ASAHI SUNAC

# Operation and Maintenance Manual

## Air spray hand gun

# MGB50

Ec'Coater™ エコーター

This manual contains important information on warnings and cautions.
Read the manual thoroughly before starting to operate the equipment, and follow the instructions.
Always keep the manual handy until such time as the gun is no longer being used. If your manual is lost or worn badly, do not hesitate to contact our agency which is closest to you, or the Asahi Sunac Corporation, directly, and ask us to send you a new one.

15th Edition: June 25, 2025

# Introduction

Thank you for purchasing our product air spray hand gun <MGB50>.

Please be sure to read this operation manual carefully before using this product so that you can always use it under the optimum conditions.
In particular, please fully understand the items in the specifications and use them according to the correct usage.

If you have any questions, please contact us by clearly stating the "product number" and "serial number" and contacting us on the back cover.

**Please keep this operation manual in a safe place where you can easily refer to it.**

15th Edition: June 25, 2025

Content



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# 1 For safe and correct use

Please understand the contents of this instruction manual and be sure to follow the handling method. If you use it without following this instruction manual, **you may injure your body or damage your equipment and fire.**

The following safety precautions should be considered as minimum basic safety measures when using our products.

**●Precautions are displayed in the following two stages.**

| | |
|---|---|
| ⚠ **WARNING** | Hazards that can result in death or serious injury. |
| ⚠ **CAUTION** | Danger that may result in minor or moderate injury or physical damage only. |

**●Other important points are indicated as follows:**

| | |
|---|---|
| **NOTE** | Observations to ensure the equipment's performance and functions are fully operational. |

In addition, please observe all national and local laws and regulations related to fire, electricity, and safety, as well as the rules and regulations of your own company or business division.

**≪Range of use suitable for the product≫**

This product is a manual spray gun designed to be installed in the coating booth equipped with an exhaust system and used for painting with air atomization paint.

If you use the product under conditions other than the above, it will be used improperly. Also, please be careful as it may cause an accident.

《Warning and precautions for safe use》

# ⚠ WARNING

## Fire and explosion

### Preventing fire and explosion in coating shop

- **Do not use halogenated hydrocarbon solvents.**
  The aluminum alloy contained in this product's components may undergo a chemical reaction and explode.

- **Do not use this product outside its specifications.**
  Using it out of specification range may result in a fire hazard.

- **Provide adequate ventilation with ventilation equipment.**
  Volatilized organic solvents and other substances may remain and ignite, creating a risk of fire.

- **Clean the coating room and exhaust system (ducts and fans) regularly.**
  If the accumulated powder simply peels off, a spark may occur, which could cause a dust explosion.
  In the unlikely event of a fire, paint residue etc. will make it easier for the fire to spread and result in greater damage.

### Prevent fire and electric shock caused by faulty earthing

- **All conductive objects in the coating booth (paint containers, peripheral equipment, etc.) must be grounded with an earth wire.**
  When paint flows through a pump or hose, static electricity is generated, and poorly grounded conductors can become charged and sparks can discharge, resulting in a fire or electric shock.

- **Always keep the workpiece earthed.**
  Risk of fire or electric shock due to spark discharge from charged workpieces.

- **Paint hose must be grounded with an earth wire.**
  Static electricity can cause spark discharge, which can result in fire or electric shock.
  When paint flows through the injector and paint hose, static electricity is generated and becomes charged.

- **The paint container must be grounded with an earth wire (excluding the insulated stand specifications).**
  The paint path can cause the paint container to become charged, a risk of fire or electric shock.

- **Be sure to periodically remove any paint that has stuck to the hanger.**
  If paint adheres to the contact part between the hanger and the object, there is a risk of fire or electric shock due to poor earthing.
  The ground resistance value should be 1kΩ or less for metal (1MΩ or less for resin) (measurement voltage should be 500V or more).

《Warning and precautions for safe use》

# ⚠ WARNING

## Fire and explosion

**Prevent fire and electric shock caused by faulty earthing**

- **Do not place any items in the coating booth that are not necessary for coating.**
  Static electricity can cause spark discharge, which can result in fire or electric shock.
- **Paint operator must take precautions to prevent static electricity.**
  Static electricity builds up on the human body, causing sparks to discharge, which may result in fire or electric shock.
- **Do not bring any spark-producing devices, matches, lighters, etc.**
  Risk of explosion or fire due to ignition of flammable materials.

## Equipment misuse

**Preventing accidents caused by poor maintenance**

- **Any abnormal noises or vibrations, immediately stop operation.**
  Product damage may result in a fire hazard.
- **Do not operate if any parts are damaged or missing.**
  Product damage may result in a fire hazard.

《Warning and precautions for safe use》

# ⚠ WARNING

## Human protection

### Protection from solvents, air and paint pressure

- **Do not spray paint towards person**
  Harmful substances may cause serious injury, including inflammation and poisoning.
  Pressurized paint can cause personal injury.

- **Wear protective glasses, a protective mask, and protective gloves[*1] when handling paint.**
  Harmful substances may cause serious injury, such as inflammation or poisoning.
  Carefully read the safety data sheet (SDS[*2]) of the paint you are using and take appropriate exposure prevention and protective measures.
  *1 When using protective gloves for skin absorption protection or to prevent dirt, it is necessary to prevent static electricity from building up on the human body. Be sure to ground it properly. (Recommended protective gloves are those specified in JIS T8118, or earth bands, etc.)
  *2 SDS：Safety Data Sheet

- **Clean the coating room and exhaust device (ducts and fans) regularly.**
  If the exhaust device does not function properly, harmful substances may cause serious injury, including inflammation and poisoning.

### Protection from high pressure paint

- **Always use below maximum paint pressure.**
  The equipment may explode and cause injury to person from debris and pressurized paint.
  Harmful substances can cause serious injury, including inflammation and poisoning.

- **Do not use damaged hoses.**
  The hose may burst and cause injury to person from debris and pressurized paint.
  Harmful substances can cause serious injury, including inflammation and poisoning.

- **Do not touch the discharge part when the paint is high pressure.**
  Pressurized paint can cause personal injury.
  Harmful substances can cause serious injury, including inflammation and poisoning.

- **Always relieve paint and air pressure before cleaning, disassembly or maintenance work.**
  Do not remove or disassemble the nozzle or hose without relieving the pressure.
  Pressurized paint, cleaning fluids and air can cause personal injury.
  Harmful substances can cause serious injury, including inflammation and poisoning.

- **After application, make sure the paint is not pressurized.**
  Pressurized paint can cause personal injury.
  Harmful substances can cause serious injury, including inflammation and poisoning.

<Pressure Relief Procedure>

Follow this procedure to relieve pressure when inspecting, removing nozzle, cleaning, replacing and when stopping spraying.

① Close the paint valve for gun.
② Shut off the compressor air (stop the air supply to the pump and gun).
※Turn off the power when using an electric pump.
③ Slowly open the drain valve of the pump (to reduce paint pressure in the passage).
④ Release the trigger lock and slowly pull the trigger (check for a decrease in paint pressure).
⑤ Make sure the paint pressure has dropped sufficiently and then engage the trigger lock.

(If the pressure relief procedure does not completely relieve the pressure)

• Wrap the retaining nut or hose terminal connector in a rag etc. and carefully and slowly drain out the paint inside.

《Warning and precautions for safe use》

## ⚠ WARNING

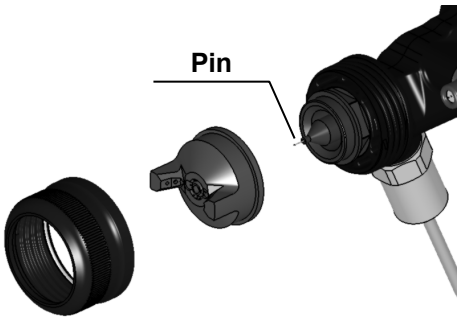
- **Do not use this product outside its specifications.**
  Using it out of specification range may result damage to the product.

- **Hoses should be hung from the ceiling or side walls and not dragged across the floor.**
  It may cause damage such as scratches.
  When using conductive paint, be sure to suspend the paint hose from an insulating material such as a rubber tube.

- **When cleaning the nozzle, never use a metal brush, use a bamboo brush or similar.**
  It may damage the nozzle and result in poor coating.
  The nozzle is an important part of the sprayer.
  If you use a metal brush to damage the nozzle, it will become difficult to maintain uniform spray conditions.

- **Check frequently for paint leaks, air leaks, and loose screw.**

- **Do not touch the pins of the spray gun carelessly.**
  The pin may pierce the body and cause injury.
  Be careful when handling the pin as they are easily pierced.

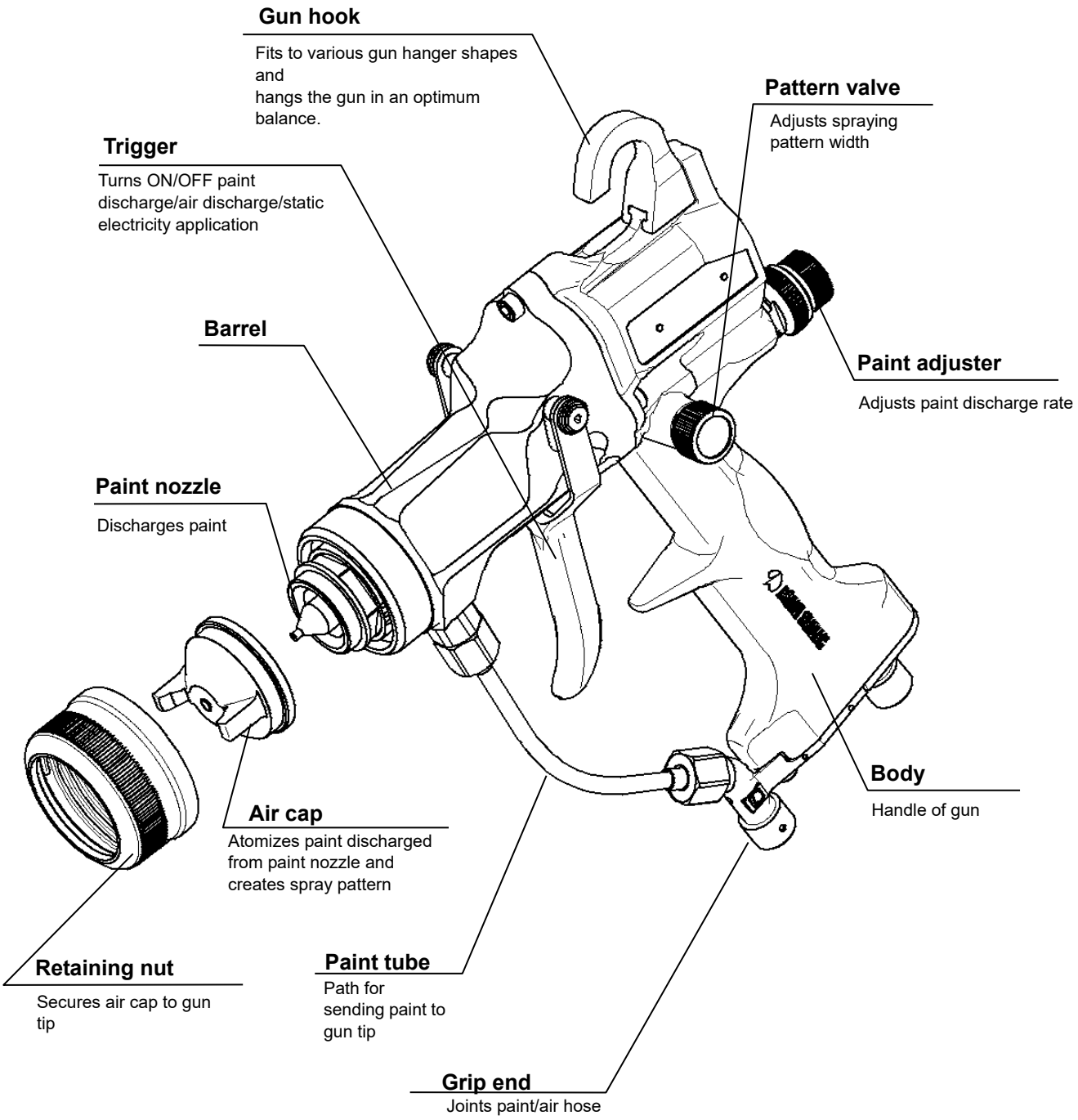



●**A fire extinguisher should always be kept near the work area.**
In case of a fire, make sure to have equipment that has been regularly inspected installed at all times.

●**When disposing of this product, please dispose of it in accordance with the laws of your country.**

# 2 Outline of equipment

## 2.1 Names and Roles of Parts



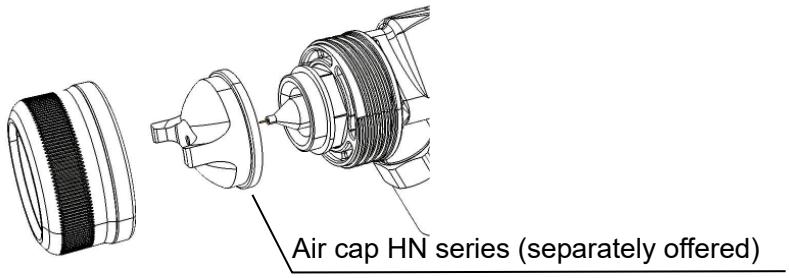
## 2.2 Related Accessory Equipment

- The related accessory equipment and maintenance tools are necessary for the operation of this product.
  Select appropriate equipment from the following according to its usage/conditions and arrange it separately.
- As for arrangement of the products and parts of the related accessory equipment, check their part No. and quantity with their equipment manuals separately.

### 2.2.1 Air Cap (Model: HN series)

- A part attached to the tip of the coating machine having a function of atomizing and creating pattern by force of air.
- Select an air cap from the separate manual for air cap according to its usage.

Air cap HN series image




* All the HN series can use the common paint nozzle assembly.

### 2.2.2 Air Hose (Model: AH22 series)

- To supply air required for atomization of paint and pattern creation to the coating machine, connect it between the air regulator and coating machine.
- A grounding wire is contained; therefore, the ground of the coating machine can also be secured through the air path and safety is improved.

Air hose part No. list

| No. | Model | Part name | Parts No. | Specifications |
|---|---|---|---|---|
| 1 | AH22-5 | Air hose | 3403 | 5 m |
| 2 | AH22-10 | | 3403-2 | 10 m |
| 3 | AH22-20 | | 3403-3 | 20 m |

### 2.2.3 Paint Hose

● A paint hose for sending paint from the pump to the coating machine.
A very flexible multilayer tube is employed to improve the handling of the gun.

Paint hose part No. list

| No. | Part name | Parts No. | Specifications |
|---|---|---|---|
| 1 | Paint hose | 3421 | 5m |
| 2 | Paint hose | 3421-2 | 10m |
| 3 | Paint hose | 3421-3 | 20m |

### 2.2.4 Maintenance Tool Set

● Preventive maintenance of parts and repair/part replacement due to failures can be done by replacing the targeted part assembly, but this is a maintenance tool set consisting of dedicated tools for more detailed part replacement and control tools for strict torque control.

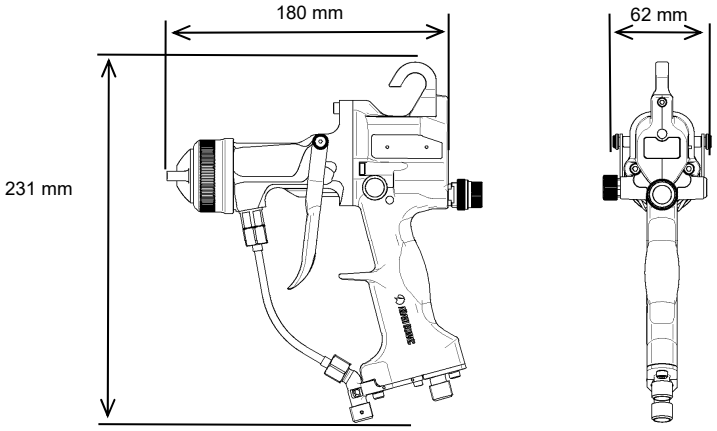
* If you are interested in meticulous maintenance, we will provide a maintenance course.
It is recommended that meticulous maintenance be conducted by those who have received the maintenance course specified by us. For information on the maintenance course, please contact our person in charge.

● Maintenance tool set

| No. | Part name | Parts No. | Remarks |
|---|---|---|---|
| 1 | Maintenance tool set | 35EA | |

# 3 Specifications

## 3.1 Dimensional Outline




## 3.2 Product Specifications

| **Model** | **MGB50** |
|---|---|
| Maximum fluid pressure | 0.6 MPa |
| Maximum air pressure | 0.6 MPa |
| Operating environment | Temperature: 5–40°C Humidity: 40–80% |
| Mass | 422 g |
| Applicable air cap | HN400/HN600/HN800<br>* For details, see the separate catalog. |
| Supply air conditions | Solid particle size: 0.1μm or below<br>Dew point under pressure: 10°C<br>Dew point under atmospheric pressure: -17°C<br>Residual amount of oil: 0.01 mg/$m^3$ |

## NOTE

Do not use a paint heater. Supply paint at 40°C or below.

If the temperature of paint is high, the paint hose may soften and be disconnected.

## NOTE

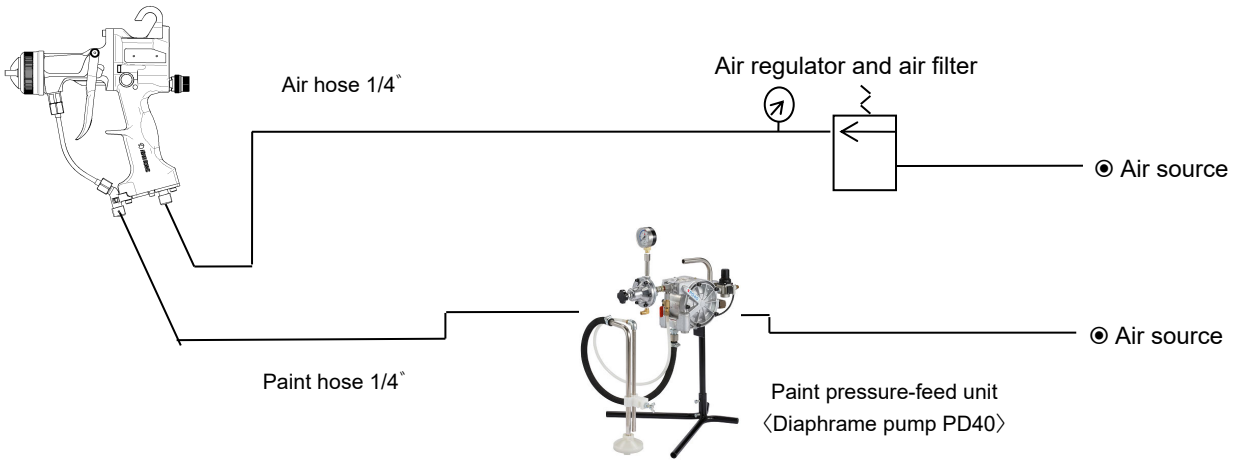
For details on the paint pressure-feed unit and paint regulator, see the instruction manuals.

The paint pressure-feed pressure should be 0.6 MPa or less.

# 4 Installation of Unit

Make preparations in accordance with the following procedures when starting to use the unit.

## 4.1 Example of Structure of Coating Machine Installation




## 4.2 Connection of Air Hose

Use an air hose having an inside diameter of 6 mm or more.

In accordance with the above figure, connect the air hose through the air regulator and air filter.

### ⚠ CAUTION

**<u>Damage of the unit may occur.</u>**

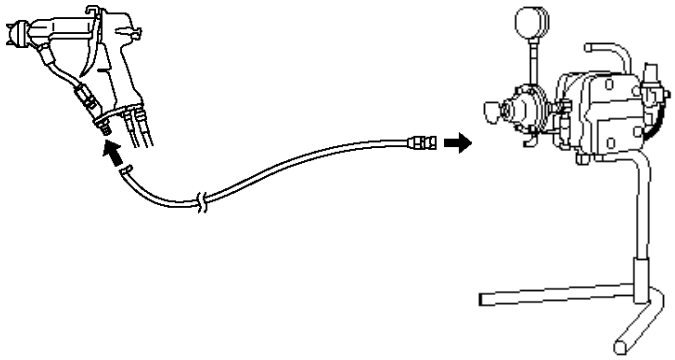
**When tightening an air hose or paint hose to the gun, be sure to use two spanners and do not apply excessive force to the gun.**

### NOTE

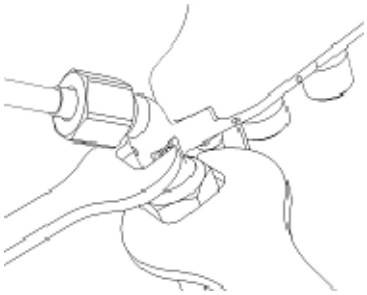
**If the length of the air hose is 10 m or more, by using a 3/8" air hose, atomization of paint will be improved. If a joint bush (3204-027) is attached, the screw port diameter will be PF3/8.**

## 4.3 Connection of Paint Hose

Connect the end connector of the paint hose to the lower end of the gun grip and attach the other end paint hose connector to the paint pressure-feed unit (screw port diameter: PF1/4).



width Across flat

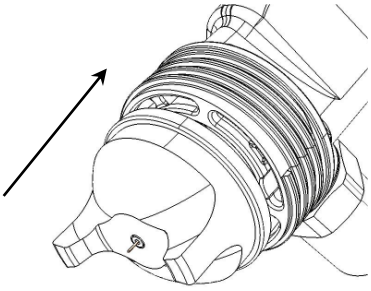


When paint hose is retighten, hook tools (wrench) to width Across flat.
Please be carried out with care prevent from scratch the gripend surface.

## 4.4 Installation of Air Cap

(1) Fix the air cap to the nozzle by hand.

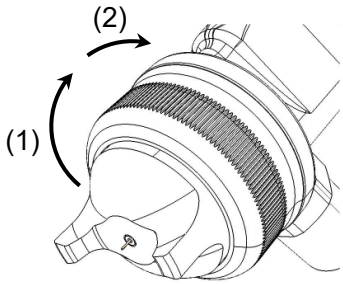
Also tilt the gun tip downward so that thinner or solvent will not enter the gun.



(2) Attach the retaining nut assembly from the outside of the air cap.

(1) Tighten the retaining nut assembly tightly, and then adjust the angle direction of the air cap to the direction of pattern creation.

(2) Tighten the retaining nut assembly more strongly until the air cap is fixed.




## ⚠ CAUTION

**Damage of the unit may occur.**

**Since this is a plastic product, the nozzle attachment joint inside diameter screw may be damaged if tightened too tightly. Remove it with sufficient care.**

# 5 Coating Preparation

Before a coating operation, make preparations for coating in accordance with the following procedure.

(1) Put paint in the paint feeder.

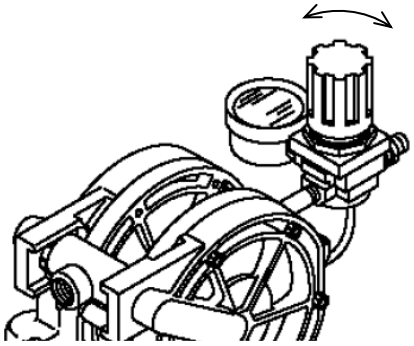
When this coating machine is used, the general standard viscosity is approximately 9–30 sec/FC#4, but it is not necessarily limited depending on various conditions such as the types of paint and solvent, shape of the product to be coated and thickness of the coating film.

## ⚠ CAUTION

**Use paint and solvent whose flash point is 5°C or higher than the room temperature and be sure to operate the ventilation system.**

(2) Operate the paint feeder to feed the paint to the gun.

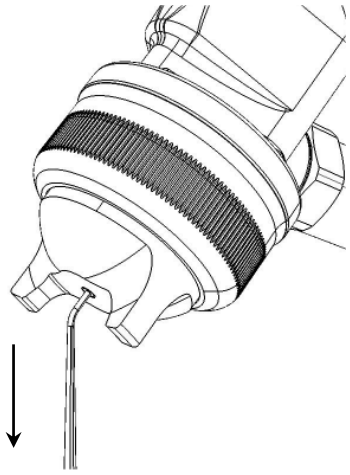
Operate the pump at a low pressure (approximately 0.1 MPa) with the air regulator for the pump and suck the paint. Adjust the paint regulator attached to the paint outlet of the pump so that the pump pressure will be increased to approximately 0.2–0.3 MPa.



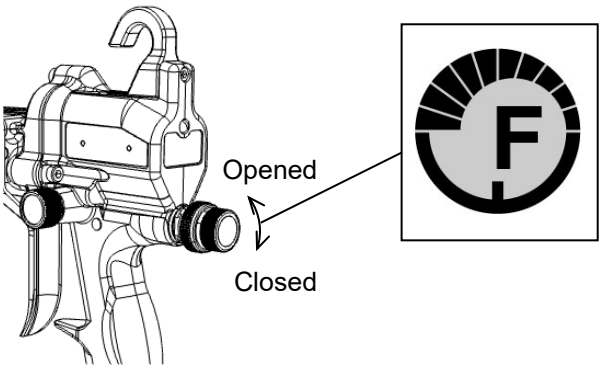
(3) Discharge paint through the gun tip.

Discharge paint through the gun tip by pulling the trigger with air not supplied to the gun.

If air is remaining in the paint hose, it causes shortness of breath when paint is discharged; therefore, keep discharging paint until the air in the hose has been removed.



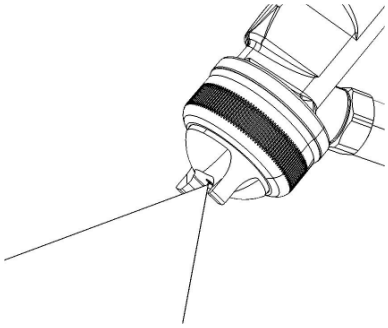
The paint discharge rate is increased by turning the paint adjuster at the back of the gun to the left. If it is tightened to the right, the rate will be decreased and the discharge will be stopped.

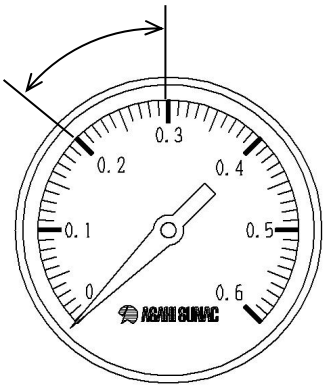



(4) Check the atomization state of the paint discharged from the gun.

Adjust the pressure of the air supplied to the gun to 0.2–0.3 MPa and atomize the paint by pulling the trigger.

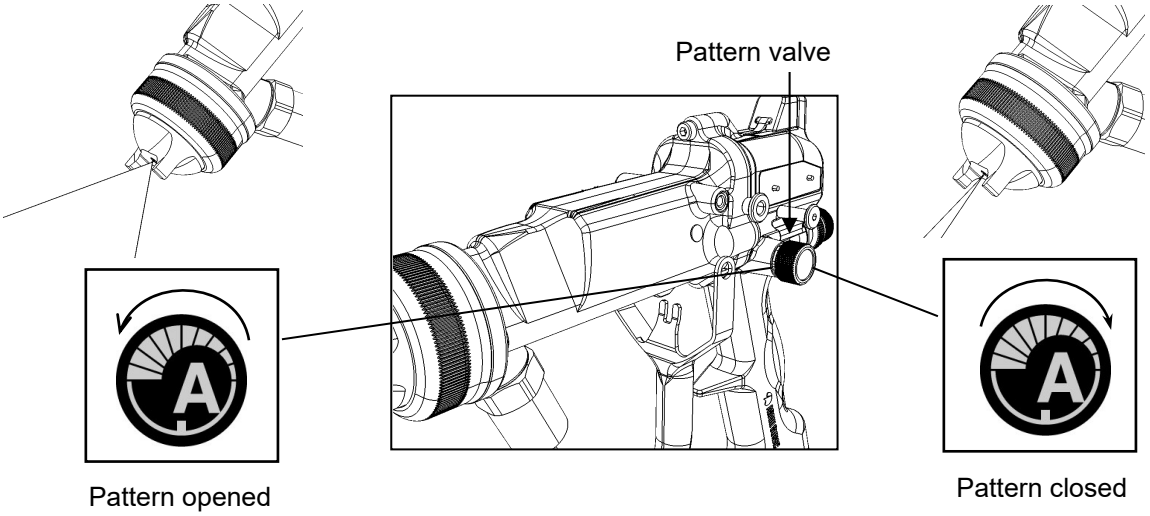
Adjust the air pressure according to the air cap used.






(5) Adjust the pattern width of the atomized paint.

Adjust the pattern width with the pattern valve on the left side of the gun. If you turn it to the left, the pattern will be broadened. If you turn it to the right, the pattern will be narrowed. Adjust it according to the shape of the product to be coated.



# 6 Maintenance and Inspection

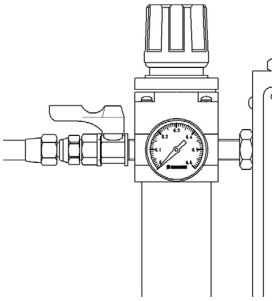
Keep the gun, paint hose and connecting cable clean so that there will be no contamination such as paint. Also always be careful so that they will not be damaged due to mechanical shocks.

## 6.1 Measures After Operation is Completed

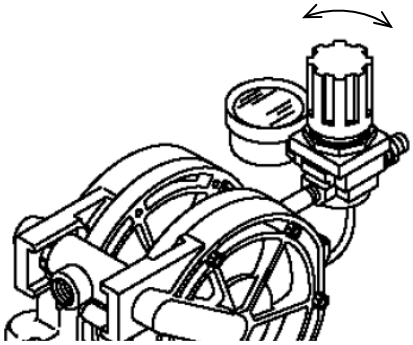
When suspending or finishing the coating operation, use the following procedure.

### 6.1.1 In Case Where Operation is Resumed Within 24 Hours

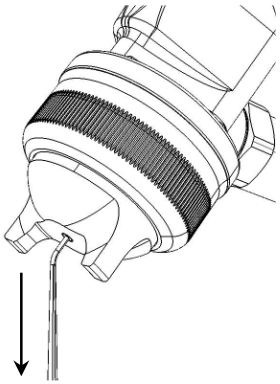
(1) Adjust the pressure of air supplied to the gun to 0 MPa.



(2) Adjust the drive air pressure of the paint pressure-feed unit to 0 MPa.

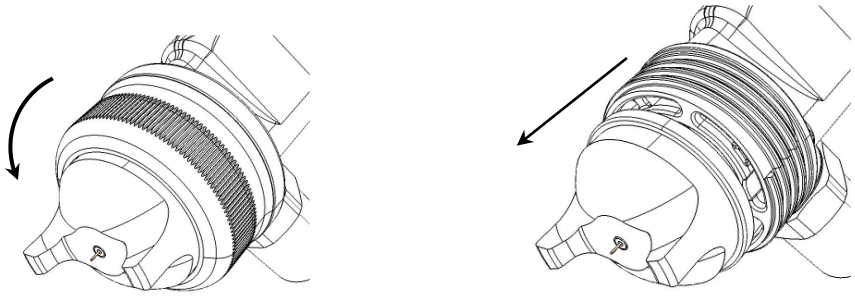


(3) Discharge paint through the gun tip to release the residual pressure.



(4) Remove the retaining nut by turning to the left and remove the air cap too.

When removing the air cap, tilt the gun tip downward so that thinner or solvent will not enter the gun.



## ⚠ CAUTION

**When removing the air cap, be careful not to drop it.**
**If dropped, it may be damaged.**

## ⚠ CAUTION

**<u>Damage of the retaining nut, nozzle and unit may occur.</u>**
**When removing the retaining nut, be sure to turn it by hand.**
**If you use a tool, damage may occur.**

(5) Wipe off dirt such as paint mist attached to the gun and air cap with a cloth impregnated with cleaning solvent.

## ⚠ CAUTION

**When cleaning the gun and air cap, do not use a hard brush such as a metal brush.**
**Their surfaces may be damaged and their performance may be impaired.**

## ⚠ CAUTION

**When a coating operation is not performed, close the paint adjuster of the gun to prevent paint from being discharged due to a careless operation.**

## ⚠ CAUTION

**When cleaning the nozzle and air cap, always tilt the gun tip downward so that solvent will not enter the coating machine. After the cleaning, pull the trigger to release air to discharge the entered solvent.**

## ⚠ CAUTION

**During cleaning or after celaning, do not allow the gun, hose, etc. to be immersed in solvent.**
**A structure is employed in the gun such that solvent does not enter when a normal usage method is used.**
**However, if they are immersed in solvent for a long time, their durability will be decreased, which may cause failures.**

## ⚠ CAUTION

**When using chemically hardened paint such as two-component paint or paint that settles easily, clean it based on "6.1.2 In Case Where Operation is Not Performed for 24 Hours or More" each time an operation has been completed.**

### 6.1.2 In Case Where Operation is Not Performed for 24 Hours or More

(1) Adjust the pressure of air supplied to the gun to 0 MPa.
(2) Extract the suction pipe of the paint pump from the paint container.
(3) Drive the paint pump at a low pressure (approximately 0.1 MPa) and discharge the paint in the pump from the return side to the paint container.
(4) Discharge the paint remaining in the hose and gun through the gun tip by pulling the trigger of the gun.
(5) Suck the cleaning solvent through the suction pipe, discharge it from the return side to the cleaning wastewater container and repeat the cleaning until the inside of the pump is cleaned.
(6) Discharge the solvent through the gun tip to clean the hose and inside of the gun.
(7) Stop the pump and pull the trigger of the gun to release the residual pressure through the gun tip.
(8) Turn the retaining nut to the left to remove the air cap.
(9) Wipe off dirt such as paint mist attached to the gun and air cap with a cloth impregnated with cleaning solvent.
(10) With the trigger of the gun pulled, put a dedicated spanner on HEX of the nozzle and turn it to remove the nozzle.

## ⚠ CAUTION

**<u>Damage of the nozzle and needle may occur.</u>**
**Be sure to remove the nozzle with the trigger of the gun pulled.**
**The seat surfaces of the nozzle and needle will be damaged and failures of the seat may occur.**

## ⚠ CAUTION

**<u>Damage of the nozzle may occur.</u>**
**When removing the nozzle, be sure to use the attached dedicated spanner.**
**Be careful not to drop it.**

(11) Immerse the nozzle in cleaning solvent and blow off the dirt with compressed air.

## ⚠ CAUTION

**When cleaning the nozzle, do not poke at it with metal such as wire.**
**Also do not use a metallic brush and the like. Its performance may be impaired due to enlargement of hole diameter and scratches.**

## ⚠ CAUTION

**If a problem occurs during an operation, immediately lower the pressure of the air and paint supplied to the gun to 0 MPa.**

## ⚠ CAUTION

**Always hang the gun on the gun hanger fixed to a wall.**

## ⚠ CAUTION

**Be careful so that shocks such as falling will not be applied.**
**Plenty of plastics are used for MGB50 for weight saving.**
**They are designed taking into account strength but may be damaged due to shocks.**

(12) As for disposal of cleaning wastewater, recover and recycle it using a solvent recovery system or dispose of it through a contracted industrial waste processor in accordance with the laws.

## 6.2 Periodical Inspection

In order to fully exercise the performance of this equipment, perform periodical inspection according to the following table.

The inspection timings are only shown as a guide and may vary depending on the conditions of use.

| Item | Action | Period |
|---|---|---|
| Check external appearance of the gun body | If there is paint dirt, saturate a soft cloth or brush with cleaning solvent and wipe it off. | 1 day |
| | If there is damage, replace with a new one. | |
| Check for air cap paint dirt | If there is paint dirt, saturate a soft cloth or brush with cleaning solvent and wipe it off. | |
| Check for clogging of air spray hole of air cap | After immersing in cleaning solvent, remove by blowing air. | |
| | If cannot be removed, replace with a new one. | |
| Check for scratches and dents around paint outlet of nozzle | If there are scratches and dents, replace with a new one. | |
| Check for clogging of paint spray hole of nozzle | After immersing in cleaning solvent, remove by blowing air. | |
| | If cannot be removed, replace with a new one. | |
| Check paint seat of nozzle | Inject cleaning solvent to clean the paint path and nozzle of the gun. | |
| | If the problem is not solved, replace the nozzle or needle head with a new one. | |
| Check air leakage from trigger | If there is air leakage, replace the air seat. | 1 month |
| Check paint dirt in paint tube | If there is paint dirt, inject cleaning solvent to clean it. | |
| | If adhered paint cannot be removed, replace with a new one. | |
| Check paint valve | If the discharge rate cannot be adjusted, replace with a new one. | |
| Check pattern air valve | If the spray pattern cannot be adjusted, replace with a new one. | |

## NOTE

**For parts replacement method, see "9. Parts Replacement Method".**

## ⚠ CAUTION

**Do not disassemble the gun unnecessarily except for the case of a failure.**
**To secure the sealing function of the gun, disassemble it only when the parts are replaced due to a failure.**

## ⚠ CAUTION

**When using a container for cleaning, be sure to ground a conductive container.**

## 6.3 Consumables

Prepare spare parts according to the conditions of use, referring to the rank classification in the following consumables list.

| Rank classification | Parts No. | Part name | Component assembly | Publishing page |
|---|---|---|---|---|
| A | Paint nozzle assembly | 15F7 | Core unit | 32 |
| | Needle head assembly | 1716 | Core unit | 32 |
| B | Packing assembly | 1715 | Core unit | 32 |
| | Straight tube | 14F7-002 | Straight tube set | 31 |
| | Sleeve | 145A-005 | Straight tube set | 35 |
| | U seal | 373-0008 | Core unit | 32 |
| | U seal | 373-0009 | Core unit | 32 |
| | Ring seal | 373-0010 | Retaining nut assembly | 35 |
| C | Gun hook | 12A1-002 | MGB50 | 31 |
| | Pattern valve | 14C9 | MGB50 | 31 |
| | Paint adjuster | 14E1 | MGB50 | 31 |
| | Air valve assembly | 14C6 | Core unit | 32 |
| | Needle assembly | 1714 | Core unit | 32 |
| D | Packing | 14F9-003 | Core unit | 32 |
| | O-ring | 130-6007 | Pattern valve | 34 |
| | O-ring | 101-6005 | Grip end assembly | 33 |
| | O-ring | 130-6010 | Paint adjuster | 34 |
| | O-ring | 130-6030 | Grip end assembly | 33 |
| | O-ring | 130-9012 | Paint nozzle assembly | 34 |

Rank A: Daily consumables

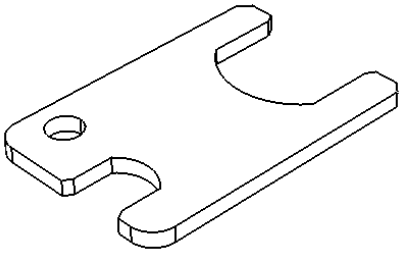
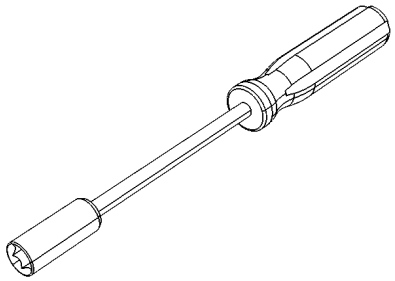
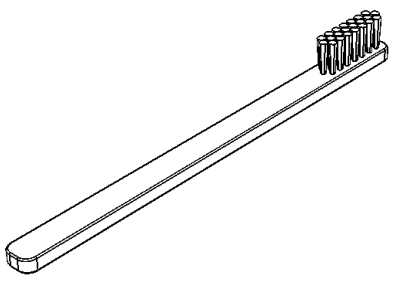
Rank B: Medium-term consumables

Rank C: Parts which may be damaged/lost when used

Rank D: Parts required to be replaced when disassembled

Accessory tool

35CF

| Dedicated flat spanner<br>Part No.: 35CF-001 | Box spanner<br>Part No.: 337-0056 | Bamboo brush<br>Part No.: 337-0006 |
|---|---|---|
|  |  |  |

# 7 Paint Problems and Solutions

Depending on the situation of a paint problem, several problematic phenomena and causes may occur at the same time.

| Problematic phenomenon | Possible cause | Countermeasure |
|---|---|---|
| **1. Atomization of spraying is bad** | (1) Atomizing air pressure is too low. | (1) Set atomizing air pressure to rather high. |
| | (2) Paint discharge rate is too high. | (2) Set discharge rate to rather low or atomizing air pressure to rather high. |
| | (3) Viscosity is too high. | (3) Decrease paint viscosity. |
| | (4) Nozzle is damaged. | (4) Replace paint nozzle assembly. |
| | (5) Solvent is inappropriate. | (5) Please consult us or paint manufacturer. |
| **2. Much paint splashes back** | (1) Atomizing air pressure is too high. | (1) Adjust atomizing air pressure to rather low. |
| | (2) Exhaust velocity is too slow. | (2) Set exhaust velocity to rather fast. |
| **3. Coating efficiency is low** | (1) Atomizing air pressure is too high. | (1) Adjust atomizing air pressure to appropriate pressure. |
| | (2) Spraying distance is too long. | (2) Spraying distance should be within 150–200 mm. |
| | (3) Booth supply and exhaust rate is too high. | (3) Adjust booth supply and exhaust rate to rather low. |
| **4. Paint is attached to nozzle, which causes whisker, or stringlike particles are created on product to be coated** | (1) Evaporation rate of solvent is too high. | (1) Replace with solvent whose evaporation rate is low or adjust with additives. |
| | (2) Viscosity of paint is high. | (2) Decrease viscosity of paint. |
| **5. Particles are created on coated surface** | (1) Atomization of spraying is bad. | (1) See Section 1 in this chapter "Atomization of spraying is bad." |
| | (2) There is plenty of dirt in coating booth and dirt is attached to coated surface. | (2) Install dust-proof filter on suction part of coating booth to remove dirt on coated surface. |
| | (3) Atomizing air is dirty. | (3) Clean or replace filter at air passage. |
| | (4) Pigment dispersion of paint is bad. | (4) Review solvent or filter paint wel.l |
| **6. Orange peel (dapple, pockmark) is created** | (1) Temperature is high in coating booth or evaporation rate of solvent is high. | (1) Adjust room temperature or replace with solvent whose evaporation rate is low. |
| | (2) Temperature of product to be coated is too high. | (2) To lower temperature of product to be coated, adjust drying furnace. |
| | (3) Supply and exhaust rate is too high. | (3) Adjust to 0.5–1.0 m/sec on product surface to be coated. |
| **7. Cissing occurs** | (1) Cleaning of product to be coated is insufficient. | (1) Clean or defat sufficiently. |
| | (2) Atomizing air is dirty. | (2) Clean or replace filter at air passage. |
| | (3) Exhaust of baking furnace is inappropriate. | (3) Exhaust air sufficiently. |
| **8. Paint sags down on coated surface** | (1) Coating film is too thick. | (1) Decrease paint discharge rate or increase operation speed of hand gun. |
| | (2) Viscosity of paint is too low. | (2) Increase paint viscosity. |
| | (3) Evaporation rate of solvent is low. | (3) Replace with solvent whose evaporation rate is high. |
| **9. Coating film is translucent** | (1) Paint discharge rate is low. | (1) Adjust paint discharge rate and consider operation speed of hand gun and recoating. |
| | (2) Viscosity of paint is too low. | (2) Increase viscosity. |

| Problematic phenomenon | Possible cause | Countermeasure |
|---|---|---|
| **10. Pin holes (small holes) are created** | (1) Atomizing air is dirty. | (1) Clean or replace filter at air passage. |
| | (2) Evaporation rate of solvent is too high. | (2) Replace with solvent whose evaporation rate is low. |
| | (3) Temperature of product to be coated is high. | (3) Lower temperature. |
| | (4) Drying of undercoating is insufficient. | (4) Dry sufficiently. |
| | (5) Setting time is short. | (5) Take sufficient setting time. |
| **11. Blushing (whitening) occurs** | (1) Temperature and humidity are high inside/outside coating booth. | (1) Replace with solvent whose evaporation rate is low or check air conditioner. |
| | (2) Selection of solvent is inappropriate. | (2) Please consult us or paint/solvent manufacturer. |
| **12. Foaming occurs** | (1) Atomizing air is dirty. | (1) Clean or replace filter at air passage. |
| | (2) Drying after wet rubbing is insufficient. | (2) Dry sufficiently. |
| | (3) Coating film is too thick. | (3) Set paint discharge rate to rather low. |
| | (4) Evaporation rate of solvent is too high. | (4) Replace with solvent whose evaporation rate is low. |
| | (5) Temperature of baking furnace is too high. | (5) Adjust temperature to appropriate value. |
| **13. Pattern shape is not good** | (1) Paint and dirt are attached to atomizing air and paint spray hole of nozzle. | (1) Clean well with thinner and bamboo brush and filter paint. |
| | (2) Viscosity of paint is high. | (2) Decrease viscosity. |
| | (3) Nozzle tip is damaged. | (3) Repair or replace. |
| | (4) Pattern adjustment is bad. | (4) Adjust with pattern adjustment knob. |
| | (5) Nozzle attachment is bad. | (5) Check paint nozzle assembly is not loosened and attach air cap. |
| **14. The amount of paint sprayed is not stabilized.** | (1) The needle stroke length is short.<br>* It is recommended that the needle stroke length be 1 mm or more for use. | (1) Decrease the paint injection pressure and increase the needle stroke length.<br>(2) Install an orifice etc. in the paint path and increase the needle stroke length. |

# 8 Troubleshooting

More than one phenomenon or cause may occur at the same time, depending on the situation.

| Phenomena of failure | Possible cause | Countermeasure |
|---|---|---|
| 1. Discharge of paint is unstable, which causes shortness of breath during coating | (1) Tightening of paint nozzle assembly is insufficient. | (1) Sufficiently tighten paint nozzle assembly. |
| | (2) Seat surface of paint nozzle assembly is damaged. | (2) Replace paint nozzle assembly. |
| | (3) Air is mixed in paint. | (3) Check paint feeder system. |
| | (4) Paint discharge rate is extremely low. | (4) Increase paint discharge rate or decrease atomizing air pressure. |
| 2. Paint discharge rate is low | (1) Abnormality of paint pressure-feed system. | (1) Check paint feeder system such as paint pump and paint regulator. |
| | (2) Paint seat part is clogged with lump of paint and dirt. | (2) Clean paint seat part. |
| | (3) Paint and dirt are adhered to paint nozzle assembly. | (3) Remove and clean paint nozzle assembly. |
| 3. Paint leaks from nozzle | (1) Paint seat part is clogged with lump of paint and dirt. | (1) Clean paint seat part. |
| | (2) Wear and chipping of paint seat part. | (2) Replace paint nozzle assembly or needle head assembly. |
| | (3) Deterioration of paint shaft spring. | (3) Replace spring. |
| | (4) Pressure-feed pressure of paint is too high. | (4) Decrease pressure-feed pressure. |
| 4. Paint leaks from U seal part | (1) Wear of packing assembly. | (1) Replace packing assembly. |
| | (2) Tightening of packing assembly is insufficient. | (2) Attach packing assembly properly. |
| | (3) O-ring of packing assembly is damaged. | (3) Replace O-ring of packing assembly. |
| 5. Even if trigger is returned, air leaks from nozzle part | (1) Seat part of air valve assembly is clogged with dirt. | (1) Clean or replace air valve assembly. |
| | (2) Wear of air valve assembly. | (2) Replace air valve assembly. |
| | (3) Deterioration of spring. | (3) Replace spring. |
| 6. Air leaks from air adjuster | (1) O-ring is worn, damaged. | (1) Replace O-ring. |

## ⚠ CAUTION

**Do not perform repair other than the method indicated in this Operation and Maintenance Manual.**

# 9 Parts Replacement Method

Follow the procedures below when replacing or repairing parts.

## ⚠ WARNING

**Personal injury and accidents may occur due to an unexpected operation of the coating machine.**

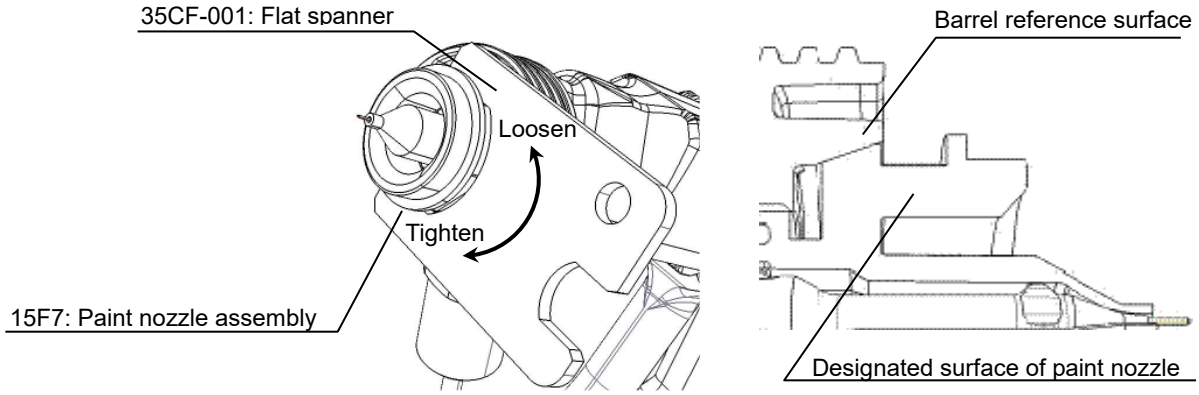
**Before replacement and repair of parts, be sure to turn off the compressed air supplied to the gun, discharge the paint in the paint passage and clean it.**

### 9.1 Replacement of Air Cap

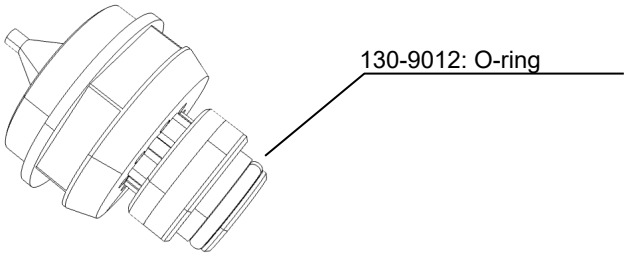
(1) In accordance with "4.4 Installation of Air Cap" in Chapter 4 "Unit Installation", remove and replace it.

## 9.2 Replacement of Paint Nozzle Assembly

(1) Replace it by stopping the paint pump, using a flat spanner (accessory tool) while pulling the trigger with the residual pressure released and removing the nozzle.

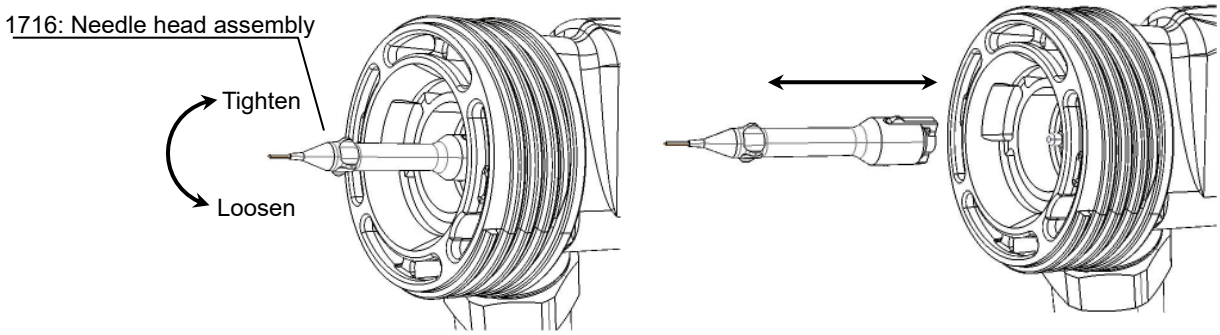



(2) If the 130-9012:O-ring is damaged when removing the paint nozzle assembly, replace it.



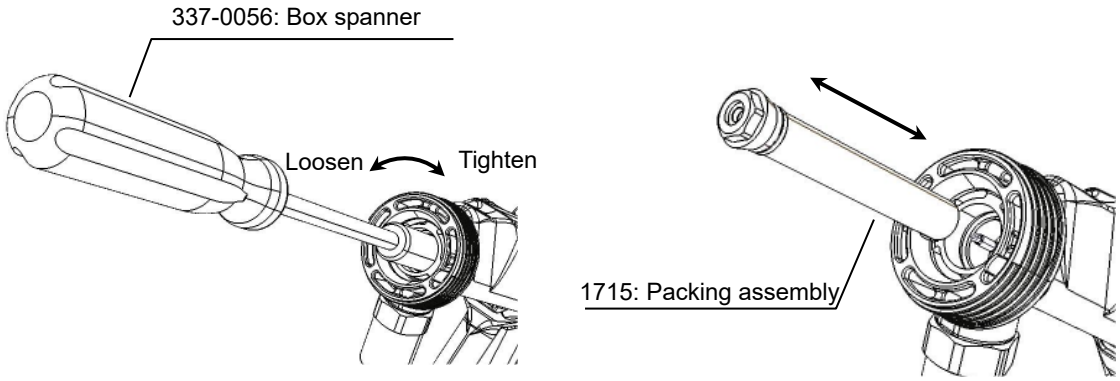
## 9.3 Replacement of Needle Head Assembly

Remove and replace it by holding the needle head assembly with fingers with the trigger pulled.
Also when attaching it, tighten it by holding the needle head assembly with fingers with the trigger pulled.
Do not tighten it too tight because it is a plastic part.

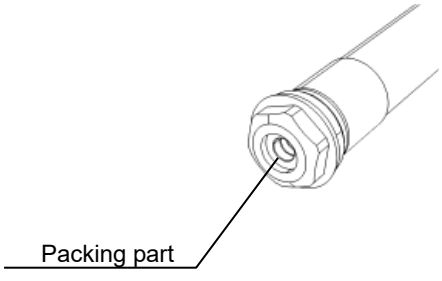



## 9.4 Replacement of Packing Assembly

(1) Remove and replace the packing assembly using the box spanner (accessory tool) with the needle head assembly removed. When attaching the packing assembly, do not tighten it too tight because it is a plastic part.
* Recommended tightening torque = 50 cN•m

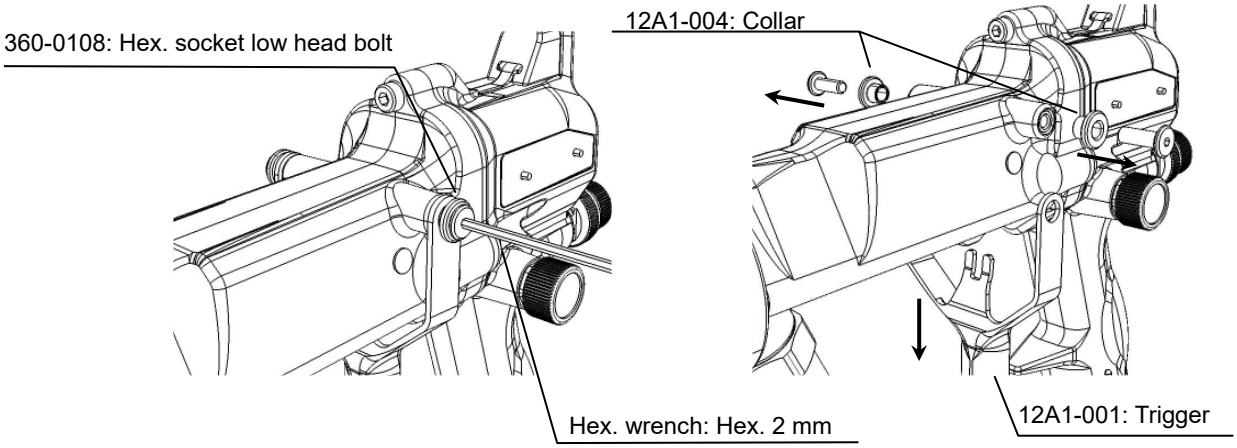



(2) When cleaning the inside of the packing assembly, clean the entire part with thinner without disassembling the inside, and after cleaning, completely dry it by blowing air.
* Since the packing part is set with controlled load, do not remove it. If the packing part is damaged, replace it with the packing assembly.

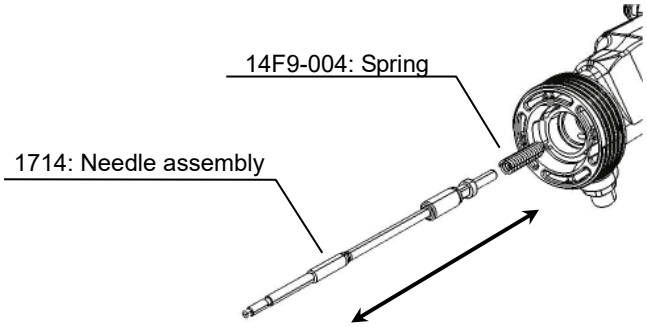


## 9.5 Replacement of Needle Assembly

(1) Remove the hex. socket low head bolt fixing the trigger using a hex. wrench of hex. 2 mm and extract the trigger downward.
In this case, to prevent the collar holding the hex. socket low head bolt from being dropped/lost, take loss prevention measures.

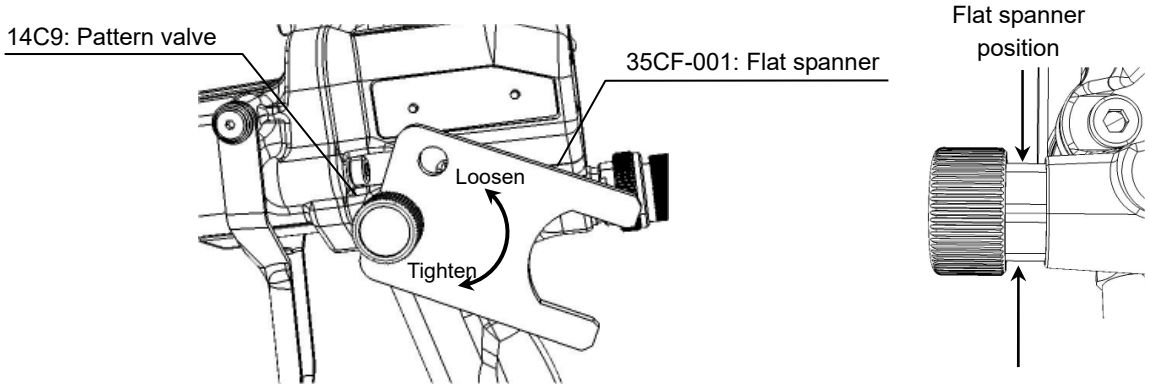



(2) Extract and replace the needle assembly from the barrel with the needle assembly and packing assembly removed as shown in the figure.
In this case, to prevent the spring from being dropped/lost, take loss prevention measures.

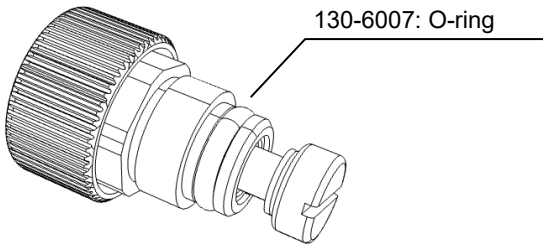



## 9.6 Replacement of Pattern Valve

(1) Remove and replace the pattern valve using a flat spanner (accessory tool) with the pattern valve fully opened.

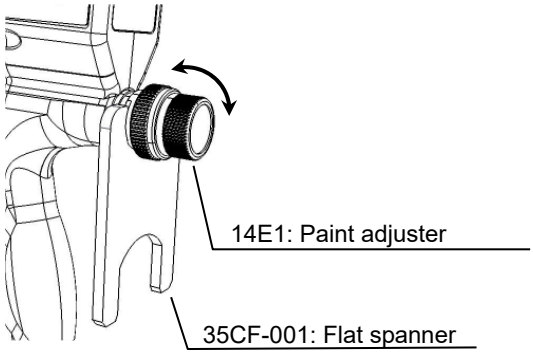


(2) When removing the pattern valve, be sure to replace 130-6007: O-ring.
It is recommended to apply white petrolatum to the screw part and O-ring part when attaching it.

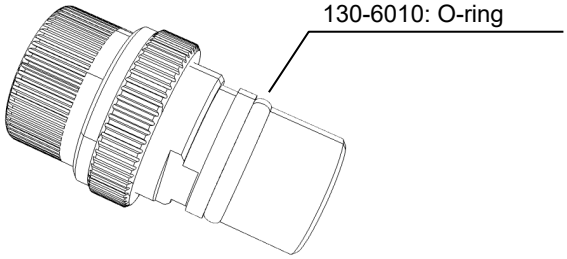



## 9.7 Replacement of Paint Adjuster

(1) Remove and replace the paint adjuster using a flat spanner (accessory tool).

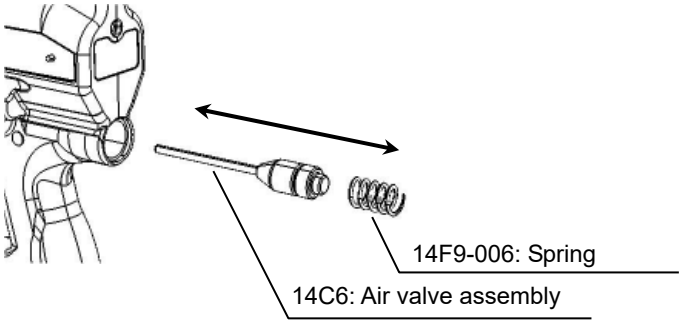



(2) When removing the paint adjuster, be sure to replace 130-6010: O-ring.
It is recommended to apply white petrolatum to the screw part and O-ring part when attaching it.




## 9.8 Replacement of Air Valve Assembly

(1) Extract and replace the air valve assembly using longnose pliers by extracting the spring with the paint adjuster removed.

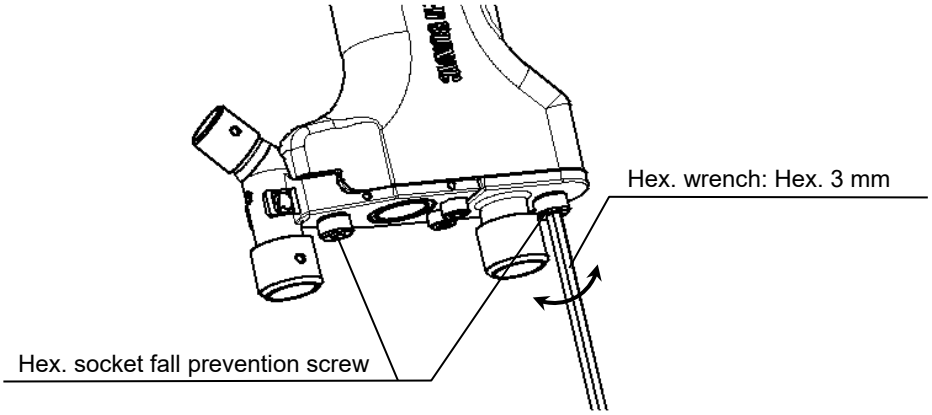



(2) Installation the paint adjuster after installs air valve assembly and tighten in addition after completely close. The seat becomes harmonize, and the seat improves.
Completely open the paint adjuster, turn on air, and confirm whether air leaks gun head.

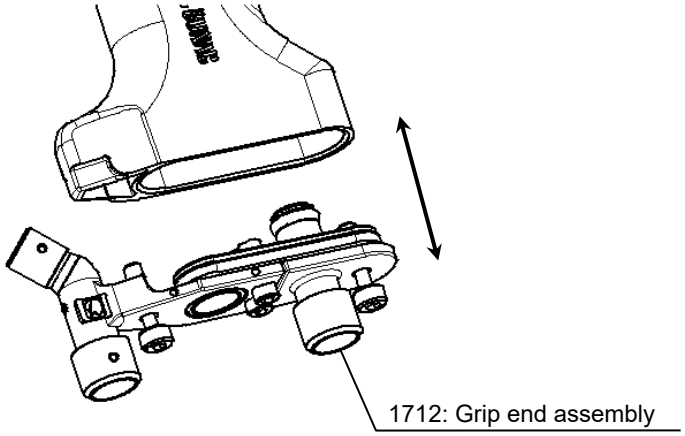
## 9.9 Replacement of Grip End Assembly

(1) Loosen the two hex. socket fall prevention screws at the grip end part using a hex. wrench of hex. 3 mm.

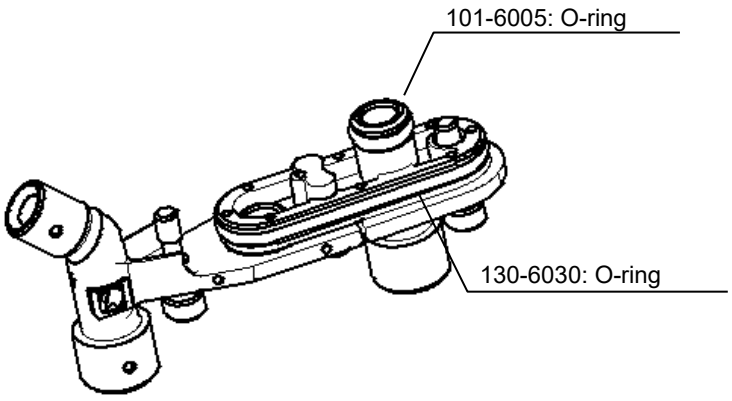
* Recommended tightening torque = 100 cN•m




(2) Loosen the hex. socket fall prevention screws and slowly extract the grip end assembly from the body assembly.

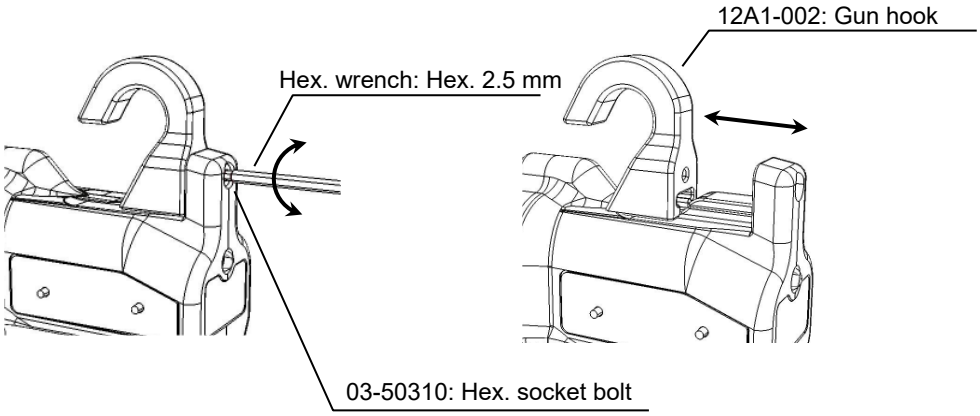



(3) When removing the grip end assembly, be sure to replace 101-6005/130-6030: O-ring.



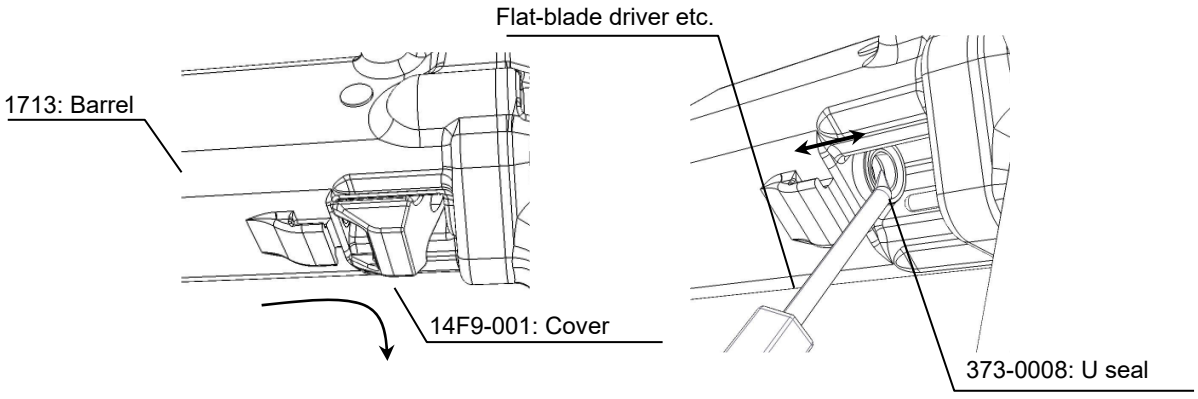
## 9.10 Replacement of Gun Hook

(1) Remove the 03-50310: hex. socket bolt fixing the gun hook using a hex. wrench of hex. 2.5 mm and extract the gun hook slide-fixed to the body assembly in the direction of the arrow to remove and replace it.



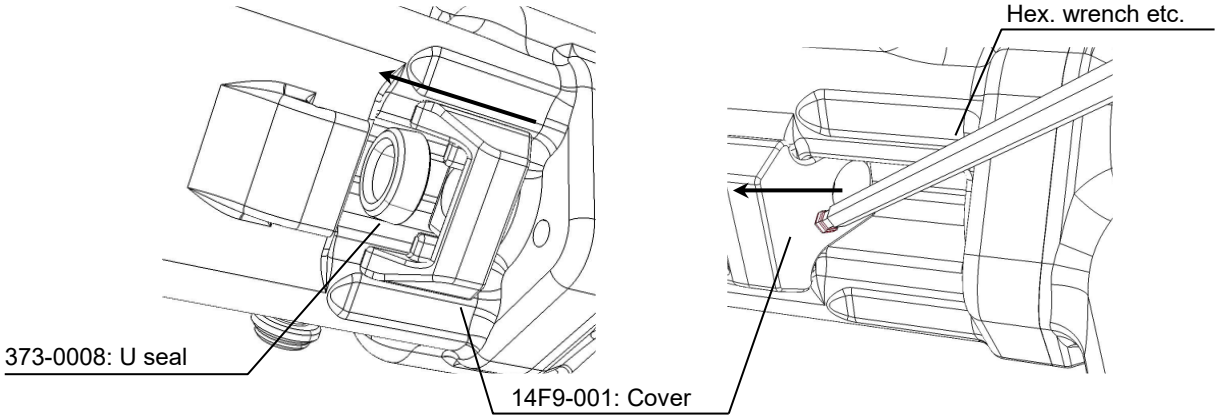

## 9.11 Replacement of U Seal (373-0008)

(1) Replace the U seal by removing the cover slide-fixed to the barrel in the direction of the arrow with the trigger and needle assembly removed. Since the U seal is firmly fixed to the barrel, remove it with a flat-blade driver etc. If removed, the U seal may be deformed/damaged, so be sure to replace it.



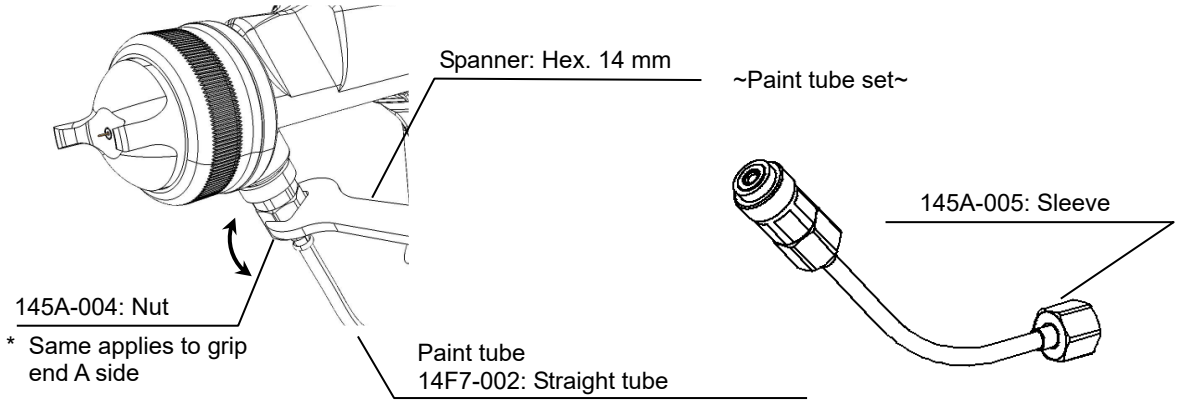

(2) Attach the U seal by pressing the cover with a hex. wrench etc.

* If only the U seal is pressed, the lip part may be deformed or damaged.



## 9.12 Replacement of Paint Tube

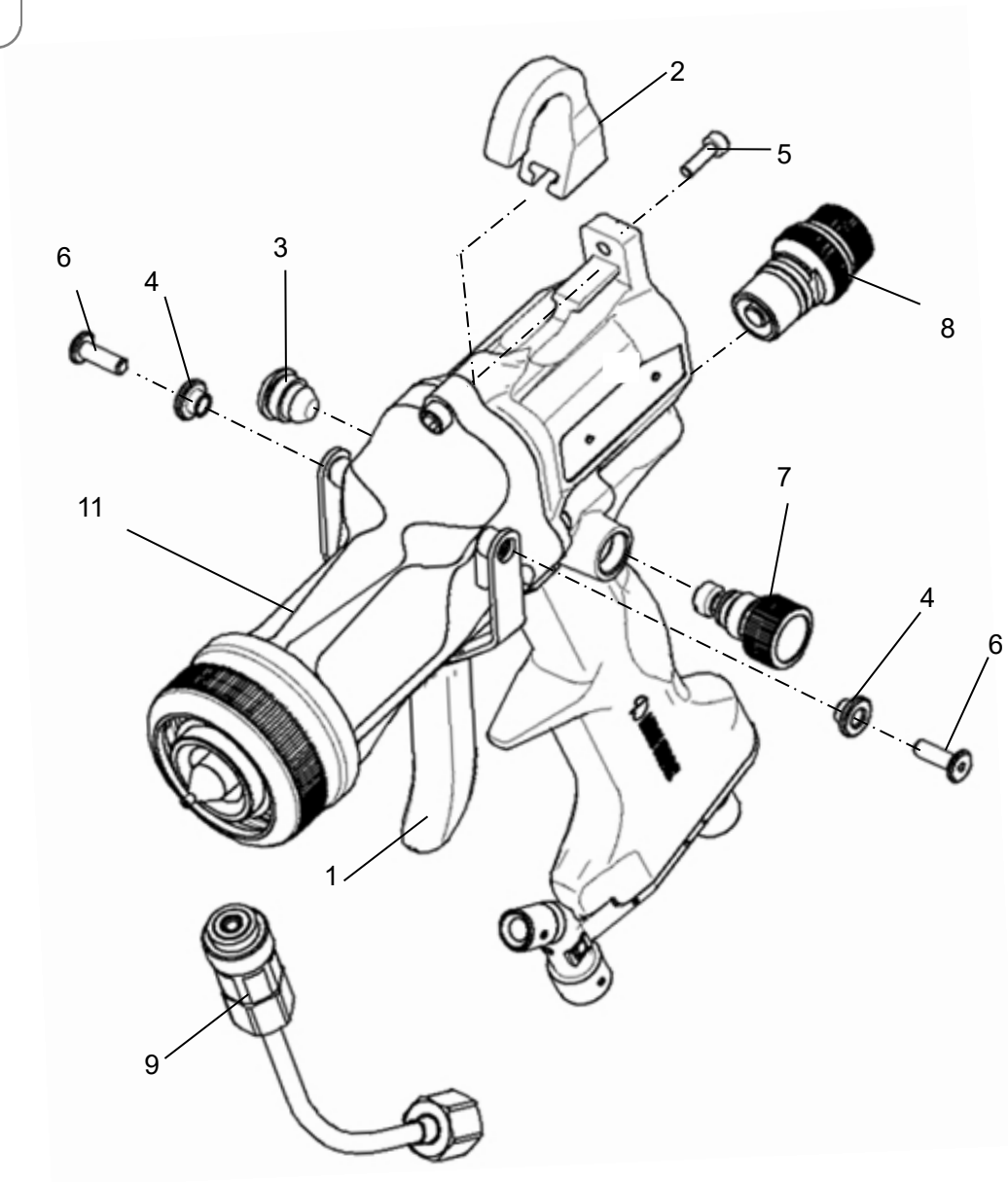
(1) Loosen the two 145A-004 nuts using a spanner of hex. 14 mm to replace the paint tube. When replacing the paint tube, be sure to replace the two 145A-005 sleeves too to prevent paint leakage.



## 10.1 MGB50 Exploded Drawing

**MGB50**

**12A8**




| No. | Parts No. | Part name | Qty. | Remarks |
|---|---|---|---|---|
| 1 | 12A1-001 | Trigger | 1 | |
| 2 | 12A1-002 | Gun hook | 1 | |
| 3 | 12C5-003 | Plug | 1 | |
| 4 | 12A1-004 | Collar | 2 | |
| 5 | 03-50310 | Hexagon socket head bolt | 1 | |
| 6 | 360-0108 | Hex. socket low head bolt | 2 | |

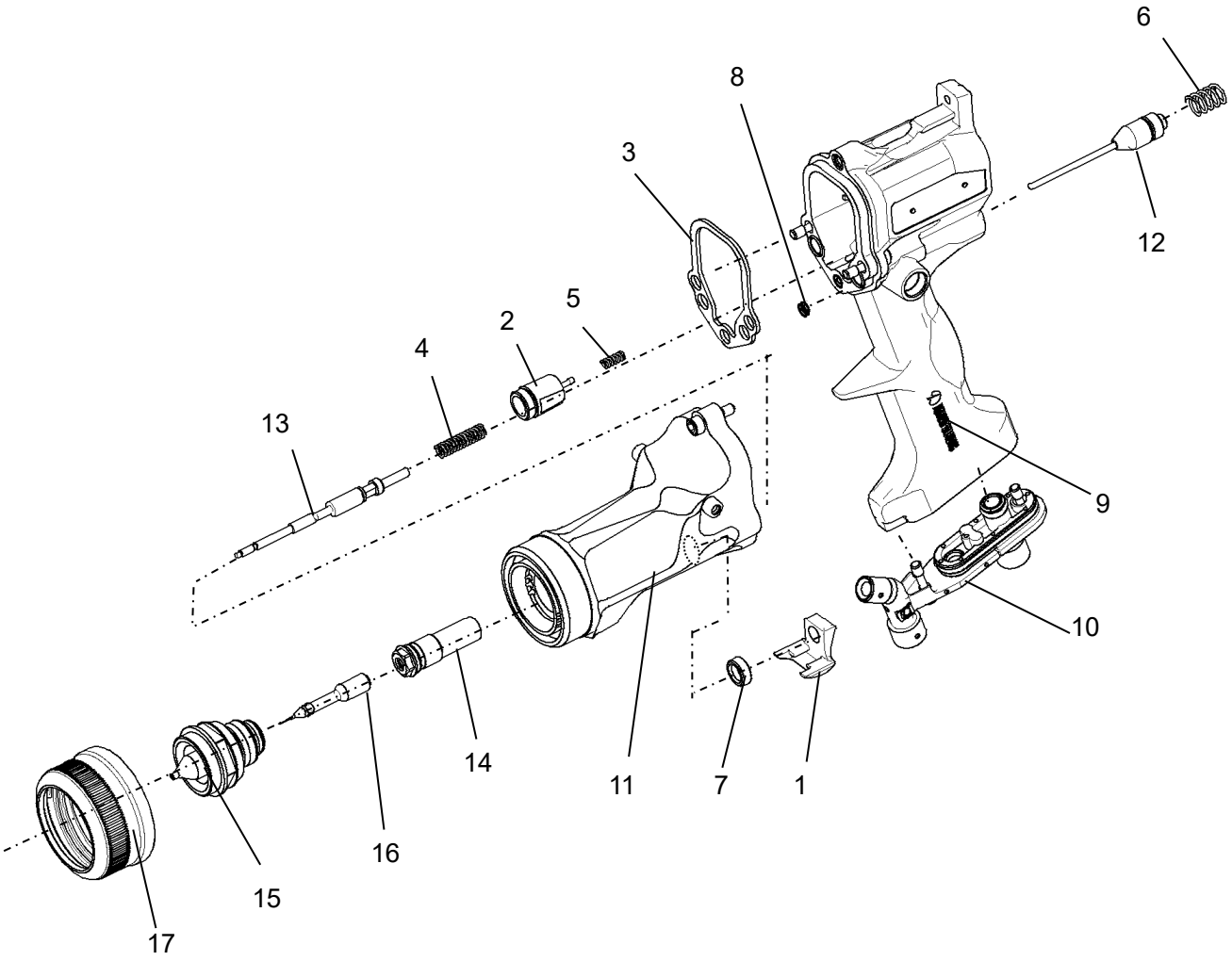
| No. | Parts No. | Part name | Qty. | Remarks |
|---|---|---|---|---|
| 7 | 14C9 | Pattern valve | 1 | |
| 8 | 14E1 | Paint adjuster | 1 | |
| 9 | 1717 | Straight tube set | 1 | |
| 10 | Nil | | | |
| 11 | - | Core unit | 1 | * |
| 12 | 35CF | Accessory tool | 1 | |

* Can not order with core unit only.

## 10.2 MGB50 Core Unit Exploded Drawing

**Core unit**

-



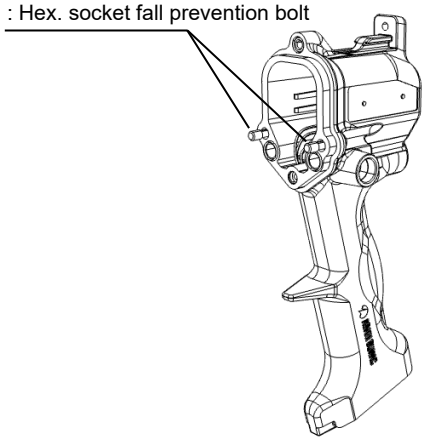

| No. | Parts No. | Part name | Qty. | Remarks |
|---|---|---|---|---|
| 1 | 14F9-001 | Cover | 1 | |
| 2 | 14F9-002 | Contact | 1 | |
| 3 | 14F9-003 | Packing | 1 | |
| 4 | 14F9-004 | Spring | 1 | |
| 5 | 14F9-005 | Spring | 1 | |
| 6 | 14F9-006 | Spring | 1 | |
| 7 | 373-0008 | U seal | 1 | |
| 8 | 373-0009 | U seal | 1 | |
| 9 | 1711-1 | Body assembly | 1 | For repair |

| No. | Parts No. | Part name | Qty. | Remarks |
|---|---|---|---|---|
| 10 | 1712 | Grip end assembly | 1 | |
| 11 | 1713 | Barrel | 1 | |
| 12 | 14C6 | Air valve assembly | 1 | |
| 13 | 1714 | Needle assembly | 1 | |
| 14 | 1715 | Packing assembly | 1 | |
| 15 | 15F7 | Paint nozzle assembly | 1 | |
| 16 | 1716 | Needle head assembly | 1 | |
| 17 | 1707 | Retaining nut assembly | 1 | |

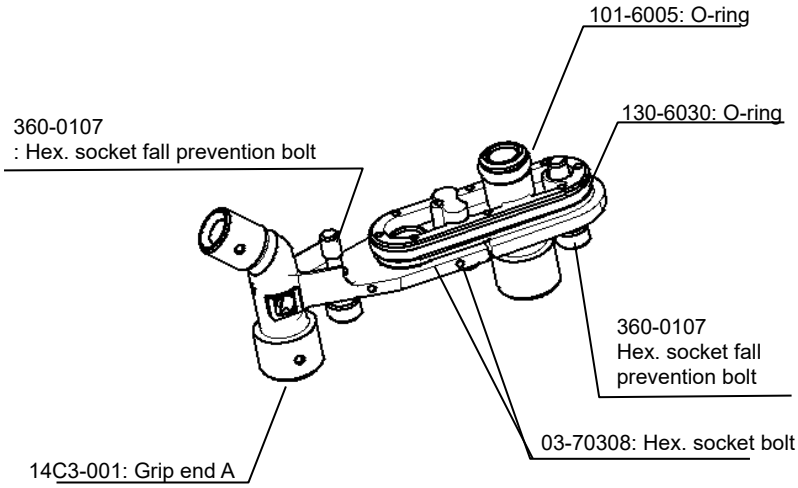
## 10.3 Replacement Parts

The following are the replaceable parts in the parts assembly.
Parts not indicated should be replaced for each assembly unit.

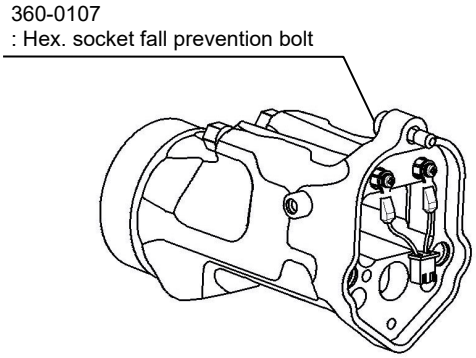
**Body assembly**
**1711-1**




**Grip end assembly**
**1712**



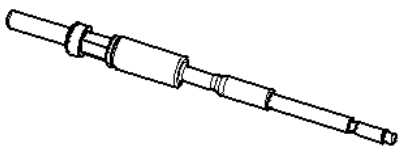

**Barrel**
**1713**




**Air valve assembly**
**14C6**

* There is no individual replacement part.
Replace with assembly parts.

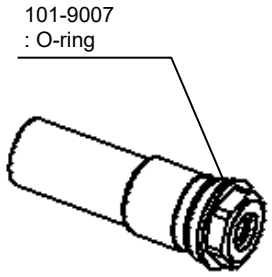
**Needle assembly**
**1714**



* There is no individual replacement part.
Replace with assembly parts.

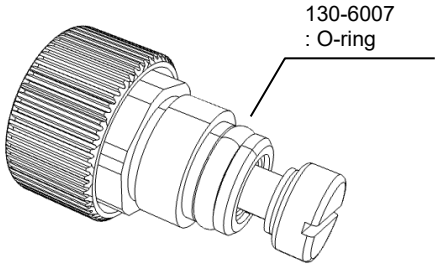
**Packing**

**1715**



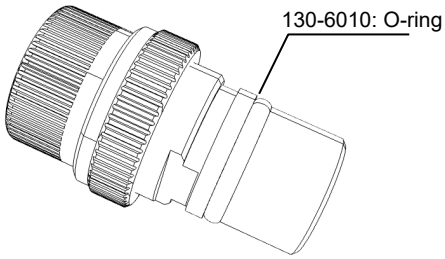

**Pattern valve**

**14C9**



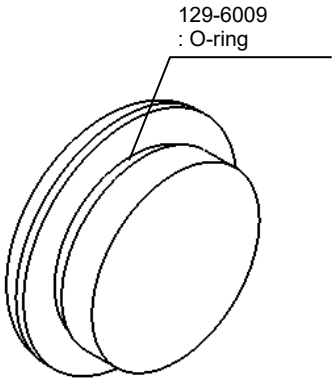

**Paint adjuster**

**14E1**



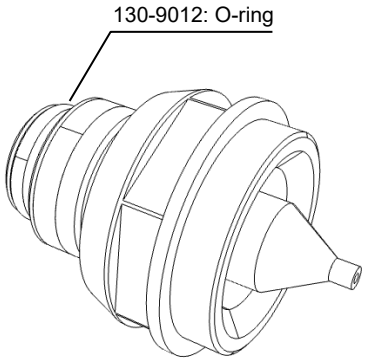

Plug

12C5-003




**Paint nozzle assembly**

**15F7**



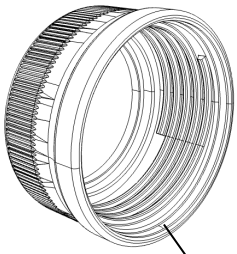

**Needle head assembly**

**1716**

* There is no individual replacement part.
Replace with assembly parts.

**Retaining nut assembly**

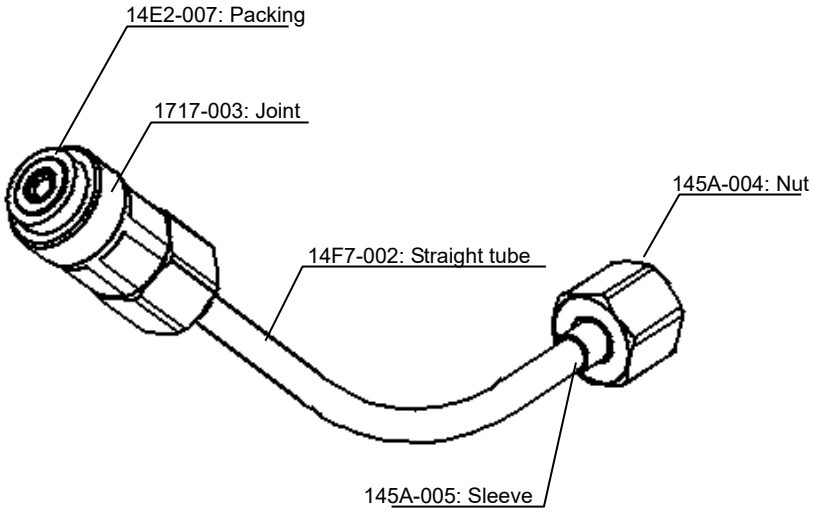
**1707**




* When Ring seal is removed
  from Retaining nut,
  Please replace to newone.

**Straight tube set**

**1717**



# 11 Maintenance Log

Please use record the details that you conduct a maintenance service, such as replacement of a part, tear-down cleaning, post-failure repair, etc.

| Equipment name | | | Air spray hand gun <MGB50> | | Purchase date: | |
|---|---|---|---|---|---|---|
| Date of service | | | Portion worked on | Description | Result | Who serviced |
| | | | | | | In-house / Dealer / Asahi Sunac |
| | | | | | | In-house / Dealer / Asahi Sunac |
| | | | | | | In-house / Dealer / Asahi Sunac |
| | | | | | | In-house / Dealer / Asahi Sunac |
| | | | | | | In-house / Dealer / Asahi Sunac |
| | | | | | | In-house / Dealer / Asahi Sunac |

Note: Due to continuous improvements and modifications, the configurations specified herein are subject to change without prior notice.

# 12 Warranty

ASAHI SUNAC CORPORATION (the “Company”) shall provide the original purchaser (the “Purchaser”) with warranty service for a period of 6months from the date of purchase of the product, as follows:

- Should you find defects in design or workmanship with regard to parts, ship them back to the Company, with freight prepaid. The Company shall repair or replace the parts free of charge and reimburse the freight charges, provided that, as a result of an inspection and investigation of the parts conducted by the Company, the defects are deemed to be to attributable to the factors within the Company’s responsibility.

- In the following cases, free after-sales service is not provided.

  1. Failure resulting from an inappropriate method of installing this equipment.
  2. Failure resulting from a use method not conforming to this instruction manual or mishandling.
  3. Failure resulting from insufficient maintenance management of this equipment and incorrect handling such as non-conformance to the procedures specified in this instruction manual.
  4. Failure resulting from unauthorized alteration or structure change of this equipment without the Company’s consent.
  5. Failure due to force majeure such as earthquake, disaster, flood disaster or lightening.
  6. Warranty for consumables worn or deteriorated even in the case where this equipment is used correctly.
  7. Repair after the machine has been used outside Japan, and shipping cost.
  8. In addition to the above, failure due to circumstances beyond our control.

- As for items such as parts purchased by the Company from another manufacturer, the warranty of that manufacturer shall apply.

- As for any parts deemed to be defective, the Company shall not be held liable for any expenses beyond the provision of repair or replacement parts free of charge.

- The Company shall not be held liable for any damage to the Purchaser caused by factors not attributable to the Company, such as misuse of product, etc.

- When a transfer of title of this equipment takes place, please see to it that this Operation and Maintenance Manual is handed over to the new owner.
- This equipment is manufactured in compliance with the Laws and Regulations of Japan.
  In the rare eventuality of this equipment being used outside Japan, compliance with the safety standards of the relevant countries is of course mandatory.

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