meiji

Instruction Manual

FINER Ⅲ Hand Spray Gun

Symbol Marking on the Spray Gun:	CE Ex						
This MEIJI AIR spray gun complies with 2014/34/eu Directive relating to equipment and protective systems intended for use in explosive potentially atmospheres.	CE	Ex	Ⅱ	2	G	Exh	X
	Complies with European Directive	Specific Marking for Explosion Protective	Group Ⅱ (Surface)	Category (Zone 1&2)	Type of Atmosphere (GAS)	Ignition Protection (not applied)	Additional conditions: Any static Electricity should be discharged and needs to be diverted to the ground via a conductive air hose not included.

Thank you for purchasing MEIJI Hand 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℃ 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, ethylene 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.
3. We recommend users to wear ear plugs for health and safety.
● The product may produce a noise level of 80 dB (A) or higher depending on the use condition or work environment.
4. Take a rest if you get tired during spray work.
● Pulling the trigger many times during long-hours of work may cause tendovaginitis.

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.
4. Do not touch the tip of the needle valve and paint nozzle during maintenance.
● The tip of the needle valve and paint nozzle is very sharp and may cause an injury.

Other Precautions

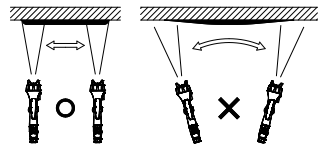
1. Do not modify the product.
● Do not modify spray gun. If you modify spray gun, it cannot provide sufficient performance. Also, a failure of the machine may result.
2. Stop other equipment.
● To conduct spray work in an operating area of other equipment (robot, reciprocating equipment, etc.), confirm 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

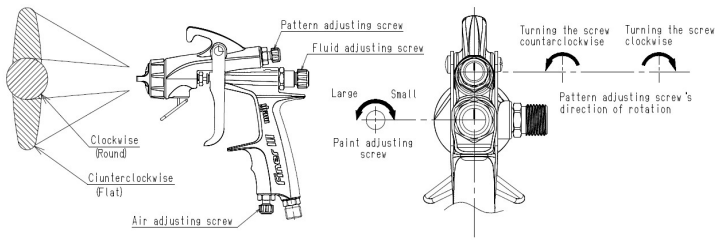
1. Use clean compressed air.
● Use clean compressed air that has passed through an air dryer or air filter. If contaminated air is used, it results in a failure in spray work.
2. Ensure tight connections.
● When connecting paint cup and air hose to spray gun, tighten them securely by using spanner. If 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 0.15 to 0.25 MPa. Never use spray gun at a pressure higher than the maximum operating pressure (0.69 MPa).
3. Recommended spraying distance is 150 to 200 mm.
If spray gun is too close to a target work piece or it swings like an arc, good finished conditions cannot be obtained. (See Fig. 1)
4. To obtain a uniformly 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 three turns, pattern area becomes the maximum. Adjust spray pattern depending on the spray work step and the type of paint being used.
7. Turning the fluid adjustment screw to the right will decrease the amount of paint sprayed, and increase when turned to the opposite side. Please adjust the set ups accordingly to the spraying condition. V groove or the thread on the fluid adjustment screw (24) is a sign when fluid adjustment is fully open.



8. Guideline for settings for various adjustment mechanisms (These values are only a guideline, and should vary depending on the condition. Use values according to the paint manufacturer's specification.)

Setting condition example	Touch-up	Solid clear	Metallic pearl
Paint adjusting screw	1 to 1.5 rotations	3 to 4 rotations	2 to 2.5 rotations
Pattern adjusting screw	2 rotations	1.75 to 2.25 rotations	Fully open
Gun distance (mm)	100	150 to 200	150 to 200
Spraying air pressure (MPa)	0.1 to 0.15	0.15 to 0.25	0.2

2. Maintenance and Inspection

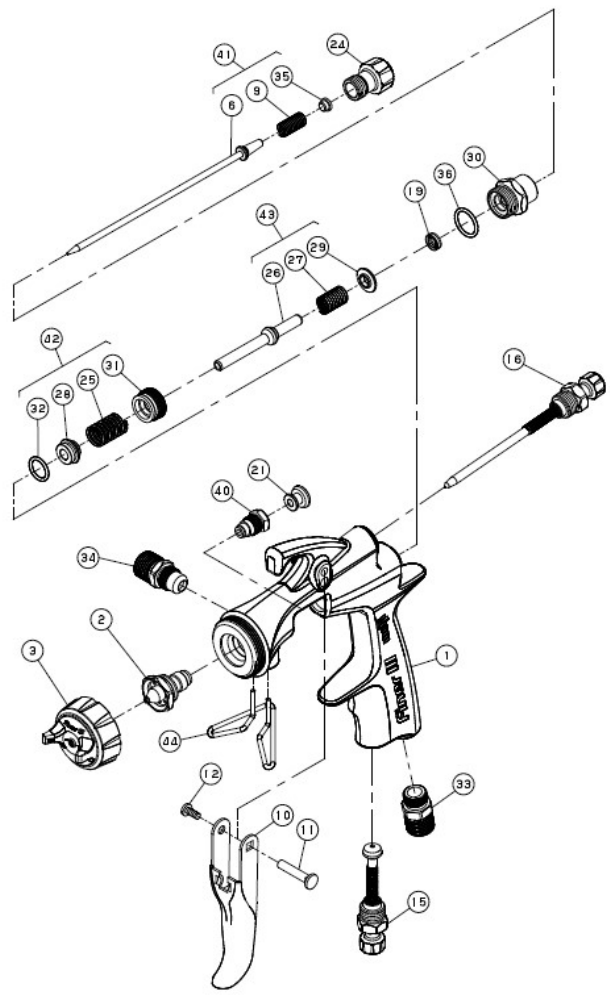
1. Clean and lubricate spray gun everyday to maintain it in the best operating condition.
2. To clean spray gun body, wipe dust off body with a cloth damped with a solvent. If spray gun is soaked in a solvent, lubricant is removed, and an adhering substance enters air circuit, causing a trouble in spay 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), clean them with a brush. When disassembling fluid nozzle (2), 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 (6) or air valve (26) 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.
11. Soaking whole spray gun in solvent may cause spray gun malfunction. Also soaking air cap assy. itself for extended period may cause a defective spray pattern.

3. Specifications

Model	Paint feed system	Paint nozzle bore mm	Applicable air cap	Spraying distance mm	Spraying air pressure MPa	Air consumption L/min	Paint spraying volume mL/min	Maximum effective pattern mm	Connection diameter	Weight g
FINER3	Gravity	1.4	FINER3	200	0.2	220	125	300	G1/4 (Air/Paint)	300

* The numeric values are equivalent to 12 seconds for the paint for automobiles refinishing using Meiji V-1 viscosity cup.

4. Parts List



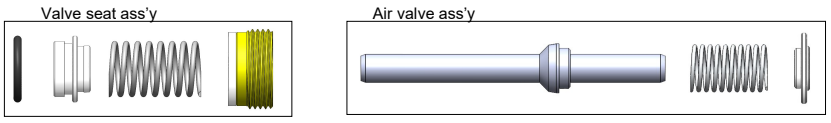
No.	Name	Quantity
1	Body	1
2	Fluid nozzle	1
3	Air cap set	1
6	Needle valve ass'y	1
9	Needle spring	1
10	Trigger	1
11	Trigger pin	1
12	Trigger screw	1
15	Air volume adjusting valve ass'y	1
16	Pattern adjusting valve ass'y	1
19	U-packing P5	1
21	Trigger presser	1
24	Fluid adjusting screw	1
25	Packing presser spring	1
26	Air valve	1
27	Valve spring	1
28	U-packing	1
29	Valve spring receiver	1
30	Needle cylinder	1
31	Valve seat	1
32	O-ring S10	1
33	Hexagon nipple 1/4 × M11 AL	1
34	Hexagon nipple 1/4 × M11G	1
35	Spring insert	1
36	O-ring S12.5	1
40	Needle packing screw ass'y	1
41	Needle valve spring ass'y (with spring insert)	1
42	Valve seat ass'y	1
43	Air valve ass'y	1
44	Gun stand	1

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 (24) and needle valve spring ass'y (41) from spray gun body.
2. Remove air cap set (3).
3. Remove fluid nozzle (2) by using spanner "17" or socket wrench "17".
4. Tighten fluid nozzle(2) at tightening torque of 10 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 (15) and pattern adjusting valve ass'y (16), turn the knob counterclockwise completely, to loosen it.

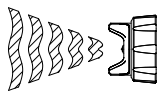
● **Replacing the valve seat set, air valve ass'y, and needle cylinder**
1. Remove the fluid adjustment screw (24) and pull out the needle valve spring ass'y with spring insert (41) from the spray gun body.
2. Remove the needle cylinder (30) with a wrench 17.
3. Pull out the air valve ass'y (43) from the spray gun body.
4. Not to damage the seat surface of the air valve (26), carefully remove the valve seat ass'y (42) with a hexagonal wrench 10.
(Ball point Hexagonal wrenches cannot be used and the same applies to the following replacements.)
5. Use the hexagonal wrench 10 to tighten the valve seat ass'y (42) until the valve seat hits the spray gun body, then lightly tighten.
6. Insert the air valve ass'y (43) carefully not to damage the seat surface until it hits the bottom.
7. Tighten the needle cylinder (30) with a wrench 17.

● **Disassembly and assembly of the valve seat ass'y and air valve ass'y**
1. Pay close attention to the direction and assemble the U-packing (28) and the valve spring receiver (29).



● **Replacement of the needle packing screw ass'y**
1. Remove needle packing screw ass'y (40) with spanner "10".
2. Tighten needle packing screw ass'y (40) with spanner "10."

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.	Tighten or replace.
	Needle packing screw ass'y(40) is loose or worn.	Tighten or replace.
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.
Thick in middle 	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.
Narrow in middle 	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 ass'y (40) is loose, or worn	Adjust needle packing screw ass'y (40). Replacement.
Liquid leak from the tip of paint nozzle	Fluid nozzle (2) or needle valve ass'y (6) is worn out or damaged.	Replacement.
	Needle packing screw ass'y(40)or needle valve ass'y (6) is stuck.	Lubrication.
	Improper adjustment of needle packing screw ass'y(40)	Adjustment.

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