meiji

Instruction Manual

FINER SPOT

Handy Spray Gun

Thank you for purchasing MEIJI Handy Spray Gun.

Before Using this Product

■ To ensure safe and proper use of this product, be sure to read through this operation manual, and understand the contents of this manual thoroughly before using the product.
■ After reading this operation manual, keep it in place for your quick reference whenever required.
■ To lend or transfer this product, attach this operation manual to the product.
■ If this operation manual is lost or damaged, immediately order a new one from our authorized dealer or distributor.
■ To improve the product quality or performance, or to ensure safety, the parts used in the product are subject to change. In this case, note that the description and some parts in the illustrations may be different from those of the actual product.
■ If you have any question or comment about the product, contact the distributor of this product or our authorized dealer or distributor in your district.

⚠WARNING/CAUTION	Indicates a case where failure in observing the advice on proper handling manners, or neglecting appropriate precautions may result in injury or death, and/or serious damage to the product.

Fire and Explosion

1. Keep fire off your paint spray work area.
• Paint is inflammable, causing fire and explosion. To conduct spray work, select a wide, well-ventilated place.
• Be sure to keep an inflammable object (cigarette, ignition equipment, electric equipment, etc.) off your spray work area.
• To clean spray gun, use a solvent whose flash point is equivalent to, or higher than that of the paint being used. Using a general cleaning solvent causes a fire. Use a cleaning solvent with 37.8°C or higher flash point.
• Provide a fire extinguisher in your spray work area.
2. Do not use a halogenated hydrocarbon solvent.
• Chemical reaction with the solvent causes spray gun body (aluminum parts) to crack or melt.
• Incompatible solvent: methyl chloride, ethyl chloride, methylene dichloride, carbon tetrachloride, trichloroethylene, 1.1.1 trichloroethane, etc.
• Before using a special paint or paint thinner, thoroughly check if the material is compatible or not.
3. Connect ground cable.
• Ground spray gun securely. For example, use hose with ground wire.
• If spray gun is not securely grounded, it generates sparks of static electricity, causing a fire and explosion.

Protection of Human Body

1. Ensure thorough ventilation.
• To conduct spray work, be sure to select a well ventilated place with a booth.
• If you conduct spray work in an airtight room or insufficiently ventilated place, you may suffer poisoning caused by organic solvent, or a risk factor of flammability will increase.
2. Wear appropriate clothes and protective gear.
• During spray and cleaning work, always wear appropriate clothes and protective gear (goggles, G-7-04 mask, and gloves).
• Some kinds of paints cause a hazard, if the paint touches eyes or the skin. Check the paint and solvent being used. During spray and cleaning work, wear appropriate clothes and gloves.

Improper Handling of Equipment

1. Do not direct spray gun toward people.
• Never attempt to spray paint toward people or animals.
• Failure to observe this instruction may result in inflammations of eyes and the skin, or other hazard to human body.
2. Use spray gun within the maximum operating pressure.
• Never use spray gun at a pressure higher than the maximum operating pressure (0.69 MPa).
3. During interruption of work, release compressed air.
• Before cleaning, disassembly or maintenance/inspection of spray gun, or during a halt of spray work, be sure to release compressed air from spray gun.
• If compressed air is remaining in spray gun, it may accidentally work, or cleaning solvent may spatter, causing a hazard to human body.
• To release compressed air, stop supplying compressed air, paint and paint thinner to spray gun, and pull trigger lightly.

Other Precautions

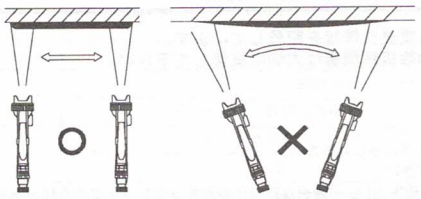
1. Do not modify the product.
• Do not modify spray gun.
• If you modify spray gun, it cannot provide sufficient performance. Also, a failure of the machine may result.
2. Stop other equipment.
• To conduct spray work in an operating area of other equipment (robot, reciprocating equipment, etc.), confirm that the equipment has stopped first.
• If you touch a robot or reciprocating equipment, you may get injury.
3. Do not use spray gun for food and chemicals.
• Do not apply spray gun to food or chemicals.
• Corrosion of paint circuit may result in an accident. Also, mixture of foreign substances may result in health disorder.
4. If an abnormal condition occurs, immediately stop spray gun.
• If you find a problem, immediately stop spray gun, and examine the cause of the problem. Do not use gun until the problem can be solved.

Installation

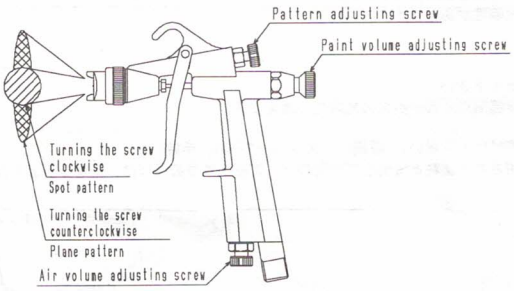
1. Use clean compressed air.
• Use clean compressed air that has passed through an air dryer or air filter. If contaminated air is used, it results in a failure in spray work.
2. Ensure tight connections.
• When connecting paint cup and air hose to spray gun, tighten them securely by using spanner. If the connection is loose, compressed air, paint and other liquids may spatter over human body, painted work pieces and peripheral equipment, resulting in damage.
3. Conform to the rated withstand pressure of hose.
• Make sure that the air pressure supplied to air hose does not exceed the rated withstand pressure of hose. Do not use an old or damaged hose.

1. Operating Procedure

1. Mount paint cup and air hose securely to spray gun by using spanner.
2. Paint viscosity and property vary depending on operating conditions. Recommended spraying pressure is 0.15MPa. Never use spray gun at a pressure higher than the maximum operating pressure (0.69 MPa).
3. Recommended spraying distance is 100 to 150 mm. If spray gun is too close to a target work piece or it swings like an arc, good finished conditions cannot be obtained.
4. To obtain a unifomly finished condition, always hold spray gun at a right angle to the spraying surface.



5. During air volume adjustment, if you tighten air volume adjusting screw by turning it clockwise, air volume decreases. If you loosen air volume adjusting screw by turning it counterclockwise, air volume increases.
6. If you tighten pattern adjusting screw by turning it clockwise completely, paint is sprayed in a spot pattern. Then, as pattern adjusting screw is loosened by turning it counterclockwise, spray pattern area gradually increases. When screw is turned about four turns, pattern area becomes the maximum. Adjust spray pattern depending on the spray work step and the type of paint being used.
7. If you tighten paint volume adjusting screw by turning it clockwise, spay volume decreases. Then, as screw is loosened by turning it counterclockwise, spray volume gradually increases. When screw is turned by four turns, spray volume becomes the maximum. Set paint volume depending on spray work conditions.



2. Maintenance and Inspection

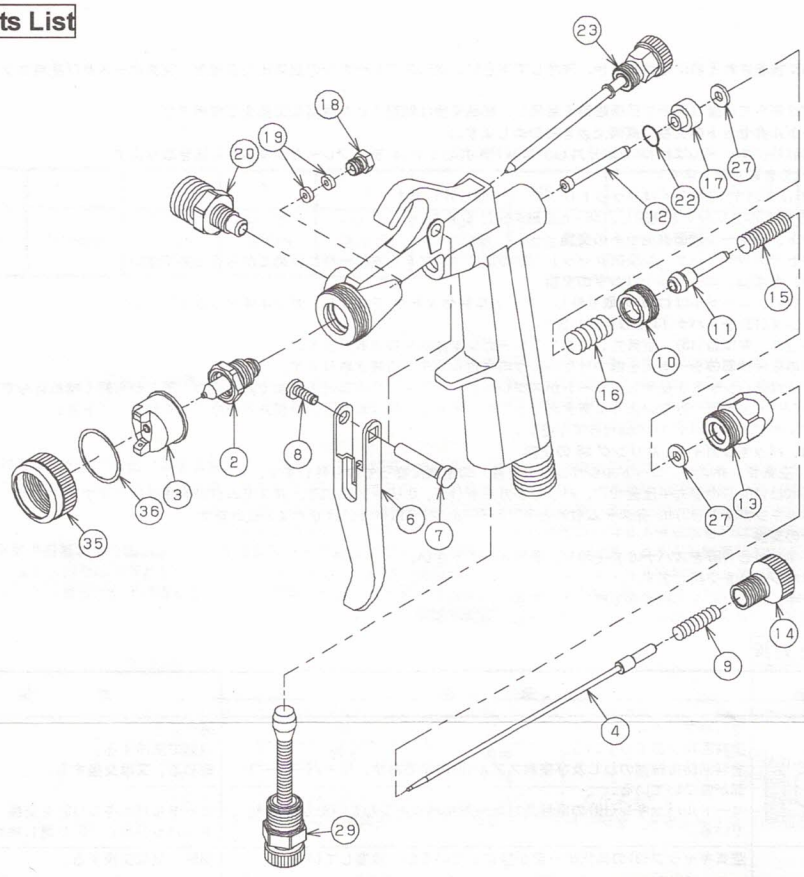
1. Clean and lubricate spray gun everyday to maintain it in the best operating condition.
2. Clean spray gun body with a cloth soaked with solvent. **Be careful not to soak the spray gun itself with solvent.** If spray gun is soaked in a solvent, lubricant is removed, and an adhering substance enters air circuit, causing a trouble in spay work.
We shall not be liable for any trouble resulting from use of gun cleaner that causes dust or paint waste to enter paint nozzle air circuit.
3. After using spray gun, be sure to clean spray gun with a clean solvent, and leave cup empty.
4. To clean cup, remove surplus paint from cup first, and then pour an appropriate solvent into cup, to wash off residual paint completely.
5. If spray gun is used with a cleaning solvent remaining in gun and cup, and with paint waste or dust adhering to paint circuit, it causes a failure in spray work.
6. After disassembling air cap (3) and fluid nozzle (2), soak them in a solvent, and clean them with a brush. When disassembling fluid nozzle, be careful not to damage it.
7. To clean paint circuit, spray a small quantity of solvent as in the same manner as spray work.
8. Be sure not to damage each hole of air cap (3), and center hole and tip periphery of fluid nozzle (2).
9. If needle valve set (4) or air valve (11) malfunctions, apply a small quantity of oil (non-silicone oil) to sliding part from the outside.
10. After cleaning the equipment with water, be sure to eliminate water. Residual water causes the equipment to rust away.

3. Specifications

Model	Paint feed system	Nozzle bore mm	Spraying distance mm	Spraying pressure MPa	Air consumption L/min	Paint Spraying volume mL/min	Maximum effective pattern width mm	Connection diameter	Weight g
FINER SPOT-G12	Gravity	1.2	150	0.15	80	75	190	G1/4 Air/Paint	176

※The paint for automobile retouch. And this viscosity is 12 seconds or equivalent, when MEIJI V-1 viscosity cup is used.

4. Parts List



No.	Name	Quantity	No.	Name	Quantity
1	Body	1	15	Valve spring	1
2	Fluid nozzle	1	16	Packing presser spring	1
3	Air cap	1	17	Packing guide	1
4	Needle valve ass'y	1	18	Needle packing screw	1
6	Trigger	1	19	Needle packing	2
7	Trigger pin	1	20	Hexagon nipple 1/4XM7A	1
8	Trigger screw	1	22	O-ring S6	1
9	Needle spring	1	23	Pattern adjusting valve ass'y	1
10	Valve seat	1	27	Plain washer 3X7X0.5	2
11	Air Valve	1	29	Air volume adjusting valve ass'y	1
12	Valve stem	1	35	Cap nut	1
13	Needle cylinder	1	36	Packing 89	1
14	Fluid adjusting screw	1			

No.13, 17 (with U-seal)

5. Parts Replacement

Before replacing spray gun parts, remove residual paint, and clean spray gun. Then, release air pressure from spray gun, and remove air hose and paint cup.

To repair spray gun, place it in a clean level place, and wear protective goggles. For parts replacement, use the specified appropriate tools.

- **Replacement of fluid nozzle and needle valve ass'y (It is recommended that these parts should be simultaneously replaced.)**

1. Remove fluid adjusting screw (14) and needle spring (9), and pull out needle valve set (4) from spray gun body.
2. Remove air cap set (3).
3. Remove fluid nozzle (2) by using spanner "12" or socket wrench "12".
4. Tighten fluid nozzle(2) at tightening torque of 5 N · m, by using torque wrench.

- **Replacement of air volume adjusting valve ass'y and pattern adjusting valve ass'y**

1. Before assembling or disassembling air volume adjusting valve ass'y (29) and pattern adjusting valve ass'y (23), turn the knob counterclockwise completely, to loosen it.

- **Replacement of valve seat, air valve, valve spring and needle cylinder**

1. Remove fluid adjusting screw (14) and needle spring (9), and pull out needle valve ass'y (4) from spray gun body.
2. Remove needle cylinder (13) with spanner "13".
3. Remove plain washer (27), valve spring (15) and air valve (11) from spray gun body.
4. Remove valve seat (10) by using hexagon wrench "8", so that seat surface on the mounting part will not be damaged.
5. Tighten valve seat (10) by using hexagon wrench "8" until seat touches spray gun body. Then, re-tighten it lightly.
6. Insert air valve (11) until it reaches the innermost end so as not to damage seat surface. Then, insert valve spring (15) and plain washer (27).
7. Tighten needle cylinder (13) with spanner "13".

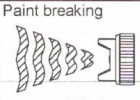
- **Replacement of packing presser spring, packing guide and S6 O-ring**

1. According to the procedure for "Replacement of valve seat, air valve, valve spring and needle cylinder", remove the relevant parts.
2. Remove packing presser spring (16), plain washer (27), packing guide (17) , O-ring S6 (22) and valve stem.
3. Attach valve stem (12) and O-ring S6 (22) to packing guide (17), and assemble it.

- **Replacement of sleeve**

1. Remove needle packing screw (18) with spanner "6".
2. Replace needle packing (19).
3. Tighten needle packing screw (18) with spanner "6."

6. Troubleshooting

Trouble condition	Cause	Corrective action
Paint breaking 	Lack of paint in paint cup.	Refill paint.
	Paint circuit is clogged.	Clean paint circuit with a solvent.
	Screw of paint circuit connecting part, or fluid nozzle (2) is loose, or tapered seat is damaged.	Cleaning or replacement.
	Needle packing (19) are worn out, or needle packing screw (18) is loose.	Replace needle packing (19) or re-tighten needle packing screw (18) securely.
One-sided pattern 	A part of the square hole of air cap (3) is clogged or damaged.	Cleaning or replacement.
	Paint or dust is adhering to the tip periphery of fluid nozzle (2).	Cleaning or replacement.
Crescent pattern 	A part of the square hole of air cap (3) is clogged or damaged, or paint or dust is adhering to inside of the center hole, or the center hole is damaged.	Cleaning or replacement.
	Paint or dust is adhering to the tip periphery of fluid nozzle (2) .	Cleaning or replacement.
Narrow pattern 	Fluid nozzle (2) is worn out, and nozzle bore diameter is increased.	Replacement.
	Spraying air pressure is too low.	Increase spraying air volume and pressure.
	Paint viscosity is too high.	Reduce paint viscosity.
Thick pattern 	Spraying air pressure is too high.	Reduce spraying air volume and pressure.
	Dust or paint is adhering to the gap between the center hole of air cap (3) and the periphery of fluid nozzle (2).	Cleaning.
Paint leak from needle packing screw	Needle packing screw (18) is loose.	Adjust needle packing screw (18).
	Needle packing (19) are worn out.	Tighten or replace needle packing.
Liquid leak from the tip of paint nozzle	Fluid nozzle (2) or needle valve ass'y (4) is worn out or damaged.	Replacement.
	Seizure of needle packing (19) or needle valve ass'y (4).	Lubrication.
	Improper adjustment of needle packing screw (18).	Adjustment.

2015/ 10/27

Head Office 3-14, 2-chome, Tagawa, Yodogawa-ku Osaka 532-0027, Japan

Tel:+81-6-6309-1227 Fax:+81-6-6309-0157

MEIJI AIR COMPRESSOR MFG. CO., LTD.