

SERVICE MANUAL

190550 & 190547

15L ProGrade Backpack Sprayer

SERV190550 REV A – 23/10/2025



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TROUBLESHOOTING GUIDE

START HERE

This guide is organised to help you quickly identify, troubleshoot and resolve common problems with your sprayer. Use the table of contents below to navigate directly to the section that best matches your concern, whether it involves operation, maintenance, component replacement or troubleshooting.

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To watch a video showing how to disassemble, service, and reassemble the sprayer, scan the QR code below or, alternatively, type the following address into your browser.



<https://www.youtube.com/watch?v=bn0xSkw2WNo>

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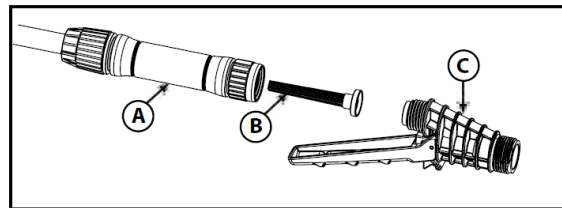
1. Spray System

This section details the liquid deliver system, which includes the nozzle, spray lance, tank and diaphragm pump. Troubleshooting procedures for blockages, leaks and trigger malfunctions are covered in this section.

1.1 Blockages

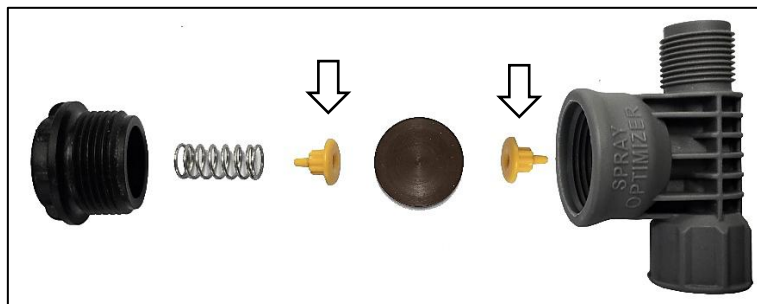
Inspect the following components for possible blockages.

- Nozzle tip**, disassemble the nozzle assembly, clean any obstructions and reassemble.
- Gun filter**, unscrew the trigger from the handle, check the cleanliness, clean as required.



A. Handle
B. Filter
C. Shut-off Assembly

- Pressure Regulator** (if installed), unscrew the cap, clean the internal components with clean water to remove any debris. Swap the two yellow valves.



1.2 Leaks

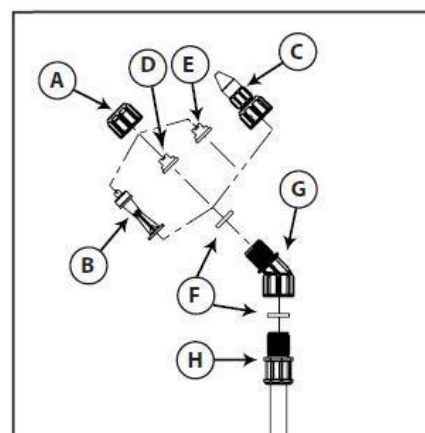
1.2.1 Nozzle Tip Leaking

Ensure the flat gaskets (F) are correctly positioned, replace the gaskets if they show signs of wear or damage.

SELECT USING NOZZLE CHART BELOW:

(Nozzle selections vary by model)

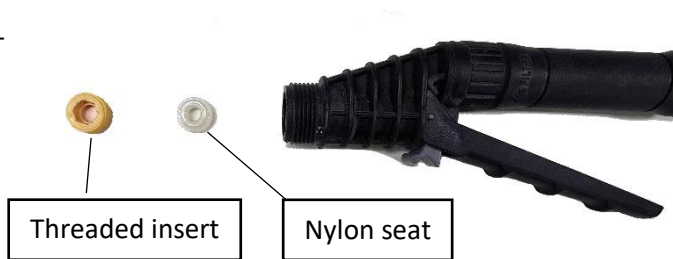
- Cap Nut
- Foaming Nozzle
- Adjustable Cone Nozzle
- Red High-Volume Fan Nozzle
- Yellow Low-Volume Fan Nozzle
- Flat Gasket
- Adapter Elbow
- Extension



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If the nozzle continues to leak after the gaskets have been serviced, the fault is likely the clear nylon seat inside the trigger mechanism being swollen or damaged.

To access the seat, remove the spray lance and unscrew the yellow threaded insert using a 3/8-inch Allen key. The nylon seat lifespan may be temporarily extended by flipping it over and reinstalling it into the trigger body, or for a permanent fix, the nylon seat must be replaced using components provided in the service kit.



1.2.2 Spray Lance Leaking

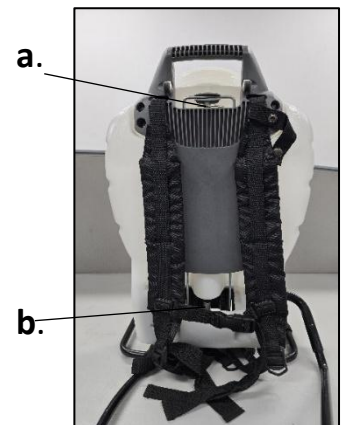
Check the O-ring and the gasket are fitted in correct positions.



1.2.3 Tank Leaking

If leaking occurs at one of the following locations, the corresponding seal may be swollen, damaged or incorrectly stated. Refer to **Section 3** for disassembly instructions. Tools required: Screwdrivers and Pliers.

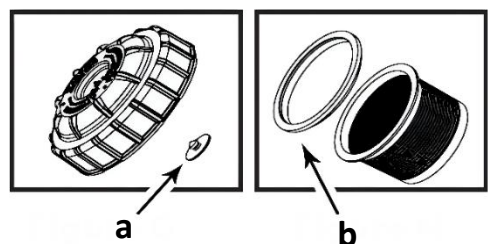
- Leaks at the piston rod entry point (top of tank)
- Leaks from the tank base



1.2.4 Lid Leaking

If liquid is leaking from the top of the lid or from the lid to tank connections, inspect the following:

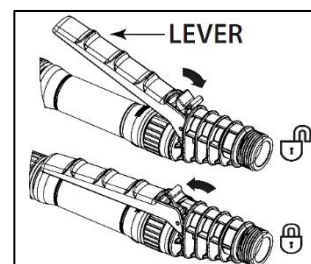
- The diaphragm located under lid may be worn, cracked or missing. Inspect the diaphragm to ensure it is intact, correctly seated and free from chemical attack.
- The gasket built-in on the strainer may be damaged or worn. Replace the strainer if the gasket shows signs of cracking, flattening or wear.



Preventative Maintenance: After each use, rinse the tank with clean water. Clean any dirt or debris from the strainer.

1.3 Spray Gun Fails to Shut Off

Ensure the shut-off lock is not engaged on the trigger, if engaged, squeeze shut-off lever and disengage the lock. Replace the trigger assembly if it is damaged or malfunctioning.



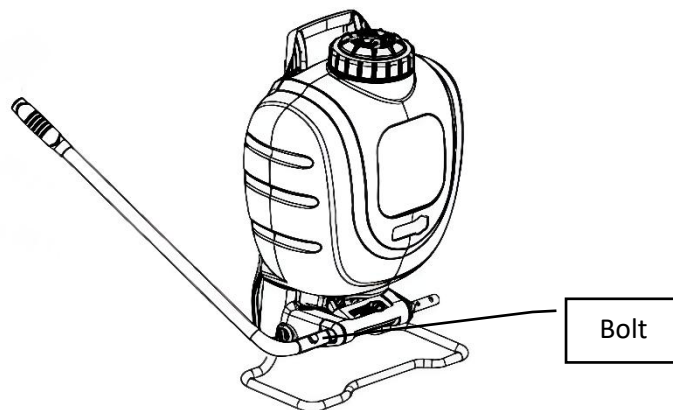
2. Pump system

This section addresses pump system malfunctions. Failure to build pressure during pump handle operation indicates potential mechanical or sealing faults within the pump system.

2.1 Pump Fails to Build Pressure

1. Mechanical issues

- a. **Bolt connections:** Check the bolt that connects the pump handle to the shaft. Ensure it is properly positioned and securely fastened. If the bolt is missing or out of alignment, the handle will not engage the pump mechanism.



2. Sealing issues, if the pump mechanism is mechanically intact but fails to build pressure, the fault may be related to internal seals. Refer to **Section 3** to safely disassemble the sprayer. Check the pump seals at following locations:

- a. **Pressure chamber:** Ensure the pressure chamber is installed and locked in position.
- b. **Chamber O-ring:** Check the chamber O-ring. Replace the O-ring if it is damaged or worn.
- c. **Piston O-ring:** Check the piston O-ring. Replace the O-ring if it is damaged or worn.



3. Sprayer Servicing Steps

Disassembly may be required for maintenance or inspection of internal components. Follow the procedures below to safely disassemble each part and prevent damage.

CAUTION: Prior to disassembly, ensure the sprayer tank, hose and spray gun are completely emptied of all liquid and pressure is released.

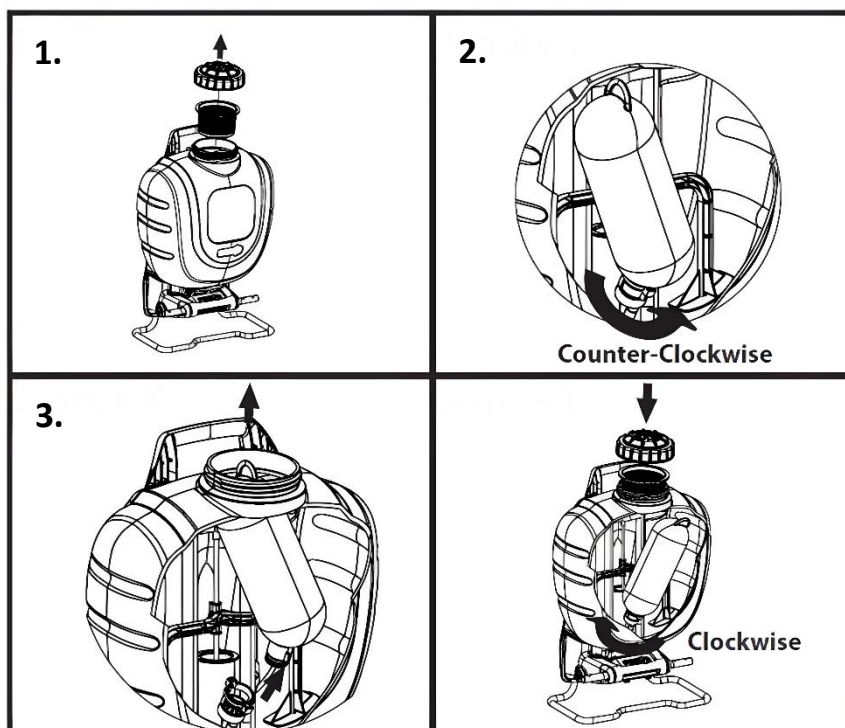
Scan the QR code to watch the full-service instruction.

Video Scan Here



Pressure Chamber Maintenance

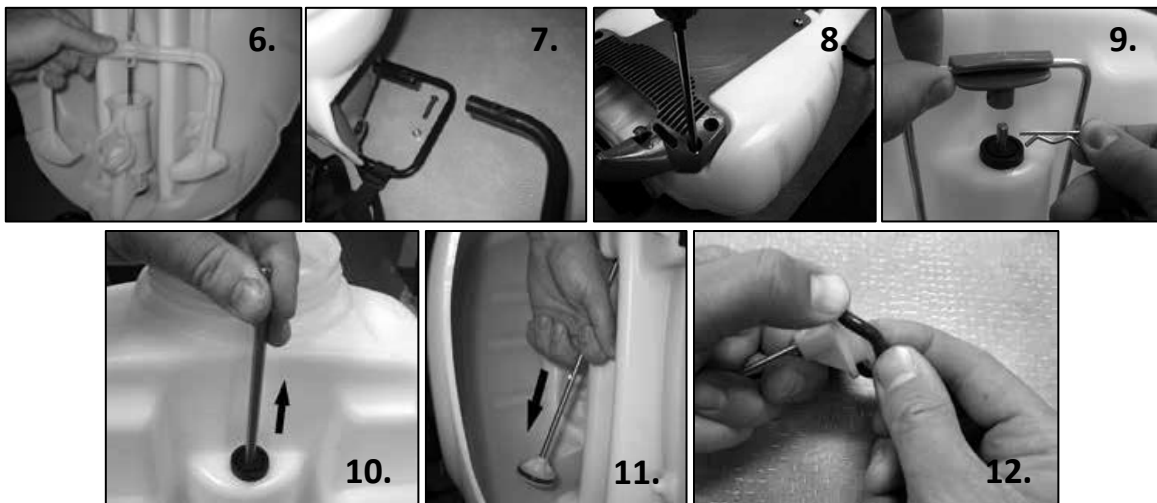
1. Unscrew the lid from the tank and remove the strainer.
2. Reach into the tank and rotate the chamber $\frac{1}{4}$ counterclockwise to unlock it from the pump.
3. Remove the chamber from the tank.
4. Rinse out any debris that may have accumulated in the chamber.
5. Check the chamber O-ring. Replace if necessary.



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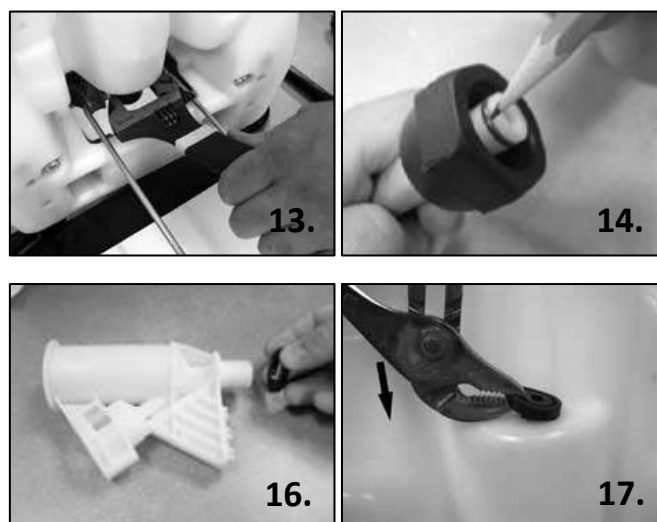
Piston O-ring maintenance

6. Unsnap the agitator from piston rod and remove it from the tank.
7. Position the pump handle to its lowest point. Unscrew the bolt and remove the pump handle assembly.
8. Unscrew the 6 screws located on the backpack cover and remove the cover.
9. Remove the R-pin and lift the pivot clip off the piston rod.
10. Pull upward to slide piston rod out of the pump.
11. Once the piston rod is free, push it to the side of the internal pump and remove the piston rod from the tank.
12. Check the Piston O-ring. Replace it if necessary. A screwdriver may be required to facilitate removal.



Tank Seals Maintenance

13. Use an adjustable wrench to remove the hose connection from the pump.
14. Check the hose barb O-rings.
15. Remove the pump housing from the tank.
16. Check the gasket attached at bottom of the pump housing. Replace the gasket if necessary.
17. Remove the grommet from the tank using plier. Check the grommet and replace it if necessary.



190550, 190547 SPARE PARTS



	Part Number	Description
1	183864	SHOULDER HARNESS
2	183862	NOZZLE KIT
3	181826	PRESSURE REGULATOR
4	183866	FILTER BASKET (w SEAL))
5	183868	KNAPSACK PUMP REPAIR KIT
6	183863	TRIGGER REPAIR KIT for ProGrade
7	183860	LANCE STAINLESS STEEL 21INCH
8	183861	LANCE POLY 21 INCH
9	183859	SHUTOFF ASSEMBLY (TRIGGER ASSY)
10	183865	LID (excl SEAL)
11	183176	HOSE AND HANDPIECE TO SUIT 15L PROGRADE KNAPSACK