

Owner's Manual



FY-9000A

The equipment is approved by following car manufacturers (China)



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Safety Precautions Symbols



Protect yourself and others from injury, read and follow these precautions before installation and operation.



Read instructions.
1、 Read owner' s Manual before using or servicing unit.
2、 Use only manufacturer's supplied replacement.



Exploding parts can injure. Always wear a face shield and long sleeves.



Static can damage PC boards
1、 Put on grounded wrist strap before handing boards or parts.
2、 Use proper static-proof bags and boxes to store, move or ship PC boards.



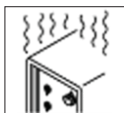
1、 Wear approved face shield or safety goggles with side shields.
2、 Wear proper body protection to protect skin.



Flying metal can injure eyes.
1)Wear safety glasses with side shields or face shield.



1、 Magnetic fields can affect pacemakers. Pacemaker wearers keep away.
2、 Wearers should consult their doctor before going near plasma arc cutting operations.



Overuse can cause overheating
Allow cooling period ,follow rated duty cycle before starting to weld again.



Cylinders can explode if damaged.
Gas cylinders contain gas under high pressure. If damaged,a cylinder can explode . Be sure to treat them carefully.



Do not weld in the height!



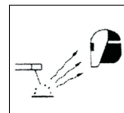
Fire or explosion hazard.
Do not locate unit on,over,or near combustibe surfaces.Do not install unit near flammables.



Electric shock can kill:
1、 Do not touch live electrical parts.
2、 Wear dry,hole-free insulating gloves and body protection.
3、 Do not wrap electrical cable around your body.
4、 Ground the workpiece with a good electrical ground.



Fumes and gases can be hazardous welding produces fumes and gases. Breathing these fumes and gases can be hazardous to your health .
If inside,ventilate the area.
Do not weld in a confined space only if it is well ventilated.



Eye protection for welding:
Current level in amperage Minimum shade Number
30-150A----- #8
150-300A----- #10
300-500A----- #12



Moving parts can cause injury.



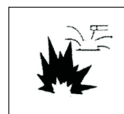
Keep away from moving parts such as fans.



The heat from the workpiece can cause serious burns.



Keep away from the torch tip.



Remove all flammables of the welding area.



Falling unit can cause injury.



Never cut on pressurized cylinder.



Protect yourself



Warn others



OK



OK



Factory safety !



Maintenance regularly!

Definitions

Symbols and Definitions

A Amperes	I_{1max} Rated maximum supply current	I On	% Percent
V Volts	I_{1eff} Maximum effective supply current	O Off	 Increase
I₂ Rated welding current	IP Degree of protection	 Protective earth (Ground)	 Line connection
S₁ Power rating, product of voltage and current(KVA)	 Single phase	 Do not do this	 Loose shield cup
HZ Hertz	X Duty cycle	 Suitable for some hazardous locations	 Adjust air/gas pressure
U₁ Primary voltage	 Direct current	 Input	 Automatic
U₀ Rated no load voltage(Average)	 Constant current	 Voltage input	 Manual
U₂ Conventional load voltage	 Temperature	 Low air pressure light	

Accessories And Spare parts

Accessories and Spare Parts List:

	Pneumatic vacuum cupule NO.F001		Pull hammer NO.F002		Vertical spot welding pull hammer NO.F003
	Claw puller NO.F004		Hook NO.F005		Wriggle NO.F006
	Carbon Cod NO.F007		Spot welding electrode tip NO.F008		Kriptol adaptor NO.F009
	Waveform electrode tip NO.F010		Washer adaptor NO.F011		Electrode holder NO.F012
	Trianger washer adaptor NO.F013		Front part of puller NO.F014		Triangle wasler NO.F015
	Stud NO.F016		Washer NO.F017		Ground wire clamp NO.F018
	Manual cupule NO.F019		Welding gun NO.F020		Front wheel NO.F021
	Back wheel NO.F022		Circuit board NO.F028		
	Control transformer NO.F025				

Remark:

- 1)、Optional orders for above accessories and components are available.
- 2)、Model and parts number required when ordering parts from your local distributor.

Installation

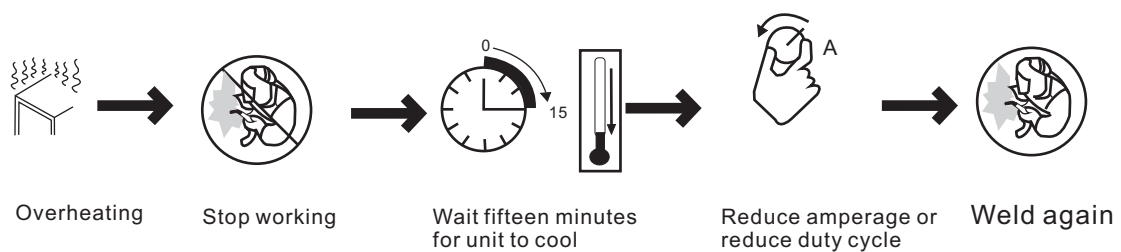
1、specifications

Input voltage	Single phase 220V 50/60HZ
Output voltage	
Carbon Rod heating AC6V-10V Washer welding AC1V-12V double-side welding AC1V-13V	
Input power(KW)	22
Instant max. current (A)	5800
Input current(A)	57
Operation way	Electronic timer,continuity
Time regulation system	0-99ms
Operation place	Infinity
One side welding thickness (mm)	1.0+1.2
Vacuum cupule device(kg)	180
Dimension (mm)	720*600*1550
Weight (Kg)	86

2、Duty Cycle and Overheating

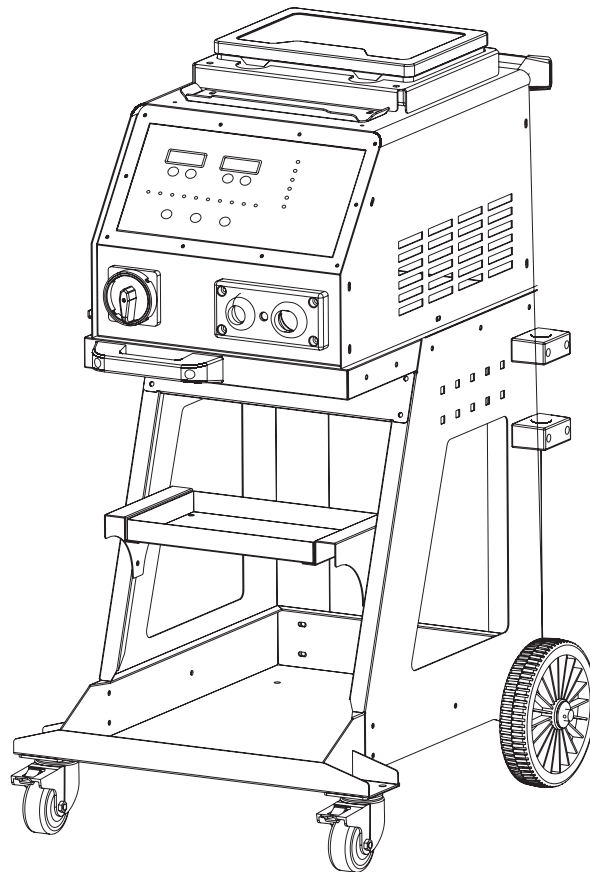
Duty cycle is percentage of 10 minutes that unit can weld at rated load without overheating.

If unit overheat, output stops, and cooling fan runs. Wait fifteen minutes for unit to cool. Reduce amperage or duty cycle before welding.



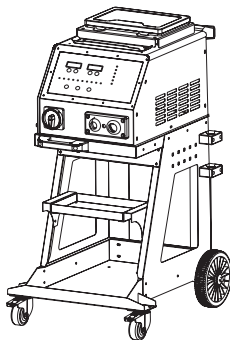
3、 Machine Installation

- 1)Open the package and find out the owner's manual.
- 2)Check the details of supplied accessories according to packing list that attached to this manual .
- 3)Properly install this equipment as following diagram Inspect the unit for any problems If so,contact your local distributor or service agency.To locate a distributor or service agency.



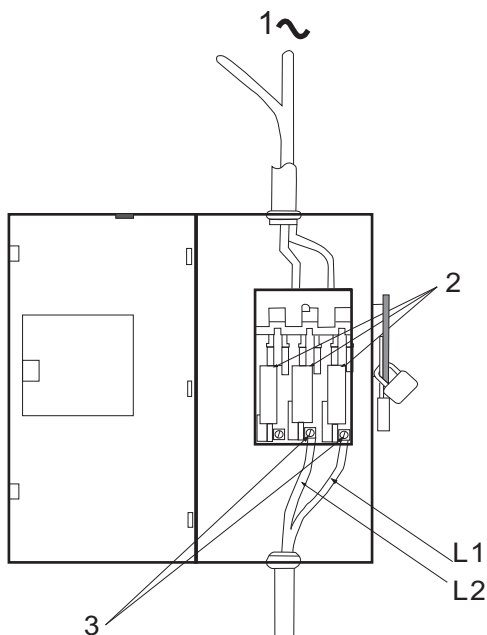
4、 Selecting a Location

- 1) Select a correct location to place the unit.
- 2) Determine input power cord length according to its actual operation requirement. Input power cord must have a minimum inside diameter of 6mm².
- 3) Do not move or operate unit where it could tip.
- 4) Use cart or unit handle to move unit . Do not pull the cords to move unit.



5、Connecting Input Power

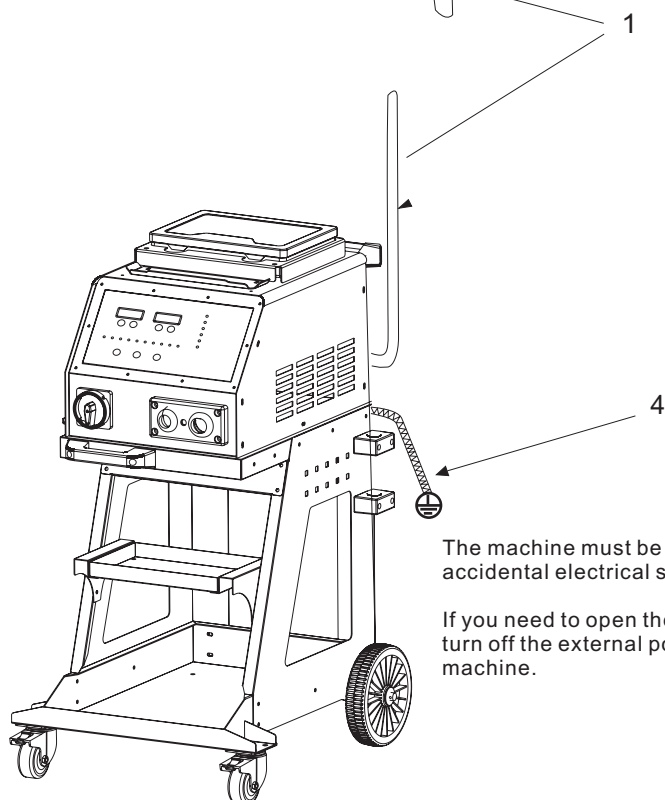
The power supply must have a ground connection.
The welder must also be connected to circuit breaker.



- 1、Input power cord (not less than 6mm² copper cord) .
- 2、Over-current protection.
- 3、Disconnect device line terminals.
- 4、Ground wire L1/L2 input conductors.

- Power connection and installation must meet all National and Local standards(Circuit breaker must be installed).Only qualified persons are allowed to make this installation.
- Disconnect and lockout/tagout input power before connecting input conductors from unit.
- Select type and size of over-current protection.
- Close and secure door on disconnect device . Remove lockout/tagout device,and place switch in the "on" position.

The power supply must have a ground connection.
The welder must also be connected to circuit breaker.

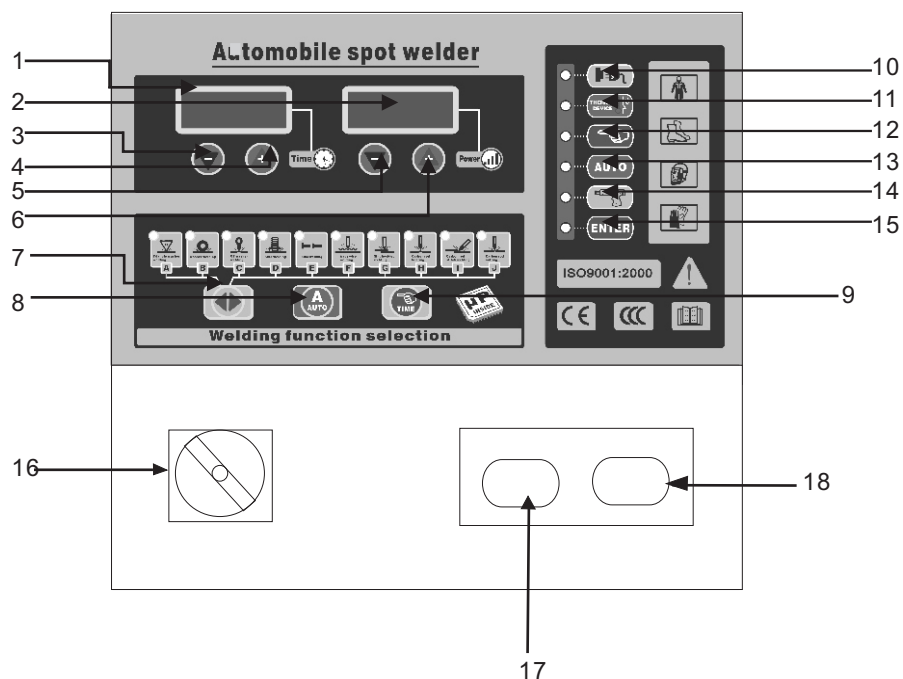


The machine must be grounded(earthed) properly to prevent accidental electrical shock.

If you need to open the machine case(after work everyday,make sure to turn off the external power source and turn off the power switch on the machine.

Operation

1、Controls

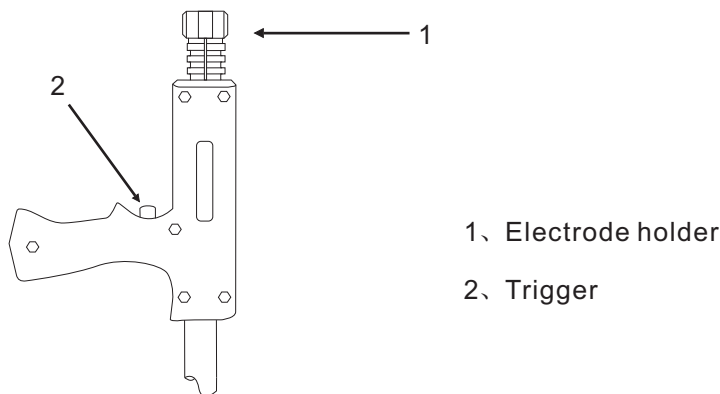


- 1、Time Display
- 2、Power Display
- 3、Time--Decrease
- 4、Time ---Increase
- 5、Power ---Decrease
- 6、Power----Increase
- 7、Welding Programs
- 8、Automatic
- 9、Manual
- 10、Power Indicator
- 11、Overheat Indicator
- 12、Manual Indicator
- 13、Automatic Indicator
- 14、Weld Gun Working indicator
- 15、Enter Indicator
- 16、Power Switch
- 17、Weld Gun Cable
- 18、Ground Cable

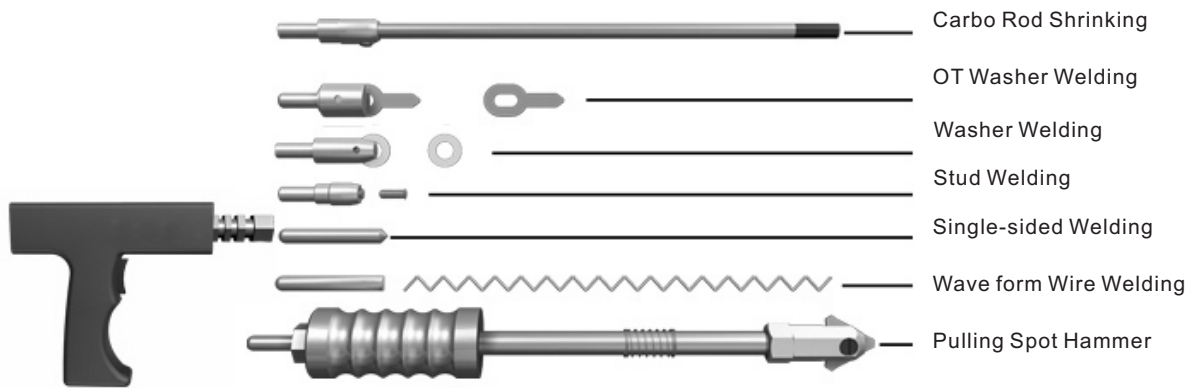
Operation

- 1、 Properly make input connections
- 2、 Turn on the welder. Push the Weld Programs button to select the desirous weld procedure.
- 3、 Set Automatic/ Manual. Adjust weld time and power.
- 4、 In Manual mode, weld time means the switching time of welder which is controlled by the user. (Note: Automatic mode is generally recommended in using, The time control is accurate to 0.01 second.)
- 5、 Set weld time and power. Push "Enter" button. "Enter Indicator" is on.
- 6、 Welder is now enters into the work state. Welding is available.
- 7、 To prevent damage to the welder caused by overheating, the system will automatically shut off the welder when a pre-programmed temperature is reached .Do not turn off the welder. Wait unit the indicator goes off(usually(5-10min)).

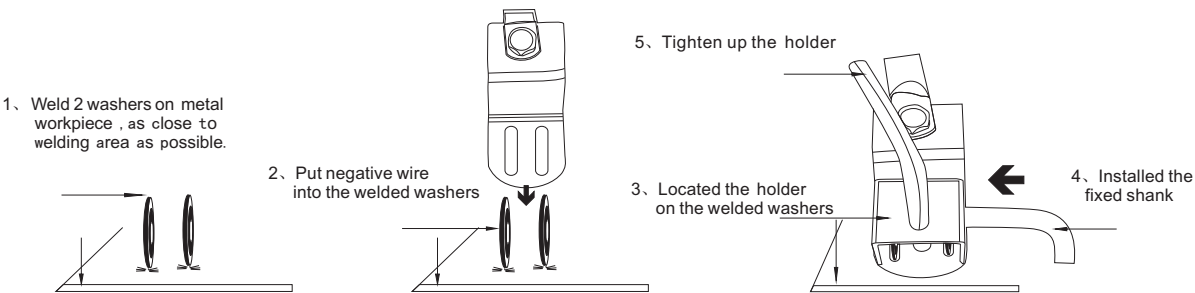
2、Welding Gun and Adaptors



Single-Sided applications

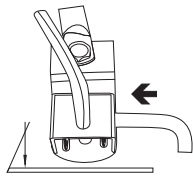


Connection of negative wire

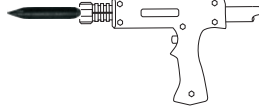


3、Operation

a、spot welding

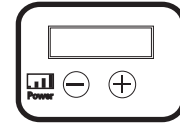


Connect negative outside wire to a clean, paint-free location on metal workpiece, as close to welding area as possible.



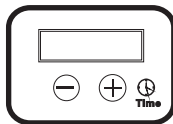
F008+F020

Connect spot welding electrode tip with welding gun and tighten.

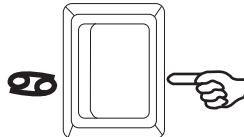


Set correct power

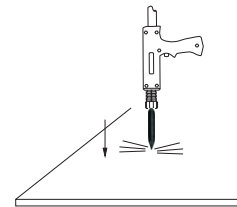
(Position C is recommend).



Set correct time.



Set Mode switch



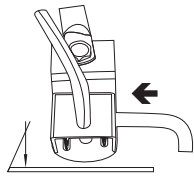
Approximately a 90° angle to the workpiece surface.
Put on pressure and press trigger.

Remark:

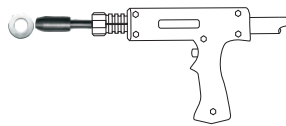
- 1、Setting amperage too high or time too long can cause workpiece surface (vehicle body) damage .
Please weld other workpieces for practice before actual operations.
- 2、Setting correct amperage and time according to the workpiece thickness.
- 3、Continuing another operation is applicable after these procedures finished .If not, please shut off the main power supply and switch off the unit.

3、Operation

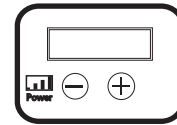
b、Washer Welding



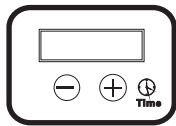
Connect negative outside wire to a clean, paint-free location on metal workpiece, as close to welding area as possible.



F017+F011+F020
Connect washer adaptor with welding gun and tighten, Install washer.



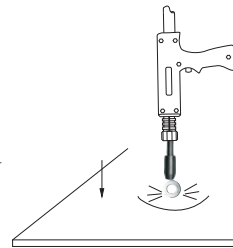
Set correct power
(Position A or B is recommend).



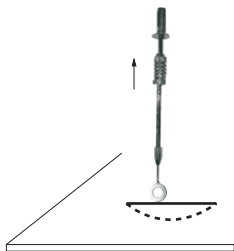
Set correct time.



Set Mode switch



Approximately a 90° angle to the dent. Put on pressure and press trigger.



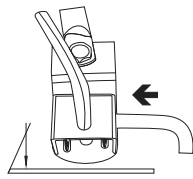
Remove welding gun. Hook the washer with pull hammer. Slide the hammer to opposite direction to pull out the dent.

Remark :

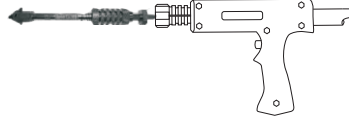
- 1、Setting amperage too high or time too long can cause workpiece surface (vehicle body) damage .
Please weld other workpieces for practice before actual operations.
- 2、Setting correct amperage and time according to the workpiece thickness.
- 3、Continuing another operation is applicable after these procedures finished .if not, please shut off the main power supply and switch off the unit.

3、 Operation

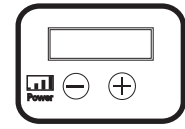
c、 Triangle Washer Welding



Connect negative outside wire to a clean, paint-free location on metal workpiece, as close to welding area as possible.

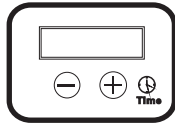


F003+F020
Connect triangle washer pull hammer with welding gun.

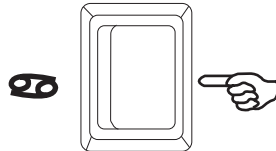


Set correct power

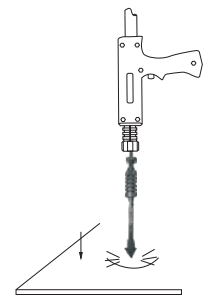
(Position A is recommend).



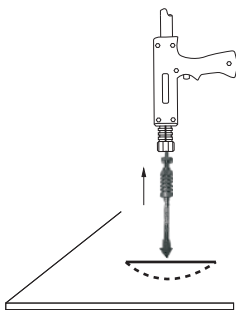
Set correct time.



Set Mode switch



Approximately a 90° angle to the dent, put on pressure and press trigger.



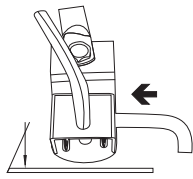
Slide the hammer to opposite direction to pull the dent

Remark:

- 1、 Setting amperage too high or time too long can cause workpiece surface (vehicle body) damage .
Please weld other workpieces for practice before actual operations.
- 2、 Setting correct amperage and time according to the workpiece thickness
- 3、 Triangle washer welding can replace washer welding. It can draw out the concavity directly after welded.
- 4、 Continuing another operation is applicable after these procedures finished .If not, please shut off the main power supply and switch off the unit.

3、 Operation

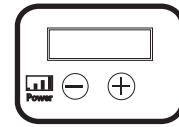
D、 Carbon rod Heating



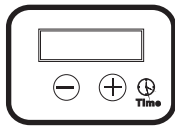
Connect negative outside wire to a clean, paint-free location on metal workpiece, as close to welding area as possible.



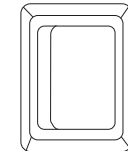
F007+F009+F020
Connect carbon rod and carbon rod adaptor with welding gun.



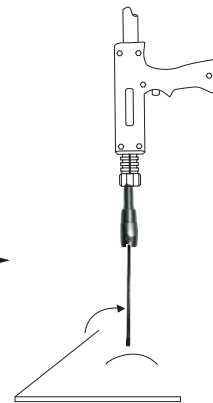
Set correct power
(Position A is recommend).



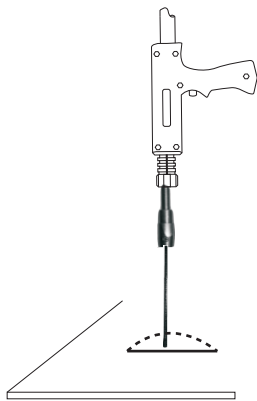
Set correct time



Set Mode switch



Turn carbon rod clockwise to heat up the entire convexity surface.



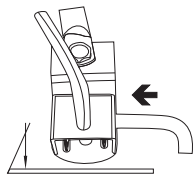
Cool the surface with a wet rag or compressed air.

Remark:

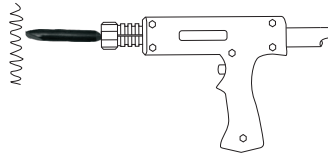
- 1、 Setting amperage too high or time too long can cause workpiece surface vehicle body) damage . Please weld other workpieces for practice before actual operations.
- 2、 Setting correct amperage and time according to the workpiece thickness.
- 3、 Continuing another operation is applicable after these procedures finished .If not, please shut off the main power supply and switch off the unit. .

3、Operation

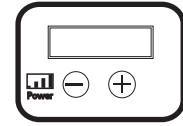
e、Wriggle Form Wire Welding



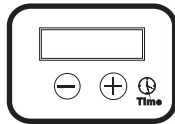
Connect negative outside wire to a clean, paint-free location on metal workpiece, as close to welding area as possible.



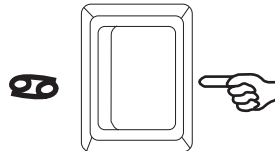
F006+F010+020
Connect wave form wire electrode tip with welding gun.



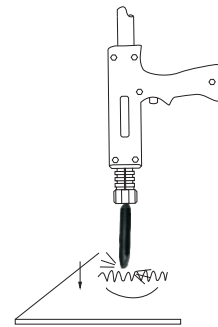
Set correct power
(Position A is recommend).



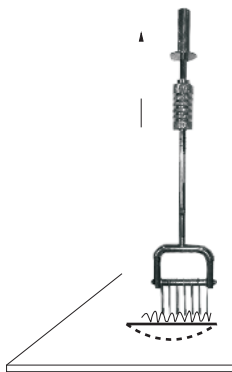
Set correct time.



Set Mode switch



Place a wave form wire horizontally on the dent. Approximately a 90° angle to wave form wire. Put on pressure and press trigger.



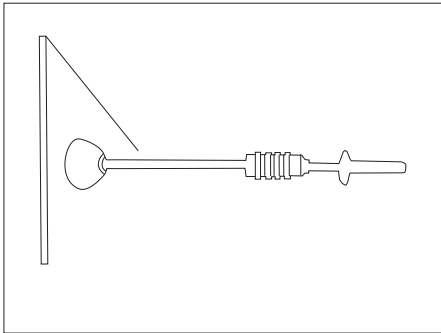
Connect hook puller with pull hammer.
Hook wave form wire and slide the hammer to pull out the dent.

Remark :

- 1、Setting amperage too high or time too long can cause workpiece surface (vehicle body) damage .
Please weld other workpieces for practice before actual operations.
- 2、Setting correct amperage and time according to the workpiece thickness.
- 3、Continuing another operation is applicable after these procedures finished .If not ,please shut off the main power supply and switch off the unit.

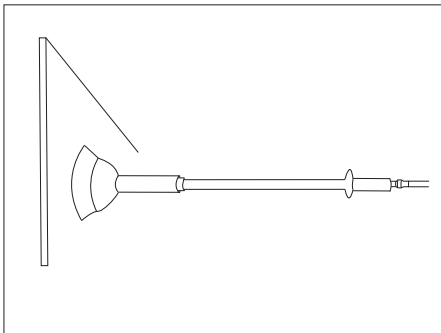
3、 Operation

f、 Cupules



Manual operating cupule :

- 1、 Connect manual operating cupule with pull hammer.
- 2、 Push manual operating cupule in to lock the cupule on the concavity.
- 3、 Slide the hammer to opposite direction to pull the dent out.

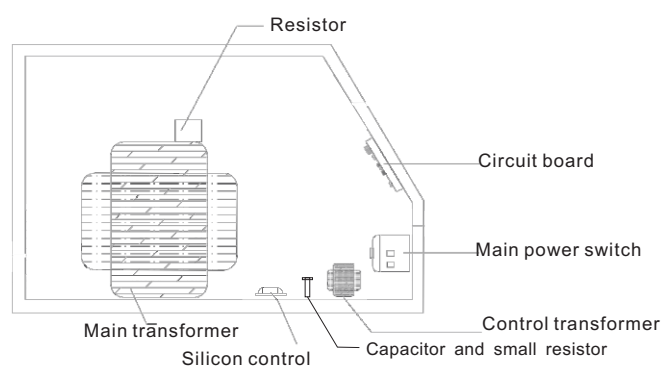


Pneumatic vacuum cupule :

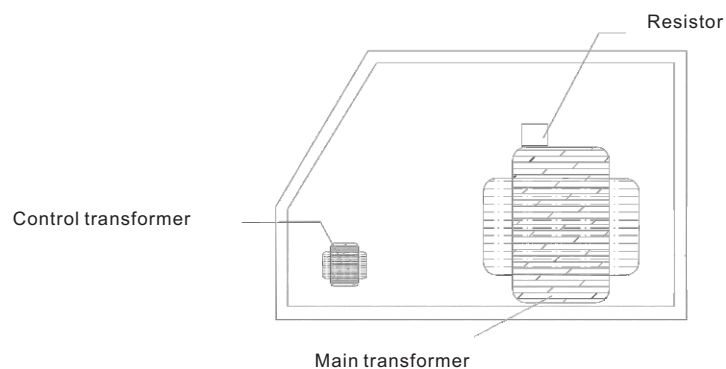
- 1、 Connect gas/air supply with the adaptor of cupule.
- 2、 Open the valve ,sticking cupule to the dent.
- 3、 Slide the hammer to opposite direction to draw the concavity out.
- 4、 Cupule falls off when close the valve.

Maintenance

1、Exploded view



Left side view



Right side view

Maintenance

2、Troubleshooting

Trouble	Reason	Remedy
No weld output	(1)Connected power supply incorrectly. (2)Power switch in off position	(1)Connect power supply according to manufacturer's instructions. (2)Place power switch in "on" position.
Trigger not working	(1)Trigger damaged. (2)Gun control wire broken. (3)Control wire plug loosen. (4)Mode switch in incorrect position.	(1)Replace trigger. (2)Connect again or replace if necessary. (3)Connect control wire plug again. (4)Place Mode switch in correct position.
Poor weld	(1)Amperage too low . (2)Weld time too short. (3)Input power cord did not meet the requirement. (4)Ground clamp bad contact.	(1)Increase amperage setting . (2)Increase time setting. (3)Replace input power cord. (4)Change ground clamp location.
Piercing workpiece	(1)Output amperage too high. (2)Weld time too long. (3) Bad contact of electrode tip or washer with workpiece.	(1)Reduce amperage setting. (2)Reduce weld time. (3)Remove coating from material reduce added pressure.
Kriptol working unstable	(1)Kriptol did not polish,workpieces did not polish. (2)Incorrect amperage and time setting.	(1)Polish kriptol and workpieces (2)Set amperage and time according to workpiece thickness.
Unit stop working while operation	(1)Trigger plug loosen. (2)Gun control wire broken. (3)Over heating.	(1)Check gun control wire and trigger plug. (2)Wait for temperature cool down.

Circuit Diagram

