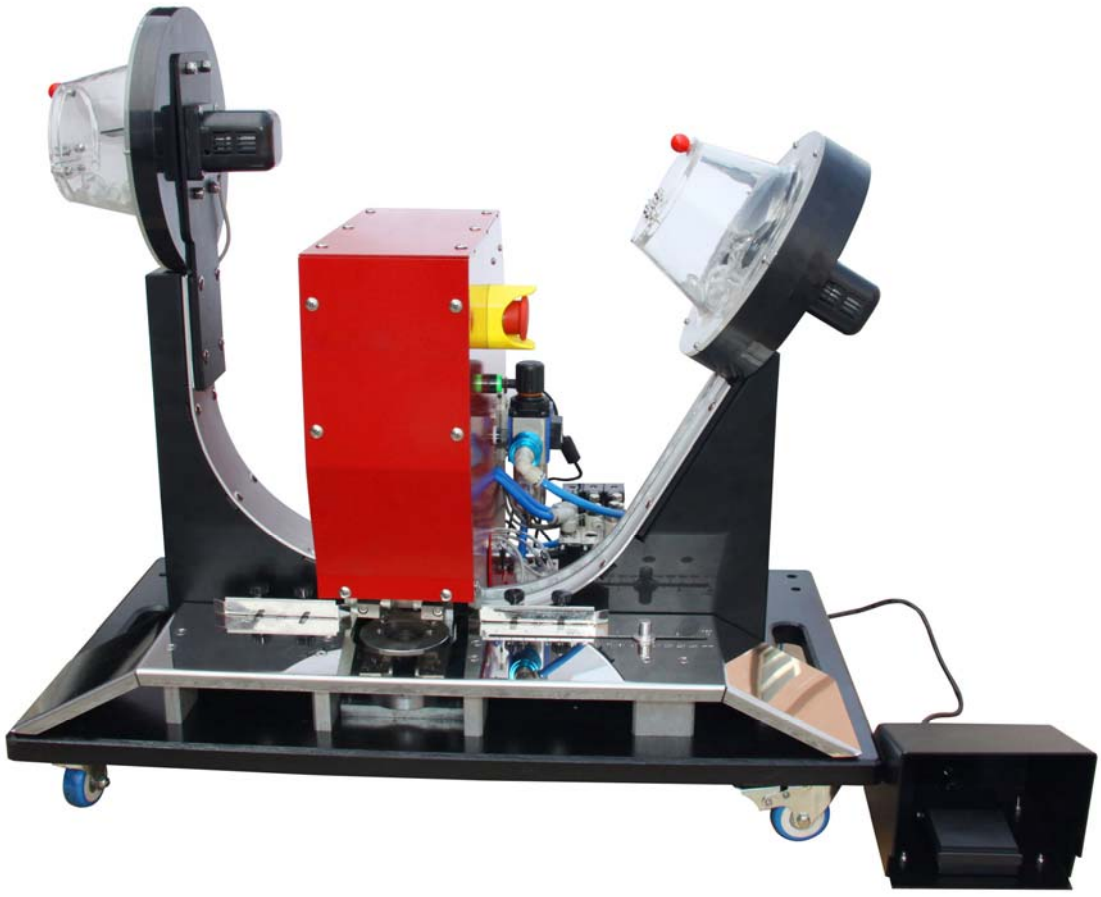
OPERATION & MAINTENANCE MANUAL

AUTOMATIC PNEUMATIC GROMMET MACHINE

MODEL： APD120



(PLEASE READ THE OPERATION MANUAL BEFORE OPERATION.)

CATALOGUE

1. INTRODUCTION

1.1 APPLICATION

This machine can set plastic grommets on different fabrics as required, achieve functions beyond handwork.

APD120 achieves setting grommets continuously, and with high quality. Compared with traditional handwork, Its efficiency is much higher, save manpower remarkably. Grommets are tidily arranged and graceful. They are made of engineering plastic, high strength, hard to distortion. Engineering plastic also has excellent anti-acid corrosion resistance, and will not be rusted outdoors. What's more, grommets are recyclable, environmental and practical.

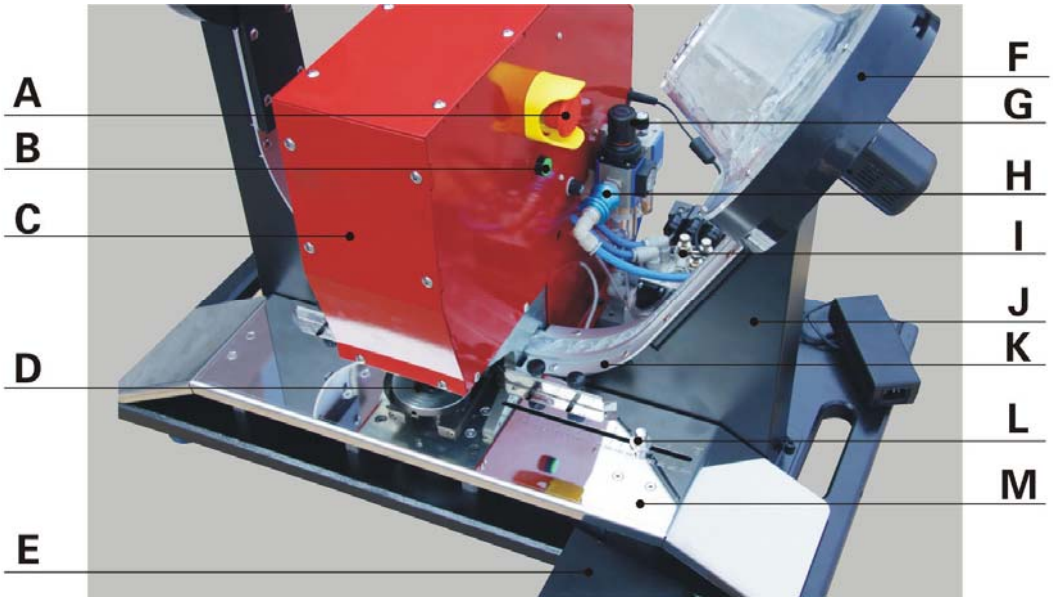
1.2 APPLICABILITY

APD120 adopts power adapter. Input voltage is AC110V~250V, Output voltage is DC24V. Low voltage is safer.

1.3 SUPPLIES INTRODUCITON

APD120 adopts dislocation cutting, fabrics not prone to wrinkle is more suitable for the machine. Such as flex banner, tent, non-woven fabrics, canvas, and thick carbon fiber etc.

1.4 MACHINE COMPONENT



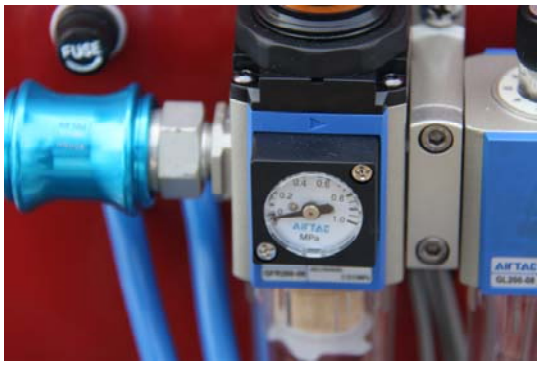
A—Emergency stop switch B—Main switch C—Cover D—Punching location E—Pedal switch F—Deposit G—Pressure control valve H—Slide valve I—Magnetic valve J—Stand K—Raceway L—Location block M—Stainless steel plate

2. OPERATION

2.1 WORKING CONDITION

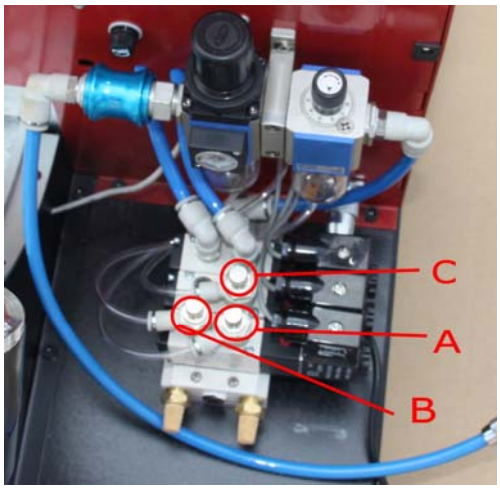
2.1.1 CHECKING THE MACHINE BEFORE STARTING

Pressure condition: The normal working pressure is 0.6MPa. Do not be too high or too low. High pressure will damage grommets and die. Low pressure may cause malfunction, even damage components. So please check the barometer before starting, procedure is as follows:

	Common pressure:0.6MPa is advisable, Thick fabric requires to increase the pressure properly.

2.1.2 PRESSURE ADJUSTMENT

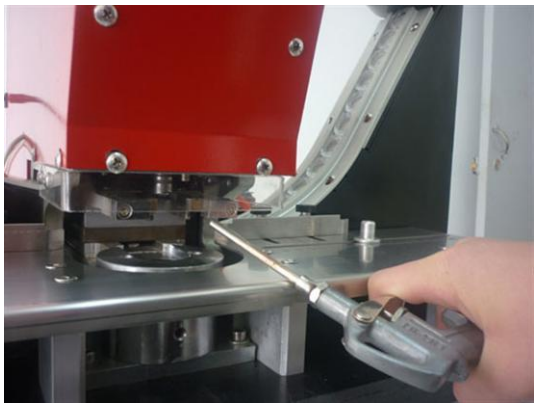
If pressure is too low, adjust clockwise. In turn, adjust counterclockwise.

	Lift up the knob and Rotate clockwise to increase the pressure.
	A: Pushing speed adjustment B：Returning speed adjustment C：Punching pressure adjustment (male grommet)

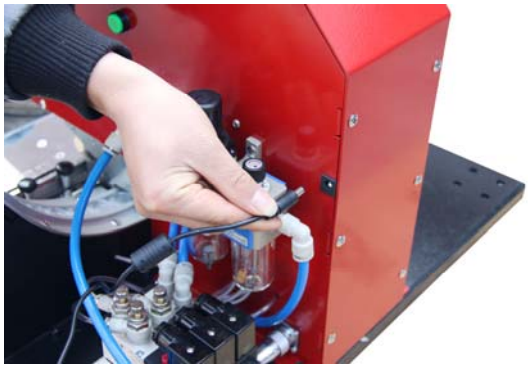
2.2 OPERATION PROCESS

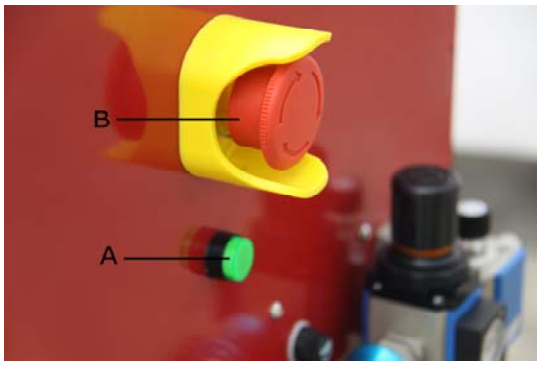
2.2.1 Operation process

First: Check whether there are residual grommets or fabric pieces in the punching position. If yes, blow them away or take them out with a hook. Do not use your hands directly, you may be hurt.

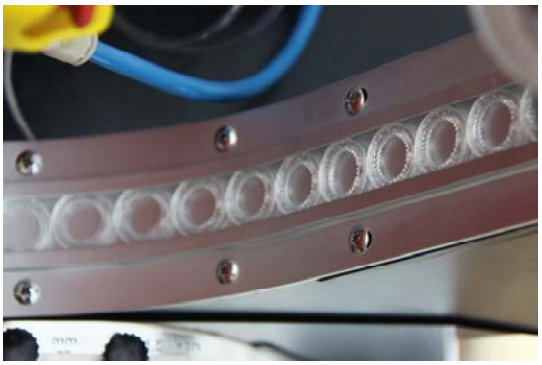
	Make sure there are no residual grommets or fabric pieces around the top die and bottom die.
	Clean die with pneumatic gun regularly.

Second: Plug power adapter in (output voltage DC24V), turn on power switch. Make sure emergency switch is loosened. Both left and right deposits works.

	Plug power adapter in

	A：Main switch B：Emergency switch

Third: Check whether there are grommets in the deposit or raceway. Attention: do not operate the machine without grommets.（**In general, the maximum quantity in left deposit is 120pcs, the right deposit is 200pcs**）Make sure there are enough grommets in the raceway, then you can start the machine. (Plug power in and turn on power switch).

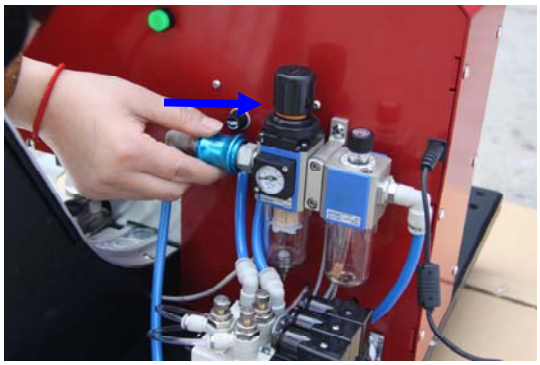
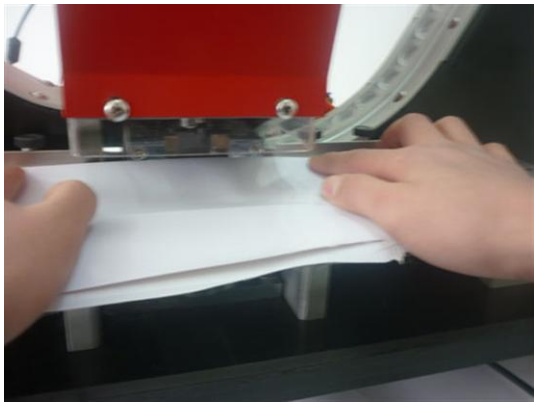
	Enough female grommets.
	Enough male grommets.

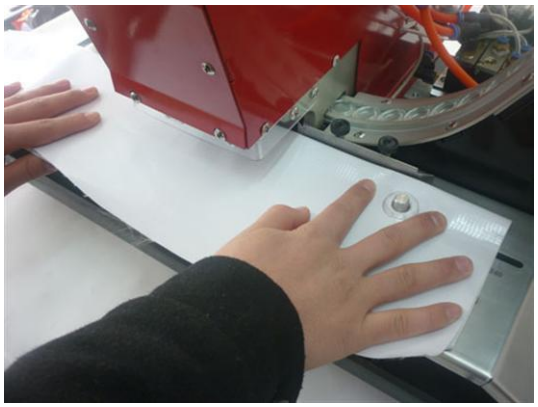
Fourth: Connect to air pressure supply, adjust air pressure. Normally, the pneumatic slide valve should be off for safety. It is on only when setting grommets.

Fifth: Adjust the location block, set the spacing and margins of grommets according to actual needs. Then tighten it.

	Adjust distance between grommets.

Sixth: Place the fabrics on the platform, Turn on slide valve and set the first location. Step on pedal switch. (Attention: Step on and loosen timely, or the machine will set grommets continuously). After setting the first grommet, drag the fabrics to right and set the grommet in location block. Fix the fabrics with hands. Step on pedal switch, the second grommet is ready. Warning: Never access safety cover with main switch ON and the pressure valve open.

	Turn on slide valve and connect pressure.
	Adjust the position of first grommet. Do not put your hands into the punching area.

	Step on pedal switch.(Attention: Just step gently. Step down and loosen timely, or the machine will work continuously, and lead to damages.
	Insert the first grommet in the location block, then go on.

Seventh: When you leave halfway or the job is done, both slide valve and power supply must be cut off. (The machine will sleep itself after 10 minutes off work).

2.3 Solutions to common problems

First, after setting a grommet, lack of grommets or no grommets: Check whether there are enough grommets in the deposits or raceway. If grommets crushed in the deposits, move the brush with fingers, and take the crushed grommet out.

Second, step on the pedal switch, the machine does not work. The pressure may be too low or slide valve is off. Then adjust the pressure or turn on slide valve. If the machine still does not work, restart the machine.

Third, punching die cannot lift after setting. There may be some fabric pieces on the die. You need to raise top die (No damage to die) with a screwdriver or other tools. Then clean it with pneumatic gun or brush (need to remove safety cover). Normally fabrics with soft fibers do damage to die. We recommend cleaning top & bottom die with pneumatic gun at least once per day.

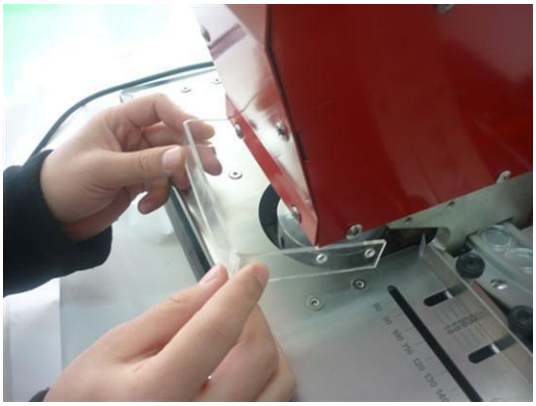
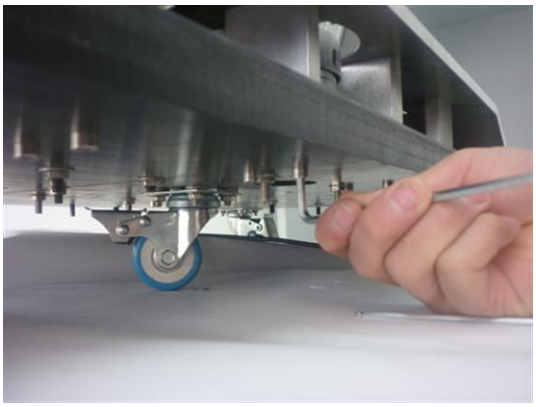
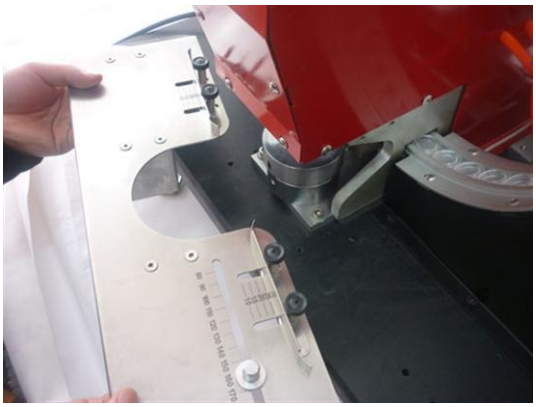
Fourth, grommets in the setting & feeding area: It does biggest damage to the machine. It makes grommets or grommets pieces left after last setting. Grommets will not in the right feeding location. Die will be easily damaged when setting. So check whether there are grommets in setting & feeding area before setting especially after improper operation;

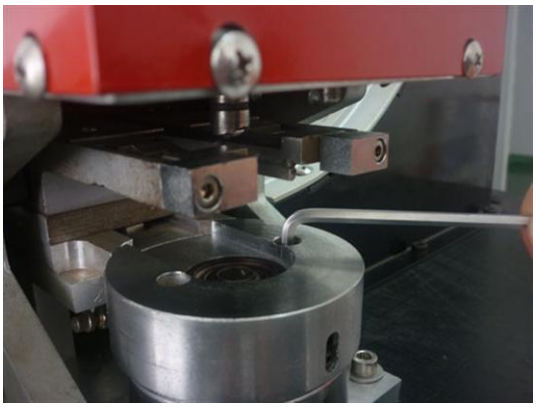
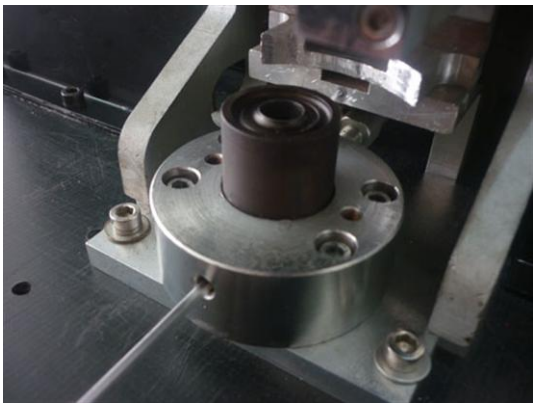
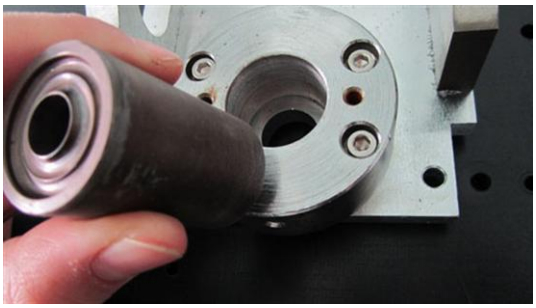
3. MAINTENANCE

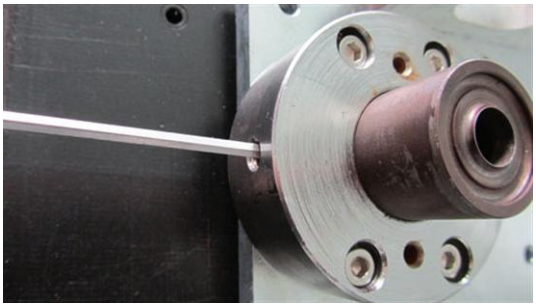
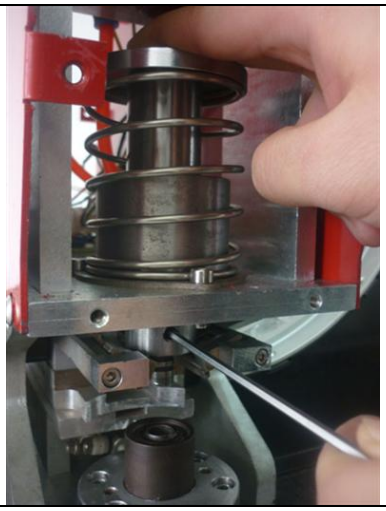
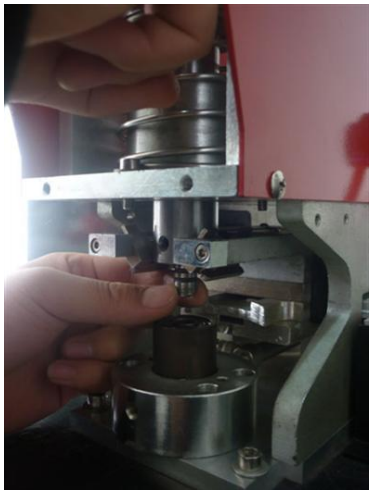
3.1 DIE REPLACEMENT (WORN PART)

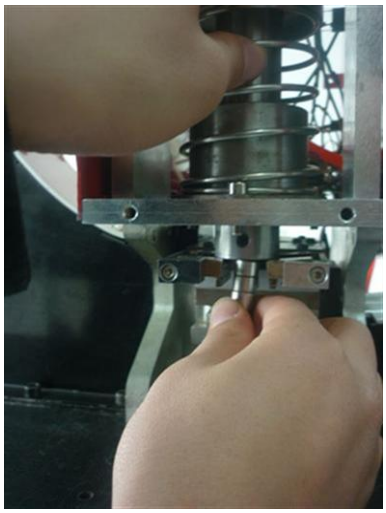
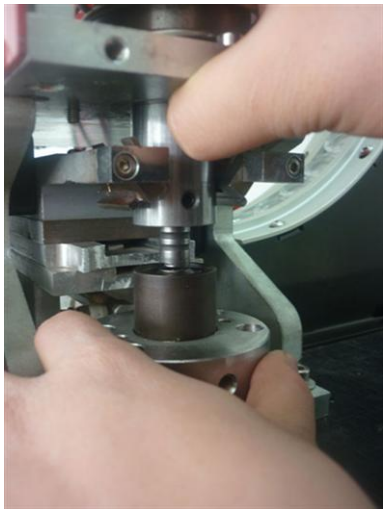
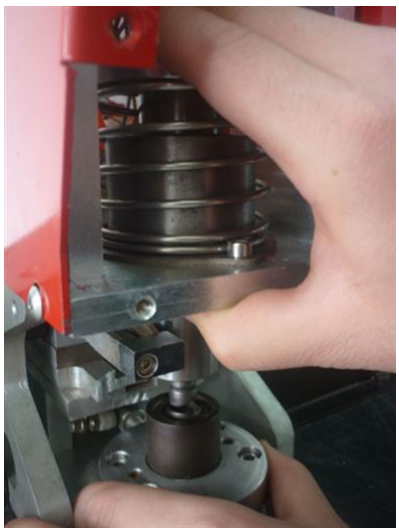
Dies will be damaged after long time working or improper operation, since the fatigue strength of dies is limited, and it's hard to repair, so we have to replace a new one. Top & bottom die are of high precision, in case of any damage, instruction is as follows:

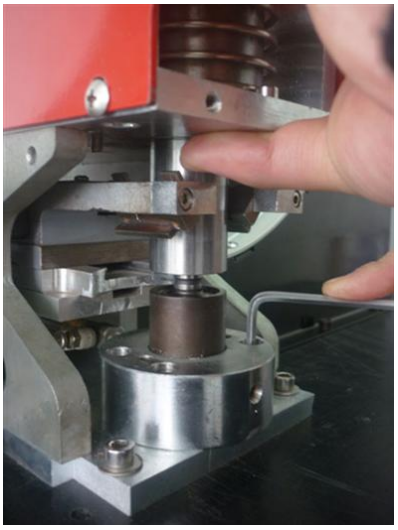
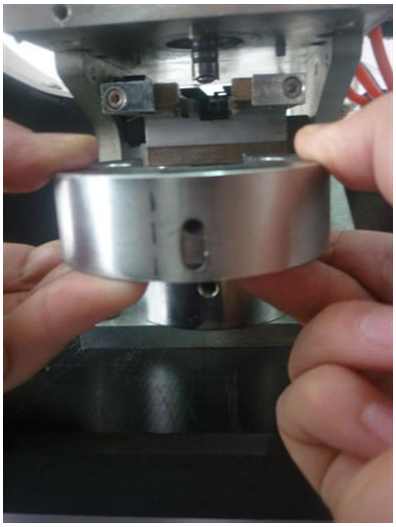
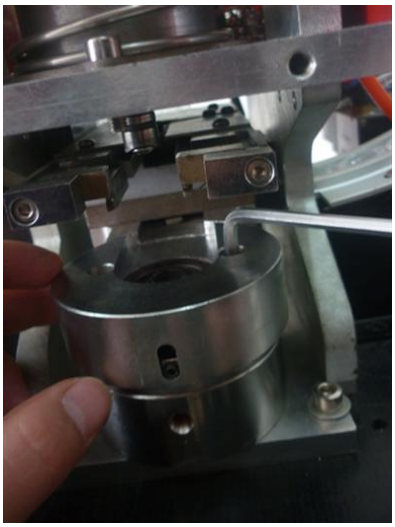
Attention: Bottom die wear out more quickly than top die. If top die is still in good condition, it's unnecessary to replace it.

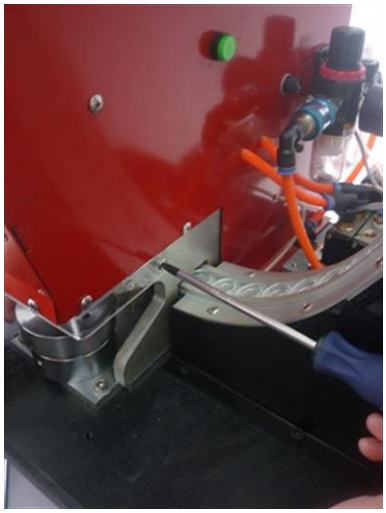
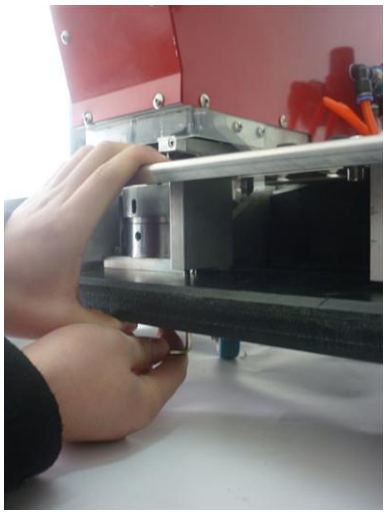
Process of die replacement	
	Remove safety cover.
	Loosen screws on the bottom. No need to loosen fully.
	Remove stainless steel plate.

	Loosen screws with M5 Allen wrench.
	Press and remove the bottom die.
	
	Loosen the set screw and remove the damaged die.

	Install new die (Attention: press the new die down hard until to the bottom), Tighten the set screw.
Process of top die replacement	
	Press top die and loosen the set screw.
	

	Remove the die and install a new one, then tighten screws.
	Depress top die slowly and make sure holes of screws are on the same side. If top die can insert into bottom die, top die will return to the right place. (Due to the gap between top die and bottom die is quite small, some slight frictions is normal and acceptable.)
	Rotate top die by 90 degrees, press slowly to see if the holes crash.

	If the holes are not in the same side, loosen 4 screws, adjust the position of bottom die by moving the cylinder. Tighten 4 screws.
	Press the flexible block to the bottom.
	Flexible block must be tightened.

	Install cover.
	Install safety cover.
	Install stainless steel plate.

3.2 CONTROL SYSTEM DRAWING