SUMAKE®

Professional & Industrial

INSTRUCTION MANUAL

ITEM NO.: RF501
AUTOMATIC RIVET FEEDER

RF501-I-2406A-YM

SUMAKE

Table of Contents

I. Instructions

RF501 automatic rivet feeder work by quickly and stability in automatic way. And improve also enhance production efficiency. To reduce working and more convenient for production.

II. Items inspections

1. Rivet Gun x 1 set
2. RF501 Rivet Feeder x 1 SET

III. Safety precautions

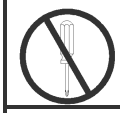
Follow instructions depicted in the manual and operate the machine correctly.

＜Be sure to follow the instructions＞

1. Warning sign：

 【**Prohibition Sign**】	Fire, electric shock, or personnel injury or death may occur if not observed.
 【**Alarm Sign**】	Damage of properties, or electric shock or injury of personal may occur if not observed.

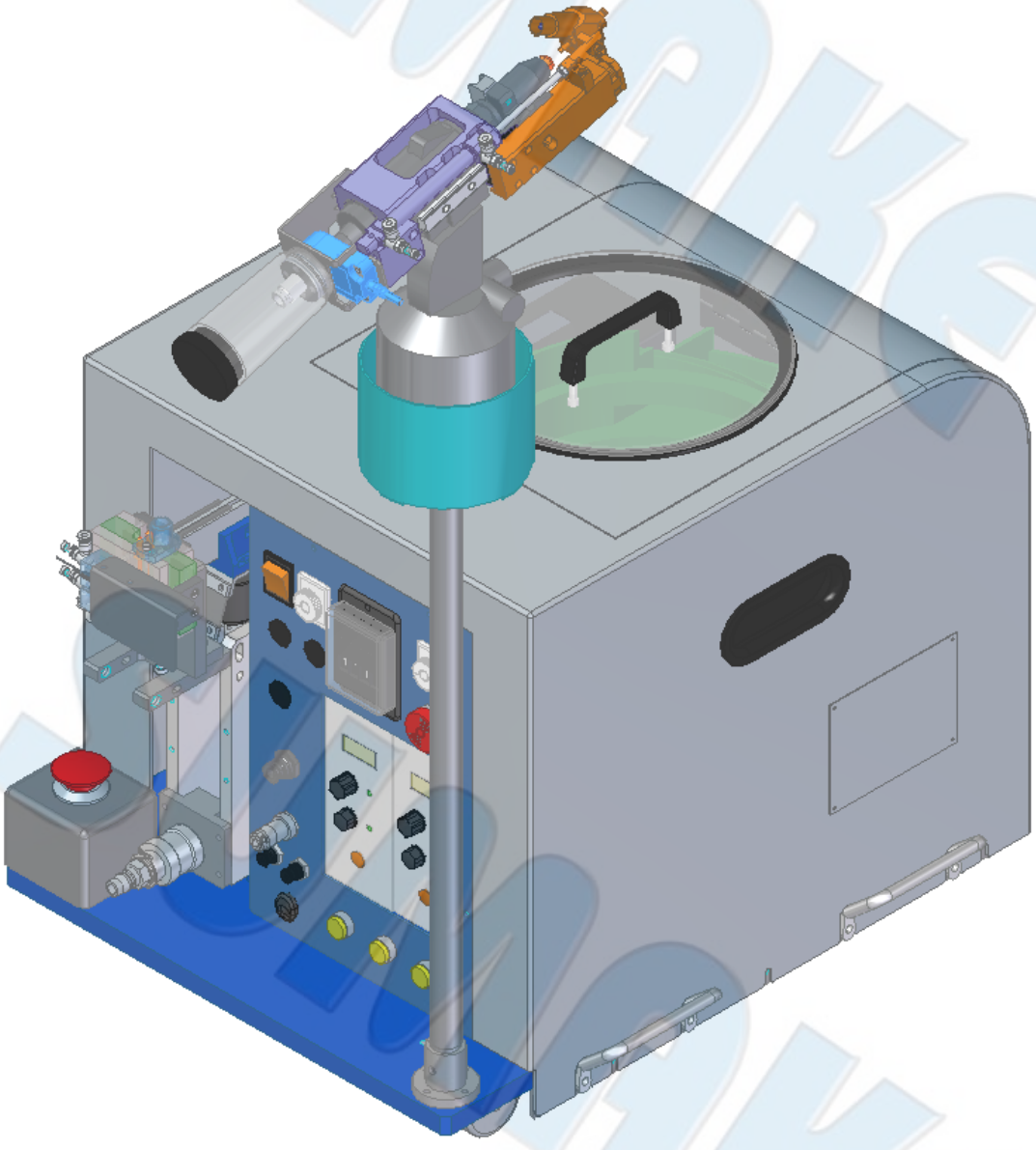
2. Safety rules:

	NOT let contaminants such as water or oil enter into machine
	Please connect use correct voltage to work, and ensure connect ground wire.
	Follow instructions in the manual and operate the machine correctly.
	DO NOT dismantle or modify the machine.
	If machine smoke, dropped from high place, Influent, please remove the power cord and ship the product for repair.
	NOT place and operate the machine on an unstable table.
	DO NOT place machine in a place where flammable or corrosive gas area.
	DO NOT put the hand in hopper during working or aim screwdriver to operator. ◦
	Remove the power plug if the machine is to remain idle for a long period of time. And use specified voltage.
	DO NOT place non-spec screws into the hopper.
	DO perform regular maintenance of the machine as scheduled.

IV. Specification

1. Exterior ：

Model NO.	Riveting Capacity inch(mm)	Dimension (LxWxH)(mm)	Net Weight (kgs)	Voltage (V/Hz)	Working pressure
RF501	3/32”(2.4), 1/8” (3.2) 5/32” (4.0), 3/16” (4.8)	425 x 555 x 700	95	220/50 220/60	6~7Bar



2. Working environment：

(1). Place ：Indoor

(2). Temperature: －10℃～ ＋40℃

(3). Humidity : 20％ ～90％（no condensation）

V. Parts Name

1. Mechanism Descriptions:

(1). Front panel:

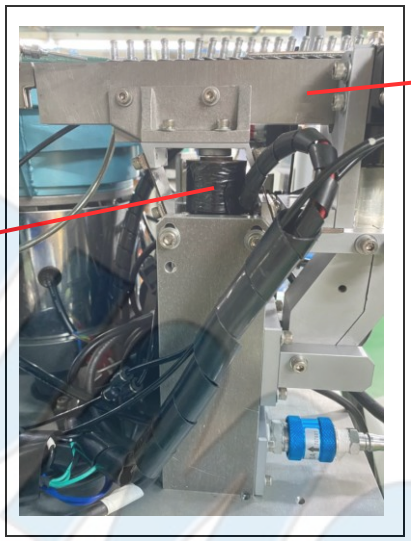
【 **Fig 5-1**】

Caption	Function	Original setting
Feed Timer	Setting for feeding time	0.6 sec
Feed Delay	Setting for feeding delay time	0.2 sec

(2). Escapement：

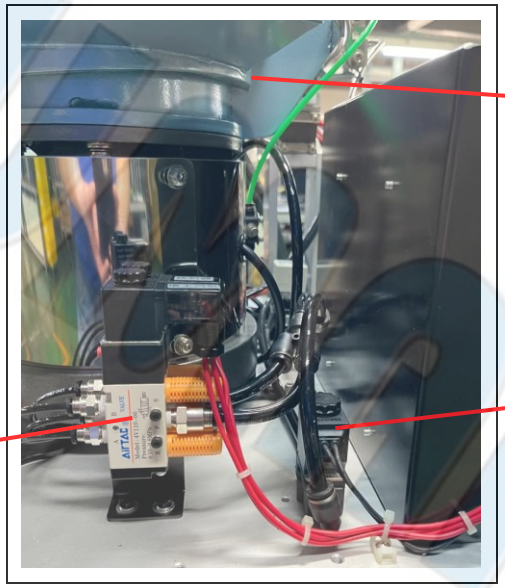
【Fig.5-2】

(3). Linear conveyor：

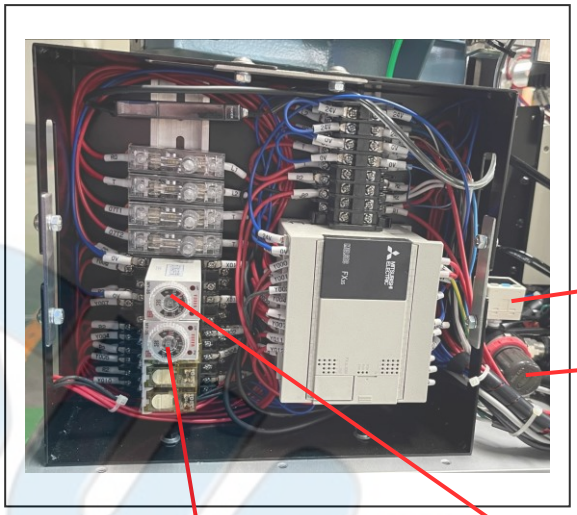


【Fig.5-3】

(4). The components of base board：



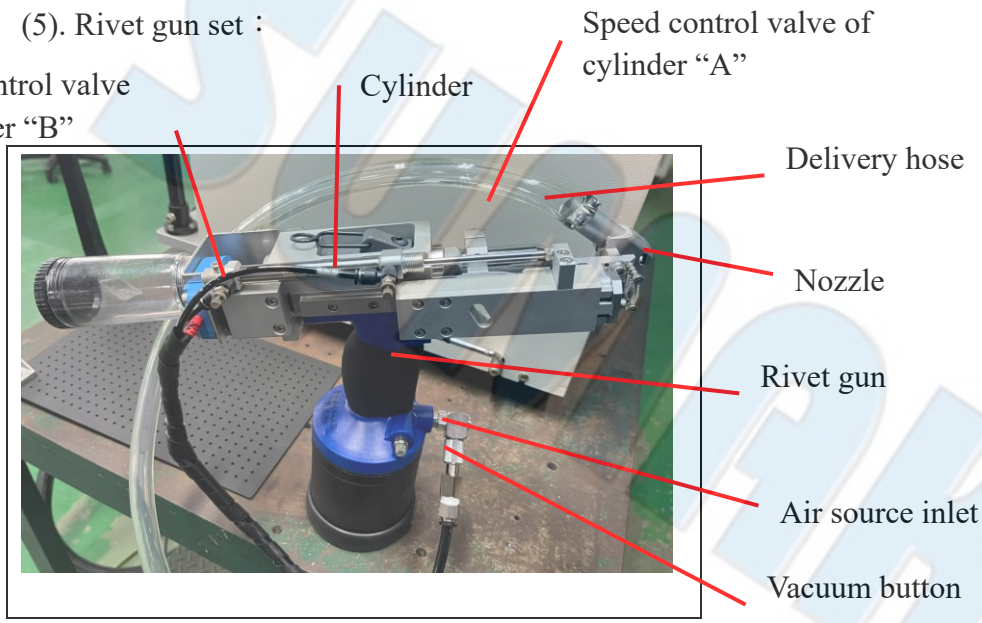
【Fig.5-4】



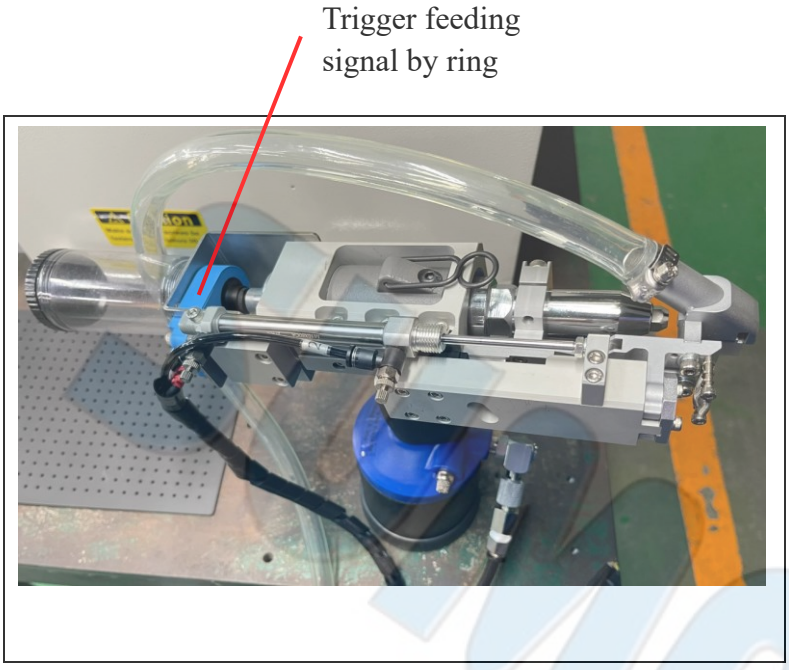
【Fig.5-5】

Caption	Function	Original setting
Timer of rivet gun cylinder	The cylinder retracts delay time after feeding	0.2 sec
Timer of escapement movement	The cylinder of escapement movement time	0.5 sec

(5). Rivet gun set：



【Fig.5-6】



【Fig.5-7】

(6). Controller panel

Voltage adjustment: adjust by VOLT knob，(right display will light.)

Frequency adjustment: adjust by FREQ/SET knob.

Power

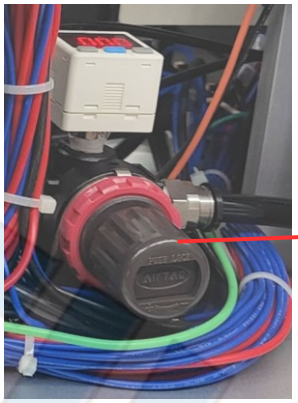
VI. Installation

- Please connect cylinder air hose of rivet gun; air hose ”A” connect to speed control valve “A”, air hose “B” connect to speed control valve “B”, refer to FIG. 5-1 & 5-6.
- Connect air hose of rivet gun (FIG. 5-1) to air source inlet (FIG. 5-6).
- Connect Delivery hose (FIG. 5-2) to Rivet gun (FIG. 5-6)
- Connect Feeding connector (FIG. 5-1) to ring sensor (FIG. 5-7).

✧ Ensure the power of controller is “ON”.

✧ It is necessary to keep the wires smoothly, and avoid being squeezed, twisted, or pulled by external issue, which may cause rivet jams, disconnection, breakdown, etc.

- Connect to connect voltage and air pressure source.

Pull the switch out and turn for adjustment. Push the switch downward after adjusting.


Air pressure adjustment switch

Turn clockwise to increase pressure.

Turn counter-clockwise to decrease air pressure.

SUMAKE

VII. Test run

1. Connect to air pressure source of feeder and rivet gun (air pressure **6~7** kg/cm^2) ◦ **〈Fig. 5-1〉〈Fig. 5-2〉〈Fig. 5-6〉**
2. Connect power cord to【AC 220V】**〈FIG. 5-1〉**
3. Turn on the【POWER】 **〈FIG. 5-1〉**
4. Check the counter setting. **〈FIG. 5-1〉**
5. Check the vibration controller and linear controller is ON. **〈FIG. 5-1〉**

✧ It is necessary to keep the wires smoothly, and avoid being squeezed, twisted, or pulled by external issue, which may cause rivet jams, disconnection, breakdown, etc.

NOTE ：Please ensure to connect correct voltage to avoid controller breakdown.

VIII. Operation steps

1. Connect to air pressure source.
2. Turn on power.
3. Turn on vibration controller power.
4. Turn on linear controller power.
5. Open vacuum switch of rivet gun
6. Press manual feed button.
7. Ensure there is rivet on nozzle; please press manual feed button if no rivet on nozzle.
8. Re-set for counter.
9. Start to working if there is rivet on nozzle.

IX. Maintenance

◎. If working environment is harsh or frequent operation, please short time of maintenance.

1. Clean hopper

➢ Please clean miscellaneous material in hopper per week.

➢ Please regularly clean the hopper by alcohol or cleaning naphtha for feeding smoothly.

2. Clean escapement and rail

➢ Use air gun to clean regularly

➢ Use cotton dip alcohol to clean rail.

X. Adjustment and replacement

1. Escapement air volume adjustment ：

Please adjust the air volume if current feeding timer is unavailable to feeding. (FIG. 10-1)

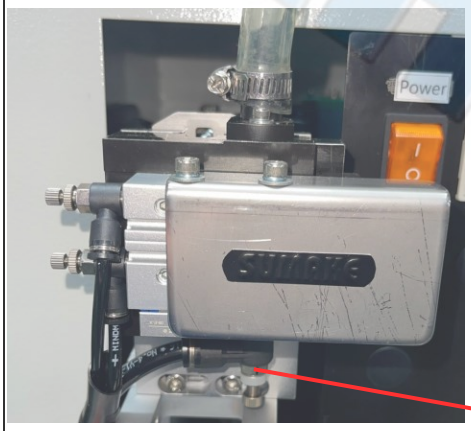
(1). Using the air volume adjuster for adjustment.

①. Decrease air volume: Turn clockwise.

②. Increase air volume：Turn counter-clockwise.

FIG. 10-1

Air volume adjustment



Air volume adjust valve

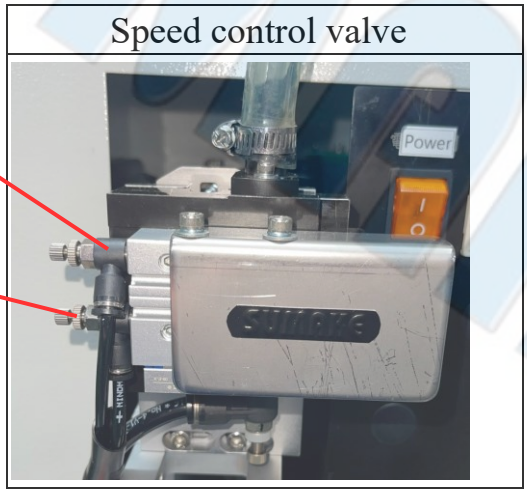
2. Adjustment of escapement speed：

If the shutter of escapement works badly, then need to adjust speed control value by procedures as below. (FIG. 10-2)

a. Change shutter for leftward speed, please adjust “B” speed control valve

b. Change shutter for rightward speed, please adjust “A” speed control valve.

FIG. 10-2



3. LCD pressure display adjustment

Green color: normal pressure

Red color: abnormal pressure

The buzzer will bray once air pressure is under setting value.

Decrease to set up value by ▽ and release. it will change to the new set value after 3-5s.

Increase to set up value by △ and release, it will change to the new set value after 3-5s.

XI. Troubleshooting

1. The rivet can't feed to nozzle after triggering continuously.

(1). Check there are more rivets inside of tank.

▲Please turn off the power and release air pressure.

(2). Delivery hose fall off.

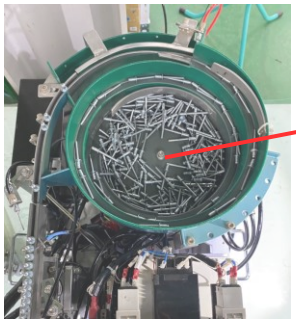
- Check the hose connection.

(3). The feeding volume is too weak to working.

- Please adjust the air volume adjuster.

(4). Please adjust the air volume adjuster.

- Check if rivet lacking: please supply rivet



【FIG. 11-1】

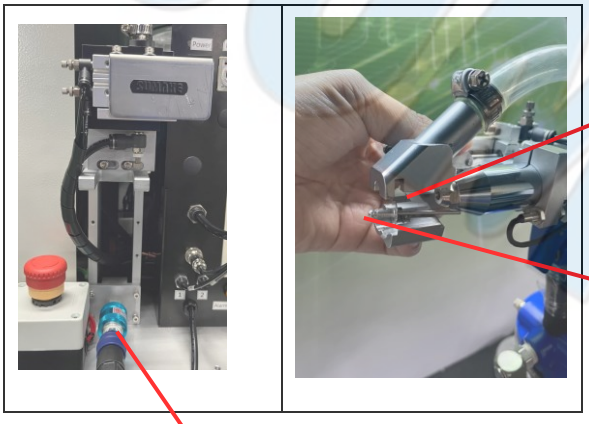
2. The rivet stuck inside nozzle after feeding.

(1). Turn off air pressure.

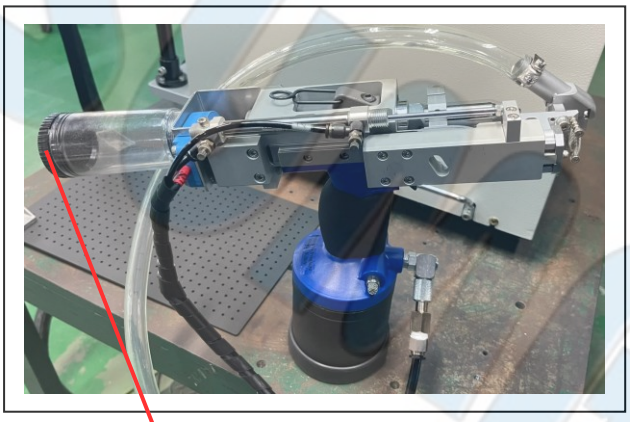
(2). Ensure the cylinder on rivet gun can move by manual.

(3). Remove the stuck rivet by opening the nozzle and try to feed next rivet.

【FIG. 11-2】 【FIG. 11-3】



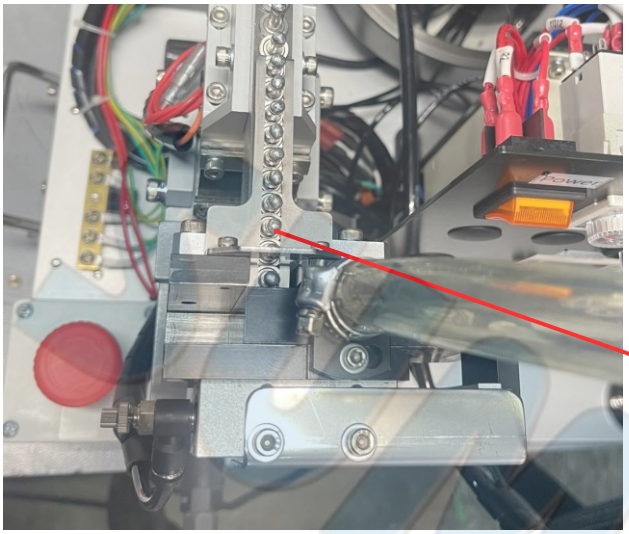
3. Removal remaining material from tank.



1. Turn air source off.
2. Remove remaining material by opening black cover.
3. Install the black cover and turn air source

4. To solve the stuck rivet on escapement

(1). The rivet stuck on escapement rail.



Please move the rivet backward, and remove the stuck rivet. And feeding next rivet.

Our company reserves the right to modify the product without prior notice.

EU Declaration of Conformity (DOC)

We: **SUMAKE INDUSTRIAL CO., LTD.**

4F, No. 351, Yangguang St., Neihu District, Taipei City, Taiwan

declare in sole responsibility that the equipment

Equipment： AUTOMATIC RIVET FEEDER

Model/ Serial No.： RF501

The object of the declaration described above is in conformity with the relevant union harmonization legislation:

- **Machinery Directive 2006/42/EC**
- **Low Voltage Directive: 2014/35/EU**
- **RoHS 2011/65/EU**

The following harmonised standards and technical specifications have been applied:

- **EN ISO 12100:2010**
- **EN ISO 13849-1:2023**
- **EN ISO 13850:2015**
- **EN ISO 13857:2019**
- **EN ISO 4414:2010**
- **EN 60204-1:2018**

Name and Signature/Position

Mike Su – Managing Director

Date and Place

2023/8/23

Taipei, Taiwan

RF501-D-2406A-YMF

NOTE