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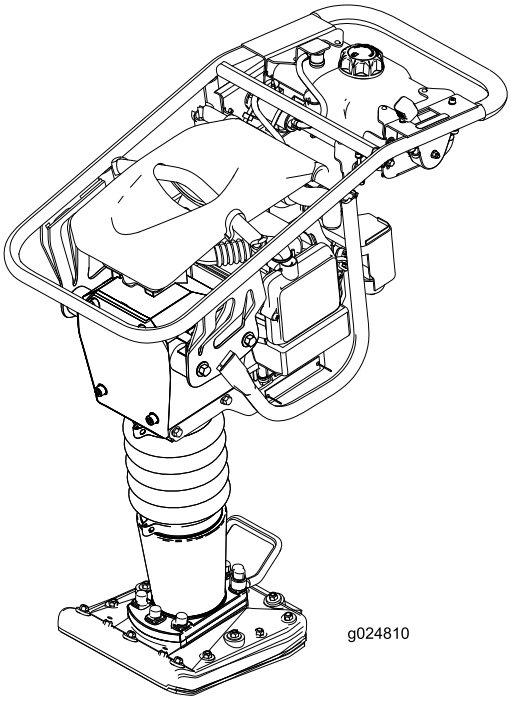
TORO®

Count on it.

Operator's Manual

VR-2650, VR-3100, and VR-3500 Rammer Compactor

Model No. 68034—Serial No. 313000001 and Up
Model No. 68035—Serial No. 313000001 and Up
Model No. 68036—Serial No. 313000001 and Up



g024810

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

3382-922 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.

This spark ignition system complies with Canadian ICES-002.

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.

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

This machine is designed to compact a wide array of soil substances, including lumps of clay, silt, gravel, sand, loam, and other granular objects.

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 illustrates the location of the model and serial numbers on the product. Write the numbers in the space provided.

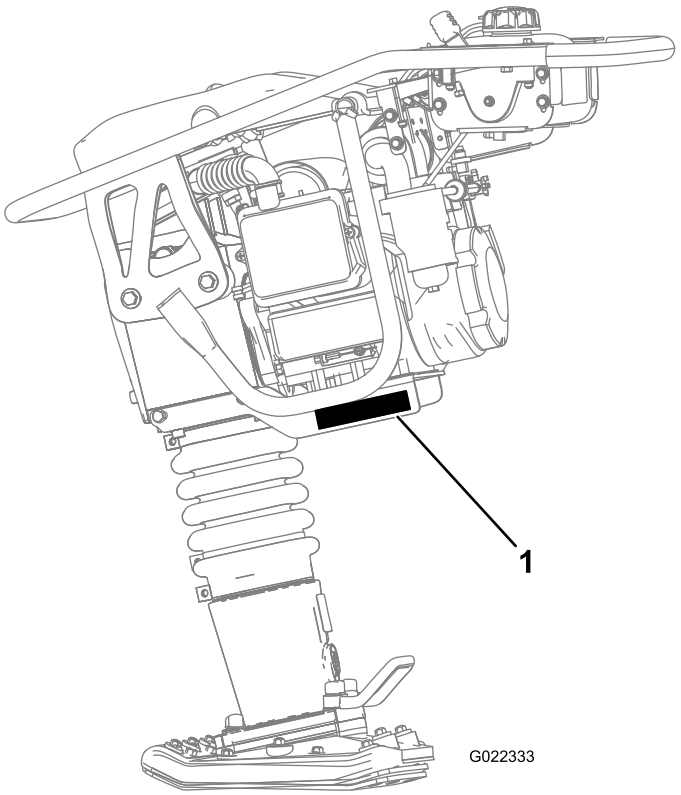


Figure 1

1. Model and serial number plate

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.

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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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Safety

Improperly using or maintaining 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

This product is capable of causing serious injury. Always follow all safety instructions to avoid serious injury or death.

⚠ 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 or understand the information, 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 people or damage to property.

Preparation

- Wear appropriate clothing including hard hat, face shield, safety glasses, long pants, steel-toe 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 remove all objects such as rocks, toys, and wire which can be thrown by the machine.
- 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 with the engine running. Allow the engine to cool before refueling. Do not smoke.
  - Never fuel or drain the machine indoors.

Operation

- Never run an engine in an enclosed area.
- Only operate in good light, keeping away from holes and hidden hazards.
- Use care when loading or unloading the machine into a trailer or truck.
- Never lift the machine on your own. Make sure to have at least two persons to lift the machine.
- Be sure that all drives are in the slow position before starting the engine. Start the engine from the operator's position only.
- Do not change the engine governor setting or overspeed the engine.
- Keep hands and feet away from the shoe of the compactor.
- Look behind and down before backing up to be sure of a clear path.
- Do not operate the machine under the influence of alcohol or drugs.
- Use care when approaching blind corners or objects that may obscure vision.
- Ensure that the area is clear of other people before operating the machine. Stop the machine if anyone enters the area.
- Never leave a running machine unattended. Always stop the engine and verify that the compacting shoe has been completely stopped.
- Never jerk the controls; use a steady motion.
- Watch for traffic when operating near roadways.
- Do not touch parts which may be hot from operation. Allow them to cool before attempting to maintain, adjust, or service the machine.
- 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.
- To minimize fuel and oil leakage, transport the machine either upright or tipped forward, not tipped to the side. Before transporting the machine, ensure that the engine on/off switch is in the **stop** position.
- Use properly rated straps or chains to secure the machine before transporting it.

Maintenance and Storage

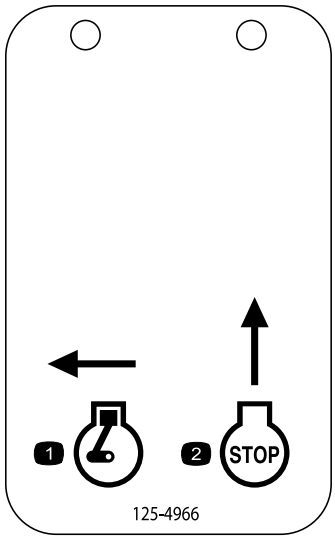
- Stop the engine. Wait for all movement to stop before adjusting, cleaning, or repairing the machine.
- Ensure that the engine on/off switch is in the **stop** position before storing the machine or performing maintenance.
- Clean debris from the drives, muffler, and engine to help prevent fires. Clean up oil or fuel spillage.
- Let the engine cool before storing and do not store near a flame.
- Do not store fuel near flames or drain fuel from the machine indoors.
- Park the machine on level ground. Never allow untrained personnel to service the machine.
- Carefully release pressure from components with stored energy.
- Remove 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.
- Keep nuts and bolts tight. Keep equipment in good condition.
- Never tamper with safety devices.
- Keep the machine free of debris buildup. Clean up oil or fuel spillage. Allow the machine to cool before storing it.
- Use extra care when handling gasoline and other fuels. They are flammable and vapors are explosive.
  - Use only an approved container.
  - Never remove the fuel cap or add fuel when the engine is running. Allow the engine to cool before fueling. Do not smoke.
  - Never fuel 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.
  - Keep the fuel-container nozzle in contact with the tank during filling.
- Stop and inspect the machine if you strike an object. Make any necessary repairs before starting the engine again.
- Use only genuine Toro replacement parts to ensure that original standards are maintained.
- To minimize fuel and oil leakage, do not lay the machine onto the right or left side.
- Store the machine upright.

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.



117-2718



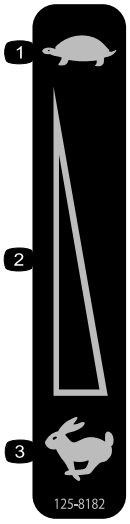
125-4966

1. Move left to start the engine.
2. Move up to stop the engine.



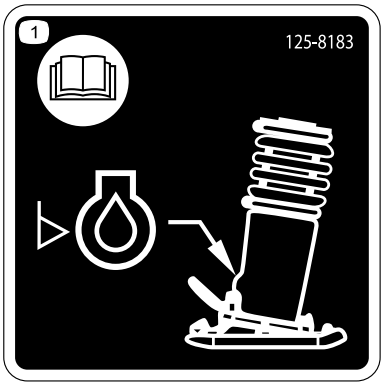
125-8181

1. Kickback hazard—read the *Operator's Manual* before performing maintenance.



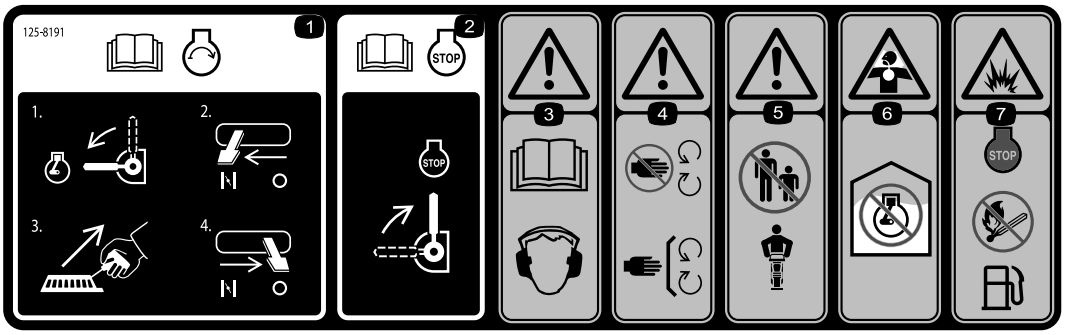
125-8182

1. Slow
2. Variable speed control
3. Fast



125-8183

1. Read the *Operator's Manual*—check the oil level.



125-8191

1. Read the *Operator's Manual* for information on starting the engine—1)Turn lever to the engine start position; 2)Close the choke; 3)Pull the recoil starter; 4)Open the choke.
2. Read the *Operator's Manual* for information on stopping the engine—turn lever to engine stop position.
3. Warning—read the *Operator's Manual*; wear hearing protection.
4. Warning—keep away from moving parts; keep all guards and shields in place.
5. Warning—keep bystanders away when operating the machine.
6. Choking hazard—do not run the engine in an enclosed location.
7. Explosion hazard—stop the engine and extinguish all flames before refueling the machine.

Product Overview

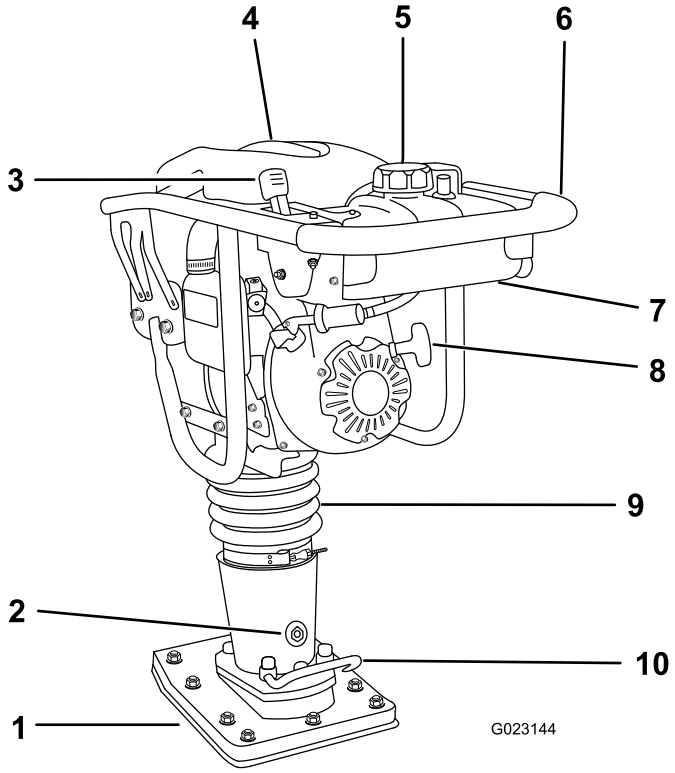


Figure 3

1. Compactor shoe
2. Oil fill plug and sight gauge
3. Throttle lever
4. Lift eye
5. Fuel-tank cap
6. Handle
7. Fuel tank
8. Recoil-starter handle
9. Spring housing
10. Lift handle

Controls

Become familiar with all the controls before you start the engine and operate the machine.

Engine On/Off Switch

The engine on/off switch allows the engine to run when it is in the **run** position. In the **stop** position, it stops the fuel from flowing to the engine and prevents the engine from running (Figure 4 or Figure 5).

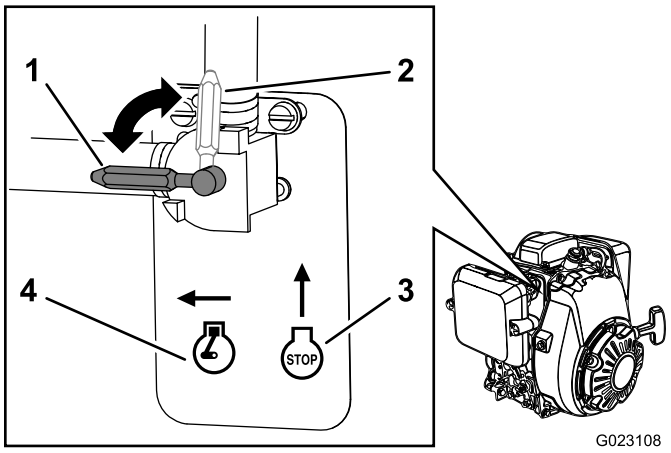


Figure 4

Models 68034 and 68035

1. Switch in the **run** position
2. Switch in the **stop** position
3. Stop
4. Run

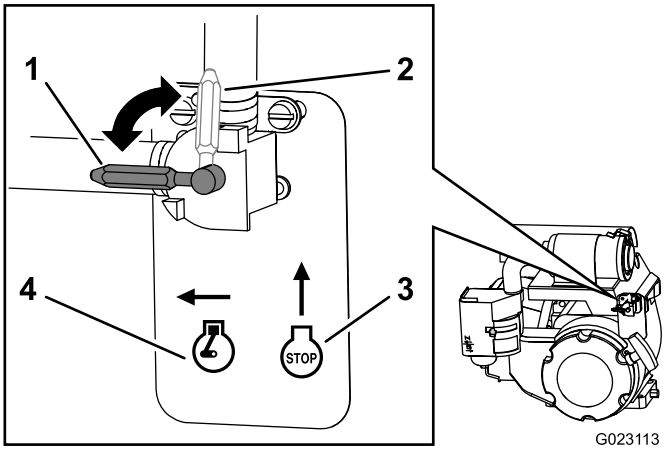


Figure 5
Model 68036

1. Switch in **run** position
2. Switch in **stop** position
3. Stop
4. Run

Choke Lever

Use the choke lever (Figure 6 or Figure 7) to start a cold engine. Before pulling the recoil-starter 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 if the air temperature is high.

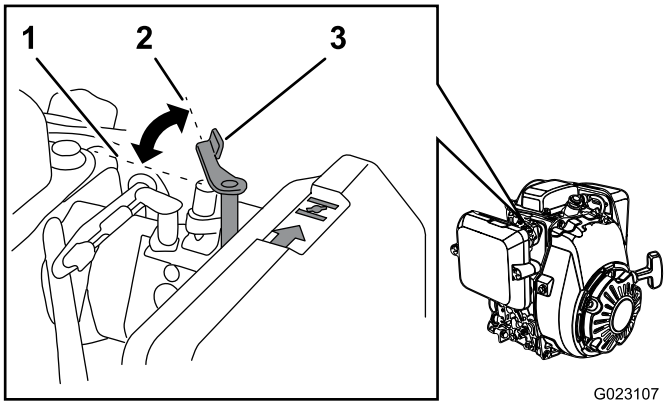


Figure 6
Models 68034 and 68035

1. **Open** position
2. **Closed** position
3. Choke lever

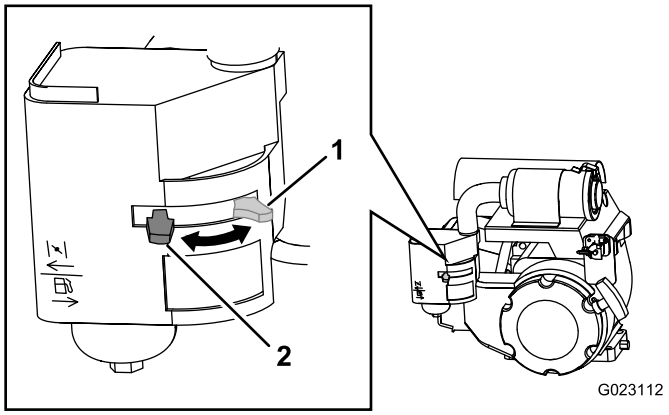


Figure 7
Model 68036

1. Choke lever in the **Open** position
2. Choke lever in the **Closed** position

Throttle Lever

The throttle lever controls the engine speed. When the lever is in the **slow** position, the engine runs at idle speed. This is also the starting position. When you move the lever to the **fast** position, the centrifugal clutch engages, and the shoe of the machine vibrates and compacts.

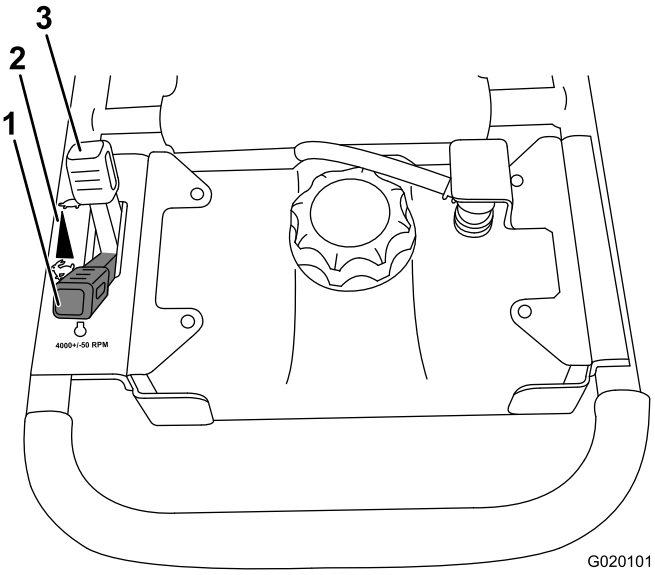


Figure 8

1. **Fast** position
2. Variable control speed
3. **Slow** position

Specifications

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

Model	68034	68035	68036
Weight	60 kg (132 lb)	65 kg (144 lb)	70 kg (154 lb)
Length	77 cm (30.6 inches)	75 cm (29.7 inches)	85 cm (33.8 inches)
Width	34 cm (13.5 inches)	37 cm (14.9 inches)	41 cm (16.4 inches)
Height	106 cm (42 inches)	106 cm (42 inches)	111 cm (44 inches)
Engine	Honda® GX100	Honda® GX100	Honda® GX120
Impact Force	1205 kg (2650 lb)	1409 kg (3100 lb)	1591 kg (3500 lb)
Maximum Blows/Minute	727	690	655

Operation

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

Important: Before operating, check the fuel and oil levels 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.

Preparing to Use the Machine

- Check that the ground is free of foreign objects, such as electrical cables, barbed wire, etc.
- Review all the safety decals on the machine.
- Use steel-toe shoes, a hard-hat, hearing protection, and eye protection. A mesh visor alone does not provide sufficient eye protection; supplement with protective glasses.
- Ensure that you are familiar with safety regulations and shutdown procedures described in the *Operator's Manual*.
- Ensure that all guards are in place and in good condition.
- Ensure that the compactor shoe is in place and in good condition.
- Ensure that everyone, including children and animals, maintain a distance of at least 15 m (50 feet) from the machine.

Adding Fuel

- For best results, use only clean, fresh (less than 30 days old), unleaded gasoline with an octane rating of 87 or higher ((R+M)/2 rating method).
- **Ethanol**: Gasoline with up to 10% ethanol (gasohol) or 15% MTBE (methyl tertiary butyl ether) by volume is acceptable. Ethanol and MTBE are not the same. Gasoline with 15% ethanol (E15) by volume is not approved for use. **Never use gasoline that contains more than 10% ethanol by volume**, such as E15 (contains 15% ethanol), E20 (contains 20% ethanol), or E85 (contains up to 85% ethanol). Using unapproved gasoline may cause performance problems and/or engine damage 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 bottle opening.**
- **Avoid contact with skin; wash off spillage with soap and water.**

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.
- Cleans the engine while it runs
- 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

1. Park the machine on a level surface and stop the engine.
2. Allow the engine to cool.
3. Clean around the fuel tank cap and remove it (Figure 9).

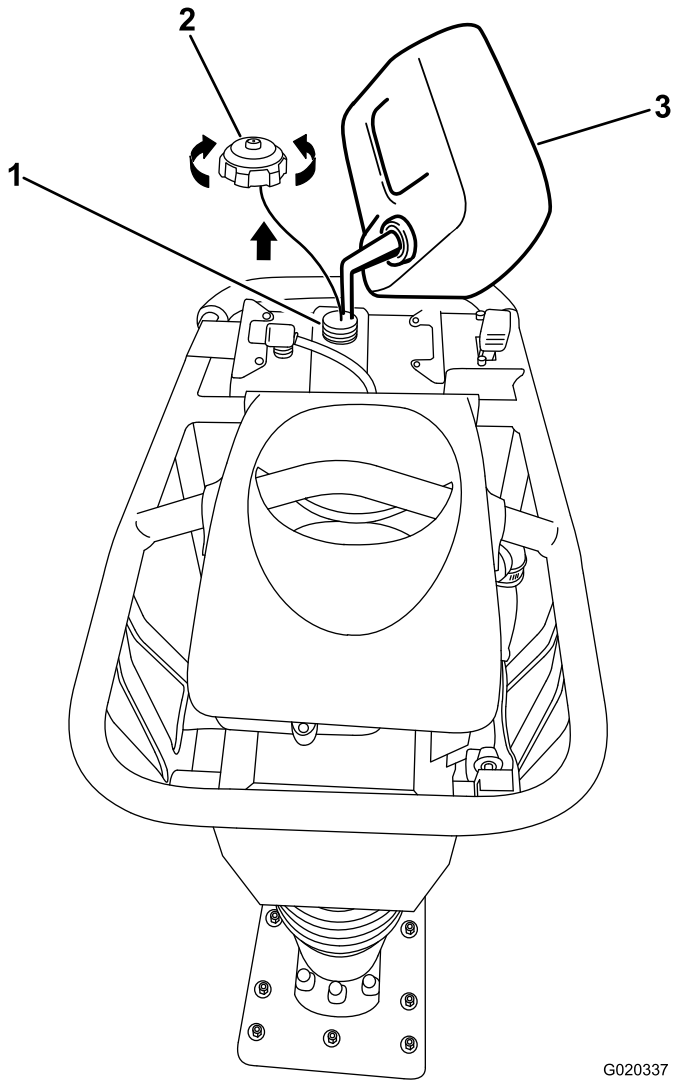


Figure 9

1. Fill with gasoline here
2. Gasoline cap
3. Gasoline can

4. Add unleaded 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.

   Important: This space in the tank allows gasoline to expand. Do not fill the fuel tank completely full.

5. Install the fuel tank cap securely.
6. Wipe up any gasoline that may have spilled.

Checking the Engine-oil Level

Oil Type: 4-cycle engine oil that meets or exceeds the requirements for API service category **SJ, SL, SM, or higher**.

Crankcase Capacity:

- 0.28 L (0.30 US qt) for models **68034 and 68035**
- 0.40 L (0.37 US qt) for model **68036**

Viscosity: SAE 10W-30 is recommended for general use.

1. Stop the engine and allow it to cool.
2. Tilt the machine so that the engine is level.

   Important: Prop or lean the machine against something to ensure that it does not fall over.

3. Clean around the oil dipstick.
4. Remove the dipstick and wipe the end clean.
5. Slide the dipstick fully into the dipstick tube without threading it into the filler neck.
6. Pull the dipstick out and look at the end.

   The oil should be level with the upper-limit mark (Figure 10).

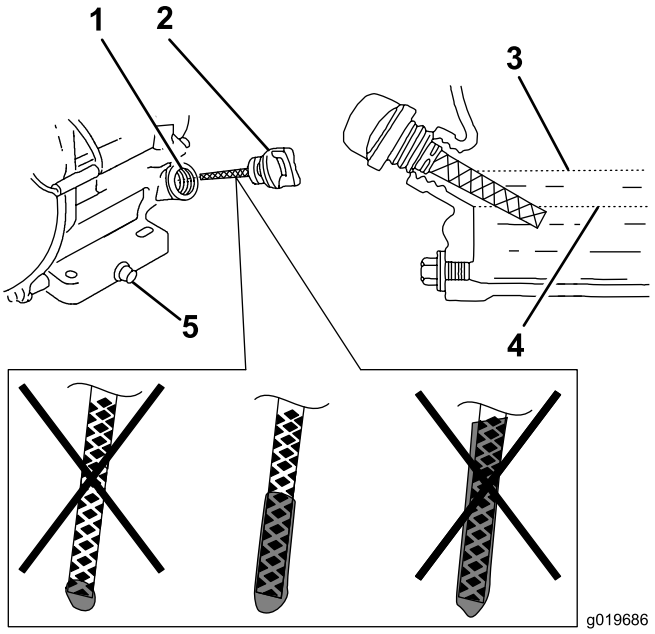


Figure 10

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

Important: Running the engine with a low oil level can cause engine damage. This type of damage is not covered by warranty.

7. If the oil level is low, slowly pour only enough oil into the crankcase to raise the level to the upper limit.

   Important: Do not overfill the crankcase with oil because the engine may be damaged.

8. Install and secure the dipstick.

Checking the Spring-housing Oil

Service Interval: Before each use or daily

Oil Type: 4-cycle engine oil that meets or exceeds the requirements for API service category **SJ, SL, SM, or higher**.

Capacity: 0.47 L (0.5 US qt)

Viscosity: SAE 10W-30 is recommended for general use.

Check the spring-housing oil as follows:

1. Carefully tip the machine slightly backward, so that it stands completely upright and vertical.

   Important: Prop or lean the machine against something to ensure that it does not fall over.

2. Check the oil sight plug (Figure 11), and ensure that the oil level is halfway between the top and bottom of the oil sight plug.

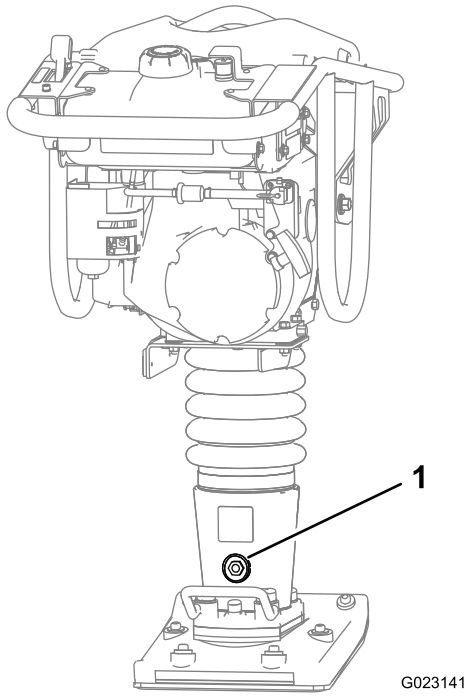


Figure 11

1. Oil sight plug

3. If the oil level is low, add oil; refer to Adding Oil to the Spring Housing (page 17).

Starting and Stopping the Engine

Starting the Engine

1. Move the engine on/off switch to the **run** position (counterclockwise); refer to Engine On/Off Switch (page 6).
2. Move the choke lever to the **closed** position if you are starting a cold engine; refer to Choke Lever (page 7).

   Note: A warm or hot engine may not require choking.

3. Move the throttle lever to the **slow** position; refer to Throttle Lever (page 7).
4. Pull the recoil-starter handle lightly until you feel resistance, then pull the handle briskly. Gently return the handle to the original position.
5. After the engine starts, gradually move the choke lever back to the **open** position. If the engine stalls or hesitates, move the choke lever back to the **closed** position again until the engine warms up. Then move it to the **open** position.

Stopping the Engine

1. Move the throttle lever to the **slow** position. If the engine has been working hard or is hot, let it run for a minute. This helps to cool the engine before stopping.

   Important: To stop the engine immediately, you can move the engine on/off switch to the *stop* position before moving the throttle lever to the *slow* position.

2. Move the engine on/off switch to the **stop** position (clockwise).

Transporting the Machine

⚠ CAUTION

If you tip the machine when the engine on/off switch is in the *run* position, fuel can leak out of the fuel tank. A fuel leak could lead to a fire and cause serious personal injury.

Drain the fuel tank or ensure that the engine on/off switch is in the *stop* position before tipping the machine.

Important: Before transporting the machine, secure it with straps or chains to prevent it from falling or tipping over.

Ensure that the lifting device and straps or chains are properly rated; refer to Specifications (page 8).

If possible, keep the machine standing upright when transporting it. Secure it with straps or chains; do not let it fall over.

If you must transport the machine horizontally, do so as follows:

1. Stop the engine and allow it to cool for 15 minutes. Ensure that the engine on/off switch is in the **stop** position.

   The engine on/off switch is also a fuel valve. Ensuring that it is in the **stop** position prevents fuel from leaking out of the fuel tank.

2. Use a lifting device with adequate lifting capacity (at least 75 kg, or 165.3 lb) to lift the machine into the transport vehicle.

   Important: Attach chains or other lifting-device components to only the lift eye of the machine; refer to Figure 3.

3. Carefully position the machine as shown in Figure 12, and secure it with straps or chains to prevent it from moving or tipping.

   Important: Do not lay the machine onto the right or left side, or the engine oil can leak into the air intake or the exhaust system. Lay the machine tipped forward only, so that it rests on the front bar.

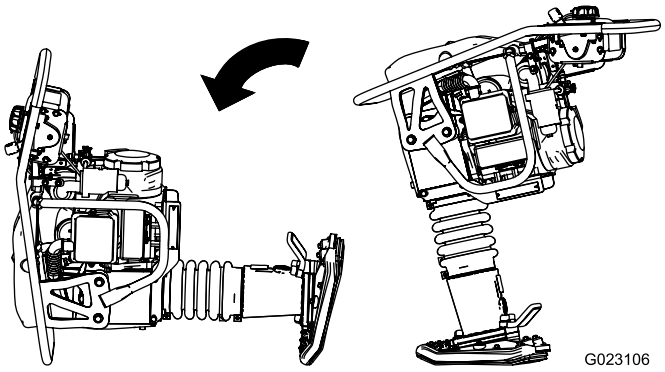


Figure 12

4. After transporting the machine, stand it upright to allow the oil to drain through the engine and settle back into the crankcase.

   Important: Allow the oil to settle for at least 2 minutes after standing the machine upright before starting the engine.

Operating Tips

- Keep the machine upright so that it contacts the ground with the entire shoe, rather than with just the front or back edge of the shoe.
- Allow the machine to do the work; pushing downward on the handle limits the effectiveness of the machine.
- On level surfaces, the machine moves forward in rapid jumps. On uneven surfaces, tilt the machine as necessary to assist the forward movement.
- The jump height of the machine increases as the ground becomes more compacted.

Maintenance

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

Important: You may tip the machine forward, if you drain the fuel tank or move the engine on/off switch to the *stop* position, to make cleaning or servicing the machine easier. If you lay the machine onto the side, oil can drain out of the crankcase, into the air cleaner or the muffler.

Allow the oil to settle for at least 2 minutes after standing the machine upright before starting the engine.

Recommended Maintenance Schedule(s)

Maintenance Service Interval	Maintenance Procedure
After the first 25 hours	• Change the engine oil. • Change the spring-housing oil.
Before each use or daily	• Check the spring-housing oil. • Check the air filter. • Check the compactor shoe. • Remove debris from the machine.
Every 50 hours	• Clean the air-filter elements (more frequently if conditions are dusty or sandy). • Clean the prefilter (models 68034 and 68035).
Every 100 hours	• Change the engine oil (more frequently if the operating conditions are extremely dusty or sandy). • Change the spring-housing oil. • Check the spark plug.
Every 200 hours	• Replace the paper air-filter element (more frequently if conditions are dusty or sandy).
Yearly or before storage	• Change the engine oil. • Change the spring-housing oil.

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

Premaintenance Procedures

Before performing maintenance on the machine, do the following:

1. Ensure that the engine and muffler are cool.
2. Disable the engine by disconnecting the spark-plug wire; refer to Disconnecting the Spark-plug Wire (page 14).

Disconnecting the Spark-plug Wire

Pull the spark-plug wire off the terminal of the spark plug (Figure 13 or Figure 14).

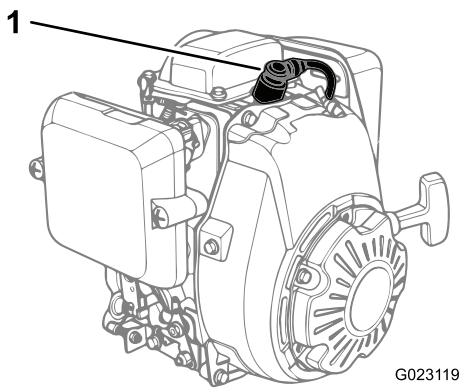


Figure 13
Models 68034 and 68035

1. Spark-plug wire

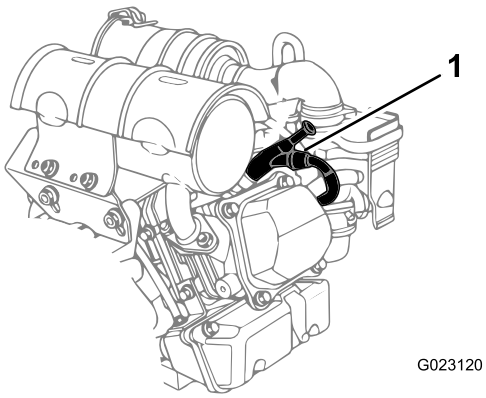


Figure 14
Model 68036

1. Spark-plug wire

Engine Maintenance

Servicing the Air Cleaner

Service Interval: Before each use or daily—Check the air filter.

Every 50 hours—Clean the air-filter elements (more frequently if conditions are dusty or sandy).

Every 200 hours—Replace the paper air-filter element (more frequently if conditions are dusty or sandy).

Important: Do not operate the engine without the air-filter assembly; extreme engine damage will occur.

Note: If the engine is low on power, produces black smoke, or runs unevenly, the air filter may be clogged.

Cleaning the Prefilter—Models 68034 and 68035

Service Interval: Every 50 hours

1. Open the cover of the machine (Figure 15).

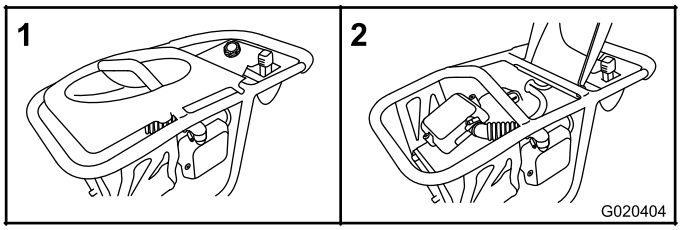


Figure 15

2. Remove the screws that secure the cover to the prefilter housing (Figure 16), and remove the cover.

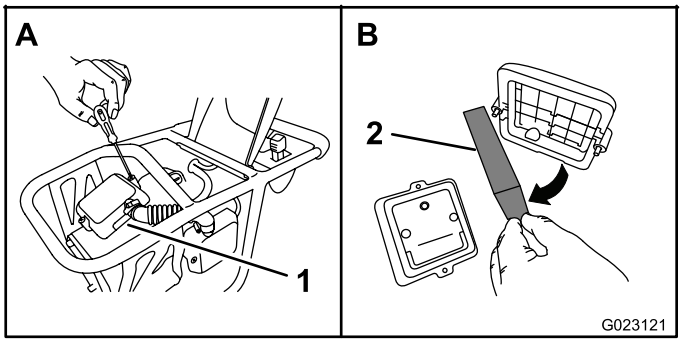


Figure 16

1. Prefilter housing
2. Prefilter

3. Remove the prefilter.
4. Clean the prefilter as follows:
   A. Wash the prefilter using a mild detergent and water.
   B. Squeeze it dry with a clean cloth.
   C. Soak it with new engine oil.

D. Gently wind the prefilter in an absorbent cloth, and squeeze out the excess oil.

5. Install the prefilter as follows:
   A. Align the prefilter inside of the cover.
   B. Align the prefilter cover to the housing.
   C. Secure the cover to the housing with the screws.

Servicing the Air Filter—Models 68034 and 68035

1. Remove the screws that secure the cover to the air-filter housing (Figure 17)

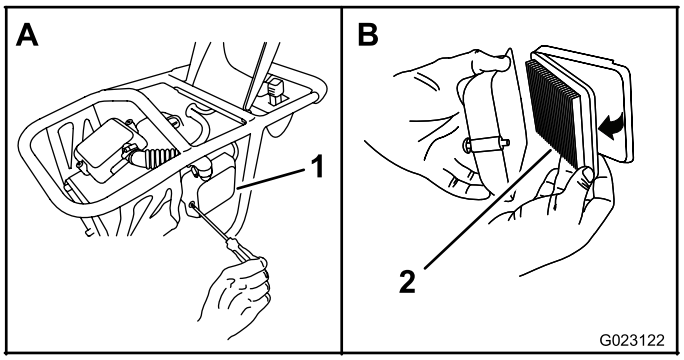


Figure 17

1. Air-filter housing
2. Air filter

2. Remove the air filter from the housing as shown in Figure 17.
3. Inspect the air filter and replace it if it is damaged, excessively dirty, or saturated with oil or fuel.
4. Align the air filter inside of the cover.
5. Align the air filter cover to the housing.
6. Secure the cover housing with the screws.

Servicing the Air Filter—Model 68036

1. Open the latch of the air-filter cover (Figure 18).

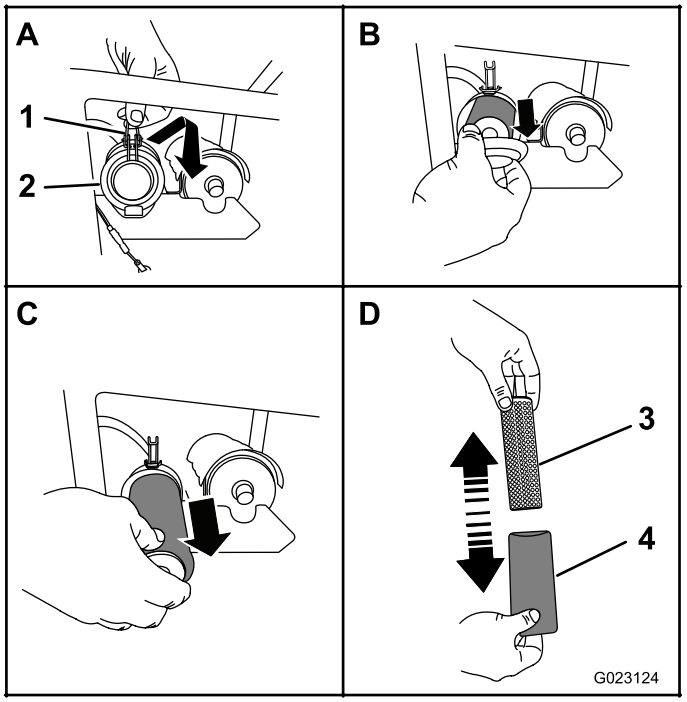


Figure 18

1. Latch
2. Cover
3. Paper element
4. Foam element

2. Remove the air filter from the housing as shown in Figure 18.
3. Remove the foam element from the paper element.
4. Inspect the elements and replace them if they are damaged or excessively dirty.

   Note: If the paper element is saturated with oil or fuel, replace it.
5. Tap the paper element several times on a hard surface to remove the dirt.
6. Clean the foam element in warm, soapy water or in a nonflammable solvent.

   Note: Do not use fuel to clean the foam element because it could create a risk of fire or explosion.
7. Rinse and dry the foam element thoroughly.
8. Dip the foam element in clean engine oil, then squeeze out the excess oil.

   Note: Excess oil in the foam element restricts the air flow through the element and may reach the paper filter and clog it.
9. Wipe dirt from the housing and the cover with a moist rag.

   Note: Be careful to prevent dirt and debris from entering the air duct leading to the carburetor.

10. Install the air-cleaner elements and ensure that they are properly positioned (Figure 19).

Important: Ensure that the open end of the air-cleaner elements are facing inward toward the machine, as the machine will not run if the elements are not placed in the proper air orientation due to air restriction (Figure 19).

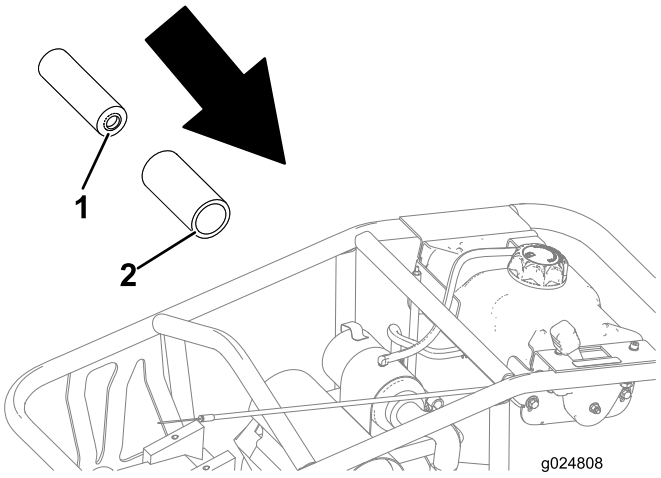


Figure 19

1. Open end of the paper element
2. Open end of the foam element

11. Secure the cover to the housing with the latch.

Servicing the Engine Oil

Oil Type: 4-cycle engine oil that meets or exceeds the requirements for API service category **SJ, SL, SM, or higher**.

Crankcase Capacity:

- 0.28 L (0.30 US qt) for models **68034 and 68035**
- 0.40 L (0.37 US qt) for model **68036**

Viscosity: SAE 10W-30 is recommended for general use.

Changing the Engine Oil

Service Interval: After the first 25 hours

Every 100 hours

Yearly or before storage

Toro Premium Engine Oil is available from your Authorized Toro Dealer.

1. Start the engine and let it run for 5 minutes; refer to Starting the Engine (page 11).
2. Stop the engine; refer to Stopping the Engine (page 11).
3. Tilt the machine so that the drain side is slightly lower than the opposite side to ensure that the oil drains completely.
4. Place a drain pan under the oil-drain hole.
5. Remove the drain plug, and drain the oil from the engine (Figure 20).

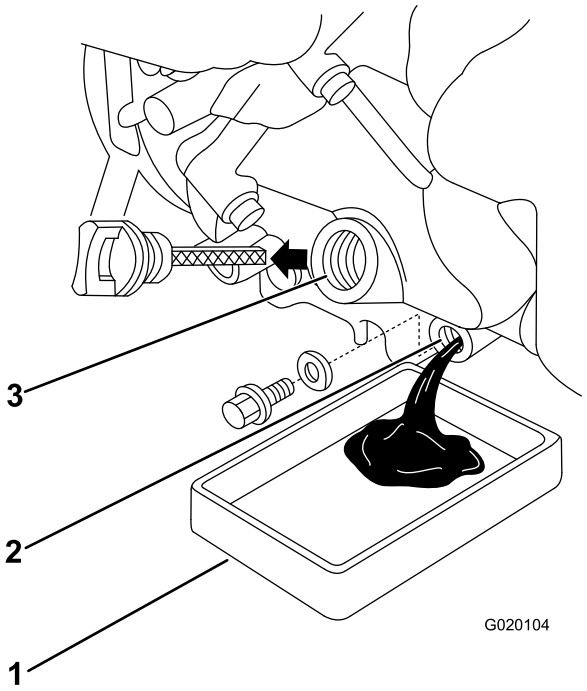


Figure 20

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

6. When the oil has drained completely, install the plug and wipe up any spilled oil.

Note: Dispose of the used oil at a certified recycling center.

7. Remove the dipstick and slowly pour approximately 80 percent of the specified amount of oil into the engine (Figure 20).
8. Slowly add additional oil to bring the oil level to the upper-limit mark on the dipstick; refer to Checking the Engine-oil Level (page 10).
9. Install and secure the dipstick.

Servicing the Spring-housing Oil

Oil Type: 4-cycle engine oil that meets or exceeds the requirements for API service category **SJ, SL, SM, or higher**.

Capacity: 0.47 L (0.5 US qt)

Viscosity: SAE 10W-30 is recommended for general use.

Changing the Spring-housing Oil

Service Interval: After the first 25 hours

Every 100 hours

Yearly or before storage

Change the spring-housing oil as follows:

1. Start the engine and let it run for 5 minutes; refer to Starting the Engine (page 11).
2. Stop the engine; refer to Stopping the Engine (page 11).
3. Ensure that the engine on/off switch is in the **stop** position so that the fuel does not leak out of the fuel tank.
4. Tilt the machine so that the oil sight plug faces downward to ensure that the oil drains completely (Figure 21).

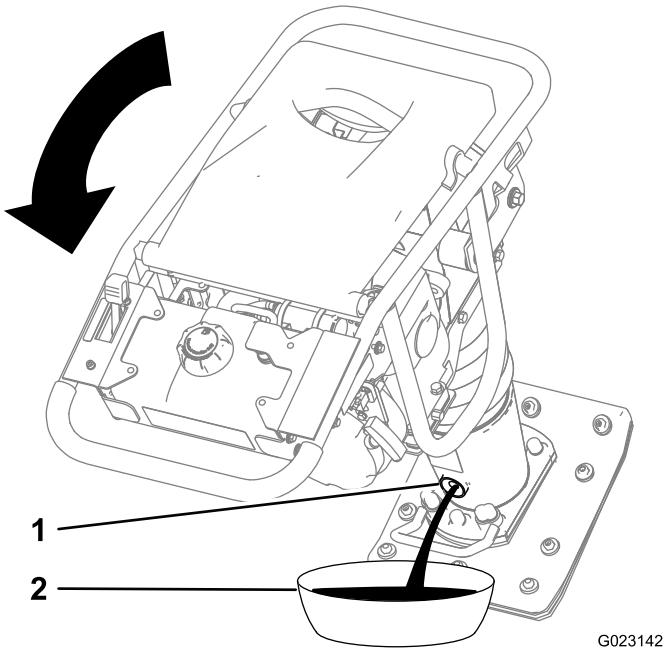


Figure 21

1. Oil sight plug
2. Drain pan

5. Place a drain pan under the oil sight plug (Figure 21).
6. Remove the oil sight plug (Figure 21).
7. Drain the oil out of the hole in the housing (Figure 21).
8. Clean the threads on the oil sight plug, and apply 3 layers of PTFE thread-sealing tape.
9. Add oil to the spring housing; refer to Adding Oil to the Spring Housing (page 17).
10. Install and torque the oil sight plug to 54 N-m (39.8 ft-lb).

Important: Allow the oil to settle for at least 2 minutes after standing the machine upright before starting the engine.

Adding Oil to the Spring Housing

Add oil to the spring housing as follows:

1. Tilt the machine so that the oil sight plug is facing upward (Figure 22).

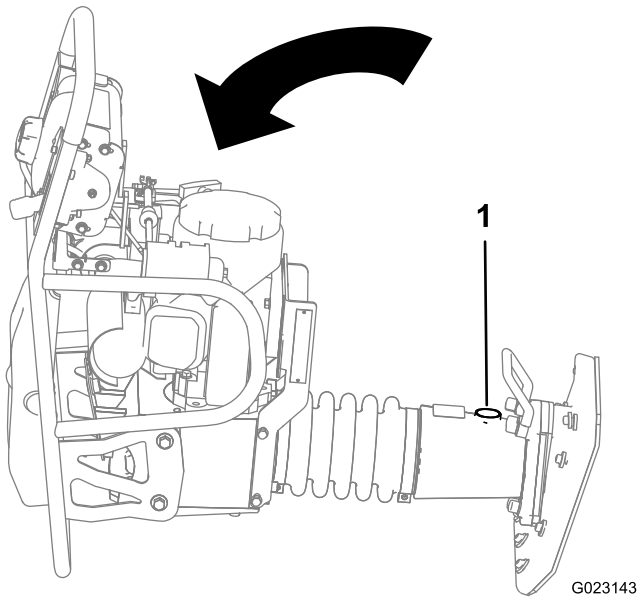


Figure 22

1. Opening for the oil

2. Remove the oil sight plug.
3. Clean the threads on the oil sight plug, and apply 3 layers of PTFE thread-sealing tape.
4. Add the oil to the spring housing in increments to ensure that you do not overfill the machine; refer to Checking the Spring-housing Oil (page 11) to ensure that the oil is at the correct level.

   Note: The oil capacity of the spring housing is 0.47 L (0.5 US qt); add the full amount only if the spring housing is empty.
5. Install and torque the oil sight plug to 54 N-m (39.8 ft-lb).

Important: Allow the oil to settle for at least 2 minutes after standing the machine upright before starting the engine.

Servicing the Spark Plug

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

Ensure that the air gap between the center electrode and the side electrode is correct before installing the spark plug. Use a spark-plug wrench for removing and installing the spark plug and a gapping tool/feeler gauge to check and adjust the air gap. Install a new spark plug if necessary.

Models 68034 and 68035: Use a DENSO U16FSR-UB or an NGK CR5HSB spark plug.

Model 68036: Use a DENSO W14EPR-U or an NGK BP4ES spark plug.

Removing the Spark Plug

1. Ensure that the machine is stopped and that the engine is off, and let the machine cool.
2. Disconnect the wire from the spark plug (Figure 23).

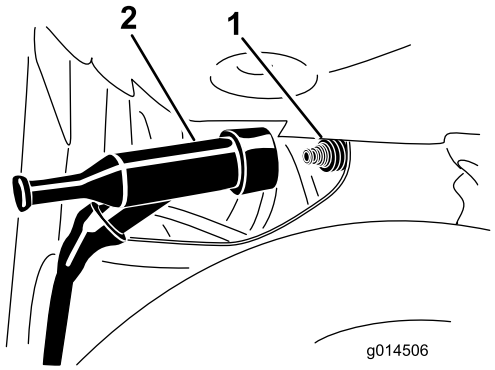


Figure 23

1. Spark plug
2. Wire

3. Clean around the spark plug.
4. Use a spark-plug wrench to remove the spark plug and the metal washer.

Checking the Spark Plug

1. Look at the center of the spark plug (Figure 24). If you see light brown or gray on the insulator, the engine is operating properly. A black coating on the insulator usually means that the air cleaner is dirty.

Important: Do not clean the spark plug. Always replace the spark plug when it has a black coating, worn electrodes, an oily film, or cracks.

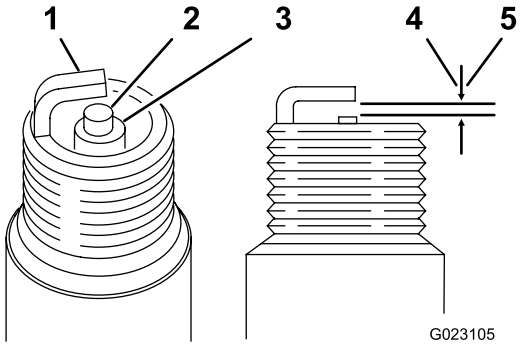


Figure 24

1. Side electrode
2. Center electrode
3. Insulator
4. 0.60 to 0.70 mm (0.024 to 0.028 inch) gap (Models 68034 and 68035)
5. 0.70 to 0.80 mm (0.028 to 0.031 inch) gap (Model 68036)

2. Check the gap between the center and side electrodes (Figure 24).
3. If the gap is not within the specified range, do the following:
   A. If the gap is too small, carefully bend the side electrode away from the center electrode until the gap between the electrodes is correct.
   B. If the gap is too large, carefully bend the side electrode toward the center electrode until the gap between the electrodes is correct.

Installing the Spark Plug

1. Thread the spark plug into the spark-plug hole.
2. Tighten the spark plug to 20 ft-lb (27 N-m).
3. Connect the wire to the spark plug.

Compactor Shoe Maintenance

Checking the Compactor Shoe

Service Interval: Before each use or daily

Among the most critical elements of the machine is the compactor shoe. It is also the most subject to damage and wear. In the course of compacting a wide array of granular objects, the machine encounters numerous abrasives and objects, such as dirt, stones, and occasionally a large rock or buried scrap.

The wear of the compactor shoe can significantly impair the efficiency and performance of the machine. Therefore, it is important to make frequent checks of the condition of the compactor shoe for leaks and cracks. (Figure 25).

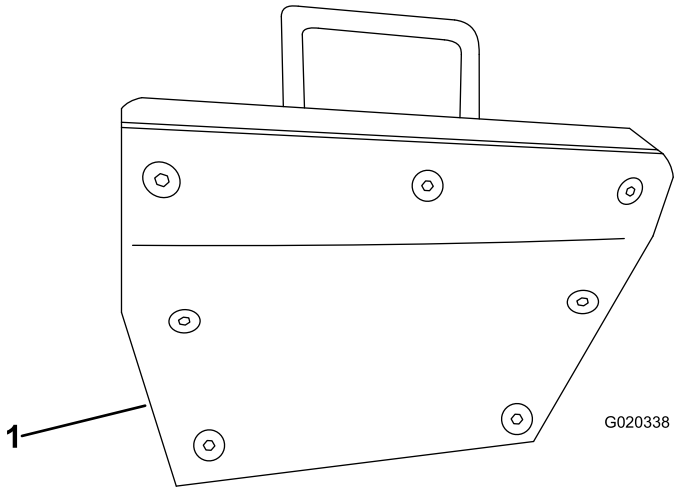


Figure 25

1. Compactor shoe

Cleaning

Removing Debris from the Machine

Regular cleaning and washing will increase the life span of the machine. Clean the machine immediately after use, before the dirt hardens.

Check before cleaning that the fuel tank cap is properly in place to avoid getting water in the tank.

Use care when using a high-pressure sprayer because it can damage warning decals, instruction signs, and the engine.

Storage

For storage over 30 days, prepare the machine as follows:

1. Remove dirt and grime from the external parts of the entire machine, especially the engine. Clean all granular objects from the outside of the engine cylinder-head fins and the blower housing.

   Important: You can wash the machine with mild detergent and water.

2. Add a petroleum-based stabilizer/conditioner to the fuel in the tank. Follow the mixing instructions from the 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.

   Important: Do not store stabilizer/conditioned gasoline over 90 days.

3. Run the engine to distribute conditioned fuel through the fuel system (5 minutes).
4. Stop the engine, allow it to cool, and drain the fuel tank using a pump-type siphon. Dispose of fuel properly; recycle it according to local codes.
5. Start the engine and run it until it stops.
6. Choke the engine.
7. Start and run the engine until it will not start again.
8. Service the air cleaner; refer to Figure 15.
9. Change the engine crankcase oil; refer to Figure 20.
10. Remove the spark plug and check the condition; refer to Figure 23 and Figure 24.
11. With the spark plug removed from the engine, pour 30 ml (2 tablespoons) of engine oil into the spark-plug hole.
12. Pull the recoil-starter handle slowly to crank the engine and distribute the oil inside the cylinder.
13. Install the spark plug, but do not install the wire on the spark plug.
14. Check and tighten all bolts, nuts, and screws. Repair or replace any part that is damaged.
15. Paint all scratched or bare metal surfaces. Paint is available from your Authorized Service Dealer.
16. Store the machine in a clean, dry garage or storage area.

    Important: Store the machine in the upright position. Do not tip the machine on its side, or leave the machine tipped forward with the front bar down for a long period of time.

17. Cover the machine to protect it and keep it clean.

Removing the Machine from Storage

1. Check and tighten all fasteners.
2. Inspect the spark plug and replace it if it is dirty, worn, or cracked; refer to the engine *Operator's Manual*.
3. Install the spark plug until it is hand-tight, then an additional 1/2 turn if it is new, otherwise, tighten it an additional 1/8 to 1/4 turn.
4. Perform any needed maintenance procedures.
5. Check the engine-oil level; refer to Checking the Engine-oil Level (page 10).

   Important: Store the machine in the upright position. Do not tip the machine on its side, or leave the machine tipped forward with the front bar down for a long period of time.

6. Check the spring-housing oil level; refer to Checking the Spring-housing Oil (page 11).
7. Fill the fuel tank with fresh gasoline; refer to Adding Fuel (page 8).
8. Connect the wire to the spark plug.

Troubleshooting

Problem	Possible Cause	Corrective Action
The engine will not start.	1. The air filter for model **68036** is placed backwards in the air-filter cover. 2. The engine on/off switch is in the stop position. 3. The choke is open. 4. The fuel tank is empty. 5. The spark-plug wire is loose or disconnected. 6. The spark plug is fouled or improperly gapped.	1. Switch the orientation of the air filter in the air-filter cover. 2. Move the switch to the run position. 3. Close the choke when starting a cold engine. 4. Fill the tank with fresh fuel. 5. Connect the spark-plug wire. 6. Correct the electrode gap or replace the spark plug.
The engine runs rough.	1. The choke is closed. 2. The air filter is clogged. 3. There is water or contaminants in the fuel. 4. The spark plug is worn or has buildup on the electrodes.	1. Open the choke. 2. Clean or replace the air filter. 3. Drain and fill the tank with fresh fuel. 4. Correct the electrode gap or replace the spark plug.

Notes:

Notes:

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.

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.