

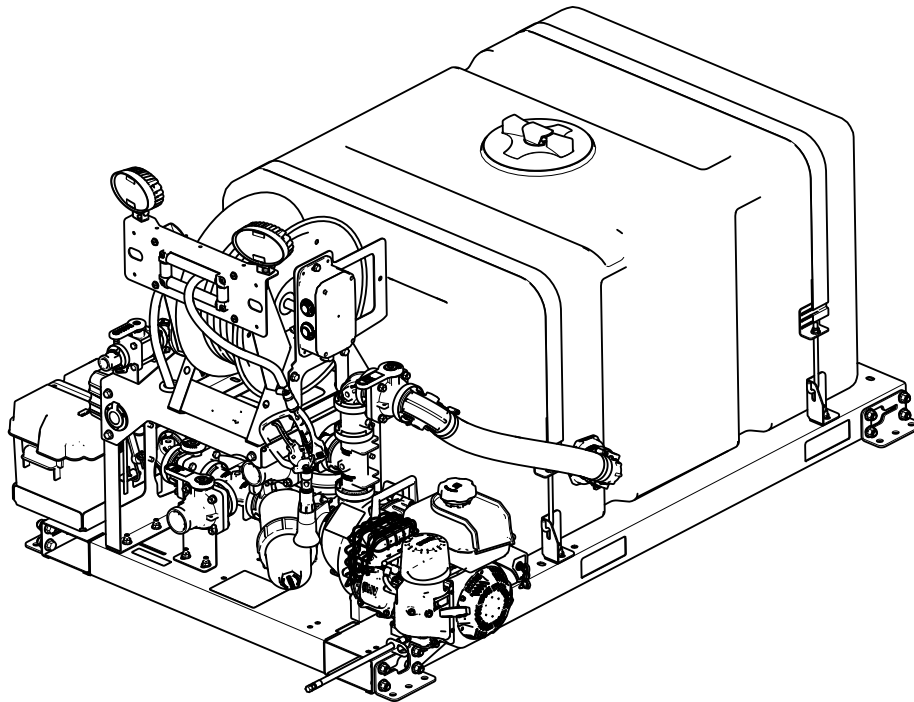


2010 The BOSS Way  
Iron Mountain, MI 49801  
United States

# Owner's Manual

## Legacy Series Sidewalk Slayer (Kohler)

Part No. LIQ28825—Serial No. 40000000 and Up



BOSS Products limited consumer warranty and BOSS Products commercial warranty policies are located at [www.bossplow.com](http://www.bossplow.com).

Patent [www.ttcopats.com](http://www.ttcopats.com)

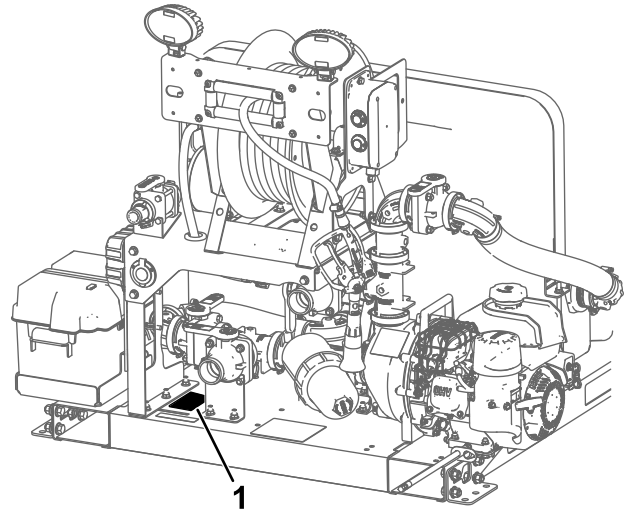
**⚠ WARNING**

**CALIFORNIA  
Proposition 65 Warning**

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

**Use of this product may cause exposure to chemicals known to the State of California to cause cancer, birth defects, or other reproductive harm.**

Whenever you need service, genuine BOSS parts, or additional information, contact an Authorized BOSS Dealer or BOSS Technical Service (1-800-286-4155) 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.



g503198

**Figure 1**

1. Model and serial number location

<b>Model No.</b> _____
<b>Serial No.</b> _____

# Introduction

This machine is a dedicated ice-control spray system and is intended to be used by professional, hired operators. It is designed primarily for spraying ice-control solutions on residential or commercial properties. Using this product for purposes other than its intended use could prove dangerous to you and bystanders.

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.

Visit [www.bossplow.com](http://www.bossplow.com) for more information, including safety tips, training materials, accessory information, help finding a dealer, or to register your product.

# Safety-Alert Symbol

The safety-alert symbol (Figure 2) shown in this manual and on the machine identifies important safety messages that you must follow to prevent accidents.



**Figure 2**  
Safety-alert symbol

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The safety-alert symbol appears above information that alerts you to unsafe actions or situations and is followed by the word **DANGER**, **WARNING**, or **CAUTION**.

**DANGER** indicates an imminently hazardous situation which, if not avoided, **will** result in death or serious injury.

**WARNING** indicates a potentially hazardous situation which, if not avoided, **could** result in death or serious injury.

**CAUTION** indicates a potentially hazardous situation which, if not avoided, **may** result in minor or moderate injury.

This manual uses two other 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

## General Safety

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

- Read and understand the contents of this *Operator's Manual* before starting the engine.
- Use your full attention while operating the machine. Do not engage in any activity that causes distractions; otherwise, injury or property damage may occur.
- Use appropriate personal protective equipment (PPE) to guard against contact with chemicals. Chemical substances used in the sprayer system may be hazardous and toxic.
- Do not put your hands or feet near moving components of the machine.
- Do not operate the machine without all guards and other safety protective devices in place and working on the machine.
- Keep clear of any discharge area of the sprayer nozzles and spray drift. Keep bystanders and children out of the operating area.
- Never allow children to operate the machine.
- Shut off the engine, remove the key (if equipped), wait for all movement to stop, and allow the machine to cool before adjusting, servicing, cleaning, or storing it.

Improperly using or maintaining this 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 these instructions may result in personal injury or death.

# Safety and Instructional Decals



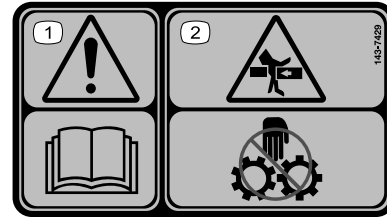
Safety decals and instructions are easily visible to the operator and are located near any area of potential danger. Replace any decal that is damaged or missing.



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- |  |   |
|--|---|
| 1. Warning—read the <i>Operator's Manual</i> .   | 7. Fire hazard—do not put flammable liquids in the tank.  |
| 2. Warning—all operators should be trained before operating the machine.                       | 8. Warning—turn off the sprayer, shut off the machine, and remove the key before leaving the machine or performing maintenance. |
| 3. Warning—wear hearing protection.  | 9. Warning—stay away from moving parts; keep all guards and shields in place.   |
| 4. Warning—wear eye protection.  | 10. Tipping hazard—lift only an empty tank; do not lift the tank when full.   |
| 5. Warning—do not enter the tank.  | 11. Thrown object hazard—keep bystanders away.  |
| 6. Warning—remove the key and read the <i>Operator's Manual</i> before performing maintenance. |   |



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- Warning—read the *Operator's Manual*.
- Crushing hazard of hands—keep away from moving parts.



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# WARNING

## À LIRE AVANT D'UTILISER LA CUVE

1. Cette cuve ne peut être utilisée qu'avec des liquides compatibles avec le polyéthylène. En cas de doute, demander au fournisseur du produit chimique si le produit peut être stocké en toute sécurité dans une cuve en polyéthylène.  
**L'UTILISATION DE LA CUVE AVEC TOUT AUTRE PRODUIT PEUT PROVOQUER LA DÉFAILLANCE DE LA CUVE ET ENTRAÎNER DES DOMMAGES CORPORELS OU MATÉRIELS.**
  2. Nettoyer la cuve avant d'utiliser un autre produit chimique, **CAR LES PRODUITS POURRAIENT SE MÉLANGER ET ENDOMMAGER LA CUVE OU CAUSER DES DOMMAGES AUX PERSONNES OU AUX BIENS À PROXIMITÉ.**
  3. Remplir la cuve d'eau avant son installation pour s'assurer qu'elle ne fuit pas.
  4. Les cuves verticales à fond plat **DOIVENT** être installées sur une surface plane, de niveau et solide.
  5. La cuve n'est **PAS** résistante au feu. **NE JAMAIS** l'exposer à une flamme nue ou à la chaleur.
  6. Garder les objets coupant à distance de la cuve. La cuve pourrait être perforée et son contenu pourrait s'échapper et causer des dommages corporels ou matériels.
  7. **TOUJOURS** garder la cuve hermétiquement couverte. Les enfants et les animaux peuvent y pénétrer si le couvercle n'est pas solidement fixé.
- La cuve est conçue pour être utilisée à la surface du sol uniquement. Ne pas l'enterrer.

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# Setup

## Loose Parts

Use the chart below to verify that all parts have been shipped.

Procedure	Description	Qty.	Use
<b>1</b>	No parts required	–	Mount the tank.
<b>2</b>	No parts required	–	Set up the battery.

# 1

## Mounting the Machine

No Parts Required

### Procedure

1. Open the tailgate of the vehicle.
2. Using the forklift pockets (Figure 3), lift the machine onto the vehicle bed.

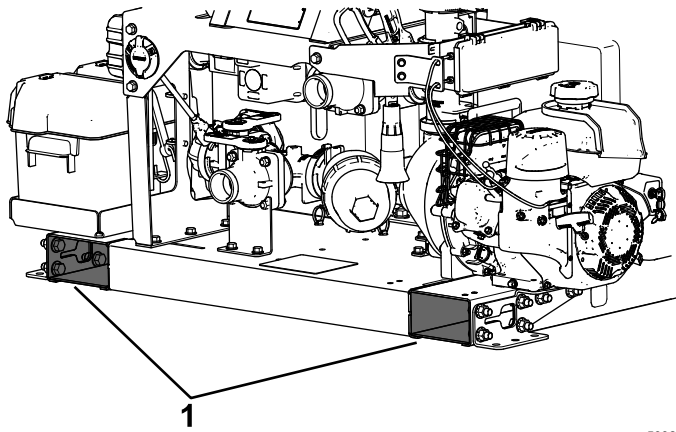
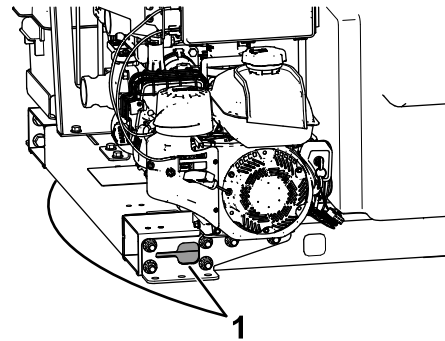


Figure 3

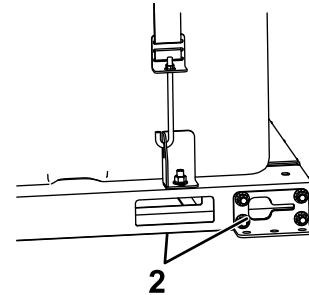
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1. Forklift pockets

3. Secure the machine to the vehicle using straps or chains connected to the tie-down points (Figure 4).



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g503247

Figure 4

1. Rear tie-down points
2. Front tie-down points

**Note:** If your vehicle has a stainless or powder-coated bed, add rubber mats under the length of the skid to prevent the machine from sliding on smooth surfaces.

# 2

## Setting Up the Battery

No Parts Required

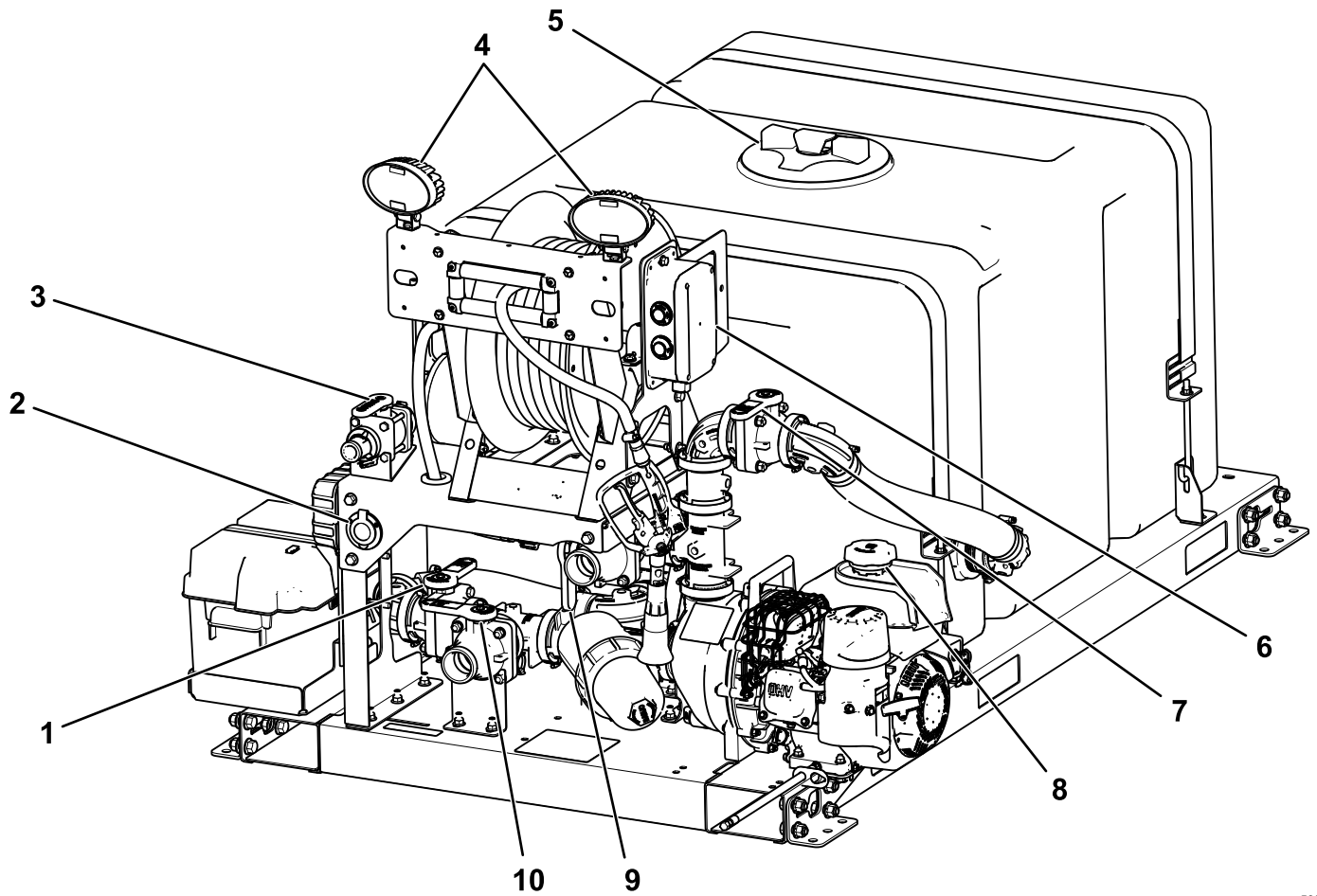
### Procedure

The battery is not connected to the main harness when you purchase the machine. Before using the machine for the first time, connect the battery.

The battery is not fully charged when you purchase the machine. Before using the machine for the first time, charge the battery until fully charged. Refer to [Charging the Battery \(page 22\)](#).



# Product Overview



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Figure 5

- |                         |                |                   |                     |
|-------------------------|----------------|-------------------|---------------------|
| 1. Tank valve           | 4. Work lights | 7. Bypass valve   | 10. Self-fill valve |
| 2. Battery tender power | 5. Tank cover  | 8. Fuel cap       |                     |
| 3. External-fill valve  | 6. Control box | 9. Pump-out valve |                     |

## Controls

### Control Box

Press the top button on the control box to turn the work lights on or off.

Press the bottom button on the control box to reel in the hose.

### Spray Wand

While the valves are configured for application, pull the safety lock and the trigger to spray; adjust the wheel on the side of the wand to adjust the spray consistency.

# Specifications

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

## Machine Specifications

Description	Model LIQ28850
Overall length	183 cm (72 inches)
Overall width	119 cm (47 inches)
Tank height	81 cm (32 inches)
Weight	289 kg (638 lb)
Capacity	757 L (200 US gallons)

## Attachments/Accessories

A selection of BOSS approved attachments and accessories is available for use with the machine to enhance and expand its capabilities. Contact your authorized BOSS dealer.

To ensure optimum performance and continued safety certification of the machine, use only genuine BOSS replacement parts and accessories. Replacement parts and accessories made by other manufacturers could be dangerous, and such use could void the product warranty.

# Operation

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

## Before Operation

### Before Operation Safety

#### General Safety

- Never allow children or untrained people to operate or service the machine. Local regulations may restrict the age of the operator. The owner is responsible for training all operators and mechanics.
- Become familiar with the safe operation of the equipment, operator controls, and safety signs.
- Shut off the engine, remove the key (if equipped), wait for all movement to stop, and allow the machine to cool before adjusting, servicing, cleaning, or storing it.
- Know how to shut off the engine on the machine quickly.
- Check that safety switches and shields are attached and functioning properly. Do not operate the machine unless they are functioning properly.
- Before operating the machine, inspect it to ensure that the components and fasteners are in good working condition. Replace worn or damaged components and fasteners.

- Ensure that all fluid line connectors are tight and that all hoses are in good condition before applying pressure to the system.
- Ensure that the weight of the machine with a full sprayer tank does not exceed the gross vehicle weight rating (GVWR).
- Do not mount or remove the sprayer tank with liquid in it.

#### Fuel Safety

- Fuel is extremely flammable and highly explosive. A fire or explosion from fuel can burn you and others and can damage property.
  - To prevent a static charge from igniting the fuel, place the container and/or machine directly on the ground before filling, not in a vehicle or on an object.
  - Fill the fuel tank outdoors, in an open area, when the engine is cold. Wipe up any fuel that spills.
  - Do not handle fuel when smoking or around an open flame or sparks.
  - Do not remove the fuel cap or add fuel to the tank while the engine is running or hot.
  - If you spill fuel, do not attempt to start the engine. Avoid creating a source of ignition until the fuel vapors have dissipated.
  - Store fuel in an approved container and keep it out of the reach of children.

- Fuel is harmful or fatal if swallowed. Long-term exposure to vapors can cause serious injury and illness.
  - Avoid prolonged breathing of vapors.
  - Keep your hands and face away from the nozzle and the fuel-tank opening.
  - Keep fuel away from your eyes and skin.
- Do not store the machine or fuel container where there is an open flame, spark, or pilot light, such as on a water heater or on other appliances.
- Do not fill containers inside a vehicle or on a truck or trailer bed with a plastic liner. Always place containers on the ground, away from your vehicle before filling.
- Place a portable fuel container on the ground, away from all vehicles, and fill it; then refuel the machine from the fuel container rather than from a fuel-dispenser nozzle.
- Do not operate the machine without the entire exhaust system in place and in proper working condition.
- Keep the fuel-dispenser nozzle in contact with the rim of the fuel tank or container opening at all times until fueling is complete. Do not use a nozzle lock-open device.
- If you spill fuel on your clothing, change your clothing immediately. Wipe up any fuel that spills.
- Never overfill the fuel tank. Replace the fuel cap and tighten it securely.

## Chemical Safety

Chemical substances used in the sprayer system may be hazardous and toxic to you, bystanders, and animals, and they may damage plants, soil, and other property.

- Read the information on each chemical. Refuse to operate or work on the sprayer if this information is not available.
- Before working on a sprayer system, ensure that it has been neutralized and triple rinsed according to the recommendations of the chemical manufacturer(s) and that all the valves have been cycled 3 times.
- Verify that there is an adequate supply of clean water and soap nearby, and immediately wash off any chemicals that contact you.
- Carefully read and follow the chemical warning labels and safety data sheets (SDSs) for all chemicals used, and protect yourself according to the chemical manufacturer's recommendations.
- Always protect your body while using chemicals. Use the appropriate personal protective equipment (PPE) to guard against contact with chemicals, such as eye protection and/or face shield and chemical-resistant gloves.
- Obtain proper training before using or handling chemicals.
- Use the correct chemical for the job.
- Follow the chemical manufacturer's instructions for the safely applying the chemical. Do not exceed the recommended system application pressure.
- Do not fill, calibrate, or clean the machine while people, especially children, or pets are in the area.
- Do not clean spray nozzles by blowing through them or placing them in your mouth.
- Always wash your hands and other exposed areas as soon as possible after working with chemicals.
- Keep chemicals in their original packages and stored in a safe location.
- Chemicals and fumes are dangerous; never enter the tank or place your head over or in the opening of a tank.
- Properly dispose of unused chemicals and chemical containers as instructed by the chemical manufacturer and your local codes.
- Follow all local, state, and federal regulations for spreading or spraying chemicals.

## Fuel Specification

- Use unleaded (87 pump octane minimum) gasoline.
- 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 85% ethanol). Using unapproved gasoline may cause performance problems and/or engine damage, which may not be covered under warranty.
- Do not use methanol or gasoline containing methanol.
- Do not store fuel either in the fuel tank or fuel containers over the off-season unless you use a fuel stabilizer.
- Do not add oil to gasoline.

# Filling the Fuel Tank

**Fuel-Tank Capacity:** 3.0 L (0.79 US gallons)

1. Clean around the fuel-tank cap and remove the cap from the tank (Figure 6).

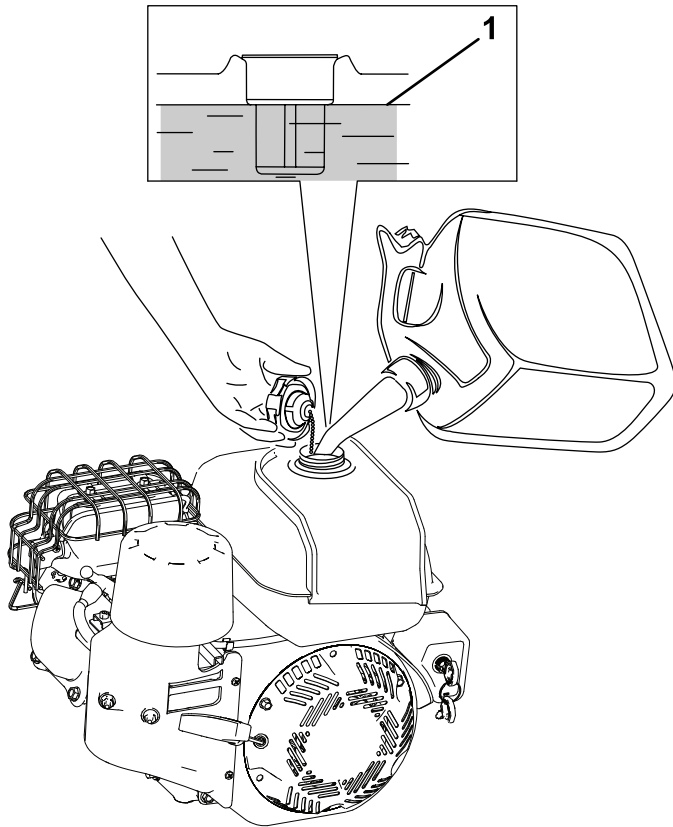


Figure 6

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1. Maximum fuel level
- 
2. Fill the fuel tank to approximately 25 mm (1 inch) below the top of the tank with the specified fuel.  
The air space below the top of the tank allows the fuel to expand.
  3. Install the fuel-tank cap and wipe up any spilled fuel.

# Understanding the Valve Positions

Proper valve positioning is vital to the sprayer working correctly for each given task.

## Suction-Side Valves Versus Pressure-Side Valves

**Suction-side valves:** Any valves on the machine that are entering the lower portion of the pump housing.

**Pressure-side valves:** Any valves on the machine that are high up or connected to the top portion of the pump housing.

## Using the Sprayer in Application Mode

Set the valves in the application-mode positions when you are applying liquid de-icer. Figure 7 shows the valves in application-mode positioning.

**Important:** Leaving the bypass valve (Figure 7) in the open position causes an error; this uses the majority of the pressure and liquid flow for the system and does not leave enough pressure for the sprayer or hose reel to work correctly.

**Important:** Leaving the tank valve (Figure 7) in the closed position causes an error; with no liquid getting to the pump, the system cannot function and eventually this burns out the pump seal.

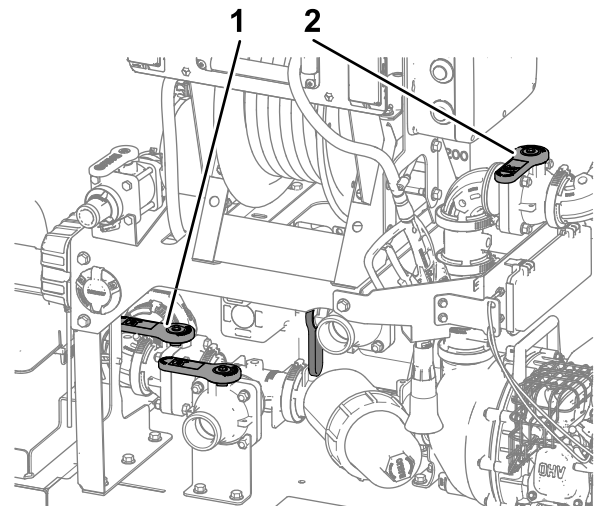


Figure 7

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1. Tank valve (open position)
2. Bypass valve (closed position)

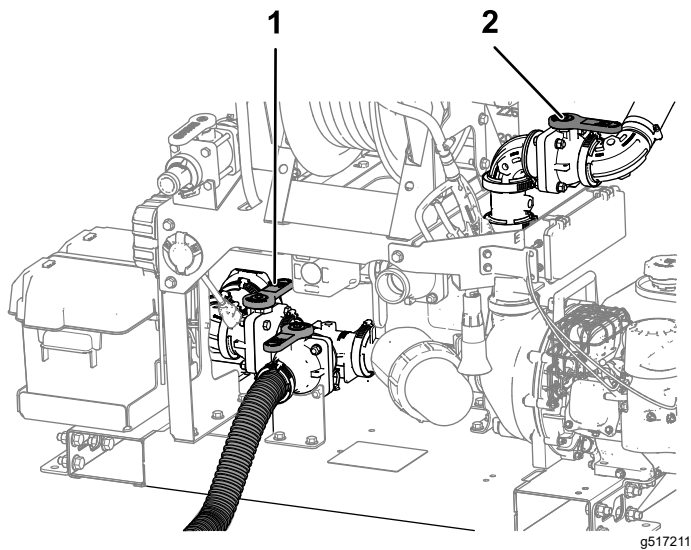
## Using the Self-Fill Mode

You must connect the hose to the bottom left camlock and configure the valves as shown in [Figure 8](#) whenever you use the pump on the sprayer to self-fill from a holding tank.

**Important:** Leaving the tank valve ([Figure 8](#)) in the open position causes an error; the pump cannot prime because it is instead sucking air from the tank.

**Important:** Leaving the bypass valve ([Figure 8](#)) in the closed position causes an error; the system can still fill this way because the valve has a hole that allows constant flow through the valve even when closed (to protect the pump from being deadheaded), but it will take an exceptionally long time through that bypass.

If the tank from which you are pulling is lower than the height of the pump, you may need to prime the pump by unscrewing the top cap on the pump and allowing the air out of the system. In some cases, you may need to fill the pump housing with liquid to purge the air fully. Most of the time when filling from a bulk storage tank, this is not an issue, especially if the fill hose is pre-charged with liquid.



**Figure 8**

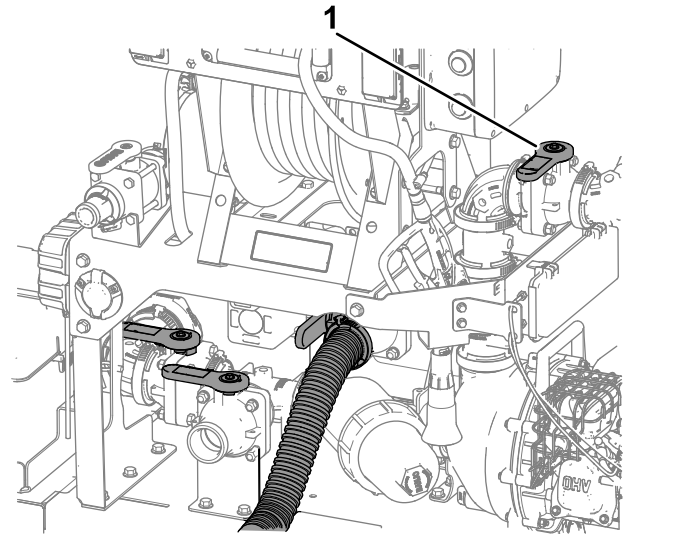
1. Tank valve (closed position)
2. Bypass valve (open position)

## Using the Pump-Out Mode

Your tank must have liquid in the tank. The hose must be connected to the top right camlock and the valves need to be configured as shown in [Figure 9](#) when you are using the pump to transfer liquid from the sprayer to another tank outside of the sprayer.

**Note:** The pump-out valve connects to a 2-inch diameter hose.

**Note:** If the bypass valve ([Figure 9](#)) is left open, the pump-out still works, but it will be substantially slower than if it is set up properly as shown.



**Figure 9**

1. Bypass valve (closed position)

## Using the External-Fill Mode

Your tank must have liquid in the tank. The hose must be connected to the top left camlock and the valves need to be configured as shown in [Figure 10](#) when you are using the pump to transfer liquid from the sprayer to small tanks on other machines.

**Note:** The external-fill valve connects to a 1-inch diameter hose.

**Note:** If the bypass valve is left open, the external-fill still works, but it will be substantially slower than if it is set up properly as shown.

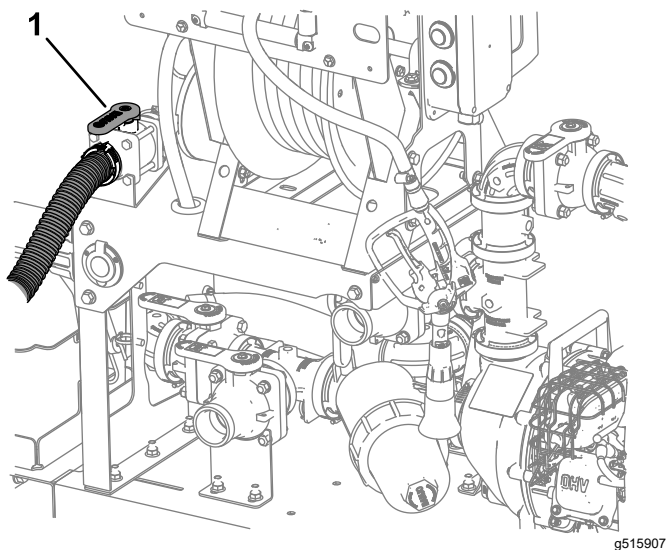


Figure 10

1. External fill valve (open position)

## During Operation

### During Operation Safety

- The owner/operator can prevent and is responsible for accidents that may cause personal injury or property damage.
- Wear appropriate clothing, including eye protection; substantial, slip-resistant footwear; long pants, and hearing protection. Tie back long hair and do not wear loose clothing or loose jewelry.
- Wear appropriate personal protective equipment as directed in Chemical Safety.
- Use your full attention while operating the machine. Do not engage in any activity that causes distractions; otherwise, injury or property damage may occur.
- Do not operate the machine while ill, tired, or under the influence of alcohol or drugs.
- Operate the machine only in good visibility.
- Use care when approaching blind corners, shrubs, trees, or other objects that may obscure your vision.
- Before backing up, look rearward and ensure that no one is behind you. Back up slowly.
- Never spray while people, especially children, or pets are nearby.
- Do not operate the machine near drop-offs, ditches, or embankments. The machine could suddenly roll over if a wheel goes over the edge or if the edge gives way.
- Reduce the speed when operating on rough terrain, uneven ground, and near curbs, holes, and other sudden changes in terrain. Loads may shift, causing the machine to become unstable.
- Stop the machine, shut off the engine, remove the key, engage the parking brake, and inspect for damage after striking an object or if there is an abnormal vibration in the machine. Make all necessary repairs before resuming operation.
- Slow down and use caution when making turns and crossing roads and sidewalks with the machine. Always yield the right-of-way.
- Use extra caution when operating the machine in adverse weather conditions, at higher speeds, or with a full load. Stopping time and distance increase in these conditions.
- Do not touch the engine or muffler while the engine is running or soon after it has shut off. These areas may be hot enough to cause burns.
- Shut off the engine, remove the key (if equipped), wait for all movement to stop, and allow the machine to cool before adjusting, servicing, cleaning, or storing it.
- Never run an engine in an area where exhaust gasses are enclosed.
- Use accessories and attachments approved by BOSS only.

# Starting the Engine

1. Ensure that the spark-plug wire is connected to the spark plug.
2. Ensure that the fuel-shutoff valve is in the OPEN position.
3. Ensure that there is liquid in the tank.

**Note:** Running the engine without liquid in the tank may cause damage to the pump seal and pump housing.

4. If the engine is cold, move the choke lever to the FULL CHOKE position and the throttle lever to 50% THROTTLE.
5. Turn the key to the START position.
6. Once the engine is running, move the choke lever to the midway position and allow the engine to warm.
7. When the engine is warm, move the choke lever to the OFF position and select the desired engine throttle.

**Note:** Normal application requires that the engine throttle be set at 75% or 100%.

## *After Operation*

### After Operation Safety

- Shut off the engine, remove the key (if equipped), wait for all movement to stop, and allow the machine to cool before adjusting, servicing, cleaning, or storing it.
- Keep all parts of the machine in good working condition and all hardware tightened.
- Replace all worn, damaged, or missing decals.
- Do not mount or remove the sprayer tank with liquid in it.

# Maintenance

**Important:** Refer to your engine owner's manual for additional maintenance procedures.

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

- Modifying this machine in any manner may affect machine operation, performance, durability, or its use, and result in injury or death.
- Carefully release pressure from components with stored energy.

## Maintenance Safety

- Shut off the engine, remove the key (if equipped), wait for all movement to stop, and allow the machine to cool before adjusting, servicing, cleaning, or storing it.
- Allow machine components to cool before performing maintenance.
- Allow only qualified and authorized personnel to maintain, repair, adjust, or inspect the machine.
- Before performing any maintenance, thoroughly clean and rinse the sprayer; refer to [Chemical Safety \(page 11\)](#).
- Chemicals used in the sprayer system may be hazardous and toxic to you, bystanders, animals, plants, soils, or other property.
  - Carefully read and follow the chemical warning labels and safety data sheets (SDSs) for all chemicals used, and protect yourself according to the chemical manufacturer's recommendations.
  - Refuse to operate or work on the sprayer if chemical safety information is not available.
  - Do not fill, calibrate, or clean the machine while people, especially children, or pets are in the area.
  - Do not clean spray nozzles by blowing through them or placing them in your mouth.
  - Always wash your hands and other exposed areas as soon as possible after working with chemicals.
- To ensure that the entire machine is in good condition, keep all hardware properly tightened.
- To reduce the potential for fire, keep the engine area free of excessive grease, chemicals, grass, leaves, and dirt.
- If you must run the engine to perform a maintenance adjustment, keep your hands, feet, clothing, and any parts of your body away from the engine and any moving parts. Keep everyone away.
- If the machine requires a major repair or you need technical help, contact an authorized BOSS dealer.



# Recommended Maintenance Schedule(s)

Maintenance Service Interval	Maintenance Procedure
After the first hour	<ul style="list-style-type: none"> <li>• Charge the battery.</li> <li>• Inspect the tank straps for proper attachment.</li> </ul>
After the first 5 hours	<ul style="list-style-type: none"> <li>• Change the engine oil.</li> </ul>
Before each use or daily	<ul style="list-style-type: none"> <li>• Check the engine-oil level.</li> <li>• Check the air cleaner.</li> <li>• Inspect the tank straps for proper attachment.</li> <li>• Wash the machine after each use.</li> </ul>
After each use	<ul style="list-style-type: none"> <li>• Charge the battery.</li> </ul>
Every 50 hours	<ul style="list-style-type: none"> <li>• Clean the air cleaner (more often in dirty or dusty conditions).</li> </ul>
Every 100 hours	<ul style="list-style-type: none"> <li>• Check/adjust the spark plug.</li> <li>• Clean the sediment cup.</li> </ul>
Every 100 hours or yearly, whichever comes first	<ul style="list-style-type: none"> <li>• Change the engine oil.</li> </ul>
Every 200 hours	<ul style="list-style-type: none"> <li>• Replace the paper element.</li> <li>• Inspect all hoses and connections for damage and proper attachment.</li> </ul>
Every 500 hours	<ul style="list-style-type: none"> <li>• Replace the spark plug.</li> </ul>
Before storage	<ul style="list-style-type: none"> <li>• Grease and cap all connection points.</li> <li>• Rinse the sprayer tank.</li> <li>• Drain the pump.</li> <li>• Condition the spray system.</li> </ul>

## ***Lubrication***

### **Lubricating the Machine**

**Service Interval:** Before storage

Use dialectic grease on all connection points and cap them.

## ***Engine Maintenance***

### **Engine Safety**

- Shut off the engine before checking the oil or adding oil to the crankcase.
- Do not change the governor speed or overspeed the engine.

# Engine Oil Specification

**Type:** API service classification SL or higher

**Viscosity:** select the oil viscosity according to ambient temperature; refer to [Figure 11](#).

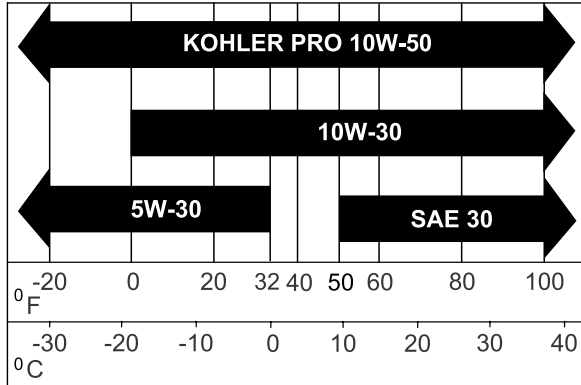


Figure 11

g460149

The engine is full of oil when the oil level is at the bottom edge of the oil-fill port.

**Note:** If the oil level is below the bottom edge of the oil-fill port, add enough of the specified oil to raise level to the bottom edge of the oil-fill port.

**Important:** Do not overfill the crankcase with engine oil.

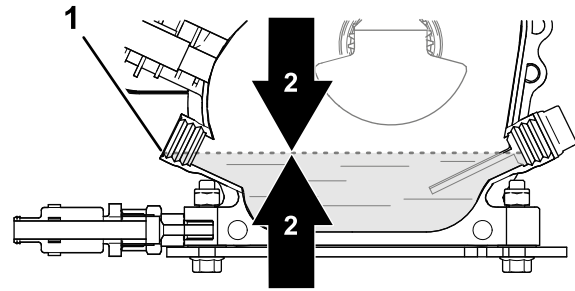


Figure 13

g281195

1. Oil-fill port (bottom edge)
2. Engine-oil level

## Checking the Engine-Oil Level

**Service Interval:** Before each use or daily

**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 it.

1. Clean the area around the oil-filler cap ([Figure 12](#)).

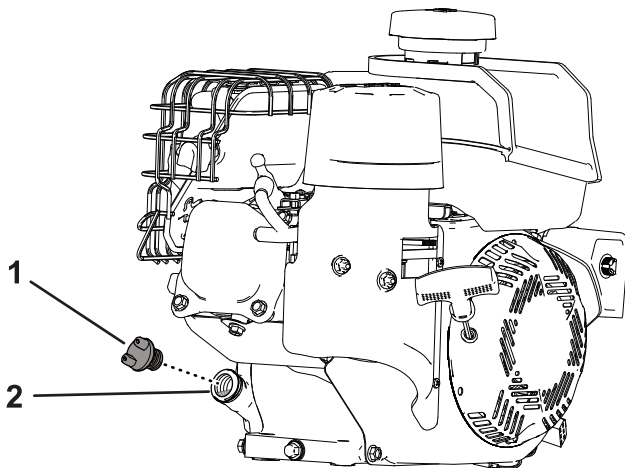


Figure 12

g460178

1. Oil-filler cap
2. Filler port

2. Remove the oil-filler cap by rotating it counterclockwise.
3. Check the oil level ([Figure 13](#)).

# Changing the Engine Oil

**Service Interval:** After the first 5 hours—Change the engine oil.

Every 100 hours or yearly, whichever comes first—Change the engine oil.

**Crankcase Capacity:** 0.60 L (0.63 US qt)

1. Start the engine and run it for a few minutes to warm the engine oil; then shut off the engine.
2. Remove the plug-in end of the hose and place the end of the hose into a drain pan with a 1 L (1 US qt) capacity.
3. Allow the oil to drain.
4. Install the plug-in end of the hose and wipe up any spilled oil.
5. Dispose of the waste oil properly.

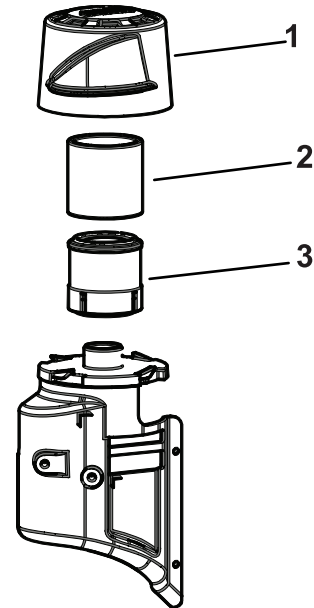
**Note:** Recycle it according to local codes.

6. Fill the crankcase with the specified oil; refer to [Engine Oil Specification \(page 18\)](#) and [Checking the Engine-Oil Level \(page 18\)](#).

# Checking the Air-Filter Elements

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

1. Remove the air-cleaner cap by turning it counter-clockwise.



**Figure 14**

g460187

1. Air-cleaner cover
2. Pre-cleaner element
3. Paper air-filter element

2. Clean the air-cleaner cover thoroughly.
3. Check the pre-cleaner element for debris.  
Clean the pre-cleaner element if needed; refer to [Cleaning Pre-Cleaner Element \(page 19\)](#).
4. Check the paper air-filter element for debris, replace if necessary.
5. Install the air-cleaner cover.

# Servicing the Air Cleaner

**Service Interval:** Every 50 hours—Clean the air cleaner (more often in dirty or dusty conditions).

Every 200 hours—Replace the paper element.

# Cleaning Pre-Cleaner Element

1. Remove the air-cleaner cap by turning it counter-clockwise.
2. Remove the pre-cleaner element from the paper element.
3. Replace or wash the pre-cleaner in warm water with detergent. Rinse and allow to air dry.

4. Lightly oil the pre-cleaner with new engine oil and squeeze out the excess oil.

## Cleaning the Paper Air-Filter Element

Clean the paper element by tapping the filter element several times on a hard surface to remove the dirt.

**Important:** Never brush dirt off the element or use compressed air to remove dirt; brushing forces dirt into the fibers, and compressed air will damage the paper filter.

## Assembling the Air-Filter Elements

1. Install the pre-cleaner over the paper element.
2. Install the air-cleaner cover.

## Servicing the Spark Plug

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

Every 500 hours—Replace the spark plug.

**Type:** Kohler 1413211 spark plug or equivalent

**Air Gap:** 0.70 to 0.80 mm (0.028 to 0.031 inch); refer to [Figure 16](#).

1. Disconnect the spark-plug wire from the spark plug.

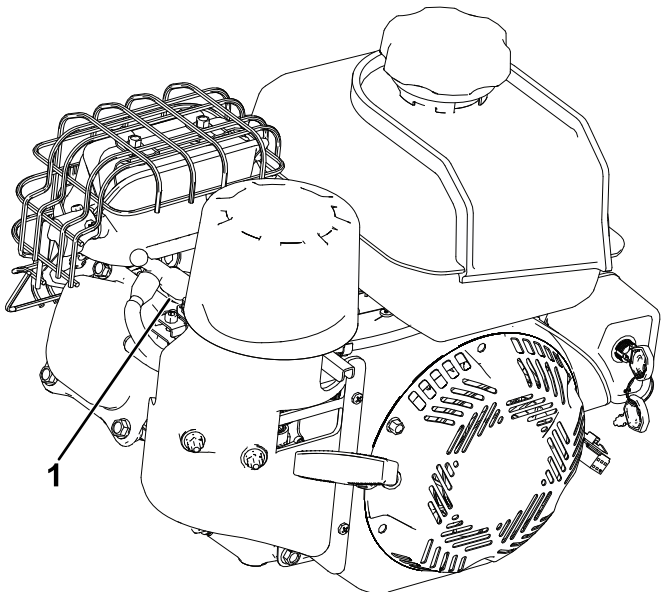


Figure 15

g460272

1. Spark-plug wire
2. Clean around the spark plug and remove the plug from the cylinder head.

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

3. Set the air gap to 0.70 to 0.80 mm (0.028 to 0.031 inch) as shown in [Figure 16](#).

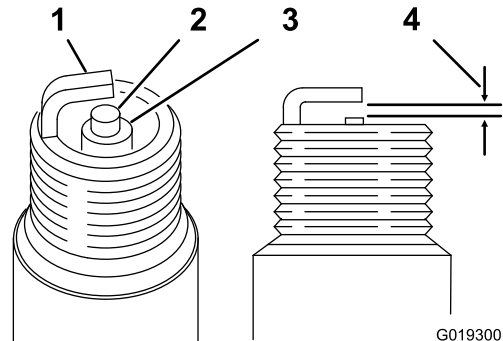


Figure 16

G019300

g019300

- |                     |  |
|---------------------|--|
| 1. Side electrode   | 3. Insulator                             |
| 2. Center electrode | 4. 0.70 to 0.80 mm (0.028 to 0.031 inch) |

4. Install the correctly gapped spark plug carefully by hand to avoid cross-threading.
5. After the spark plug is seated, tighten it with a spark-plug wrench as follows:
  - When installing a new spark plug, tighten it 1/2 turn after the spark plug seats to compress the gasket.
  - When installing the original spark plug, tighten it 1/8 to 1/4 turn after the spark plug seats to compress the gasket.

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

6. Connect the spark-plug wire to the spark plug.

# Fuel System Maintenance

## Cleaning the Sediment Cup

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

1. Move the fuel-shutoff valve to the OFF position (Figure 17).

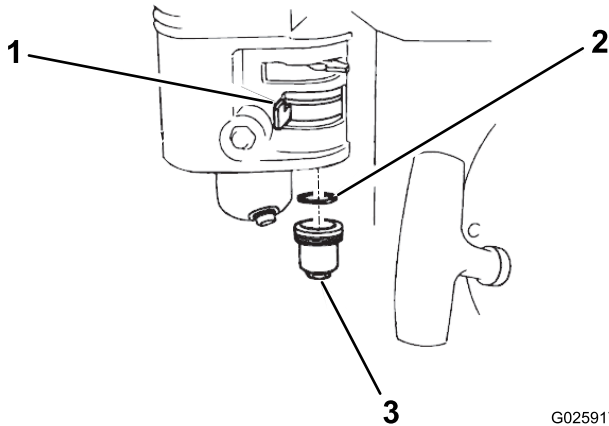


Figure 17

1. Fuel-shutoff valve
2. O-ring
3. Sediment cup

2. Remove the fuel sediment cup and O-ring (Figure 17).
3. Check the O-ring for wear and damage; replace the O-ring if it is worn or damaged.
4. Wash the sediment cup and O-ring in nonflammable solvent, and dry them thoroughly.
5. Place the O-ring in the fuel-shutoff valve and install the sediment cup (Figure 17). Tighten the sediment cup securely.

# Electrical System Maintenance

## Electrical System Safety

- Disconnect the battery before repairing the machine. Disconnect the negative terminal first and the positive last. Connect the positive terminal first and the negative last.
- Charge the battery in an open, well-ventilated area, away from sparks and flames. Unplug the charger before connecting or disconnecting the battery.
- Wear protective clothing and use insulated tools.

## Replacing the Fuses

The fuse block is located underneath the battery box cover.

There are 2 fuses.

- 40 amp—hose reel and acc power
- 10 amp—control board power

# Charging the Battery

**Service Interval:** After the first hour

After each use

## **⚠ DANGER**

Contact with water while charging the machine could cause electric shock, causing injury or death.

- Do not handle the plug with wet hands or while standing in water.
- Do not charge the batteries in the rain or in wet conditions.

## **⚠ WARNING**

A damaged charger cord can cause an electrical shock or a fire.

**Thoroughly inspect the charger cord before charging the machine. If the cord is damaged, do not charge the machine until you obtain a replacement.**

To reduce the risk of electric shock, this charger has a 3-prong grounded plug (type B). If the plug does not fit into the wall receptacle, other grounded plug types are available; contact an Authorized Service Dealer.

Do not change the charger plug in any way.

**Important:** Check the charger cord periodically for holes or cracks in the insulation. Do not use a damaged cord. Do not run the cord through standing water or wet grass.

**Important:** Charge the machine in temperatures  $-20^{\circ}$  to  $40^{\circ}\text{C}$  ( $-4^{\circ}$  to  $104^{\circ}\text{F}$ ). The onboard charger will not function in temperatures exceeding this range.

1. Park the machine in the designated location for charging.
2. Shut off the machine and remove the key.
3. Open the charger port and plug in an extension cord (not included) connected to a 120V GFCI electrical outlet (Figure 18).

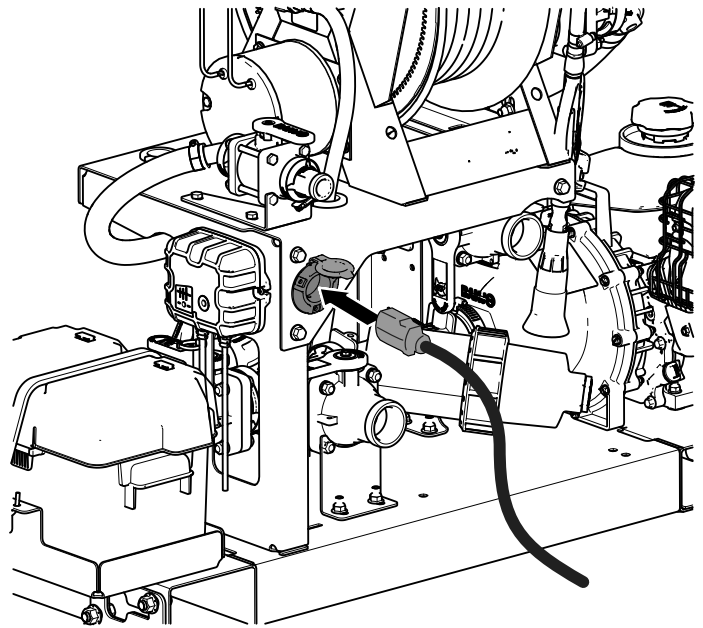


Figure 18

g517219

4. On the onboard charger, use the MODE button to select the type of battery that is currently installed on the machine (confirm the battery style on the machine by referencing the label on the battery).  
**Note:** Once the battery type is selected, the charging process begins.
5. When the battery is fully charged, the green light illuminates.  
**Note:** Battery charge indicator bars are located on the battery charger.
6. Disconnect the extension cord from the machine and close the charger port.

# ***Sprayer System Maintenance***

## **Inspecting the Tank Straps**

**Service Interval:** After the first hour

Before each use or daily

The machine is equipped with nylon straps. It is important to frequently check the straps to ensure that the tank remains secure. If a strap can move freely by hand, it should be tightened using the side and top adjustment bolts. Do not overtighten the straps as tank damage may occur.

## **Inspecting the Hoses**

**Service Interval:** Every 200 hours—Inspect all hoses and connections for damage and proper attachment.

Examine each hose in the spray system for cracks, leaks, or other damage. At the same time, inspect the connections and fittings for similar damage. Replace any hoses and fittings if they are damaged.

# ***Pump Maintenance***

## **Inspecting the Pump**

Have an authorized BOSS dealer check the pump seals for damage and replace if necessary.

## **Inspecting the Filter**

Each sprayer is equipped with a filter right before the inlet to the pump. Inside is a reusable stainless steel 30 mesh filter.

If you suspect that the filter is clogged:

1. Close the tank valve and loosen the collar around the filter housing.
2. Remove the outer housing and the filter.
3. Rinse the filter clean and install it in the housing.

# Cleaning

## Washing the Machine

**Service Interval:** Before each use or daily

Wash the machine after each use using water alone or with a mild detergent. You may use a rag when washing the machine.

**Important:** Do not use brackish or reclaimed water to clean the machine.

**Note:** Do not use power-washing equipment to wash the machine. Power-washing equipment may damage the electrical system, loosen important decals, or wash away necessary grease at friction points. Avoid excessive use of water near the engine and onboard charger.

## Rinsing the Tank

**Service Interval:** Before storage

After the season is complete, rinse out the sprayer tank and run fresh water through the entire system to wash out any salt residue.

## Draining the Pump

**Service Interval:** Before storage

Remove the drain plug on the bottom of the pump to drain excess water from the pump.

## Conditioning the Sprayer System

**Service Interval:** Before storage

After rinsing the tank, add RV antifreeze to the tank and run it through the entire system.

Open all valves to ensure that no water is present inside the ball valve.

Remove the filter housing to drain water.

# Storage

## Storage Safety

Shut off the engine, remove the key (if equipped), wait for all movement to stop, and allow the machine to cool before adjusting, servicing, cleaning, or storing it.

## Preparing the Machine for Storage

1. Disconnect the negative terminal first and the positive last. Connect the positive terminal first and the negative last.
2. Wash the machine; refer to [Washing the Machine \(page 24\)](#).
3. Rinse the sprayer tank and sprayer components; refer to [Rinsing the Tank \(page 24\)](#).
4. Drain the sprayer tank as completely as possible.
5. Condition the sprayer tank; [Conditioning the Sprayer System \(page 24\)](#).
6. Grease and cap all connection points; refer to [Lubricating the Machine \(page 17\)](#).
7. Drain the pump; refer to [Draining the Pump \(page 24\)](#).