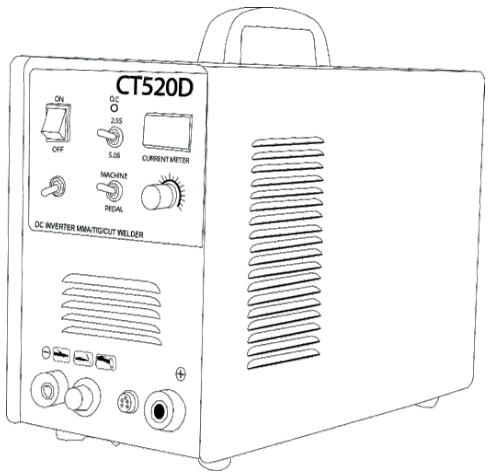
142.0 mm

210.0 mm

CT520D
Plasma Cutter

User Instruction Manual



CT520D
Quick Setup

Instructions

Power plug wiring:
For either 110 or 220VAC, the GREEN wire is the ground wire. The WHITE and BLACK wires are hot wires.

For Plasma Cutting:

Figure 1.1

1. Wear a auto darkening plasma cutting helmet (Figure 1.1, not included in the box. To purchase, please go to our website.) to protect your eyes from harmful plasma cutting arc radiation and safety gloves to protect your hands during welding.

2. Connect the machine gas inlet (on the back of the machine, Figure 1.2) with an air compressor (Figure 1.3) and set the air pressure to 65-70 PSI. (The Air Regulator is optional if your air compressor has the capability to control output air pressure.)

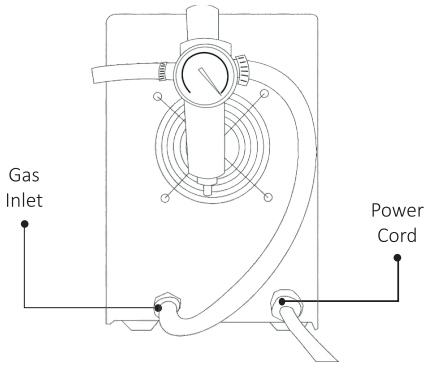


Figure 1.2

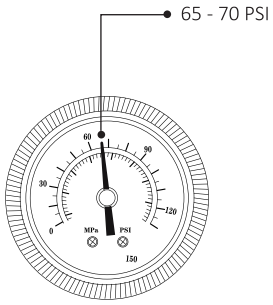


Figure 1.3

3. Connect your plasma cutting torch and ground cable to the front panel of the machine. Make sure the ground cable is connected on the right hand side where the "+" sign is located. (Figure 1.4)

   - Set TIG Weld /Stick Weld /Plasma Cut switch to Plasma Cut mode.
   - Set "2.5S/5S" to "2.5S" Mode.
   - Set "Machine/PEDAL" to "Machine" Mode.
   - Adjust Current Dial between 10 and 50 amps.

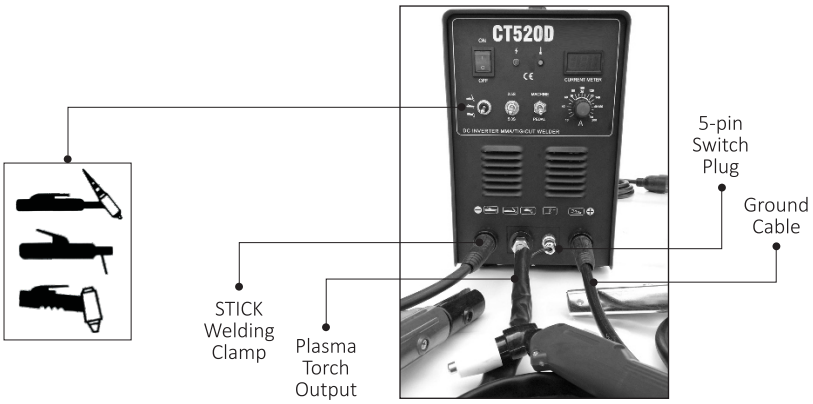


Figure 1.4

4. Attach the ground clamp to the metal you want to cut. Grind the metal to make sure the clamp is securely attached to the work piece. Press the trigger of the torch and make sure the air is flowing. Finally, move the torch head to the work piece and start cutting.

5. Change your consumables (tip, electrode, ring, and cup) if they are worn out. The consumables' type is LCON. If you want to cut the perfect circle or perfect straight line, order a Lotos LCK roller guider compass kits from our website www.uwelding.com.

For TIG Welding:

1. Wear our auto darkening helmet and gloves to protect your eyes and hands from any harmful welding arc. (Please see step 1 in **Plasma Cutting**.)

2. Connect the machine gas inlet (on the back of the machine, Figure 1.5) to the argon regulator and adjust the knob to set gas pressure between 15 and 20 min/L (an argon regulator is necessary, Figure 1.6.)

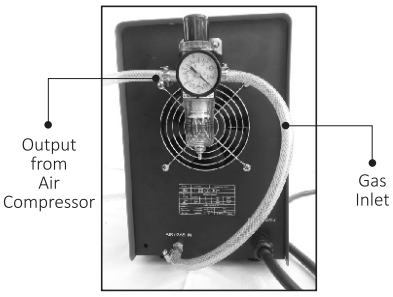


Figure 1.5

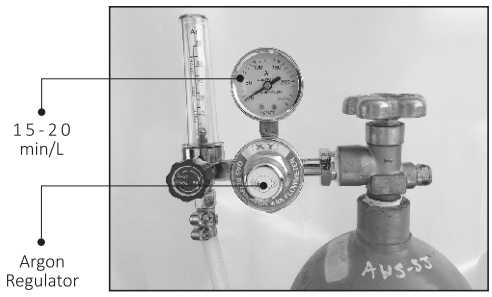


Figure 1.6

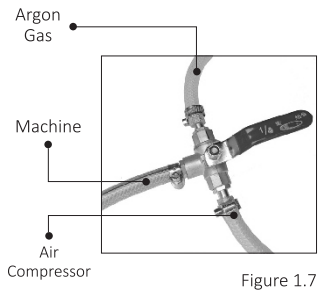


Figure 1.7

a) If you switch from plasma cutting to TIG welding quite often, need buying a 3 way valve kit to connect both the argon tank (Figure 1.7) and the air compressor simultaneously.

- Connect your TIG torch and ground cable to the front panel of the machine.
- Make sure the ground cable is connected on the right hand side where the "+" sign is located.
- Set TIG Weld/Stick Weld/Plasma Cut switch to TIG Weld mode (refer to Figure 1.4, page 2).
- Set "2.5S/5S" to "2.5S" mode.
- Set "Machine/PEDAL" to "Machine" mode.
- Adjust current dial from 10 to 200 amps (Figure 1.8).

Figure 1.8

b) If you want to dynamically control the welding heat, please use a foot pedal (not included in the box. To purchase, please go to our website). Then connect the "on/off" connector to your foot pedal and leave the wire of the TIG torch unplugged.

- Set TIG Weld/Stick Weld/Plasma Cut switch to TIG Weld mode (refer to Figure 1.4, page 2).
- Set "2.5S/5S" to "2.5S" mode.
- Set "Machine/PEDAL" to "Pedal" mode.
- Adjust current dial between 10 and 200 Amp (Figure 1.9).

Figure 1.9

3. TIG torch head parts (Figure 1.10) and assembly (Figure 1.11)
   (The tungsten is not included in the picture; please buy proper DC tungsten electrodes.)
   Grind and sharpen the tungsten before first use.

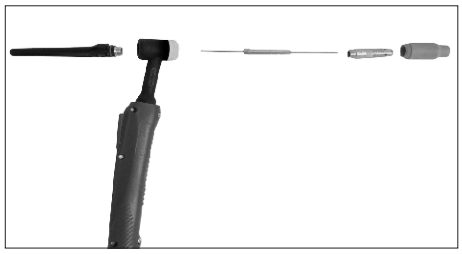


Figure 1.10

Figure 1.11

For Stick/Arc/MMA Welding:

1. Wear our auto darkening welding helmet and gloves to protect your eyes and hands from any harmful welding arc. (Please see step 1 in **Plasma Cutting**.)

2. You don't need to connect the machine to any gas or air supply. It's a plug and play.
   Panel connection instructions:
   - Set TIG Weld/Stick Weld/Plasma Cut switch to Stick Weld mode (refer to Figure 1.4, page 2).
   - Set "2.5S/5S" to "2.5S" mode.
   - Set "Machine/PEDAL" to "Machine" mode.
   - Adjust current dial between 10 and 200 amps (Figure 1.12).

Figure 1.12

Last but not least, please be sure to turn off the machine when you switch from one function to another. This is important, because otherwise the machine could be damaged.

AFR-2000 Installation Instruction

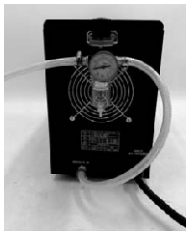
1、Find the two screws at the upper rear of the machine, and un-fastening them.

2、Put the metal support on the two screws and fasten the two screws.

3、Wrap some PTFE sealing tapes on the two brass fittings and make sure no leakage.

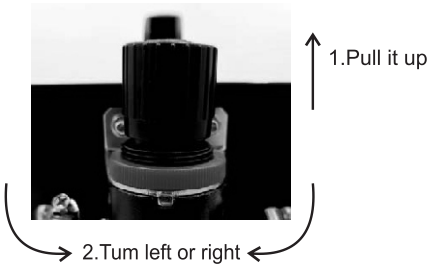
4、Then place the two brass fittings on the two sides of valve body and tighten them.

5、Fasten the Pressure gauge on the front face of valve body. Pls. note the inlet gas arrow symbol on the valve body is directed to the right.



6、Loosen the red button on the valve body, hold the whole valve body into the metal support from down to upside, and then tighten it. Cut down attached air hose into approximately 40cm length. Connected as illustration instructed, use the hose clamp to tighten it until no leakage. The leftover air hose will be connected to air compressor (inlet gas), still use hose clamp to tighten it until no leakage. The installations are done!

See Figure A



See Figure B

7、Before do the cutting, pls. make sure the cutter torch 、 welding torch and ground clip are connected correctly (See Figure A). Open the air compressor valve, switch on the machine, pull the top button of valve up, adjust the air pressure to a suitable scope through turn knob left or right (See Figure B).

8、After adjustment, press the knob and you are able to start cutting normally.

Table of Contents

Introduction

Overview

Dear Valued Customer:

This User Manual documents policies and procedures for proper operation of the equipment.

IMPORTANT: Be sure to review the contents of this manual before attempting to operate the equipment. This manual should be located where it can be easily referenced by all users of the machine.

Audience

This manual assumes that all individuals reading the manual and using the welder/cutter are able, qualified, and/or certified to operate this type of machinery.

Safety Precautions - Read Before Using

□ Note on High Frequency electromagnetic disturbances:

Certain welding and cutting processes generate High Frequency (HF) energy. These energy waves may disturb sensitive electronic equipment such as televisions, radios, computers, cell phones, and related equipment. High Frequency may also interfere with fluorescent lights. Consult with a licensed electrician if a disturbance is noted. Sometimes, improper wire routing or poor shielding may be the cause.

□ HF can interfere with pacemakers. See EMF warnings in following safety section for further information. Always consult your physician before entering an area known to have welding or cutting equipment if you have a pacemaker.

□ **These safety precautions are for protection of safety and health. Failure to follow these guidelines may result in serious injury or death. Be careful to read and follow all cautions and warnings. Protect yourself and others.**

□ **Welding and cutting processes produce high levels of ultraviolet (UV) radiation that can cause se vere skin burn and damage**.

There are other potential hazards involved with welding such as severe burns and respiratory related illnesses. Therefore observe the following to minimize potential acci dents and injury

□ **Use appropriate safety glasses with wrap around shields while in the work area, even under welding helmets to protect your eyes from flying sparks and debris.**

When chipping slag or grinding, goggles and face shields may be required.

□ **When welding or cutting, always use an approved shielding device, with the correct shade of filter installed.**

Always use a welding helmet in good condition. Discard any broken or cracked filters or helmets. Using broken or cracked filters or helmets can cause severe eye injury and burn. Filter shades of no less than shade 5 for cutting and no less than shade 9 for welding are highly recommend ed. Shades greater than 9 may be required for high amperage welds. Keep filter lenses clean and clear for maximum visibility

. It is also advisable to consult with your eye doctor should you wear con tacts for corrective vision before you wear them while welding

□ **Do not allow personnel to watch or observe the welding or cutting operation unless fully protected by a filter screen, protective curtains or equivalent protective equipment.**

If no protection is availa ble, exclude them from the work area. Even brief exposure to the rays from the welding arc can damage unprotected eyes.

□ **Always wear hearing protection because welding and cutting can be extremely noisy. Ear protec tion is necessary to prevent hearing loss**.

Even prolonged low levels of noise has been known to cre ate long term hearing damage. Hearing protection also further protects against hot sparks and debris from entering the ear canal and doing harm.

□ **Always wear personal protective clothing**

. Flame proof clothing is required at all times. Sparks and hot metal can lodge in pockets, hems and cuffs. Make sure loose clothing is tucked in neatly

. Leather aprons and jackets are recommended. Suitable welding jackets and coats may be purchased made from fire proof material from welding supply stores. Discard any burned or frayed clothing

. Keep clothing away from oil, grease and flammable liquids.

□ **Leather boots or steel toed leather boots with rubber bottoms are required for adequate foot pro tection.**

Canvas, polyester and other man made materials often found in shoes will either burn or melt. Rubber or other non conductive soles are necessary to help protect from electrical shock.

□ **Flame proof and insulated gauntlet gloves are required whether welding or cutting or handling metal.**

Simple work gloves for the garden or chore work are not sufficient. Gauntlet type welding gloves are available from your local welding supply companies. Never attempt to weld with out gloves. Welding with out gloves can result in serious burns and electrical shock. If your hand or body parts comes into contact with the arc of a plasma cutter or welder, instant and serious burns will occur. **Proper hand protection is required at all times when working with welding or cutting machines!**

□ **WARNING! Persons with pacemakers should not weld, cut or be in the welding area until they consult with their physician. Some pacemakers are sensitive to EMF radiation and could severely malfunction while welding or while being in the vicinity of someone welding** ***Serious injury or death may occur!***

□ **Welding and plasma cutting processes generate electro magnetic fields and radiation.**

While the effects of EMF radiation are not known, it is suspected that there may be some harm from long term exposure to electromagnetic fields. Therefore, certain precautions should be taken to minimize exposure:

- Lay welding leads and lines neatly away from the body
- Never coil cables around the body
- Secure cables with tape if necessary to keep from the body
- Keep all cables and leads on the same side the body
- Never stand between cables or leads.
- Keep as far away from the power source (welder) as possible while welding
- Never stand between the ground clamp and the torch.
- Keep the ground clamp grounded as close to the weld or cut as possible.

□ **Welding and cutting processes pose certain inhalation risks.**

Be sure to follow any guidelines from your chosen consumable and electrode suppliers regarding possible need for respiratory equipment while welding or cutting

. Always weld with adequate ventilation. Never weld in closed rooms or con fined spaces. Fumes and gases released while welding or cutting may be poisonous. Take precautions at all times. Any burning of the eyes, nose or throat are signs that you need to increase ventilation.

• Stop immediately and relocate work if necessary until adequate ventilation is obtained.

• Stop work completely and seek medical help if irritation and discomfort persists

□ WARNING! **Do not weld on galvanized steel, stainless steel, beryllium, titanium, copper, cadmium, lead or zinc without proper respiratory equipment and or ventilation.**

WARNING! **This product when used for welding or cutting produces fumes and gases which contains chemicals known to cause birth defects and in some cases cancer.**

□ WARNING! **Do not weld or cut around Chlorinated solvents or degreasing areas. Release of Phosgene gas can be deadly**

. Consider all chemicals to have potential deadly results if welded on or near metal containing residual amounts of chemicals.

□ **Keep all cylinders upright and chained to a wall or appropriate holding pen.** Certain regulations regarding high pressure cylinders can be obtained from OSHA or local regulatory agency . Consult also with your welding supply company in your area for further recommendations. The regulatory changes are frequent so keep informed.

□ **All cylinders have a potential explosion hazard.**

When not in use, keep capped and closed Store chained so that overturn is not likely

. Transporting cylinders incorrectly can lead to an explosion. Do not attempt to adapt regulators to fit cylinders. Do not use faulty regulators. Do not allow cylinders to come into contact with work piece or work. Do not weld or strike arcs on cylinders. Keep cylinders away from direct heat, flame and sparks.

□ WARNING! **Electrical shock can kill.**

Make sure all electrical equipment is properly grounded. Do not use frayed, cut or otherwise damaged cables and leads. Do not stand, lean or rest on ground clamp

. Do not stand in water or damp areas while welding or cutting

. Keep work surface dry

. Do not

use welder or plasma cutter in the rain or in extremely humid conditions. Use dry rubber soled shoes and dry gloves when welding or cutting to insulate against electrical shock. Turn machine on or off only with gloved hand. Keep all parts of the body insulated from work, and work tables. Keep away from direct contact with skin against work. If tight or close quarters necessitates standing or resting on work piece, insulate with dry boards and rubber mats designed to insulate the body from direct contact.

□ **All work cables, leads, and hoses pose trip hazards.**

Be aware of their location and make sure all personnel in area are advised of their location. Taping or securing cables with appropriate restraints can help reduce trips and falls.

□ WARNING! **Fire and explosions are real risks while welding or cutting**

. Always keep fire extinguishers close by and additionally a water hose or bucket of sand. Periodically check work area for smol dering embers or smoke. It is a good idea to have someone help watch for possible fires while you are welding

. Sparks and hot metal may travel a long distance. They may go into cracks in walls and floors and start a fire that would not be immediately visible. Here are some things you can do to reduce the possibility of fire or explosion:

• Keep all combustible materials including rags and spare clothing away from area.

• Keep all flammable fuels and liquids stored separately from work area.

• Visually inspect work area when job is completed for the slightest traces of smoke or embers.

• If welding or cutting outside, make sure you are in a cleared off area, free from dry tender and debris that might start a forest or grass fire.

• Do not weld on tanks, drums or barrels that are closed, pressurized or anything that held flamma ble liquid or material

□ **Metal is hot after welding or cutting!**

Always use gloves and or tongs when handling hot pieces of metal. Remember to place hot metal on fire proof surfaces after handling

. Serious burns and injury can result if material is improperly handled

□ WARNING! **Faulty or poorly maintained equipment can cause injury or death.**

Proper maintenance is your responsibility

. Make sure all equipment is properly maintained and serviced by qualified personnel. Do not abuse or misuse equipment. Keep all covers in place. A faulty machine may shoot sparks or may have exploding parts. Touching uncovered parts inside machine can cause discharge of high amounts of electricity

. **Do not allow employees to operate poorly serviced equipment.**

Always check condition of equipment thoroughly before start up

. Disconnect unit from power source before any service attempt is made and for long term storage or electrical storms.

□ Further information can be obtained from The American Welding Society (AWS) that relates directly to safe welding and plasma cutting. Additionally, your local welding supply company may have additional pamphlets available concerning their products. Do not operate machinery until your are comfortable with proper operation and are able to assume inherent risks of cutting or welding

□ We have compiled this operator's manual, to instruct you in basic safety, operation and maintenance of your Everlast product to give you the best possibleexperience. Much of welding and cutting is based upon experience and common sense. As thorough as this welding manual may be, it is no substitute for either. Exercise extreme caution and care in all activities related to welding or cutting. Your safety, health and even life depends upon it. While accidents are never planned, preventing an accident requires careful planning.Please carefully read this manual before you operate your Everlast unit. This manual is not only for the use of the machine, but to assist in obtaining the best performance out of your unit. Do not operate the unit until you have read this manual and you are thoroughly familiar with the safe operation of the unit.

□ The warranty does not cover improper use, maintenance or consumables.

Do not attempt to alter or defeat any piece or part of your unit, particularly any safety device.

Keep all shields and covers in place during unit operation should an unlikely failure of internal components result in the possible presence of sparks and explosions. If a failure occurs, discontinue further use until mal functioning parts or accessories have been repaired or replaced by qualified personnel

Equipment

General Overview

Manufactured with advanced inverter technology, the CT520D multipurpose unit includes the following features: stable output, reliable, completely portable, high-efficiency and low noise generated while cutting.

The CT520D multipurpose unit offers a variety of welding and cutting aspects. It is able to cut all types of metal up to 1/2'' with the 50A plasma cutting function. This multi-process welder can switch between TIG Weld and STICK Weld quickly and easily. With a hand carrying weight of 32lbs, the unit is portable and reliable featuring a duty cycle of 60% at max amps on all processes.

Main Characteristics

- Stabilization
- Reliability
- Portability
- Power efficiency and low noise output
- High cutting speed
- Smooth cuts

The CT520D series DC TIG, MMA, and plasma cutter allows you to weld stainless steel, alloy steel and carbon steel and other nonferrous metals.

Specifications

General	Model name	CT520D
	Functions	50 A Plasma Cutter 200 A TIG Welder 200 A STICK Welder
	Dimension with handle	
	Weight	32 lbs (14.5 kg)
	Input voltage	110-220 V, 1-PH, 50/60 Hz
	Power supply type	Inverter- MOSFET
	Housing protection	IP21
	Insulation	B
	Efficiency	85%
Accessories	Plasma cutting torch	50 A, 12.5 ft. (3.81m)
	TIG welding torch	200 A 12.9 ft. (3.93m)
	Arc/Stick clamp	200 A 6.5 ft. (1.98m)
	Argon regulator	0-250 psi
	Air regulator	0-150 psi

Specifications

Plasma Cutting	Rated input power requirement	220 V, 1-PH, 35 A 110V, 1-PH, 45 A
	Output current	10-50 A @220V 10-35 A @110V
	Duty cycle @ 40°C (104°F)	60% @ 50 A 100% @ 40 A
	Gas supply	Clean, dry, oil-free air
	Recommended gas inlet flow rate / pressure	3.6 scfm @ 65 psi 80L/min
	Max rated cutting thickness	1/2 inches (12.7mm)
DC TIG Welding	Rated input power requirement	220 V, 1-PH, 30 A 110 V, 1-PH, 40 A
	Output current	10-200 A @ 220V 10-100 A @ 110V
	Material can weld	Steel, Stainless, Moly, Ferrous
	Duty cycle @ 40°C (104°F)	60% @ 200 A 100% @ 150 A
	No load voltage	62 V
	Working voltage	16.9 V
	Gas supply	Clean, dry, oil-free argon gas
	Starting mechanism	High Frequency Start / HF Welding
	Recommended gas inlet flow rate	2-5 L/M
DC Stick Welding	Rated input power requirement	220 V, 1-PH, 35 A, 110 V, 1-PH, 50 A
	Output current	10-200 A @ 220V 10-80 A @ 110V
	Material can weld	Steel, Stainless, Moly, Ferrous
	Duty cycle @ 40°C (104°F)	60% @ 200 A 100% @ 95 A
	No load voltage	62 V
	Working voltage	25 V
	Starting mechanism	High Frequency Start / HF Welding

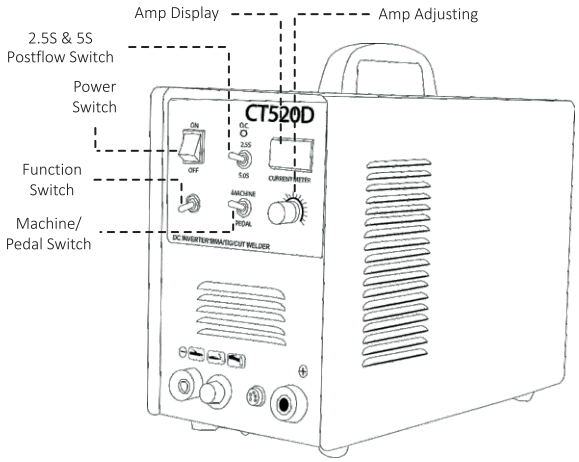


Figure 2.1: Adjustor Diagram 1

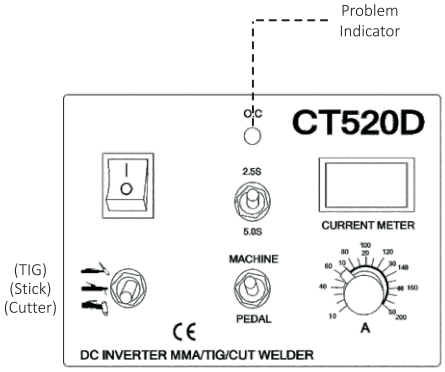


Figure 2.2: Adjustor Diagram 2

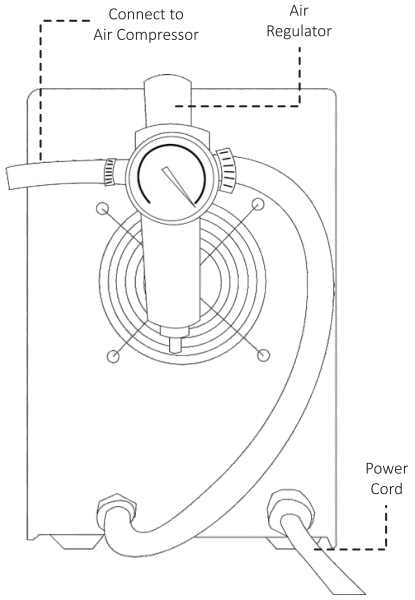


Figure 2.3:
Air Regulator Configuration

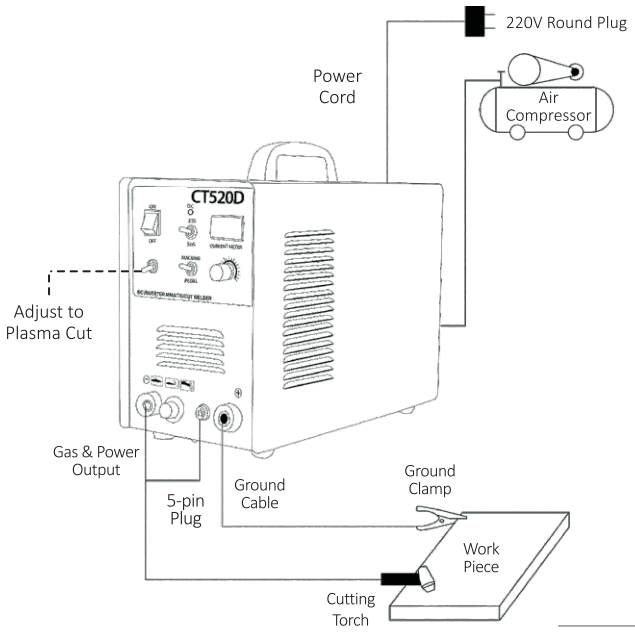


Figure 2.4:
Plasma Cutting Diagram

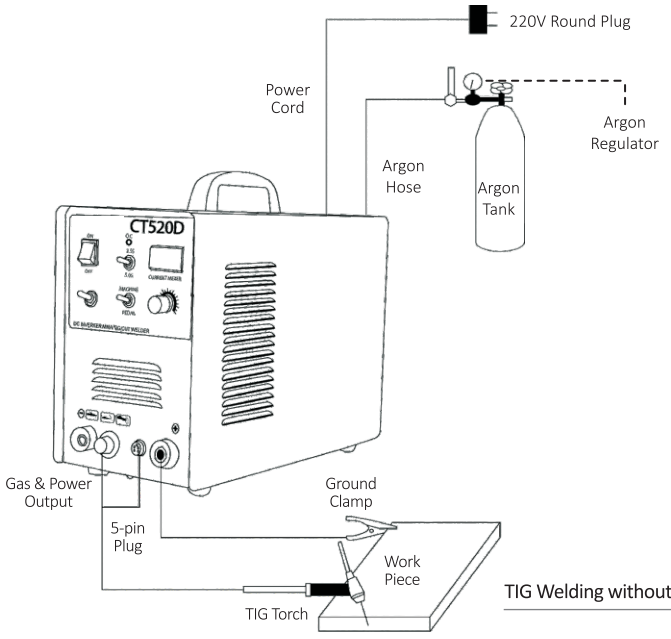


Figure 2.5:
TIG Welding without Foot Pedal Diagram

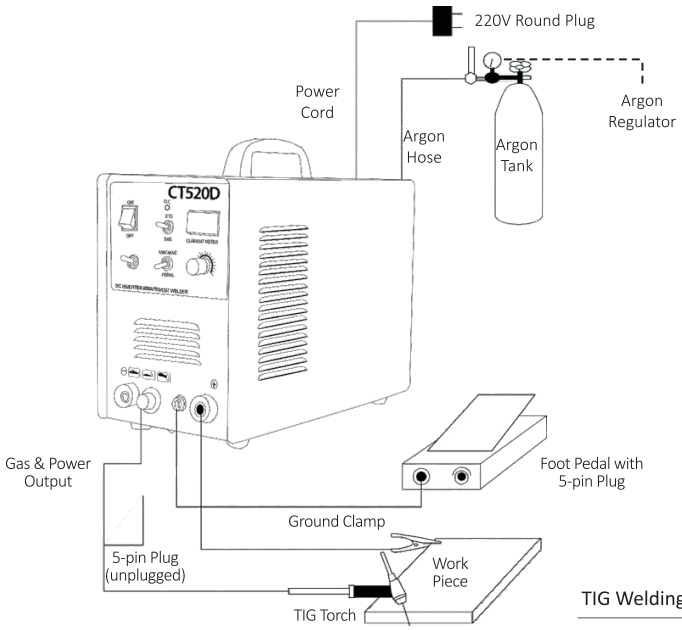


Figure 2.6:
TIG Welding with Foot Pedal Diagram

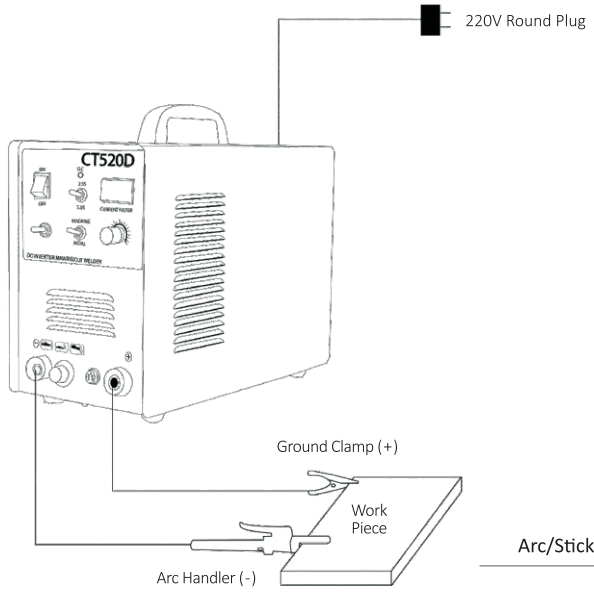


Figure 2.7:
Arc/Stick/MMA Welding Diagram

INSTALLATION

Power Cord Plug Wiring

Connect this welding & cutting equipment with a power supply of 110 or 220V AC.
For the wiring, please note that:
For 110VAC,
- The green wire with yellow stripe is the ground wire
- The red/brown wire is the hot wire
- The blue/black wire is the neutral wire

For 220VAC,
- The green wire with yellow stripe is the ground wire
- The red/brown wire is positve 220VAC
- The blue/black wire is negatve 220VAC

Connect the earth terminal with the earth cable (minimum diameter of 2.5 mm^2.)

Connection of the Output Cables

1. Install welding torch according to the quick setup guide.
2. Connect the one-knob connector, air plug to the corresponding connector on the panel board; and fasten the screw.
3. Plug the air plug of the back cable to “+” of the air socket on the panel board; and fasten it in clockwise. **Connect earth clamp with work piece.**

Power Supply Switch

If the power switch is on, the built-in fan starts working and the current meter displays the current value.

Function Switch

The function switch enables the machine to alternate between MMA, TIG, and CUT welding according to the practical welding task requirement.

1. **TIG Welding Function**
- Connect the copper nozzle in the back of the machine to the argon tank with the hose. The gas supply system includes the gas bottle, air regulator, and gas hose. Connect the parts of the gas system firmly to prevent gas leakage.
- Install the argon torch according to the Figure 2.6.
- Connect the copper screw on the cutting torch to the output terminal of the one-knob of the front panel; and fasten it clockwise to avoid gas leakage.
- Connect the plug of the closed circuit to the “+” socket on the panel board. Connect the earth clamp to the work piece.

Function Switch

2. **MMA Function**
- Connect the plug of the electrode holder to the "-" socket on the front panel.
- Connect the plug of the ground clamp to the "+" socket on the front panel.

3. **Plasma Cutting Function**
- Use the gas hose to connect to one of the terminals on the air regulator and connect the other terminals to the copper tub.
- Connect the copper nut of the cutting torch to the knob on the panel board. Connect the plug of the ground clamp to the "-"socket on the front panel.

Welding Current Output Setting

According to practical demand, set the parameters of the current output by the operation of "ARC," "TIG," or "CUT."

Air/Argon Regulator Installation

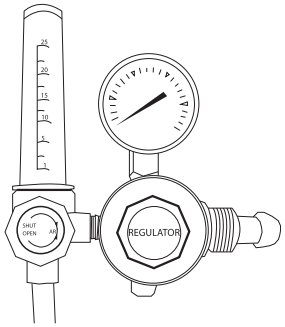


Figure 3.1:
Gas Regulator Installation

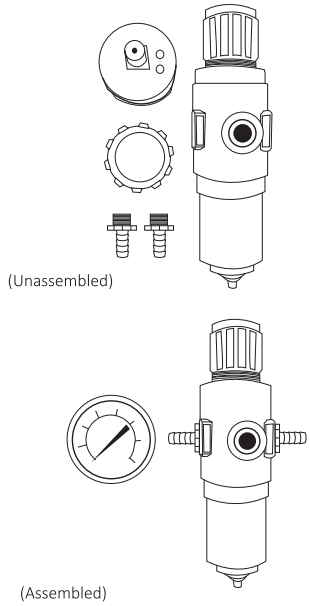


Figure 3.2:
Argon Installation

OPERATION

TIG Welding Function

1) While this welding & cutting equipment is operated, the power supply indicator is on; and the built-in fan will function.
2) Switch to the TIG welding function mode.
3) Press the gas release button and modulate the volume of gas output to the required value.
4) Press the button on the welding torch, and the electromagnetic valve functions. The sound of releasing electricity is audible, and there is gas coming out of the welding torch.

   Please note: Before the initial welding operation, press the welding torch button for several seconds in order to remove the gas inside the gas tub, and the welding operation can begin. There is gas output within a few seconds after the welding operation, that is a special design to protect the welding point before it cools down. Therefore, after the arc is gone, maintain the welding position until the heat produced during the welding operation dissipates.

5) The welding current output is adjustable, according to the thickness of the welding material and required craftsmanship.
6) Maintain a distance of 1-4mm between the tungsten electrode and the work piece. Press the welding torch button. HF electricity will release between the welding electrode and the work piece. After the arc starts, the splash of the HF arc will vanish and the welding operation can begin.

MMA Function

1) Switch to MMA welding mode.
2) While this welding & cutting equipment is operated, the power supply indicator is on and the built-in fan will function.
3) According to the thickness of the work piece, adjust the welding current output and choose the rod, then the MMA welding can begin.

Plasma Cutting Function

1) Switch to the plasma-cutting mode.
2) While this welding & cutting equipment is operated, the power supply indicator is on and the built-in fan will function.
3) Release the regulator valve, and modulate the pressure and volume of output gas.
4) Press the cutting torch button. The sound of releasing electricity is audible and there is gas coming out of the welding torch.
5) According to the thickness of the work piece, adjust the current output, and then the plasma cutting can begin.
6) Put the nozzle of the cutting torch to the work piece and press the welding torch button. The sound of the HF arc vanishes and the cutting operation can begin. After the arc starts, maintain a distance of about 1mm in order to protect the nozzle from possible damage.
7) In case of difficulty with starting the arc, it is recommended to reduce the pressure of the gas output.
8) If the nozzle is damaged, adjust the pressure of the gas output.

Instruction Notes

Working Environment

1. The location in which this welding & cutting equipment is installed should be free of dust, corrosive chemical gases, flammable gases or materials, and of be at no more than 80% humidity.
2. Avoid welding & cutting in the open air unless sheltered from the sun, rain, and snow.
   The temperature of the working environment should be maintained within -10°C to +40°C.
3. Keep this welding & cutting equipment 30cm away from the wall.
4. Ensure the working environment has good ventilation.

Safety

a) ***Ventilation***
This welding & cutting equipment is small, compact in structure, and has excellent current output performance. Fans are required to remove heat generated by this cutting equipment while the machine is being operated.

Cautions: Maintain good ventilation of the louvers of this welding & cutting equipment. The minimum distance between this welding & cutting equipment and any other object in or near the working area should be 30 cm. Good ventilation is of critical importance for the normal performance and service life of this welding & cutting equipment.

b) ***Welding cannot be performed if equipment is overloaded.***
A sudden halt may occur while the cutting operation is carried out if the machine is in over-load status. Under this circumstance, it is unnecessary to restart the equipment. Keep the built-in fan running to bring down the temperature inside the equipment.

c) ***Beware of over-voltage.***
Regarding the power supply voltage range of the welding & cutting machine, please refer to the “Specifications” table. This equipment has automatic voltage compensation, which enables it to maintain the voltage within the given range. If the power supply input voltage current exceeds the stipulated value, it is possible to damage the components of this equipment.

d) ***An earth terminal is available for this welding & cutting equipment.***
Connect the earth cable to avoid static and electric shock. It is not recommended to touch the output terminal while welding and cutting. An electric shock may occur.

Maintenance

Exposure to extremely dusty, damp, or corrosive air is damaging to this welding & cutting machine.

In order to prevent any possible failure or fault of this equipment, clean the dust out at regular intervals with clean and dry compressed air of required pressure.

Please note: Lack of maintenance can lead to the unavailability and cancellation of the guarantee; the guarantee of this equipment will no longer be available if attempts have been made to take the machine apart or the factory-made sealing of the machine has been opened.

Troubleshooting

The following trouble shooting guide is for your reference only. JAYFL will NOT take any liability or responsibility for any injury or damage caused in such action(s). Always turn off electrical power and air supply before performing inspection and reconnection.

CAUTIONS: *Only qualified technicians are authorized to undertake the repair of this equipment in the case of machine failure.*

Fault Symptoms	Rectification
1. While this welding and cutting equipment is off, the built-in fan is not functioning, and there is no output.	1. Possible damage of power supply switch; fix the damage if necessary. 2. Possible unavailability of power supply. Check for failure in power supply. 3. Possible short-circuit of the input cable. Check it and repair it if necessary.
2. While this welding and cutting equipment is operated, the pilot lamp is on, no output, built-in fan unavailable.	1. Possible misconnection with input of 380V, and occurrence of over voltage protection status. Reconnect with input of 220V, and restart. 2. Possible unstable input due to the unavailable input cable or possible connection unavailable spells it's being of over-voltage protection status. 3. Frequently switching on and off of this welding equipmentin a short period leads this equipment's being of over-voltage protection. Switch off this welding machine and wait for at least 3 minutes, then restart this welding equipment. 4. Possible unavailable of the connection of switch and bottom PCB. Reconnect it. 5. The 24V relay of bottom PCB is possibly damaged. Replaced it if necessary.

Fault Symptoms	Rectification
3. While this equipment is operated, the built-in fan functions, the fault indicator is off, no HF electricity releasing, arc does not start.	1. The normal voltage of positive and negative pole of board VH-07 should be DC 380V. 1.1 Possible short circuit, and possible misconnection of silicon bridge with the PCB. 1.2 Possible electricity leakage of capacitors; replace them if necessary. 2. The green light indicator of secondary power supply of top PCB should be on. Otherwise, it indicates that the secondary power supply is not functioning. Check whether the connection whether available. If fault cannot be rectified, please contact supplier for further advice. 3. Possible unavailability of connection inside the equipment. Check and reconnect if necessary. 4. Possible malfunction of control circuit. Check and contact the supplier for further advice. 5. Possible damage of the welding torch. Replace it if necessary.
4. While this equipment is operated, fault indicator is off, HF electricity is releasing, and welding current output is unavailable.	1. Possible disconnection of welding torch cable. 2. Possible disconnection of earth cable, or misconnection of the earth cable and work piece. 3. The connection between positive output terminal or the gas or electricity output terminal and this welding equipment is possibly unavailable. Reconnect them if necessary.
5. While this equipment is operated, the fault indicator is off, no electricity releasing, and arc starts.	1. The cable connection between the transformer of arc starting and power PCB is possibly unavailable. Check and reconnect it. 2. Possible oxidization of electricity releasing parts or the distance is larger than the maximum distance allowed. Remove the oxidization of the electricity releasing parts and adjust the distance of the electricity releasing parts to range of 1mm. 3. Possible damage to MMA/TIG switch. Replace them if necessary. 4. Components of HF arc starting circuit are possibly damaged. Check and replace them if necessary.
6. While this equipment is operated, the fault indicator is on, and there is no output.	1. It is possible of over-current protection status. Switch off the power supply, wait till the fault indicator is off, and restart this welding equipment. 2. It is possible of over-heating protection status. Wait till the fault indicator is off, and the welding operation will be available. 3. Possible damage of feed back circut. Compensate the fault if necessary.

Fault Symptoms	Rectification
7. Unstable current output during the welding operation, and the potentiometer is unavailable.	1. Possible damage of 1K resistance. Replace it if necessary. 2. The connection of this welding equipment is not available.
8. Excessive splash generated during welding operation. It is difficult to weld with alkaline rod.	1. Misconnection of earth cable and welding torch cable. 2. Reconnect them.
9. Insufficiency in welding and cutting performance, and the arc is not stable.	1. Possible insufficiency of voltage input. 2. The connection of earth cable is unavailable. Reconnect it. 3. The gas supply system is unavailable. Examine it and fix it if necessary. 4. There is possible deficiency of electrode of cutting torch. 5. The filter capacitor of this welding and cutting equipment is not available. Replace it if necessary. 6. The rod is not available due to the fact that the rod has become damp or damaged. 7. The current is not available to start the arc.

Accessories

PT-31 Plasma cutter torch····· 1PCS

WP-17 Argon arc welding gun····· 1PCS

200A Welding torch····· 1PCS

200A Earth Clamp····· 1PCS

1/3*1/2 Air hose····· 1PCS

AFR-2000 Combination····· 1PCS

PTEE sealing tapes····· 1PCS

Hose clamp····· 4PCS

Electrode····· 2PCS

Nozzle····· 2PCS

Brass fittings····· 2PCS

Argon meter····· 1PCS(Optional part)