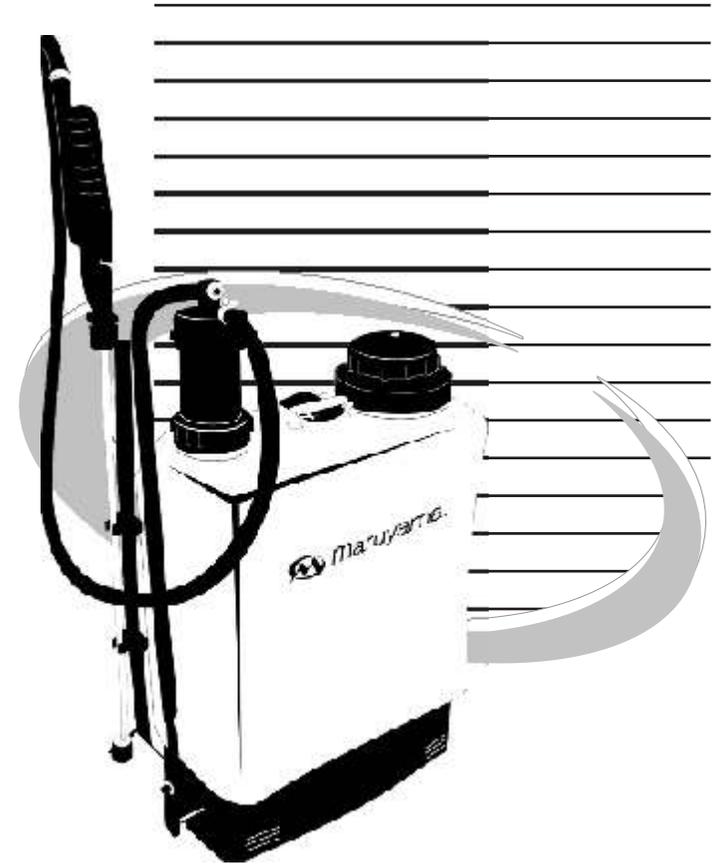


MARUYAMA

OPERATOR'S MANUAL
BACKPACK SPRAYER
M409



Maruyama U.S. Inc.

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Premium Outdoor Power Equipment  Maruyama. Extraordinary

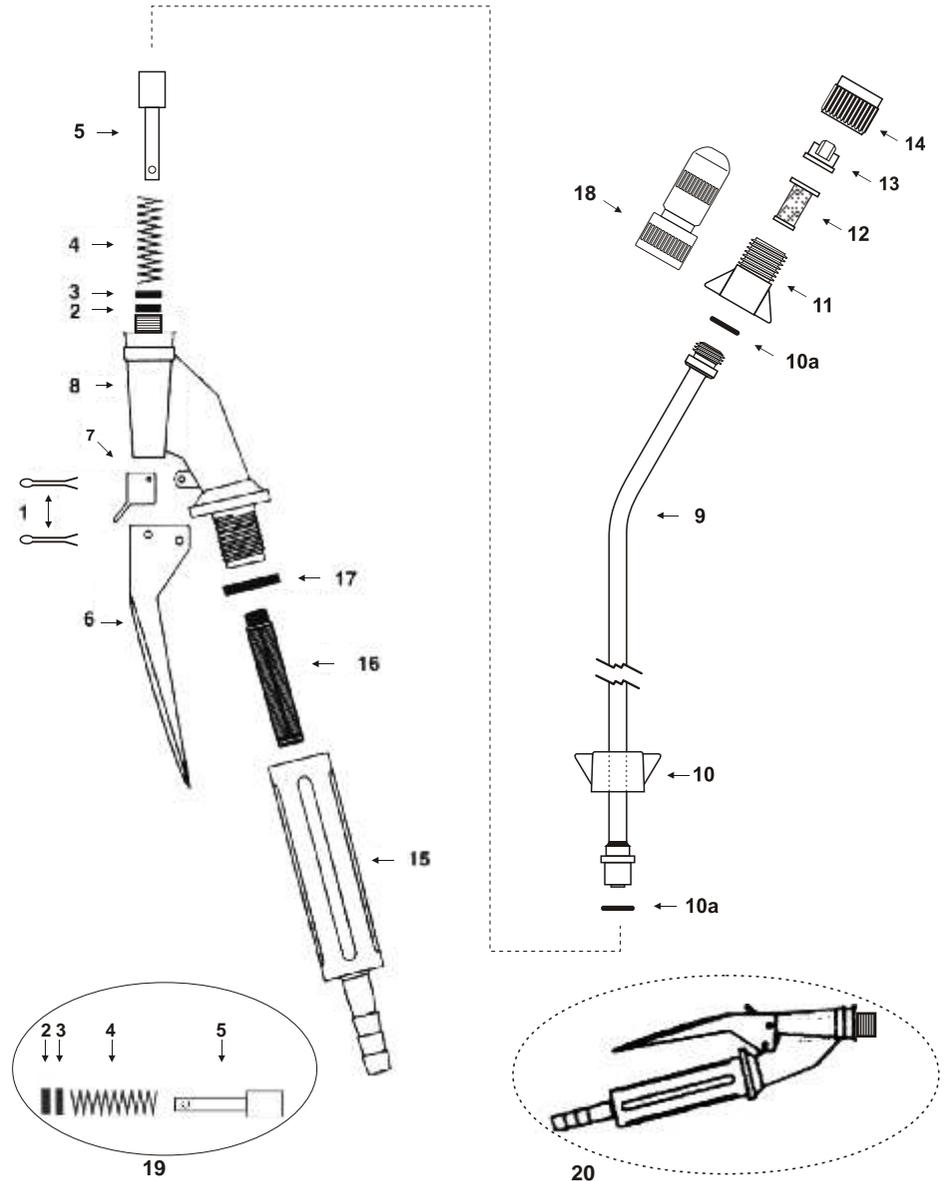
Completely read and understand this manual prior to using this product.

Maruyama is grateful to you for purchasing this product. Prior to operating the sprayer, please read this owner's manual to obtain the best results.

GENERAL INDEX

| | |
|-------------------------------------|---|
| Technical specifications | 1 |
| Assembly Instructions..... | 2 |
| Back pack sprayer calibration | 2 |
| Chemical mixing procedure | 3 |
| Maintenance | 3 |
| Troubleshooting guide | 4 |
| Pressure chamber components | 5 |
| Brass cylinder components | 5 |
| Back Pack Sprayer components | 6 |
| Trigger valve components | 8 |

TRIGGER VALVE COMPONENTS



TRIGGER VALVE COMPONENTS

| # | Code | Description |
|-----|--------|--|
| 1 | 840661 | Clamps (2) |
| 2 | 840662 | Viton O´ring |
| 3 | 840663 | Brass circle stopped seal |
| 4 | 840664 | Piston trigger lance spring |
| 5 | 840665 | Piston trigger lance |
| 6 | 840666 | Trigger - lever |
| 7 | 840667 | Fastener hook |
| 8 | 840668 | Body valve |
| 9 | 840669 | Spare pipe for lance (20 inches) nozzle |
| 10 | 840670 | Tip nut |
| 10a | 840600 | O´ring 5081 (2) |
| 11 | 840671 | Body tip |
| 12 | 840672 | Tip filter |
| 13 | 840673 | Flat fan tip VP 02 F110 |
| 14 | 840674 | Tip cap |
| 15 | 840675 | Lance handle |
| 16 | 840676 | Lance filter |
| 17 | 840677 | Lance handle seal (viton) |
| 18 | 840692 | Adjustable brass nozzle |
| 19 | 840697 | Piston lance assy (# 2, 3, 4, 5) |
| 20 | 840698 | Lance body assy (# 2, 3, 4, 5,6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17) |

OPERATING INSTRUCTIONS

In this manual you will find all the instructions you need to operate your sprayer properly.

TECHNICAL SPECIFICATIONS

Model M409

| | |
|------------------------|--|
| Net weight: | 8,75 Lbs. |
| Tank Capacity: | 4,2 Gallons |
| Tank Material: | Polyethylene |
| Working pressure: | 30 to 90 p.s.i. |
| Standard lance length: | 1,64 feet |
| Standard hose length: | 3,77 feet |
| Provided nozzle: | Adjustable brass nozzle Flat fan nozzle |

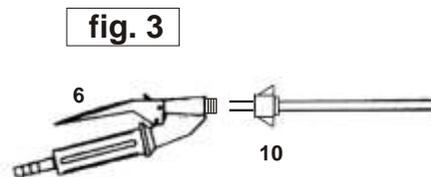
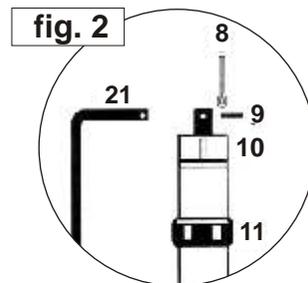
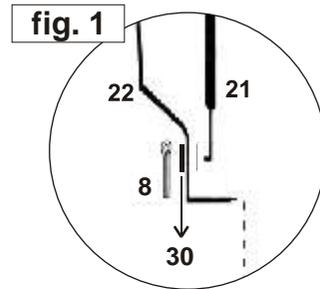
ASSEMBLY INSTRUCTIONS

You will find your Sprayer assembled and ready to be operated, less the hose, which is separate from the lance and the sprayer pump. Connect the hose to the outlet pump connector and to the lance, and adjust both ends with the two hose clamps you will find inside the strainer in the sprayer cap.

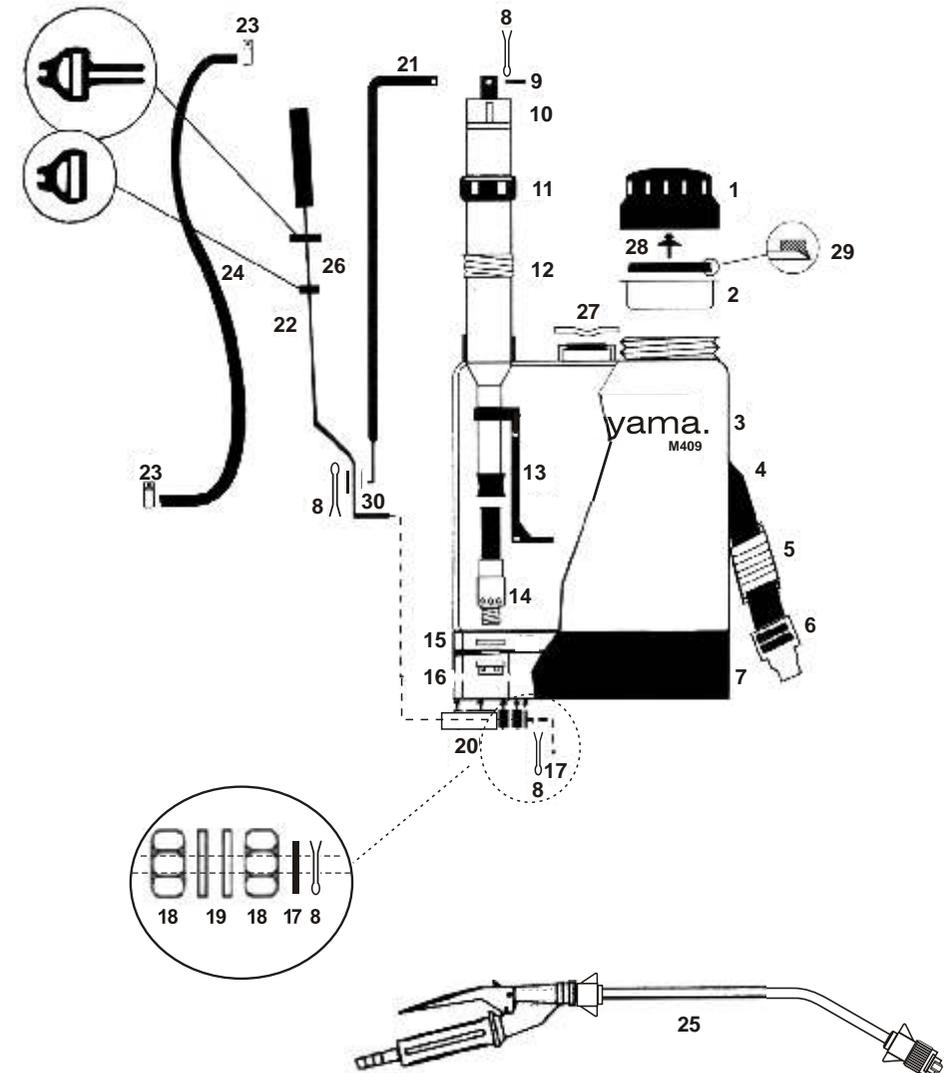
The straps are padded and provided with adjusting buckles.

To assemble spraying lance, press the trigger lever (n° 6) and tighten the plastic tip nut (n° 10) to the bronze lance pipe. Lastly, release the lever. (**Important:** Never tighten tip nut without pressing on the trigger lever.)

The correct operating position is when the top of the tank is on the same level as the operator neck.



BACK PACK SPRAYER COMPONENTS



BACK PACK SPRAYER COMPONENTS

| # | Code | Description |
|----|--------|------------------------------------|
| 1 | 840727 | Fill cap |
| 2 | 840579 | Strainer |
| 3 | 840580 | Tank (4.2 gallons) |
| 4 | 840581 | Strap |
| 5 | 840582 | Strap padding kit (2 units) |
| 6 | 840583 | Buckle kit (2 units) |
| 7 | 840584 | Plastic base |
| 8 | 840585 | Pin (3 units) |
| 9 | 840586 | Joining bolt to the chamber |
| 10 | 840587 | Pressure chamber (assembly) |
| 11 | 840588 | Chamber guide nut |
| 12 | 840589 | Pressure chamber seal |
| 13 | 840590 | Agitator assembly |
| 14 | 840591 | Brass cylinder (assembly) |
| 15 | 840592 | Brass cylinder gasket seal |
| 16 | 840593 | Brass cylinder nut |
| 17 | 840594 | Lever guide ring |
| 18 | 840595 | Lever guide brass nut (2) |
| 19 | 840660 | Lever |
| 20 | 840596 | Lever guide pipe |
| 21 | 840597 | Lever arm |
| 22 | 840598 | Lever |
| 23 | 840599 | Hole clamp |
| 24 | 840619 | Hose |
| 25 | 840620 | Trigger valve lance (flat fan tip) |
| 26 | 840621 | Lance and lever arm support kit |
| 27 | 840622 | Strap fastener |
| 28 | 840623 | Backpack cap valve |
| 29 | 840624 | Backpack cap seal |
| 30 | 840625 | Lever arm ring |

SPRAYER CALIBRATION

a) Mark a field area of 328 ft²(square of 32.8 x 32.8 sq or 328 sq ft x 3.28 ft)

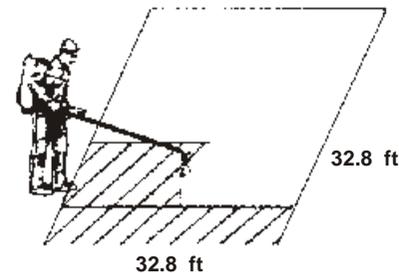
b) Fill the tank with clear water and apply over the marked area keeping a constant pumping and walking rhythm.

c) Calculate the flow rate in gallons by hectare using the following formula:

Q = Flow rate in gallons
32800=ft² correspond with 1 hectare
A = Applied area (328 ft²)

$$Q = \frac{\text{Vol.} \times 32800 \text{ ft}^2}{A=328 \text{ ft}^2}$$

d) If the flow rate is not in accordance with your needs, change to a larger or smaller nozzle according to the results.



CHEMICAL MIXING PROCEDURE

a) Fill bucket with 1.3 gallons of clear water and add the chemical.

b) Shake well until the mixture looks homogeneous.

c) Place this liquid inside the spray tank and fill desired amount of water.

d) Spray mixture immediately after you have filled the tank.

MAINTENANCE

When you have finished using the sprayer, wash the tank well with clear water and some detergent if possible. Operate the sprayer with water to wash the pump and the trigger valve. Rinse it, dry it and store it in a clear place.

IMPORTANT !

Never store the sprayer with chemical remains. It can temporarily or permanently damage your equipment.

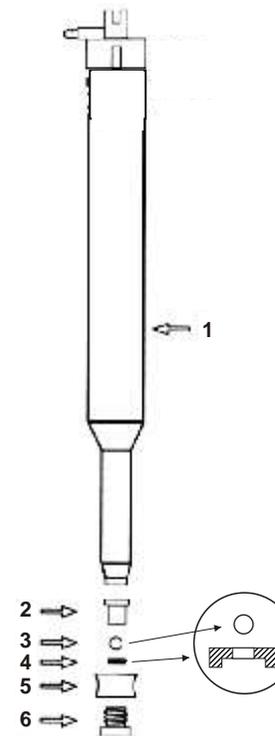
TROUBLESHOOTING GUIDE

Place approximately 5 gallons of water in the tank. Operate the pump, and watch inside the tank to identify the problem according to the following table:

| Problem | Cause | Solution |
|--|--|-------------------------------------|
| The liquid is coming out from the upside of the brass cylinder. | The piston seal is worn out. | Change the piston seal. |
| When pumping and filling the chamber the liquid returns back through the admission and the chamber falls down quickly. | Brass cylinder valve won't shut due to wear or dirt. | Clean or change the cylinder valve. |
| When pumping and filling the chamber and releasing the action lever; the chamber ascends. | Chamber valve wear | Clean or change the chamber valve. |

PRESSURE CHAMBER COMPONENTS

| # | Code | Description |
|---|--------|---|
| 1 | 840680 | Pressure Chamber (no valve box or seal) |
| 2 | 840681 | Chamber valve cap |
| 3 | 840682 | Valve |
| 4 | 840683 | Valve seal (viton) |
| 5 | 840739 | Double piston seal |
| 6 | 840685 | Valve box |



BRASS CYLINDER COMPONENTS

| # | Code | Description |
|---|--------|--------------------------|
| 1 | 840686 | Brass cylinder valve cap |
| 2 | 840682 | Valve |
| 3 | 840683 | Valve seal (viton) |
| 4 | 840689 | Cylinder only |
| 5 | 840592 | Brass cylinder seal |
| 6 | 840593 | Brass cylinder nut |

