

INSTRUCTION MANUAL

PROGRADE 15L KNAPSACK

Model 190856

MAN190856 REV A 19/2/26



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

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⚠ 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, or hot water in this tank.
- Do not use the 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. Carry by the handle only.
- Do not pressurise with any mechanical device such as an air compressor, since this can create a dangerous pressure level and bursting of parts resulting in serious injury.
- Do not store chemicals in this tank.
- Dispose of empty chemical 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 any 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.

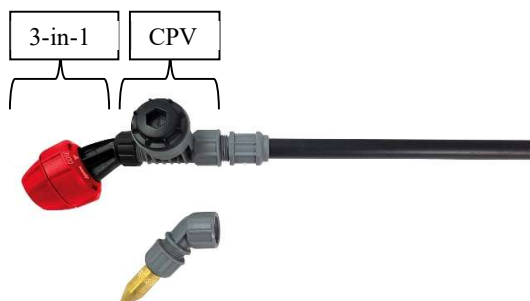
Assembly

Assemble Extension, Shut-Off and Nozzle:

1. Install the extension onto the shut-off assembly and tighten the nut securely.



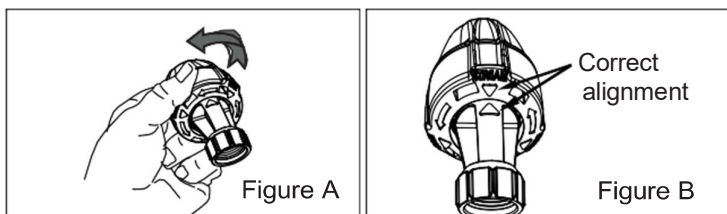
2. Install selected nozzle onto the end of the extension and tighten securely. If using the 3-in-1 nozzle the Constant Pressure Valve (CPV) must be used



Assembly 3-in-1 Nozzle

IMPORTANT: Always make sure shut-off handle is released before rotating nozzle to different spray setting. Make sure arrow indicators are aligned before spraying. Failure to do so cause leaks.

1. While holding shut-off with one hand, rotate 3-in1 nozzle to desired nozzle position (See Figure A).
2. Nozzle end will fall into place as arrow indicators become aligned (See Figure B).



3-IN-1 NOZZLE SETTINGS		
STREAM USES:	FAN USES:	CONE USES:
 • Spot spraying in or around flowerbeds, trees and shrubs. • Edging along fences, driveways and walkways.	 • Lawn replacement. Kill lawn and weeds before planting a new lawn. • Preparing large areas for planting of ornamental and vegetable gardens. • Spot spraying in or around flowerbeds, trees and shrubs.	 • Preparing garden beds for planting ornamentals and vegetables.

Assemble Dry-Touch™ Adaptor to 3-in-1 Nozzle

1. Align the snap tabs on the Dry-Touch™ adaptor between the ribs on the nozzle (See Figure C).
2. Press firmly onto nozzle until it snaps securely over base of nozzle (See Figure D).
3. To remove Dry-Touch™ adaptor, grasp outside of part and pull away from nozzle.

Note: If being used, Dry-Touch™ adaptor must be assembled before weed spray shield.



Assembled Weed Spray Shield

1. Align the snap tabs on weed spray shield with the openings on the Dry-Touch™ adaptor (See Figure J).
2. Press firmly onto adaptor until it snaps securely over the base of nozzle (See Figure K).
3. To remove weed spray shield, grasp outside of part and pull away from nozzle and adaptor.

Note: Weed spray shield can also be assembled to 3-in-1 nozzle without the Dry-Touch™ adaptor.

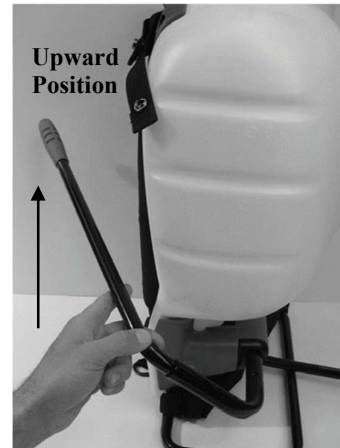


Assembly (cont.)



Assemble Pump Handle:

1. Insert handle onto the drive shaft.
2. Line up holes so that pump handle is angled upward.



3. Thread hex bolt through pump handle and drive shaft, tighten with a 13mm or adjustable spanner. Thread lock nut onto hex bolt and tighten while also holding bolt with spanner.



The handle has different positions for operation and storage.



Operation (cont.)



Always conduct a test using clean water before mixing chemicals

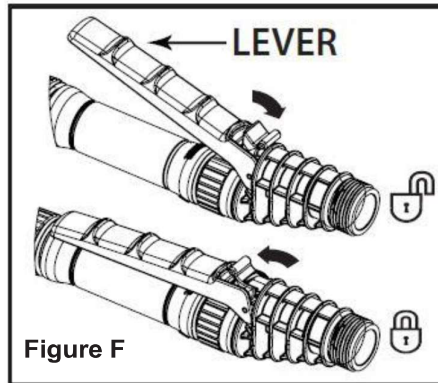
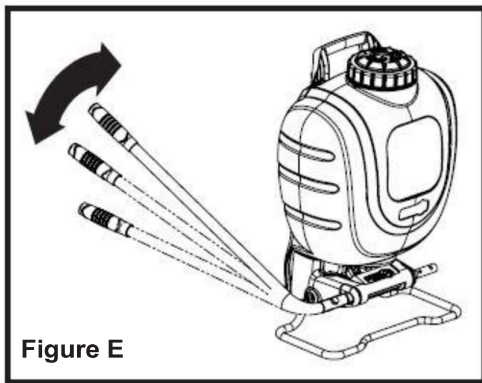
Filling:

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 a seal and must be in place to prevent leaking between the tank and the lid..
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 shut-off lever is not depressed. Pump handle up and down in a smooth motion (See Figure E). 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. (See Figure F)
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 into gravel, bare soil and 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. Direct the nozzle away from you and activate the shut-off for at least 30 seconds to clean the pressure chamber, hose and shut-of
6. Remove the cap and empty the contents.
7. 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 the 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 reach of children.

Tank Maintenance:

1. After each use, rinse the tank with cool, clean water.
2. Check the breather valve (See Figure G) in the lid and the 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.

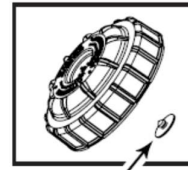


Figure G

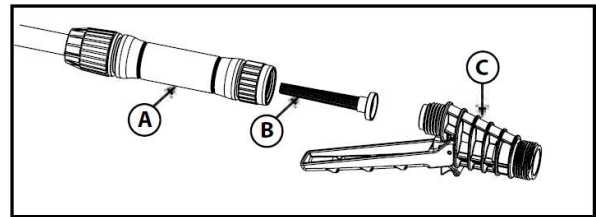


Figure H

Shut-off Maintenance

Always depressurise sprayer before maintenance.

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 cool, clean water.
4. Reassemble the components as shown and tighten all connections securely.



A. Handle

B. Filter

C. Shut-off Assembly

Pressure Chamber Maintenance:

WARNING: Always depressurise the sprayer before cleaning or replacing pressure chamber by activating shut-off and spraying out all pressure.

1. Remove the tank cap and strainer (See Figure I).
2. Reach into the tank and turn the chamber 1/4 turn counter-clockwise (See Figure J) to unlock the chamber from the pump then remove chamber from tank (See Figure K)
3. Rinse out any debris that may have accumulated in the chamber.
4. Reinstall the chamber into the pump by aligning the tabs on the chamber with the slots in the pump, push firmly into pump and turn clockwise until pump stops
5. Reinstall the strainer and tank cap (See Figure L).

Figure I



Figure J

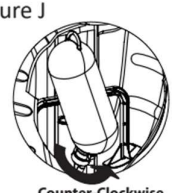


Figure K

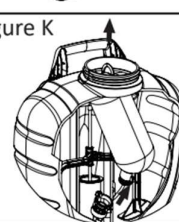
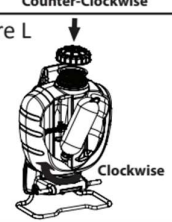


Figure L



Nozzle Maintenance:

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

Prior To Servicing and/or Repairs:

1. Empty contents of the tank.
2. While squeezing the shut-off, pump sprayer until all liquid is expelled.
3. Continue squeezing shut-off without pumping to release all air pressure.

Sprayer Servicing Steps:

1. Unscrew cap from tank. Remove and replace breather valve. (See Figure 1)
2. Remove pressure chamber as outlined in Pressure Chamber Maintenance section of the manual. Remove and replace O-ring. Lubricate O-ring with petroleum jelly. (See Figure 2)
3. Unsnap agitator from piston rod. Remove from tank. (See Figure 3)



Figure 1



Figure 2



Figure 3

4. Position pump handle to the furthest downward position. Remove pump handle from sprayer. (See Figure 4)
5. Disassemble carry handle by removing the (6) screws. (See Figure 5)
6. Remove hitch pin and lift pivot clip off the piston rod. (See Figure 6)



Figure 4



Figure 5



Figure 6

7. Pull upward to slide piston rod out of pump. (See Figure 7)
8. While holding onto the pump, use an adjustable wrench to unthread pump nut from pump. Remove nut, hose and barb assembly. (See Figure 8)
9. Inspect (2) O-rings on barb assembly. If damaged, replace hose assembly. (See Figure 9)



Figure 7



Figure 8

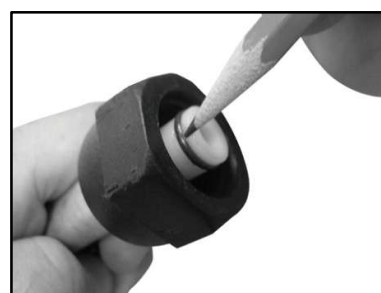


Figure 9

Servicing (cont.)



10. Remove pump from the tank. Remove and replace gasket. (See Figure 10)
11. Slide piston rod assembly down and out of grommet and remove from tank. (See Figure 11)
12. Carefully remove and replace O-ring from piston. Lubricate O-ring with petroleum jelly. (See Figure 12)

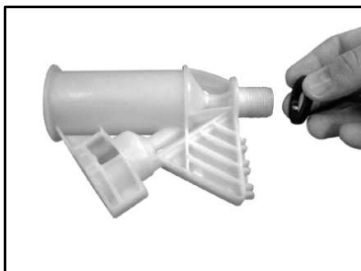


Figure 10



Figure 11

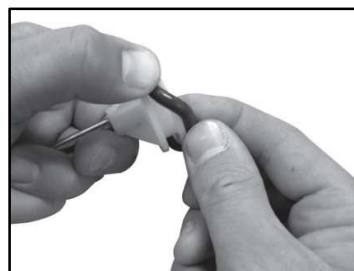


Figure 12

13. Remove grommet from tank using pliers to grasp the head of the grommet while flexing the grommet out of the hole in the tank. Press or tap new grommet into tank. Lubricate hole in grommet with petroleum jelly. (See Figure 13)
14. Insert piston rod assembly into tank and through grommet. (See Figure 14)
15. Reassemble pump with gasket into tank. (See Figure 15 for correct orientation). Tighten pump nut securely with adjustable wrench while holding pump to maintain correct orientation. Push piston assembly into pump.

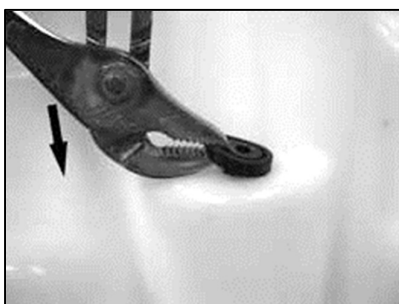


Figure 13



Figure 14



Figure 15

16. Attach pivot clip to piston rod and insert hitch pin. Note orientation of piston rod must match the pivot clip. (See Figure 16)
17. Reassemble carry handle onto tank. Tighten all (6) screws. (See Figure 5)
18. To reinstall the agitator, line the notch up on the agitator with the wedge on piston rod and snap into place. (See Figure 17)
19. Reinstall pressure chamber as outlined in the Pressure Chamber Maintenance section. (Figure 18)
20. Replace tank cap, filter (See Figure 19) and pump handle (See Figure 4).



Figure 16



Figure 17

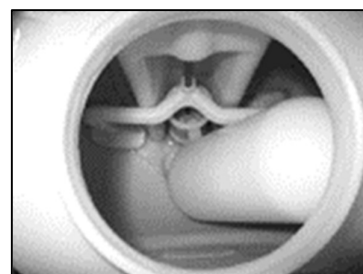


Figure 18

20. Replace tank cap, filter (See Figure 19) and pump handle (See Figure 4).



Figure 19

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. Replace the clips through the loops and pull strap securing the two shoulder straps in place. (Figure 20)
2. To install lower end of the straps, remove strap from top portion of buckles and place around the foot stand, starting from underneath. (See Figure 21)
3. Loop strap through the first section of buckle. (See Figure 22)
4. Next loop strap through other section of buckle and tighten (See Figure 23). Adjust the shoulder pads and strap length for a comfortable fit.

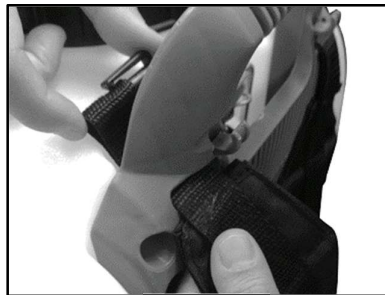


Figure 20



Figure 21



Figure 22

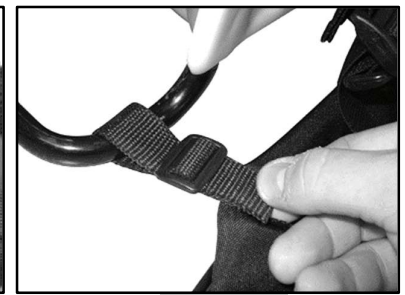


Figure 23

Trouble Shooting



	LOOK FOR	REMEDY
Sprayer starts to spray when pumping or sprayer will not stop spraying when shut-off lever is released.	1. Shut-off lever is in locked position.	Squeeze shut-off lever and slide back as described in Spraying and Locking section (Fig F).
Sprayer will not build pressure.	1. Pressure chamber (Fig J) not installed. 2. Dirty, damaged or worn pump or chamber O-ring (Fig 12). 3. Dirty poppet in pump.	1. Install pressure chamber as described in Pressure Chamber Maintenance section. 2. Clean or replace O-rings as described in Servicing section. 3. Clean sprayer as described in Cleaning Section
Sprayer will not spray	1. Sprayer pressurization. 2. Shut-off clogged. 3. 3. Nozzle clogged	1. See Pressurising and Spraying section. 2. Clean shut-off as described in Shut-off Maintenance section. 3. Clean nozzle as described in Nozzle Maintenance section
Sprayer leaks from the bottom of the tank.	1. Loose pump nut (Fig 8). 2. Damaged or worn O-rings or seals.	1. Tighten pump nut as described in Servicing section. 2. Replace o-rings and seals as described in Servicing section.
Sprayer leaks where piston rod enters top of tank.	1. Dirty, damaged, or worn grommet (Fig 13).	1. Clean and lubricate hole in grommet or replace grommet as described in Servicing section
Hose leaks at tank connection.	Cracked, swollen or faulty hose	Replace Shut-off assembly.
Hose leaks at shut-off	Cracked, swollen or faulty hose	Replace Shut-off assembly.
Pump handle difficult to operate	1. Dirt or debris in shut-off valve. 2. Damaged O-ring or seal in shut-off	1. Clean and lubricate or replace o-ring as described in Servicing section. 2. Clean and lubricate hole in grommet or replace grommet as described in Servicing section
Nozzle drips when shut-off lever is released.	1. Dirt or debris in shut-off valve. 2. Damaged O-ring or seal in shut-off.	1. Clean shut-off as described in Shut-off Maintenance section. 2. Service shut-off seals as described in Shut-off Maintenance section
Nozzle tip leaks, poor spray pattern, partial spray or complete stoppage.	1. Flat seal is missing or damaged. 2. Spray extension or nozzle clogged.	1. Replace flat seal. 2. Remove nozzle and clean as described in Nozzle Maintenance section.



	Code	Description
1	184561	SHOULDER HARNESS
2	183865	CAP
3	183866	FILTER BASKET
4	183867	PUMP HANDLE
5	183861	POLY LANCE 21 INCH
6	183589	SHUT-OFF REPAIR KIT
7	183176	SHUT-OFF AND HOSE ASSEMBLY
8	183868	KNAPSACK PUMP REPAIR KIT
9	186754	3-IN-1 NOZZLE KIT
10	186006	WEEDSPRAY SHIELD
11	186005	DRY-TOUCH ADAPTER
12	181826	PRESSURE REGULATOR

