area of operation.

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

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

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

B. Watch for holes or other hidden hazards.

C. Do not drive close to a drop off, ditch, creek or other hazard.

D. Reduce speed when making sharp turns and when turning on hillsides.

E. Never mow steep slopes.

F. Never mow side hills over 10°. See slope gage on page 27.

13. During operation the grass deflector must be installed on mower housing. Move deck engagement switch into DISENGAGE, shift into neutral, set parking brake, and shut engine off before unclogging discharge chute. Use a stick to remove any obstruction.

SAFETY INSTRUCTIONS

14. Before backing up, move deck engagement switch into DISENGAGE. Do not mow in reverse unless absolutely necessary and then only after careful observation of the entire area behind the mower.

15. Cut grass slopes up and down, never across the face. When going uphill or downhill do not stop or start suddenly. To prevent tipping or loss of control, reduce speed on slopes and when making turns. Extreme caution must be used when changing direction on slopes. If machine stops while going uphill, stop blade and back slowly down.

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

17. If the cutting blades strike a solid object or the machine vibrates abnormally, shut engine off. Remove high tension wires from spark plugs to prevent possibility of accidental starting. Check cutting unit and traction unit for damage and defective parts. Repair any damage before restarting the engine and operating the cutting unit. Be sure blades are in good condition and blade bolts are tight.

18. Keep face, hands, feet, or any other part of the body and clothing away from concealed, moving, or rotating parts such as the cutter blades, discharge area, wheels, belts, and engine. Always sit on the seat while operating the rider and mower.

19. When driving from one area to another, crossing a gravel driveway, road, or sidewalk, move deck engagement switch into DISENGAGE and raise mower housing to its highest level. This will prevent loose sand, rocks, and other debris from being thrown by the whirling blades.

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

21. Before leaving the operator's position on the seat, or leaving rider unattended, shift transmission into NEUTRAL, apply parking brake, move deck engagement switch to OFF, and shut OFF engine.

22. Use only the drawbar hitch point at rear of chassis to pull a trailer or cart. Limit loads to those that can be controlled safely. Be very careful when backing and turning: Make wide turns with trailer attached. Turning too sharp could damage trailer or vehicle.

MAINTENANCE

23. Disconnect high tension wires from spark plugs to prevent accidental starting of the engine when servicing, adjusting or storing the machine.

24. If rider and mower has to be tipped to perform maintenance or an adjustment, drain gasoline from fuel tank, oil from crankcase, and remove battery. Rider is not designed to stand on rear end.

25. Perform only those maintenance instructions described in this manual. If major repairs are ever needed or assistance is desired, contact an Authorized Toro Dealer.

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

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

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

29. Do not overspeed the engine by changing governor settings. To be sure of safety and accuracy, have an Authorized TORO Dealer check maximum engine speed (3300 RPM) with a tachometer.

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

31. To ensure optimum performance and safety, always purchase genuine TORO replacement parts and accessories to keep the Toro all TORO. NEVER USE "WILL-FIT" REPLACEMENT PARTS AND ACCESSORIES MADE BY OTHER MANUFACTURERS. Look for the TORO logo to assure genuineness. Using unapproved replacment parts and accessories could void the warranty of The Toro Company.

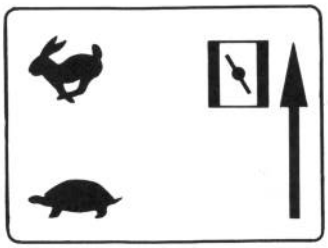
TORO

SAFETY AND INSTRUCTION DECALS

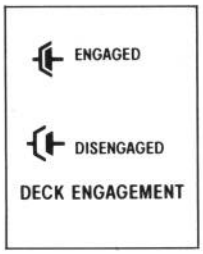
The following safety and instruction decals are mounted on the TORO Rider. Replace any that become damaged or illegible.

REAR OF STEERING TOWER
(Part No. 68-3460)

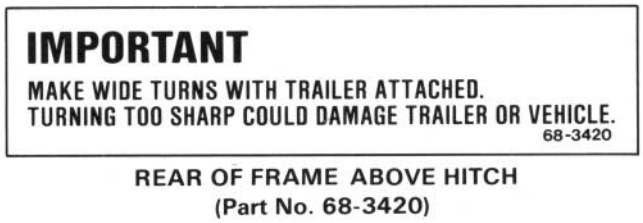
AROUND KEY SWITCH
(Part No. 68-3440)



NEXT TO
CHOKE AND
THROTTLE CONTROLS
(Part No. 68-3520)

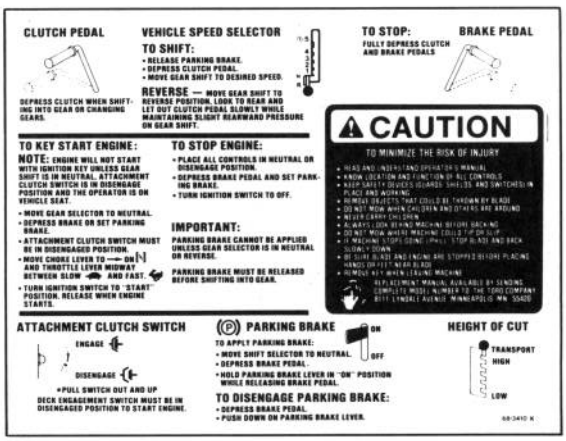


LEFT FRONT
SIDE OF SEAT
(Part No. 68-3540)

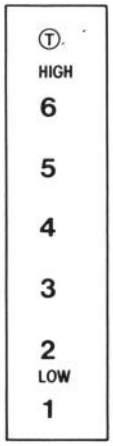


REAR OF FRAME ABOVE HITCH
(Part No. 68-3420)

ON BOTH LIFT BARS
(Part No. 55-4300)



ON FLOOR PANEL
(Part No. 68-3410)



RIGHT
FRONT SIDE
OF SEAT
(Part No.
68-3430)

SPECIFICATIONS

Kohler Engine: 2 cylinder, 4 cycle, air cooled, electric start, gasoline engine has output of 16 hp (12 Kw) @ 3600 rpm and 28 ft-lb (38 N·m) torque @ 2300 rpm. Displacement is 42.18 cubic inches. Crankcase oil capacity is 3-1/2 pints (1.66 l). Correct spark plug is a Champion RV 15YC or equivalent. Air gap setting is 0.025 in. (0.635 mm).

Fuel Tank: Capacity is 3.5 gallons (13.25 l).

Controls: Throttle and choke controls and ignition key are located to left of operator's seat.

Traction Clutch: A foot operated pedal on the left side of the steering tower simultaneously declutches the input v-belts to the two transmissions. Operator must be in the seat to engage or operate the traction drive.

Transmission Control: Hand operated shift lever with "Z" pattern located at right side of operator. The two transmissions are synchronized to shift together by a factory adjusted tie rod.

Traction Drive: (2) 5 speed forward, one speed reverse transmissions with integral brake in each transmission. Each transmission drives an individual rear wheel through a chain and sprocket. Transmissions are driven by individually clutched v-belts from the engine. Independent left and right transmission clutching is controlled by steering angle. Rear wheel declutching begins at approximately 20° turn angle of the inside front wheel. There is no differential.

Ground Speed @ 3200 Engine rpm:

1st gear	— 1.55 mph (2.49 km/hr)
2nd gear	— 2.41 mph (3.87 km/hr)
3rd gear	— 3.61 mph (5.80 km/hr)
4th gear	— 4.59 mph (7.38 km/hr)
5th gear	— 5.89 mph (9.47 km/hr)
Rev.	— 1.81 mph (2.91 km/hr)

Chain Drive to Rear Wheels: #40 chain drive.

Belt Drive to Gear Box: (2) "A" section v-belts from engine to each transmission.

Steering: Pinion and sector gear to cross-axle tie rods which control front wheels. 15 inch steering wheel turns 1-3/4 turns lock-to-lock. Inside front tire will turn up to 80° from straight ahead.

Wheels and Tires:

Front — Heavy duty wheel bearings and 13 x 5.0 — 6 pneumatic tube-type tires.

Rear — Welded steel rims with 16 x 6.5 — 8 pneumatic tubeless tires. Wheels include flange for chain sprockets and have two sealed HD ball bearings in each hub. Rear axle is adjustable for chain tension.

Brake: A foot operated pedal on the right side of the steering tower, via an extension spring, simultaneously operates a brake caliper on each of the two transmissions.

Parking Brake: Hand operated lever located on the right side of the operator on the front of the seat base. Lift to engage while depressing the brake pedal. Press on brake pedal to disengage. Transmission must be in neutral or reverse to apply parking brake.

Deck Control Switch: Toggle switch (pull out and up to engage) on left front of seat support tower. Switch releases blade brake and engages clutch to drive cutter deck. Operator must be in seat to engage or operate the cutter deck.

Height-of-Cut Control: Hand operated lever located at right of operator. Seven height positions from 1-1/2 to 4-1/2 in. (38 to 114 mm).

Deck Suspension: Full floating, front-to-rear and side-to-side. Decks have adjustable gage wheels for following uneven terrain. Decks are supported by flotation lift springs. Deck suspension is adjustable for both front-to-rear and side-to-side tilt.

General Dimensions (approx):

Wheel Base — 45 in. (1.14 m)
Tread Width; center to center —
Front — 30.5 in. (0.775 m)
Rear — 29 in. (0.737 m)
Width — 35.5 in. (0.902 m) without deck
Height — 45.7 in. (1.160 m)
Length — 69.9 in. (1.77 m)
Turning Radius — 4 in. (0.102 m) outside edge of rear tire
Weight — 604 lb (274 kg) without deck

Safety Features: Meets B71.1 — 1986 ANSI safety specifications.
Traction drive, blade drive and seat interlocks.
Electromagnetic blade clutch and brake.
Parking brake lockout for forward gears.
Automatically slows down in sharp turns.

Optional Accessories and Attachments:

52" Cutter Deck	Model 55670
44" Cutter Deck	Model 55660
Deluxe Seat Kit	Part No. 68-3800
Exhaust Elbow Kit	Part No. 68-3750
Spark Arrestor for Standard Muffler	Part No. 68-3790

LOOSE PARTS

DESCRIPTION	QTY.	USE
Tire and Wheel Assembly	2	Mount to front axles.
Cotter Pin 1/8 in. x 1-1/4 in.	2	Secure wheels to axles.
Flange Washer	2	Mount to front axles.
Hub Cap	2	Mount to front axles.
Steering Shaft Cover	1	On steering shaft.
Steering Wheel	1	On steering shaft.
Steering Wheel Cap	1	On steering wheel.
Roll Pin	1	Secure steering wheel to shaft.
Carriage Bolt 1/4 - 20 x 3/4 in.	2	Install battery cables.
Wing Nut	2	Install battery cables.
Deck Tension Rod	2	Install on deck tension rods when mounting cutting deck. Refer to Cutting Deck Operator's Manual for installation instructions.
Jam Nuts	4	
Washer	2	
Spacer	2	
Spring	2	
Washer	2	Secure deck tension rods to rider frame when mounting cutting deck. Refer to Cutting Deck Operator's Manual for installation instructions.
Cotter Pin	2	
Key	1	Install in start switch.
Operator's Manual	1	Read manual before operating rider.
Engine Owners Manual	1	
Reg. Card	1	Fill out and return to Toro.

SETTING UP INSTRUCTIONS

INSTALL FRONT WHEELS

Tools Required: Pliers, hammer and grease gun.

Note: Apply grease to axle shafts before installing.

1. Install wheel onto axle with air valve to outside.

2. Mount flange washer onto axle (flange side out), insert cotter pin and open pin ends with pliers (Fig. 1).

3. Install hub cap.

4. Repeat steps 1-3 on opposite side.

5. Check front and rear tires for 14 psi (96.5 kPa) inflation.

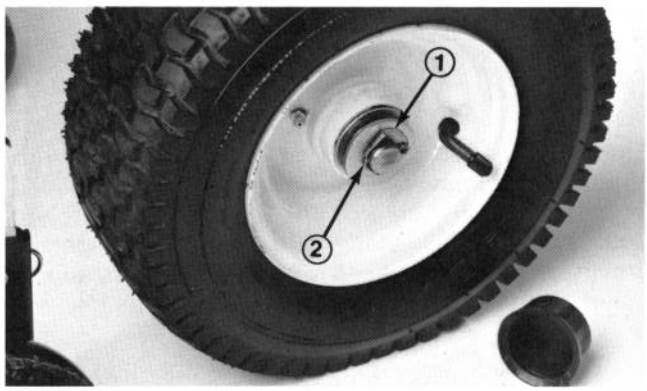


Figure 1

1. Flange washer
2. Cotter pin

SETTING UP INSTRUCTIONS

6. Lubricate both front wheels w/No. 2 general purpose grease. Pump grease gun until grease comes through bearings. Wipe up any excess grease.

INSTALL STEERING WHEEL ASSEMBLY

Tools Required: Small ball peen hammer and drift punch.

1. Position front wheels in straight ahead direction and slide steering shaft cover over steering shaft.

2. Slip steering wheel over shaft and align the steering wheel mount hole with the shaft mounting hole. Steering wheel cap should be readable from operator's position when installed.

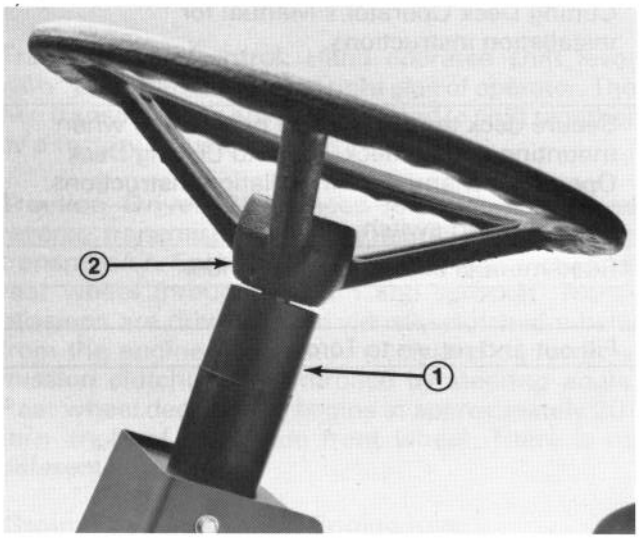


Figure 2

1. Steering shaft cover
2. Roll pin

3. Insert a drift punch partially through the holes to maintain alignment and insert the roll pin in from the opposite side.

4. Drive the roll pin in until it is flush with the outside of the wheel (Fig. 2).

ADJUSTING SEAT

Tip the seat forward, loosen the seat mounting capscrews and relocate the seat for operator comfort. Retighten the capscrews and lower the seat.

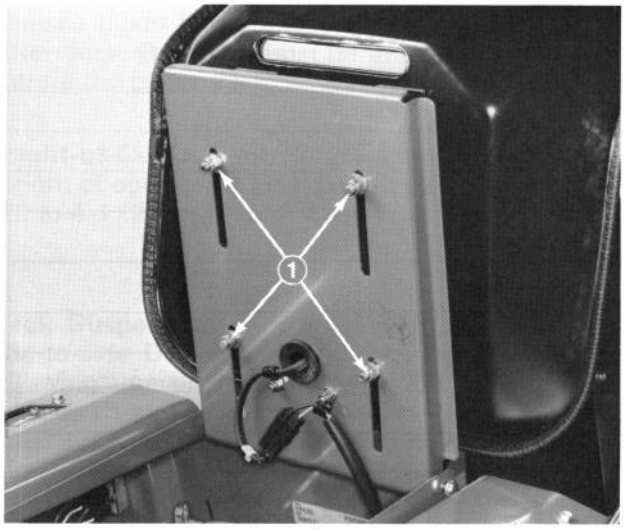


Figure 3

1. Seat adjusting screws

INSTALL & LEVEL CUTTING DECK

Note: Refer to Cutting Deck Operator's Manual for deck installation, deck leveling, operation and adjustments.

BEFORE OPERATING

ACTIVATING AND CHARGING BATTERY (12 Volt)

Tools Required: 3 to 4 Amp Battery Charger.

Since the battery for the rider is not filled with electrolyte or activated, the battery must be removed 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. Remove the battery and activate it as follows:

1. Tip the seat forward exposing battery (Fig. 4).

2. Remove wing nut securing battery hold downs to rider chassis. (Fig. 4).

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 flame and electrical spark away from the battery; do not smoke. Nausea may result if the gases are inhaled. Unplug charger from electrical outlet before connecting or disconnecting charger leads from battery posts.

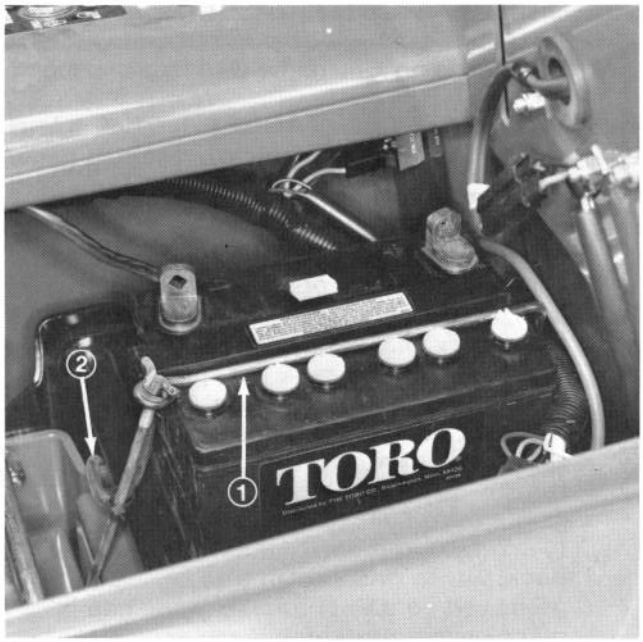


Figure 4

1. Battery hold down
2. Vent tube

3. Lift up on top battery hold down and pivot off battery.

4. Disconnect vent tube from battery.

5. Remove battery from chassis and set it aside.

6. 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.

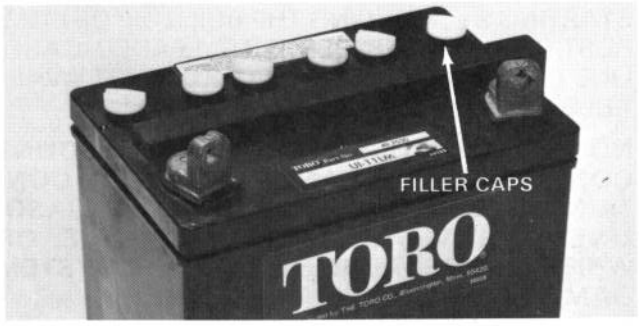


Figure 5

7. 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.

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

9. 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.

10. Install the battery with the battery vent tube toward the rear. Reconnect vent tube.

11. Reinstall battery hold downs.

12. Install the positive cable to the positive (+) terminal and the negative cable (black) to the negative (–) terminal of the battery and secure with carriage bolts and wing nuts (Fig. 6).

Figure 6

1. Positive cable *2. Negative cable* *3. Vent tube*

CHECK CRANKCASE OIL LEVEL

The rider is shipped from the factory with oil in the crankcase. However, check the oil level in the crankcase prior to starting the engine.

1. Place rider on a level surface to assure an accurate oil level reading. Ensure the oil drain plug is securely tightened (Fig. 7).

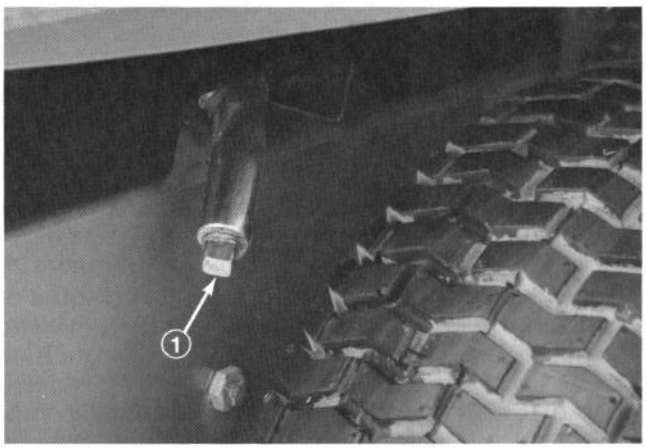


Figure 7

1. Drain plug

2. Remove the dipstick from the oil fill tube (Fig. 8).

Figure 8

1. Dipstick

3. If oil level is low, insert a funnel into the tube and slowly add engine oil into the crankcase. Use a high quality detergent oil classified "For Service SF". Oil viscosity (weight) must be selected according to anticipated ambient temperature.

A. Above +32° F (0‡ C) — Use only SAE 30.

B. Between +32° F (0° C) and 0° F (-18° C) —Use SAE 10W30 or 10W40.

C. Below +32° F (0° C) — Use 5W20 or 5W30.

Note: Read engine oil information and cautions in engine owner's manual.

Note: Avoid premature engine failure by insuring the funnel used is clean so contaminents are not introduced into the crankcase. Wipe any oil spilled, so it will not cause dirt to collect on the engine.

4. Insure the oil level is to the "F" mark on the dipstick when it is fully installed. Do not overfill or engine damage may result.

5. Insert the dipstick and push it all the way down into fill tube.

Note: Check the oil level every 5 operating hours or each time rider is used. Initially, drain the oil and replace it after the first 5 hours of operation to remove the contaminents produced by normal engine break-in; thereafter, under normal conditions, change oil after 25 hours of operation. Change the oil more frequently when the engine is operated in dusty or dirty conditions.

FILL FUEL TANK WITH GASOLINE

DANGER

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

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

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

1. Clean area around fuel tank cap so foreign matter cannot enter tank when cap is removed.

2. Remove cap from fuel tank (Fig. 8) and fill tank with gasoline up to about one half inch from top of tank, not the filler neck. Then reinstall fuel tank cap.

3. Wipe up any gasoline that may have spilled.

CHECK TIRE PRESSURE

Check and insure the tires are inflated to 14 psi (96.5 kpa) before operating the machine.

CONTROLS

Clutch Pedal (Fig. 9) — Foot operated clutch pedal is used in conjunction with the gear shift and brakes. Depress clutch fully when shifting gears or braking.

Brake Pedal (Fig. 9) — Foot operated pedal, which when depressed, actuates a disc brake assembly at the side of each transmission. Clutch pedal must also be depressed while braking.

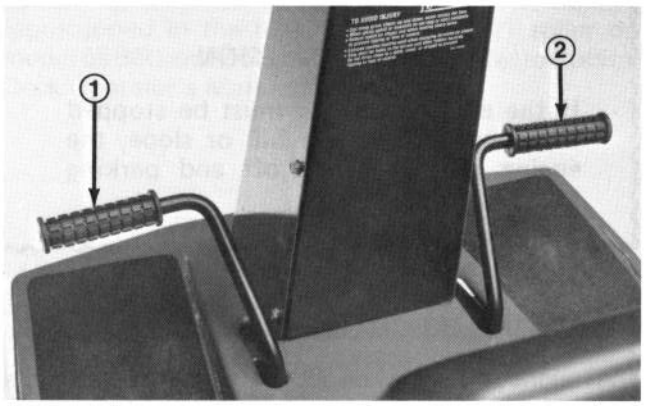


Figure 9

1. Clutch pedal
2. Brake pedal

Throttle Control (Fig. 10) — Throttle control connects to and operates carburetor mounted throttle. Control has two positions: SLOW and FAST.

Choke Control (Fig. 10) — Choke control connects to and operates carburetor mounted choke. Choke may not be required when starting a warm engine.

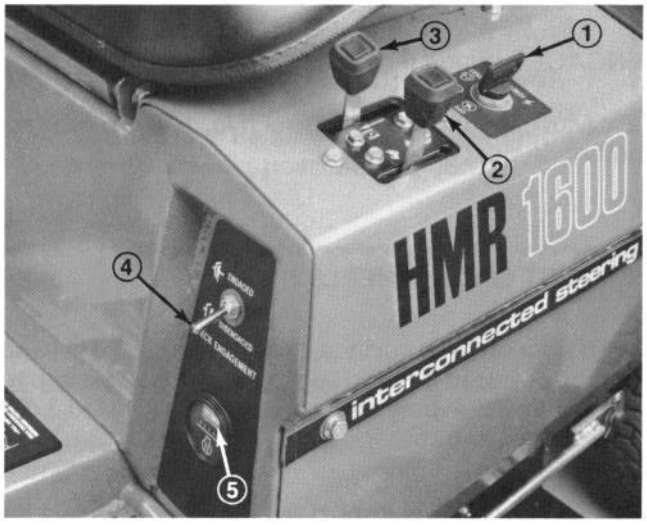


Figure 10

1. Ignition switch
2. Throttle control
3. Choke control
4. Deck engagement switch
5. Hour meter

Ignition Switch (Fig. 10) — Switch is part of battery ignition system, and it has three positions: OFF, ON and START. Key automatically returns to ON position from START position when released after engine starts.

Deck Engagement Switch (Fig. 10) — Toggle switch (Pull out and up to engage) releases blade brake and engages electromagnetic clutch to drive cutter blades. Operator must be on the seat to engage or operate cutter deck.

Hour Meter (Fig. 10) — Indicates the total hours of machine operation. The Hour Meter starts to function whenever the key switch is rotated to "ON".

Parking Brake (Fig. 11) — Parking brake is used in conjunction with standard brake assembly. When brake pedal is depressed and parking brake lever is pulled upward, a latch plate secures the brake assembly in the engaged position preventing the machine from moving.

Note: Transmission must be in neutral or reverse to engage parking brake.

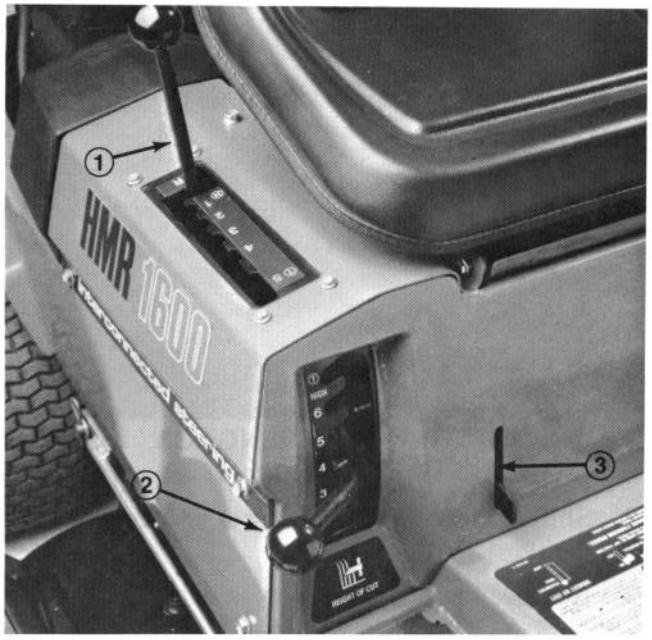


Figure 11

1. Gear shift
2. Height-of-cut control lever
3. Parking brake

Gear Shift (Fig. 11) — Transmission has five forward speeds, neutral and reverse, and has a "Z" shaped pattern. An interlock switch, which prevents engine from being started when the transmission is in gear, is mounted on the top of one transmission. Operator must be on the seat to engage or operate transmission.

Height-of-Cut Control (Fig. 11) — Height-of-cut control varies the cutting height from 1 1/2 to 4 1/2 inches (38 to 114 mm) in seven increments. Gage wheels on deck must be reset when height-of-cut is changed.

STARTING AND STOPPING INSTRUCTIONS

Note: Engine will not start unless deck engagement switch is DISENGAGED, shift lever is in neutral and operator is sitting on the seat.

TO START MACHINE

1. Shift into neutral, move deck engagement switch to DISENGAGE and lock parking brake.

2. Sit on seat, move choke control to CHOKE position, throttle control in half throttle position, and rotate ignition key to START. When engine starts, release key. Regulate the choke to keep engine running smoothly until warm, then move throttle to FAST position.

Note: Choke may not be required when starting a warm engine.

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

OPERATE CUTTER DECK

1. Select desired height-of-cut, adjust gage wheels, start machine and pull out and up on deck engagement switch to ENGAGE.

2. Release parking brake, depress clutch pedal and shift into forward gear.

TO STOP

1. Depress brake and clutch pedals, move throttle control lever to SLOW position, move deck engagement switch to DISENGAGE, and rotate ignition key to OFF.

2. Shift transmission to neutral and engage parking brake.

3. Remove key from ignition switch.

IMPORTANT: Never leave the deck engagement switch in the engaged position when the engine is not running. Doing so with the ignition switch ON will discharge the rider battery.

BREAK-IN

The engine requires no special break-in other than changing oil after the first five hours of operation. Operate the transmission in all gears to assure that drive system is functioning correctly.

USING PARKING BRAKE

1. Depress brake pedal fully, shift transmission to neutral.

2. Move parking brake control upward and release brake pedal.

3. To release the parking brake, depress brake pedal (Fig. 9), and push parking brake lever (Fig. 11) down to return it to its disengaged position. Release brake pedal slowly.

CAUTION

If the engine stalls or must be stopped while operating on a hill or slope, the engine must be shut off and parking brake engaged.

ADJUSTING HEIGHT-OF-CUT

The height-of-cut may be set in one of seven positions from approximately 1-1/2 to 4-1/2 inches (38 to 114 mm).

Deck Lever Selection	Height-of-Cut Setting (Approx.)
1	1-1/2 in.
2	2 in.
3	2-1/2 in.
4	3 in.
5	3-1/2 in.
6	4 in.
T (TRANSPORT)	4-1/2 in.

1. Assure the deck engagement switch is in DISENGAGE position (Fig. 10).

2. Move height-of-cut control (Fig. 11) into desired setting. Adjust gage wheels.

ADJUST GAGE WHEELS (Fig. 12)

With rider on a flat surface, tires inflated to 14 psi and height-of-cut in desired setting, gage wheels are to be positioned so they are approximately 1/4" to 3/8" above the ground.

IMPORTANT: It is important that gage wheels be adjusted each time height-of-cut is changed, so that the deck will follow the contour of the ground and does not scalp the turf.

1. Remove hairpin cotter and clevis pin securing gage wheel to cutting deck.

2. Move gage wheel up or down to required setting and reinstall clevis pin and cotter pin.

STARTING AND STOPPING INSTRUCTIONS

3. Reposition gage wheels each time height-of-cut setting is changed.

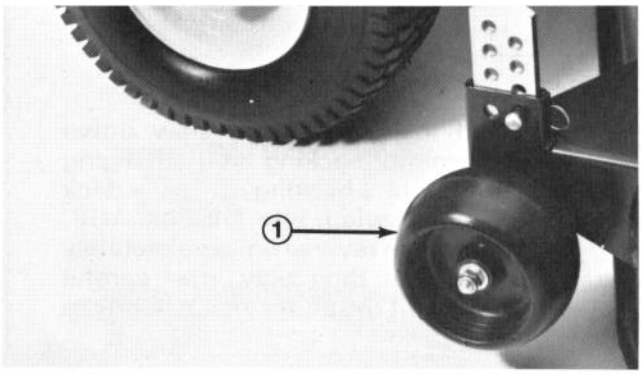


Figure 12

1. Gage wheel

ADJUST REAR ROLLERS

Note: If cutting deck is to be used in 1-1/2" height-of-cut setting, rear internal cutting deck roller(s) must be repositioned in the top bracket holes. (1 roller on model 55660 and 2 on model 55670). Refer to Cutting Deck Operator's Manual for procedure.

OPERATING INSTRUCTIONS

GRASS DEFLECTOR

WARNING

The grass deflector (Fig. 13) is a safety device that diverts grass and other foreign objects being discharged downward. Without deflector mounted in place on the cutting unit and spring loaded hinges holding deflector in down position, the blades could hurl grass and foreign objects out the discharge opening with enough force to cause injury or property damage. If the grass deflector or spring hinges are worn, broken or damaged, repair or replace the affected part(s). Never operate cutting unit without deflector mounted on the cutting unit. Always be sure the deflector chute is in the lowest possible position.

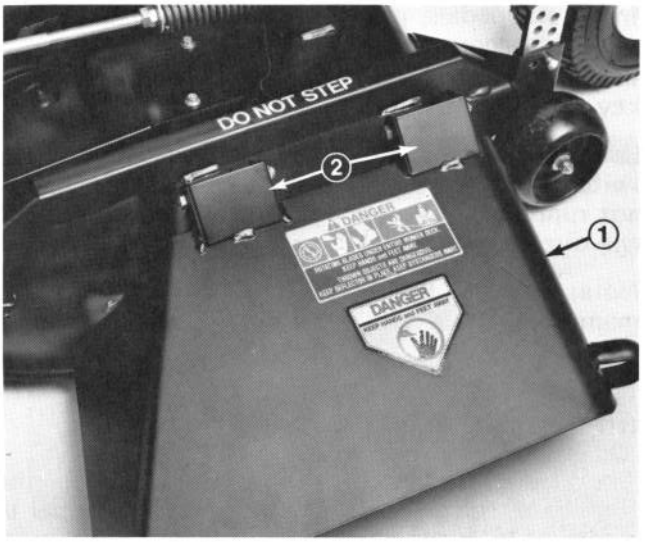


Figure 13

1. Deflector
2. Spring hinges

OPERATING PROCEDURE

1. Move deck engagement switch into DISENGAGE.

2. Start the engine: refer to Starting/Stopping Instructions, page 12.

IMPORTANT: When rider is used for the first time, operate the transmission in all gears to assure that drive system is functioning correctly, and become familiar with the controls and operating characteristics. Never shift without first depressing the clutch pedal or transmission damage could result.

3. Depress clutch pedal and shift transmission into a low gear. Then release pedal slowly until traction drive engages. Do not downshift into a lower gear without first slowing down or transmission damage could occur.

IMPORTANT: Do not operate machine with foot resting on either brake or clutch pedal or mechanical damage can occur.

IMPORTANT: To avoid a jerky start and putting a heavy load on the transmissions, release clutch pedal slowly. If shifting into reverse gear is difficult, let out clutch pedal slowly while maintaining a slight rearward pressure on gear shift. Do not force the gear shift because damage may result. Should you encounter a jerking or grabbing condition during operation, contact your local Authorized TORO Service Dealer for assistance.

OPERATING INSTRUCTIONS

WARNING

To avoid loss of control, slow down when turning, backing and changing direction. Before backing up, move deck engagement switch into DISENGAGE. Do not mow in reverse unless absolutely necessary and then only after careful observation of the entire area behind the mower.

4. To engage blades for cutting, move height-of-cut control to the desired setting, then pull out and up on deck engagement switch.

5. To stop the engine, in sequence, depress clutch and brake pedals, move throttle control to SLOW, deck engagement switch into DISENGAGE, gear shift into neutral, engage parking brake, and rotate key to OFF position.

IMPORTANT: Never leave the deck engagement switch in the engaged position when the engine is not running. Doing so with the ignition switch ON will discharge the rider battery.

Note: Remove the ignition key and store it in a memorable place between operating periods.

GRASS CUTTING TIPS

1. When the rider is used to cut a lawn for the first time, cut grass slightly longer than normal to assure that cutting width of mower housing will not cause scalping, which could result from severe undulations of the ground. In general, however, the cutting height used in the past is probably the best one to use.

2. If the grass is ever allowed to grow slightly longer than normal, or if it contains a high degree of moisture, raise cutting height higher than usual and cut the grass at this setting. Next, cut the grass again using the lower, normal setting. This method of cutting long grass results in an even distribution of clippings and an acceptable quality-of-cut.

3. Very long or extremely wet grass can be cut, but specific operating techniques must be used. Start by setting height-of-cut in Position #6. Using a low gear and maximum throttle speed, move into the grass and cut a swath that is only half as wide as the mower housing. Direct grass clippings toward area that was cut previously. Stop forward movement occasionally to allow discharge area to clear itself. Cutting too much grass may clog the mower housing and discharge area. If mower housing does clog, shut engine off, disengage blades and remove the obstruction with a stick.

DANGER

Before removing obstruction from mower housing, move deck engagement switch into DISENGAGE, depress clutch and brake pedals, shift into neutral, turn ignition key to OFF position and set parking brake. Remove wires from spark plugs to prevent possibility of accidental starting.

4. When mowing, operate engine at full throttle. This maintains proper blade speed and air flow to facilitate discharge of clippings. Mowing with a lower rpm causes the blades to tear the grass, resulting in poor lawn appearance. Lower rpm also reduces alternator charging efficiency which may affect battery performance.

MAINTENANCE INTERVAL CHART

	5 Hours	25 Hours	Storage Service	Spring Service	2 Years	More often in dusty, dirty conditions.
Change Oil (Initial)	X					
Change Oil (Periodic)		X	X			X
Check Safety Interlock	X	X		X		
Check Brakes	X		X	X		
Grease Front Axle Spindles and Wheels		X	X			X
Grease Steering Spindle		X	X			X
Lubricate Pivot Points		X	X			
Grease Rear Wheels		X	X			X
Service Air Cleaner		X	X			X
Check Spark Plug		X	X	X		
Check Battery Electrolyte Level		X	X	X		
Check Tire Pressure		X	X			
Clean Outside of Engine		X	X			X
Check Chain Tension		X	X			
Check Traction Drive Belts			X			
Drain Gasoline			X			
Paint Chipped Surfaces			X			
Check Interlock Switches					X	

MAINTENANCE

CAUTION

To prevent accidental starting of the engine while performing maintenance, shut engine off, remove key from ignition switch, and pull wires off spark plugs (Fig. 14). Make sure wires do not contact plugs accidentally.

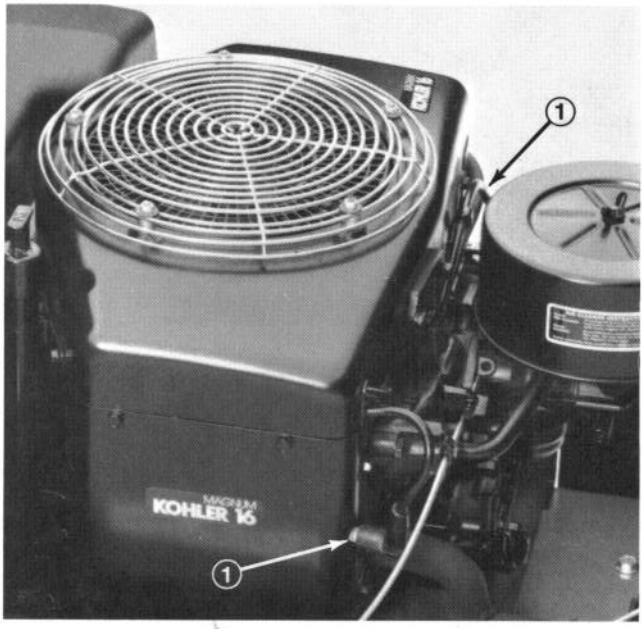


Figure 14

1. Spark plugs (2)

GREASE FRONT AXLE SPINDLES AND FRONT & BACK WHEELS

Tools Required: Clean Rag and Grease Gun w/No. 2 General Purpose Lithium Grease

The front axle spindles and wheels must be lubricated after every 25 hours of operation; however, lubricate more frequently when conditions are dusty or sandy.

1. Wipe grease fittings on spindles and wheels (Fig. 15, 16) with a clean rag. If there is paint on front of fittings, scrape it off.

2. Lubricate both axle spindles and front and back wheels w/No. 2 general purpose grease (Fig. 15). Continue to pump grease until it oozes out the spindle. Wipe up any excess grease.

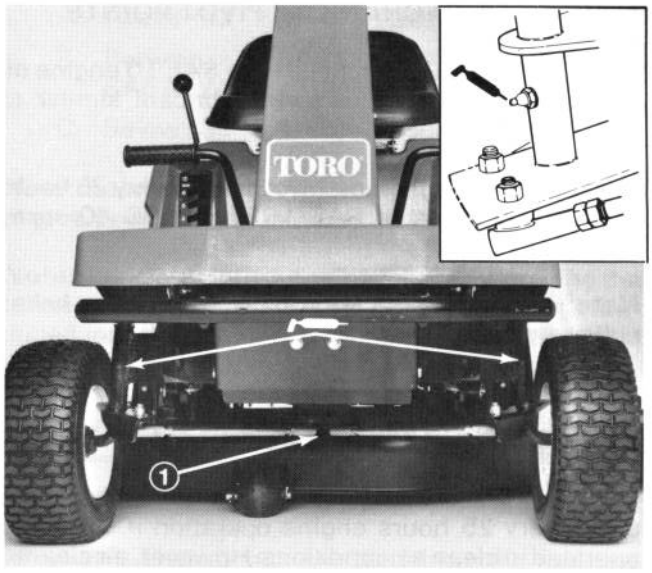


Figure 15

1. Steering spindle location

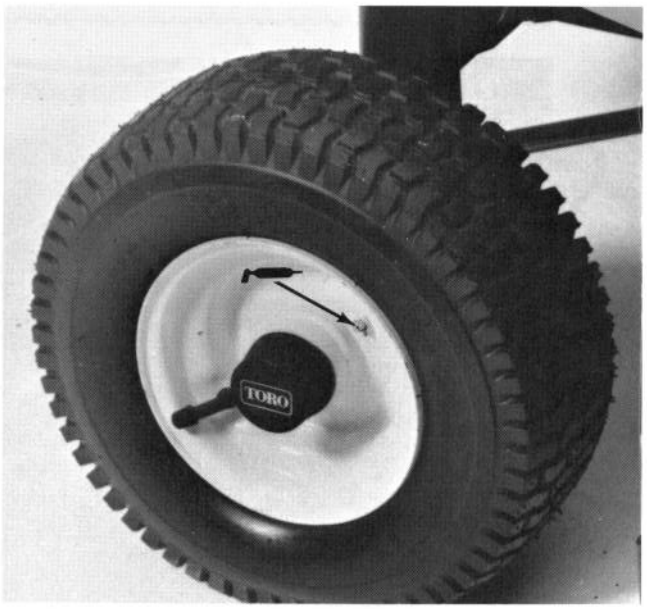


Figure 16

GREASE STEERING SPINDLE

Tools Required: Clean Rag and grease gun w/No. 2 General Purpose Lithium Grease.

The steering spindle, above steering rack, must be lubricated after every 25 hours of operation; however lubricate more frequently when conditions are dusty or sandy.

1. Wipe grease fitting on spindle with a clean rag. If there is paint on fitting, scrape it off. (Fig. 15, Inset).

2. Lubricate spindle w/No. 2 general purpose grease. Wipe up any excess grease.

MAINTENANCE

LUBRICATE MECHANICAL PIVOT POINTS

Tools Required: Oil can filled with SAE 10 engine oil or a pressurized can of spray lubricant similar to WD-40.

Lubricate the mechanical pivot points every 25 hours with a few drops of SAE 10 oil or WD-40 spray lubricant.

Note: Keep all lubricants away from drive belts, pulleys and brake discs.

SERVICING AIR CLEANER

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

1. Remove wing nut and cover (Fig. 17).

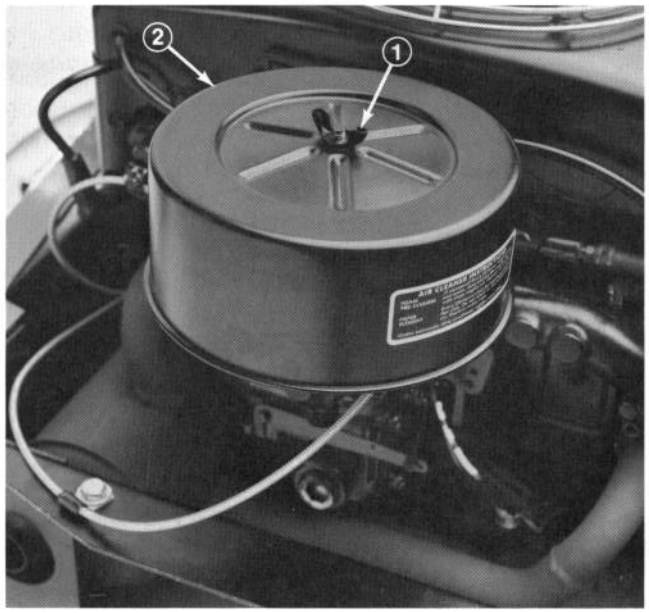


Figure 17

1. Wing nut
2. Cover

2. Remove foam pre-cleaner by sliding it off the paper element (Fig. 18).

3. A. Wash foam pre-cleaner in detergent and warm water.
   B. Rinse the pre-cleaner thoroughly until all traces of detergent are eliminated. Squeeze out excess water (do not wring). Air dry.
   C. Saturate foam pre-cleaner in engine oil. Squeeze to remove excess oil.

4. Reinstall on paper cartridge.

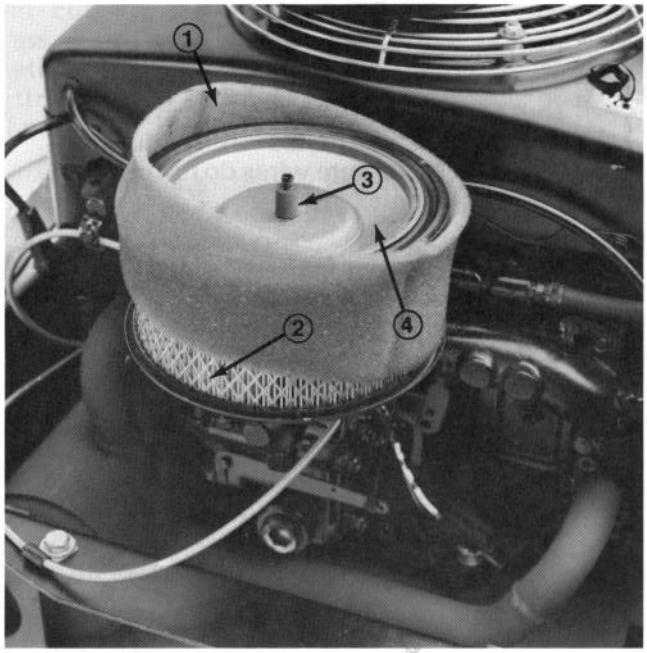


Figure 18

1. Foam pre-cleaner
2. Element
3. Cover seal
4. Element cover

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

Note: With air cleaner disassembled, check air cleaner components for damage. Replace if necessary. Make sure rubber tube in base plate is securely in place or severe engine damage may occur.

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

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

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

CHANGING CRANKCASE OIL

Tools Required: Clean rag, 7/16 inch open end wrench, and shallow oil drain pan.

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

To check level of oil:

A. Position rider on level surface.

B. Clean the area around oil dipstick so foreign matter cannot enter filler hole when dipstick is removed.

C. Remove dipstick and wipe oil off.

D. Insert dipstick fully in to filler neck; then remove it and check oil level on dipstick. If level is low, add only enough oil to raise level to FULL mark. Do not overfill or engine damage may result.

E. Insert dipstick back into filler neck.

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

To change oil:

A. Position rider on level surface. Start and run engine for a period to warm the oil.

B. Turn engine off, set parking brake and place drain pan below drain plug (Fig. 19). Remove drain plug and allow all oil to flow into drain pan. Install drain plug securely after oil stops flowing.

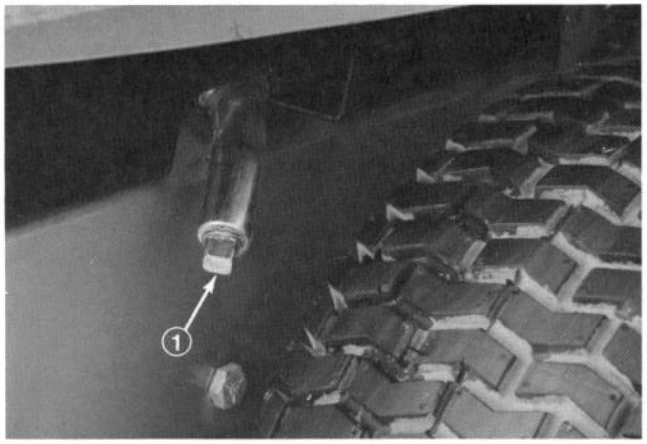


Figure 19

1. Drain plug

C. Remove dipstick and add oil to crankcase. Refer to CHECK CRANKCASE OIL LEVEL, page 10. Capacity is 56 oz. (1.66 l). DO NOT OVERFILL or engine damage may result. Recheck oil level before operating.

Use any high-quality A.P.I. classification SF engine oil. Recommended viscosity of oil to use is:

A. Above +32° F (0° C) — Use only SAE 30.

B. Between +32°F (0° C) and 0° F (-18° C) — Use SAE 10W30 or 10W40.

C. Below +32° F (0° C) — Use 5W20 or 5W30.

Note: Read engine oil information and cautions in engine owner's manual.

Note: Avoid premature engine failure by insuring the funnel used is clean so contaminents are not introduced into the crankcase. Wipe any oil spilled, so it will not cause dirt to collect on the engine.

FUEL FILTER REPLACEMENT

Tools Required: Hose clamp pliers, drain pan.

An in-line filter is incorporated into the fuel line between the fuel tank and carburetor (Fig. 20). Use the following procedures should replacement become necessary:

DANGER

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.

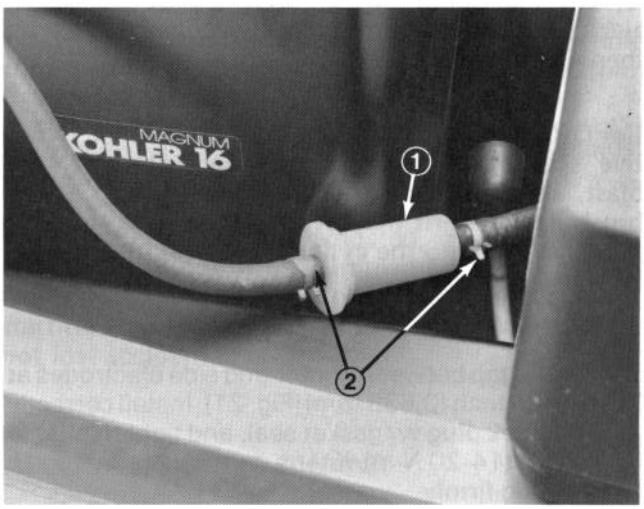


Figure 20

1. Fuel filter
2. Hose clamps

1. Close fuel shut off valve, located under fuel tank (access from under seat).

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

3. Loosen the remaining hose clamp and remove filter.

4. Install the new filter with arrow on the filter body pointing towards the carburetor. Reinstall clamps.

5. Open fuel shut-off valve fully.

REPLACING SPARK PLUGS

Tools Required: Spark Plug Socket, Spark Plug Gapping Tool, and Clean Rag.

Since air gap between center and side electrodes of the spark plug increases gradually during normal operation of the engine, check condition of electrodes after every 25 operating hours. Recommended air gap is 0.025 of an inch (0.635 mm). Correct spark plug to use is:

Champion RV 15YC or equivalent.

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

1. Clean area around spark plugs so foreign matter cannot fall into cylinders when spark plugs are removed.

2. Pull high tension wires off spark plugs and remove plugs from cylinder heads.

3. Check condition of side electrode, center electrode, and center electrode insulator to assure there is no damage.

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

5. Set air gap between center and side electrodes at 0.025 of an inch (0.635 mm) (Fig. 21). Install correctly gapped spark plug w/gasket seal, and tighten plug to 10-15 ft-lb (14-20 N·m). If torque wrench is not used, tighten plug firmly.

6. Push high tension wires onto spark plugs but do not leave key in the ignition. This will prevent accidental starting when mower is being stored between use periods. Keep key in memorable place so it is not lost.

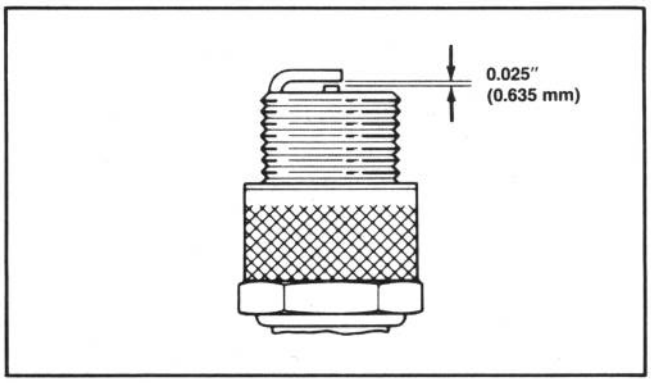


Figure 21

ADJUSTING THROTTLE CONTROL

Tools Required: Medium blade screwdriver.

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

1. Loosen cable clamp screw securing cable to engine (Fig. 22).

2. Position throttle control lever forward approximately 5/8" from front of slot in control plate.

3. Pull firmly on throttle cable till governor arm contacts stop (Fig. 22).

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

3200 ± 100 — High Idle
1200 ± 100 — Low Idle

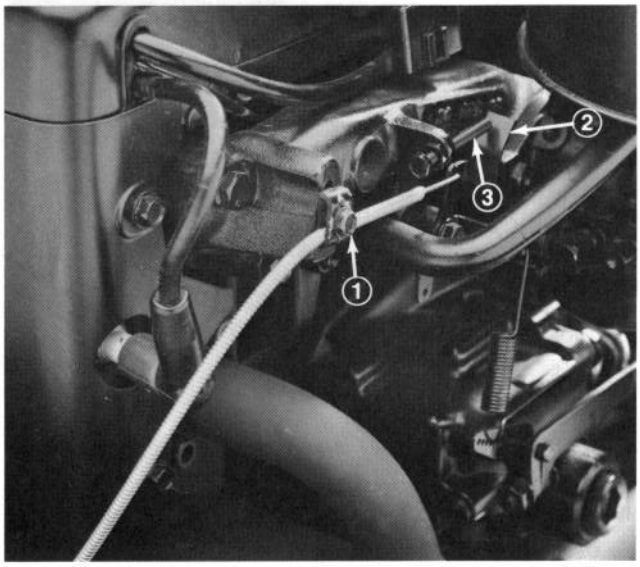


Figure 22

1. Throttle cable clamp screw
2. Governor arm
3. Stop

ADJUSTING CHOKE CONTROL

1. Loosen cable clamp screw securing cable to engine (Fig. 23).

2. Place choke control in ON position.

3. Pull firmly on choke cable and tighten cable clamp screw (Fig. 23).

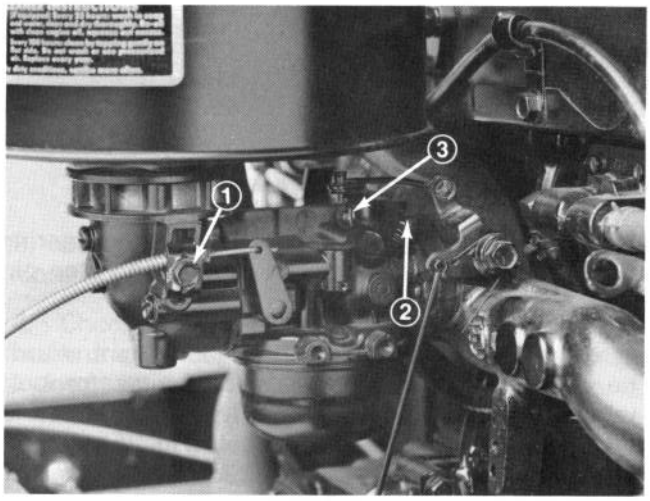


Figure 23

1. Choke cable clamp screw
2. Idle fuel adjusting needle
3. Idle speed adjusting screw

ADJUSTING CARBURETOR

Tools Required: Medium Blade Screwdriver

The carburetor is designed to deliver the correct fuel-air mixture to the engine under all operating conditions. The main fuel jet is calibrated at the factory and is not adjustable. The idle fuel adjusting needle is also set at the factory and normally does not need adjustment. If, however, the engine is hard starting or does not operate correctly at idle speeds, it may be necessary to adjust the idle fuel needle.

IMPORTANT: Before the carburetor is adjusted, air cleaner must be clean, and throttle and choke controls must be checked for proper operation: refer to Servicing Air Cleaner, page 16, and Adjusting Throttle and Choke Controls, pages 18 & 19.

1. **Idle Fuel Adjusting Needle** (Fig. 23) — 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 turn counterclockwise (Fig. 23).

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

WARNING

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

4. **Idle Speed Setting** — Move the throttle control to SLOW position. Set the idle speed 1200 rpm ± 75 rpm by turning the idle speed adjusting screw in or out. Check speed using a tachometer.

5. **Final Setting — Idle Fuel Needle:** Move the throttle control to 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 the position of the needle.

Set the adjusting needle midway between the rich and lean settings noted.

Note: To ensure best results when setting the idle fuel needle,t he idle speed must not exceed 1500 rpm. Typical idle speed is 1200 rpm.

6. Recheck idle speed using a tachometer. Readjust speed as required.

7. After carburetor is adjusted, shut engine off. If mower will not be used immediately, remove key from switch to prevent possibility of accidental starting. Keep key in a memorable place so it is not lost accidentally.

ADJUSTING DRIVE CHAINS

The drive chains must be adjusted to maintain 1/2" deflection when a 10 lb force is applied perpendicular to chain at the mid span between transmission and sprocket. Check chain deflection after first 5 hours of operation and after every 25 hours of operation, thereafter.

CAUTION: If chain is worn, loose or adjusted incorrectly, chain could come off sprockets, resulting in no brakes or traction drive. If assistance is needed, contact your local authorized Toro Dealer.

1. Check deflection of drive chain by pressing up on chain with approximately 10 lbs force (moderate pressure) at mid span. There should be 1/2" deflection (Fig. 24). If deflection is not as specified an adjustment is required.

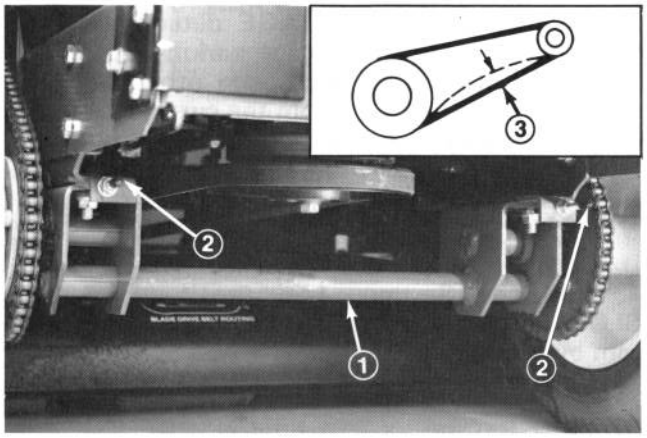


Figure 24

1. Axle
2. Chain tensioner
3. Chain deflection

2. Block up rear of rider chassis, so rear wheels are off the floor and axle can be moved.

3. Slightly loosen (4) flange nuts securing both sides of axle to rider frame.

4. On both sides of axle, loosen rear jam nuts on chain tensioners.

5. Rotate inside nut on chain tensioner until desired chain tension is attained on each side.

6. Tighten rear jam nuts on chain tensioners.

7. Tighten (4) flange nuts securing both sides of axle to rider frame.

8. Recheck chain tension.

REPLACING DRIVE CHAINS

1. Block up rear of rider chassis, so rear wheels are off the floor.

2. Loosen (4) flange nuts securing both sides of axle to rider frame.

3. On both sides of axle, loosen rear jam nuts on chain tensioners.

4. Rotate inside nut on chain tensioners until chain is loose.

5. The master link on the chain may now be removed and chain removed from sprockets.

IMPORTANT: Whenever changing chains or sprockets, both sides should be changed. Inspect (4) sprockets and replace both chains and sprockets if necessary.

6. Install new chains and adjust, refer to Adjusting Drive Chains, page 19.

ADJUSTING FRONT WHEEL ALIGNMENT

1. Assure Front Axle is level with frame and steering rack timing mark is centered on steering stop pin (Fig. 25).

2. To align front wheels, loosen jam nuts and turn tie rods until centerline distance across front of wheels is equal to or 3/16" max less than centerline distance across rear of front wheels (Fig. 25). Wheels should be straight ahead or toe-in should be equal when timing mark is centered.

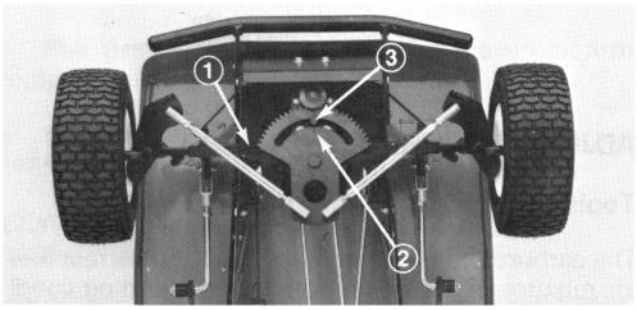


Figure 25

1. Front axle 2. Timing mark 3. Steering stop pin

3. Tighten jam nuts.

Note: No toe-out is allowable.

ADJUSTING BRAKES

Adjust brakes if parking brake does not hold or braking power is not sufficient when brake pedal is depressed.

1. Shut engine off and remove wires from spark plugs. Shift transmission into 1st gear.

2. Tighten locknut on each transmission brake lever (Fig. 26) until lever cannot be wiggled from side to side. DO NOT OVERTIGHTEN.

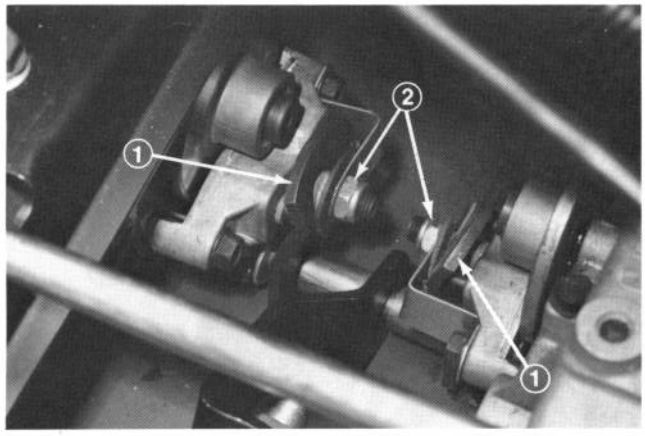


Figure 26

1. Brake lever 2. Locknut

3. Back off each locknut 1/4 turn. Lever should be loose enough to wiggle slightly.

4. Check operation of the brake by pushing rider: no brake drag should be evident. If drag is evident, rotate locknuts an additional 1/8 turn counter-clockwise.

ADJUSTING ELECTRIC DECK CLUTCH

The electric clutch is adjustable to ensure proper engagement and braking of the cutter blades. If the blades do not stop within a few seconds after the deck engagement switch is DISENGAGED, check the adjustment of the electric clutch.

1. To adjust the clutch, tighten or loosen locknuts on flange studs (Fig. 27).

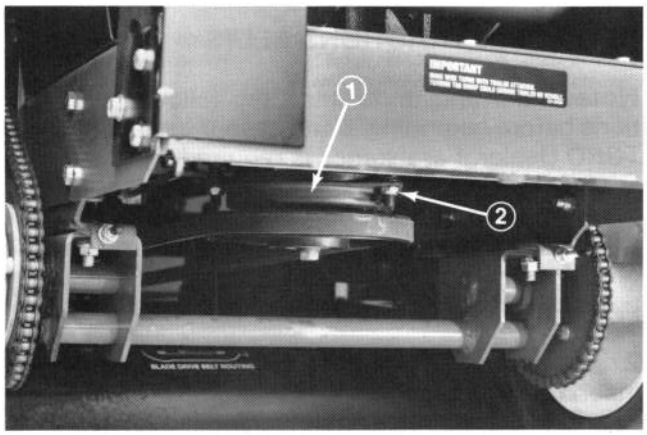


Figure 27

1. Clutch 2. Flange stud

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.

ADJUSTING TRANSMISSION LINKAGE

If engine will not start when gear shift lever is in neutral position, but will start if the lever is pressed slightly forward or backward, an adjustment to the transmission linkage may be required.

Note: Check to make sure all shift linkage nuts and bolts are securely fastened before proceeding.

1. Move gear shift lever to 5th gear.

2. Remove capscrew securing end of tie rod to left transmission shift lever (Fig. 28).

3. Manually move right and left transmission levers as far left as possible into fifth gear detent.

4. Without disturbing position of levers, reposition tie rod over left transmission lever and check alignment of tie rod end mounting hole and lever mounting hole.

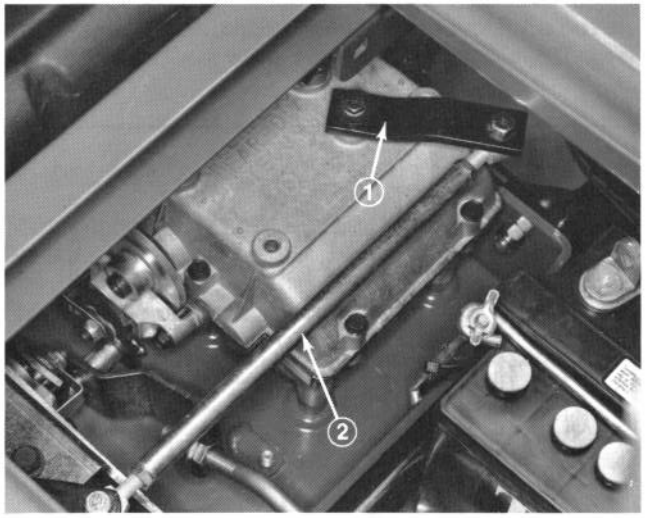


Figure 28

1. Left transmission lever 2. Tie rod

5. If mounting holes do not align, loosen jam nuts on tie rod and adjust rod until holes align.

6. Tighten jam nuts and resecure tie rod to lever with capscrew.

SHIFT LINKAGE ADJUSTMENT

If the gear shift lever is not centered in neutral slot, an adjustment to the shift linkage may be required.

1. Move gear shift lever to NEUTRAL position.

2. Check position of gear shift lever. Lever should be centered in neutral slot when viewed from side of machine (Fig. 29).

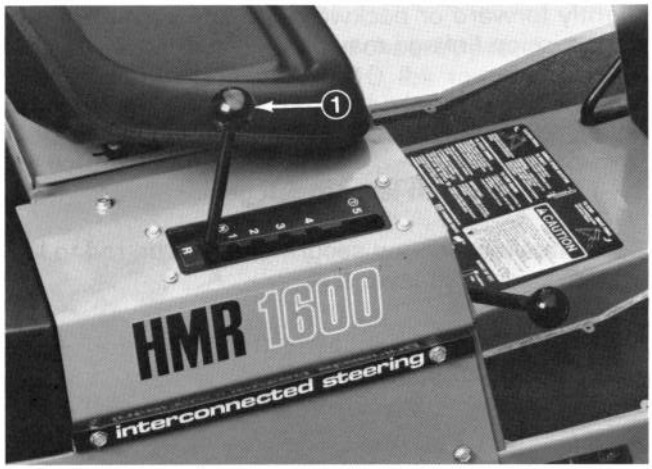


Figure 29

1. Gear shift lever

3. If lever is not centered, loosen jam nuts and rotate tie rod until lever is correctly positioned in neutral slot (Fig. 30). Tighten jam nuts.

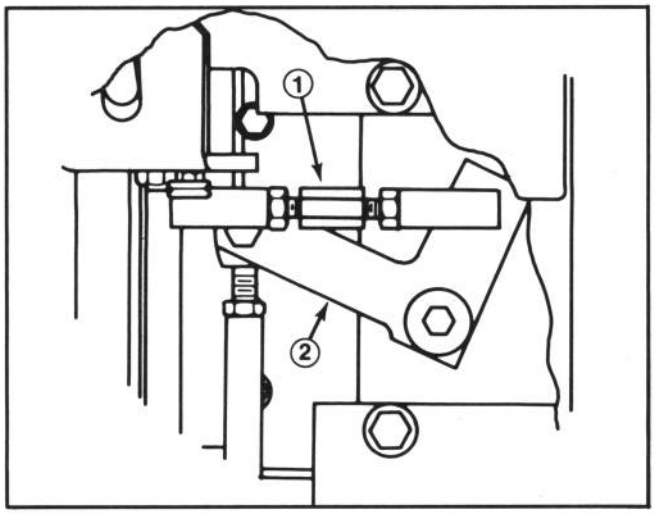


Figure 30

1. Tie rod 2. Transmission lever

ADJUSTING LINKAGE TO STEERING CLUTCHES

1. Assure Front Axle is level with frame and steering rack timing mark is centered on steering stop pin (Fig. 31).

2. Check to make sure ends of front pull rods are positioned at the rear of the slots in the pull rod plate (Fig. 31 inset).

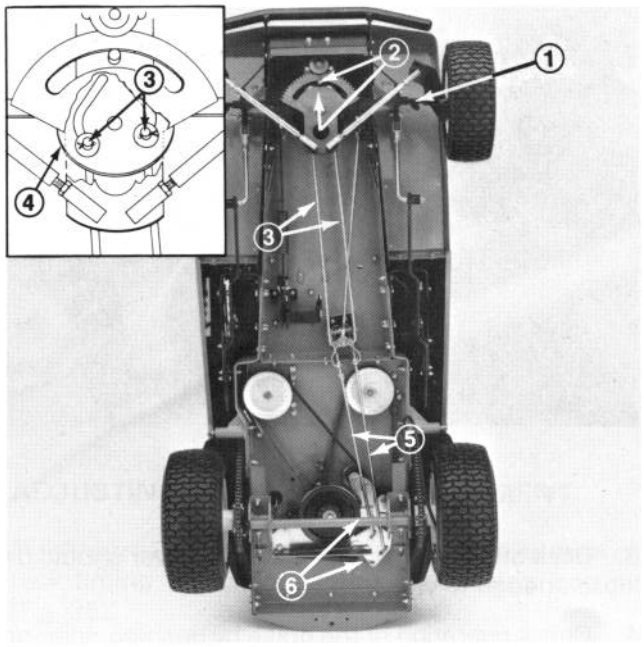


Figure 31

1. Front Axle
2. Timing mark and stop pin
3. Front pull rods
4. Pull rod plate
5. Rear pull rods
6. Traction pivot plates

3. Adjust jam nuts on rear pull rods so the bent ends of the rods are on center to 1/8" behind the center of the slots in the traction pivot plates (Fig. 31 & 32).

IMPORTANT: Make sure that the bent ends of the pull rods remain 90° to the pivot plates or binding will occur.

REPLACING TRACTIONS BELTS

Note: Read and understand the following instructions before beginning. Contact your local authorized TORO Dealer if assistance is required.

1. Remove cutting deck, refer to Cutting Deck Operator's Manual. Block up rear of machine or use wheel ramps for rear wheels. Block front tires and apply parking brake. Disconnect spark plug wires.

2. Have a helper depress clutch pedal while you insert (2) 1/4" capscrews into holes in pivot platform (Fig. 32). Slowly release clutch pedal allowing pivot plates to rest against capscrews, relieving tension from the belts.

3. Unplug clutch wire connector and remove nut and carriage bolt securing R-clamp to pivot platform.

4. Remove (3) capscrews and lockwashers securing clutch retainer and pivot platform to rider. (Electric clutch may have to be rotated to remove clutch retainer) (Fig. 32).

5. Loosen (4) belt guides on (2) driven pulleys. Remove belts from driven pulleys.

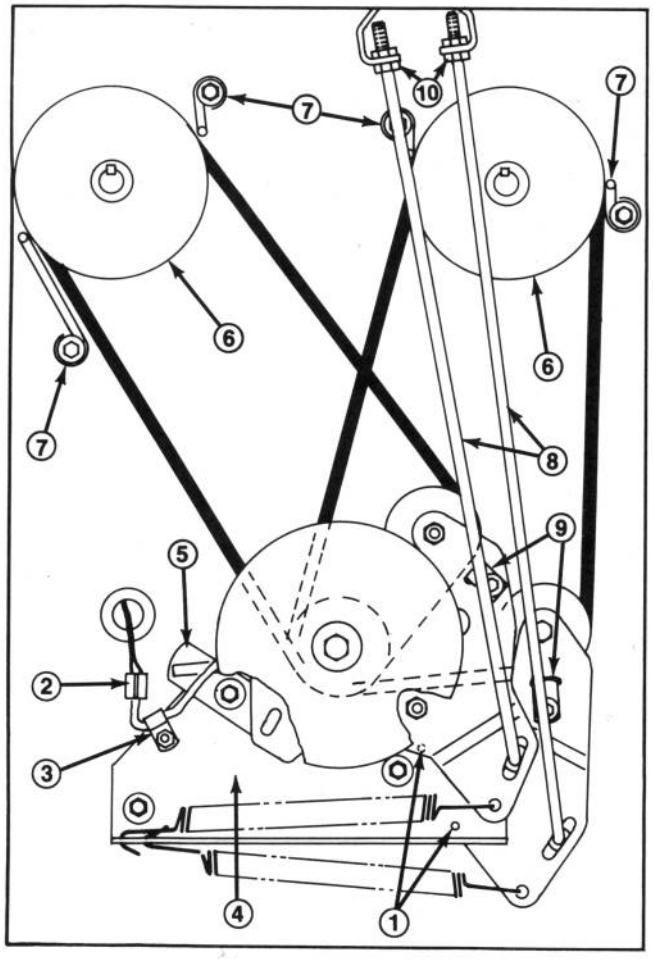


Figure 32

1. Holes in pivot platform
2. Clutch wire connector
3. R-clamp
4. Pivot platform
5. Clutch retainer
6. Driven pulleys
7. Belt guides
8. Rear pull rods
9. Belt retainers
10. Jam nuts

6. Remove front jam nut from each rear pull rod so that both pull rods can be disconnected (Fig. 32).

7. Remove assembly of pivot platform, pull rods and traction belts.

CAUTION

Pivot plates are spring loaded.

8. Remove (2) capscrews securing (2) belt retainers to pivot plates (Fig. 32) and remove belt retainers. Replace both traction belts and reinstall belt retainers and capscrews to pivot plates.

9. With (2) capscrews previously removed, reinstall assembly of pivot platform and rear pull rods into rear holes in pivot platform. Loosely install front jam nuts on pull rods.

10. Reinstall belts around driven pulleys.

11. Reinstall clutch retainer to front hole in pivot platform with remaining capscrew.

12. Reinstall R-clamp to pivot platform and connect clutch wire connector.

13. Have a helper depress clutch pedal while you remove the (2) capscrews installed in step #2.

14. Adjust and securely tighten (4) belt guides on (2) driven pulleys.

IMPORTANT: Belt guides must be positioned .08-.14" from back of traction belt or belt life will be greatly reduced.

15. Adjust both rear pull rods, refer to Adjusting Linkage to Steering Clutches, page 22.

16. Install cutting deck, refer to Cutting Deck Operator's Manual.

WHEEL REMOVAL

Tools Required: Pry Bar, Pliers, Floor Jack, Wheel Blocks.

Front Wheels:

1. Assure parking brake is locked and block rear wheels.

2. Place jack under front of frame and raise wheels off floor. DO NOT DAMAGE STEERING COMPONENTS.

3. Use a pry bar to lever the hub cap off the axle.

4. Remove the cotter pin and flange washer (Fig. 33) and remove the wheel from the axle.

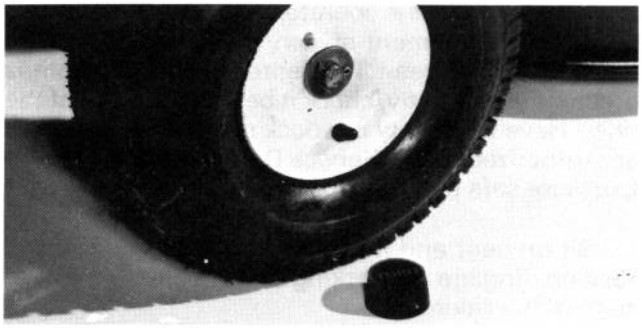


Figure 33

5. Assemble in reverse order.

Rear Wheels:

1. Assure parking brake is locked and block the front wheels.

2. Place jack under rear of frame and raise one wheel at a time off floor.

3. Remove masterlink and chain from wheel hub.

4. Remove the cotter pin and washer and remove the wheel from the axle (Fig. 34).

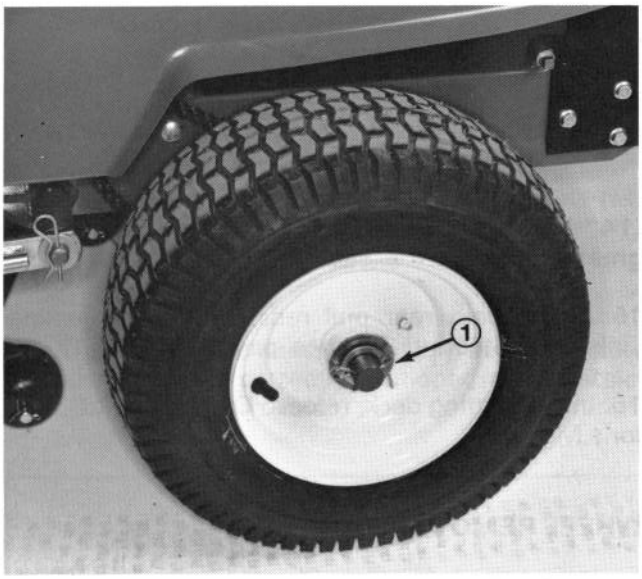


Figure 34

1. Cotter pin and washer

5. Assemble in reverse order.

CHECKING SAFETY 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 transmissions are shifted into neutral and the cutting unit deck engagement switch is in the Disengage position. In addition, the engine will stop if the operator gets off the seat when the deck engagement switch is engaged or transmissions are in gear. To assure interlock system is functioning correctly, check it before each use of the rider. Have the safety interlock switches checked by an Authorized TORO Service Dealer every two years to assure safe operation of the rider.

1. Sit on seat and move shift control into neutral position. Engage the parking brake to prevent movement of the rider.

2. Move deck engagement switch to the ENGAGE position. Rotate the ignition key to START. Engine should not crank. If engine cranks, the interlock system is malfunctioning and it must be repaired by an Authorized TORO Service Dealer. If engine does not crank, proceed to step 3.

3. Move deck engagement switch to DISENGAGE position, release parking brake but keep brake pedal depressed, push clutch in and place shift control into one of the gear selections. Rotate the ignition key to START. Engine should not crank; but if it does, the interlock system is malfunctioning and it must be repaired by an Authorized TORO Service Dealer. If engine does not crank, proceed to step 4.

4. Move shift control into neutral and deck engagement switch to DISENGAGE position. Engage the parking brake to prevent movement of the rider. Rotate ignition key to START position and start engine. Place the deck engagement switch in ENGAGE position and carefully raise off the seat: the engine should stop running. If engine does not stop running, shut engine off and have interlock system repaired by an Authorized TORO Service Dealer. If engine shuts off when you raised off seat, the interlock system is functioning correctly.

WARNING

Do not operate the rider if the interlock system is malfunctioning because it is a safety device, designed for protection.

BATTERY CHARGING SYSTEM

An AGC 20 Amp Fuse is incorporated in the charging circuit as a protective device against alternator damage caused by possible "short-outs" in the wiring harness. If the battery is fully charged, but fails to crank the engine, have the electrical system checked by an Authorized TORO Service Dealer.

PREPARING MOWER FOR STORAGE

1. Drain gasoline from fuel tank and fuel line: refer to Fuel Filter Replacement, page 17. Next, start engine and let it run at idle speed until it stops and all gasoline is used. Replace the fuel filter.

Note: All gasoline must be expended to prevent gum-like varnish deposits from forming in the carburetor, fuel line, and fuel tank. Such deposits, if allowed to form, will cause starting problems and poor engine operation.

2. Pull high tension wires off spark plugs and clean area around the plugs so foreign matter cannot fall into cylinders when plugs are removed. Next, remove plugs from cylinder heads and pour two tablespoons of engine oil into each spark plug hole. Rotate engine by hand slowly to distribute oil on inside of cylinders. Then reinstall spark plugs and tighten to 15 ft-lb (20.4 N·m). If torque wrench is not used, tighten plugs firmly. DO NOT INSTALL HIGH TENSION WIRES ON SPARK PLUGS.

3. Drain oil from crankcase and refill with proper viscosity oil: refer to Changing Crankcase Oil, page 16.

4. Clean dirt and chaff from outside of cylinders, cylinder head fins, and blower housing. Also, remove grass clippings, dirt, and grime from external parts of rider, engine, shrouding, and top of mower housing.

5. Check and tighten all cap screws, bolts, screws, nuts, and mating parts. If any part is damaged, repair or replace it.

6. Lubricate wheels and spindles with grease: refer to Grease Front Axle Spindles and Wheels, page 15.

7. Check air cleaner element: refer to Servicing Air Cleaner, page 16.

8. Touch up all rusted or chipped paint surfaces. Make sure to sand affected area before painting.

Note: TORO Re-Kote "touch-up" paint is available from any Authorized TORO Service Dealer. The spray paint dries in minutes to a glossy, factory-finish.

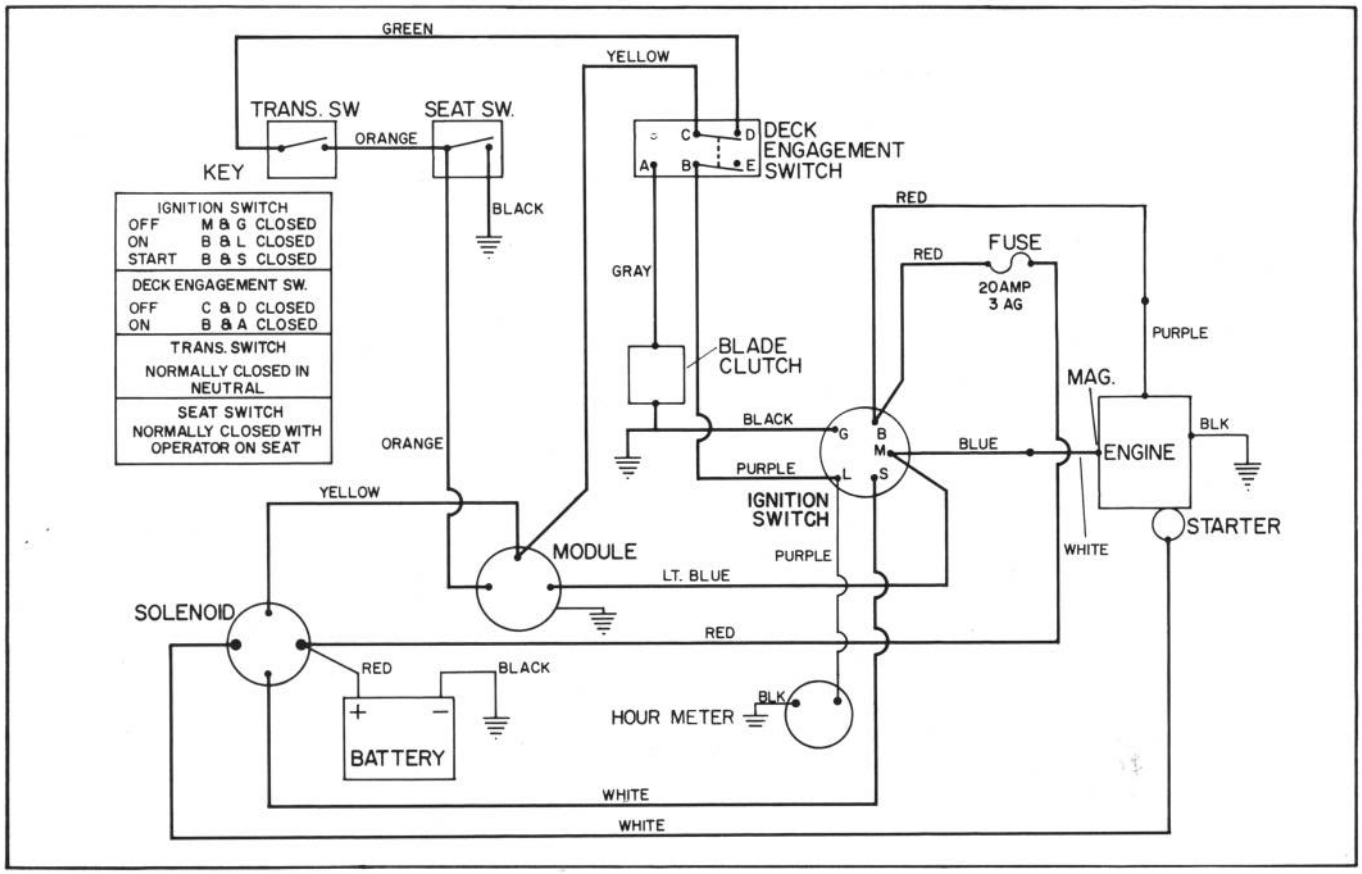
9. Remove the battery from the machine, recharge it and store it in a cool, dry place. Recharge it every 30 days to prevent it from discharging. Refer to Activating and Charging Battery, page 8.

IMPORTANT: Improper storage or failure to recharge may cause battery failure.

10. Place blocks under the front and rear axles to raise the wheels off floor and prevent tire deterioration.

11. Store the rider in a clean, dry place. Remove key from ignition switch and keep it in a memorable place. Cover the rider to protect it and keep it clean.

WIRING DIAGRAM



IDENTIFICATION AND ORDERING

MODEL AND SERIAL NUMBERS

The TORO Rider has two identification numbers: a model number and a serial number. The two numbers are stamped on a decal that is located under the seat, on inside of rider body.

In any correspondence concerning the rider, supply model and serial numbers to assure that correct information and replacement parts are obtained.

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

1. Model and serial numbers of the tractor.

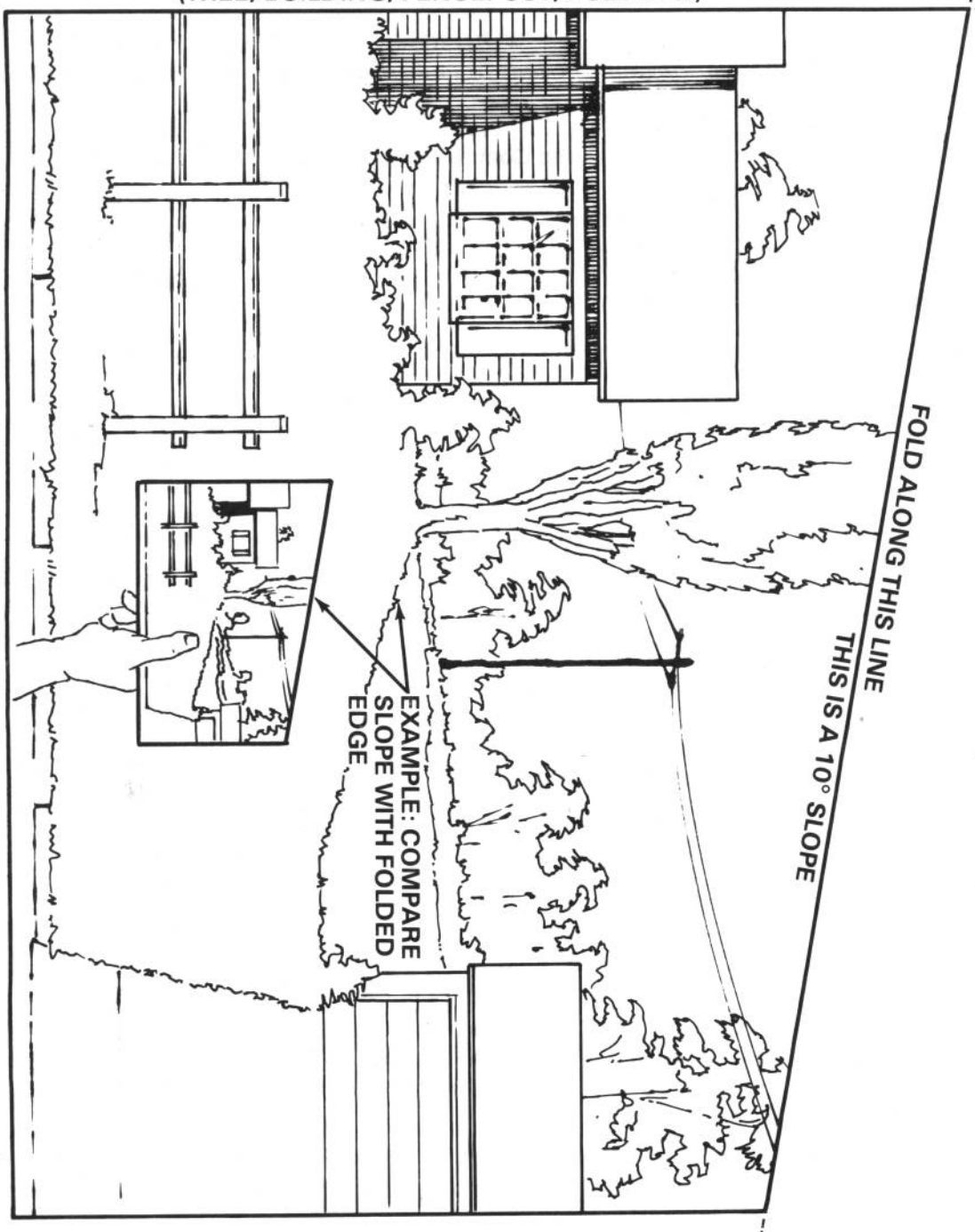
2. Part number, description and quantity of part(s) desired.

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

10° SLOPE GAGE

Read all safety decals and safety instructions on pages 3-5.

ALIGN THIS EDGE WITH A VERTICAL SURFACE (TREE, BUILDING, FENCEPOST, POLE ETC.)



⚠ WARNING

USE EXTREME CAUTION ON HILLS AND SLOPES

TO MINIMIZE THE RISK OF INJURY

- Never mow steep slopes.
- Never mow side hills over 10°.
- Mow slopes up and down, not across the face.
- When going uphill or downhill do not stop or start suddenly.
- Reduce speed and use extreme caution when making turns on slopes to reduce the risk of tipping or losing control.
- Stay alert for holes in the terrain and other hidden hazards. Do not drive close to a ditch, creek, or dropoff to prevent tipping or loss of control.

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The Toro Total Coverage Guarantee

A Two Year Limited Warranty
On
Model 55620 — HMR 1600

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

Residential Product ..... 2 Years
Residential Products Used Commercially ..... 1 Year

The costs of parts and labor are included, as are transportation costs within a 15 mile radius of the servicing dealer. Just contact any Authorized TORO Service Dealer or TORO Distributor. Should you feel your TORO Rider is defective and wish to rely on The Toro Total Coverage Guarantee, the following procedure is recommended:

1. Contact the dealer where you purchased the rider. If this is not convenient, just contact any Authorized TORO Service Dealer, TORO Master Service Dealer, or TORO Distributor (the Yellow Pages of your telephone directory is a good reference source).

2. The Service Dealer will either instruct you to return the product to him or recommend another Authorized TORO Service Outlet which might be more suitable (not all TORO Dealers are equipped to service Riding Mowers).

3. Pickup and delivery of your TORO Rider by the servicing dealer is covered up to a 15 mile radius from the dealer's place of business. Mileage charges beyond a 15 mile radius are not covered by this warranty and are the responsibility of the owner.

   If you wish to bring the rider in yourself, first obtain prior approval from your dealer and the dealer will provide reasonable monetary compensation as specified by Toro.

   If repairs to your rider are not covered by this warranty, transportation charges connected with repairs will be charged at the dealer's prevailing rates.

4. Please make the original sales slip, copy of the TORO Registration Card, or other evidence of purchase date available to the dealer when the unit is brought to the dealer's place of business.

   The servicing dealer will inspect the unit, advise you whether the product is defective and, if so, make all repairs necessary to correct the defect without extra charge to you.

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

Write:

TORO Customer Service Department
8111 Lyndale Avenue South
Minneapolis, MN 55420

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

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

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

THIS WARRANTY APPLIES ONLY TO PARTS OR COMPONENTS WHICH ARE DEFECTIVE AND DOES NOT COVER REPAIRS NECESSARY DUE TO NORMAL WEAR, MISUSE, ACCIDENTS, OR LACK OF PROPER MAINTENANCE. REGULAR, ROUTINE MAINTENANCE OF THE UNIT TO KEEP IT IN PROPER OPERATING CONDITION IS THE RESPONSIBILITY OF THE OWNER.

All warranty repairs reimbursable under this warranty must be performed by an Authorized TORO Service Dealer using TORO approved replacement parts and maintenance procedures.

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

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

Some states do not allow the exclusion 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.

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

Litho in U.S.A.