

OPERATING INSTRUCTIONS

SMITH PERFORMANCE SPRAYERS HEAVY-DUTY BACKPACK SPRAYER S3E-V



Version 1.0 (July 2023)

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IMPORTANT SAFETY INSTRUCTIONS

Definitions

▲ **DANGER:** Indicates a hazardous situation that, if not avoided, will result in death or serious injury.

▲ **WARNING:** Indicates a hazardous situation that, if not avoided, could result in death or serious injury.

▲ **CAUTION:** Indicates a hazardous situation that, if not avoided, could result in minor or moderate injury.

NOTICE: Indicates information considered important, but not hazard-related (e.g. messages relating to property damage).

▲ **WARNING:** WHEN USING ELECTRICAL SPRAYERS, BASIC PRECAUTIONS SHOULD BE FOLLOWED, INCLUDING THE FOLLOWING:

- Read all the instructions before using the sprayer.
- To reduce the risk of injury, close supervision is necessary when an appliance is used near children.
- Only use attachments recommended or sold by the manufacturer.
- For reachable sprayers, Use only the charger supplied by the manufacturer to recharge.

CHEMICAL USE SAFETY

▲ **DANGER:** RISK OF DEATH, SEVERE PERSONAL INJURY, AND/OR PROPERTY DAMAGE FROM IMPROPER CHEMICAL USE OR MIXTURE.

- Never use flammable or combustible chemicals in this sprayer. Spraying flammable or combustible chemicals can create combustible fumes that could be ignited, causing an explosion.
- Use only chemicals indicated for spraying applications. Some chemicals may create a toxic or other hazardous atmosphere when sprayed.
- Always refer to chemical manufacturer's instructions and/or the chemical Safety Data Sheet (SDS) for proper mixture and safe application.

SPRAYER SAFETY

▲ **WARNING:** RISK OF PERSONAL INJURY AND/OR PROPERTY DAMAGE DUE TO CHEMICAL EXPOSURE.

▲ **WARNING:** DO NOT EXPOSE TO RAIN, STORE INDOORS.

- Read and understand the entire instruction manual before using this sprayer.
- Follow all instructions and precautions in the instruction manual when using this sprayer.
- Read and follow all instructions and precautions on chemical manufacturer's label of chemicals used in this sprayer.

• Use the appropriate Personal Protective Equipment (PPE) as recommended by the chemical manufacturer and/or refer to the chemical Safety Data Sheet (SDS) of the chemical being used. This includes at least goggles, gloves, and protective clothing. Failure to use appropriate PPE could result in chemical exposure through skin contact, eye contact, inhalation, or other means.

• After initial assembly, extended storage, or any possibly damaging event, such as a fall, always inspect the sprayer for damage, and test it with plain water to check for proper function. Ensure all connections are secure and leak free, and the hose is free from damage, prior to using the sprayer with chemical.

• Always inspect the hose and all connections before each use. A damaged hose or loose connections could result in an uncontrolled high pressure discharge of chemical.

• Do not spray near open flame, hot surfaces, or anything that could vaporize the spray. Doing so could create a dangerous chemical atmosphere.

• Never use caustics, bleach, acids, hot water, or pressure-producing chemicals in this sprayer.

• Keep the sprayer and all chemicals out of the reach of children and pets.

• Only spray when the air is calm (no wind or air movement) to prevent chemical spray from drifting onto non-targeted surfaces.

• Always release pressure when the sprayer is not in use and before performing any maintenance or cleaning.

• Never store chemicals in the sprayer.

• Store or dispose of any unused chemicals as instructed by the chemical manufacturer due to the potential for environmental damage from a spill or leak, and/or refer to the disposal criteria referenced in the SDS.

• Clean and rinse the sprayer after each use to avoid unintended chemical exposure and prevent contamination of subsequent applications.

• Store the sprayer in a warm, dry, dust-free location out of direct sunlight.

▲ **WARNING:** RISK OF PERSONAL INJURY AND/OR PROPERTY DAMAGE DUE TO RUPTURE AND/OR UNCONTROLLED HIGH PRESSURE DISCHARGE OF LIQUID CHEMICAL.

• Never modify or alter the sprayer from original condition. Never heat or alter the hose, hose nut, or barb. Doing so could weaken the components and/or connections.

• Use only replacement parts from original manufacturer. Other replacement parts are not compatible with this sprayer.

- Never pressurize the sprayer with any device other than the pump supplied by the original manufacturer. Use of an air compressor or other non-standard device to pressurize the system could exceed the safe working pressure of the sprayer.
- Do not lift, carry, or pull the sprayer by the hose, shut-off, or wand extension. Doing so could weaken the components and/or connections. Carry by the handle or harness only, making sure the connections are properly secured before lifting.
- To reduce the risk of electrical shock, do not put the sprayer in water or other liquid. Do not place or store the sprayer where it can fall or be pulled into a tub or sink.

Additional Safety Information

▲ WARNING: Never modify the sprayer or any part of it. Damage or personal injury could occur.

SAVE THESE INSTRUCTIONS FOR FUTURE USE

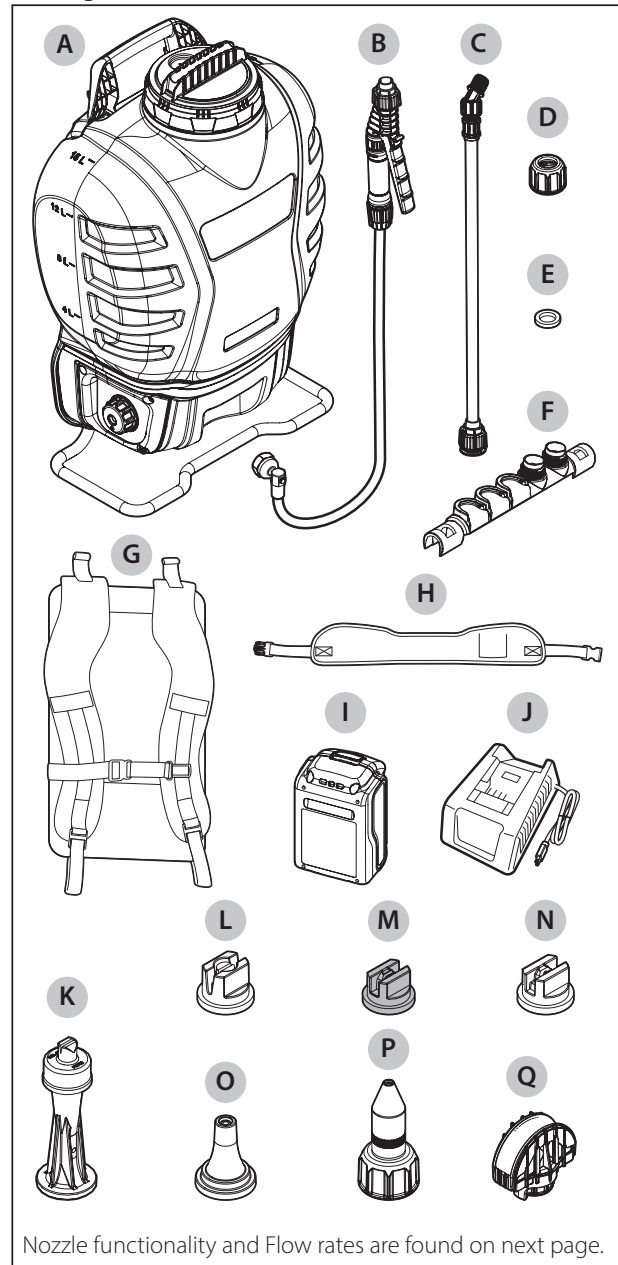
ASSEMBLY

▲ WARNING: RISK OF PERSONAL INJURY AND/OR PROPERTY DAMAGE DUE TO CHEMICAL EXPOSURE. After initial assembly, always inspect the sprayer for damage, and test it with plain water to check for proper function. Ensure all connections are secure and leak free, and the hose is free from damage, prior to using the sprayer with chemicals.

▲ WARNING: Only use attachments recommended or sold by the manufacturer.

▲ WARNING: For Household Use Only.

Package Contents

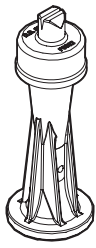


Nozzle functionality and Flow rates are found on next page.

- A Sprayer
- B Shut-off Assembly
- C Wand
- D Cap Nut
- E Flat Seal
- F Nozzle Storage Clip
- G Harness
- H Harness Waist Belt
- I Battery
- J Battery Charger
- K Foaming Weed Nozzle (Black)
- L High-Volume Wide Fan Nozzle (Brown)
- M Low-Volume Wide Fan Nozzle (Red)
- N Low-Volume Narrow Fan Nozzle (Yellow)
- O Jet Stream Nozzle (Orange)
- P Adjustable Cone Nozzle
- Q High-Volume Foam Nozzle (White)

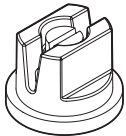
Nozzle Functionality and Uses

Foaming Weed Nozzle (Black)



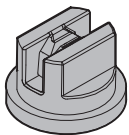
- Visibly marks treated weeds when used with weed killer or added surfactant.
- Spot spraying weeds in lawn, or around flower beds, trees, and shrubs.
- Edging along fences, driveways, and walkways.

High-Volume Wide Fan Nozzle (Brown)



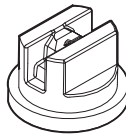
- Flat spray for very broad coverage and higher viscosity liquids.

Low-Volume Wide Fan Nozzle (Red)



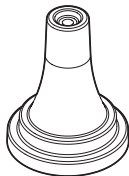
- Replacing lawns. Kills lawn and weeds before planting a new lawn.
- Preparing large areas for planting of ornamental and vegetable gardens.

Low-Volume Narrow Fan Nozzle (Yellow)



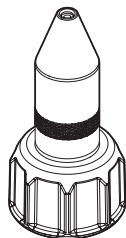
- Precision spraying in confined areas such as gardens and flower beds.

Jet Stream Nozzle (Orange)



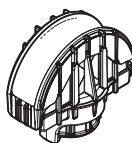
- Pinpoint stream for targeted applications from a distance.
- Ideal for spraying hornet nests, cracks, crevices, and other hard to reach targets.

Adjustable Cone Nozzle



- Spot spraying in flower beds, walkways, driveways, and patios, around trees and shrubs.
- Edging along fences, driveways, and walkways.
- Killing brush such as poison ivy, poison oak, kudzu, and wild blackberry.

High-Volume Foam Nozzle (White)



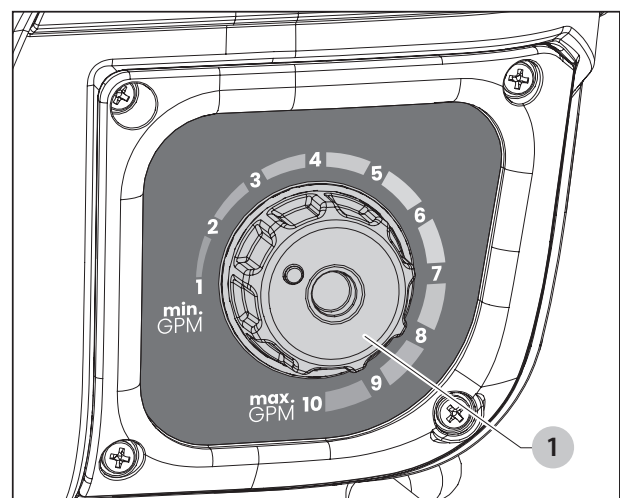
- Sprays a thick foam that adheres to vertical surfaces for optimal cleaning action.
- Spray on walls, walkways, patios/decks, power equipment, vehicles, and more.

Flow Control

Flow can be controlled by turning the control knob (1). Each position (1 through 10) has a discrete detent; each detent position has tangible feedback.

The backpack functions to keep flow rate constant regardless of battery depletion state; when a preferred knob setting is chosen for a given nozzle, the spray pattern and flow rate will remain the same through the entire application.

Maximum Working Pressure	
Position	Flow
1-3	1-3 work off a low pressure cutoff
4-10	4-10 work off a high pressure cutoff



Nozzle Flow Chart

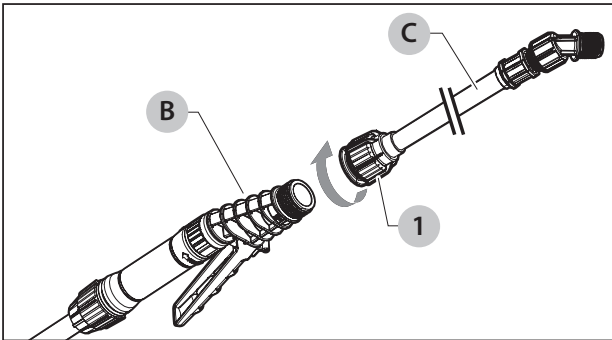
NOTICE: RISK OF PROPERTY DAMAGE. Always turn flow control knob to low GPM setting (1-3) when switching to a low flow nozzle.

NOTICE: RISK OF PROPERTY DAMAGE. Failure to abide by Nozzle Flow Chart recommendations may result in a damaged pump and void warranty.

See **Nozzle Flow Charts** on page 18 and 19.

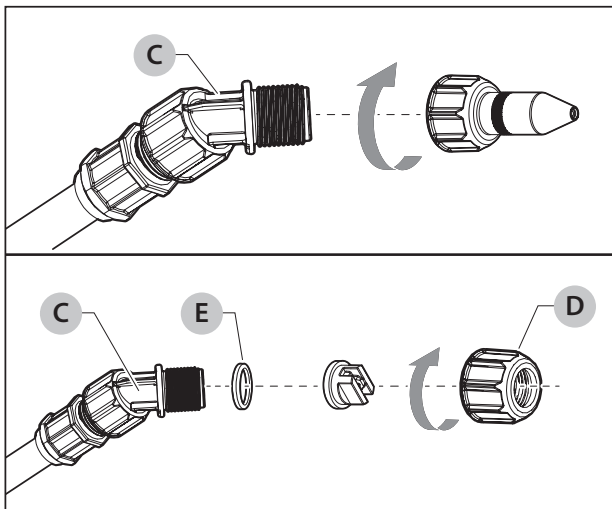
Assembling the Sprayer

1. Install the wand (C) onto the shut-off assembly (B) and tighten the nut (1) on the wand (C) to secure together.



Attaching a Nozzle

Attach your selected nozzle (L – Q) onto the end of the wand (C) using a flat seal (E) if required, and tighten securely using the cap nut (D).



OPERATION

⚠ WARNING: RISK OF PERSONAL INJURY DUE TO CHEMICAL EXPOSURE. Use the appropriate Personal Protective Equipment (PPE) as recommended by the chemical manufacturer and/or refer to the chemical Safety Data Sheet (SDS) of the chemical being used. This includes at least goggles, gloves, and protective clothing.

⚠ WARNING: To reduce the risk of serious personal injury, turn unit OFF and remove the battery pack before making any adjustments or removing/installing attachments or accessories. An accidental start-up can cause injury.

NOTICE: The battery pack is not fully charged out of the carton. Before using the battery pack and charger, read the safety instructions below and then follow the charging procedures outlined.

Important Safety Instructions for All Battery Chargers

⚠ WARNING: Read all safety warnings, instructions, and cautionary markings for the battery pack, charger, and product. Failure to follow the warnings and instructions may result in electrical shock, fire, and/or serious injury.

- **DO NOT attempt to charge the battery pack with any charger other than a charger with Part Number 183416 or 183417.** These two chargers (a slow charger and a fast charger) and battery packs are specifically designed to work together.
- **These chargers are not intended for any uses other than charging 183411 or 183412 rechargeable battery packs.** Charging other types of battery packs may cause them to overheat and burst, resulting in personal injury, property damage, fire, electrical shock, or electrocution.
- **Do not expose the charger to rain or snow.**
- **Do not allow water or any liquid to enter the charger.**
- **Pull by the plug rather than the cord when disconnecting the charger.** This will reduce the risk of damage to the electric plug and cord.
- **Make sure that the cord is located so that it will not be stepped on, tripped over, or otherwise subjected to damage or stress.**
- **Do not use an extension cord unless it is absolutely necessary.** Use of improper extension cord could result in risk of fire, electrical shock, or electrocution.

- **When operating a charger outdoors, always provide a dry location and use an extension cord suitable for outdoor use.** Use of a cord suitable for outdoor use reduces the risk of electrical shock.
- **An extension cord must have adequate wire size (AWG or American Wire Gauge) for safety.** The smaller the gauge number of the wire, the heavier the cord and thus the greater its capacity. An undersized cord will cause a drop in line voltage resulting in loss of power and overheating. The following table shows the correct size to use depending on total length of all extension cords plugged together, and nameplate ampere rating. When in doubt, use the next heavier gauge.

Minimum Gauge for Cord Sets

Volts		Total Length of Cord in Feet (meters)			
120V		25 (7.6)	50 (15.2)	100 (30.5)	150 (45.7)
Ampere Rating		American Wire Gauge			
More Than	Not More Than				
0	6	18	16	16	14
6	10	18	16	14	12
10	12	16	16	14	12
12	16	14	12	Not Recommended	

- **Do not place any object on top of the charger.** Place the charger in a position away from any heat source.
- **Do not operate the charger with a damaged cord or plug.** Have them replaced immediately.
- **Do not operate the charger if it has received a sharp blow, been dropped, or otherwise damaged in any way.**
- **Do not disassemble the charger.**
- **The charger is designed to operate on standard 120V household electrical power.** Do not attempt to use it on any other voltage.
- **Foreign materials of a conductive nature, such as, but not limited to, grinding dust, metal chips, steel wool, aluminum foil, or any buildup of metallic particles should be kept away from the charger cavities.**
- **Always unplug the charger from the power supply when there is no battery pack in the cavity.**

- **Do not charge or use the battery pack in explosive atmospheres, such as in the presence of flammable liquids, gases, or dust.** Inserting or removing the battery pack from the charger may ignite the dust or fumes.
- **NEVER force the battery pack into the charger. DO NOT modify the battery pack in any way to fit into a non-compatible charger, as battery pack may rupture causing serious personal injury.**
- **Charge the battery packs only in 183416 or 183417 chargers.**
- **DO NOT splash or immerse the battery pack in water or other liquids.**
- **DO NOT allow water or any liquid to enter battery pack.**
- **Do not store or use the tool and battery pack in locations where the temperature may reach or exceed 104° F (40° C) (such as outside sheds or metal buildings in summer).** For best battery life store battery packs in a cool, dry location. **NOTE: Do not store the battery packs in a tool with the trigger switch locked on. Never tape the trigger switch in the ON position.**
- **Do not incinerate the battery pack even if it is severely damaged or is completely worn out.** The battery pack can explode in a fire. Toxic fumes and materials are created when lithium-ion battery packs are burned.
- **If battery contents come into contact with the skin, immediately wash area with mild soap and water.** If battery liquid gets into the eye, rinse water over the open eye for 15 minutes or until irritation ceases. If medical attention is needed, the battery electrolyte is composed of a mixture of liquid organic carbonates and lithium salts.
- **Contents of opened battery cells may cause respiratory irritation.** Provide fresh air. If symptoms persist, seek medical attention.
- **Battery liquid may be flammable if exposed to a spark or flame.**
- **Never attempt to open the battery pack for any reason. If the battery pack case is cracked or damaged, do not insert into the charger.** Do not crush, drop, or damage the battery pack. Do not use a battery pack or charger that has received a sharp blow, been dropped, run over, or damaged in any way (e.g., pierced with a nail, hit with a hammer, stepped on).
- **Damaged battery packs should be properly recycled.**

Important Safety Instructions for All Battery Packs

▲ WARNING: Read all safety warnings, instructions, and cautionary markings for the battery pack, charger, and product. Failure to follow the warnings and instructions may result in electrical shock, fire, and/or serious injury.

Battery Tool Use and Care

- **Recharge only with the charger specified by the manufacturer.** A charger that is suitable for one type of battery pack may create a risk of fire when used with another battery pack.
- **Use power tools only with specifically designated battery packs.** Use of any other battery packs may create a risk of injury and fire.
- This sprayer is provided with battery pack 183411 and charger 183416.

Compatible battery packs and chargers

18V Li-ion	Battery Packs	183411,183412
	Chargers	183416,183417

⚠ WARNING: Use of any other battery packs may create a risk of injury and fire.

- **When battery pack is not in use, keep it away from other metal objects, like paper clips, coins, keys, nails, screws, or other small metal objects, that can make a connection from one terminal to another.** Shorting the battery terminals together may cause burns or a fire.
- **Under abusive conditions, liquid may be ejected from the battery; avoid contact. If contact accidentally occurs, flush with water. If liquid contacts eyes, additionally seek medical help. Liquid ejected from the battery may cause irritation or burns.**
- **Do not use a battery pack or tool that is damaged or modified.** Damaged or modified batteries may exhibit unpredictable behavior resulting in fire, explosion, or risk of injury.
- **Do not expose a battery pack or tool to fire or excessive temperature.** Exposure to fire or temperature above 265° F (130° C) may cause explosion.
- **Follow all charging instructions, and do not charge the battery pack or tool outside the temperature range specified in the instructions.** Charging improperly or at temperatures outside the specified range may damage the battery and increase the risk of fire.

Service

- **Only use identical replacement parts provided by the manufacturer.** This will ensure that the safety of the power tool is maintained.
- **Never service damaged battery packs.** Service of battery packs should only be performed by the manufacturer or authorized service providers.

Battery Indicators



Charging – green LED flashing



Fully Charged – green LED solid



Hot/Cold Pack Delay – red flashing



Bad/Damaged Battery – red, green alternate blinking or solid red



Charging the Battery

⚠ WARNING: Do not charge the battery pack in extreme temperatures. It is recommended to charge the battery pack in ambient temperatures between 32–104° F (0–40° C).

To charge the battery:

1. Plug the charger into an appropriate outlet.
2. Insert and fully seat the battery pack. The green charging light will continuously blink while charging.
3. Charging is complete when the green light remains continuously ON. Batteries should not be stored on the charger. To ensure optimal battery life, the battery should be charged at least once every 3 months when not in use.

NOTE: The charger will not charge a faulty battery pack, which may be indicated by the light staying OFF, or the red and green light alternately blinking, or a solid red light blinking.

Hot/Cold Pack Delay

If the light on the charger body continues to blink only red, the battery is too hot or too cold to be safely charged. If this occurs because the battery is too hot, the battery must be allowed to cool before it can be charged; if this occurs because the battery is too cold, the battery must be allowed to warm before it can be charged.

Electronic Protection System

Li-ion tools are designed with an Electronic Protection System that protects the battery pack against overloading, overheating, or deep discharge.

Important Charging Notes

The charger and battery pack may become warm to the touch while charging. This is normal and does not indicate a problem. To facilitate the cooling of the battery pack after use, avoid placing the charger or battery pack in a warm environment such as in a metal shed or an uninsulated trailer.

If the battery pack does not charge properly:

- Check operation of the receptacle by plugging in a lamp or other appliance.
- Check to see if the receptacle is connected to a light switch which turns power OFF when you turn off the lights.
- If charging problems persist, replace battery or charger. See *Troubleshooting Guide, Battery will not charge.*

You may charge a partially depleted pack at any time with no adverse effect on the battery pack.

Chargers/Charge Time** (Hours) (0% to 100% Charge)			
Batteries	Watt Hours	Chargers	
		183416 Fast	183417 Slow
183411	36	1.25	3.5
183412	72	2	7

**All charge times are approximate. Actual charge time may vary.

Filling the Sprayer

▲ DANGER: RISK OF DEATH, SEVERE PERSONAL INJURY, AND/OR PROPERTY DAMAGE FROM IMPROPER CHEMICAL USE OR MIXTURE.

- Never use flammable or combustible chemicals in this sprayer. Spraying flammable or combustible chemicals can create combustible fumes that could be ignited, causing an explosion.
- Use only chemicals indicated for spraying applications. Some chemicals may create a toxic or other hazardous atmosphere when sprayed.
- Always refer to chemical manufacturer's instructions and/or the chemical Safety Data Sheet (SDS) for proper mixture and safe application.

▲ WARNING: Inspect the sprayer, hose, shut-off, wand, and all connections for damage before each use. A damaged or loose hose connection can result in unintended exposure to the pressurized chemicals, resulting in serious injury or property damage.

Before you Begin

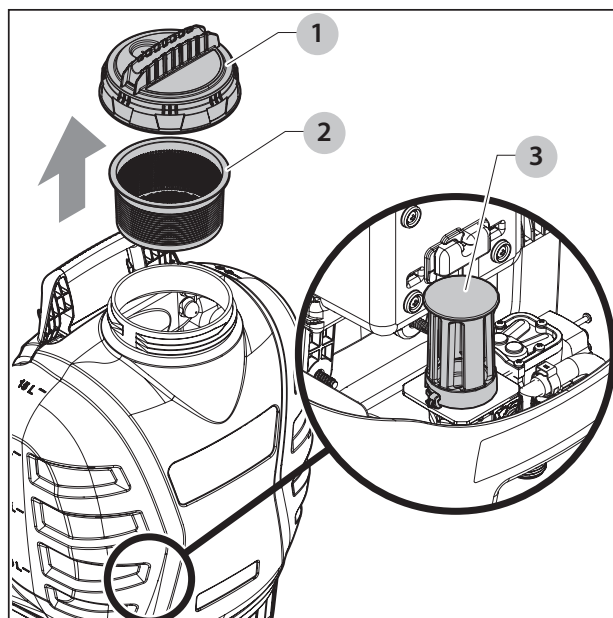
Test the sprayer with plain water before use with chemicals, prior to initial use, and after prolonged storage.

Place the sprayer on a stable surface and ensure it is OFF.

Remove the battery from the battery compartment. See *Removing the Battery.*

Filling Procedure

1. Unscrew the cap (1) and place it on a clean surface where it will not collect dirt, dust, grass clippings, or other debris.
2. Remove the strainer basket (2) and remove any debris. Place the strainer basket (2) on a clean surface where it will not collect dirt, dust, grass clippings, or other debris.
3. Inspect the tank interior for debris, and clean as needed.
4. Check to make sure the in-tank filter (3) is in place, the mesh is intact, and it is not clogged with debris. See *In-Tank Filter Maintenance.*
5. Ensure the shut-off assembly (B) is connected to the tank. Otherwise, liquid will pour out of the open connection.
6. Follow the chemical manufacturer's instructions for preparing the chemical. Fill the sprayer by pouring liquid into the top opening and through the strainer basket, to the desired volume, according to the volume gradation markings on the side of the tank.
7. Clean up any spilled, splashed, or overflowed liquid on the sprayer.
8. Insert the battery according to the instructions in *Installing the Battery.*



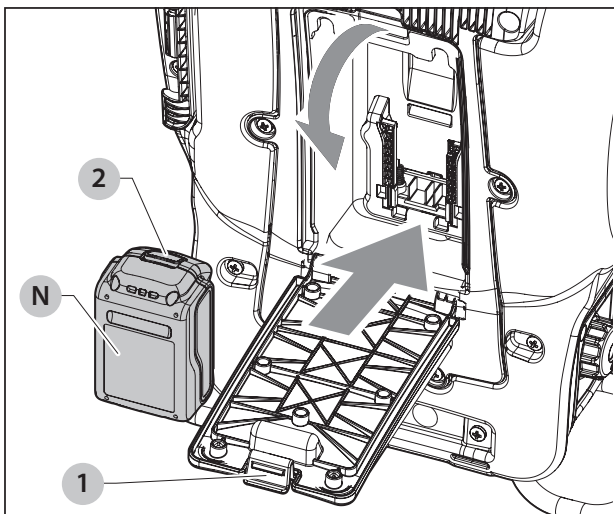
Installing the Battery

▲ WARNING: RISK OF FIRE, BURNS, OR ELECTRICAL SHOCK. To reduce risk of battery fire or bursts, use only 183411 or 183412 batteries that are in good condition. Do not use batteries that are wet or have been damaged.

▲ WARNING: Prevent unintentional starting. Ensure the switch is in the OFF position before connecting the battery pack, picking up, or carrying the sprayer. Carrying the sprayer with your finger on the switch or energizing the sprayer which has the switch on invites accidents.

▲ CAUTION: RISK OF UNINTENDED SPRAYING. Ensure the sprayer is OFF and that the shut-off lever is released before inserting the battery. The sprayer will spray when the battery is inserted if the sprayer is ON and the shut-off lever depressed.

1. Ensure the sprayer is on a stable surface and turned OFF.
2. Open the battery compartment by pushing down on the door latch (1) located at the top of the door, and swing the door open and downward.
3. Align the battery (N) with the rails inside the battery compartment and slide it into the compartment until the battery (N) is firmly seated. Ensure it does not disengage.
4. Close the door and ensure that the door latch (1) is engaged.

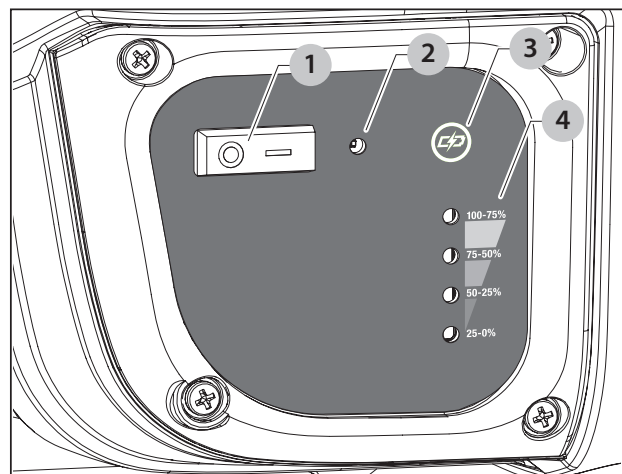


Removing the Battery

1. Ensure the sprayer is on a stable surface and turned OFF.
2. Open the battery compartment by pushing down on the door latch (1) located at the top of the door, and swing the door open and downward.
3. Press the battery button (2) and lift the battery (N) until it releases.
4. Remove the battery (N) from the compartment.
5. Close the door and ensure that the door latch (1) is engaged.

Battery Life Indicator

1. When the battery is installed, you can check the battery life. This feature is active whether the device is turned ON or OFF.
2. The power interface has a rocker-style switch (1), a blue LED (2) which shines when power is ON, a battery indicator push button (3), and indicator lights (4).
3. Press and hold the battery indicator button (3) to illuminate indicator lights (4).
4. Battery indicator lights (4):
 - a. Four green lights indicate: 100%–75%.
 - b. Three green lights indicate: 75%–50%.
 - c. Two green lights indicate: 50%–25%.
 - d. One green light indicates: <25%.
 - e. Red light indicates: Need to charge.



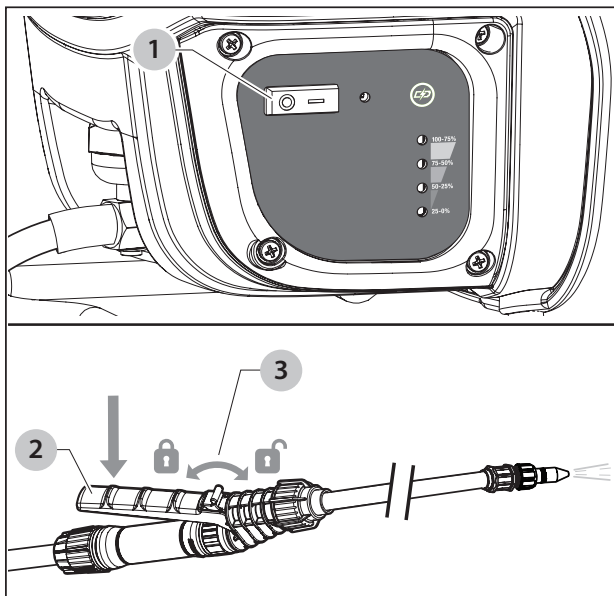
Spraying

▲ WARNING: RISK OF PERSONAL INJURY AND/OR PROPERTY DAMAGE DUE TO UNINTENDED SPRAYING OF CHEMICALS. Ensure the shut-off lever is released before powering ON the sprayer. Once powered ON, the pump will pressurize the system and spray if shut-off lever is depressed.

NOTICE: RISK OF PROPERTY DAMAGE. Only spray when the air is calm (no wind or air movement) to prevent chemical spray from drifting onto non-targeted surfaces.

1. Press the Power Switch (1) to turn the sprayer ON. If the sprayer has not been used recently, you may hear a low, audible hum. This indicates the pump has turned on and is building pressure in the system.

NOTE: If the sprayer was used recently, and still has pressure in the system, the pump may not turn on until the shut-off lever (2) is squeezed.



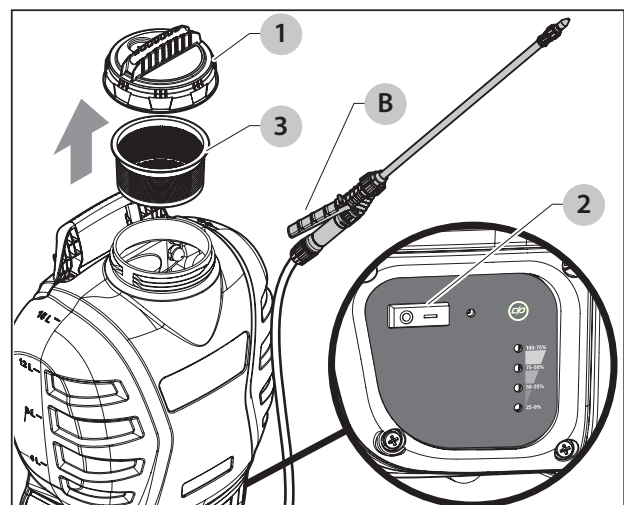
2. Aim the wand in the desired direction of spraying and squeeze the shut-off lever (2).
3. For continuous spraying, squeeze the shut-off lever (2) and rotate the lock (3) toward the trigger or towards the wand clockwise to hold the shut-off lever (2) in the depressed position.
4. Unlock by rotating counterclockwise, if needed, and release the shut-off lever (2) to stop spraying.
5. To turn off the sprayer, press the Power button (1).
6. Always remove any chemicals, and clean the sprayer when finished. See the *Cleaning and Storage* sections of this manual.

CLEANING

- ▲ **WARNING:** Always release pressure from the sprayer prior to cleaning. Disassembly of a sprayer that is still pressurized may result in the high-speed ejection of components.
- ▲ **WARNING:** RISK OF PERSONAL INJURY DUE TO CHEMICAL EXPOSURE. Use the appropriate Personal Protective Equipment (PPE) as recommended by the chemical manufacturer and/or refer to the chemical Safety Data Sheet (SDS) of the chemical being used. This includes at least goggles, gloves, and protective clothing.
- ▲ **WARNING:** RISK OF DAMAGE TO INTERNAL COMPONENTS. Failure to properly rinse out the sprayer may allow chemical residue build-up that can clog or damage the filters, pump, shut-off, wand, and nozzle. Chemical residue build-up can also contaminate subsequent applications. Leaving chemical liquids in the sprayer when not in use can lead to premature sprayer wear. Never store the sprayer with chemicals in any part of the sprayer.

1. Ensure the sprayer is OFF and remove the battery according to the *Removing the Battery* section.

2. Remove the cap (1) and empty any extra chemical from the tank into a suitable container for later use or dispose according to the chemical manufacturer's instructions.
3. Use clean water to thoroughly rinse and empty the tank until all chemicals and residues are removed.
4. Add approximately 1 quart (1 liter) of clean water to the tank.
5. Insert the battery according to the *Installing the Battery* instructions and press the Power button (2) to turn the sprayer ON.
6. Flush water through the pump, hose, shut-off, wand, and nozzle for at least 30 seconds to rinse them out. Failure to rinse out these components may allow chemical residue build-up that can clog or damage the components. After heavy use, rinsing the nozzles may not be enough to remove residue. The nozzles may need to be soaked or cleaned with a small brush.
7. Empty out any remaining water from the tank then continue to spray until water no longer comes out of the nozzle. This indicates that most of the water in the system has been removed.
8. Press the Power button (2) to turn the sprayer OFF and then remove the battery.
9. Squeeze the shut-off lever (B) to release any remaining pressure in the hose.
10. Allow the sprayer to dry. This is best done by removing the cap (1) and strainer basket (3) and hanging the sprayer upside down to let it drain.
11. Once the sprayer is dried, turn the sprayer upright and reinstall the strainer basket (3) and cap (1) to prevent debris from entering the tank.



Battery Pack Cleaning

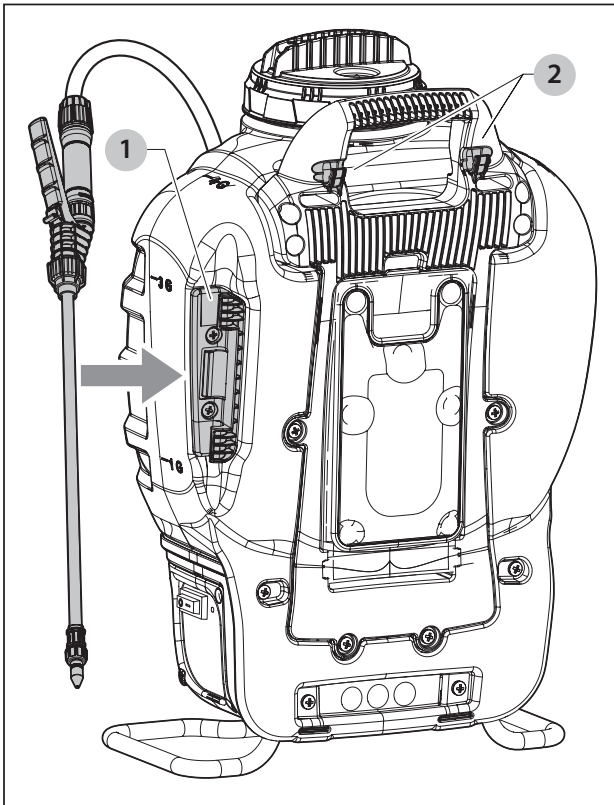
Remove dirt and grease from the exterior of the battery using a cloth or soft non-metallic brush. Do not use water or any cleaning solutions.

Charger Cleaning Instructions

- ⚠ **WARNING:** Shock hazard. Disconnect the charger from the AC outlet before cleaning. Dirt and grease may be removed from the exterior of the charger using a cloth or soft non-metallic brush. Do not use water or any cleaning solutions.

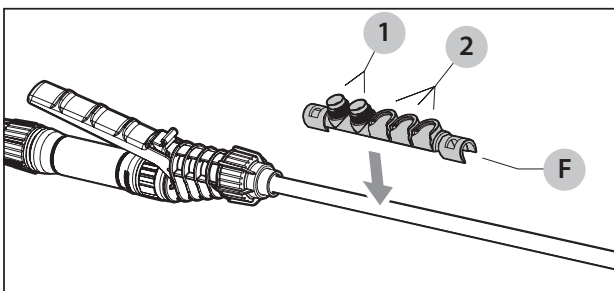
VERTICAL WAND STORAGE CLIP

There is a vertical wand storage clip (1) attached to the side of the tank which the wand can be secured with. The vertical wand clip helps with storage as it reduces the space needed around the sprayer. The horizontal storage wand clip (2) located below the backpack handle is still available for use.



NOZZLE STORAGE CLIP

Nozzles can be slid into or screwed on the nozzle storage clip (F) which clips to the wand. Adjustable or Nozzle Caps fit onto the threaded portions labeled 1 in the drawing. Fan or straight nozzles fit into the slots labeled 2.



STORAGE

Store the sprayer and battery indoors in a warm, dry location out of direct sunlight and away from any sources of moisture or intense heat. Do not store the sprayer where freezing temperatures (below 32° F / 0° C) will occur. Allowing water to freeze inside the sprayer may cause damage to the pump, seals, shut-off, or other components, and void the sprayer warranty.

TRANSPORTATION

- ⚠ **WARNING:** FIRE HAZARD. Do not store, carry, or transport the battery pack so that metal objects can contact exposed battery terminals. For example, do not place the battery pack in aprons, pockets, tool boxes, product kit boxes, drawers, etc., with loose nails, screws, keys, coins, hand tools, etc. When transporting individual battery packs, make sure that the battery terminals are protected and well insulated from materials that could contact them and cause a short circuit.

NOTE: Li-ion battery packs should not be put in checked baggage on airplanes and must be properly protected from short circuits if they are in carry-on baggage.

MAINTENANCE

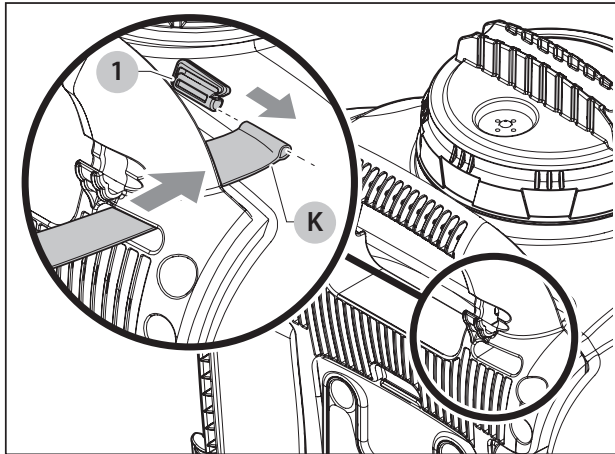
- ⚠ **WARNING:** To reduce the risk of serious personal injury, turn unit OFF and remove the battery pack before making any adjustments or removing/ installing attachments or accessories. An accidental start-up can cause injury.
- ⚠ **WARNING:** RISK OF PERSONAL INJURY AND/OR PROPERTY DAMAGE DUE TO CHEMICAL EXPOSURE. Always ensure that all chemicals have been removed from the sprayer and the sprayer has been cleaned prior to performing any maintenance.
- ⚠ **WARNING:** RISK OF PERSONAL INJURY. Always release pressure from the sprayer prior to performing any maintenance. Disassembly of a sprayer that is still pressurized may result in the high-speed ejection of components. Ensure the sprayer is OFF and squeeze the shut-off lever until all pressure is released.

Repairs

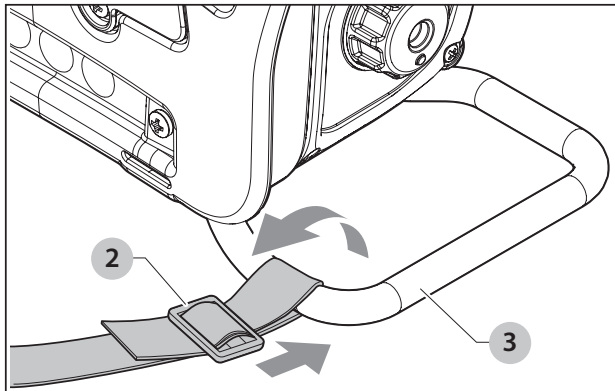
The charger and battery pack are not serviceable. There are no serviceable parts inside the charger or battery pack.

Replacing the Harness

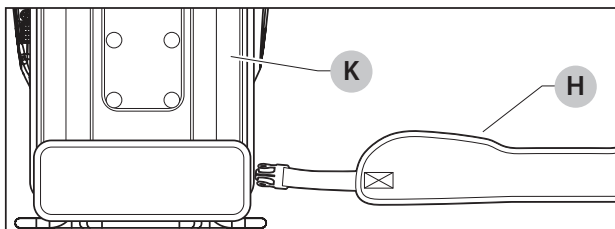
1. For each side of the harness (K), remove the small plastic clips (1) from the two shoulder strap loops and thread each loop through the slots at the top of the sprayer handle.
2. Replace the clips (1) through the loops and pull the strap securing the two harness (K) straps in place.



3. For the lower straps, remove the strap from the top portion of the buckles (2) and place around the foot stand (3), starting from underneath.
4. Loop the strap through the first section of the buckle (2). Then loop the strap through the other section of the buckle (2) to tighten. Adjust the shoulder pads and strap lengths for a comfortable fit.



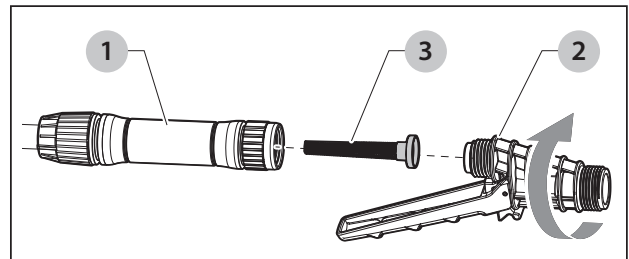
5. The harness waist belt (H) is removable. The lumbar support section of the harness (K) has a pass-through, by which the waist belt can be assembled or disassembled by pulling through - The waist belt will be assembled to the harness out of the box; so disassembly is just pulling it from the main harness; assembling is feeding it through the main harness.



Shut-Off Assembly Maintenance

▲ WARNING: Prior to performing maintenance, always depressurize the sprayer by turning the sprayer OFF and squeezing the shut-off lever to spray until liquid flow stops.

1. Unscrew the handle (1) from the shut-off assembly (2).
2. Remove the filter (3).
3. Clean any debris from inside the handle (1), shut-off assembly (2), or the filter (3) by rinsing with cool, clean water.
4. Reassemble the components as shown and tighten all connections securely.



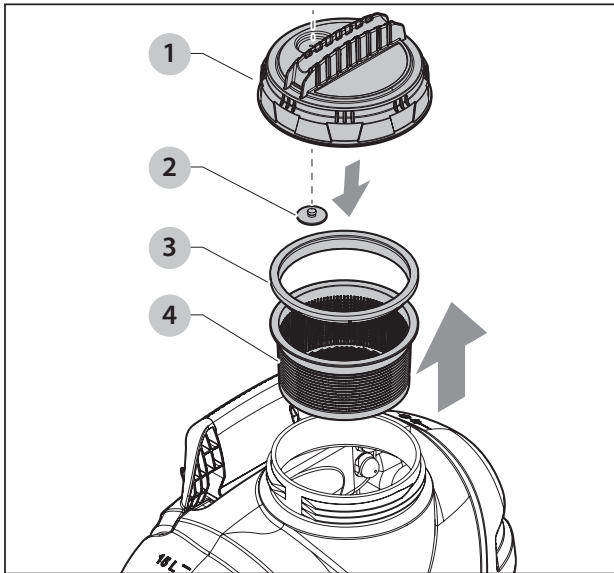
Nozzle Maintenance

▲ WARNING: Prior to performing maintenance, always depressurize sprayer by ensuring the sprayer is OFF and then squeezing the shut-off lever to spray until liquid flow stops.

- If a nozzle clogs, remove and disassemble the nozzle assembly.
- Clean the openings of any obstructions or residue.
- Do not use sharp tools that could scratch or damage the nozzles as spray pattern could be affected.
- Do not hit nozzle against surfaces to unclog.

Cap and Strainer Basket Maintenance

- Check the check valve (2) on the cap (1) and the strainer basket gasket (3) on the strainer basket (4) to ensure they do not show signs of wear and are operating properly.
- Replace them as required.



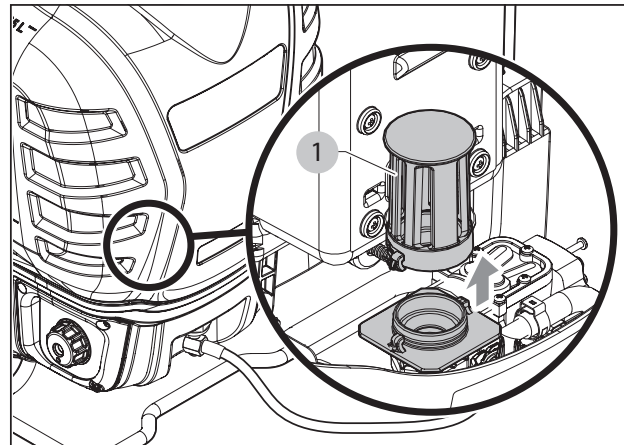
In-Tank Filter Maintenance

⚠ CAUTION: RISK OF DAMAGE TO INTERNAL COMPONENTS. Do not operate the sprayer without the in-tank filter properly installed. Doing so could allow debris to enter the pump and cause clogging or damage to the pump.

1. Ensure the sprayer is OFF and remove the battery according to the *Removing the Battery* instructions.
2. Remove the cap and strainer basket. Rinse with clean water to remove any debris.
3. Place the strainer basket and cap on a clean surface where they will not collect dirt, dust, grass clippings, or other debris.
4. Pour any liquid from the tank into an appropriate container for later use or proper disposal according to chemical manufacturer's instructions.
5. Rinse and empty the tank to remove any dirt, debris, or residue.
6. Reach into the tank and carefully grasp the in-tank filter (1) located at the bottom of the tank.
7. Turn the in-tank filter approximately 1/8 of a turn counterclockwise until it stops turning and pull up to remove it from the tank.
8. Clean the in-tank filter carefully rinsing from the inside to the outside. Be sure not to tear or damage the mesh. Any damage to the mesh may allow debris to enter the pump and cause clogging or damage to the pump.

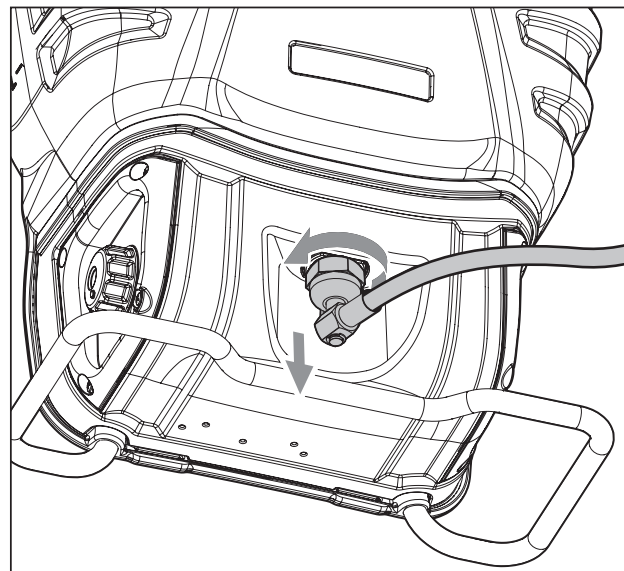
NOTE: If the in-tank filter is damaged or too dirty to permit cleaning, replace with a new in-tank filter.

9. To re-install the in-tank filter, gently set it back over the filter base in the bottom of the tank, and slowly turn the filter clockwise until the locking tabs on the filter base align with the grooves in the filter. The in-tank filter will drop downward approximately 1/8 in., when this happens.
10. Push down on the in-tank filter until it stops, approximately another 1/4 in., then turn the in-tank filter approximately 1/8 turn clockwise until it stops.



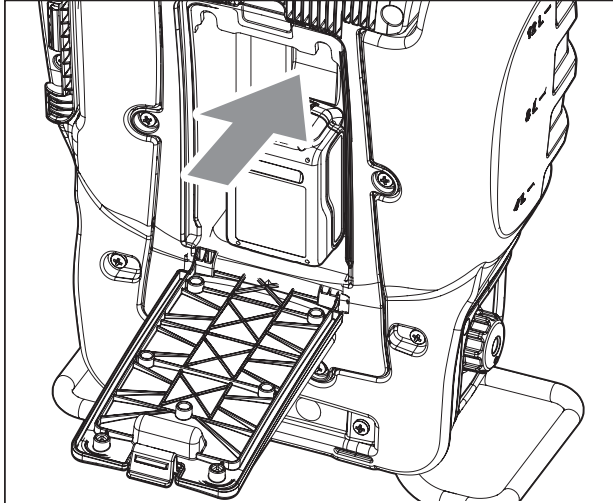
Hose Attachment Maintenance

1. Detach the shut-off assembly from the sprayer body by twisting counterclockwise to remove any remaining water from the Hose.



QR CODE

A QR Code is on a label inside the battery compartment. Scan the QR code for information on the product. Scanning the QR code will redirect the customer to the Variable Flow Backpack Website page where they can purchase replacement parts, view the User Manual, access various videos and documents, and obtain assistance on the usage and troubleshooting of the backpack.



Scan for product information.



product: **190679**
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FREQUENTLY ASKED QUESTIONS

See <https://www.thefountainheadgroup.com/> for specific product FAQ's.

PATENT NUMBERS

See <https://www.thefountainheadgroup.com/> for specific product patent numbers.

REPLACEMENT PARTS

See <https://www.thefountainheadgroup.com/> for specific product replacement parts.

WARRANTY

See <https://www.thefountainheadgroup.com/> for specific product warranty.

TROUBLESHOOTING GUIDE

BE SURE TO FOLLOW SAFETY RULES AND INSTRUCTIONS

For assistance with your product, visit our website at www.thefountainheadgroup.com or call 1-800-311-9903.

PROBLEM	POSSIBLE CAUSE	SOLUTION
The sprayer does not turn ON (no audible hum of the pump).	Ensure the battery is correctly installed.	Install the battery correctly. See <i>Installing the Battery</i> .
	Ensure the battery is charged.	Charge the battery. See <i>Charging the Battery</i> .
	The battery may be damaged or may have overheated. Visually inspect the battery for damage.	Replace the battery if it is damaged or not working. If the battery overheated, allow the battery to cool.
	The hose is pressurized. The pump turned OFF automatically.	Squeeze the shut-off lever to see if the sprayer starts and the pump turns ON.
The sprayer turns ON (pump head hums) but it will not spray.	There is no liquid in the tank.	Add liquid to the tank. See <i>Filling the Sprayer</i> .
	The shut-off filter is clogged.	Clean the shut-off filter. See <i>Shut-off Assembly Maintenance</i> .
	The nozzle is clogged.	Clean the nozzle. See <i>Nozzle Maintenance</i> .
	The in-tank filter is clogged.	Clean the in-tank filter. See <i>In-Tank Filter Maintenance</i> .
	The pump is not primed.	Allow at least 30 seconds for the pump to prime.
The sprayer turns ON but only sprays at low pressure.	The shut-off filter is clogged.	Clean the shut-off filter. See <i>Shut-off Assembly Maintenance</i> .
	The nozzle is clogged.	Clean the nozzle. See <i>Nozzle Maintenance</i> .
	The in-tank filter is clogged.	Clean the in-tank-filter. See <i>In-Tank Filter Maintenance</i> .
	The pump is not primed.	Allow at least 30 seconds for the pump to prime.
The pump does not fully prime.	The liquid level in the tank is low.	Add liquid to the tank. See <i>Filling the Sprayer</i> .
	The pump was run dry (without liquid) before the tank was refilled.	Ensure the sprayer is OFF and squeeze the shut-off lever until all pressure is relieved.
	There is chemical residue or build-up in the tank and/or pump due to improper or inadequate cleaning.	Clean the sprayer. See <i>Cleaning</i> . If necessary, repeat with warm water and a mild detergent mixture. Allow the mixture to stay in the pump for up to 1 hour prior to rinsing. Replace the pump if necessary.
	The in-tank filter is improperly installed, missing, or damaged, allowing debris to enter the pump.	Clean the sprayer. See <i>Cleaning</i> . If necessary, repeat with warm water and a mild detergent mixture. Allow the mixture to stay in the pump for up to 1 hour prior to rinsing. Replace the pump if necessary.
The hose leaks at the tank connection.	The hose is cracked, swollen, or faulty.	Replace the shut-off assembly.
	The connection is damaged.	Replace the shut-off assembly

PROBLEM	POSSIBLE CAUSE	SOLUTION
The hose leaks at the shut-off assembly.	The hose is cracked, swollen, or faulty.	Replace the shut-off assembly.
	The connection is damaged.	Replace the shut-off assembly.
The nozzle drips when the shut-off lever is released.	There is dirt or debris in the shut-off lever.	Clean the shut-off assembly.
	There is a damaged O-ring or seal in the shut-off assembly.	Replace the shut-off assembly.
The nozzle tip leaks.	The flat seal is missing.	Install the flat seal behind the nozzle tip. See <i>Assembly</i> .
	The flat seal is damaged.	Replace the flat seal.
The spray pattern is poor.	Variable Control is not turned to recommended setting.	See <i>Nozzle Spray Chart</i> .
	The nozzle is partially clogged.	Clean the nozzle. See <i>Cleaning</i> .
	The nozzle is damaged.	Replace the nozzle.
The unit shuts off abruptly.	The battery pack has reached its maximum thermal limit.	Allow the battery pack to cool down.
	The battery is out of charge. To maximize the life of the battery, it is designed to shut off abruptly when the charge is depleted.	Place the battery on the charger and allow it to charge.
The battery pack does not charge.	The battery pack is not inserted in the charger.	Insert the battery pack into the charger until the LED illuminates.
	The charger is not plugged in.	Plug the charger into a working outlet.
	The surrounding air temperature is too hot or too cold.	Move the battery pack to a surrounding air temperature of above 40° F (4.5° C) or below 104° F (40° C).
Battery will not charge.	No lights illuminated on charger (not plugged into outlet).	Plug charger into outlet.
	No lights illuminated on charger (plugged into outlet).	Check that outlet is functioning.
	No lights illuminated on charger (plugged into outlet, the outlet is functioning).	Replace charger.
	Red light illuminated on charger, no green light (charger cannot recognize battery).	Replace battery.
	Red light continues blinking on charger (battery temperature too high for safe charging).	Allow battery to cool.
	Red and green lights blink alternately on charger (battery cannot be charged).	Replace battery.

NOZZLE FLOW CHARTS

NOTICE: RISK OF PROPERTY DAMAGE. Always turn flow control knob to low GPM setting (1–3) when switching to a low flow nozzle.

NOTICE: RISK OF PROPERTY DAMAGE. Failure to abide by Nozzle Flow Chart recommendations may result in a damaged pump and void warranty.

Nozzles Included with Product

NOTE: Pressure and Flow may vary ~10%

	Variable Control Dial Setting							
	1		2		3		4	
	Flow (gpm)	Pressure (psi)	Flow (gpm)	Pressure (psi)	Flow (gpm)	Pressure (psi)	Flow (gpm)	Pressure (psi)
High-Volume Foam (White)	0.18	13	0.21	18	0.23	23	0.26	28
Foaming Weed (Black)	0.17	16	0.20	22	0.22	27	0.24	32
Low-Volume Narrow Fan (Yellow)	0.18	12	0.21	17	0.24	22	0.26	27
Low-Volume Wide Fan (Red)	0.18	13	0.21	18	0.23	23	0.26	28
High-Volume Wide Fan (Brown)	0.21	3	0.26	4	0.30	6	0.33	7
Jet Stream (Orange)	0.20	6	0.24	8	0.27	11	0.31	14
Brass Adjustable (Straight Stream)	0.20	6	0.24	8	0.27	11	0.31	14
Brass Adjustable (Full Cone)	0.14	27	0.16	35	0.17	40	0.19	50

TEEJET/UNIJET Fan Nozzles (Not Included)

NOTE: Pressure and Flow may vary ~5%



	Variable Control Dial Setting							
	1		2		3		4	
	Flow (gpm)	Pressure (psi)	Flow (gpm)	Pressure (psi)	Flow (gpm)	Pressure (psi)	Flow (gpm)	Pressure (psi)
0.1 GPM Fan (all spray angles)	0.11	43						
0.2 GPM Fan (all spray angles)	0.15	22	0.18	29	0.18	29	0.20	36
0.3 GPM Fan (all spray angles)	0.18	13	0.21	17	0.23	22	0.25	27
0.4 GPM Fan (all spray angles)	0.19	9	0.22	12	0.25	16	0.28	20
0.5 GPM Fan (all spray angles)	0.20	6	0.23	9	0.27	11	0.30	15
0.6 GPM Fan (all spray angles)	0.20	4	0.24	6	0.28	9	0.32	11
0.8 GPM Fan (all spray angles)	0.21	3	0.26	4	0.30	5	0.33	7
1.0 GPM Fan (all spray angles)	0.22	2	0.26	3	0.31	4	0.34	5

Misting Nozzles (Not Included)

NOTE: Pressure and Flow may vary ~5%

	Variable Control Dial Setting							
	1		2		3		4	
	Flow (gpm)	Pressure (psi)	Flow (gpm)	Pressure (psi)	Flow (gpm)	Pressure (psi)	Flow (gpm)	Pressure (psi)
Yellow Conical Misting (TXVK-3)								
Green Conical Misting (TXVK-4)	0.07	43					0.10	83
Red Conical Misting (TXVK-6)	0.11	43					0.14	74
Black Conical Misting (TXVK-10)	0.14	29	0.16	38			0.19	53
Brown Conical Misting (TXVK-12)	0.15	23	0.18	30	0.19	37	0.21	44
Cloud Burst (9-Nozzle Cluster)							0.11	90

NOTE: All values represent spraying with water or similar viscosity liquid product.

-  Optimal spray pattern.
-  May not be optimal spray pattern.
-  Not recommended; may over-work and damage pump with frequent use.

Variable Control Dial Setting											
5		6		7		8		9		10	
Flow (gpm)	Pressure (psi)	Flow (gpm)	Pressure (psi)	Flow (gpm)	Pressure (psi)	Flow (gpm)	Pressure (psi)	Flow (gpm)	Pressure (psi)	Flow (gpm)	Pressure (psi)
0.28	33	0.31	40	0.33	48	0.34	51	0.36	55	0.38	62
0.27	39	0.29	47	0.31	54	0.32	57	0.33	61	0.35	67
0.28	32	0.31	39	0.34	46	0.35	49	0.36	54	0.38	60
0.28	33	0.31	40	0.33	48	0.34	51	0.36	55	0.38	62
0.37	9	0.42	12	0.46	15	0.49	17	0.53	20	0.58	24
0.34	17	0.38	21	0.42	25	0.44	28	0.47	32	0.50	37
0.34	17	0.38	21	0.42	25	0.44	28	0.47	32	0.50	37
0.21	60	0.22	69	0.24	77						

Variable Control Dial Setting											
5		6		7		8		9		10	
Flow (gpm)	Pressure (psi)	Flow (gpm)	Pressure (psi)	Flow (gpm)	Pressure (psi)	Flow (gpm)	Pressure (psi)	Flow (gpm)	Pressure (psi)	Flow (gpm)	Pressure (psi)
0.21	42	0.23	51	0.25	59	0.26	67				
0.28	33	0.31	39	0.33	47	0.34	50	0.36	54	0.38	61
0.31	24	0.34	29	0.37	35	0.39	39	0.41	43	0.44	49
0.33	18	0.37	22	0.41	27	0.43	30	0.45	35	0.49	40
0.35	14	0.39	17	0.43	21	0.46	24	0.49	28	0.53	33
0.37	9	0.41	11	0.46	14	0.49	16	0.53	19	0.58	24
0.38	6	0.43	8	0.48	10	0.51	12	0.55	14	0.61	18

Variable Control Dial Setting											
5		6		7		8		9		10	
Flow (gpm)	Pressure (psi)	Flow (gpm)	Pressure (psi)	Flow (gpm)	Pressure (psi)	Flow (gpm)	Pressure (psi)	Flow (gpm)	Pressure (psi)	Flow (gpm)	Pressure (psi)
0.15	84										
0.20	63	0.21	72	0.22	79	0.23	82				
0.23	53	0.25	61	0.26	69	0.27	79				



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ABN 80 069 961 968

This manual summarises our best knowledge of the product based on the information available at the time of publication. You should read this manual carefully and consider the information in the context of how the product will be used. Our responsibility for products sold is subject to our standard terms and conditions of sale.

DISCLAIMER:

Any advice, recommendation, information, assistance or service provided by us in this manual is given in good faith and is believed by us to be appropriate and reliable. However, any advice, recommendation, information, assistance or service provided by us is provided without liability or responsibility PROVIDED THAT the foregoing shall not exclude, limit, restrict or modify the right entitlements and remedies conferred upon any person or the liabilities imposed upon us by any condition or warranty implied by Commonwealth, State or Territory Act or ordinance void or prohibiting such exclusion limitation or modification. The product can be expected to perform as indicated in this manual so long as operation and operational procedures of the individual products are followed as recommended in this manual.

Design and technical specifications may be subject to changes.

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