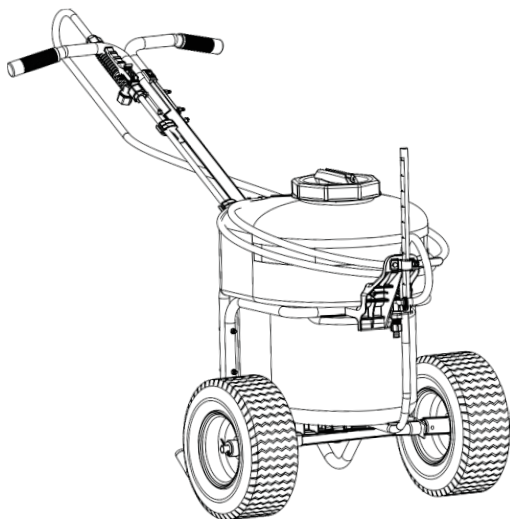


ICE MASTER® W-SERIES

OWNER'S MANUAL




Product Codes:
IMS12W24V

Version 1.2

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INTRODUCTION

Congratulations! You now own a Camion™ sprayer. Durable design and construction assure you a lifetime of extreme performance. No sprayer is tougher. No sprayer will last longer.

Take a look through this owner's manual to learn how the pros use their Camion™ sprayer.



Watch Instruction Videos:

www.youtube.com

Search 'Camion'

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WARNINGS

1. Do not exceed vehicle manufacturers loading, towing or lifting specifications and regulations.
2. Ensure tank is firmly secured in an appropriate manner.
3. Use caution at all times, particularly when driving on rough terrain.
4. Comply with chemical manufacturers safety requirements and all relevant legislations.
5. ALWAYS keep tank tightly covered, to prevent children or animals from entering tank.
6. Tank is not fire resistant. NEVER expose it to open flame or heat.
7. Keep sharp objects from tank. Tank could be punctured and contents could escape and cause injury to persons or property.
8. This tank can be used only with polyethylene compatible liquids. If you are uncertain, ask chemical supplier if material can safely be stored in a polyethylene tank.
USE OF TANK WITH ANY OTHER MATERIAL COULD CAUSE TANK TO FAIL, RESULTING IN INJURY OR PROPERTY DAMAGE.
9. **DO NOT MIX CHEMICALS. THIS CAN RESULT IN DAMAGE TO THE TANK OR NEARBY PERSONS OR PROPERTY.**
10. Clean out tank before changing chemicals **OTHERWISE A DANGEROUS MIXTURE OF CHEMICALS COULD CAUSE DAMAGE TO PERSONS, TANK OR PROPERTY.**
11. Regular service and maintenance is the Owner's responsibility and is a condition of your warranty.
12. **FAILURE TO COMPLY WITH ALL WARNINGS AND INSTALLATION INSTRUCTIONS WILL VOID WARRANTY.**

13. No modifications and/or alterations may be made to this sprayer. Any such modifications not only void the sprayer warranty but can make the unit dangerous to anyone operating the pump.
14. Always inspect hoses and piping to avoid burst injuries.
15. DO NOT turn suction valve off while pump is running.
NEVER RUN PUMP DRY.

COMPATIBLE LIQUIDS

Calcium Chloride Brine, Salt Brine and Premium Branded Liquids.

⚠ Caution: Brine that contain tacky substances or solid particles may clog pumps and nozzles. These are not recommended.

⚠ Warning: DO NOT USE any products that contain petroleum or petroleum by-products of any kind. These destroy seals and will void warranty.

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WARNING

WARNING: Improper use or failure to follow instructions can result in explosive failure causing serious eye or other injury. For safe use of this product you must read and follow all instructions. Do not leave a pressurized sprayer in the hot sun. Heat can cause pressure build-up resulting in possible explosion. Do not store or leave solution in tank after use. Always wear goggles, gloves, long sleeve shirt, long pants and full foot protection when spraying. Do not attempt to modify this sprayer. Replace parts only with manufacturer's original parts. **Never spray flammable, caustic, acidic, chlorine, bleach or other corrosive solutions or heat, pressure, or gas producing chemicals. Always read and follow chemical manufacturer's instructions before use with this sprayer as some chemicals may be hazardous when used with this sprayer.**

CAUTION

- **PRE-USE CHECK:** Before each use check tightness of hose nut to be sure hose is securely attached to the shut-off assembly. Ensure that all nozzle and wand connections are tight.
- Do Not exceed a tank solution temperature of 120° F/ 49° C.

NOTE: The tank and hose may have residual water in it due to quality testing performed on the sprayer.

WARNING

This sprayer is designed to operate with a Chapin 24V Lithium Ion battery **ONLY**. Any other batteries could cause serious harm or injury to the operator and serious damage to the sprayer.

WARNING: For safe operation, read this manual before using the charger. The battery pack is not fully charged out of the carton. Before using the battery pack and charger, read the safety instructions below. Then follow charging procedures outlined.

NOTE: Remove battery and place in charger when not in use.

IMPORTANT SAFETY INSTRUCTION FOR BATTERY PACKS READ ALL INSTRUCTIONS

- **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 battery packs are burned.
 - **DO NOT charge or use battery in explosive atmospheres, such as in the presence of flammable liquids, gases or dust.**
- Inserting or removing the battery from the charger may ignite the dust or fumes.
- **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 for Lithium-Ion batteries 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.

WARNING: Burn hazard. Battery liquid may be flammable if exposed to spark or flame.

- Charge the battery packs only in **Chapin** chargers.
- **DO NOT splash or immerse in water or other liquids.** This may cause premature cell failure.
- **DO NOT store or use the tool and battery pack in locations where the temperature may reach or exceed 105°F (40°C) (such as outside sheds or metal buildings in summer).**

WARNING: Never attempt to open the battery pack for any reason. If battery pack case is cracked or damaged, do not insert into charger. Do not crush, drop or damage 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 (i.e., pierced with a nail, hit with a hammer, stepped on). Damaged battery packs should be returned to service center for recycling.

WARNING: Fire hazard. Do not store or carry battery so that metal objects can contact exposed battery terminals. For example, do not place battery in aprons, pockets, tool boxes, product kit boxes, drawers, etc., with loose nails, screws, keys, etc.

Transporting batteries can possibly cause fires if the battery terminals inadvertently come in contact with conductive materials such as keys, coins, hand tools and the like. The US Department of transportation Hazardous Material Regulations (HMR) actually prohibit transporting batteries in commerce or on airplanes (i.e., packed in suitcases and carry-on luggage) **UNLESS** they are properly protected from short circuits. So when

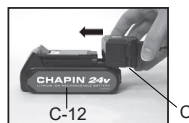
STORAGE RECOMMENDATIONS

1. The best storage place is one that is cool and dry away from direct sunlight and excess heat or cold.
2. Long storage will not harm the battery pack or charger.

CHARGING PROCEDURE

Chapin chargers are designed to charge Chapin battery packs in 3.5-4 hours depending on the pack being charged.

1. Plug the charger (C-13) into an appropriate outlet before inserting the battery pack.
2. Insert the battery pack (C-12) into the charger as shown in **figure A**.
3. The red light on the charger is continuously on when the battery is charging.



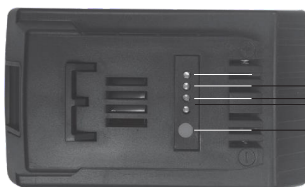
Figure

4. The green light on the charger is continuously on when the battery is charged. The pack is fully charged and may be used at this time or left on the charger.
5. Blinking red and green lights on the charger indicates a defective battery and should properly be disposed of.

Battery Charge Indicator

When battery is disconnected from the charger, depress green button to see the charge level. To charge see "Charging Procedures" in this manual.

Recharge discharged batteries as soon as possible after use or battery life may be greatly diminished. For longest battery life, do not discharge batteries fully. It is recommended that the batteries be recharged after each use.



- Red Needs Charge
- 1/4 Charge
- 1/2 Charge
- 3/4 Charge
- Green Check But

LEAVING THE BATTERY IN THE CHARGER

The charger and battery pack can be left connected with the green LED glowing indefinitely.

IMPORTANT CHARGING NOTES

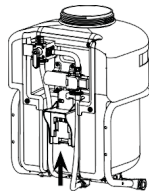
1. Longest life and best performance can be obtained if the battery pack is charged when the air temperature is between 65°F and 75°F (18°- 24°C). DO NOT charge the battery pack in an air temperature below +40°F (+4.5°C), or above +105°F (+40.5°C). This is important and will prevent serious damage to the battery pack.
2. The charger and battery pack may become warm to touch while charging. This is a normal condition, 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.
3. If the battery pack does not charge properly:
 - a. Check current at receptacle by plugging in a lamp or other appliance.
 - b. Check to see if receptacle is connected to a light switch which turns power off when you turn out the lights.
 - c. Move charger and battery pack to a location where the surrounding air temperature is approximately 65°F and 75°F (18°- 24°C).
4. The battery pack should be recharged when it fails to produce sufficient power on jobs which were easily done previously. DO NOT CONTINUE to use under these conditions. Follow the charging procedure. You may also charge a partially used pack whenever you desire with no adverse affect on the battery pack.
5. Foreign materials of a conductive nature such as, but not limited to, steel wool, aluminum foil, or any buildup of metallic particles should be kept away from charger cavities. Always unplug the charger from the power supply when there is no battery pack in the cavity. Unplug charger before attempting to clean.
6. Do not freeze or immerse charger in water or any other liquid.

WARNING: Shock hazard. Do not allow any liquid to get inside charger. Never attempt to open the battery pack for any reason. If the plastic housing of the battery pack breaks or cracks, call 1-800-822-8837 for recycling information.

INSTALLING AND REMOVING THE BATTERY PACK FROM THE SPRAYER

WARNING: Make sure switch is in the off position.
TO INSTALL BATTERY PACK: Insert battery pack into tool until an audible click is heard (**Figure B**). Make sure battery pack is fully seated and latched into position.

TO REMOVE THE BATTERY PACK: Depress the battery release button as shown in **Figure C** and pull battery pack out of tool.



Figure

IMPORTANT SAFETY INSTRUCTIONS FOR BATTERY CHARGERS



Figure

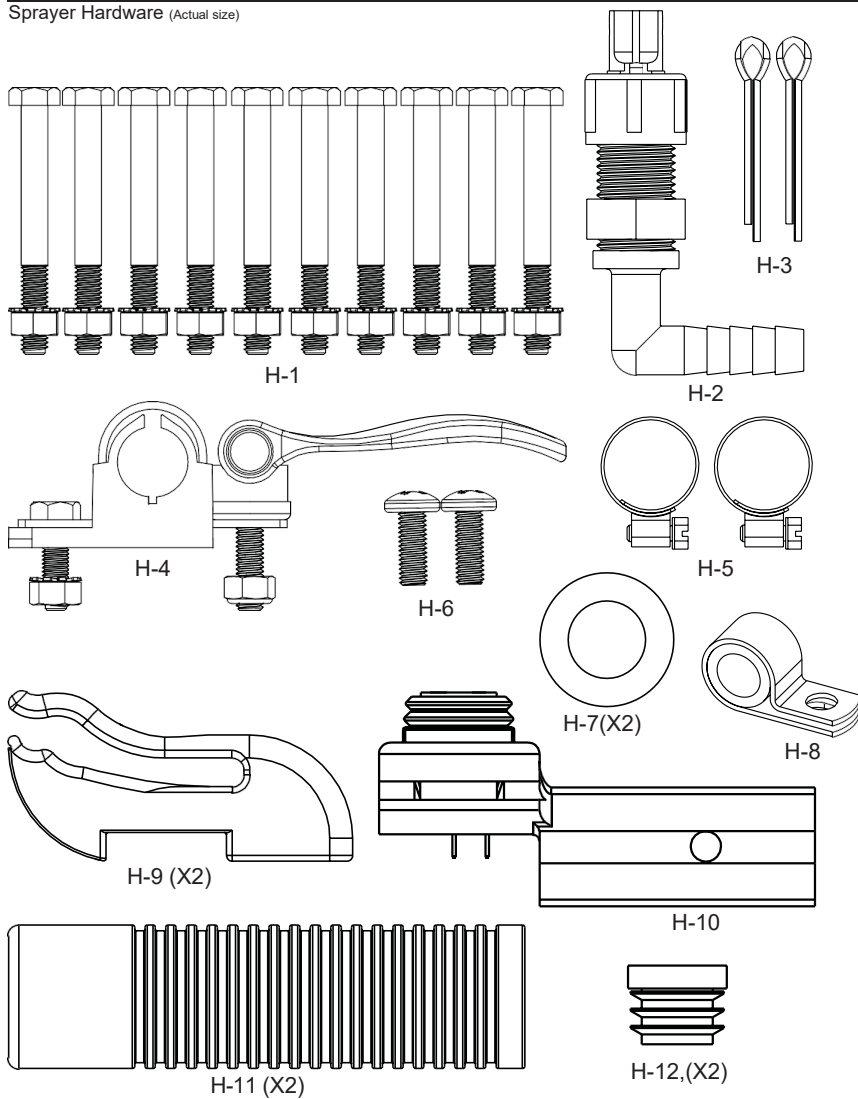
- SAVE THESE INSTRUCTIONS:** This manual contains important safety instructions for battery chargers.
- Before using charger, read all instructions and cautionary markings on charger, battery pack, and product using battery pack.
 - WARNING: Shock hazard.** Do not allow any liquid to get inside charger.
 - CAUTION: Burn hazard.** To reduce the risk of injury, charge only designated Chapin batteries. Other types of batteries may burst causing personal injury and damage.
 - CAUTION:** Under certain conditions, with the charger plugged into the power supply, the charger can be shorted by foreign material. Foreign materials of a conductive nature such as, but not limited to, steel wool, aluminum foil, or any build up of metallic particles should be kept away from charger cavities. Always unplug the charger from the power supply when there is no battery pack in the cavity. Unplug charger before attempting to clean.
 - WARNING: DO NOT attempt to charge the battery pack with any chargers other than the ones in this manual.** The charger and battery pack are specifically designed to work together.
 - **These chargers are not intended for any uses other than charging designated Chapin rechargeable batteries.** Any other uses may result in risk of fire, electric shock or electrocution.
 - **DO NOT expose charger to rain or snow.**
 - **Pull by plug rather than cord when disconnecting charger.** This will reduce risk of damage to electric plug and cord.
 - **Make sure that 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, electric shock, or electrocution.
 - **An extension cord must have adequate wire size (AWG or American Wire Gauge) for safety.** The smaller the gauge number of the wire, the greater the capacity of the cable, that is 16 gauge has more capacity than 18 gauge. When using more than one extension to make up the total length, be sure each individual extension contains at least the minimum wire size.
 - **DO NOT operate charger with damaged cord or plug** - have them replaced immediately.
 - **DO NOT operate charger if it has received a sharp blow, been dropped, or otherwise damaged in any way.** Take it to an authorized service center.
 - **DO NOT disassemble charger;** take it to an authorized service center when service or repair is required. Incorrect reassembly may result in a risk of electric shock electrocution or fire.
 - **Disconnect the charger from the outlet before attempting any cleaning.** This will reduce the risk of electric shock. Removing the battery pack will not reduce the risk.
 - **NEVER attempt to connect 2 chargers together.**
 - **The charger is designed to operate on standard household electrical power (120Volts). Do not attempt to use it on any other voltage.**

Symbols The label on your tool may include the following symbols.

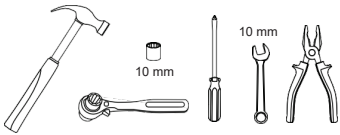
| | | | |
|-----------|---|-------------------|---|
| V | volts Hz | A | amperes |
| min | hertz | W | watts |
| | minutes | ~ | alternating current |
| == | direct current | n | no load speed |
| Ⓛ | Class I Construction (grounded) | Ⓛ | earthing terminal |
| Ⓜ | Class II Construction (double insulated) | ⚠ | safety alert |
| 📖 | Read instruction manual before use | .../min or | revolutions reciprocation per minute |
| 👁 | Use proper eye | ☞ | Use proper respiratory protection |
| | | 👂 | Use proper hearing protection |

Contents:

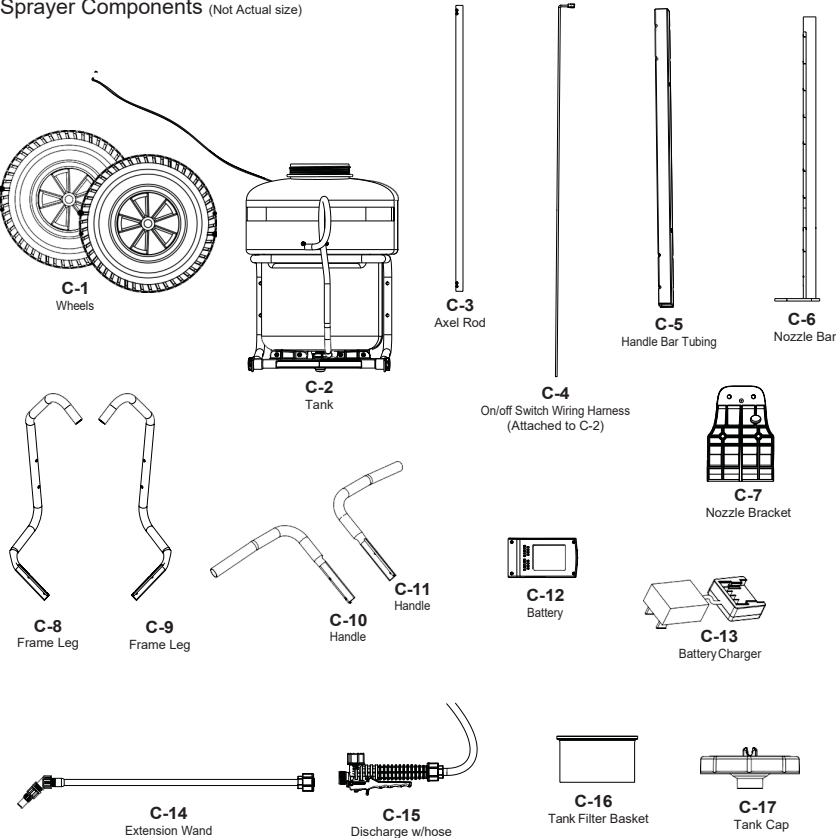
Sprayer Hardware (Actual size)



TOOLS NEEDED:



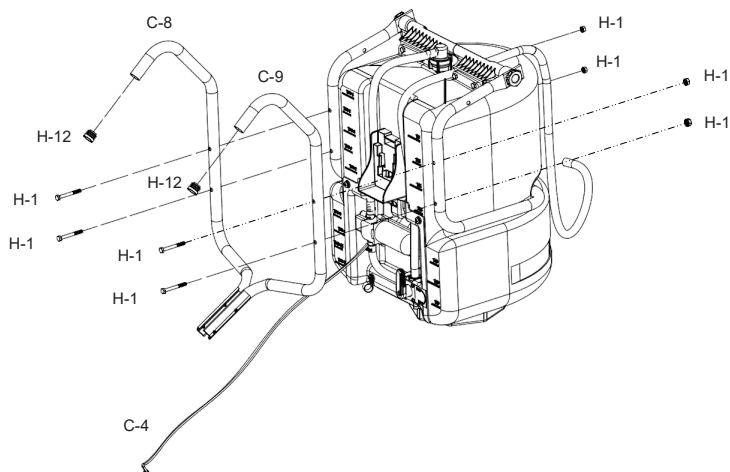
Sprayer Components (Not Actual size)



Note: Not all components shown may be needed on your model

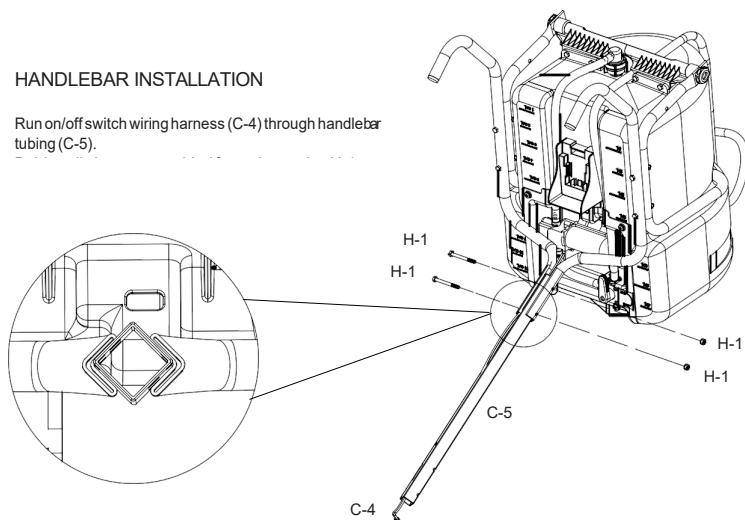
FRAME LEG INSTALLATION

Attach frame leg (C-8 and C-9) with nuts and bolts (H-1) to tank assembly (C-2). Install end caps (H-12) into

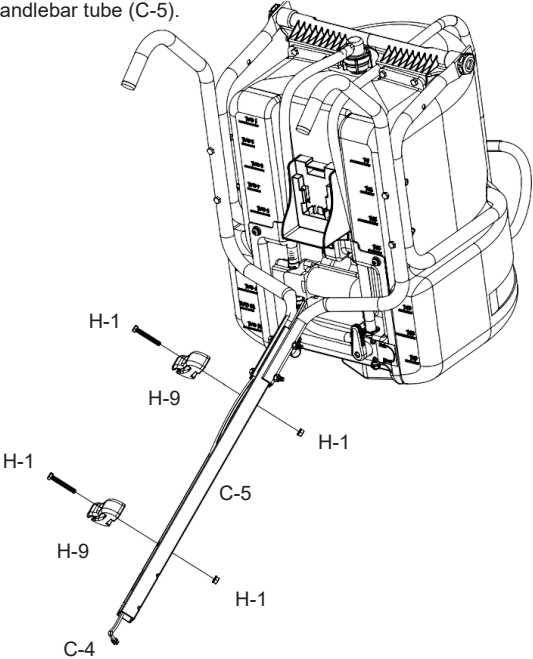


HANDLEBAR INSTALLATION

Run on/off switch wiring harness (C-4) through handlebar tubing (C-5).

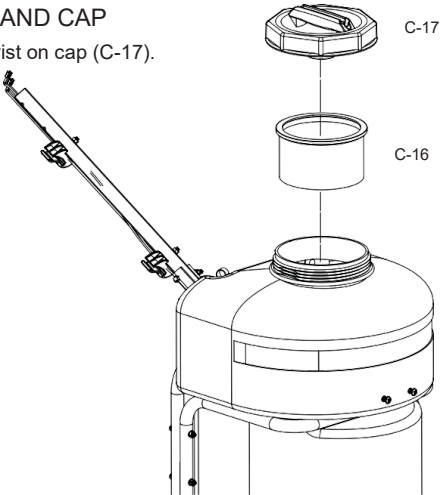


Bolt wand clips (H-9) to handlebar tube (C-5).



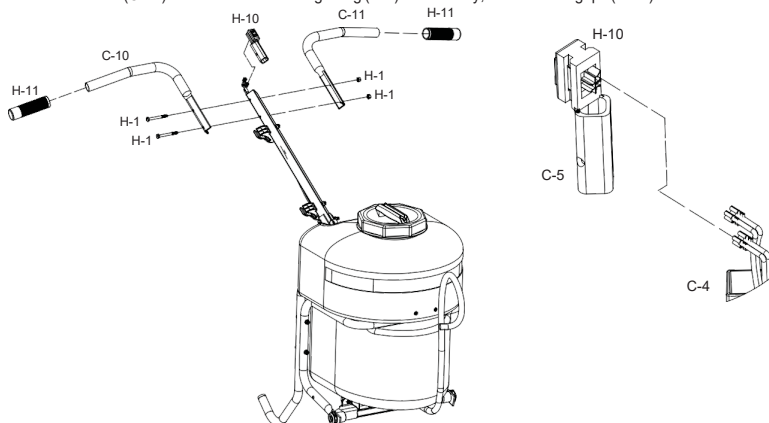
ASSEMBLE FILTER AND CAP

Insert Filter (C-16) and twist on cap (C-17).



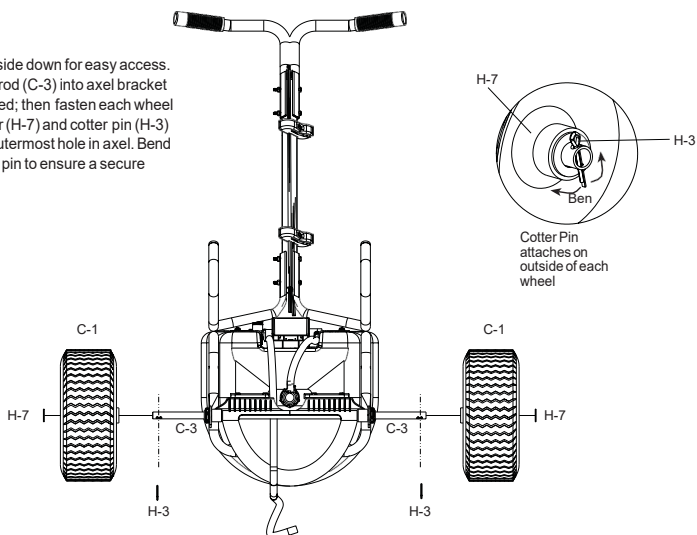
ASSEMBLE HANDLES AND ON/OFF SWITCH

Connect the on/off wiring harness (C-4) to switch and insert switch bracket (H-10) into square handle bar tubing (C-5). Bolt the right (C-10) and left handles (C-11) to the handle bar tubing using (H-1) bolts. Lastly, insert handle grips (H-11) onto



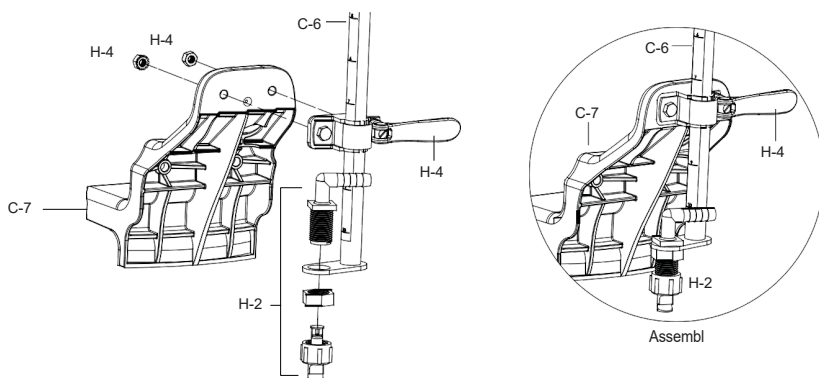
AXEL AND WHEEL INSTALLATION

Flip unit upside down for easy access. Insert axel rod (C-3) into axel bracket until centered; then fasten each wheel with washer (H-7) and cotter pin (H-3) using the outermost hole in axel. Bend each cotter pin to ensure a secure installation.



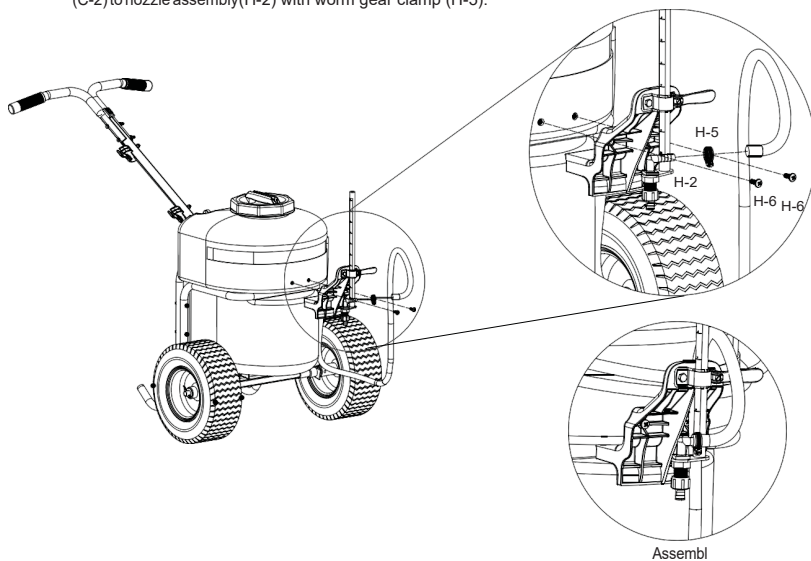
ASSEMBLE ADJUSTABLE NOZZLE BRACKET

Assemble cam lock bracket (H-4) with supplied nuts and bolts from (H-4) to nozzle bracket (C-7). Then fasten nozzle assy (H-2) to nozzle bar (C-6) as shown.



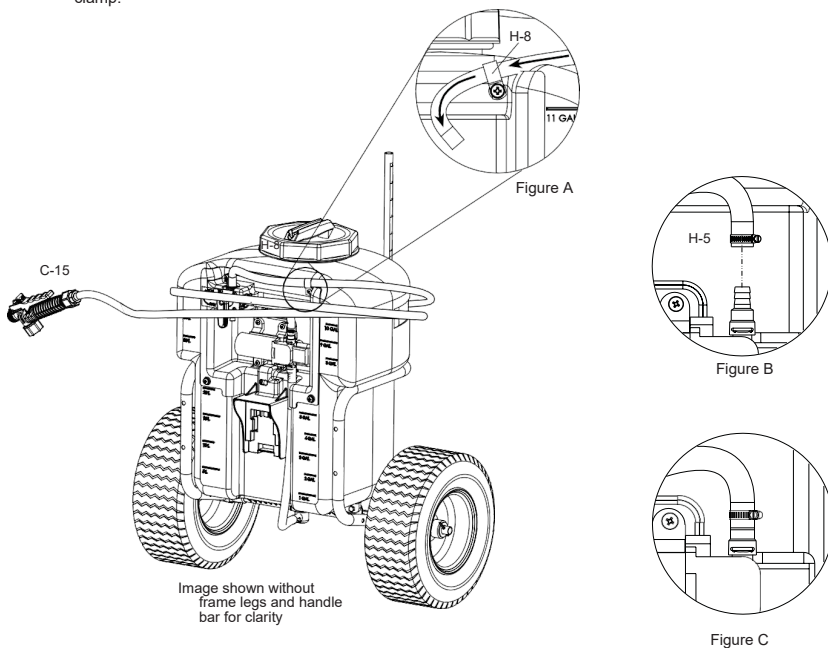
ATTACH NOZZLE BRACKET AND ADJUSTABLE NOZZLE TO TANK

Using supplied machine screws (H-6) fasten adjustable nozzle bracket assembly to tank. Assemble hose from tank (C-2) to nozzle assembly (H-2) with worm gear clamp (H-5).



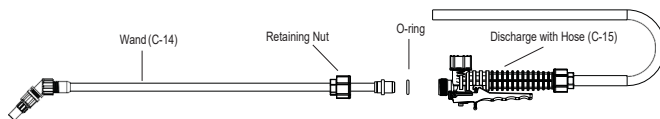
ASSEMBLE DISCHARGE TO DIVERTING

Connect discharge with hose (C-15) to diverting valve as shown. Thread hose through loop clamp (H-8) (Figure A). Assemble worm gear clamp (H-5) to hose (Figure B). Assemble hose to diverting valve (Figure C). Tighten worm gear clamp and loop clamp.



ASSEMBLE WAND TO SHUT-OFF

Make sure the O-ring is installed on the end of the extension wand (C-14). Insert the wand into discharge with hose (C-15). Turn and tighten the retaining nut clockwise onto the shut-off valve.



FILLING THE SPRAYER

Make sure the filter basket is in place to keep debris from entering the tank.

Determine the amount of mixture needed for your application. Add the proper amount of water to the tank. Add the proper amount of chemical to the tank (check the chemical label for proper ratio of chemical). Stir mixture in tank with a clean utensil (like a paint stirrer). The tank will hold the 12-gallon (45.4L) capacity plus the chemical.

It is not necessary to completely fill the sprayer tank with each use. You can fill the tank with only the amount needed for each application. Always follow the manufacturer's instructions included on their product label.

OPERATING THE SPRAYER

- Plug in charged battery
- Turn switch to on position
- Spray liquid back into tank to prime pump
- Close shut-off. Pump should stop running.

When finished spraying turn switch to off position. Remove and re-charge battery.

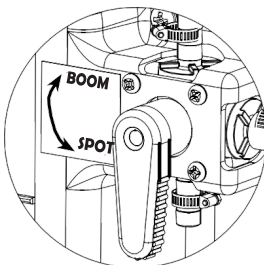
Note: Unit is equipped with a battery protection circuit. If sprayer abruptly stops after spraying for an extended period of time, the battery may require charging.

POWDER-BASED CHEMICALS

Powder-based chemicals (powder mixed with liquids to make the spraying agent) are usually abrasive and can cause wear. When you use a powder-based chemical in your sprayer, make sure it is thoroughly dissolved in the liquid solution. Thoroughly clean and flush the sprayer with water to extend the life of the sprayers parts.

SWITCH FROM BOOM SPRAY TO SPOT

Turn switch to the desired spray

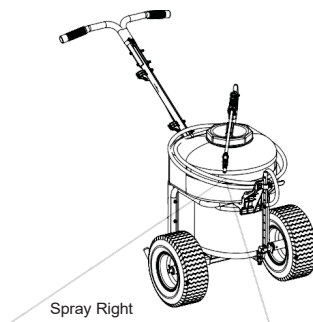


SPRAY PATTERN ADJUSTMENT FOR PUSH

Easily spray to left or right with positionable wand holder built right



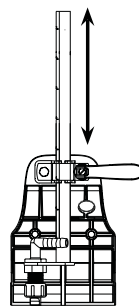
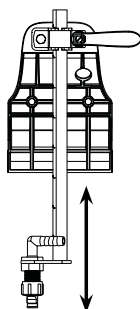
Spray left



Spray Right

ADJUST NOZZLE HEIGHT

Loosen the cam lock handle to adjust the height of the nozzle bar.



MAINTAINING

Keeping your sprayer in good condition will help you lengthen the life of the sprayer. Everyone knows a well maintained piece of equipment ensures a longer life span. Sprayer maintenance can seem a huge task if you don't have the right tools.

CLEANING

- Always empty the sprayer and clean the tank thoroughly after each use.

Other Cleaning Tips:

- Improper spray distribution usually means the nozzle is clogged, remove the nozzle and clean it.
- Soap can be added to the water to clean the tank.
- Do not use strong cleaning agents or abrasives.
- If you use a chemical agent to clean the tank follow the manufacturer's recommendations for the disposal of the waste water.
- Follow the chemical manufacturers instructions for clean-up.

STORING / MAINTAINING YOUR SPRAYER

The Battery Should be removed prior to storage.

- The sprayer should be stored out of direct sunlight in a cool dry space.
- Before freezing weather make sure to drain all liquid in the tank, pump, hose, shut-off valve, wand and nozzle, to avoid liquid expansion and cracking in the sprayer components (See "Cleaning" section). Lock the shut-off valve in the "open" position.
- When service is required call your nearest dealer and always insist on original manufactured replacement parts.
- Inspect the hose, wand, tank and shut-off valve for wear, damage or leaks on a regular basis and repair defects

Recycling Spent Battery

In some areas, it is illegal to place spent lithium-ion batteries in the trash or municipal solid waste stream. You may also contact your local recycling center for information on where to drop off the spent battery, or call 1-800-8-BATTERY.



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| | | | | | | | | | | |
|---|--------------------------------------|-----------|---|---------------------------------|------------------------------------|-----------------------------------|---|------------|-------------|---|
| The information applies in normal operating conditions. The specific intervals must be shortened accordingly for longer daily working hours. If the machine is only used occasionally, the intervals can be extended accordingly. | Visual inspection (condition, leaks) | | Before starting work | At the end of work and/or daily | Weekly or every 40 operating hours | After the first 5 operating hours | Every 250 operating hours o once a year | If damaged | If required | |
| | Complete machine | Clean | X | | | | | | | |
| | | Clean | | | X | | | | | |
| | | Drain | | | X | | | | | |
| | In-line filter | Clean | | | | | | | X | |
| | | Clean | | | | | | | X | |
| | Spray lance nozzle | Replace | | | | | | | X | |
| | | Retighten | | | | | | | | X |
| | Safety labels | Replace | | | | | | | X | |
| | | Maintain | | | | | | | | |
| Pump | | | Read and follow all maintenance and care instructions in the Pump manual. | | | | | | | |

TROUBLESHOOTING

| CONDITION | CAUSE | REMEDY |
|--|---|---|
| Pump will not prime | 1) Insufficient motor RPM 2) Air leak on suction plumbing 3) Blocked/Restricted intake hose 4) Filter cap disengaged 5) Filter gasket damaged/missing | 1) Increase motor RPM until pump primes 2) Tighten/replace fittings & hose clamps. Verify suction hoses are in good condition 3) Remove blockage from suction line, ensure line is not kinked 4) Lock filter cap into position 5) Replace filter gasket |
| Pressure drops/ fluctuates during standard operation | 1) Restriction on suction line 2) Pump sucking air 3) Plugged filter 4) Damaged regulator | 1) Inspect tank and suction lines and remove restriction 2) Tighten fittings 3) Remove and clean filter mesh and housing 4) Remove regulator stem and inspect for broken parts/pieces |

| CONDITION | CAUSE | REMEDY |
|--------------------------------|--|---|
| Pressure gauge not registering | 1) Plugged with debris | 1) Un-thread, check and clean pressure gauge |
| Hand gun loses pressure | 1) Debris in hose or nozzle 2) Pump losing prime 3) Pump pressure dropping/fluctuating | 1) Un-thread nozzle tip and clean 2) See Remedy for 'Pump will not prime or loses prime' 3) See Remedy for 'Pressure drops/ fluctuates during standard operation' |



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STAY CONNECTED

Want to be kept up-to-date on the latest news and information from Camion™? We have several ways to get easy access to news alerts and instant updates on what's happening. Join the Camion™ Community and connect with other fans, participate in giveaways, see videos of products in action, give us input on new products, share your Camion™ photos, and much more.



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