

solo[®]

SPRAYERS

built to last a lifetime

OPERATOR'S MANUAL & PARTS LIST 425LC



If you are missing parts, instructions or have questions, **DO NOT** take this unit back to the store. Call 1300 798 022. Solo will send the missing parts/information to you promptly.

PISTON



WARRANTY

Solo backpack sprayers are covered by Solo's WARRANTY 2 years for 425 LC. Solo manufactured parts which fail due to defective material or workmanship will be repaired or replaced without charge. Refer to Warranty sections for consumer and commercial use, of this Owners Manual, for full details.

MAINTENANCE TIP

Cap gasket is pre-lubricated for improved sealing. Occasional lubrication is recommended.

SAFETY PRECAUTIONS

1. Before using sprayer with chemicals, fill sprayer with fresh water to assure that you have it properly assembled; pressurize and practice spraying.

Also, check for any leaks at this time. When thoroughly familiar with the sprayer operation, follow normal operating procedures.

2. Ensure all pressure in the sprayer is relieved by locking the shut-off valve in the open position.
3. Avoid contact with chemicals.
4. Always wear rubber gloves, safety goggles and appropriate protective clothing.
5. Work in a well ventilated area.
6. Individuals should be trained in the proper use of this sprayer, chemical handling procedures, and first aid/emergency care. Where training is not available, individuals should study and follow the procedures detailed in this manual.

Chemicals can be harmful to individuals and the environment if improperly used. In addition, some chemicals are caustic, corrosive or poisonous and should be avoided. Read warnings and chemical manufacturers' instructions. Solo high density polyethylene sprayers are fitted with Viton® seals which are resistant to a wide variety of agricultural and household chemicals; however, care should be exercised to ensure that sprayer components are clean, functioning properly, and in a good state of repair before and during use.

If in doubt about a particular chemical, check with the manufacturer. If you suspect or observe indications that the material may be unsafe in a Solo sprayer...**STOP. DO NOT USE OR APPLY CHEMICAL. ALWAYS WEAR RUBBER GLOVES, GOGGLES, AND APPROPRIATE PROTECTIVE CLOTHING!**

Read and follow operating instructions:

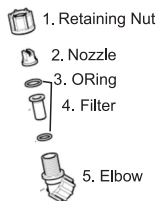
- **Do not fill with, use, or spray flammable materials.**
- Do not modify sprayer.
- Never spray in the direction of humans, animals or property which might be injured or damaged by spray formula.
- Do not use disinfectants, solvents or impregnating agents unless first tested to ensure they are not harmful to the environment or sprayer.
- Do not use liquids with a temperature above 43°C.
- Wear appropriate protective clothing to prevent contact with chemical agents.
- Rinse and clean sprayer thoroughly after using. Disposal of contaminated rinse should be in accordance with applicable ordinances. Observe the precautionary instructions of the chemical manufacturer.
- **DO NOT USE ANY ACID (INCLUDING CITRUS), PETRO CHEMICALS OR CAUSTIC CHEMICALS (including bleach).**
- Remember that a sprayer with liquid is a significant amount of weight (15kg per 15 litres). Use caution when bending, leaning or walking. Bend at the knees rather than the waist.
- During sprayer operation, the pressure cylinder (44 00 240) contains compressed air and liquid. Compressed air and liquid under pressure are inherently dangerous. Before making adjustments on sprayers or any other repair or inspection of any sprayer, be sure to relieve pressure through the shut-off valve and wand.

CUSTOMER SERVICE COMMITMENT FROM SOLO'S SERVICE DEPARTMENT: In the event the sprayer you have purchased has missing or damaged parts, please call 1300 798 022, 9:00am – 5:00pm Mon-Fri. In order to assist your service representative, please have the following information available: sprayer model number, part description and part number. A parts list is included in your operator's manual. Solo is committed to your satisfaction and is continuing its efforts to earn your future business.

Visit us on the web at www.solosprayers.com.au Troubleshooting and parts ordering available on-line.

REMOVING THE RETAINING NUT & NOZZLE

Unscrew the retaining nut (1) Push the nozzle (2) out of the retaining nut (1). The filter (4) will come out with the body. To reinstall the nozzle, reverse the above instructions.



FILLING

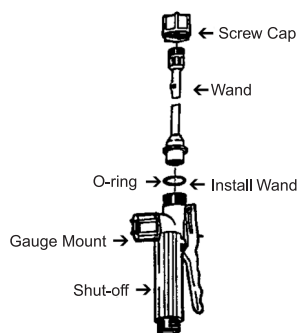
Mix the spray formula and the proper volume of water in a separate container. Pour the mix through the filter basket in the tank opening. This keeps debris from entering sprayer.

Remember that its not necessary to completely fill the sprayer tank each time. Mix only the amount needed to get the job done.

Always read and follow manufacturer's instructions printed on the product label. This can save money and help prevent crop and environmental damage.

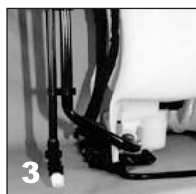
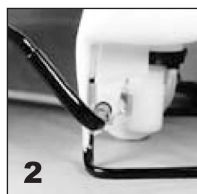
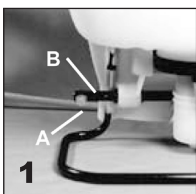
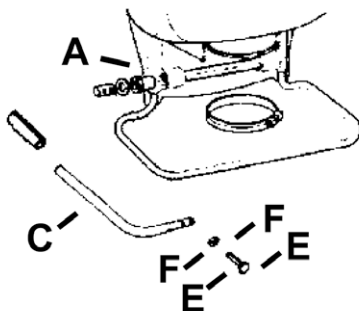
ASSEMBLY INSTRUCTIONS FOR WAND

1. Insert wand into shut-off valve as shown.
2. Tighten the screw cap clockwise onto the shut-off valve.



PUMP LEVER INSTALLATION

All hardware necessary for pump lever installation is included with the sprayer. The pump lever (C) should be installed as follows: place lever handle (C) onto the shaft (A). Align bolt holes and install the two bolts (E) and washers (F); then tighten.






SHOULDER STRAP INSTALLATION

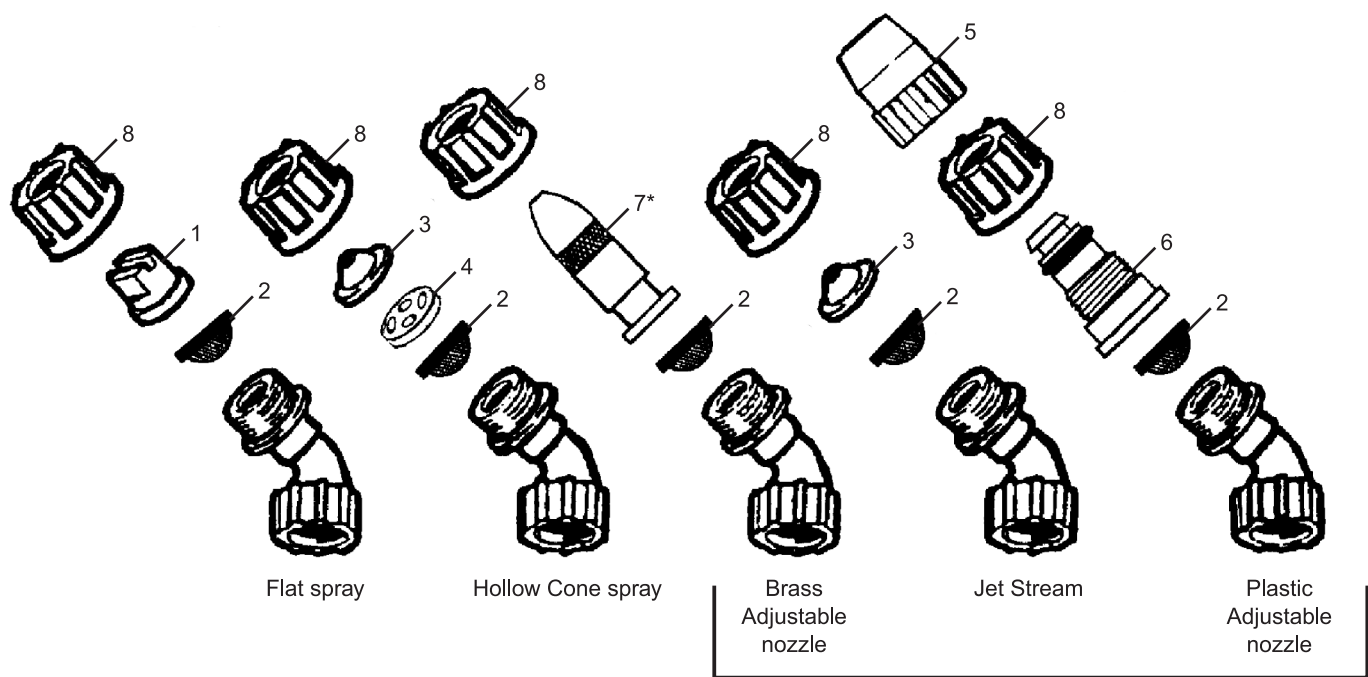
The top of the shoulder straps are pre-attached to the sprayer by means of a buckle. The lower end of the straps are attached by fastening the strap hooks to the metal frame between where frame exits the plastic tank and makes a bend.

OPERATING FEATURES

Nozzles – Your Solo sprayer is supplied with nozzle arrangements to provide a variety of spray patterns.

Item		Application	Part
Flat spray nozzle		Row treatment	40 742 631
Jet stream nozzle		Spot & longer range	40 74 755
Jet stream nozzle and Swirl plate = hollow cone		Shrubs and bushes	40 74 755 40 74 756

SPRAY TIP ASSEMBLY



ACCESSORIES

1. Flat spray nozzle

2. Filter

3. Jet cap

4. Swirl plate
5. Nozzle cap

6. Nozzle body

7. Brass adj. nozzle*

8. Nozzle retaining nut

*The Brass Adjustable Nozzle and Plastic Adjustable Nozzle are not a standard supply with the Solo backpack sprayer. Spray tips should be assembled as above for desired spray pattern.

SPRAYING

Prime the pump with rapid pump strokes. When you feel very firm resistance, the pressure chamber is filling with liquid.

With repeated piston strokes, the air in the pressure chamber is slowly compressed. By pressing the hand lever, the valve opens, and liquid is forced through the nozzle. The shut-off valve has a retaining clip which keeps the valve in the “OPEN” position for continuous operation. Pump using the end of the pump handle, as it is less fatiguing. The volume of liquid delivered varies with the working pressure which should be as high as needed to ensure an adequate spray pattern for each individual application.

Note: Should the pressure drop very quickly, drain the tank completely and pump without liquid. By this procedure, the air chamber is refilled with the required volume of air. It is advisable to pump the tank completely empty from time to time.

WETTABLE POWDERS & MARKER DYE

Avoid use in piston pump sprayer 425LC.

Note: If you use a wettable powder in your 425 sprayer, be sure it is thoroughly mixed in the formula solution.

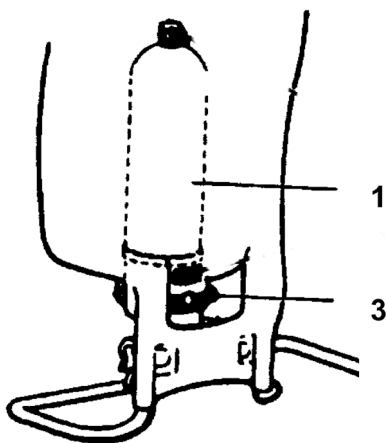
Immediately after use, be sure to remove the piston, clean and lubricate the Viton® collar with petroleum jelly. Thorough flushing of sprayer will extend the life of its working parts. If you use wettable powders in the piston pump sprayer, be sure to inspect regularly for seepage around the piston and repair accordingly.

CLEANING

- After spraying, clean the tank thoroughly. If some spray liquid is left inside, drain tank completely.
- Pumping causes air to be taken in and the remaining liquid to be discharged. Pump until liquid and air are coming out through the nozzle.
- Refill tank with a few litres of clean water and pump the water out as explained above (if necessary, repeat this procedure several times).
- If the Lance is removed, the pump can be flushed quickly. Improper spray distribution is the result of a clogged nozzle, which is easily removed and cleaned.
- Soap and water may also be used to clean tank.
- Do not use aggressive cleaning agents or abrasives.
- Follow the recommendations of the chemical manufacturer for disposal of waste water and chemicals.
- Activated charcoal in liquid or other form may be used to absorb chemicals in tanks or spills.

NOTE: When cleaning the sprayer after working with hormone weed killers, follow the instructions of the herbicide producers. Neutralize with activated charcoal. (Example: add 1g. of activated charcoal to 1 liter of water and leave this detergent in the tank and the lines approximately for 24 hours.) This is very important if other chemicals should be sprayed as the residues of the herbicide may damage susceptible plants. Cleaning after application of products containing carbolineum, if they are not water soluble, should be done with a 5% soda lye having a temperature of 40°C. Rinse with plenty of clean water.

MAINTENANCE AND STORAGE TIPS



1. Pressure Cylinder
3. Pump Clamp

- After operation, the sprayer should be stored away from direct sunlight to prevent UV damage.
- After removing the pump or when mounting a new Viton® collar, treat both the collar and the piston with water resistant grease.*
- Before winter, drain all liquid in tank, lines and air chamber. (See "Cleaning.") Leave shut-off valve locked in the "open" position.
- For service, visit our website to locate your nearest Solo dealer. Always insist on original Solo spare parts.
- Regularly inspect hose, wand, pump, tank and shut-off valve for wear, damage or leaks. Repair promptly.
- Occasionally lubricate cap gasket.*

Avoid excessive wear by:

1. Regular lubrication of Viton® collar, cylinder and piston with water resistant grease.*
2. Prompt and thorough cleaning and flushing of sprayer. Soap and water work well.

*Use Petroleum jelly.

SOLO WARRANTY

Solo Australia warrant the product from the date of purchase, for a period as stated below. The warranty covers manufacturer's defects in material or workmanship. The warranty does not cover malfunctions due to misuse or due to failure to follow the instructions in this manual. Any alterations to the product are to be performed by a Solo Australia approved service agent. Any repairs performed by non approved personnel may void the warranty.

To make a claim, contact Clayton Engineering, 26 French Ave, Brendale, Q, 4500 on phone 1300 798 022 or email sales@claytonengineering.com.au. You will be asked to provide proof of purchase and then will be instructed on the procedure for repairing or replacement of the product under warranty. All costs incurred for repair or replace, and additional claims can be discussed at this stage.

This warranty is provided in addition to other rights and remedies you have under law: Our goods come with guarantees that cannot be excluded under the Australian Consumer Law. You are entitled to a replacement or refund for a major failure and for compensation for any other reasonably foreseeable loss or damage. You are also entitled to have the goods repaired or replaced if the goods fail to be of acceptable quality and the failure does not amount to a major failure.

CONSUMER WARRANTY

Solo equipment purchased for consumer use is covered by this Warranty for a period of 2 years (Model 425LC).

COMMERCIAL WARRANTY

Solo equipment purchased for commercial use is covered by this Warranty for a period of 6 months (Model 425LC).

ITEMS NOT COVERED BY WARRANTY

Provisions of the Warranty will not apply to the following:

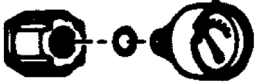







Normal service requirements arising during the warranty period, such as cleaning, normal wear, lubrication, filter, spray tips, etc. Normal service work over and above the repair or replacement of defective parts.

Any failure that results from an accident, customer abuse, normal wear, neglect or failure to operate the product in accordance with the instructions provided in the operator's manual or provided with the product. When an alteration or modification has been performed on a Solo product, Solo is responsible only for products as originally furnished by Solo, provided the alterations or modifications do not adversely affect the product's operation, performance or durability. Parts or accessories that are incompatible with the product are not approved by Solo.

Full disclosure of Solo's Warranty is available from your local Solo dealer or SOLO Australia.

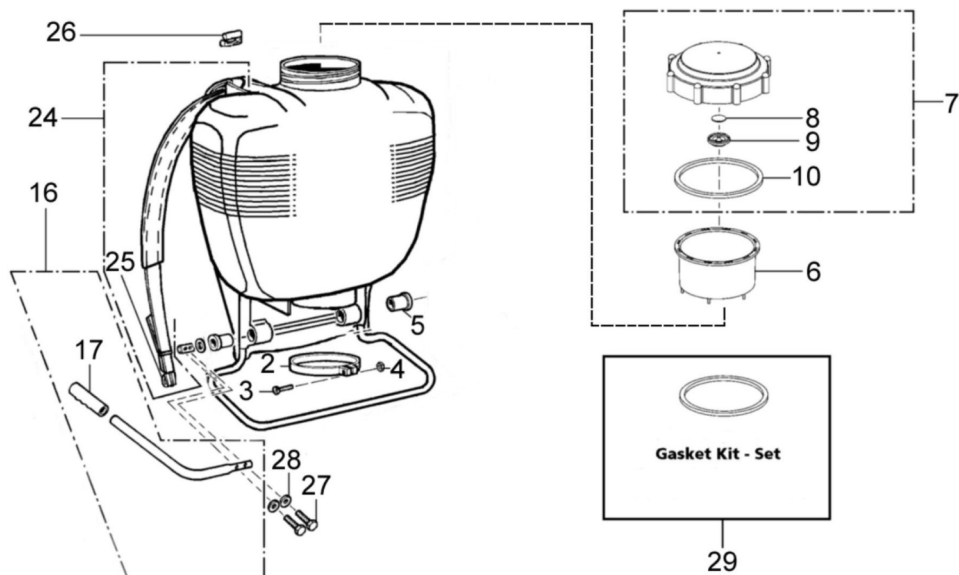
ACCESSORIES

The following accessories are not standard. Order them from your SOLO dealer.

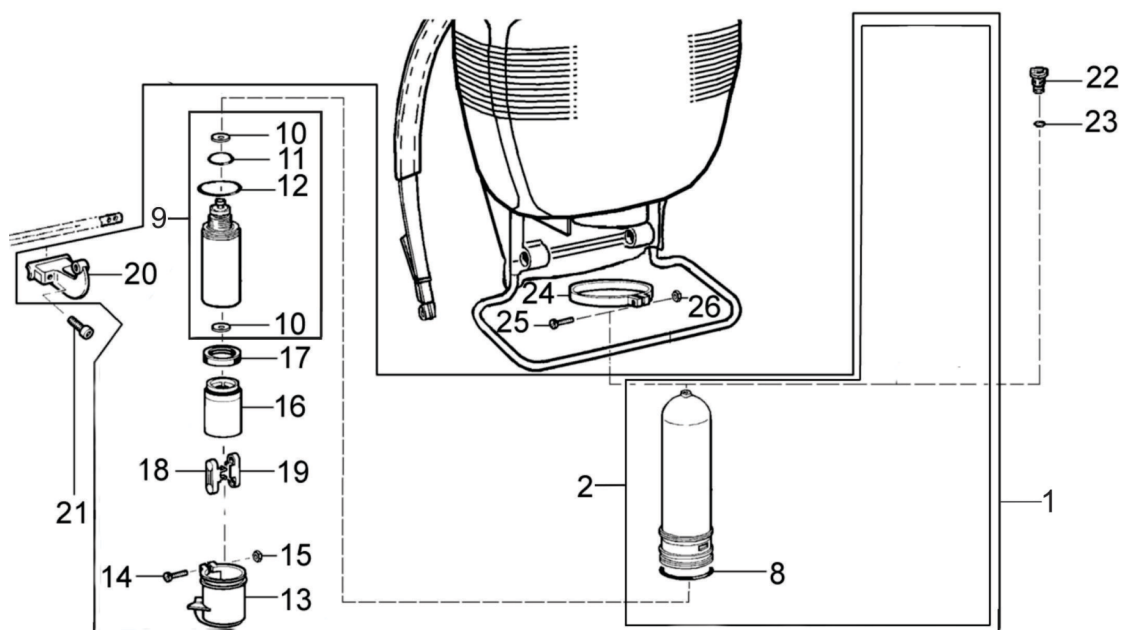
	<p>Pressure Control Gauge (49 00 356) Displays spraying pressure so operator can maintain desired pressure level.</p>
	<p>Brass Adjustable Spray Nozzle (49 00 206NZ) Affords operator a full range of sprays from fine to jet stream.</p>
	<p>Drift Guard (49 00 430) Helps control application of formula under breezy conditions.</p>
	<p>4-Nozzle Spray Boom (49 00 299) Mounted on the back part of the sprayer frame or attached to brass spray lance with flat spray nozzles for area treatment (total width 125cm; distance between nozzles 40.5cm).</p>
	<p>2-Nozzle Spray Boom (49 00 514) Handheld spray boom mounts on end of spray wand (total width 84cm; distance between nozzles 61cm). Includes 2 flat spray nozzles.</p>
	<p>Twin Nozzle (49 00 477) This is a multi-purpose nozzle that attaches to the end of the spray wand for double row application.</p>
	<p>Brass Spray Wand (49 00 528) The spray wand is 150cm long and replaces the standard spray tube for treating trees up to heights of 5 meters. Additional extension tube available in 50cm length (49 00 513).</p>
	<p>Shoulder Saver Harness (49 00 599) Heavy duty padded straps, padded lumbar support and fully adjustable straps.</p>

In the best interest of continued technological progress, we reserve the right to change design and configuration of any product without prior or other notice. Therefore, please note that text and illustrations of this manual are not to be considered binding and do not constitute a basis for legal or other claims.

Tank Carrying Strap



Piston Pump



Tank Carrying Strap

Pos.-No.	Part No.	Quantity	Description
2	00 66 439 25	1	Clamp ONLY
3	00 11 274	1	Screw
4	00 21 257	1	Nut
5	40 74 410	2	Bushing <->
6	42 00 166	1	Filler basket
7	42 00 242 25	1	Tank lid
8	40 61 464	1	Valve plate
9	40 74 123	1	Vent cap
10	40 61 345	1	Gasket <->
11	40 35 111	1	Pump shaft
12	00 31 356	1	Washer
16	48 00 173 25	1	Pump lever incl. (-> 16, 17
17	40 74 392	1	Grip <->
24	43 00 340	2	Carrying strap incl. (-> 24, 25
25	40 74 836	2	Plastic hook <->
26	40 74 412	2	Strap holder
27	00 12 185	2	Screw
28	00 30 131	2	Washer
29	06 10 407 K	1	Gasket kit

Piston Pump

Pos.-No.	Part No.	Quantity	Description
1	44 00 311	1	Pump assembly Complete
2	44 00 240	1	Pressure cylinder incl. (-> 2 - 8
8	00 62 291	1	Ring <->
9	44 00 1681	1	Cylinder (10-12)
10	40 61 257	2	Valve plate
11	00 62 139	1	Ring
12	00 62 140	1	Ring
13	40 74 680	1	Protection cap
14	00 18 340	1	Screw
15	00 20 101	1	Nut
16	40 73 558 25	1	Piston
17	44 00 189	1	Collar VITON
18	40 74 408	1	Connecting rod with stud
19	40 74 409	1	Connecting rod without stud
20	40 74 262 25	1	Lever <->
21	00 10 165	2	Screw
22	42 00 215	1	Plug
23	00 62 258	1	Ring
24	00 66 439 25	1	Clamp ONLY
25	00 11 274	1	Screw
26	00 21 257	1	Nut

INSTALLATION INSTRUCTIONS

PISTON PUMP REPAIR KIT (06 10 407-K)

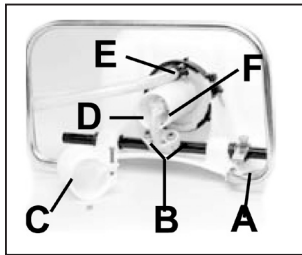


Figure 1.



Figure 2.



Figure 3.



Figure 4.



Figure 5.



Figure 6.



Figure 7.



Figure 8.



Figure 9.



Figure 10.

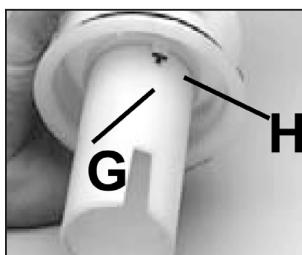


Figure 11.



Figure 12.

Note: Always wear rubber gloves, safety goggles and appropriate protective clothing when repairing a sprayer. Work in a well-ventilated area. Prior to repair, flush unit with water by filling, then spraying the water into an appropriate container or area. Ensure that all pressure is released by locking the shut-off valve in the open position. Once a repair is completed, fill the unit with clean water, pressurize, and check for leaks. If the sprayer leaks, DO NOT USE. Repair leaks and recheck.

Tools needed for kit installation

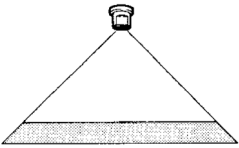
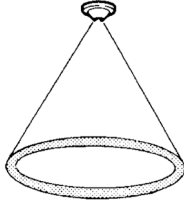
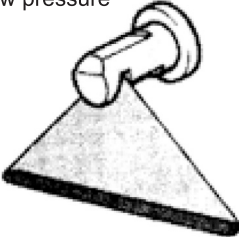
6mm Allen Head Wrench, 11mm Wrench or Crescent Wrench, Long Nose Pliers, Hammer, 13mm Socket or Wrench, T-25 Torx Screwdriver, Grease or Petroleum Jelly, 2X4 Piece of wood 45.72cm long

1. Using a 13mm socket wrench remove the handle bolts, and set aside. Lay unit on its back with pump assembly facing you. See figure 1. Loosen hose clamp (E). Pull off sprayer hose. **Caution:** There may be liquid inside the hose and pressure cylinder even when the tank is empty. Wear protective gloves. Next, remove the nut and bolt from protective cap, and remove cap (C). Loosen stop plate (A) but do not remove. Rotate the pump shaft to access the two lever bolts in the center (B). Using a 6mm allen head wrench, remove them. Pull the piston (F) out of the piston cylinder (D).
2. To remove the piston cylinder assembly, turn the cylinder counter clockwise when viewing from the bottom. Figure 2. **Caution:** The piston cylinder has sharp edges.
3. Check the inside of the piston and cylinder for scratches. If the piston or cylinder are scratched, replace.
4. To remove connecting rods from the piston and lever, insert a flat tip screwdriver between the two connecting rods and twist.
5. With the new piston, place the two connecting rods over the studs on the inside of the piston. Place the lever studs into the connecting rods and snap together with your fingers.
6. To replace the Viton® collar, push it off the top of the piston with your thumb. Figure 6. Install the new collar on the piston onto the form fitted sides.
7. Remove the valve plate and O-rings from the outside of the piston cylinder. Install the new valve plate and the two O-rings making sure the O-rings seat in the grooves. Finally, inside the piston cylinder you will find a second valve plate. Using needle nose pliers, pull out the red or orange pin and remove the valve plate. Install a new valve plate and firmly reseat the retaining pin using needle nose pliers. Do not push pin hard up against valve plate.
8. If necessary remove the pressure cylinder by unscrewing the pressure regulator control, if equipped. Remove the large clamp at the bottom of the cylinder. Use a block of wood and hit forcefully with a hammer, driving the assembly through the bottom of the tank.
9. Next, assemble the piston cylinder. First grease the O-ring on the piston cylinder, being careful not to get any on the valve plate, and then place the piston cylinder into the pressure cylinder. Screw the piston cylinder clockwise until it is tight and the bottom O-ring is no longer seen. When properly seated the notch on the piston cylinder (G) will line up with the indent on the pressure cylinder (H).
10. Apply a light coat of grease to the inside of the piston cylinder wall and on the Viton® collar, and then re-install the piston into the piston cylinder. Figure 12. To insert the piston, tilt at a slight angle with the leading edge of the Viton® collar placed over the slot. When seated, install the 6mm Allen Head bolts through lever base into shaft.

Replace the protective cap and tighten the nut and bolt. Reinstall the handle. Re-tighten the stop plate, making sure the bolt goes through the rear hole. Replace the hose and black hose clamp making sure it is firmly secured.

Re-tighten the stop plate, making sure the bolt goes through the rear hole. Replace the hose and black hose clamp making sure it is firmly secured.

NOZZLE TIP SPECIFICATION

Description	Order number	Spray Volume		Pressure		Angle	Applications
		l/min.	gal/min.	atm	psi		
Flat Spray Nozzle STANDARD	40 74 2631* Red	0.88 1.25 1.53	.23 .33 .40	1.0 2.0 3.0	15 29 44	120° 120° 120°	area and row treatment 
Flat Spray Nozzle	40 74 501 Yellow	0.65 0.80 0.92	0.172 0.211 0.243	2.0 3.0 4.0	29 44 59	80° 80° 80°	
Adjustable Nozzle Brass Plastic	49 00 206 NZ 49 00 5257	1.53 0.76	0.40 0.20	2.8 2.8	40 40	Straight stream Hollow Cone	tree spraying (adjustable spraying pattern)
Hollow Cone Nozzle 1mm orifice	40 74 755* Black	0.4 0.55	0.10 0.15	1.0 2.0	15 29		shrubs, bushes 
Hollow Cone Nozzle 1.4mm orifice	40 74 758 Grey	0.64 0.91 1.11	0.17 0.24 0.29	1.0 2.0 3.0	15 29 44	50° 65° 65°	
Hollow Cone Nozzle 1.8mm orifice	40 74 726 Blue	0.88 1.25 1.53	0.23 0.33 0.40	1.0 2.0 3.0	15 29 44	55° 70° 72°	
No-drift Nozzle AN 2.0	40 74 386 Red	0.55 0.76 0.91	0.15 0.20 0.24	0.4 0.7 1.0	6 10 15	100° 100° 100°	mainly for herbicides a low pressure 
No-drift Nozzle AN 2.5	40 74 514 Brown	0.72 0.95 1.14	0.19 0.25 0.30	0.4 0.7 1.0	6 10 15	110° 110° 110°	
No-drift Nozzle AN 5	40 74 513 Blue	1.80 1.90 2.28	0.48 0.50 0.60	0.4 0.7 1.0	6 10 15	120° 120° 120°	

•Standard equipment