



Original Instruction Manual

BACKPACK SPRAYER MODELS 646608 & 646609





Safety Messages and Symbols

⚠ WARNING Read and thoroughly understand all instructions in this manual before assembling or operating the backpack sprayer. Keep this manual for future reference.

Explanation of Warning Levels

This section contains safety information. This manual contains **WARNINGS** and **CAUTIONS** that are applicable for the safe operation of the backpack sprayer.



This is a safety alert symbol. It is used to alert you to potential physical injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.



⚠ WARNING Indicates a hazard with a medium level of risk which, if not avoided, could result in death or serious injury.



⚠ CAUTION Indicates a hazard with a low level of risk which, if not avoided, could result in minor or moderate injury.

Precautions



Read and thoroughly understand the manual before assembly and operation. Keep for future reference.



The operator shall wear the proper personal protective equipment, including a mask, head protection, clothing, gloves, and boots when using the backpack sprayer.

⚠ CAUTION

- Never spray against the wind.
- This product is not a toy.
- Only trained, healthy and rested operators may work with the backpack sprayer.
- Do not use the backpack sprayer when tired, ill, or under the influence of alcohol, drugs or medication.
- Ensure inexperienced users receive proper training before use.
- Liquid for application shall not exceed 45° C

⚠ WARNING

- Never spray at humans or animals.
- Keep chemicals out of reach of children.
- Follow all preparation instructions furnished by the chemical manufacturer. Alteration of the dilution rate is prohibited.
- Check the volume application rate before spraying.
- Follow all safety instructions furnished by the chemical manufacturer for storage and disposal.





WARNING

- Follow all safety instructions furnished by the chemical manufacturer for accidental inhalation, skin contact, or ingestion.
- Follow all clean-up procedures furnished by the chemical manufacturer.
- Never use strong acid, strong alkaline or flammable solutions.
- Never use highly-toxic and highly-persistent pesticide for pest control of vegetables, melon crops, fruit trees, tea, herbal medicines, etc.
- Ensure enough time passes between pesticide application and harvest.
- Keep away from heat sources and store out of direct sunlight.
- Don't leave the backpack sprayer unattended in a public area.
- Do not attempt to remove clogs by blowing into parts of the backpack sprayer with your mouth.
- Secure the backpack sprayer against falling, overturning, vibration, extreme temperatures, direct sunlight, or impacts during transport.
- Do not attempt to repair or modify the backpack sprayer in any way. Clean and maintain the backpack sprayer as prescribed in this manual. Only use spare parts and accessories recommended by the manufacturer. Repairs shall only be carried out by the manufacturer, it's service agent, or similarly qualified persons. Failure to do so may result in hazard.
- Check the backpack sprayer before each use with clean water. Check the tank, hose, shut-off, and nozzle for leakage.
- Check the backpack sprayer yearly with clean water.
- Consider wind, rain, and other climate and environmental conditions to avoid hazard through uncontrolled or unintended distribution.
- Avoid drift during spray operation.
- Do not use if backpack sprayer is leaking or spray is uneven.

Packing List

Description		Unit	Qty
Spray Tank, Rocking Lever Unit, Spray Lance		Unit	1 ea
User's Manual		Pc(s)	1
Accessories Package	Sealing Rings	Set	1
	Piston	Pc(s)	1
	Four-hole Adjustable Nozzle	Pc(s)	1
	Fan Nozzle	Pc(s)	1
	Double Conical Nozzle	Pc(s)	1
	Lock Sleeve	Pc(s)	2
	Aligning Buckle	Pc(s)	1
	Fix Ring for Rocking Lever	Pc(s)	1



Parts and Technical Parameters



- 1. Spray Tank
- 2. Pump

Spray System

- 3. Hose
- 4. Handle and Button
- 5. Spray Lance
- 6. Spray Nozzle
- 7. Rocking Lever Unit

Double Shoulder Straps (not shown)

Technical Data

Model Number	646608	646609
Rated Volume	16	20
Working Pressure (bar)	2-4	
Working Stroke (mm)	40-80	
Piston Diameter (mm)	45	
Pressure Regulator		
Open Pressure (bar)	1.4 +/- 0.2	
Close Pressure (bar)	1 +/- 0.15	
Net Weight	3.19 kg	3.35 kg
Tank Size (mm)	366 x 168 x 498	366 x 190 x 522

Average Flow Rate of Different Nozzles at Common Working Pressure (3 bar)

Nozzle Type	Flow (L/min)
Conical	0.85
Fan	0.90
Double Conical	1.40
Four-hole Adjustable	1.20



This user's manual is a part of the backpack sprayer. Keep it in good condition. In order to utilize and maintain the backpack sprayer in a good manner, read the user's manual prior to operation. If you have any doubt, contact the supplier.

The backpack sprayer shall be used only with products approved by local or national regulatory authorities for use with backpack sprayers.

Major Applications

This backpack sprayer is applicable for pest-control of various crops, flowers and garden plants, cleaning of public places as well as hygiene and disease control of fowl and livestock houses.

By swinging the rocking lever, the piston moves up and down in the pump cylinder, and produces a pressure difference between the inside and outside of the pump. The pressure will drive the sealing ball to open and close which will pump the liquid into the chamber. Then through the spraying system, the spraying fog can be produced.

Features

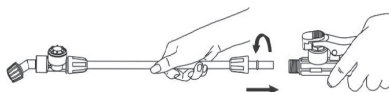
- Ergonomically designed spray tank fits the operator comfortably
- Built-in, leak free pump
- Easy to operate lever-operated piston pump quickly creates stable pressure
- Diaphragm type pressure regulator absorbs fluid shock to maintain pressure and keep spray pressure even
- Trigger switch allows leak-free spot or continuous spraying
- Four changeable nozzles create different spray patterns for varying conditions
- Made of high-quality materials, acid and alkali resistant, corrosion resistant
- Durable and reliable



Assembly

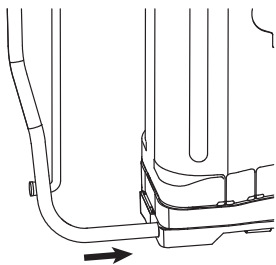
Ensure all the parts in the packaging list are available when unpacking.
Assemble and operate according to the instructions.

1. Assemble the spray lance

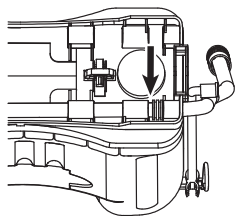


2. Install the rocking lever

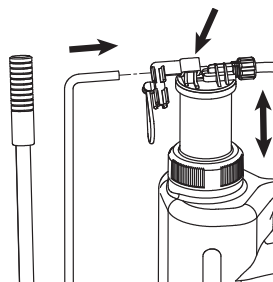
A. Insert the bottom of the rocking lever into the hole on the tank base.



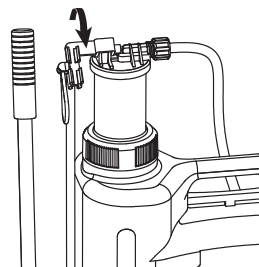
B. Connect the rocking lever to the structure on the underside of the tank base.



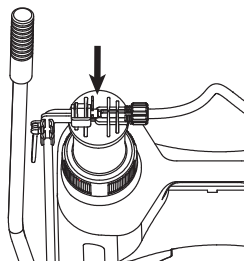
C. Insert the fix rod of the rocking lever into the fix clamp. Ensure the pump cylinder operates when the rocking lever is swung back and forth.



D. Rotate the fix clamp to align with the hose connector.



E. Insert the fix clamp into the hose connector.





Operation

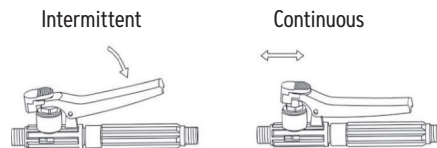
- ⚠ WARNING** Examine the backpack sprayer before each use, ensure it is free of damages and congestions, and all parts work as intended. Rubber parts such as the hoses or O-rings must not show cracks or appear porous. Pay particular attention to the safety devices. Ensure all connections are fitted tightly.
- ⚠ WARNING** Examine the backpack sprayer before first use after storage.
- ⚠ CAUTION** Do not use the backpack sprayer if there is visible damage or loss of functionality.
- ⚠ WARNING** Do not exceed nominal volume. Ensure the liquid to be sprayed is compatible with the backpack sprayer.
- ⚠ WARNING** Ensure that the use of the chemical is permitted in your location.
- ⚠ WARNING** Take into account the wind, rain, or other environmental conditions to avoid uncontrolled or unintended distribution of chemicals.
- ⚠ WARNING** Follow all application instructions furnished by the chemical manufacturer. Review your chemical safety sheet as the chemicals may be harmful to waterways and surrounding plant and animal life. Take appropriate precautions as directed by your local, state, and federal government agencies and the chemical manufacturer.

Unscrew the lid of the spray tank and carefully fill it with prepared mixture through a strainer. Close the tank lid.



Mount the backpack sprayer on your back and swing the rocking lever to boost the gas pressure in the air chamber, and then press the button to spray in spot spraying or continual spraying form.

Control of Shut-off Valve



About the Pressure Regulating Valve

The Pressure Regulating Valve is an important device to reduce spraying pulse, maintain the constant pressure, ensure even spraying, minimize environmental pollution and enhance the pest control performance.

The Pressure Regulating Valve is normally opened at a pressure of 1.4 +/-0.2bar and normally closed at a pressure of 1.0 +/-0.15bar. When the pressure inside the tank increases above open pressure, the sprayer can start spraying by compressing it's shut-off switch. When the pressure is lower than the close pressure, the regulating valve will shut off automatically and stop spraying. You will need to pressurize the pump to continue spraying.

Note: Residual pressure still exists in the tank due to the regulating valve, even though spraying is finished. Release the residual pressure by putting the spray nozzle into the tank and pressing the switch.





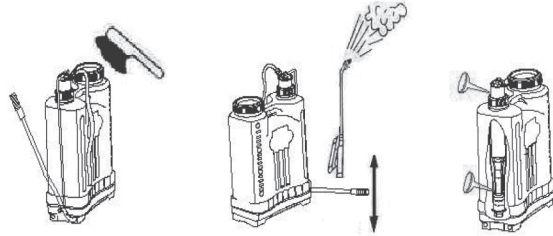
Cleaning and Maintenance

⚠ WARNING Always release residual pressure before cleaning. Protect yourself with suitable personal protective equipment (PPE) from hazardous substances. Take precautions to avoid environmental contamination from hazardous substances.

⚠ WARNING If the nozzle seems to be blocked, do not try to blow it free with your mouth.

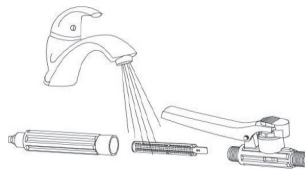
Clean your backpack sprayer after each use

After use, the surface of the backpack sprayer shall be washed in an allowable site. The inner part should be cleaned with high pressure injection until the drainage becomes clean. The spraying parts should be lubricated after cleaning.



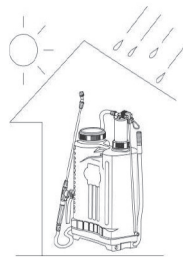
Cleaning of the Shut-off Strainer

The strainer is in the shut-off handle. Disassemble the shut-off unit to clean the strainer.



Storage

- Release any residual pressure
- Remove any leftover spray product from tank and hoses
- Thoroughly clean the backpack sprayer and allow it to dry
- Store in a dry, dust-free place out of reach of children





Troubleshooting

Follow solutions below to solve the problem encountered, or contact the retailer or manufacturer.

Problem	Cause	Solution
Leakage or poor spraying	Seal ring is loose or damaged	Tighten or replace
	Nozzle strainer or suction strainer is blocked	Clean
	Nozzle is blocked	Clean or repair
Rocking lever is too heavy to operate	Filter or nozzle is blocked	Clean
	Lever is too tight	Check and adjust
	Pump chamber insufficiently lubricated	Apply lubricant, or repair
Pressure has decreased	Piston, seal ball may have been damaged, lock pin is loose	Replace the piston, seal ball, screw down lock pin
No pressure is produced when operating the rocking lever	Seal ball has been improperly positioned or fallen	Reposition the seal ball



EC - Declaration of Conformity

**OREGON TOOL INC. 4909 SE INTERNATIONAL WAY PORTLAND, OR 97222 USA
DECLARES UNDER OUR SOLE RESPONSIBILITY THAT THE FOLLOWING PRODUCTS:**

Brand: Oregon
Product Type: Backpack Hand Pump Sprayer
Models: 646608 (16 Liter), 646609 (20 Liter)

ARE COMPLIANT WITH THE FOLLOWING APPLICABLE EUROPEAN DIRECTIVES AND STANDARDS:

Machinery Directive (MD) 2006/42/EC:
EN ISO 19932-1:2013
EN ISO 19932-2:2013
AfPS GS 2019:01 PAK

Restriction of Hazardous Substances (RoHS) EU 2015/863 amendment to 2011/65/EU

TECHNICAL DOCUMENTATION FILE, LOCATION AND CONTACT:

Oregon Tool Inc.
4909 SE International Way
Portland, Oregon 97222, USA

For product compliance inquiries, send request to productcompliance@oregontool.com

Authorized Representative:
Authorized Signature:

John Verrett

Title:
Place Issued:

Senior Global Product Safety & Compliance Engineer
Portland, Oregon USA

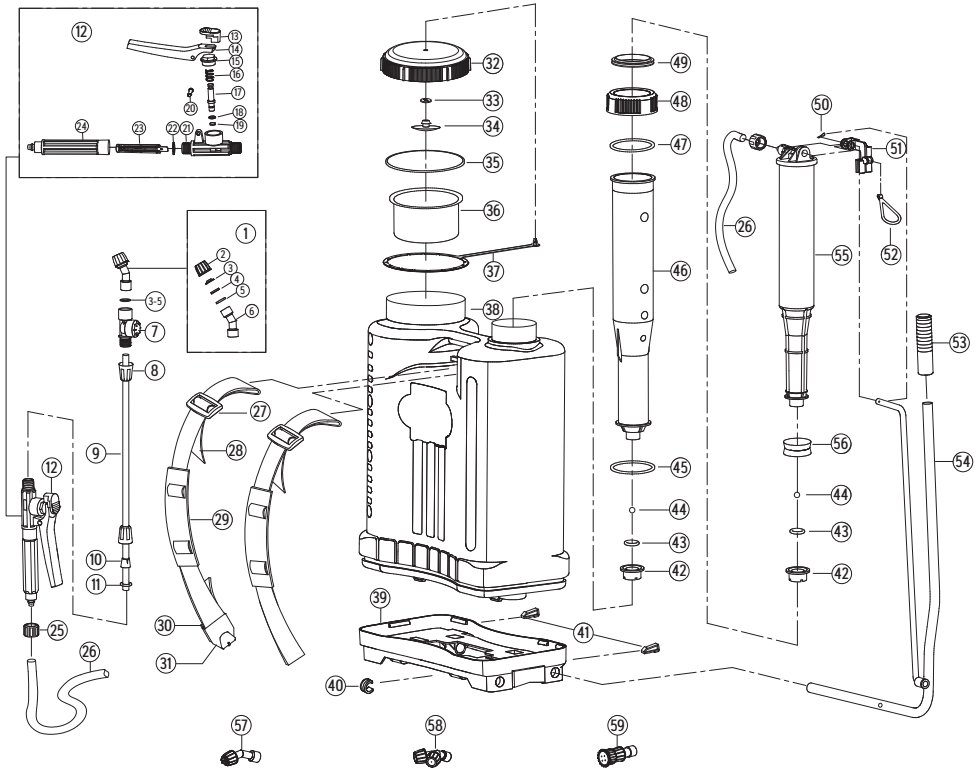
Date Originally Issued:

02 May 2024





Structural Diagram and Parts List





PN	Description	Qty.
1	Conical Nozzle	1
	2 Nozzle Cap	1
	3 Conical Spraying Sheet	1
	4 Split Sheet	1
	5 Seal Washer Sheet Ø16 x Ø11 x 2	1
	6 Bend Part	2
7	Pressure Regulating Valve	1
8	Rod Nut	1
9	Sprayer Rod	1
10	Lock Sleeve	2
11	O-seal Ring Ø15x3	2
12	Handle and Switch	1
	13 Limit Cap	1
	14 Switch Press Plate	1
	15 Switch Nut	1
	16 Switch Spring	1
	17 Valve Plug	1
	18 Valve Plug O-ring Ø9.5 x 1.9	1
	19 Seal Ring	1
	20 Switch Pin	1
	21 Switch Body	1
	22 O-ring Ø8.5 x 2.65	1
	23 Switch Filter Screen	1
24 Handle	1	
25	Hose Cap	2
26	Hose	1
27	Belt Buckle	2
28	Belt	2
29	Belt Pad	2
30	Belt Clamp	2
31	Belt Hook	2

PN	Description	Qty.
32	Tank Lid	1
33	Check Valve Washer	1
34	Air Inlet Cork	1
35	Big Seal Ring	1
36	Big Filter Screen	1
37	Anti-off Holding Device	1
38	Tank	1
39	Base	1
40	Aligning Bubble	1
41	Lock Pin	2
42	Lock Cap	2
43	O-ring Ø0.5 x 2.5	2
44	Seal Ball	2
45	Pump Cylinder O-ring Seal	1
46	Pump Cylinder	1
47	Felt Ring	1
48	Air Chamber Lid	1
49	Pump Cylinder Gasket	1
50	Split Pin 2 x 25	1
51	Fix Clamp for Rocking Lever	1
52	Fix Ring for Rocking Lever	1
53	Rocking Lever Hand Grip	1
54	Rocking Lever Assembly	1
55	Air Chamber Assembly	1
56	Piston	1
57	Fan Nozzle	1
58	Double Conical Nozzle	1
59	Four-hole Adjustable Nozzle	1



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