

INSTRUCTION MANUAL

PROTECT 15L KNAPSACK Model 190850

MAN190850 REV B 26/2/26



FOR ALL ISSUES PLEASE FIRST CONTACT SILVAN, DO NOT RETURN SPRAYER TO STORE

CONTACT : SILVAN SERVICE SUPPORT

SILVAN AUSTRALIA PTY. LTD.

ABN 48 099 851 144

AUSTRALIA
VICTORIA (HEAD OFFICE)
Telephone: +61 (03) 9215
2700
1300 745826
www.silvan.com.au

SILVAN SERVICE SUPPORT
PH 1300 745 826 (AUST) OR 0508 745
826 (N.Z.)
email: support@silvanaust.com
www.silvan.com.au/service-manuals/

NEW ZEALAND
Telephone: +64 (07)
8496030
www.silvannz.co.nz



silvan.com.au

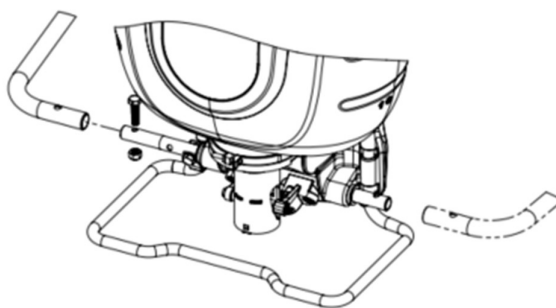
⚠ WARNINGS

This sprayer is designed and manufactured solely for the purpose of applying agricultural chemicals. Under no circumstances may it be used for any other purpose.

- Read the owner's manual completely before operating this sprayer.
- Test the sprayer with water before using chemicals for the first time.
- Before using chemicals refer to the chemical manufacturer's label and safety instructions for safe handling procedures and recommended personal protective clothing and safety equipment.
- Never use flammable liquids, caustics, or hot water in this tank.
- Do not use sprayer near open flame or anything that could cause ignition of the spray.
- Do not leave sprayer in the sun when not in use.
- Spray when the air is calm to prevent drift of chemicals. Do not spray in windy conditions.
- Always inspect hose and all the hose connections before each use. A damaged hose, or loose hose connection can result in unintended exposure to the pressurised chemical, resulting in serious injury or property damage.
- Do not lift or carry sprayer by the hose, shut-off valve, or lance.
- Do not store chemicals in this tank.
- Dispose of empty containers and chemical residues in accordance with the instructions supplied by the chemical manufacturer.
- Always release pressure when sprayer is not in use and before performing any maintenance.
- Clean and rinse sprayer thoroughly after each use and before and maintenance.
- Never attempt to alter sprayer from original condition.
- Exercise care to ensure proper stability when carrying or operating in hilly or uneven terrain, particularly if the ground is wet or loose. Wear non-slip shoes.
- Keep the sprayer and all chemicals out of the reach of children.

Assembly

Slide handle onto shaft and line up holes. Thread bolt through handle and shaft and securely tighten. Thread on lock nut and tighten using a 13mm (or adjustable) wrench. Handle can be mounted on left or right depending on user preference.



Assembly -Cont



Install the lance onto the shut-off assembly and tighted nut securely



Install the nozzle onto the end of the lance and tighten. There are 3 nozzles supplied with the sprayer.

ADJUSTABLE CONE USES



- Spot spraying in or around flower beds, trees, and shrubs.
- Edging along fences, driveways, and walkways.
- Preparing garden beds for planting of ornamentals and vegetables.

BROWN HIGH VOLUME FAN NOZZLE USES



- For very broad coverage.

RED LOW VOLUME FAN NOZZLE USES



- Lawn replacement. Kill lawn and weeds before planting a new lawn.
- Preparing large areas for planting of ornamental and vegetable gardens



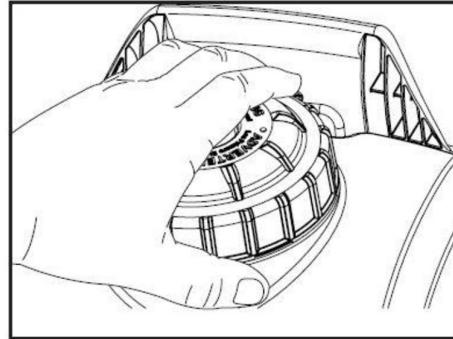
Operation



Filling

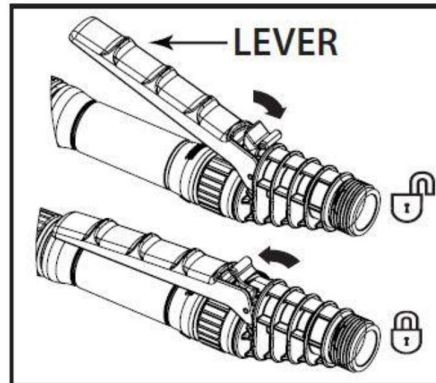
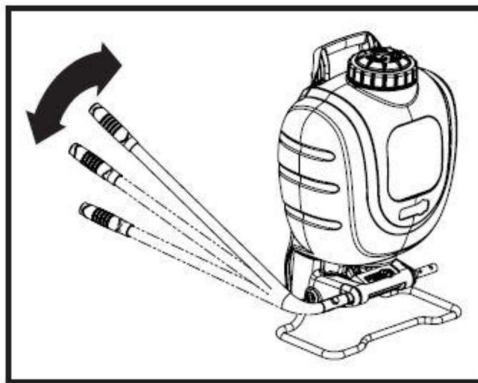
Always refer to chemical manufacturer for proper mixture.

1. Remove the cap from the tank.
2. Make sure the filter basket is in place in the neck of the tank. The filter basket includes the seal and must be in place to prevent leaks.
3. Fill the tank with water and chemical to the desired level.
4. Reinstall the cap.



Pressurising and Spraying:

1. To begin pressurising, be sure the spray gun shut-off lever is not on. Pump handle up and down in a smooth motion. Operating pressure is reached when pumping becomes difficult, which is no more than 5-7 full pumps. (Do not over-pressurise)
2. Direct nozzle away from you and squeeze shut-off lever to begin spraying.
3. To maintain pressure while spraying, operate pump handle every 8 sec. or as needed.
4. For continuous spraying, squeeze lever and rotate lock.
5. Unlock if needed and release shut-off lever to stop spraying.



Cleaning:

1. Fill the tank with clean tap water. Replace the cap and tighten securely. (Never use hot water for cleaning)
2. Agitate the tank to rinse the chemical from the tank walls.
3. Remove the cap and empty the contents according to disposal requirements.
4. Refill the tank with clean tap water. Replace the cap and tighten securely.
5. Pressurise the tank as described in the Pressurising and Spraying section.
6. Direct the nozzle away from you and activate the shut-off for at least 30 seconds to clean the pressure chamber, hose and shut-off.
7. Remove the cap and empty the contents into gravel or bare soil.
8. Repeat steps 4 - 7 until thoroughly cleaned. Remove nozzle when flushing pump system. Clean nozzle before replacing.

Sprayer Storage:

1. Never store sprayer with pressure in chamber or liquid in any part of sprayer.
2. Sprayer tank should be hung upside down, with the cap removed, to dry completely.
3. Do not store or leave any solution in the tank after use.
4. Store in a dry location out of direct sunlight.

5. Keep the sprayer and all chemicals out of the reach of children.

Maintenance



Tank Maintenance:

1. After each use, rinse the tank with clean water.
2. Check the check valve (See Figure G) and filter basket gasket. (See Figure H) Make sure they do not show signs of wear and are operating properly. Replace them as required.
3. Clean any dirt or debris from the filter basket.
4. Periodically check the straps for fraying. Replace them as required.

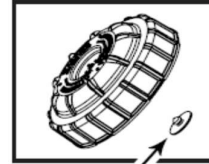


Figure G

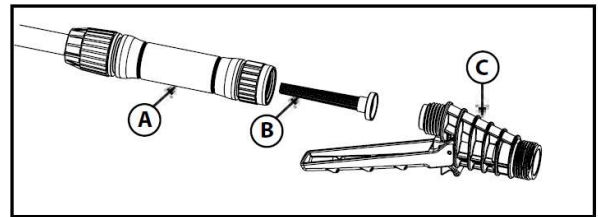


Figure H

Shut-off Maintenance:

Always depressurise sprayer before maintenance by activating shut-off and spraying contents out.

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



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

Nozzle Maintenance

1. If nozzle clogs, remove and disassemble the nozzle assembly.
2. Clean the openings of any obstructions and reassemble.

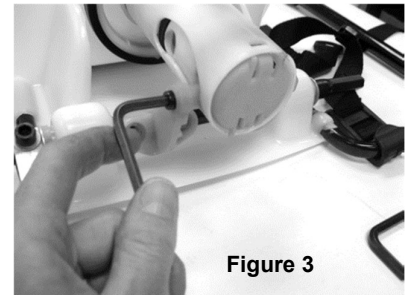
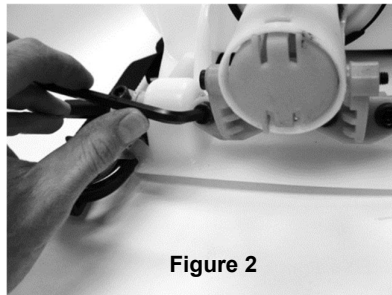
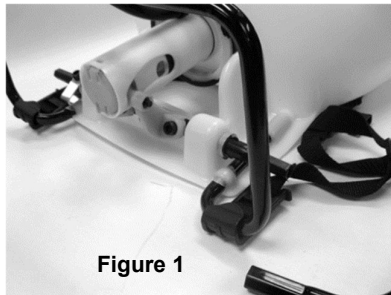
Servicing Instructions



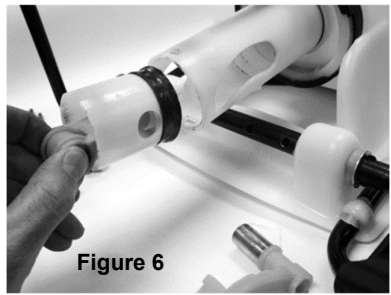
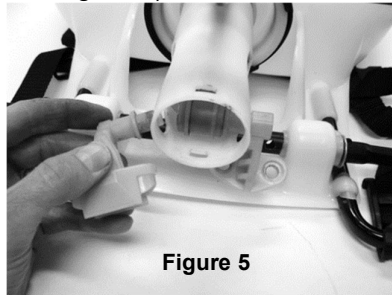
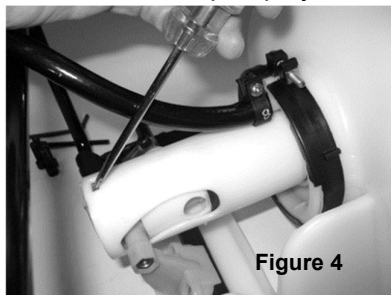
Servicing Steps

Always release the pressure from the sprayer and clean and rinse the sprayer thoroughly before performing any maintenance work.

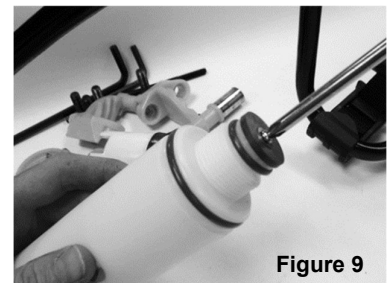
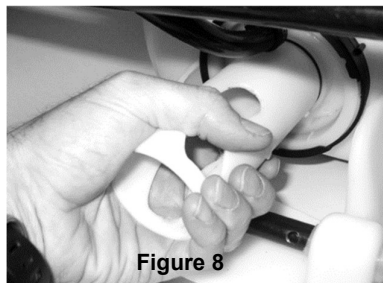
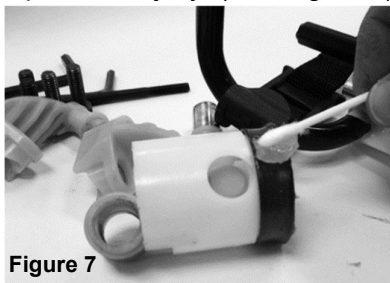
1. Position pump handle all the way up, placing the piston in the down stroke to allow access to the screws retaining the crank arms. Remove the pump handle. (See Figure 1)
2. Remove the four screws securing the crank arm to the drive shaft using a 6mm Allen Wrench. (See Figure 2)
3. Next remove the screw that secures the crank arms to the drive links using a 5mm Allen Wrench. (See Figure 3)



4. Remove the pump cover by inserting a flat head screwdriver into the lower snap windows of the pump cylinder. (See Figure 4)
5. Withdraw the crank arms from the drive link through the side of the pump cylinder. (See Figure 5)
6. Now the drive link and piston assembly can be removed straight down through the bottom of the pump cylinder. (See Figure 6)



7. The piston cup and cylinder walls should be periodically cleaned and recoated with fresh petroleum jelly. Take note of any tears or scratches and replace as needed. Take care to guide the piston cup past the side openings in the pump cylinder when reinstalling. (See Figure 7)
8. You will need the piston seal kit to rebuild the pump cylinder assembly. First remove the pump cylinder by unscrewing it counterclockwise. (See Figure 8)
9. Use a Phillips head screwdriver to remove and discard the pump cylinder washers, saving the screw and stainless steel washers. Replace with new. Do not grease pump cylinder washers. Inspect o-rings for wear and replace with new and/or lubricate with petroleum jelly. (See Figure 9)



10. To reinstall the pump cylinder, rethread into the pressure cylinder until the large o-ring is not visible then continue turning until the tab and notch align. (See Figure 10)
11. To replace the pressure cylinder o-ring, remove the pressure cylinder by loosening and removing the clamp ring that retains the pressure cylinder. Use a block of wood for a punch to drive the pressure cylinder out of the bottom tank opening. Withdraw the pressure cylinder and remove the old o-ring. Clean the seal groove and mating tank surface with a soft cloth. Replace the o-ring and coat with petroleum jelly. (See Figure 11)
12. To reinstall pressure cylinder first warm the bottom tank opening by running it under hot tap water. This will ensure that the pressure cylinder seal is seated properly. Take care not to roll the o-ring seal out of the groove as you reinsert the pressure cylinder. Realign the tab on the tank with the notch on the pressure cylinder and make sure the flange on the pressure cylinder is flush with the flange on the tank. Reassemble the clamp ring and tighten. (See Figure 12)

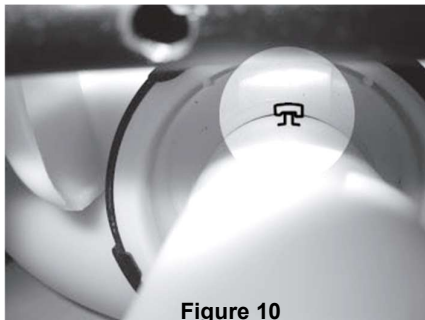


Figure 10



Figure 11

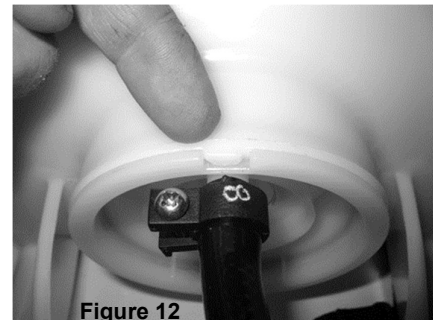


Figure 12

Harness Installation

1. For each side, remove the small plastic clips from the two shoulder strap loops and thread each loop through the slots at the top of the carry handle. (See Figure 13)
2. Replace the clips through the loops clamping the two shoulder straps securely. (See Figure 14)



Figure 13



Figure 14

3. To install lower portion of the straps, remove strap from top portion of buckles and place around the foot stand, starting from underneath. (See Figure 15)
4. Loop strap through the first section of the buckle. (See Figure 16)
5. Next loop strap through other section of buckle and tighten (See Figure 17). Adjust the shoulder pads and strap length for a comfortable fit.

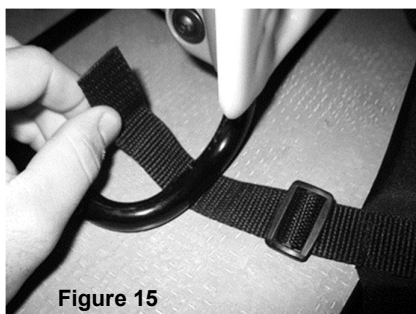


Figure 15



Figure 16

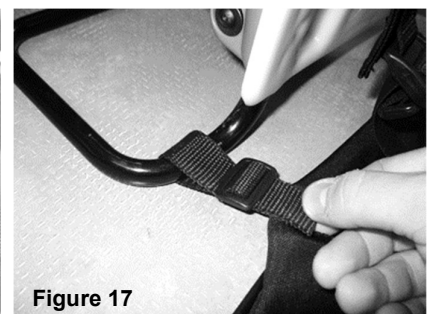


Figure 17

Trouble Shooting -Cont



TROUBLE	LOOK FOR	REMEDY
Sprayer starts to spray when pumping .	Shut-off lever is in locked on position.	Squeeze shut-off lever and slide back as described in <i>Operation</i> section.
Sprayer will not stop spraying when shut-off lever is released.	Look for dirt trapped in trigger shut-off Assembly	See <i>Shut-off maintenance</i> .
Sprayer will not build pressure	1.Dirty, damaged or worn pump piston seal or chamber. 2.Dirty, damaged or worn pump valve	1.Remove and clean dirt or debris from chamber and valve (Fig 6) and sealing surface on pump. Replace piston seal if required. 2.Clean or replace if worn the pump valve (Fig 9)
Sprayer builds pressure but will not spray..	1.Filter in Shutoff Clogged 2.Look for dirt trapped in trigger shut-off Assembly 3.Nozzle Clogged	1. See <i>Shut-off maintenance</i> 2. See <i>Shut-off maintenance</i> 3.Clean Nozzle
Sprayer is difficult to pump.	Swollen, damaged or dry pump piston seal.	Clean, lubricate or replace pump piston seal (Fig 6)
Sprayer builds to much resistance after just a few pump strokes and only maintains pressure briefly.	Little or no air in the pressure cylinder.	Hold shut-off below level of tank. Drain pressure cylinder (Fig 5)by activating lever on shut-off until all liquid is expelled
Sprayer pumps up but Nozzle tip partially sprays or dribbles, has poor spray pattern or is completely stopped.	1.Nozzle Clogged. 2.Shut-off lever blocked. 3.Suction filter inside blocked or partially blocked	1. Remove nozzle and clean. 2. See <i>Shut-off maintenance</i> 3. See <i>Shut-off maintenance</i>

Spare Parts 190850



	Code	Description
1	186724	CAP ASSEMBLY
2	186725	FILTER BASKET
3	186726	SHOULDER HARNESS
4	186727	PUMP HANDLE
5	186728	PISTON SEAL KIT
6	186729	HOSE AND SHUTOFF
7	186730	SHUT OFF SERVICE KIT
8	186731	NOZZLE KIT
9	186733	SPRAY WAND POLY

ALL NATURAL DIY RECIPES

With EPDM seals and high quality fittings, the Silvan PROTECT Sprayers are ideal for use with select organic and DIY natural solutions. With durable reinforced hose, premium shut-off handles, adjustable nozzles and easy fill no-spill funnel top, these Sprayers can be used in most Herbicide, Pesticide and Fertiliser applications.



ALL NATURAL HERBICIDE RECIPE	ALL NATURAL INSECTICIDE RECIPE	ALL NATURAL FUNGICIDE RECIPE
 • 200ml Double strength white vinegar • 3 Tbsp. Liquid dish soap • 800ml Water <i>Mix all ingredients thoroughly.</i> <i>Spray directly onto weeds until completely coated. Reapply as needed.</i>	 • 1/2 Cup vegetable oil • 2 Tbsp. Liquid dish soap <i>In a small container, mix oil and soap by shaking thoroughly.</i> <i>Add 8 teaspoons of oil/soap mixture per 5L of water.</i> <i>Spray directly on pests or the leaves of plants that have been affected.</i>	 • 5 Tsp. Baking soda • 5L Water <i>Mix baking soda completely into water.</i> <i>Spray directly onto affected leaves or soil.</i>