SERVICE MANUAL

WP12-1

12 RECHARGEABLE BACKPACK SPRAYER

SERVWP12-1 REV A – 07/05/2025

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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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1.Spray System

This section focuses on the delivery of liquid through the hose, spray gun, spray lance and nozzle. Issues such as pump priming failures, blocked filters, leaking, trigger malfunctions are diagnosed and resolved here.

1.1 Pump not priming

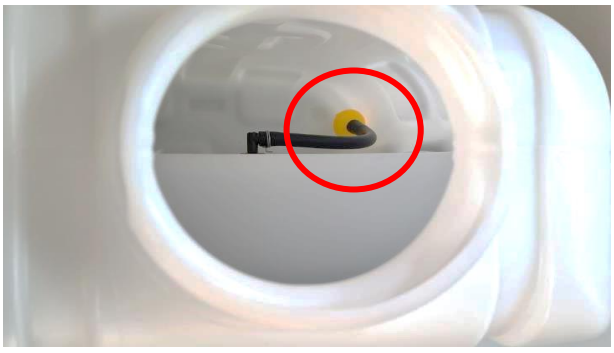
Valves inside the pump may be stuck due to chemical residue:

a. Ensure the power switch on the knapsack is off.
b. Empty the tank, add fresh water.
c. Lock the gun trigger in ON position and connect the primer to the spray gun as shown below.
d. Turn the pump on
e. Manually pump the primer to remove air from the system and pull water through suction hose.
f. Clean the primer after use.

1.2 Possible blockages

Inspect for possible blockages

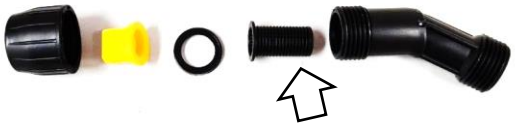
a. Suction filter in the tank, ensure the suction filter is facing downward toward the bottom of the tank and is clean.



b. Gun filter, ensure the filter is securely screwed to the hose end. If not, check whether the gun filter has dislodged and is jammed in the handle blocking the flow.

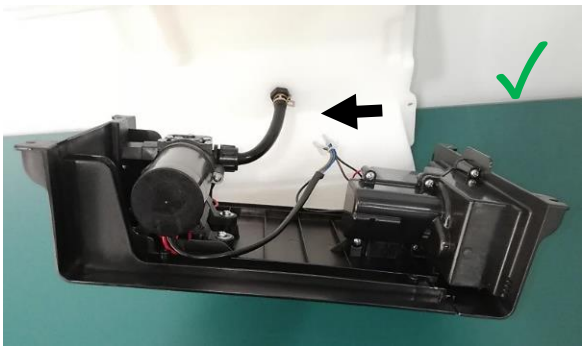
c. Nozzle tip, disassemble and check for blockages

d. Nozzle filter, check for cleanliness



e. Ensure the hose is not kinked. Especially suction hose at back of the tank.

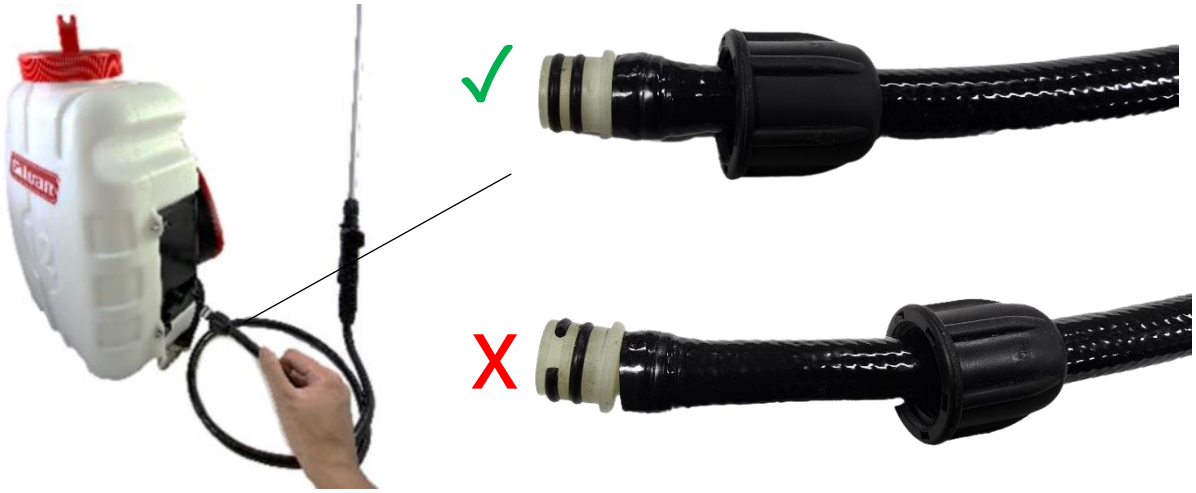
(See *5. Removing the pump assembly cover*)



1.3 Hose connection to tank leaking

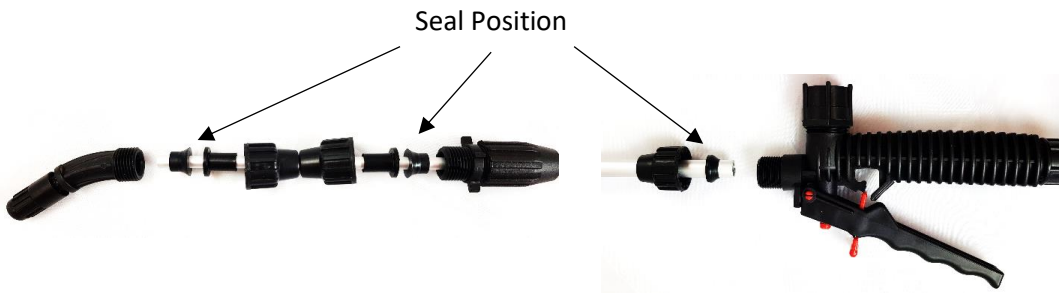
Check double O-rings on hose connector are not missing or damaged.

(**Recommended replacement part**: Hose Connector, 382-190)



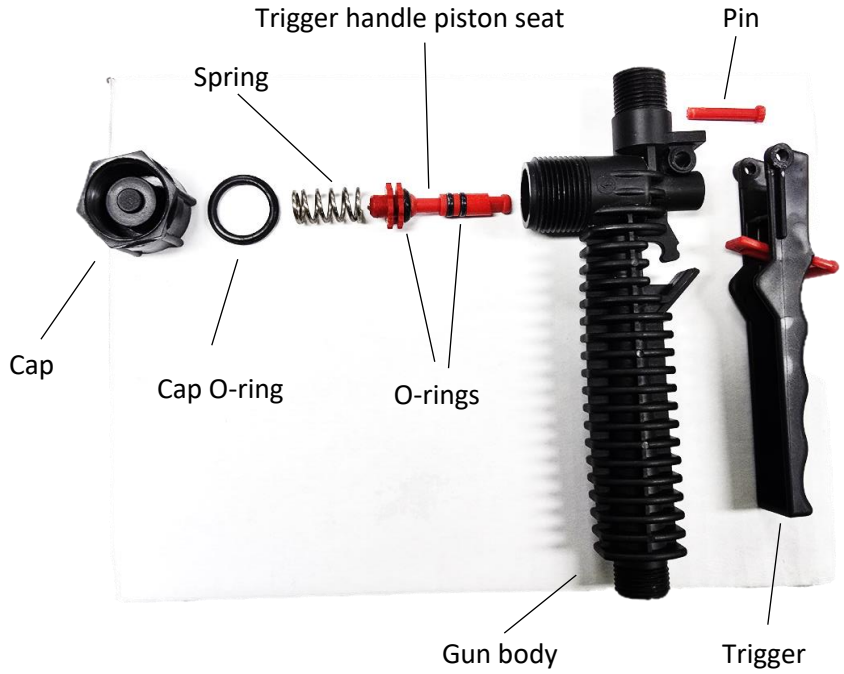
1.4 Spray lance leaking

Check seals are fitted in correct position



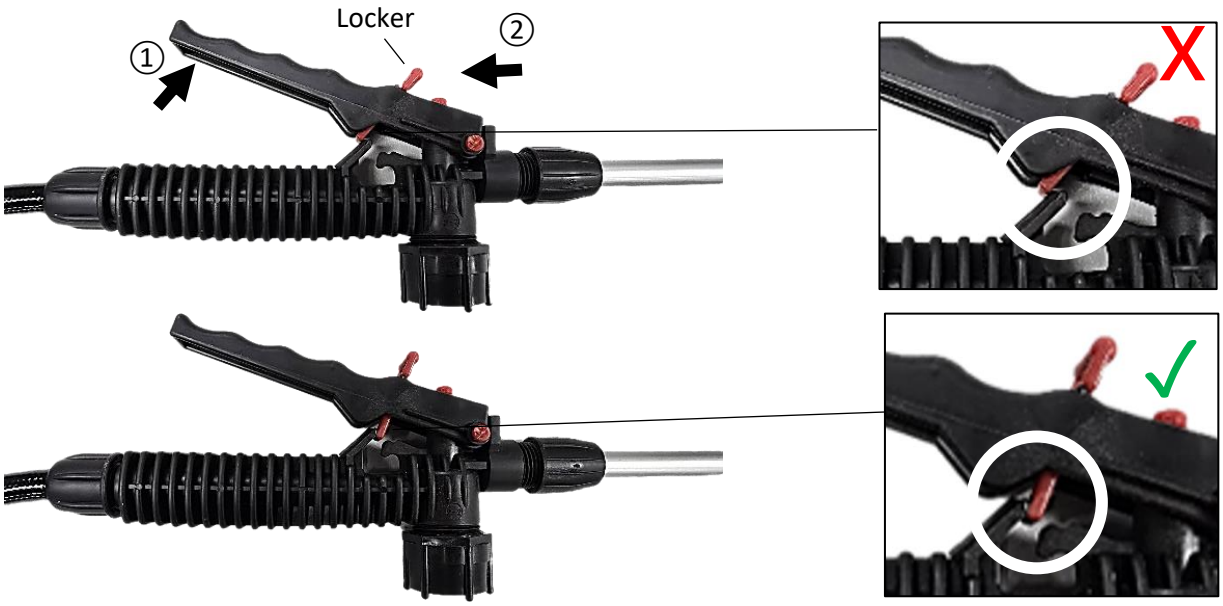
1.5 Spray gun does not shut off

a. Disconnect the spray gun from the spray lance and hose
b. Disassemble the spray gun
    i. Carefully remove the pin from the gun body and trigger
    ii. Remove the trigger
    iii. Unscrew the cap
    iv. Push the trigger handle piston seat out of the gun body
c. Check O-rings on the trigger handle piston seat for swelling, damage, missing parts or blockages.



1.6 Trigger does not lock on

If the locker is offset, gently push the end of the trigger outward ① and realign the locking mechanism inward to its original position ②.

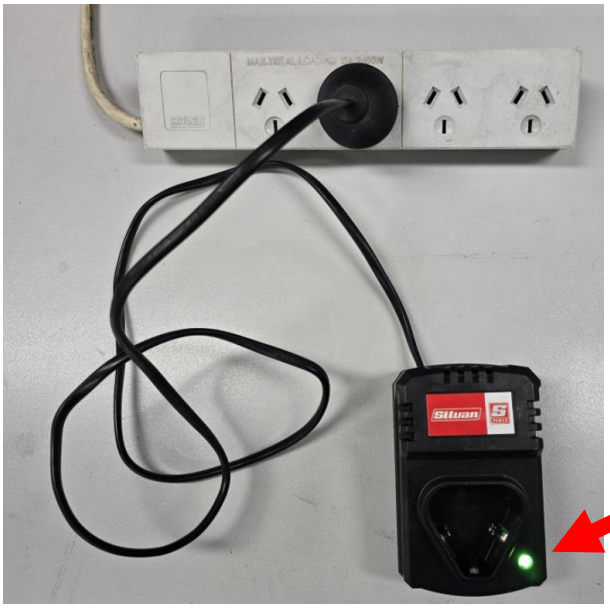


2.Power system

This section covers components responsible for supplying power to sprayer, including the battery, charger and knapsack battery holder.

2.1 Battery not charging

Battery charger: Connect the charger to the 240V power supply, but do not insert the battery to the charger. The light on the charger should be **Green**.



Place the battery in the charger:

-**GREEN** indicates the battery is fully charged or the charger is on standby.
-**RED** indicates the battery is charging, it should take approx. 4 hours to charge.

Battery: After charging for at least 4 hours, measure the battery voltage using a multimeter: Connect the red multimeter probe to the positive (+) terminal and the black probe to the negative (-) terminal. If the battery voltage is below 6.5V, one or more cells in the battery pack may be damaged.

2.2 Loose connection - Battery to Knapsack battery holder

Insert the battery into the holder and turn on the power switch.

a. If the power indicator does not illuminate and the pump is not running, wriggle the battery gently to check for intermittent operation.

   i. If the pump runs intermittently, there may be a loose connection, possibly the tang inside the socket that connects to battery bent too far away.

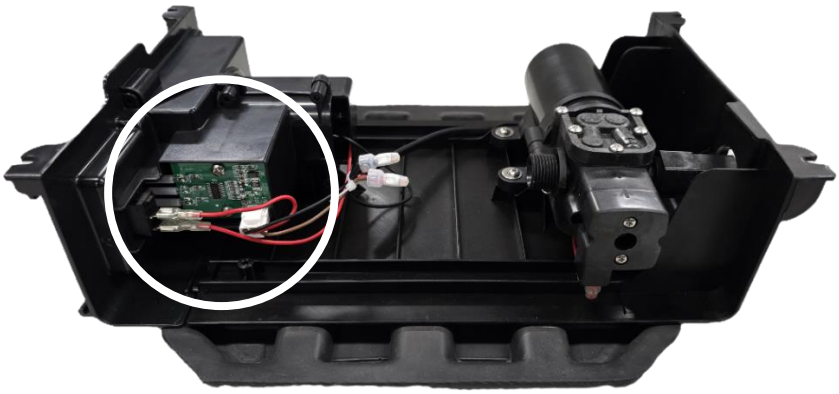
   ii. If the indicator is still not on and the pump is not running, remove the battery, empty the tank and remove the back cover of the tank for further inspection (See *5. Removing the pump assembly cover*)

b. If the power indicator does not illuminate but the pump is running.
   i. The battery voltage monitoring IC on the circuit board may be faulty.

3.Control system

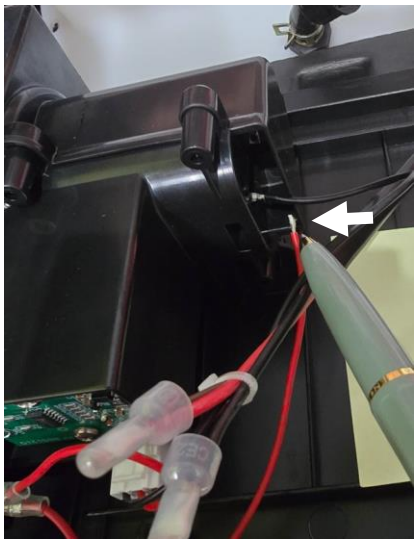
This section includes the internal electrical connections, power switch and control circuitry.

(Refer to Section 5 for pump assembly cover removal instruction.)



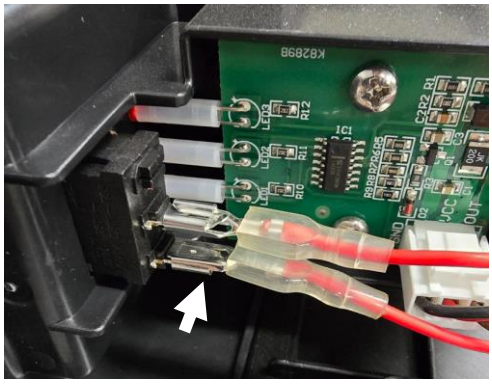
3.1 Improper soldered power wires

Before further inspection, ensure the power wires at the back of the knapsack are properly soldered.

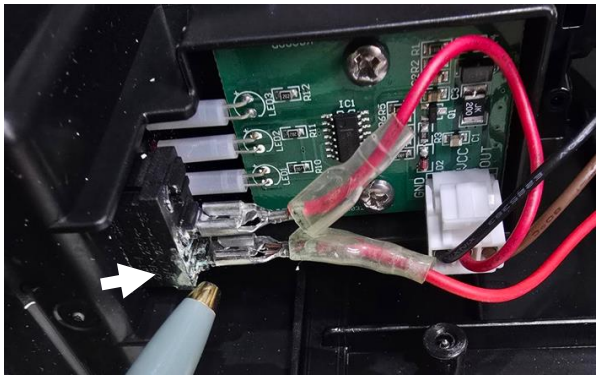


3.2 Power switch faults

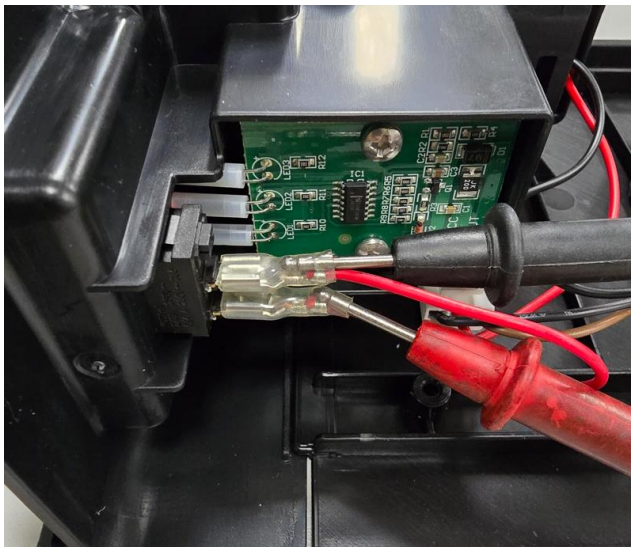
a. Check the spade connectors on the power switch to ensure they are securely connected.



b. Visually inspect for moisture or corrosion on the power switch

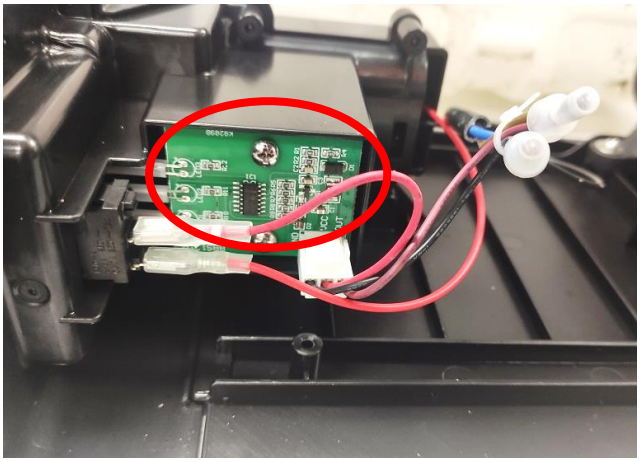


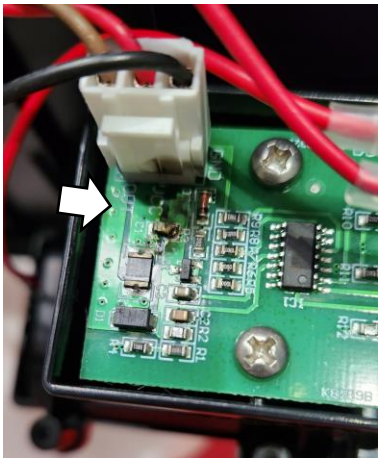
c. Ensure the battery is **not** inserted and the power switch is in ON position. Switch the multimeter to <u>resistance mode</u> (Ω) and touch the probes to the terminals, as shown below. If the multimeter shows no reading or remains "0L", the power switch may be damaged and should be replaced.
(**Recommended replacement part**: Rocker On-Off Switch, 118-149)



3.3 Circuit board faults

a. Visually inspect for moisture or corrosion on the circuit board





b. Insert the battery and turn on the power switch.
Measure the voltage at the test point, as shown in the picture below.

i. If there is no voltage reading on the multimeter, the circuit board may be damaged

ii. If voltage is present, turn off the power and proceed to inspect the pump (See *4. Pump System*)

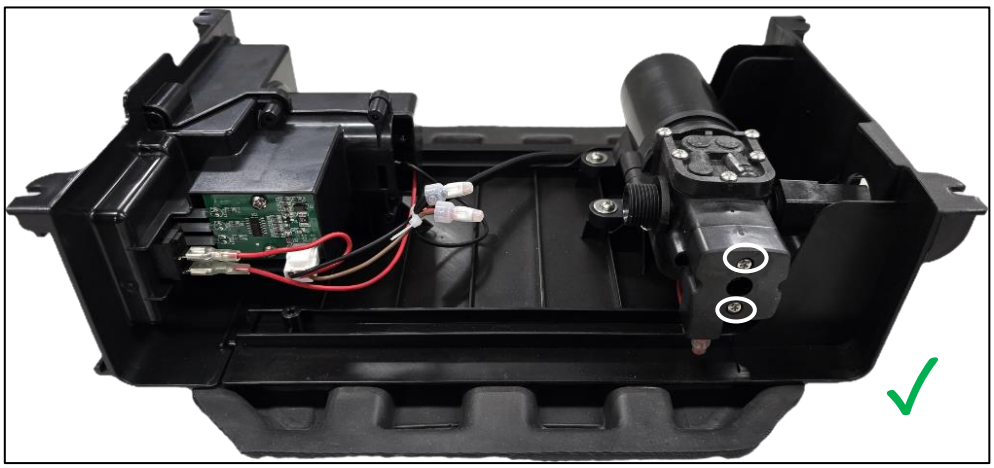
4. Pump system

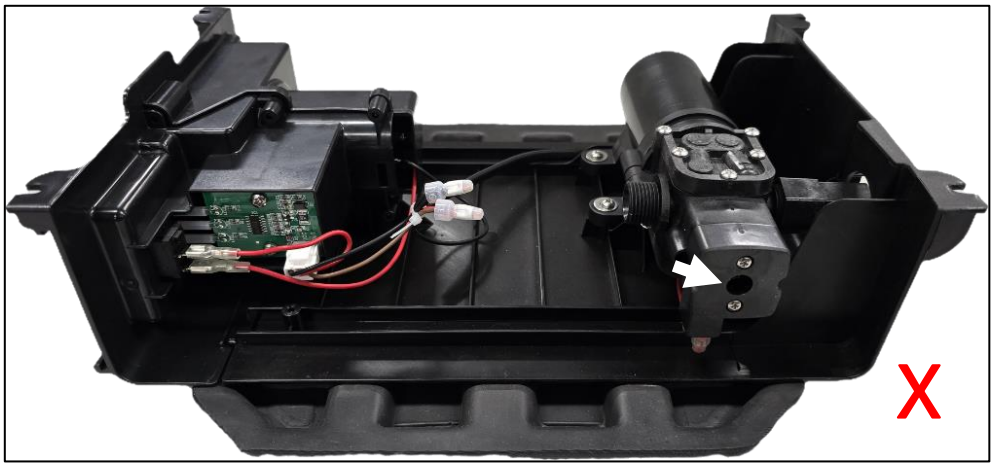
This section addresses cases where the pump fails to operate entirely. If the pump is not running when the power is switched on, refer here to diagnose switch issues, or motor-related problems.

(Refer to Section 5 for pump assembly cover removal instruction.)

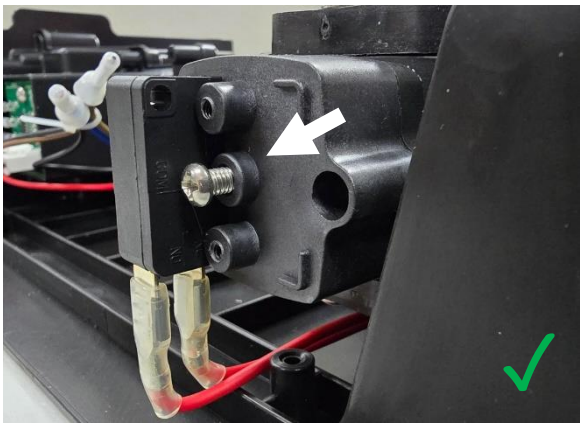
4.1 Pump not running

a. Unscrew the pump head cover (circled). Do not touch the screw in the middle, as it is used to set the working pressure.

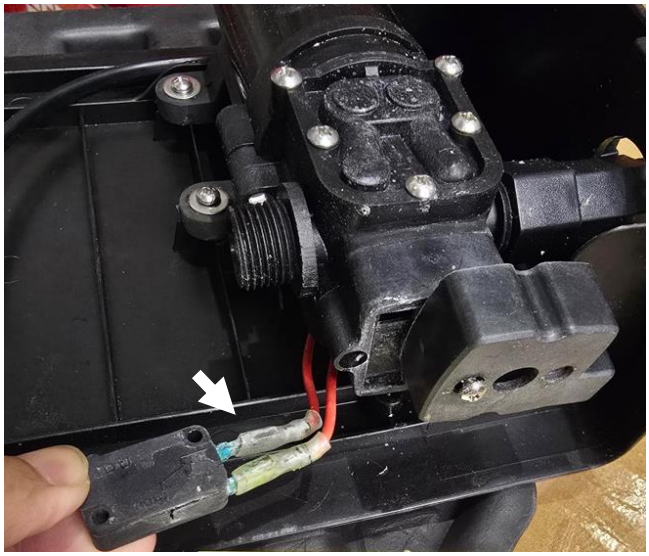




b. Remove the head cover and ensure the screw in the middle is not screwed all the way to the end



c. Check connections and corrosion - clean and refit. If the microswitch is damaged, the pump must be replaced.
(**Recommended replacement part**: Pump, 382-122)



5.Removing the Pump Assembly Cover

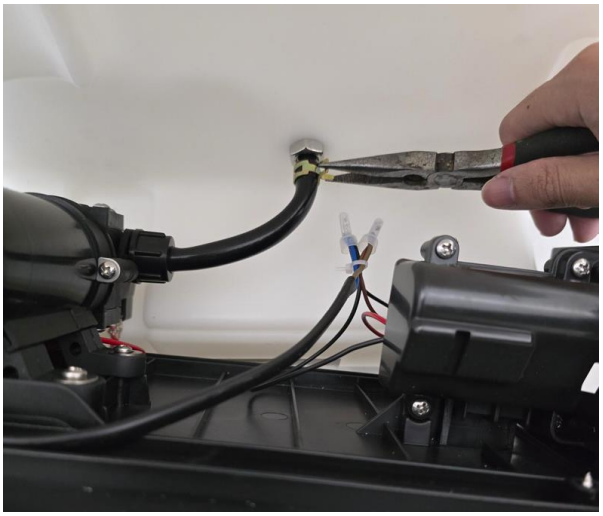
For in-depth inspection, some components require access inside the sprayer. This section explains how to safely remove the pump assembly cover without damaging connected parts.

a. Empty all liquid from the tank, hoses and gun.
b. Remove the hose connection to the tank, If the straps obstruct access, detach them.

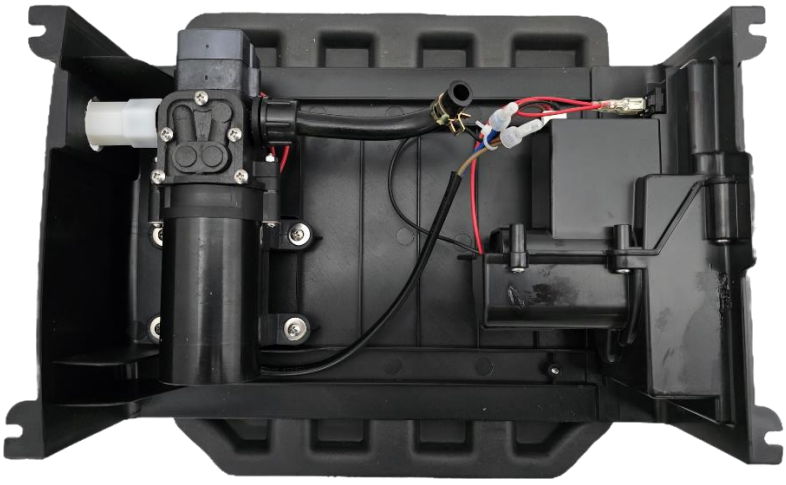
c. There are four screws located at the back of the knapsack, two on each side, unscrew them.

d. Carefully lift the back cover as the cover is still connected via a suction hose.

e. Locate the suction hose connecting the pump to the tank and squeeze the spring clip.



f. Once the spring clip is squeezed and hose removed from tank fitting, the cover should lift away easily.



SPARE PARTS

	Part Number	Description
1	*382-097*	SPRAYGUN WITH EXTENDABLE ALUMINIUM LANCE
2	*382-119*	WP12-1 LID
3	*HC211*	BATTERY CHARGER SUIT WP12-1 KNAPSACK AND SP25-TR3
4	*382-121*	BATTERY SUIT WP12-1 SP25-TR3 SP25-B2
5	*382-120*	WP12-1 PAIR OF STRAPS
6	*382-122*	PUMP SUIT WP12-1 & SP25-TR3
7	*382-157*	ADAPTER EXTENSION FITS TO PUMP ON WP12-1 SP25-TR3
8	*186-8D*	HOSE 8MM SILVAN AG DEL. BLACK
9	*118-149*	ROCKER ON OFF SWITCH -NO CLEAR BOOT
10	*382-160*	NOZZLE KIT SUIT WP12-1 TR13-1, KN15D-2, WP8-1
11	*382-190*	HOSE CONNECTOR KIT SUIT WP12-1
12	*382-069*	HOSE NUT SUIT 25L REDLINE SPRAYGUN