Form No. 3385-259 Rev A

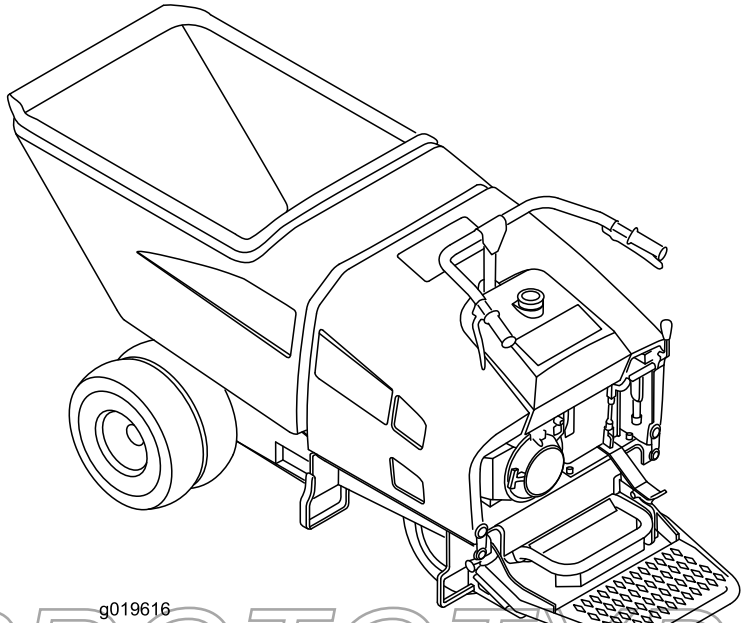
TORO®

Count on it.

Operator's Manual

MB-1600 Mud Buggy

Model No. 68038—Serial No. 313000001 and Up
Model No. 68038—Serial No. 314000001 and Up
Model No. 68038G—Serial No. 314000001 and Up
Model No. 68038G—Serial No. 313000001 and Up



g019616

PROTOTYPE

Register at www.Toro.com.
Original Instructions (EN)

3385-259 A

⚠ WARNING

CALIFORNIA
Proposition 65 Warning

This product contains a chemical or chemicals known to the State of California to cause cancer, birth defects, or reproductive harm.

The engine exhaust from this product contains chemicals known to the State of California to cause cancer, birth defects, or other reproductive harm.

Because in some areas there are local, state, or federal regulations requiring that a spark arrester be used on the engine of this machine, a spark arrester is available as an option. If you require a spark arrester, contact your Authorized Toro Service Dealer.

Genuine Toro spark arresters are approved by the USDA Forestry Service.

Important: It is a violation of California Public Resource Code Section 4442 to use or operate the engine on any forest-covered, brush-covered, or grass-covered land without a spark arrester muffler maintained in working order, or the engine constricted, equipped, and maintained for the prevention of fire. Other states or federal areas may have similar laws.

This spark ignition system complies with Canadian ICES-002.

The enclosed *Engine Owner's Manual* is supplied for information regarding the US Environmental Protection Agency (EPA) and the California Emission Control Regulation of emission systems, maintenance, and warranty. Replacements may be ordered through the engine manufacturer.

Introduction

PROTOTYPE

This machine is intended to be used by professional, hired operators in commercial applications. This machine is a stable, reliable, and productive machine for carrying and moving materials for any job site. It is primarily designed to move concrete, mortar, gravel, dirt, or debris around job sites.

Read this information carefully to learn how to operate and maintain your product properly and to avoid injury and product damage. You are responsible for operating the product properly and safely.

You may contact Toro directly at www.Toro.com for product and accessory information, help finding a dealer, or to register your product.

Whenever you need service, genuine Toro parts, or additional information, contact an Authorized Service Dealer or Toro Customer Service and have the model and serial numbers of your product ready. Figure 1 identifies the location of the model and serial numbers on the product. Write the numbers in the space provided.

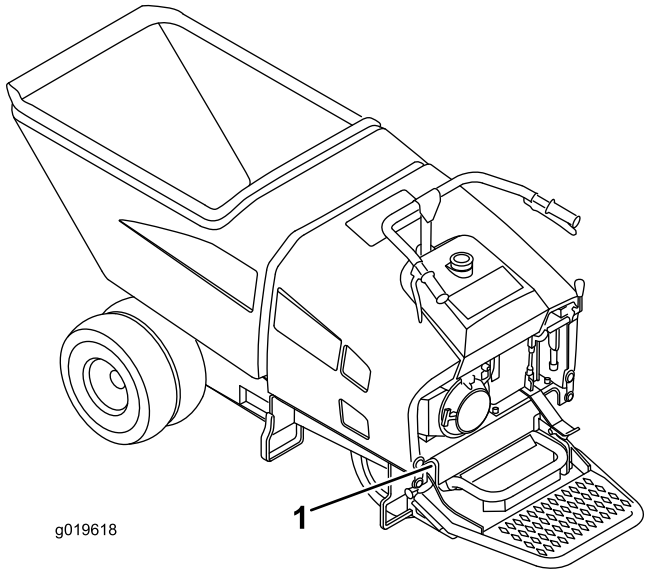


Figure 1

1. Model and serial number location

Model No. _____

Serial No. _____

This manual identifies potential hazards and has safety messages identified by the safety alert symbol (Figure 2), which signals a hazard that may cause serious injury or death if you do not follow the recommended precautions.



Figure 2

1. Safety alert symbol

This manual uses 2 words to highlight information. **Important** calls attention to special mechanical information and **Note** emphasizes general information worthy of special attention.

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Bloomington, MN 55420

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Safety

Improper use or maintenance of the machine can result in injury. To reduce the potential for injury, comply with these safety instructions and always pay attention to the safety alert symbol ⚠, which means: *Caution*, *Warning*, or *Danger*—personal safety instruction. Failure to comply with the instruction may result in personal injury or death.

Safe Operating Practices

⚠ WARNING

Engine exhaust contains carbon monoxide, an odorless, deadly poison that can kill you.

Do not run the engine indoors or in an enclosed area.

Training

- Read the *Operator's Manual* and other training material. If the operator(s) or mechanic(s) cannot read English, it is the owner's responsibility to explain this material to them.
- Become familiar with the safe operation of the equipment, operator controls, and safety signs.
- All operators and mechanics should be trained. The owner is responsible for training the users.
- Never let children or untrained people operate or service the equipment. Local regulations may restrict the age of the operator.
- The owner/user can prevent and is responsible for accidents or injuries occurring to people or damage to property.

Preparation

- Wear appropriate clothing including hard hat, safety glasses, long pants, safety shoes, and hearing protection. Long hair, loose clothing or jewelry may get tangled in moving parts.
- Inspect the area where the equipment is to be used and ensure that all objects are removed from the machine before use.
- Use extra care when handling gasoline and other fuels. They are flammable and vapors are explosive.
  - Use only an approved container.
  - Never remove the gas cap or add fuel when the engine is running. Allow the engine to cool before refueling. Do not smoke.
  - Never fuel or the machine indoors.
  - Never store the machine or fuel container inside where there is an open flame, such as near a water heater or furnace.
  - Never fill a container while it is inside a vehicle, trunk, pick-up bed, or any surface other than the ground.

PROTOTYPE

  - Keep container nozzle in contact with the tank during filling.
- Ensure that the machine's shields are attached and functioning properly. Do not operate unless they are functioning properly.

Operation

⚠ WARNING

The maximum payload is reduced by 850 kg (1875 lbs) when operating the machine without the dual wheels.

- Never run an engine in an enclosed area.
- Only operate in good light, keeping away from holes and hidden hazards.
- Be sure all drives are in neutral and parking brake is engaged before starting the engine. Only start the engine from the operator's position.
- Slow down and use caution when making turns and when changing directions on slopes.
- Watch for holes, ruts, or bumps, as uneven terrain could overturn the machine. Tall grass can hide obstacles.
- Stop and inspect the machine if you strike an object. Make any necessary repairs before starting.
- Never operate with the guards not securely in place.
- Do not change the engine governor setting or overspeed the engine.
- Stop on level ground, engage the parking brake, shut off the engine.
- Keep hands and feet away from moving attachments.
- Look behind and down before backing up to be sure of a clear path.
- Never carry passengers and keep pets and bystanders away.
- Slow down and use caution on uneven terrain, and when making turns and crossing roads and sidewalks.
- Do not operate the machine under the influence of alcohol or drugs.
- Use care when loading or unloading the machine into a trailer or truck.
- Use care when approaching blind corners, shrubs, trees, or other objects that may obscure vision.
- Never leave a running machine unattended. Always stop the engine and set the parking brake.
- Do not exceed the rated operating capacity, as the machine may become unstable which may result in loss of control; refer to Specifications (page 10).

  Do not over-load the hopper and always keep the load level when operating.
- Never jerk the controls; use a steady motion.
- Watch for traffic when operating near or crossing roadways.
- Do not touch parts which may be hot from operation. Allow them to cool before attempting to maintain, adjust, or service.
- Check for overhead clearances (i.e. branches, doorways, electrical wires) before driving under any objects and do not contact them.
- Only operate the unit in areas where there is sufficient clearance for the operator to safely maneuver the product.
- Locate the pinch point areas on the machine and keep hands and feet away from these areas.
- Lightning can cause severe injury or death. If lightning is seen or thunder is heard in the area, do not operate the machine; seek shelter.

Slope Operation

Slopes are a major factor related to loss-of-control and tip-over accidents, which can result in severe injury or death. All slopes require extra caution.

- Do not operate the machine on hillsides or slopes exceeding the recommended angles.

  Operate up and down slopes with the heavy end of the machine uphill. Weight distribution changes. An empty hopper will make the rear of the machine the heavy end, and a full hopper will make the front of the machine the heavy end.
- Slow down and use extra care on hillsides. Be sure to travel in the recommended direction on hillsides. Turf conditions can affect the machine's stability.
- Keep all movements on slopes slow and gradual. Do not make sudden changes in speed or direction.
- Avoid starting or stopping on a slope. If the machine loses traction, proceed slowly, straight down the slope.
- Avoid turning on slopes. If you must turn, turn slowly and keep the heavy end of the machine uphill.
- Do not operate near drop-offs, ditches, or embankments. The machine could suddenly turn over if a wheel goes over the edge of a cliff or ditch, or if an edge caves in.
- Use care when operating on wet surfaces.
- Watch for material coming out of the hopper. Materials dumped from this machine can be hazardous to people and objects.
- Do not park the machine on a hillside or slope without setting the parking brake and blocking the wheels, if required.

PROTOTYPE

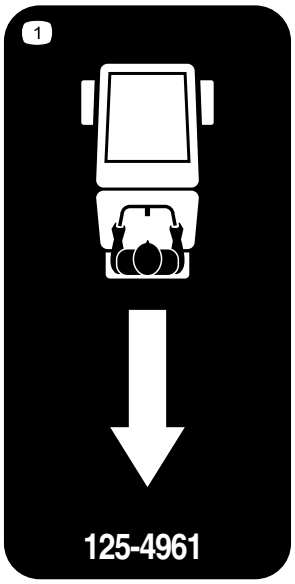
Maintenance and Storage

- Let the engine cool before storing and do not store near flame.
- Set the parking brake, stop the engine, and wait for all movement to stop before adjusting, cleaning, or repairing.
- Clean debris from drives, mufflers, and engine to help prevent fires. Clean up oil or fuel spillage.
- Do not store fuel near flames or drain indoors.
- Park the machine on level ground. Never allow untrained personnel to service the machine.
- Use jack stands to support components when required.
- Carefully release pressure from components with stored energy.
- Disconnect the spark plug wire before making any repairs.
- Keep hands and feet away from moving parts. If possible, do not make adjustments with the engine running.
- Keep all parts in good working condition and all hardware tightened. Replace all worn or damaged decals.
- Use a block or other means to secure the hopper in the raised position.
- Keep nuts and bolts tight. Keep equipment in good condition.
- Never tamper with safety devices.
- Keep the machine free of grass, leaves, or other debris build-up. Clean up oil or fuel spillage.
- Use only genuine Toro replacement parts to ensure that original standards are maintained.
- 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; never use your hands. Hydraulic fluid escaping under pressure can penetrate skin and cause injury requiring surgery within a few hours by a qualified surgeon or gangrene may result.

PROTOTYPE

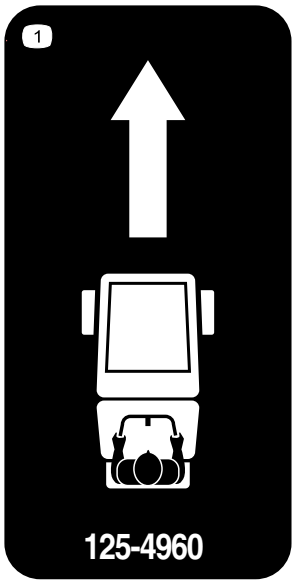
Safety and Instructional Decals

Safety decals and instructions are easily visible to the operator and are located near any area of potential danger. Replace any decal that is damaged or lost.



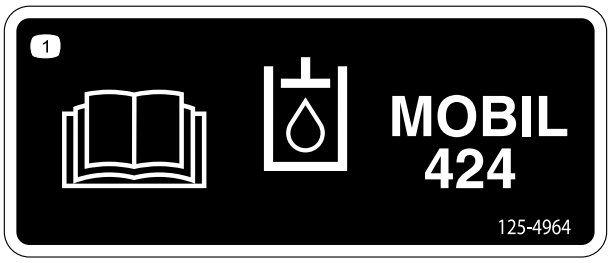
125–4961

1. Reverse



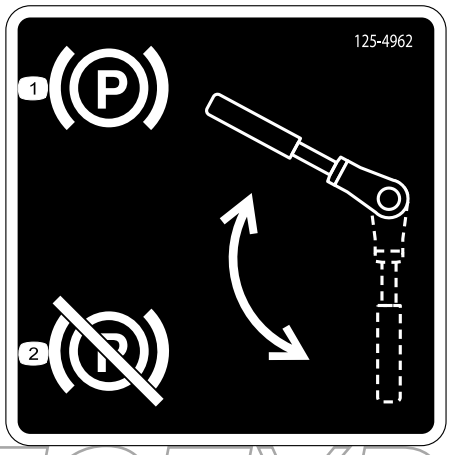
125–4960

1. Forward



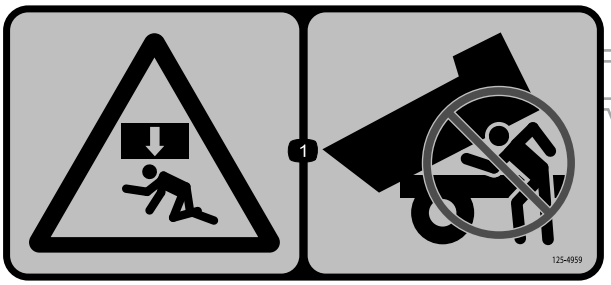
125–4964

1. Read the *Operator's Manual* for oil information.



125–4962

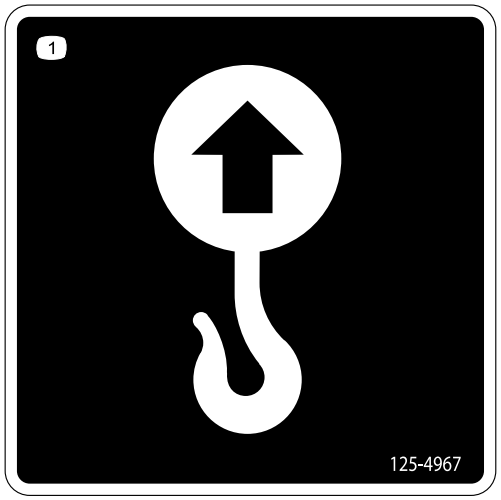
1. Engage the parking brake 2. Disengage the parking brake



125–4959

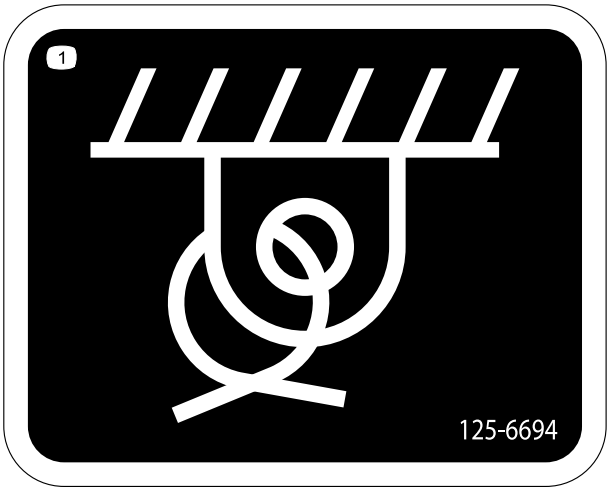
1. Crushing hazard—never place your head under the dump trailer.

PROTOTYPE



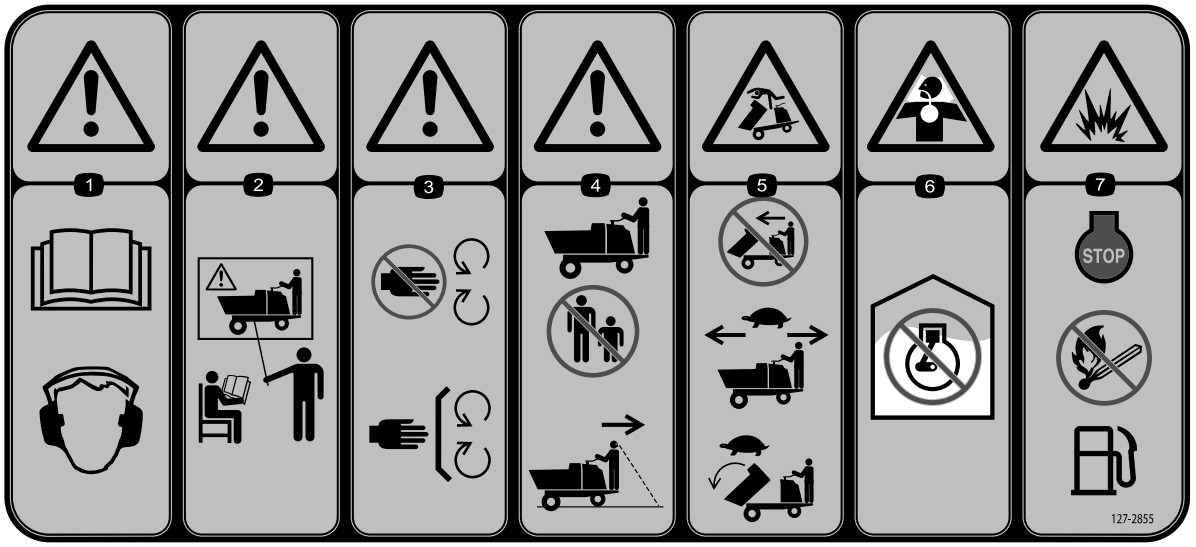
125–4967

1. Lift point



125–6694

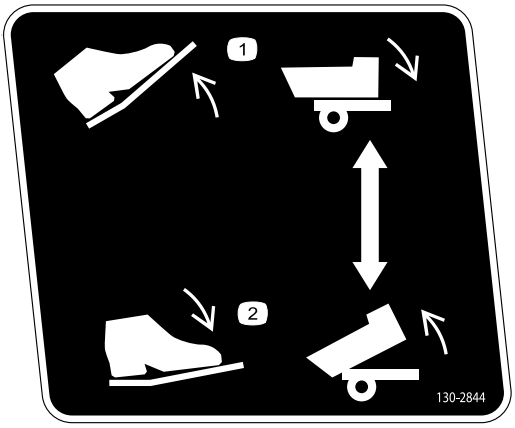
1. Tie down location



127–2855

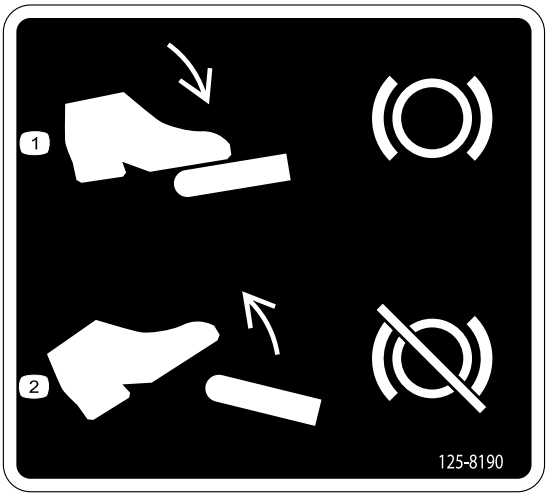
1. Warning—read the *Operator's Manual*; wear hearing protection.
2. Warning—do not operate the machine without proper training.
3. Warning—stay away from moving parts; keep all guards and shields in place.
4. Warning—keep bystanders away while operating the machine; check behind you when moving in reverse.
5. Tipping hazard—do not raise the dump trailer while moving; move forward slowly; raise the dump trailer slowly.
6. Choking hazard—do not run the engine indoors.
7. Explosion hazard—stop the engine and extinguish all flames before refueling.

PROTOTYPE



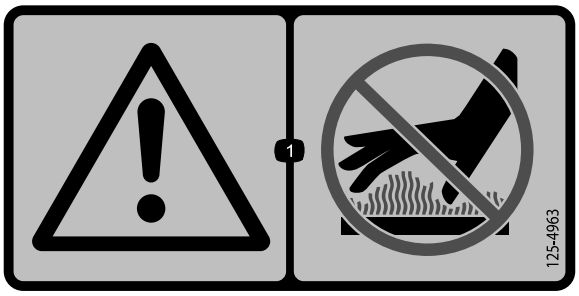
130-2844

1. Raise the pedal to lower the hopper.
2. Lower the pedal to raise the hopper.



125–8190

1. Press down on the pedal to apply the service brake
2. Release the pedal to release the service brake



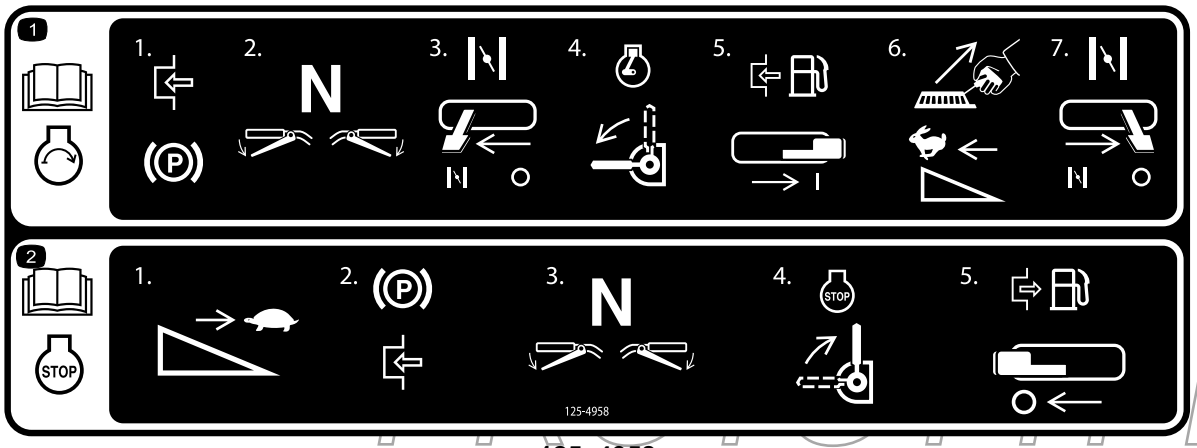
125–4963

1. Warning—keep hands away from hot surfaces

CALIFORNIA SPARK ARRESTER WARNING

Operation of this equipment may create sparks that can start fires around dry vegetation. A spark arrester may be required. The operator should contact local fire agencies for laws or regulations relating to fire prevention requirements. 117-2718

117–2718



125–4958

1. Read the *Operator's Manual* for information on starting the engine—1)Engage the parking brake; 2)Set the drive to neutral; 3)Open the choke; 4)Turn the engine switch on; 5) Engage the fuel switch; 6)Pull the recoil starter and set the throttle to fast; 7)Close the choke.
2. Read the *Operator's Manual* for information on stopping the engine—1)Set the throttle to slow; 2)Engage the parking brake; 3)Set the drive to neutral; 40Turn the engine switch to stop; 5)DIsengage the fuel switch.

Product Overview

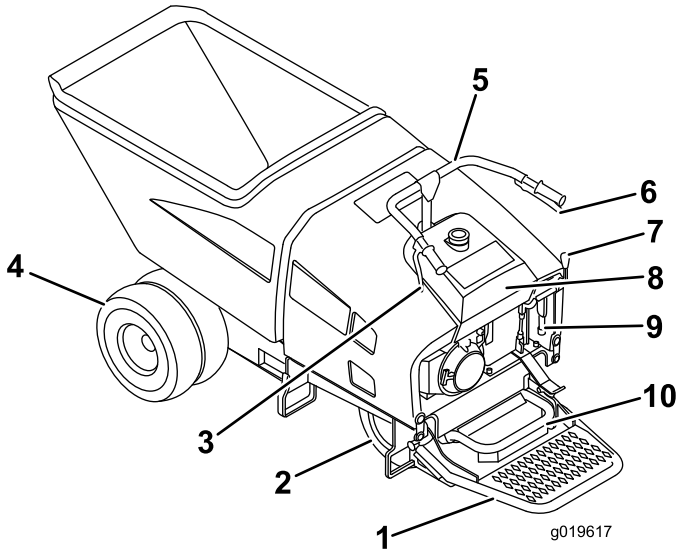


Figure 3

1. Operator platform
2. Steer tires
3. Reverse speed control lever
4. Drive tires
5. Handle bars
6. Forward speed control lever
7. Dump handle/pedal
8. Fuel tank
9. Parking brake
10. Brake pedal

Controls

Become familiar with all the controls (Figure 3) before you start the engine and operate the machine.

Brake Pedal

Apply the foot-operated brake pedal to stop the machine (Figure 3).

Forward Speed Control Lever

Squeeze the forward speed control lever (Figure 3) to move the machine forward. The more you squeeze the handle the faster the machine will travel.

Reverse Speed Control Lever

Squeeze the reverse speed control lever (Figure 3) to reverse the movement of the machine. The more you squeeze the handle the faster the machine will travel.

Dump Handle/Pedal

Push the handle forward and/or press on the front of the pedal to dump the hopper (Figure 3). Pull the handle back and/or press on the rear of the pedal to lower the hopper.

Parking Brake Lever

To set the parking brake, pull up on the lever. (Figure 3).

To release the parking brake, press the button on the end of the brake handle and lower the lever.

Fuel Gauge

The fuel gauge is part of the fuel-tank cap, and the gauge indicates the amount of fuel in the fuel tank (Figure 3).

Fuel Tank Shutoff Valve

The fuel tank shutoff valve is located at the bottom of the fuel tank. The shutoff valve is used to control the flow of fuel from the tank when you are performing maintenance to the machine (Figure 4).

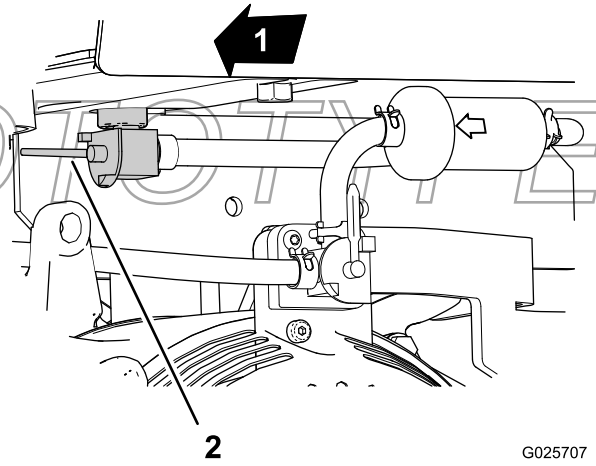


Figure 4

1. Forward
2. Shutoff-valve lever for the fuel tank (Off position)

PROTOTYPE

Engine Controls

Oil Alert System

The oil alert system is designed to prevent engine damage caused by an insufficient amount of oil in the crankcase. Before the oil level in the crankcase can fall below a safe limit, the oil alert system will automatically stop the engine (the engine switch will remain in the On position). If the engine stops and will not restart, check the engine oil level before troubleshooting in other areas

Choke Lever

The choke lever (Figure 5) is required when starting a cold engine. Before pulling on the recoil start handle, move the choke lever to the closed position. Once the engine is running, move the choke lever to the open position. Do not use the choke if the engine is already warmed up or the air temperature is high.

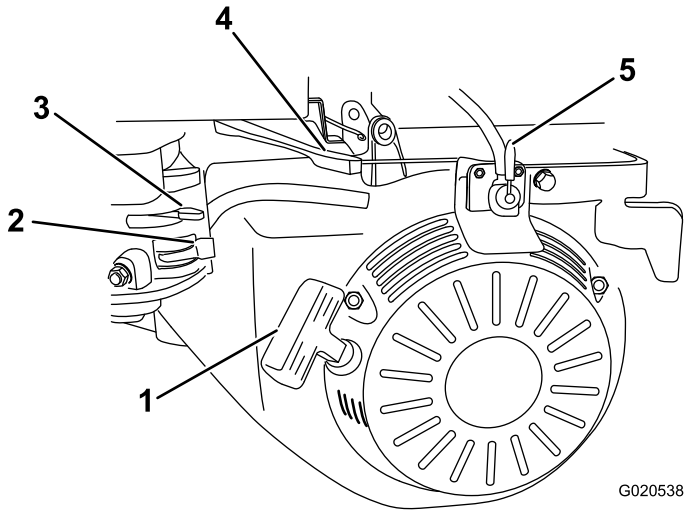


Figure 5

1. Recoil starter
2. Fuel shut-off valve
3. Choke lever
4. Throttle lever
5. On/Off switch

Throttle Lever

The throttle lever (Figure 5) controls the speed (rpm) of the engine. It is located next to the choke lever. It sets the engine rpm and therefore can increase and decrease the speed of the machine. For best performance it is recommended you set this lever to the fast position.

Fuel Shut Off Valve

The fuel shut off valve (Figure 5) is located underneath the choke lever. It must be moved to the open position before attempting to start the engine. Once you have finished using the machine and you have turned the engine off, move the fuel shut off valve to the closed position.

On/Off Switch

The On/Off switch (Figure 5) allows the engine to start and also stops the engine. This switch is located on the front of the engine. The On/Off switch is marked as follows:

- l (On)—the ignition system is On and the fuel flow through the switch is turned On.
- O (Off)—the ignition system is Off and the fuel flow through the switch is turned Off.

Note: To start the machine, you must first move this control to the On position. When you want to stop the engine, move this switch to the Off position.

Recoil Starter Handle

To start the engine, pull on the recoil starter handle (Figure 5) quickly to turn the engine over. The engine controls described in Figure 5 must all be set correctly for the engine to start.

Specifications

Note: Specifications and design are subject to change without notice.

Width (single wheel)	86 cm (34 inches)
Width (double wheel)	117 cm (46 inches)
Length	268 cm (105.5 inches)
Height	114.3 cm (45 inches)
Weight	621 kg (1370 lbs)
Hopper capacity	.45 m^3 (16 cu. ft.)
Maximum load	1136 kg (2500 lbs)
Maximum load (single wheel)	850 kg (1875 lbs)
Wheelbase	107 cm (42 inches)
Discharge Height	16.5 cm (6.5 inches)

PROTOTYPE

Operation

Note: Determine the left and right sides of the machine from the normal operating position.

Important: Before operating, check the fuel and oil level, and remove debris from the machine. Also, ensure that the area is clear of people and debris. You should also know and have marked the locations of all utility lines.

Adding Fuel

- For best results, use only clean, fresh, unleaded gasoline with an octane rating of 87 or higher ((R+M)/2 rating method).
- Oxygenated fuel with up to 10% ethanol or 15% MTBE by volume is acceptable.
- **Do not** use ethanol blends of gasoline (such as E15 or E85) with more than 10% ethanol by volume. Performance problems and/or engine damage may result which may not be covered under warranty.
- **Do not** use gasoline containing methanol.
- **Do not** store fuel either in the fuel tank or fuel containers over the winter unless a fuel stabilizer is used.
- **Do not** add oil to gasoline.

⚠ DANGER

In certain conditions, gasoline is extremely flammable and highly explosive. A fire or explosion from gasoline can burn you and others and can damage property.

- **Fill the fuel tank outdoors, in an open area, when the engine is cold. Wipe up any gasoline that spills.**
- **Never fill the fuel tank inside an enclosed trailer.**
- **Do not fill the fuel tank completely full. Add gasoline to the fuel tank until the level is 6 to 13 mm (1/4 to 1/2 inch) below the bottom of the filler neck. This empty space in the tank allows gasoline to expand.**
- **Never smoke when handling gasoline, and stay away from an open flame or where gasoline fumes may be ignited by a spark.**
- **Store gasoline in an approved container and keep it out of the reach of children. Never buy more than a 30-day supply of gasoline.**
- **Do not operate without entire exhaust system in place and in proper working condition.**

⚠ DANGER

In certain conditions during fueling, static electricity can be released causing a spark which can ignite the gasoline vapors. A fire or explosion from gasoline can burn you and others and can damage property.

- **Always place gasoline containers on the ground away from your vehicle before filling.**
- **Do not fill gasoline containers inside a vehicle or on a truck or trailer bed because interior carpets or plastic truck bed liners may insulate the container and slow the loss of any static charge.**
- **When practical, remove gas-powered equipment from the truck or trailer and refuel the equipment with its wheels on the ground.**
- **If this is not possible, then refuel such equipment on a truck or trailer from a portable container, rather than from a gasoline dispenser nozzle.**
- **If a gasoline dispenser nozzle must be used, keep the nozzle in contact with the rim of the fuel tank or container opening at all times until fueling is complete.**

⚠ WARNING

Gasoline is harmful or fatal if swallowed. Long-term exposure to vapors can cause serious injury and illness.

- **Avoid prolonged breathing of vapors.**
- **Keep face away from nozzle and gas tank or conditioner opening.**
- **Keep gas away from eyes and skin.**

PROTOTYPE

Using Stabilizer/Conditioner

Use a fuel stabilizer/conditioner in the machine to provide the following benefits:

- Keeps gasoline fresh during storage of 90 days or less. For longer storage it is recommended that the fuel tank be drained.
- Eliminates gum-like varnish buildup in the fuel system, which causes hard starting

Important: Do not use fuel additives containing methanol or ethanol.

Add the correct amount of gas stabilizer/conditioner to the gas.

Note: A fuel stabilizer/conditioner is most effective when mixed with fresh gasoline. To minimize the chance of varnish deposits in the fuel system, use fuel stabilizer at all times.

Filling the Fuel Tank

Fuel tank capacity: 26.5 liters (7 gallons).

1. Park the machine on a level surface and stop the engine. Allow the engine to cool.
2. Clean around the fuel tank cap and remove it.
3. Add unleaded gasoline to the fuel tank, until the level is just below the bottom of the filler neck.

   Important: This space in the tank allows gasoline to expand. Do not fill the fuel tank completely full.
4. Install the fuel tank cap securely, turning it until it clicks.
5. Wipe up any gasoline that may have spilled.

Checking the Engine Oil Level

Service Interval: Before each use or daily

Oil type: API classification SJ or later.

Oil viscosity: selected the oil viscosity according to ambient temperature in the table below.

Oil viscosity table

Over 13 degrees C. (40 degrees F.)	SAE 30 or 10W30
Below 13 degrees C. (40 degrees F.)	SAE 20 or 10W30

Note: The best time to check the engine oil is when the engine is cool before it has been started for the day. If it has already been run, allow the oil to drain back down to the sump for at least 10 minutes before checking.

1. Park the machine on a level surface and stop the engine. Allow the engine to cool.
2. Unlatch and remove the cowl.
3. Clean around the oil filler cap/dipstick (Figure 6).

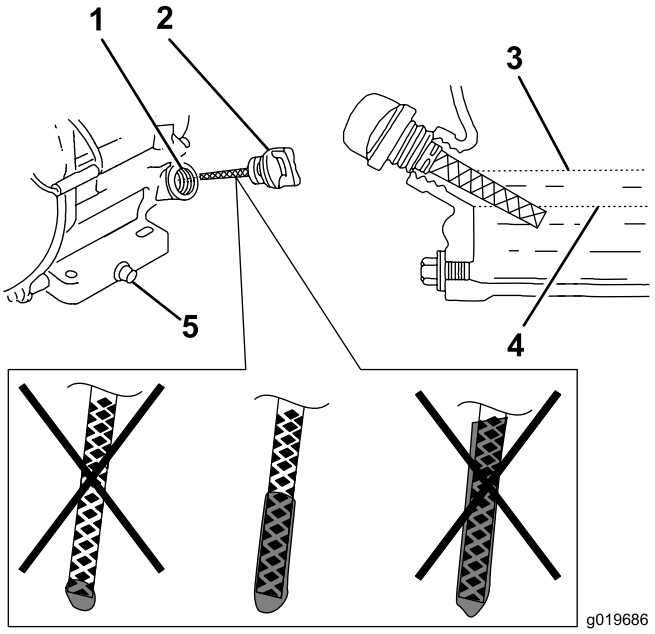


Figure 6

1. Filler tube
2. Dipstick
3. Upper limit
4. Lower limit
5. Oil drain bolt

4. Remove the oil filler cap/dipstick by rotating it counterclockwise (Figure 6).
5. Wipe the oil filler cap/dipstick clean and insert it into filler port.

   Note: Do not screw into port.

   Important: Do not overfill the crankcase with oil because the engine may be damaged.
6. Remove and check level of oil.

   Note: If oil level is near or below the lower limit mark on the dipstick, add only enough of the specified oil to raise level to the upper limit mark (bottom edge of the oil fill hole); refer to Figure 6.
7. Check level of oil (Figure 6).
8. Install the oil filler cap/dipstick and wipe up any spilled oil (Figure 6).
9. Install the cowl and secure the latches.

PROTOTYPE

Checking the Hydraulic Fluid Level

Service Interval: Before each use or daily

Hydraulic Fluid Specification: Mobil 424 Hydraulic Oil or equivalent

The machines hydraulic tank is filled at the factory with approximately 28.4 liters (30 quarts) of high quality hydraulic fluid.

Important: Always use the correct hydraulic fluid. Unspecified fluids will damage the hydraulic system.

1. Park the machine on a level surface and stop the engine. Allow the engine to cool.
2. Unlatch and remove the cowl.
3. Ensure that the hopper is down and in the level position.
4. Locate the oil sight gauge (Figure 7) on the side of the hydraulic oil tank.

   Note: When the oil level is correct, the oil level will cover 25% to 75% of the window in the site glass.

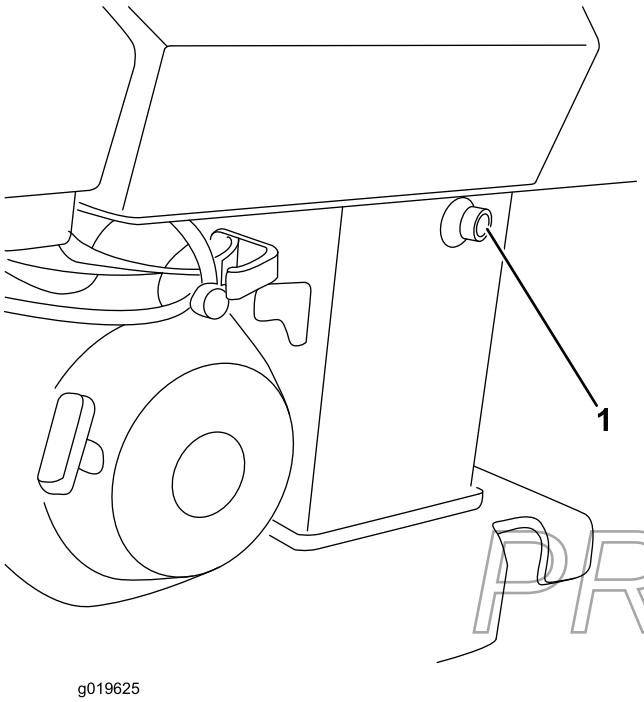


Figure 7

1. Sight gauge

5. If the oil level is low, remove the breather/filler cap from the top of the hydraulic tank (Figure 8), and add enough of the specified hydraulic fluid to raise it to the proper level.

⚠ CAUTION

The hydraulic breather/filler cap is designed to pressurize the reservoir to 34 kPa (5 psi).

Loosen the cap slowly to avoid injury whenever adding oil or working on the hydraulic system. Use a wrench on the hex directly under the cap.

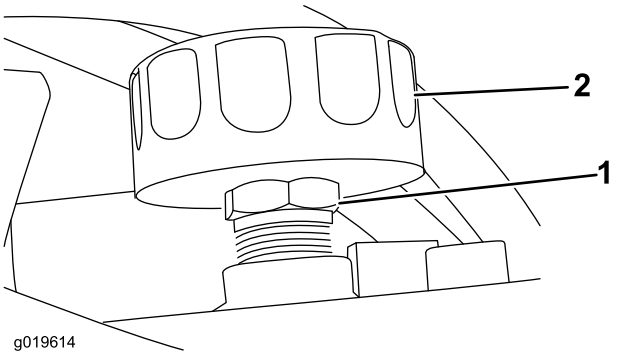


Figure 8

1. Breather/filler cap
2. Hex

6. Install the breather/filler cap. Wipe up any spilled hydraulic fluid (Figure 8).

Starting and Stopping the Engine

Starting the Engine

Note: For illustrations and descriptions of the engine controls referenced in this section, refer to Controls (page 9).

Note: Make sure the spark plug wire is installed on spark plug.

1. Set the parking brake to the On position; refer to Parking Brake Lever (page 9).
2. Make sure the forward/reverse speed levers are in the neutral (released) position; refer to Forward Speed Control Lever (page 9) and Reverse Speed Control Lever (page 9).
3. Move the choke lever to the On position when starting a cold engine; refer to Choke Lever (page 10).

   Note: The choke may not be required when starting a warm engine.
4. Turn the fuel tank shutoff valve to the Open position; refer to Fuel Tank Shutoff Valve (page 9).
5. Turn the engine On/Off switch to the Run position; refer to On/Off Switch (page 10).
6. Pull the recoil starter handle out until positive engagement results, then pull it vigorously to start the engine (Recoil Starter Handle (page 10)).

PROTOTYPE

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

7. When the engine has started, push the choke lever to the Off position.
8. Move the throttle lever to the desired setting (usually Fast).

Stopping the Engine

1. Move the throttle lever to the Min position; refer to Throttle Lever (page 10).
2. Set the parking brake; refer to Parking Brake Lever (page 9).
3. Make sure the forward/reverse speed levers are in the neutral position; refer to Forward Speed Control Lever (page 9) and Reverse Speed Control Lever (page 9).
4. Turn the engine On/Off switch to the Off position; refer to On/Off Switch (page 10).
5. When the engine stops running, turn the fuel shutoff valve on the engine to the Off position; refer to Fuel Shut Off Valve (page 10).

Operating the Machine

⚠ DANGER

Always face forward, toward the handle bar and controls when operating the machine. Operation of controls in any other manner may result in serious injury or death.

1. Always use the "three-point" contact when you mount the machine. "Three-point contact" refers to 3 out of 4 arms/legs being in contact with the machine when you mount or dismount the machine. Always face the machine when you mount or dismount it.
2. Start the engine; refer to Starting the Engine (page 13).
3. Adjust the throttle lever to the desired engine rpm; refer to Throttle Lever (page 10).
4. Release the parking brake lever; refer to Parking Brake Lever (page 9).
5. To move the machine forward, squeeze the speed control lever on the right handle bar. To move the machine rearward, squeeze the speed control lever on the left handle bar; refer to Forward Speed Control Lever (page 9) and Reverse Speed Control Lever (page 9).

   Note: The more you squeeze the handle, the faster the machine will travel. The more you squeeze the handle, the faster the machine will travel.
6. When you release the speed control handle the machine will stop.

   Note: If the machine does not stop when speed control is released, have machine inspected by an Authorized Toro Distributor.
7. Use your foot to press the brake pedal; refer to Brake Pedal (page 9).
8. Set the parking brake lever by pulling up on the parking brake lever; refer to Parking Brake Lever (page 9).
9. Stop the engine; refer to Stopping the Engine (page 14).

Operating the Hopper

Know the load capacities of your machine and never exceed them. The machines normally operate on uneven, unpaved, bumpy and/or inclined surfaces–adjust load accordingly.

1. Position the machine where you intend to dump the load.
2. Dump the hopper by pushing forward the dump handle or pressing down on the forward part of the dump pedal (Figure 9).

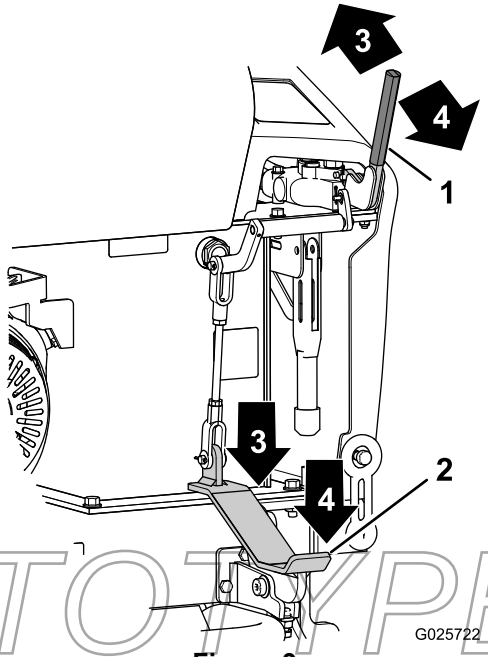


Figure 9

1. Dump handle
2. Dump pedal
3. Hopper dump position
4. Hopper upright position

3. Move the hopper to the upright position by pulling back the dump handle or pressing down on the rear part of the dump pedal (Figure 9).

PROTOTYPE

Parking the Machine

Parking on a Grade

Parking the machine on a grade should be avoided if possible. If the machine must be parked on a grade, park it at a right angle to the slope, apply the parking brake and block the wheels, if necessary.

Parking the Machine for a Long Term

1. Park the machine out of main traffic areas and set the parking brake.
2. When the machine will be out of use for a long period of time, tilt the hopper up so water, snow, and debris will not collect inside.
3. Cover the dump cylinder shaft to prevent corrosion.

Moving the Machine without Engine Power

The machine can be moved a short distance if the engine does not run. The transmission features a bypass valve (Figure 10).

- Rotate the bypass valve counterclockwise to tow the machine.
- Rotate the bypass valve clockwise to operate the machine normally.

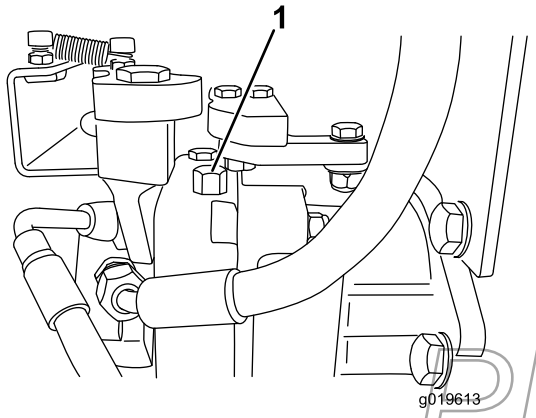


Figure 10

1. Bypass valve

Transporting the Machine

When transporting the machine on a trailer, always use the following procedure:

Important: Do not operate or drive the machine on roadways.

1. Stop the engine and apply the parking brake.
2. When transporting the machine, observe overall height for proper clearance of obstacles overhead.
3. Make sure the hopper is lowered and latched down.
4. Secure the machine with the proper devices at the tie-down loop.

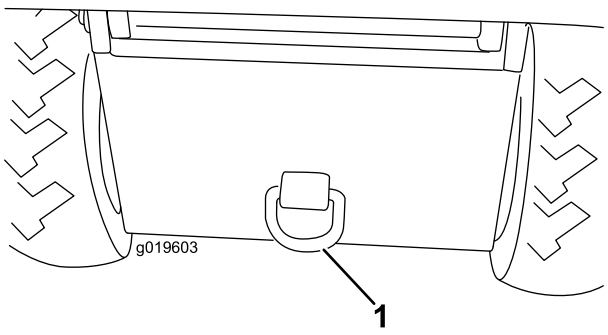


Figure 11

1. Tie-down loop

Lifting the Machine

Hoist the machine using 3 lift points under the hopper. Tilt the hopper forward to locate the 3 lift loops and attach a chain or straps at each of the loops as shown in Figure 12.

Note: Take up the slack in the chain or straps to properly balance the unit.

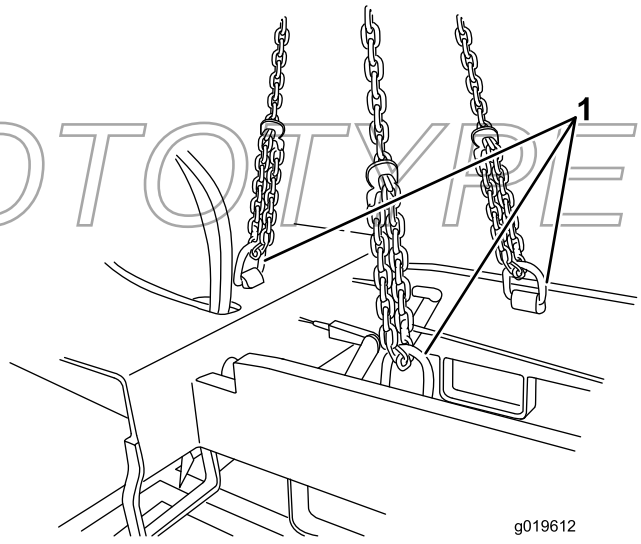


Figure 12

1. Lift points (3)

PROTOTYPE

The machine can be lifted with a fork lift from the side or from the front (Figure 13 and Figure 14). Pull out on the platform release ring (Figure 15) and raise the standing platform to allow access to the fork pockets. Accessing the side fork pockets is straightforward.

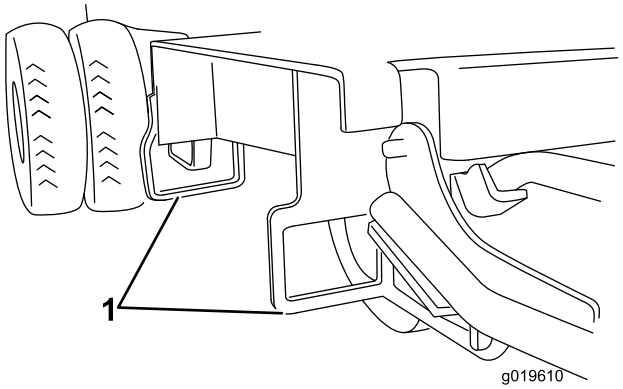


Figure 13

1. Rear fork pockets

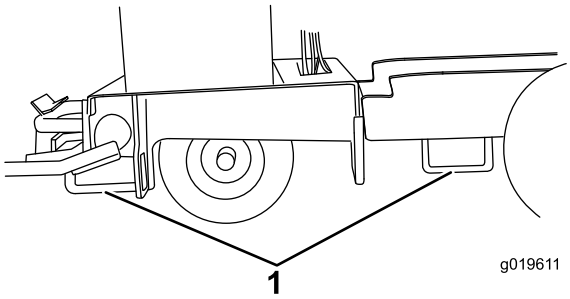


Figure 14

1. Side fork pockets

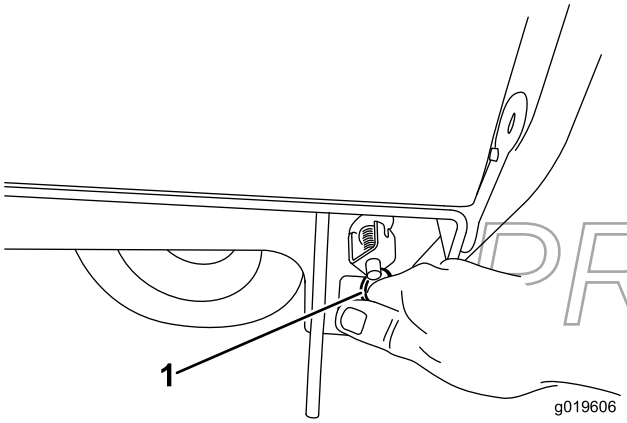


Figure 15

1. Platform release ring

PROTOTYPE

Using the Quick Release Tire Hubs

The quick-release tire system allows quick removal of the outer machine tires. The quick release system allows the machine to be converted from a 117 cm (46 inch) to a 91 cm (36 inch) wide machine without any special tools for hub removal.

1. Position the machine's inner wheel over a 2x4 and apply the parking brake.
2. Remove the large tee bolt in the center of the wheel with a crow bar (Figure 16).

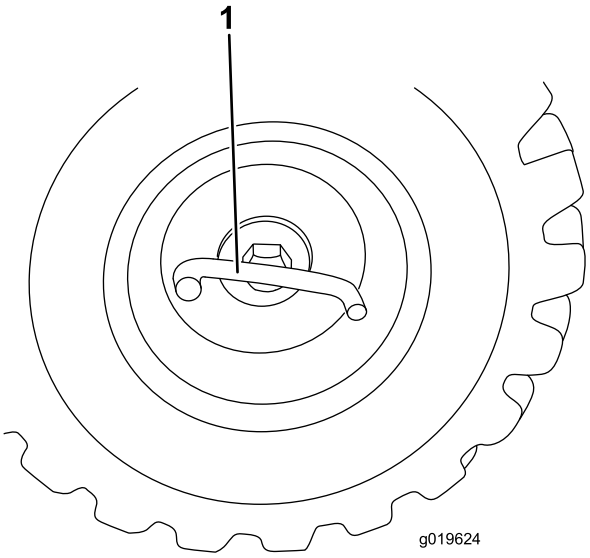


Figure 16

1. Tee bolt

3. Remove the outside wheel with quick-change hub attached.
4. Repeat above steps on opposite side of machine.

⚠ WARNING

The maximum payload is reduced by 850 kg (1875 lbs) when operating the machine without the dual wheels.

PROTOTYPE

Maintenance

Note: Determine the left and right sides of the machine from the normal operating position.

Recommended Maintenance Schedule(s)

Maintenance Service Interval	Maintenance Procedure
After the first 50 hours	• Change the engine oil.
Before each use or daily	• Check the engine oil level. • Check the hydraulic fluid level. • Check brake operation. • Check brake operation. • Remove debris from the machine. • Check for loose fasteners.
Every 40 hours	• Check the tire pressure. • Check the lug nuts. • Check the hydraulic lines for leaks, loose fittings, kinked lines, loose mounting supports, wear, and deterioration.
Every 50 hours	• Grease and oil the machine. • Clean the air cleaner.
Every 100 hours	• Change the engine oil. • Check/adjust the spark plug. • Clean the sediment cup. • Replace the hydraulic filter.
Every 200 hours	• Change the hydraulic fluid.
Every 300 hours	• Replace the paper element. • Replace the spark plug.
Every 1,000 hours	• Drain and flush the fuel tank.
Every 1,500 hours	• Replace all moving hydraulic hoses.
Yearly	• Pack wheel bearings.
Yearly or before storage	• Touch up chipped paint

Important: **Refer to your *Engine Operator's Manual* for additional maintenance procedures.**

PROTOTYPE

Premaintenance Procedures

Removing the Cowl

Note: You must dump the hopper before you remove the cowl. This can be done by either using the hydraulics, or by removing the pin in the hydraulic cylinder and the hopper base.

1. Before removing the cowl (Figure 17), stop the engine and allow the engine to cool.

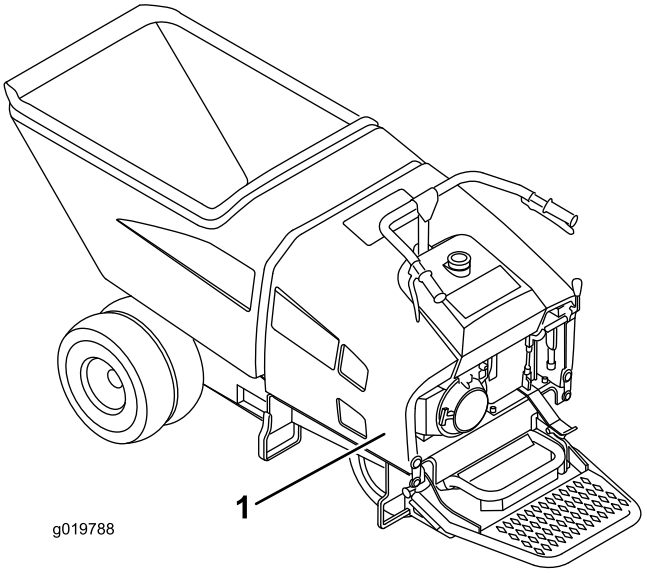


Figure 17

1. Cowl

2. Unhook the cowl latches (Figure 18) and remove the cowl.

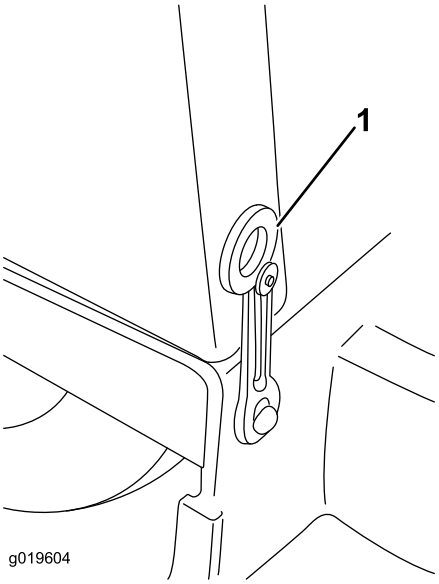


Figure 18

1. Cowl latch

3. Install the cowl and secure the latches upon completion of the task.

PROTOTYPE

Lubrication

Greasing the Machine

Service Interval: Every 50 hours—Grease and oil the machine.

Yearly—Pack wheel bearings.

If you operate the machine under normal conditions, lubricate all grease fittings for the bearings and bushings after every 50 hours of operation with No. 2 general purpose lithium-base grease. Lubricate bearings and bushings immediately after every washing, regardless of the interval listed. Also, apply a light coating of oil onto the control cables.

The grease fitting locations and quantities are as follows:

Note: Remove the blue protection caps before greasing and replace when finished.

- Hopper pivot points (Quantity 2)—Figure 19

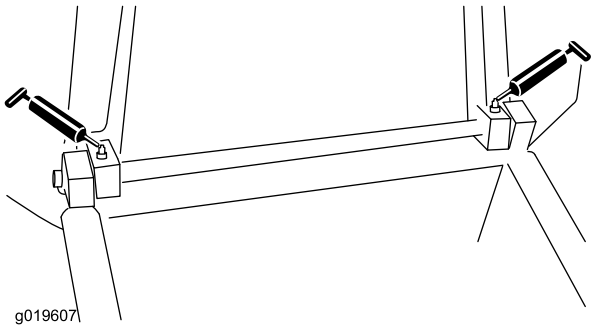


Figure 19

- Cylinder pivots (Quantity 2)—Figure 20

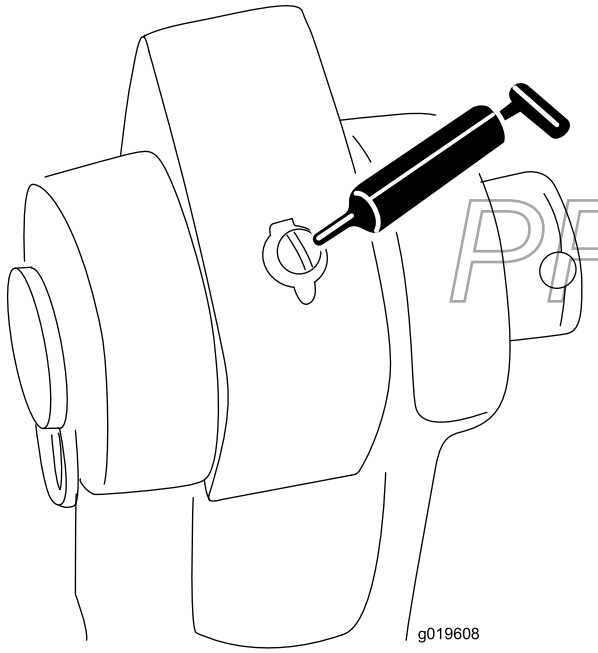


Figure 20

Engine Maintenance

Servicing the Air Cleaner

Service Interval: Every 50 hours—Clean the air cleaner.

Every 300 hours—Replace the paper element.

1. Make sure the wire is off the spark plug.
2. Remove wing nut securing air cleaner cover to air cleaner and remove cover. Clean cover thoroughly (Figure 21).
3. Remove the wing nut from the air filter, and remove the filter (Figure 21).

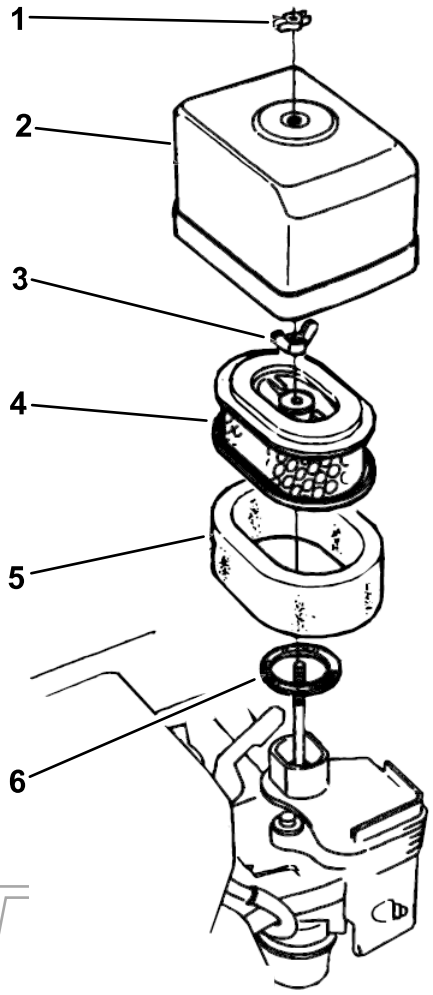


Figure 21

1. Wing nut
2. Air cleaner cover
3. Wing nut
4. Paper element
5. Foam element
6. Gasket

4. Remove the foam filter from the paper filter (Figure 21).
5. Inspect both air filter elements, and replace them if they are damaged.

   Note: Always replace the paper air filter element at the scheduled interval.

PROTOTYPE

6. Cleaning the foam element:
   A. Wash foam element in a solution of liquid soap and warm water.

      Note: Squeeze to remove dirt, but do not twist because the foam may tear.

   B. Dry by wrapping in a clean rag. Squeeze rag and foam element to dry, but do not twist because the foam may tear.

   C. Saturate element with clean engine oil. Squeeze element to remove excess oil and to distribute oil thoroughly.
7. Cleaning the paper element: Tap the filter element several times on a hard surface to remove dirt, or blow compressed air (not exceeding 2.07 bar (30 psi) through the filter element from the inside. Never try to brush off dirt; brushing will force dirt into the fibers.
8. Install the foam element, paper element, and air cleaner cover.

Important: Do not operate the engine without the air cleaner element because extreme engine wear and damage will likely result

Changing the Engine Oil

Service Interval: After the first 50 hours—Change the engine oil.

Every 100 hours—Change the engine oil.

Crankcase capacity: 1.1 liters (1.16 quarts).

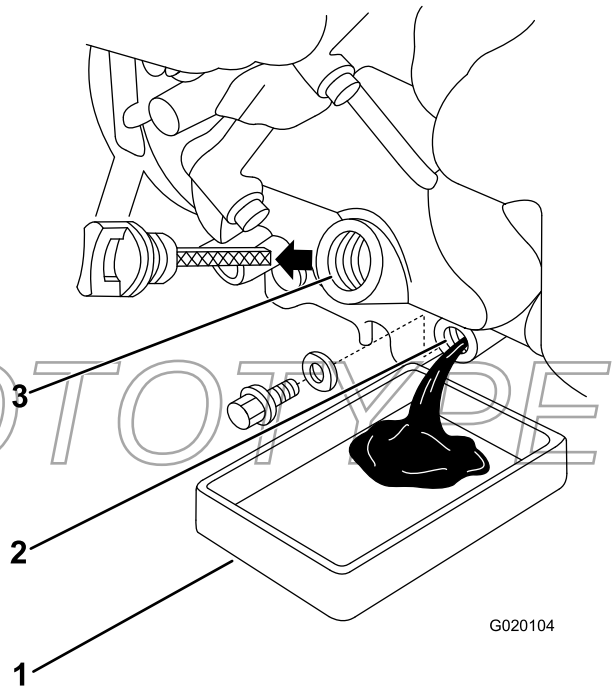
Oil type: API classification SJ or later.

Oil viscosity: selected the oil viscosity according to ambient temperature in the table below.

Oil viscosity table

Over 13 degrees C. (40 degrees F.)	SAE 30 or 10W30
Below 13 degrees C. (40 degrees F.)	SAE 20 or 10W30

1. Start and run engine for a few minutes to warm the engine oil, then, stop the engine.
2. Have a funnel ready to place under the oil drain plug, remove the plug and place the funnel under the plug to guide the oil into a container (Figure 22).
3. Install drain plug and wipe away excess oil from the machine.
4. Fill crankcase with the specified oil; refer to Figure 6 in Checking the Engine Oil Level (page 12).
5. Dispose of the oil properly. Recycle as per local codes.



PROTOTYPE

Figure 22

1. Oil pan
2. Oil drain hole
3. Oil fill cap

Replacing the Spark Plug

Service Interval: Every 100 hours—Check/adjust the spark plug.

Every 300 hours—Replace the spark plug.

Spark plug type: NGK BPR 6ES spark plug or equivalent.

Air gap: 0.70-0.80 mm (0.028-0.031 inch).

1. Pull the wire off the spark plug.
2. Clean around spark plug and remove plug from cylinder head.

   Important: Replace a cracked, fouled, or dirty spark plug. Do not sand blast, scrape, or clean electrodes because engine damaged could result from grit entering the cylinder.

3. Set air gap at 0.70-0.80 mm (0.028-0.031 inch) (Figure 23). Install the correctly gapped spark plug carefully, by hand, to avoid cross-threading.

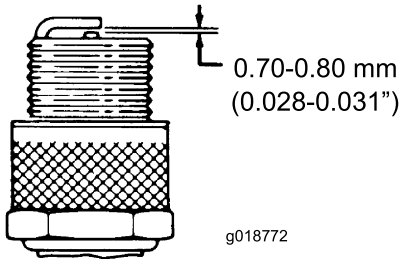


Figure 23

4. After the spark plug is seated, tighten with a spark plug wrench to compress the sealing washer.
5. When installing a new spark plug, tighten 1/2 turn after the spark plug seats to compress the washer.
6. When installing the original spark plug, tighten 1/8 to 1/4 turn after the spark plug seats to compress the washer.

   Note: A loose spark plug can overheat and damage the engine. Overtightening the spark plug can damage the threads in the cylinder head.

7. Push the wire onto the spark plug and tighten it.

Fuel System Maintenance

Cleaning the Sediment Cup

Service Interval: Every 100 hours—Clean the sediment cup.

⚠ DANGER

In certain conditions, gasoline is extremely flammable and highly explosive. A fire or explosion from gasoline can burn you and others and can damage property.

- **Fill the fuel tank outdoors, in an open area, when the engine is cold. Wipe up any gasoline that spills.**
- **Do not fill the fuel tank completely full. Add gasoline to the fuel tank until the level is 25 mm (1 inch) below the bottom of the filler neck. This empty space in the tank allows gasoline to expand.**
- **Never smoke when handling gasoline, and stay away from an open flame or where gasoline fumes may be ignited by a spark.**
- **Store gasoline in an approved container and keep it out of the reach of children. Never buy more than a 30-day supply of gasoline.**
- **Always place gasoline containers on the ground away from your vehicle before filling.**
- **Do not fill gasoline containers inside a vehicle or on a truck or trailer bed because interior carpets or plastic truck bed liners may insulate the container and slow the loss of any static charge.**
- **When practical, remove gas-powered equipment from the truck or trailer and refuel the equipment with its wheels on the ground.**
- **If this is not possible, then refuel such equipment on a truck or trailer from a portable container, rather than from a gasoline dispenser nozzle.**
- **If a gasoline dispenser nozzle must be used, keep the nozzle in contact with the rim of the fuel tank or container opening at all times until fueling is complete.**

1. Move the fuel valve to the Off position, then remove the fuel sediment cup and O-ring (Figure 24).

PROTOTYPE

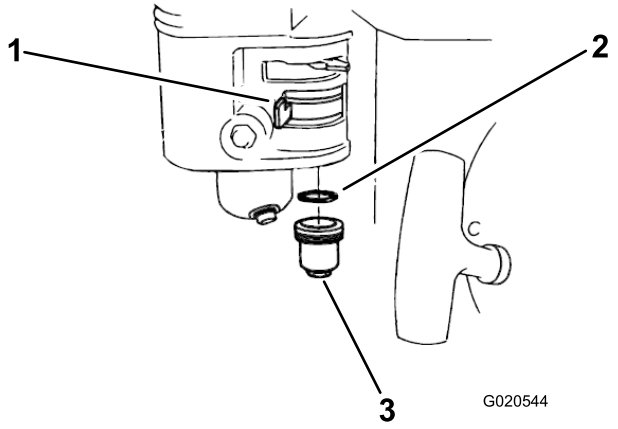


Figure 24

1. Fuel valve
2. O-ring
3. Fuel sediment bowl

2. Wash the sediment cup and O-ring in nonflammable solvent, and dry them thoroughly.
3. Place the O-ring in the fuel valve, and install the sediment cup (Figure 24).
4. Tighten the sediment cup securely.

Changing the Fuel Filter

1. Stop the engine and apply the parking brake. Allow the engine to cool.
2. Rotate the lever for the tank-shutoff valve forward and up to the Off position (Figure 25).

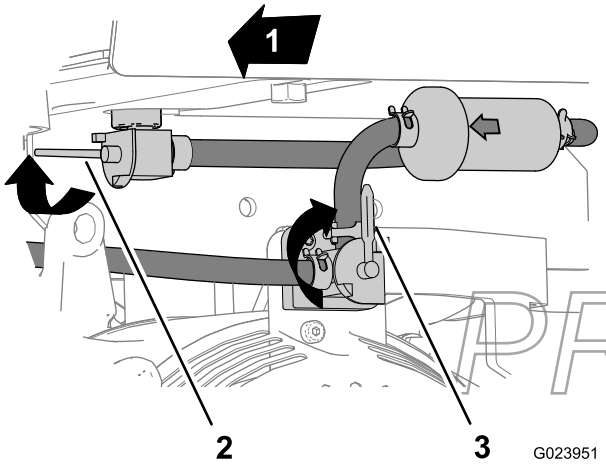


Figure 25

1. Forward
2. Lever—tank-shutoff-valve (Off position)
3. Lever—engine switch (Stop position)

3. Start the engine and run the machine until the engine stops.
4. Rotate the lever for the engine switch clockwise to the Stop position, and allow the engine to cool (Figure 25).
5. Carefully remove the spark-plug wire from the terminal of the spark plug (Figure 26).

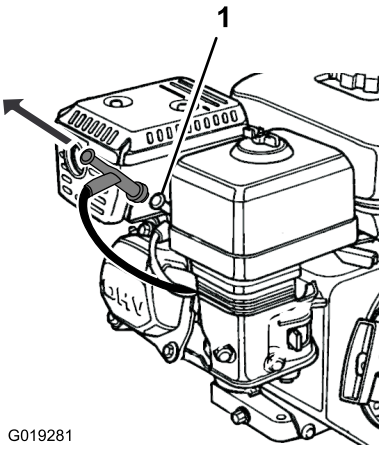


Figure 26

1. Spark-plug wire

6. Remove the hose clamps and hose from the barbed fitting at fuel filter (Figure 27).

   Note: Drain the fuel from the old fuel filter dispose of the fuel and filter at an authorized disposal site.

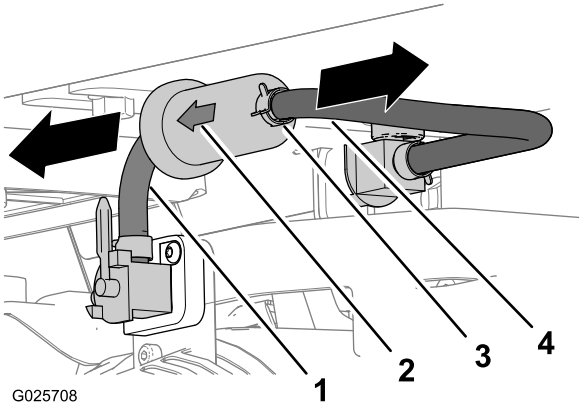


Figure 27

1. Hose (engine switch)
2. Fuel-filter arrow
3. Hose clamp
4. Hose (tank-shutoff valve)

PROTOTYPE

7. Align the arrow on the case of the new fuel filter to point toward the hose attached to the engine switch (Figure 27).

   Note: Ensure that the hose clamps are slipped over the hoses attached to the engine switch and the tank-shutoff valve.

8. Insert the barbed fitting of the fuel filter into the hose from the engine switch (Figure 27).
9. Insert the barbed fitting at the other end of the fuel filter into the hose attached to the tank-shutoff valve (Figure 27).
10. Align the clamps over the hoses at the barbed area of the filter, and secure the clamps to the hoses.

11. Connect the spark-plug wire (Figure 26).
12. Open the tank-shutoff valve and turn on the engine switch, and check for fuel leaks (Figure 25).

Draining the Fuel Tank

Service Interval: Every 1,000 hours/Yearly (whichever comes first)—Drain and flush the fuel tank.

⚠ DANGER

In certain conditions, gasoline is extremely flammable and highly explosive. A fire or explosion from gasoline can burn you and others and can damage property.

- **Drain gasoline from the fuel tank when the engine is cold. Do this outdoors in an open area. Wipe up any gasoline that spills.**
- **Never smoke when draining gasoline, and stay away from an open flame or where a spark may ignite the gasoline fumes.**

1. Stop the engine and apply the parking brake. Allow the engine to cool.
2. Move the fuel valve to the Off position.
3. Remove the fuel sediment cup (Figure 24) and empty the fuel from it.
4. Move the fuel valve (Figure 24) to the On position, and drain the gasoline from the fuel tank into a suitable container.
5. Replace the sediment cup and tighten securely (Figure 24).
6. Loosen the drain screw to drain fuel from the carburetor into a suitable container.
7. Install the drain screw when the carburetor is drained.

PROTOTYPE

Drive System Maintenance

Adjusting the Transmission Return to Neutral Position

The hydrostatic transmission is equipped with a self-centering device that centers the swash plate to stop the flow to the wheel motors, stopping the machine. If the machine creeps in one direction when you release the controls, adjust the transmission. To adjust the transmission, use the following procedure:

1. Stop the engine.
2. Remove the throttle lever cables at the transmission.
3. Lift the front four wheels off the ground, and support the machine with a jack stand.
4. Start the machine. Increase the engine throttle to full speed while checking for front drive wheel rotation.

   Note: If wheels rotate proceed to Step 5. If no rotation is observed shut off machine and install control cables.
5. Note the directional movement of the front drive wheels. **Shut off the machine**.
6. Loosen the lock down screw (Figure 28) until the return arm can be rotated.

   Note: If wheels were observed moving forward—rotate return arm counterclockwise. If wheels were observed moving in reverse—rotate clockwise.

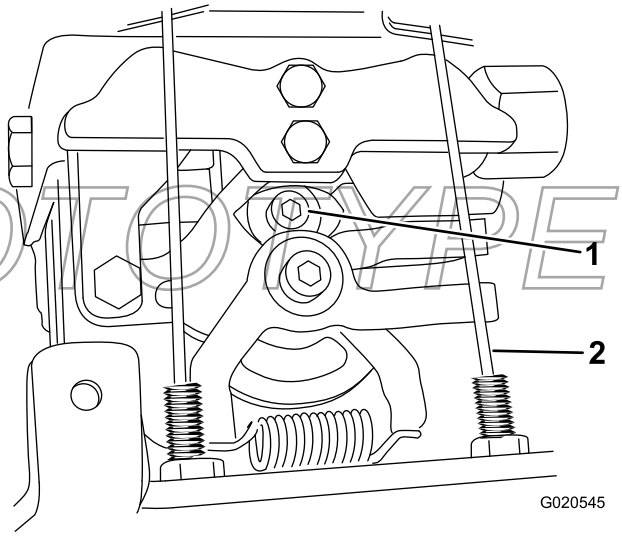


Figure 28

1. Lock down screw
2. Return arm

7. Tighten lock down screw and repeat step 4.

Checking the Tires and Lug Nuts

Service Interval: Every 40 hours—Check the tire pressure.

Every 40 hours—Check the lug nuts.

- Do not exceed the rated tire pressure. To ensure long tire life and safe handling, check tire pressure weekly. Proper inflation pressure on a pneumatic filled tire is 350 kPa (50 psi).
- Proper Care-Inspect tires for cuts, slashes, or bulges. Tires with defects need to be replaced or repaired for proper handling and safety.
- Check weekly to make sure all lug nuts are tight. Torque the lug nuts to 122 N-m (90 ft-lbs). This is important on new machines or newly replaced wheels.

Controls System Maintenance

Brake Maintenance

⚠ WARNING

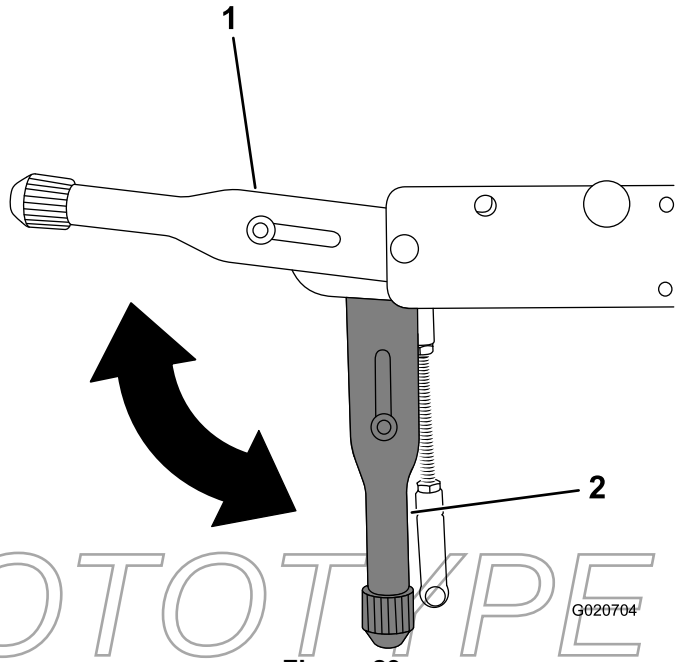
If the brakes are not properly adjusted, serious injury, or death, may occur.

Check your brakes daily. If you encounter any problems with the brakes while operating the machine, stop the machine immediately and bring it to an Authorized Toro Service Dealer for repair.

Checking the Service Brake

Service Interval: Before each use or daily

1. Move the machine to a level, open area.
2. Pull the parking brake lever up to engage the brake and start the engine (Figure 29).



PROTOTYPE

Figure 29

1. Engaged position
2. Disengaged position

3. Set the engine throttle to Fast.
4. Step on the service brake pedal (Figure 30).

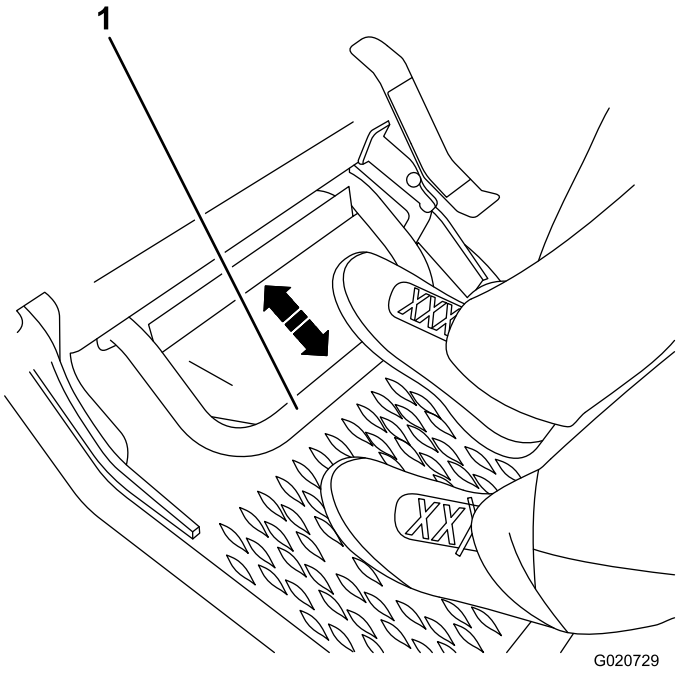


Figure 30

1. Brake pedal

5. Push the parking brake lever down to disengage the brake (Figure 29).
6. Slowly squeeze the forward speed control lever.

   Note: The machine should not move forward.

   The engine should stall at full engagement of speed control.
7. Release the speed control lever.
8. Slowly squeeze the reverse speed control lever.

   Note: The machine should not move backward.

   The engine should stall at full engagement of speed control.
9. Release the speed control lever.
10. If the machine moves forward or backward, have the machine repaired at an Authorized Toro Service Dealer.

Checking the Parking Brake

Service Interval: Before each use or daily

1. Move the machine to a level surface.

   Note: Ensure that there is nothing in front of the machine.
2. Engage the parking brake (Figure 29).
3. Start the engine and set the throttle to fast.
4. Grasp the forward speed control lever.

   Note: The engine should stall at full engagement of speed control and the machine should not move forward.

   Note: If the machine moves forward, refer to Adjusting the Parking Brake (page 26).
5. Release the forward speed control lever.
6. Release the parking brake (Figure 29).
7. Grasp the forward speed control lever.

   Note: The machine should move forward.

   Note: If the machine does not move forward, refer to Adjusting the Parking Brake (page 26).
8. Step on the service brake, set the parking brake, and stop the engine.

Adjusting the Parking Brake

Turning the knob on the parking brake handle clockwise will adjust the parking brake.

- **Loosening the parking brake:**(Figure 31).
  1. Ensure that engine is Off.
  2. Step on the service brake pedal (Figure 30).
  3. Disengage the parking brake (Figure 29).
  4. Rotate the parking-brake knob **counterclockwise** (Figure 31).

     Note: Rotate the knob no more than 1 revolution each time.

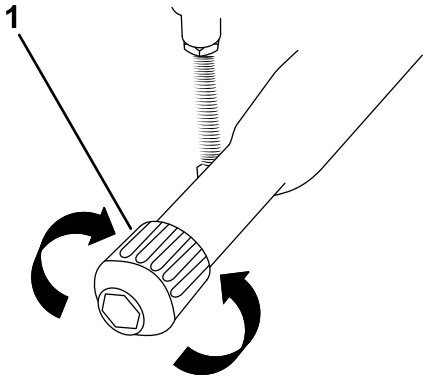


Figure 31

1. Parking brake knob

PROTOTYPE

  5. Test the parking brake; refer to Checking the Parking Brake (page 26).
  6. Repeat steps 1 through 5 until the machine moves forward.
- **Tightening the parking brake:** (Figure 31).
  1. Ensure that engine is shut off.
  2. Step on the service brake pedal (Figure 30).
  3. Disengage the parking brake (Figure 29).
  4. Rotate the parking-brake knob **clockwise** (Figure 31).

Note: Rotate the knob no more than 1 revolution each time.

5. Test the parking brake; refer to Checking the Parking Brake (page 26).
6. Repeat steps 1 through 5 until the machine does not move forward.

Hydraulic System Maintenance

Replacing the Hydraulic Filter

Service Interval: Every 100 hours—Replace the hydraulic filter.

Important: Do not substitute an automotive oil filter or severe hydraulic system damage may result.

⚠ WARNING

Hydraulic fluid escaping under pressure can penetrate skin and cause injury. Fluid injected into the skin must be surgically removed within a few hours by a doctor familiar with this form of injury or gangrene may result.

- **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, never use your hands.**

1. Position machine on a level surface, set the parking brake and stop the engine.
2. Unlatch and remove the cowl.
3. Place a drain pan under the filter (Figure 32).

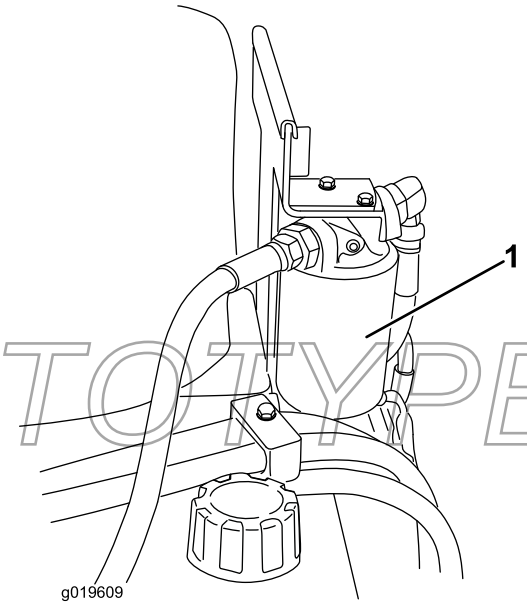


Figure 32

1. Hydraulic filter

4. Remove the old filter (Figure 32) and wipe the surface of the filter adapter gasket clean.
5. Apply a thin coat hydraulic fluid to the rubber gasket on the replacement filter.

PROTOTYPE

6. Install the replacement hydraulic filter onto the filter adapter (Figure 32). Tighten it clockwise until the rubber gasket contacts the filter adapter, then tighten the filter an additional 3/4 turn.
7. Clean up any spilled fluid.
8. Start the engine and let it run for about two minutes to purge air from the system.
9. Stop the engine and check for leaks.
10. Check the fluid level in the hydraulic tank, refer to Checking the Hydraulic Fluid Level (page 13).

    Note: Do not over fill the hydraulic tank.
11. Install the cowl and secure the latches.

Changing the Hydraulic Fluid

Service Interval: Every 200 hours

Hydraulic Fluid Specification: Mobil 424 Hydraulic Oil or equivalent

Hydraulic fluid capacity: 28.4 liters (30 quarts)

Note: For temperatures below 1 degree C (35 degrees F), oil should be switched to thinner 15 weight hydraulic fluid.

1. Position the machine on a level surface.
2. Unlatch and remove the cowl (Figure 17 and Figure 18).
3. Allow the machine to cool completely.
4. Remove the hydraulic tank breather/filler cap (Figure 33).

⚠ CAUTION

The hydraulic breather/filler cap is designed to pressurize the reservoir to 34 kPa (5 psi).

Loosen the cap slowly to avoid injury whenever adding oil or working on the hydraulic system. Use a wrench on the hex directly under the cap.

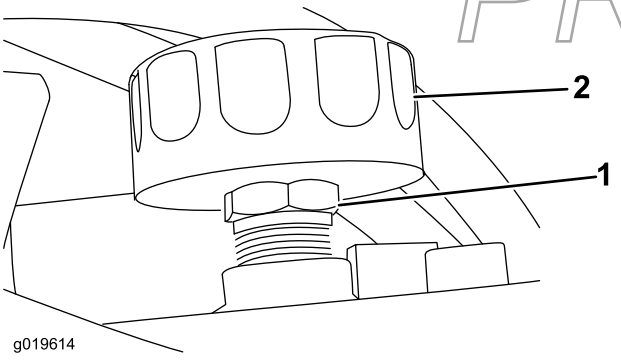


Figure 33

1. Hex
2. Breather/filler cap

5. Place a large drain pan under the drain plug located at the bottom of the hydraulic tank.
6. Remove the drain plug and allow the oil to drain into the pan.
7. When finished, install and tighten the drain plug.

    Note: Dispose of the used oil at a certified recycling center.
8. Fill the hydraulic tank with approximately 28.4 liters (30 quarts) of hydraulic fluid as specified previously.
9. Start the engine and let it run for a 2 to 3 minutes.
10. Stop the engine.
11. Check the hydraulic fluid level, and add more hydraulic fluid if necessary.
12. Install the cowl and secure the latches.

Checking the Hydraulic Lines

Service Interval: Every 40 hours—Check the hydraulic lines for leaks, loose fittings, kinked lines, loose mounting supports, wear, and deterioration. (Make necessary repairs before operating.)

Every 1,500 hours/Every 2 years (whichever comes first)—Replace all moving hydraulic hoses.

⚠ WARNING

Hydraulic fluid escaping under pressure can penetrate skin and cause injury. Fluid injected into the skin must be surgically removed within a few hours by a doctor familiar with this form of injury, or gangrene may result.

- **Keep your body and hands away from pinhole leaks or nozzles that eject high pressure hydraulic fluid.**
- **Use cardboard or paper to find hydraulic leaks; never use your hands.**

PROTOTYPE

Cleaning

Removing Debris from the Machine

Service Interval: Before each use or daily

Important: Operating the engine with blocked screens, dirty or plugged cooling fins, and/or cooling shrouds removed, will result in engine damage from overheating.

1. Park the machine on a level surface and stop the engine. Allow the engine to cool.
2. Unlatch and remove the cowl.
3. Clean any debris from under the hopper.
4. Wipe away debris from the air cleaner.
5. Clean any debris build-up on the engine and in the transmission with a brush or blower.

   Important: It is preferable to blow dirt out, rather than washing it out. If water is used, keep it away from electrical items and hydraulic valves. Do not use a high-pressure washer. High-pressure washing can damage the electrical system and hydraulic valves or deplete grease.
6. Install the cowl and secure the latches.

Storage

1. Stop the engine and engage the parking brake.
2. Remove dirt and grime from the external parts of the entire machine, especially the engine. Clean dirt and chaff from the outside of the engine cylinder head fins and blower housing.
3. Service the air cleaner.
4. Grease the machine.
5. Change the engine crankcase oil.
6. Remove the spark plug and check the condition.
7. With the spark plug removed from the engine, pour two tablespoons of engine oil into the spark plug hole.
8. Place a rag over the spark plug hole to catch any oil spray, then pull the starter rope to crank the engine and distribute the oil inside the cylinder.
9. Install the spark plug, but do not install the wire on the spark plug.
10. For storage over 30 days, prepare the machine as follows:

    A. Add a petroleum based stabilizer/conditioner to fuel in the tank. Follow mixing instructions from stabilizer manufacturer.**Do not use an alcohol based stabilizer (ethanol or methanol).**

    Note: Fuel stabilizer/conditioner is most effective when mixed with fresh gasoline and used at all times.

    B. Run the engine to distribute conditioned fuel through the fuel system (5 minutes).

    C. Stop the engine, allow it to cool and drain the fuel tank using a pump type syphon.

    D. Restart the engine and run it until it stops.

    E. Choke the engine.

    F. Start and run the engine until it will not start again.

    G. Dispose of fuel properly. Recycle as per local codes.

    Important: Do not store stabilizer/conditioned gasoline over 90 days.
11. Check and tighten all bolts, nuts, and screws. Repair or replace any part that is damaged.
12. Paint all scratched or bare metal surfaces. Paint is available from your Authorized Service Dealer.
13. Store the machine in a clean, dry garage or storage area.
14. Cover the machine to protect it and keep it clean.

PROTOTYPE

Notes:

PROTOTYPE

Notes:

PROTOTYPE

Concrete, Masonry, and Compaction Equipment

The Toro Warranty

A limited warranty (see warranty periods below)

Conditions and Products Covered

The Toro Company and its affiliate, Toro Warranty Company, pursuant to an agreement between them, jointly warrant your Toro Concrete, Masonry, and Compaction Equipment Products listed below to be free from defects in materials or workmanship.

This warranty covers the cost of parts and labor, but you must pay transportation costs.

The following time periods apply from the date of purchase:

Products	Warranty Period
Concrete Mixers	1 year
• Spindle Bearings	Lifetime* (original owner only)
Mortar Mixers	1 year
• Drum Bearings and Seals	Lifetime* (original owner only)
Forward Plate Compactors	2 years
Reversible Plates	1 year
Rammer Compactors	2 years
Mud Buggy	1 year
Vibrating Trench Roller	2 years
Concrete Saws	1 year
Masonry Saws	1 year
Power Trowels	1 year
Screeds	1 year
Concrete Vibrators	1 year

Where a warrantable condition exists, we will repair the Product at no cost to you including diagnosis, labor, and parts.

*Lifetime Warranty - If the bearing(s) or seal(s) on your mixer fail, it will be replaced under warranty, at no cost for parts or labor.

Instructions for Obtaining Warranty Service

If you think that your Toro Product contains a defect in materials or workmanship, follow this procedure**:

1. Contact any Authorized Servicing Outlet to arrange service at their dealership. To locate one convenient to you, access our website at www.Toro.com. Select “Where to Buy” and select “Contractor” under product type. You may also call our toll free number below.
2. Bring the product and your proof of purchase (sales receipt) to them.
3. If for any reason you are dissatisfied with the Service Outlet’s analysis or with the assistance provided, contact us at:

   SWS Customer Care Department
   Toro Warranty Company
   8111 Lyndale Avenue South
   Bloomington, MN 55420-1196
   Toll Free: 800-888-9926

**Toro Authorized Rental Customers who have purchased products directly from Toro and have signed the Toro Rental Customer Agreement have the ability to perform their own warranty work. Please visit Toro’s Rental Portal for electronic warranty clam filing procedures or call the toll free number above.

Owner Responsibilities

You must maintain your Toro Product by following the maintenance procedures described in the *Operator’s Manual*. Such routine maintenance, whether performed by a dealer or by you, is at your expense. Parts scheduled for replacement as required maintenance (“Maintenance Parts”), are warranted for the period of time up to the scheduled replacement time for that part. Failure to perform required maintenance and adjustments can be grounds for disallowing a warranty claim.

Items and Conditions Not Covered

Not all product failures or malfunctions that occur during the warranty period are defects in materials or workmanship. This express warranty does not cover the following:

- Product failures which result from the use of non-Toro replacement parts, or from installation and use of add-on, modified, or unapproved accessories
- Product failures which result from failure to perform required maintenance and/or adjustments
- Product failures which result from operating the Product in an abusive, negligent or reckless manner
- Parts subject to consumption through use unless found to be defective. Examples of parts which are consumed, or used up, during normal product operation include, but are not limited to, belts, wipers, spark plugs, tires, filters, gaskets, wear plates, seals, O-rings, drive chains, clutches.
- Failures caused by outside influence. Items considered to be outside influence include, but are not limited to, weather, storage practices, contamination, use of unapproved coolants, lubricants, additives, or chemicals, etc.
- Normal “wear and tear” items. Normal “wear and tear” includes, but is not limited to, worn painted surfaces, scratched decals, etc.
- Repairs necessary due to failure to follow recommended fuel procedure (consult *Operator's Manual* for more details)
  - Removing contaminants from the fuel system is not covered
  - Use of old fuel (more than one month old) or fuel which contains more than 10% ethanol or more that 15% MTBE
  - Failure to drain the fuel system prior to any period of non-use over one month
- Any component covered by a separate manufacturer’s warranty
- Pickup and delivery charges

General Conditions

Repair by an Authorized Servicing Outlet or Self-Service as an Authorized Rental Customer is your sole remedy under the warranty.

Neither The Toro Company nor Toro Warranty Company is liable for indirect, incidental or consequential damages in connection with the use of the Toro Products covered by this warranty, including any cost or expense of providing substitute equipment or service during reasonable periods of malfunction or non-use pending completion of repairs under this warranty. All implied warranties of merchantability and fitness for use are limited to the duration of this express warranty. Some states do not allow exclusions of incidental or consequential damages, or limitations on how long an implied warranty lasts, so the above exclusions and limitations may not apply to you.

PROOF ONLY

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

Except for the engine warranty coverage and the Emissions warranty referenced below, if applicable, there is no other express warranty. The Emissions Control System on your Product may be covered by a separate warranty meeting requirements established by the U.S. Environmental Protection Agency (EPA) or the California Air Resources Board (CARB). Refer to the California Emission Control Warranty Statement supplied with your Product or contained in the engine manufacturer’s documentation for details.

Countries Other than the United States or Canada

Customers who have purchased Toro products outside 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 Toro Warranty Company.

Australian Consumer Law: Australian customers will find details relating to the Australian Consumer Law either inside the box or at your local Toro Dealer.