

M30 SPOT WELDER INSTRUCTION MANUAL 230V 1PH.



We have the right to improve and update the machine.
The picture and the content are just for your reference.

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

WELDING CAN BE HARMFUL TO YOURSELF AND OTHERS. The user must be educated on the hazards summarized below, deriving from welding operations. For more detailed information, order the manual.

ELECTRIC SHOCK - May be fatal.

Install and ground the welding machine according to the applicable regulations.

Do not touch live electrical parts or electrodes with bare skin, gloves or wet clothing.

Isolate yourself from both the ground and the workpiece.

Make sure your working position is safe.

FUMES AND GASES - May be hazardous to your health.

Keep away from fumes.

Work in the presence of adequate ventilation, and use ventilators around the arc to prevent gases from forming in the work area.

ARC RAYS - May injure the eyes and burn the skin.

Protect your eyes with welding masks fitted with filtered lenses, and protect your body with appropriate safety garments.

Protect others by installing adequate shields or curtains.

RISK OF FIRE AND BURNS

Sparks (sprays) may cause fires and burn your skin; be sure there are no flammable materials in the area and wear appropriate protection.

NOISE

This machine does not directly produce noise exceeding 80dB. The plasma cutting/welding procedure may produce noise levels beyond said limit; users must implement all precautions required by law.

PACEMAKERS

The magnetic fields created by high currents may affect the operation of pacemakers. Wearers of vital electronic equipment (pacemakers) should consult their physician before beginning any arc welding, cutting, gouging or spot welding operations.

EXPLOSIONS

Do not weld in the vicinity of containers under pressure, or in the presence of explosive dust, gases or fumes. All cylinders and pressure regulators used in welding operations should be handled with care.

ELECTROMAGNETIC COMPATIBILITY

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. GENERAL TECHNICAL DESCRIPTIONS

2.1 SPECIFICATIONS

This manual has been prepared with the intent of instructing the operator on how to install, operate, and properly maintain this spot welding machine.


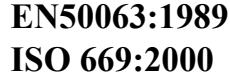


Upon receiving and unpacking the machine, make a careful inspection to ensure there are no damaged parts.

Should there be a claim for losses or damages it must be made by the purchaser directly to the shipper who handled the goods.

When requesting information about this welding machine please state the machine's part number and serial number to ensure receiving accurate information relating to your machine.

2.2 DESCRIPTION OF TECHNICAL SPECIFICATIONS

The contents are for your reference. Product may be updated without notice.

SPOT-X	
SN:	  
	$U_{20} =$
$I_{2CC} =$	$I_2 =$
$1 \sim 50/60\text{Hz}$	$U_{1N} =$
$S_{max} =$	$S_n =$
Weight =	

SPOT-X The model of the machine

SN Machine Serial Number which must appear on requests or inquiries concerning the machine.

CE, EN, ISO International standards

~ Alternating current (AC)

U20 Range of rated ac no-load voltage and number of adjustable steps

I2CC maximum short circuit current of the output corresponding to the minimum impedance

I2 Output welding current

1~50/60 Single-phase input supply at 50 or 60 Hz

U1N Rated supply voltage

Smax Maximum power

Sn Power at normal duty cycle

Weight Weight of the welding equipment

3. INSTALLATION

3.1 SETUP

Place the machine in a ventilated area.

Dust, dirt, or any other foreign material that may enter the machine can restrict ventilation which could affect the machine's performance.

3.2 INPUT POWER CONNECTIONS

All sections concerning the installation of this machine must be read carefully.

This machine must be installed by skilled personnel.

Make sure that the input power plug has been disconnected before inspecting, maintaining, or servicing.

Connect the yellow-green wire to a good electrical ground.

Do not use water pipes as a ground conductor.

After a final inspection, the machine should be connected to the input supply voltage marked on the input power cord.

Mount a plug on the power supply cable that corresponds to the input power drawn by the machine.

3.3 CONNECTING the work return lead clamp

Attach the work return clamp to the work to be welded.

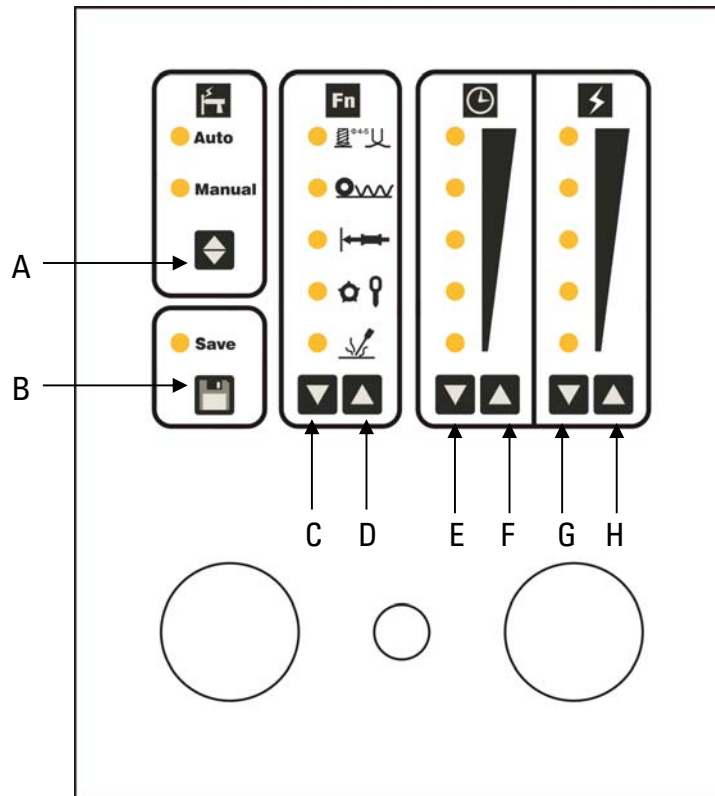
Make sure the ground clamp is tightly fastened to the work return cable and periodically check this connection remains well tightened. A loose connection can cause weld current drops or overheating of the work return lead and clamp, which creates the risk of burns from accidental contact with the work return lead. The weld circuit must not be placed deliberately in direct or indirect contact with the ground conductor.

If the work to be welded is attached deliberately to the ground by a protection lead, then the connection must be the most direct possible and must be done using a lead that has a cross section that is at least equal to the cross section of the work return lead being used for the weld circuit. The protection lead must also be attached to the work at the same spot as the work return lead. To do so, a second ground clamp, fitted to the protection lead, must be attached next to the ground clamp of the work return lead.

NOTE:

Small cross section and long extension cable will reduce the output current.

4. DESCRIPTION OF CONTROLS








A--- There is two modes for choice, Auto mode and Manual mode.

B--- Save

Save the customer setting. The machine will load the save settings every operation.

CD--- Welding function selection. Press **C** and **D** for 2 seconds, the machine will clear the save settings.

-  Φ 4~5 steel stud
-  round washer/wiggle wire
-  quick puller slide hammer
-  star washer/steel tab
-  carbon heating/carbon shrink rod

EF---Welding time adjustment

Adjust the welding timer, the larger number the longer welding time.

GH--- output power adjustment

The larger number the higher output power

5. THE WELDING MODE SETTING INSTRUCTIONS

1.) Auto mode

When setting Auto Mode, the machine can weld without pressing the torch switch. Make sure the torch, work cable, and work piece have a good connection, wait for the delay timer, the machine will output power and welding. When setting welding time up, the machine will stop output, lift the torch from the work piece. If the torch contacts the work piece again, the machine will output again.

Note: The torch must not make constant contact with the work piece. After welding is completed and the torch and work piece are still contacting, the machine will show an error warning. The power indicator LED will blink indicating an error, you must lift the torch from the work piece before resuming welding.

2.) Manual mode

Contact the torch to the work piece and press the torch switch, the machine will begin welding. If the user selects the welding timer, the machine will stop welding when the welding time is up. If the user selects continuous welding, the machine will keep welding until the user turns off the torch switch.

6. INSTRUCTIONS FOR CAR REPAIR WORK

Spot Welding

1.) Power switch on, set suitable function.

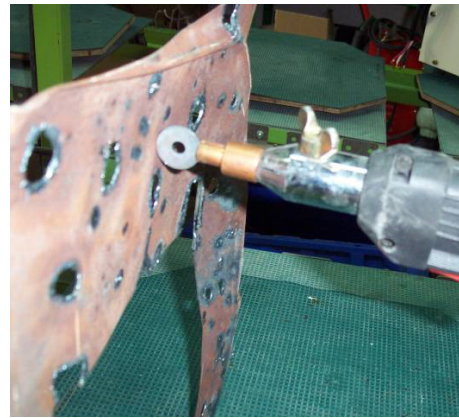
(Auto, Manual-Timer, or Pulse)

2.) Set the spot welding current.

3.) Set work clamp.

4.) Spot-weld the washer.

Attention: The work clamp should be near the welding location.

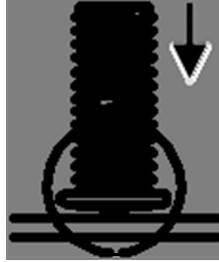


7. STUD WELDING AND SPOT WELDING

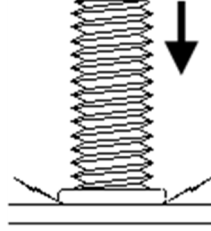
1.) Stud welding

When mounting the stud, the stud must extend past the three support legs about 2mm. Confirm the stud welding position. Press the support legs on the work piece firmly. 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 sufficient, adjust the torch pressure, recharge, and repeat the steps. Traditional method such as rivets, lock screws, and common welding typically damages the base metal. The stud welding process does not damage the base metal.

Diagram 1



1. The stud screw press the base metal



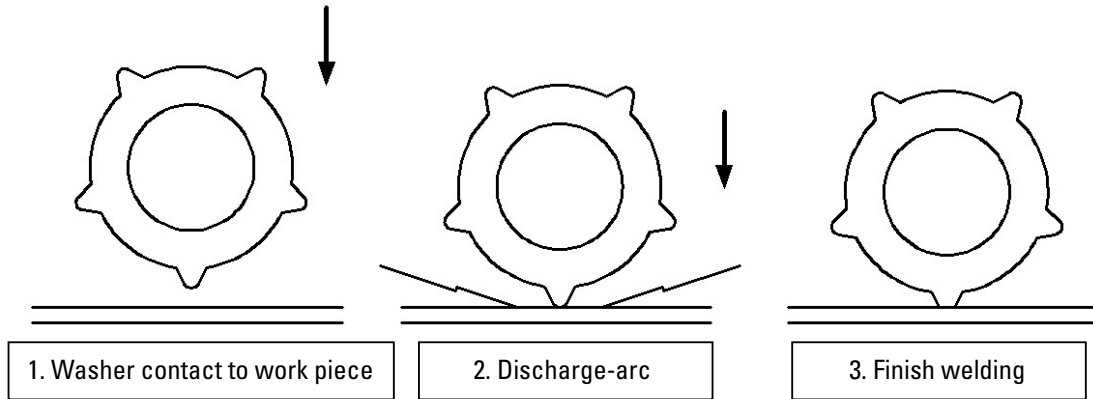
2. electric discharge, start arc



3. Stud welding complete

2.) Spot welding

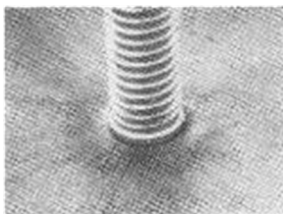
Diagram 2



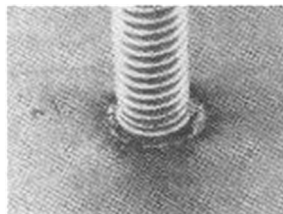
Using this specific welding function heat will not affect the back side of work piece. The back of the work piece will have a good appearance.

3.) Stud welding visual test

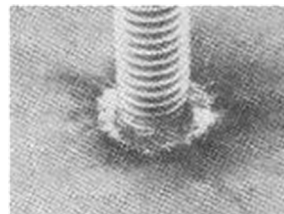
Please refer to the pictures below for stud welding results. If the stud welding results are unsatisfactory adjust the power, torch head pressure, or torch head height according to the instructions. (**Note:** only adjust one parameter at a time.)



1. Voltage not enough



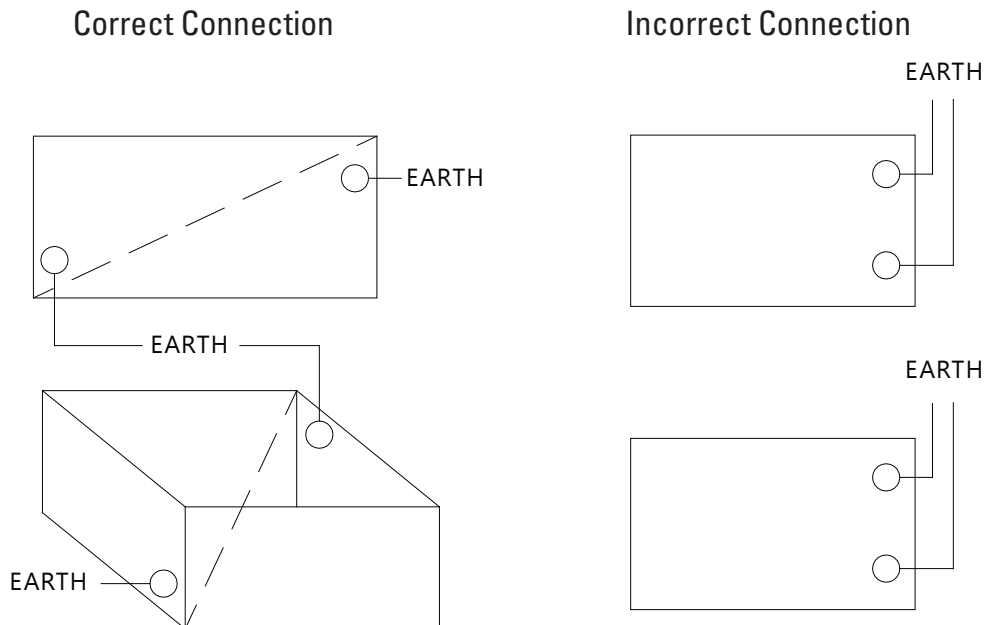
2. Correct voltage



3. Too high voltage

8. STUD WELDING TROUBLESHOOTING

- 1.) The ground cable or base metal are not making a good connection.
- 2.) Torch cable or ground cable is winding, coiled up, or crossed. Cables must be straight.
- 3.) The diameter of screw clamp and stud screw is not suitable, or screw clamp is worn.
- 4.) The base metal is dirty, rusty, painted, or other problem interfering 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 making a good connection. (Keep the stud screw contacted to the base metal vertically 90 degrees).
- 7.) The stud welding voltage is not correct.
- 8.) The capacitor is damaged, or limiting voltage.
- 9.) Welding torch must not have movement when welding. All feet must contact base metal.
- 10.) Stud screw extends too long or too short from the stud clamp.
- 11.) Base metal has distortion, dented or has moved while welding.
- 12.) Method for connecting the ground cable:
 - 1.) Cable must connect the base metal directly. Two ground cables must be connected.
 - 2.) The ground cable must connect to the diagonal position of the base metal. (Refer to the diagram as follow).



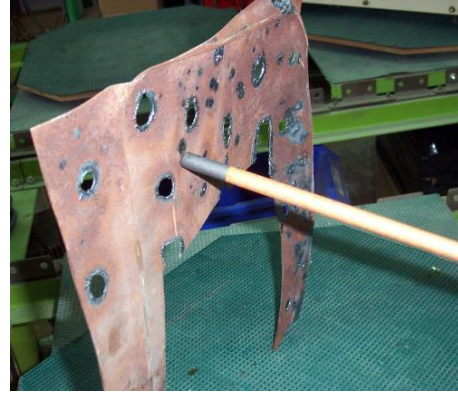
9. CARBON SHEET ROD

1. Power switch on, set suitable function.
(Manual-2T Ctrl)
2. Set output current (low current).
3. Press the torch trigger.

The output power is "ON" continually.
If torch trigger is released,
the output power is "OFF".



Do not use this function continuously for long periods of time, transformer damage may occur.





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