



CELETTE®



# DUO SPOT

ORIGINAL MANUAL

PRODUCT REF NO: CEL.1 1244-G-01

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# TABLE OF CONTENTS

FOREWORD.....	Page 3
1 SAFETY PRECAUTIONS.....	Page 4
- 1.1 SYMBOL USAGE.....	Page 4
- 1.2 OPERATION HAZARDS.....	Page 4
- 1.3 ADDITIONAL SYMBOLS FOR INSTALLATION, OPERATION, AND MAINTENANCE.....	Page 6
- 1.4 EMF INFORMATION.....	Page 7
2 MECHANICAL/ELECTRICAL/ILLUSTRATION OF WORKING PRINCIPLE DATA.....	Page 7
3 CD STUD MODE.....	Page 8
- 3.1 SUMMARY.....	Page 8
- 3.2 MATTERS NEED ATTENTION.....	Page 8
- 3.3 STUD WELDING AND SPOT WELDING.....	Page 8
- 3.3.1 STUD WELDING.....	Page 8
- 3.3.2 SPOT WELDING.....	Page 9
- 3.4 STUD WELDING VISUAL TEST.....	Page 9
- 3.5 STUD WELDING TROUBLE.....	Page 9
- 3.6 WELDING MODE, TORCH AND EARTH CABLE CHOICE.....	Page 10
- 3.7 CONTROLS ON GENERATOR FRONT PANEL.....	Page 11
- 3.8 STUD WELDING TORCH.....	Page 12
- 3.8.1 TORCH (AS DIAGRAM).....	Page 12
- 3.8.2 ADJUST THE PRESSURE AND EXTEND DISTANCE.....	Page 13
- 3.8.3 STUD SCREW CLAMP.....	Page 13
- 3.9 OPERATING PROCESS FOR STUD WELDING.....	Page 14
- 3.9.1 PREPARATION FOR OPERATION.....	Page 14
- 3.9.2 OPERATE STUD WELDING.....	Page 14
- 3.10 MAINTENANCE.....	Page 14
- 3.11 SELECT STUD SCREW.....	Page 14
4. TROUBLE SHOOTING.....	Page 16
5. WIRE DRAWING.....	Page 17
6. DUO SPOT 1PH/220V EUROPE/INDIA.....	Page 18
7. DUO SPOT 1PH/110V USA.....	Page 19

## FOREWORD:

**IMPORTANT:** Before starting the equipment, read the contents of this manual, which must be stored in a place familiar to all users for the entire operative life-span of the machine. This equipment must be used solely for welding operations.

# 1. SAFETY PRECAUTIONS:

Protect yourself and others from injury - read, follow, and save these important safety precautions and operating instructions.

## 1.1 SYMBOL USAGE:



**DANGER!** Indicates a hazardous situation which, if not avoided, will result in death or serious injury. The possible hazards are shown in the adjoining symbols or explained in the text.



Indicates a hazardous situation which, if not avoided, could result in death or serious injury. The possible hazards are shown in the adjoining symbols or explained in the text.

**Notice:** Indicates statements not related to personal injury.  
Indicates special instructions.



This group of symbols mean WARNING! WATCH OUT! ELECTRIC SHOCK, MOVING PARTS, and HOT PARTS hazard. Consult symbols and related instructions below for necessary actions to avoid the hazards.

## 1.2 OPERATION HAZARDS:

- ▶▶ The symbols shown below are used throughout this manual to call attention to and identify possible hazards. When you see the symbol, watch out, and follow the related instructions to avoid the hazard. The safety information to avoid the hazard. The safety information given below is only a summary of the more complete safety information found in the safety standards listed in section below. Read and follow all safety standards.
- ▶▶ Only qualified persons should install, operate, maintain, and repair this equipment. A qualified person is defined as one who, by possession of a recognized degree, certificate, or professional standing, or who by extensive knowledge, training and experience, has successfully demonstrated ability to solve or resolve problems relating to the subject matter, the work, or the project and has received safety training to recognize and avoid the hazards involved.
- ▶▶ During operation, keep everybody, especially children away.

### SPOT WELDING CAN CAUSE FIRE OR EXPLOSION:

- ▶▶ Sparks can fly off from the welding arc. The flying sparks, hot workpiece, and hot equipment can cause fires and burns. Accidental contact of electrode to metal objects can cause sparks, explosion, overheating, or fire. Check and be sure the area is safe before doing any welding.
- ▶▶ Remove all flammables within 35 ft (10.7 m) of the weld. If this is not possible, tightly cover them with approved covers.
- ▶▶ Do not spot weld where flying sparks can strike flammable material.
- ▶▶ Protect yourself and others from flying sparks and hot metal.
- ▶▶ Be alert that welding sparks can easily go through small cracks and openings to adjacent areas.
- ▶▶ Watch for fire, and keep a fire extinguisher nearby.



- ▶▶ Do not weld on containers that have held combustibles, or on closed containers such as tanks, drums, or pipes unless they are properly prepared according to AWS F4.1 and AWS A6.0 (see Safety Standards).
- ▶▶ Do not weld where the atmosphere can contain flammable dust, gas, or liquid vapors (such as gasoline).
- ▶▶ Remove any combustibles, such as a butane lighter or matches, from your person before doing any welding.
- ▶▶ After completion of work, inspect area to ensure it is free of sparks, glowing embers, and flames.
- ▶▶ Do not exceed the equipment rated capacity.
- ▶▶ Use only correct fuses or circuit breakers. Do not oversize or bypass them.
- ▶▶ For hot work and have a fire watcher and extinguisher nearby.
- ▶▶ Wear body protection made from durable, flame-resistant material (leather, heavy cotton, wool). Body protection includes oil-free clothing such as leather gloves, heavy shirt, cuffless trousers, high shoes, and a cap.

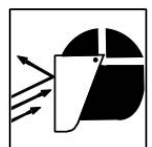
### **ELECTRIC SHOCK CAN KILL:**

- ▶▶ Touching live electrical parts can cause fatal shocks or severe burns. The input power circuit and machine internal circuits are also live when power is on. Incorrectly installed or improperly grounded equipment is a hazard.
- ▶▶ Do not touch live electrical parts.
- ▶▶ Wear dry, hole-free insulating gloves and body protection.
- ▶▶ Additional safety precautions are required when any of the following electrically hazardous conditions are present: in damp locations or while wearing wet clothing; on metal structures such as floors, gratings, or scaffolds; when in cramped positions such as sitting, kneeling, or lying; or when there is a high risk of unavoidable or accidental contact with the workpiece or ground. And, do not work alone!
- ▶▶ Disconnect input power before installing or servicing this equipment.
- ▶▶ Properly install, ground, and operate this equipment according to this manual and national, state, and local codes.
- ▶▶ Always verify the supply ground - check and be sure that input power cord ground wire is properly connected to ground terminal in disconnect box or that cord plug is connected to a properly grounded receptacle outlet.
- ▶▶ When making input connections, attach the grounding conductor first - double-check connections.
- ▶▶ Keep cords dry, free of oil and grease, and protected from hot metal and sparks.
- ▶▶ Frequently inspect input power cord and ground conductor for damage or bare wiring - replace immediately if damaged - bare wiring can kill.
- ▶▶ Turn off all equipment when not in use.
- ▶▶ For water-cooled equipment, check and repair or replace any leaking hoses or fittings.
- ▶▶ Do not use any electrical equipment if you are wet or in a wet area.
- ▶▶ Use only well-maintained equipment. Repair or replace damaged parts at once.
- ▶▶ Wear a safety harness if working above floor level.
- ▶▶ Keep all panels, covers, and guards securely in place.



### **FLYING SPARKS CAN INJURE:**

- ▶▶ Very often sparks fly off from the joint area.
- ▶▶ Wear approved face shield or safety goggles with side shields.
- ▶▶ Wear body protection made from durable, flame-resistant material (leather, heavy cotton, wool). Body protection includes oil-free clothing such as leather gloves, heavy shirt, cuffless trousers, high shoes, and a cap.
- ▶▶ Protect others in nearby areas by using approved flame-resistant or noncombustible fire curtains or shields. Have all nearby persons wear safety glasses with side shields.



### **HOT PARTS CAN BURN:**

- ▶▶ Do not touch hot parts bare handed.
- ▶▶ Allow cooling period before working on equipment.
- ▶▶ To handle hot parts, use proper tools and/or wear heavy, insulated welding gloves and clothing to prevent burns.

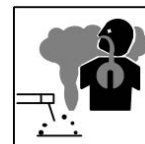


### **SIGNIFICANT DC VOLTAGE EXISTS AFTER REMOVAL OF INPUT POWER ON INVERTERS:**

- ▶▶ Turn Off inverter, disconnect input power, and discharge input capacitors according to instructions in Maintenance Section before touching any parts.

### **FUMES AND GASES CAN BE HAZARDOUS:**

- ▶▶ Welding produces fumes and gases. Breathing these fumes and gases can be hazardous to your health.
- ▶▶ Keep your head out of the fumes. Do not breathe the fumes.
- ▶▶ Ventilate the work area and/or use local forced ventilation at the arc to remove welding fumes and gases. The recommended way to determine adequate ventilation is to sample for the composition and quantity of fumes and gases to which personnel are exposed.
- ▶▶ If ventilation is poor, wear an approved air-supplied respirator.
- ▶▶ Read and understand the Safety Data Sheets (SDSs) and the manufacturer's instructions for adhesives, coatings, cleaners, consumables, coolants, degreasers, fluxes, and metals.
- ▶▶ Work in a confined space only if it is well ventilated, or while wearing an air-supplied respirator. Always have a trained watchperson nearby. Welding fumes and gases can displace air and lower the oxygen level causing injury or death. Be sure the breathing air is safe.
- ▶▶ Do not weld in locations near degreasing, cleaning, or spraying operations. The heat and rays of the arc can react with vapors to form highly toxic and irritating gases.
- ▶▶ Do not weld on coated metals, such as galvanized, lead, or cadmium plated steel, unless the coating is removed from the weld area, the area is well ventilated, and while wearing an air-supplied respirator. The coatings and any metals containing these elements can give off toxic fumes if welded.



### **1.3 ADDITIONAL SYMBOLS FOR INSTALLATION, OPERATION, AND MAINTENANCE:**

#### **FIRE OR EXPLOSION HAZARD:**

- ▶▶ Do not install or place unit on, over, or near combustible surfaces.
- ▶▶ Do not install or operate unit near flammables.
- ▶▶ Do not overload building wiring - be sure power supply system is properly sized, rated, and protected to handle this unit.



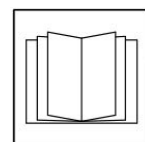
#### **FALLING EQUIPMENT CAN INJURY:**

- ▶▶ Use correct procedures and equipment of adequate capacity to lift and support unit.
- ▶▶ Follow the guidelines in the Applications Manual for the Revised NIOSH Lifting Equation (Publication No. 94-110) when manually lifting heavy parts or equipment.
- ▶▶ Secure unit during transport so it cannot tip or fall.



#### **READ INSTRUCTIONS:**

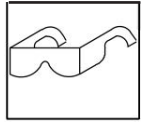
- ▶▶ Read and follow all labels and the Owner's Manual carefully before installing, operating, or servicing unit. Read the safety information at the beginning of the manual and in each section.



- ▶▶ Use only genuine replacement parts from the manufacturer.
- ▶▶ Perform installation, maintenance, and service according to the Owner's Manuals, industry standards, and national, state, and local codes.

**FLYING METAL OR DIRT CAN INJURE EYES:**

- ▶▶ Wear approved safety glasses with side shields or wear face shield.



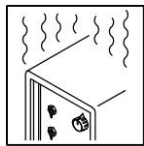
**ELECTRIC AND MAGNETIC FIELDS (EMF) CAN AFFECT IMPLANTED MEDICAL DEVICES:**

- ▶▶ Wearers of Pacemakers and other Implanted Medical Devices should keep away.
- ▶▶ Implanted Medical Device wearers should consult their doctor and the device manufacturer before going near arc welding, spot welding, gouging, plasma arc cutting, or induction heating operations.



**OVERUSE CAN CAUSE OVERHEATING:**

- ▶▶ Allow cooling period; follow rated duty cycle.
- ▶▶ Reduce duty cycle before starting to weld again.



**1.4 EMF INFORMATION:**

This machine is manufactured in compliance with the instructions contained in the harmonized standard, **and must be used solely for professional purposes in an industrial environment. There may be potential difficulties in ensuring electromagnetic compatibility in non-industrial environments. IN CASE OF MALFUNCTIONS, REQUEST ASSISTANCE FROM QUALIFIED PERSONNEL.**

**2. MECHANICAL/ELECTRICAL/ILLUSTRATION OF WORKING PRINCIPLE DATA:**

**ELECTRICAL DATA:**

Model	SN
CE ENXXXXXX	
U <sub>in</sub> =1~220V±15%	U <sub>20</sub> =38V
I <sub>1</sub> (max)=8A	I <sub>1</sub> (max)=8000A
Duty=10 M4 AL studs/min @80%	

- SN:** The model of the machine
- CE, EN, ISO** International standards
- U<sub>IN</sub>** Rated supply voltage
- U<sub>20</sub>** Range of rated ac no-load voltage and number of adjustable steps
- I<sub>1</sub>(MAX)** Max input welding current
- I<sub>2</sub>(MAX)** Max output welding current
- DUTY** Duty cycle

## 3. CD STUD MODE:

### 3.1 SUMMARY:

The machine is for Capacitor Discharge Stud Welding ,the weld able range is Ø3- Ø8mm. Stud materials are soft steel, stainless steel, aluminum, titanium (Ti), brass and copper screw. Stud Welding time is about 3/1000s-6/1000s,the time is very short, so the welding heat can not damage the base metal, even the base metal is sheet metal.

### 3.2 MATTERS NEED ATTENTION:

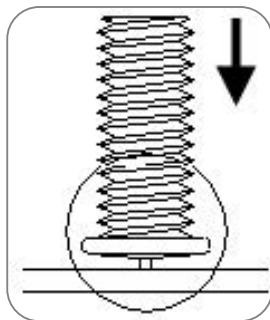
1. Input power isAC220≥15A.
2. Turn “off “ the switch, When the machine is not in use.
3. Make sure to turn “off” the switch while connecting (or) dis-connecting the cable to the AC supply.
4. The machine maintenance and repair must turn “off “ the switch after 5 minutes.
5. The stud clamp is inside the stud welding torch. The inside diameter of stud clamp must suitable the stud screw. Do not use worn stud clamp.
6. Stud welding may cause welding arc and metal spatter, protect yourself with appropriate safety garments and goggles.
7. Make sure there are no flammable materials near the work area.
8. The machine must use special stud screw, so must use original spares.
9. Pleases contact the manufacturer ,as following situations: mechanical failure, reduce or increase the torch cable, change the standard equipment.

### 3.3 STUD WELDING AND SPOT WELDING:

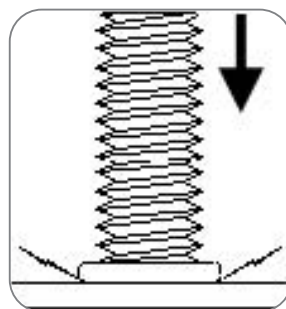
#### 3.3.1 STUD WELDING:

(DIAGRAM 1):

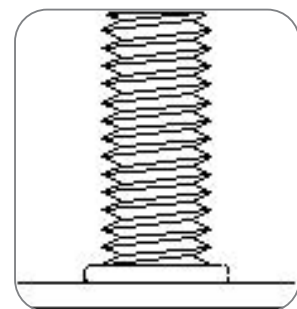
CONTACT TYPE:



1.The stud screw press the base metal



2. electric discharge, start arc



3. Stud welding complete

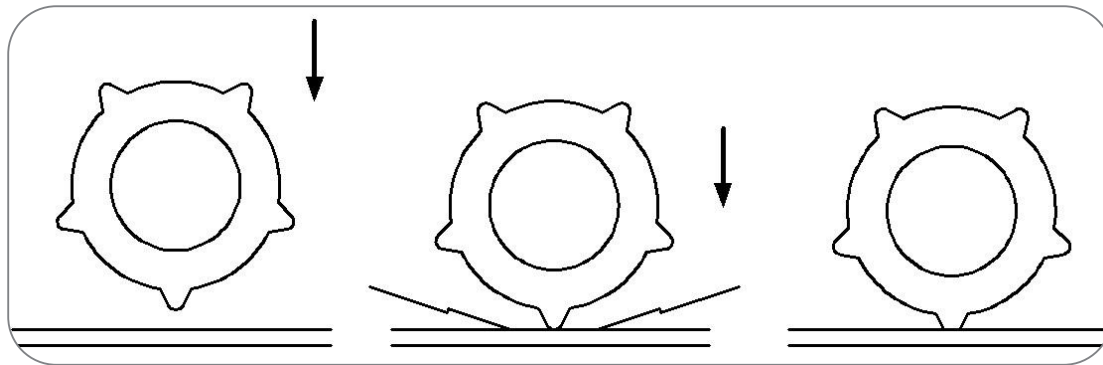
When mounting the stud, the stud extend the three support legs about 2mm. Confirm the stud welding position. Press the support legs on the work piece steady. Make sure the work piece is smooth and clean. Press the torch trigger, the stud screw will be welded on the base metal immediately. Check the stud welding strength. If the strength is not enough, please adjust the torch pressure. The work process is electric discharge, stud welding and recharge, repeat the steps.

Traditional method, such as rivets, lock screw and common welding, they must damage the base metal. But the stud welding does not damage the base metal.



### 3.3.2 SPOT WELDING:

#### DIAGRAM 2:



1. Washer contact to work piece

2. Discharge-arc

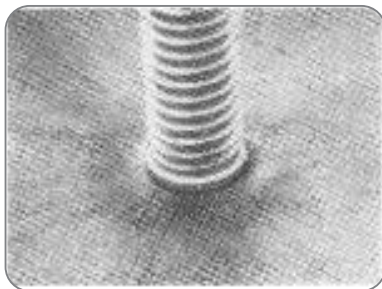
3. Finish welding

**This is special spot welding function. It does not heat affect the back of work piece. The back of the work piece is good appearance.**

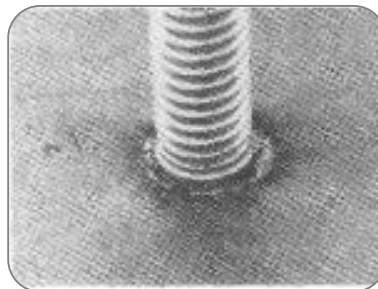
### 3.4 STUD WELDING VISUAL TEST:

Please refer to the picture as follow, and assessment the stud welding results.

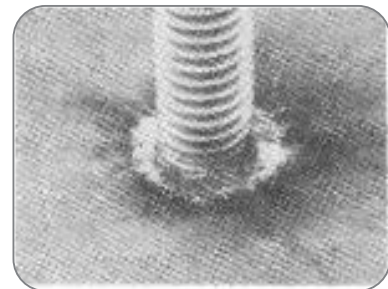
If the stud welding results are not good. Please refer to Part 2-7, and adjust the charge voltage, torch head pressure or torch head height, according as the standard.(Note: only adjust one part at a time.)



1. Voltage not enough



2. Correct voltage



3. Too high voltage

### 3.5 STUD WELDING TROUBLE:

The following situation may cause the trouble, please remedy them before using the machine.

1. The earth cable and the metal are not good connection.
2. Torch cable or earth cable is winding.
3. The diameter of screw clamp and stud screw is not suitable. Or screw clamp is worn.
4. The base metal dirty, rusty, paint or other problem interfere with electricity conductivity.
5. The torch is not suitable for the base metal or stud screw (material or diameter).
6. The stud screw and the base metal are not good connection (Keep the stud screw connect the base metal vertically).
7. The stud welding voltage is not correct.
8. The capacitor is damage, or capacitance is not enough.
9. Welding torch movement is abnormal. (The support foot is abnormal).
10. Stud screw extends too long or too short from the stud clamp.
11. Base metal distortion or move, when welding.
12. Method for connect the earth cable:
  1. Cable must connect the base metal directly, and must connect more than two earth cables.
  2. The earth cable must connect on the diagonal position of the base metal. (refer to the diagram as follow).

### 3.6 WELDING MODE, TORCH AND EARTH CABLE CHOICE

There are 3 welding mode for the machine

#### 1. STEEL WASHER WELDING:

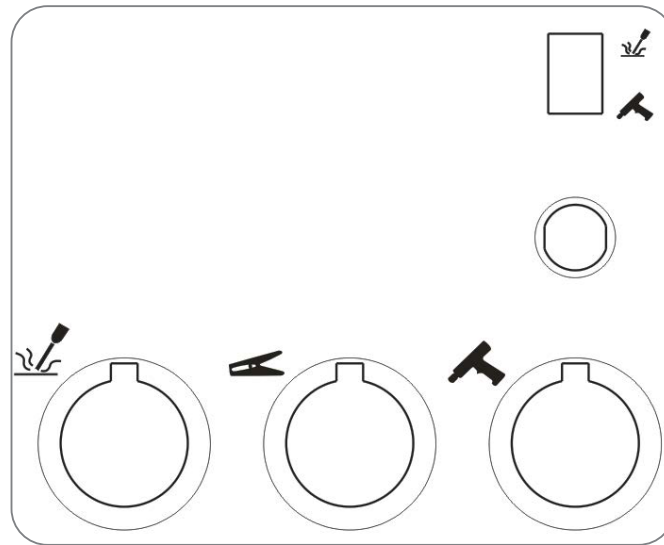
Use quick puller slide hammer, h type puller for the steel car body, please mount Euro and Japanese type torch to socket "1" and control socket "4", mount earth cable to socket "2". Select "torch" for switch "5".

#### 2. ALUMINIUM STUD WELDING:

Please mount stud welding torch to socket "1" and control socket "4", mount earth cable to socket "2". If use complete set stud welding torch with earth cable, it is also the same. Please mount earth cable to socket "2". Select "torch" for switch "5".

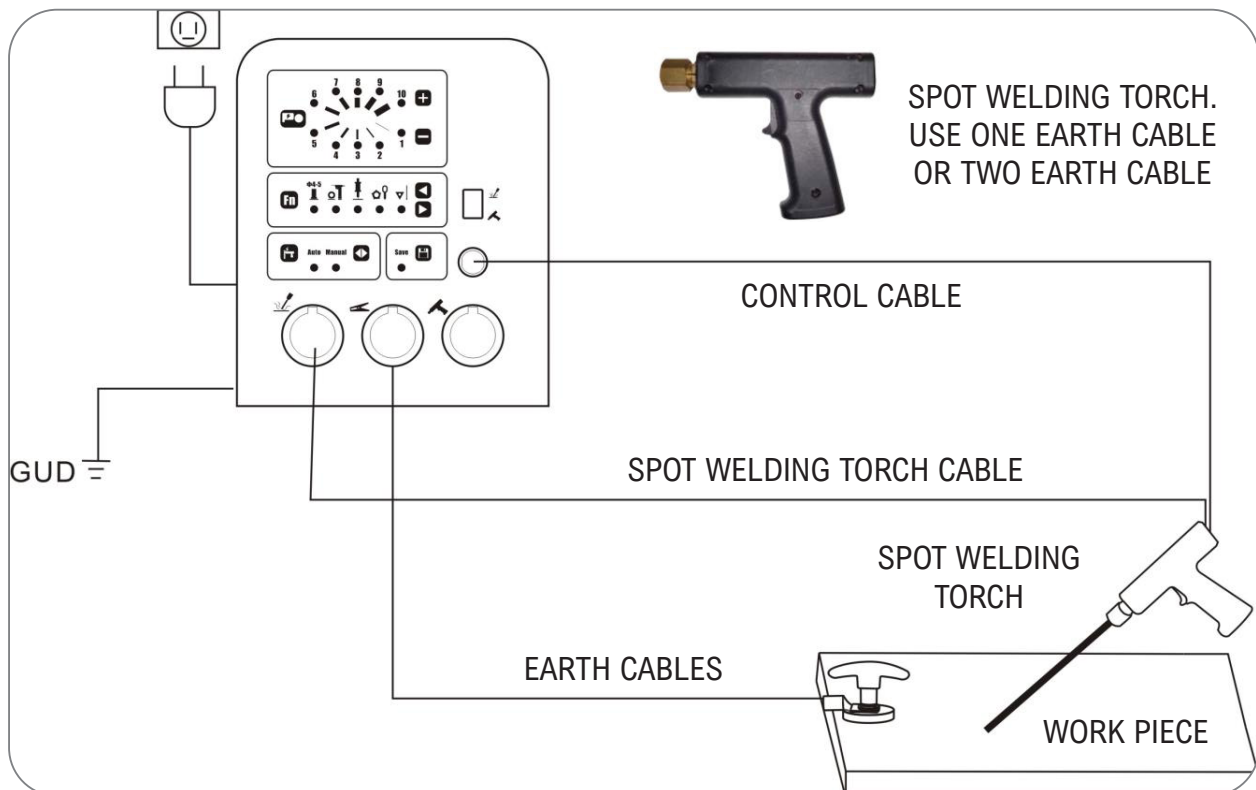
#### 3. BRASS ELECTRODE / CARBON ELECTRODE HEATING:

Please mount Euro and Japanese type torch to socket "1" and control socket "4", mount earth cable to socket "2". Select "carbon electrode heating" for switch "5". If use brass electrode heating function, please mount brass electrode(round or iron electrode) on the torch. If use carbon electrode heating function, please mount carbon electrode on the torch.



The cable connection, please refer to above the diagram.

Carbon electrode heating (optional function, only for carbon heating type machine).



## OPERATION SUGGESTIONS:

The machine is different from traditional spot welder, it use patent power source design. The peak output current is over three times of traditional welder and the welding current is reduce to several msec. So it can greatly reduce welding heating effect for the car body and keep good surface. But caused by high welding current, if the output circuit is poor contact, it may burn black the work piece. It need good conduction and good contact.

Please note the following suggestion:

1. Polish and clean the work piece, whatever welding point or earth connection point.
2. The earth cable need to good contact and close to the welding point. Use two earth clamp when aluminum stud welding. The welding point should be between the two earth clamp and keep equi-distance. It can avoid to arc deflection and improve the success rate of the welding.
3. Polish and clean the washer and electrode.
4. When use quick puller slide hammer or h type puller, make sure screw tight all conductive parts.
5. Press the torch, washer, electrode on the work piece with more strength, when welding operation. It is good for conduction. Please don't welding with weak pressure contact.

### 3.7 CONTROLS ON GENERATOR FRONT PANEL:

**A: There is two mode for choice.**


Auto mode: After the welding torch and earth cable short circuit or contact for 0.5s, the machine will produce the output.


Manual mode: Trigger on the torch, the machine will produce the output.

**B: Welding parameter save.**


Finish adjust welding mode and welding power, the user can press "save" for save the setting.


**C/D: Welding parameter save.**

  $\Phi 4-5$   $\Phi$  4~5 steel stud

 Round washer/ tab shooter

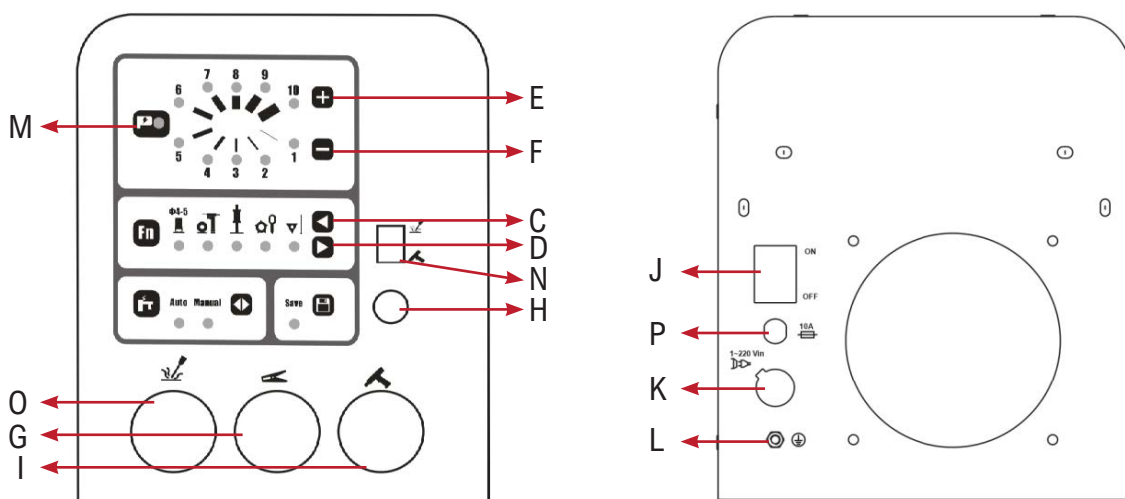
 Quick puller slide hammer

 Star washer/steel tab


 Triangle washer/ American stud

Choose the welding mode, the system will auto match welding power.

And the power indicator display the power level 1-10 on the right side.



**E/F: Output power adjustment.**

Larger the number, the higher output power. There are 10 level for welding power. In general operation, the user only choice welding mode, the system will auto match welding power. But the user can adjust it by themself. After adjust the welding setting, it will don't cover the system recommended setting. Till to press "save", the machine will save customer setting and cover the recommended setting.(Keep to press the two buttons  for 2 second, the welding setting will be recover factory defaults.)

**G: Socket for work clamp.**

**H: Control socket for torch.**

**I: Socket for torch.**

**J: Power switch.**

**K: Input power cable** (Confirm the power voltage before use).

**L: Ground connector for the machine case.**

**M: Discharge indicator.**

When the indicator is light up, it means the machine charge is finish, The machine can welding operation. After discharge operation, the discharge indicator will light off for a few moment. When the discharge indicator is light off, it means the machine is charging. The time of light off will increase, following of the more setting power. If in manual mode, the user trigger on the torch when the discharge indicator will light off ,the machine can output, but the it will reduce output power.

**N: Brass electrode/carbon electrode heating or welding function choice.**

**O: Socket for brass electrode/carbon electrode heating.**

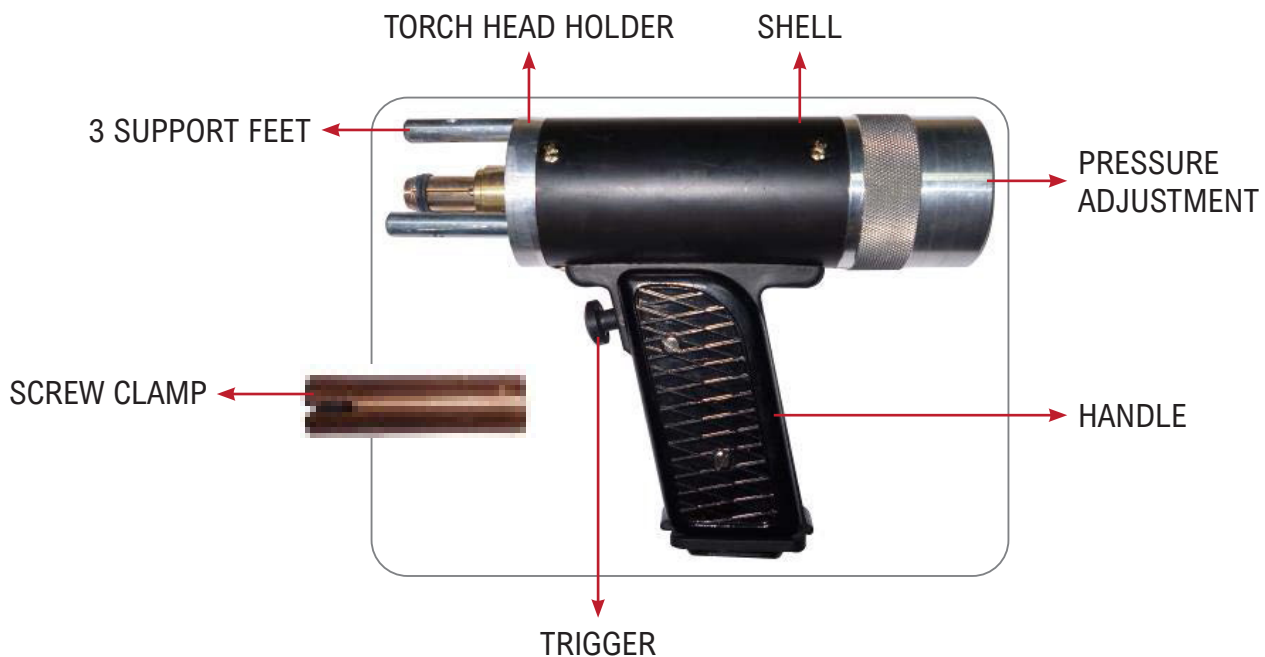
**P: Fuse.**

**3.8 STUD WELDING TORCH:**

**3.8.1 TORCH (AS DIAGRAM):**

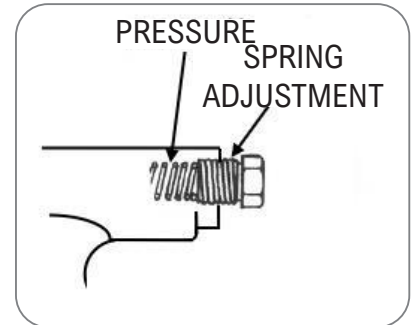
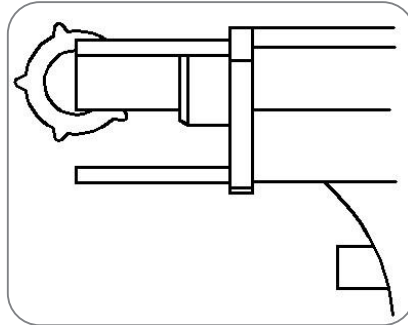
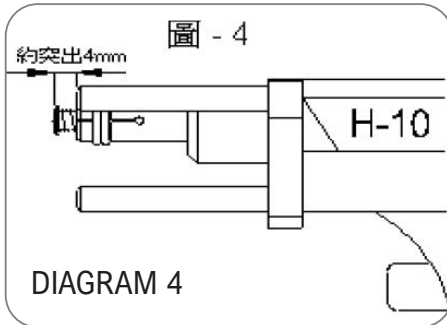
Torch work principle: Press the stud screw connects to the base metal.  
The welding torch will discharge by contact way.

That applies to: Soft steel, stainless steel stud screw. Length of stud screw less than 150mm.



### 3.8.2 ADJUST THE PRESSURE AND EXTEND DISTANCE:

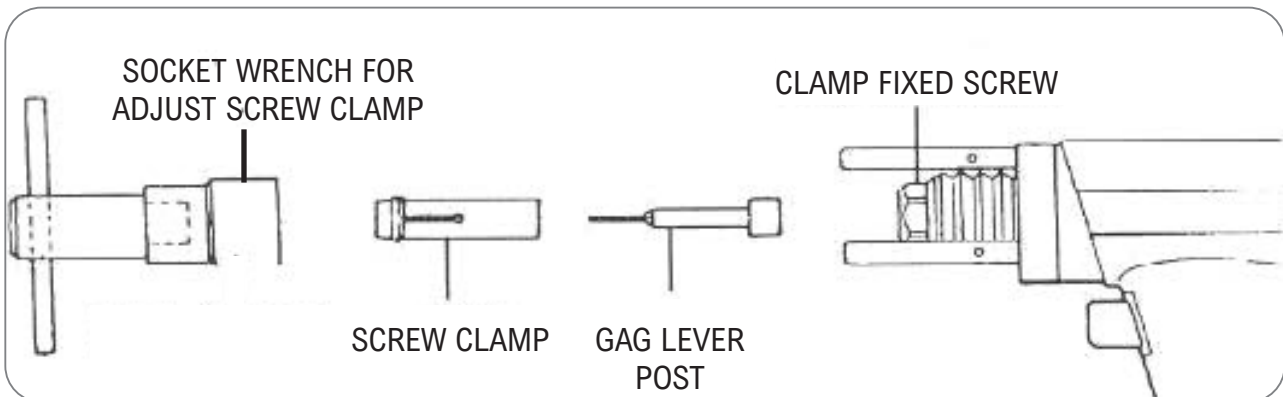
EXTEND 2MM



1. Stud screw extend 2.0mm from 3 support feet, as the diagram 4 on left.
2. Turn left the Spring adjustment, stud welding heat will increase, torch pressure will reduce.
3. Turn right the Spring adjustment, stud welding heat will reduce, torch pressure will increase.
4. When torch pressure is not enough, please remove back cover and spring adjustment, then replace the pressure spring.

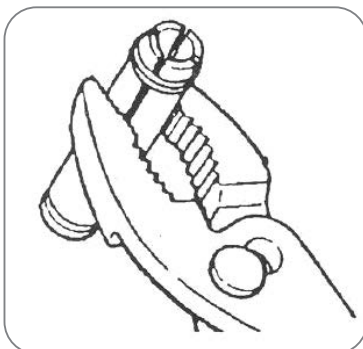
### 3.8.3 STUD SCREW CLAMP:

Stud screw clamp is the part for keep the stud screw carry welding current. So make sure the diameter of the clamp is in accord with stud screw. When the diameter of the clamp is not suitable to the stud screw, the stud screw and clamp are easily damaged. That will cause stud welding trouble. Please pay attention to the problem.



1. Use socket wrench to loose the clamp fixed screw.
2. Pull out screw clamp and gag lever post.
3. Insert screw clamp and gag lever post to torch head. Make sure the diameter of the clamp is correct and the length of the gag lever post is correct.
4. Use socket wrench to locking the clamp fixed screw.

**Note: When Use new screw clamp, must use pliers to clamp the groove of the screw clamp. That can make sure the screw clamp and stud screw close contact.**



The groove expand in use, the stud screw will loose. Use pliers to clamp it, when meet the problem, that can extend using life of the screw clamp.

### 3.9 OPERATING PROCESS FOR STUD WELDING:

**Note: Protect your eyes and your body when stud welding. Please operate the machine as follow.**

#### 3.9.1 PREPARATION FOR OPERATION:

1. Keep the work piece free of dirt ,oil, paint and rust.
2. If the base metal is thin, it will dent at pressure .It must add a base plate, when stud welding.
3. Select suitable stud welding torch, according as material, diameter, length of the stud screw.
4. Make sure the diameter of the clamp is correct and the length of the gag lever post is correct. Install the screw clamp and gag lever post in the torch.
5. Make sure all the cables connect to the machine and workpiece. Connect input cable and turn on.

#### 3.9.2 OPERATE STUD WELDING:

1. Insert the stud screw to screw clamp.

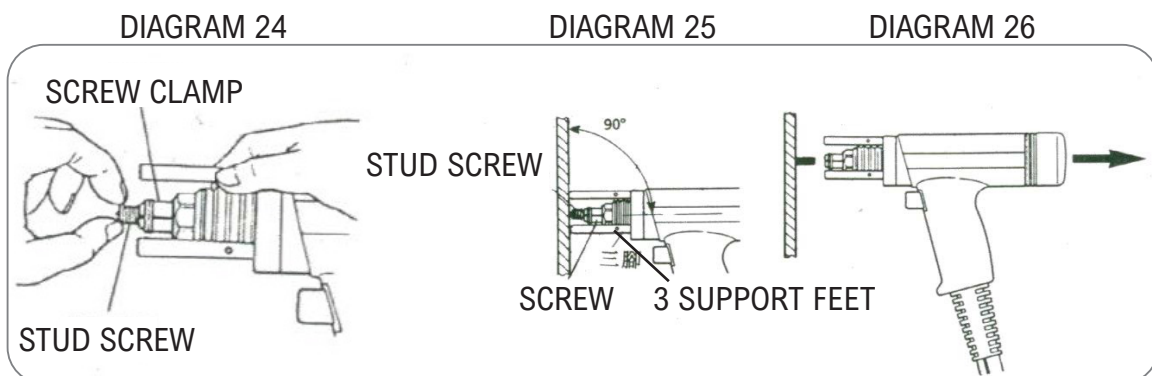
**Note: Make sure the stud screw insert to the end of the screw clamp and contact the gag lever post.**

2. Keep the 3 support feet contact the base metal. The torch presses on base metal vertically. **(Diagram 25)**

**Note: Keep H-10torch contact the base metal, after insert the stud screw.**

3. Press torch trigger. Discharge -> Stud welding complete.
4. After stud welding complete, release the trigger, move back the torch vertically. **(Diagram 26)**  
Install the screw clamp and gag lever post in the torch.

Please test stud welding and setting suitable the welding strength before formal production.



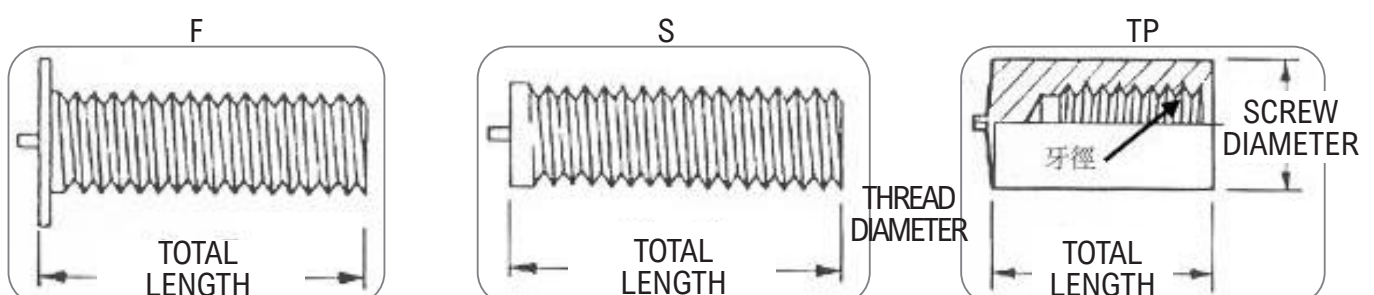
### 3.10 MAINTENANCE:

1. The machine and torch must to keep away from dust, humidity, rain.
2. Avoid vibration, when move the machine.
3. Do not put the machine reversely, protect the machine.
4. Clean the dust and check the screw, which can keep the machine in good condition.
5. Turn off the switch, when not use the machine.

### 3.11 SELECT STUD SCREW:

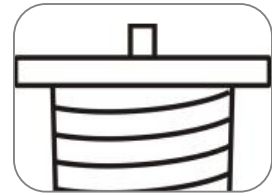
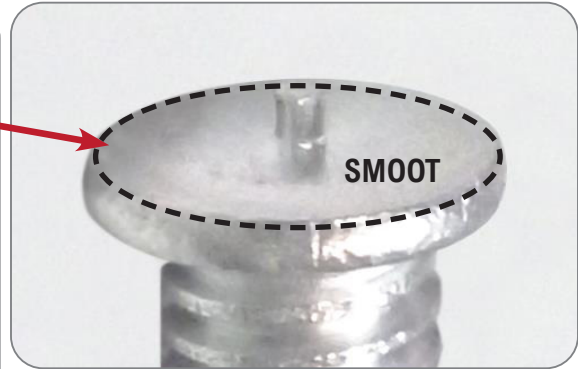
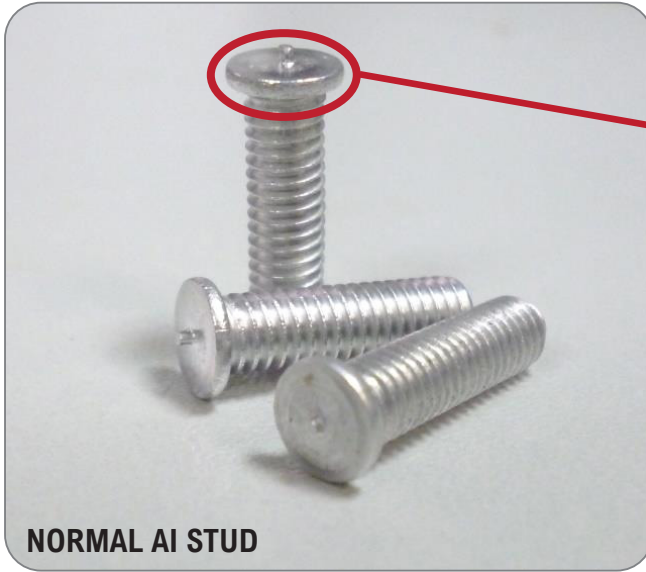
**Metal: Soft steel, stainless steel, aluminium, titanium (Ti), brass, copper.**

1. Model

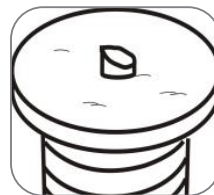
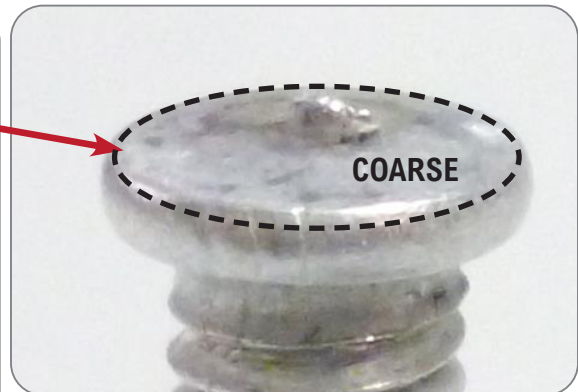
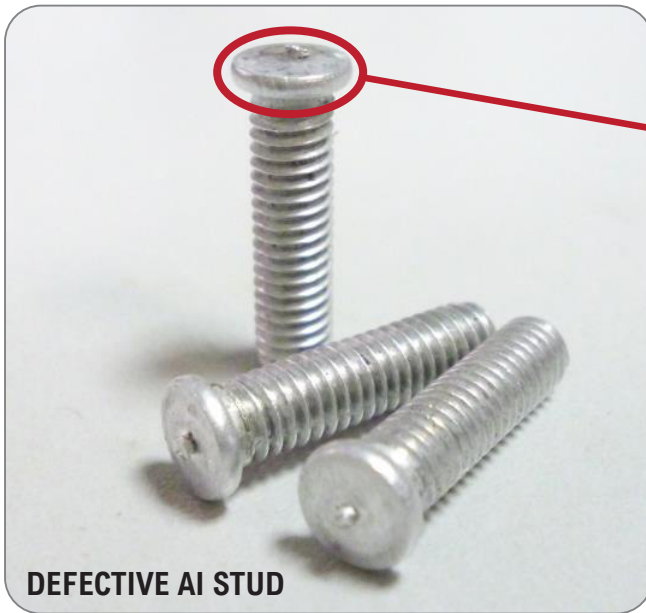


2. Dimension      Outside thread      Thread diameter \* Total length  
                          Internal thread      Screw diameter \* Total length - Thread diameter

3. Normal AL stud: The embossment is in the center of stud's end face. The top face of embossment is smooth. The size and height of the embossments are good consistency. The end face of stud is smooth.



Defective AL stud: The embossment is not in the center of stud's end face. The top face of embossment is not smooth. The size and height of the embossments are unevenness. The end face of stud is coarse.



## 4. TROUBLE SHOOTING:

The machine with three protection function. If the machine is abnormal, please refer to the following:

### 1. Over heat protection:

There is a aux transformer inside the machine. The aux transformer is with thermal switch. The temperature of the transformer will rise following the machine work duty. If the machine is over duty and over heat, the “auto” and “manual” indicator on front will light up, the machine will stop output. In general, the machine duty cycle is enough to car body repair. If the machine over heat protection on low work duty, please check the fan.

### 2. Short circuit protection:

After the machine output power, if the torch and earth cable are keeping short circuit, the machine will stop charge. The torch and earth cable need to open circuit, the machine can charge and welding again.

### 3. Over current protection:

In current sample is without this function. But we plan to add fuse in future. If the fuse is broken, it means the machine is abnormal and over current, please contact to the after service.

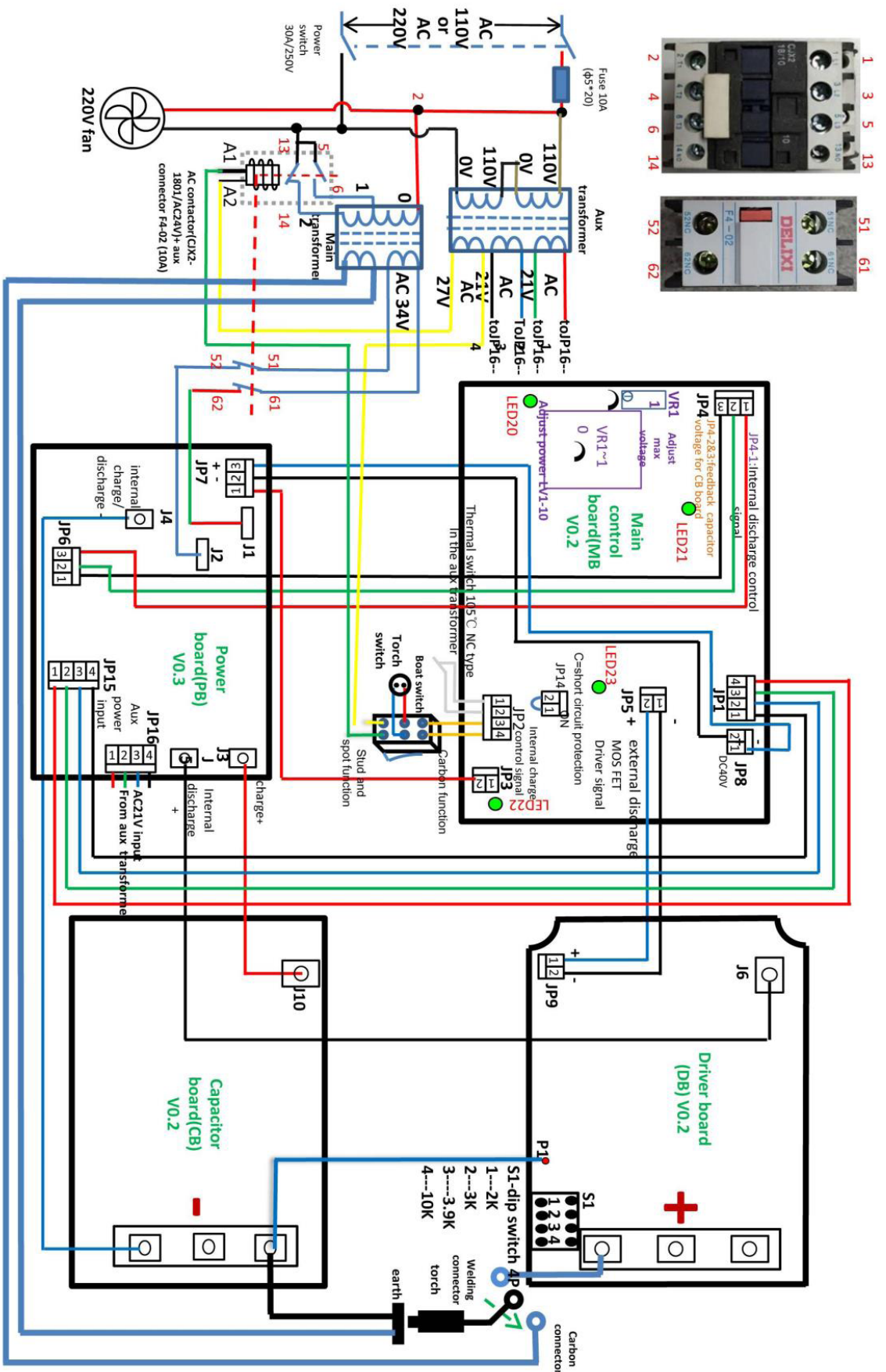
No power	<ol style="list-style-type: none"><li>1. Check the source power</li><li>2. Check the input cable</li><li>3. Check the main switch</li><li>4. Please contact to the manufacturer</li></ol>
No weld	<ol style="list-style-type: none"><li>1. Check the output cable for torch &amp; earth</li><li>2. Check the connection for torch &amp; earth</li><li>3. Check power fuse</li><li>4. Check transformer, maybe over heat</li><li>5. Please contact to the manufacturer</li></ol>
Fan is not working	<ol style="list-style-type: none"><li>1. Check the power of fan</li><li>2. Check the fan, maybe something stuck in the fan</li><li>3. Please contact to the manufacturer</li></ol>



# 5. WIRE DRAWING:

## 5.1 WIRE DRAWING FOR 13212-J-02 AUTO MIG 2132 3PH380V EUROPE INDIA:

MB board	description
LED	
LED 20	ON=capacitor is charging over setting voltage , Vcap ≥ Vset
LED 21	ON=internal discharge (If Vcap > Vset)
LED 22	ON=internal charge (If Vcap < Vset)
LED 23	ON=external discharge (welding output)

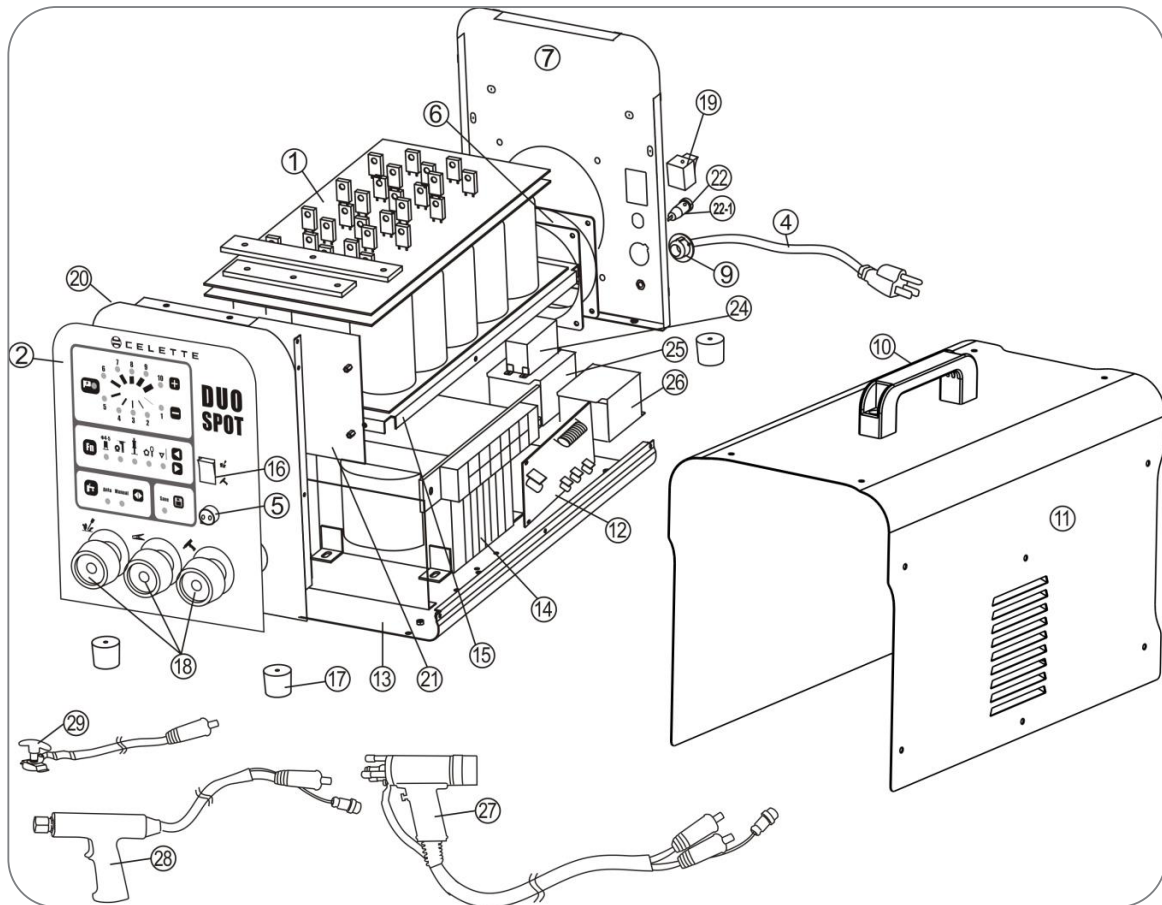


Note: In MB board, VR1-VR10 is adjust working voltage  
 LV1-10. adjust clockwise to increase voltage  
 VR1 limit max working voltage  
 adjust clockwise to increase voltage

DUO SPOT 1 ~ 110V  
 DUO SPOT 1 ~ 220V

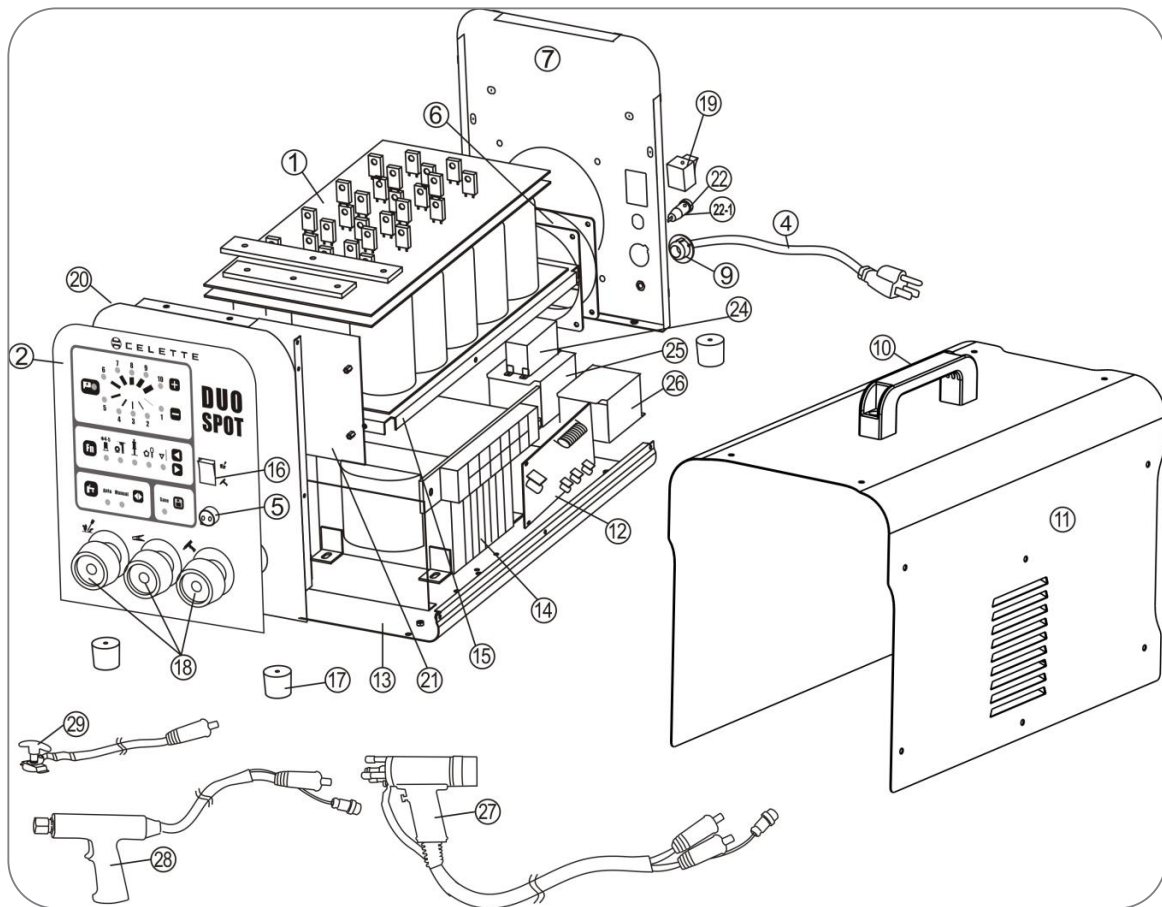
## 6. DUO SPOT 1PH/220V EUROPE/INDIA:

No.	Code	Description	No.	Code	Description
1	PD081281	Driver and capacitor board	16	KE055002	Select switch
2	ST094948	Front panel paster	17	SG055005	Rubber foot
4	XE073100	Input power cable	18	JC055017	Quick socket
5	JG055070	Control socket	19	KE092440	Main switch
	JG071008-1	Plug	20	EY11244-GQ0101B1	Front panel
6	MF073001	Fan	21	PD081201-3A	Control board
7	EY11244-GH0101B1	Back panel	22	DG082000	Fuse 15A
9	SE064000	Cable holder	22-1	DG084020	Fuse holder
10	SC091120	Handle	24	KB072004	Auxiliary contactor
11	EY11244-GS0101R16	Top cover	25	KB072006-E	AC contactor
12	PD081223-0	Power board	26	VT091063	Control transformer
13	EY11244-GX0101B1	Bottom panel	27	QM072121-7B	Stud welding torch
14	VM096250	Main transformer	28	QM081016-10D	Euro type torch
15	EY11244-GZ0101+	Inside panel	29	JA073210	Earth clamp



## 7. DUO SPOT 1PH/110V USA:

No.	Code	Description	No.	Code	Description
1	PD081281	Driver and capacitor board	16	KE055002	Select switch
2	ST094948	Front panel paster	17	SG055005	Rubber foot
4	XJ082002	Input power cable UL	18	JC055017	Quick socket
5	JG055070	Control socket	19	KE092440	Main switch
	JG071008-1	Plug	20	EY11244-GQ0101B1	Front panel
6	MF073001	Fan	21	PD081201-3A	Control board
7	EY11244-GH0101B1	Back panel	22	DG082000	Fuse 15A
9	SE064000	Cable holder	22-1	DG084020	Fuse holder
10	SC091120	Handle	24	KB072004	Auxiliary contactor
11	EY11244-GS0101R16	Top cover	25	KB072006-E	AC contactor
12	PD081223-0	Power board	26	VT091063	Control transformer
13	EY11244-GX0101B1	Bottom panel	27	QM072121-7B	Stud welding torch
14	VM096250	Main transformer	28	QM081016-10D	Euro type torch
15	EY11244-GZ0101+	Inside panel	29	JA073210	Earth clamp



**THANK YOU!!!**  
**FOR PURCHASING OUR PRODUCT**



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